

Moore County Commissioner's Retreat CTP Status and Update

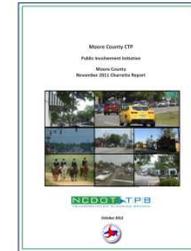
I. 2012 Review and Results



Strategic Highway Corridors
Vision Plan Revision Request

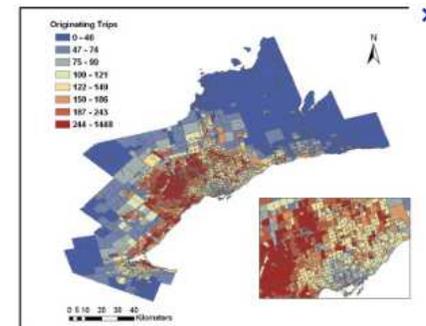


- Reclassification Request Outcomes
- Message from the Secretary Highlights More Open Approach to Transportation Policy for Moore County and Others.
- Charrette Results and Public Involvement Efforts Going Forward



II. Expectations for 2013 Milestones

- Data Collection
- O & D study
- Travel Demand Model Development
- 2040 No Build Report



Moore County Commissioner's Retreat CTP Status and Update

III. Travel Demand Model

- How the tool is used – Its purpose and objectives
- Status and projected schedule
- Highlights of some of the work done so far





Strategic Highway Corridors Vision Plan Revision Request

History

- TARPO resolution and support of request submittal - **February 16, 2012.**
- TPB recommendations to Strategic Management Committee - **March 6, 2012.**
- NCDOT received the request from TARPO on **April 10, 2012.**
- NCDOT leadership provided decision **July 16, 2012.**

****All correspondence available on CTP project webpage: <http://www.ncdot.gov/projects/moorechoices/>**

****For additional detail, please see Summary of Significant Events**



Strategic Highway Corridors Vision Plan Revision Request

NCDOT Response: July 16, 2012

- The 2040 Plan, the statewide 2040 model, and the North Carolina Multi-modal Investment Network (NC Min) update and re-classification request.
- Re-classification decision on hold until deficiencies are quantified.
- Development of the Moore County CTP multimodal plans and solutions deferred.
- CTP study, O and D study, model development, and specific corridor analysis to continue as part of the Moore County CTP.
- NCDOT will quantify the deficiencies and work collaboratively with TARPO and Moore County stakeholders to solve the issues around the five focus areas.

Refer to Handout: September News Letter 2012 – Moore County CTP Update



Strategic Highway Corridors Vision Plan Revision Request

Consideration of all possibilities:

Strategic Management Committee's decision includes investigation of viable alternative facilities for US 1.

Viable Alternatives Must:

- Be safe.
- Provide effective access to and efficient passage through the county.
- Accommodate projected future traffic.
- Comply with state regulations for intrastate system facilities.
- Meet Federal requirements of evaluating impacts to under-represented populations.



The Secretary's September Visit To Moore County

- NCDOT is not interested in forcing a community to accept a project for which there is strong local opposition.
- Assured MCTC that there had never been an NCDOT project that defined US 1 as a Bypass.
- Reminded that completing a CTP is called for under state and federal law.
- Criteria relevant to the county's request will be examined as part of the CTP analysis.

September 18, 2012

The Report

The Document - Seven sections

1. Executive Summary
2. Introduction
3. Census Data, Demographics, and Charrette Participation
4. The Strings and Ribbons Exercise
5. Data Collection and Charrette Results
6. Charrette Maps
7. Conclusions

Available On-line Only

<http://www.ncdot.gov/projects/moorechoices.com>

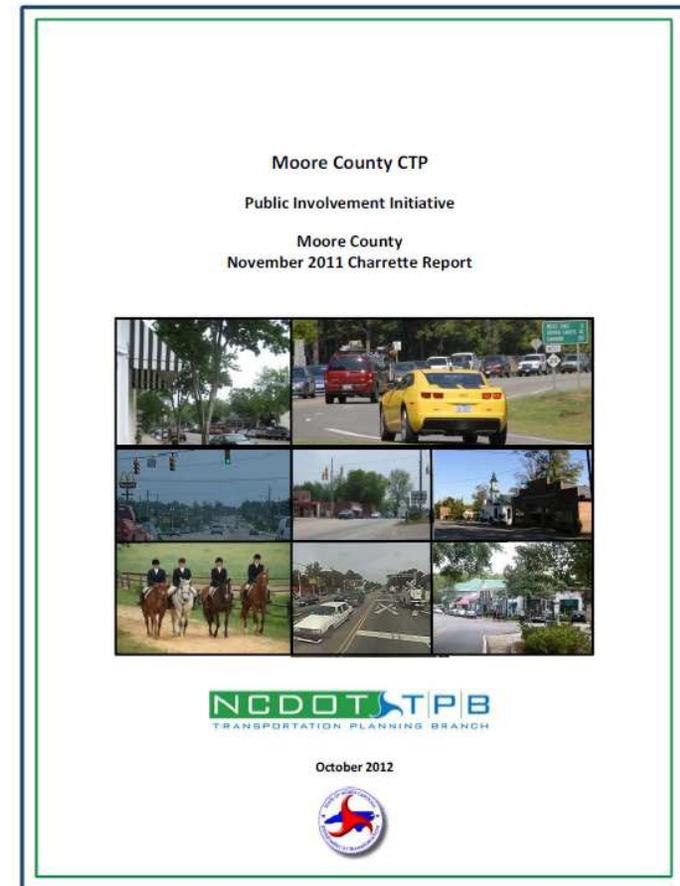
The Appendices – Reference Material

Appendix A-H

The Databases

Charrette Solutions Mapping Database

Moore County November 2011 Public Comment Database



Charrette Report

Summary of Significant Points **(Handout)**

- 1. Charrettes Accomplished the intended objectives:**
 - **479** unique participants received information about CTP and the county's transportation issues.
 - **80%** understood purpose of the charrettes, **68%** described charrette as effective.
- 2. Preservation of agricultural lands was a common priority among participants.**
 - **86%** of participants indicated this was important to the county's long-range transportation vision.
- 3. High level of frustration evident from responses .**
 - Responses reveal a disconnect between what residents perceive as necessary and what planning agencies are indicating what will be needed to accommodate future traffic.
- 4. Participants mapped their solutions to transportation issues:**
 - US 1: **70%** of the maps submitted provided improvements to the existing US 1 corridor.
 - NC 24/27 Carthage: **83%** of maps submitted showed a northern bypass solution.
 - NC 24/27 Cameron: **82%** of maps submitted showed a southern bypass solution.
 - Western Connector: **58%** of maps submitted showed solutions entirely on the existing corridors of Hoffman Rd. and Roseland Rd.
- 5. Many participants wanted to expand transportation choices:**
 - **58%** wanted to increase mode choices
 - **17%** wanted to increase public transit
 - **80%** wanted to increase bike paths and trails

Charrette Report

Summary of Significant Points *(continued)*

6. Walthour-Moss Foundation received more protective stickers than any other resources:

- 36% of participants Priority Sticker selection.

7. Data assessment identified several concentrations of groups within the charrette population sample:

- 63% of respondents listed household income greater than \$70,000 per year.
- 93% of respondents were White.
- 44% of respondents reported living in Southern Pines.
- 19% of the total attendees provided addresses that fell within the boundaries the Walthour-Moss Foundation delineated as Horse Country.

The demographic assessment of participants showed a disproportionate representation in the categories of community, income, and race. Results of the data collected at the events should be viewed as representative of, and as such weighted by, the dominating groups identified.

8. Public engagement results provided by the November 2011 charrettes alone are not sufficient to formulate a countywide consensus:

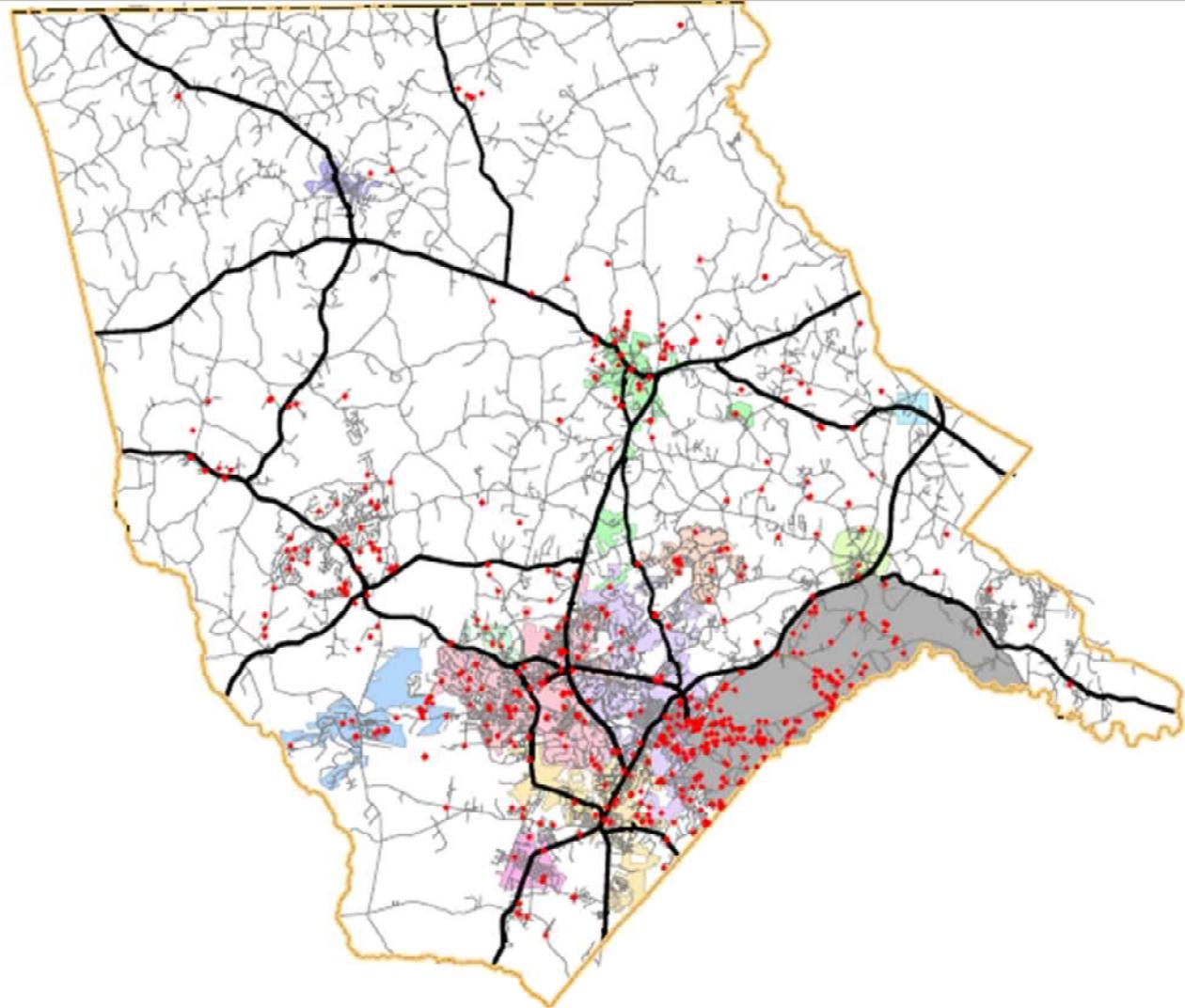
- Lack of minority, low, and middle income participants; continued efforts to improve outreach efforts and engage under-represented population sectors are necessary.

Moore County Participation Screening Map

Legend

- Attendees
- County
- Highways
- Streets
- Horse Country
- Communities**
- Aberdeen
- Cameron
- Carthage
- Foxfire
- Pinebluff
- Pinehurst
- Robbins
- Southern Pines
- Taylorstown
- Vass
- Whispering Pines

Map Date: June 8, 2012



What is a Travel Demand Model?



- It is just **ONE** of the tools used in the analysis of transportation systems . Key word being **System**.
- It can be used to help forecast travel characteristics in the future at various planning levels: local, regional, and statewide.
- It is a mathematical approach to understanding how changes in land use, population, and area employment will impact the transportation system.
- It is a way to measure the future impacts of growth and development by examining the limits of the existing infrastructure.



What a Travel Demand Model is Not....

A Traffic Impact Analysis or TIA.

Traffic Impact Analyses (TIAs):

- Help forecast impacts of growth and development.
- Refined scale: intersection level, Level of Service, number of lanes, number of turn lanes, traffic signal phasing, cycle lengths, and signal system timing.
- Help determine pre- and post- conditions of a roadway's Level of Service in the consideration of new development.

But, TDMs and TIAs share some of the same data, and TDMs can be used to develop a similar tool.

A TDM should not be considered an exact measure of future traffic volumes.





Purpose of the Travel Demand Model is

...To Help Decision Makers See What the Future May Hold
Is it absolute? No, but it IS a good estimate.

Have you ever turned to one of WRAL
Computer Models for storm tracking?



Travel Demand Model analysis is performed to assist decision makers in making informed transportation planning decisions.

The strength of modern travel demand forecasting is the ability to ask critical “what if” questions about proposed plans and policies.

Building A Travel Demand Model

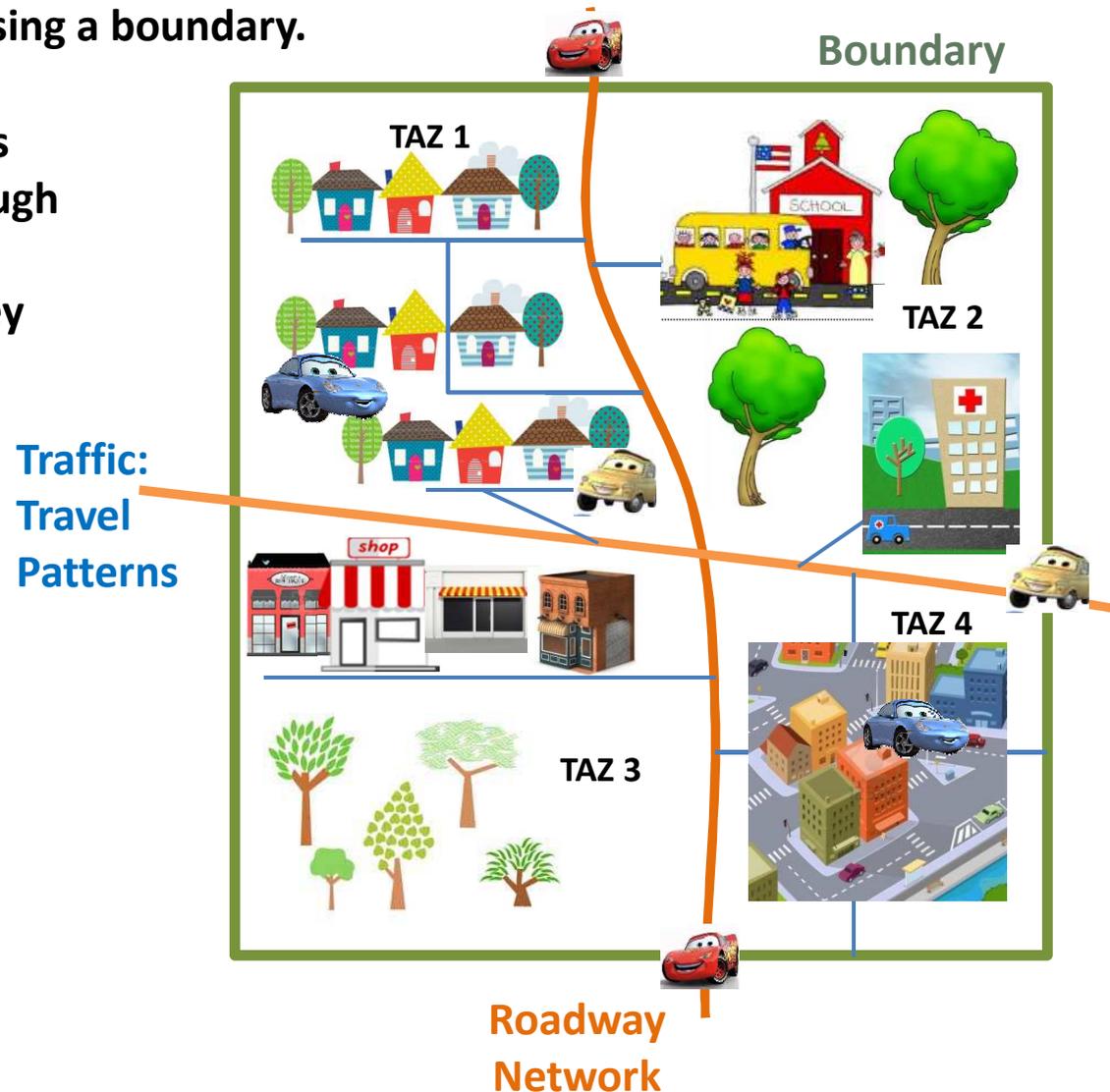
The Foundation – Network and Data

1. Define a study area using a boundary.

2. Apply the major roads within and passing through the area: all NC and US routes plus heavily or key local routes.

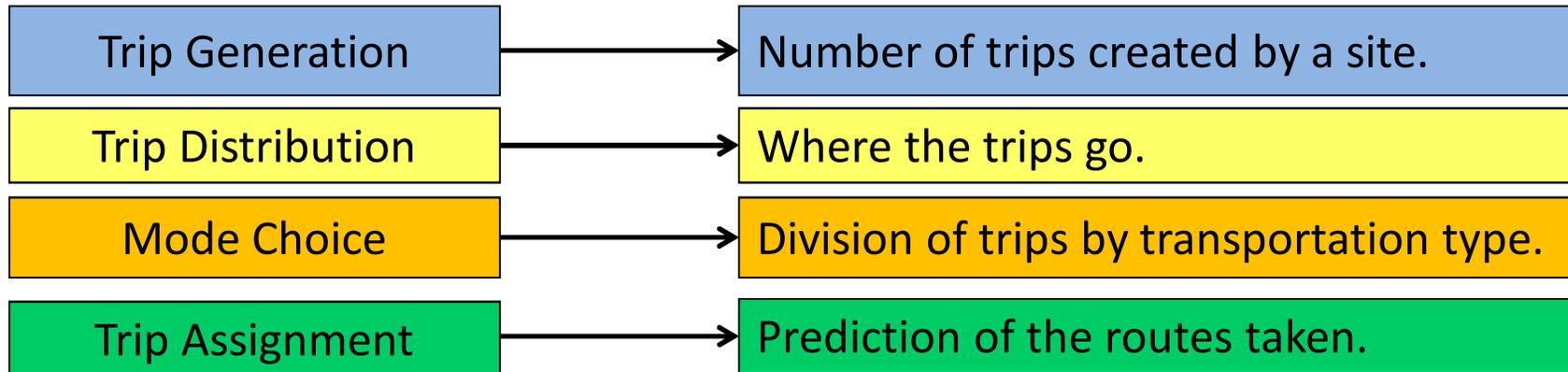
3. Input Census and local data about population, employment, and travel patterns.

4. Divide study area into smaller areas for closer study called Traffic Analysis Zones or TAZs.



How A Travel Demand Model Works

Modeling 101 – The Basics



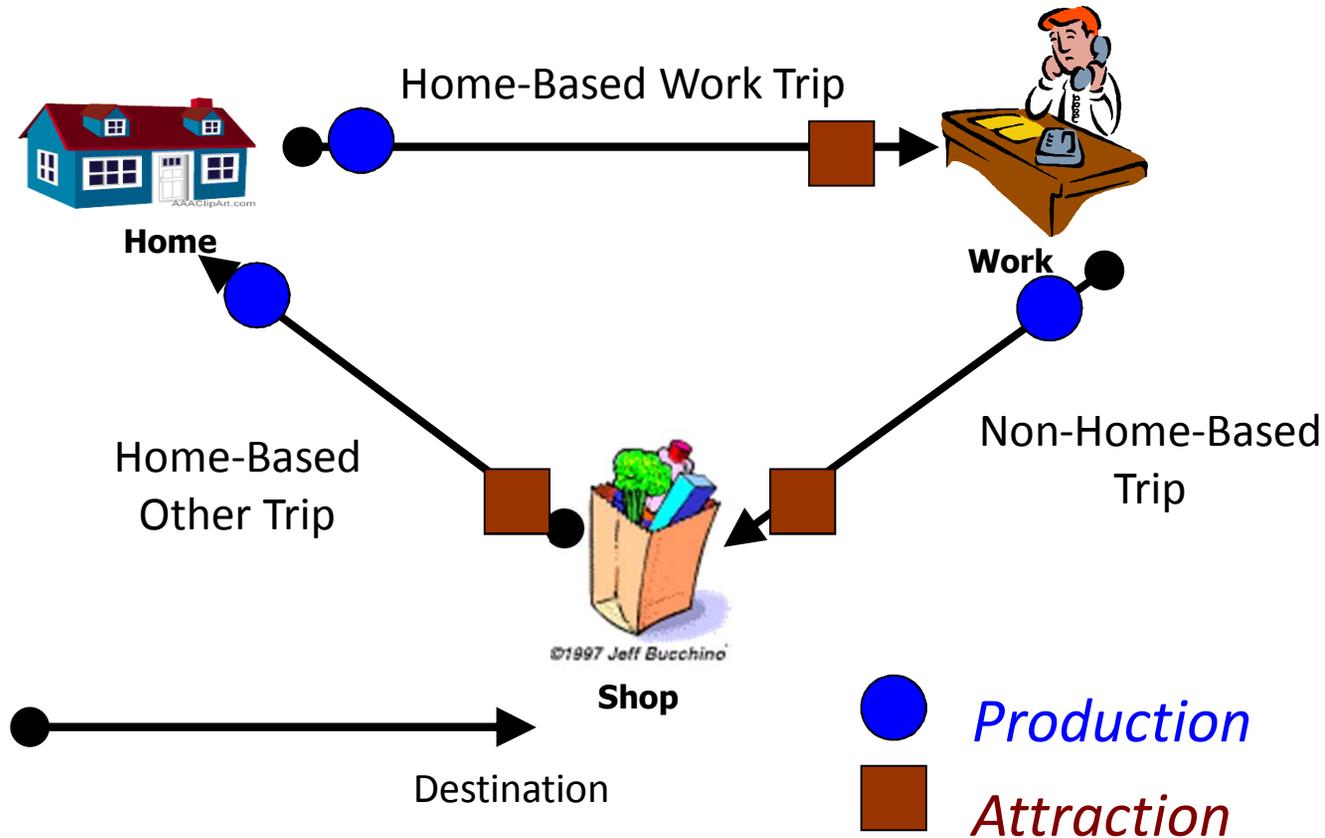
Travel Patterns and User Characteristics

How people move from place to place on the network.



Model Simplifies Movement of People To Specific Types of Trips...

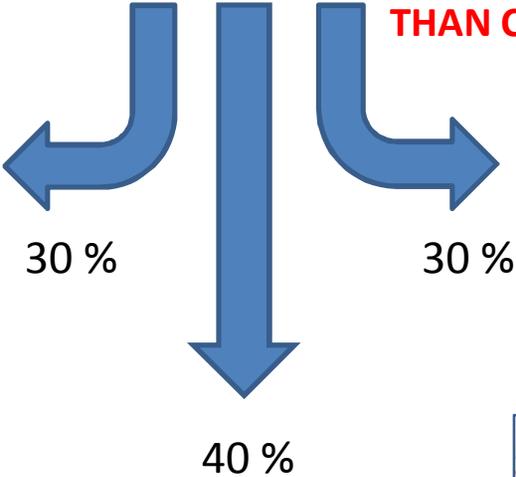
(Estimate of an Average Weekday for Most People)



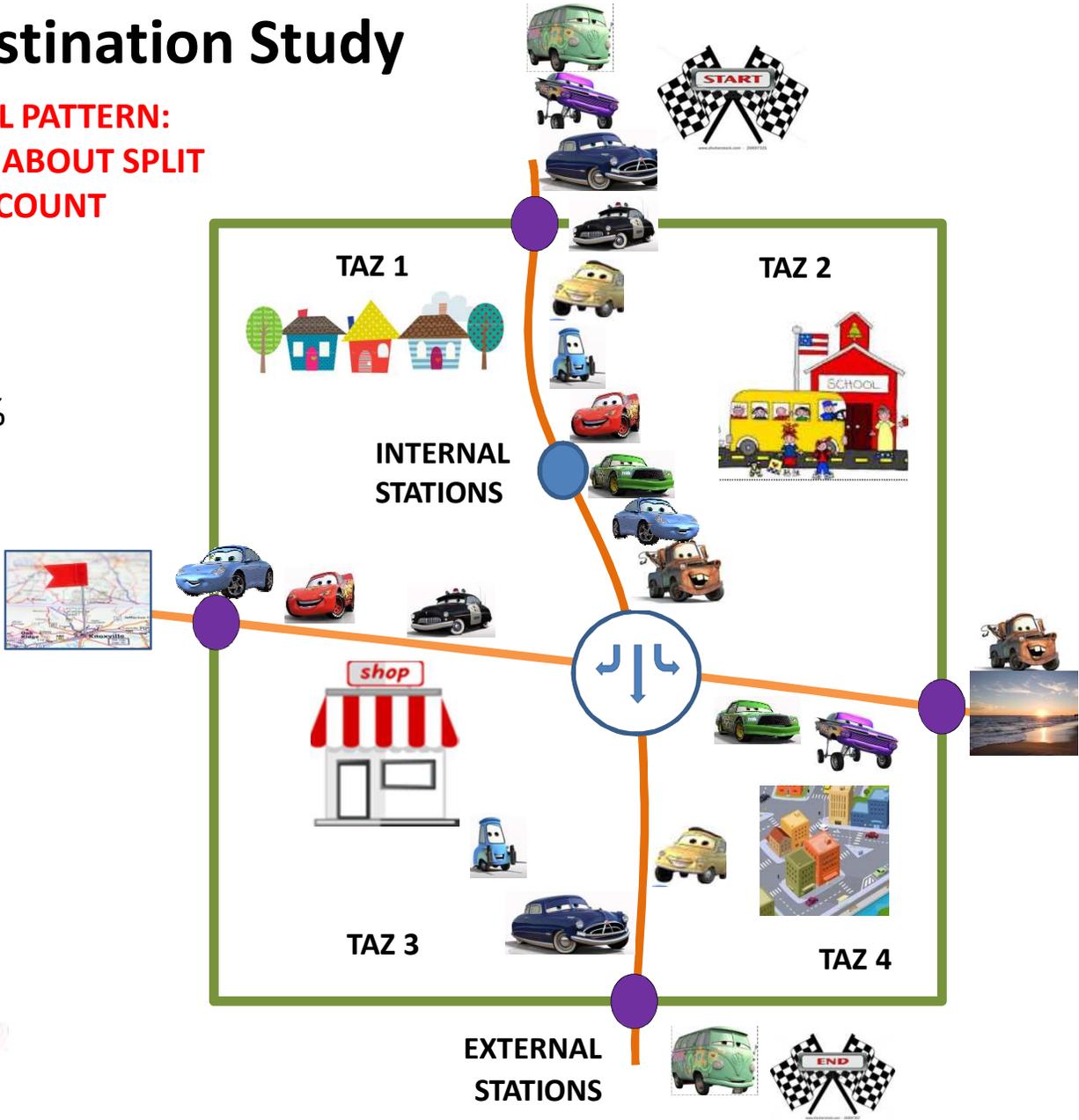
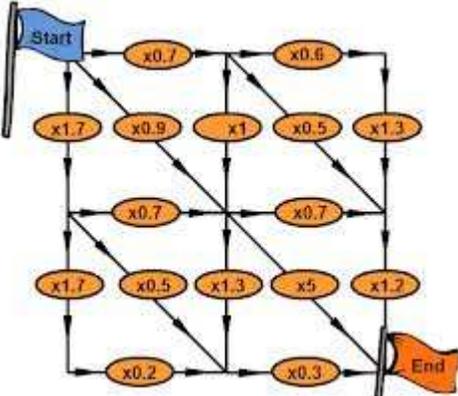
...AND PROVIDES INSIGHT TO HOW THE AREA'S TRANSPORTATION SYSTEM WILL BE
AFFECTED BY EXPECTED GROWTH AND CHANGES IN EMPLOYMENT AND/OR LANDUSE.

Origin and Destination Study

**TRAVEL PATTERN:
MORE ABOUT SPLIT
THAN COUNT**



TRIP ASSIGNMENT



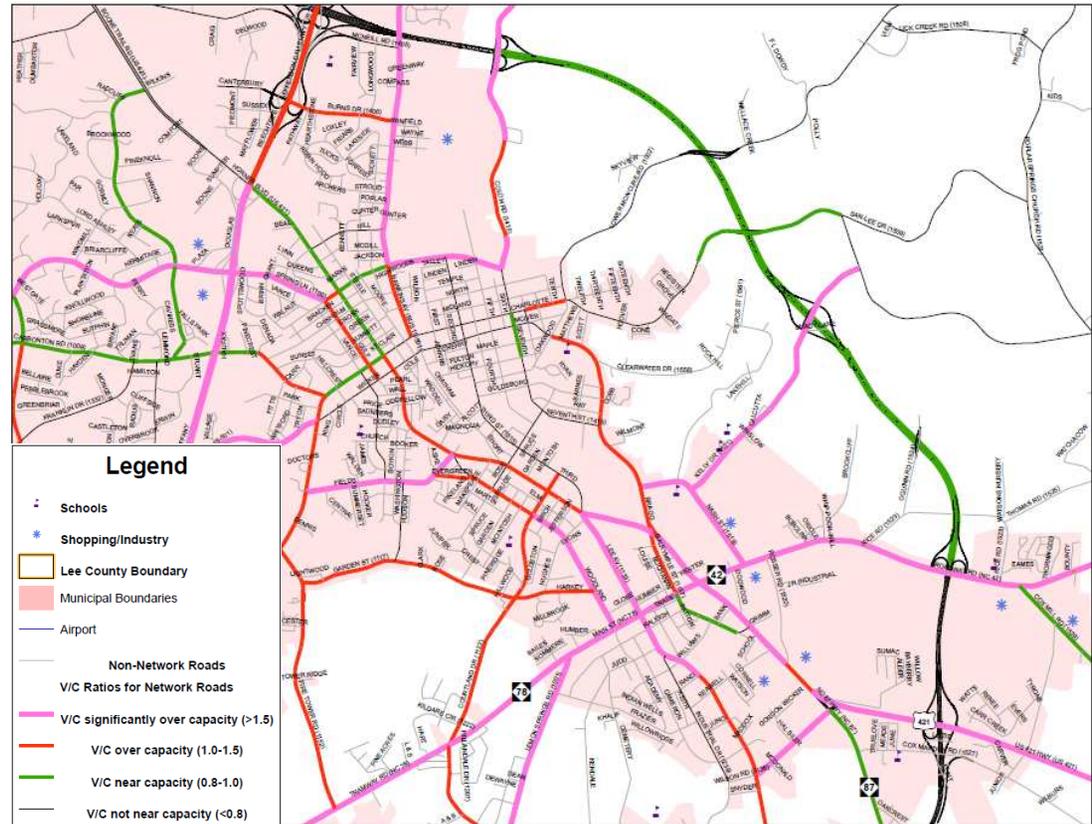
Output from the Model

BASE YEAR: 2012

- Calibrating the Model

FUTURE YEAR: 2040

- Future Capacity Deficiencies
- Scenario Testing
- Improvements to Existing
- Impacts of New Routes
- Classification of Routes
- Number of Lanes
- Air Quality
- Vehicle Miles Traveled



Example: 2035 Capacity Deficiencies Map - Lee County (See Handout)

http://www.ncdot.gov/doh/preconstruct/tpb/PDF/LeeCo_CapDef_2035_Aug172006_poster.pdf

PARSONS BRINCKERHOFF

- **Began working with PB at the end of January 2012 on O & D study methodology.**
 - Optimal survey methods given construction concerns
 - Cell phone technology much higher rate of capture - Airsage
 - Need to validate rate of success against existing, calibrated model.
 - Adjustment period encountered for transition existing algorithms applications in rural areas.
- **Added model development to scope in April**
 - PB worked ahead to develop model and the model foundation.
 - Waiting for Airsage to provide validation ✓
 - Full scope PB developed in July
 - Activated once details of O & D survey data collection was confirmed.
- **Introduction to Contact**
 - Rhett Fussell
 - Statewide model for the 2040 plan



Milestones Going Forward for O & D Study and Model Development



1. Data Collection is a Collaborative Process

Target Date: December 14th Employment Data Returned to NCDOT.

Final Municipal submittal December 14, 2012.

Socio-economic data (population, household, employment, area data)

- ✓ **A. PB - Population and Household**
- ↻ **B. TARPO, Local planning staff, NCDOT - Employment, School, Hospital, Military data**
- C. MCTC, local planning staff, local county and municipal Boards – Endorsement**



Milestones Going Forward for O and D Study and Model Development

2. Origin and Destination Study Results

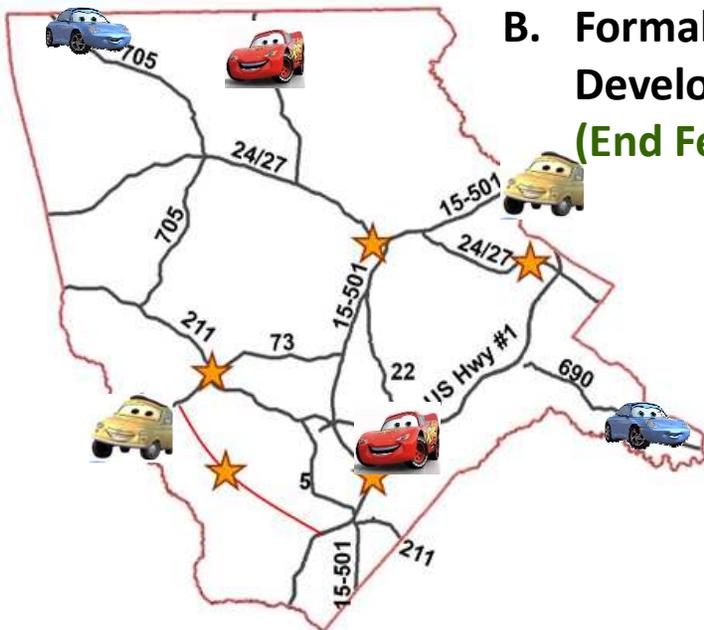
- Goal: By the End of January
- **4 week shift due to submittals and holiday**

A. MCTC Meeting

(End January – Model development and Future Growth)

B. Formal introduction to PB staff & Presentation on Model Development and Results of O & D

(End February – Results of O&D)



Milestones Going Forward for O & D Study and Model Development

3. Base year data and results

- By the End of March **Hope to meet....**
 - A. MCTC Meeting
 - B. PB to present base year data
 - C. MCTC, local planning staff, local county and municipal Boards

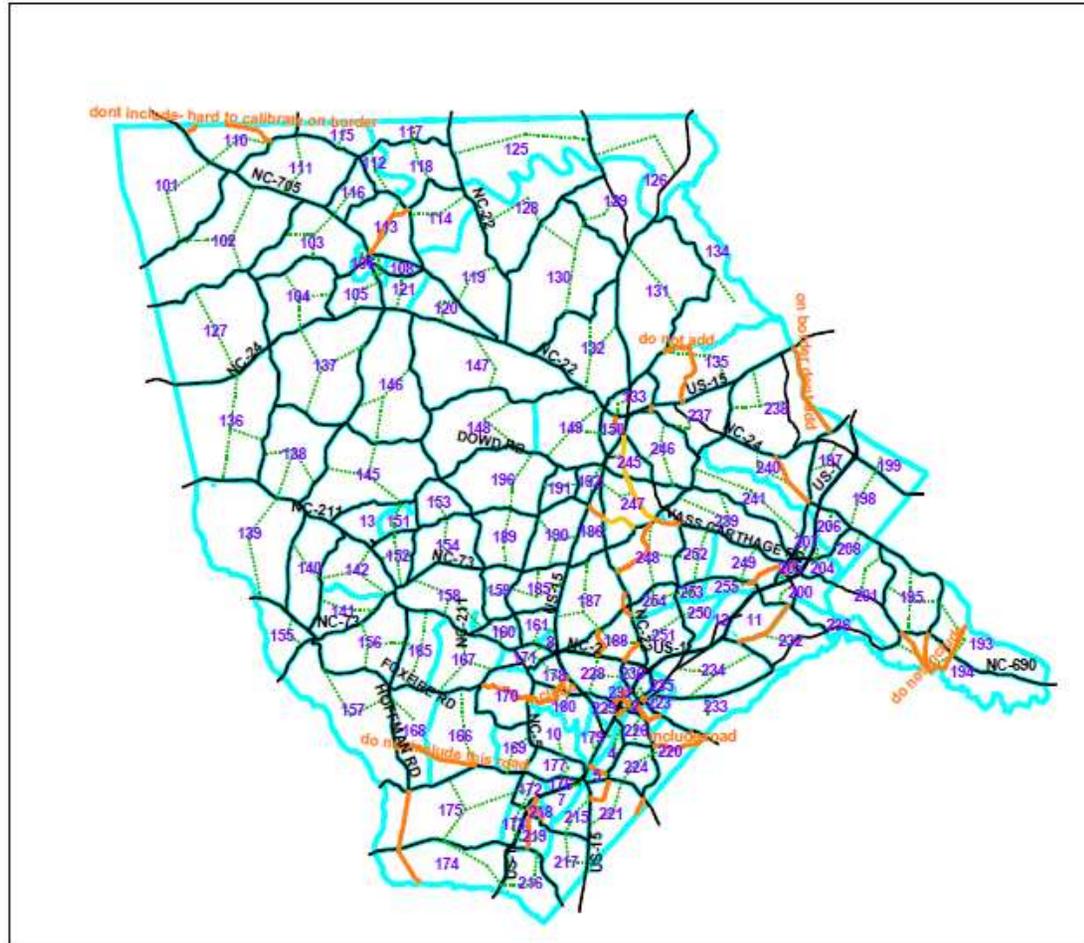


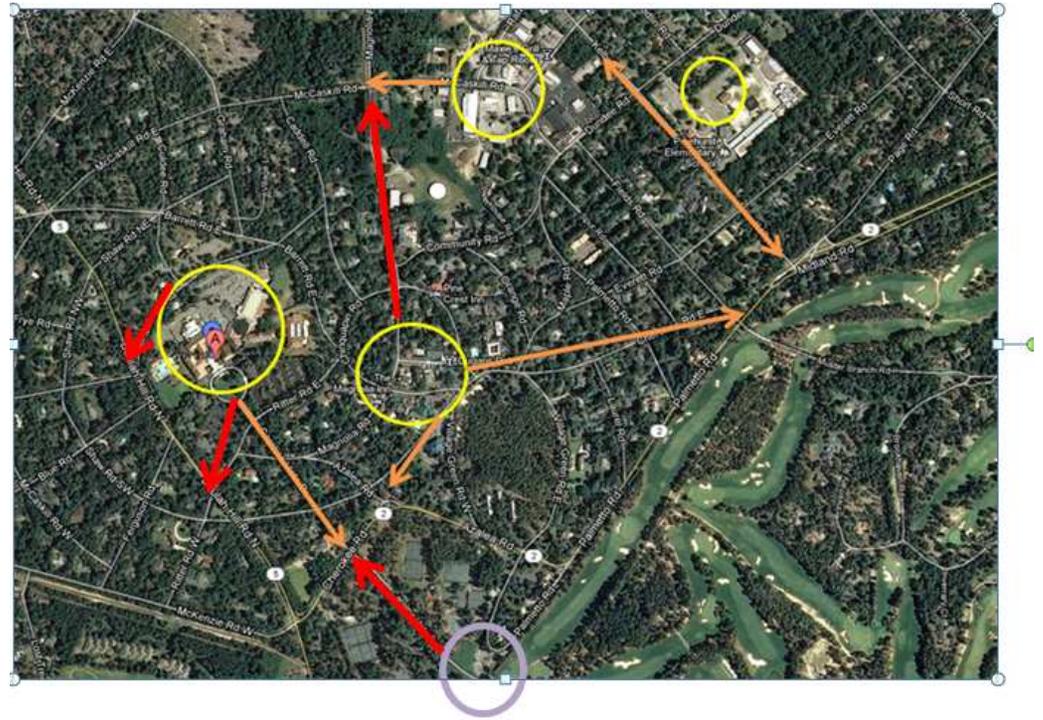
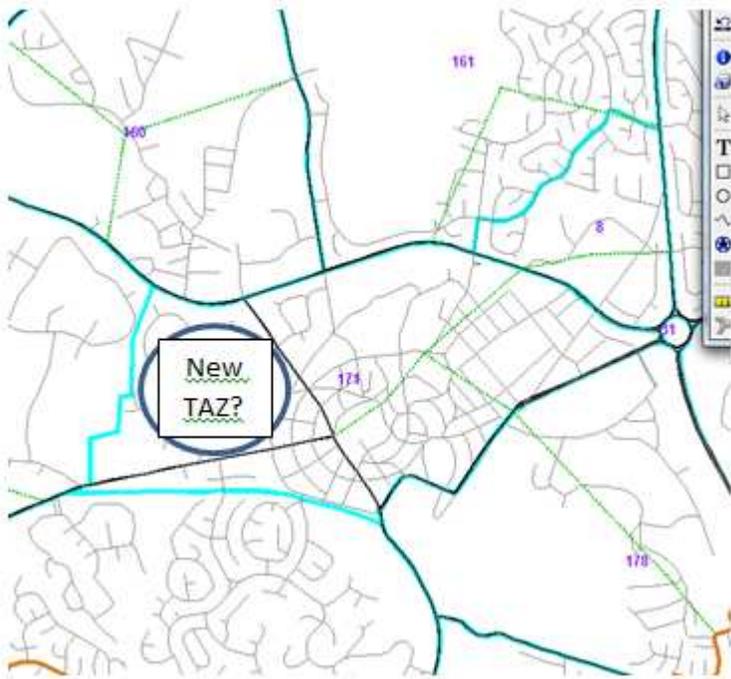
4. Future year data and results

- By the End of April
 - A. MCTC Meeting
 - B. PB to present 2040 No Build
 - C. MCTC and local planning staff to advise NCDOT on next steps

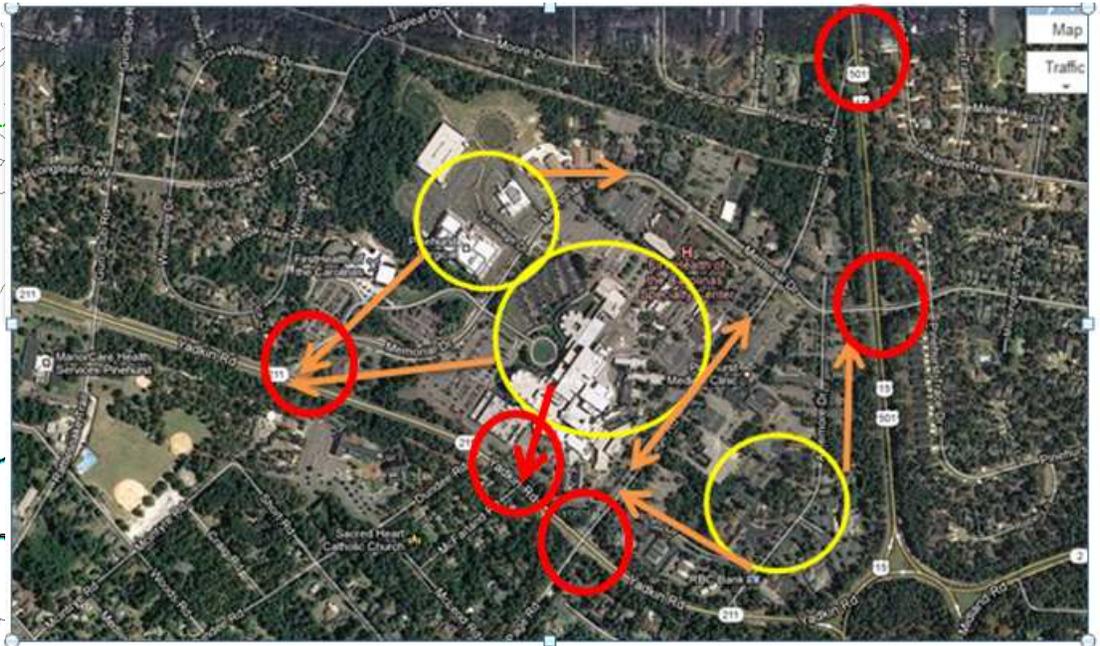
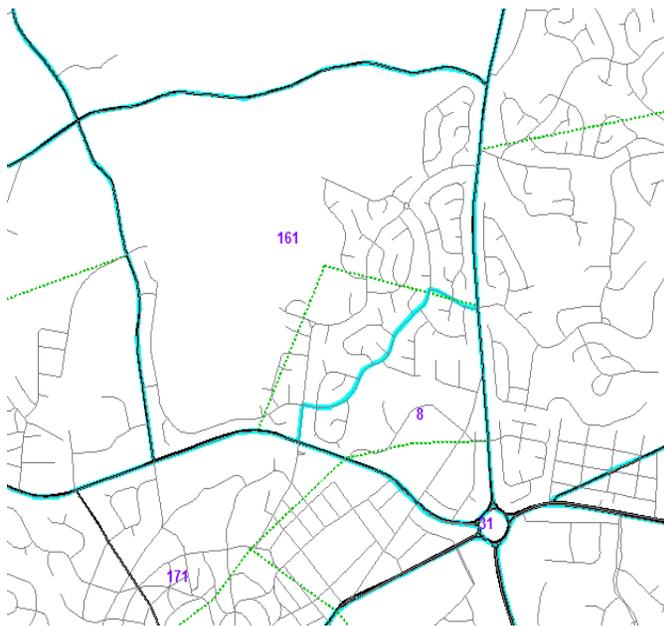


Status Report





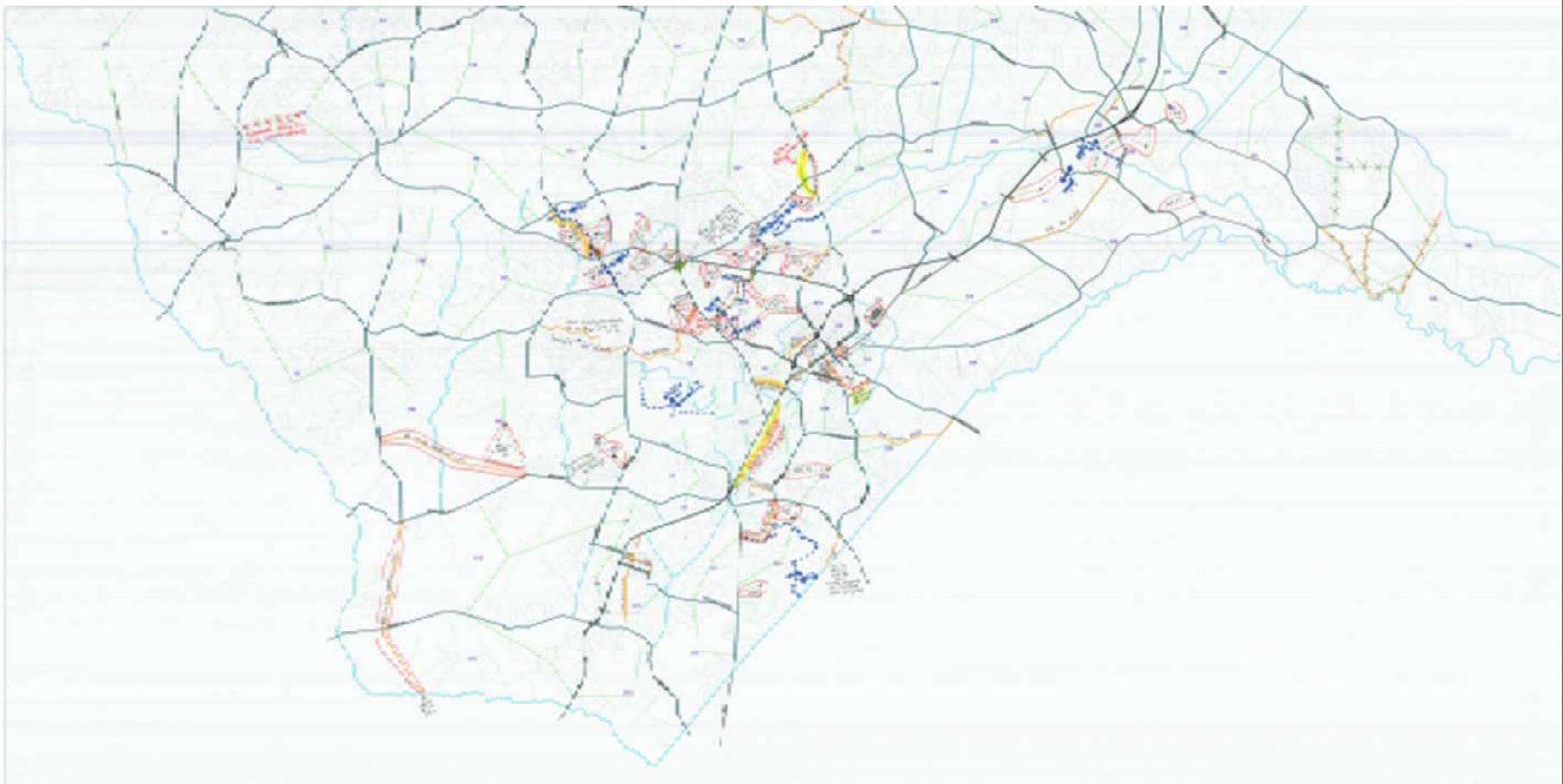
Review of Consultant's TAZs – Collaborative Process RPO, County input, and NCDOT



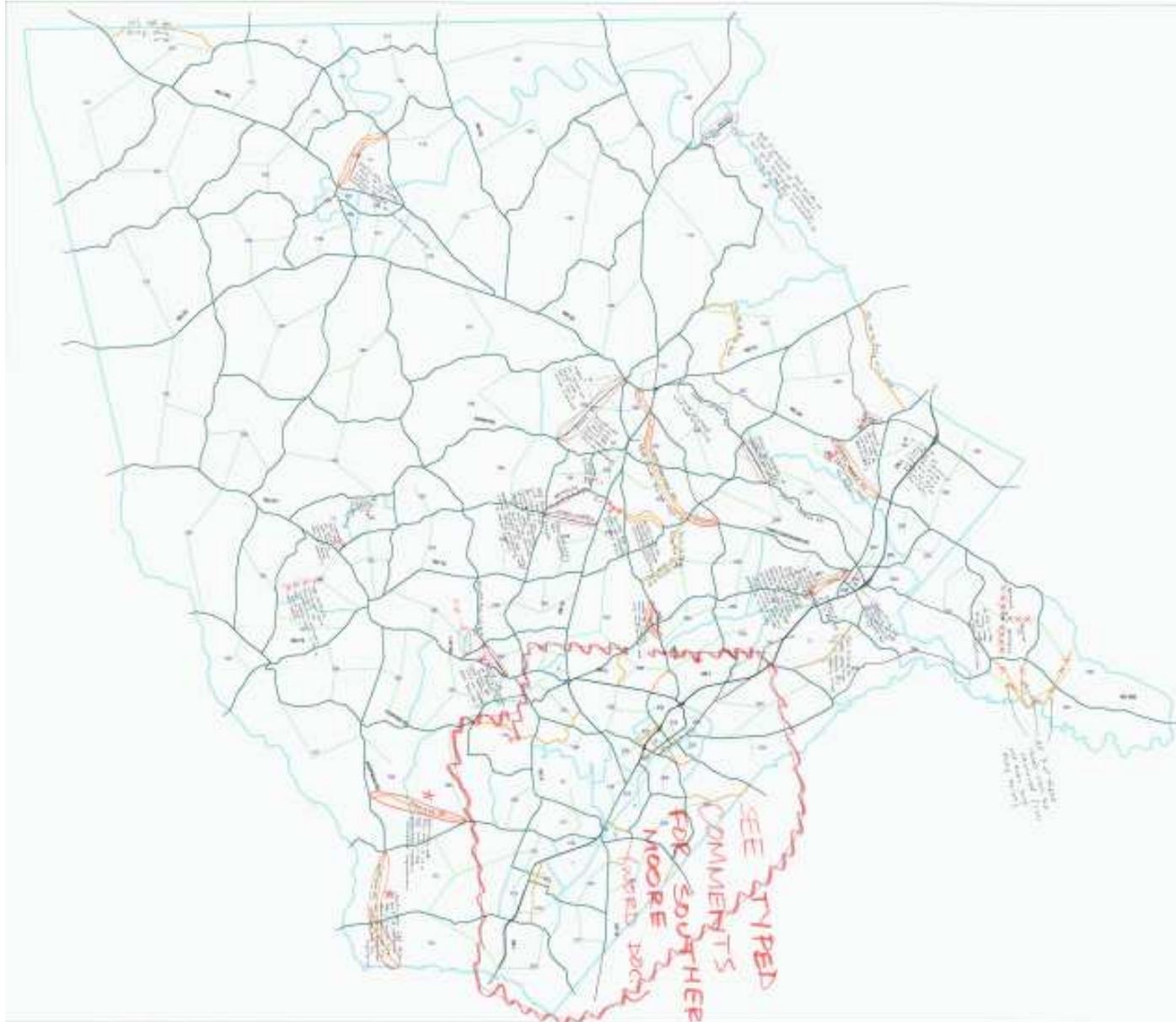
Comments on Northern Moore County TAZs



Comments on Southern Moore County TAZs



Additional Comments TAZs



Main Points In Departing....

- 1. Strategic Highway Corridor (SHC) Vision Plan was a conceptual plan. It did not determine alignments or the path of facilities.**
- 2. The SHC plan is being updated and enhanced with the development of a statewide travel demand model.**
- 3. The model is being used to make sure corridor classifications align with future needs. That will be accomplished for US 1 through the CTP.**
- 4. NCDOT is moving ahead with the O and D study, Moore County Travel Demand Model, and additional US 1 analysis.**
- 5. NCDOT has agreed to consider viable alternatives to freeway classification for US 1.**
- 6. NCDOT has made a concerted effort to ensure the county has a meaningful opportunity to determine the future of its transportation system.**

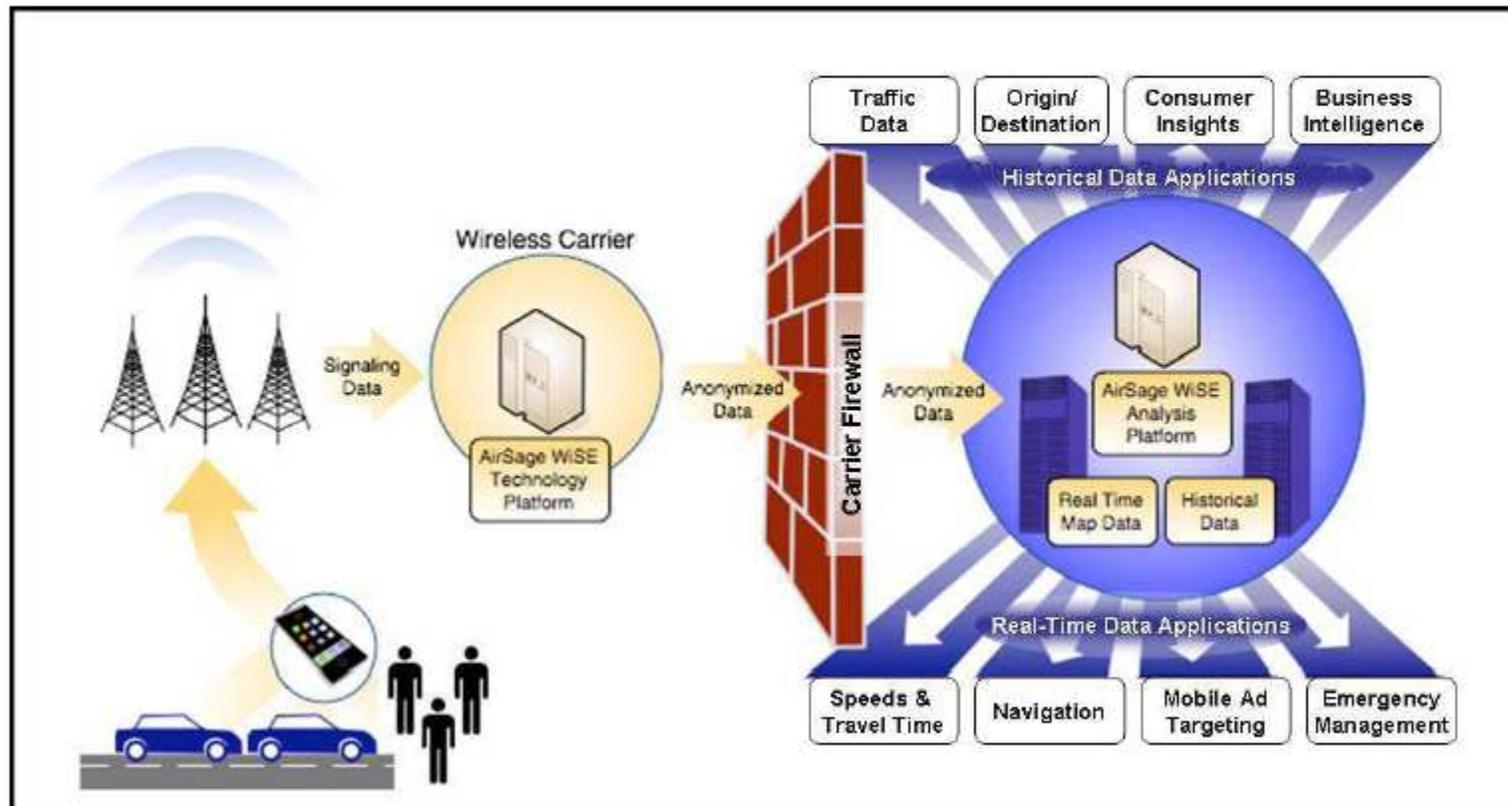
AirSage – What we do

AirSage aggregates and analyzes wireless network data to determine the location and movement of cell phones, while maintaining strict user privacy.

- AirSage analyzes signaling data that is continuously generated during normal operation of the wireless network – **covering mobile devices** connected to that network.
- AirSage is **the only company with access to this unique data**, via contracts with major wireless carrier partners.
- The AirSage system **operates transparently to mobile users** and the wireless network. There is no user opt-in or handset software (embedded or otherwise) required.
- With current partners , Sprint and Verizon, the AirSage platform supports real-time, network-wide coverage of **over 125 million mobile devices**.
- These 125 million “mobile sensors” generate about **12 billion location events per day**.
- The AirSage system **fully protects user privacy**. AirSage does not have access to subscriber-identifying information, and AirSage data products cannot be used to locate or “track” individual subscribers.

AirSage – What we do and how we do it

AirSage Information Flow

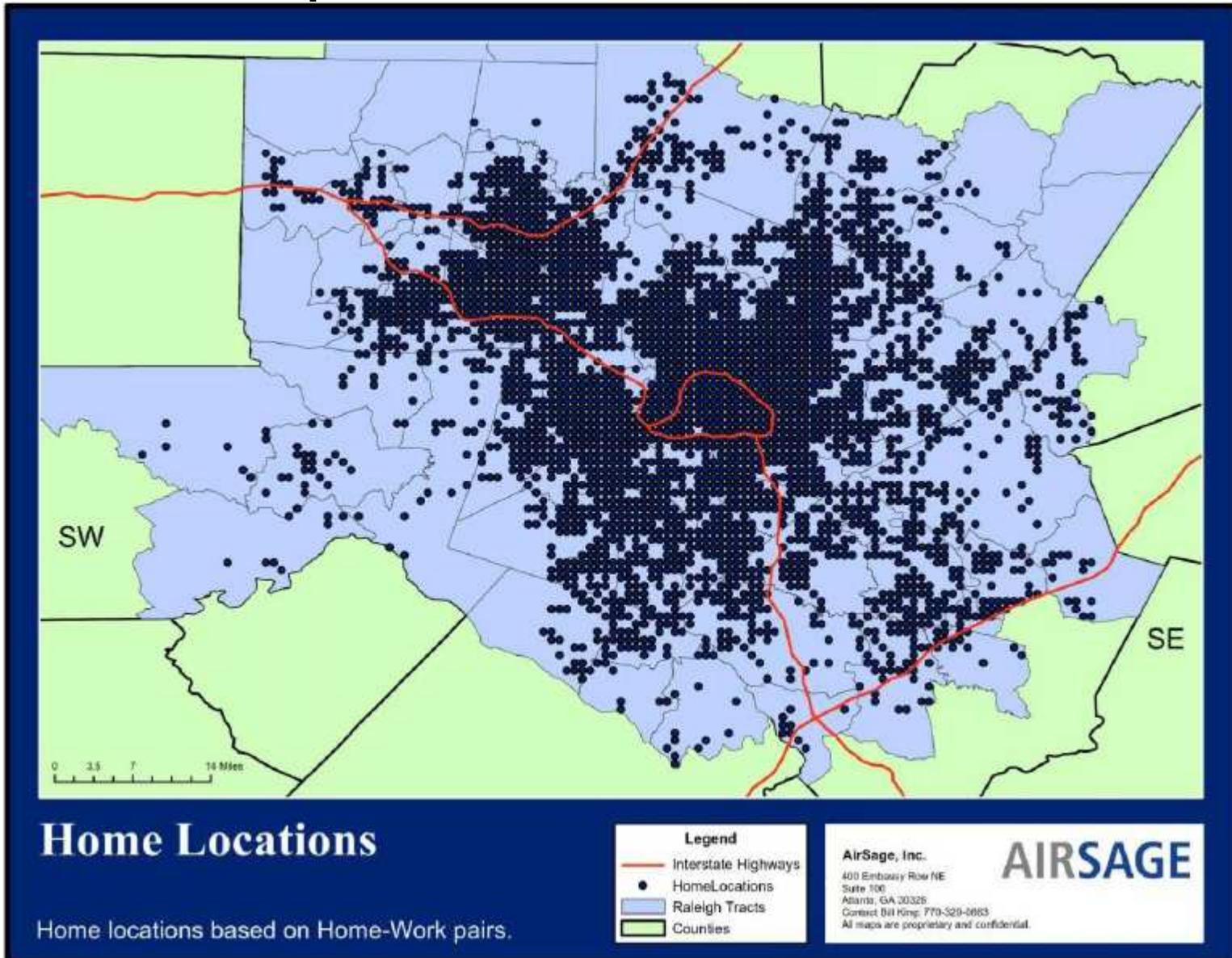


Capital Area Metropolitan Planning Area By Census Tract

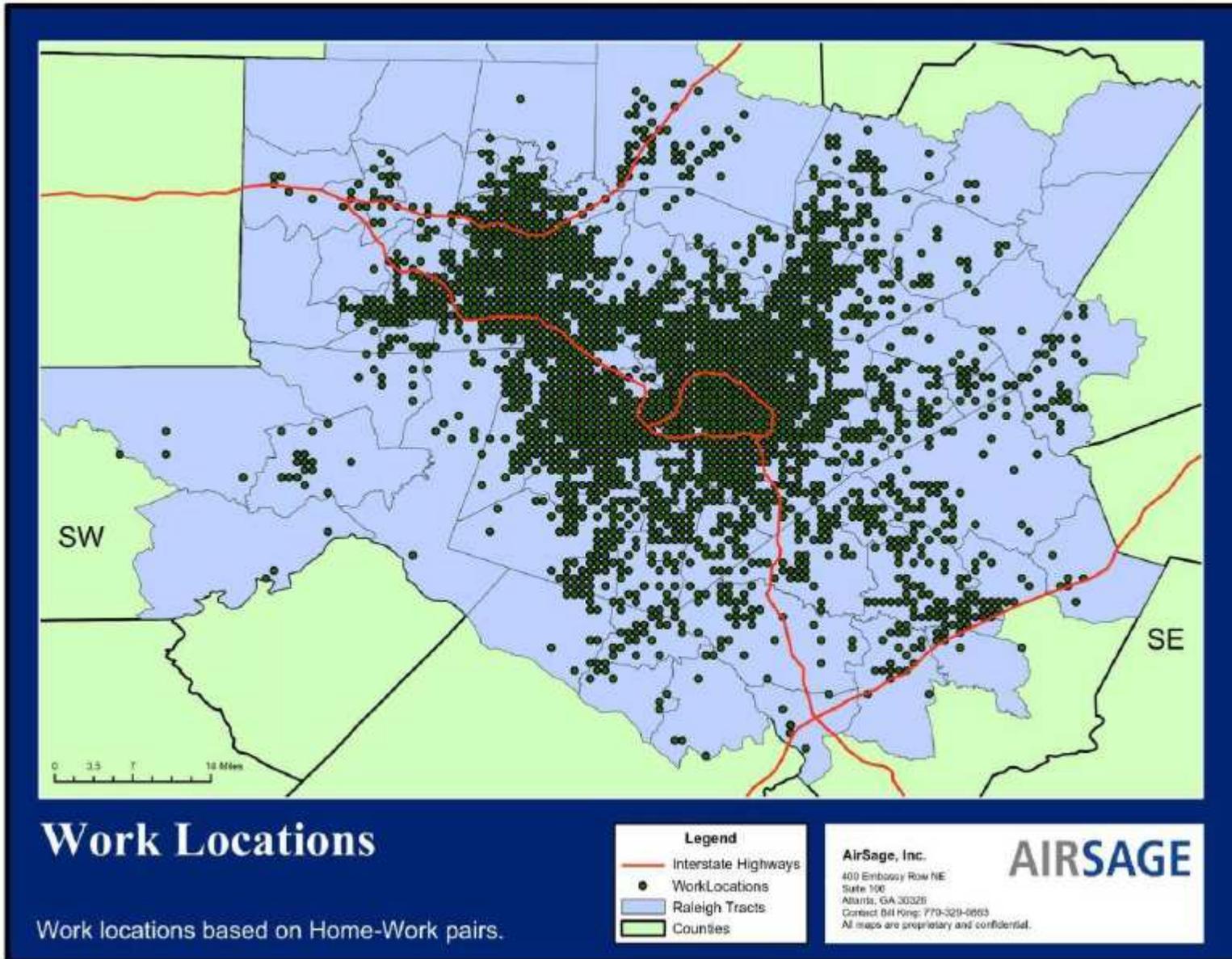
The Difference Between Planning



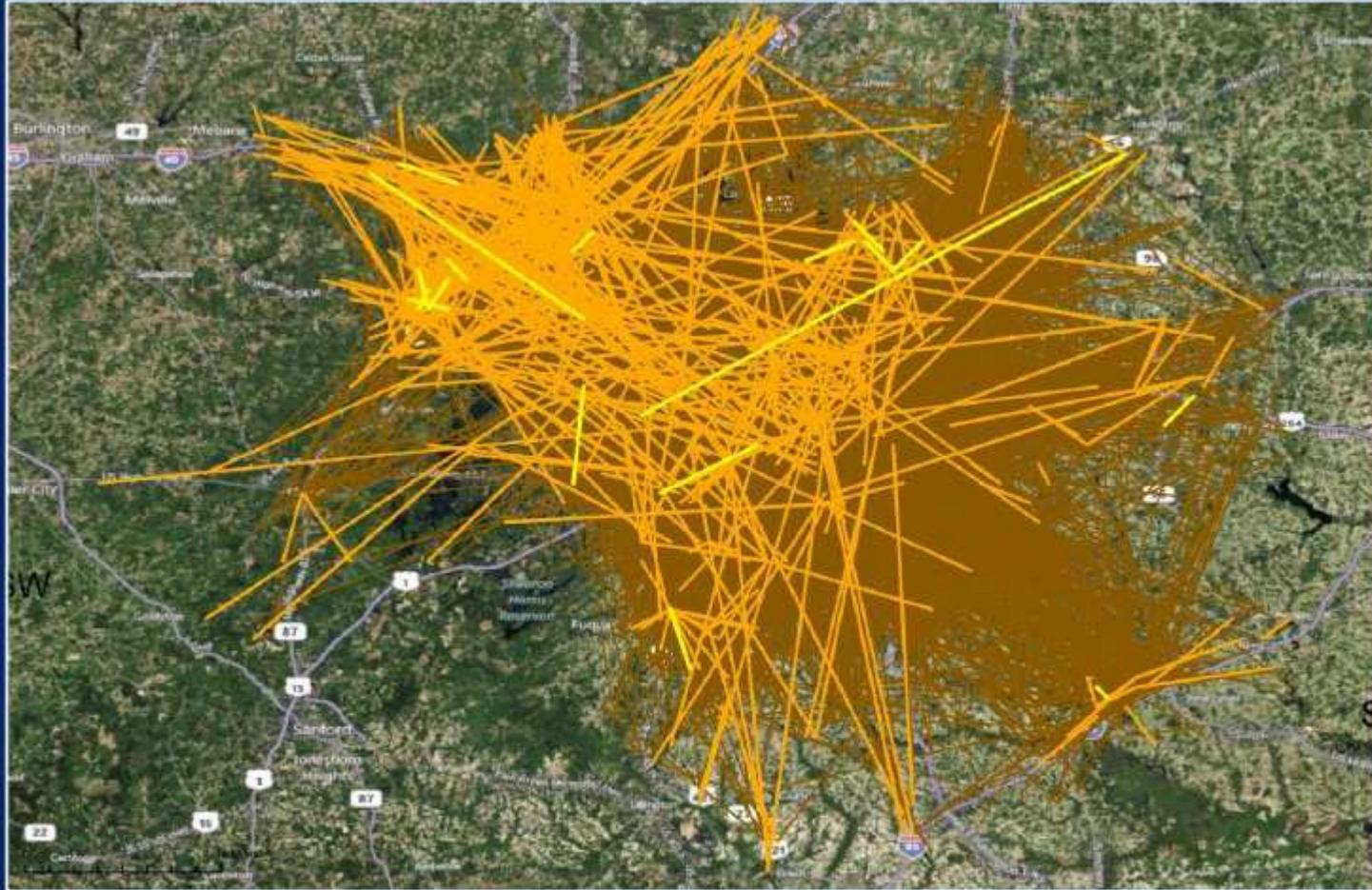
Snap Shot of Data Points at 12:01 AM



Snap Shot of Data Points Mid-Work Day



Resulting Vectors

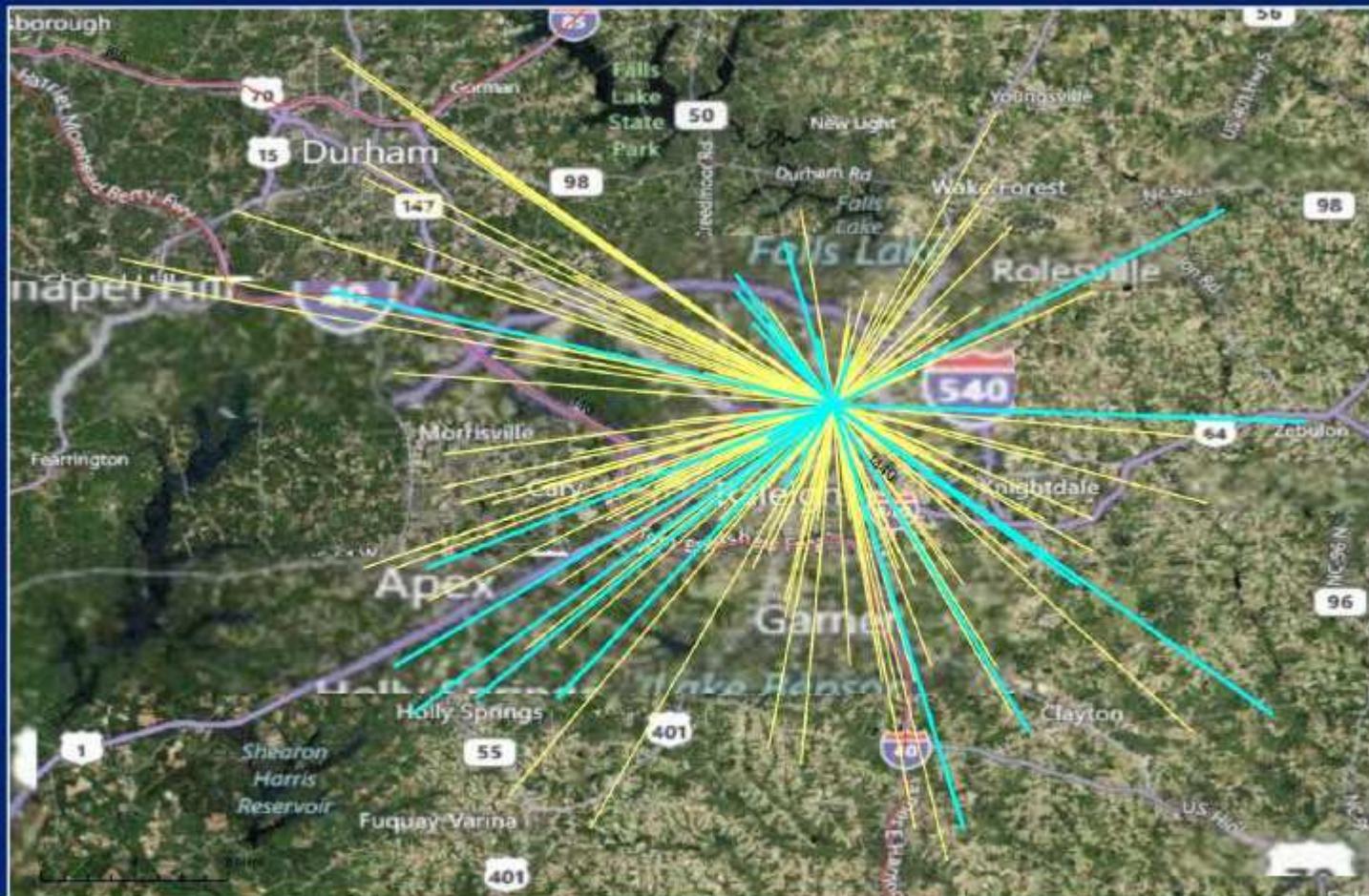


Home-Work Trips
Non-Adjacent Grids

Legend	
	NonAdjacent_Trips+100
	NonAdjacent_Trips50-99
	NonAdjacentTrips_Line

AirSage, Inc.
400 Embassy Row NE
Suite 100
Atlanta, GA 30326
Contact Bill King, 770-320-0863
All maps are proprietary and confidential.

AIRSAGE



Raleigh Home-Work Pairs

Home-Work pairs from Wal-Mart Shopping Center area to its non-adjacent trip pairs. Highlighted lines are 30+ trips during study period.

Legend

- Commercial_Area_Trips
- Interstate Highways
- Raleigh Tracts
- State Boundaries

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 Suite 100
 Atlanta, GA 30328
 Contact Bill King: 770-328-6663
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