KNOW THE IMPACT BEFORE IMPLEMENTATION

CUBE

PREDICTIVE MODELING AND SIMULATION OF TRANSPORTATION

Bentley®

AS PLANNERS AND ENGINEERS
WE GET IT!

Every day you work with data to improve the future of transportation mobility. Your decisions affect infrastructure, operations, technology, and people. **No Pressure!**

But how can you make informed decisions without reliable transportation models?

You turn to CUBE, trusted by transportation agencies to **know the impact before implementation and make better decisions the first time.**

WHAT IF...
YOU COULD ANSWER
WHAT-IF QUESTIONS

> What if we add a light rail line to our city? Will that ease congestion?

> What if I build a bypass around the City? How will that impact truck traffic in the city?

> What if we build a roundabout versus a four-way intersection? How will that impact traffic?

> What if I raise the bus fare? Will that impact the movement of people around the city?

> What if I added a new interchange to the existing highway? How will that impact the value of the surrounding land?

WITH CUBE YOU CAN!

BUILD & CALIBRATE MODELS OF ANY TYPE
WITH CUBE'S OPEN PLATFORM

The ONLY modeling platform that covers all aspects of transportation planning, simulation, and land use.

CUBE Voyager
Macroscopic models to understand large scale personal travel demand.

CUBE Avenue
Mesoscopic traffic simulation to model the dynamics of congestion throughout the day.

CUBE Dynasim
Microscopic traffic simulation to model all aspects of traffic operations and parking.

CUBE Cargo
Model freight movement throughout a city or region to understand impact on traffic flow.

CUBE Land
Assess land-use changes given modifications to a transportation system.

CUBE Access
Understand and visualize accessibility in your community.

FLEXIBILITY

Avoid constraints from using inflexible software. Your problem-solving knows no bounds; why should your software?

SCENARIO MANAGEMENT

Keep your scenarios organized. Have confidence in your predictions and reduce your need to double check.

INTEGRATED MODELING

Collaborate with other departments on the same model to identify and correct errors early in the planning process.

"CUBE is an innovative software platform that has allowed me to address many different transport planning questions from land use to infrastructure projects."

Len Johnstone, Oriental Consultants Bangkok
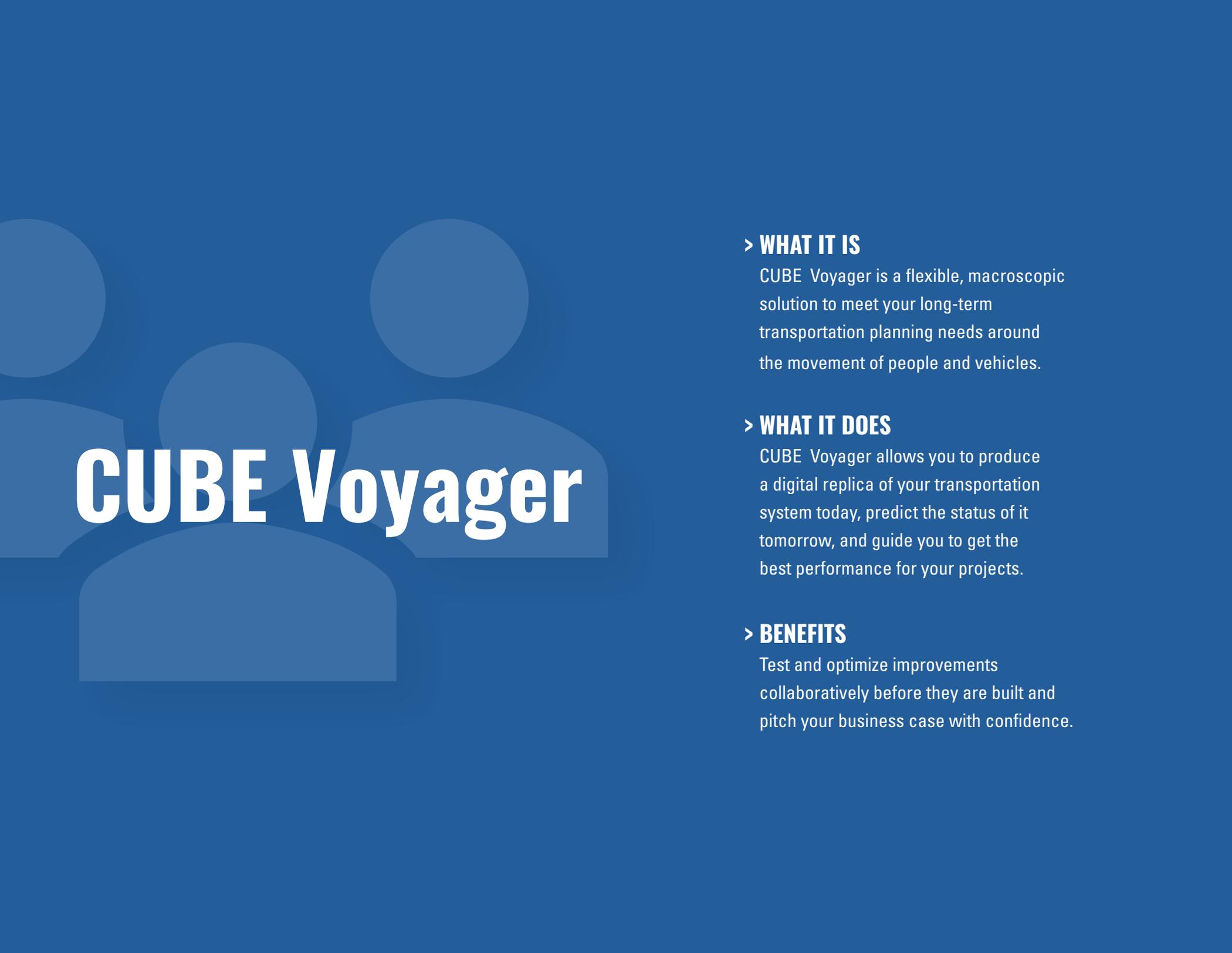
CUBE Voyager

> **WHAT IT IS**

CUBE Voyager is a flexible, macroscopic solution to meet your long-term transportation planning needs around the movement of people and vehicles.

> **WHAT IT DOES**

CUBE Voyager allows you to produce a digital replica of your transportation system today, predict the status of it tomorrow, and guide you to get the best performance for your projects.

> **BENEFITS**

Test and optimize improvements collaboratively before they are built and pitch your business case with confidence.
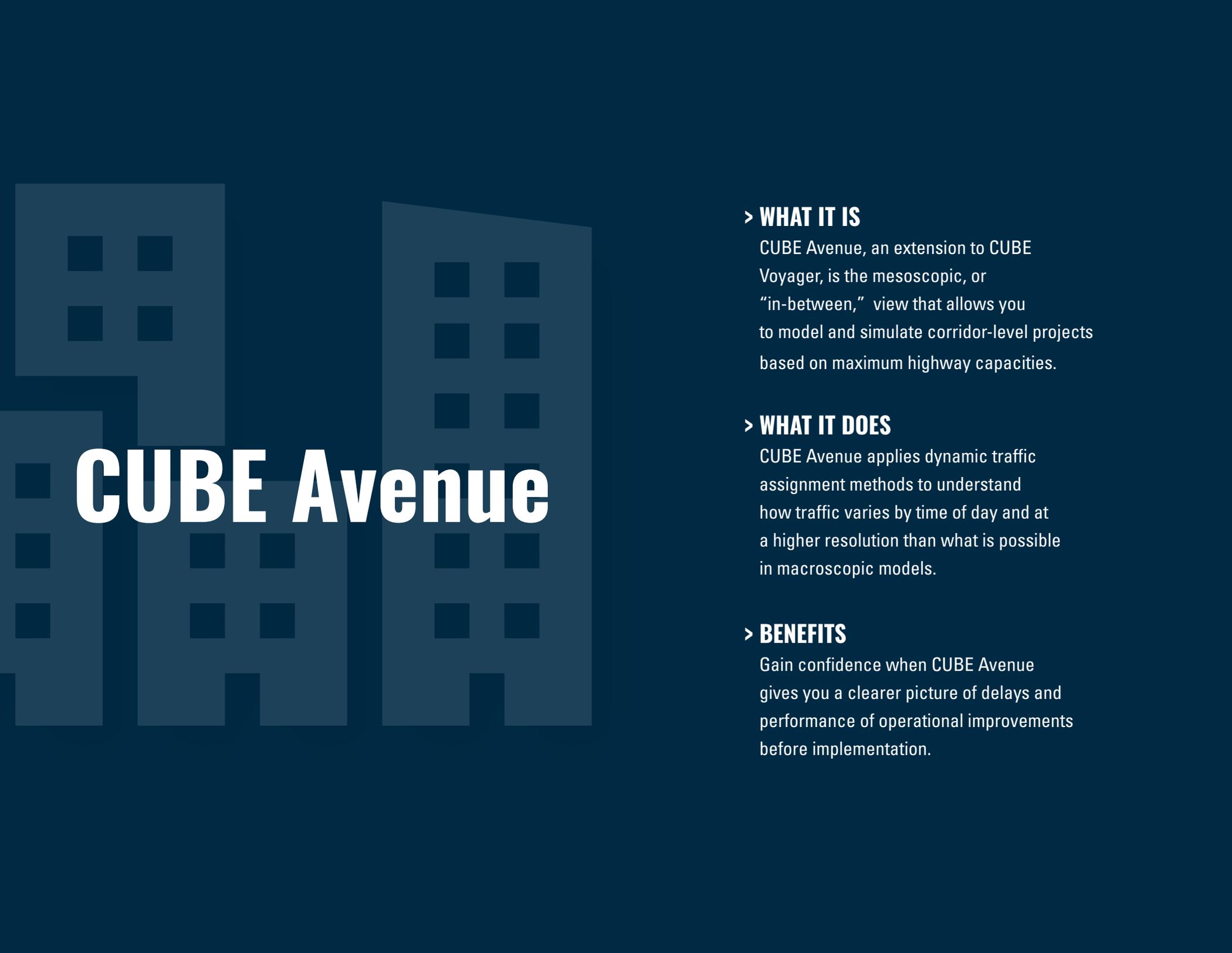
CUBE Avenue

> ### WHAT IT IS

CUBE Avenue, an extension to CUBE Voyager, is the mesoscopic, or "in-between," view that allows you to model and simulate corridor-level projects based on maximum highway capacities.

> ### WHAT IT DOES

CUBE Avenue applies dynamic traffic assignment methods to understand how traffic varies by time of day and at a higher resolution than what is possible in macroscopic models.

> ### BENEFITS

Gain confidence when CUBE Avenue gives you a clearer picture of delays and performance of operational improvements before implementation.
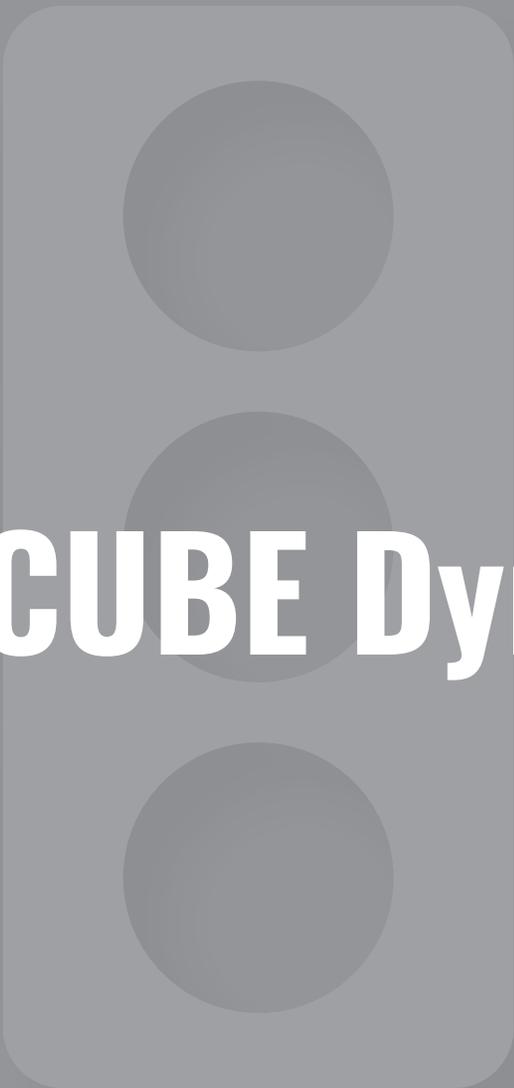
CUBE Dynasim

> **WHAT IT IS**
  CUBE Dynasim is there to help you recreate what you see on the street; it is the most accurate method for simulating every detail of multimodal operations.

> **WHAT IT DOES**
  CUBE Dynasim realistically emulates the flows and interactions of the complete street including all types of transportation modes, including cars, trucks, buses, rail vehicles, cyclists, and pedestrians.

> **BENEFITS**
  Quickly test changes and watch in 3D animations to identify the most effective ways to reduce congestion and delays as well as improve safety in your community.

CUBE Cargo

> ### WHAT IT IS
CUBE Cargo offers freight-specific capabilities to represent multiple commodity groups and logistical nodes where transport mode or the type of vehicle might change.

> ### WHAT IT DOES
CUBE Cargo models freight movement throughout a city or region to understand the impacts of commodity flows and influence decisions on future infrastructure changes.

> ### BENEFITS
Understand and optimize freight movements, improve policy decisions, and reduce congestion to improve overall movement within your area.
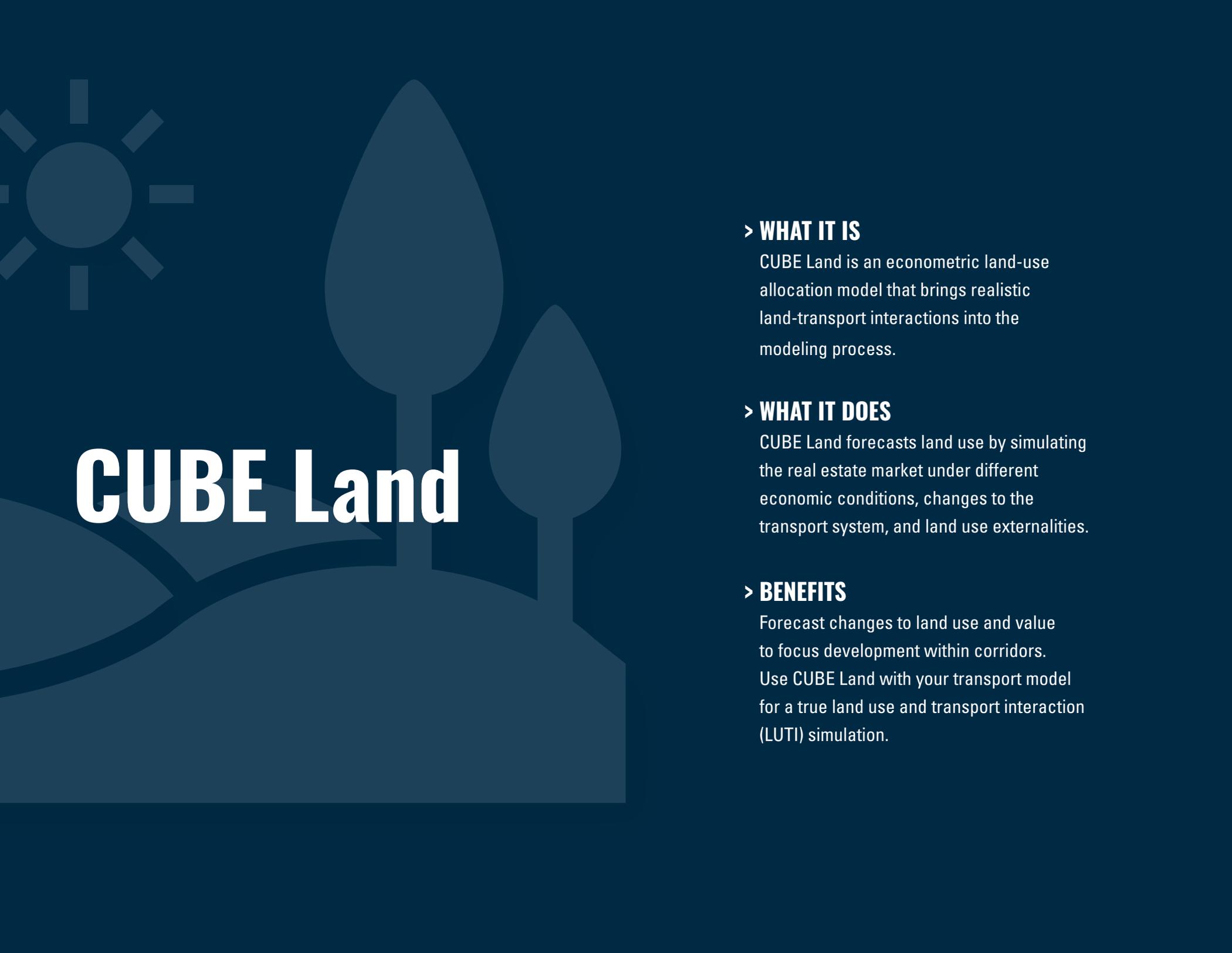
CUBE Land

> WHAT IT IS

CUBE Land is an econometric land-use allocation model that brings realistic land-transport interactions into the modeling process.

> WHAT IT DOES

CUBE Land forecasts land use by simulating the real estate market under different economic conditions, changes to the transport system, and land use externalities.

> BENEFITS

Forecast changes to land use and value to focus development within corridors. Use CUBE Land with your transport model for a true land use and transport interaction (LUTI) simulation.

CUBE Access

> ## WHAT IT IS

CUBE Access calculates multimodal accessibility to employment opportunities, daily errands, and public services to evaluate proposed improvements to the transport system and built environment.

> ## WHAT IT DOES

CUBE Access applies true multimodal path building to provide the full accessibility picture utilizing scores and accurate travel time instead of making assumptions with traditional data.

> ## BENEFITS

Identify gaps in livability and inform community planners and leaders on how to address those gaps. With scenario testing, you can prioritize your projects to optimize your capital investment program and development policies.

CUBE
CAPABILITIES AT A GLANCE

VOYAGER

> Multimodal

> GIS-based maps

> Parallel processing

> Multiscale

> Graphical model process

> Unlimited scenario testing

> Export common formats

> Trip, Tour, or Activity-based methodologies

> Powerful matrix estimation

> Third-party application support

AVENUE

> Seamless integration with Voyager

> Dynamic traffic loading

> Travel time, junction delay

> Queue times and length

> Grading

> Stand alone or hybrid

> 2D simulation

> Test peak spreading

DYNASIM

> True impact of individual vehicle decisions

> 3D and 2D simulations

> Parking-specific module

> Unique option handling tool to reduce coding

> Unlimited range of vehicles

> User-defined behaviors

> Sockets for external applications

CARGO

> Commodity based, not just truck based

> Test policies and infrastructure improvements

> Unlimited commodity segmentation

> Multilevel or zoning hierarchy

> Highly integrated with Voyager

LAND

> Highly integrated with Voyager

> Stand alone or full LUTI

> High flexibility

> Clear and tidy file management

> Uses economic principles

> Allows for bounded or constrained assumptions

ACCESS

> Multimodal

> Default and modifiable scoring system

> GIS based with editing tools

> Clear and easy scenario management

> No scripting

SEE WHAT **OTHERS** HAVE ACCOMPLISHED

RICHMOND REGIONAL TRANSPORTATION PLANNING ORGANIZATION

Virginia, United States

Analyze major traffic chokepoints to identify impacts from implementing various mitigation strategies.

NEW TRAVEL DEMAND MODEL FOR WESTERN CAPE

Cape Town, South Africa

Fill data gaps, use innovative modeling techniques and integrated modeling tools, and create local experts for continued success.

READ MORE >>

LIVERPOOL CITY REGION TRANSPORT MODEL

Liverpool, England

Make the business case for transport-related investments.

END-TO-END SOLUTIONS FOR INFRASTRUCTURE PROJECTS

FOR TRANSPORTATION PLANNERS

Streetlytics®

Data analytics enables users to make confident decisions to mitigate risk and increase revenue by leveraging transportation digital twins.

FOR ROAD DESIGNERS

OpenRoads™

Enhance the design and road analysis for all phases of civil infrastructure with immersive modeling.

FOR OWNER-OPERATORS

AssetWise®

Intelligently plan and implement asset performance and reliability strategies.

PARTNERSHIP
FOR SUCCESS

Your success goes beyond software. It is also dependent on doing business the way that best serves your organization. That is why we have a variety of subscription and license options as well as 24/7/365 support to ensure you are up and running on your software quickly and continuously.

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