Each year, millions of animals are shuffled through shelters throughout the country (and beyond). Whether the victim of misfortunate circumstance, irresponsible breeding, an overabundant stray population, or any other cause, many of these creatures will not make it out.

In the great shuffle of city funds, shelters often get barely enough funding to operate. Sparse resources, including money and manpower, mean they must find ways to operate as efficiently and frugally as possible. With animals coming in constantly, most shelters run out of space frequently. Often, a choice must be made between taking in a new animal, at the expense of one already in-shelter, or rejecting the intake.

When lives are at stake, optimizing adoptions becomes even more crucial. Which animals have the most success at finding a new home? Black cats often stay in shelter longer than other cats, and pit bull or pit bull-appearing dogs have a harder time leaving. On the other side, purebred animals and young kittens or puppies are often easier to get adopted.

But public datasets let us dig deeper than this. Is there a particular time of year people seem to be looking to adopt? Do owner-surrendered animals find new homes more easily than strays? How many animals actually find a home?

The Austin Animal Center Intake (https://data.austintexas.gov/Health-and-Community-Services/Austin-Animal-Center-Intakes/wter-evkm/about_data) and Outcome (https://data.austintexas.gov/Health-and-Community-Services/Austin-Animal-Center-Outcomes/9t4d-g238/about_data) datasets allow for exploration of these questions and more. Each consists of about 173,000 animal entries. Since the datasets are separate but deal with many of the same animals, they will require joining. The categories (12 in each dataset, several of which correspond) are mostly categorical, with some time series categories. The number of days each animal spent in the shelter can be calculated, which will give a continuous variable to use as well. The Intakes dataset includes categories such as Animal ID (which will be the category to join on), Intake date, Type and Condition, and animal details, such as animal Type, Breed, Sex, Color, and Age. The Outcomes dataset also includes the Animal ID column, Outcome date, Type, and Subtype, and the same animal details as above.

Examining adoption trends over time, the amount of time each animal spent in shelter, as well as their estimated breeds and ages, sex, color, and even intake type, I aim to devise a plan for Austin Animal Center to maximize adoptions, so it can put resources where they will be most effective, and allow it to save more lives.