

SHORT REPORT

The Effect of Kennel Viewing on the Adoption of Slow-Track Dogs

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Abstract

The Orange County (California) animal shelter allowed adopters to peruse dog kennels until early 2020 but suspended visitor access to dog kennels during the COVID-19 pandemic. Except for a late 2023 pilot program, the restrictions remained in place through 2023. Then, in January 2024, partial daily viewing sessions were instituted. We study the effect of this change on adoptions of dogs with length of stay (LOS) ≥ 9 , who account for 42% of adoptions but 72% of inventory excluding dogs returned to owner. Adoption counts in 2024 are 40% higher than expected in viewing sessions using 2023 as a reference, or 57% higher using 2022 as a reference, and these results are statistically significant ($P = 0.009$, $P = 0.0009$, respectively). Adoption rates are computed as a percent of inventory (equivalently, adoption probabilities per animal per session). In the period 2019–2024 but excluding 2020, adoption rates were 1.04% – 1.18% per session (with an average of 1.10%) in viewing sessions versus. 0.68% – 0.80% (with an average of 0.74%) in non-viewing sessions. The evidence suggests that kennel viewing enhances opportunities for increasing adoptions of dogs with LOS ≥ 9 .

Keywords: *animal shelter; animal adoption; dog adoption; dog kennel; kennel access; kennel viewing; shelter visitor; adoption appointment; length of stay; slow track; fast track; adoption rate; animal inventory*

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Supplementary material

Supplementary material for this article can be accessed here.

Studies of factors affecting dog adoptions^{1–4} do not consider visitor access to kennels, as pertinent data are not readily available. Large shelters usually allow prospective adopters to visit the kennels and have little reason to change that. During the COVID-19 pandemic (2020–2021) shelters restricted public access to their facilities and relied on appointments and online information. As COVID-19 abated in late 2021, shelters gradually restored kennel access, but Orange County Animal Care (OCAC) did not. In July 2023, OCAC instituted a 16-week pilot program for viewing some dog kennels for 5 hours a week. Comparison by time, day of the week, and year showed that more adoptions occurred during kennel viewing, and viewable dogs were more likely to be adopted.⁵

Some dogs are in high demand and are adopted as soon as they become available, but others take time. This is why differentiation of fast-track versus. slow-track animals is useful for managing shelter inventory^{2,6} and invoked in the OCAC Strategic Plan (Supplementary Material) via length of stay (LOS) targets.

The data of the initial OCAC pilot program⁵ were too limited to attempt this differentiation. In 2024 OCAC instituted broader ‘Viewing Hours’ for 40% – 70% of adoptable dogs for 3 hours (2 pm – 5 pm) every day, with the appointment option remaining available (11 am – 5 pm). This study uses the new, more extensive data to examine the impact of kennel viewing on adoptions of slow-track dogs. For the purposes of this study, slow track just means LOS exceeding a threshold.

Methods

This is an observational analysis. For 2024, the study period for ‘Viewing Hours’ encompasses 182 calendar days (178 working days), from Wednesday, January 17 (when kennel viewing went into effect) to July 18. A holiday occurs on the third Monday of January (January 15, 2024). To avoid day-of-the-week confounding factors, the matching periods for prior years (2019–2023) start on Wednesday after this holiday and extend for 182 calendar days. (With these choices, the 2023 period does not overlap with the previous pilot program⁵.)

Because this OCAC facility was inaugurated in 2018, we study prior years only back to 2019. In 2019 there was all-day kennel viewing (11 am – 5 pm) of all available dogs. The year 2020 encompasses the onset of pandemic-induced restrictions, which then continued in 2021. In 2022–2023 restrictions had abated elsewhere, but kennels remained off limits in OCAC. Finally, in 2024, there is the division into midday (no viewing) and afternoon (kennel viewing) windows.

The raw data are contained in a table of intakes and outcomes (Supplementary Material) from OCAC's Chameleon^a database. Adoptions have `outcome_type = ADOPTION` and `outcome_subtype ≠ RESCUE` and are divided by `outcome_time` into midday (11 am – 2 pm) and afternoon (2 pm – 5 pm) windows. As in the previous study,⁵ a small number of adoptions that fall outside these time windows are disregarded.

Assigning a dog to fast or slow track prospectively is challenging. (OCAC does not have documented guidelines or procedures for this.) But our study is retrospective and can therefore use LOS as a simple, objective criterion. The OCAC Strategic Plan sets $LOS \leq 8$ as the target for fast-track dogs. We accordingly designate slow-track adoptions (and corresponding inventory) as dogs with $LOS \geq 9$ where $LOS = outcome_date - intake_date$. (This threshold corresponds to 10 days or longer if both date endpoints are included.)

Hypotheses on odds ratios of afternoon versus midday adoptions are tested via Fisher's exact test (two-sided, 0.05 significance level) using the R programming language⁷ version 4.4.2.

Additional context for this shelter is provided in the Grand Jury Report, Adoption Partner Manual, Published Statistics, OCAC 2022 FAQ, and OCAC 2024 FAQ in Supplementary Material.

Results

In the 2019–2024 aggregate study period, dogs with $LOS \geq 9$ account for 42% (2623/6195) of adoptions, but 69% (137.8/198.8) of average inventory, or 72% (137.5/187.8) of inventory excluding dogs returned to owners. That is why this study focuses on the adoption of slow-track dogs.

This study is not attempting to correlate LOS to dog attributes. Nevertheless, as a data check, we looked at database field values that are present in very different percentages in slow-track versus fast-track (values in parentheses) adoptions.

Animal size: large or extra large 57% (23%); medium 15% (20%); small or toy 22% (31%); puppy 6% (26%).

Age (outcome date minus date of birth): under 2 years 32% (55%); 2–7 years 53% (37%); over 7 years 14% (8%).

Intake type: confiscate 13% (0.2%).

Intake subtype: field 26% (20%); over the counter 49% (61%).

These are percentages of adoption counts, not inventory. Lopsidedness will be amplified in average inventory because, by definition, slow-track dogs will be counted as inventory on more days. For example, for a different period but the same shelter, the previous study estimated that 82% of available dogs are large or extra large.⁵

Table 1 shows the average inventory, adoption counts, and adoption rates per session. The adoption rate is defined as the percent of inventory adopted per session or, equivalently, a dog's per-session probability of adoption. For the 2024 afternoon window, the adoption rate is 1.08% per afternoon (kennel viewing) session, but only 0.72% per midday (non-viewing) session. For 2023, the rates were 0.80% and 0.75%, respectively. Excluding the 2020 pandemic year, rates average 1.10% (range 1.04% – 1.18%) per viewing session versus 0.74% (range 0.68% – 0.80%) per non-viewing session.

Table 2 provides a comparison of the odds of midday versus afternoon adoptions for pairs of years. The odds ratio is 1.40 for the 2024 to 2023 comparison, signifying that 40% more adoptions occurred during viewing sessions than would be proportionally expected, which is statistically significant ($P = 0.009$). In a 2024 to 2022 comparison, there are 57% more adoptions ($P = 0.0009$). By contrast, no pair of years prior to 2024 shows a statistically significant difference (P -values between 0.2 and 0.9).

Discussion

Viewable kennels have two benefits. The first is that extra visitors, regardless of their prior plans, mean extra opportunities for an adoption match. The second is that dogs who might not present well in the online lineup, e.g. due to their breed or age, get a chance to earn an adopter's interest face-to-face, tapping into emotional factors involved in adoption.^{1,4} This motivates our focus on slow-track dogs, who indeed appear to benefit from kennel viewing.

The majority of OCAC adoptions occur with $LOS \leq 8$. But the majority of inventory is at $LOS \geq 9$. Studying and promoting adoptions of these slow-track dogs is likely more impactful (net gain in adoptions and reduction in inventory) than accelerating the adoption of fast-track dogs.

Changes in the number of intakes over time affect the available daily inventory, LOS distribution, and the number of outcomes of all types. This makes raw adoption counts of slow-track dogs unsuitable for longitudinal comparisons. When fewer dogs are available (intakes, overall inventory, or in some LOS category), fewer adoptions are expected. We avoid this problem by comparing adoption rates – adoption counts per session as a percent of inventory or, equivalently, a dog's probability of adoption per session. Table 1 shows a pattern of higher adoption rates during kennel viewing.

a. A database system for shelters, <https://chameleonbeach.com/Products/Chameleon>.

As midday and afternoon adoptions occur from approximately the same inventory, Table 2 contrasts the odds of afternoon versus midday adoptions across years. The 2024 high afternoon odds differ significantly from 2023, 2022, and 2019, while the 2019–2023 years do not differ significantly from each other.

Any additional metrics assessing the adoption system should be evaluated carefully. The shelter saw a dip in returns of adopted dogs during 2020–2021, which it attributed to the appointment system. But the shelter later indicated dog return rates were 11% in 2019, 8.5% in 2020, 9% in 2021, and 11.6% in 2022,

Table 1. Adoption statistics for slow-track dogs (LOS ≥ 9) in the stated (January–July) study periods per year

Years	Viewability	Average inventory	Adoption count		Adoption rate per session		Odds	Adoption rate per day
			Midday	Afternoon	Midday	Afternoon	Afternoon / midday	Midday + afternoon
2019	All day	139.0	257	293	1.04%	1.18%	1.14	2.22%
2020	Varied – covid onset	101.7	113	117	0.62%	0.65%	1.04	1.27%
2021	No – in covid	89.2	114	124	0.72%	0.78%	1.09	1.50%
2022	No – post covid	161.1	207	196	0.72%	0.68%	0.95	1.41%
2023	No – post covid	183.2	246	261	0.75%	0.80%	1.06	1.56%
2024	Only afternoon	152.9	197	293	0.72%	1.08%	1.49	1.80%
2021–2024	Non-viewing average	145.7	192.1		0.74%			
2019, 2024	Viewing average	143.7	281.0		1.10%			

Average inventory is computed from the number of dogs on each day of the study period meeting the threshold LOS ≥ 9 . The adoption rate is the percent of inventory adopted per session or, equivalently, an animal's adoption probability per session; it is computed by dividing the adoption count by the number of days and by the average inventory. For example, for afternoons in 2024 there are $293/178 = 1.646$ adoptions per session, therefore $1.646/152.9 = 1.08\%$ is the percent of dogs with LOS ≥ 9 that are adopted in one afternoon session (2 pm – 5 pm). The corresponding percentage for a midday session is only 0.72%. The adoption rates for kennel viewing sessions are in bold and boxed. The odds of afternoon/midday are the ratios of the adoption counts. For example, the odds of an afternoon adoption in 2024 are $293/197 = 1.49$ (also equal to the ratio of adoption rates, $1.08\%/0.72\%$). The adoption rate per day is the sum of the rates from the midday and afternoon sessions. The last two rows show average inventory and adoption count for the aggregate of all non-viewing sessions (2021–2023 plus midday of 2024) versus all viewing sessions (2019 plus afternoon of 2024) and then compute the resulting average adoption rate.

Table 2. Comparison of afternoon over midday odds of adoptions

Year	Reference year	Odds ratio	95% Confidence interval	P-value	Significance (at 0.05 level)
2020	2019	0.91	0.66–1.25	0.6	Non-significant
2021	2019	0.95	0.70–1.31	0.8	Non-significant
2021	2020	1.05	0.72–1.53	0.9	Non-significant
2022	2019	0.83	0.64–1.08	0.2	Non-significant
2022	2020	0.91	0.65–1.28	0.6	Non-significant
2022	2021	0.87	0.62–1.22	0.4	Non-significant
2023	2019	0.93	0.73–1.19	0.6	Non-significant
2023	2020	1.02	0.74–1.42	0.9	Non-significant
2023	2021	0.98	0.71–1.34	0.9	Non-significant
2023	2022	1.12	0.86–1.47	0.4	Non-significant
2024	2019	1.30	1.0–1.7	0.04	Significant
2024	2020	1.44	1.0–2.0	0.03	Significant
2024	2021	1.37	1.0–1.9	0.055	Non-significant
2024	2022	1.57	1.2–2.1	0.0009	Significant
2024	2023	1.40	1.1–1.8	0.009	Significant

The odds of afternoon / midday for each year are shown in Table 1. In comparing two years we test the ratio of their respective odds. The null hypothesis is that the 2 years have the same odds (so that the ratio is 1.0); the alternative hypothesis is that the odds differ (ratio different from 1.0). Hypotheses are tested via Fisher's exact test two-sided at the 0.05 significance level, and 95% Confidence Intervals are shown. For example, the odds of an afternoon adoption in 2024 are 1.49 (from Table 1). The odds for 2023 are 1.06. If kennel viewing did not influence adoption counts the ratio of the odds of the two session types would be 1.0, and that is the null hypothesis. The alternative hypothesis is that viewing impacts adoption counts. The sample ratio is 1.40 (Confidence Interval 1.1–1.8) making 2024 different from 2023 ($P = 0.009$, statistically significant).

with the dip in returns appearing to be a temporary effect of the COVID-19 pandemic (when people spent more time at home). For the 2023 pilot program, the shelter reported near-identical return rates for viewable dogs (14.6%) and for dogs adopted in the corresponding midday non-viewing periods (14.5%). The adoption return rate thus appears unaffected by kennel viewing.

The previous study⁵ established that viewable dogs had a higher probability of adoption. That analysis was possible because in the 2023 pilot program the shelter itself tracked and disclosed how many viewable dogs were adopted in each session (afternoon of Wednesday or Saturday, per the program's design). However, in the 2024 daily Viewing Hours the shelter is no longer separately tracking adoptions of viewable dogs. Consequently, this study lacks the data to differentiate between viewable and non-viewable dogs. However, the larger dataset allows us to determine that slow-track dog adoptions benefit from kennel viewing.

The combined evidence of both studies suggests that the extent of visibility (the result of kennel assignments and designated visitor paths) may be an important factor affecting dog adoptions. It may be tempting to place the most appealing (i.e. likely to be adopted quickly) dogs in viewable settings, to make a positive impression on visitors. But, in the long run, increasing visibility of slow-track dogs (i.e. dogs that need an extra push) may be more effective in reducing inventory and raising save rates.

As the onset of the viewing policy was arbitrary (driven by county government deliberations), this retrospective study yields useful insights, but the data permits only a binary, time-window based distinction for kennel viewing. Additional research, via randomized studies, is needed to determine the effect of more subtle factors, such as proximity of kennels to areas of high visitor traffic, and to further partition slow-track dogs into categories. We need a better understanding of how to increase the visibility of slow-track dogs within the constraints of shelter facilities, in order to promote adoptions and reduce inventory as effectively as possible.

Conclusions

Kennel viewing appears to increase adoptions for slow-track dogs ($LOS \geq 9$), as evidenced by comparison of adoption rates and by the odds of adoption in viewing versus non-viewing time windows. This is consistent with the traditional model of operation of large animal shelters. While this study largely justifies visitor access to kennels, it does not address subtler aspects of kennel viewing. Additional research is needed on how the mode of initial contact of visitors with dogs impacts adoption rates.

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