Chattanooga Regional Model
Planning for Data Collection

presented to

Tennessee Model Users Group

presented by
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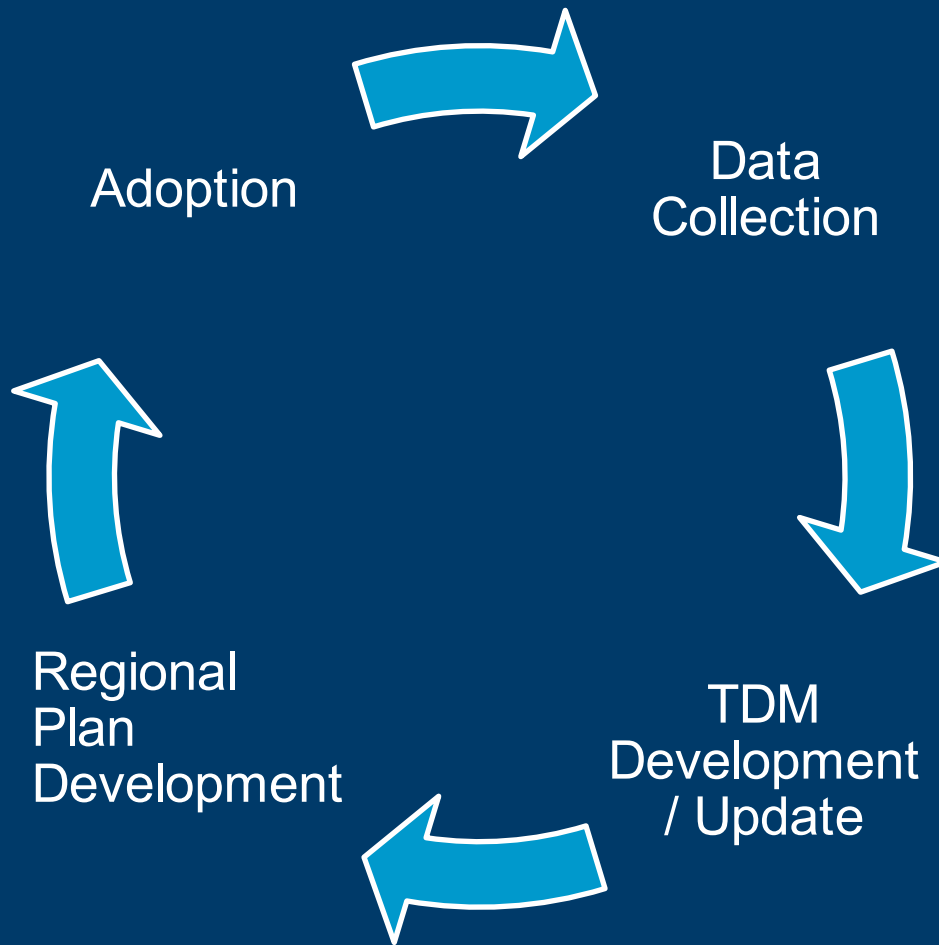**Chattanooga-Hamilton County-North Georgia TPO**
Yuen Lee

May 8, 2014

Transportation leadership you can trust.

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Agenda

- **Project Background**

- **Methodology**

- **Analysis Results/Recommendations**

- **Next Steps**

Transportation Planning 4-Year Cycle

Transportation Plan Update Cycle Activities

Year	Plan Status	Activities
2014	2040 RTP Amendment/FY 2015-2018 TIP	• Annual and 4-year data collection.
2015	2040 RTP Amendment/2016-2019 TIP	• Annual and 4-year data collection.
2016	2040 RTP Amendment/FY 2017-2020 TIP	• TDM update. • Initiate 2045 RTP Update.
2017	2040 RTP Amendment/FY 2018-2021 TIP	• Analysis and stakeholder input, 2045 RTP.
2018	Deadline, 4-year RTP Update: Approval of 2045 RTP/FY 2019-2022 TIP	• Adopt 2045 RTP.

Short and Long Term Data Needs

- **Regional Transportation Plan / TDM**

- **Transportation Improvement Plan**

- **Congestion Management Process**

- **Performance Measures**

Data Collection Plan Process

- **Collaborate**
  - » **TPO staff**
  - » **TPO Model consultant**
  - » **CS**
- **Negotiate**
  - » **Obtain initial prices from several vendors**
- **Review**
  - » **TPO staff**
  - » **TDOT staff**
  - » **UTK**
  - » **TPO Model consultant**
- **Revise and Finalize**

Analysis Results and Recommendations

- **Resources: cost / time**

- **Relative accuracy expected from each data source**

- **Geographic coverage**

- **Update frequency /Schedule within 4 year cycle**

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Travel Time Data / Non-Recurring Delay

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
FHWA probe data for National Highway System (NPMRDS)	Annual	Not used	2014	Free	Obtain free NPMRDS data annually
HERE – additional roadways	Annual	Not used	2014	$17,800	Consider purchasing annually
INRIX	Annual	Not used	2014	$20,500 - $24,500	Consider purchasing annually
TomTom	Annual	Not used	2014	$59,000	Too expensive, drop from consideration
Traditional travel time runs on specific corridors	4 years	2009 (40 corridors)	2014	$54,000	Collect small sample for validation

Internal Origin-Destination Data

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Household travel surveys	8-12 years	2010	2020	> $250,000	Conduct HHTS every third planning cycle, align with Census
Cell Phone Surveys (e.g., AirSage)	4 years	Not used	2014	$40,000-50,000	Purchase cell phone O/D data once per planning cycle
Bluetooth surveys	4 years	Not used	2014	N/A	Too expensive for regional data, consider for specific locations
Transit on-board surveys	4 years	2010	2014	$100,000	Conduct survey once each planning cycle
Stated-preference Transit Survey	4 years	Not used	2014	$50,000-100,000	Conduct survey once each planning cycle

Internal Origin-Destination Data (continued)

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Freight establishment survey	8 years	Not used		$120,000-130,000	Not needed
Truck GPS Data	4 years	Not used	2014	$25,000	Purchase directly from ATRI once each planning cycle starting in 2014. TDOT ATRI data not detailed enough

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External Origin/Destination Data

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Traditional roadside external OD surveys	12 years	Not used	2014	$100,000-225,000	Take sample in 2014 for validation using ALPR
Cell Phone Surveys (e.g., AirSage)	4 years	2010	2014	$40,000-50,000 (included in internal survey)	Purchase cell phone O/D data once per planning cycle
Bluetooth surveys	4 years	Not used	2014	$20,000-40,000	Too expensive for regional data, consider for specific locations
Roadside truck intercept surveys	8 years	2005, 2010	2014	$50,000-100,000	Conduct survey for all I-75 N and S and I-24 W locations in 2014

Roadway Volume Data

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
TDOT and GDOT Traffic Count Data	Annual	2010	2014	Free	Obtain volume data once per planning cycle
Supplementary MPO/Other Traffic Count Data	4 years	2010 and 2011	2014	$30,000-40,000	Conduct location-specific counts as needed

Vehicle Classification Counts

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
State DOT permanent count stations (ATRs)	4 years	2010	2014	Free	Obtain classification data once per planning cycle
Local automated classification counts	4 years	2010	2014	Included in traffic counts	Conduct location-specific counts as needed

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Location Specific Crash Data

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
TITAN (Tennessee) and CARE (Georgia) crash databases	Annual	2013	2014	Free	Download and analyze data from both systems annually, as needed.

Bicycle/Pedestrian Facilities

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
2010 Bike/Ped Plan Compiled Inventory	4 years	2010	2014	TDOT and GDOT data is free, Inventory work will require labor costs	Work with local TN and GA partners to update inventory at least every planning cycle and expand coverage to local roads.
Hamilton County Sidewalk Data	4 years	unknown	2014	Free	Work with Hamilton County GIS to update inventory

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Bicycle/Pedestrian Facilities (continued)

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
HERE/TIGER Data	4 years	Not used	2014	TIGER data free, HERE cost is not known	Discuss bike/ped facility data availability with vendors, consider purchasing

Bicycle/Pedestrian Usage

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Household travel surveys	8-12 years	Not used	2020	Included in HHTS	Conduct HHTS every third planning cycle, align with Census
Outdoor Chattanooga Bike Share Database	Annual	Not used	2014	Free	Obtain data annually
Eco-Counter Bicycle and Pedestrian Counters	Annual	Not used	2014	Free data from existing sensors; Sensors are $3k each	Purchase additional permanent counters to cover all key bicycle routes.

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Bicycle/Pedestrian Usage (continued)

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Manual Bike/Ped Counts	4 years	2010	2014	Bike Counts: ~$800 per intersection per year	Conduct manual counts as needed
CARTA Bicycle Boarding Data	Annual	Available from CARTA	2014	Free	Obtain data from CARTA annually

Transit Ridership

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
CARTA automated counts (Ridecheck)	Annual	Available from CARTA	2014	Free	Obtain data from CARTA annually

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Transit Performance Measures

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
CARTA automated passenger counts (Ridecheck)	Annual	Available from CARTA	2014	Free	Obtain data from CARTA annually
CARTA automated dispatch/AVL system (for speeds and on-time performance)	Annual	Available from CARTA	2014	Free	Obtain data from CARTA annually

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Vehicle Occupancy

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
Household travel surveys	8-12 years	2010	2020	Included in HHTS	Conduct HHTS every 10 years, align with Census
Manual Inspection Counts	8-12 years	Not used	2020	~ $30k	If resources allow, conduct once every 10 years to coincide with HHTS.

Parking Cost and Location

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
CARTA parking database	4 years	2010	2014	Free	Obtain updates from CARTA once each planning cycle
HERE	4 years	Not used	2014	Cost Not Available	Discuss obtaining parking lot shapefiles with vendors

Incident Clearance Time

Source	Update Frequency	Latest Data	Next Collection Year	Cost Estimate	Recommendation
TDOT Smartways (ITS) data	Annual	Not used	2014	Free	Obtain from TDOT annually

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Other Available Data

- **Pavement Quality – from TDOT/GDOT**

- **Bridge Conditions – from TDOT/GDOT**

Next Steps - 2014

- **Travel Time Data**
  - » **Negotiate with INRIX and HERE and obtain data**
  - » **Conduct validation travel time runs**

- **Internal and External O-D Data**
  - » **Negotiate with AirSage and obtain data**
  - » **Conduct external O–D validation test**

- **Obtain Truck GPS data from ATRI**

- **Conduct Truck Roadside Surveys**

- **Conduct Supplemental Traffic Counts**

Questions?