

# Pet Adoption Dynamics



Tennessee 2023

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NSS DA10

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## Executive Summary

This capstone project explores Tennessee's pet adoption landscape in 2023 using the Petfinder API, which aims to uncover adoption trends and factors across various animal species and breeds.

## Motivation

My experience adopting two beloved dogs has inspired me to explore and improve the pet adoption process. The joy of providing a home to animals in need drives my passion for this project.

# Data Collection and Preparation



## Petfinder API

Retrieved data on over 30,000 records of animals listed in Tennessee during 2023. The data included characteristics such as breed, age, adoption status, and more.



## simplemaps.com

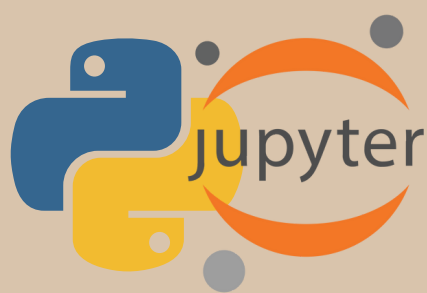
Utilized dataset available on website to gather county level geographical data.

Wikipedia



## wikipedia.com

Retrieved region information for Tennessee counties.



## Python & Jupyter Notebooks

Utilized Python scripts in Jupyter Notebook to clean raw data. Removed duplicate entries, standardized data formats, handled missing values, and more. Leveraged Python libraries (e.g., Pandas, Matplotlib) for initial data exploration.



## Tableau

Created interactive visualizations in Tableau to explore relationships between pet trends, attributes, adoption rates, and geographical patterns.

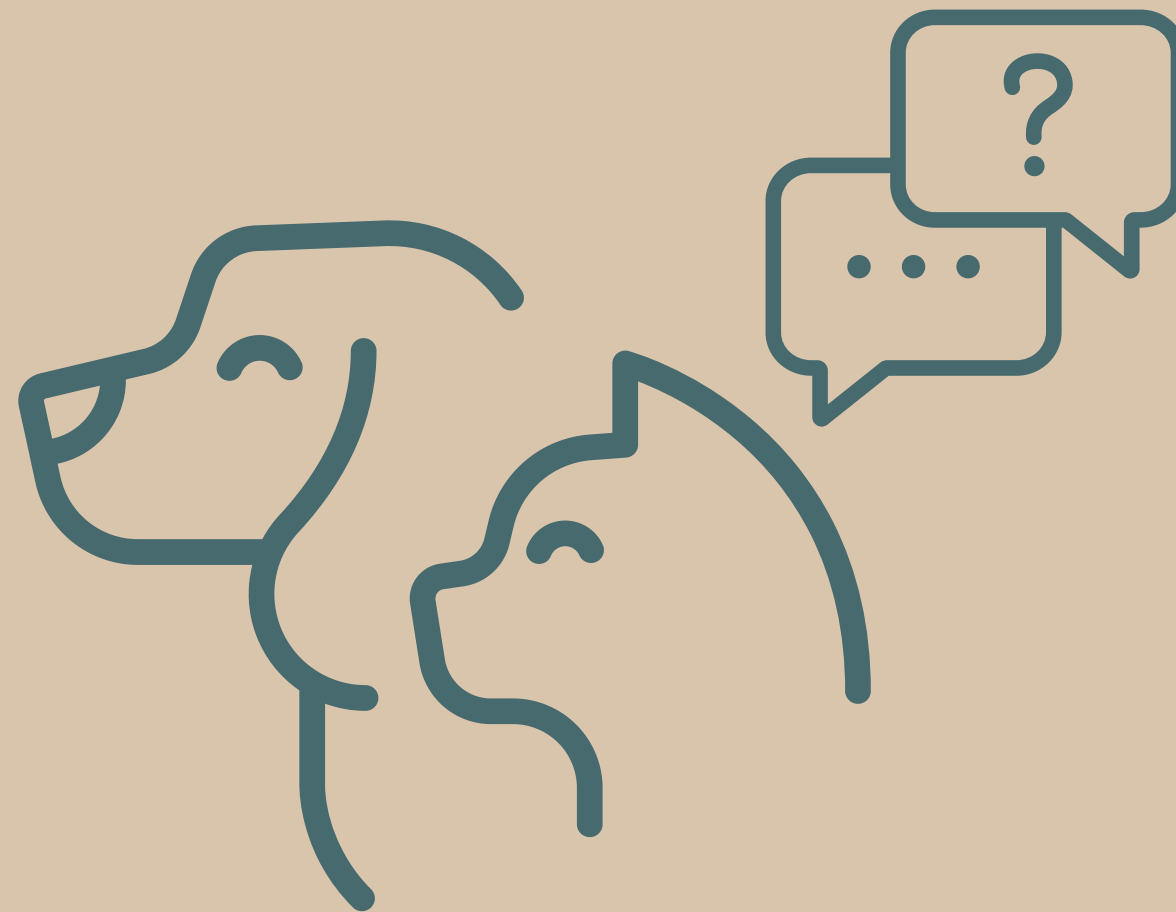


# Data Question & Findings



# Central Data Question

What are the key factors influencing pet adoption dynamics?



# Overview of Pet Stats in 2023

32,757

Total Listings

29,735

Total Adoptions

90.8%

Adoption Rate

14

Unique Species Listed

294

Unique Breeds Listed

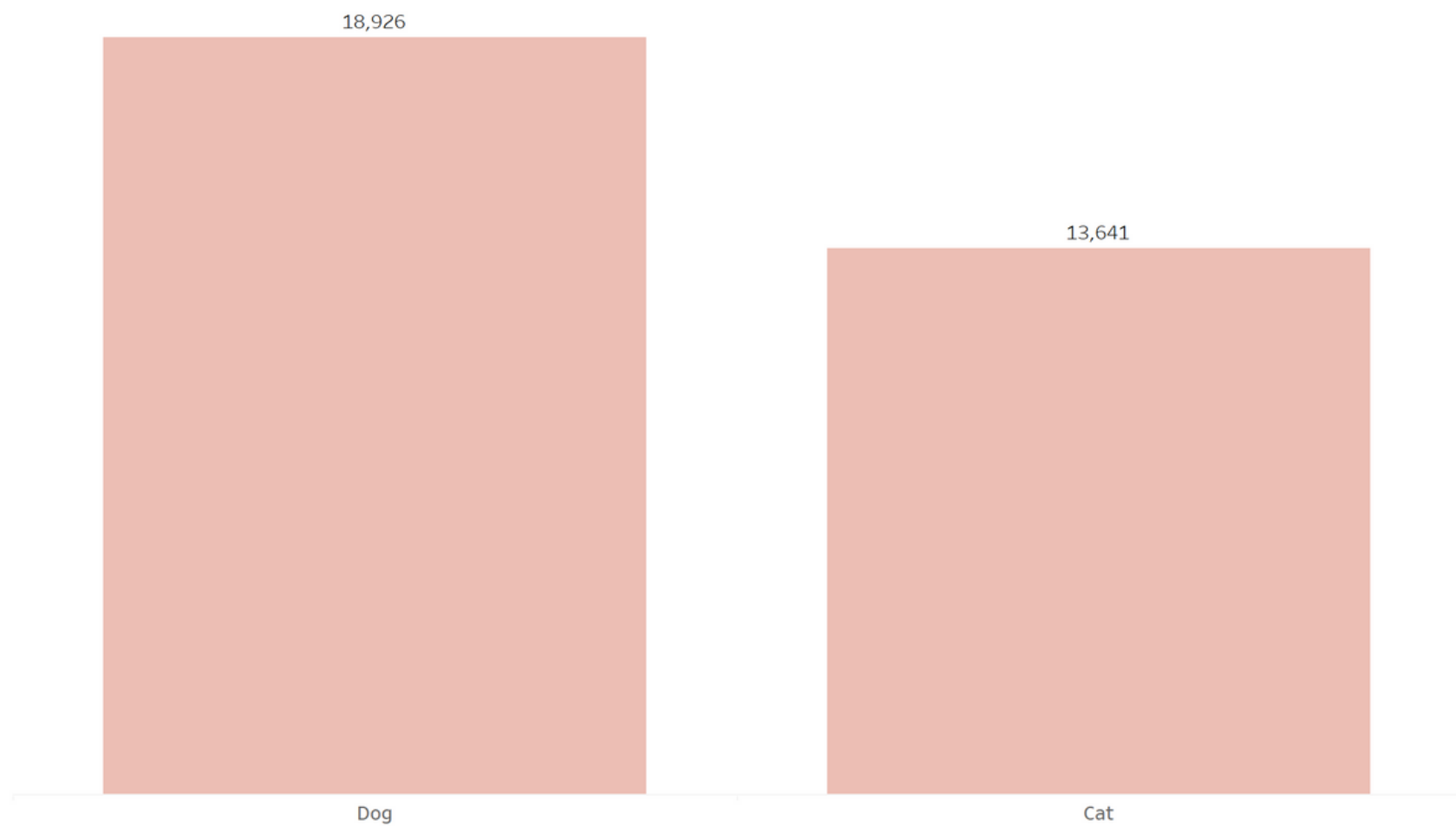
16 Days

Average Adoption Time

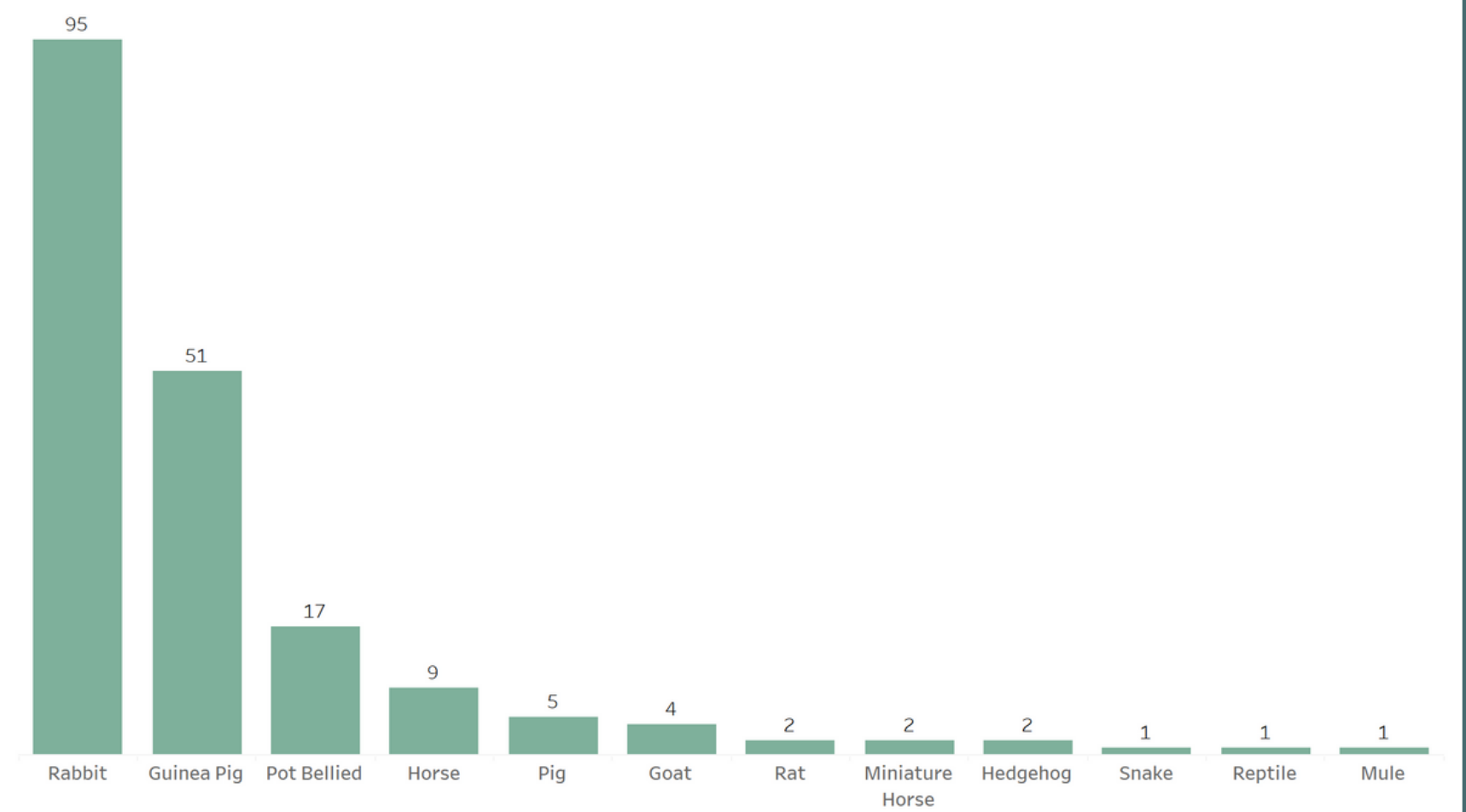


# Species Listed for Adoption in 2023

## Dog and Cat Listings



## All Other Animal Listings



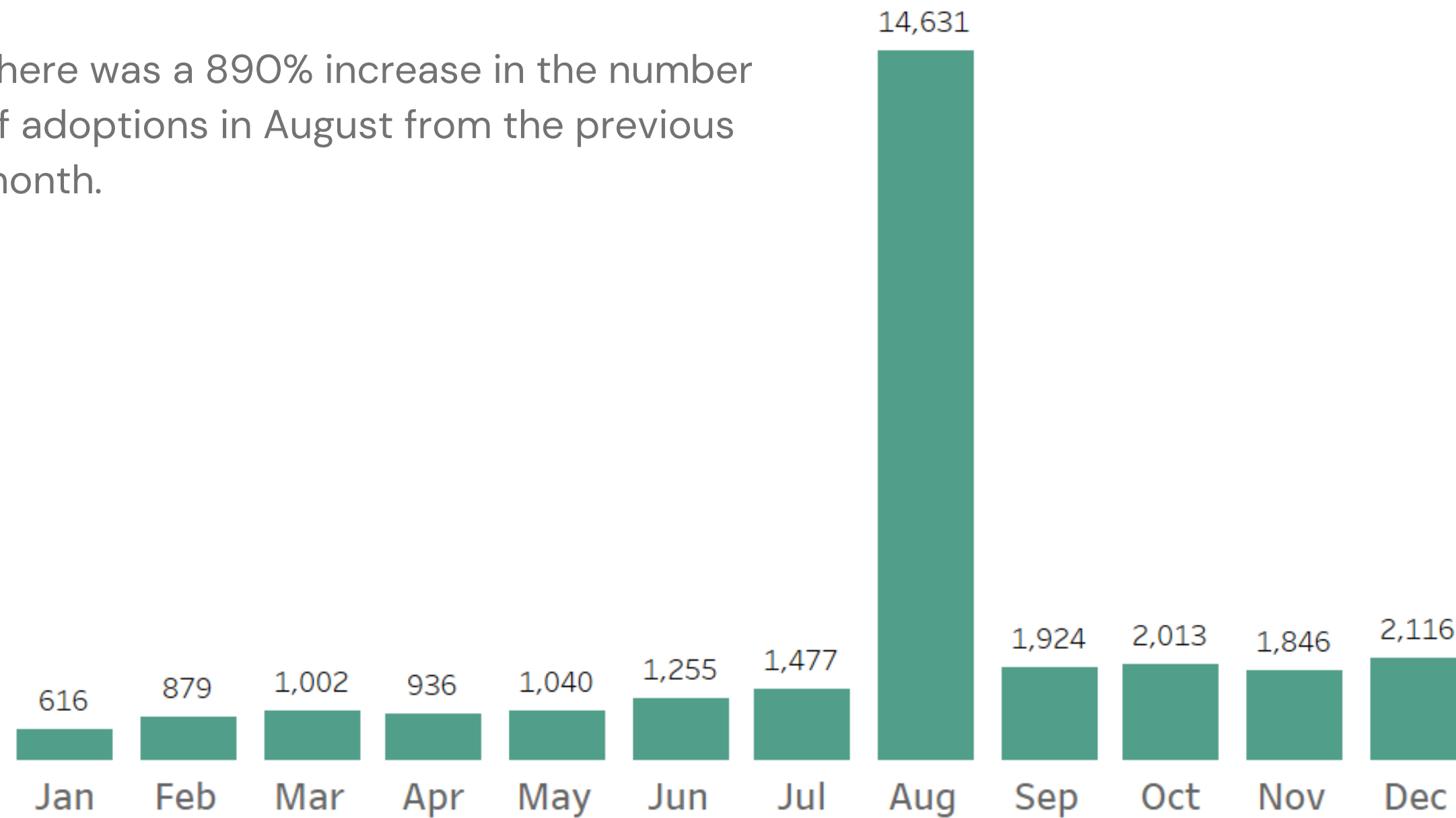


# Adoption Trends & Patterns



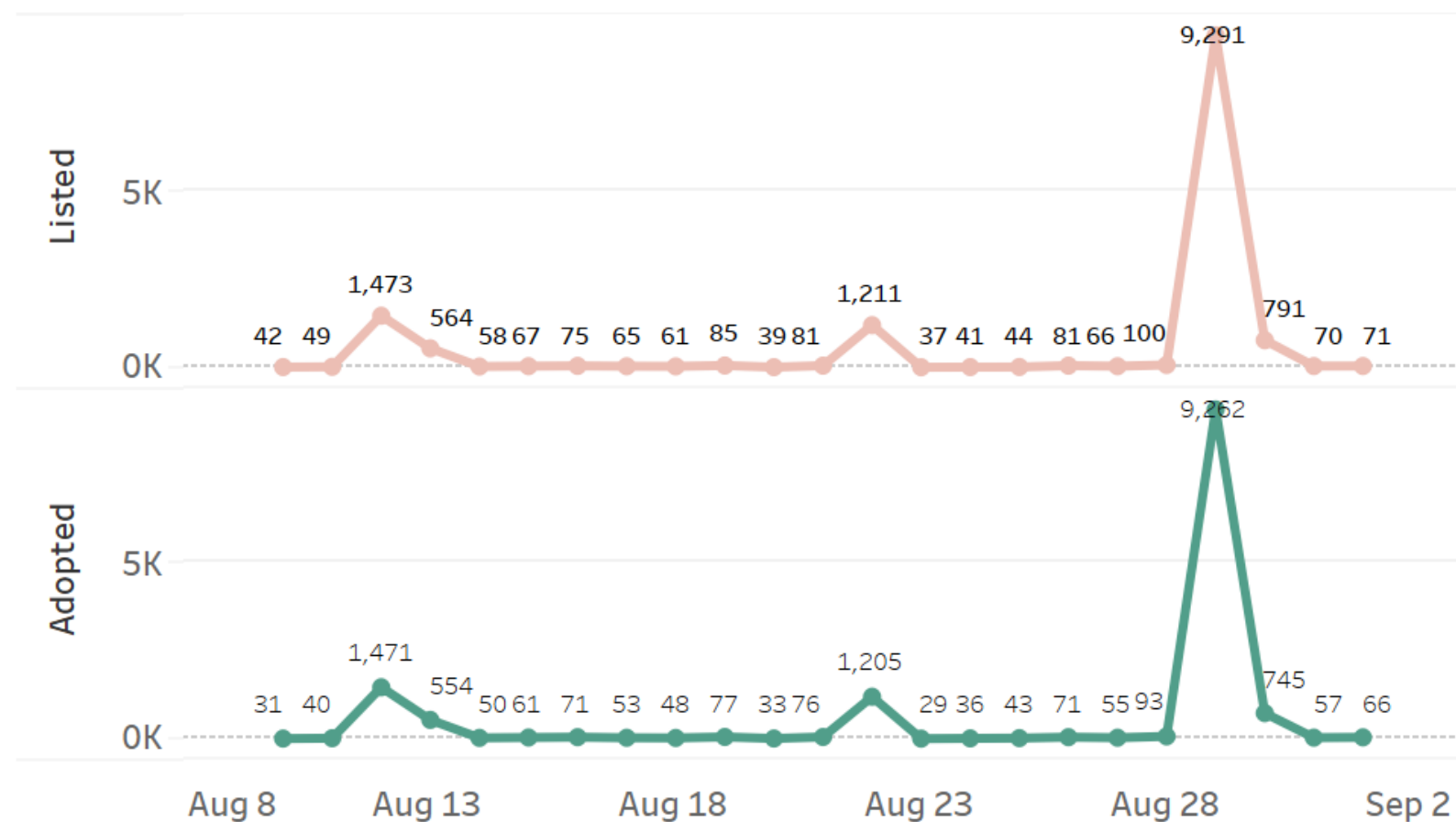
# Total Adoptions by Month

There was a 890% increase in the number of adoptions in August from the previous month.

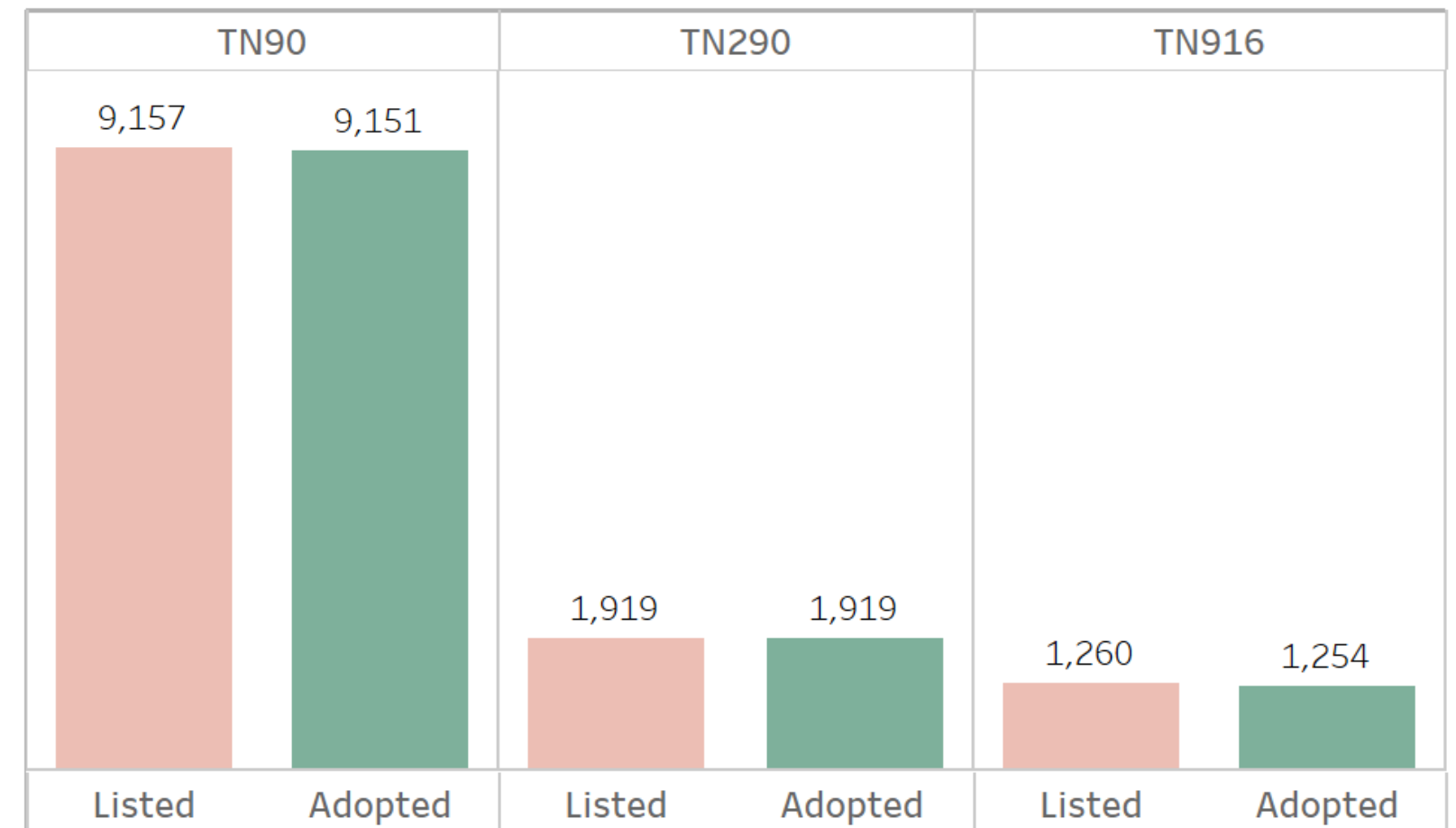


# August Peak Adoptions

## Listings & Adoptions: Aug 9th-Aug31st



## Listings & Adoptions by Shelter Org



During the period from August 9th to August 31st, spikes in listings and adoptions were primarily influenced by three shelter organizations that may have collectively updated their Petfinder listings.

# August Peak Adoptions Cont.

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**With that said, it's important to acknowledge that this data presents a skewed perspective when examining adoption times and adoption rates over time.**

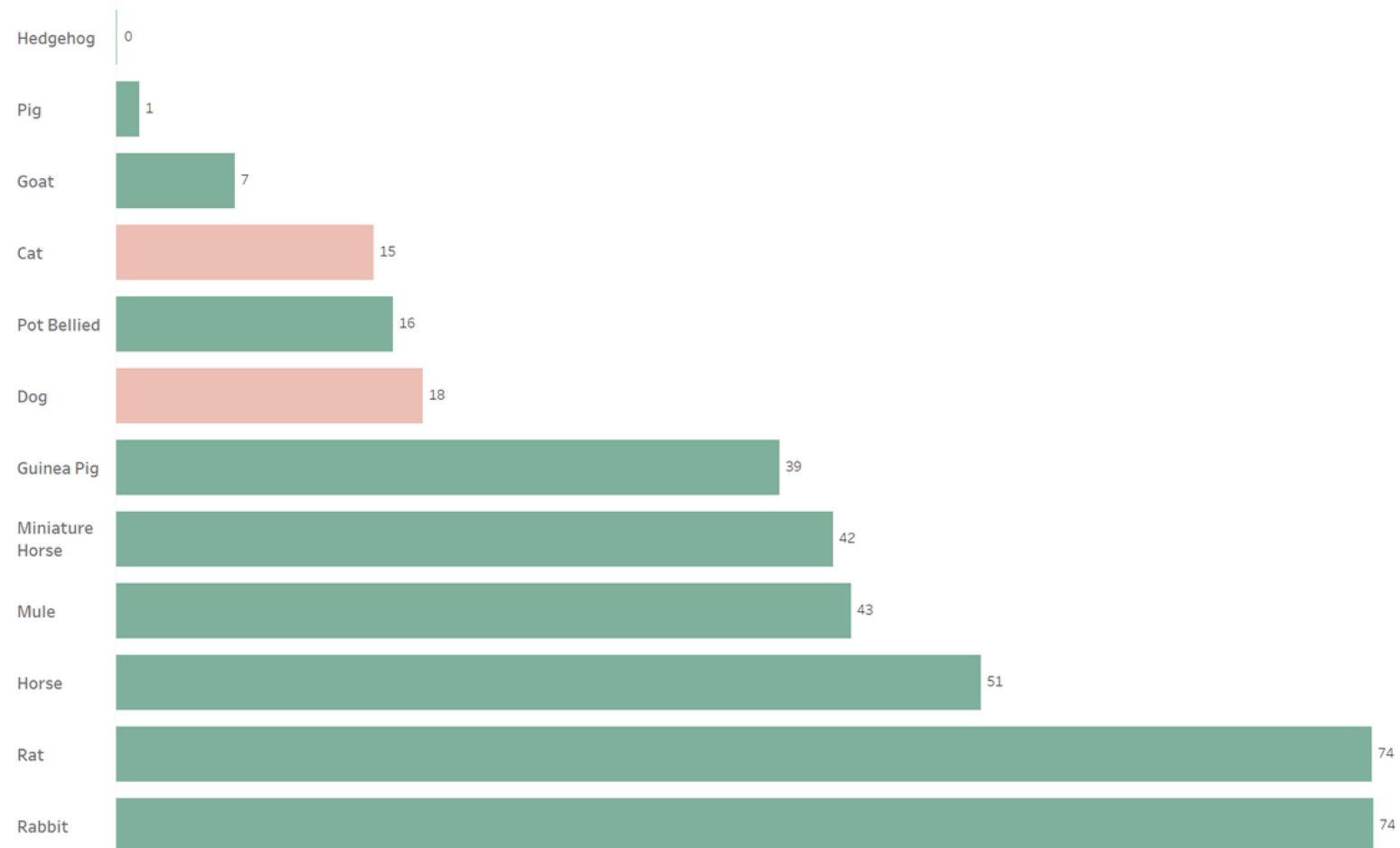
# Pet Adoption Characteristics



# Adoption Performance by Species

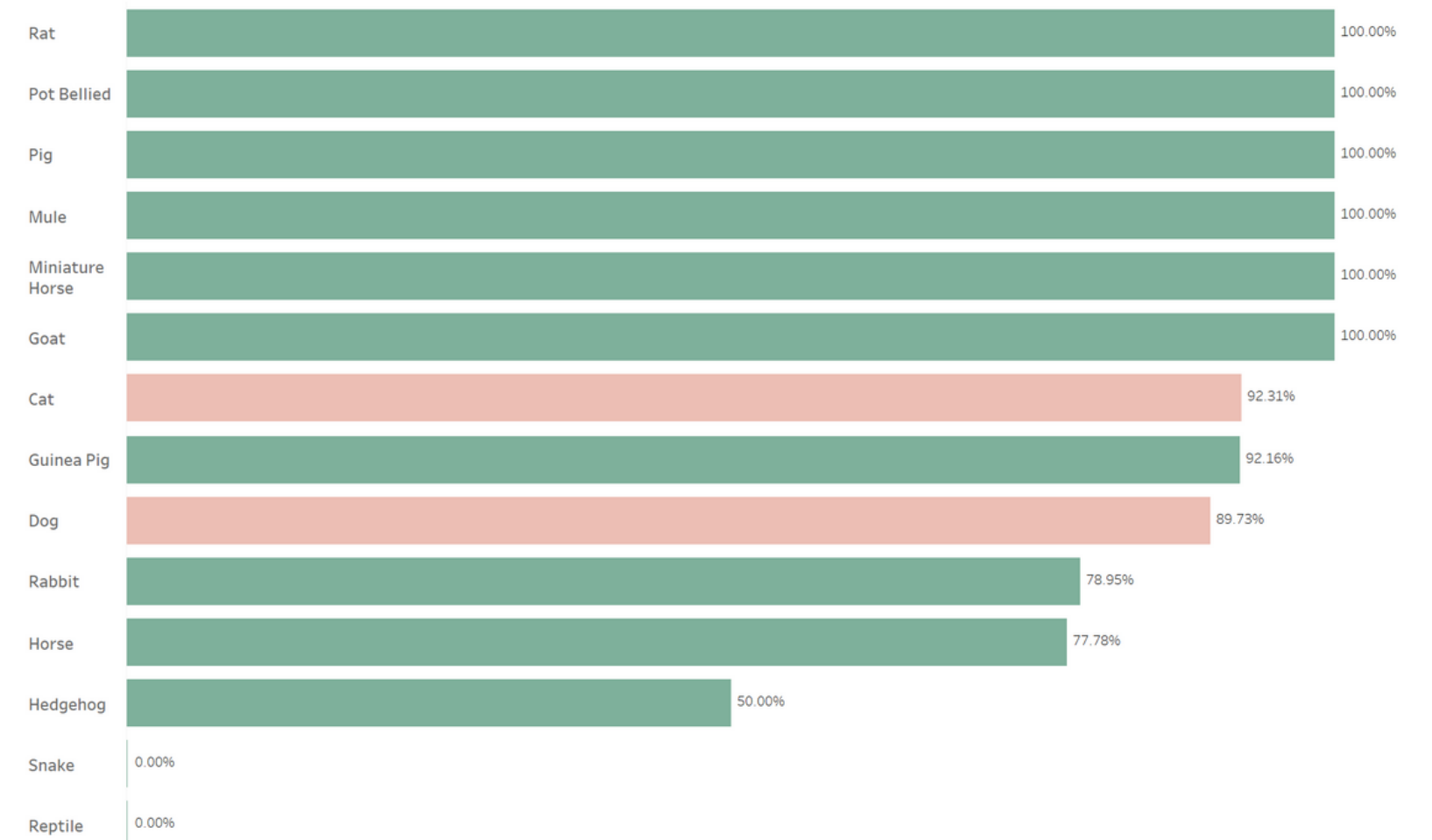
## Average Adoption Time by Species

Time spent in shelter before adoption



## Overall Adoption Rate by Species

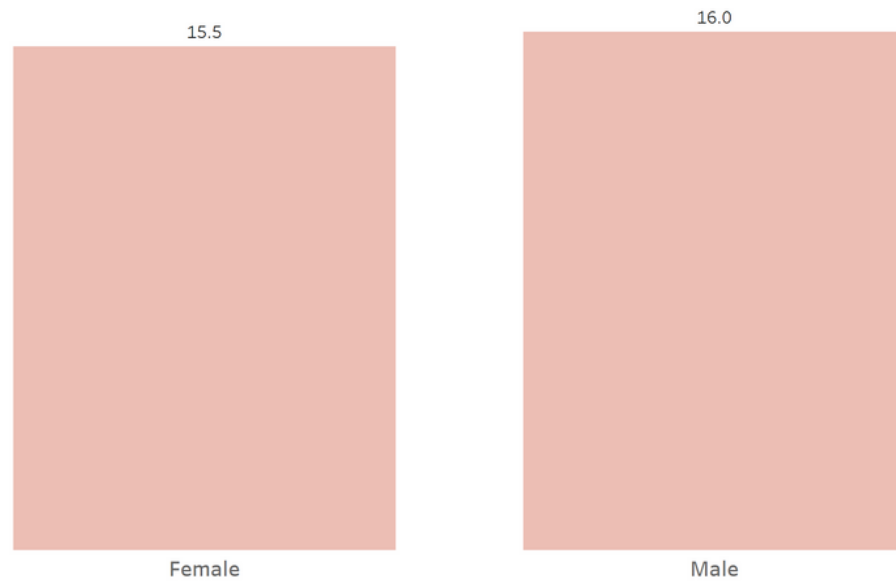
Percentage of animals adopted from a shelter



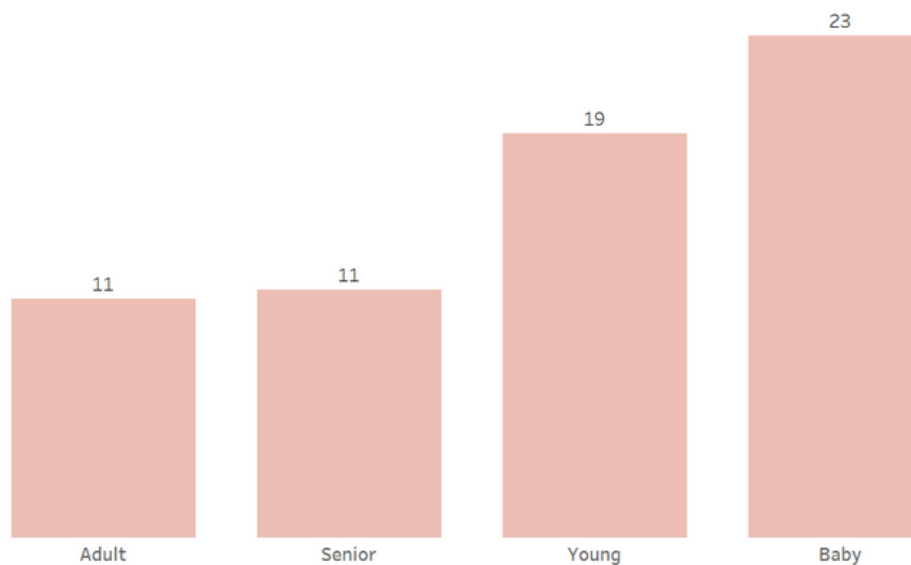
# Adoption Time

Time spent in shelter before adoption

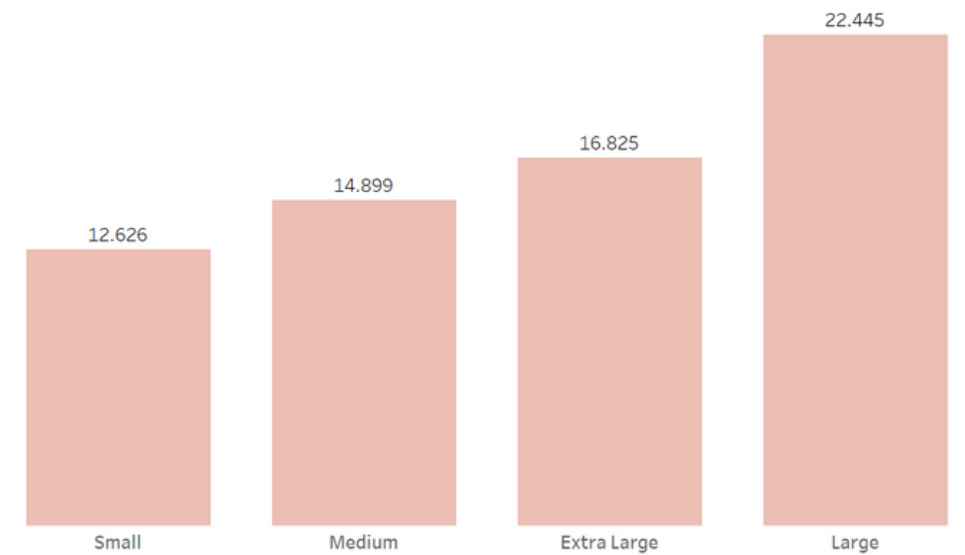
## Gender



## Age Group



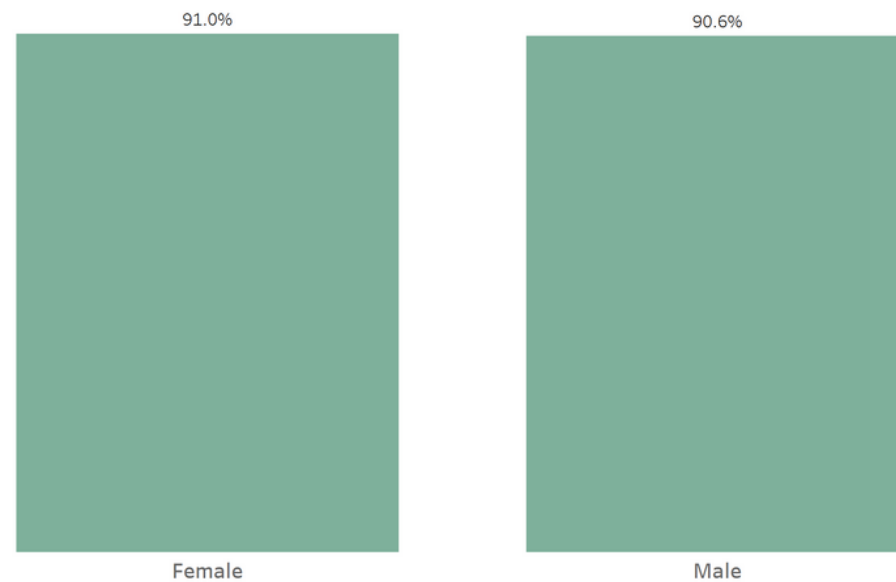
## Size Group



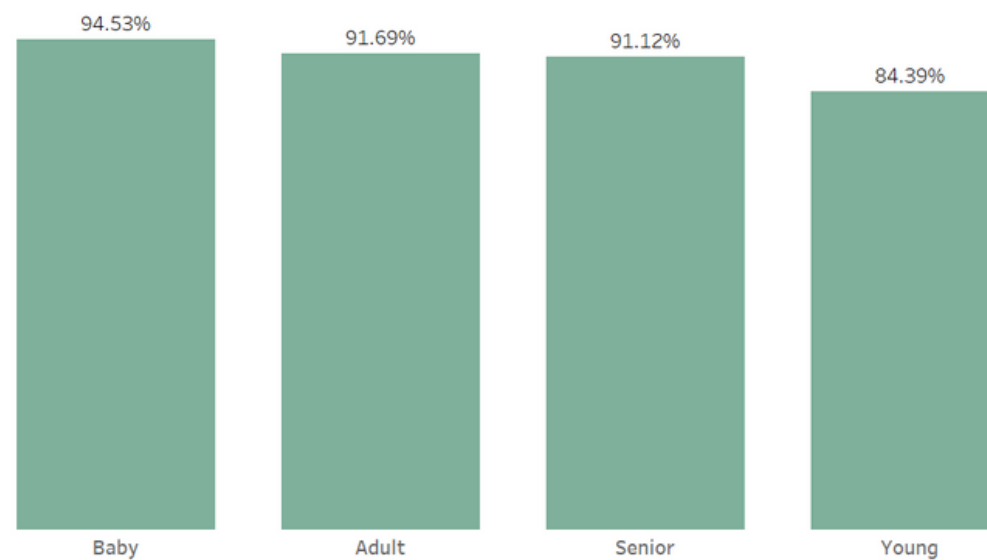
# Adoption Rate

Percentage of animals adopted from a shelter

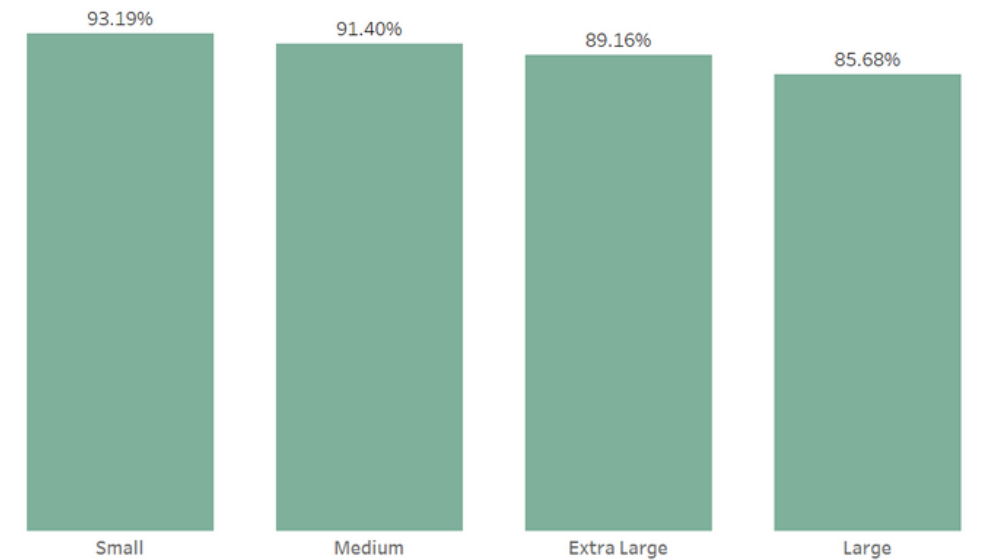
## Gender



## Age Group



## Size Group





# Breed Popularity

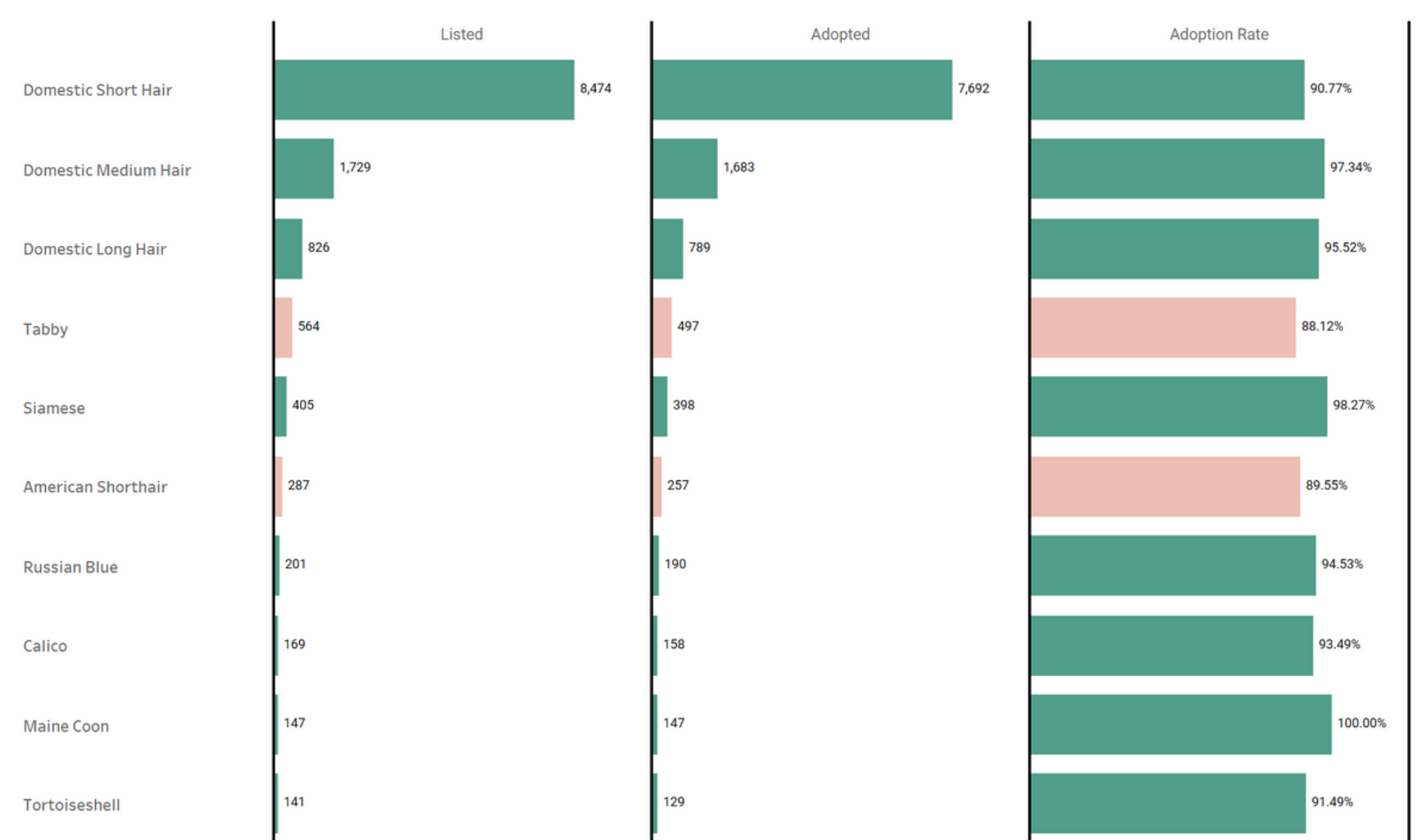


# Adoption Insights by Breed

## Top 10 Dog Breeds



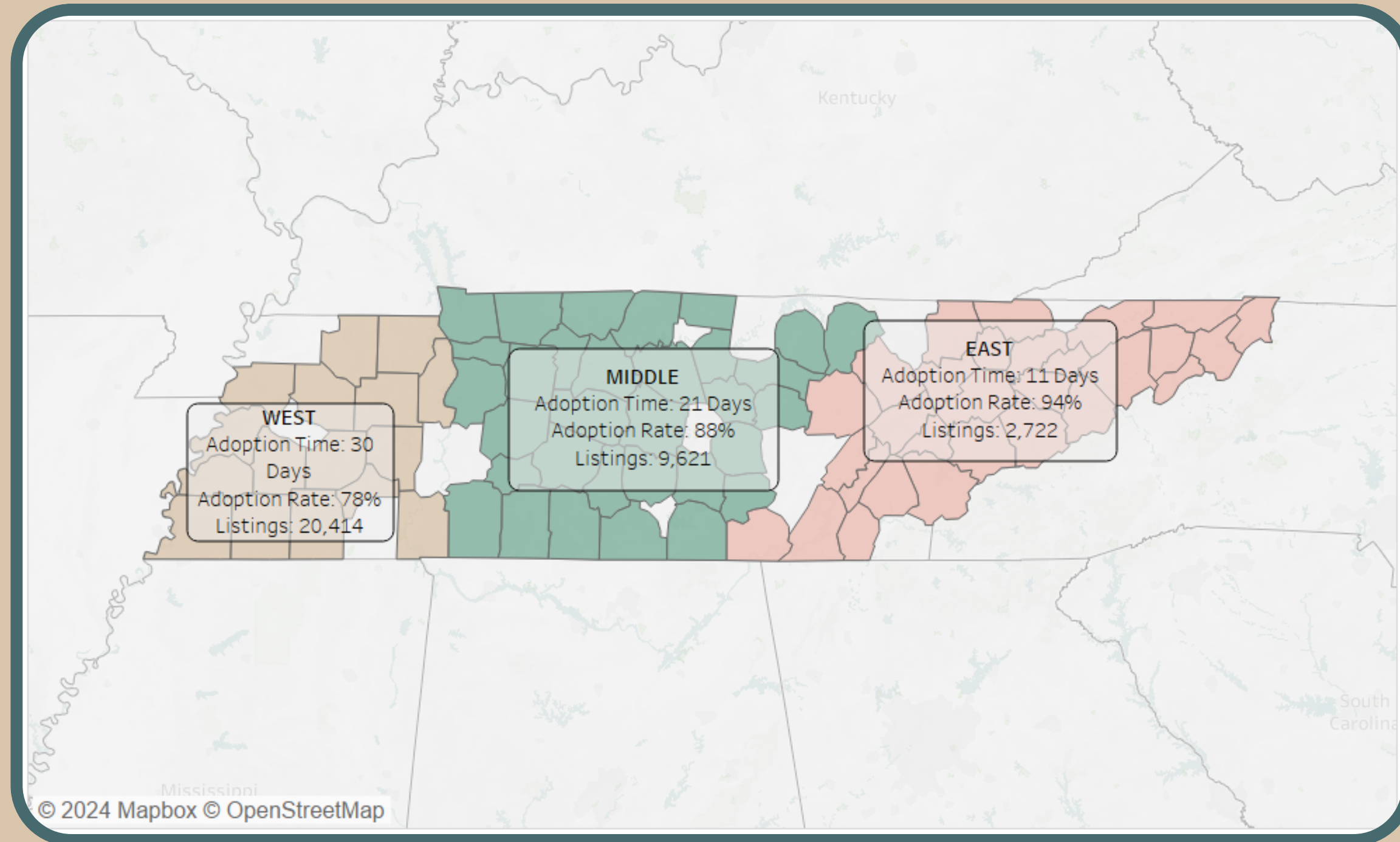
## Top 10 Cat Breeds



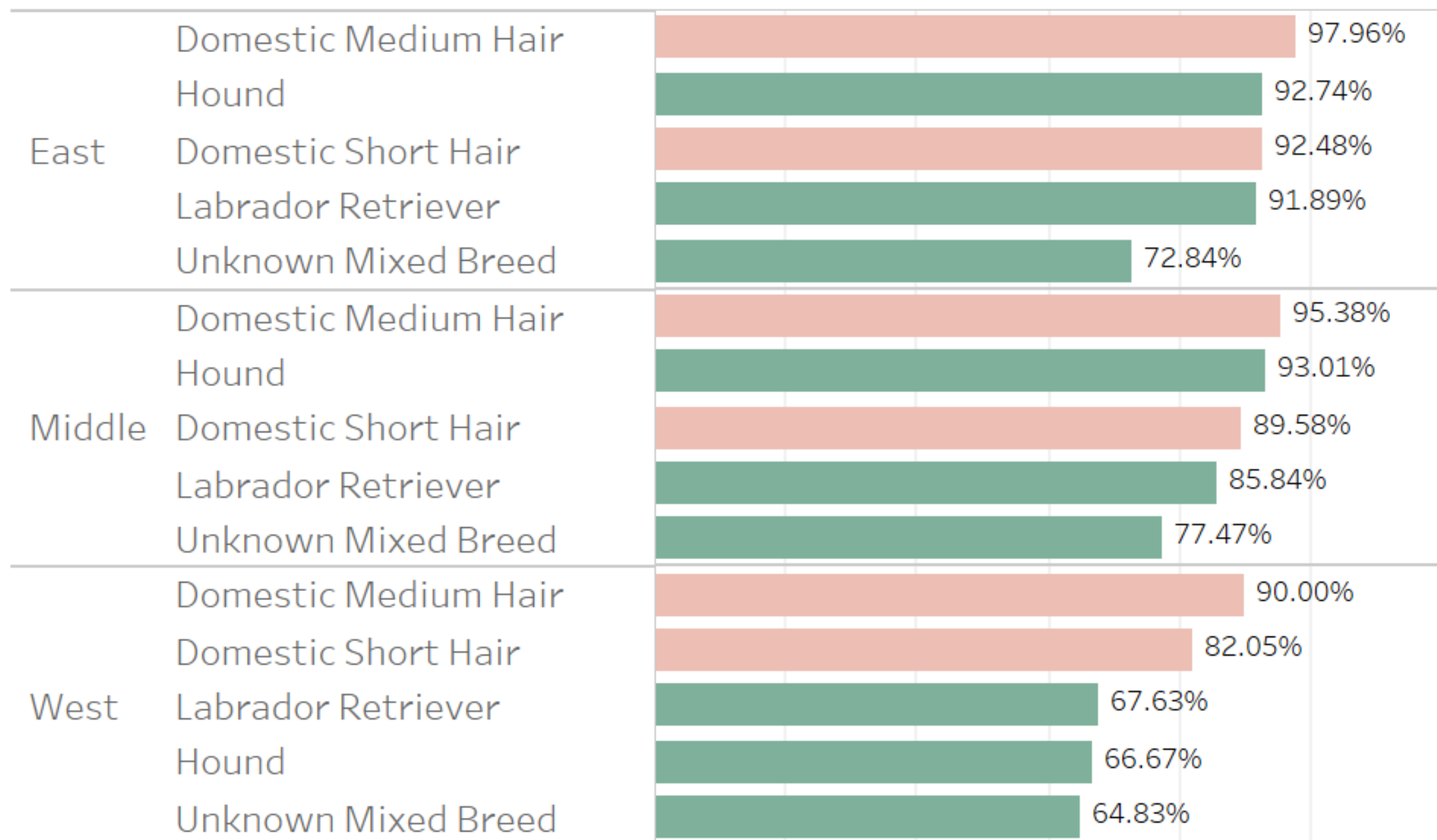
# Geographic Patterns & Trends



# Performance by Region



# Breed Popularity by Region





# Conclusion & Recommendations

# Conclusion

## What are the key factors influencing pet adoption dynamics?

- 1 Adoption trends vary throughout the year, with notable peaks in August
- 2 Adoption speed varies across species, with shorter stays for commonly listed animals like cats and dogs
- 3 Breed popularity affects adoption rates, with certain breeds being more commonly listed and adopted
- 4 Geographic patterns influence adoption rates and average adoption times across different regions



# Recommendations

1

## **Breed, Age, and Size Specific Adoption Strategies:**

- Develop targeted marketing campaigns or adoption events focusing on specific animal breeds, ages, and sizes with lower adoption rates, such as Labs and pit bull terriers, to increase their adoption rates
- Alternatively, consider campaigns focused on animals with higher adoption rates to free up shelter space for more animals in need, thereby optimizing resource allocation and promoting overall adoption efficiency

2

## **Geographic Optimization:**

- Consider redistributing resources to regions with lower adoption rates and longer average adoption times, such as the West Region



# Interactive Dashboard



Q&A

Thank You!

