

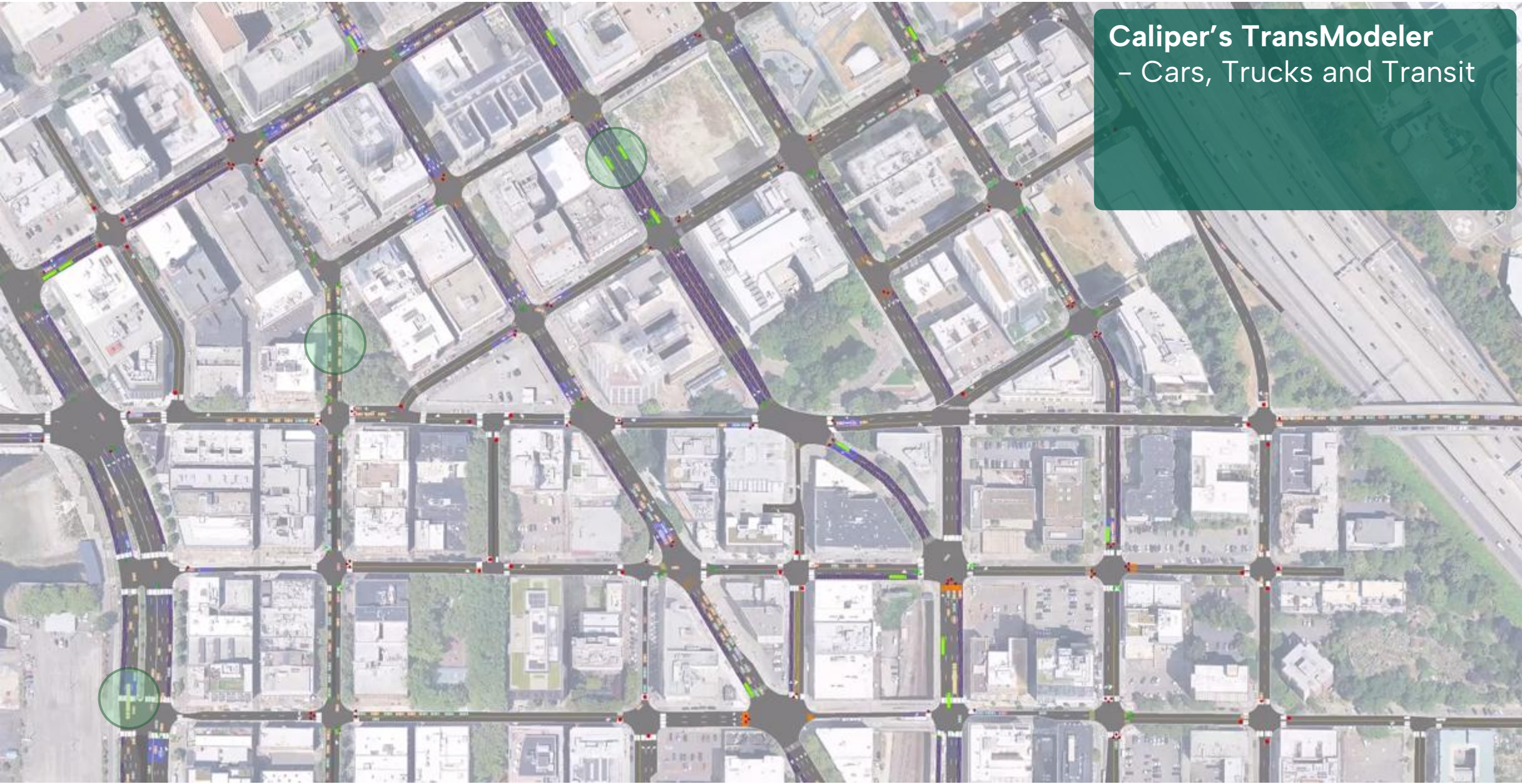
Fehr & Peers

Applying Advanced Network Analysis with Microsimulation DTA Modeling

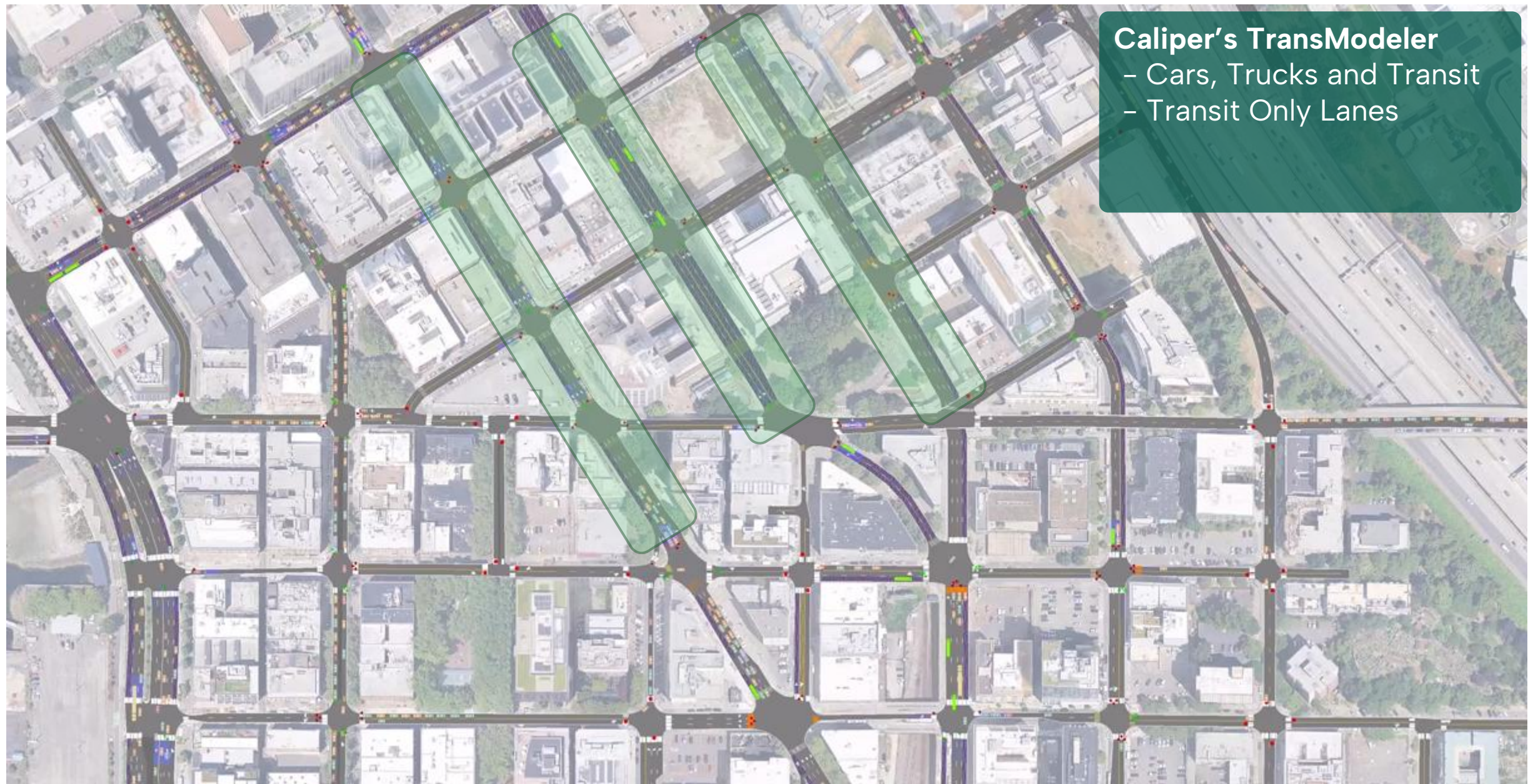
ITE Western District Annual Meeting

Jeff Pierson | June 30, 2026

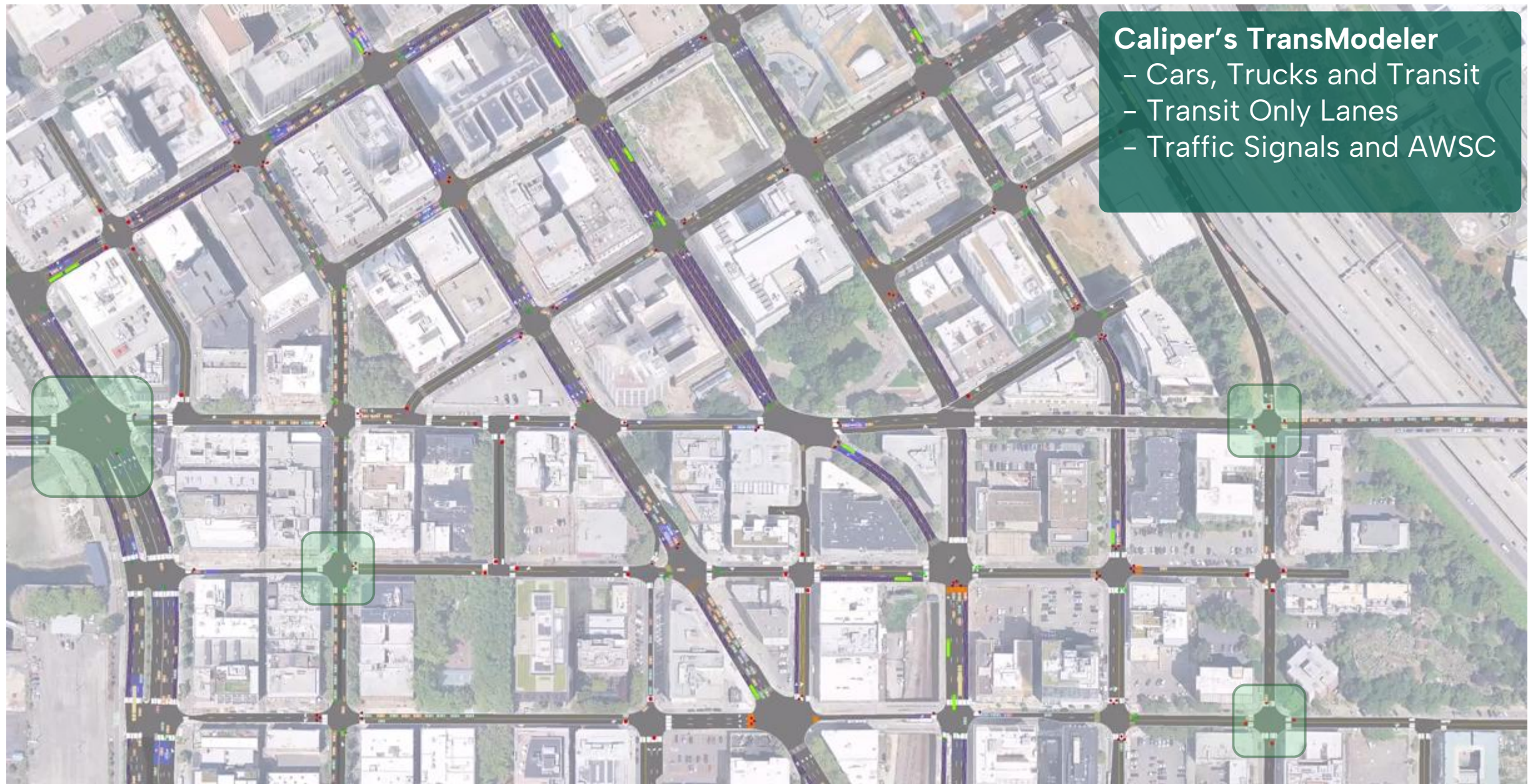


An aerial photograph of a city street grid, likely in downtown Los Angeles, showing a dense network of streets and buildings. Overlaid on the image is a transit model simulation. Three specific intersections are highlighted with green circles: the intersection of 1st and 2nd Streets, the intersection of 3rd and 4th Streets, and the intersection of 5th and 6th Streets. The transit lines are shown as colored lines (green, blue, and red) with small vehicle icons (cars, trucks, and transit vehicles) moving along them. A large green box in the top right corner contains the text "Caliper's TransModeler - Cars, Trucks and Transit".

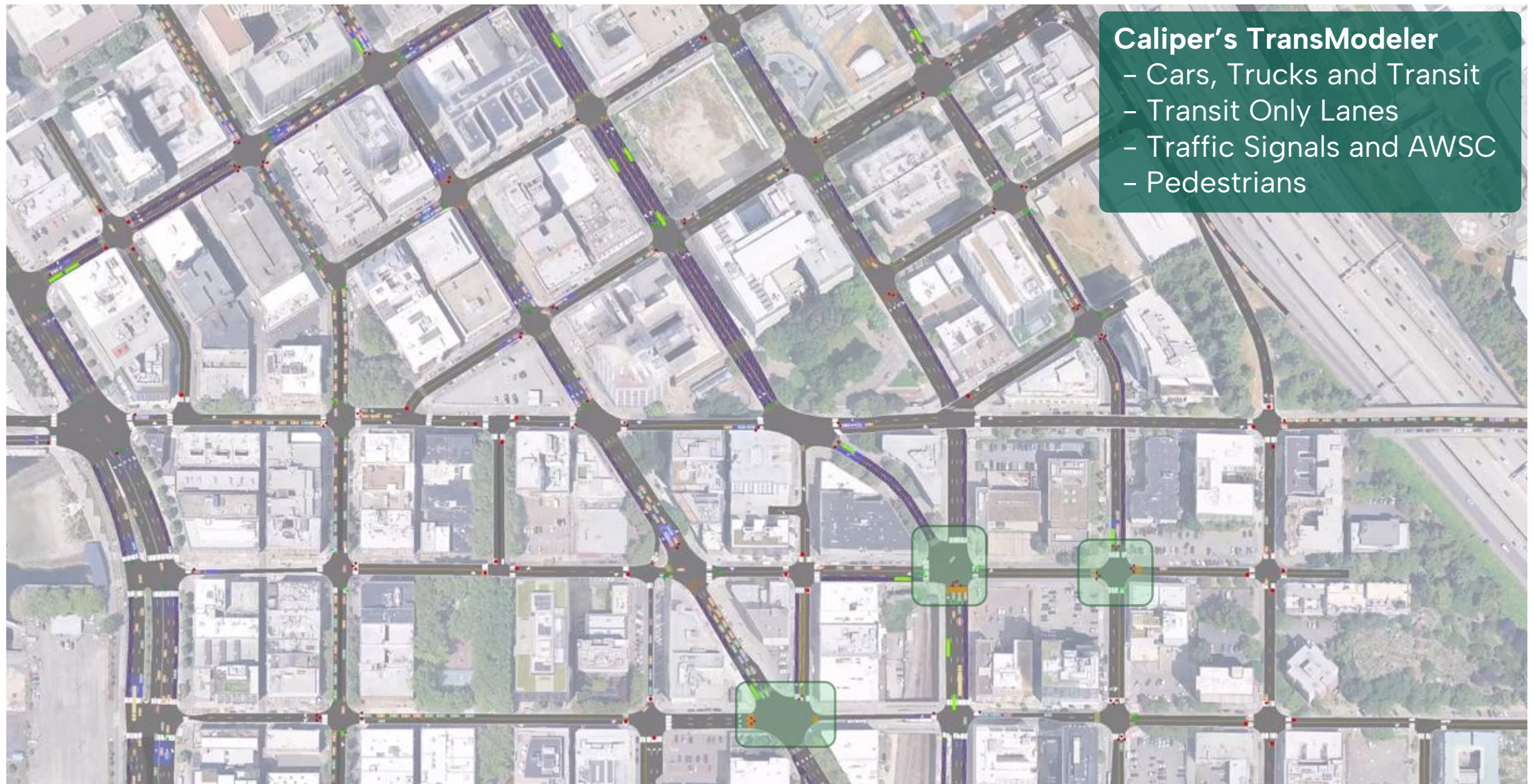
Caliper's TransModeler – Cars, Trucks and Transit



Caliper's TransModeler
- Cars, Trucks and Transit
- Transit Only Lanes



- Caliper's TransModeler**
- Cars, Trucks and Transit
 - Transit Only Lanes
 - Traffic Signals and AWSC



Caliper's TransModeler

- Cars, Trucks and Transit
- Transit Only Lanes
- Traffic Signals and AWSC
- Pedestrians

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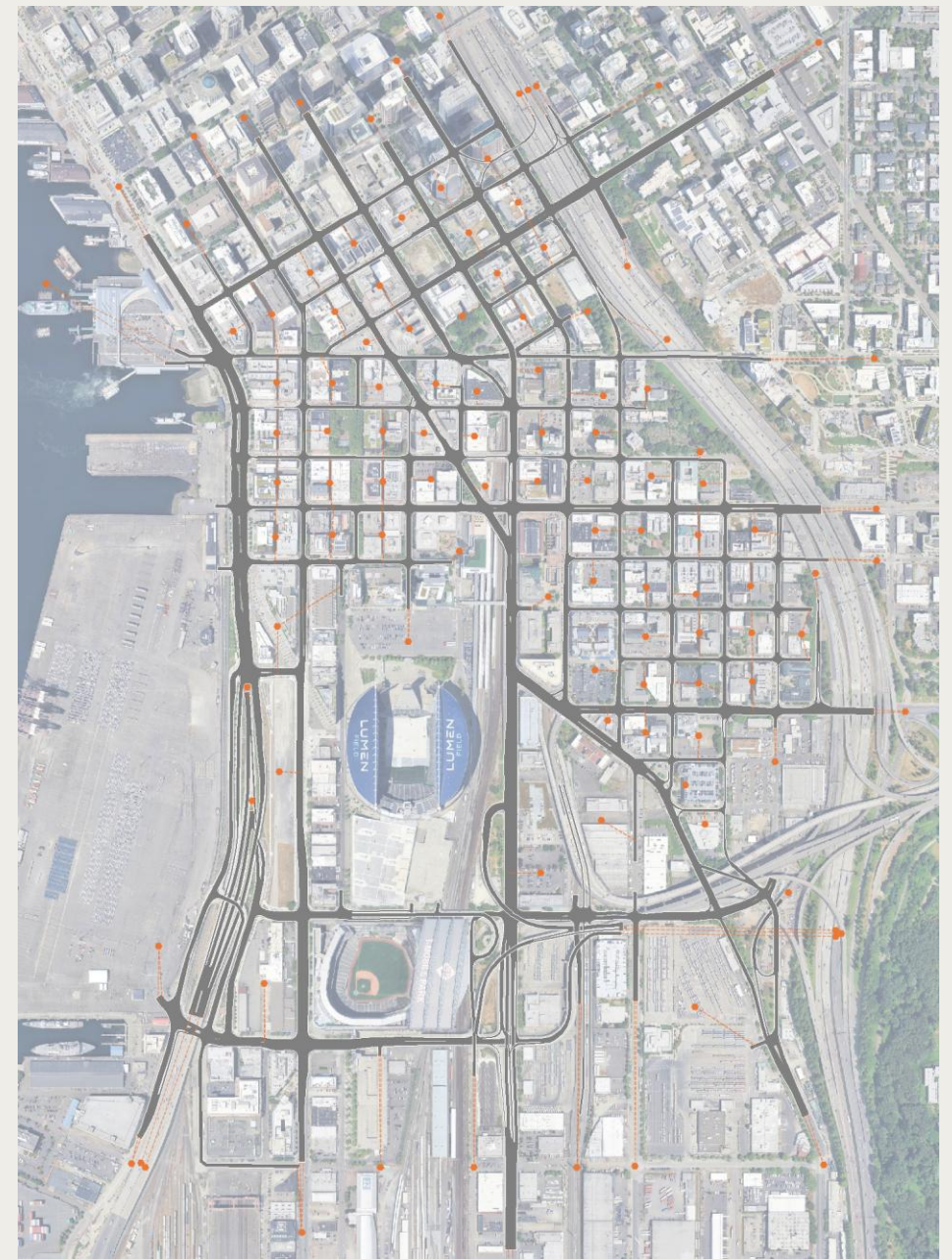
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- Performance metrics can be calculated based on the simulated paths of all vehicles (auto and transit)

Why use a Microscopic DTA Model?

- Combined route choice diversion analysis with detailed operations analysis in one software package

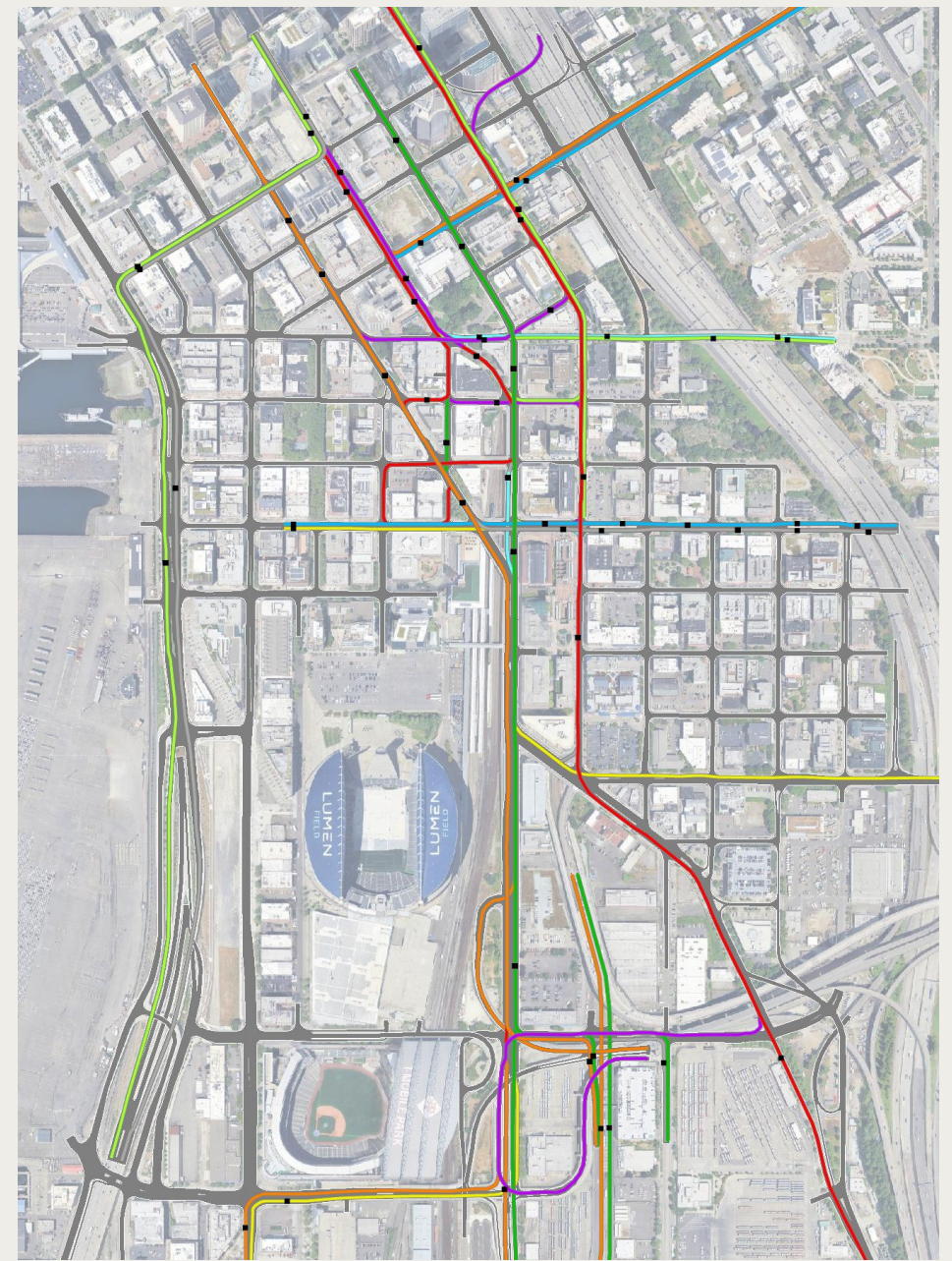
The Inputs

- Fall 2023: 3–6pm
- 115 traffic analysis zones
- 350 peak hour transit trips
- 18,000 peak hour car and truck trips
- 80 signalized intersections
- 30 stop-controlled intersections
- 1 at-grade rail crossing
- 90 second model run time



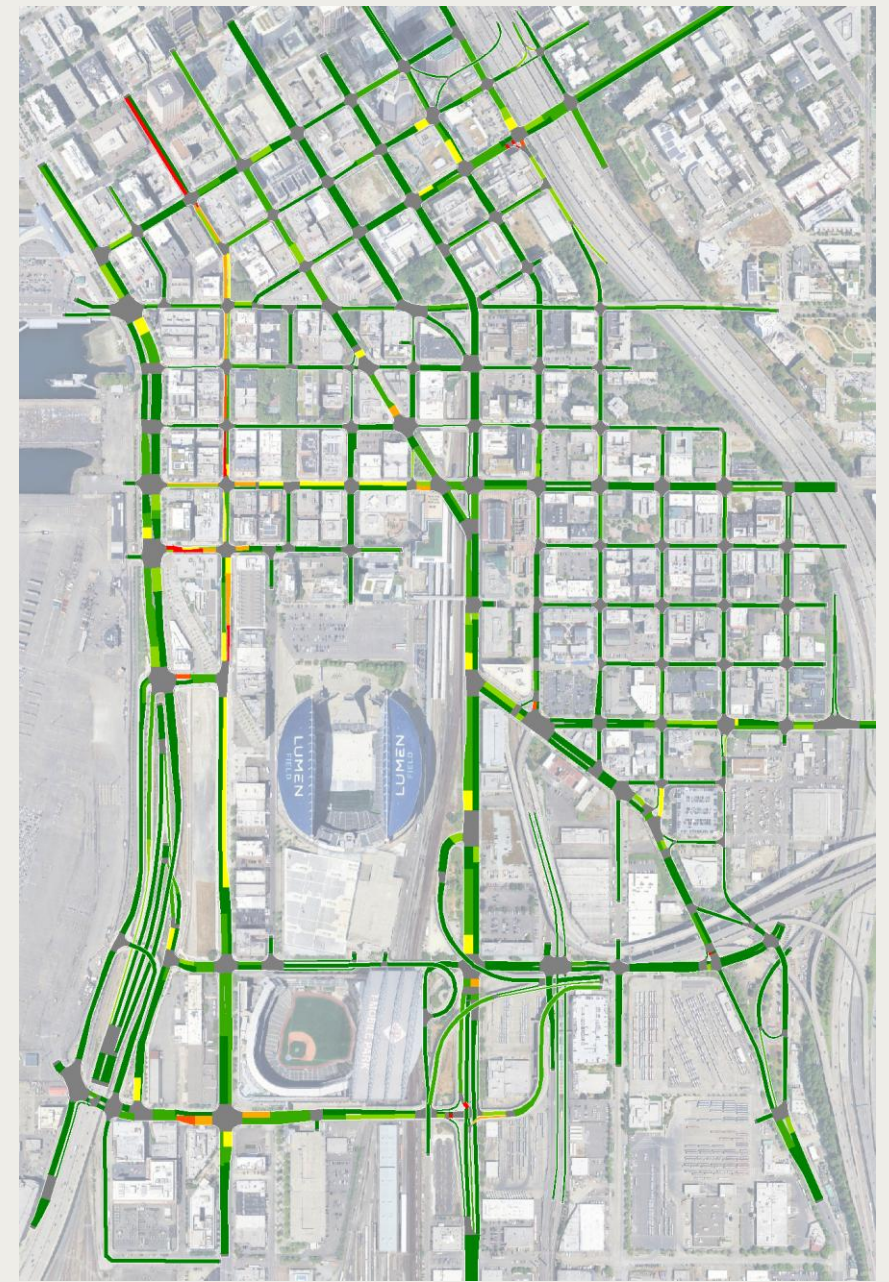
The Questions

- What happens if we close additional streets to general purpose traffic?
- What happens if we convert from one-way to two-way operations?
- What happens if we reconfigure intersection layouts?
- What happens if we increase transit frequency or add routes?



The Outputs

- Vehicle volumes and routes
- Intersection delay and LOS
- Link congestion and queuing
- Zone-to-zone travel times
- Corridor travel times
- Car, truck, and transit summaries
- Network-wide VMT, VHT, and VHD
- Custom reporting periods





Thank you.