

### Project summary

Organization:  
citiME Consultancy LLC

Solution:  
Cities, campuses, and facilities

Location:  
Abu Dhabi, United Arab Emirates

Project playbook:  
OpenPaths™

# CitiME creates new strategic transport model for Abu Dhabi

## Bentley's OpenPaths CUBE facilitates integration of localized micromobility data

### Project objectives

CitiME used Bentley's OpenPaths CUBE to build a new local area model that would integrate with Abu Dhabi's existing strategic transportation model.

The model is highly automated, facilitating efficient transportation and transit planning by the city's mobility team.

The model has already been used to improve existing bike paths and plan new paths in downtown areas.

### Investing in micromobility

As a major Middle Eastern hub and the center for government and industry in the United Arab Emirates, the city of Abu Dhabi has its eyes on advancing transportation options for its more than two million residents and growing numbers of tourists. While Abu Dhabi has an established bus network and plentiful taxi and ride-share options, the city has also been making significant investments in micromobility solutions, such as scooters and bicycles.

However, Abu Dhabi Mobility's (ADM) strategic transport model—the city's most important transportation planning tool—was outdated and did not reflect the possibilities represented by micromobility. The ADM contracted citiME, a leading company providing transport modeling services with a specialty in micromobility, to create a more detailed and accurate model that could account for shorter trips made on foot, by bike, or by scooter. The goal for this updated model was to gain a more complete understanding of how people are getting around local areas of Abu Dhabi, allowing for more informed and data-driven municipal transport planning.

### Updating an established model

Traditional transport models estimate trips people make between various large transport analysis zones within a city, usually focusing on travel by car, train, and bus. citiME had the more complex task of breaking the city's zones into smaller pieces to measure how people were taking shorter trips.

The team sought to develop and refine ADM's pre-existing Strategic Transportation Evaluation and Assessment Model (STEAM) with advanced predictive transport modeling software in a Middle East context. With extensive experience in projects across the region, citiME realized the need to install a new version of ADM's original OpenPaths CUBE modeling software to adapt the strategic model to support these new sustainable soft transport modes for shorter journeys.

### Incorporating new infrastructure data

An established Bentley partner since 2019, citiME was confident that the advanced programming features available in OpenPaths CUBE made it the best option to create a new local area model to integrate with the existing STEAM. They began the project by dividing the large transport analysis zones from the model into smaller zones that more accurately represent where people live and work. The team used OpenPaths CUBE to develop an app that could automatically make this adjustment for any given infrastructure project in a local area, using available data about the population, water use, and energy consumption.

They also input a new dataset representing all available infrastructure into OpenPaths CUBE. This data was merged with the original STEAM model, automatically creating a new network model with specific links for bikes, scooters, and walking—in addition to motorized options. Finally, a new route choice model was incorporated, reflecting the preferred routes for short trips between neighboring zones.

## Planning for more sustainable movement

Using its updated model, ADM team is now able to evaluate and test new infrastructure investments and transport policies that support micromobility modes for shorter, hyperlocal trips. The model can run a range of scenarios through a highly automated process.

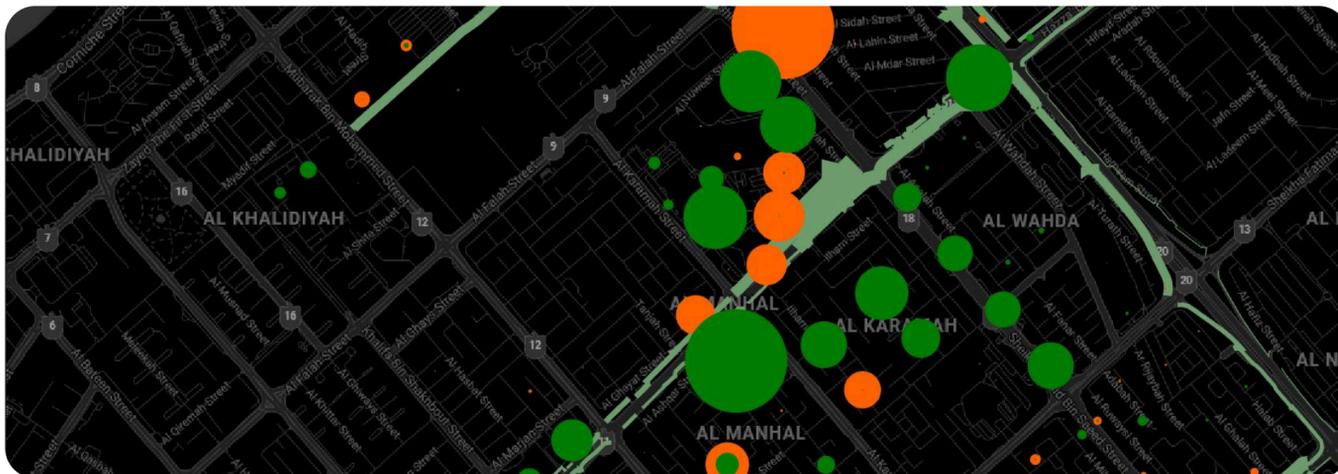
Already, the city has used the model to inform plans for new downtown cycle paths and to make existing routes used by bikes and scooters safer and more attractive. The mobility team is also using results from the model to consider areas where shifting from car and taxi to micromobility modes may be efficient, considering traffic patterns and carbon emissions.

They are also testing policies such as increasing parking fees to encourage greener modes of transportation. As these projects come to fruition, each is expected to bring a measurable return on investment to the city—and to encourage healthy movement among local residents.

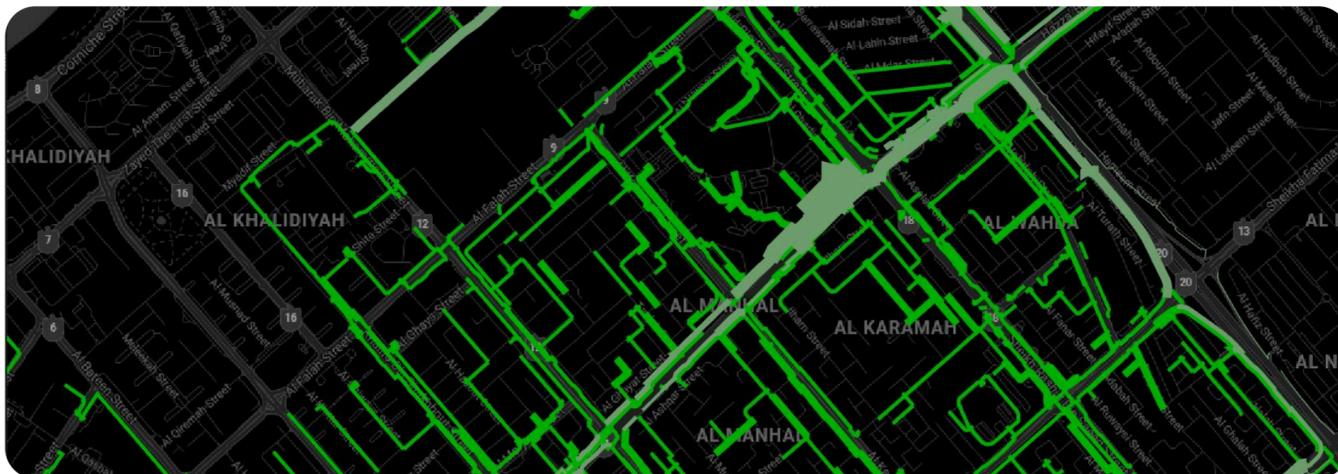
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Bentley's OpenPaths CUBE is perfect for developing customized and specialized models. The power and flexibility, the tools and features that the software provides, helps us deliver our projects on time and keep our clients happy.

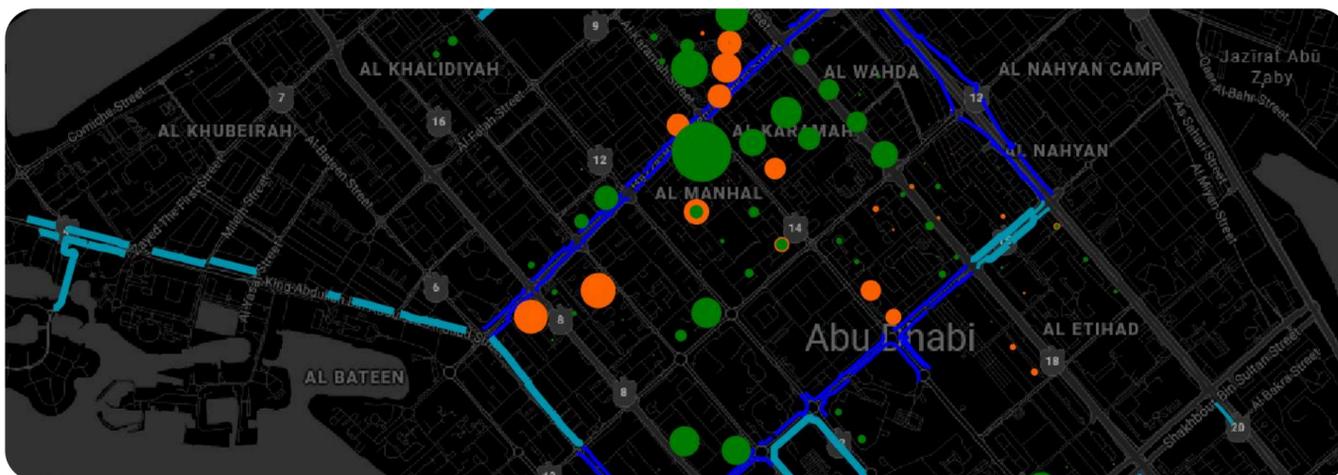
— Tor Vorraa, Managing Director,  
CitiME Consultancy LLC.



CitiME used Bentley's OpenPaths CUBE to build a new local area model that would integrate with Abu Dhabi's existing strategic transportation model.



The new Abu Dhabi strategic transport model is highly automated, facilitating efficient transportation and transit planning by the city's mobility team.



Abu Dhabi's new strategic transport model has already been used to improve existing bike paths and plan new paths in downtown areas.

Find out more at [Bentley.com](https://www.bentley.com)  
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