

What Actually Works

By Arya Shah

Happy's Foundation Research • July 2026

Introduction

Most people's first instinct when they see a stray animal is to keep walking. It's not always because they don't care; often, it's because the problem feels overwhelming and it's unclear what, if anything, will actually make a difference. The previous articles in this series examined the scale of the global stray animal crisis and its impact in Houston. This article asks a different question: what actually works? Research from cities and countries around the world points to an unsurprisingly consistent conclusion. The goal is not simply fewer stray animals, but healthier, safer communities for the animals already living there while preventing future overpopulation through proven, long-term strategies.

The Strategy That Does Both at Once

It's easy to assume that caring for the animals on the street and reducing their numbers over time are two separate goals. However, the most effective strategies don't choose between compassion and population control; they achieve both simultaneously. TNVR works because it improves the welfare of the animals already living on the streets while preventing future generations from being born into the same conditions. Sterilization slows population growth, vaccination reduces disease risk, and basic veterinary care leaves animals healthier than when they were found. When implemented consistently and at sufficient scale, research shows TNVR can both improve animal welfare and reduce stray populations over the long term.

Istanbul is the clearest large-scale demonstration of this working. In Turkey, the law requires that all municipalities capture, immunize, sterilize, and release healthy animals back to where they were found rather than removing them. [1] Supporting this legal framework is an extensive network of community feeding stations, mobile veterinary clinics, rehabilitation facilities, and a 24-hour emergency hotline for injured animals. In a single year, Istanbul's municipal veterinary services treated more than 146,000 stray animals, vaccinated over 42,000, and sterilized approximately 20,000. [1] Rather than viewing animal welfare and population control as opposing objectives, Istanbul demonstrates that they can be pursued through the same coordinated system.

Communities Matter Too

Effective stray animal management, however, depends on more than just veterinary medicine. Research from Istanbul demonstrates that community attitudes towards these animals influence the effectiveness of such programs. The establishment of community feeding stations, volunteers who care for stray animals, emergency veterinary services, and even municipal assistance rely on the assumption that stray animals deserve care, while at the same time controlling their population via sterilization. When communities recognize them as living members of the urban environment, humane interventions become easier to sustain. [1]

Why Removal-Only Approaches Fall Short

Methods that focus primarily on removal, whether through euthanasia, long-term sheltering, or relocation without sterilization, don't tackle the root of the problem. As the Budapest review of international stray animal management concludes, removing animals without reducing reproduction amounts to "symptomatic treatment": the immediate problem is reduced, but new animals continue entering the population unless breeding is addressed. [2]

Houston demonstrates the challenge of relying on downstream interventions when prevention cannot keep pace. Although the city operates Trap-Neuter-Return programs, low-cost sterilization clinics, and community outreach initiatives, shelter intake has continued to exceed available capacity. In 2025, BARC euthanized more adoptable animals than any other shelter in Texas while also remaining legally required to accept every animal brought through its doors. [3] Rather than reflecting a failure of any single program, this exemplifies a situation where prevention is not able to catch up with incoming animals. The evidence suggests that lasting population reduction depends on expanding upstream interventions, particularly sterilization, rather than primarily relying on downstream shelter management.

Sterilization Is the Non-Negotiable Core

This all would be impossible without sterilization. Reproduction occurs at such a rapid pace that nothing else could match up; a mere unsterilized couple of cats and their progeny have the potential to yield hundreds of thousands of individuals within the span of a decade, with a number as high as 420,000 kittens coming from just one breeding couple in seven years being cited in one study. [4] Each of the strategies suggested in this essay hinges on the ability to stay ahead of those numbers. Taking care of and teaching individuals is a gesture of goodwill that doesn't alter their fate.

Funding Structure Decides Whether Any of This Lasts

The success of any program hinges on the sustainability of the financing model supporting it. Studies on the finances used to manage cats in a Greek municipality revealed that 59 percent of the variance in expenses was accounted for, but 41 percent was spent on expenses that were non-contributory to the number of neutered animals. Researchers concluded that financial resources must be directed toward measurable population-control efforts rather than being absorbed by broader operational costs, recommending that programs prioritize outcomes rather than simply increasing budgets. [5]

Istanbul demonstrates what this looks like in practice. Rather than relying primarily on donations or short-term grants, Turkish law requires municipalities to provide ongoing Trap-Neuter-Vaccinate-Return (TNVR) services as part of their public responsibilities. [1] Because these programs are embedded within the municipal system, sterilization and veterinary care continue as long-term public services rather than temporary initiatives.

Houston represents a middle ground. The city has established important infrastructure through BARC's Trap-Neuter-Return program, Healthy Pets Healthy Streets, and Fixin' Houston, which has performed more than 11,000 low-cost sterilization surgeries since 2014. [6] However, public access to spay and neuter services depends on available funding and partnerships, meaning capacity has not consistently matched the scale of the city's stray animal population. The challenge, therefore, is not the absence of proven programs but ensuring they have stable, long-term support that allows them to operate at the scale the problem requires.

Safety Is a Shared Good, Not Just an Animal Welfare Outcome

Healthier, safer communities cut both ways. Healthy communities benefit everyone, not just the animals. An uncontrolled population brings actual costs that we humans have to bear: dogs are capable of spreading more than 300 zoonotic diseases, while rabies is near-universally fatal once symptoms show up. [4] Numbers from Houston make this clear: the city was one of the worst in the nation in terms of dog attacks on mail carriers in six out of eight years, [7] and there were almost 1,200 bite incidents involving stray animals reported in Harris County in a single year. [8] Vaccinated and sterilized animals pose less of a threat both to themselves and to their surrounding communities.

No Single Piece Works Alone

The most prominent theme found in all of these sources is that there is no single tool: sterilization, education, laws, or shelters that will do this job on its own. [2] The success of Istanbul's system lies in the fact that all components, such as fixed clinics, mobile stations, public

feeding points, a telephone line, and microchipping, all operate together as one connected system rather than as isolated programs. [1] Houston already has each piece in place: a legal TNR ordinance, a municipal shelter, low-cost clinics, and a wide network of partner nonprofits. [6] The problem is not that one of these projects is absent, but the lack of a steady financial model for them to operate together.

Real Transactions, Not Passive Donation

One of the more unexpected findings from this research concerns how successful animal welfare programs are funded. At Istanbul's Tepeören Animal Hospital, part of the ongoing care for stray animals is supported through a pet memorial program. Pet owners purchase burial plots and commemorative plaques for their deceased companions, and the revenue generated helps fund the treatment and care of stray animals. [1]

The significance of this model extends beyond memorial services themselves. Rather than relying solely on charitable donations, it generates funding through a genuine exchange of value: pet owners receive a meaningful way to honor their animals, while the proceeds provide a sustainable source of support for ongoing animal welfare programs. This illustrates how mission-driven services can create reliable funding without depending entirely on periodic fundraising campaigns.

What Actually Works, in Summary

Across countries with different cultures, economies, and legal systems, the research points to a consistent conclusion. Lasting progress does not come from a single program or policy, but from a coordinated system that combines humane care, widespread sterilization, public education, accessible veterinary services, supportive legislation, and sustainable funding. Rather than treating animal welfare and population control as competing priorities, the most successful communities pursue both simultaneously.

Istanbul provides one of the clearest examples of this approach in practice, while Houston demonstrates both the progress that has already been made and the challenges that remain when prevention cannot keep pace with demand. Although the circumstances differ, the underlying principles remain the same: successful communities invest in prevention, coordinate multiple interventions, and build funding systems capable of supporting those efforts over the long term.

The question, then, is no longer whether effective solutions exist. The research shows that they do. The remaining challenge is determining how these principles can be adapted to meet the needs of individual communities. The next article explores where Happy's Foundation fits within that evidence and how its programs are designed around the strategies that research has shown to work.

Sources

1. The stray animals of Istanbul are entrusted to their care.

T.C. İstanbul Valiliği. "İstanbul'un Sahipsiz Hayvanları Onlara Emanet." *İstanbul Valiliği*, istanbul.gov.tr/istanbulun-sahipsiz-hayvanlari-onlara-emanet

2. International Best Practice: Possible Solutions of the Stray Animal Problem

Meli, Svanhild. *International Best Practice: Possible Solutions of the Stray Animal Problem*. 2022. University of Veterinary Medicine Budapest, Master's thesis. <https://huveta.hu/server/api/core/bitstreams/b105cc93-d980-479c-bf20-60a60aa545bc/content>

3. BARC euthanizes more adoptable dogs and cats than any other shelter in Texas, says nonprofit

"BARC Euthanizes More Adoptable Dogs and Cats Than Any Other Shelter in Texas, Says Nonprofit." *FOX 26 Houston*, 19 Apr. 2026, fox26houston.com/news/barc-euthanizes-more-adoptable-dogs-cats-than-any-other-shelter-texas-says-nonprofit.

4. Statistical Analysis of the Influence of Stray Animals on People's Lives

Zhang, Yankun. "Statistical Analysis of the Influence of Stray Animals on People's Lives." *International Journal of Education and Humanities*, vol. 5, no. 3, 2022, pp. 161-164. www.researchgate.net/publication/366104359_Statistical_Analysis_of_the_Influence_of_Stray_Animals_on_People's_Lives.

5. A Linear Regression Study Relating Stray Animal Management with the Importance of Relative Funding. A Case Study in a Small Greek City

Konstantinou, Panagiota, and Georgios Stathakis. "A Linear Regression Study Relating Stray Animal Management with the Importance of Relative Funding. A Case Study in a Small Greek City." *International Journal of Economics, Business and Management Research*, vol. 8, no. 4, 2024, pp. 194-212, doi.org/10.51505/IJEBMR.2024.8413.

6. BARC Facts. *Houston BARC Foundation*

"BARC Facts." *Houston BARC Foundation*, houstonbarcfoundation.org/who-we-are/barc-facts/.

7. Houston Ranked Second in the Country Last Year for Most Dog Attacks on Postal Workers, According to USPS

"Houston Ranked Second in the Country Last Year for Most Dog Attacks on Postal Workers, According to USPS." *Houston Public Media*, 2 June 2025, houstonpublicmedia.org/articles/news/houston/2025/06/02/522867/houston-ranks-second-for-most-postal-worker-dog-bites-according-to-usps/.

8. Harris County invests over \$300K for low-cost pet spay, neuter services to combat animal overpopulation

"Harris County Invests Over \$300K for Low-Cost Pet Spay, Neuter Services to Combat Animal Overpopulation." *Community Impact*, 29 Apr. 2026, communityimpact.com/houston/spring-klein/government/2026/04/29/harris-county-invests-over-300k-for-low-cost-pet-spay-neuter-services-to-combat-animal-overpopulation/.

9. BARC Animal Shelter and Adoptions

"Get Involved in Our TNR Program." *BARC Animal Shelter & Adoptions*, City of Houston, houstontx.gov/barc/tnr_get_involved.html.