

Private Sector Travel Time Data

Kentucky Transportation Center

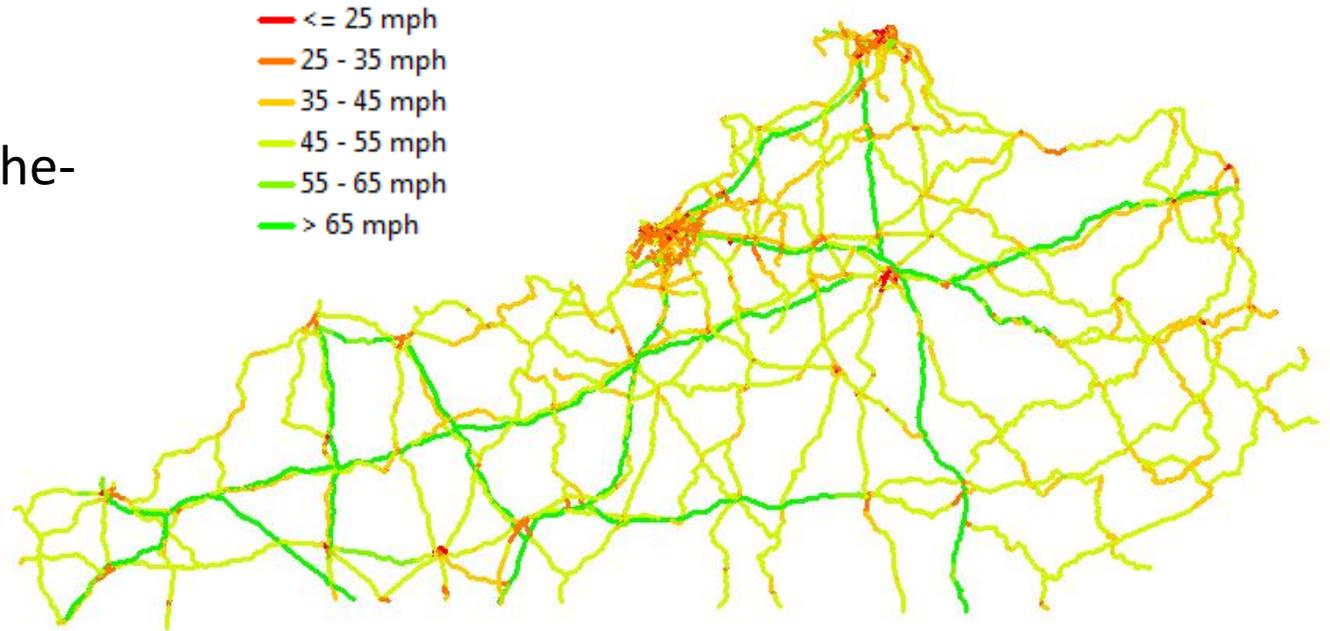


Data Items

- NAVTEQ (now known as HERE)
- Data sets:
 - 2010 TMC-based Analytic Traffic Pattern (ATP)
 - 2010 Link-based Traffic Pattern (TP)
 - 2011 and 2012 Link-based ATP

2010 TMC-based Speed

- Probe speeds on TMC network
 - 15-min average speed, sample counts, and standard deviation
 - Grouped by month and by day-of-the-week
- Underlying model blending data from
 - Segment in question
 - Adjacent segments or roads with similar functional classification and characteristics
 - Free flow speed
- Adjusted by the amount of data available from each source

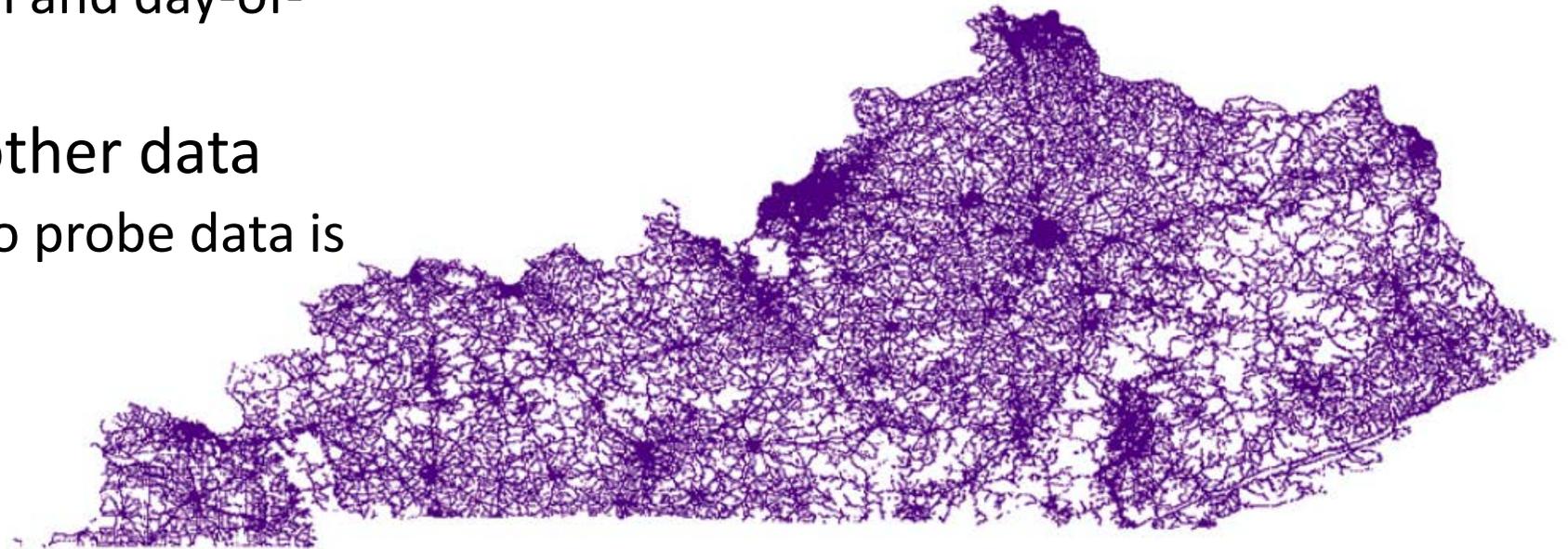


2010 Link-based Traffic Pattern

- 3-year average speed on all roads
- Underlying model blending data from
 - 3-year probe speeds
 - Free flow speed
 - 3-year average overnight speeds
 - Capped at speed limit
- Used for navigation product

2011/2012 Link-based Speeds

- Probe speeds on all roads
 - 5-min speed, sample counts, and standard deviation
 - Grouped by month and day-of-the-week
- No blending with other data
 - Left blank when no probe data is available



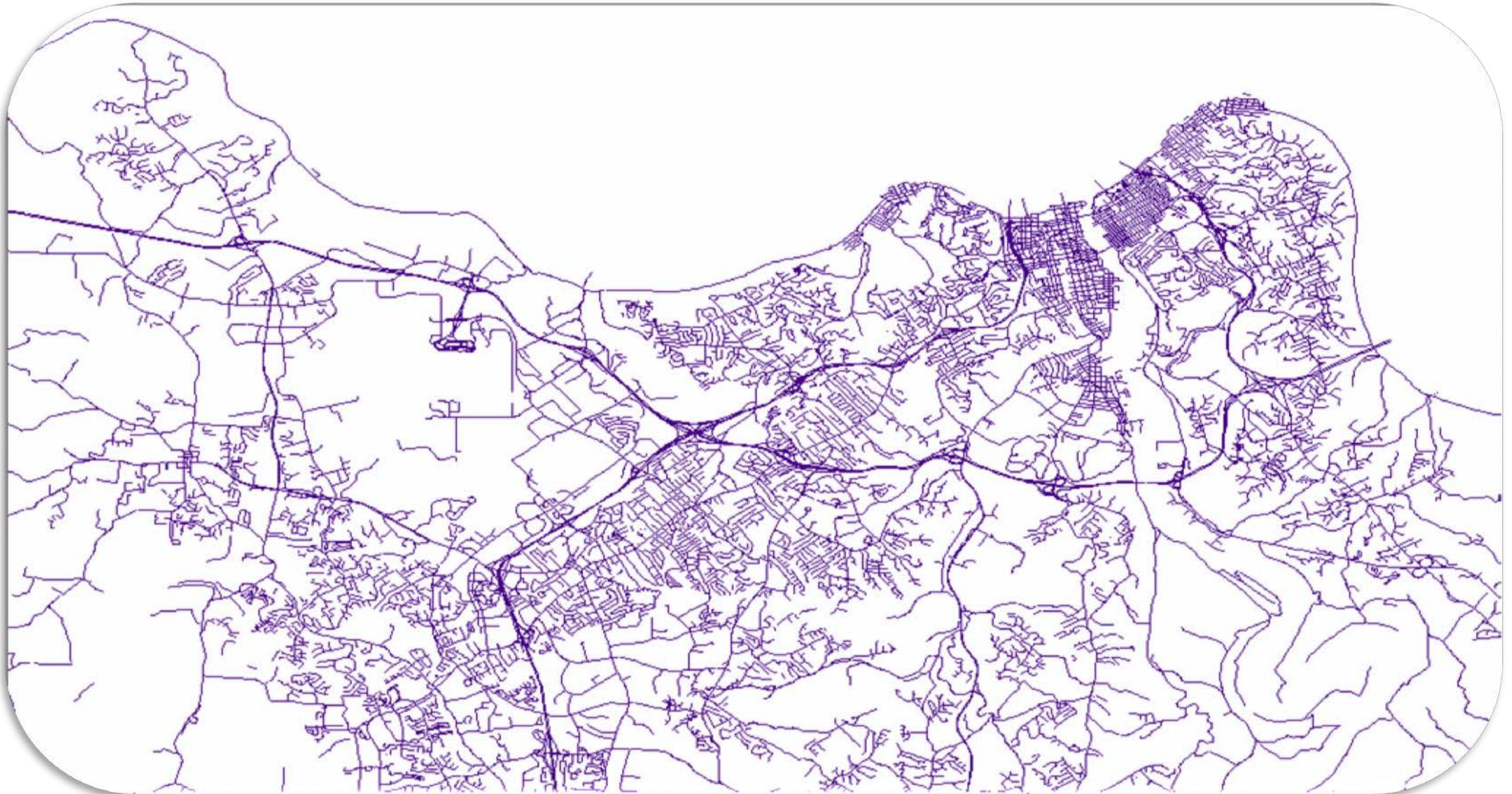
Lexington



Louisville



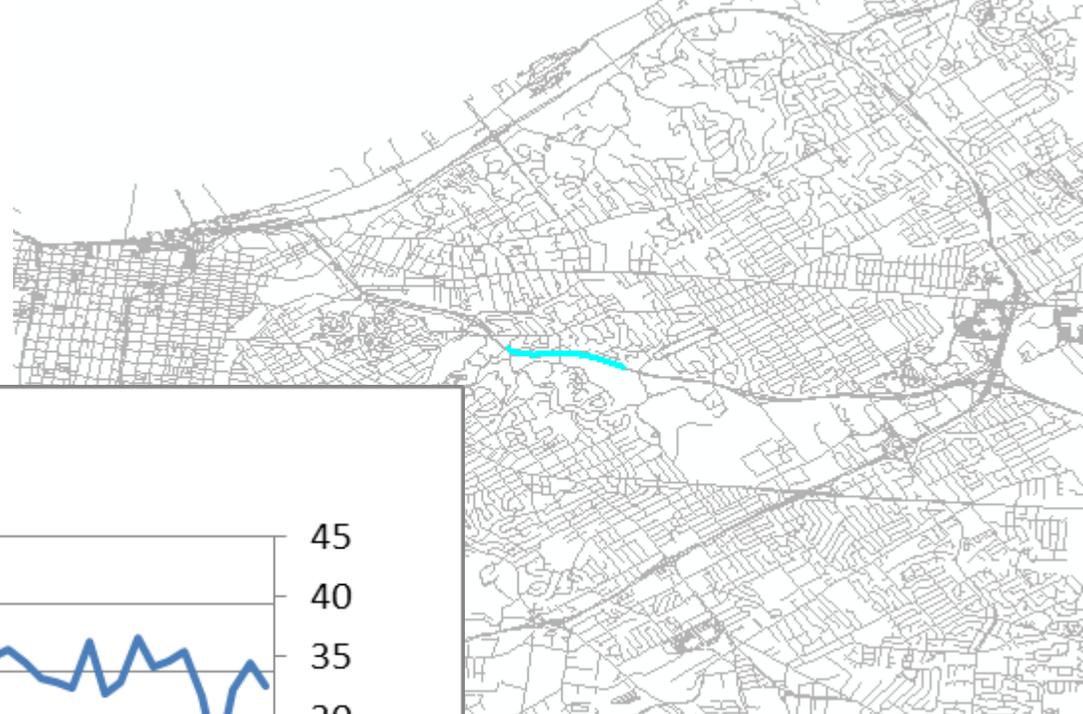
Northern KY



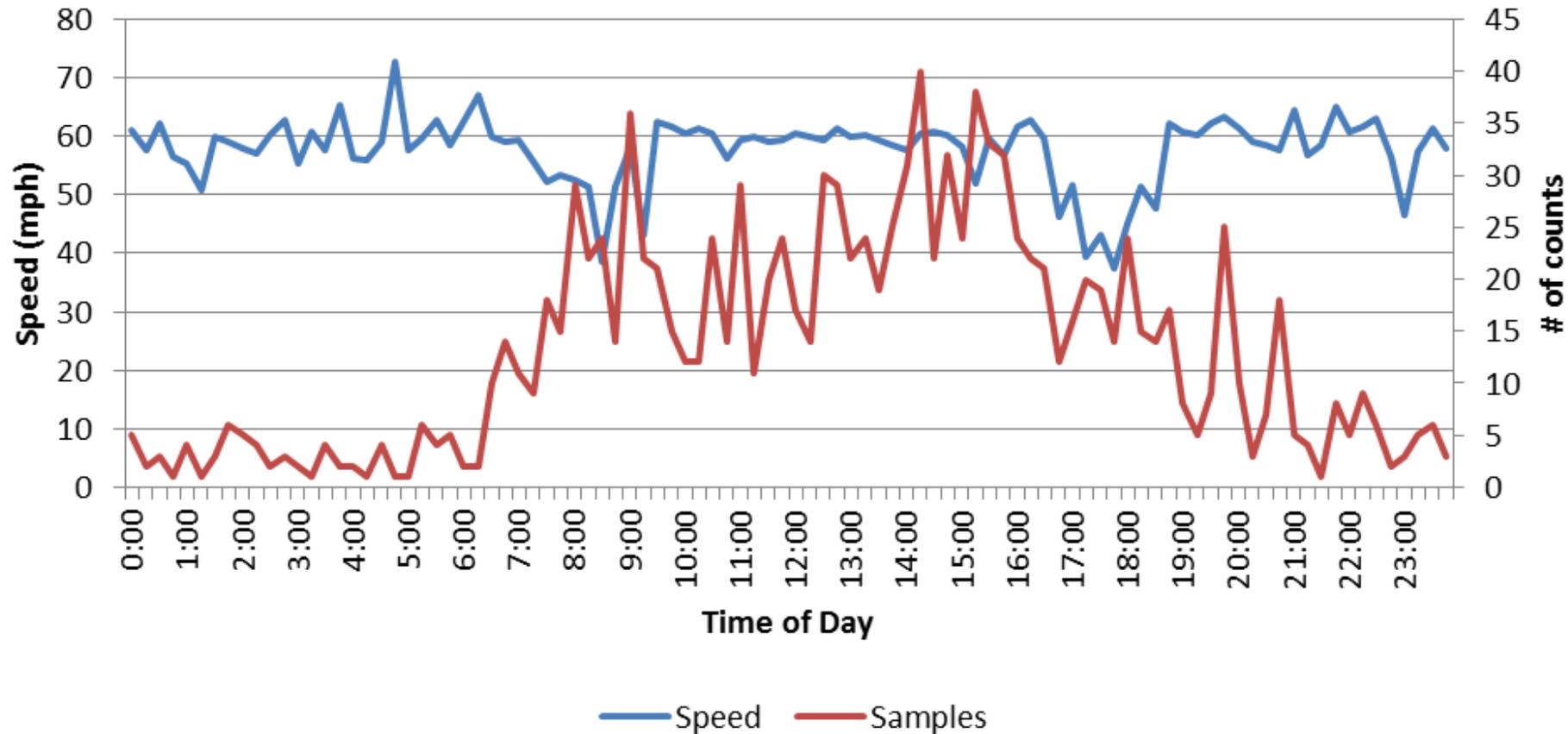
Data Source

- In 2010:
 - Commercial fleet: 60%
 - GPS-enabled consumer devices: 40%
- Share varies by time of day
- Consumer device share: ~50% in 2011

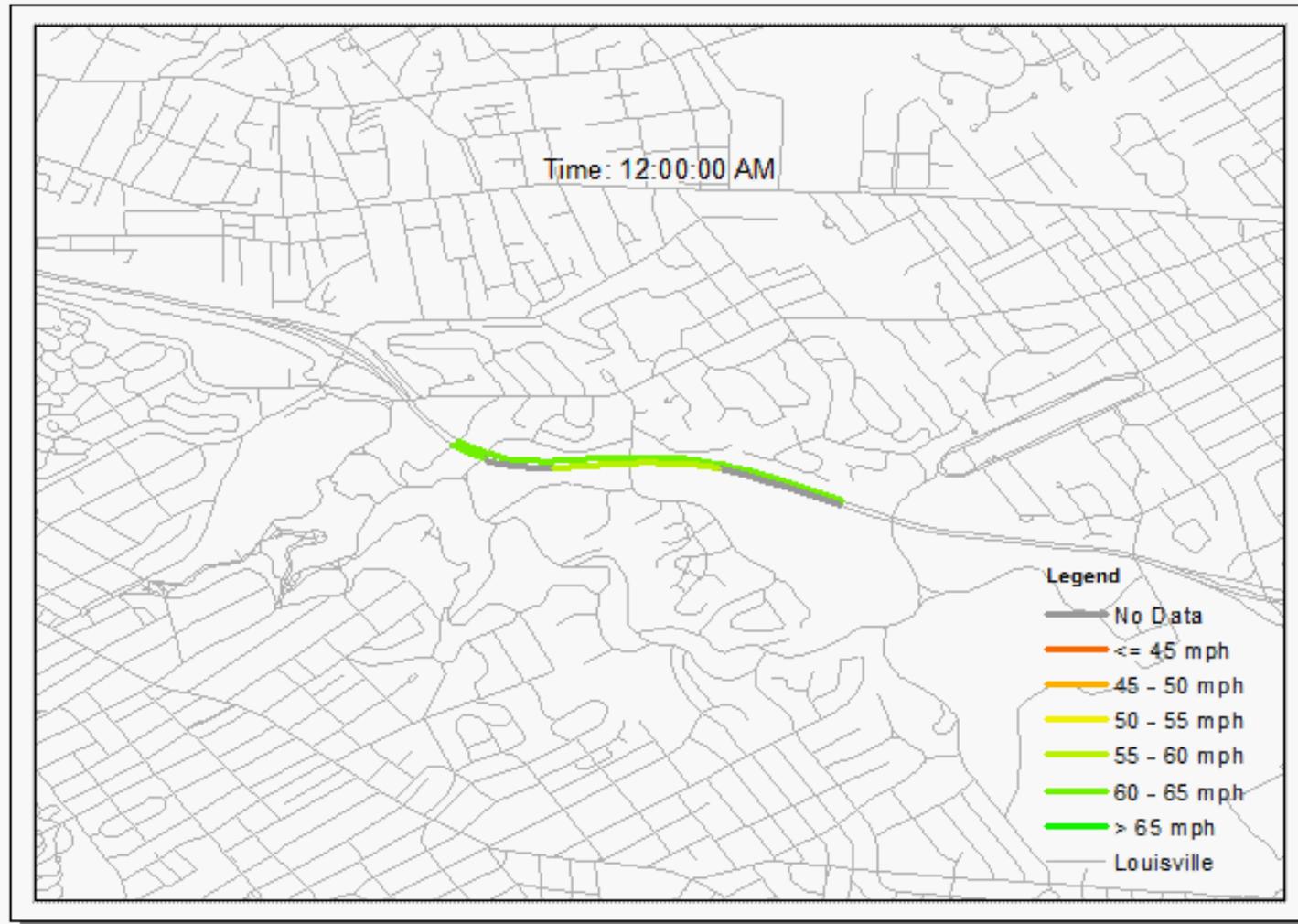
Speed and Sample Size



I-64 on April Thursday, 2012



24-hr Speed Variation

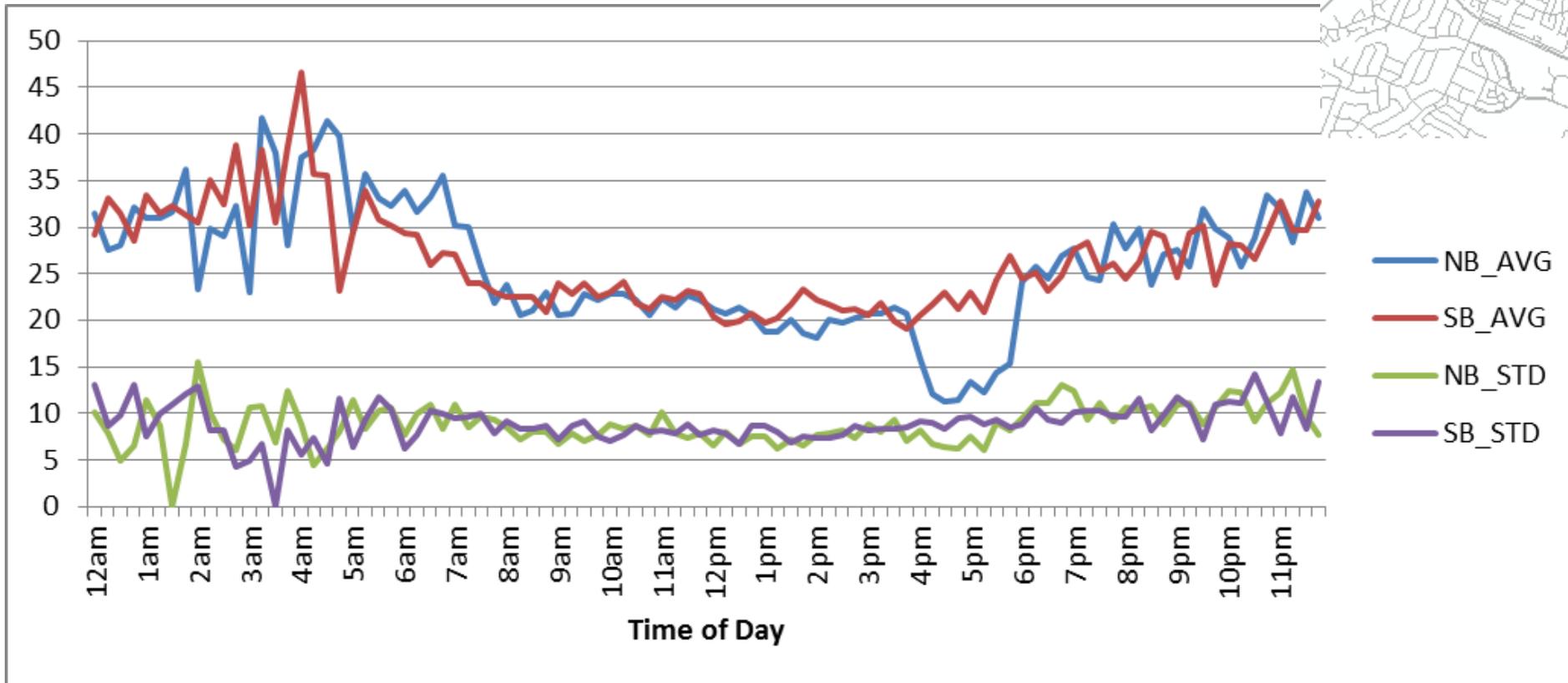


Peak Average Speed - AM

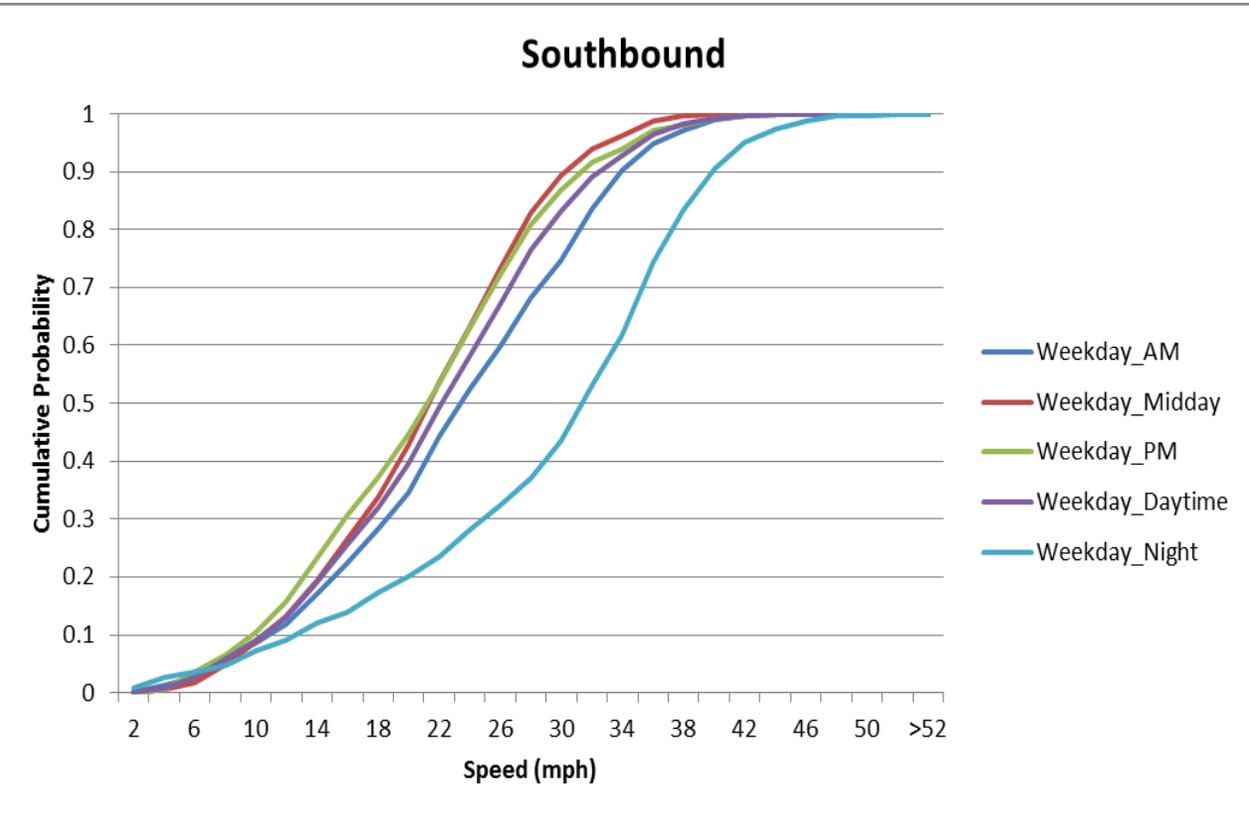
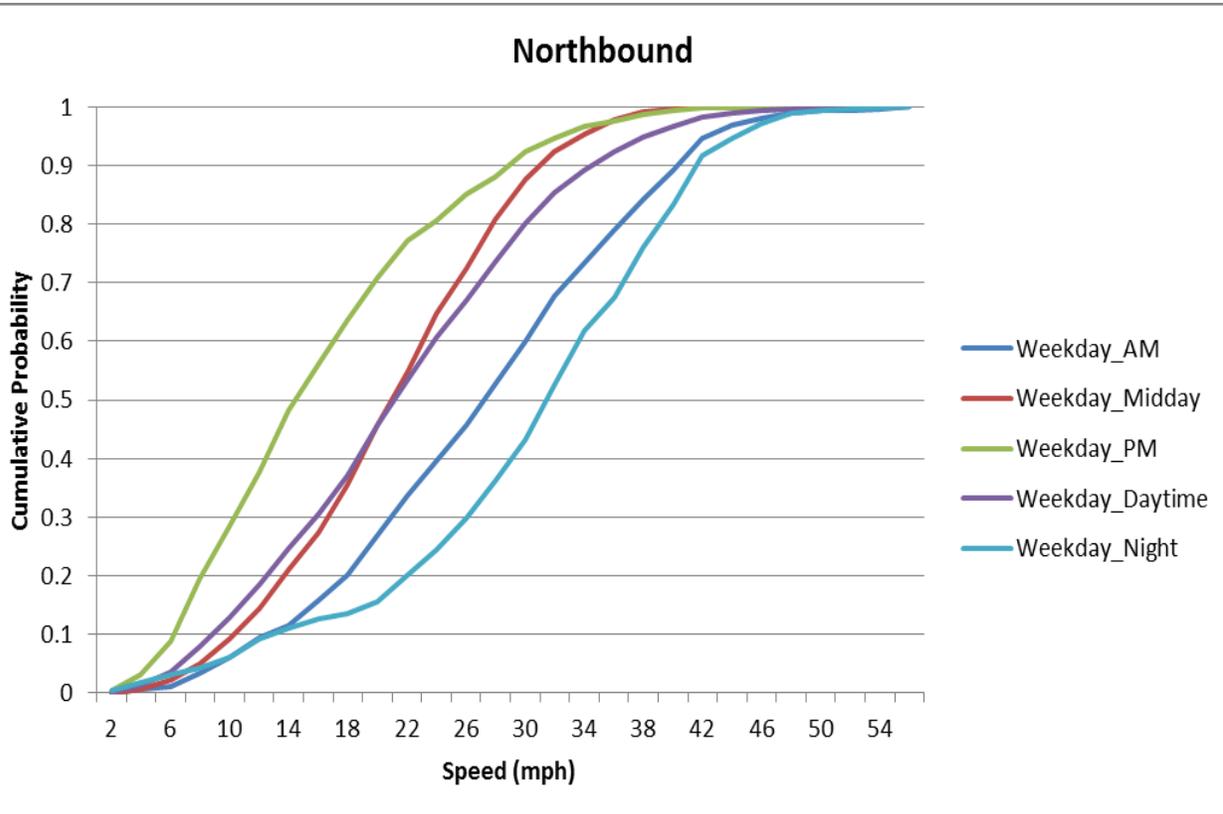
- NA
- ≤ 25 mph
- 25 - 35 mph
- 35 - 45 mph
- 45 - 55 mph
- 55 - 65 mph
- > 65 mph

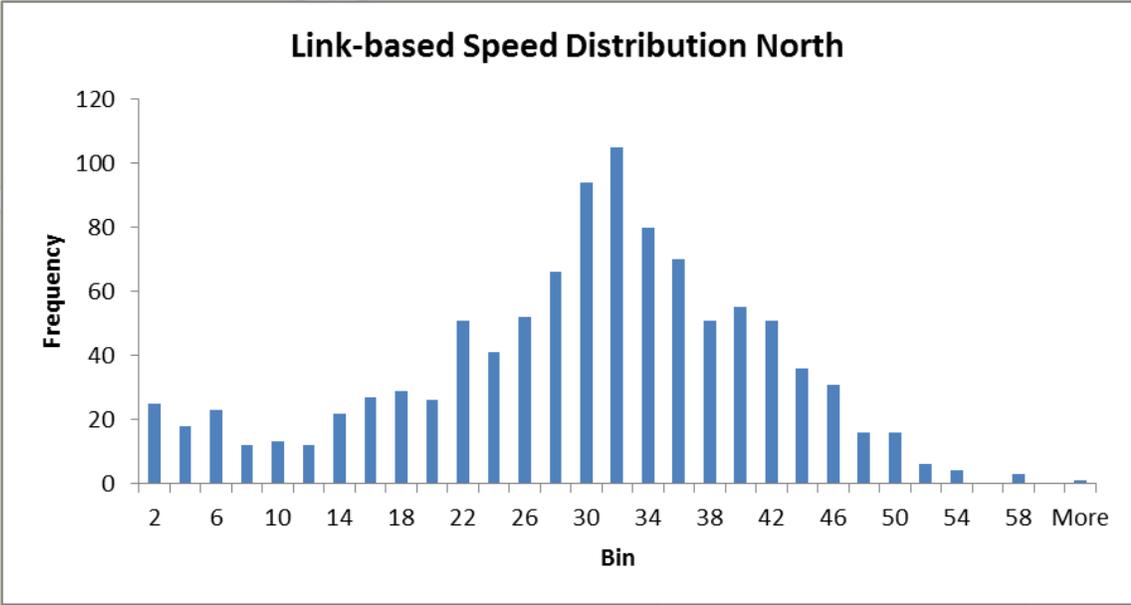
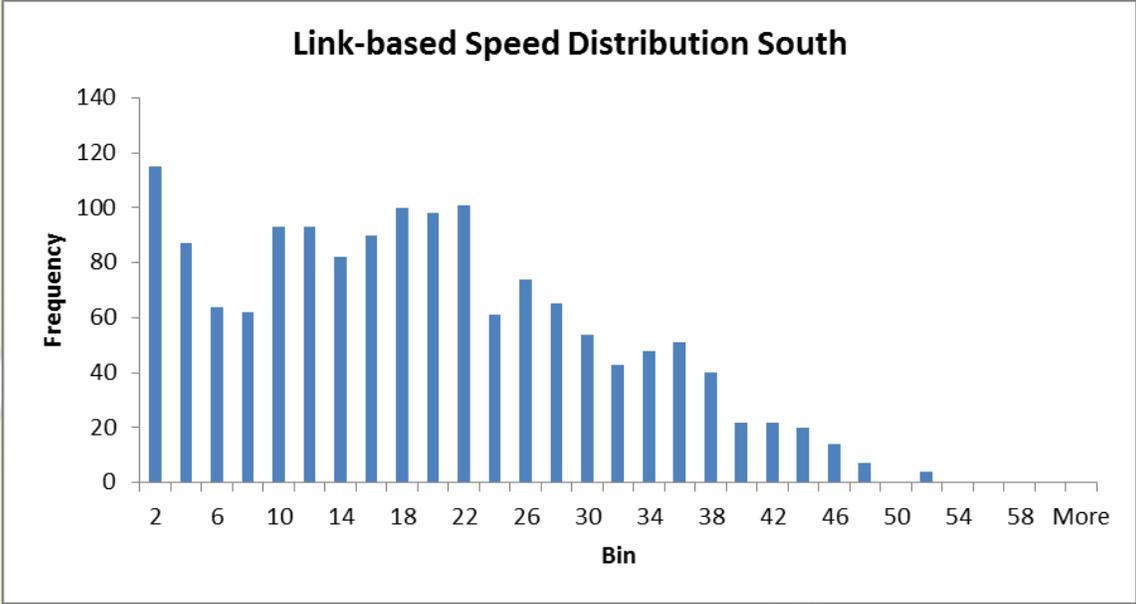


Nicholasville Road in Lexington (Southland Dr. – Cooper Dr.)



Cumulative Density Functions by Time of Day





Advantages & Limitations

- Advantages:

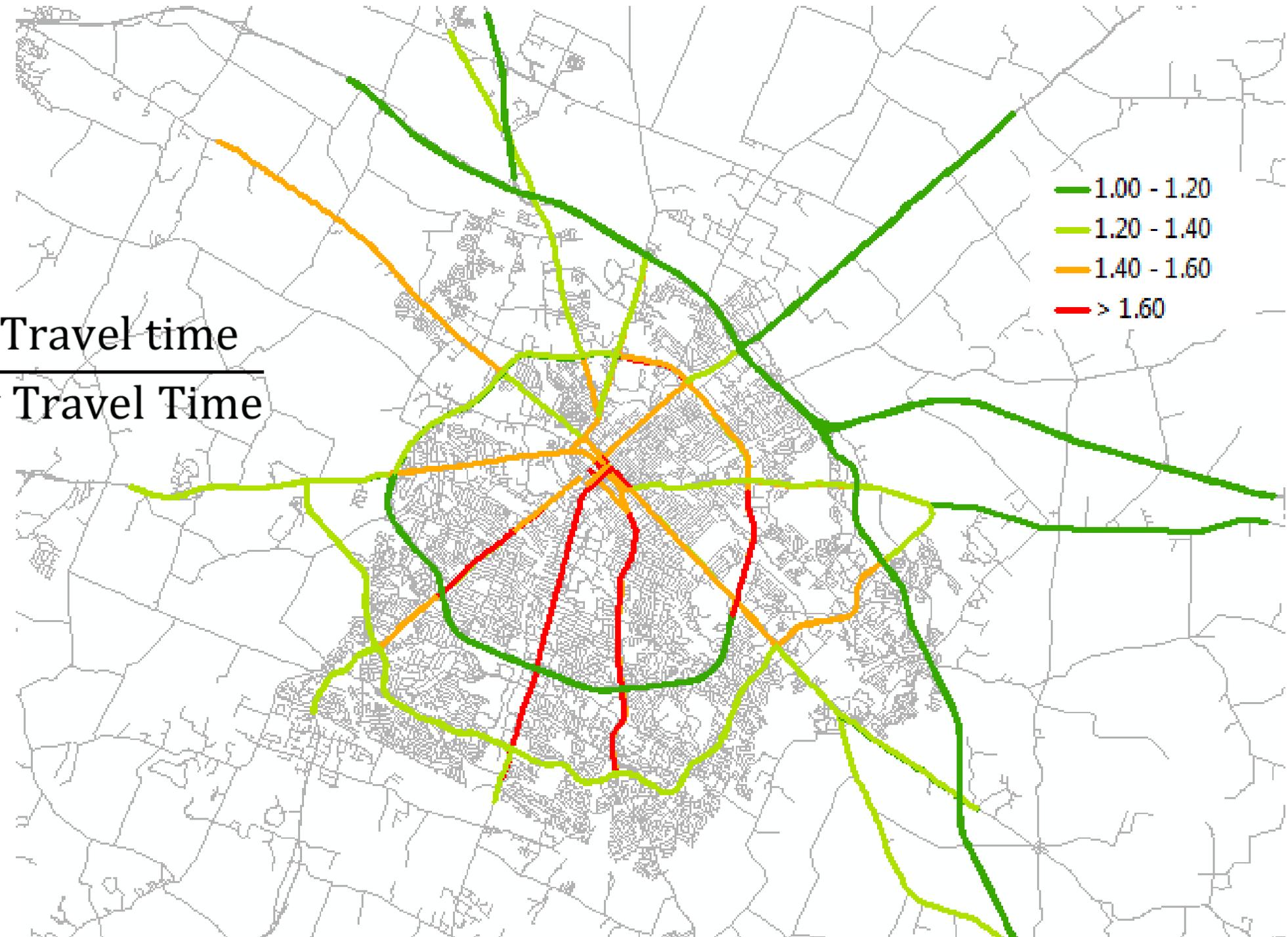
- Lower cost than public agency data collection effort
- Greater details for incident management
- Incorporation of reliability into planning process

- Limitations:

- No volume
- Network conflation between vendor network and State's network
- Limited arterial coverage
- Data sources (fleet vs. consumer)

Travel Time
Index

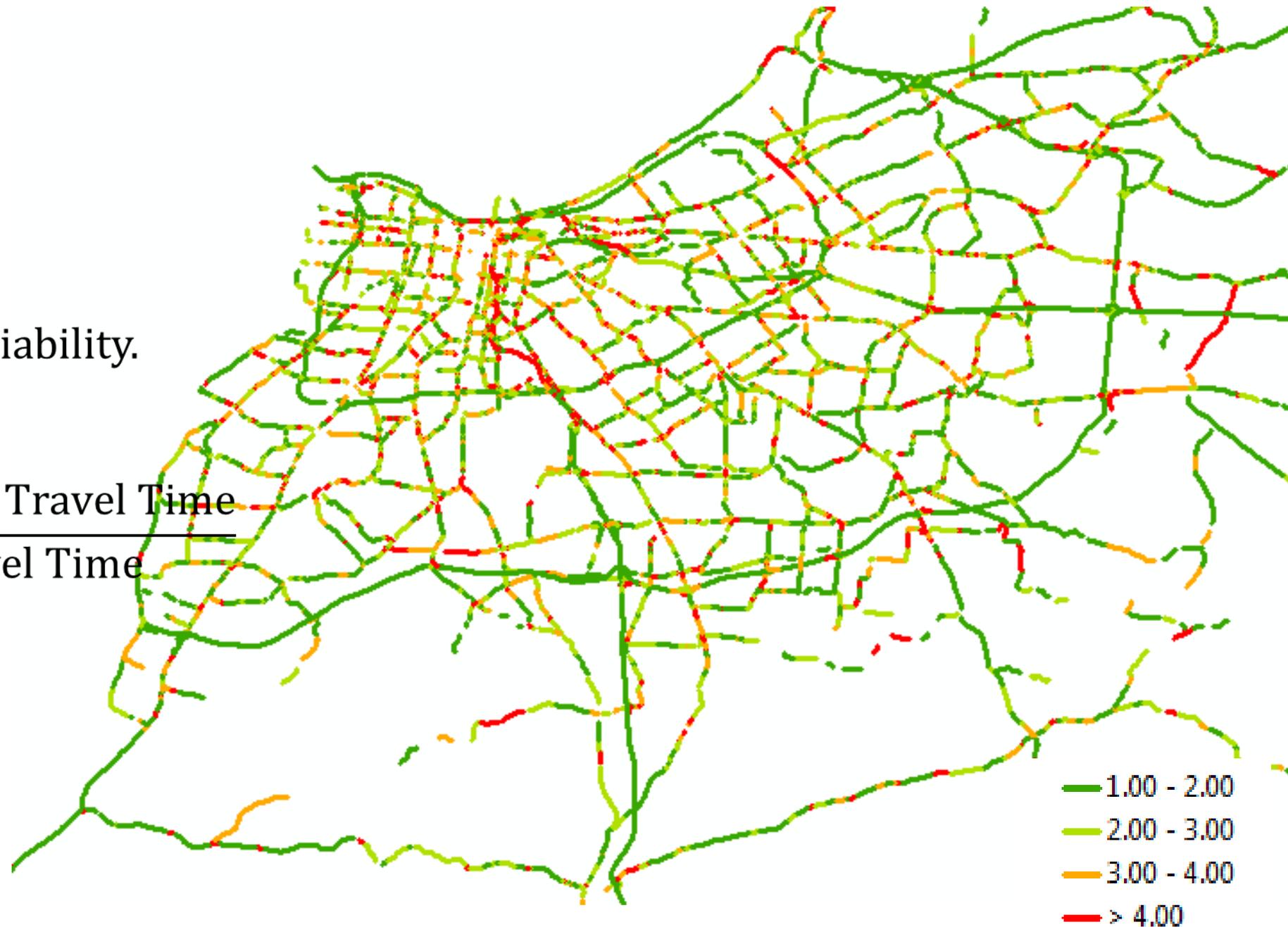
$$= \frac{\text{Average Travel time}}{\text{Free Flow Travel Time}}$$



Planning Time Index

Reflects travel time reliability.
Defined as:

$$= \frac{\text{The 95th Percentile Travel Time}}{\text{Free Flow Travel Time}}$$



How can this data help you?

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