



Probe-based Origin Destination Matrices

Revolutionizing Travel Demand Modeling and More

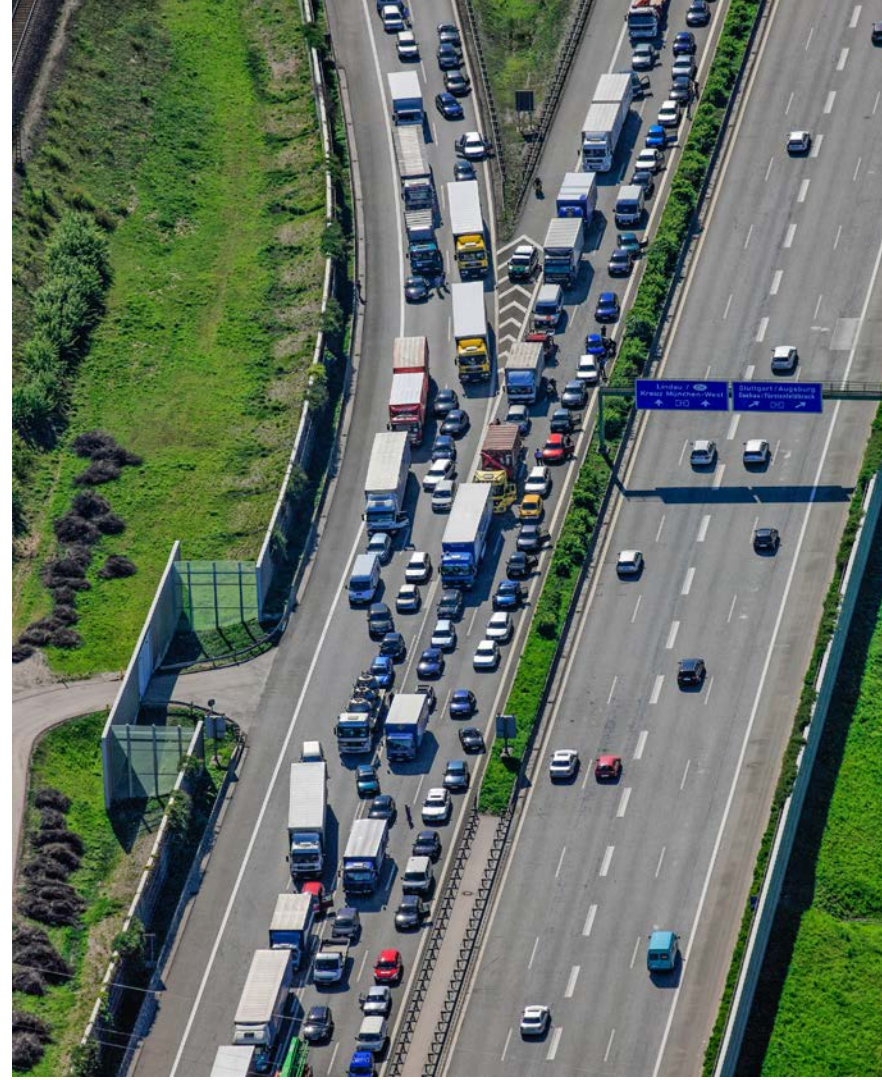
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Agenda

- Introduction
- HERE Trip Data
- Benefits of Probe Based Data
- Challenges and Opportunities
- Key Takeaways



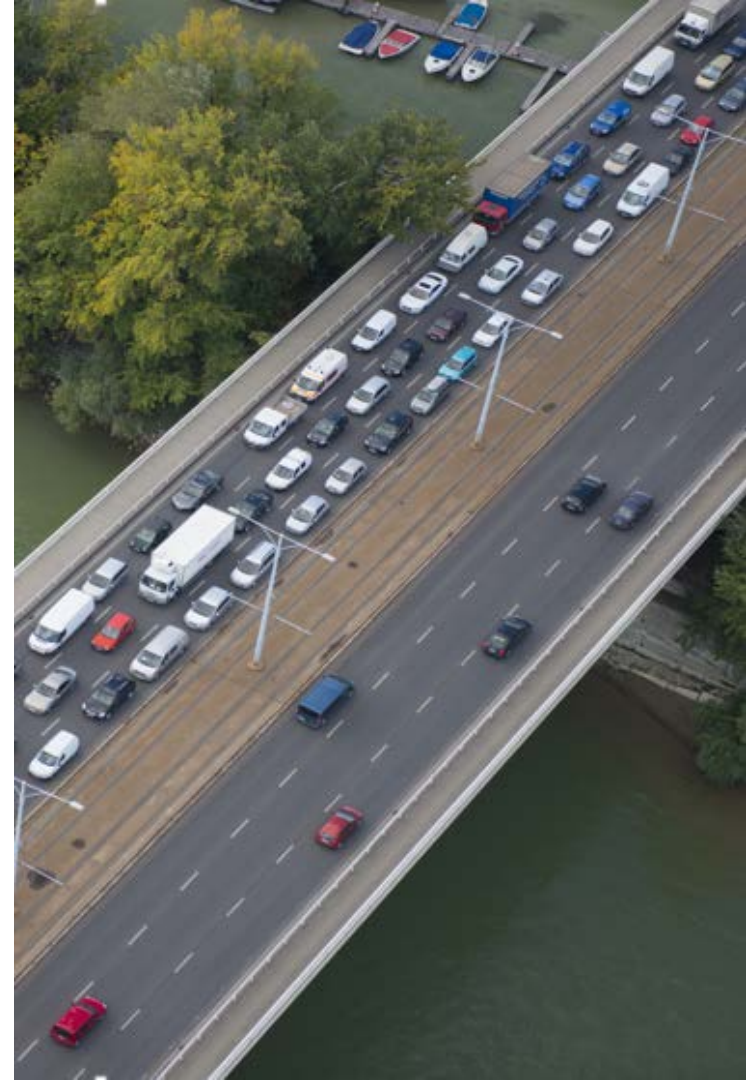
Challenges with Existing Methods

- Manual process
- Infrequently updated
- High cost to commission studies
- Unknown data quality



Probe Data Offers New Promise

- Generated based on observed data
- Continuously updated
- More economically efficient

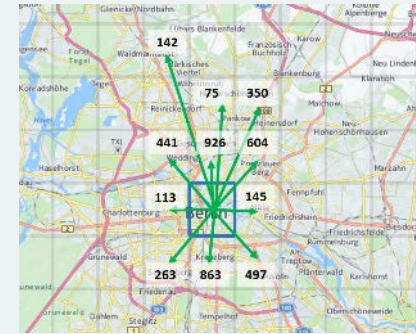


HERE Trip Data

- Data from actual probe trips on roadways
- Tailored to custom analysis zones
- Truck and passenger data

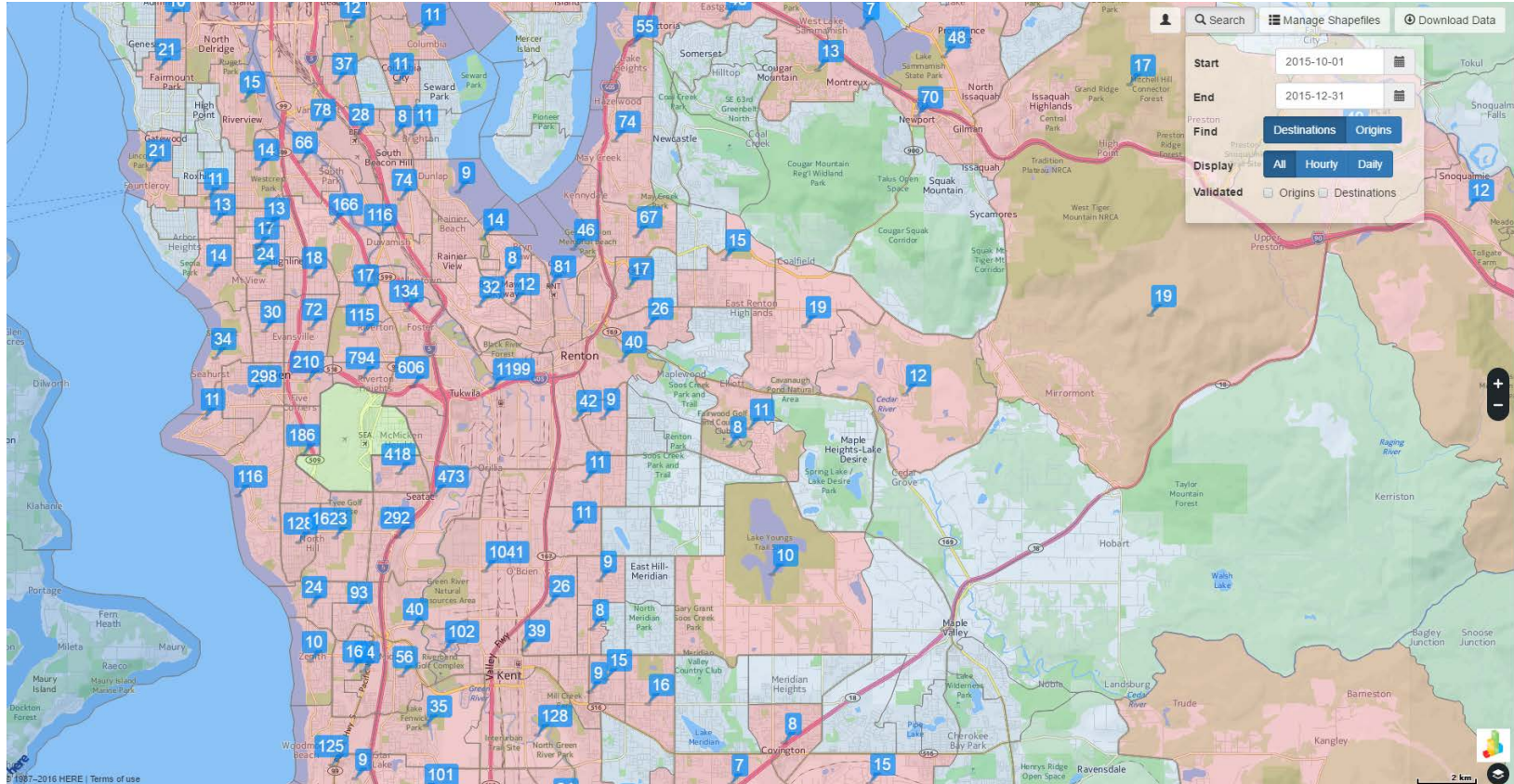


Enables detailed modeling of travel demand and road network bottlenecks

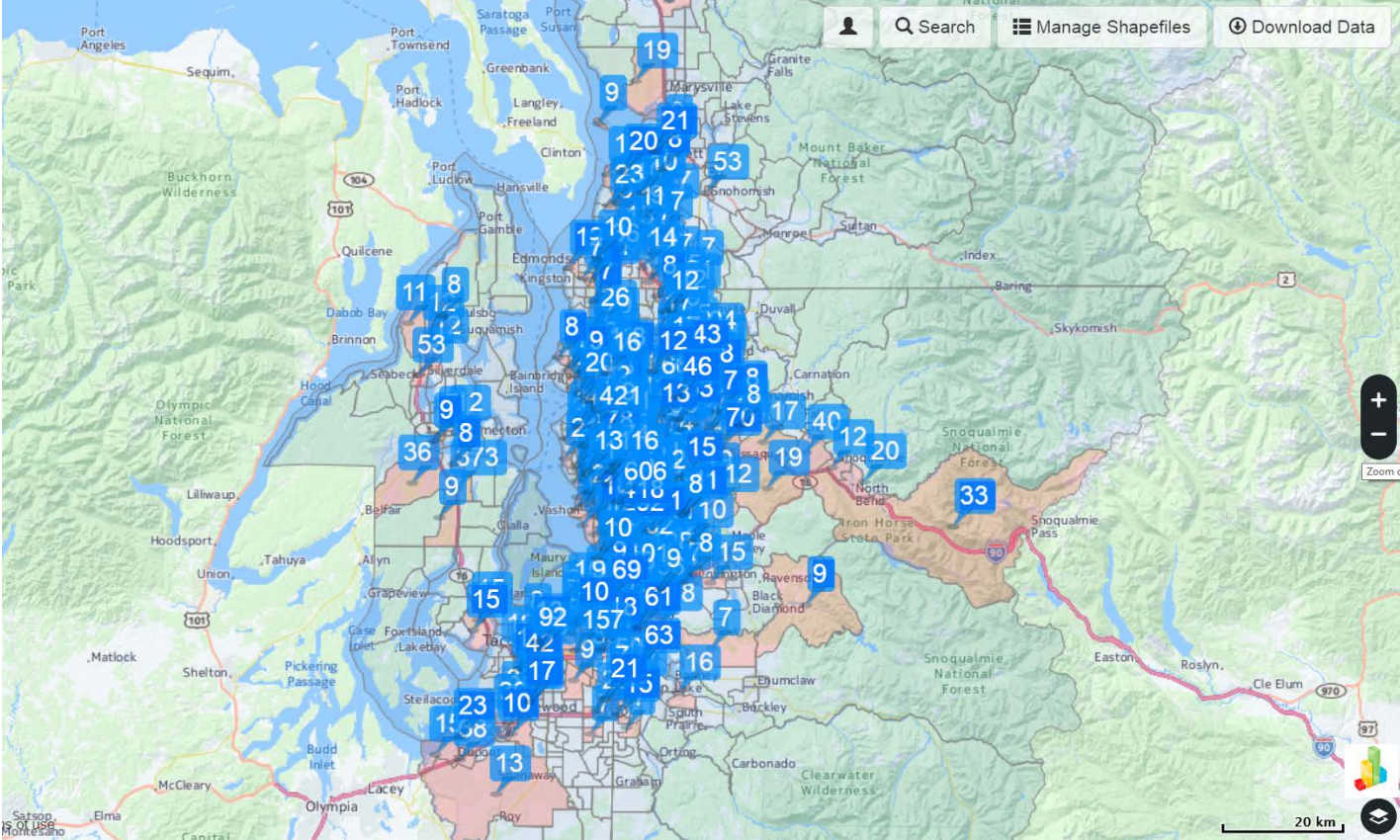


Helps companies understand where their visitors come from and go to, over time.

Trip Data Sample

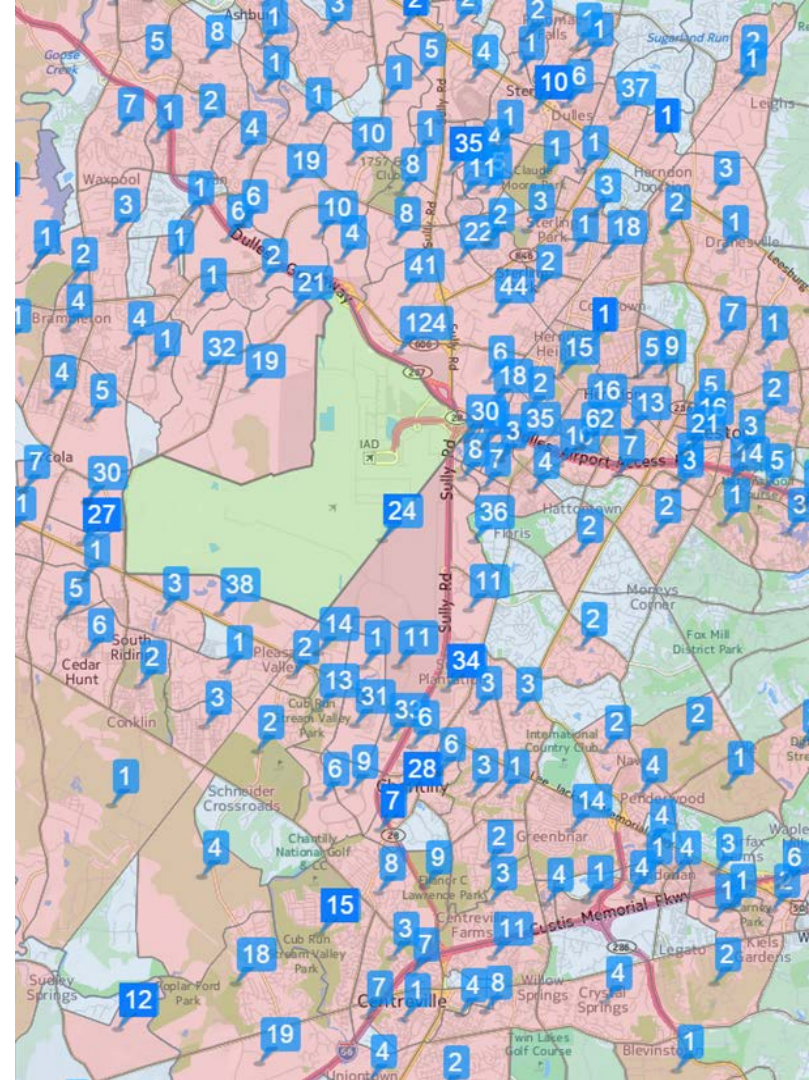


Trip Data Sample



Benefits of Probe Based Trip Data

- Substantial coverage
- Continuously collecting data so can run reports more frequently and create trends
- Links trip data with demographic data



Two Trip Data Formats

Grid Format

Where do cars come from and go to?

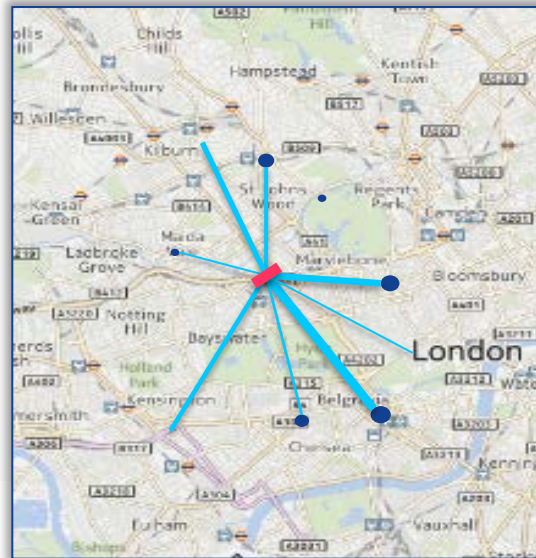
- Standard OD Matrix
- No road network references
- Count and average duration of trips between zones



TMC Format

Why is this road used?

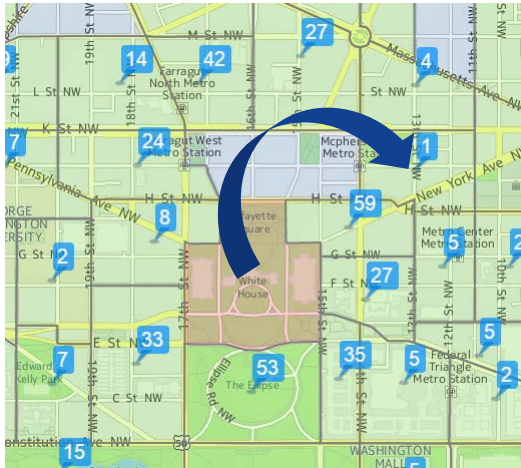
- Extended matrix format tagged with TMCs
- Tied to the road network
- For each TMC crossed, gives the count and duration of trips between zones



Challenges and Opportunities with Probe Based Data

- Privacy
- Sample Bias
- Data integration into existing models

Trip Data Privacy



A single trip from one zone can be personally identified ...



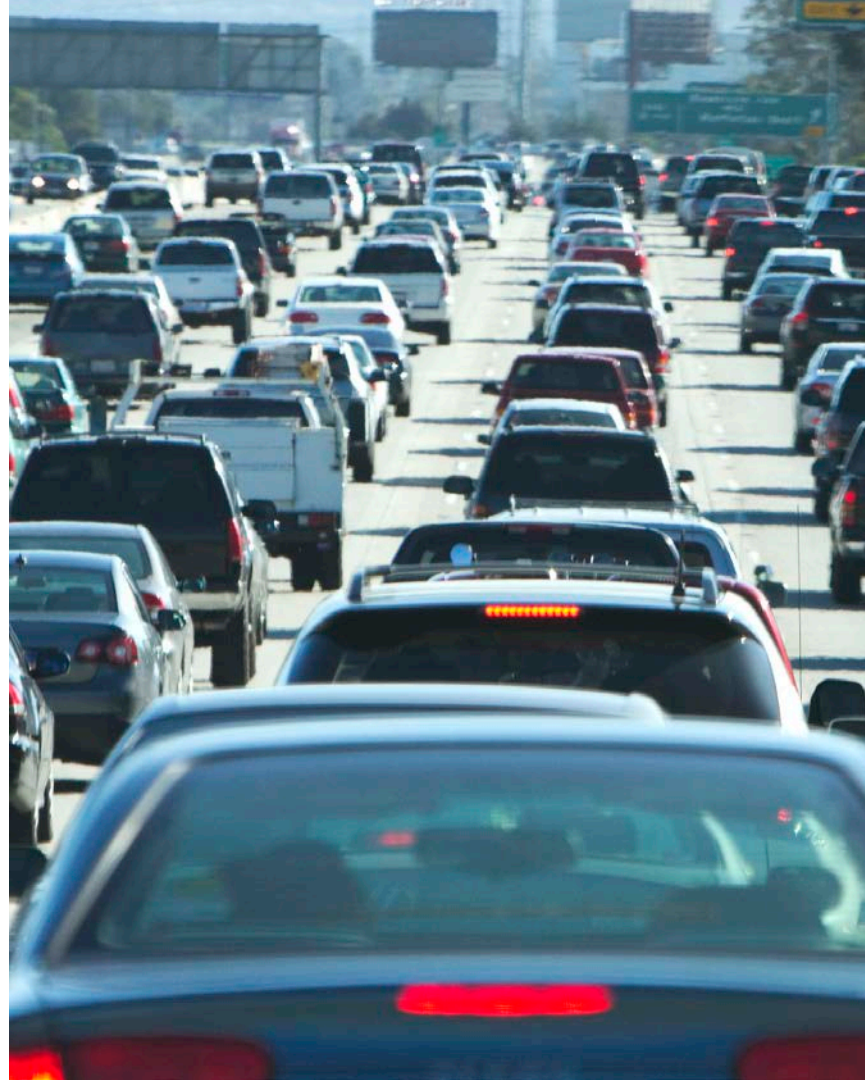
... if there's only one residence in the zone



- Probe data is anonymized, but trips need more protection
- Trip Data protects privacy using summarization

Key Takeaways

- Probe-based data shows promise for O/D modeling
- Data quantities and types continue to grow exponentially
- Collaboration with agencies is important





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The HERE logo, consisting of the word "here" in a bold, blue, lowercase sans-serif font, is positioned in the bottom right corner of the white overlay.