

Roadkill survey report

2025 survey season: April to November



Volunteer Katie Rodriguez and a roadkilled western diamondback rattlesnake

Season summary: Four routes, ten volunteers, 3,927 miles surveyed, approx. 112 roadkilled animals found, over 200 other animals seen on the road, and some new learnings in our project areas!

This report was funded by the [Santa Cruz Valley National Heritage Area](#). Thank you!

Why we surveyed

- CSDP conducted road-cruise surveys on four routes to learn more about roadkill, wildlife-vehicle collisions, and wildlife movement across roadways.
- Researching roadkill helps inform our recommendations for future connectivity and wildlife crossing projects.
- Our 2025 roadkill survey season was a continuation of a long-term monitoring project led by Dr. Brian Blais.¹
- It was also CSDP's first survey season — before this, we had only conducted single-day surveys. We learned a lot!

Where we surveyed

We used the following paved and unpaved survey routes or “transects” from Blais et al's (2024) study:

- Sprawl: Old Spanish Trail and Colossal Cave Road near Saguaro National Park East.
- Sprawl: Mile Wide Road near Saguaro National Park West and Picture Rocks
- Connecting: Park Links Road near Picacho Peak/Oro Valley
- Rural: Silverbell Road near Ironwood National Monument

These routes are useful for CSDP's Tucson Mountains, Avra Valley, and Las Cienegas project areas.

The differing development densities — rural; connecting; sprawl, defined in Blais et al (2024) — also helps us consider the impacts of growth and increased roadways on connectivity.



Left: a young western diamondback rattlesnake; Right: a fox seen on the side of the road

¹ Brian R. Blais, Corey J. Shaw, Colin W. Brocka, Samantha L. Johnson, Kayla K. Lauger; Anthropogenic, environmental and temporal associations with vertebrate road mortality in a wildland–urban interface of a biodiverse desert ecoregion. R. Soc. Open Sci. 1 July 2024; 11 (7): 240439. <https://doi.org/10.1098/rsos.240439>

Methods

CSDP's study followed the protocol established by Blais et al (2024):

- Surveys were after sunset every two weeks from mid-April through mid-November, for a total of 57 surveys (we missed one on Mile Wide Road).
- Volunteers often worked in pairs and recorded weather conditions, the amount of vehicle traffic on the route, and data on all alive and dead animals seen during the survey.
- We didn't track things in flight (i.e. birds or bats), insects, or arachnids, but we did make note of any other animals alive or dead on the road.

What we saw

- Around² **340 observations** during the surveys
- **32% were dead animals** (112), and the rest were alive animals seen on the roadway
- A lot of **seasonal trends** — including two waves of baby snakes and a seasonal spike in Carolina wolf spiders
- Only **species that were expected for the area** — nothing rare or unusual was observed (Table 2)
- **Lots of some species** (based on total count, alive and dead): mice and kangaroo rats, Sonoran Desert toads, western diamondback rattlesnakes, western banded geckos, and cottontail rabbits

What roadkill we did see is **a mere fraction of what is actually killed**: the majority of roadkilled animals are quickly removed from the road by other species, including humans. As one study of roadkill in Saguaro National Park noted, “animals killed by vehicles may be difficult to observe, particularly during driving surveys, and carcasses may not persist between surveys due to scavenging and other factors.”³

Table 1. Summary of survey results by route

Route	Observations	Dead	Alive	Total traffic	Type
Colossal Cave	56	27	29	530	Sprawl
Mile Wide	82	30	52	424	Sprawl
Park Links	167	54	113	350	Connecting
Silverbell	32	1	31	27	Rural

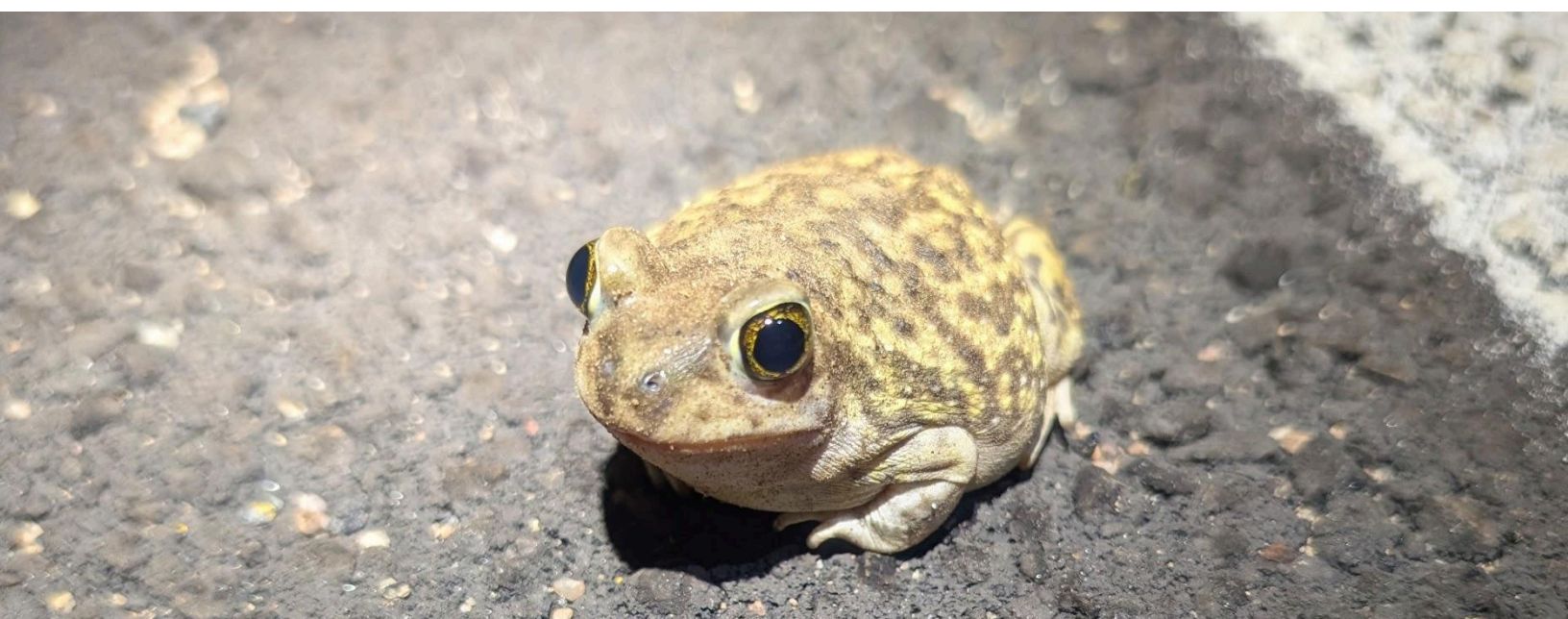
What we learned

- We saw some **roadkill hotspots near washes and wildlife crossings**, and specifically Blanco Wash, the Central Arizona Project (CAP) canal crossing on Manville Rd, and Rincon Creek.
- With a larger dataset, we could **start to identify hotspots** and areas in need of better crossing solutions. We'll need to conduct more surveys and combine our data with past surveys to do that.

² Where there was more than one animal (for example, a squadron of javelina), it was sometimes difficult to record a precise number

³ Gerow, Kenneth; Kline, Natasha C.; Swann, Don E.; and Pokorny, Marin (2010) "Estimating Annual Vertebrate Mortality on Roads at Saguaro National Park, Arizona," Human–Wildlife Interactions: Vol. 4: Iss. 2, Article 15. DOI: <https://doi.org/10.26077/dhg5-wg98>

- We saw **70% of animals during monsoon season** (15 June to 30 September). Our study ran for about twice that time, so this shows us that more animals were moving about during monsoon season — as expected.
- **Reptiles were more likely to be dead on the road** than amphibians and other animals. We know that snakes, especially, like to bask in the warmth of roads.
- **We saw the *least* roadkill, and wildlife overall, on the most rural route** (Table 1) — only around 10% of total observations were from the Silverbell Road route. And of 32 observations from Silverbell road, only one was dead (we’re sorry, little cottontail).
- We also saw **almost no roadkill on unpaved sections of road**. We don’t have enough data to make conclusions, but it’s possible that unpaved roads are safer for wildlife or that there’s simply causation between unpaved roads and rural areas with less traffic. *This matches results on unpaved roads from Blais et al (2024).*



A Couch's spadefoot toad, alive on the road

We have to agree with Blais et al (2024): “We recommend that managers **mitigate or avoid development in rural areas that possess high biodiversity**, valuable waterways or migration corridors, and populations of vulnerable species.” Preaching to the choir!

Table 2. Roadkilled species observed (does not include alive species)

Snakes		Other herps	
Western diamondback rattlesnake	8	Zebra-tailed lizard	4
Sidewinder	4	Western banded gecko	2
Mojave rattlesnake	2	Desert spiny lizard	1
Glossy snake	1	Ornate tree lizard	1
Variable sand snake	1	Regal horned lizard	1

Tiger rattlesnake	1	Desert iguana	1
Gopher snake	1		
Long-nosed snake	1	Other animals	
Western patch-nosed snake	1	Rodent (field mouse, kangaroo rat)	10
Checkered garter snake	1	Bird	0
		Cottontail rabbit	4
		Coyote	2
Amphibians		Jackrabbit	2
Sonoran Desert toad	13	Javelina	2
Couch's spadefoot	6	Unidentifiable mammal	2
		Ground squirrel	1
		Skunk	1

Amphibians

We also saw many more species that were alive on the roadway, including: bobcat, cows, coyote, mule deer, foxes (especially on the Park Links route), javelina, and several kinds of snake.



Left: Volunteer Kayla Lauger on a survey; Right: using a scale ruler for a juvenile snake.

What's next

- In 2026, we are running a new survey season with two transects: Mile Wide Road, and the frontage road next to the Santa Cruz River Wildlife Ramp.
- We discontinued the Silverbell Road route due to low data collection in 2025, and the Park Links route due to low overlap with our program priorities
- We discontinued the Colossal Cave route due to safety concerns — there's more traffic on that route than when Blais et al (2024) first started surveying.

- We also want to try to optimize our study design for all wildlife — Blais et al (2024) focused on herps, for example.
- We look forward to sharing what we learn!

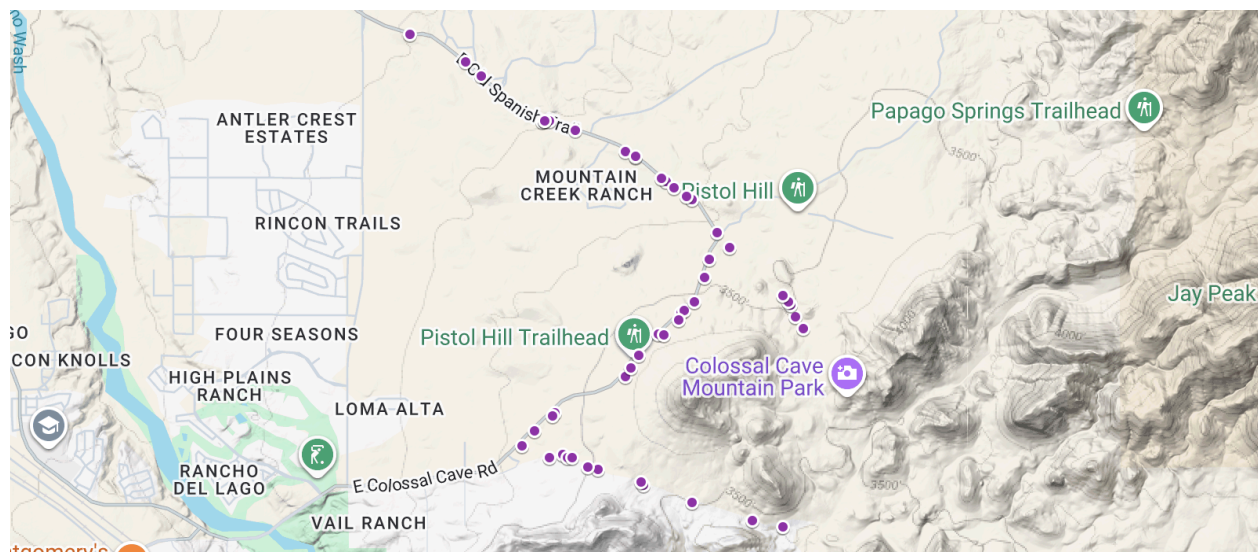
Reference

You can see these results in CSDP's iNaturalist [Safe Passage project](#). This data also feeds into the “Roadkill of the Sonoran Desert” project in iNaturalist, managed by Saguaro National Park.

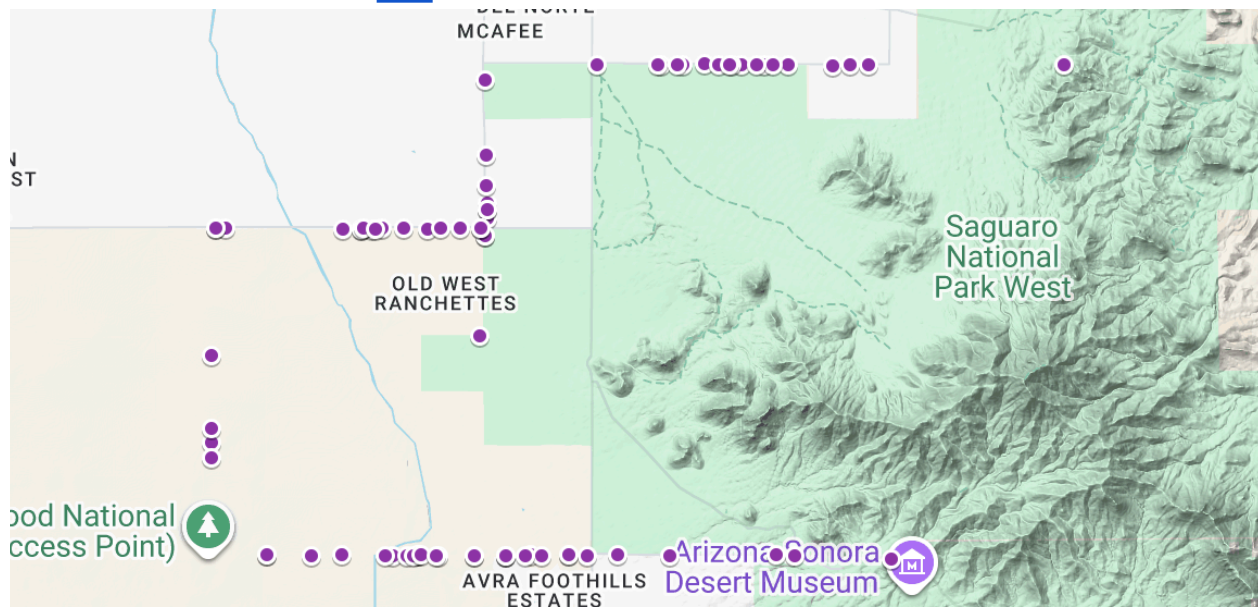
More information on routes and observation locations

You can see locations of our observations in the maps below (note: these are shown at various scales, and some have been cropped to fit the page).

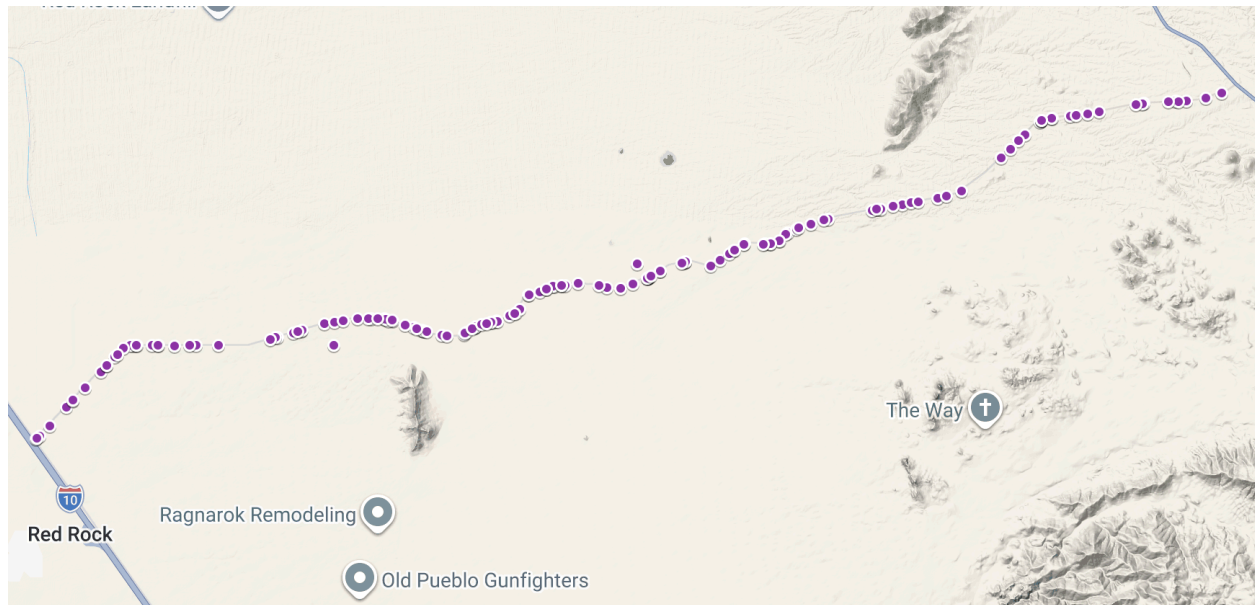
Colossal Cave Road: see full route [here](#).



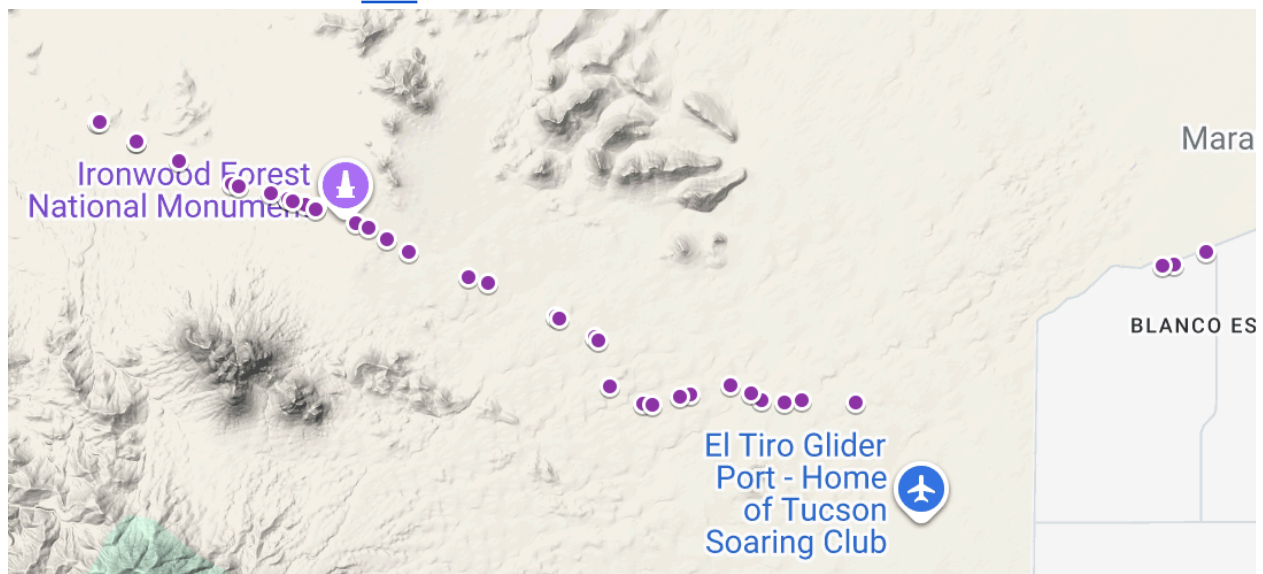
Mile Wide Road: see full route [here](#)



Park Links Road: see full route [here](#)



Silverbell Road: see full route [here](#)



Acknowledgements

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