



AirSage, Inc.

The Power of Where and When

The Brooklyn Bridge



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The power of where and when

AirSage Bridges Different Worlds

**Wireless
Carriers**



Transportation

- **What's involved?**
- **Where does it stand?**
- **What does it mean for the industry?**

Wireless Carrier Background

- ~150 wireless carriers serving 328M wireless subscribers
 - ✓ Sprint-Nextel – ~ 55M
 - ✓ Verizon – ~ 105M
 - ✓ AT&T - ~ 100M
 - ✓ T-Mobile – ~ 35M
 - ✓ All Others – ~ 33M
- ~\$200B annual revenues
- ~250,000 direct carrier jobs
- ~\$250B in cumulative capital investments
- ~250,000 cell sites
- ~250,000 Wireless E 9-1-1 Calls per day



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US Surface Transportation

- ~ 4 million miles (bi-directional) of Roadway
- ~ 1 million miles of traffic routes
- ~ 9.9 billion daily vehicle miles
- ~ 200 million drivers
- ~ \$100 billion annual spending

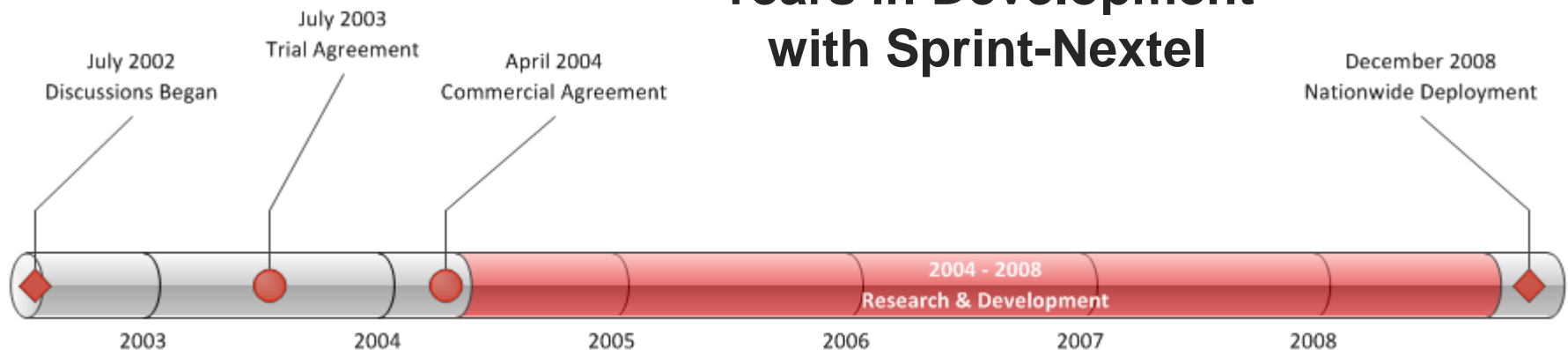
Been Tried Before?



Critical Path Requirements

- ✓ Guarantee subscriber privacy
- ✓ Be transparent to the network
- ✓ Minimize HR requirements (opportunity costs)
- ✓ Prove and validate the market
- ✓ Provide a sustainable business model
- ✓ Demonstrate integrity, credibility, and expertise

Years in Development with Sprint-Nextel



Competing Schedules, Priorities

- ✓ Strategy
- ✓ Business Development
- ✓ Product Development
- ✓ Government Affairs
- ✓ Public Relations
- ✓ Finance
- ✓ Legal
- ✓ Information Technology
- ✓ Network Operations
- ✓ Network Engineering
- ✓ RF Engineering
- ✓ Corp. Communications
- ✓ Government Sales
- ✓ Consumer Sales
- ✓ Product Marketing

Process definitions/sign-off completed for 20+ departments within Sprint-Nextel

Scalability, Repeatability Challenges



- Multiple data sources
- Multiple equipment vendors
- Proprietary network protocols
- RF signaling anomalies

Primary network
interfaces operational

Industry Trust and Support

- Create open and honest communication
- Persevere through challenges
- Minimize risk for early adopters
- Reward with revolutionary improvements



50+ (growing monthly) cities are now using AirSage data



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Balancing Stakeholder Interests

- Government transportation agencies
- Wireless carriers
- Equipment manufacturers
- Navigation systems providers
- Systems integrators
- Application developers
- Consulting and engineering firms
- Radio & TV broadcasters
- Commercial vehicle operators
- Traveling public

Input from industry experts yields initial business model framework with triumphs for everyone!

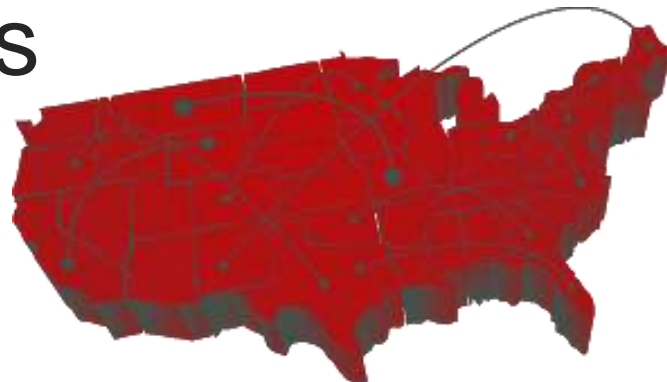


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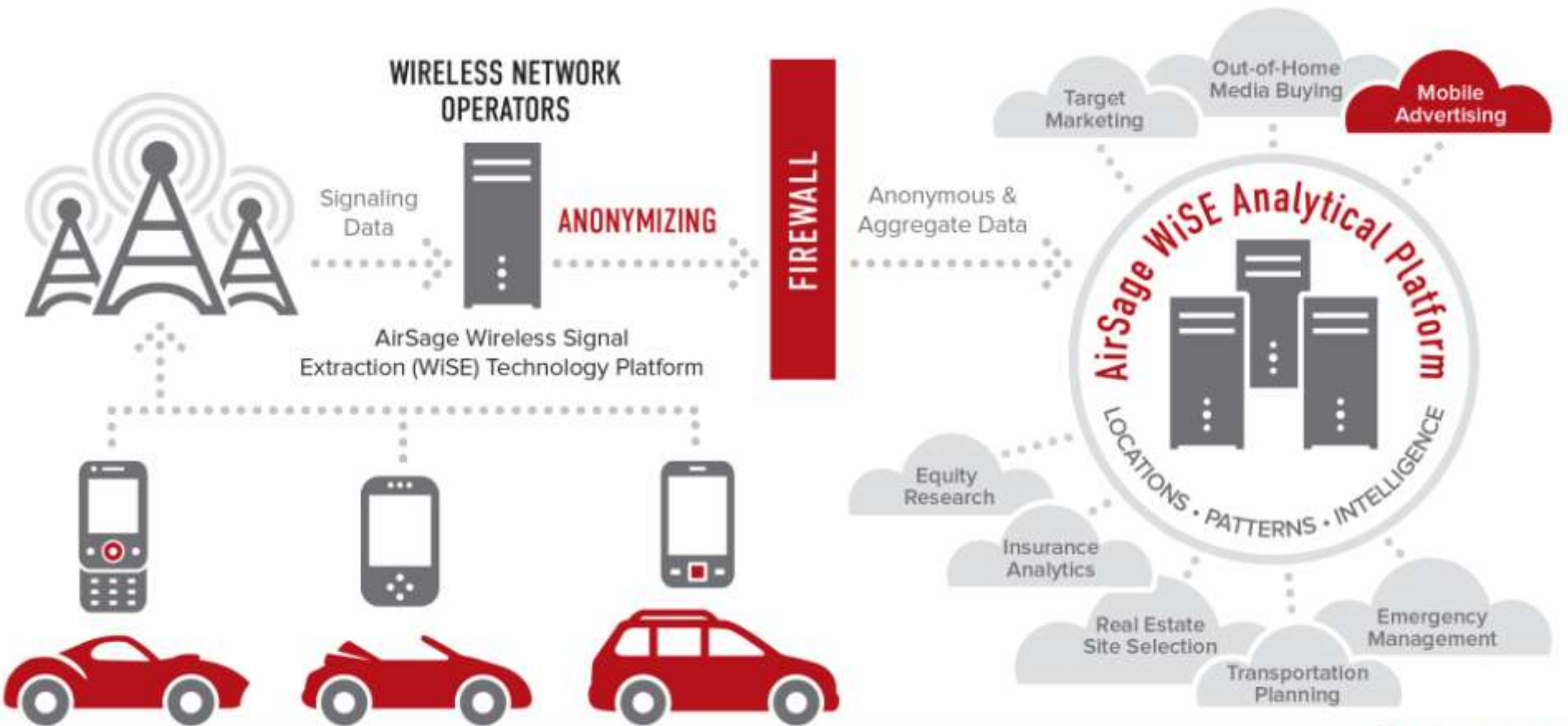
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AirSage Company Overview

- Patented **Population Analytics**
- 15 billion location data points per day
- 100 million mobile devices
- Consumer privacy protection
- Profitable, Atlanta based, 25 employees



AirSage Proprietary Technology



**15 BILLION
DATAPOINTS
EVERYDAY**



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Solutions for Transportation

Traffic Operations

“I need accurate dynamic OD matrices to better simulate the alternatives and ensure we are making the best investment.”

Data Collection

“Our current methods of gathering data describing who is using a roadway are expensive and time consuming. How can I get more for the money?”

Traffic Impacts

“If I only knew the trip generation rates and how far people were traveling to similar locations, I could easily predict the impacts of this new development.”

- Unprecedented insights
- Accurate and comprehensive
- Significantly reduces cost and equipment needed

Understanding Activity Patterns

Activity patterns are examined over time to determine socio-demographic classifications and mobility attributes.

- Home location
- Work location
- Trips per day by type
- Trip lengths by type
- Time of day information
- Activity patterns
- Mobility Attributes

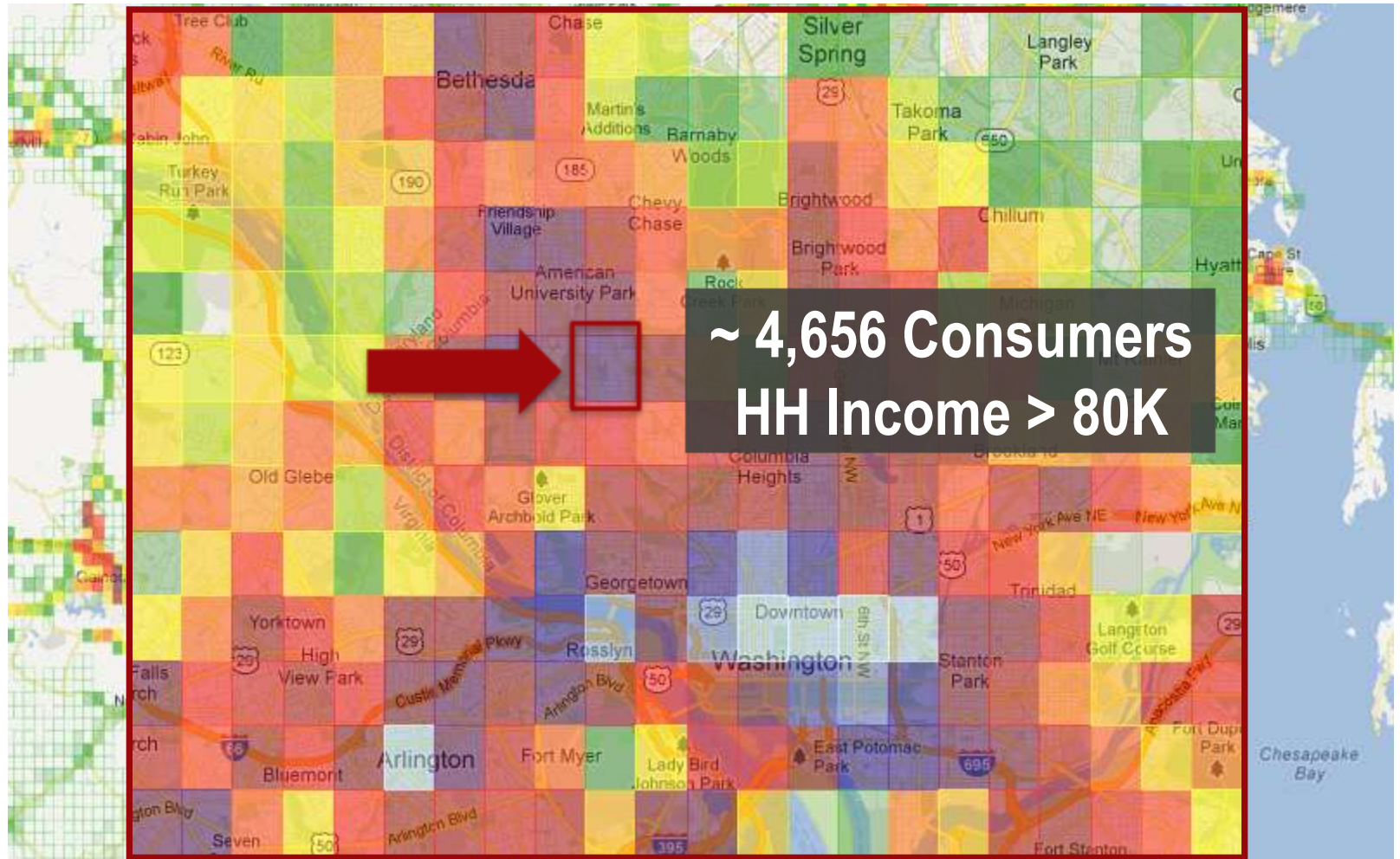
Devices at the Same Location

Devices remaining at the same location create Activity Points whose location is continually refined and then analyzed for:

- Arrival time at location
- Departure time from location
- Activity duration
- Associated point of interest
- Activity purpose

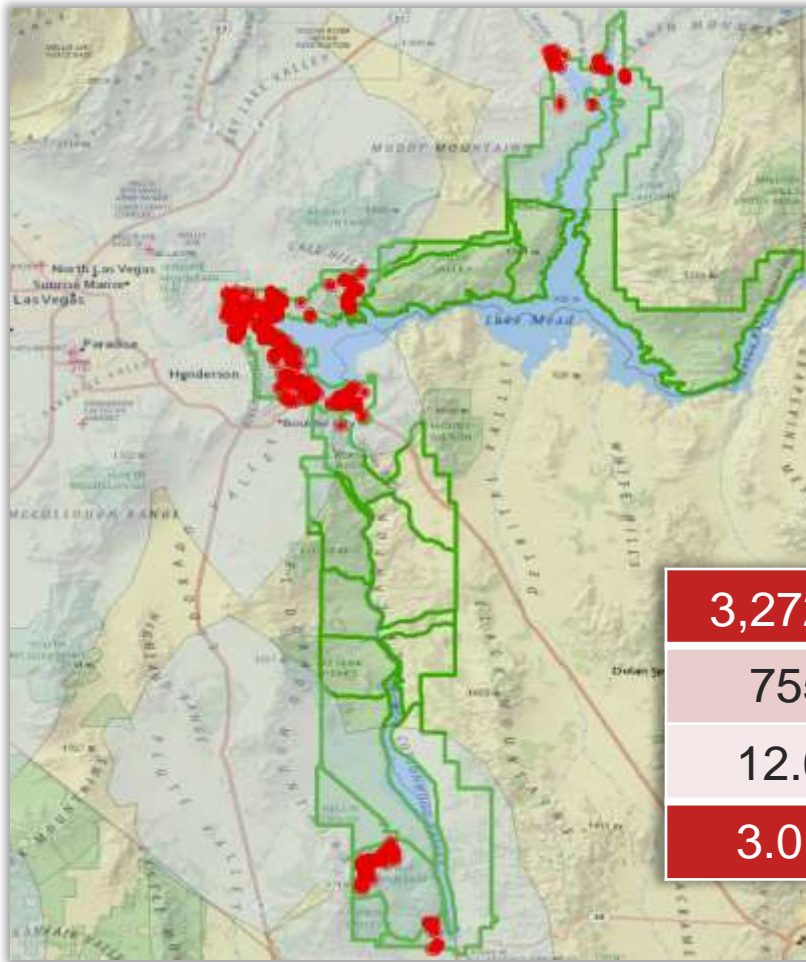
AirSage Anytime Population

3 AM
4 AM
5 AM
6 AM
7 AM
8 AM
9 AM
10 AM
11 AM
Noon
1 PM



Where should I put a high-end lunch café?

Select Zone Analysis



Lake Mead Visitor Counts October 13, 2012

3,272	Total Visitors
755	Sampled Devices
12.6	Average Sightings per Device
3.01	Average Length of Visit (hours)

Home Locations



Lake Mead Visitor Home Locations
October 13, 2012

Select Zone Analysis

Not
expo
inte

Mall of America Metrodome

Oct 7, 2012 (2 – 7pm)

14,275 unique devices

25% of the 57,562 in attendance

- Activity location density maps before/after the game.
- % coming directly from home
- % coming directly from work
- Arrival and Departure Time Profiles
- Time before returning home after the game
- Distance traveled Profiles
- Socio-Demographic Mix
- Home location density map of greater metro area.
- % of attendees traveling from other states (by state)

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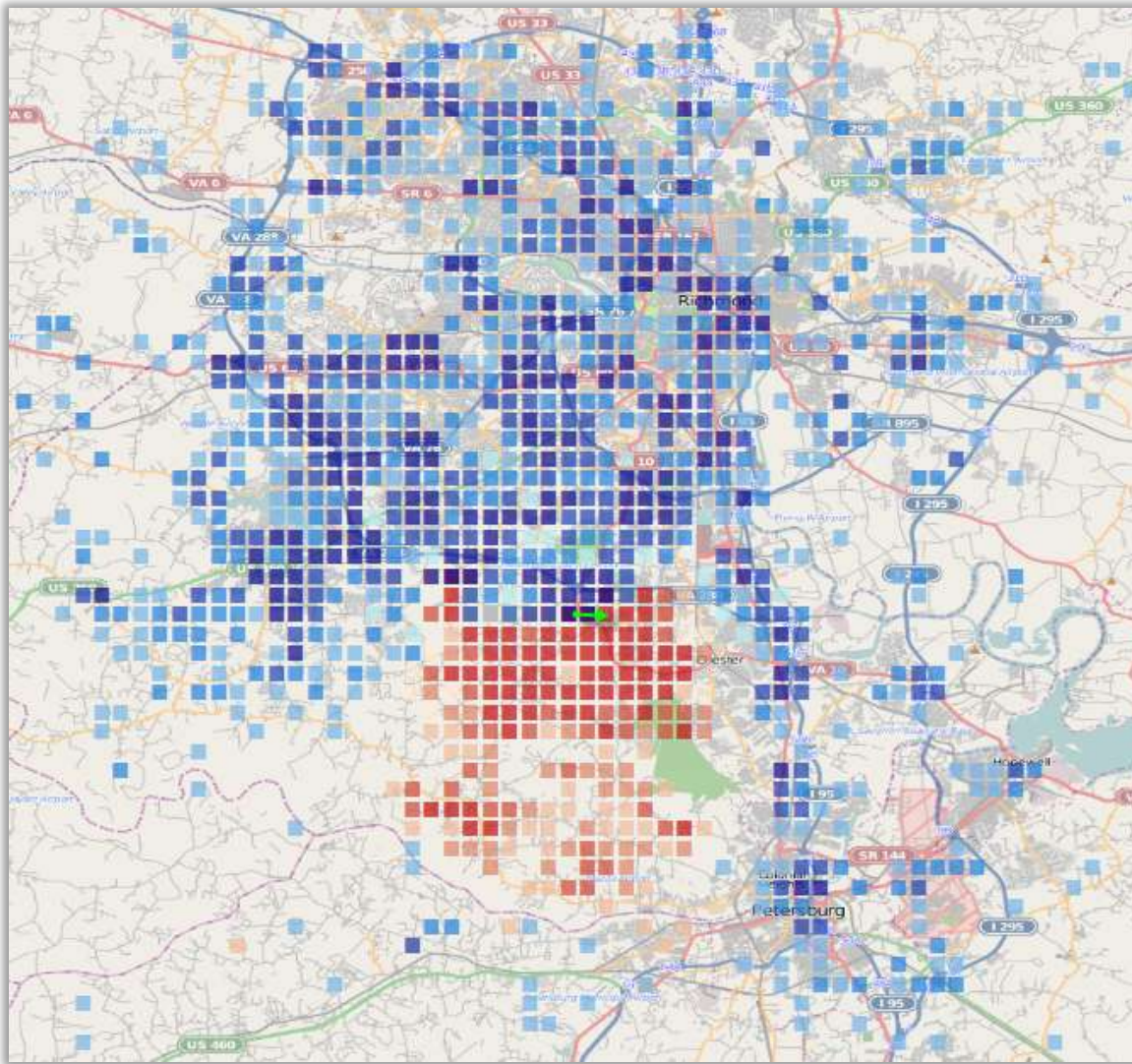
AirSage Traffic Insights




Imagine not only knowing the traffic counts...

AirSage can provide:

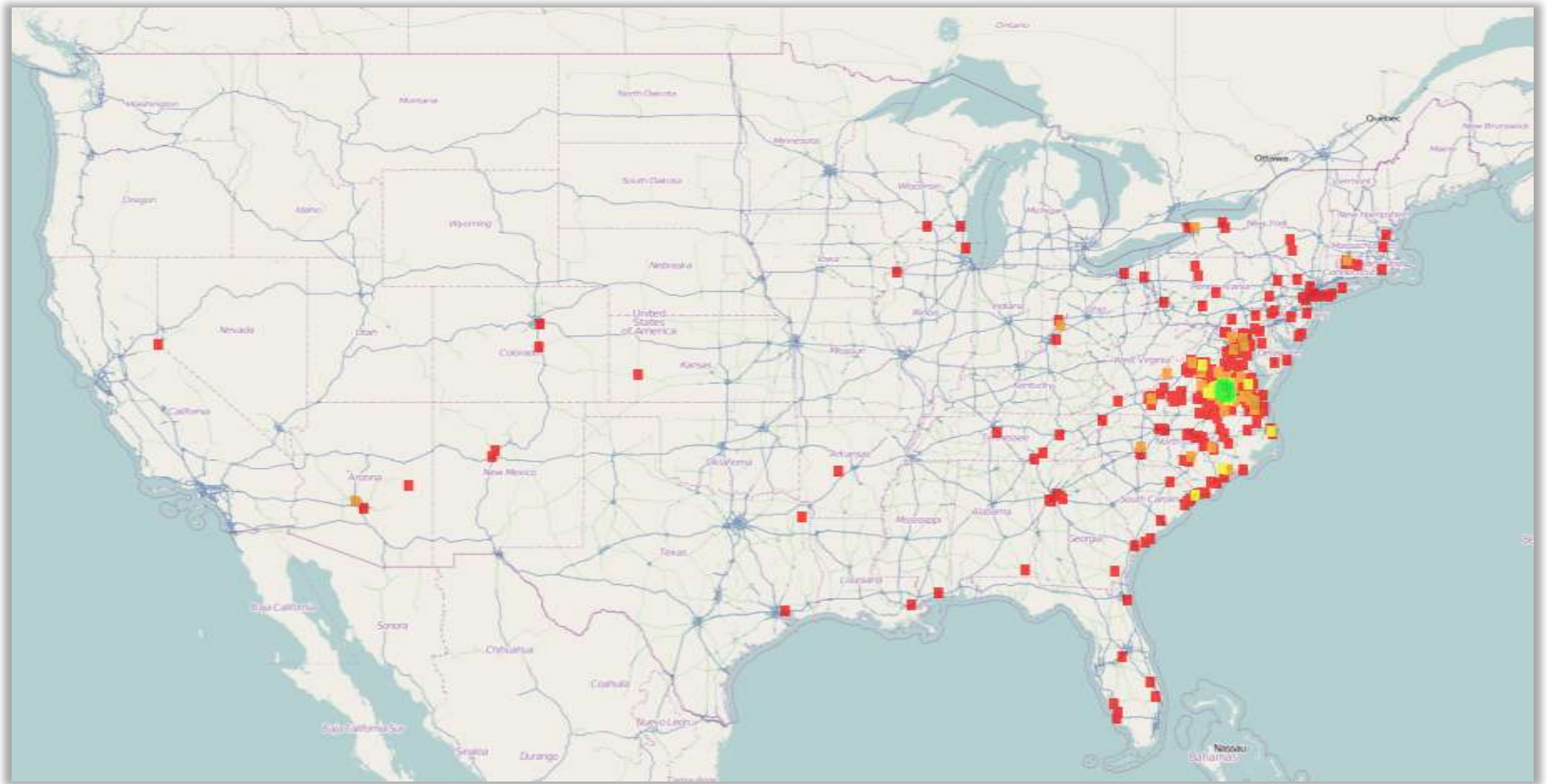
- Origins and Destinations for traffic on any roadway
- Home and Work locations for traffic on any roadway
- Socio-Demographic information for traffic on any roadway
- Start-Time Distributions for traffic on any roadway
- Arrival-Time Distributions for traffic on any roadway
- Trip Length Distributions for traffic on any roadway

Select Link Analysis



-  Origin Density
-  Destination
-  Selected Roadway

AirSage Select Link

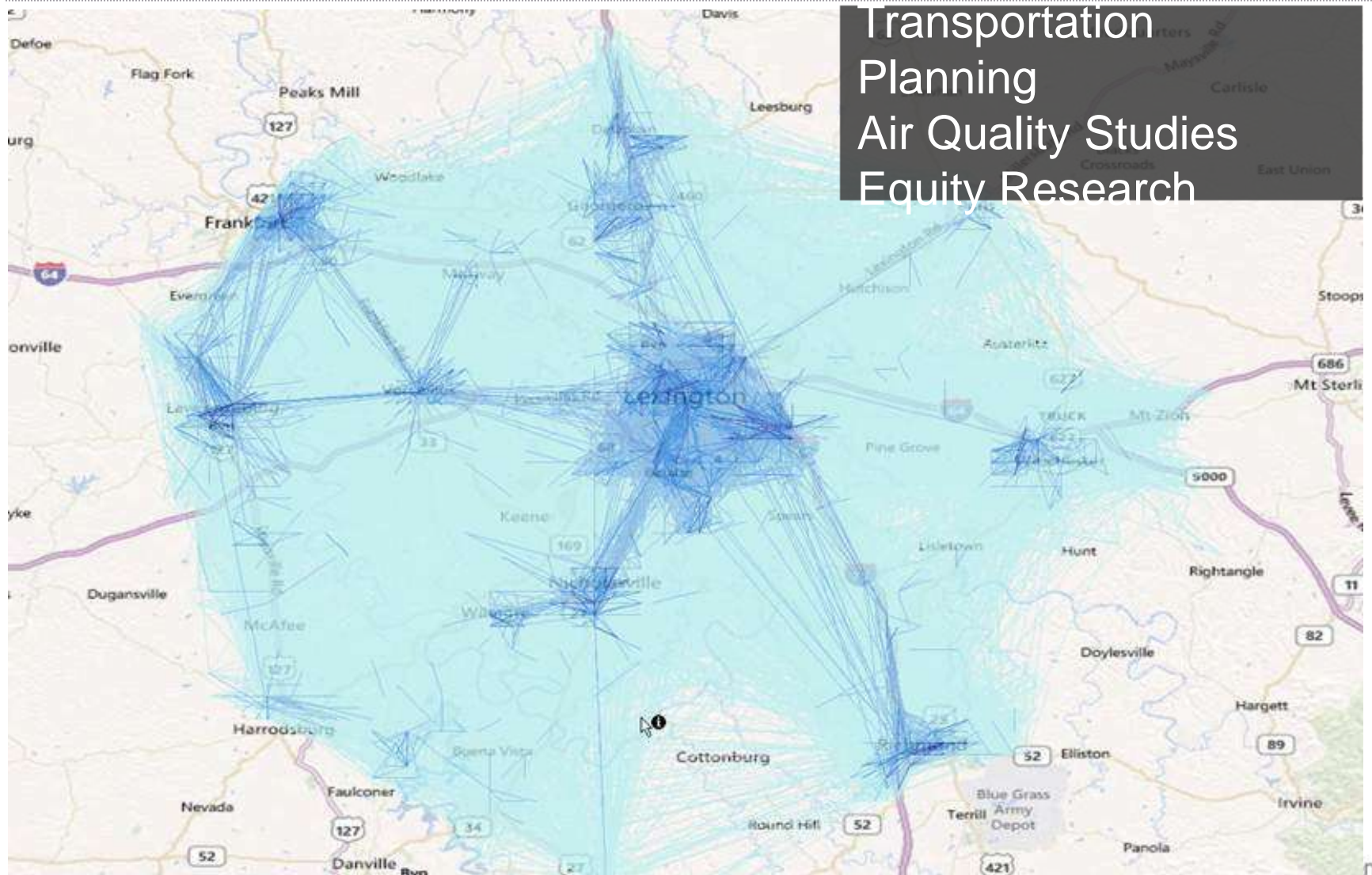


Home Locations



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AirSage Trip Matrix



AirSage Population Movements

Given your custom zoning system,
only AirSage can deliver Trip Matrices:

- For a specific day
- For an average day
- For a specific trip type
(Home, Work, Other)
- For specific times of a day
- Historic Data going back
as far as 2009

Resident Trip Purpose Distribution

Home to Work	266,979	10%
Work to Home	184,310	7%
Home to Other	829,565	31%
Other to Other	336,256	13%
Other to Home	709,930	27%
Work to Other	118,331	4%
Other to Work	85,979	3%
Work to Work	15,608	1%
Home to Home	127,391	5%



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Population Insights – Mobile, AL

8% of total trips are the conducted by Non-Residents... these trips will all be classified as NHB

- 15% of total NHB Trips are conducted by Visitors

TRIP MATRIX: PURPOSE (Internal Trips)				
Purpose	AirSage 2012		NCHRP 2009 Ranges	
	Trips	Percent	Low	High
HBW	124,403	11.0%	14.0%	15.0%
HBO	582,190	51.3%	54.0%	56.0%
NHB	427,636	37.7%	30.0%	31.0%
TOTAL	1,134,229	100.0%	-	-

Some tra
NHB

classified as

- Resident_NHB
 - change daily like Plumbers, etc.,)

- Resident_Livein_Work@Work: **1.87%**

- In area nightly with no fixed nighttime cluster (E.g. Shift-workers like nurses, etc.,)

- ResidentLiveInArea_WorkInArea: **0.65%**

- In area with no fixed daytime or nighttime clusters.

AirSage Advantages



Geographic coverage of the US – including all mobile devices



No burden to the network and/or handset – unlike GPS/Assisted GPS



Questionnaires, surveys, mobile apps are limited, less accurate, more expensive, and time consuming



24 X 7 visibility, every device seen ~100 / day



Fully compliant with carrier privacy policies – never reveals the ID of a mobile subscriber



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AirSage Population Analytics

6 years in the making to go from this



To This...





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