

## Supplementary materials

### Appendix A – Breed Groups Used to Categorize Impounded Dogs Based on the Primary Breed Listed in the Dataset

<i>Breed Group</i>	<i>Breed</i>	<i>Number Impounded</i>
<b>Australian Herding</b>		<b>453</b>
	Australian Cattle Dog	288
	Australian Kelpie	20
	Australian Shepherd	129
	Australian Stumpy Tail Cattle Dog	2
	Queensland Heeler	11
	Working Kelpie	3
<b>Chihuahuas</b>		<b>487</b>
	Chihuahua	487
<b>Fighting breeds</b>		<b>143</b>
	American Bulldog	60
	Bull Terrier	15
	Chinese Shar-Pei	16
	Chow Chow	9
	Dogo Argentino	1
	English Bulldog	34
	Olde English Bulldog	8
<b>Guarding Shepherds</b>		<b>400</b>
	Anatolian Shepherd Dog	10
	Belgian Malinois	16
	Belgian Tervuren	3
	Dutch Shepherd	7
	German Shepherd Dog	364
<b>Guarding</b>		<b>179</b>
	Airedale Terrier	2
	Akita	31
	Canaan Dog	1
	Doberman Pinscher	37
	Great Pyrenees	45
	Kuvasz	4
	Rottweiler	59
<b>Herding</b>		<b>356</b>
	Bearded Collie	3
	Belgian Sheepdog	1

	Border Collie	276
	Cardigan Welsh Corgi	21
	Caucasian Shepherd Dog	1
	Collie	8
	Lancashire Heeler	5
	Miniature American Shepherd	4
	Miniature Australian Shepherd	10
	Old English Sheepdog	3
	Pembroke Welsh Corgi	13
	Puli	2
	Shetland Sheepdog	9
<b>Hounds</b>		<b>152</b>
	American English Coonhound	9
	American Foxhound	7
	Basset Hound	10
	Beagle	38
	Black and Tan Coonhound / Rottweiler	19
	Bloodhound	6
	Bluetick Coonhound	6
	Catahoula Leopard Dog	19
	English Foxhound	1
	Hound	1
	Norwegian Elkhound	5
	Plott Hound	11
	Redbone Coonhound	6
	Saluki	1
	Treeing Walker Coonhound	13
<b>Labradors</b>		<b>645</b>
	Labrador Retriever	645
<b>Lap Dogs</b>		<b>673</b>
	Australian Terrier	1
	Bichon Frise	7
	Boston Terrier	16
	Brussels Griffon	8
	Chinese Crested	2
	French Bulldog	19
	Havanese	5
	Irish Terrier	4
	Italian Greyhound	1
	Japanese Spitz	1
	Lhasa Apso	9
	Maltese	42

	Miniature Pinscher	38
	Miniature Poodle	99
	Papillon	8
	Pekingese	9
	Pomeranian	57
	Pug	48
	Shih Tzu	174
	Silky Terrier	7
	Tibetan Spaniel	4
	Toy Poodle	6
	Yorkshire Terrier	108
<b>Giant Companions</b>		<b>77</b>
	Bullmastiff	4
	Cane Corso	6
	Dogue De Bordeaux	1
	Great Dane	33
	Irish Wolfhound	3
	Leonberger	1
	Mastiff	13
	Newfoundland	6
	Saint Bernard	10
<b>Large Companions</b>		<b>67</b>
	Afghan Hound	1
	Bernese Mountain Dog	7
	Giant Schnauzer	1
	Greater Swiss Mountain Dog	2
	Rhodesian Ridgeback	5
	Standard Poodle	51
<b>Medium Companions</b>		<b>99</b>
	Boxer	68
	Dalmatian	9
	Greyhound	5
	Keeshond	2
	Soft Coated Wheaten Terrier	2
	Standard Schnauzer	7
	Whippet	6
<b>Pit Bulls</b>		<b>906</b>
	American Bully	18
	American Pit Bull	804
	American Staffordshire Terrier	72
	Staffordshire Bull Terrier	12

<b>Pointers</b>		<b>77</b>
	German Shorthaired Pointer	35
	German Wirehaired Pointer	21
	Pointer	16
	Spinone Italiano	1
	Vizsla	2
	Wirehaired Pointing Griffon	2
<b>Ratters</b>		<b>318</b>
	Affenpinscher	1
	Border Terrier	12
	Cairn Terrier	63
	Dachshund	82
	Glen of Imaal Terrier	1
	Jagdterrier	1
	Lakeland Terrier	4
	Miniature Schnauzer	51
	Norfolk Terrier	2
	Parson Russell Terrier	41
	Portuguese Podengo Pequeno	1
	Rat Terrier	19
	Russell Terrier	8
	Schipperke	1
	Scottish Terrier	4
	Shiba Inu	11
	Standard Manchester Terrier	3
	Toy Fox Terrier	4
	Welsh Terrier	1
	West Highland White Terrier	7
	Wire Fox Terrier	1
<b>Sled Dogs</b>		<b>680</b>
	Alaskan Husky	25
	Alaskan Klee Kai	1
	Alaskan Malamute	75
	American Eskimo Dog	5
	Samoyed	3
	Siberian Husky	571
<b>Sporting</b>		<b>186</b>
	American Water Spaniel	1
	Black Mouth Cur	7
	Boykin Spaniel	1
	Brittany	11
	Cavalier King Charles Spaniel	9
	Cocker Spaniel	25

	Curly-Coated Retriever	1
	English Cocker Spaniel	2
	English Toy Spaniel	2
	English Setter	12
	Field Spaniel	1
	Flat-Coated Retriever	8
	Golden Retriever	89
	Gordon Setter	2
	Irish Red and White Setter	1
	Nova Scotia Duck Tolling Retriever	3
	Weimaraner	11
Misc. Terriers		<b>62</b>
	Carolina Dog	1
	Mixed Breed	9
	Terrier Mix	52

Appendix B. Characteristics of Dogs (N = 5960) and Cats (N = 3489) Impounded at the Participating Shelter Between December 15, 2020 and October 31, 2022

		Dogs		Cats	
		N	%	N	%
<b>RTO</b>	RTO	3641	61.1	529	15.2
	Not RTO	2319	38.9	2960	84.8
<b>Month of impound</b>	January	512	8.6	268	7.7
	February	479	8.0	251	7.2
	March	583	9.8	296	8.5
	April	435	7.3	265	7.6
	May	478	8.0	262	7.5
	June	444	7.4	329	9.4
	July	601	10.1	378	10.8
	August	579	9.7	332	9.5
	September	563	9.4	306	8.8
	October	562	9.4	377	10.8
	November	300	5.0	166	4.8
	December	424	7.1	259	7.4
<b>Breed group</b>	Australian Herding	453	7.6	-	-
	Chihuahuas	487	8.2	-	-
	Fighting	143	2.4	-	-

	Guarding Shepherds	400	6.7	-	-
	Guarding	179	3.0	-	-
	Herding	356	6.0	-	-
	Hounds	152	2.6	-	-
	Labradors	645	10.8	-	-
	Lap Dogs	673	11.3	-	-
	Giant Companions	77	1.3	-	-
	Large Companions	67	1.1	-	-
	Medium Companions	99	1.7	-	-
	Pit Bulls	906	15.2	-	-
	Pointers	77	1.3	-	-
	Ratters	318	5.3	-	-
	Sled Dogs	680	11.4	-	-
	Sporting	186	3.1	-	-
	Misc. Terriers	62	1.0	-	-
	DSH	-	-	2473	70.9
	DMH	-	-	524	15.0
	DLH	-	-	336	9.6
	Purebred	-	-	156	4.5
<b>Color</b>	Black	482	8.1	496	14.2
	Black and White	1183	19.8	441	12.6
	Gray	159	2.7	178	5.1
	White	357	6.0	80	2.3
	Black and Tan	856	14.4	-	-
	Brindle	268	4.5	-	-
	Brown	893	15.0	-	-
	Merle	191	3.2	-	-
	Red	139	2.3	-	-
	Solid with White	1187	19.9	-	-
	Tricolor	245	4.1	-	-
	Calico	-	-	174	5.0
	Dark Tabby	-	-	876	25.1
	Gray and White	-	-	210	6.0
	Light Tabby	-	-	468	13.4
	Point	-	-	345	9.9
	Torbie	-	-	49	1.4

	Tortoiseshell	-	-	172	4.9
<b>Age group</b>	Puppy/Kitten	328	5.5	596	17.1
	Older Puppy/Kitten	692	11.6	251	7.2
	Young Adult	2245	37.7	1428	40.9
	Mature Adult	1326	22.2	174	5.0
	Senior	994	16.7	324	9.3
	Unknown	375	6.3	716	20.5
<b>Size</b>	XS (<10 lbs [4.5 kg])	620	10.4	-	-
	S (10.1-30 lbs [4.6- 13.6kg])	1268	21.3	-	-
	M (30.1-55 lbs [13.7-24.9 kg])	1950	32.7	-	-
	L (55.1-90 lbs [25- 40.8 kg])	1963	32.9	-	-
	XL (>90 lbs [40.8 kg])	159	2.7	-	-
<b>Sex</b>	Female	2486	41.7	1524	43.7
	Male	3451	57.9	1570	45.0
	Unknown	23	0.4	395	11.3
<b>Neuter status</b>	Intact	3151	52.9	1737	49.8
	Sterilized	2398	40.2	1221	35.0
	Unknown	411	6.9	531	15.2
<b>Microchip</b>	No	3958	66.4	3030	86.8
	Yes	2002	33.6	459	13.2
<b>Source type</b>	Field	4088	68.6	2080	59.6
	OTC	1310	22.0	1247	35.7
	Agency Assist	372	6.2	87	2.5
	Abandoned	49	0.8	75	2.1
	Unknown	141	2.4	0	0

<b>Health status</b>	Healthy	5383	90.3	2663	76.3
	Unhealthy	498	8.4	826	23.7
	Unknown	79	1.3	0	0

RTO: Return to owner