

Cairo Airbnb Market & Investment Analysis

A Data-Driven Assessment of Short-Term Rental Performance, Demand Drivers and Investment Opportunities

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Project	Data Analyst Final Project
Tools	SQL (PostgreSQL) · Excel · Power BI · Python (data repair)
Data window	Aug 2025 – Jul 2026 (trailing) · Aug 2026 – Jul 2027 (forward)
Report date	September 3, 2026

Dataset: 100 active Cairo Airbnb listings with trailing-12-month performance, monthly historical and forward calendars, and monthly review activity.

1. Executive Summary

This report analyzes a dataset of 100 active Airbnb listings in Cairo, Egypt, covering listing attributes, trailing-twelve-month (TTM) performance, monthly historical calendars (Aug 2025 – Jul 2026), forward booking calendars (Aug 2026 – Jul 2027), and monthly review activity. The central question is: what separates winning listings from losing listings, and where should an investor focus?

100	\$408,542	\$2,488	\$57	20.0%	4.82
Active listings	Total TTM revenue	Median TTM revenue	Average daily rate	Avg occupancy	Avg rating

Key findings

- Revenue is highly concentrated: the top 10 listings (10% of supply) capture 33.8% of all revenue, and the top 20 capture 53.5%. The top revenue quartile alone earns 61.4% of the market.
- Superhost status is the single strongest operational differentiator: Superhosts earn a median \$4,252 per year vs \$1,389 for non-Superhosts (3.1×), with occupancy of 26.6% vs 11.6%.
- Entire condos are the strongest property segment (median \$6,263, 27.3% occupancy), and 3-bedroom units (median \$4,591) substantially outperform 1-bedroom units (median \$1,207).
- The \$60–\$89 nightly price band produces the best balance of occupancy (20.4%) and RevPAR (\$14.42); the \$90–\$129 band suffers a demand drop (15.2% occupancy) without a RevPAR gain.
- Demand is strongly seasonal: October–January deliver 48% of annual revenue, with December occupancy peaking at 31.6%; May–July is the trough (≈11% occupancy).
- Review activity tracks revenue almost one-to-one: listings with 6+ reviews in the window average \$6,584 and 34.1% occupancy, while listings with zero reviews average \$994 and 5.0%.
- Maadi and Downtown deliver the highest average revenue per listing (\$5,854 and \$5,983), while New Cairo holds the most supply (38 listings) but the weakest performance (\$2,650, 14.2% occupancy) — an oversupply warning.

Bottom line for an investor: target a 2–3 bedroom entire condo or rental unit in Maadi or Downtown, price in the \$60–\$89 band, operate to Superhost standards before the October–January peak, and treat cleanliness and value — the market’s two weakest rating dimensions — as the main service priorities.

2. Data & Methodology

2.1 Source datasets

Four CSV extracts were used. All tables join on the listing_id key; calendar and review tables are at listing-month grain.

File	Table	Rows	Grain	Coverage
airbnb1.csv	airbnb1	100	1 row per listing	Attributes, ratings, TTM & 90-day metrics
pastairbnb-3.csv	pastairbnb	1,195	listing × month	Aug 2025 – Jul 2026
futureairbnb-2.csv	futureairbnb	1,188	listing × month	Aug 2026 – Jul 2027
reviewsairbnb-4.csv	reviewsairbnb	362	listing × month	Aug 2025 – Jul 2026

2.2 Data quality audit & repair

Before analysis, the listings file failed structural validation. The issue and the applied fixes were:

- Column-shift defect (critical): 9 of 100 rows were misaligned because listing descriptions contained unescaped double-quotes. Values such as room_type, photo URLs and latitudes leaked into boolean columns and overflowed into 22 spurious "Unnamed" columns. Every boolean and metric analysis on the raw file would have been wrong.
- Repair: rows were reconstructed with an anchor-based parser in Python — the listing_type + room_type + photo-URL pattern anchored the middle of each row, the TRUE/FALSE + latitude/longitude pattern anchored the boolean block, and the EGP currency token anchored the 52-column metric tail (instant_book → l90d_total_days).
- Encoding artifact: text was double-encoded (UTF-8 read as MacRoman), producing mojibake such as „Ç“ for €. 65 cells were repaired with a MacRoman → UTF-8 re-encode; legitimate Arabic/French text was left untouched.
- Validation after repair: 100 unique listing_ids; latitudes 29.95–30.12 and longitudes 31.22–31.68 (all inside Greater Cairo); ratings within 4.24–5.00; currency = EGP for 100% of rows; all 7 boolean columns contain only TRUE/FALSE or genuine blanks.
- Consistency check: the 362 monthly review records sum to 576 reviews, which exactly matches the 576 reviewer IDs listed in the reviewers column — the reviews table is internally consistent.

2.3 Known data characteristics

- instant_book is blank for 60 of 100 listings (a true unknown, not an error); professional_management is effectively absent (99 of 100 FALSE); registration is FALSE for all listings.
- Monetary columns exist in USD (converted) and native EGP (_native suffix). All figures in this report use the USD columns for comparability.
- Revenue metrics are trailing-twelve-month estimates; they are not profit (no acquisition, furnishing, fee or tax data exists).

3. Market Overview

The 100-listing sample generated \$408,542 in trailing-12-month revenue. The gap between the average (\$4,085) and the median (\$2,488) already signals a right-skewed market: a minority of strong performers pulls the average up. Weighted metrics from the monthly calendars (20.1% occupancy, \$53.65 booked ADR) closely match the listing-level averages (20.0%, \$57.34), which cross-validates the two datasets.

Metric	Value	Metric	Value
Total TTM revenue	\$408,542	Weighted occupancy (calendar)	20.1%
Average TTM revenue / listing	\$4,085	Weighted booked ADR (calendar)	\$53.65
Median TTM revenue / listing	\$2,488	Superhost share of supply	56%
Average daily rate (ADR)	\$57.34	Guest Favorite share	47%
Average occupancy	20.0%	Entire-home share	85%
Average RevPAR	\$10.75	Average overall rating	4.82 / 5

Composition: 85% of listings are entire homes, 14% private rooms, and 1% hotel rooms. 2-bedroom units are the largest size segment (42%), followed by 3-bedroom (24%) and 1-bedroom (19%).

4. Segmentation: What Should an Investor Buy?

4.1 By room type

Room type	Listings	Median revenue	Avg ADR	Avg occupancy	Avg RevPAR
Entire home	85	\$2,858	\$59.12	19.2%	\$11.20
Private room	14	\$1,386	\$28.19	25.8%	\$6.64
Hotel room	1	\$10,936	\$314.00	9.6%	\$30.00

Entire homes dominate supply and revenue. Private rooms achieve higher occupancy but at rates too low to compete on revenue. The single hotel room is an outlier (a 10-bedroom boutique-hotel villa) and should not drive conclusions.

4.2 By property type and size

Property type	Listings	Median revenue	Avg ADR	Avg occupancy	Avg RevPAR
Entire condo	10	\$6,263	\$63.32	27.3%	\$17.66
Entire loft	2	\$6,201	\$46.45	35.1%	\$16.15
Entire rental unit	65	\$2,463	\$55.23	18.7%	\$10.45
Entire home (generic)	8	\$2,095	\$47.19	15.4%	\$7.32

Bedrooms	Listings	Median revenue	Avg ADR	Avg occupancy	Avg RevPAR
3 bedrooms	24	\$4,591	\$68.62	21.8%	\$14.00
2 bedrooms	42	\$2,727	\$56.68	19.4%	\$11.23
1 bedroom	19	\$1,207	\$53.27	13.9%	\$6.62

Condos outperform generic rental units by 2.5× on median revenue. Size scales revenue strongly: each additional bedroom tier roughly doubles median revenue, while ADR rises only modestly — meaning larger units win mainly through higher occupancy and capacity, not just price. The investment sweet spot in this dataset is a 2–3 bedroom condo.

5. Winners vs Losers: Revenue Concentration

Revenue quartile	Listings	Avg revenue	Share of market revenue	Avg occupancy	Avg ADR
Top 25%	25	\$10,030	61.4%	36.4%	\$87.78
Second 25%	25	\$4,021	24.6%	25.4%	\$50.67
Third 25%	25	\$1,643	10.1%	14.0%	\$46.27
Bottom 25%	25	\$648	4.0%	4.3%	\$44.64

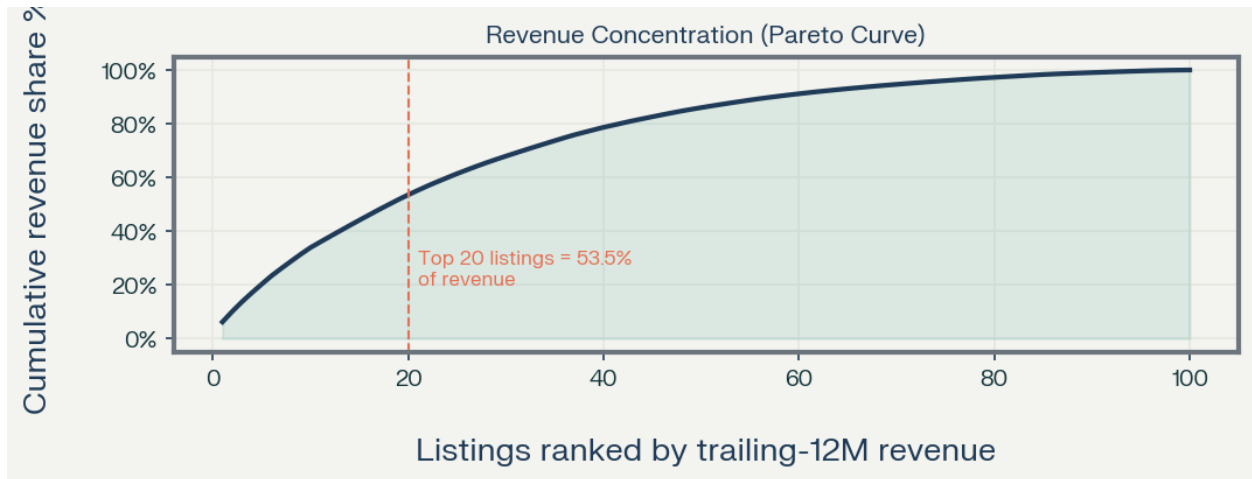


Figure 1. Cumulative revenue share by listings ranked from highest to lowest TTM revenue.

The top quartile does not win on price alone — its ADR (\$87.78) is roughly double the bottom quartile, but its occupancy (36.4%) is more than eight times higher (4.3%). Winners combine premium pricing with strong demand; losers are cheap and still empty. The bottom quartile's 4.3% occupancy indicates listings that are effectively inactive, mismanaged, or blocked by their owners for most of the year.

5.1 Anatomy of the top 10

ID	Listing	Type	BR	Superhost	ADR	Occ.	Revenue	Rating
17301493	Sunny Hills 1 Modern & Elegant R	Entire home	2	Yes	\$160	36%	\$25,193	4.86
15869570	Luxurious Penthouse in Degla Maadi	Entire home	3	Yes	\$78	53%	\$15,888	4.87
20851083	Amazing Nile View and Pyramids	Entire home	3	Yes	\$173	21%	\$14,761	4.98
9403109	Spacious Luxury Flat in Cairo	Entire home	3	No	\$106	32%	\$13,588	4.96
12675281	Good location, super clean and rea	Entire home	2	Yes	\$69	47%	\$12,972	4.85
18348796	Downtown Cairo oasis	Entire home	2	Yes	\$91	37%	\$12,718	4.83
11080810	Location, bright, clean, and desig	Entire home	2	Yes	\$80	40%	\$11,258	4.88
17972891	Boutique Hotel Villa Belle Epoque	Hotel room	10	No	\$314	10%	\$10,936	4.68
29333276	Authentic 3BR in Downtown	Entire home	3	No	\$58	48%	\$10,744	4.53
16290979	sunny, spacious, clean room in maa	Private room		Yes	\$42	67%	\$10,131	4.98

Seven of the top 10 are Superhosts, all are entire-home or premium products, and all hold ratings of 4.53 or higher. The best performer ("Sunny Hills", \$25,193) pairs a premium \$160 ADR with a healthy 36.4% occupancy — evidence that Cairo demand supports premium pricing when quality justifies it.

6. Pricing Analysis: Where Is the Sweet Spot?

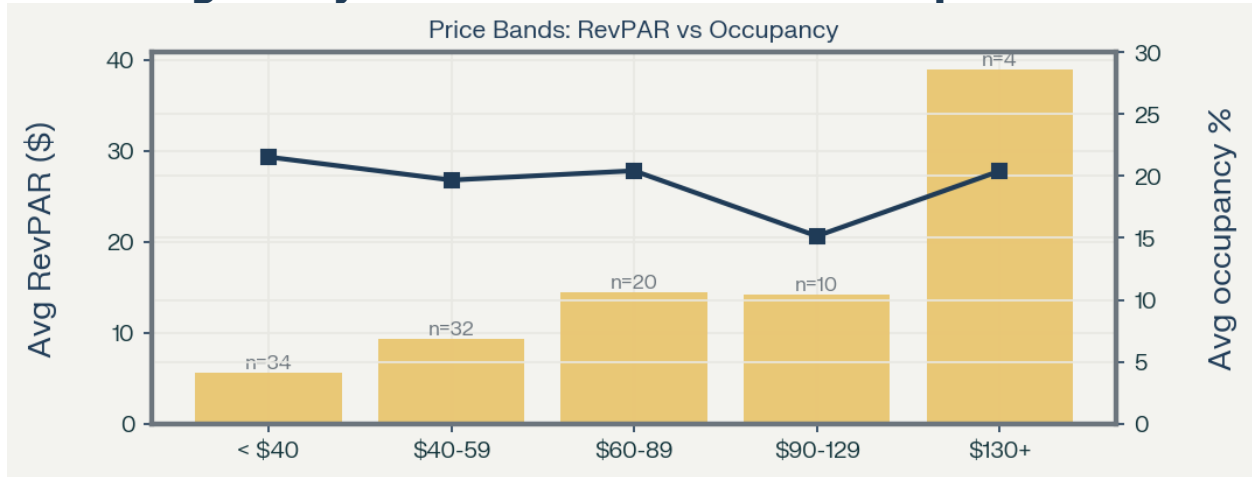


Figure 2. Average RevPAR (bars) and occupancy (line) by nightly-rate band; n = number of listings per band.

Rate band	Listings	Avg occupancy	Avg RevPAR	Avg TTM revenue
< \$40	34	21.5%	\$5.59	\$2,118
\$40-\$59	32	19.7%	\$9.34	\$3,582
\$60-\$89	20	20.4%	\$14.42	\$5,449
\$90-\$129	10	15.2%	\$14.19	\$5,432
\$130+	4	20.4%	\$38.92	\$14,650

Two-thirds of the market prices below \$60 and caps out near \$3,600 per year. The \$60–\$89 band is the efficiency sweet spot — occupancy holds at the market average while RevPAR jumps 54% versus the \$40–\$59 band. The \$90–\$129 band is a danger zone: occupancy falls to 15.2% with no RevPAR compensation, suggesting undifferentiated listings overpricing themselves. Above \$130, only a handful of genuinely premium listings succeed — but those that do earn 4–7× the market median. Correlation analysis confirms the two levers: occupancy ($r = 0.65$) and ADR ($r = 0.53$) are the dominant revenue drivers, ahead of review count (0.37), photo count (0.31) and size (0.27).

7. Host Quality & Booking Features

Segment	Listings	Median revenue	Avg occupancy	Avg RevPAR	Avg rating
Superhost	56	\$4,252	26.6%	\$13.97	4.85
Non-Superhost	44	\$1,389	11.6%	\$6.66	4.79
Guest Favorite	47	\$3,303	25.2%	\$11.80	4.90
Not Guest Favorite	53	\$1,505	15.4%	\$9.82	4.76
Instant Book ON (n)	17	\$2,595	15.9%	\$8.25	4.89
Instant Book OFF (n)	23	\$1,044	13.3%	\$6.33	4.78

Superhost status roughly triples median revenue and more than doubles occupancy — the strongest operational signal in the data. The Guest Favorite badge more than doubles median revenue as well. Note that both effects are partly selection (good operators earn badges), but the badge itself then compounds the advantage through search placement and guest trust. Instant Book shows a positive gap (\$2,595 vs \$1,044 median) among the 40 listings where the field is populated; the other 60 listings leave the field blank and should be treated as unknown rather than OFF.

7.1 Guest satisfaction profile

Rating dimension	Market average	Gap vs best dimension
Communication	4.92	—
Check-in	4.90	−0.02
Accuracy	4.84	−0.08
Location	4.82	−0.10
Overall	4.82	−0.10
Value	4.75	−0.17
Cleanliness	4.72	−0.20

Cairo hosts excel at communication and check-in but lose points on cleanliness (4.72) and value (4.75). For a new entrant, professional cleaning and pricing discipline are the cheapest ways to outscore the market — and both dimensions feed directly into the Superhost and Guest Favorite criteria that drive revenue.

8. Seasonality: When Cairo Earns

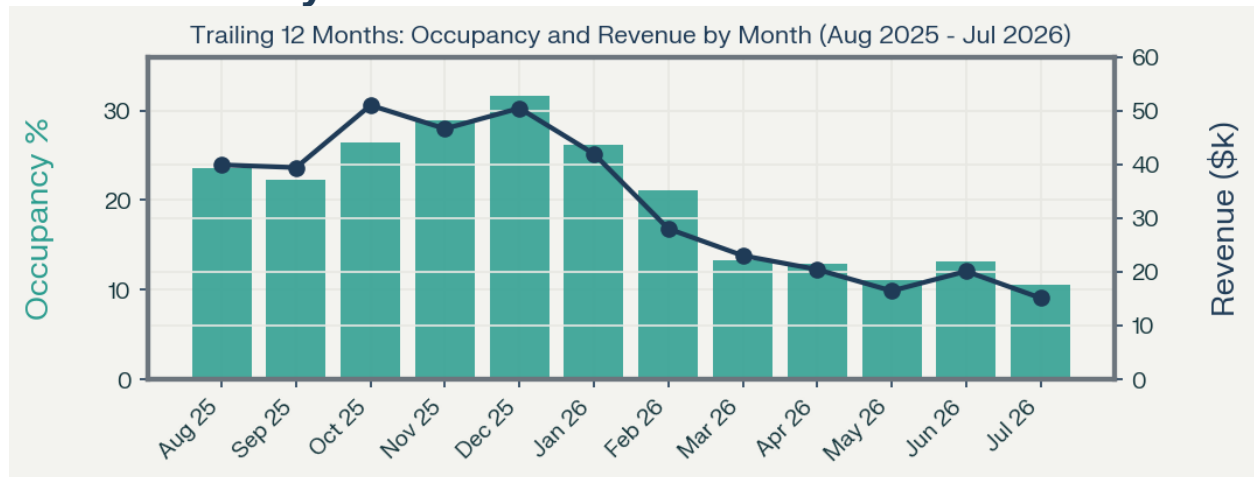


Figure 3. Monthly weighted occupancy (bars) and total revenue (line), Aug 2025 – Jul 2026.

Month	Revenue	Occupancy	Booked ADR
Aug 2025	\$39,882	23.5%	\$54.71
Sep 2025	\$39,381	22.3%	\$58.78
Oct 2025	\$50,972	26.5%	\$62.16
Nov 2025	\$46,604	28.9%	\$53.75
Dec 2025	\$50,428	31.6%	\$51.46
Jan 2026	\$41,943	26.2%	\$51.65
Feb 2026	\$27,995	21.0%	\$47.53
Mar 2026	\$23,007	13.2%	\$56.67
Apr 2026	\$20,416	12.9%	\$53.31
May 2026	\$16,432	11.1%	\$48.19
Jun 2026	\$20,086	13.1%	\$51.50
Jul 2026	\$15,109	10.6%	\$46.63

The market runs on a winter-tourist cycle: October–January generate 48% of the year’s revenue in four months, peaking in December at 31.6% occupancy. February marks the start of a long soft patch, and May–July bottom out near 11% occupancy at the lowest ADRs of the year (\$46–\$48). Practical implication: annual pricing calendars should push rates +10–20% into the October–December window (October achieves both the highest revenue and the highest ADR at \$62.16) and defend occupancy with weekly/monthly discounts and longer minimum stays during the summer trough.

9. Forward-Looking Demand (Aug 2026 - Jul 2027)

Month	Booked revenue	Booked occupancy	Month	Booked revenue	Booked occupancy
Aug 2026	\$16,042	10.2%	Feb 2027	\$830	0.3%
Sep 2026	\$3,025	1.2%	Mar 2027	\$1,164	0.6%
Oct 2026	\$4,428	2.3%	Apr 2027	\$819	0.5%
Nov 2026	\$2,153	0.8%	May 2027	\$0	0.0%
Dec 2026	\$6,331	4.0%	Jun 2027	\$37	0.0%
Jan 2027	\$1,564	1.3%	Jul 2027	\$0	0.0%

The forward calendar shows \$34,393 already booked across the next 12 months — about 8.4% of a comparable trailing year's revenue. The pattern reflects Cairo's short booking window rather than weak demand: the nearest month (August) is already 10.2% booked, December leads the winter buildup at 4.0%, and distant months are nearly empty simply because guests have not booked yet. The correct reading is directional: December 2026 is shaping up as the strongest forward month, consistent with the historical December peak. Hosts should avoid panic-discounting distant months and instead monitor the 30-45 day booking window.

10. Review Activity as a Demand Signal

Reviews in window	Listings	Avg TTM revenue	Avg occupancy
None	22	\$994	5.0%
1-2 reviews	18	\$2,795	10.3%
3-5 reviews	22	\$3,916	18.8%
6+ reviews	38	\$6,584	34.1%

Review velocity rises monotonically with performance: each activity band roughly doubles the previous band's occupancy. The 22 listings with zero recorded reviews average under \$1,000 per year and 5% occupancy — statistically indistinguishable from inactive supply. Monthly review counts peak in December (80 reviews across 45 listings), mirroring the occupancy calendar and confirming reviews as a reliable proxy for completed stays. For an investor, a listing's recent review velocity is a fast way to verify that reported occupancy is real, and for a host, seeding early reviews (e.g., through introductory pricing) appears to be a prerequisite for escaping the zero-demand trap.

11. Geographic Analysis

The dataset has no neighborhood field, so listings were mapped to approximate areas using their latitude/longitude coordinates (nearest-anchor matching against known Cairo districts). Results should be read as directional, not exact.

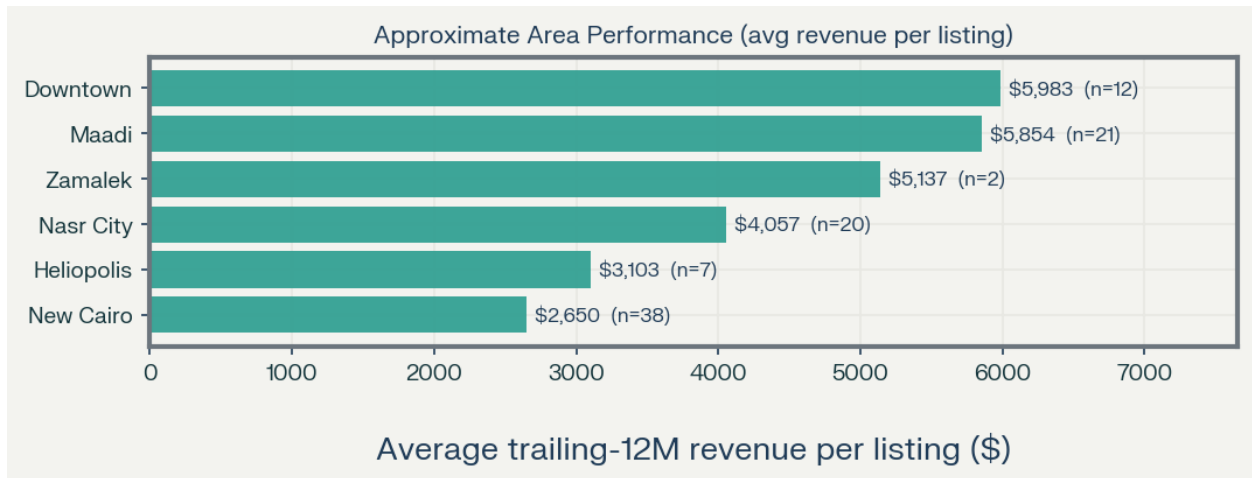


Figure 4. Average TTM revenue per listing by approximate area (n = number of listings).

Area (approx.)	Listings	Avg revenue	Median revenue	Avg ADR	Avg occupancy	Avg RevPAR
Downtown	12	\$5,983	\$3,918	\$60.77	21.7%	\$15.51
Maadi	21	\$5,854	\$4,316	\$69.32	25.1%	\$15.45
Zamalek	2	\$5,137	\$5,137	\$52.40	27.0%	\$13.35
Nasr City	20	\$4,057	\$3,570	\$52.87	21.2%	\$10.74
Heliopolis	7	\$3,103	\$2,928	\$36.53	28.4%	\$8.06
New Cairo	38	\$2,650	\$1,607	\$56.08	14.2%	\$7.01

Maadi and Downtown lead on revenue per listing with balanced price and occupancy — the safest investment zones. Heliopolis shows the market’s highest occupancy (28.4%) at the lowest ADR (\$36.53): demand clearly exists there, and its RevPAR penalty comes from underpricing — a classic value-opportunity for a quality operator. New Cairo is the cautionary tale: it holds 38% of supply but converts it into the weakest revenue and occupancy, indicating oversupply relative to current tourist demand.

12. Investment Recommendations

R1 — Buy the right product

Target a 2–3 bedroom entire condo or rental unit. Condos deliver a \$6,263 median revenue at 27.3% occupancy; 3-bedroom units reach \$4,591 median. Avoid 1-bedroom units (median \$1,207) unless priced well below market.

R2 — Buy in the right place

Prioritize Maadi and Downtown (avg \$5,854–\$5,983 per listing). Treat Heliopolis as a value play (highest occupancy, lowest ADR — room to raise prices). Avoid adding to New Cairo supply without a differentiated product.

R3 — Price in the sweet spot

Launch in the \$60–\$89 band (best RevPAR at \$14.42 with occupancy at market average). Only price above \$130 with a genuinely premium, differentiated product.

R4 — Operate to Superhost standard

The Superhost premium (3.1× median revenue) is the largest operational lever available. Priorities: cleanliness and value scores (the market's weakest at 4.72 and 4.75), fast communication, and zero host cancellations.

R5 — Time the market

Be fully operational, photographed and review-seeded before the October–January window that delivers 48% of annual revenue. Use long-stay discounts and relaxed cancellation policies to defend the May–July trough.

R6 — Build review velocity early

Zero-review listings are effectively invisible (5% occupancy). Use introductory pricing and instant-book to generate the first 5–6 reviews, which historically separate active supply from dead supply.

Expected outcome benchmark: a listing executing R1–R6 should target the market's top-quartile profile — ≈\$87 ADR at ≈36% occupancy — equivalent to roughly \$10,000 per year, versus the \$2,488 market median.

13. Limitations & Caveats

- The dataset is a 100-listing sample; published market-wide estimates for Cairo cite roughly 3,199 active listings, so absolute market totals should not be extrapolated from this sample.
- Revenue figures are trailing-twelve-month estimates in USD; no cost, purchase-price, tax or fee data exists, so this report addresses revenue potential, not ROI or payback period.
- The forward calendar reflects bookings made to date; with short booking windows it understates true future demand and must be read as a pipeline indicator, not a forecast.
- Area assignments were derived from coordinates and are approximate; no official neighborhood field exists in the data.
- Correlations (e.g., Superhost → revenue) are associations, not proven causation; professional management and registration fields carry no variance in this sample and could not be analyzed.
- One outlier (a 10-bedroom boutique-hotel villa at \$314/night) was retained for completeness but flagged wherever it could distort segment averages.

Appendix — Reproducibility

Data repair was performed in Python (anchor-based row reconstruction; MacRoman→UTF-8 re-encoding). Validation, segmentation and aggregation queries were written for PostgreSQL against the four tables (airbnb1, pastairbnb, futureairbnb, reviewsairbnb). Visualization and dashboarding were designed for Power BI using a star schema with Airbnb1 as the dimension table and the three listing-month tables as facts. All figures in this report can be regenerated from the accompanying SQL query file and the cleaned listings CSV.