

EBI COST ANALYSIS MATRIX 2009

This cost analysis matrix uses actual 2007 cost and animal data from a municipal animal control agency in North Carolina.

- *Note: no actual data for fractious / feral or age breakdown – those data are estimates.*
- Number of dogs euthanized: 2430 (1701 over 4 months – 70% and 729 less than 4 months – 30%) (972 fractious – 40%)
- Number of cats euthanized: 2997 (1798 over 4 months – 60% and 1199 less than 4 months – 40%) (1499 feral – 50%)
- Total dogs and cats euthanized: 5427
- Average number of animals euthanized per day: 15 (5427 / 365 days)

Assumptions:

- a. fractious / feral animals (2471 40% dogs and 50% cats) are given pre-euthanasia anesthesia (ketamine/xylazine)
- b. friendly cats (1498) are given IP injection of sodium pentobarbital with no pre-euthanasia anesthesia
- c. friendly dogs (1215) are given IV injection of sodium pentobarbital with no pre-euthanasia anesthesia

EBI EQUIPMENT COST		
1	Equipment cost: \$670	Floor safe (\$350) + table (\$100) + electric clippers (\$120) + restraint gate (\$100)
2	Total equipment cost per animal: \$0.123	\$670 / (animals euthanized per year) 5427 = \$0.123
EBI LABOR COST		
3	A. # of employees required for IV: 2 B. # of employees required for IP: 1 C. # of employees required for IC: 1	NOTE: 1 employee can safely and effectively administer IP on conscious friendly cats and IC on unconscious or anesthetized animals; 2 employees are required for IV
4	A. # of IV injections (dog): 1215 B. # of IP injections (cat + puppy): 1741 C. # of IC injections (dog + cat): 2471	A. 1215 = 50% of 2430 dogs and 0 cats B. 1741 = 243 puppies (10% of dogs) + 1498 cats (50% of cats) C. 2471 = 972 dogs + 1499 cats

5	Average time to euthanize: 5 minutes average	Transport to euthanasia room + preparation (including IM injection of pre-euthanasia anesthesia as needed) + scanning for microchip + injection + verification of death + removal of carcass + record keeping. <i>NOTE: average time for IP (friendly cats, puppies and kittens) is typically less than 5 minutes; average time for IV is sometimes longer than 5 minutes.</i> <i>Considering an average of 15 animals per day, a typical scenario will involve multiple activities happening concurrently such as animals going under pre-euthanasia anesthesia in a quiet area while another animal is being injected.</i>
6	Total time to euthanize: 75 minutes	# of animals per day (15) × average time to euthanize (5 minutes)
7	Hourly labor cost per worker: \$13.57	Hourly wage: \$10.44 + 30% fringe: \$3.13 = \$13.57
8	5-minute labor cost per worker: \$1.13	Hourly labor cost: \$13.57 / 60 minutes = \$0.226 X 5 minutes = \$1.13
9	IV labor cost: \$2.26	5-minute labor cost: \$1.13 X 2 employees = \$2.26
10	IP and IC labor cost: \$1.13	5-minute labor cost: \$1.13 X 1 employee = \$1.13
11	Total annual IV labor cost: \$2746	IV labor cost: \$2.26 X 1215 = \$2746
12	Total annual IP & IC labor cost: \$4759	IP and IC labor cost: \$1.13 X 1741 (IP) + 2471 (IC) = 4212 X \$1.13 = \$4759
13	Total annual labor cost for IV, IC & IP: \$7505	Labor cost IP & IC + IV= \$2746 + \$4759 = \$7505
14	Total labor cost per animal: \$1.38	Total annual labor cost / # of animals euthanized: \$7504 / 5427 animals = \$1.38
EBI SUPPLY COST		
15	Sodium pentobarbital cost per 250 ml bottle: \$46.00	
16	Cost per ml (cc): \$0.184	Cost of bottle (\$46.00) ÷ 250 ml
17	Average IV dose (dog): 5 ml	50-pound dog average
18	Sodium pentobarbital cost per IV dose:	Cost per ml \$0.184 X average dose: 5 ml

	\$0.92	
19	Annual sodium pentobarbital IV cost: \$1,118	Average IV dose (5 ml) cost: $\$0.92 \times 1215 \text{ dogs} = \$1,118$
20	Average IP dose per cat + puppy = 2 ml	7 pound cat and puppy average (some cats and puppies will weigh more, kittens and neonates will weigh less)
21	Sodium pentobarbital cost per IP dose: \$0.368	Cost per ml $\$0.184 \times$ average dose: 2 ml
22	Annual sodium pentobarbital IP cost: \$641	$243 \text{ puppy IP} + 1498 \text{ cat IP} = 1741 \times \$0.368 = \$641$
23	Average IC dose (dog) = 5 ml	50-pound dog average
24	Sodium pentobarbital cost per IC dose (dog): \$0.92	Cost per ml $\$0.184 \times$ average dose: 5 ml = \$0.92
25	Annual sodium pentobarbital IC (dog) cost: \$894	Average IC dose cost: $\$0.92 \times 972 \text{ dogs} = \894
26	Average IC dose (cat) = 1 ml	7-pound cat average (some cats will weigh more, some will weigh less)
27	Sodium pentobarbital cost per IC dose (cat): \$0.184	
28	Annual sodium pentobarbital IC (cat) cost: \$276	$1499 \text{ (feral) cat estimate} \times \$0.184 = \$276$
29	Total sodium pentobarbital cost: \$2,929	Annual IV (\$1,118) + IP (\$641) + IC cat (\$276) + IC dog (\$894) = \$2,929
30	Average sodium pentobarbital cost per animal: \$0.54	Total sodium pentobarbital cost (\$2,929) / # of animals euthanized (5427) = \$0.54
31	Syringe cost per animal: \$0.019	Syringe (6 ml) cost: \$19 per 100 (\$0.19 each) estimate 100 uses per syringe (<i>reusing syringes is a standard practice in EBI</i>)
32	Total annual syringes: 79	Total animals: 5427 EBI injections + 2471 (pre-euthanasia IM injections) = 7,898 injections total / 100 = 79 syringes
33	Annual syringe cost: \$15.01	$79 \text{ syringes} \times \$0.19 = \$15.01$
34	Average syringe cost per animal: \$0.003	$\$15.01 / 5427 \text{ (total animals euthanized)} = \0.003
35	Needle cost: \$0.01	Needle (22 ga.) cost: \$10.00 per 100 (one use only)

36	Total annual needles: 7898	1 per euthanasia: 5427 + 1 per pre-euthanasia anesthesia: 2471 = 7898
37	Annual needle cost: \$78.98	7898 X \$0.01 = \$78.98
38	Average needle cost per animal: \$0.014	\$78.98 / 5427 (total animals euthanized) = \$0.014
39	Pre-euthanasia anesthesia cost per dog: \$1.00	5:1 ratio ketamine/xylazine per 50 pound dog = \$0.40 ml X 2.5 ml = \$1.00
40	Annual pre-euthanasia anesthesia cost for dogs (fractional): \$972	972 fractional dogs X \$1.00 per dog (average weight = 50 pounds, 2.5 ml @ \$0.40 per ml)
41	Pre-euthanasia anesthesia cost per cat: \$0.20	5:1 ratio ketamine/xylazine per 10 pound cat = \$0.40 ml X 0.5 ml = \$0.20
42	Annual pre-euthanasia anesthesia cost for cats (feral): \$299	1499 feral cats X \$0.20 per cat (average weight = 10 pounds, 0.5 ml @ \$0.40 per ml)
43	Annual total cost of pre-euthanasia anesthesia: \$1271	Annual cost dogs (\$972) + cats (\$299) = \$1271
44	Average pre-euthanasia cost per animal: \$0.23	\$1271 / 5427 (total animals euthanized) = \$0.23
45	Total supply cost per animal: \$0.787	Sodium pentobarbital per animal: \$0.54 + syringe: \$0.003 + needle: \$0.014 + pre-euthanasia anesthesia: \$0.23 = \$0.787
EBI TOTAL COST		
46	Total EBI cost per animal: \$2.29	Equipment cost per animal: \$0.123 + labor cost per animal: \$1.38 + supply cost per animal: \$0.787 = \$2.29