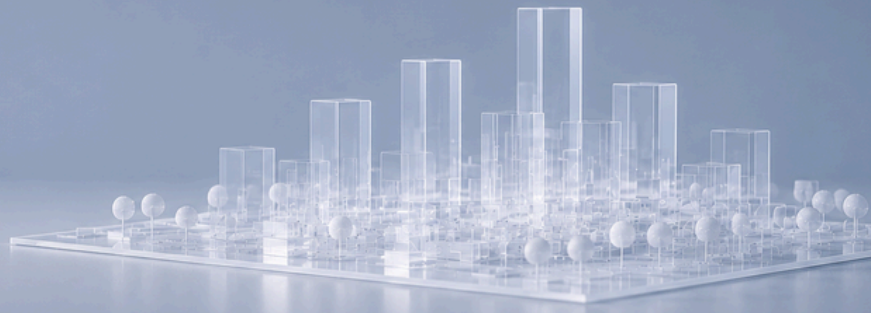


THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

University of Auckland researchers use location data to understand human mobility and urban space utilization

Customer Success Story



ABOUT UNIVERSITY OF AUCKLAND

Website: www.auckland.ac.nz

Industry: Higher Education and Research

Headquarters: Auckland, New Zealand

PROFILE

Established in 1883, the University of Auckland is a public research university based in Auckland, New Zealand. As the largest and highest-ranked university in the country, it has become a flagship, research-led school known for its excellence in teaching and service to local, national, and international communities. The School of Architecture and Planning is New Zealand's leading tertiary institution for architecture and built environment studies. It is a highly regarded center for advanced multidisciplinary research in design-based and professional education in architecture, urban planning, and heritage conservation.

HIGHLIGHTS – GOALS

- Analyze urban visitation patterns
- Study mobility trends and shifts
- Understand people and place interactions
- Support urban planning decisions

HIGHLIGHTS – RESULTS

- Research ready mobility data
- Flexible data delivery
- Actionable planning insights
- Tailored New Zealand coverage

OVERVIEW

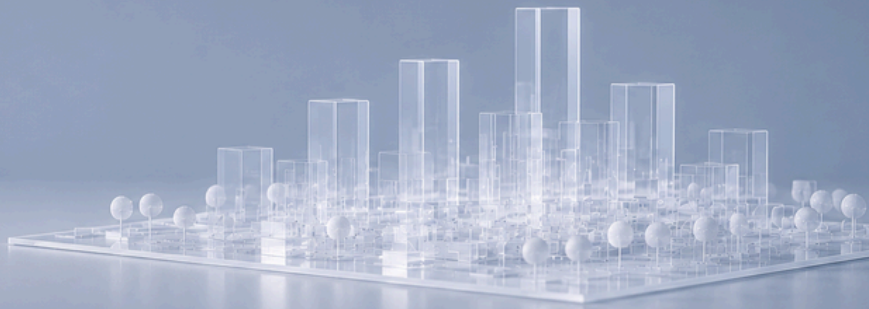
The Department of Urban Design at the School of Architecture and Planning (University of Auckland) wanted to better understand how urban spaces are used and experienced by communities. As part of their master's and doctoral research programs, scholars from the university partnered with Quadrant to access mobility data and generate insights that could help improve the quality, accessibility, and usability of urban spaces.

Working alongside colleagues from the University at Buffalo, NY, USA, the researchers developed models to study human mobility across Singapore, New Zealand, and several cities in the United States. For this project, Dr. I-Ting Chuang (Ph.D. Architecture and Sustainable Design) and her team sought to analyze mobility patterns around specific locations and better understand how people interact with urban environments, public amenities, and points of interest over time.

CHALLENGES AND GOALS

The researchers required broad geographic coverage and high frequency location data to support detailed spatial and temporal analysis. Their goal was to use location intelligence as a proxy for understanding urban vibrancy, identifying highly utilized public spaces, and uncovering opportunities to improve infrastructure, accessibility, and public safety.

Finding a reliable data partner was critical to the project's success, particularly as the research team needed to secure funding approval within a limited timeframe. Location data providers often offer standardized data products that may not align with the unique requirements of academic research. Additionally, customization options related to geographic coverage, data volumes, and pricing can be limited. The team needed a provider capable of delivering tailored datasets while remaining cost effective within the constraints of a research grant.

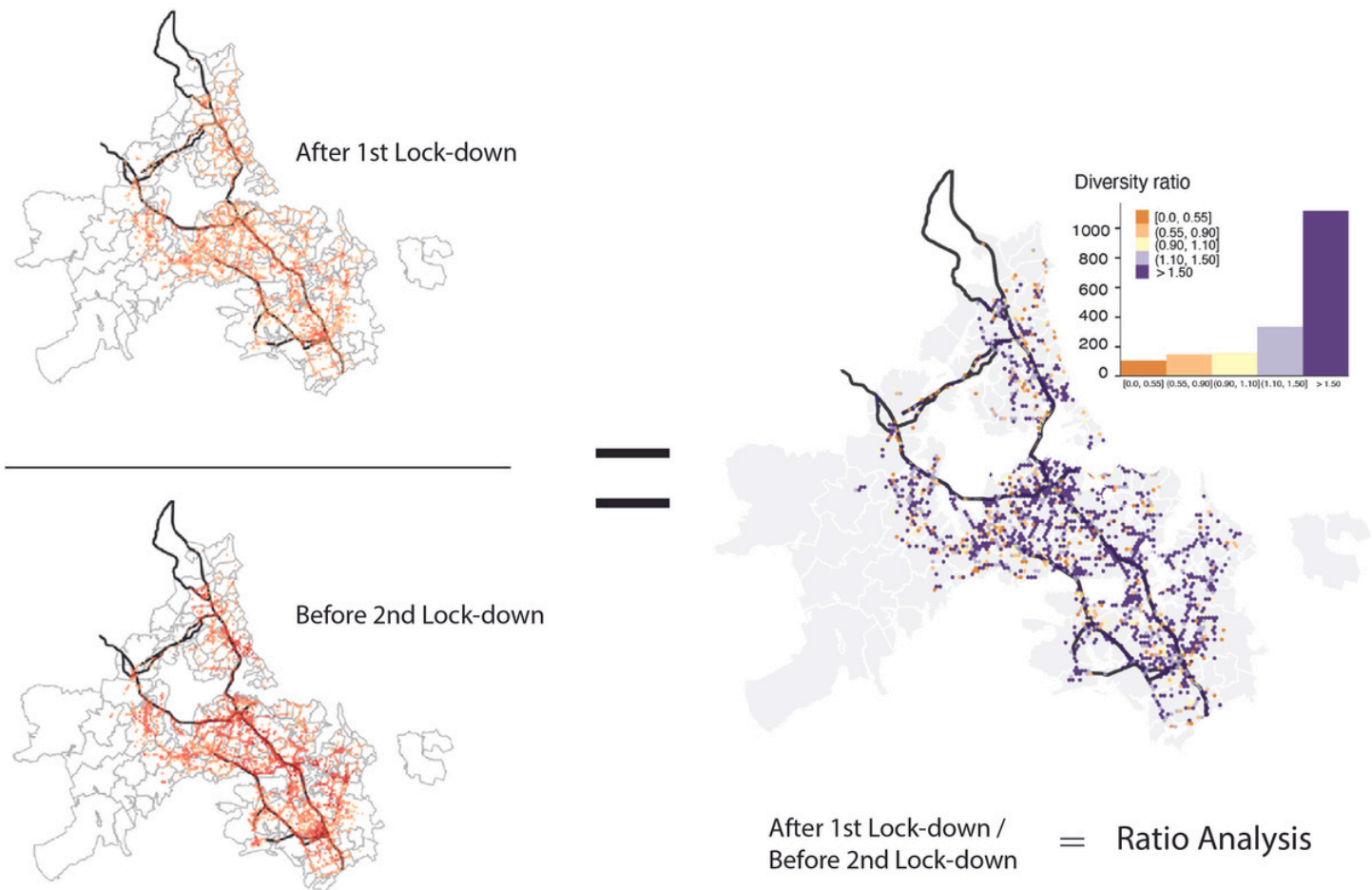


SOLUTIONS

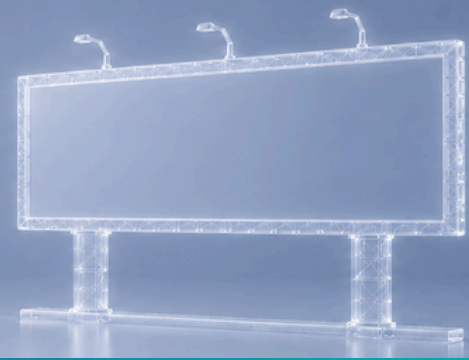
The team at the University of Auckland evaluated several data providers and selected Quadrant based on our responsiveness and ability to tailor both datasets and pricing to fit the project's requirements. Using Quadrant's location data alongside their expertise in urban geography, architecture, and planning, the researchers developed analytical models to understand movement behavior and generate insights for improving public spaces.

By studying mobility patterns and comparing them with historical trends, the team established a data driven framework for observing, analyzing, and modeling movement across areas of interest. Due to the timing of the project, the analysis also provided valuable insights into how mobility behaviors changed during the Covid-19 pandemic, helping identify essential points of interest within the urban landscape and understand associated visitation patterns.

Quadrant's data supported advanced analysis, simulation modeling, and mobility research, enabling the team to generate insights beyond what traditional survey based datasets could provide. The data also helped researchers expand studies and make informed assumptions about broader population behavior at scale.



Graphical representation: The images here show few of many visuals built by researchers using R to understand the frequency and density of visitors to specific POIs during various phases of Covid-19 lockdown.



BENEFITS

The studies conducted by the researchers demonstrate how mobility intelligence can help address a wide range of challenges across public sector, planning, and transportation initiatives. The insights generated can support more informed decisions related to infrastructure investment, urban development, public services, and community planning.



FOR URBAN DESIGNERS

Design more accessible, resilient, and engaging urban environments while improving infrastructure quality, usability, and public safety.



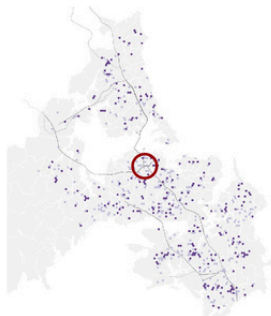
FOR POLICYMAKERS

Learn how people interact with public spaces and use data driven insights to inform infrastructure and community spaces.

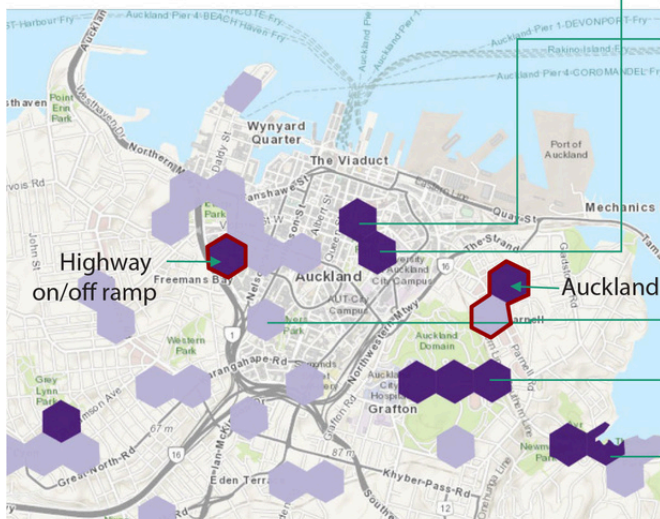


FOR TRANSIT MANAGEMENT

Evaluate accessibility, travel behavior, and movement patterns to support efficient transportation planning and mobility services.



Urban "Hotspots"



Auckland CBD



<https://heartofthecity.co.nz/attractions/parks/albert-park>



<https://www.totstoteens.co.nz/event/ellen-melville-centre-community-open-day/>



<https://www.aucklandmuseum.com/>

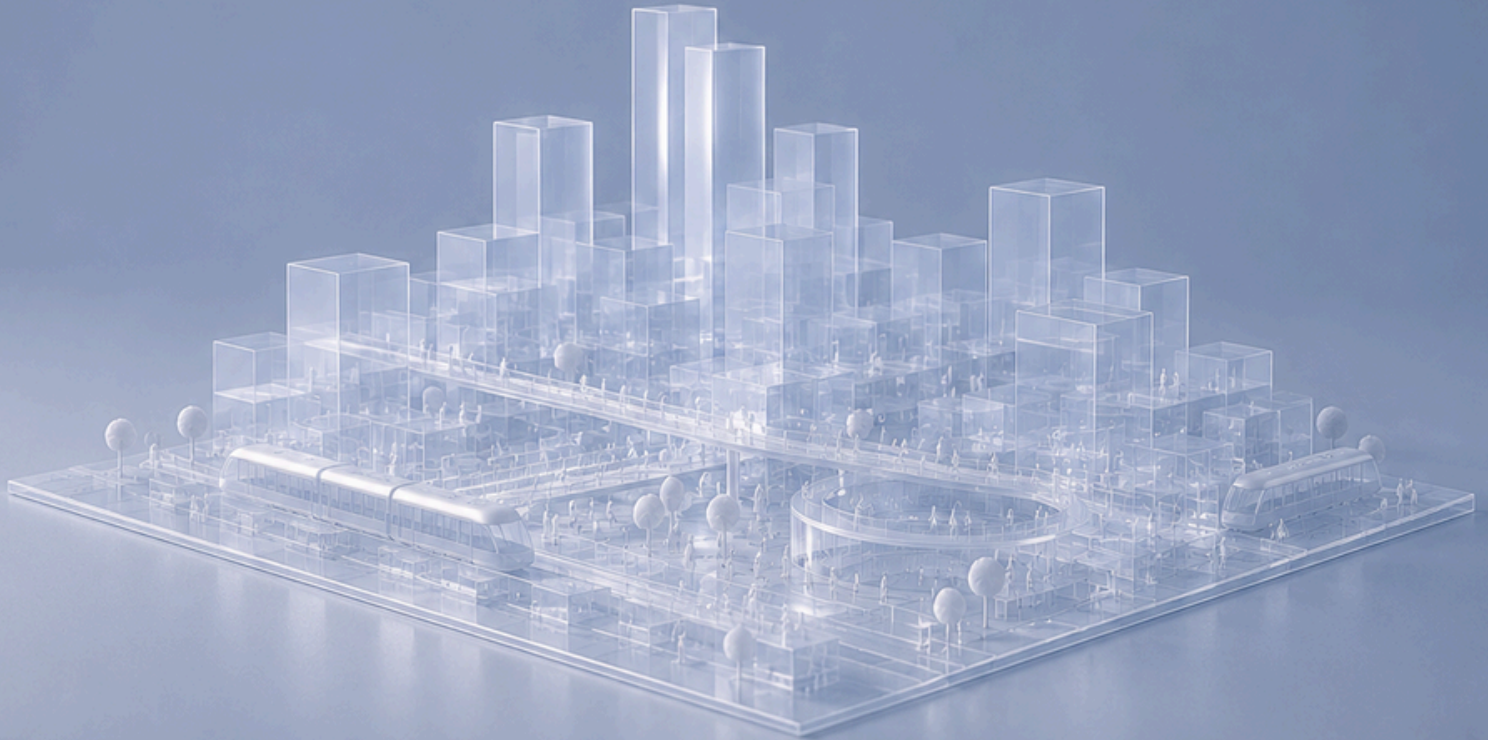


<https://www.mphsfoundation.org/>



<http://www.stuff.co.nz/auckland/>

Graphical representation: A visualisation showing how people move around public attractions, facilities and public services. These insights can allow urban designers and developers to make well-informed improvement decisions and high quality architecture. Credits: Dr. I-Ting Chuang and Qingqing Chen (PhD Scholar University of Buffalo NY).



“

“Quadrant offers excellent coverage of data resources and services supporting education and research institutions, not always found with many data providers. The Quadrant consultant team is efficient and accommodating to ensure the needed support is met. We are pleased to have found a great provider and are looking forward to future collaborations with Quadrant.” ”

~Dr. I-Ting Chuang (PhD) – Lecturer, School of Architecture and Planning, University of Auckland

Quadrant, an Appen company, is a global provider of privacy first mobile location data and Point-of-Interest (POI) data. With coverage across 200+ countries, Quadrant delivers trusted, high quality geospatial datasets that help organizations build location powered products, applications, and solutions.

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