HAZARDOUS MATERIALS COMMODITY FLOW STUDIES

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Hanover, IN

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Purpose

To Identify types and amounts of hazardous materials moving through a geographic area.

Why do a flow study?

Identify commodities, i.e., threats
Match response capability to threat
Route traffic
Identify training needs
Identify equipment needs
Allocate resources
Reduce likelihood of release
Improve compliance
Increase enforcement

TO IMPROVE PUBLIC SAFETY

A FLOW STUDY IS BASIC,
FUNDAMENTAL
HAZARDOUS MATERIALS
EMERGENCY PLANNING

(Exactly what LEPCs are supposed to do.)

How to start:

Identify reasons (what will you do with results)
Identify modes (highway, rail, water, air)
Identify routes, observation times
Identify methodology

METHODOLOGY

- Placard survey
- Shipping Papers
- Site visits
- Questionnaires
- Interviews

METHODOLOGY FOR HIGHWAYS

- What type of truck?
- What counts and what doesn't?
- Placards and UN numbers
- How to record data?
- Safety

DOT HAZARDOUS MATERIALS CLASSES

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- CLASS 1: EXPLOSIVES

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- CLASS 6: POISONS
- CLASS 7: RADIOACTIVE

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- CLASS 7: RADIOACTIVE
- CLASS 8: CORROSIVES

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- CLASS 6: POISONS
- CLASS 7: RADIOACTIVE
- CLASS 8: CORROSIVES
- CLASS 9: MISCELLANEOUS

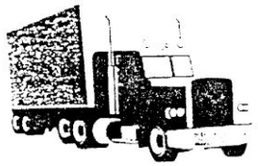
Wednesday, August 17, 2011

Wednesday, August 17, 2011


1-4
HELENA
US DOT 086873

Wednesday, August 17, 2011


AmeriGas

	Segment No.: Segment Desc.: Date: Time: AM/PM to AM/PM Observer:
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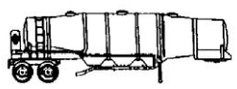
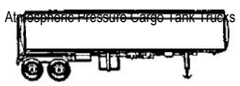
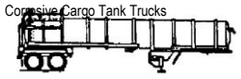
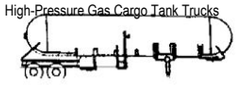
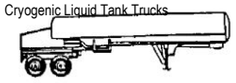
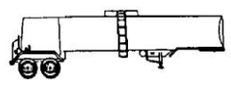
Pneumatically Off-Loaded Hopper Trailers 	red & white stripes
MC-306/DOT-406 Atmospheric Pressure Cargo Tank Trucks 	white over red
MC-307/DOT-407 Low-Pressure Chemical Cargo Tank Trucks 	blue
MC-312/DOT-412 Corrosive Cargo Tank Trucks 	yellow
MC-331 High-Pressure Gas Cargo Tank Trucks 	white
MC-338 Cryogenic Liquid Tank Trucks 	yellow over white
Compressed Gas Trailer 	white over black
Molten Sulfur Cargo Tank 	black & white stripes
	red white red

RECENT INDIANA STUDIES

- Jefferson
- Ripley
- Wabash
- Hamilton
- Elkhart

TYPICAL RESULTS

- 5% of commercial traffic is hazmat
- Normal distribution curves
- Class 3 wins, followed by 2 and 8
- Surprises every time
- Hazmat is everywhere in your county
- The other classes are present, too!

TRAFFIC VOLUME
(trucks per hour)

- Rural County Road - 5 to 10
- Rural State Highway - 15 to 45
- Urban State Highway - 50 to 70
- Rural Interstate - 160 to 180 (two lanes, one way)
- Urban Interstate - 250 + (two lanes, one way)

	Jeff	Wab	Rip	Ham	Elk
TPH	23	44	42	102	103
%HM	5.56	4.2	4.81	5.1	4.62
1	1.25	0	0.36	0.58	0.21
2	45.54	9.4	9.72	21.52	23.47
3	25.04	65.82	53.35	54.85	46.47
4	0	0.77	0.5	1.15	1.63
5	10.8	3.57	3.82	4.3	5.53
6	0.3	4.85	1.8	1.0	1.26
7	0	0	0.07	0.08	0.11
8	13.77	7.4	14.97	8.94	16.74
9	3.29	8.16	15.41	7.59	4.58

Common Commodities

(not unexpected)

- Gasoline
- Liquified Petroleum Gas (Propane)
- Denatured Alcohol
- Ethanol
- Oxygen
- Nitrogen
- Sodium Hydroxide

Specific Placards
(surprise)

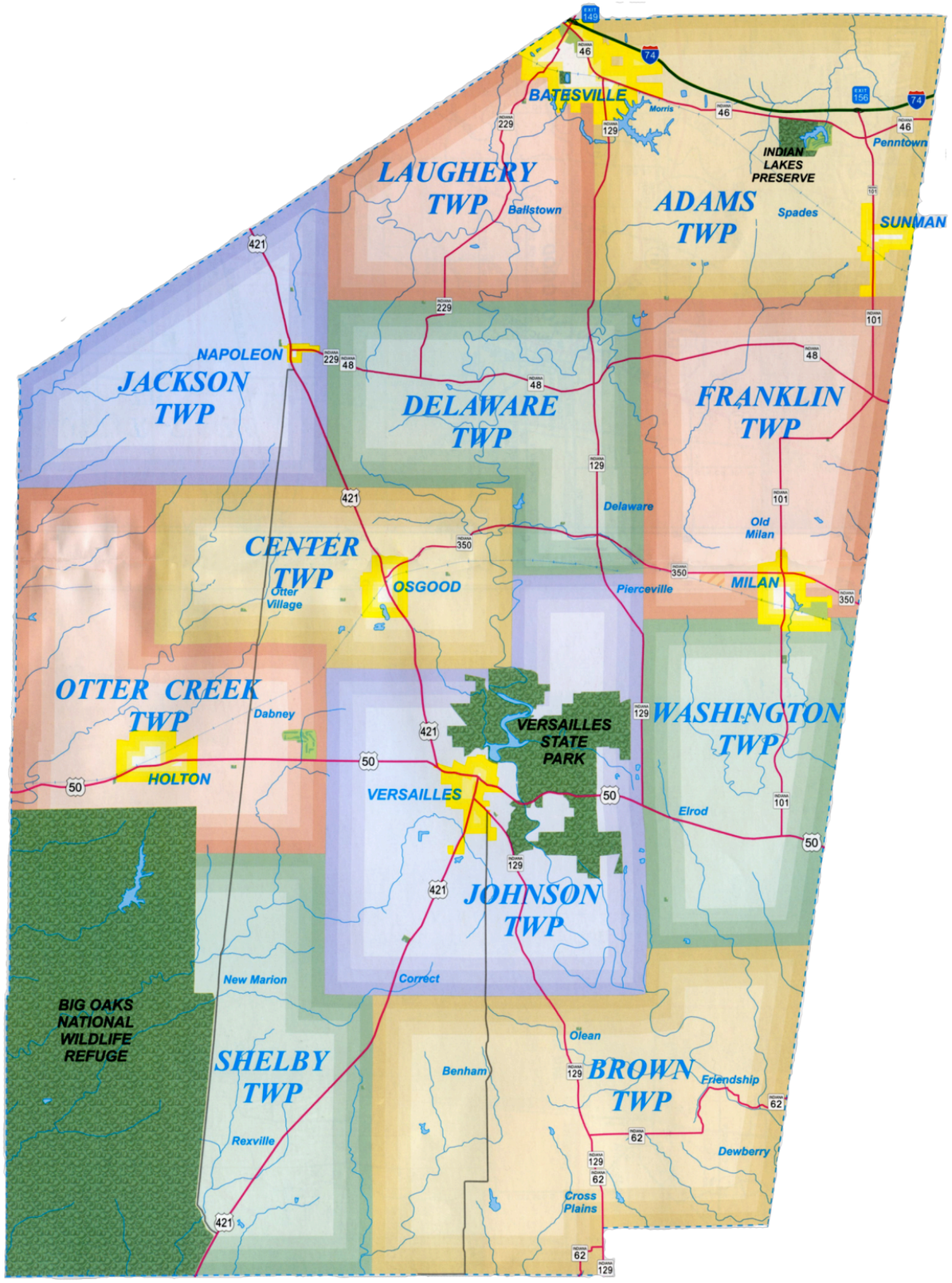
- Jefferson - 32
- Wabash - 52
- Ripley - 105
- Hamilton - 119
- Elkhart - 136

Hot Stuff

- Use data to identify unusual materials
- 2192 - Germane (Class 6)
- 2810 - Sarin (Class 6)
- 1384 - Sodium Hydrosulfite (Class 4)
- 2078 - Toluene Diisocyanate (Class 6)

Hot Spots

- Trucks per hour and HazMat % tell the story
- Compare data with other spots in County
- Ripley, Hamilton, Elkhart examples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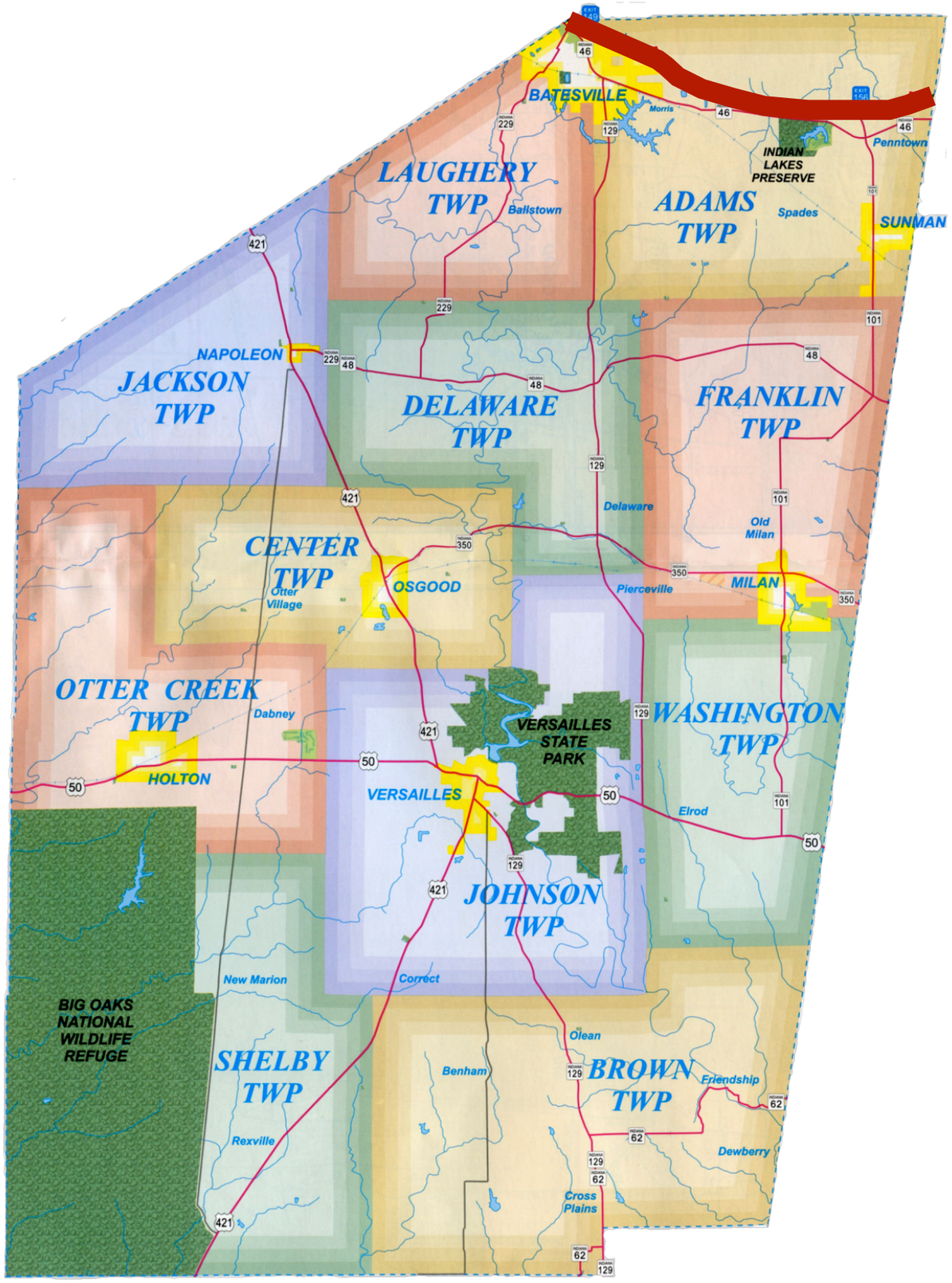
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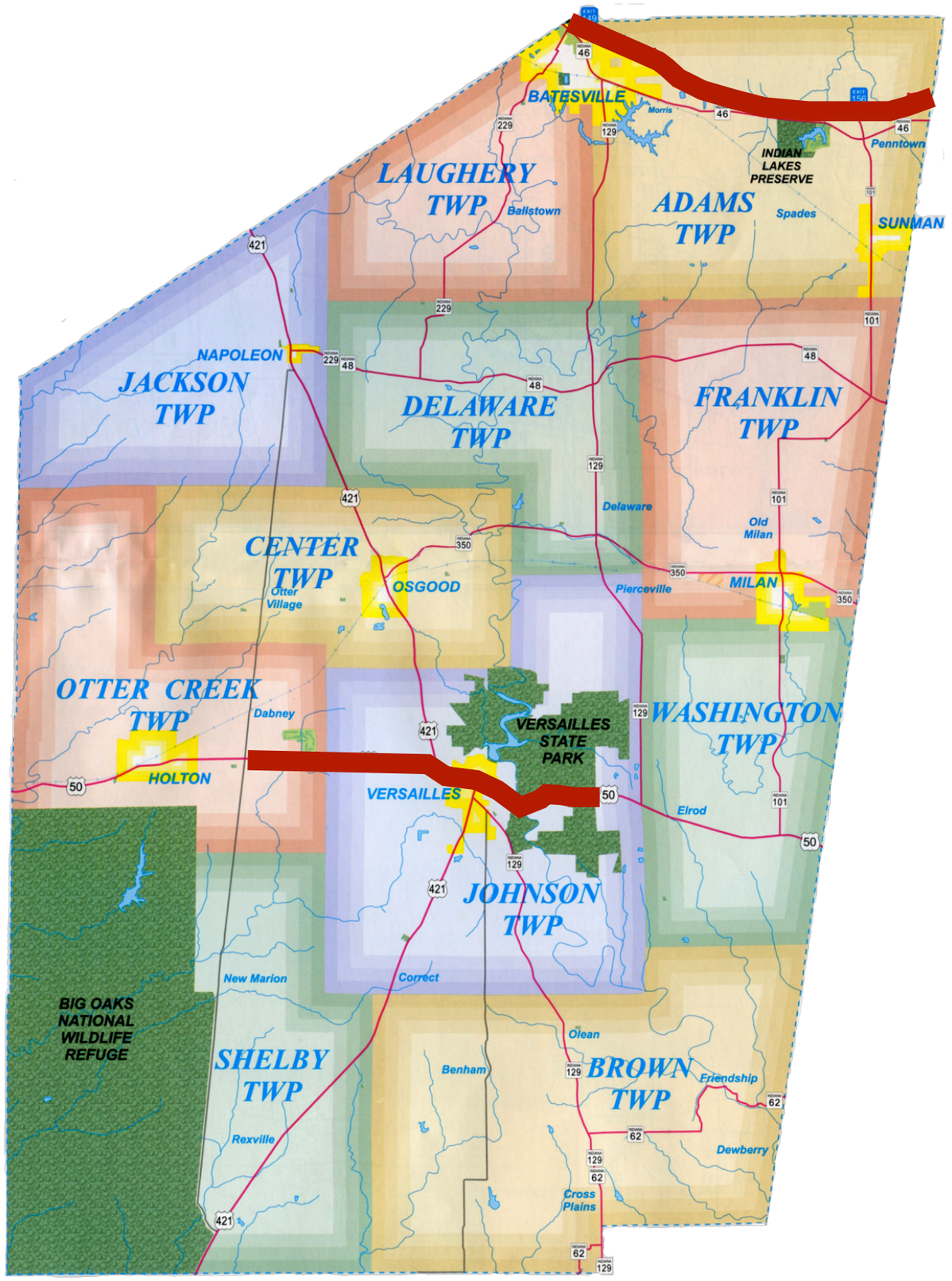
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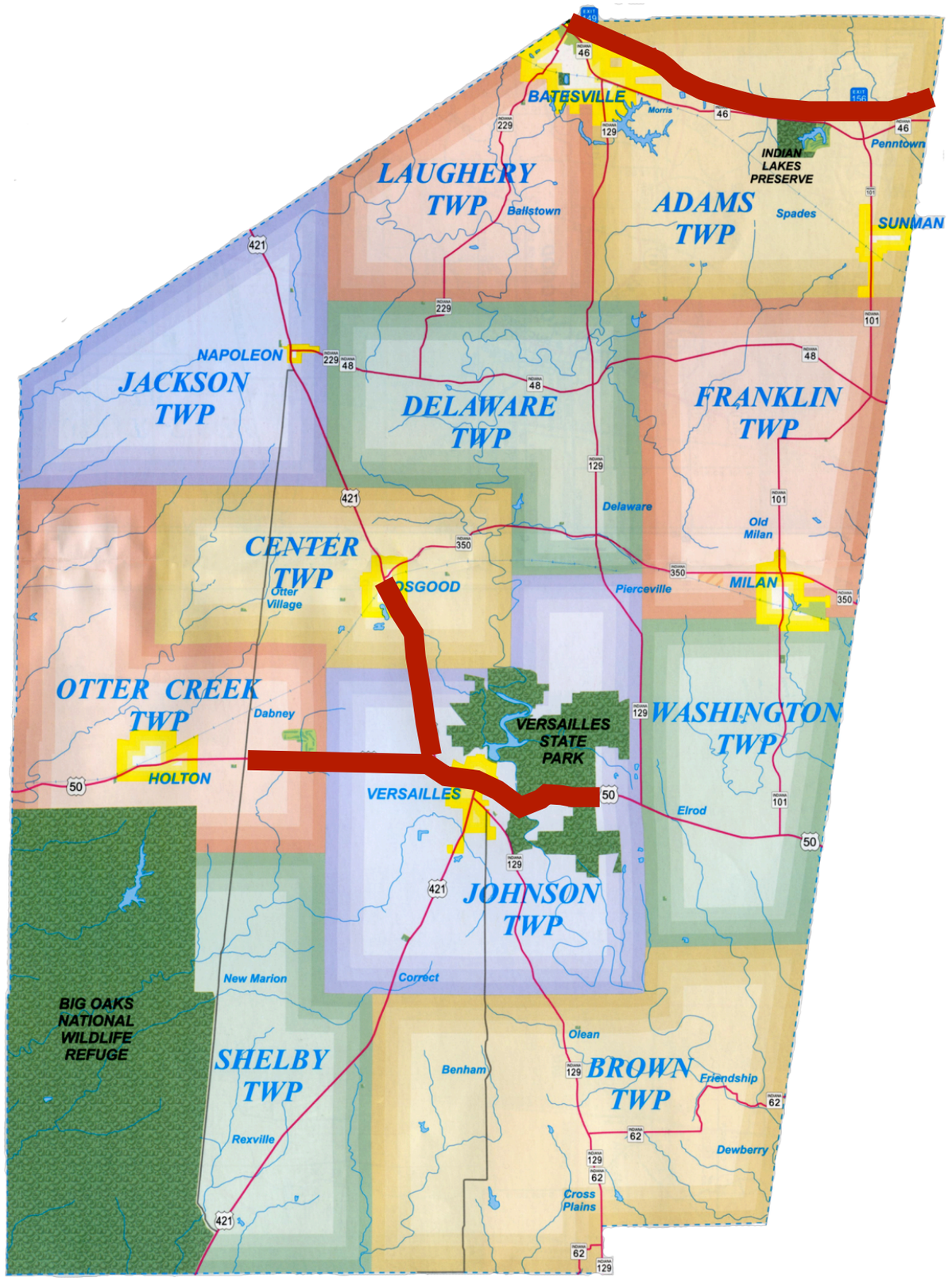
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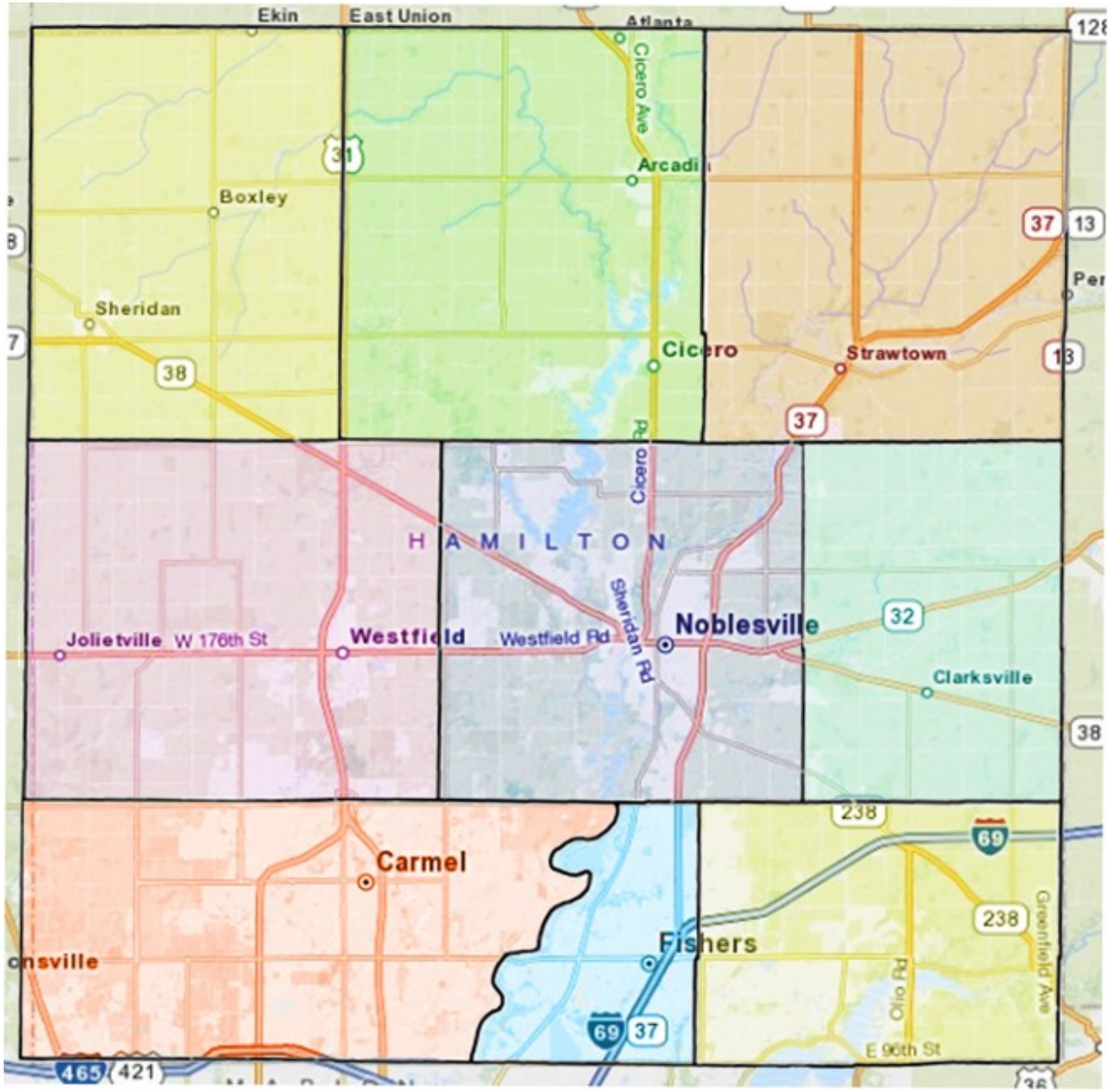
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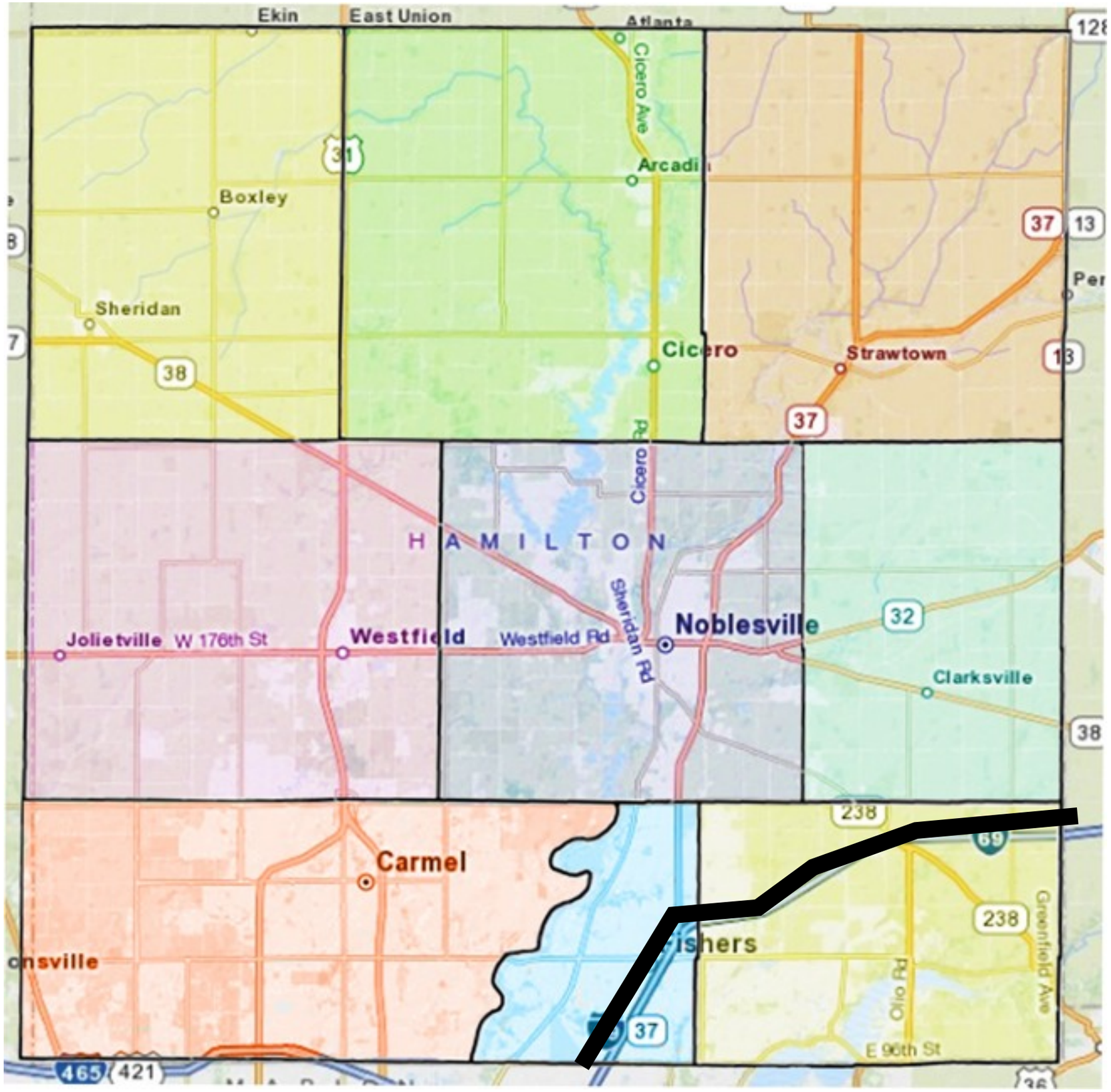
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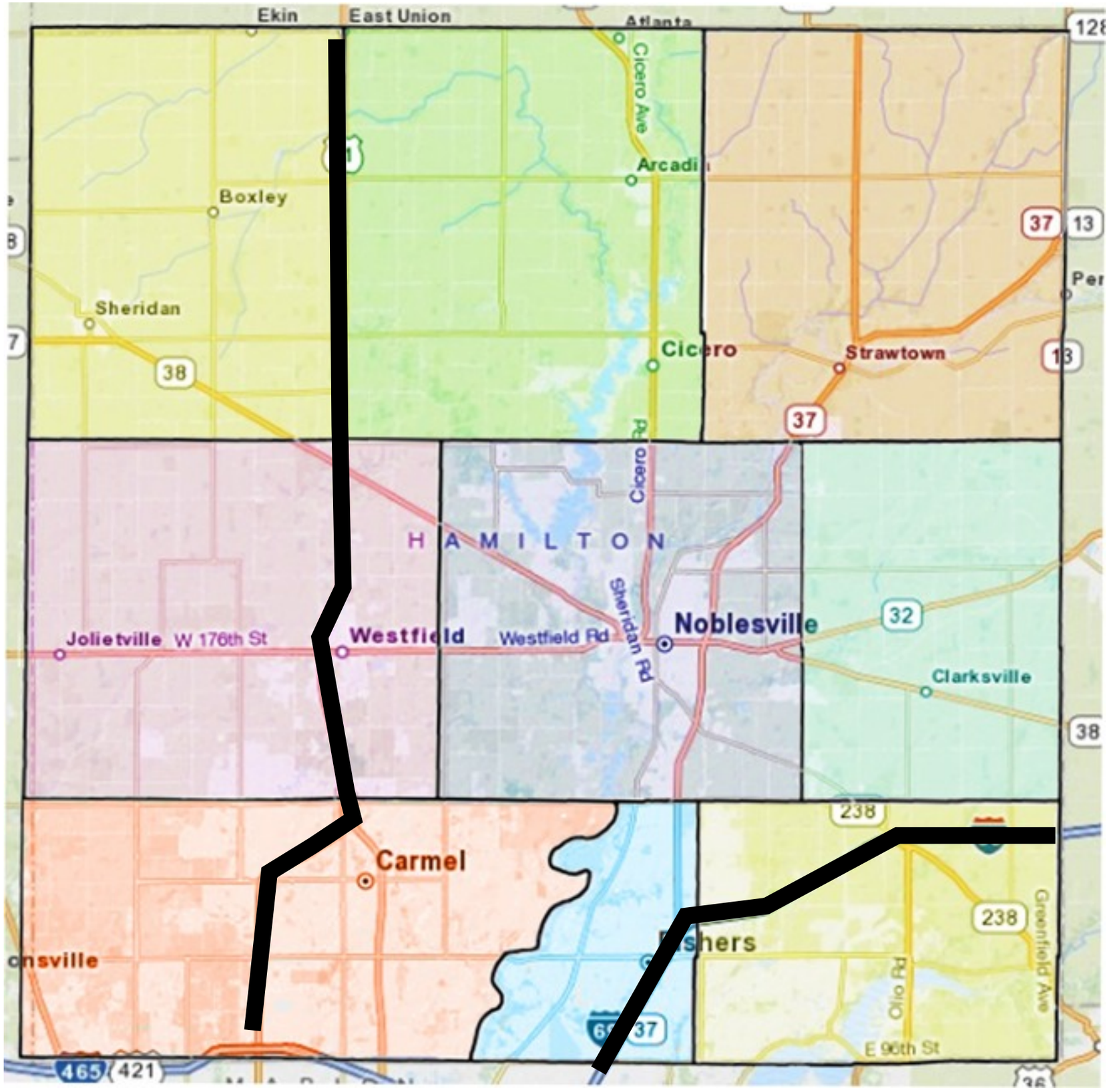
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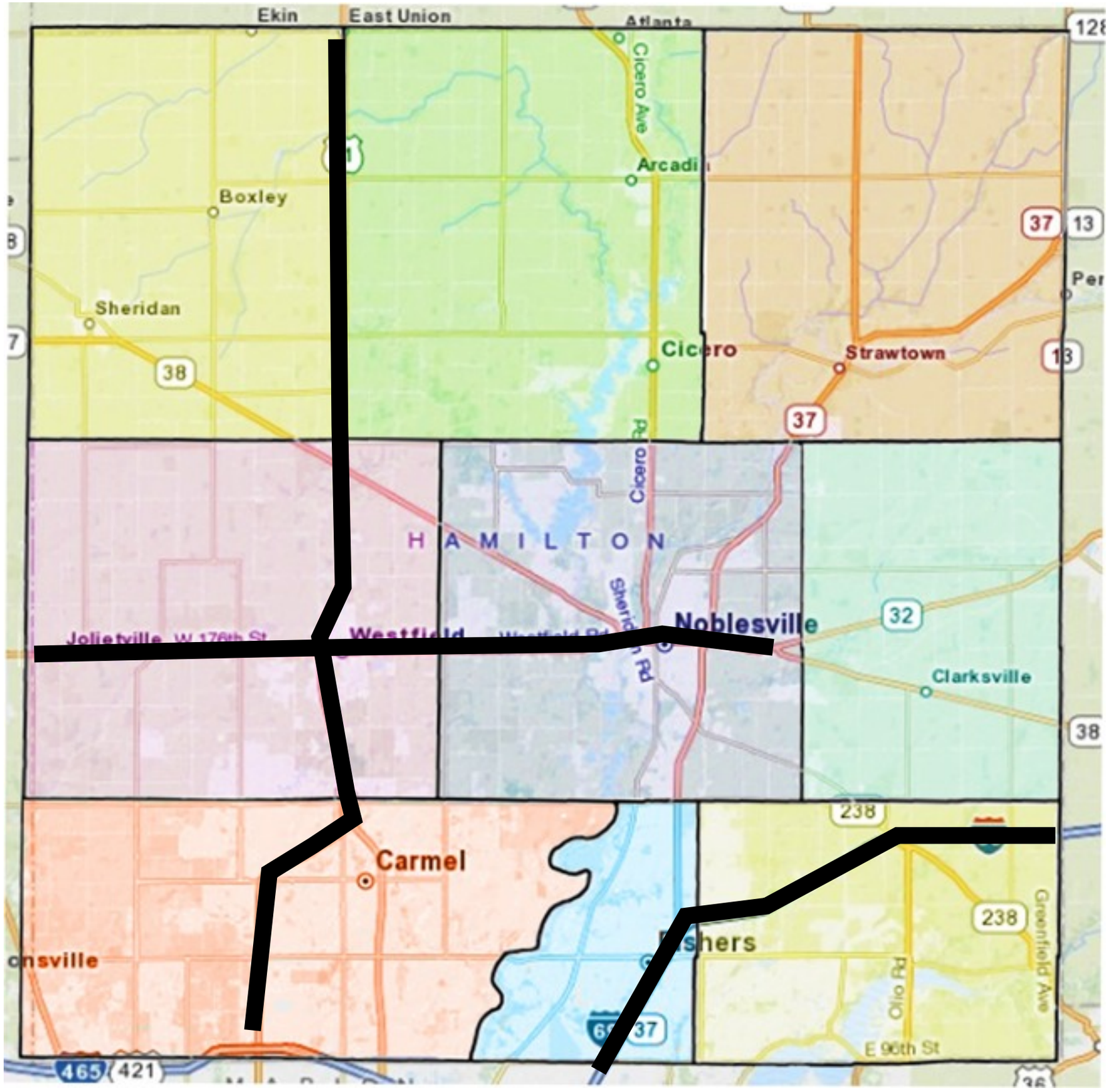
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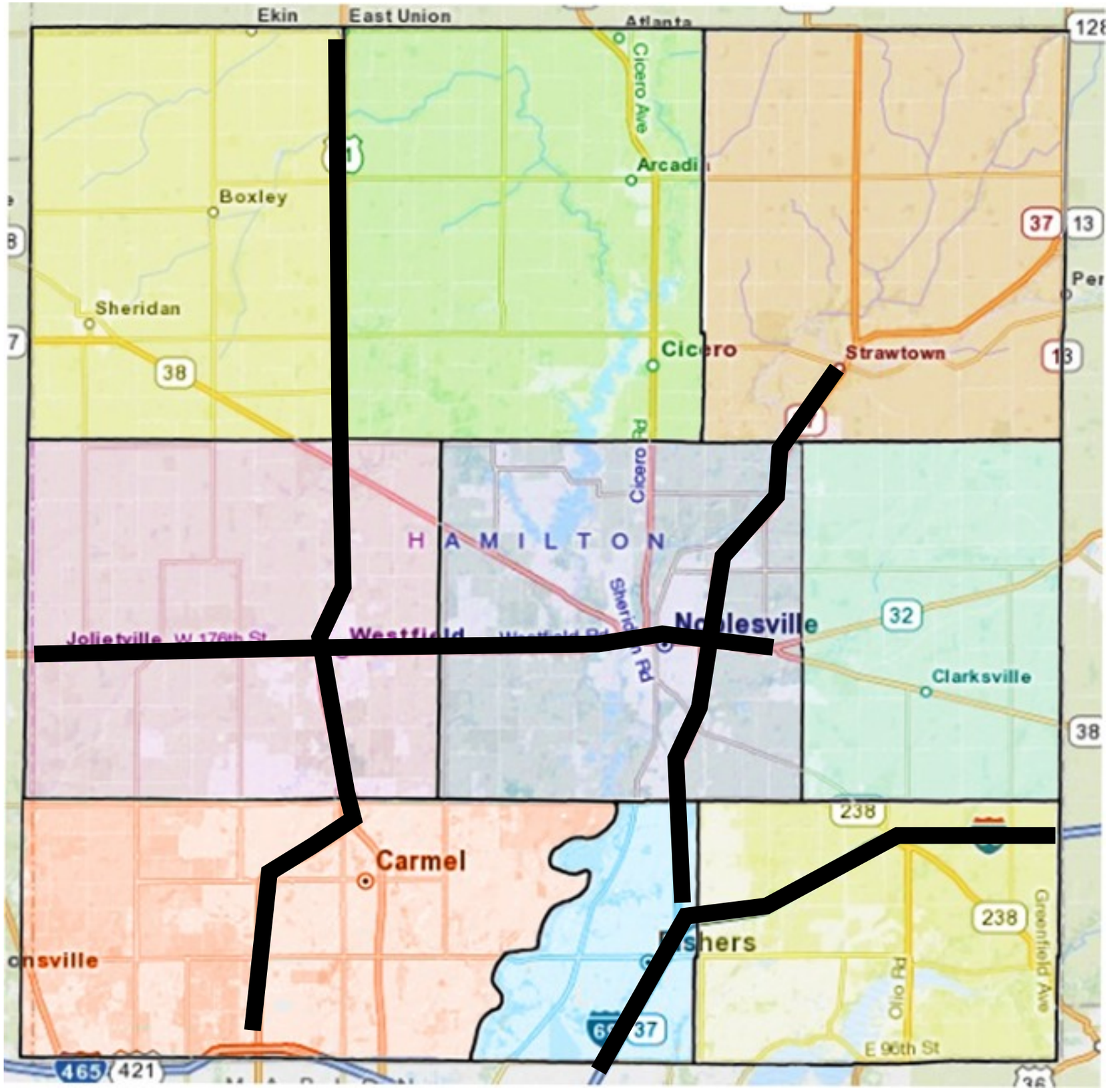
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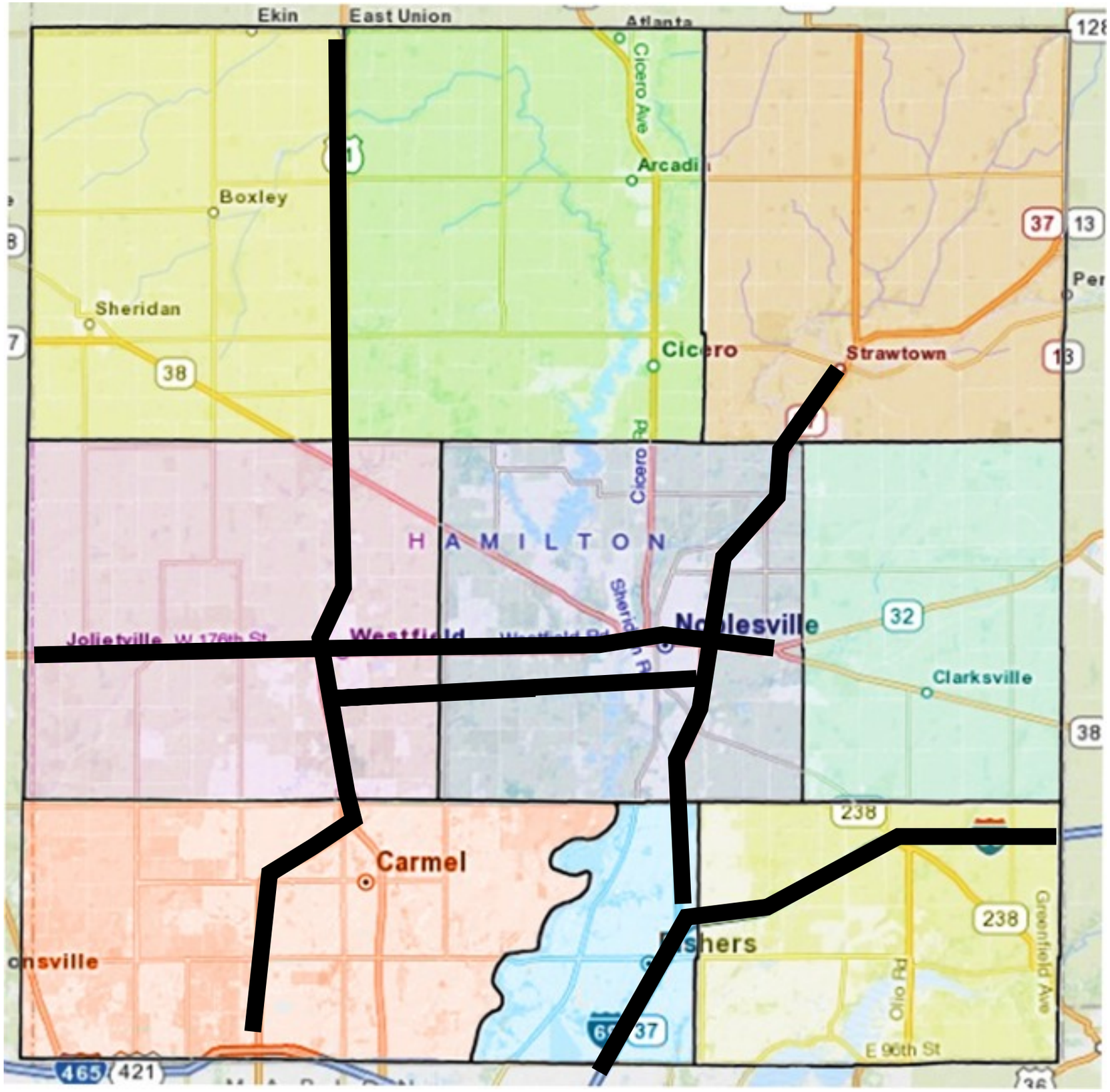
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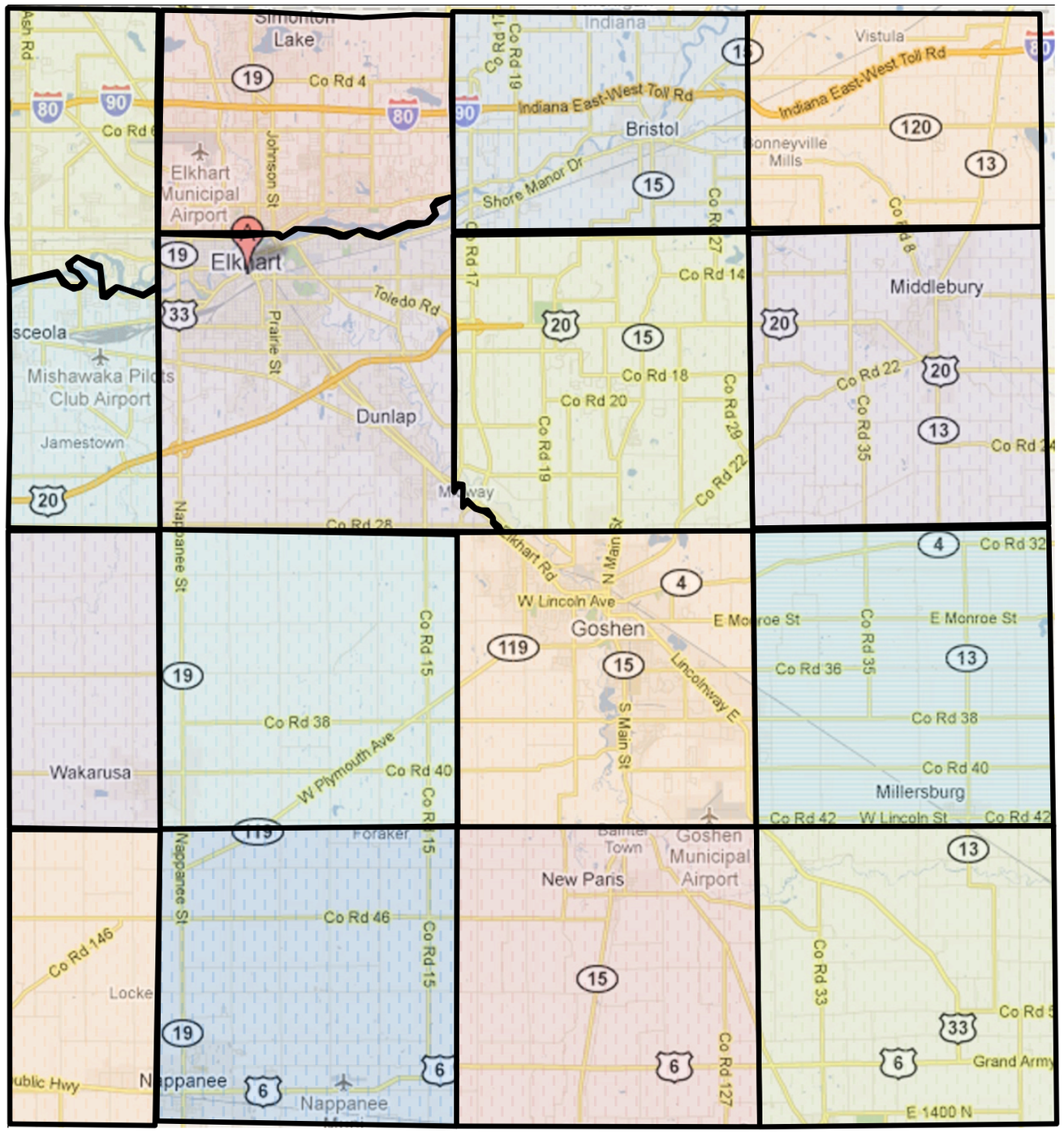
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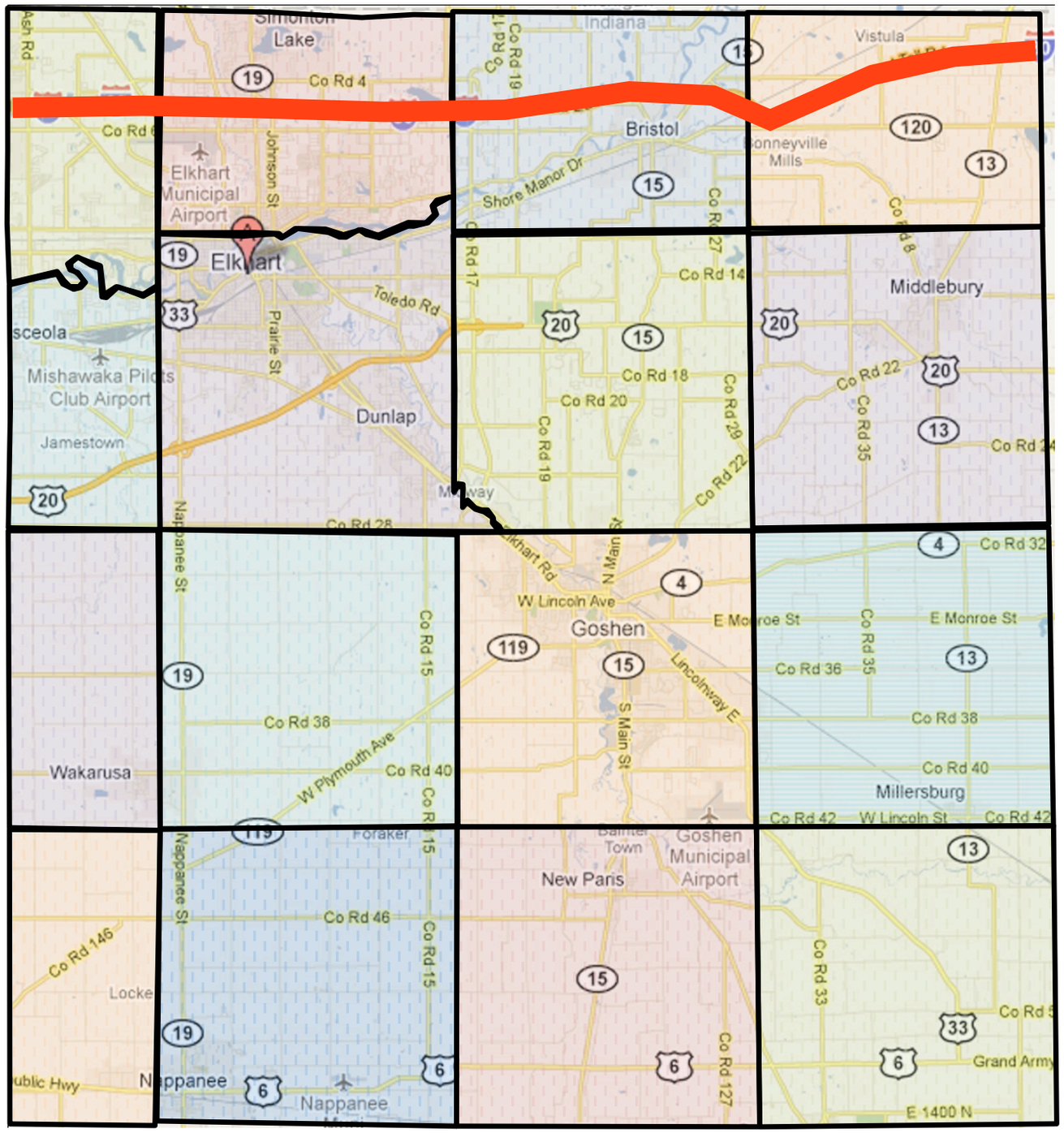
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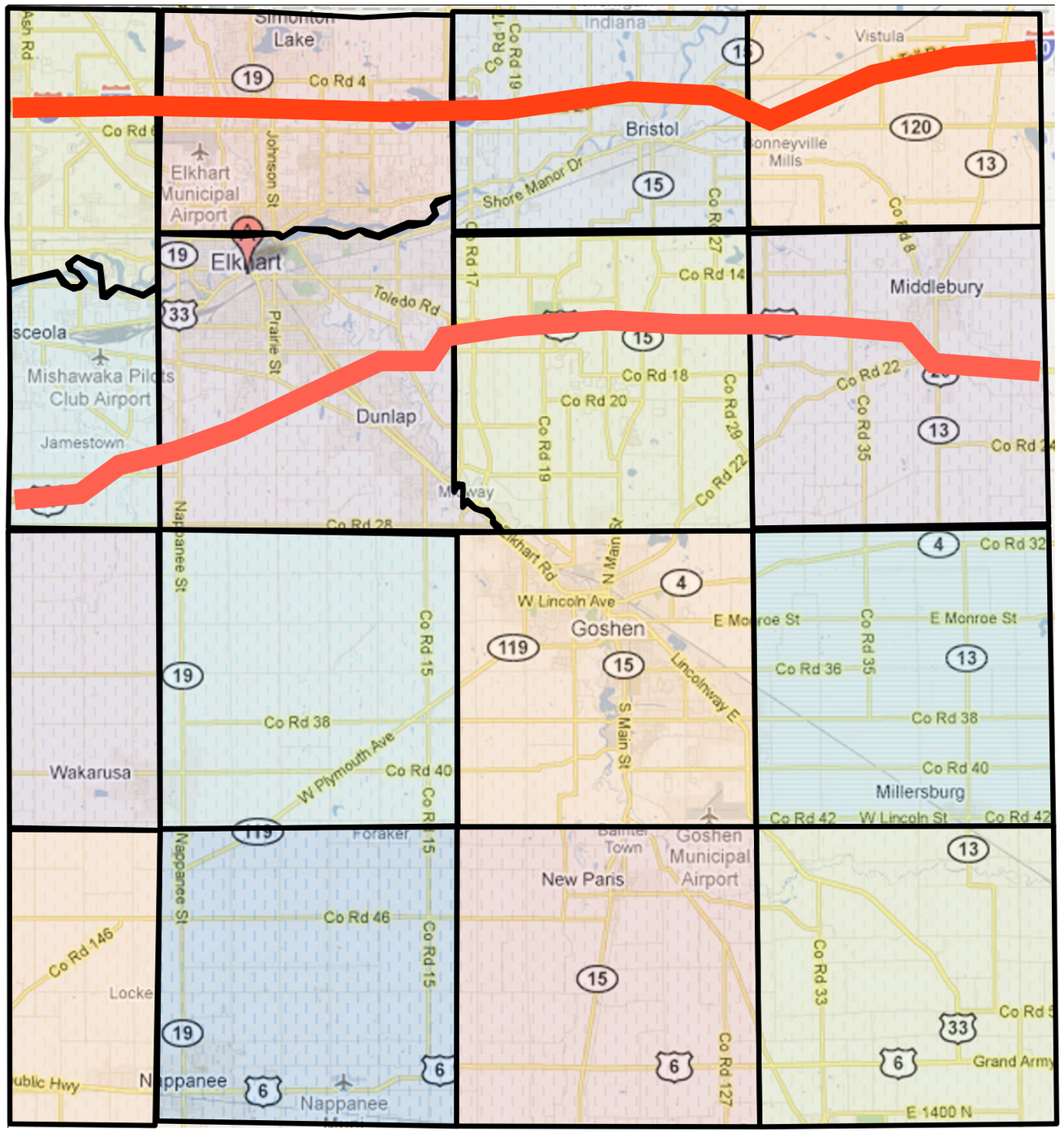
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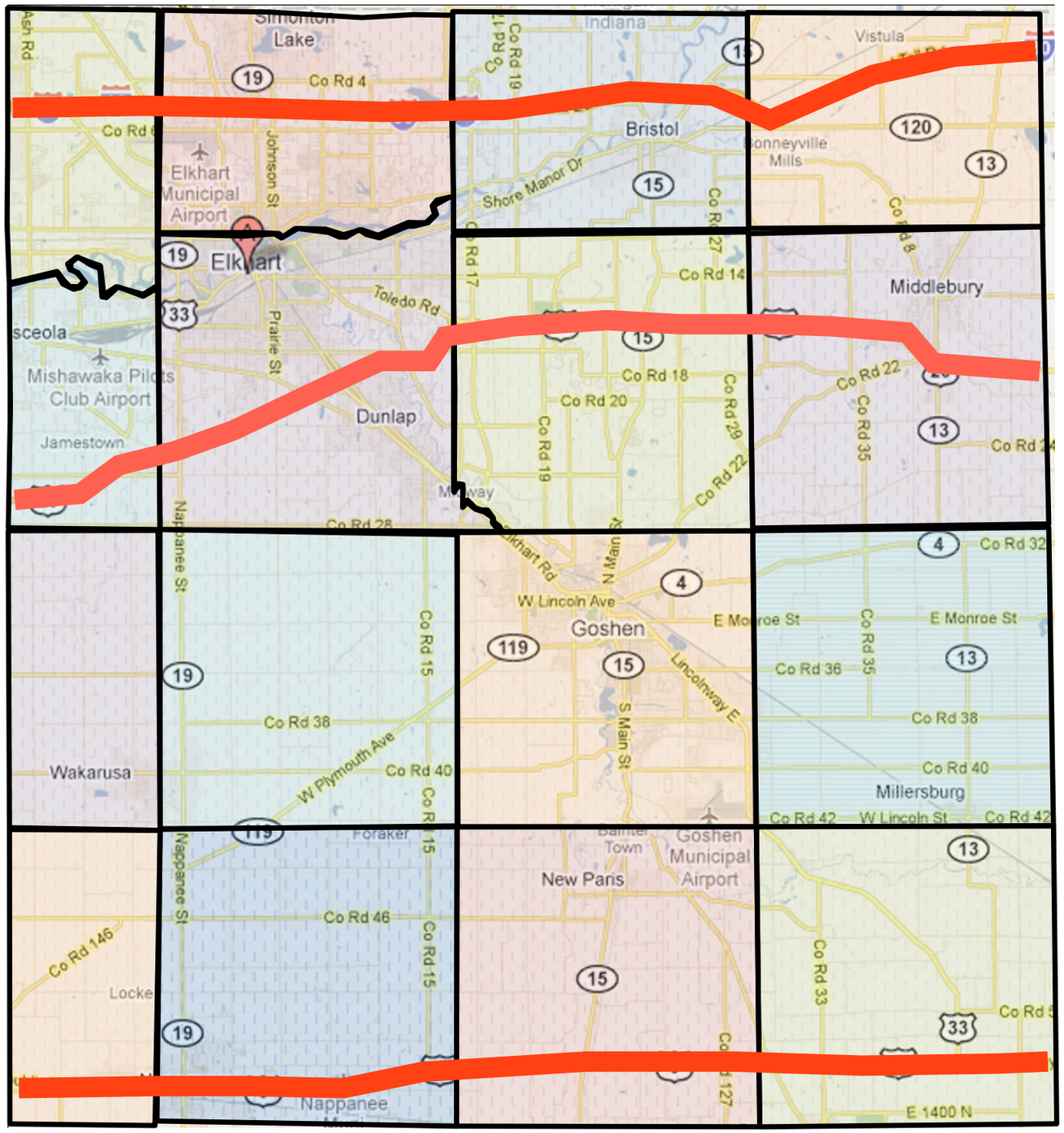
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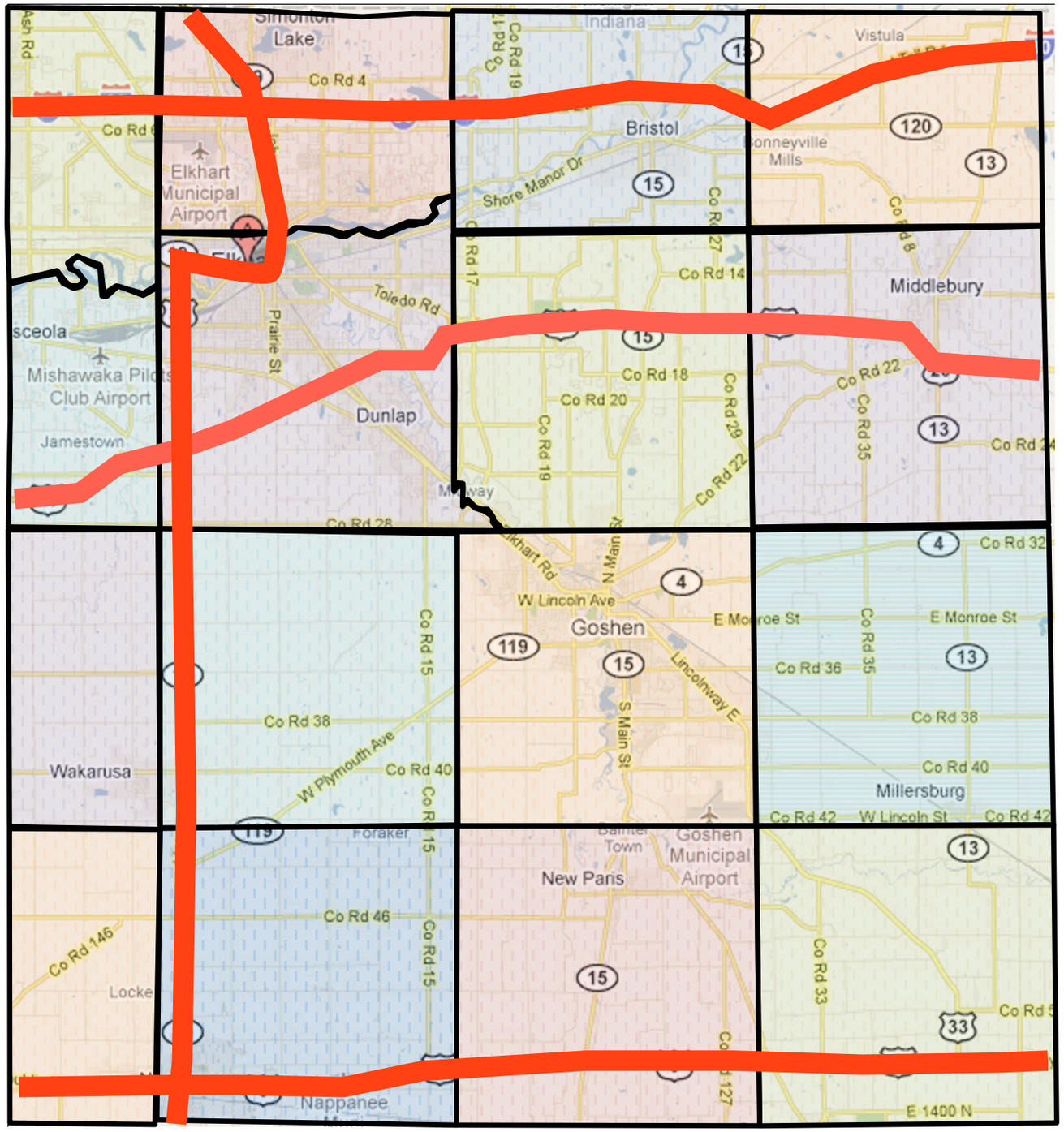
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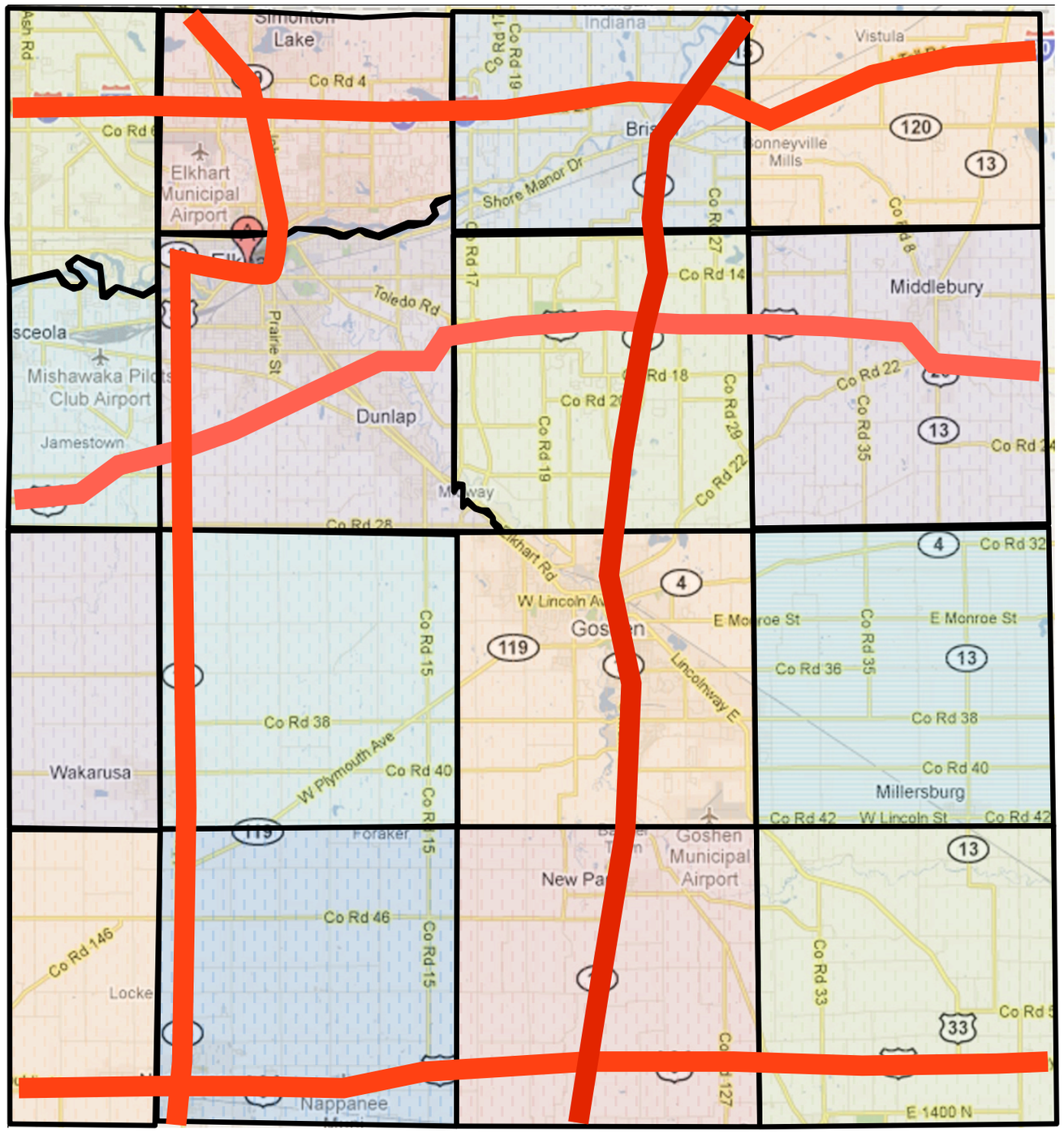
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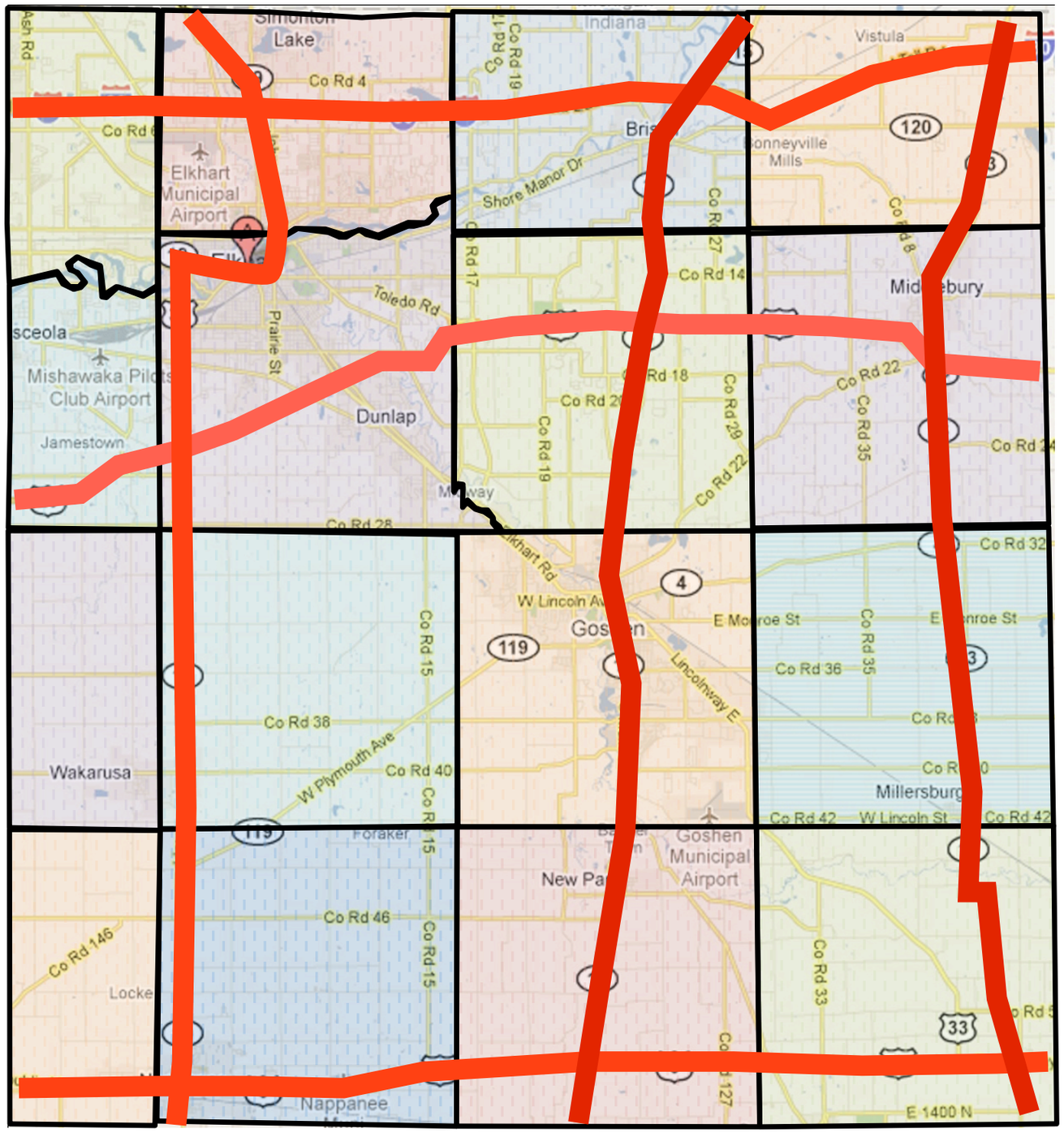
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Co Rd 17
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Dunlap
Jamestown
Mishawaka Pilots Club Airport
Co Rd 32
Elkhart Rd
W Lincoln Ave
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Co Rd 15
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Lincolnway E
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Wakarusa
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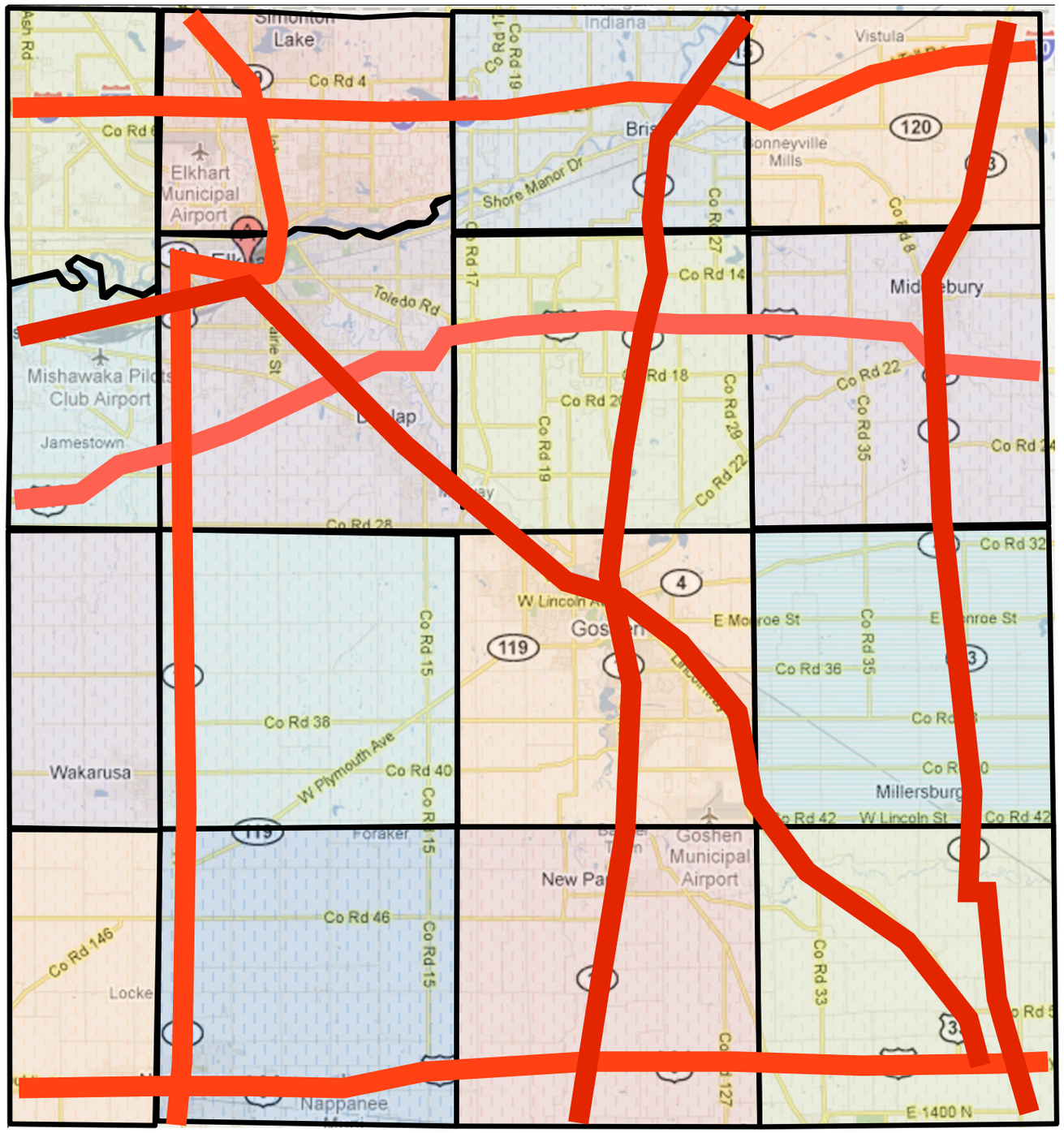
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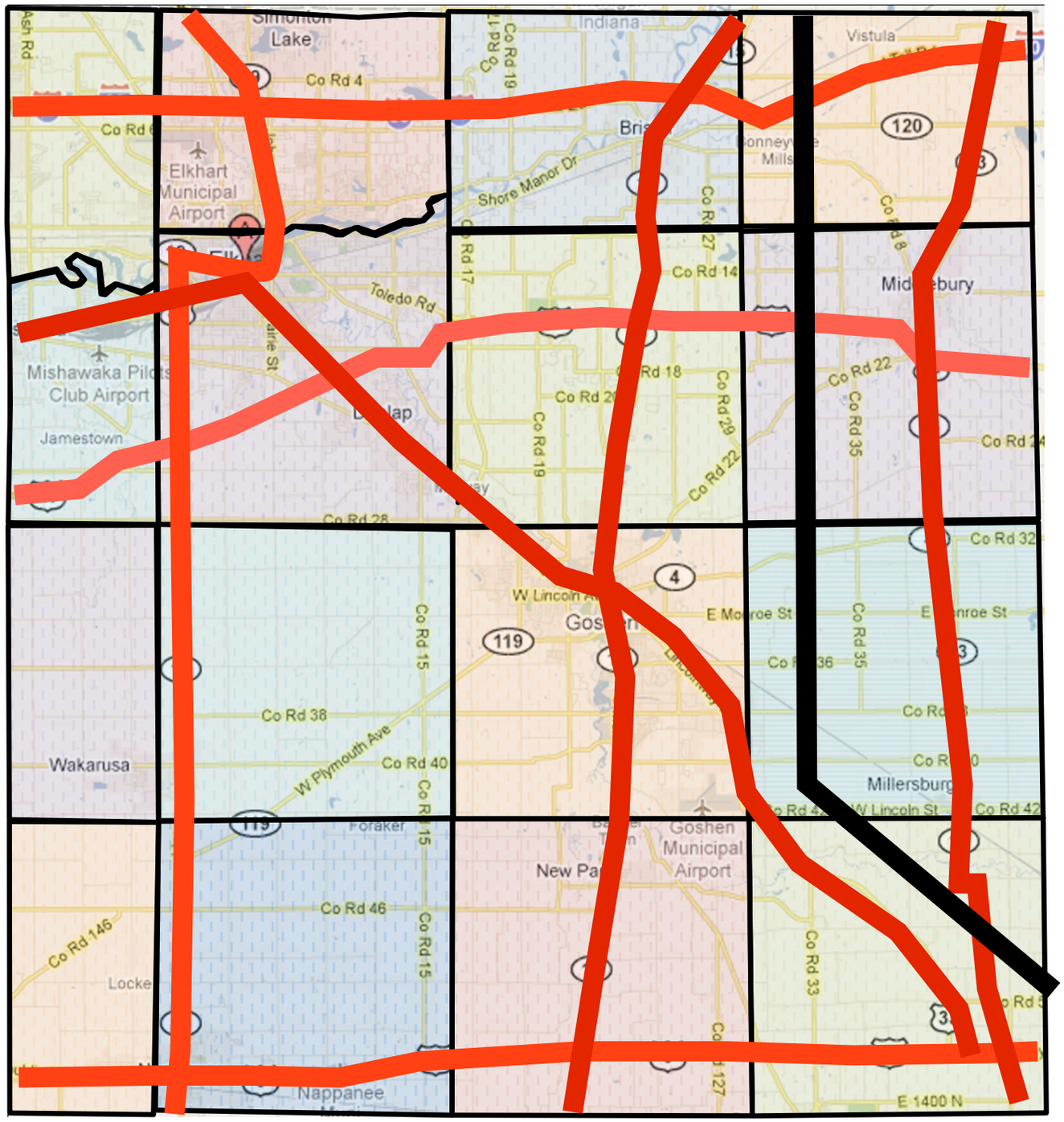
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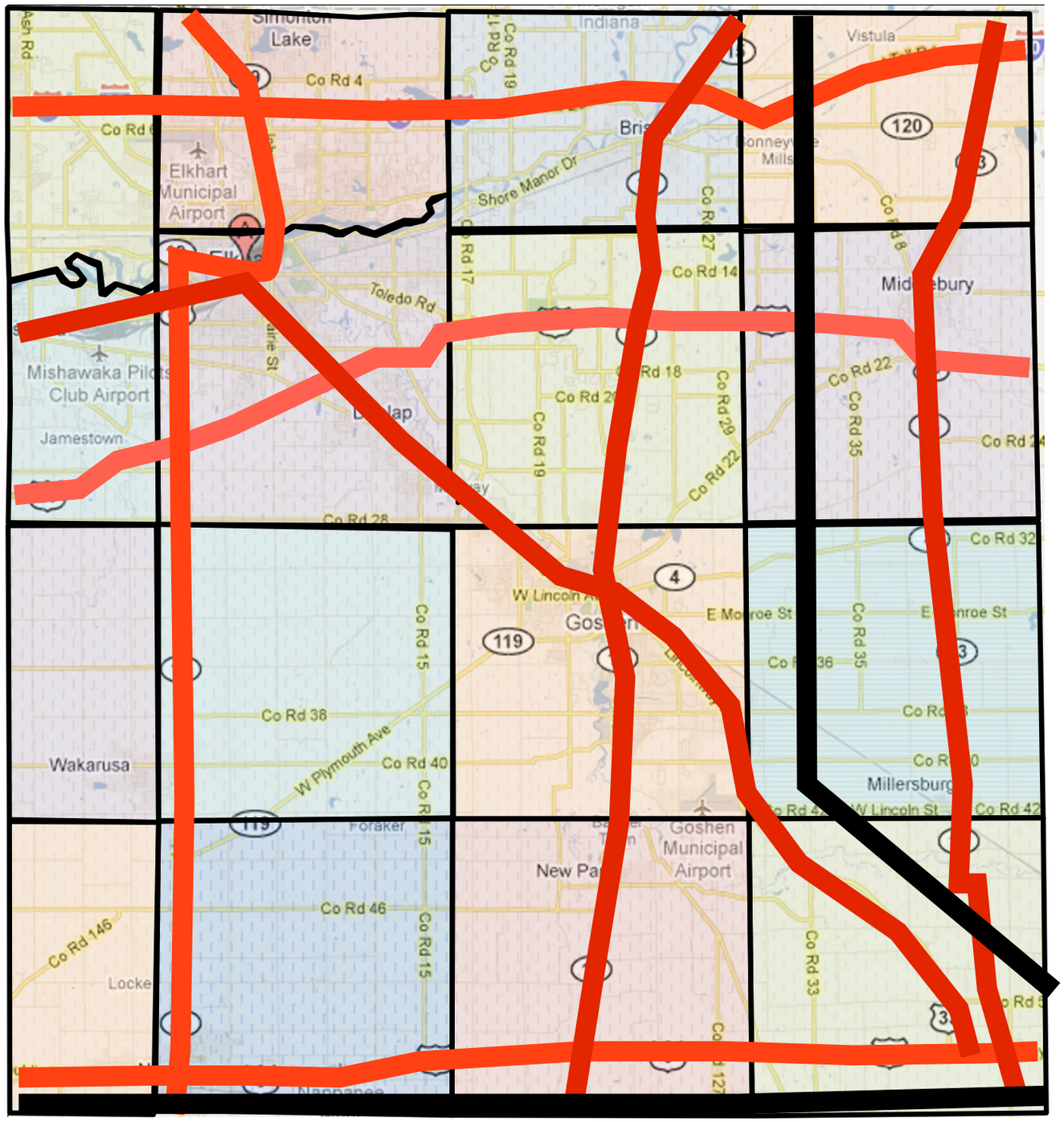
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Locke
Co Rd 33

HazMat Density

- Use CAMEO/ALOHA and Census data.
- What population is affected by a serious hazmat incident?
- Plot plume lengths along high risk roadways.
- Read ‘em and weep...

A few words about Trains

- Ask them, they will tell you
  - CSX: Tom Murta, 904-359-3774
  - NS: D.L. Schoendorfer, 582-981-3595
- Government officials get best results
- Exotic stuff in large quantities

QUESTIONS or PROJECTS? CALL ME!

- SAM GEORGE
- 812 701 9641
- SAMGEORGELLC@GMAIL.COM