

Project report

Housing Prices in Metropolitan Cities

Introduction:

The project aims to conduct a comprehensive analysis of housing prices in selected metropolitan cities, recognizing the significance of urban housing markets in today's globalized world. The study will delve into various aspects affecting housing prices, including economic factors, demographic trends, and location-specific variables.

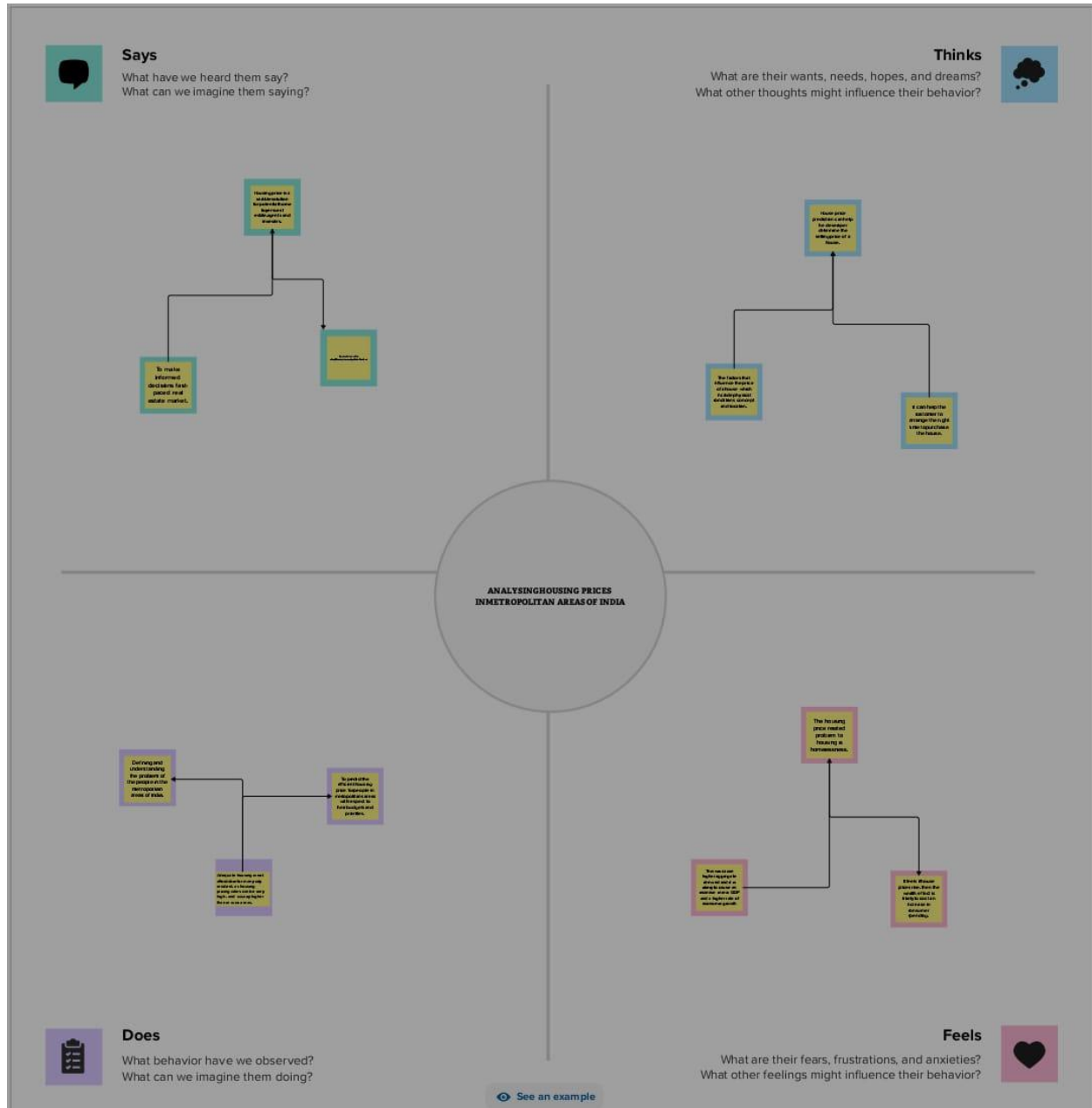
Project Overview :Analysis of Housing Prices in Metropolitan Cities Housing prices in metropolitan cities can vary significantly depending on factors such as location, property type, and economic conditions.

Project purpose :Market Analysis: To provide insights into the current and future state of the housing market in metropolitan areas, helping buyers, sellers, investors, and policymakers make informed decisions.

Risk Assessment: To assess the potential risks and opportunities in the housing market, which can aid in making strategic investments or adjusting policies to mitigate housing-related risks.

PROBLEM DEFINITION & DESIGN THINKING

Empathy map



Ideation & Brainstorm Map

Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 10 minutes to prepare
- 1 hour to collaborate
- 2-3 people recommended

Before you collaborate

Allocate a lot of preparation time to get your team on the same page. Here's what you need to do to get going.

- 1. **Team gathering**
Define who should participate in the session and send an invite. Share relevant information or previous ideas.
- 2. **Set the space**
Think about the problem you'll be focusing on solving in the brainstorming session.
- 3. **Learn what you can**
Research the problem. Read up on the latest news, trends, and challenges. Get a sense of the current landscape.

Open article →

Define your problem statement

What problem are you trying to solve? Frame your problem as a clear, tight statement. This will be the focus of your brainstorm.

15 minutes

Commonly, brainstorming is used to brainstorm ideas for a product or service. It can also be used to brainstorm ideas for a process or system.

Key rules of brainstorming

To run an effective and productive session:

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Let ideas flow.
- Go for volume.
- If possible, be visual.

4 Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on the grid to determine which ideas are important and which are feasible.

20 minutes

YIP

Participants can use their sticky notes to place an idea on the grid. If an idea is not on the grid, it's not a good idea. If an idea is on the grid, it's a good idea. If an idea is on the grid, it's a good idea.

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick actions

- 1. **Share the mural**
Share a view link to the mural with collaborators to keep them in the loop about the outcomes of the session.
- 2. **Export the mural**
Export a copy of the mural as a PDF or PNG to share with others, include in decks, or save in your drive.

Keep moving forward

- 1. **Strategy blueprint**
Define the components of a new idea or strategy.
- 2. **Customer experience journey map**
Understand customer needs, motivations, and behaviors for an experience.
- 3. **Strengths, weaknesses, opportunities & threats**
Identify key strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.

20 Share template to feedback

3 Brainstorm

Write down any ideas that come to mind but address your problem statement.

10 minutes

Person 1

Person 2

Person 3

Person 4

Person 5

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence that best describes it. If a cluster is bigger than six sticky notes, try and break it up into smaller sub-groups.

20 minutes

YIP

You can select a sticky note and be the volunteer to read out loud (optional).

Overpopulation and Urbanization: Metropolitan areas in India often experience rapid population growth due to rural-to-urban migration and natural population increase. The leads to overcrowding, strain on infrastructure, and increased demand for housing, services, and resources.

Infrastructure Deficit: The infrastructure in many metropolitan areas is often inadequate to support the growing population. This includes transportation systems, water supply, sanitation, electricity, waste management, and healthcare facilities.

Traffic Congestion: With the increasing number of vehicles on the road, traffic congestion becomes a major issue. This leads to longer commute times, increased air pollution, and economic losses due to decreased productivity.

Housing Shortage and Slums: High demand for housing in metropolitan areas often results in a shortage of affordable housing options. This leads to the proliferation of slums and informal settlements, where living conditions are often substandard.

Air and Water Pollution: Industrialization, vehicular emissions, and inadequate waste management contribute to poor air and water quality in metropolitan areas. This poses serious health risks to residents and can lead to respiratory diseases and other health issues.

Unequal Access to Basic Services: Disparities in access to basic services like education, healthcare, and sanitation are common in metropolitan areas. Lower-income communities often face challenges in accessing quality services.

Urban Poverty and Inequality: While metropolitan areas often offer opportunities for economic growth, they also exhibit stark income inequality. The concentration of wealth alongside widespread poverty can lead to social tensions and conflicts.

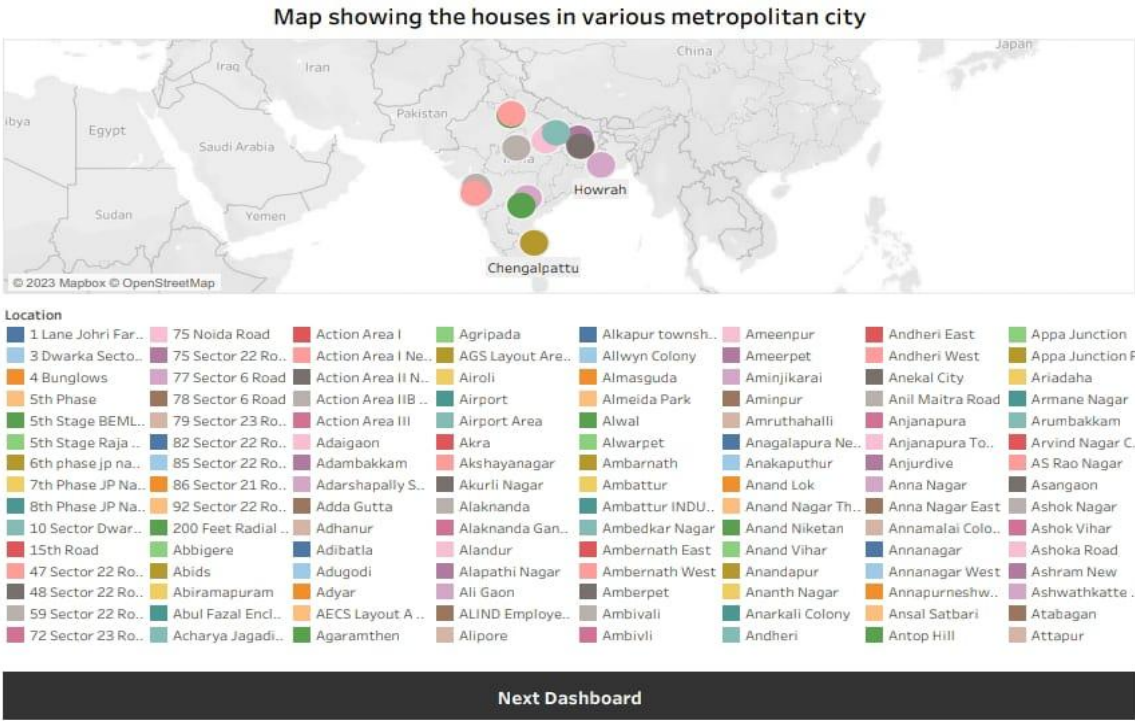
Solid Waste Management: Effective waste management is a significant challenge in metropolitan areas. Improper disposal of waste can lead to environmental degradation and health hazards.

Environmental Degradation: The high population density and rapid development in metropolitan areas can contribute to deforestation, loss of green spaces, and habitat destruction, impacting the local environment and biodiversity.

Water Scarcity: Many metropolitan areas face water scarcity due to mismanagement of water resources, pollution of water bodies, and unsustainable water consumption practices.

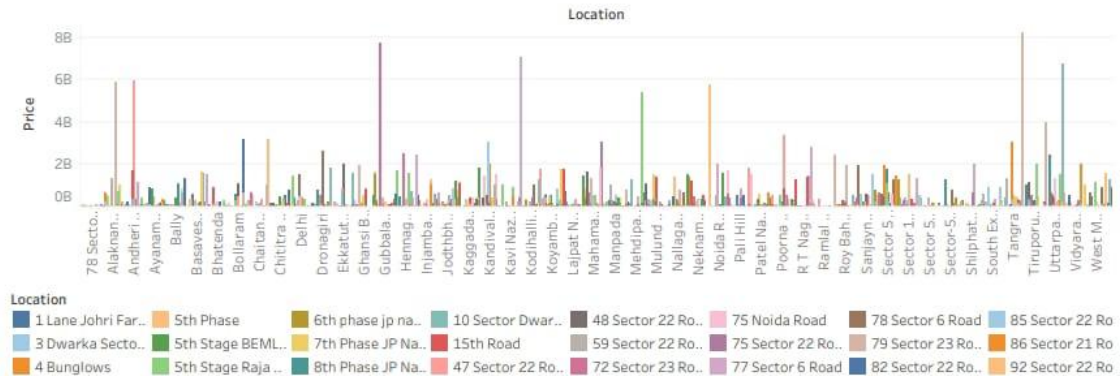
RESULT

DASHBOARD

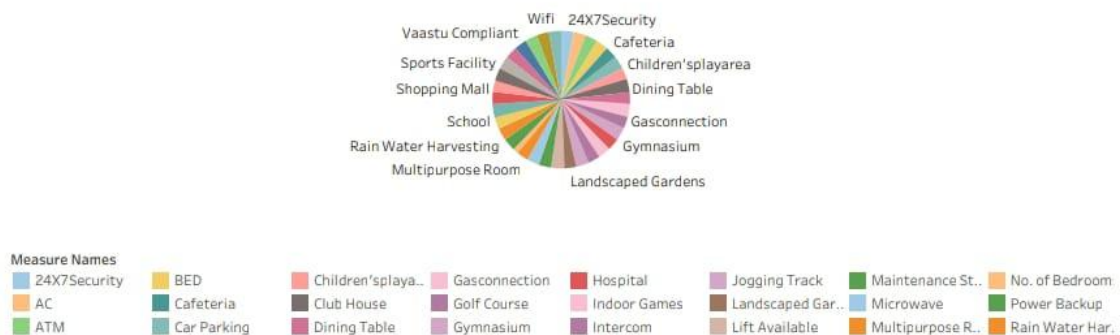


No. of Bedrooms
All values

House Price based on Number Of Bedrooms



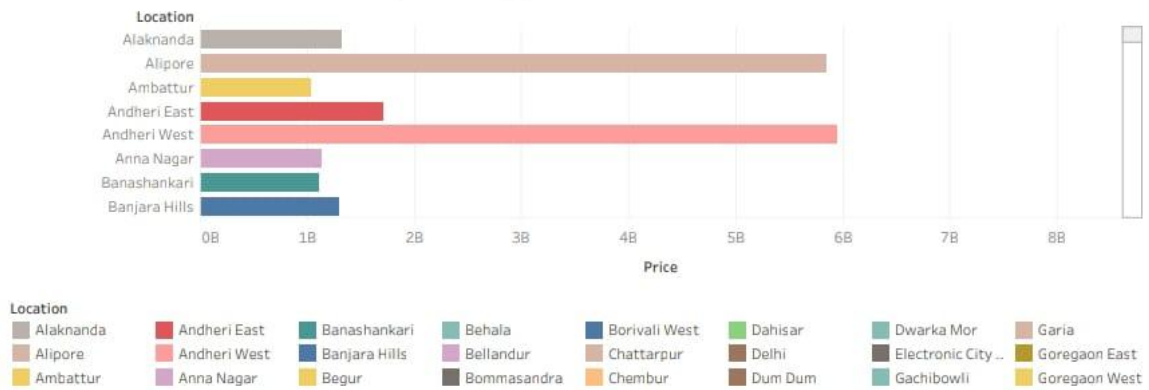
Pie Chart showing various facility



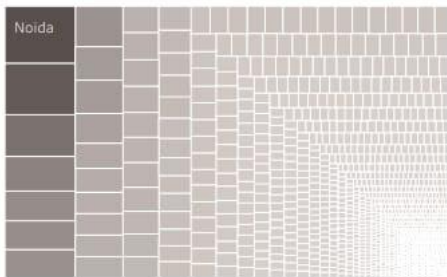
Previous Dashboard

Next Dashboard

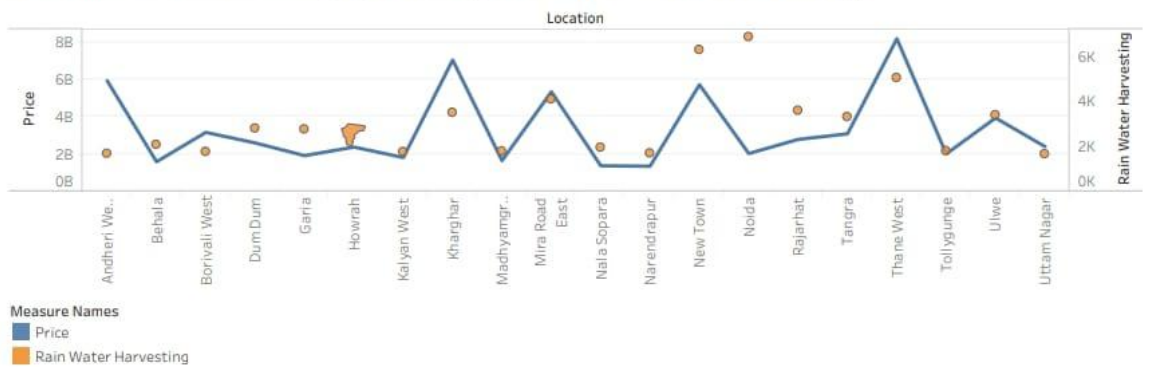
Bar Graph showing prices as various locations



Tree Maps showing vastu complaints



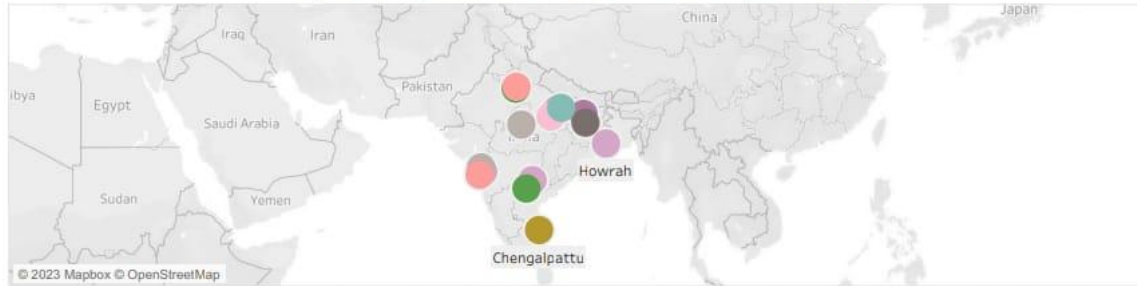
Combined line and location graph showing Price and Rain Water Harvesting



Previous Dashboard

Next Dashboard

Map showing the houses in various metropolitan city



Location

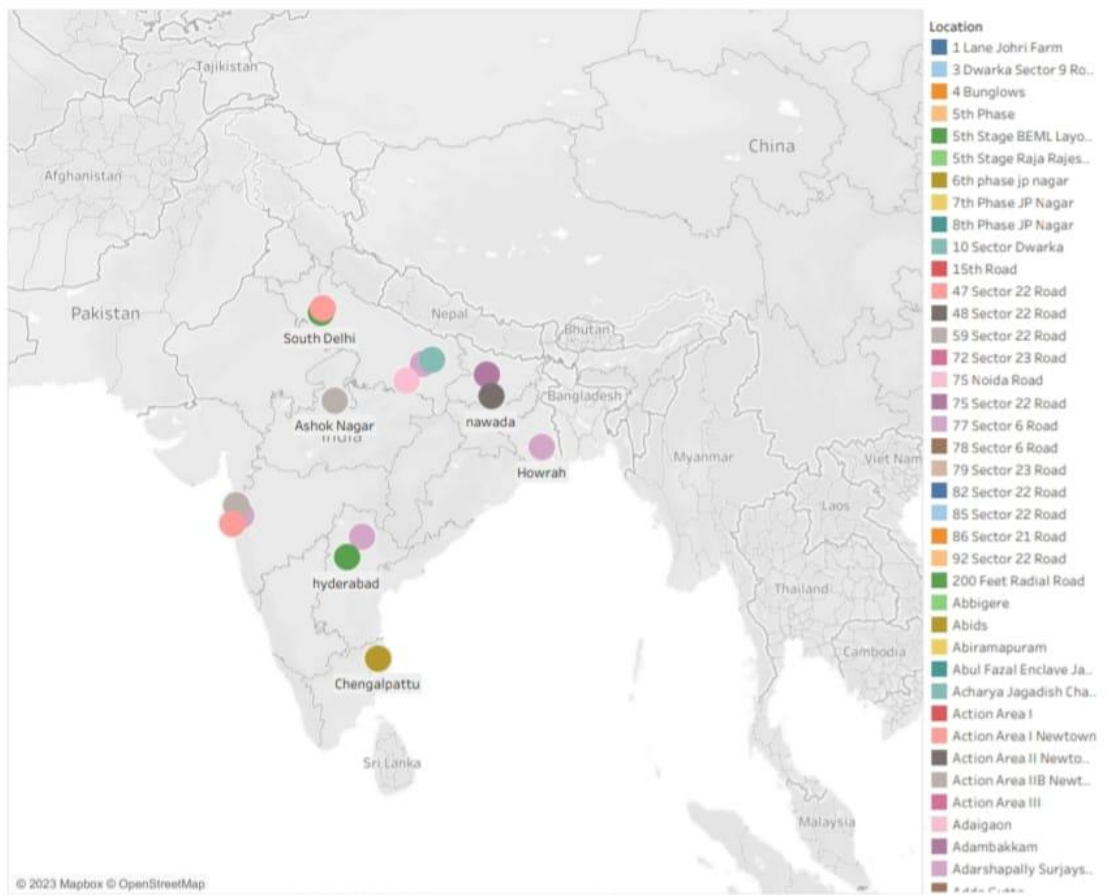
1 Lane Johri Far..	75 Noida Road	Action Area I	Agripada	Alkapur townsh..	Ameenpur	Andheri East	Appa Junction
3 Dwarka Secto..	75 Sector 22 Ro..	Action Area I Ne..	AGS Layout Are..	Allwyn Colony	Ameerpet	Andheri West	Appa Junction P
4 Bungalows	77 Sector 6 Road	Action Area II N..	Airoli	Almasguda	Aminjikarai	Anekal City	Ariadaha
5th Phase	78 Sector 6 Road	Action Area IIB ..	Airport	Almeida Park	Aminpur	Anil Maitra Road	Armane Nagar
5th Stage BEML..	79 Sector 23 Ro..	Action Area III	Airport Area	Alwal	Amruthahalli	Anjanapura	Arumbakkam
5th Stage Raja ..	82 Sector 22 Ro..	Adaigaon	Akra	Alwarpet	Anagalapura Ne..	Anjanapura To..	Arvind Nagar C..
6th phase jp na..	85 Sector 22 Ro..	Adambakkam	Akshayanagar	Ambarnath	Anakaputhur	Anjurdiv	AS Rao Nagar
7th Phase JP Na..	86 Sector 21 Ro..	Adarshapally S..	Akurli Nagar	Ambattur	Anand Lok	Anna Nagar	Asangaon
8th Phase JP Na..	92 Sector 22 Ro..	Adda Gutta	Alaknanda	Ambattur INDU..	Anand Nagar Th..	Anna Nagar East	Ashok Nagar
10 Sector Dwar..	200 Feet Radial ..	Adhanur	Alaknanda Gan..	Ambedkar Nagar	Anand Niketan	Annamalai Colo..	Ashok Vihar
15th Road	Abbigere	Adibatla	Alandur	Ambernath East	Anand Vihar	Annanagar	Ashoka Road
47 Sector 22 Ro..	Abids	Adugodi	Alapathi Nagar	Ambernath West	Anandapur	Annanagar West	Ashram New
48 Sector 22 Ro..	Abiramapuram	Adyar	Ali Gaon	Amberpet	Ananth Nagar	Annapurneshw..	Ashwathkutte ..
59 Sector 22 Ro..	Abul Fazal Encl..	AECS Layout A ..	ALIND Employe..	Ambivali	Anarkali Colony	Ansal Satbari	Atabagan
72 Sector 23 Ro..	Acharya Jagadi..	Agaramthen	Alipore	Ambivli	Andheri	Antop Hill	Attapur

Next Dashboard

STORY

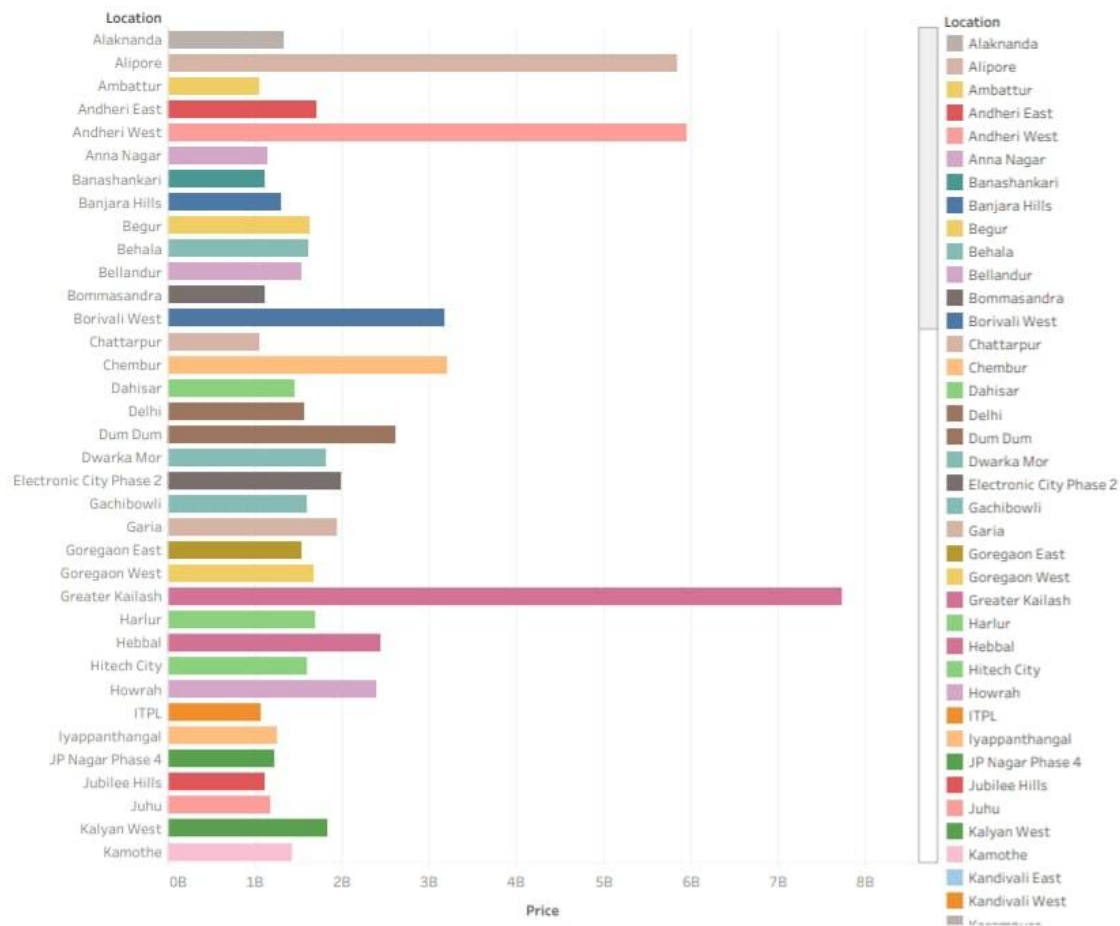
Story 1

Map showing the houses in various met..	Bar Graph showing prices as various loca..	Combined line and location graph showi..	Tree Maps showing vastu complaints	House Price based on Number Of Bedrooms	Number Of Hospitals and Schools	Maintenance Staff and Pri..
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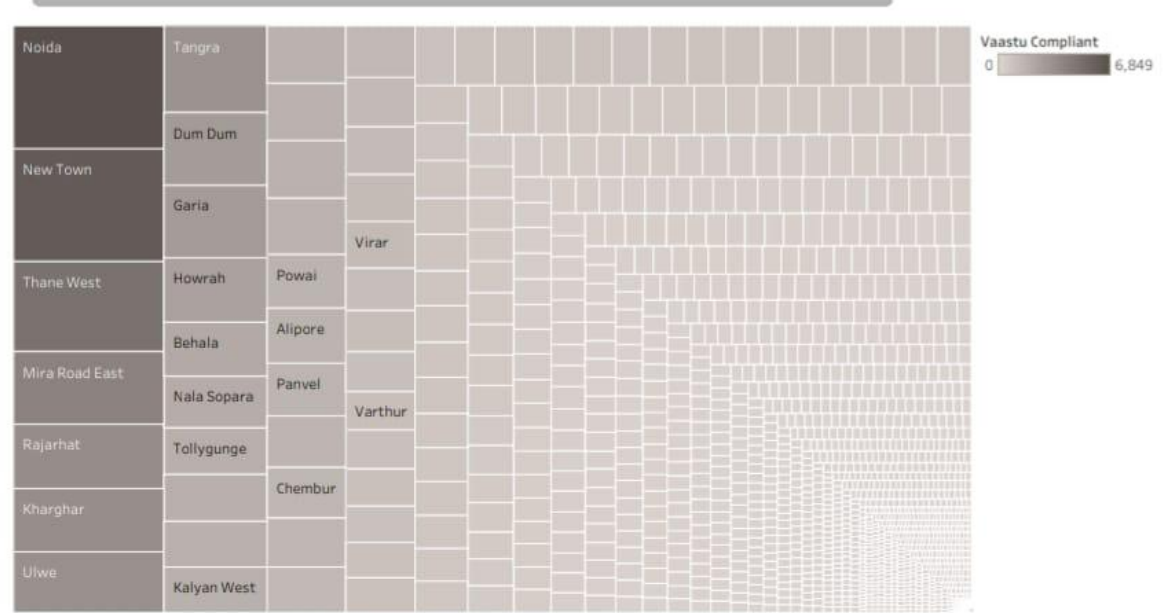
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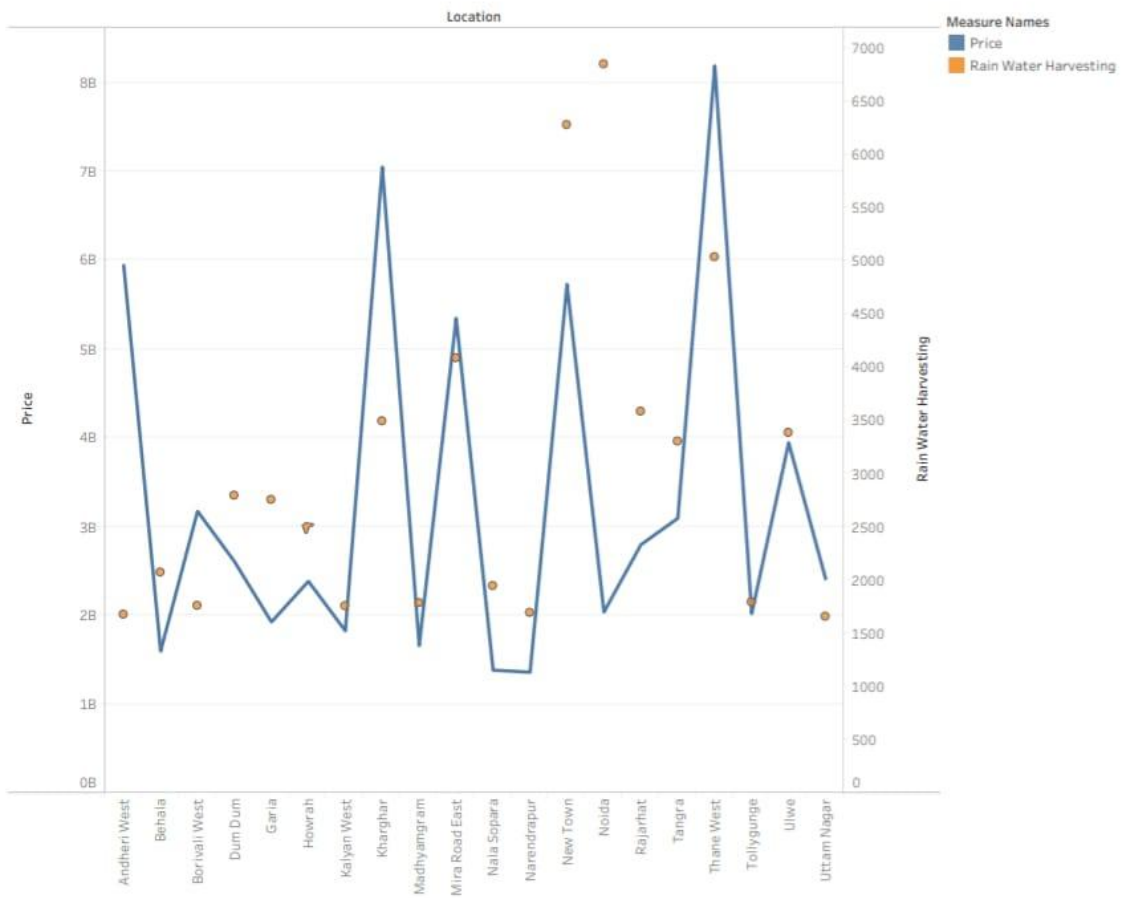
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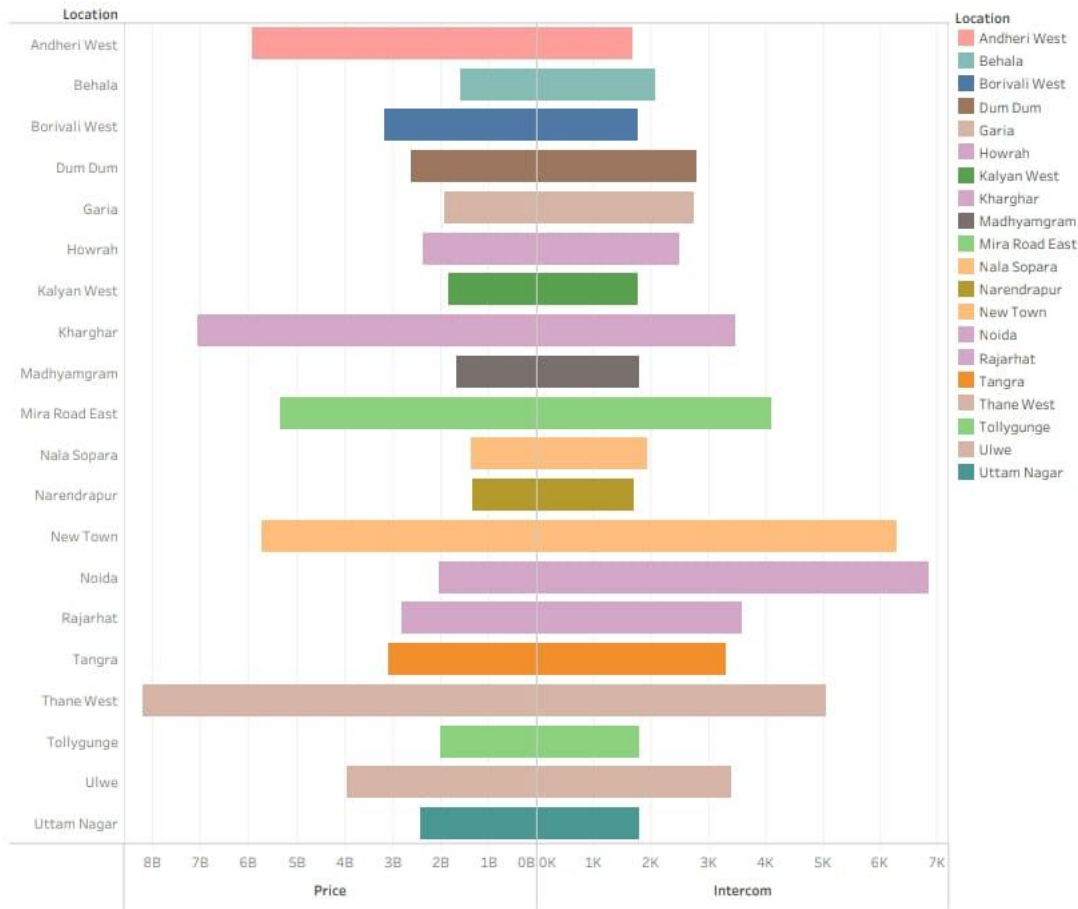
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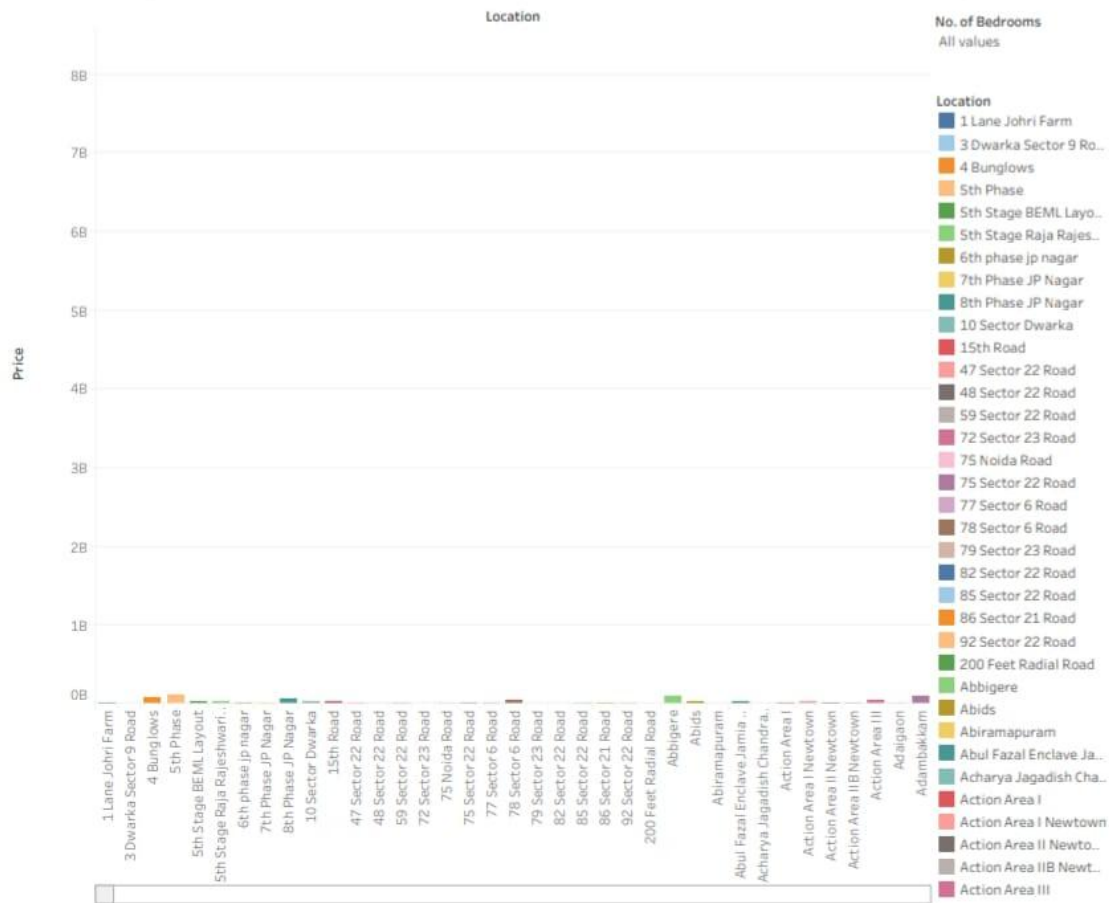
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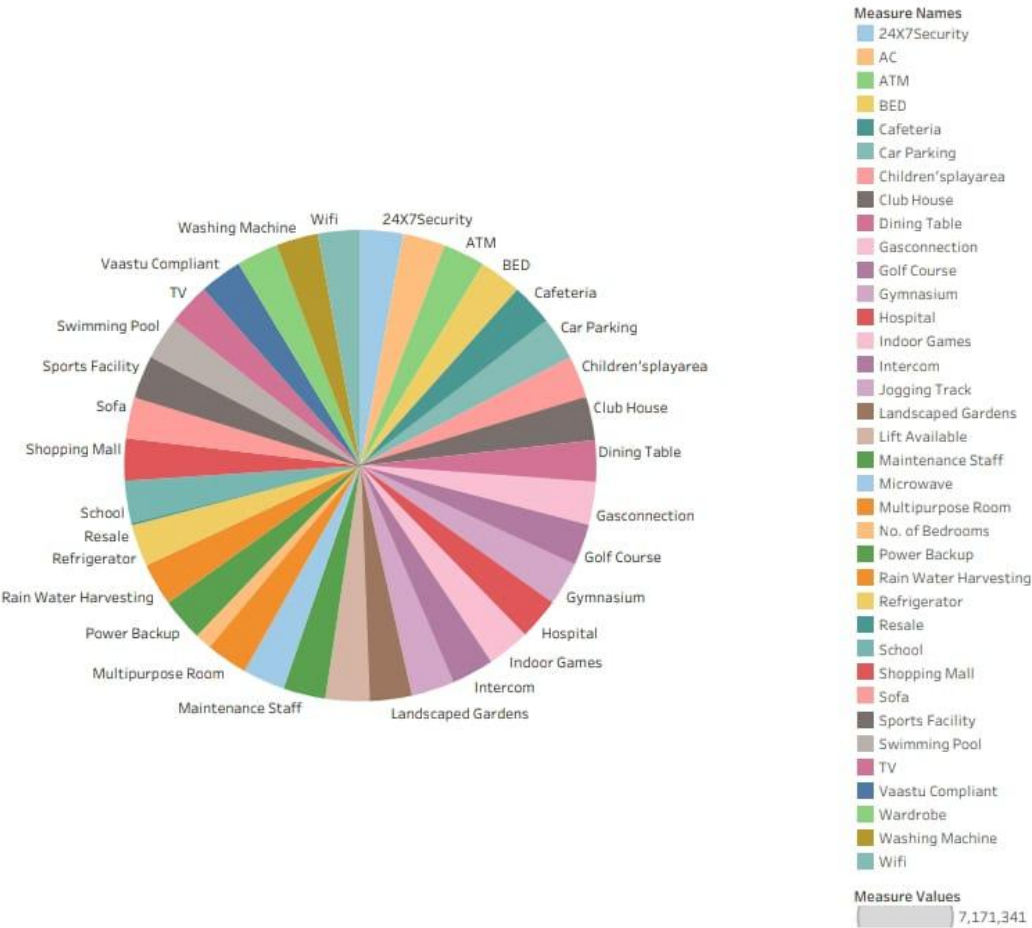
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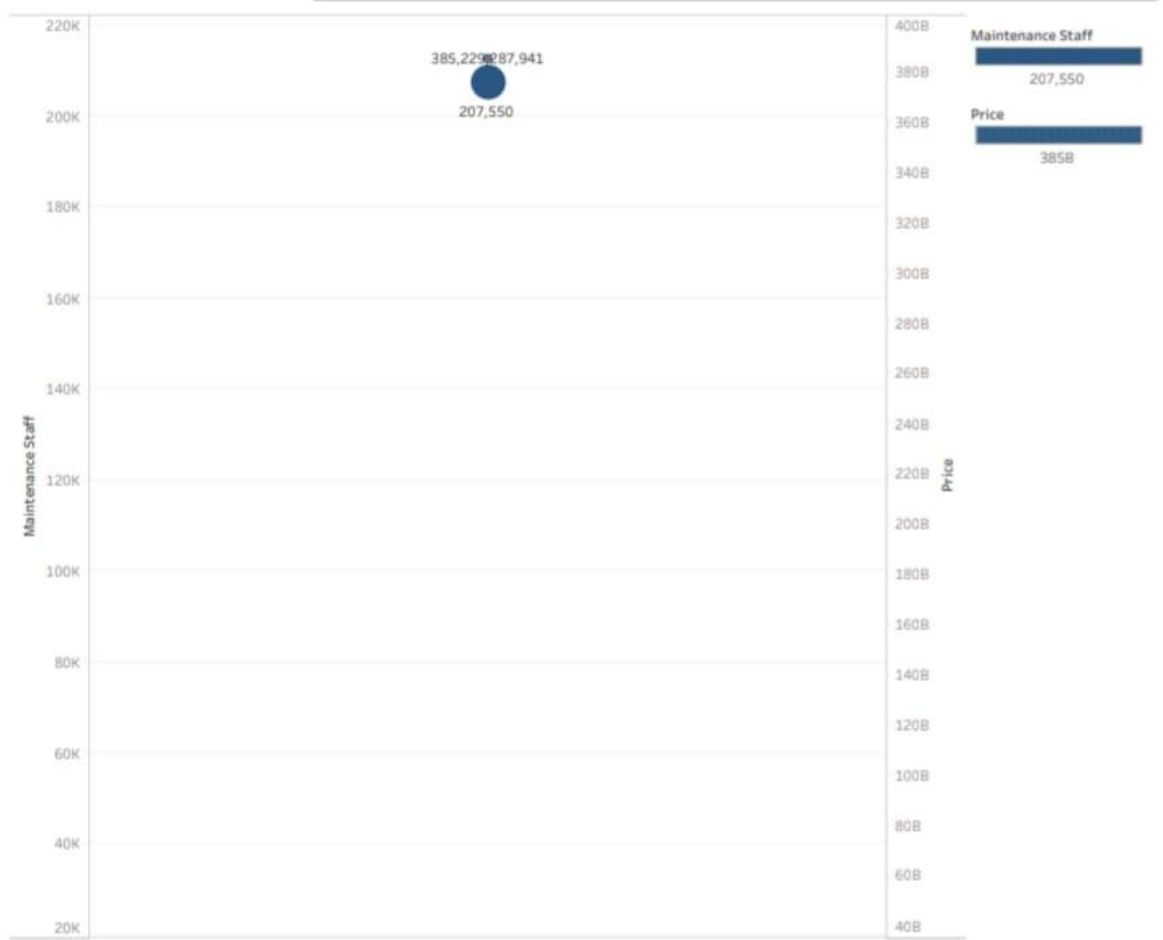
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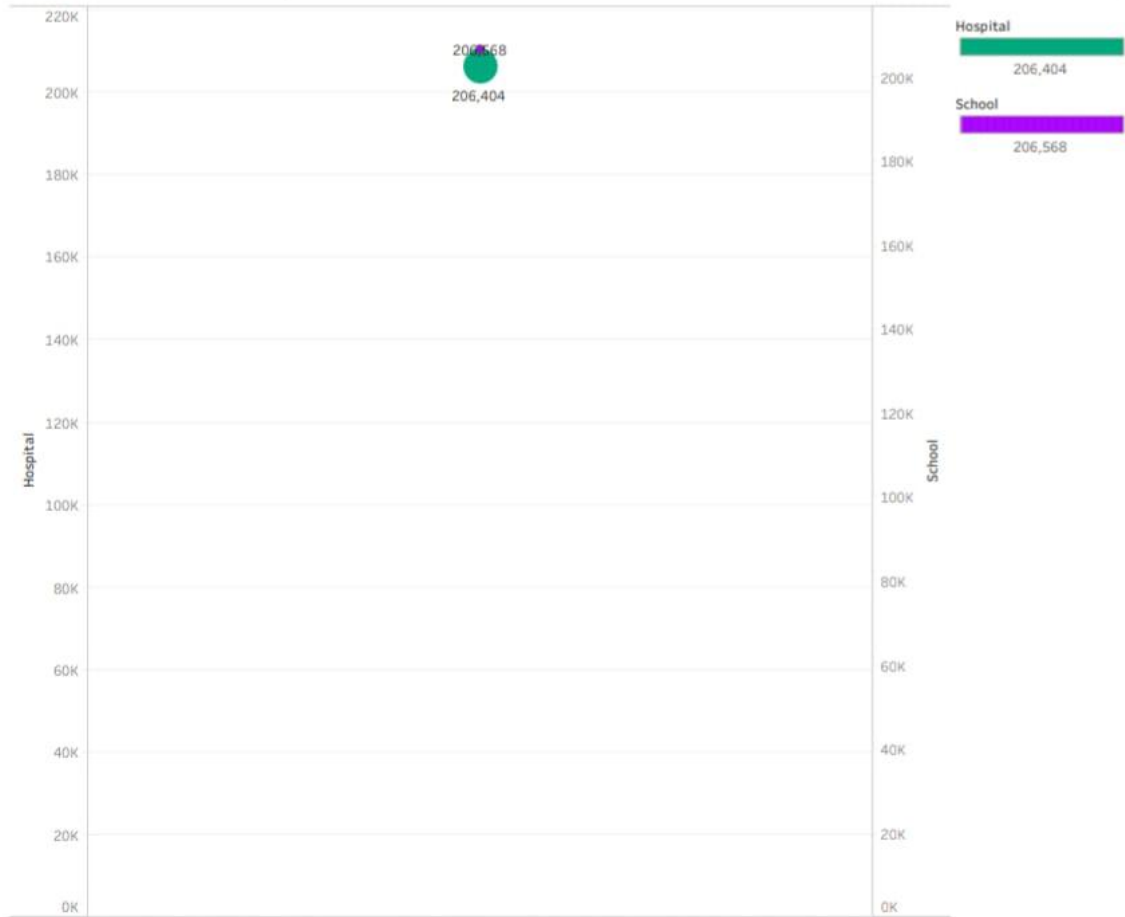
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ADVANTAGES AND DISADVANTAGES

Advantages:

- ☐ Economic Opportunities: Metropolitan areas often offer a wide range of job opportunities, making it easier to find employment and potentially earn a higher income.
- ☐ Amenities and Services: Metropolises typically have better infrastructure, healthcare, education, and cultural amenities, improving overall quality of life.
- ☐ Investment Potential: Real estate in metropolitan areas can appreciate rapidly, offering the potential for strong returns on investment.
- ☐ Networking: Being in a city can provide opportunities for networking and building professional and social connections.

Disadvantages:

- ☐ High Cost of Living: Housing prices in metropolitan areas are typically much higher, making it expensive to rent or buy property.
- ☐ Competition: The demand for housing in these cities can be fierce, leading to bidding wars and limited choices.
- ☐ Commute Times: Traffic congestion and long commute times are common in metropolitan areas, affecting daily life and work-life balance.

- ☐ Overcrowding: Crowded cities may lead to noise, pollution, and limited green spaces.
- ☐ Gentrification: Rising prices can displace long-term residents and alter the character of neighborhoods.

Ultimately, whether the advantages outweigh the disadvantages depends on individual preferences, financial circumstances, and career goals.

APPLICATION

- ☐ Data Collection: Gather historical housing price data for the metropolitan area(s) you want to analyze. This data should include information on property types, locations, square footage, number of bedrooms and bathrooms, and sale prices over time.
- ☐ Data Cleaning and Preprocessing: Clean and preprocess the collected data to remove outliers, missing values, and inconsistencies. You may also need to normalize or standardize the data.
- ☐ Feature Engineering: Extract relevant features from the data, such as neighborhood characteristics, proximity to amenities, and economic indicators that can influence housing prices.
- ☐ Machine Learning Model Selection: Choose an appropriate machine learning model for your price projection task. Common models for regression tasks include linear regression, decision trees, random forests, and neural networks.
- ☐ Training the Model: Split your dataset into training and testing sets, and train the selected model on the training data. Use

appropriate evaluation metrics like Mean Absolute Error (MAE) or Root Mean Squared Error (RMSE) to assess model performance.

- ☐ Hyperparameter Tuning: Fine-tune your model's hyperparameters to optimize its performance. This may involve techniques like grid search or random search.
- ☐ Deployment: Develop a user-friendly application interface where users can input property details, and the application can provide price projections. Consider using web or mobile app development frameworks for this purpose.
- ☐ Data Updates: Implement a mechanism to regularly update the model with new housing price data to ensure accurate projections over time.
- ☐ Visualization: Visualize the housing price projections using charts and graphs to make it easier for users to interpret the results.
- ☐ User Experience: Focus on providing a seamless user experience, including easy data input, clear explanations, and user-friendly design.
- ☐ Testing and Validation: Thoroughly test the application to ensure it produces reliable and accurate housing price projections. Validate the results against real-world data.
- ☐ Deployment and Maintenance: Deploy the application to a suitable platform and continue to maintain and update it as

needed, considering changing market conditions and user feedback.

- ☐ Remember to adhere to data privacy and legal regulations when collecting and using housing data for your application. Additionally, consider collaborating with domain experts and real estate professionals to improve the accuracy and relevance of your projections.

CONCLUSION

- ☐ The conclusion regarding housing prices in metropolitan cities can vary depending on various factors such as location, economic conditions, and government policies. Without specific data or context, it's challenging to provide a definitive conclusion.

FUTURE SCOPE

- ☐ Projecting future housing prices in metropolitan cities is a complex task that depends on numerous variables. While I can't predict specific future prices, I can provide some factors that often influence the future scope of housing prices in metropolitan areas:
- ☐ Economic Growth: The overall economic health of a metropolitan area is a crucial factor. Cities with strong job markets and rising incomes tend to experience increased demand for housing, potentially leading to higher prices.

- ☐ Population Growth: Metropolitan areas that continue to attract residents due to job opportunities and quality of life are likely to see increased demand for housing, which can drive up prices.
- ☐ Supply and Development: The rate at which new housing units are built can impact prices. If supply fails to keep pace with demand, prices are likely to rise.
- ☐ Interest Rates: Changes in interest rates can influence the cost of borrowing for homebuyers. Lower rates often stimulate demand, while higher rates can dampen it.
- ☐ Government Policies: Government policies related to housing, zoning regulations, tax incentives, and affordability initiatives can have a significant impact on housing prices.
- ☐ Market Cycles: Real estate markets tend to follow cycles of growth, stability, and correction. Understanding where a particular metropolitan market is within this cycle can provide insights into future price movements.
- ☐ Urban Development: Infrastructure projects, such as transportation improvements or the development of new business districts, can influence the desirability and value of certain neighborhoods within a metropolitan area.
- ☐ Global Factors: Economic conditions and geopolitical events can have a ripple effect on real estate markets, especially in major global cities.

☐ Demographic Changes: The preferences and needs of different generations, such as millennials or baby boomers, can shape the types of housing in demand and influence prices.

☐

☐ Environmental Considerations: Increasing awareness of environmental issues can lead to changes in housing preferences, with a growing interest in sustainable and eco-friendly properties.

☐