

PROPERTY LISTINGS FROM LAMUDI.COM IN METRO MANILA

GROUP 1:
MARINO, DAFNY
PACANOR, EDMALYN



BUSINESS PROBLEM

PROVIDE RENTERS KNOWLEDGE ON THE PROPERTY PRICES
BASED ON THEIR CHOSEN LOCATION, PROPERTY TYPE, AND
PRICE.

Metro commuters lost 257 hours to traffic last year

By: [Krixia Subingsubing](#) - Reporter / @KrixiasINQ Philippine Daily Inquirer / 05:44 AM January 31, 2020

32 WORKING
DAYS LOST

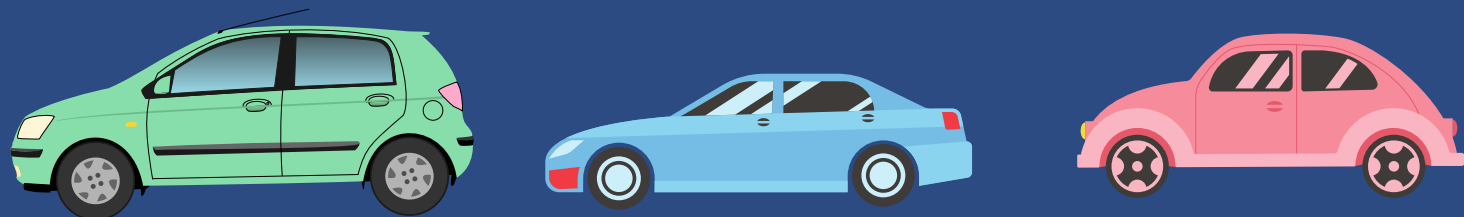
COMMUTING

VS

RENTING

- 32 WORKING DAYS LOST TO TRAFFIC
- THE NEED TO WAKE UP EARLY RESULTING TO DROWSINESS AT WORK
- STRESSFUL OVERALL

- HAVE TO PAY MONTHLY RENT



DATASET

WEBSCRAPED HOUSE, APARTMENT, CONDOMINIUM LISTINGS IN METRO MANILA AREA USING BEAUTIFULSOUP.

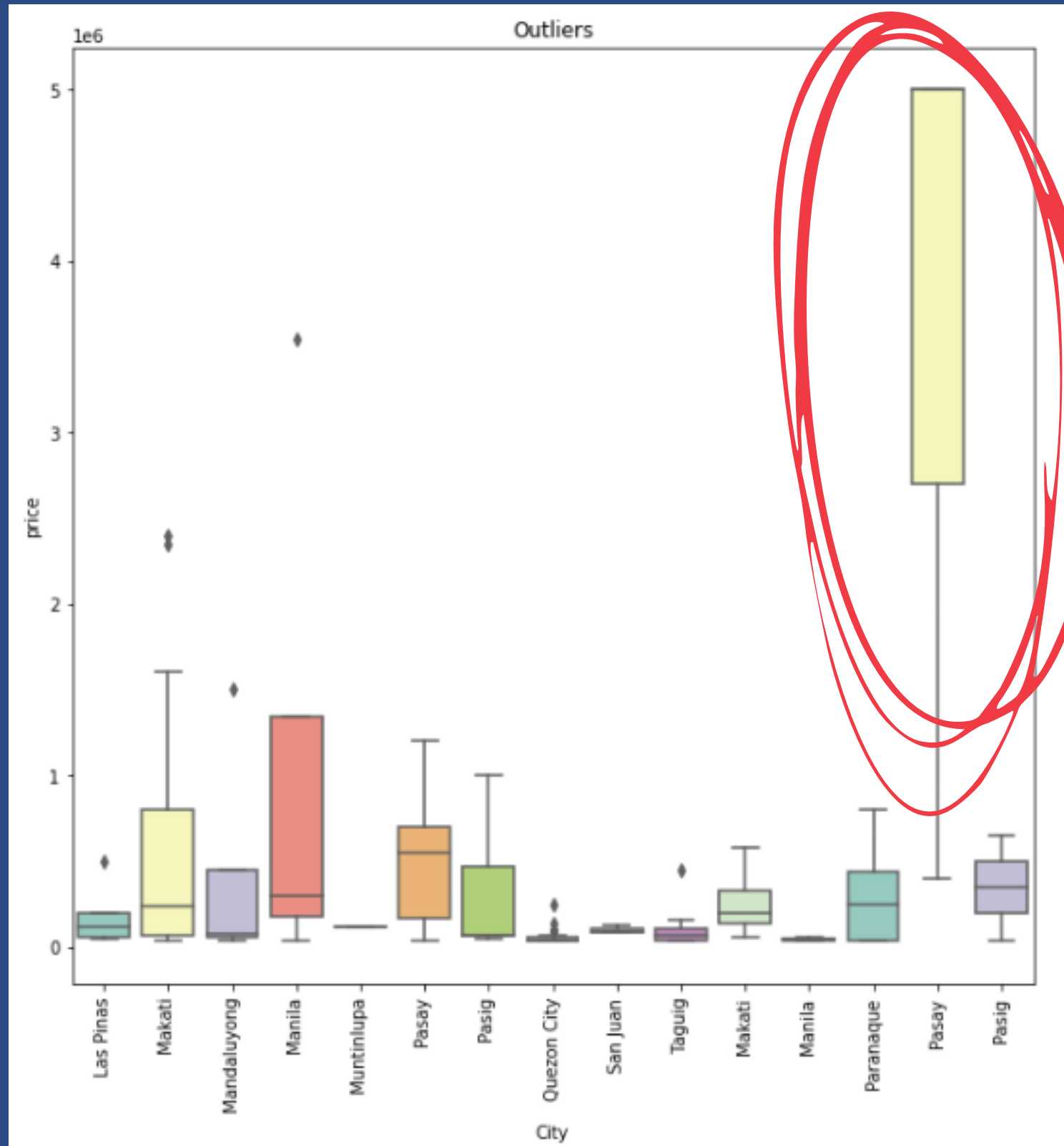
	title	location	price	bedroom	bathroom	area
0	barangka ilaya mandaluyong city nea edsa and b...	Barangka Ilaya, Mandaluyong	₱ 450,000	21	21	5 m²
1	Bed Space for Males Available in Mandaluyong City	Boni Avenue, Mandaluyong	₱ 3,700	1	1	30 m²
2	Room for Rent	Guadalupe Nuevo, Makati	₱ 10,000	1	1	
3	Apartment Unit for Rent 50sqm Floor Area at Ma...	San Miguel, Manila	₱ 25,000	1	1	50 m²
4	2 Bedroom Apartment with Loft for rent	Valencia, Quezon City	₱ 21,000	2	1	70 m²
...
1433	10 Bedroom 3 story Building for Rent in Pilar ...	Pilar, Las Piñas	₱ 120,000	10	10	480 m²
1434	Townhouse For Rent 3 Bedrooms, 2 T&B, 1 Car Ga...	Pilar, Las Piñas	₱ 20,000	3	2	140 m²
1435	Las Pinas Studio Apartment For Rent	Talon Singko, Las Piñas	₱ 5,500	1	1	15 m²
1436	1 bedroom villa/apartment for Rent	Putatan, Muntinlupa	₱ 15,000	1	1	26 m²
1437	For Rent Bedspace Boarding House at Putatan, M...	Putatan, Muntinlupa	₱ 1,300	10	4	500 m²



METHODOLOGY

- DATA EXTRACTION FROM LAMUDI USING BS4
- EXPLORATORY DATA ANALYSIS (EDA)
- KMEANS CLUSTERING IN TERMS OF SIZE, LOCATION AND PRICE
- PRICE PREDICTION OF PROPERTY LISTINGS IN DIFFERENT METRO MANILA CITIES USING REGRESSION
- DATA VISUALIZATION USING GEOPANDAS AND CANVA CHARTS

WE FOUND **137** OUTLIERS FROM A TOTAL OF 1315
PROPERTY LISTINGS IN METRO MANILA

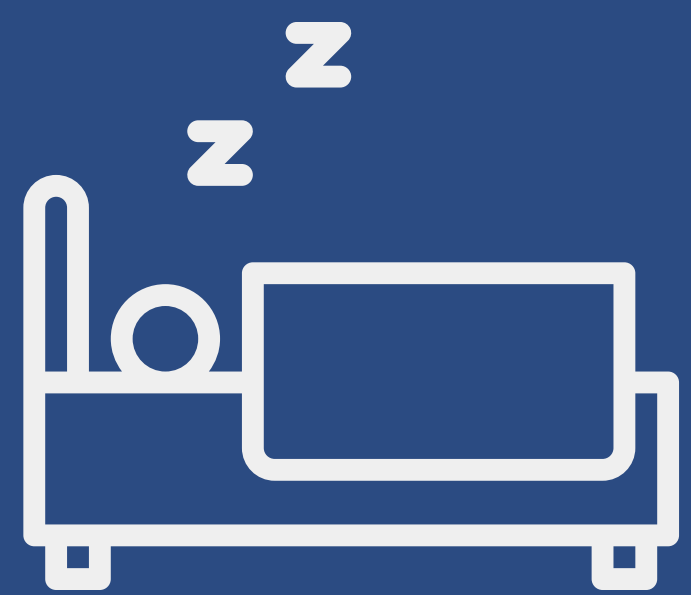


THE AVERAGE
RENT FOR THESE
PROPERTIES IS

₱400,000

AVERAGE AMENITIES OF THE OUTLIERS

17
BED

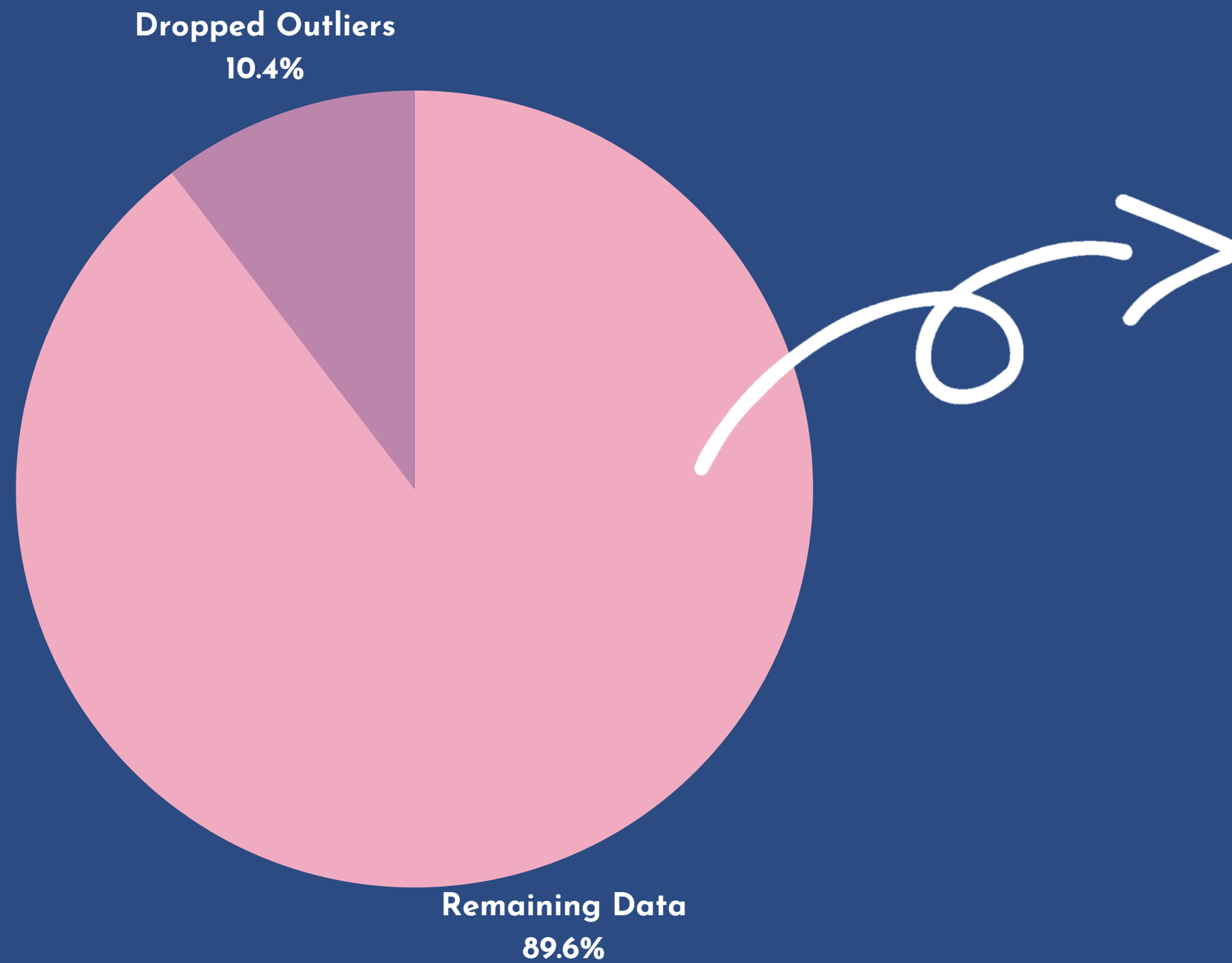


9
BATH



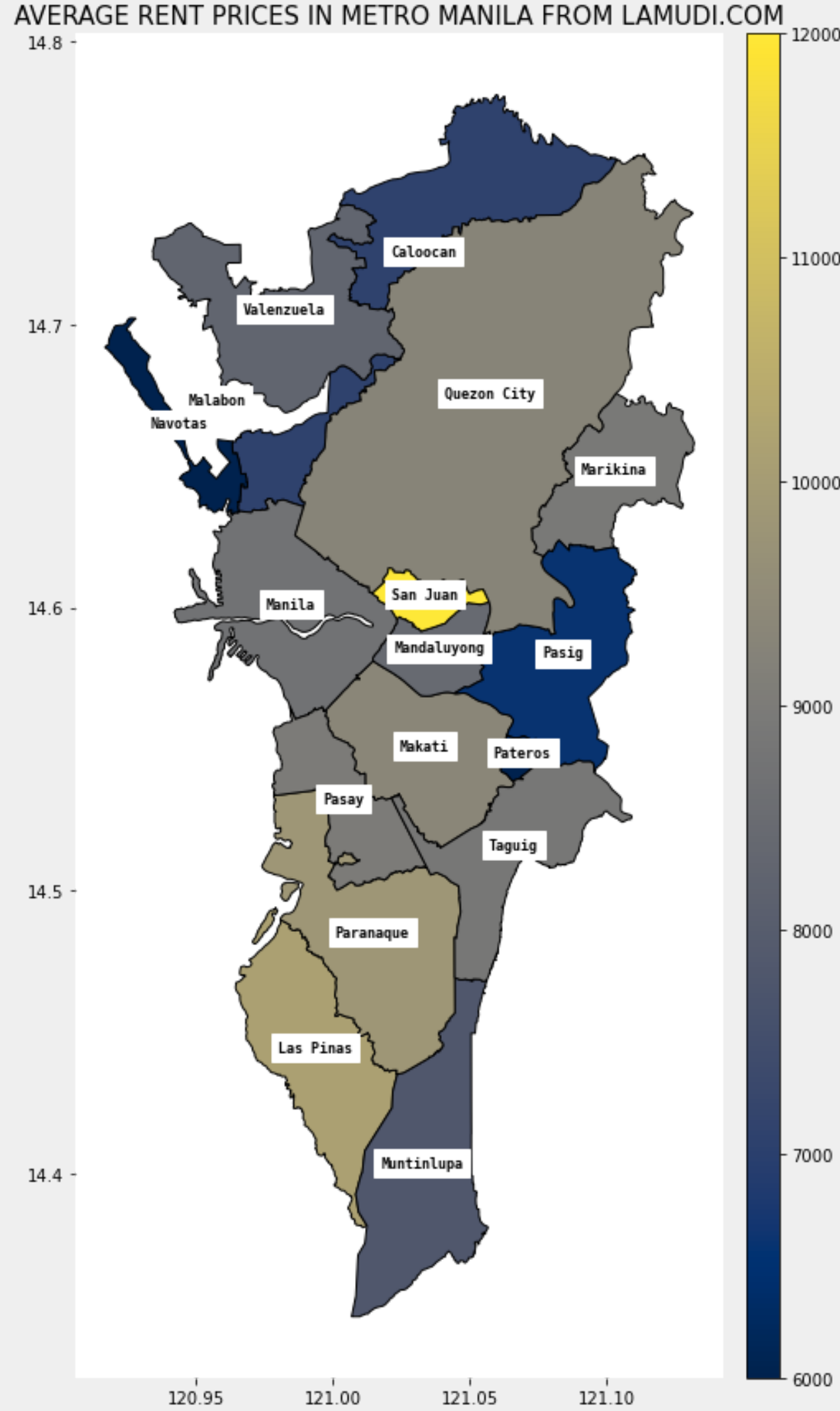
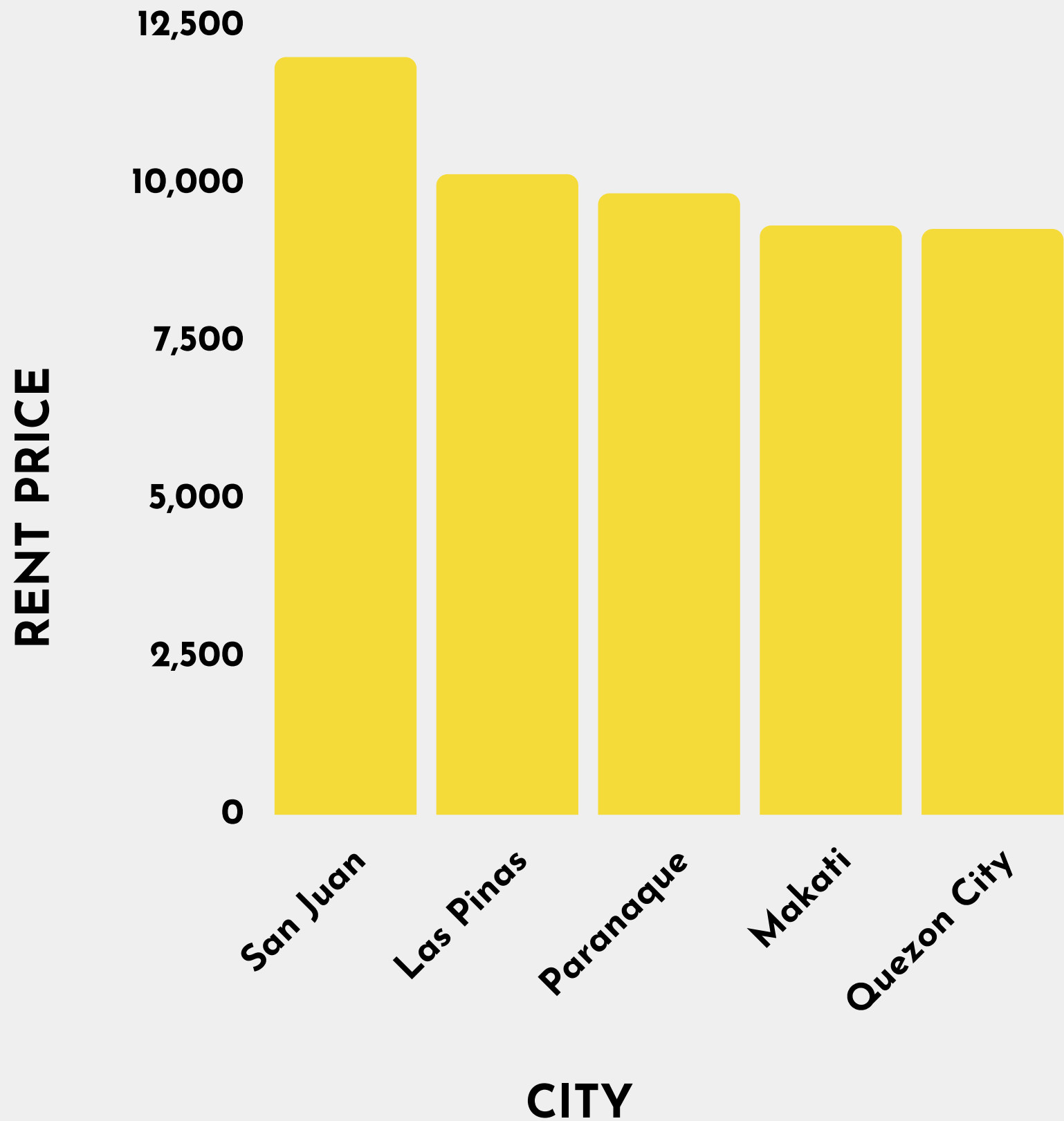
338
SPACE



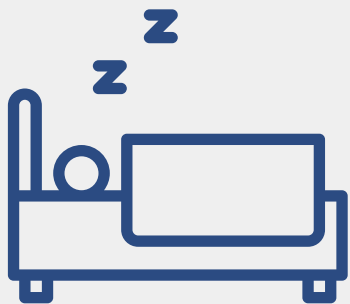


1178 PROPERTY
LISTINGS WERE
LEFT FOR DATA
ANALYSIS

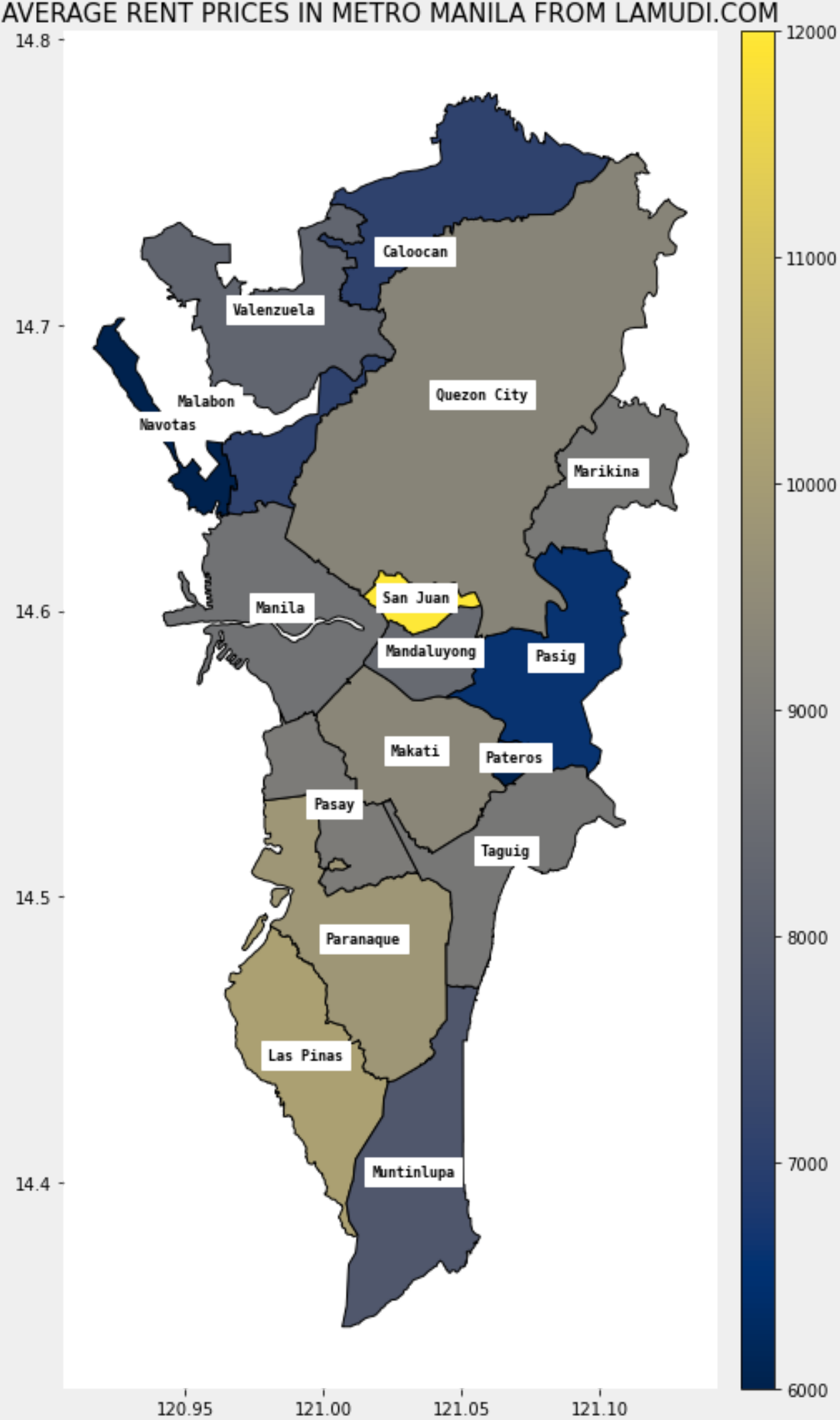
TOP 5 MOST EXPENSIVE CITIES IN NCR



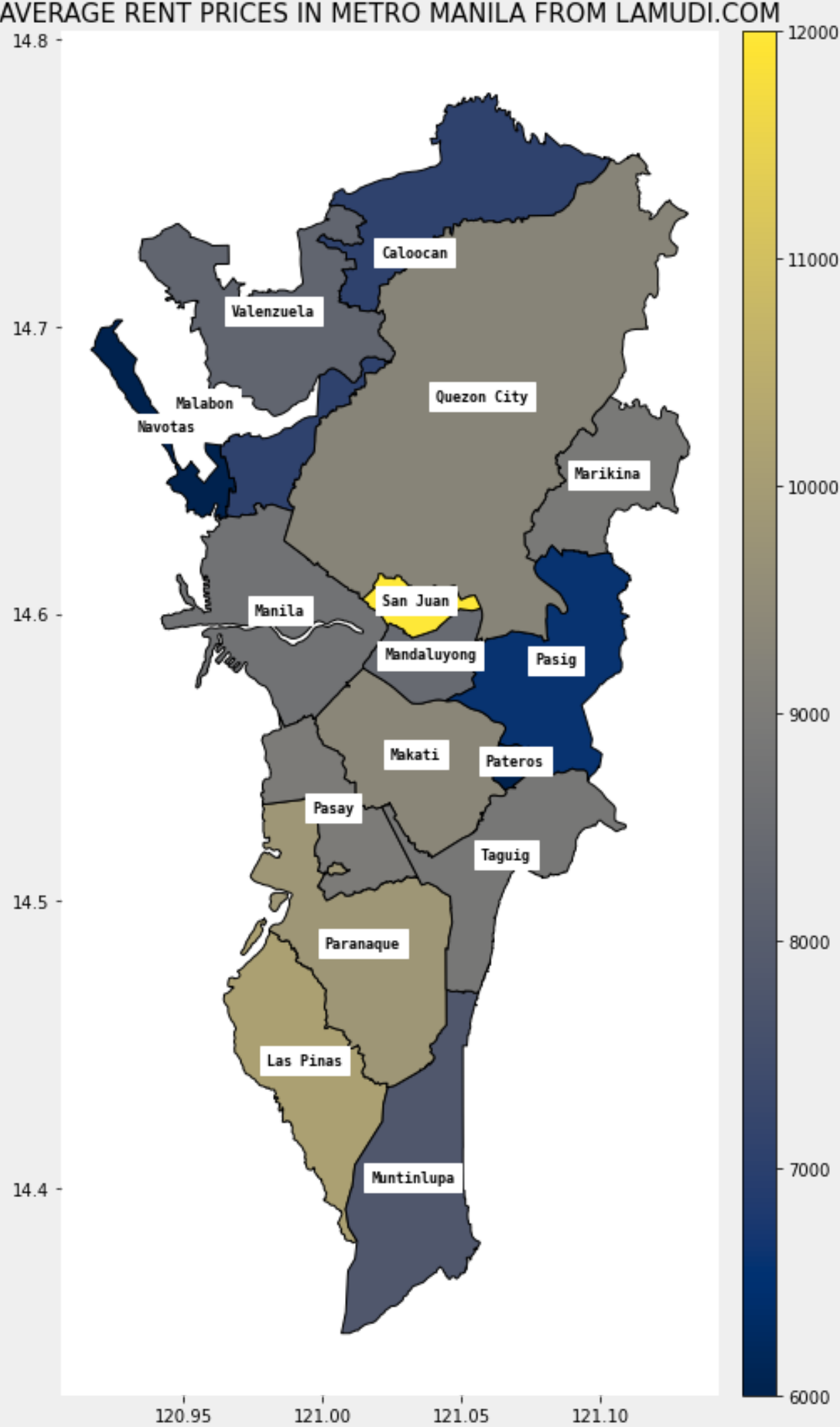
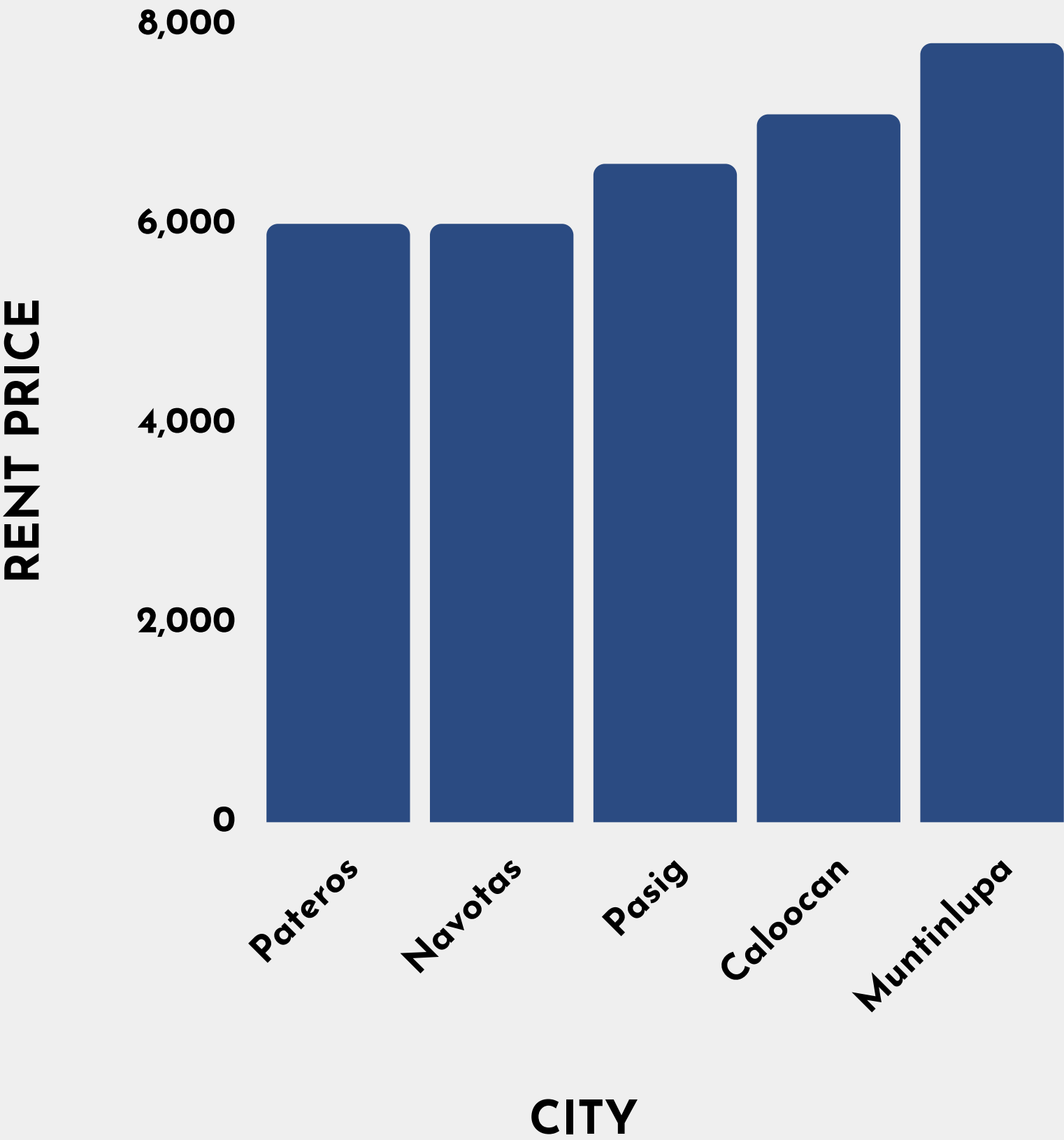
TOP 5 MOST EXPENSIVE CITIES IN NCR



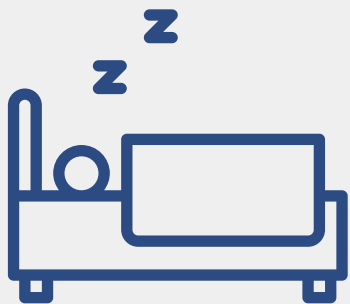
SAN JUAN	1.33	1.00	24.44
LAS PINAS	1.51	1.26	39.70
PARANAQUE	1.69	1.17	37.36
MAKATI	1.69	1.57	26.89
QC	1.69	1.25	32.05



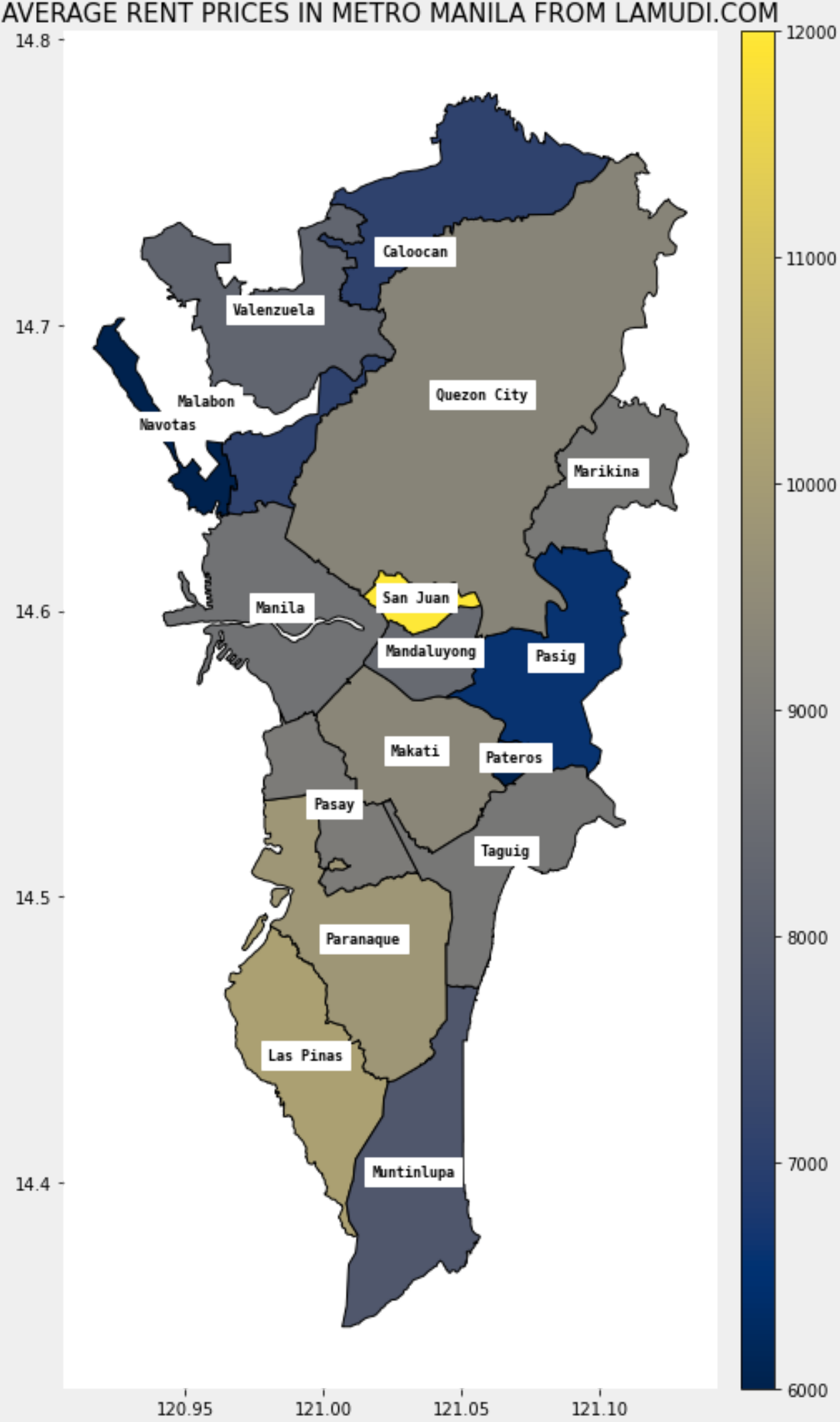
TOP 5 LEAST EXPENSIVE CITIES IN NCR



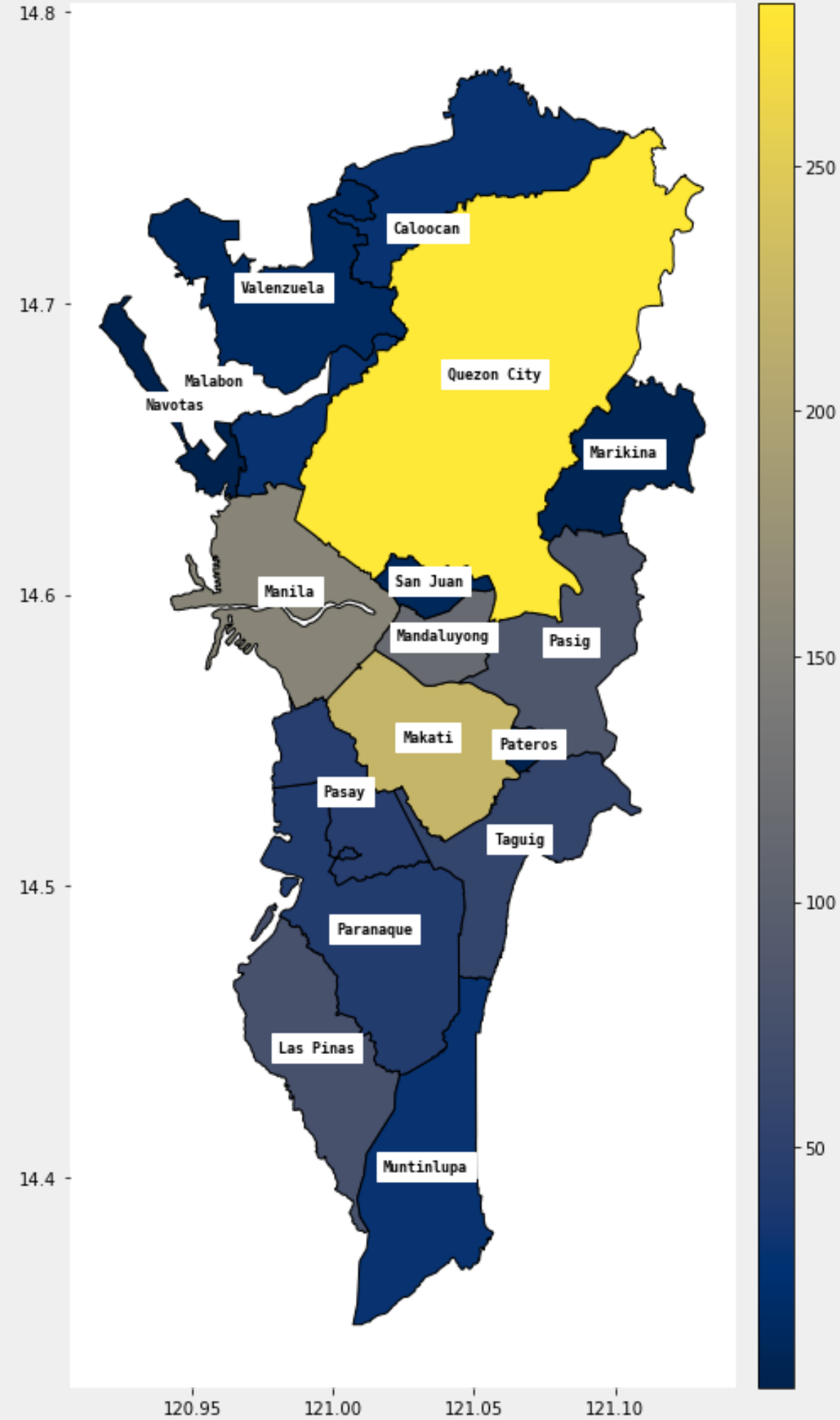
TOP 5 LEAST EXPENSIVE CITIES IN NCR



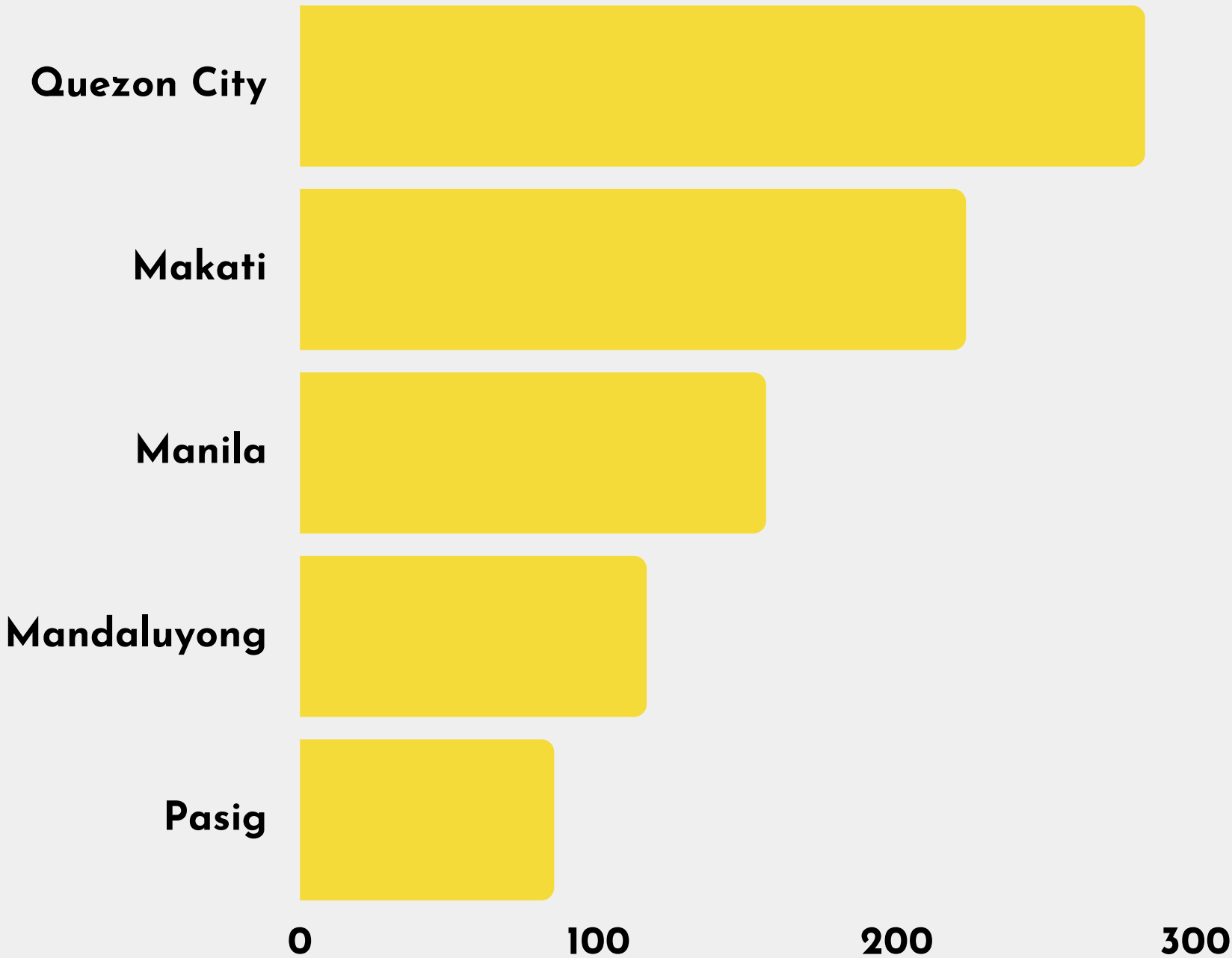
NAVOTAS	2.00	1.00	40.00
PATEROS	1.00	1.00	12.50
PASIG	1.80	2.84	33.53
CALOOCAN	1.41	1.10	57.76
MUNTINLUPA	2.76	1.59	63.31



CONCENTRATION OF PROPERTIES FOR RENT IN METRO MANILA



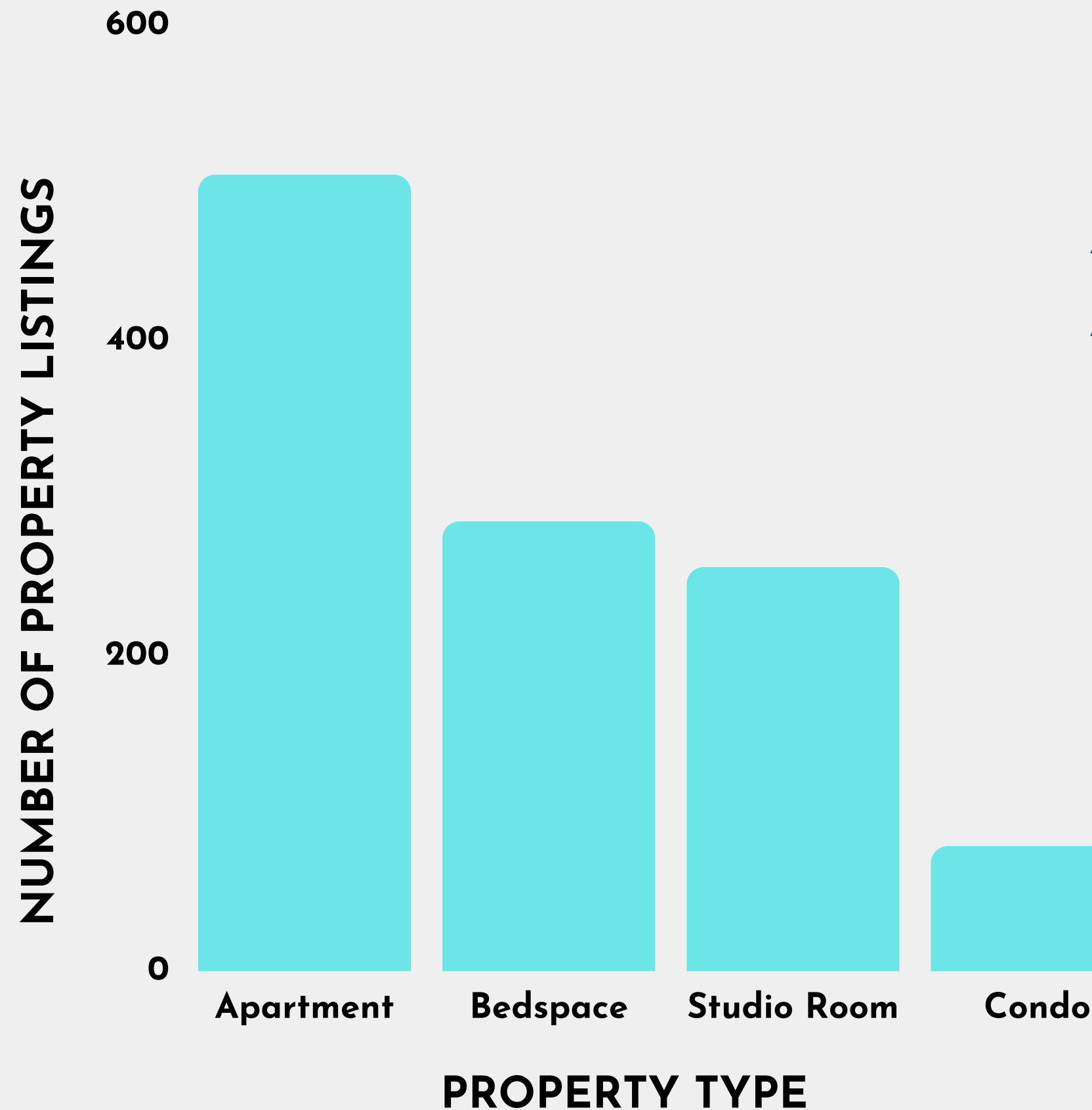
CITY



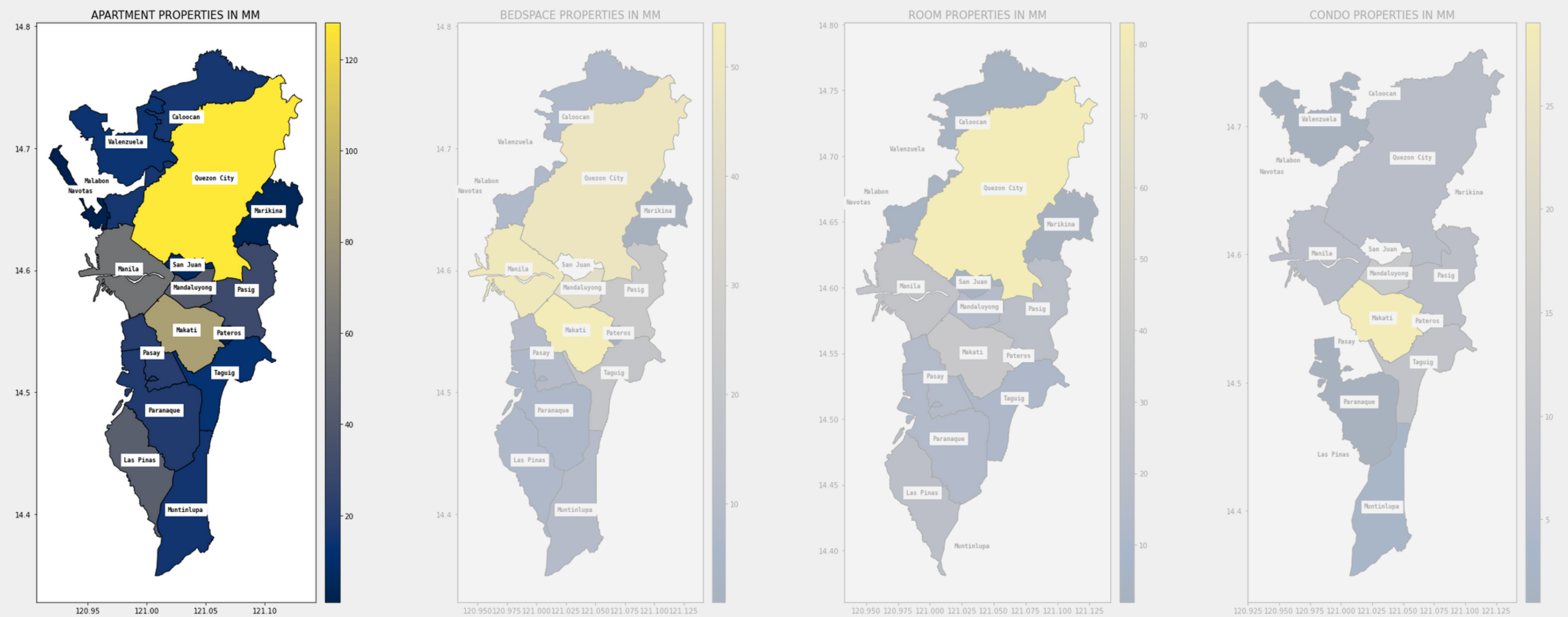
NUMBER OF PROPERTY LISTINGS

THE PROPERTIES FOR RENT ARE
CONCENTRATED IN THESE CITIES:
QC, MAKATI, MANILA, MANDA & PASIG

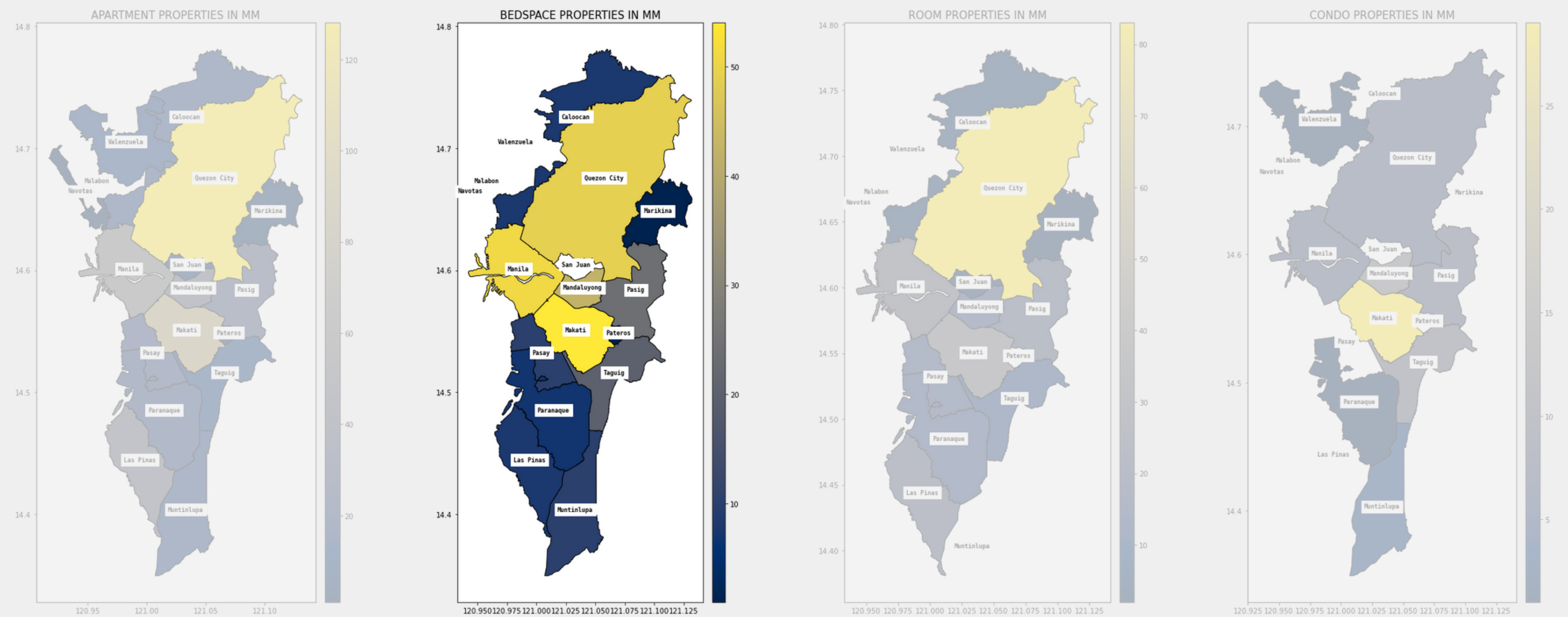
**THE PROPERTY TYPES ARE
MOSTLY COMPOSED OF
APARTMENT, BEDSPACE, ROOM,
AND CONDOMINIUM**



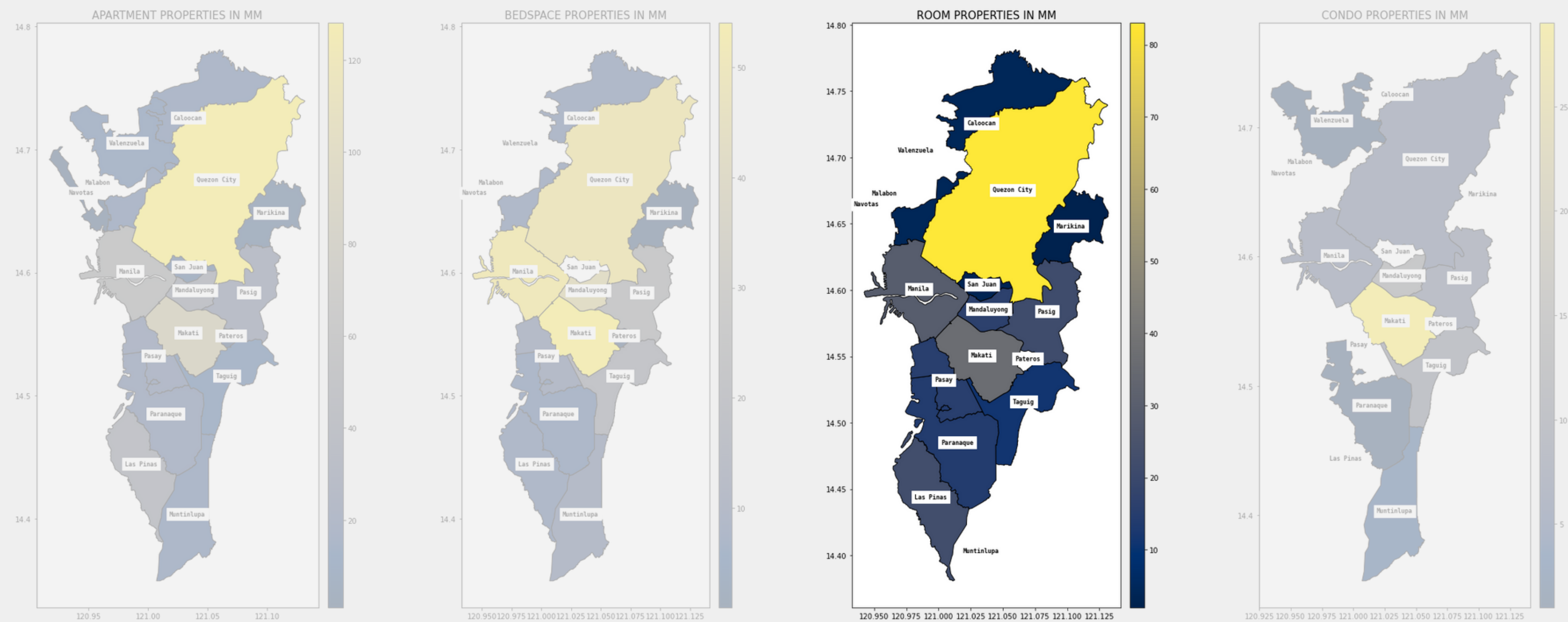
APARTMENT TYPE LISTINGS ARE PLENTY IN QUEZON CITY, MAKATI AND MANILA



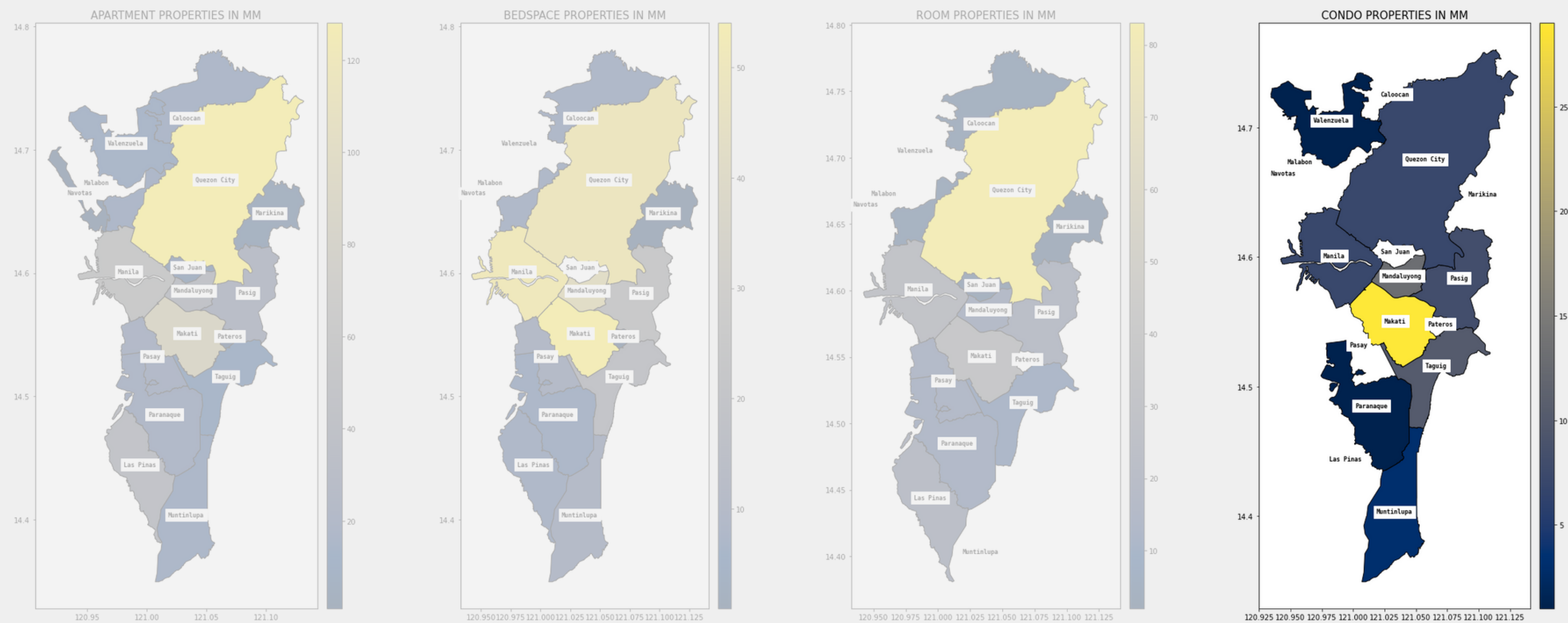
BEDSPACE TYPE LISTINGS ARE SCATTERED IN LARGER PARTS OF THE METRO



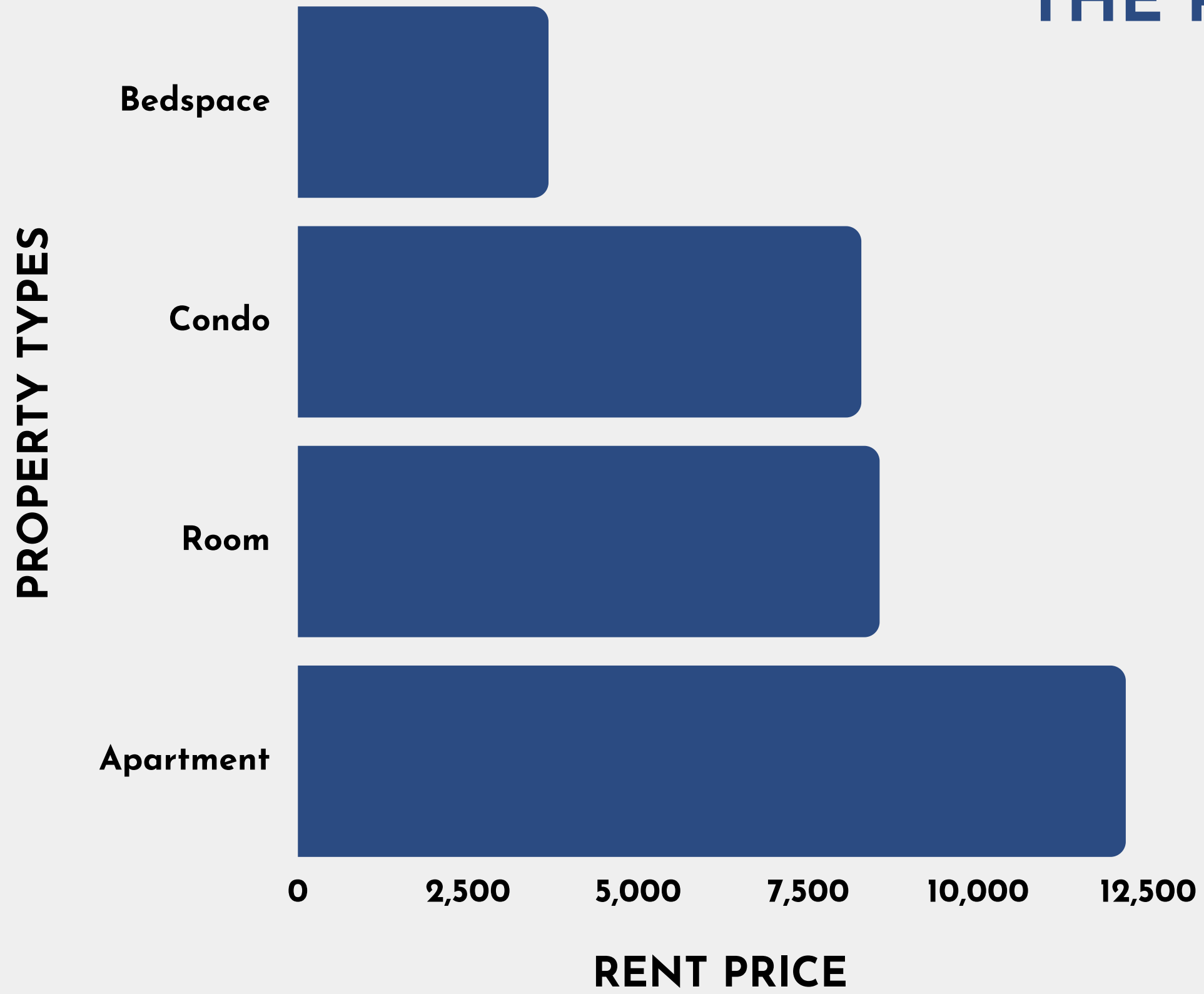
STUDIO TYPE LISTINGS ARE PLENTY IN QUEZON CITY ALONE



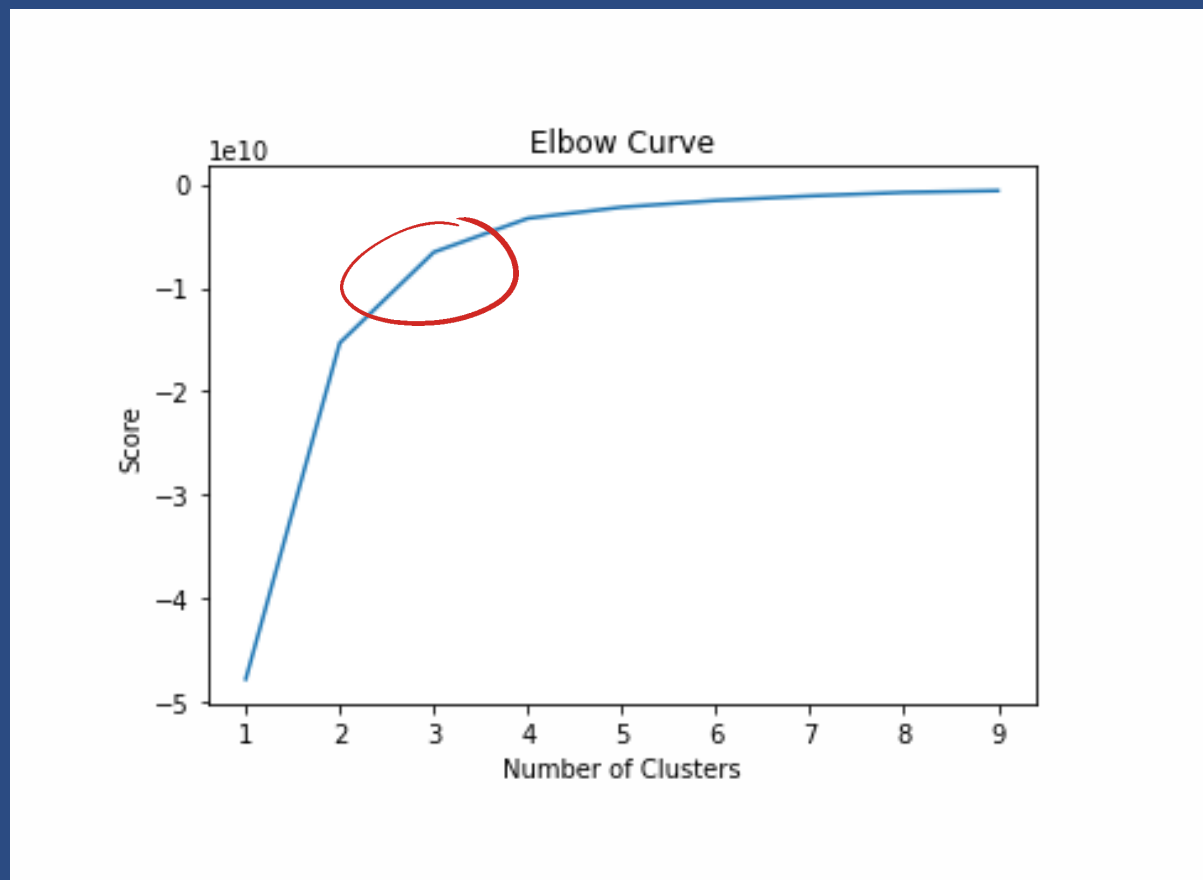
LASTLY, CONDOMINIUM TYPE LISTINGS ARE PLENTY IN MAKATI CITY



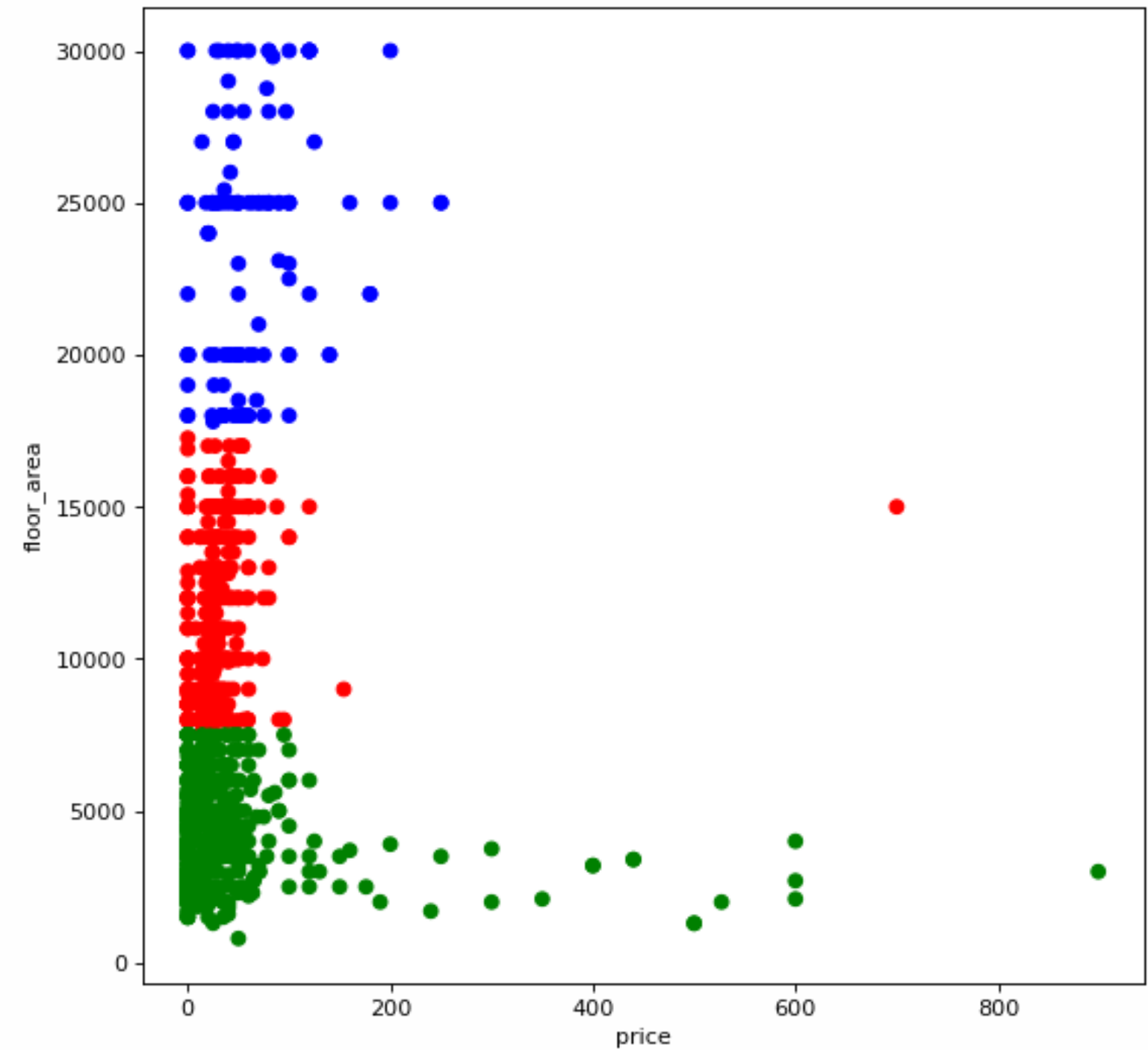
THE PRICE



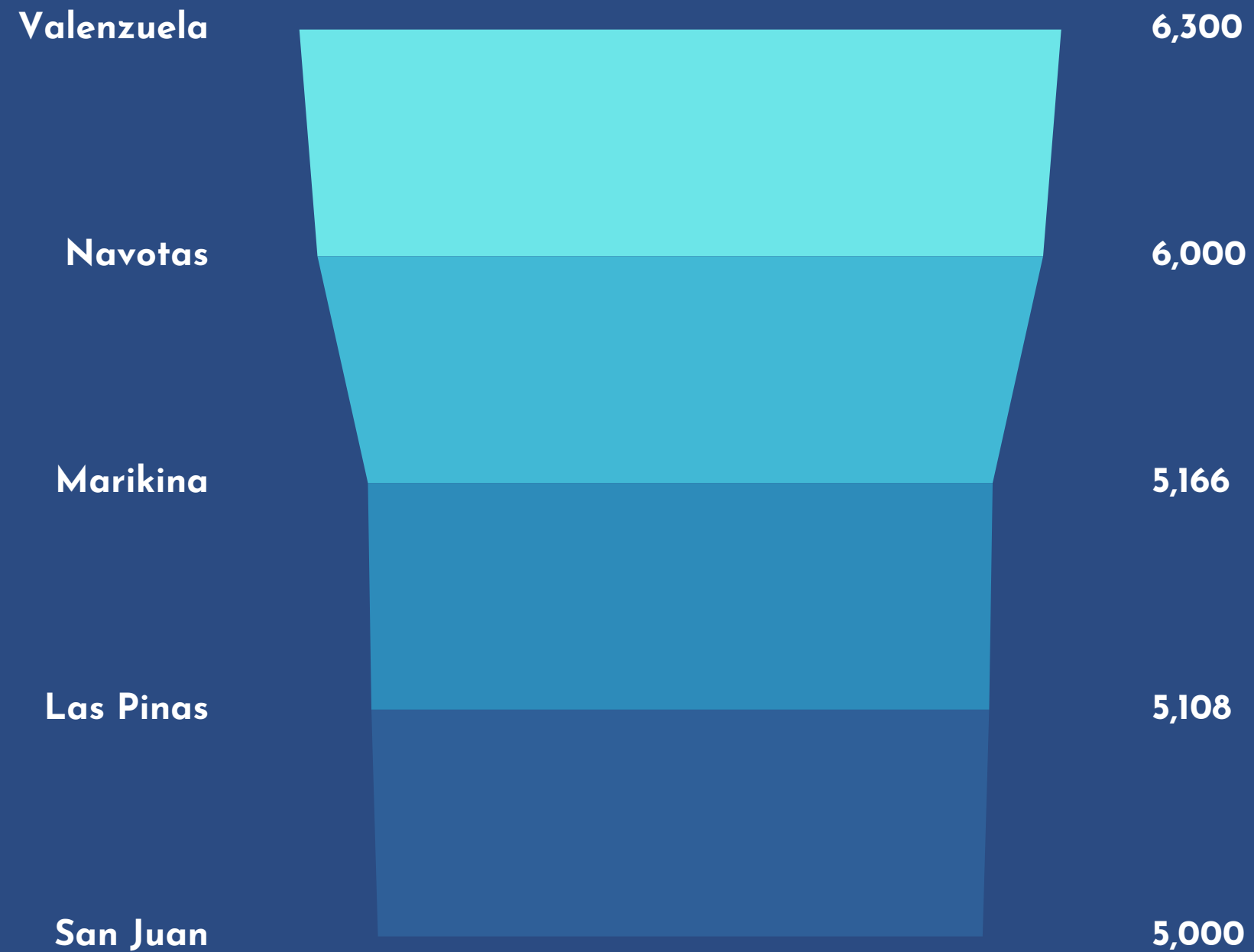
THE CLUSTERS SHOW THAT THE FLOOR AREA AND PRICE ARE NOT DIRECTLY CORRELATED.



K=3

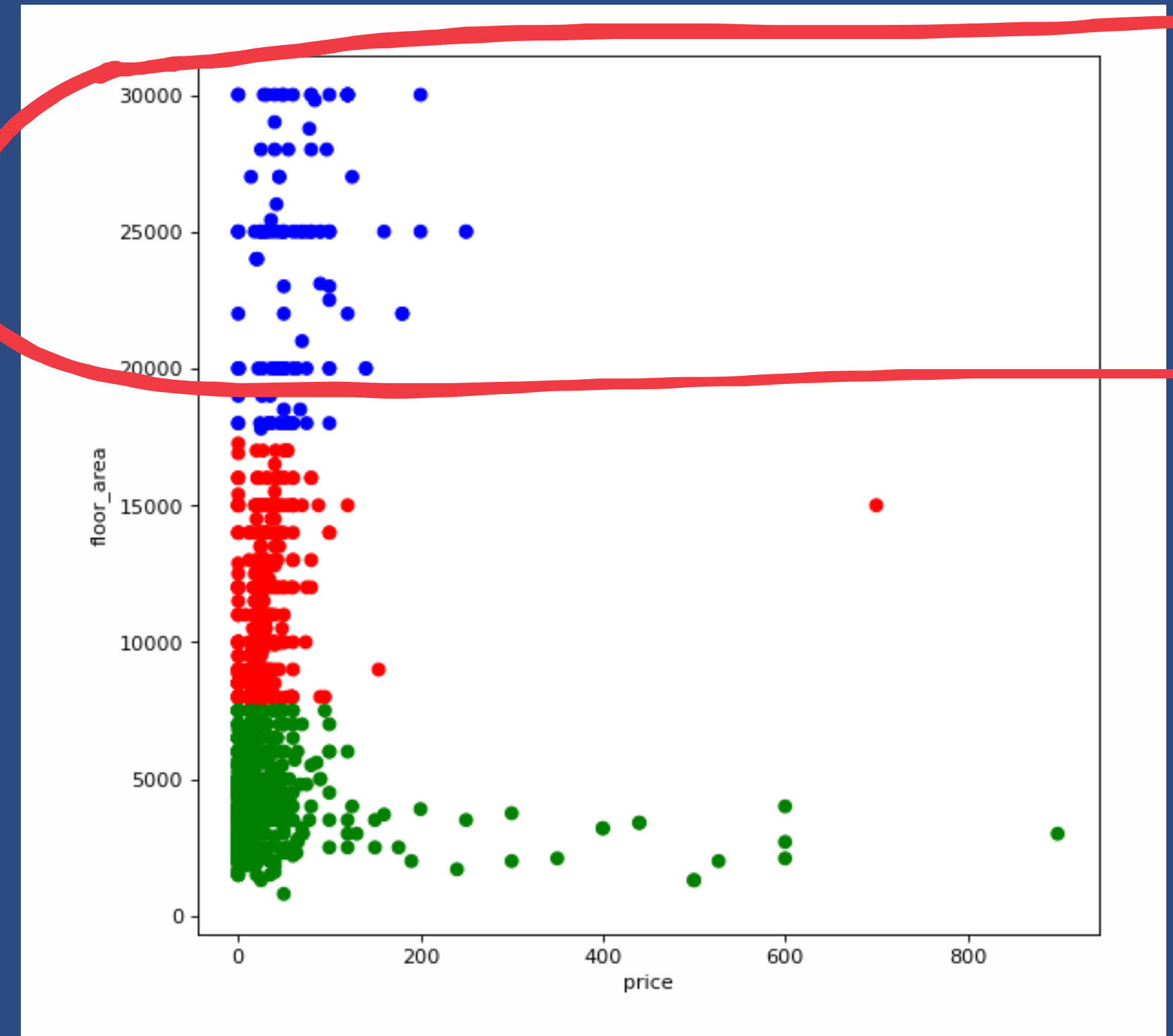


₱ **4300**
AVERAGE RENT PRICE

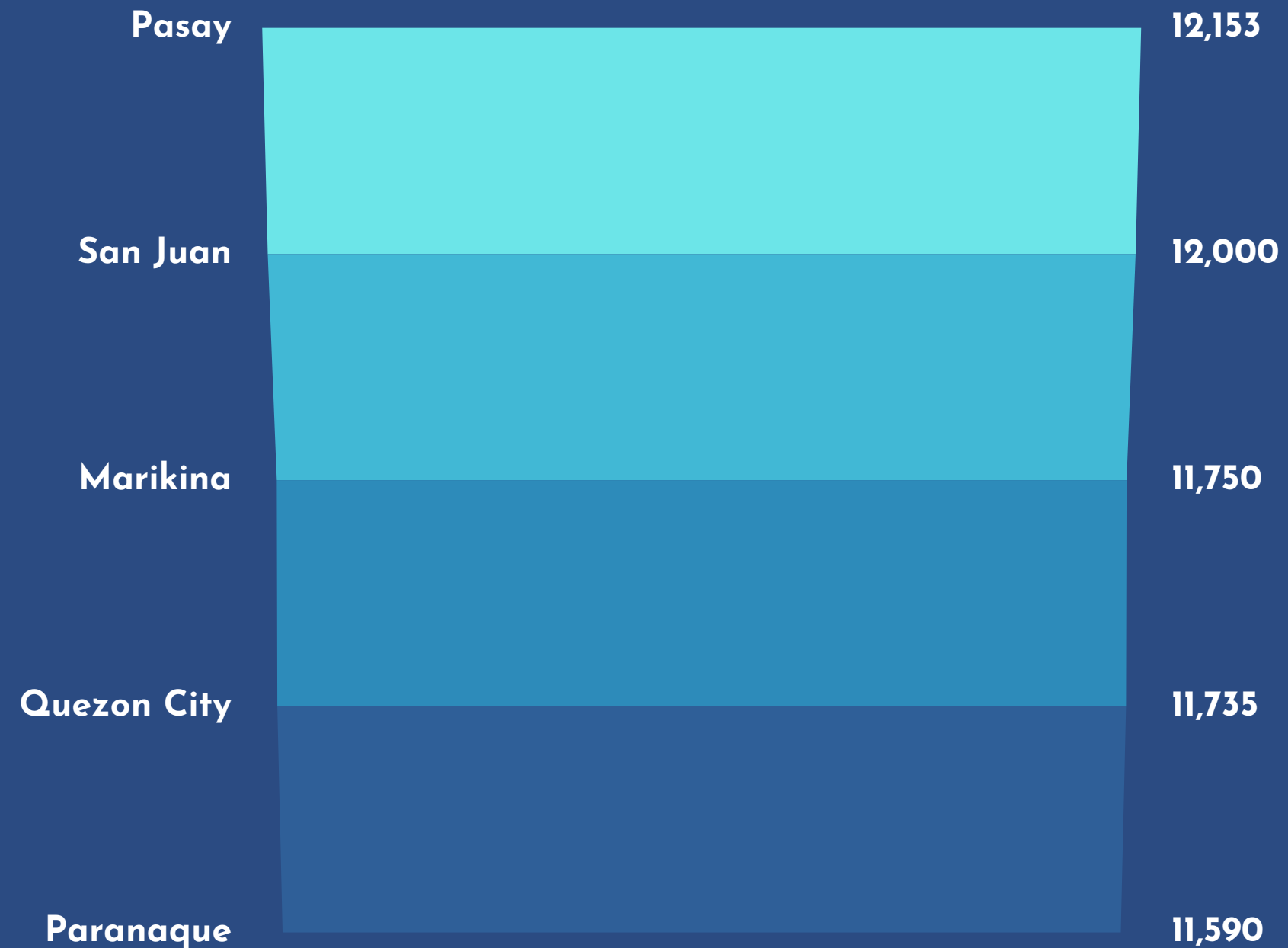


TOP 5 MOST EXPENSIVE CITIES IN
LOW RANGES CLUSTER

614 LOW RANGE PROPERTIES

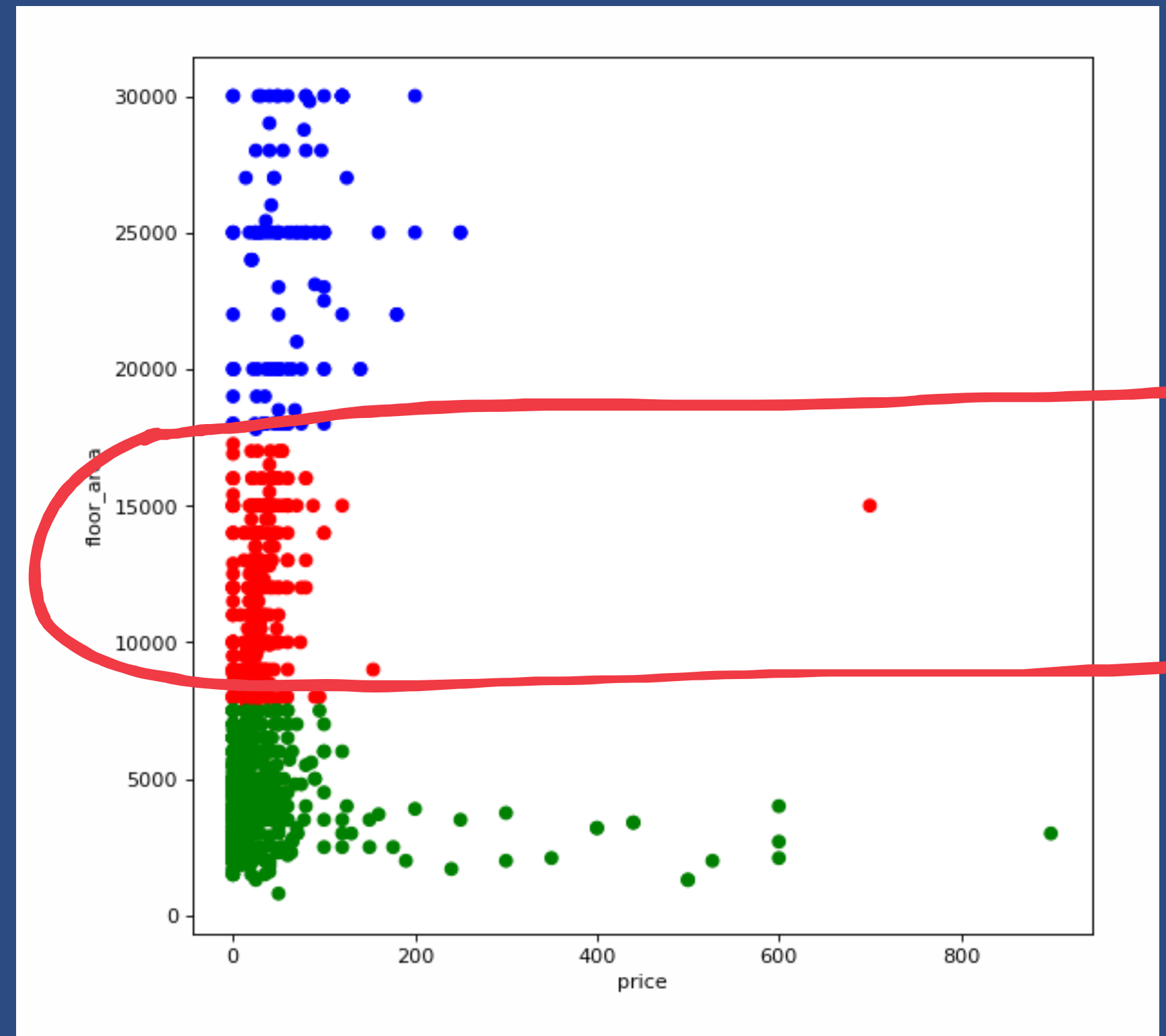


₱ 11000
AVERAGE RENT PRICE

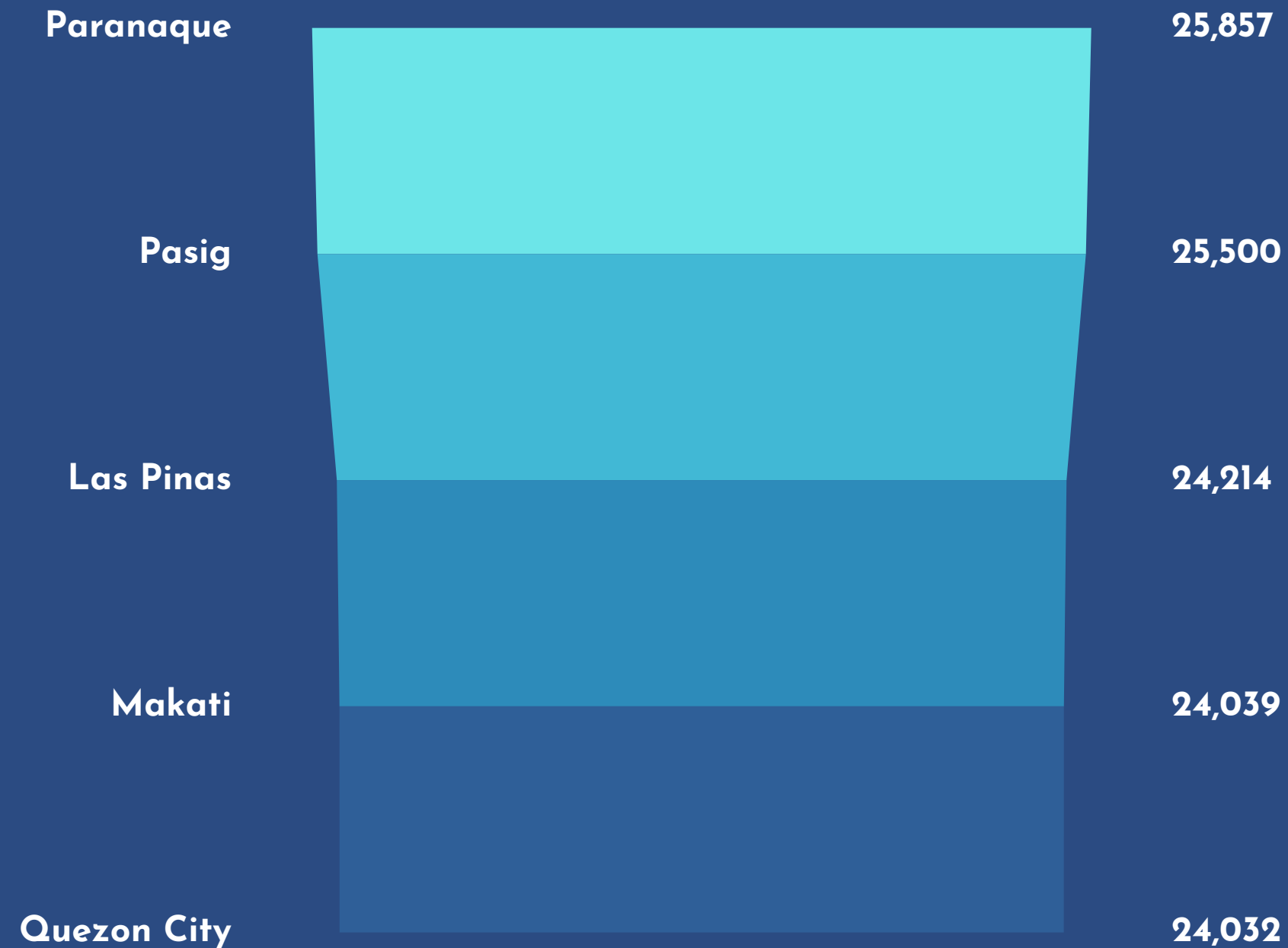


TOP 5 MOST EXPENSIVE CITIES IN
MID RANGE CLUSTER

442 MID RANGE PROPERTIES

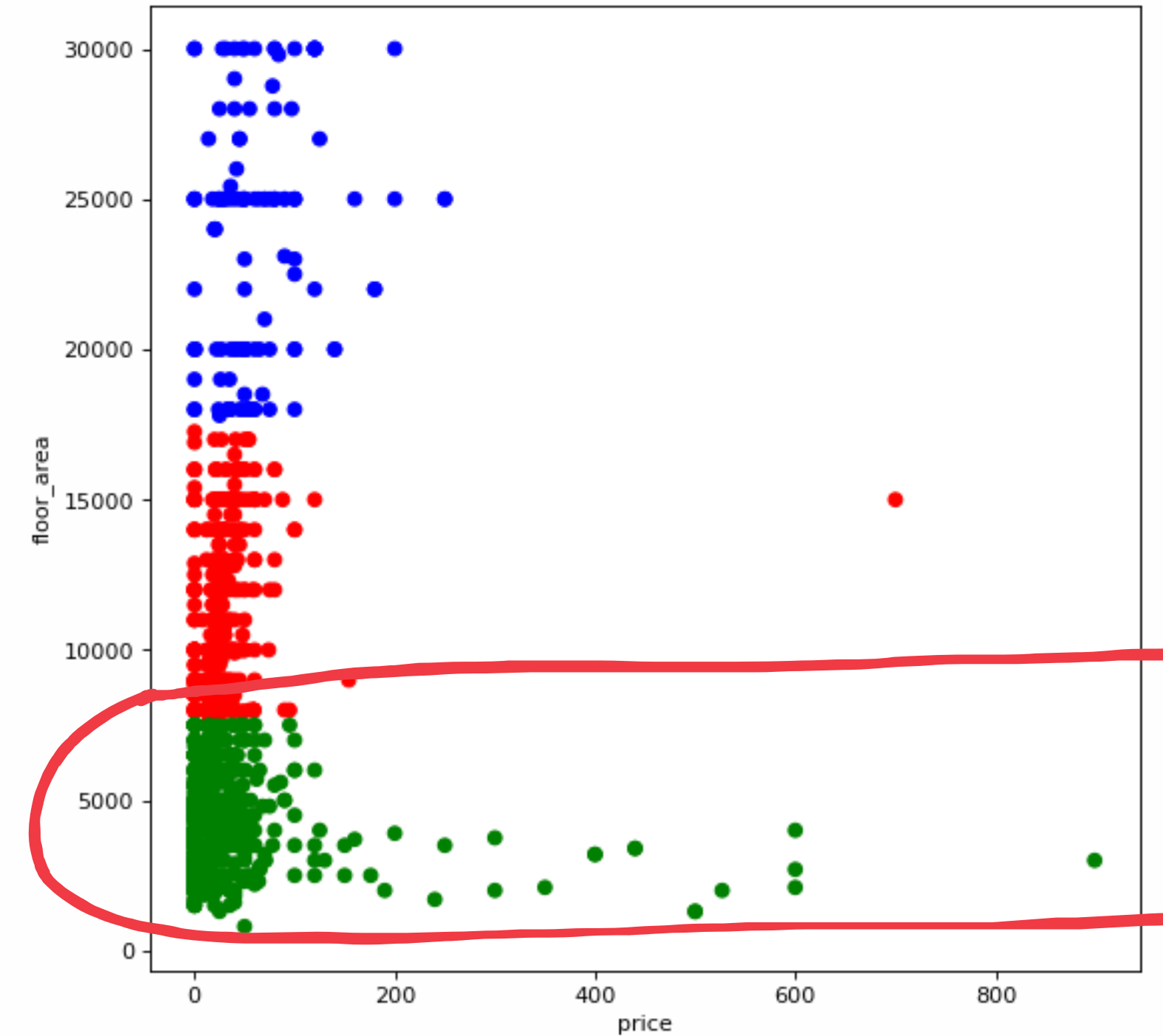


₱ 24000
AVERAGE RENT PRICE



**TOP 5 MOST EXPENSIVE CITIES IN
HIGH RANGE CLUSTER**

122 HIGH RANGE PROPERTIES



ML: REGRESSION

```
intercept: -17602.634076772192
coef: [ 1.53244708e+02  9.51966270e+03  6.65189330e+02 -5.02621137e+04
-1.99255492e+04 -1.39075901e+04  3.43616180e+04 -2.21348778e+04
-1.21080915e+04  1.67208708e+04 -7.21774445e+03 -3.71332025e+04
-1.28310912e+04  1.57770156e+04 -1.20925699e+04  7.99993428e+02
-7.29433810e+03 -2.51204789e+04 -1.03362948e+04  7.59271414e+03
 1.78226539e+03  1.08652526e+03  9.82442825e+03  1.48436560e+04
-9.02372797e+03  2.90160968e+05 -1.82758762e+05  1.04297267e+04
 1.87666506e+04]
train R squared: 0.577298096391663
test R squared: 0.8432414192012581
```



THE PRICE OF THE PROPERTY LISTING CAN
BE PREDICTED WITH AN **R²=0.84** IF THE
NUMBER OF BEDROOMS, BATHROOM,
AREA AND CITY LOCATION ARE GIVEN

TAKEAWAYS

- THE MAIN CONTRIBUTOR TO A PROPERTY LISTING'S RENT PRICE ARE ITS LOCATION AND PROPERTY TYPE,
- FROM THE CLUSTERS MADE; LOW, MID AND HIGH RANGE, IT CAN BE CONCLUDED THAT THE AVERAGE RENT PRICE FOR THE NCR CITIES,
- THE PRICE PREDICTION MODEL CAN BE IMPROVED IF MORE ROWS AND FEATURES SUCH AS AMENITIES CAN BE PROVIDED.

RECOMMENDATION FOR RENTERS

- FOR RENTERS WHO PREFER TO HAVE MORE CHOICES, THE CITY WITH MOST NUMBER OF PROPERTY TYPES CAN BE DETERMINED,
- CONSIDERING BUDGET OF THE RENTERS, THE RENTERS CAN START THE HUNT OF THEIR PROPERTY CHOICE WITH THE CITIES WITH,
- BEDSPACES RENT PRICE ARE SIGNIFICANTLY LOWER THAN THE OTHER TYPES. TRADEOFFS SUCH AS PRIVACY SHOULD BE MADE CLEAR BY RENTERS.