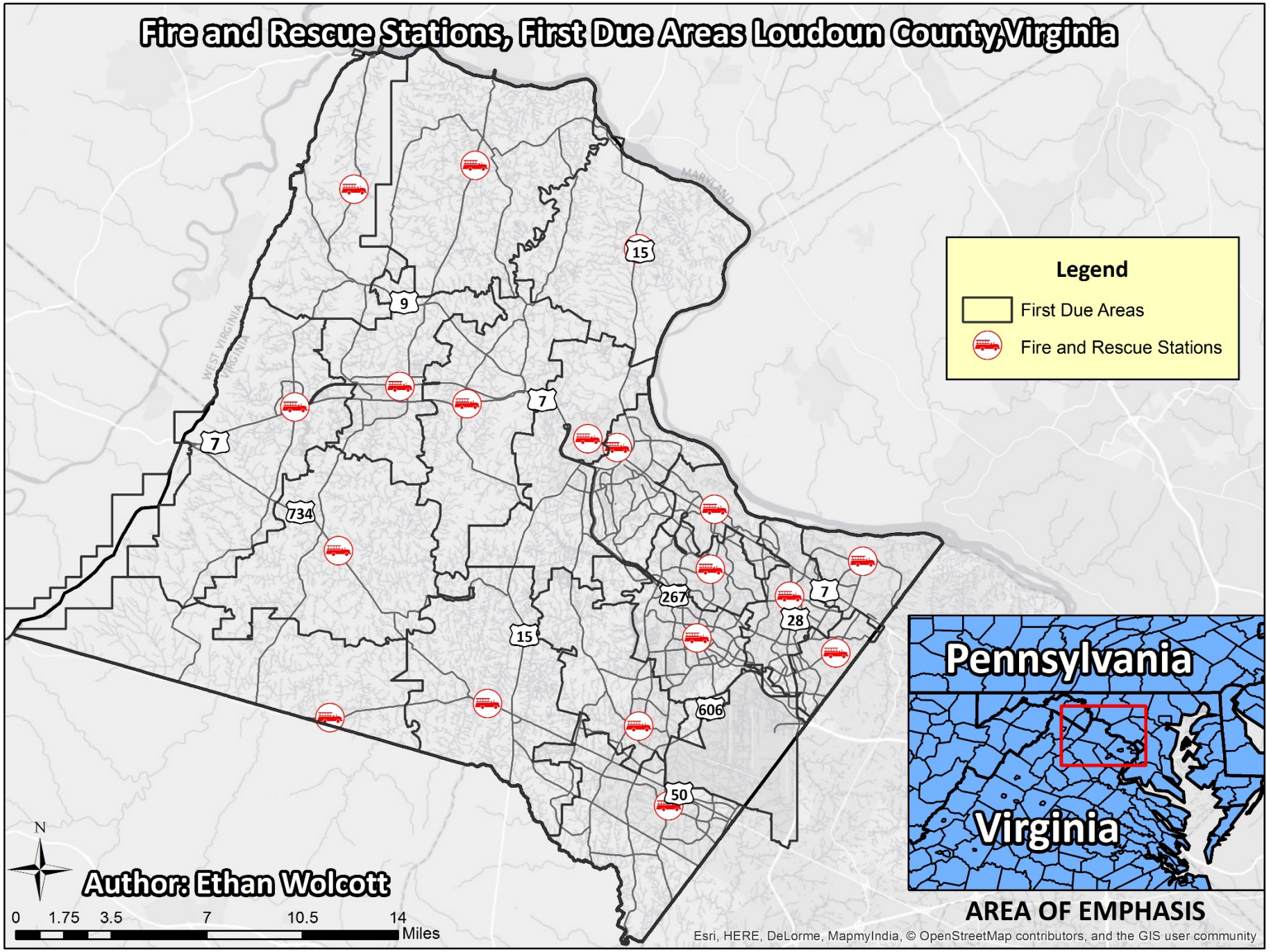
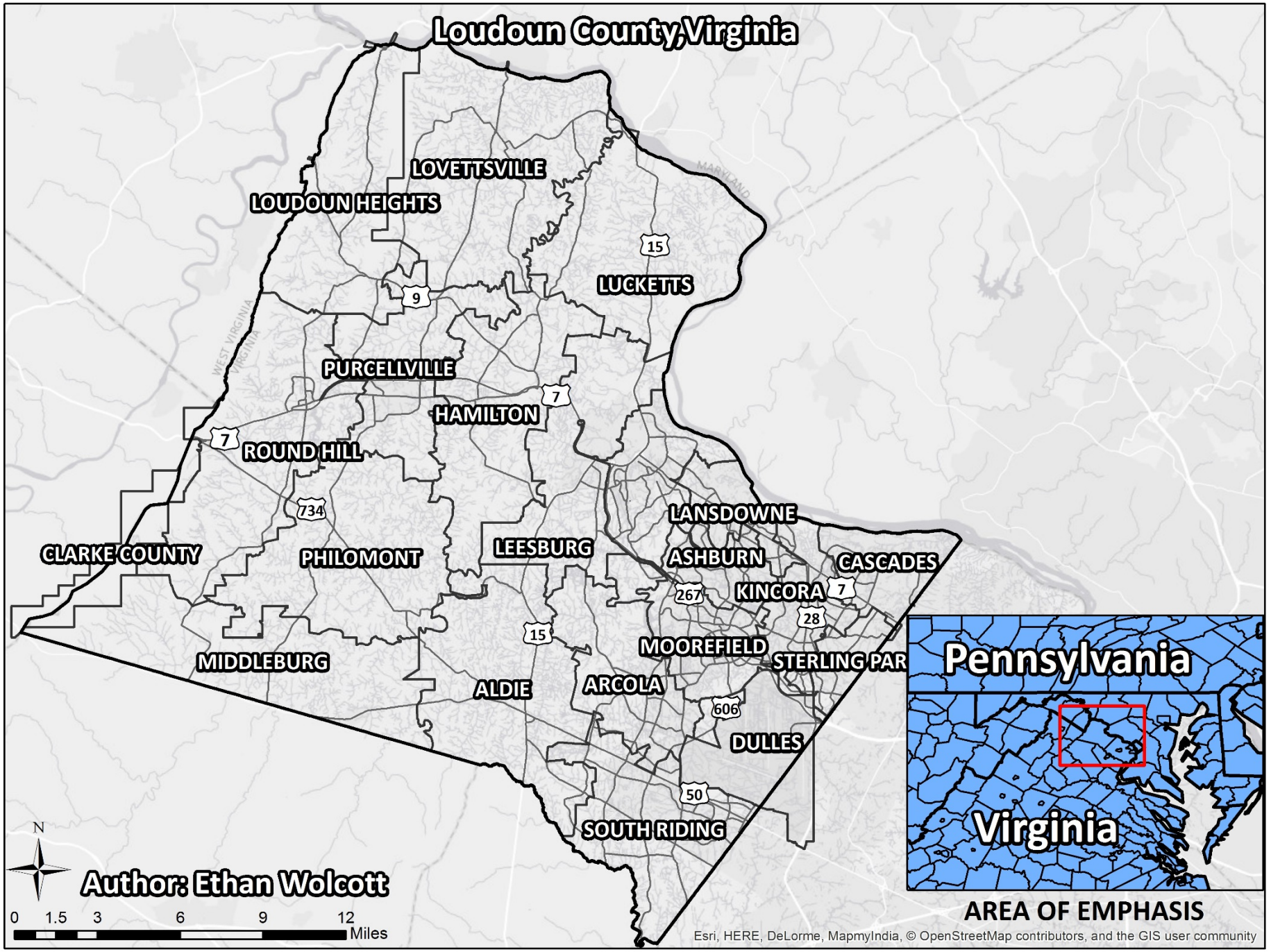
PROPOSAL FOR REALIGNMENT AND PLACEMENT OF HEAVY RESCUES IN LOUDOUN COUNTY, VIRGINIA

ETHAN WOLCOTT, BRIAR WOODS HIGH SCHOOL



Statement of Problem

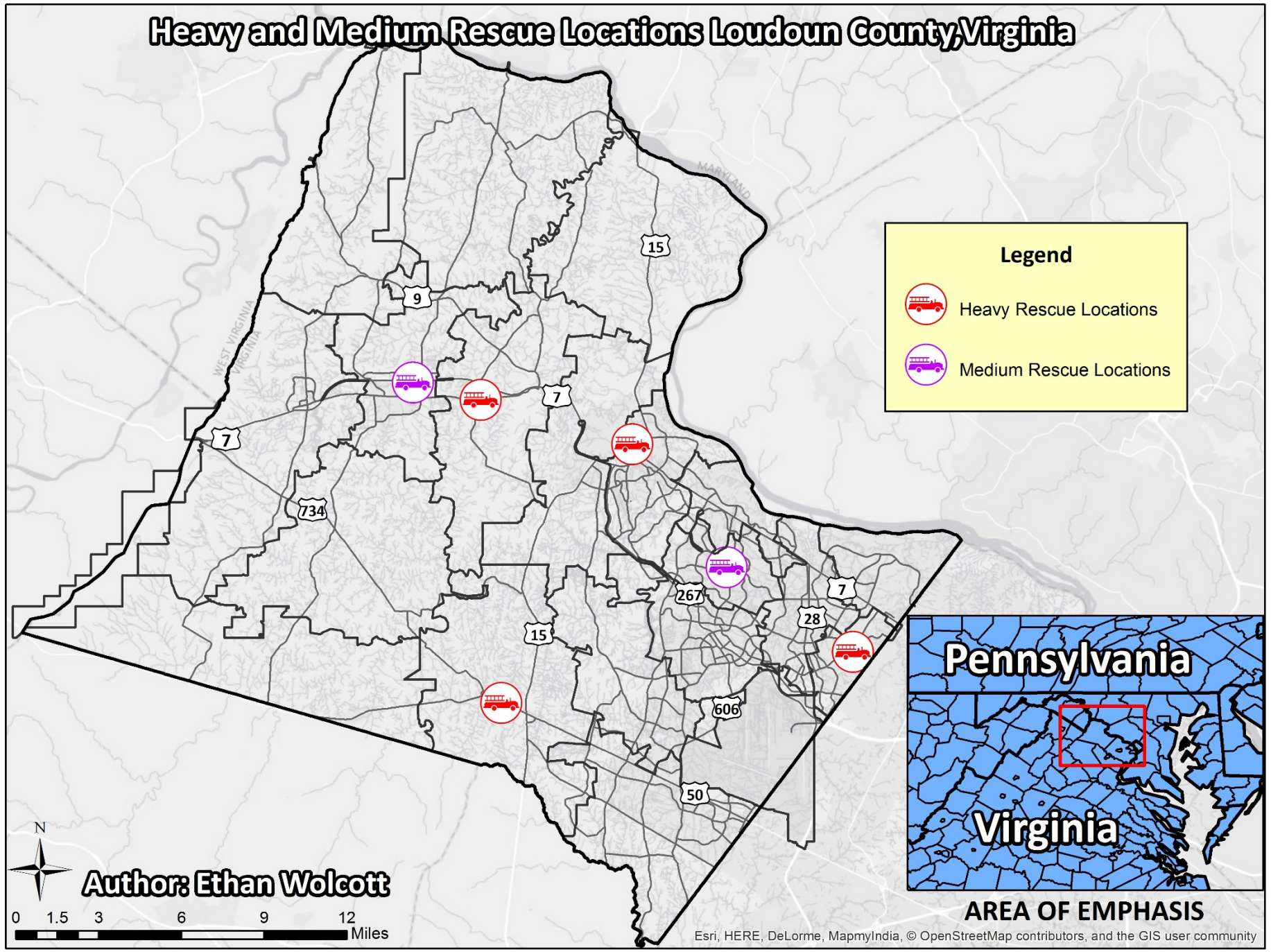
- Loudoun County Fire and Rescue operates 4 heavy rescue units across the county
- Of those 4 units, 1 is fully staffed and the other 3 are co-staffed
- Heavy rescues are important because of the vehicle extraction, technical rescue, and other specialized equipment they carry
- The result of 1 fully staffed rescue is a increase in response times and reliance on mutual aid from neighboring jurisdictions



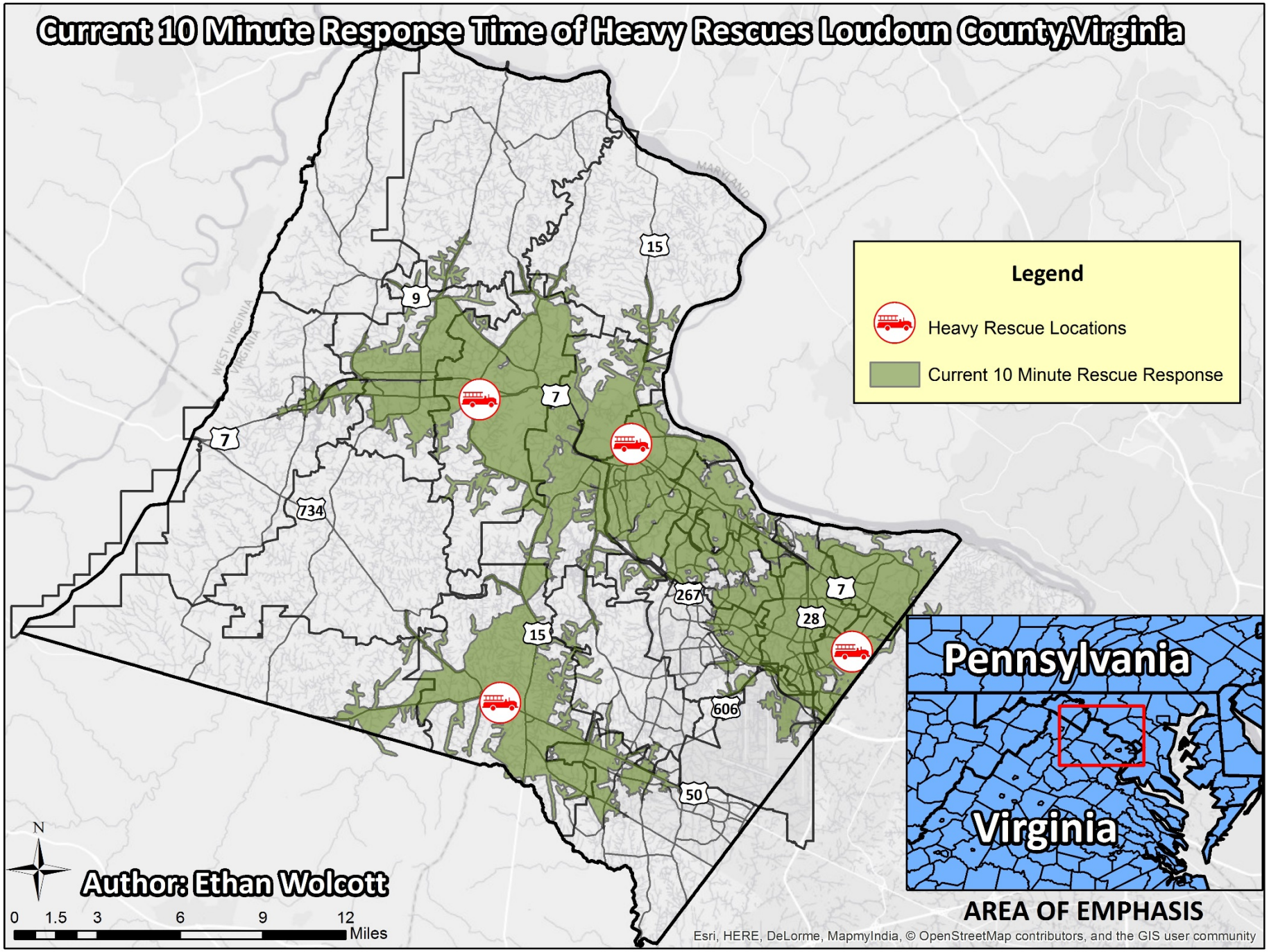
AREA OF EMPHASIS

QUICK FACTS

- Loudoun County is expected to grow by 40,000 residents by the year 2020
- The south eastern end of the county is expected to undergo the most growth over the next 5 years (ie. Brambleton, Arcola, South Riding, Gum Spring)
- Introduction of Metro Rail to eastern Loudoun County by the year 2020
- Response time set by the National Fire Protection Association is 9 minutes for an area with more than 1000 per square mile



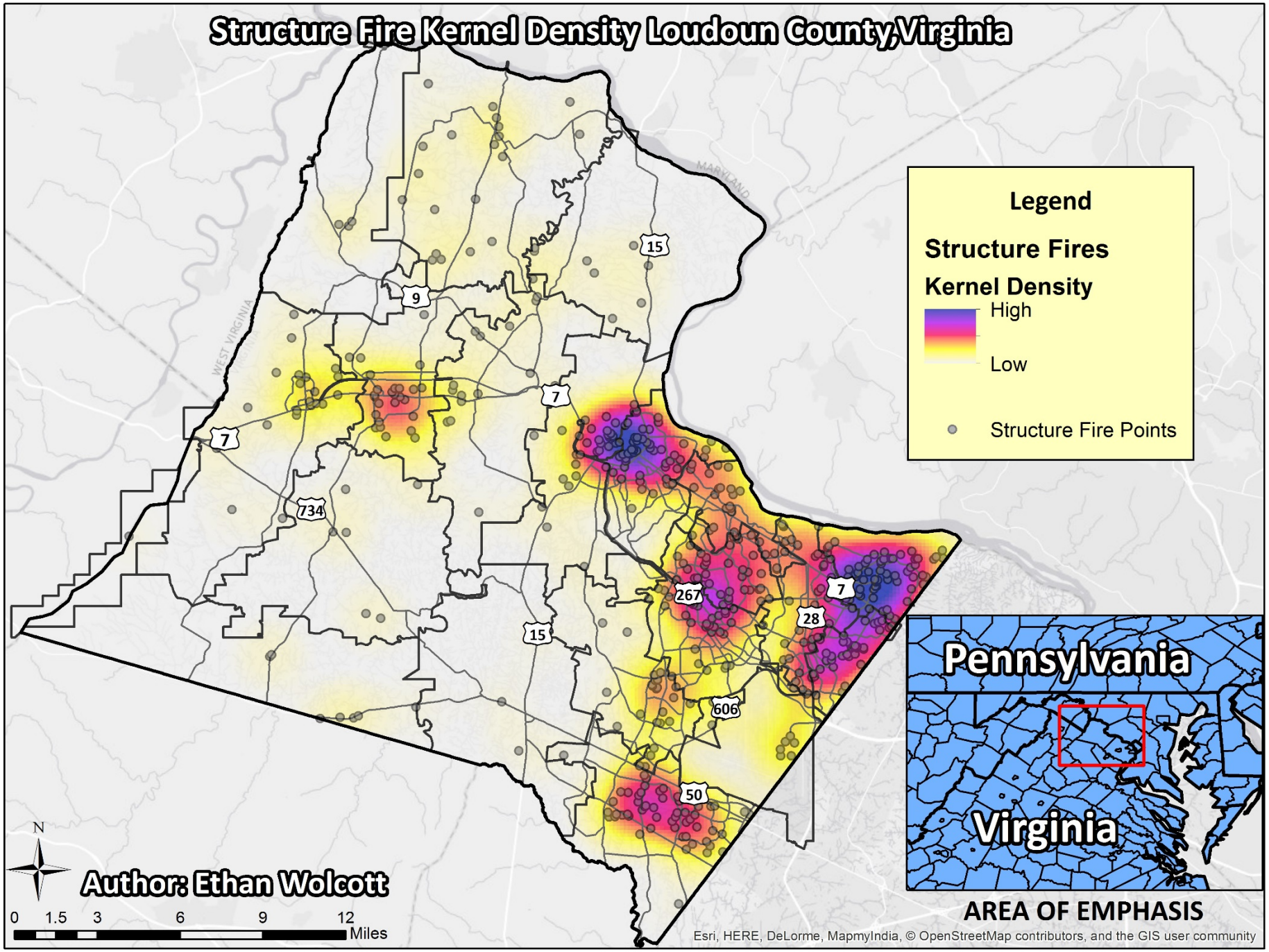
- Heavy rescues respond to structure fires, auto accidents with entrapment, technical rescues, water rescues, and structure collapses
- Medium rescues respond to auto accidents with entrapment



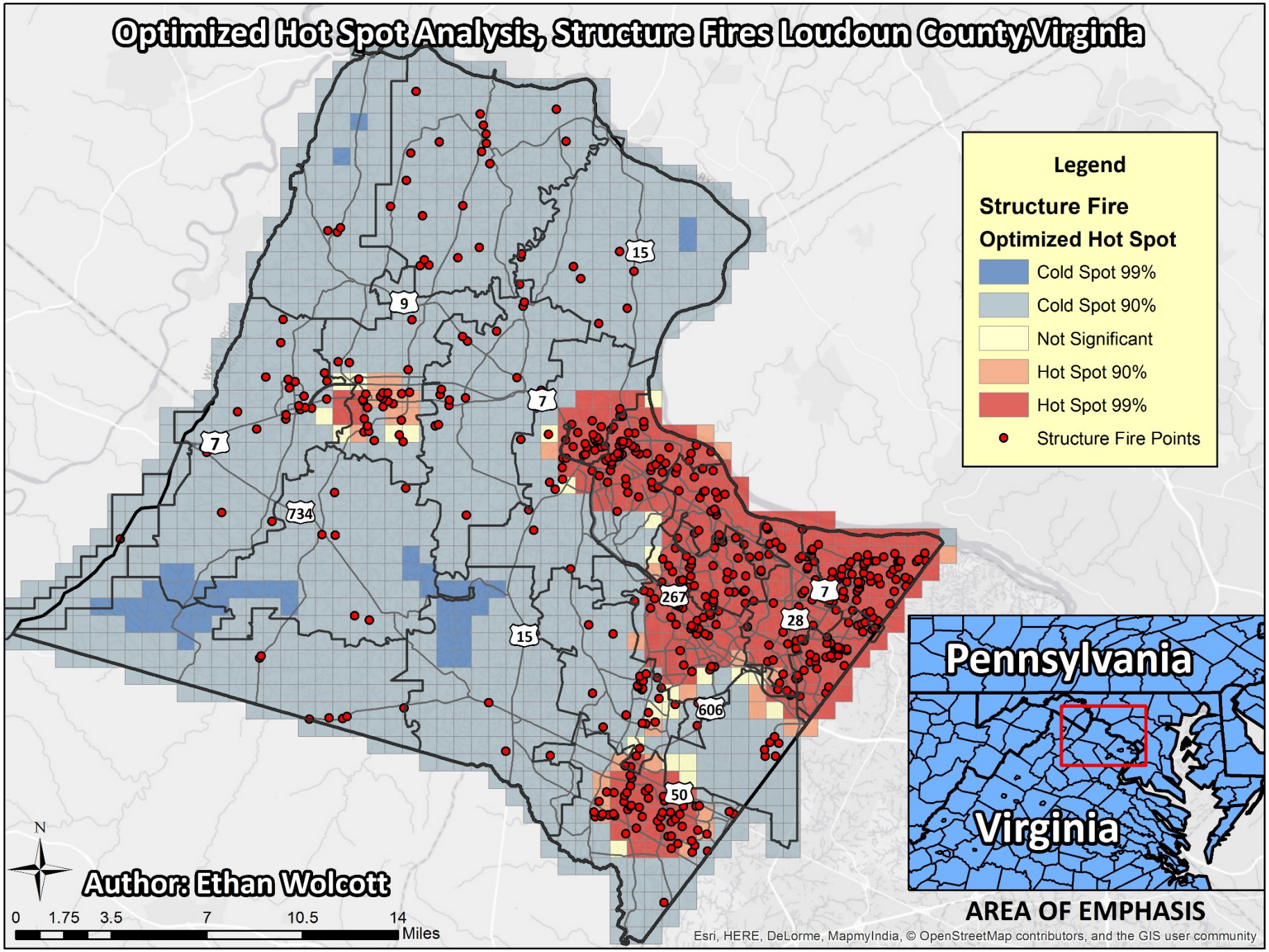
- This placement only covers 148 square miles or 28% of Loudoun County within 10 minutes of each station with a heavy rescue

DATA SOURCES FOR INCIDENT MAPS

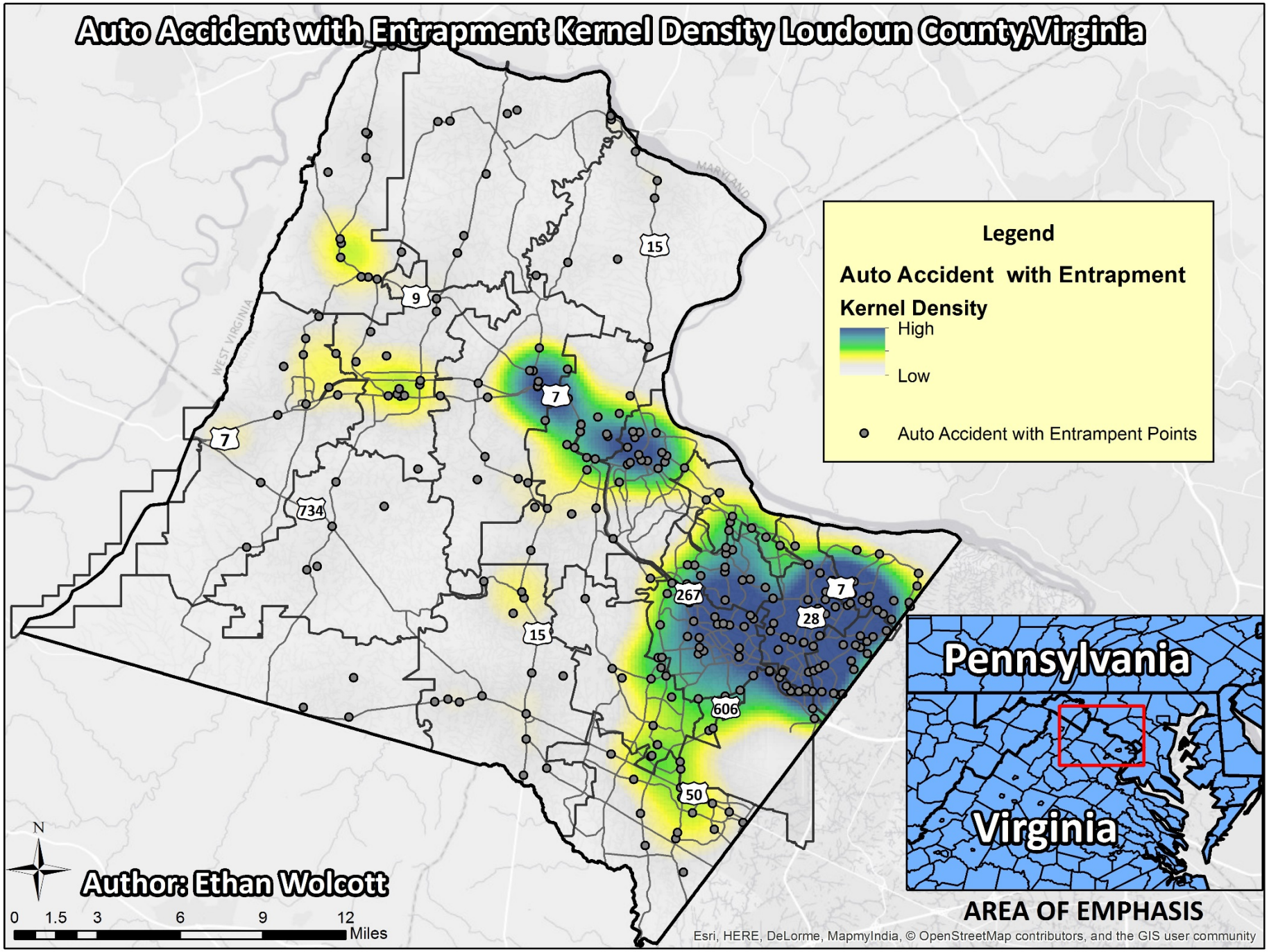
- All data on the following maps are over a 2 year period from September 2014 to September 2016
- All incident data points were sourced from the Loudoun County Fire and Rescue Computer Aided Dispatch Office



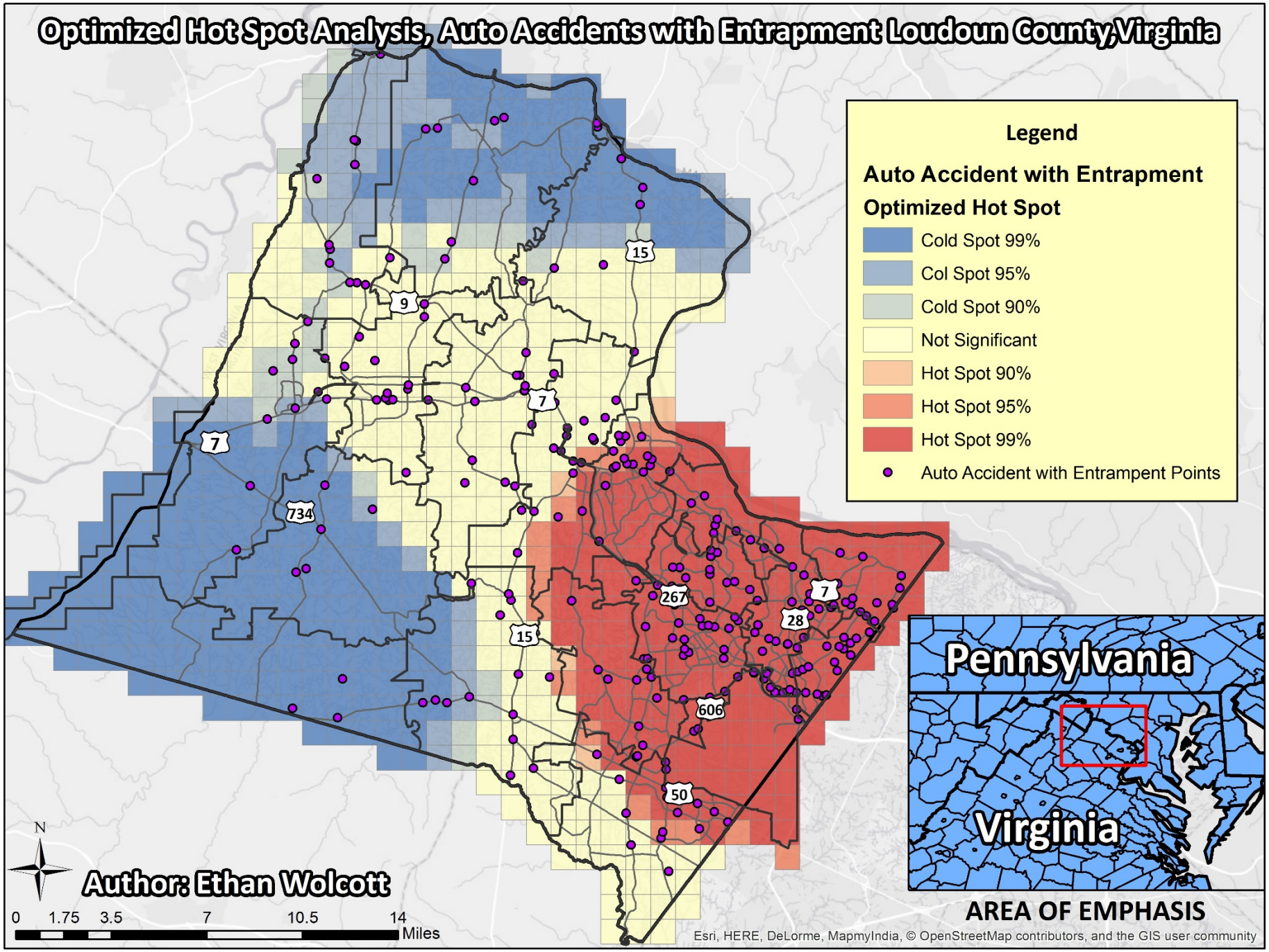
- This map contains kernel densities of incidents originally dispatched as structure fires
- Cascades first due area (station 618) recorded the highest number of structure fires with 73, South Riding (619) with the second highest 62, and Leesburg (620) with 56.



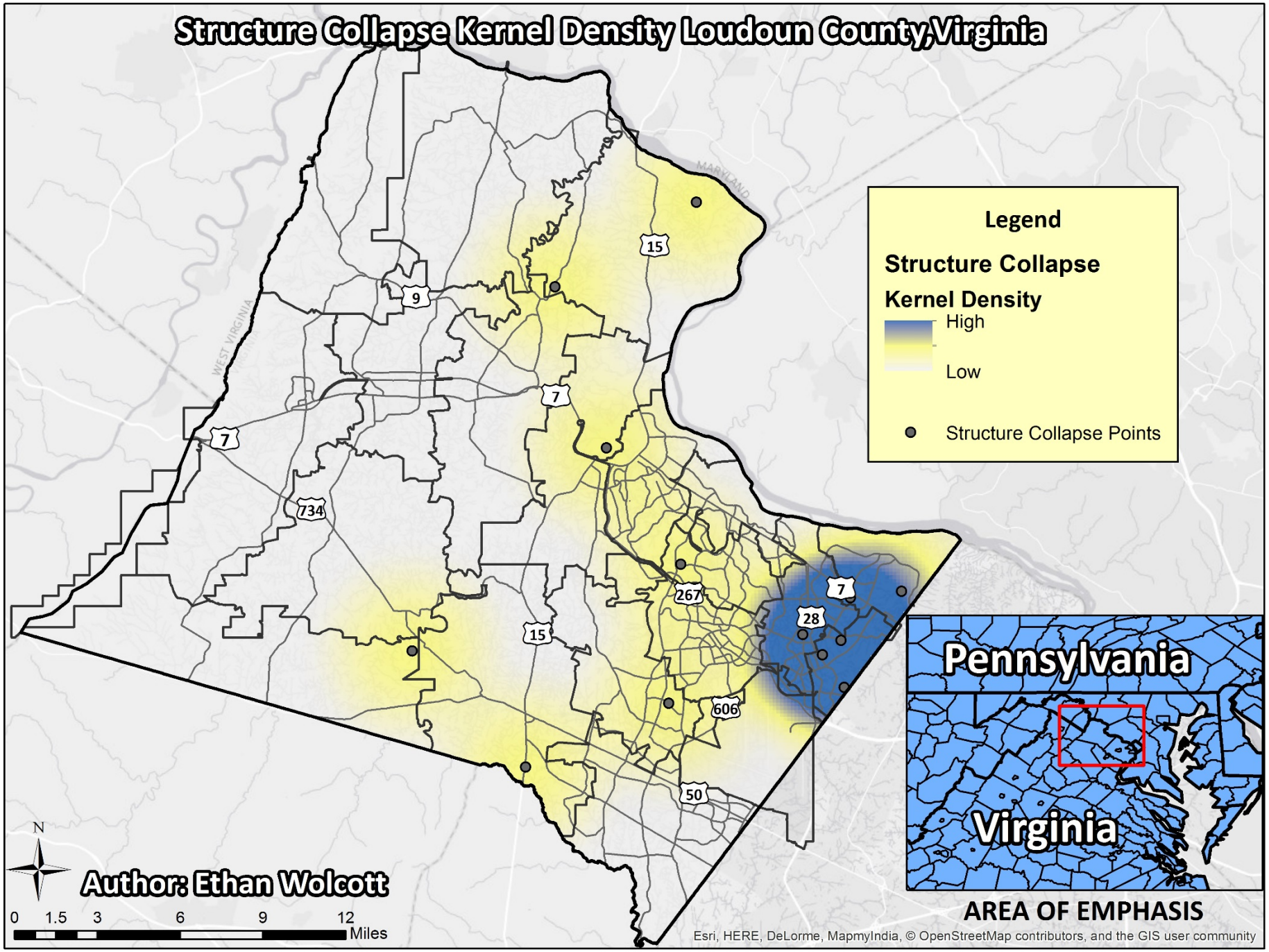
- This is a optimized hot spot analysis of structure fires in Loudoun County
- This tool creates a map of potential future incident locations



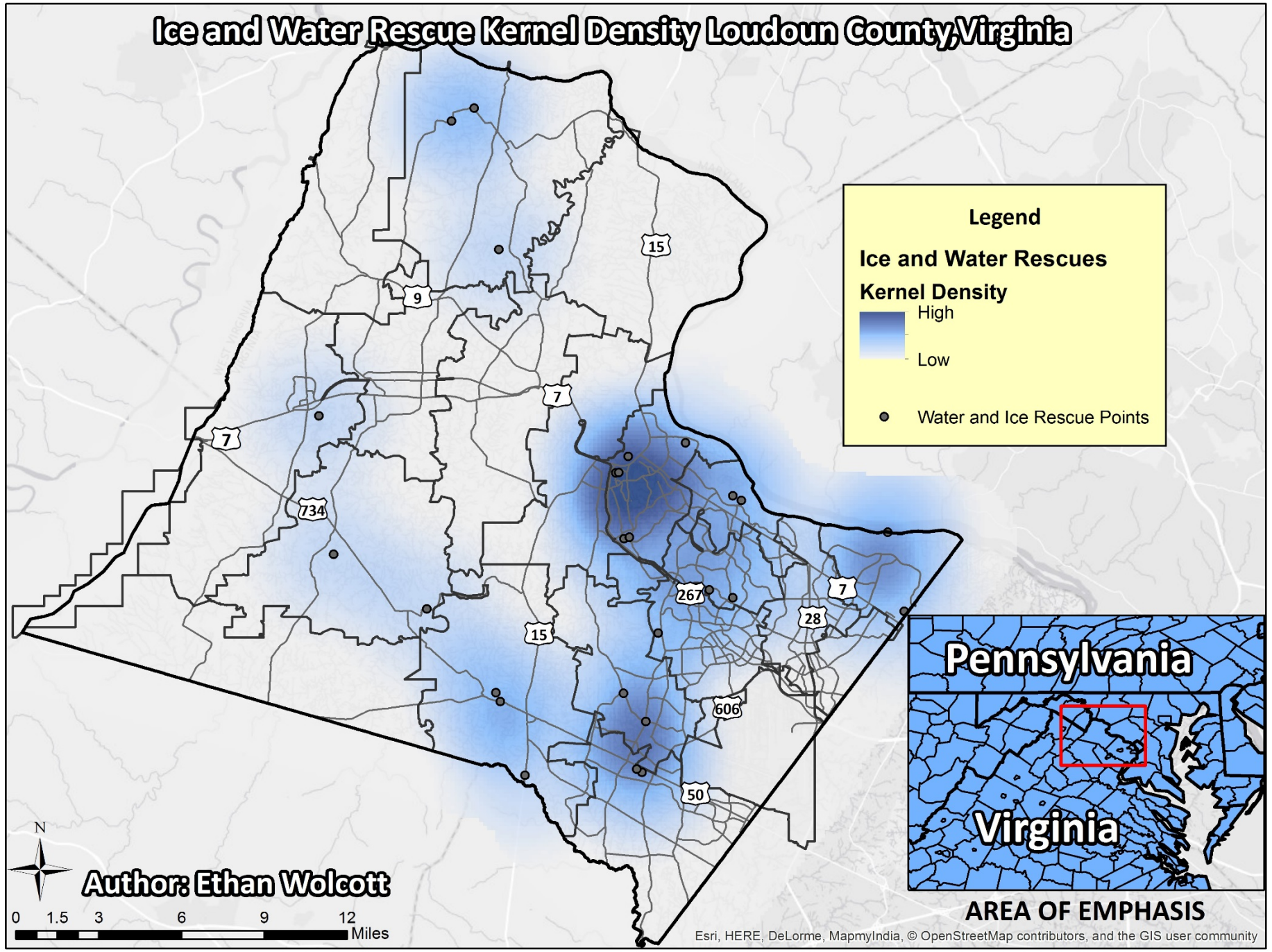
- This map shows incidents originally dispatched as auto accidents with entrapment
- The first due area with the highest number of incidents with is Moorefield (623) with 38, second highest is Kincora (624) with 32, and Leesburg (620) 25.



- This is a optimized hot spot analysis of auto accidents with entrapment in Loudoun County



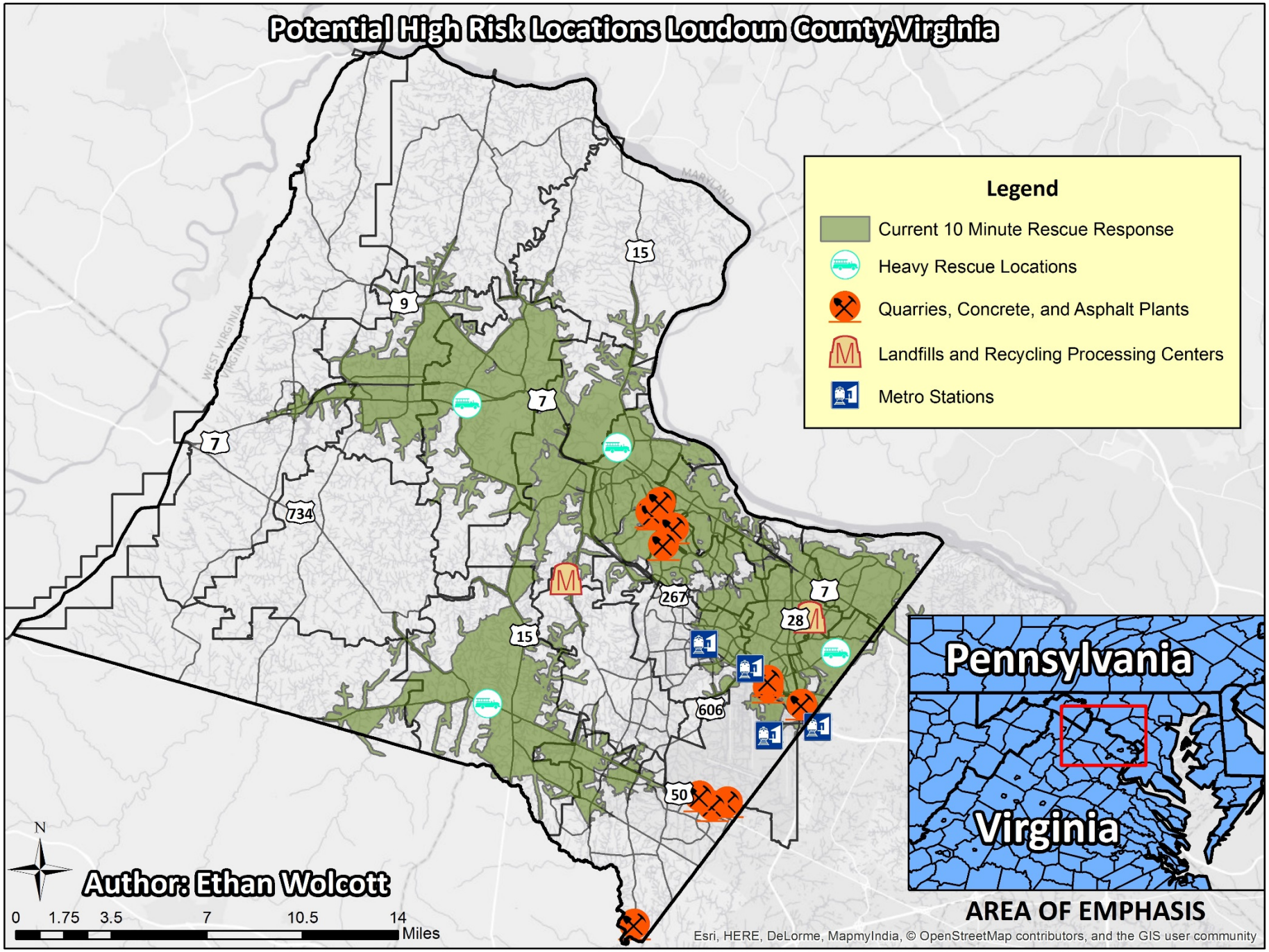
- This map shows kernel densities of structure collapses across Loudoun County



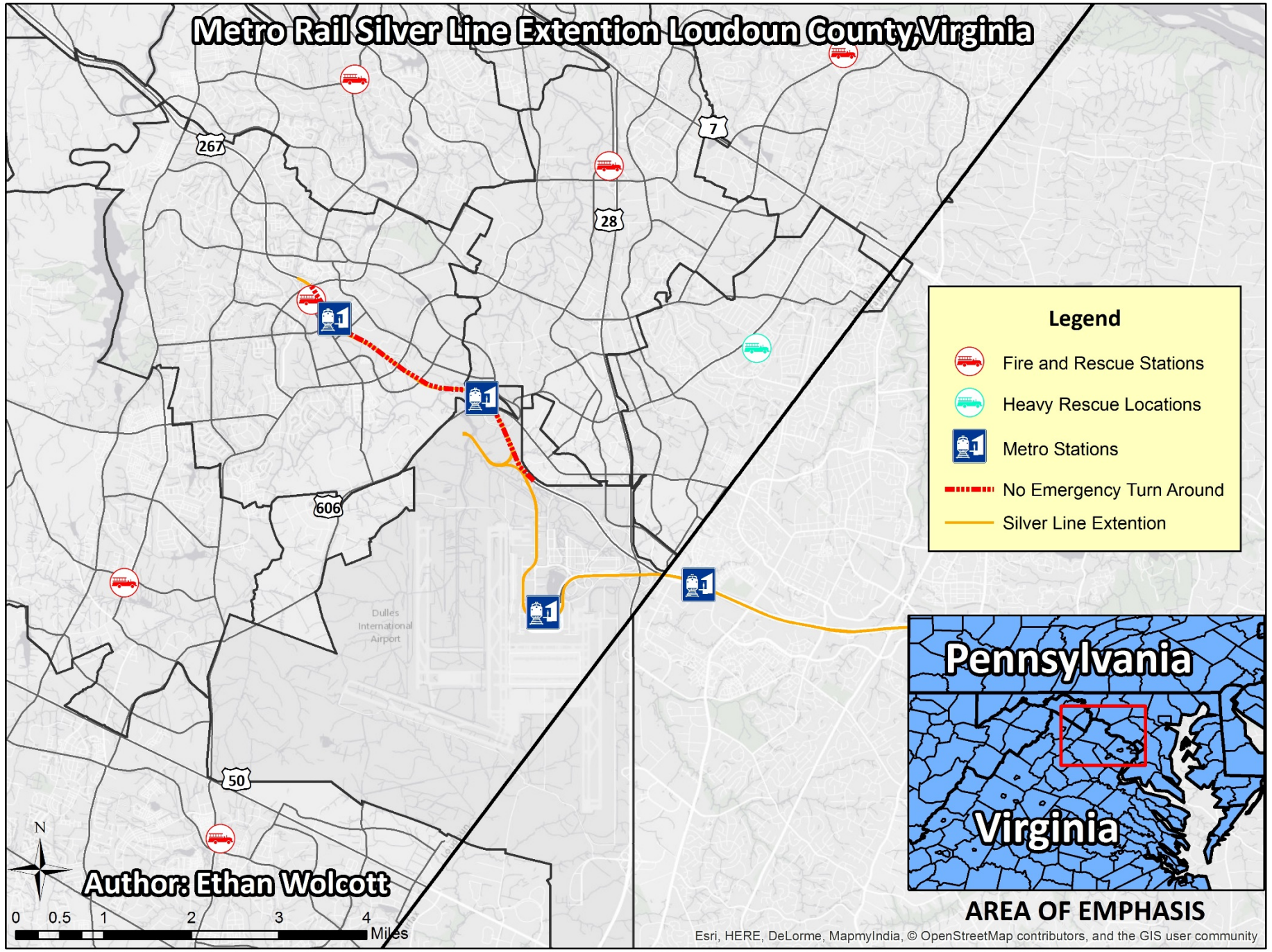
- This is a kernel density map of all water/ ice rescues across Loudoun County

HIGH RISK LOCATIONS AND METRO RAIL MAPS

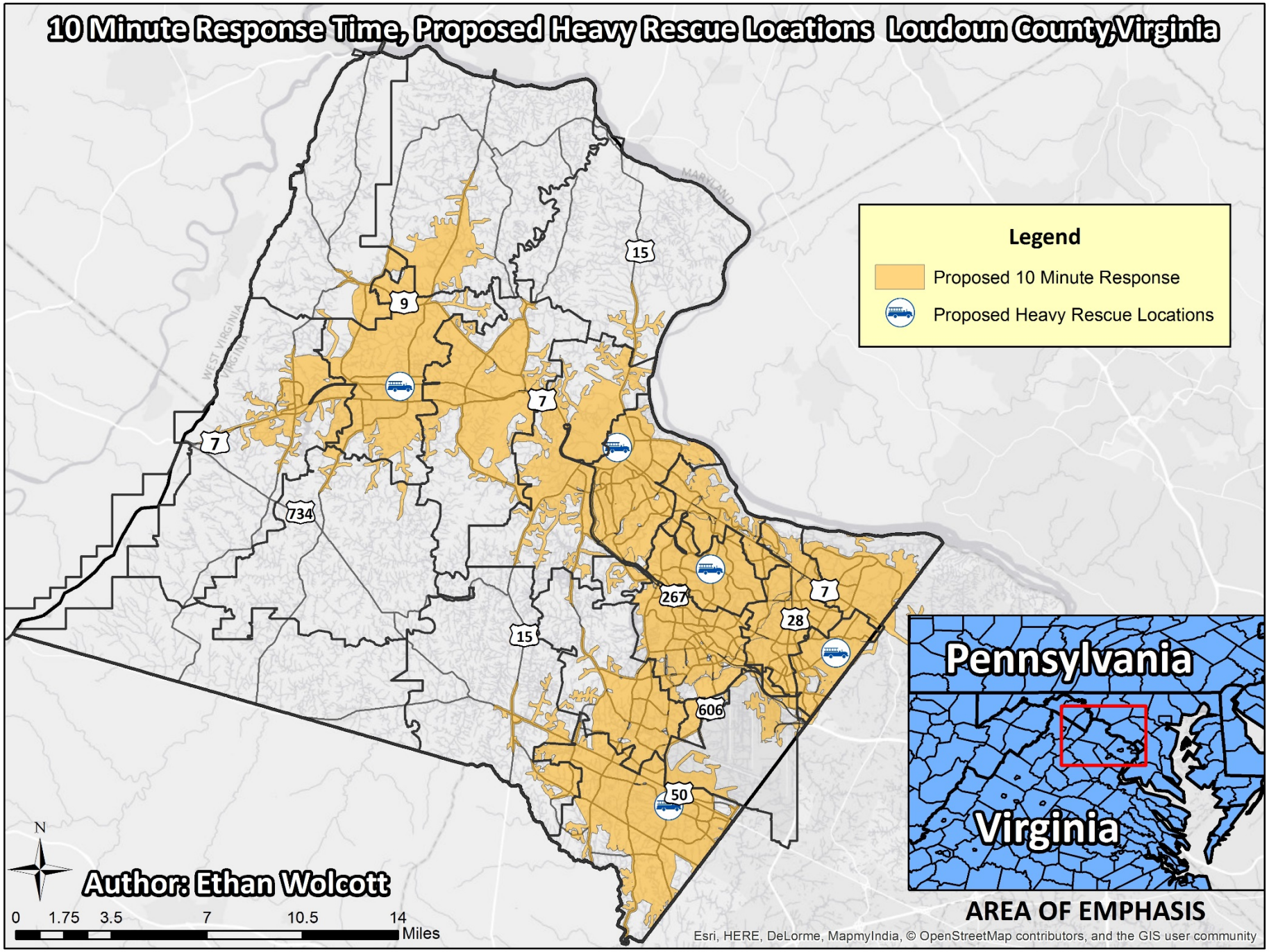
- Included are maps of industrial facilities with the potential for a high risk incident
- Also included is a map of the Metro Rail extension project



- This is a map of potential high risk locations
- These locations are industrial facilities with potential for technical rescue

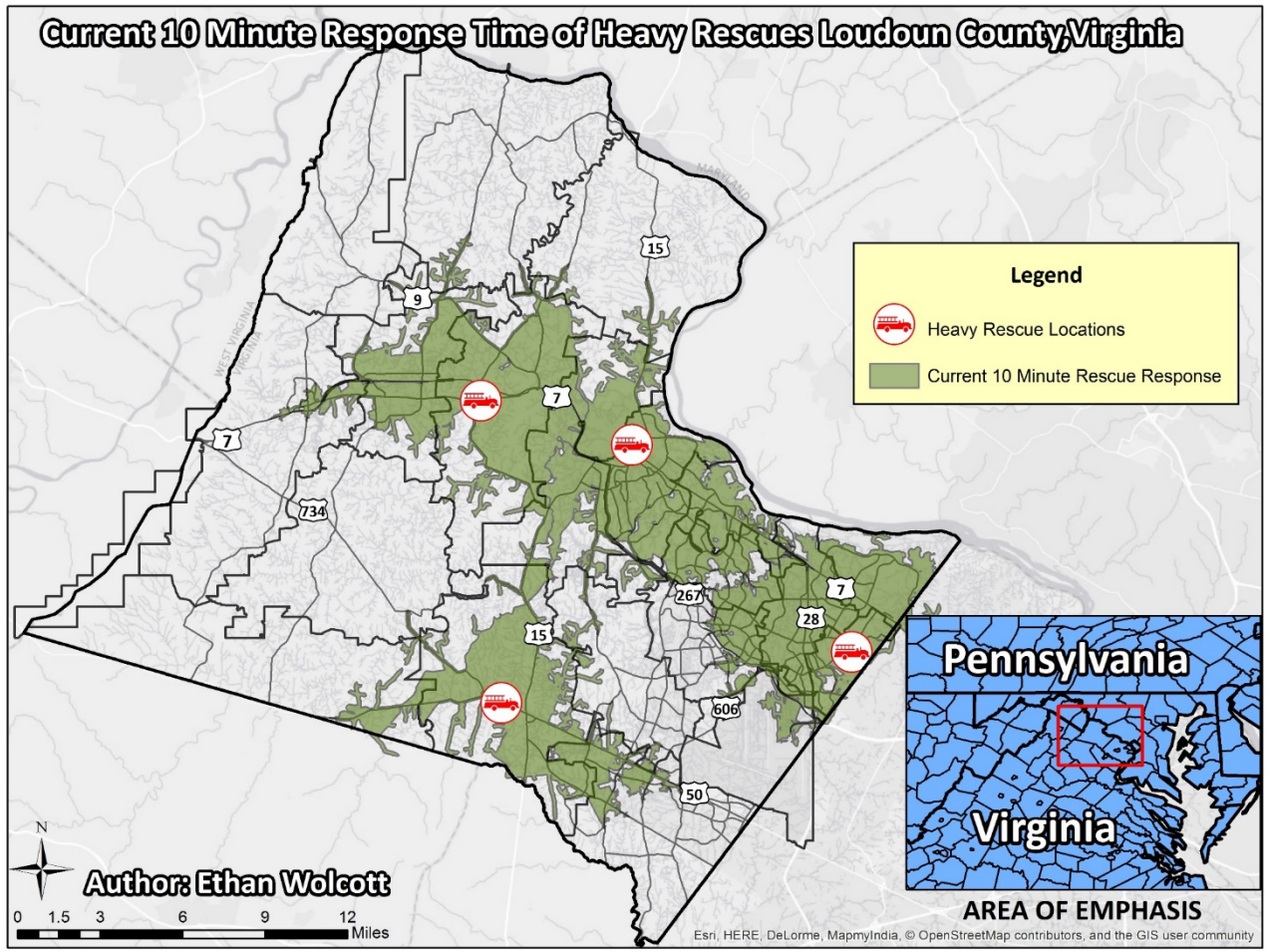


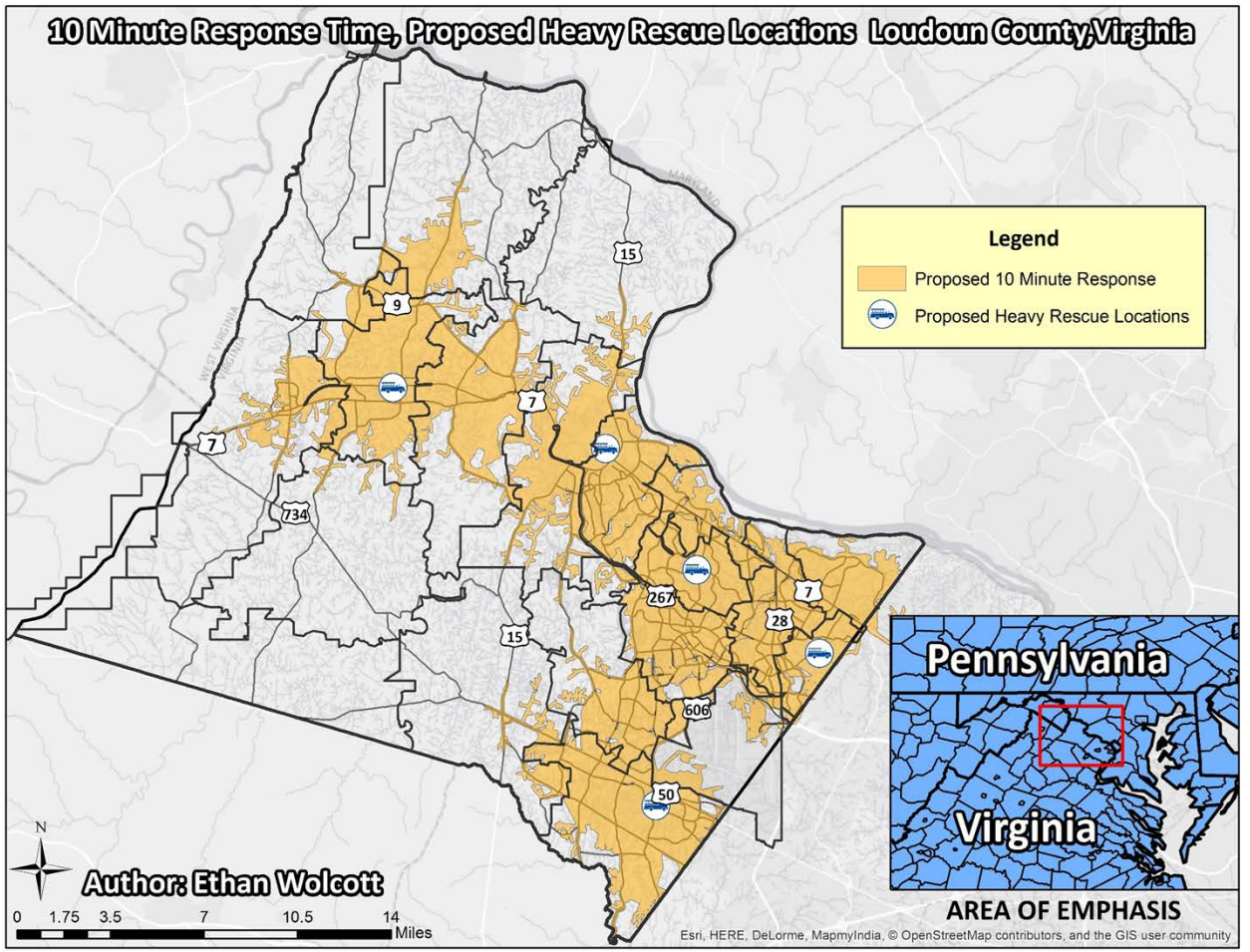
- This map shows the Metro silver line extension
- Due to above ground tracks turn-around's for emergency vehicles were eliminated on state route 267 (Dulles Greenway)



- This is the proposed placement of heavy rescues in Loudoun County
- This plan covers 183 square miles or 34% of Loudoun County within 10 minutes of each station
- This plan provides adequate coverage for growth over the next 5 years.
- The stations included in this plan are; Purcellville, Leesburg, Ashburn, South Riding, and Sterling Park
- This plan will cost tax payers around 1.5 million for the cost of the unit.

CURRENT VS. PROPOSED

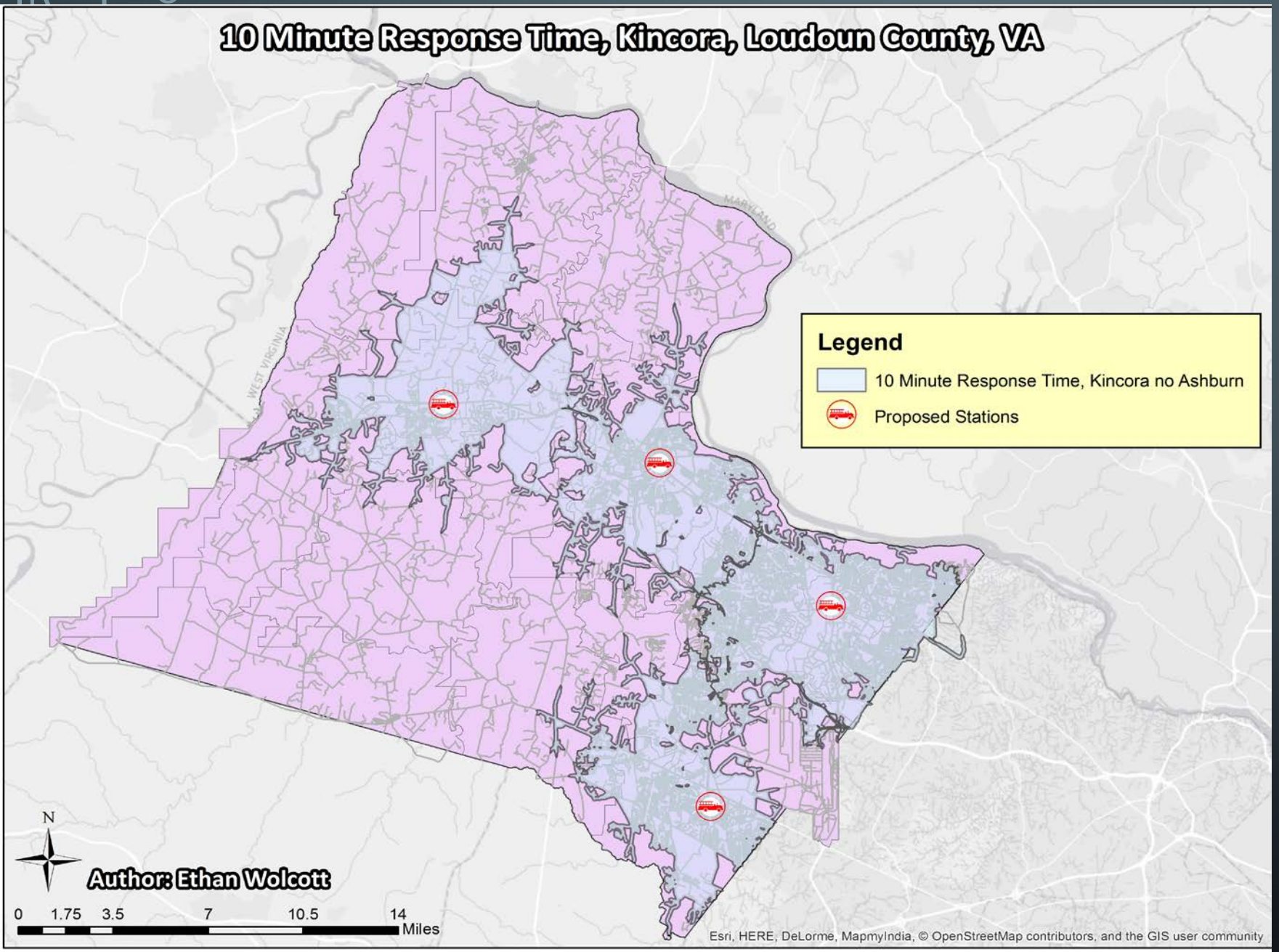




148 square miles 28% coverage of the county

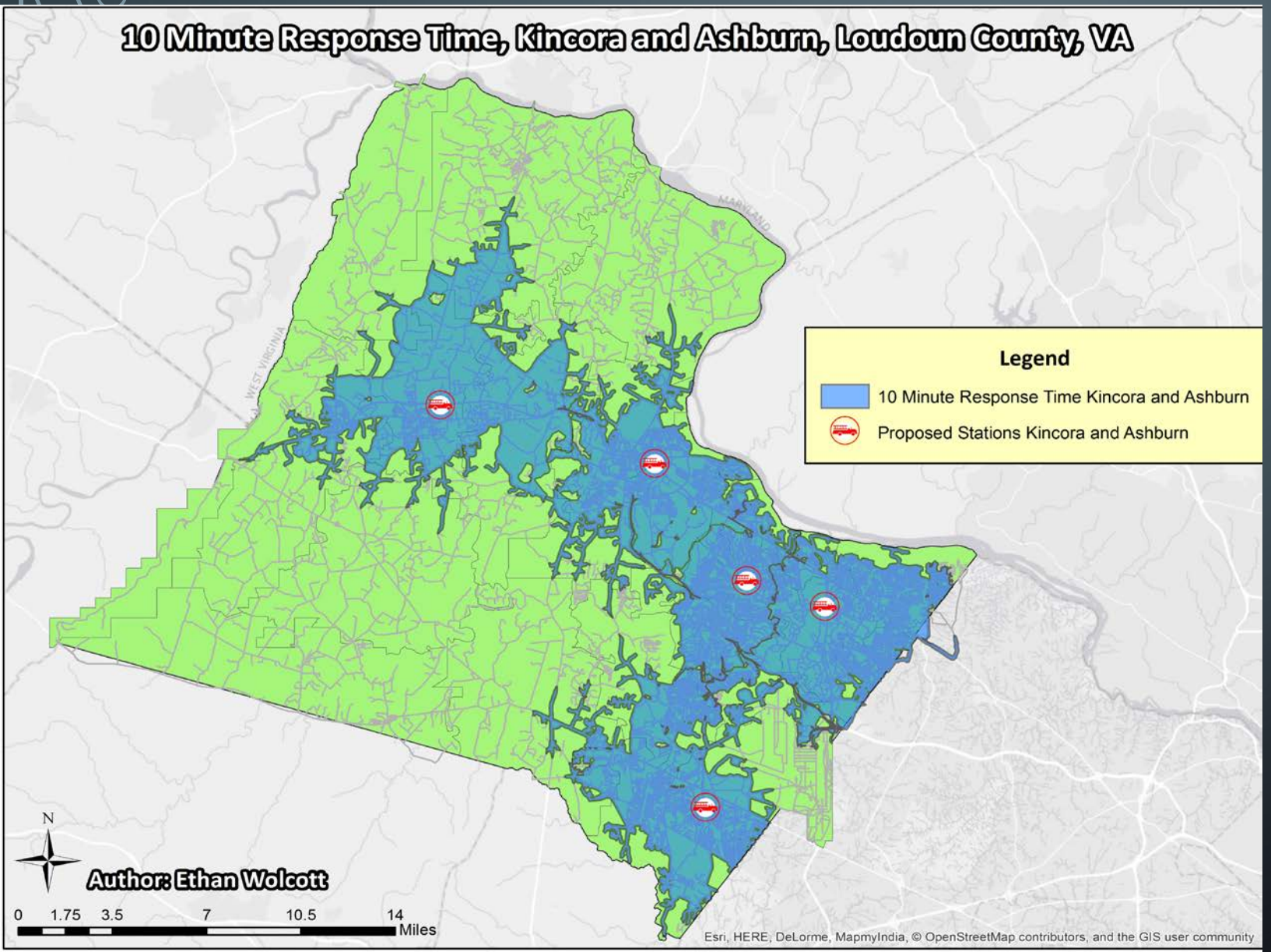
183 square miles 34% coverage of the county

LOUDOUN COUNTY FIRE AND RESCUE PROPOSAL



- Based on current county proposals this plan moves a rescue from Sterling Park to Kincora
- This plan covers 174 square miles or 33% of Loudoun county

LOUDOUN COUNTY FIRE AND RESCUE PROPOSAL WITH ASHBURN



- This is the same proposal as before with the addition of a rescue in Ashburn
- This plan only covers 2 more miles than the previous plan with 176 miles or 33% of the county

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