

KYTC Wildlife-Vehicle Collision Reduction Pilot Study



2024
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CONFERENCE
— **acec-ky** —
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WILDLIFE CROSSINGS

- In the United States alone, there are more than a **million** automobile accidents per year involving wildlife, racking up more than **\$8 billion** in medical costs and vehicle repairs annually.
- According to some estimates, automobile collisions kill more than a **million** animals every day, making them the leading cause of death for many vertebrate species.
- In addition to injury and mortality major roads can subdivide animal populations and further fragment their habitats, making it more difficult to forage for food, find mates and carry on their genetic legacy and avoid in-breeding.
- Bridges and tunnels specifically designed for animals and their movements can reduce the environmental impact of highways.



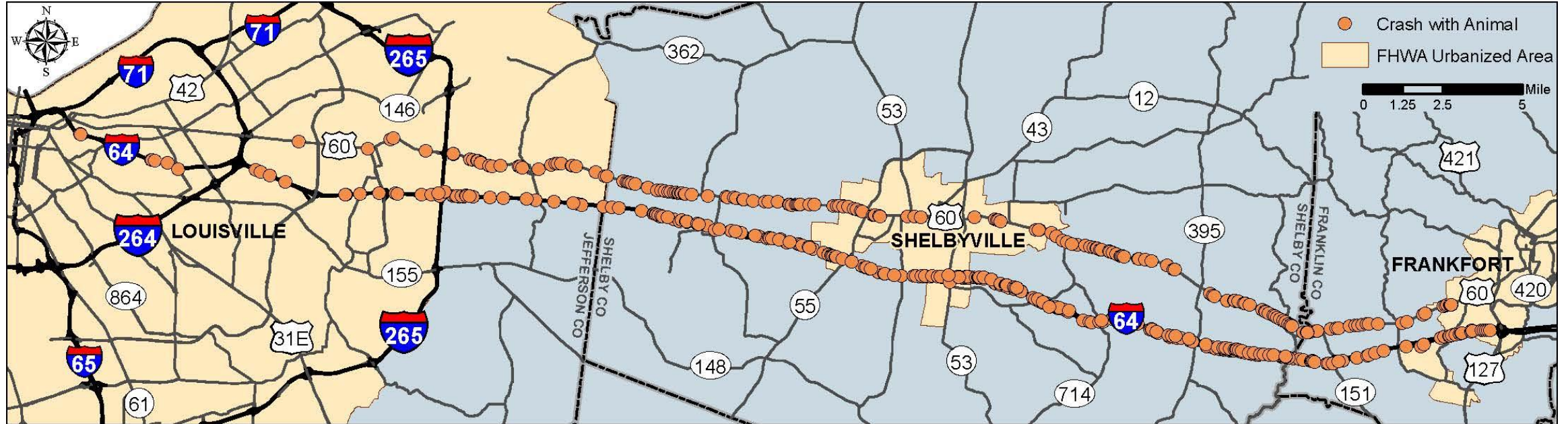
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FLASHBACK TO THE 2023 PARTNERING CONFERENCE

- With the leadership of Susan Oatman and Elizabeth Niemann in Program Management and the help of QK4, KYTC-DEA prepared a grant application for the first round of funding offered by the FHWA Wildlife Crossing Pilot Program.
- Our application sought to secure federal funding to study wildlife-vehicle collisions (WVCs) on KY highways and explore what KYTC could do to decrease WVCs.
 - First study of its kind for KY.
- To sharpen the focus of the grant application, a corridor was selected for a pilot study with the plan of taking what we observed, learned, and recommended on this corridor and expand those recommendations statewide.
 - The grant team chose I-64 between Frankfort and Louisville and the parallel US 60 highway.
- We reached out to potential partners to gauge the interest of other federal and state agencies as well as non-governmental organizations, understanding this issue impacts folks far beyond KYTC.



WHY THAT CORRIDOR?



FHWA GRANTS FOR WILDLIFE CROSSINGS

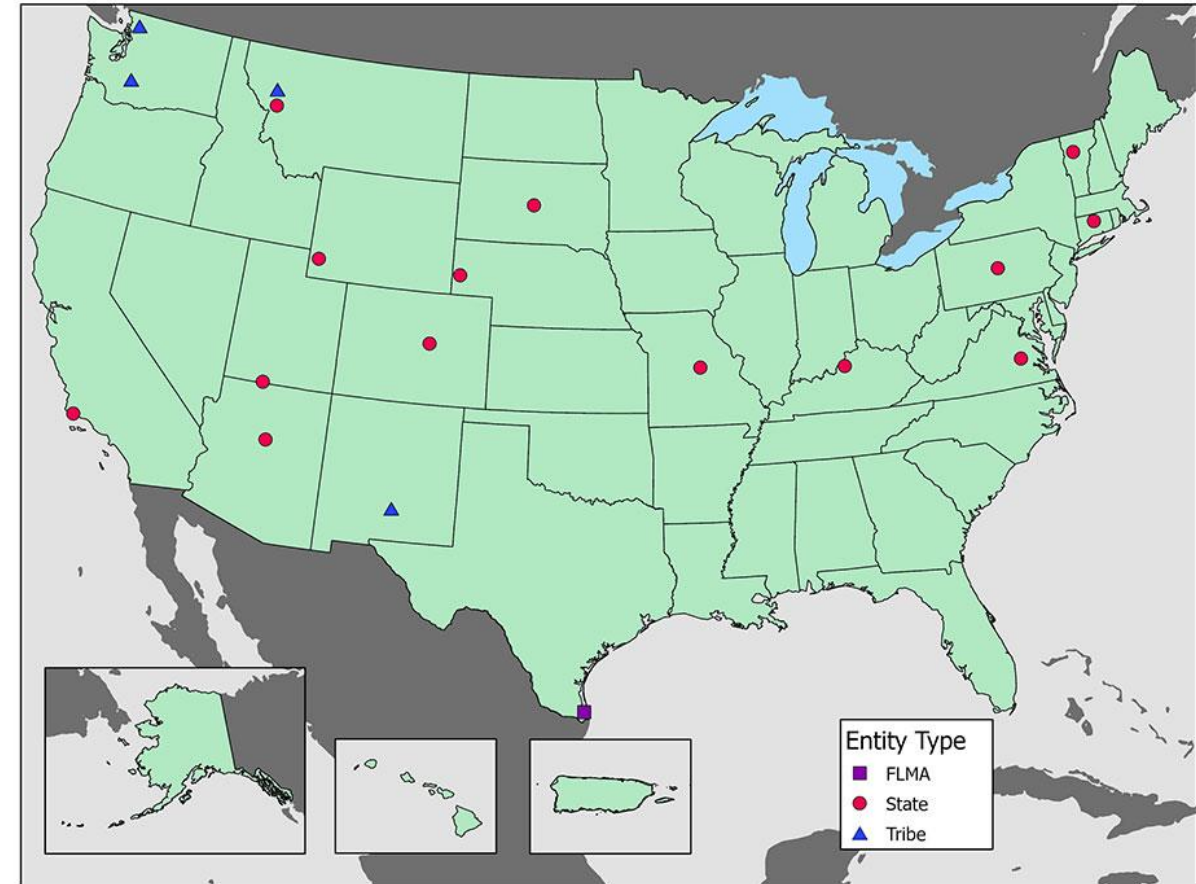
On December 5, 2023, FHWA announced \$110 million in grants for 19 wildlife crossing projects in 17 states, include four Indian Tribes.

KYTC was awarded \$1.2 million to study WVCs, more than any other non-construction grant award!

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FHWA Wildlife Crossings Pilot Program FY 2022 - FY 2023 Grant Selections



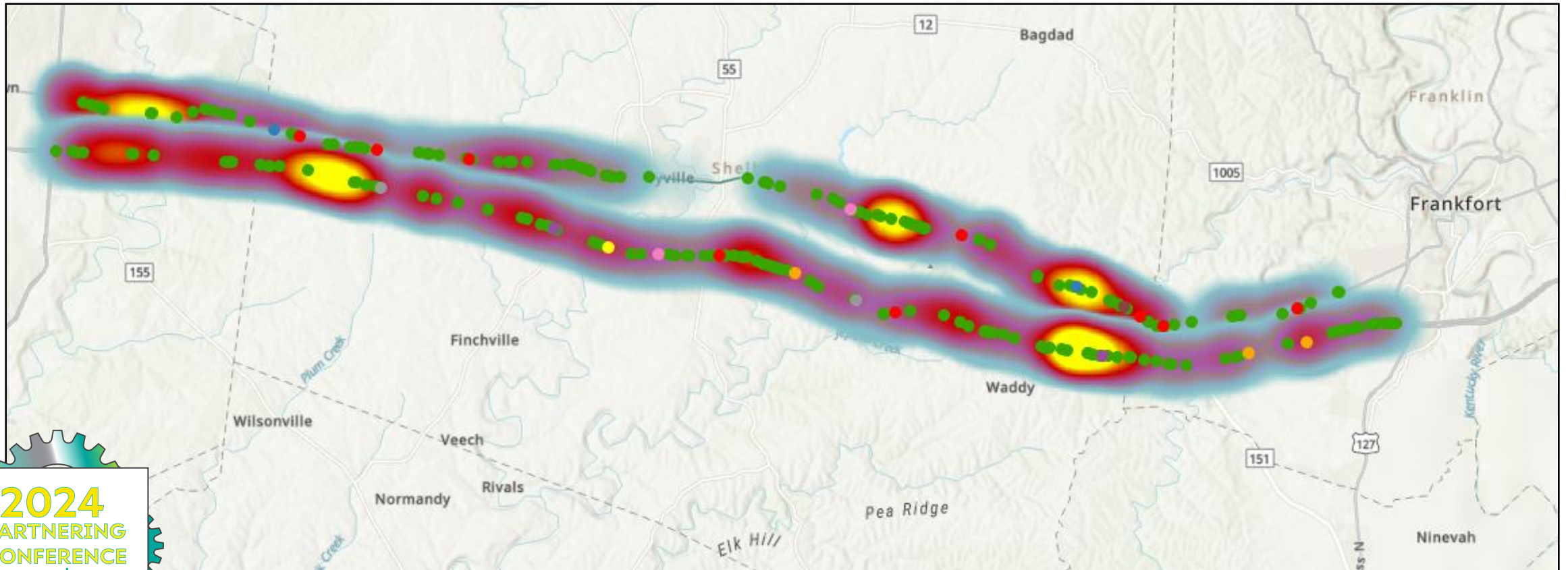
THEY GAVE US \$\$ SO WE GOT TO WORK!

- Reached out to KY Transportation Center to assist in gathering crash data for the focused corridor.
 - Their team of engineers and data scientists were able to expand upon existing crash data by accessing animal-involved incidents from Waze.
- Analyzed crash report data from 2019-23. Deep diving into police reports to weed out any false positives.
 - Total of 255 WVCs were tallied.
- Discovered Waze data should be seen as a tool to identify general areas along a corridor where animal hazards are reported most frequently.
 - Treat it independent from the crash report data.



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CRASH INCIDENTS POINTS & WAZE INCIDENTS HEATMAP



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CONSULTANT SELECTION PROCESS

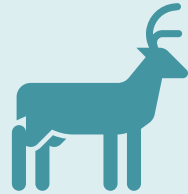
- Advertised the project in early 2024, received competitive proposals from several in-state and out of state firms.
- Winning team was Lochner/Qk4/Rasor.
 - Received notice to proceed in late June and hit the ground running with the KTC crash data and a field survey plan to track wildlife movement within our corridor.
- KYTC Team of DEA and Planning staff helping to guide the study and connect the appropriate people to make it successful.
- Early task was to prepare a Baseline Report for FHWA that discusses the focused corridor.
 - Delivered last week.



PROJECT GOALS



Improve
Driver Safety



Improve
Roadway Ecology

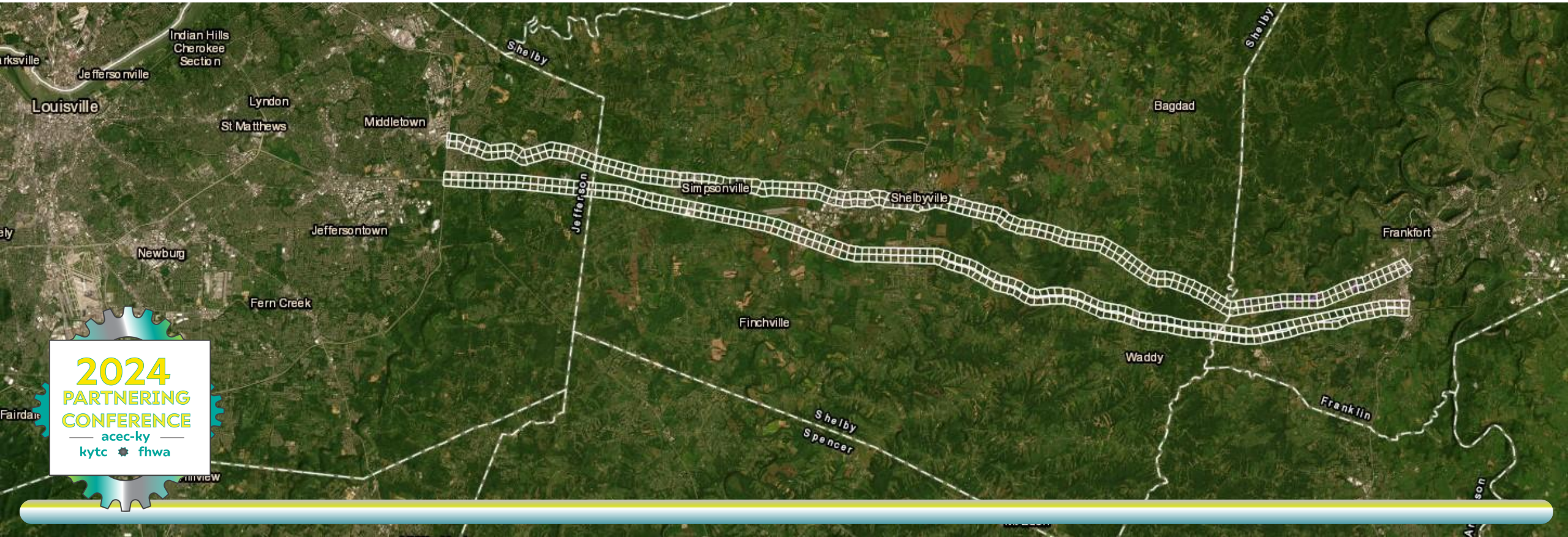
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PROJECT GOALS

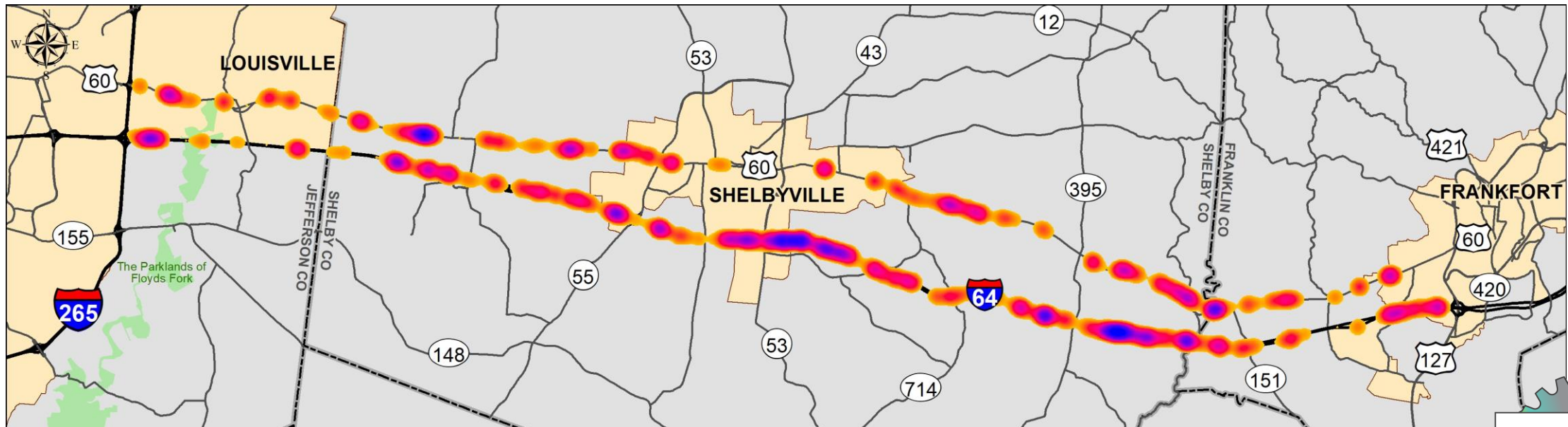
Using a combination of FHWA funding with a KYTC match:

- Identify methods to reduce wildlife-vehicle collisions in Kentucky using the Louisville-Frankfort US 60/I-64 corridor as a pilot project



PROJECT METHODS

- Map collision hot spots along project corridor
 - Kentucky Transportation Center Analysis



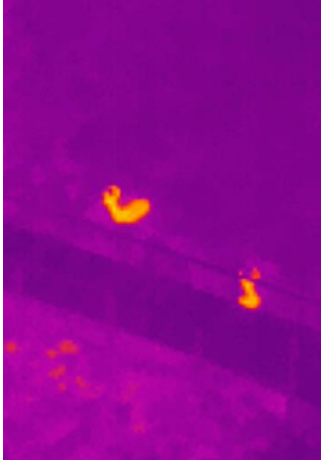
PROJECT METHODS

- Map collision hot spots along project corridor

Determine the overlap of deer home-ranges with highway corridor

Infrared Drone Surveys

- 0.25-mile buffer on both sides of each route (33 miles each)
- Flights during early morning hours
- Summer and fall flights (seasonal behavior differences)



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PROJECT METHODS

- Map collision hot spots along project corridor
- Determine the overlap of deer *home-ranges* with highway corridor
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Habitat Delineation



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PROJECT METHODS

- Map collision hot spots along project corridor
- Determine the overlap of deer home-ranges with highway corridor
 - Infrared drone surveys
 - Habitat delineation

Infrastructure Inspection

- Document crossing impairments

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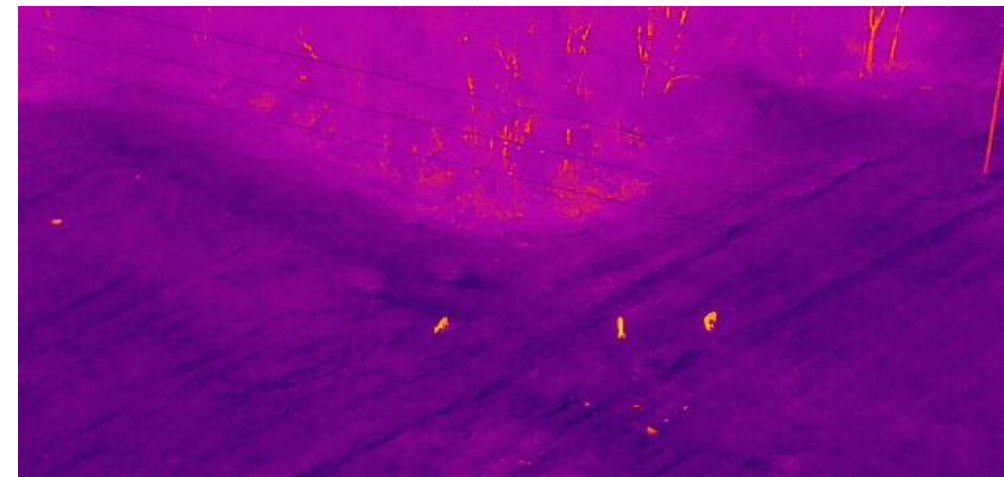
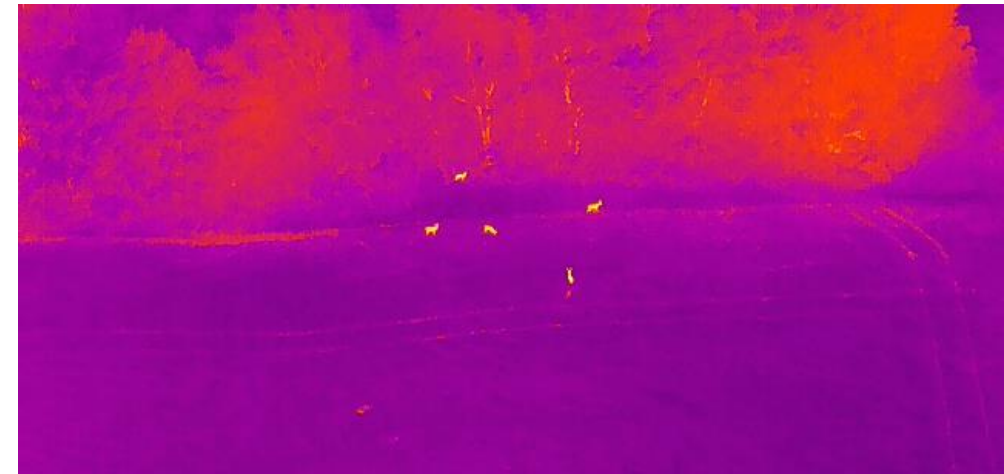
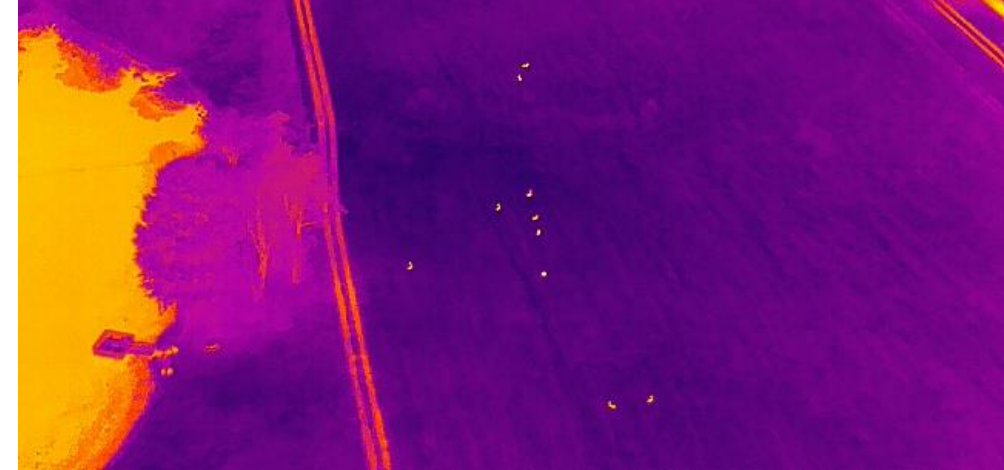
PROJECT RESULTS

Thus Far

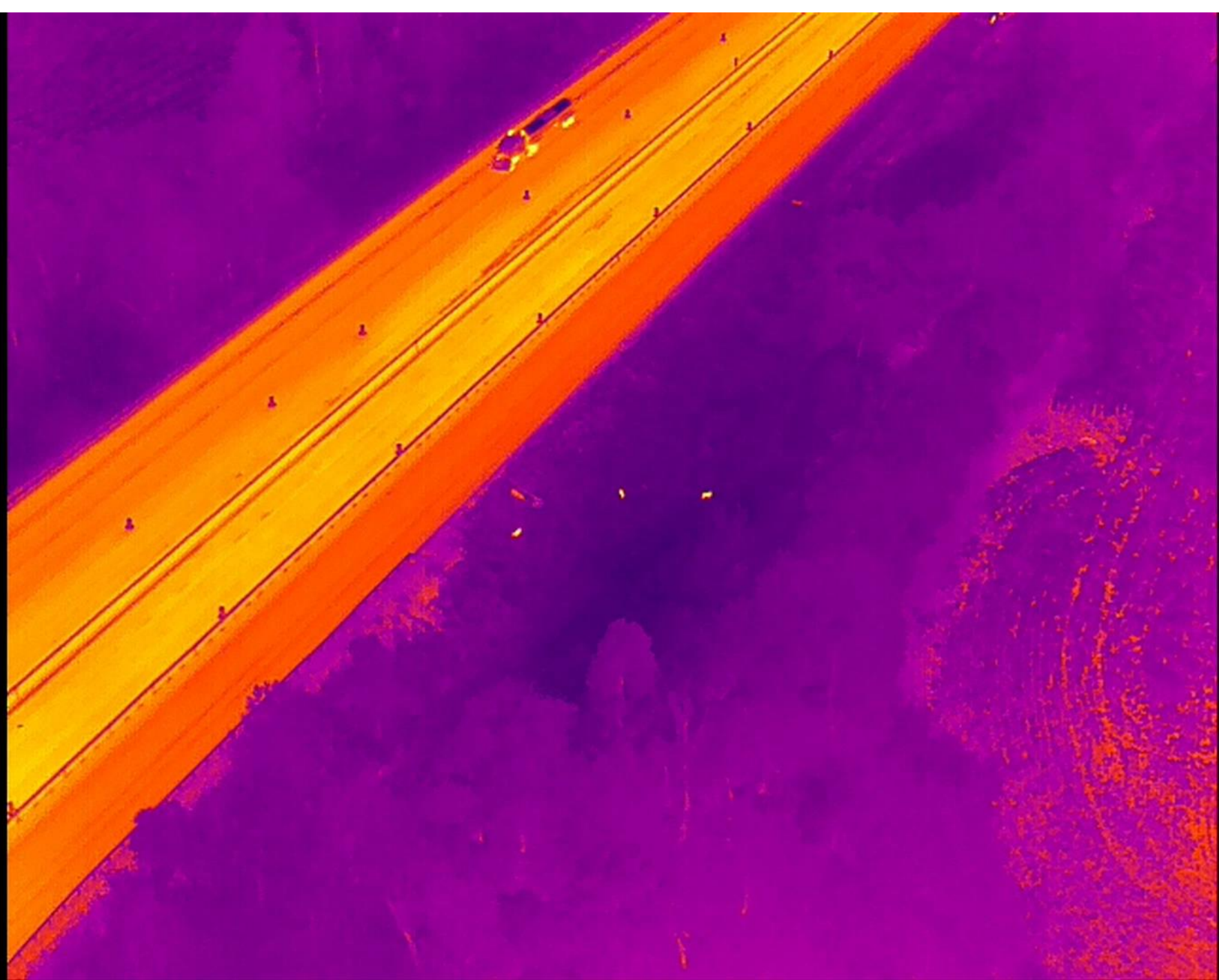
We found deer!

Summer Herd Survey Results (Within 0.5-Mile Buffer Around Each Route):

- US 60: 690 deer
- I-64: 1,179 deer



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PROJECT RESULTS

Thus Far

- We found deer

Deer like forest/field edge habitat and traveling riparian corridors.



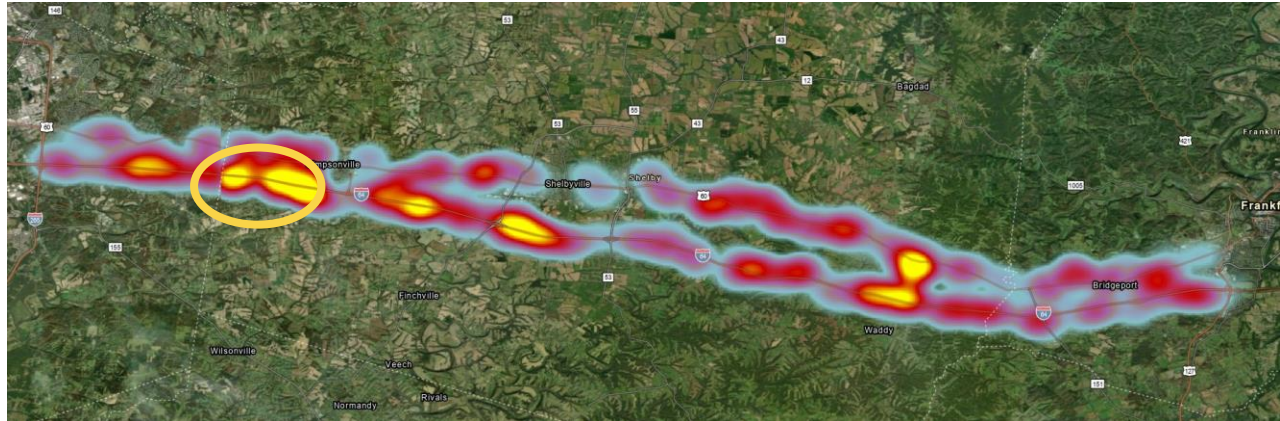
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PROJECT RESULTS

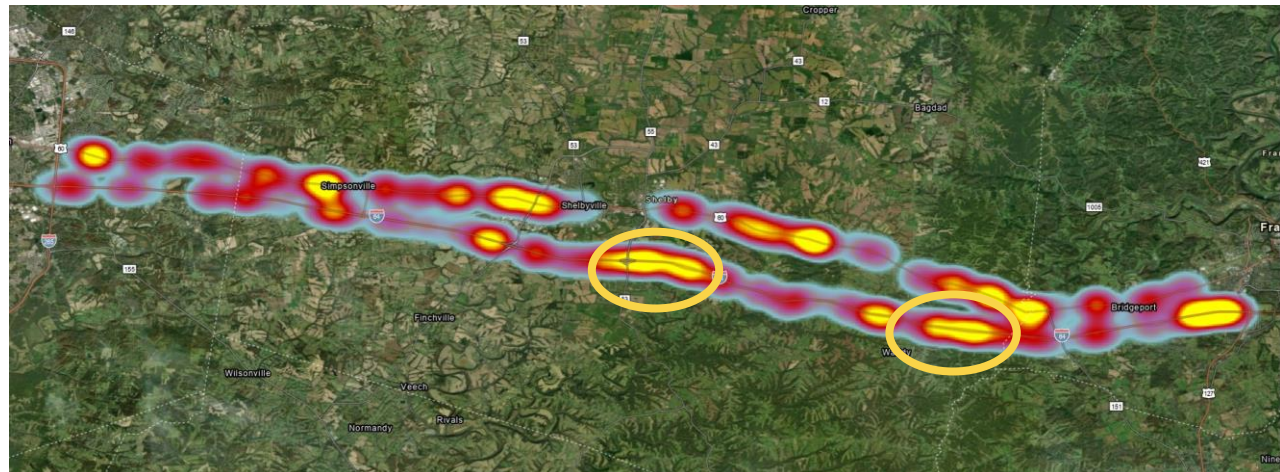
Thus Far

- We found deer
- Deer like forest/field edge habitat

Hotspot crash locations don't always correlate with survey results.



Summer 2024 Deer Population



Full Season 2020 – 2023 Crash Hotspots

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PROJECT RESULTS

Thus Far

- We found deer
- Deer like forest/field edge habitat
- Hotspot crash locations don't always correlate with survey results

Hotspot crashes along I-64 correlate with habitat corridor conflicts where crossings are limited.



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WHAT'S NEXT?

- Habitat delineation
- Camera installation at existing crossings
- GPS collaring (KDFWR partnering)
- Agency coordination
- Fall drone survey
 - Rut behavioral changes (i.e., home range variation)
 - Better views of deer in forested habitat
- Summary report
 - Document interrupted habitat corridors
 - Suggest **countermeasures to improve safety**
- Statewide collision reduction study



QUESTIONS?

PDH QR

