REPLICA

Replica is a data platform for the built environment.

We believe complex urban problems require big data to inform better decision -making and help create more resilient, equitable and liveable places.

Our platform enables agencies to harness near real-time data – while maintaining privacy – to uncover insights about people, mobility, the built environment, and all the relationships in between.

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Replica helps planners uncover insights about people, mobility, the built environment, and all the relationships in between.

01

Create a common operating picture for stakeholders

02

Monitor the issue with near real-time data

03

Evaluate the impact of interventions

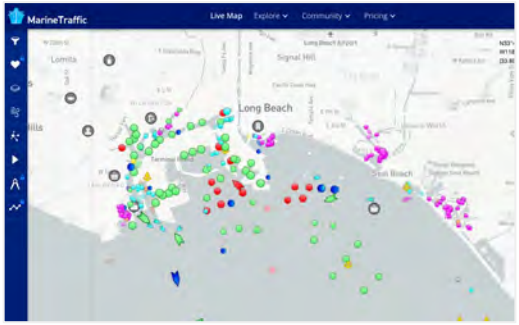
Case Study:

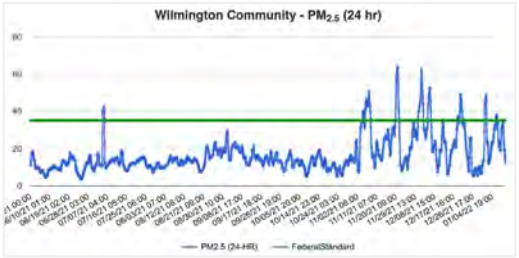
Leveraging large data to aid in unclogging the supply chain and mitigating the impacts

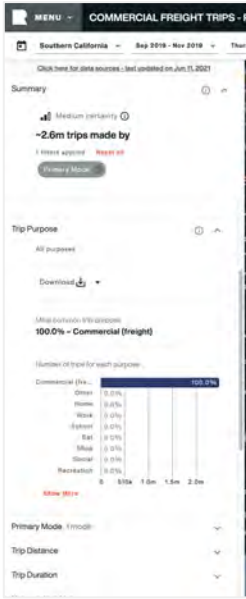
California ports

Challenge: Supply chain disruptions stemming from COVID-19, combined with strong demand for consumer goods, have resulted in shipping congestion at California's ports.

Solution: Create a common operating picture, monitor with near real-time data, and evaluate the impact of interventions.







Primary factors

- Consumer demand
- Vessel arrival time, queuing, anchorage location
- Onshore commercial freight congestion and trip routing
- Availability of chassis, warehouse space, trucker/warehouse workforce

Second-order

- Increased truck traffic and idling trucks on neighborhoods streets
- Air pollution
- Safety
- Consumer goods - shortages and inflation

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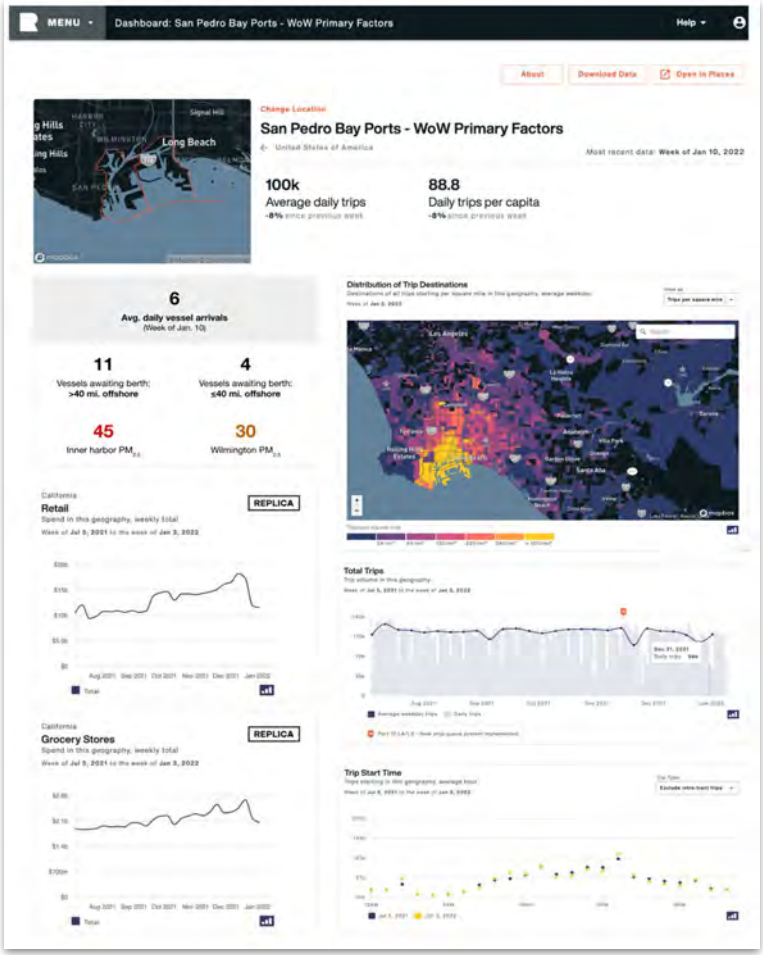


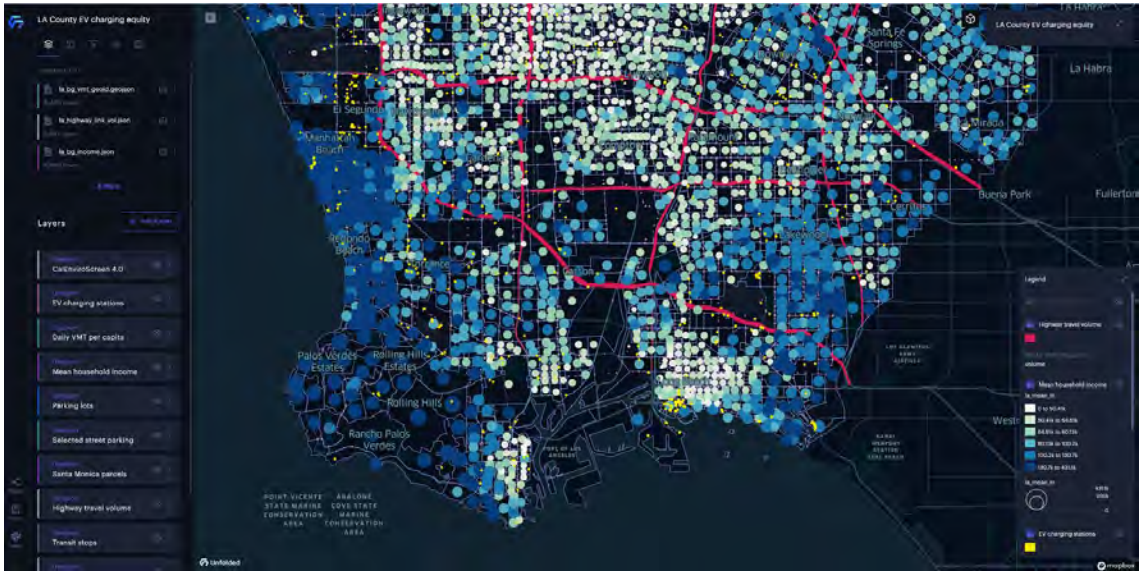
Replica enables stakeholders to overlay mobility, people, and consumer spend data with harbor vessel traffic and queuing data (e.g., Marine Exchange of Southern California), air quality data (e.g., CAAP), and other relevant data.

Case Study:
EV charging infrastructure equity analysis

California ZEV Acceleration

Challenge: How do state officials ensure EV charging infrastructure access in low-income neighborhoods?

Solution: Leverage Replica mobility and demographic data to create a common operating picture for stakeholders – beyond mobility-only insights.



- Current EV charging station locations[1]
- Network link volumes + trip patterns
- Daily VMT per capita (BG)
- Mean HH income (BG)
- CalEnviroScreen 4.0[2]
- Parking (commercial and on-street)
- Land use for identifying sites

1. US DOE AFDC - Electric Vehicle Charging Station Locations
2. OEHHA CalEnviroScreen

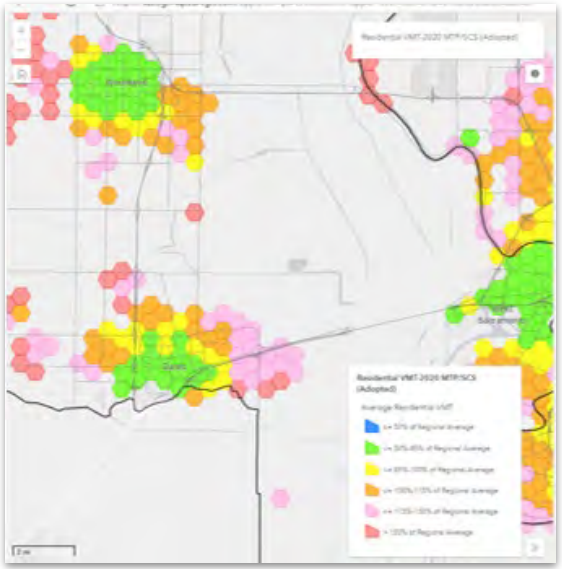
Case Study:
Accurately Quantifying VMT Per Capita

SACOG

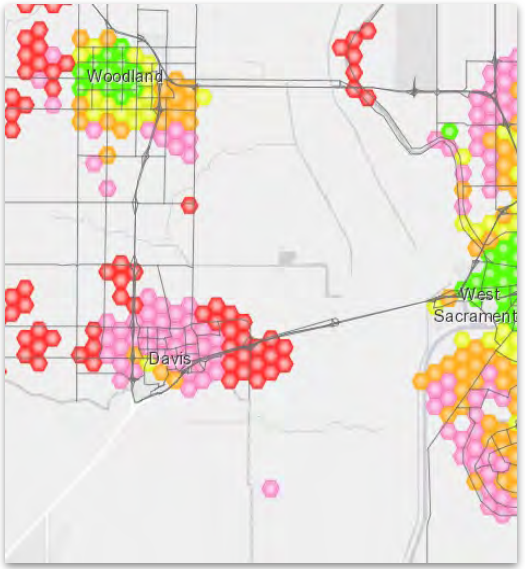
Challenge: Household surveys, other data options, and existing travel modeling do not provide sufficient coverage to defensibly document VMT in the Sacramento region.

Solution: Leverage Replica models to accurately quantify VMT per capita to provide a source of truth used by jurisdictions and developers for SB 743 compliance.

VMT per capita for Davis, CA



HH survey data



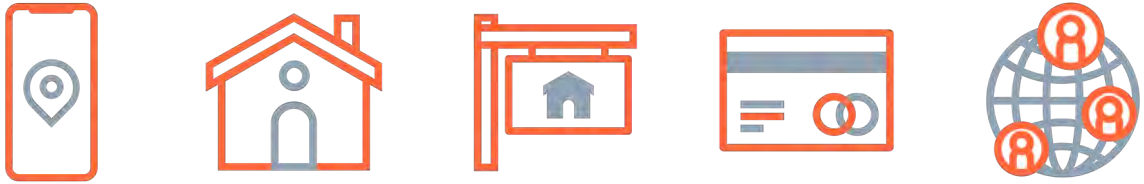
Replica data

How It Works

Data Inputs

We leverage a diverse set of third-party source data to create our models.

This composite approach is both a risk-mitigation strategy and aligned with our objective to show a holistic view of the built environment.



Mobile Location Data

Consumer & Resident Data

Land Use & Real Estate

Economic spend

Ground Truth Data

How it Works

Algorithms Layer

Replica generates its data by running large scale, computationally-intensive simulations—a “replica” of transportation and economic patterns.

As the quantity and variety of available raw data continues to grow, we introduced a privacy-preserving algorithms layer that produces composite synthetic core datasets in a unified schema.