



MIRE

Model Inventory of Roadway Elements





- **Dawson “Brette” Grant**

- **Retired after 24 years as an Engineer with the United States Army**
- **ALDOT Enterprise Information Analyst, Sr in the Traffic Monitoring Section of the Maintenance Bureau**
- **Fifteen years with ALDOT**
 - **System Administrator for all Traffic Monitoring applications**
 - **Manage all traffic data submitted annually to FHWA**
 - **Respond to all public and organizational requests for traffic data**
 - **Temporarily assigned duties as the MIRE Data Collection Administrator**

Model Inventory of Roadway Elements

(Data Collection)





Model Inventory of Roadway Elements

“...to provide States with a national model of comprehensive roadway and traffic data inventory they can use to support data-driven decision making.”

...a comprehensive framework for roadway safety data management.



MIRE vs. MIRE FDE

MIRE

A broader collection of data elements related to roadways, including information like roadway classification, lane configuration, shoulder characteristics, and traffic control devices.

MIRE FDE

A subset of the MIRE data elements that are crucial for highway safety improvement programs and strategic highway safety plans.

Federal Requirement

Defined in 23 CFR § 924.3 for all public roads.





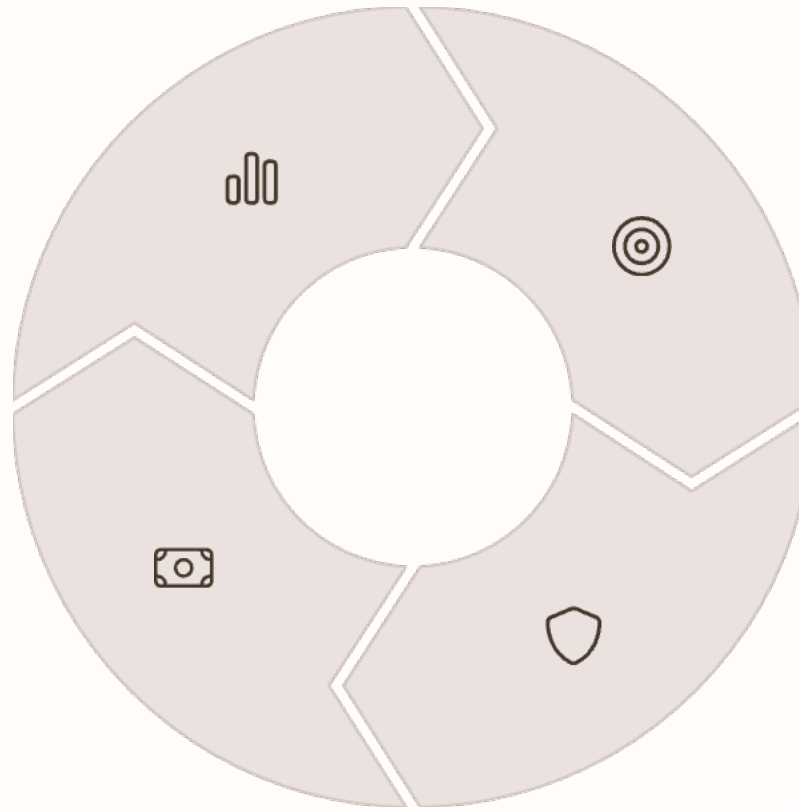
Purpose and Benefits

Better Analysis

Enables more sophisticated safety analysis and forecasting.

Resource Optimization

Improves allocation of limited safety improvement funds.



Targeted Interventions

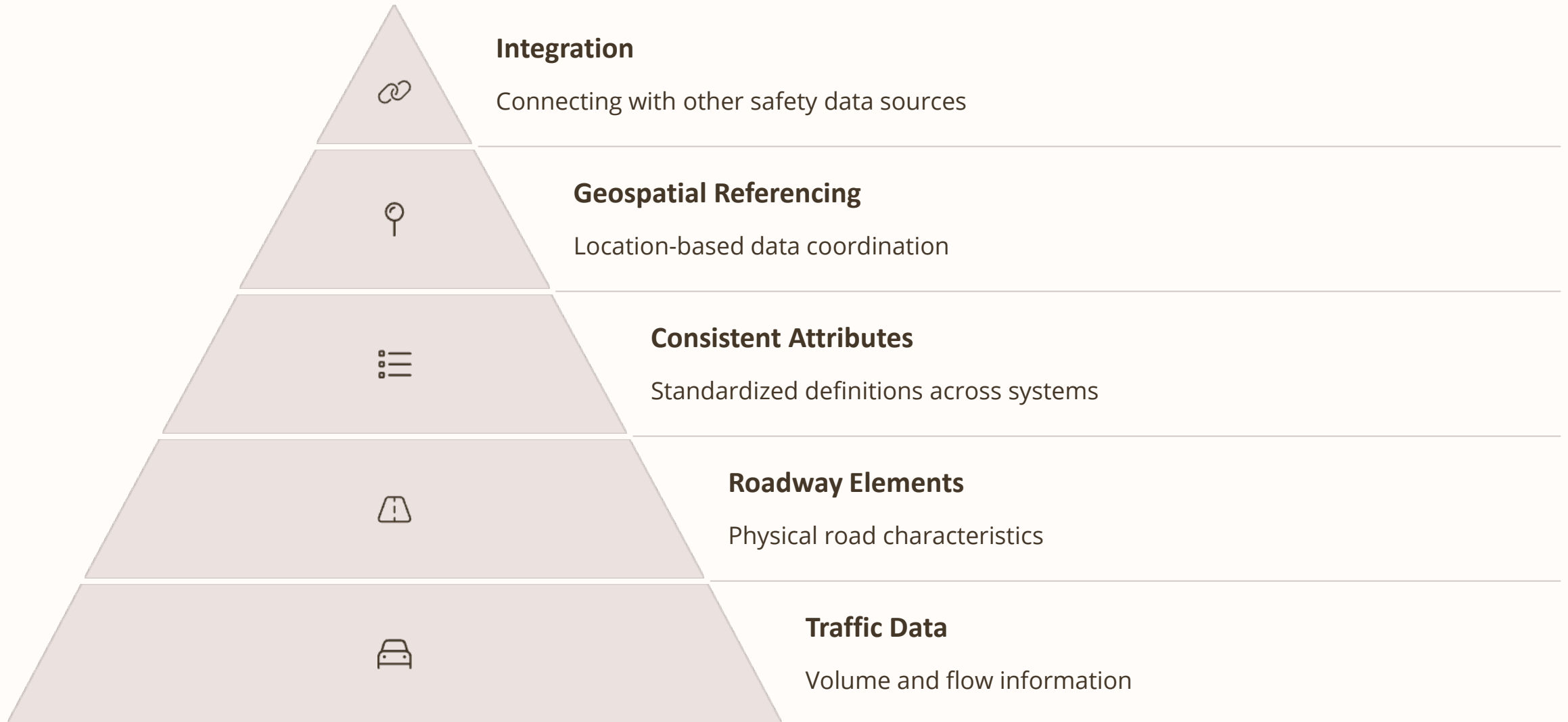
Identifies high-risk locations with greater precision.

Enhanced Safety

Supports evidence-based programs that reduce crashes.



Key Components





SCOPE

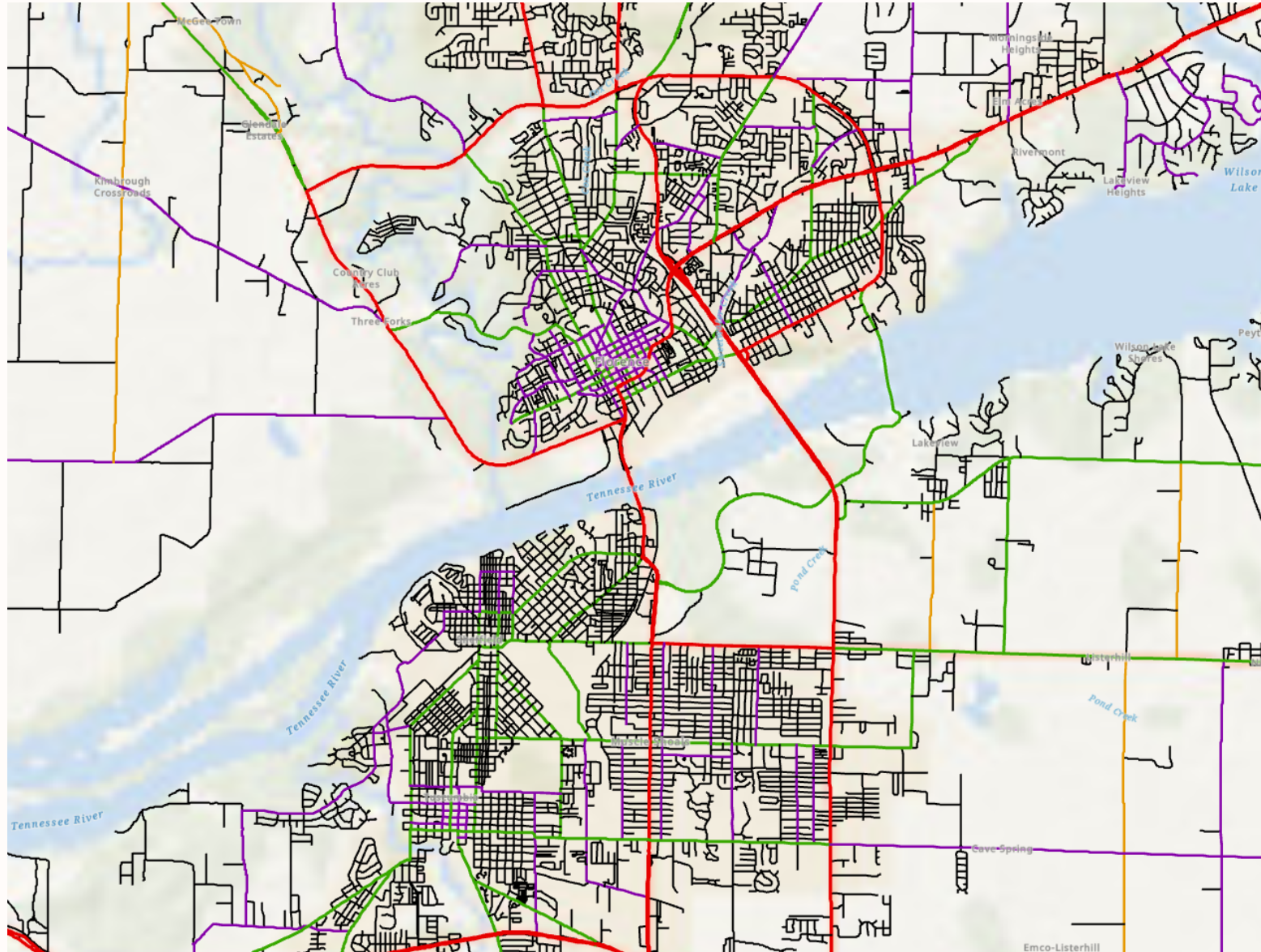
- Every public road in Alabama
- 100,236 miles of roadway
- 91, 244 intersections
- 291,494 intersection legs
- 42,361 median type segments
- 1,712 ramps





MIRE FDE

Non-Local Paved Roads (Roadway Segments)



- AADT
- AADT Year
- Access Control
- BP Descriptor
- EP Descriptor
- Dir of Inventory
- Fed Aid/Route Type
- Functional Class
- Median Type

- Through Lanes
- One/Two Way Ops
- Access Control
- Rte/Street Name
- Rte Number
- Rural/Urban
- Segment ID
- Surface Type
- Gov Ownership

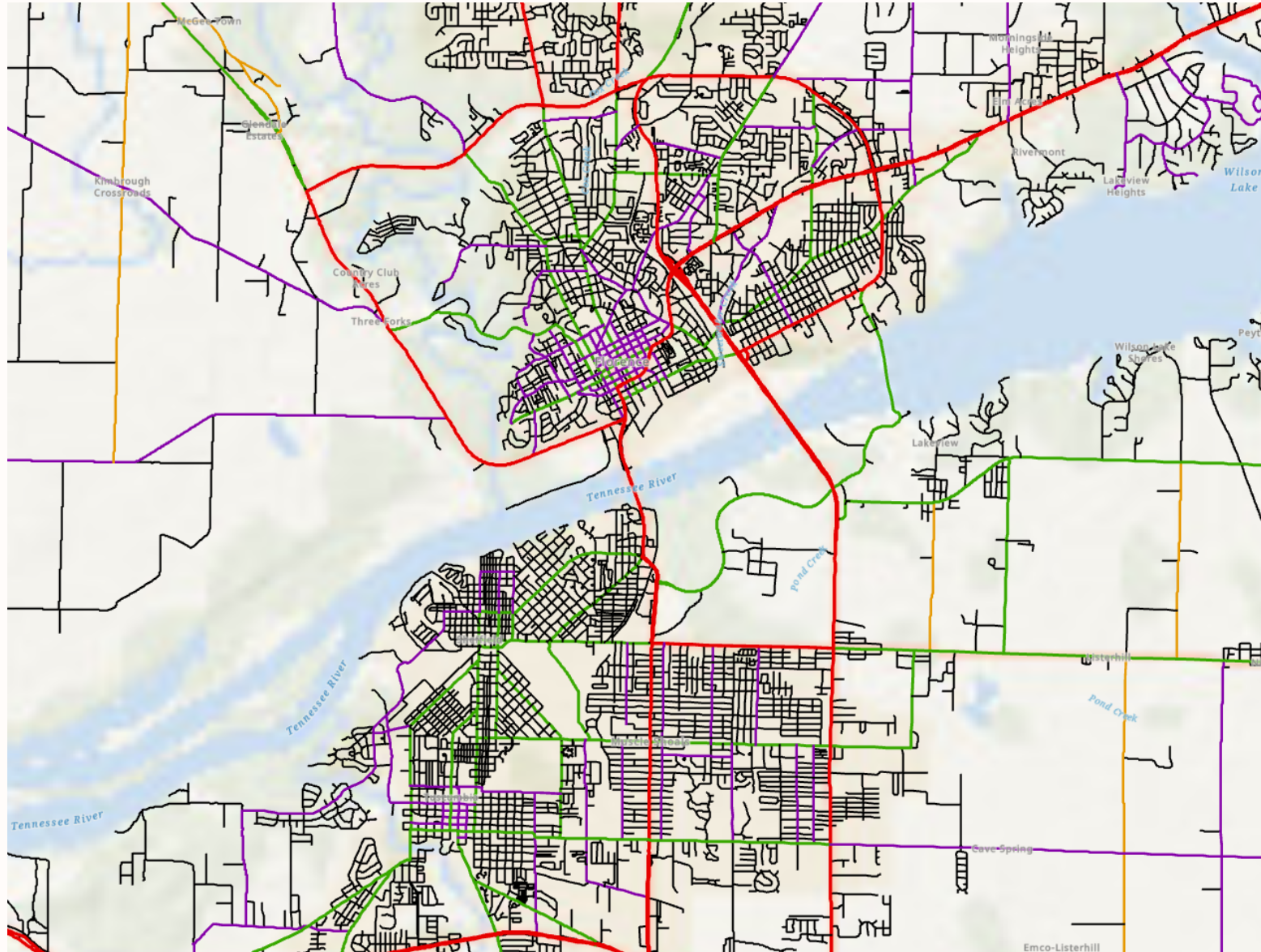


Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy											
	OBJECTID *	Shape *	Shape_Length	Segment ID	Route ID	Begin Mile	End Mile	Type	Length (ft)	Recorded At	Street Smart URL
47	47	Polyline Z	11.265371	1e3915db-2b57-49de-...	AL0000040000	161.202	161.209	Flush paved median	36.96	9/22/2023 8:51:51 AM	https://streetsma
48	48	Polyline Z	32.186971	8be37d7e-d3f8-4f82-8...	AL0000040000	161.209	161.229	Undivided	105.6	9/22/2023 8:51:50 AM	https://streetsma
49	49	Polyline Z	861.000731	5d5f9620-b99b-4f2f-a...	AL0000040000	161.229	161.764	Two-way left-turn lane	2824.81	9/22/2023 8:51:49 AM	https://streetsma
50	50	Polyline Z	138.403874	8d86445b-b9cf-48c6-a...	AL0000040000	161.764	161.85	Undivided	454.08	9/22/2023 8:51:07 AM	https://streetsma
51	51	Polyline Z	201.168421	255e7729-ac6a-4707-b...	AL0000040000	161.85	161.975	Two-way left-turn lane	660	9/22/2023 9:52:48 AM	https://streetsma
52	52	Polyline Z	131.966441	a24d0391-7dc8-47c8-8...	AL0000040000	161.975	162.057	Undivided	432.96	9/22/2023 9:52:59 AM	https://streetsma
53	53	Polyline Z	104.6076	236c6ec7-266b-4d49-8...	AL0000040000	162.057	162.122	Flush paved median	343.2	9/22/2023 8:50:47 AM	https://streetsma
54	54	Polyline Z	394.29004	198bce7e-5de6-4bf0-8...	AL0000040000	162.122	162.367	Undivided	1293.6	9/22/2023 8:50:42 AM	https://streetsma
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56	56	Polyline Z	243.011464	00984878-8a88-4d23-8...	AL0000040000	162.405	162.556	Depressed median	797.28	9/22/2023 9:53:30 AM	https://streetsma
57	57	Polyline Z	27.358871	c44b8add-f467-40b5-b...	AL0000040000	162.556	162.573	Depressed median	89.76	9/22/2023 9:53:41 AM	https://streetsma
58	58	Polyline Z	313.822725	c1586b6b-840c-4e3a-9...	AL0000040000	162.573	162.768	Depressed median	1029.6	9/22/2023 9:53:42 AM	https://streetsma
59	59	Polyline Z	27.358898	24384a83-b5a3-4e37-9...	AL0000040000	162.768	162.785	Depressed median	89.76	9/22/2023 9:53:56 AM	https://streetsma
60	60	Polyline Z	228.527211	8f362564-84a8-4cb3-8...	AL0000040000	162.785	162.927	Depressed median	749.76	9/22/2023 9:53:57 AM	https://streetsma
61	61	Polyline Z	16.093528	37d0c6a1-34a7-463f-b...	AL0000040000	162.927	162.937	Depressed median	52.8	9/22/2023 9:54:08 AM	https://streetsma
62	62	Polyline Z	400.727393	1f48a69c-b7ff-41ab-85...	AL0000040000	162.937	163.186	Depressed median	1314.72	9/22/2023 9:54:09 AM	https://streetsma
63	63	Polyline Z	12.874962	d14cc2ef-f4e1-45a0-b...	AL0000040000	163.186	163.194	Depressed median	42.24	9/22/2023 9:55:06 AM	https://streetsma
64	64	Polyline Z	811.11085	ceb3e1c3-df76-4414-a...	AL0000040000	163.194	163.698	Depressed median	2661.13	9/22/2023 9:55:06 AM	https://streetsma
65	65	Polyline Z	65.983239	033d7f7b-3c5f-4aba-8...	AL0000040000	163.961	164.002	Depressed median	216.48	9/22/2023 9:56:37 AM	https://streetsma
66	66	Polyline Z	98.170183	bf1b128f-7224-4922-b...	AL0000040000	164.002	164.063	Divided separate grades	322.08	9/22/2023 9:56:40 AM	https://streetsma
67	67	Polyline Z	154.497285	8334db96-d1f4-4dec-9...	AL0000040000	164.063	164.159	Depressed median	506.88	9/22/2023 9:56:44 AM	https://streetsma
68	68	Polyline Z	30.577586	6bc6e547-249a-4f34-9...	AL0000040000	164.159	164.178	Depressed median	100.32	9/22/2023 9:56:51 AM	https://streetsma
69	69	Polyline Z	574.536929	612e99e1-1763-4d91-b...	AL0000040000	164.178	164.535	Depressed median	1884.96	9/22/2023 9:56:52 AM	https://streetsma
70	70	Polyline Z	17.702847	2cc27762-09be-4365-b...	AL0000040000	164.535	164.546	Depressed median	58.08	6/19/2024 7:33:11 AM	https://streetsma
71	71	Polyline Z	296.11992	7e3775c4-6cde-4eca-a...	AL0000040000	164.546	164.73	Depressed median	971.52	6/19/2024 7:33:12 AM	https://streetsma
72	72	Polyline Z	107.826219	53eeb53f-0aec-4b7f-9...	AL0000040000	164.73	164.797	Flush paved median	353.76	9/22/2023 9:58:35 AM	https://streetsma



MIRE FDE

Non-Local Paved Roads (Roadway Segments)



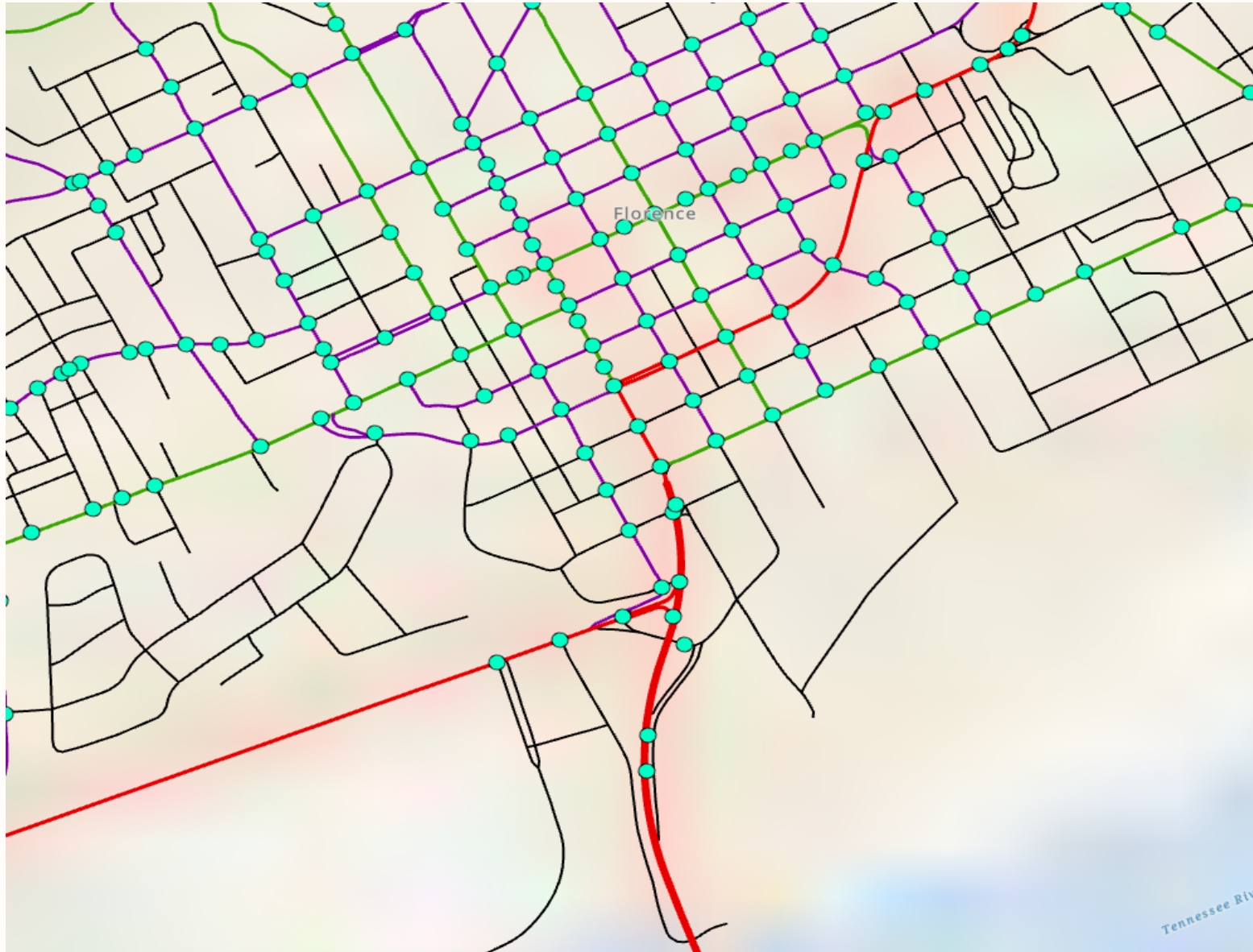
- AADT
- AADT Year
- Access Control
- BP Descriptor
- EP Descriptor
- Dir of Inventory
- Fed Aid/Route Type
- Functional Class
- Median Type

- Through Lanes
- One/Two Way Ops
- Access Control
- Rte/Street Name
- Rte Number
- Rural/Urban
- Segment ID
- Surface Type
- Gov Ownership



MIRE FDE

Non-Local Paved Roads (Intersections)



- AADT (for each intersecting road)
- AADT Year (for each intersecting road)
- Intersection Geom
- Traffic Control

- ID for Crossing 1
- ID for Crossing 2
- Approach ID
- Intersection ID
- Turn Lanes
- Lighting



Non-Local Paved Roads (Interchange/Ramp)

- Road Type at BP
- Road Type at EP
- Gov Ownership
- Interchange ID
- Ramp AADT Year



MIRE FDE

Local Paved Roads

AADT

Begin Point Segment Descriptor

End Point Segment Descriptor

Functional Class

Number of Through Lanes

Rural/Urban Designation

Segment Identifier

Surface Type

Type of Governmental Ownership

Unpaved Roads

Begin Point Segment Descriptor

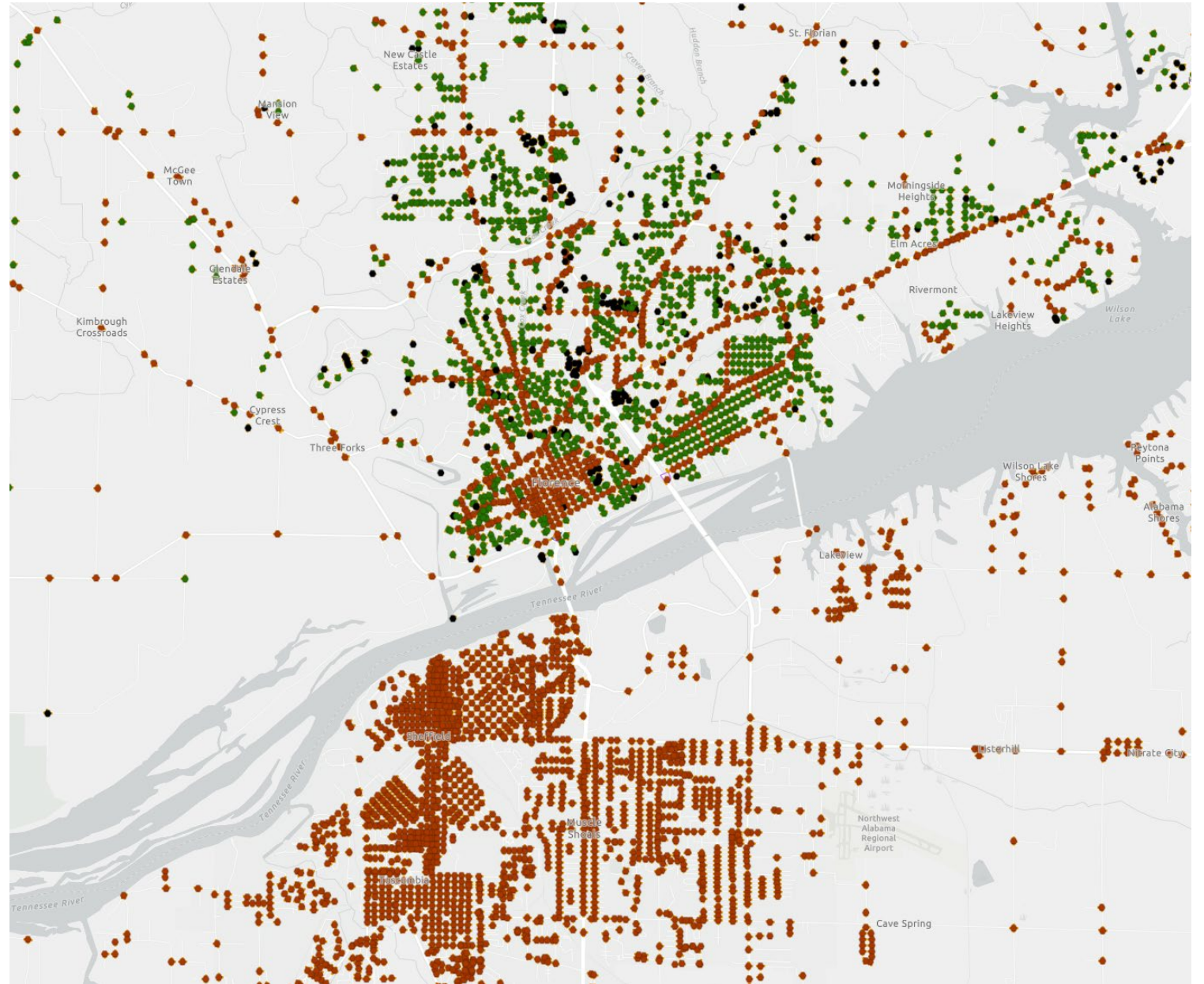
End Point Segment Descriptor

Functional Class

Segment Identifier

Type of Governmental Ownership

MIRE FDE



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Intersection

0D408D4C-F83C-4D5F-A3BD-F96D3815ACAE

Functional Class7

Place On Hold

None

Update

General Intersection Attributes

Edit Status

Complete

Type

Roadway/roadway (not...

Geometry

Cross-Intersection (four...

Offset

0

FT

Traffic Control

Two-way stop

Lighting

Yes

Save Progress

Mark Completed

Leg 1

Leg 2

Leg 3

Leg 4

A map view showing a street intersection. A vertical street labeled 'Old Orchard Rd' intersects with a horizontal street labeled 'Garrett Ln'. The intersection is marked with a black dot. The map shows surrounding buildings and a dashed line indicating a boundary or property line.

MIRE FDE

0D408D4C-F83C-4D5F-A38D-F96D3815A... x GO

Intersection

Leg 1

Leg 2 MODIFIED

Copy From Leg 1

Eliminate Leg

General Intersection Leg Attributes

Approach Mode Vehicles only or sha...

Directional Flow Two-way

Num Thru Lanes 2

LTL Type No left-turn lanes

RT Channelization None

Num Excl RTLs 0

Median Type Undivided

Traffic Control Stop sign

Transverse Rumble Strip No

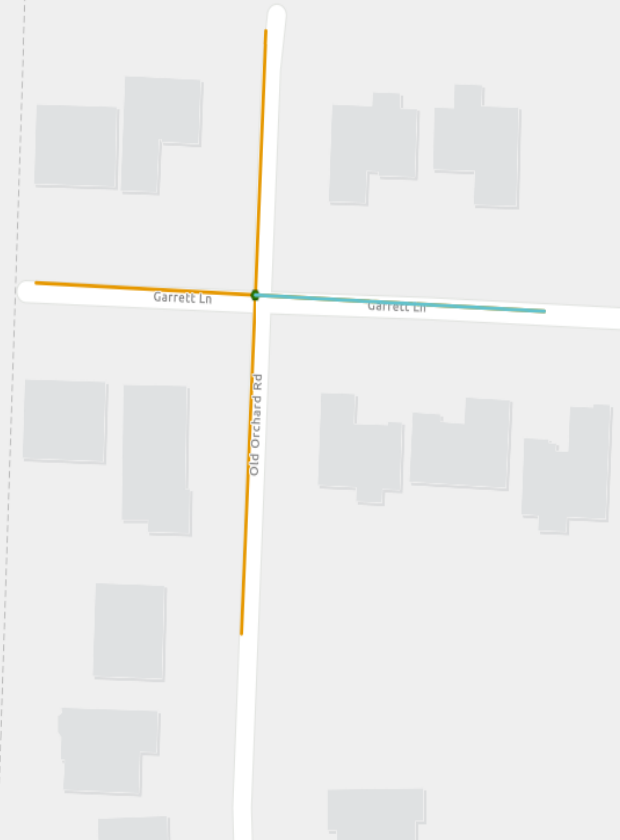
Turn Prohibition

Crosswalk Type Unmarked crosswalk

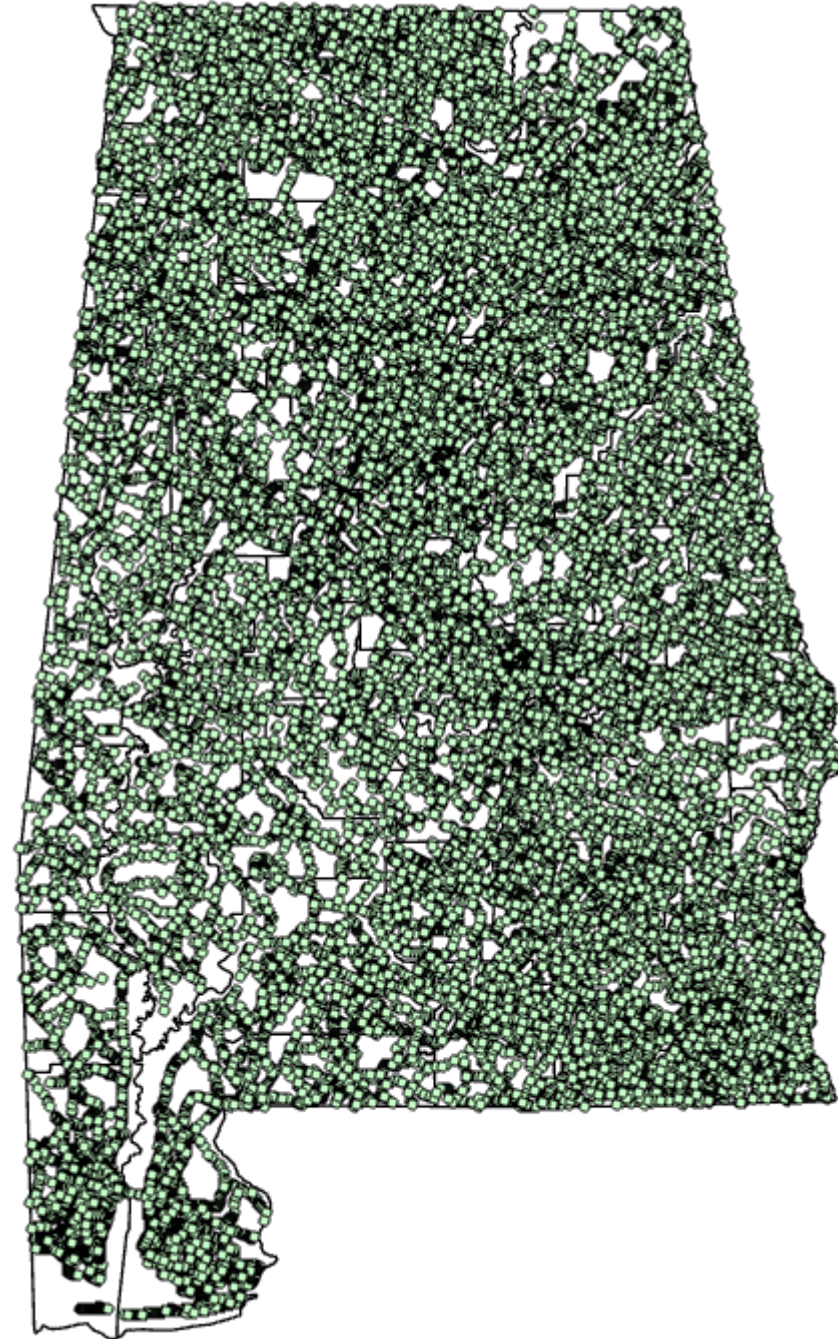
Save Leg 2

Leg 3

Leg 4



MIRE FDE





MIRE FDE

94% Completion



THE UNIVERSITY OF ALABAMA

College of
Engineering
Center for Advanced Public Safety



cyclomedia



U.S. Department
of Transportation

Federal Highway
Administration

toXcel



Moving Forward with MIRE



Advanced Analytics

Enabling sophisticated crash prediction models



Better Countermeasures

Developing targeted safety improvements



Optimized Resources

Allocating safety funds more effectively



Lives Saved

Reducing crashes through data-driven decisions



Points of Contact

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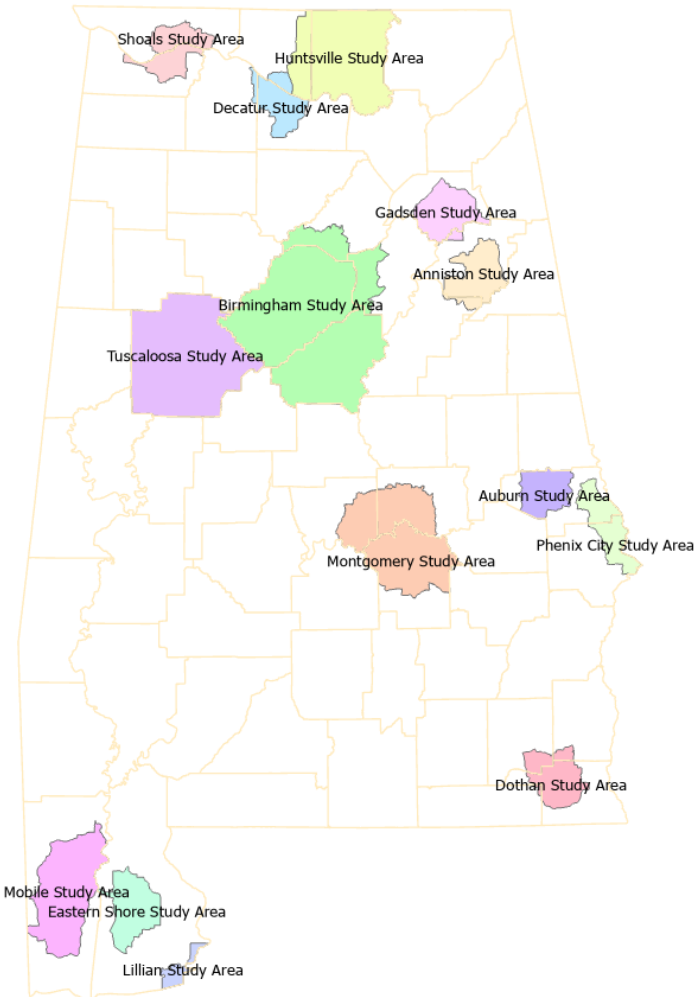
W Cell (334)399-1608

grantd@dot.state.al.us



Point and Linear Shapefiles

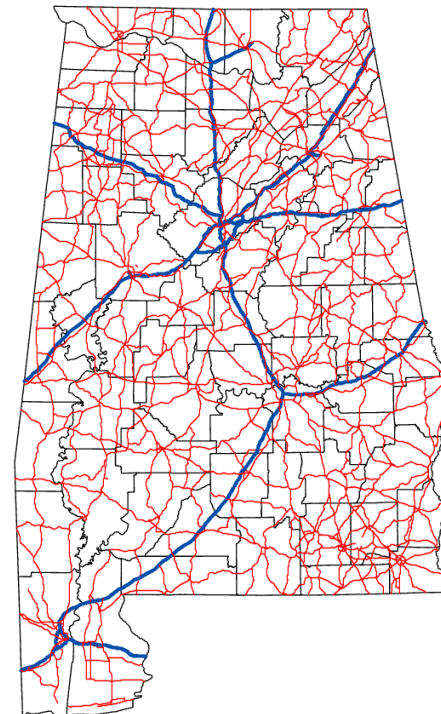
Metropolitan Planning Organizations



County



Statewide



Regions

- North
- East Central
- West Central
- Southeast
- Southwest

Planning Councils and Commissions

- Alabama-Tombigbee Regional Commission
- Central Alabama Regional Planning and Development Commission
- East Alabama Regional Planning and Development Commission
- Lee-Russell Council of Governments
- North-central Alabama Regional Council of Governments
- Northwest Alabama Regional Council
- Regional Planning Commission of Greater Birmingham
- South Alabama Regional Planning Commission
- South Central Alabama Development Commission
- Southeast Alabama Regional Planning And Development Commission
- Top of Alabama Regional Council of Governments
- West Alabama Regional Commission