



ALABAMA 9-1-1 BOARD

GIS Program Update and GIS Technology
ACCA 94th Annual Convention
9-1-1 Breakout Sessions
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Introduction
& Contact
Information

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State-wide GIS Program Phases

- Legacy State
- On-Boarding
- Intra-Jurisdictional Data Remediation
- Cross-Jurisdictional Data Remediation
- Provision to State NG 9-1-1 Spatial Interface
- Data Maintenance



	Legacy State	On-boarding	Intra-jurisdictional Data Remediation		Cross-jurisdictional Data Remediation	Provision to NG911	Maintenance
Action(s) Necessary	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Upload Data Gap 1 Report & Changes Onboard into VEP Gap 2 Report & Changes 	<ul style="list-style-type: none"> Validator Training Editor Training Run Validations Generate & Correct Anomaly Reports Remediate into Standards-based Schema 		<ul style="list-style-type: none"> Same as previous Phase, but with your neighbors 	<ul style="list-style-type: none"> Export to Enterprise Systems Provision to Spatial Interface Ingest into NGCS 	<ul style="list-style-type: none"> Maintain NG911 Dataset Add all the data layers an ECD wants Amend as schema or standards change
# of ECDs in this Phase	0	13	72		15	-	-
		<ol style="list-style-type: none"> Butler Calhoun Fayette Franklin Gardendale Hale Irondale Lauderdale Lawrence Marion Montgomery City Mountain Brook Tarrant 	<ol style="list-style-type: none"> Adamsville Auburn Autauga Baldwin Barbour Bessemer Bibb Birmingham Blount Bullock Chambers Cherokee Chilton Choctaw Clarke Clay Cleburne Coffee Cullman Colbert Conecuh Coosa Covington Crenshaw Dale Daleville Dallas Dekalb Elmore Enterprise Escambia Etowah Ft Payne Geneva Greene Henry Hoover Homewood 	<ol style="list-style-type: none"> Houston Hueytown Jackson Jefferson Lamar Lee Limestone Lowndes Macon Madison Marengo Marshall Midfield Mobile Monroe Montgomery County Morgan Perry Pickens Pike Pleasant Grove Randolph Russell Shelby St Claire Sumter Talladega Tallapoosa Tuscaloosa Vestavia Hills Walker Washington Wilcox Winston 	<ol style="list-style-type: none"> Adamsville Baldwin Bessemer Birmingham Blount Homewood Hoover Hueytown Jefferson Midfield Mobile Shelby St. Clair Vestavia Walker 		

On-Boarding Phase

- Upload Data
- Gap 1 Report and Changes
- Onboard into VEP
- Gap 2 Report and Changes
- Assistance available at NO COST to the District

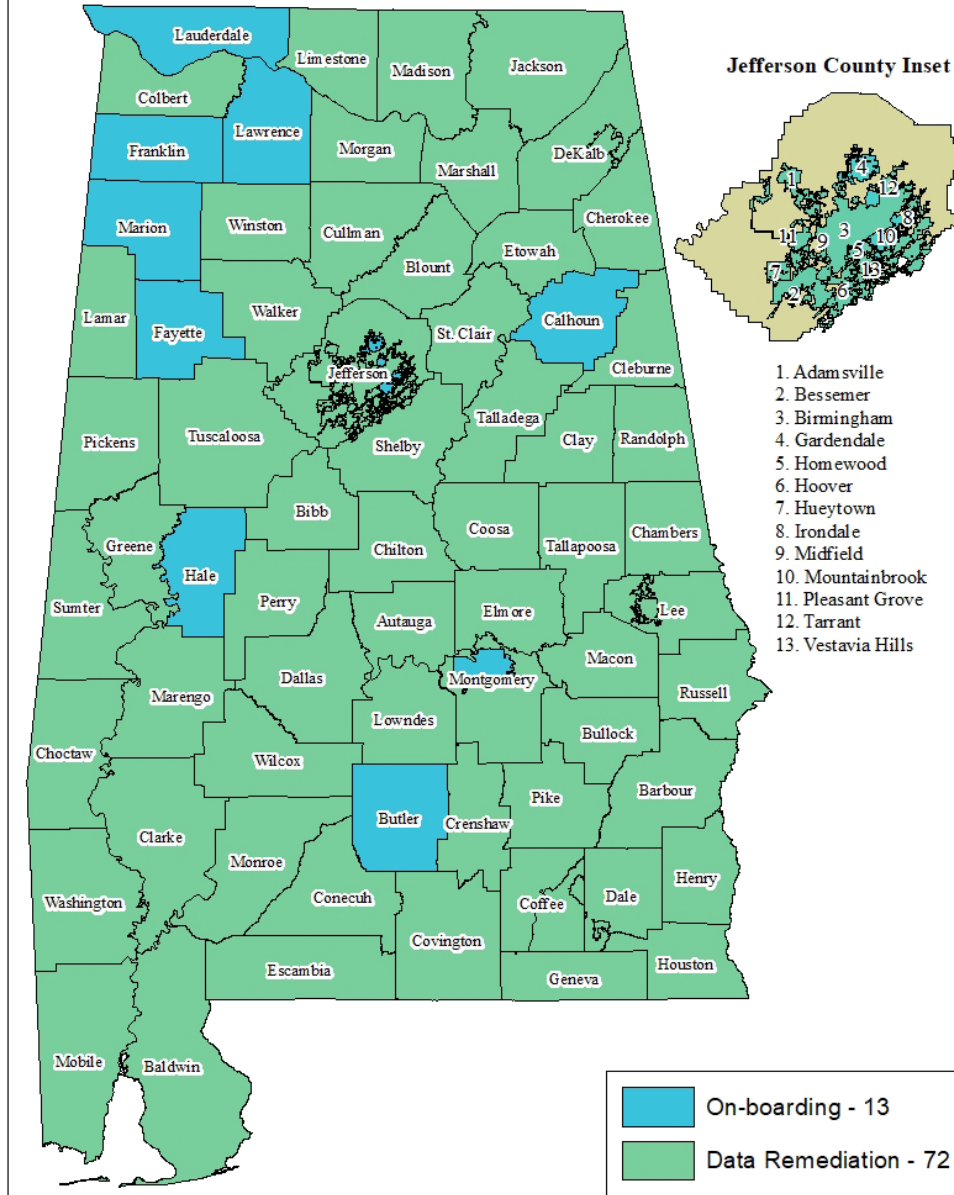


Intra-jurisdictional Data Remediation Phase

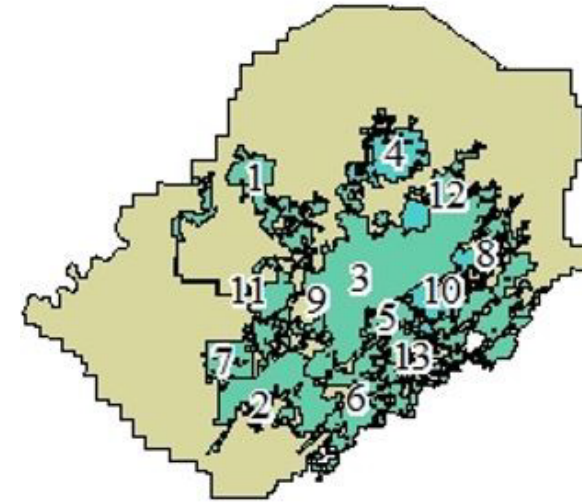
- Validator Training
- Editor Training
- Run Validations and Aggregation
- Generate & Correct Anomaly Reports
- Remediate into Standards-based Schema
- MSAG/ALI vs GIS remediation



ECD GIS Data On-Boarding Phase



Jefferson County Inset



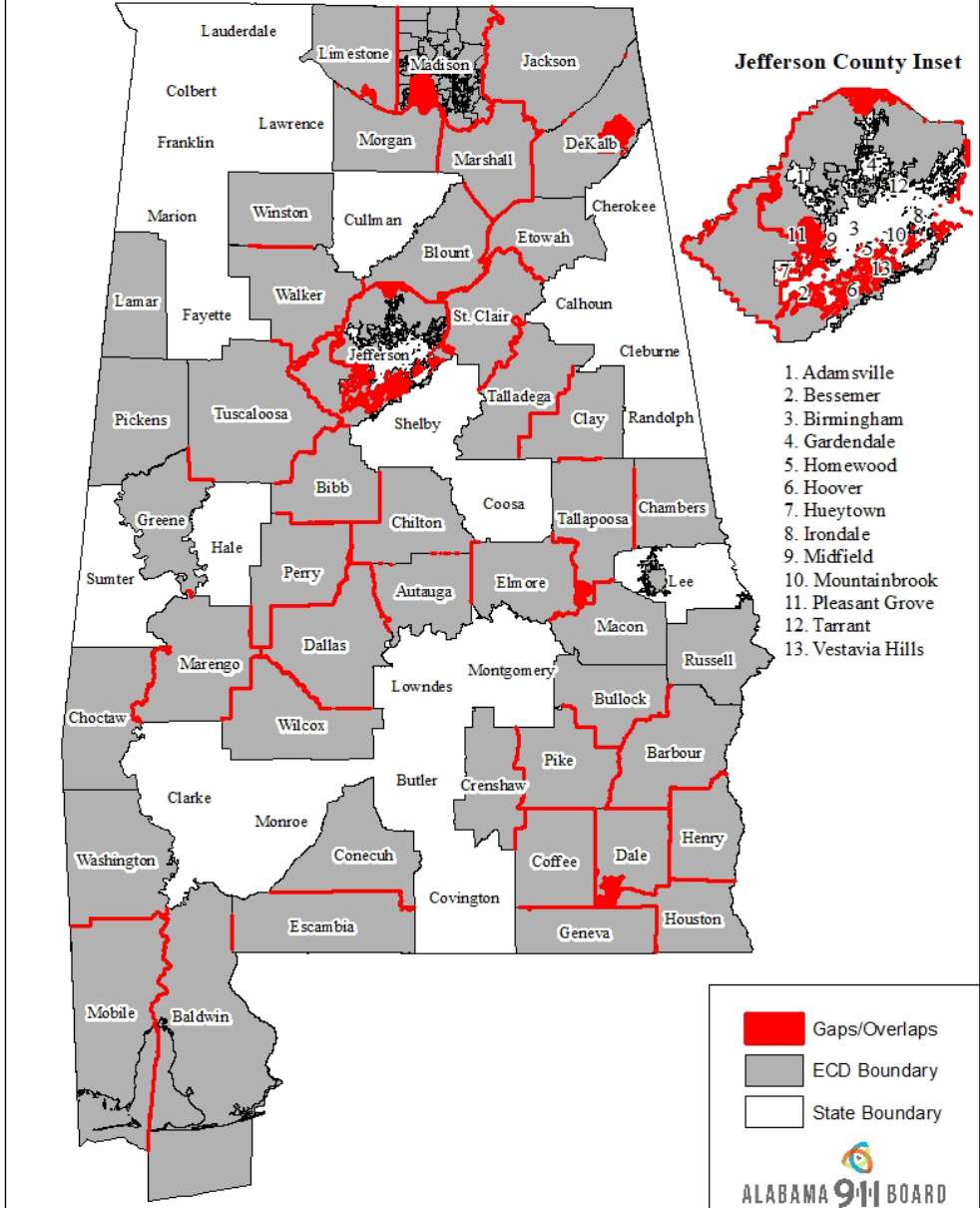
1. Adamsville
2. Bessemer
3. Birmingham
4. Gardendale
5. Homewood
6. Hoover
7. Hueytown
8. Irondale
9. Midfield
10. Mountainbrook
11. Pleasant Grove
12. Tarrant
13. Vestavia Hills

Cross-jurisdictional Data Remediation Phase

- Gap and Overlap Polygon Edge Matching
- Road Centerline Node Matching
- Address Point Jurisdictional Overlap Correction
- Critical for Geospatial Call Routing and Address Validation



Aggregated ECD Boundaries with Anomalies



GIS Technology Available to Every District

- VEP - Validator
- VEP - Editor
- VEP - Verify
- MSAG Generator
- Address Comparison & Evaluation (ACE)
- Available at **NO COST** to your District



VEP Validator

- GIS Data Validations to Ensure NG9-1-1- Compatibility and Data Readiness
- Over 120 NENA Standards Based Data Validations
- Progress Tracking Over Multiple Validation Runs
- Ability to Mark Exceptions
- Downloadable as a Mark-Up Feature Class and in Excel for Non-GIS Partners



VEP Editor – Address Points

- Address Point Editing and Creation
- Attribute and Geometry Editing
- Single Feature and Batch Editing
- Address Assignment Tool (Single and Batch)
- Detached Editing
- Automated Field Population from Associated Data Layers and Domains
- Field Calculations
- Easy to Use Tools to Support All Levels of Expertise



VEP Verify

- Mobile Application for Editing GIS data and Submitting Editing Sessions to VEP directly
- Developed for use on a Smartphone or Tablet
- Streamlines field data collection and verification



MSAG Generator

- Creates MSAG from Road Centerline
- Output in Excel or CSV
- Full MSAG and Changes
- Supports NENA and Native Schemas



Why ACE?

Benefits of an ACE:

- ✓ Identifies missing address points
- ✓ Identifies addresses with sub-addressing
- ✓ Highlights discrepancies in current master address dataset
- ✓ Mitigates inaccurate call routing within a NG9-1-1 system with a NENA compliant dataset
- ✓ Supports call takers, dispatchers and first responders with complete addressing information



DATAMARK ACE Workflow



What is ACE?

Address Comparison and Evaluation (ACE) compares a master address source to other supplementary sources containing address records to identify address candidates that are not within the master address data source. Through the ACE process, data is normalized and parsed to ensure adequate and consistent comparison between the master and supplementary address sources. The result is a tabular list of address candidates with associated information that assists in determining the validity of an address (e.g. address occurrence, weighted confidence score, address verification).



DATA**M**ARK



Supplementary Data Sources

IDENTIFIED DATA SOURCES

- Voter Registration Data
- Underground Utility Addresses
- Local Gas Utility Addresses
- Parcel Data
- Commercially Sourced Residential Addresses
- Commercially Sourced Business Addresses

DATAMARK assigned each supplementary source a ranking based on its quality:

High – frequently updated, locally maintained, complete datasets, verified

Medium – periodically updated, locally or nationally maintained, verified or potentially unverified addresses

Low – potentially incomplete dataset, infrequently updated, nationally maintained

	Source	Ranking
1	Commercially Sourced Residential Addresses	High
2	Commercially Sourced Business Addresses	High
3	Local Gas Utility Addresses	High
4	Voter Registration Data	Medium
5	Underground Utility Addresses	Medium
6	Parcel Data	Low

Supplementary Source Ranking



Address Candidate Occurrence and Verification

ADDRESS CANDIDATE OCCURRENCE

Source Occurrence	# of Candidates	% of Total Candidates
One Source	351,541	53%
Two Sources	193,787	29%
Three Sources	63,439	10%
Four Sources	34,855	5%
Five Sources	21,241	3%
Six Sources	759	<1%

Breakdown by the occurrence of candidates across the data sources

ADDRESS VERIFICATION

All candidates were validated against a USPS database for address verification. If an address is found within the database the verification identifies whether it is:

‘Verified’ – receives mail currently

‘Vacant’ – mailable, but no mail currently received at the location; most likely unoccupied

‘Unverified’ – address not found

Address Verification Status	# of Candidates	% of Total Candidates
Verified	497,122	75%
Vacant	18,885	3%
Unverified	144,311	22%

Summary of the address verification results for mailability of the address candidates



Address Candidate Results & Weighting

The Statewide Alabama ACE determined that 660,318 candidates are not currently represented in the master address datasets across the 85 ECDs.

An essential part of the Statewide ACE analysis is producing a weighted confidence for each potential address candidate. The criteria used to determine weighted confidence considers:

- ✓ Supplementary Sources
- ✓ Address Candidate Occurrence
- ✓ Candidate Match With Address Verification

% Confidence	# of Candidates
75 - 100%	33,750
50 - 74%	231,708
25 - 49%	242,810
0 - 24%	152,050

Percent confidence of the candidates based on a weighted analysis



Questions

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