# Analysing Housing Prices in Metropolitan Areas of India

## 1.INTRODUCTION:

### OVERVIEW:

Housing price vary widely based on location, demand, and local economic factors. In metropolitan areas, price trend to be higher, while rural area may have lower costs. Keep in mind that market conditions can change.
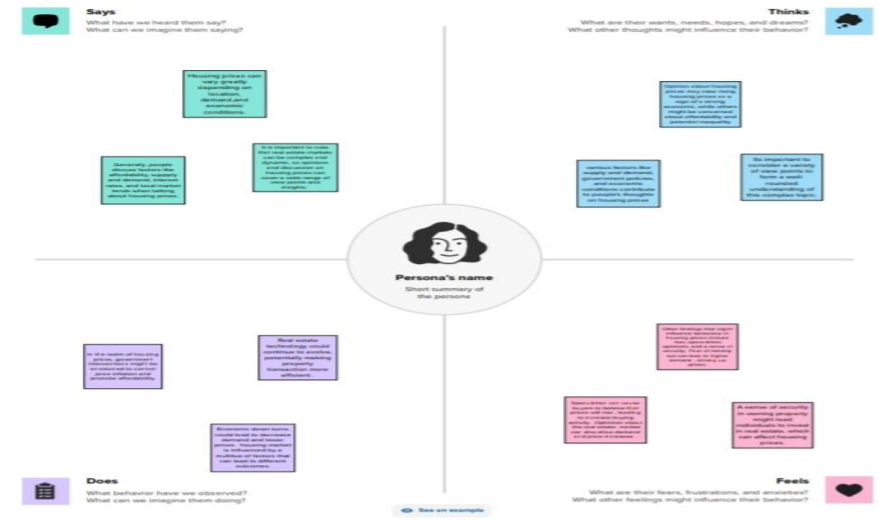
### Purpose:

Housing prices serve as a reflection of the real estate market's health, economic conditions, and local demands. They impact homeowners, investors, and the overall economy, influencing, decisions related to buying, selling, and investing in property.

Housing prices are used to gauge the value of real estate assets, assess market trends, and make informed decisions for buying or selling property. They also play a role in determining property taxes and can impact the overall economic health of a region.

## 2.PROBLEM DEFINITION AND PROBLEM THINKING:

### Empathy map:

Says
What have we heard them say?
What can we imagine them saying?

Thinks
What are their wants, needs, hopes, and dreams?
What other thoughts might influence their behavior?

Persona's name
Short summary of the persona

Does
What behavior have we observed?
What can we imagine them doing?

Feels
What are their fears, frustrations, and anxieties?
What other feelings might influence their behavior?

See an example

# Ideation and brainstorming map:

**1**

## Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⏱ 5 minutes

I can assist in providing information and insights related to housing prices, such as factors influencing them, trends, and potential strategies for buyers or sellers. However, I don't solve problems directly. My goal is to help users understand and navigate complex topics like housing prices.

### Key rules of brainstorming
To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

**3**

## 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-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

⏱ 20 minutes

TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

creating platforms that provide transparent information about housing prices, market trends, and neighborhood insights to empower buyers and sellers.

Simplifying and streamling the process of buying / selling homes through digitial platforms, reducing costs and improving efficiency.

Analyzing how eco-friendly features, energy efficiency, and sustainability practices in homes affect therir prices.

The balance between the supply of homes available for sale and the demand from potential buyers greatly influences housing prices.

**3**

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⏱ 20 minutes

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**2**

## Brainstorm

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

⏱ 10 minutes

**Person 1**

Developing AI models to predict housing price trends based on historical data, economic indicators, and local market conditions

Exploring ways to make housing more affordable, such as incentivizing construction of affordable housing units or implementing rent control measures.

creating platforms that provide transparent information about housing prices, market trends, and neighborhood insights to empower buyers and sellers.

**Person 2**

Developing tools that offer detailed information about a specific area, including nearby amenities, crime rates, school quality and transportation options, which can impact housing prices.

Analyzing how eco-friendly features, energy efficiency, and sustainability practices in homes affect their prices.

Providing data driven insights into which home renovations or improvements yield the highest return or investment in terms of increasing property value.

**Person 3**

Simplifying and streamling the process of buying /selling homes through digital platforms, reducing costs and improving efficiency

Researching the impact of government policies on housing prices and suggesting potential reforms.

Analyzing how changing demographics, such as, population growth, urbanization, or aging populations, influence housing demand an prices.

**Person 4**

Studying how macroeconomics factors like interest rates, employment rates, and inflation impact housing market dynamics.

These ideas can be pursued by researchers, entrepreneurs, policymakers, and organization interested in improving the housing market

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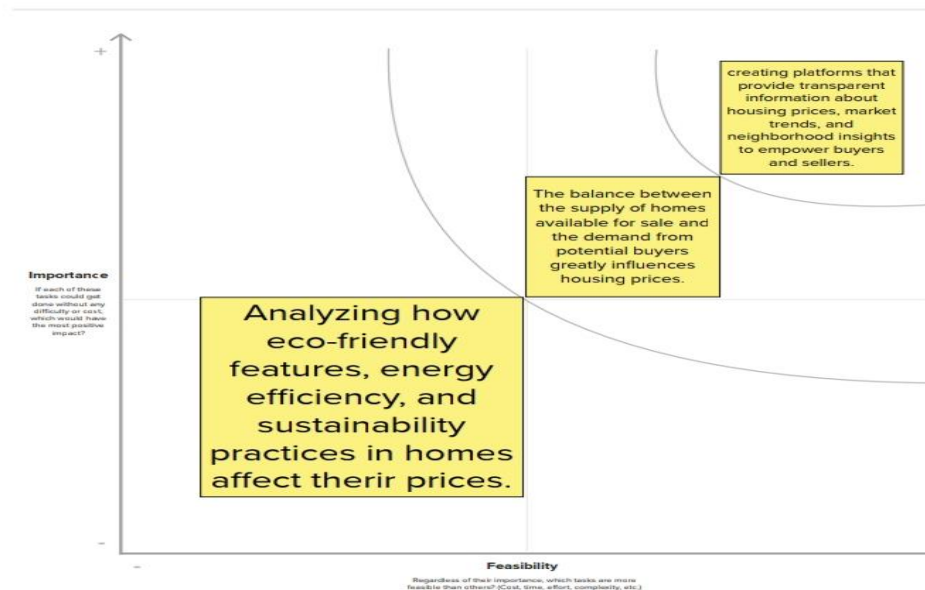
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**4**

## Prioritize

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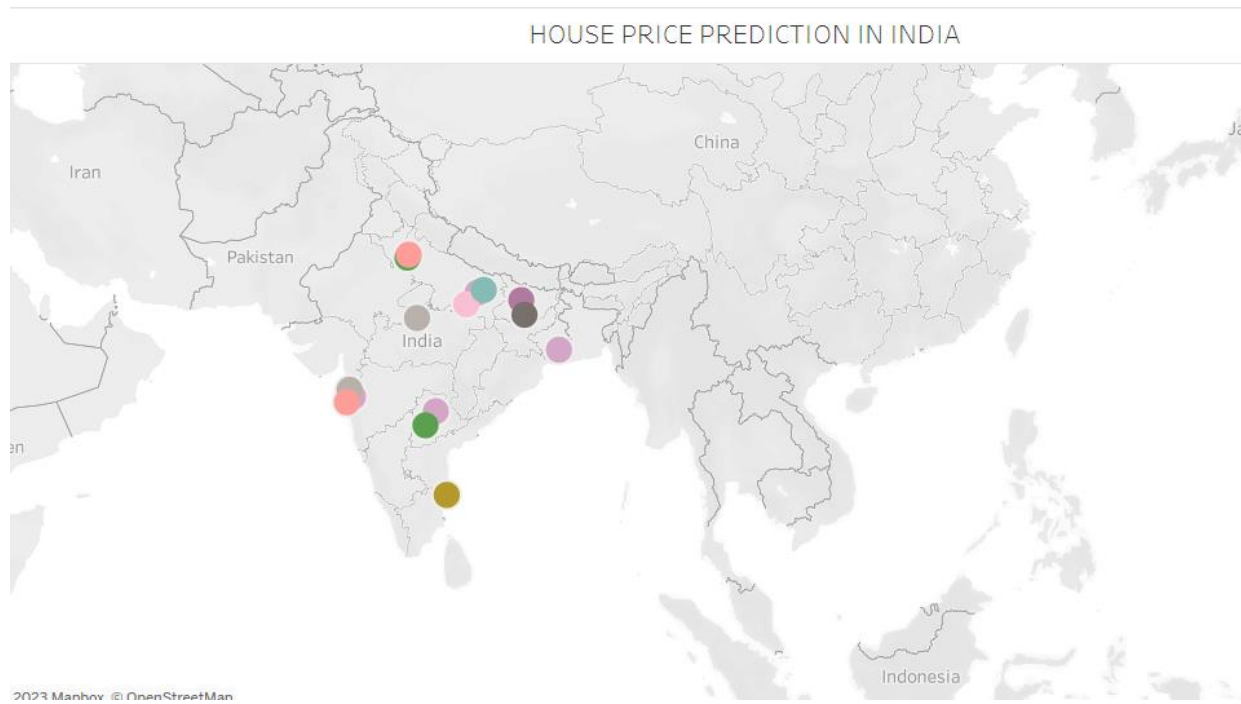
⏱ 20 minutes

**Importance**

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

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**Feasibility**

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)
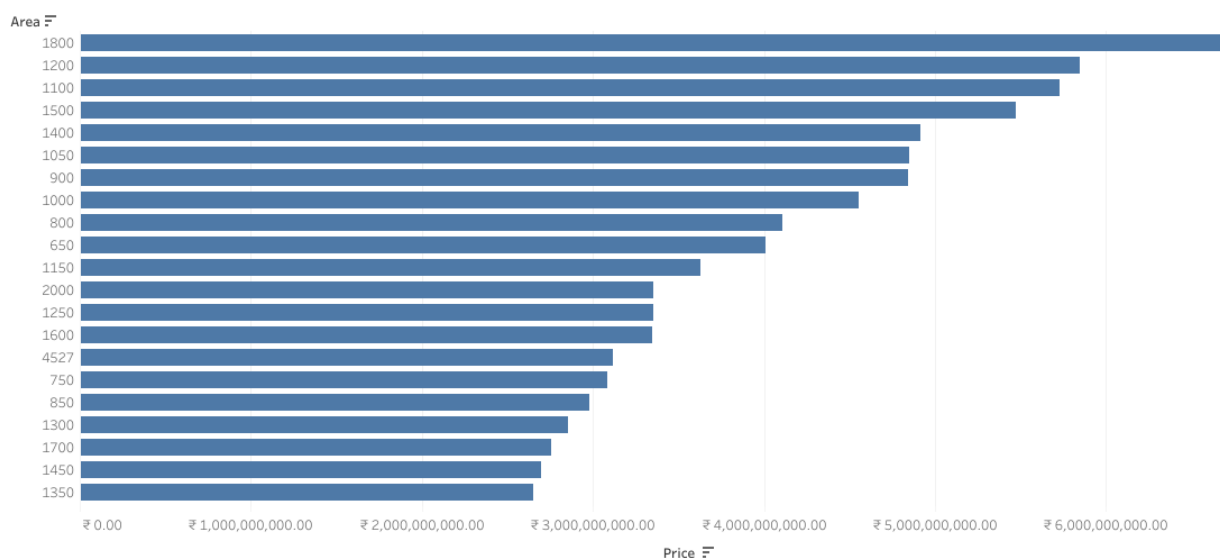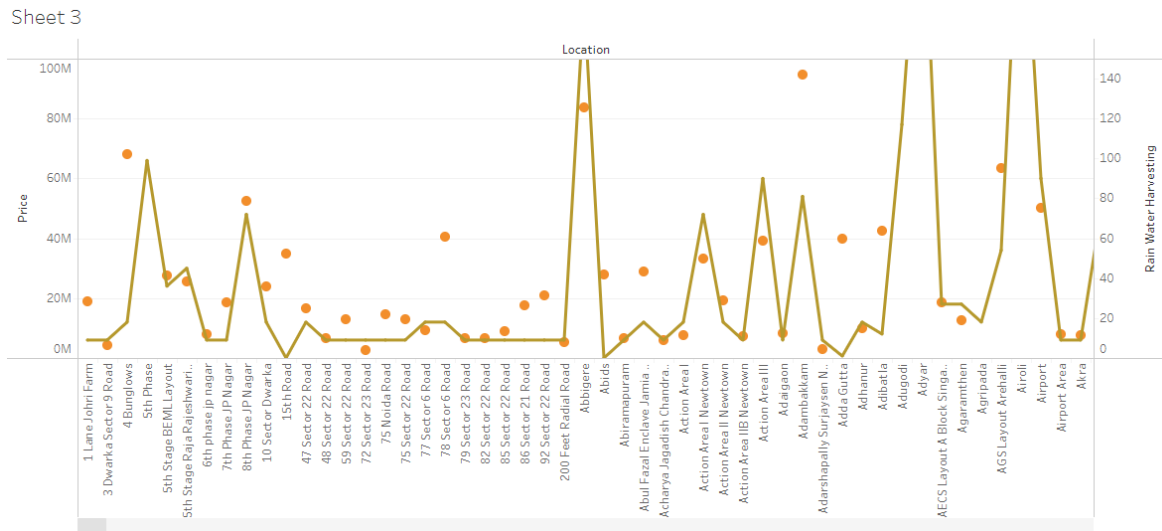
# 3.DATASET:

## Sheet creation:



Latitude and longitude alone may not directly determine them. Factors like proximity to city centers, amenities, neighbourhood safety, and local economic conditions play significant roles.
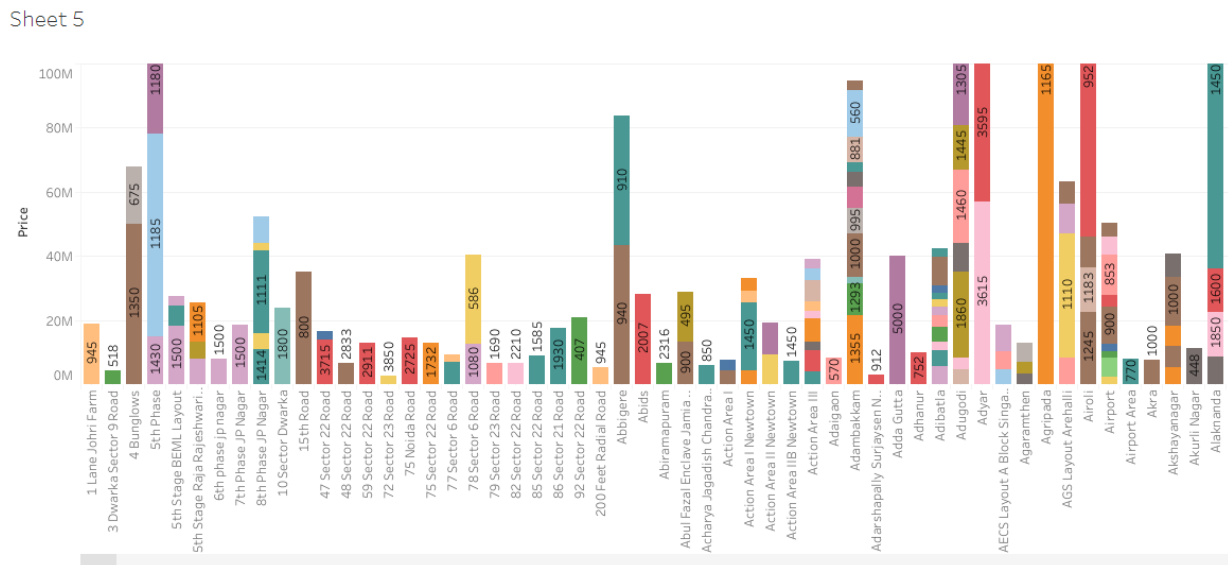
**The number of houses in a given area can impact housing prices. Higher demand in a limited space often leads to increased prices.**
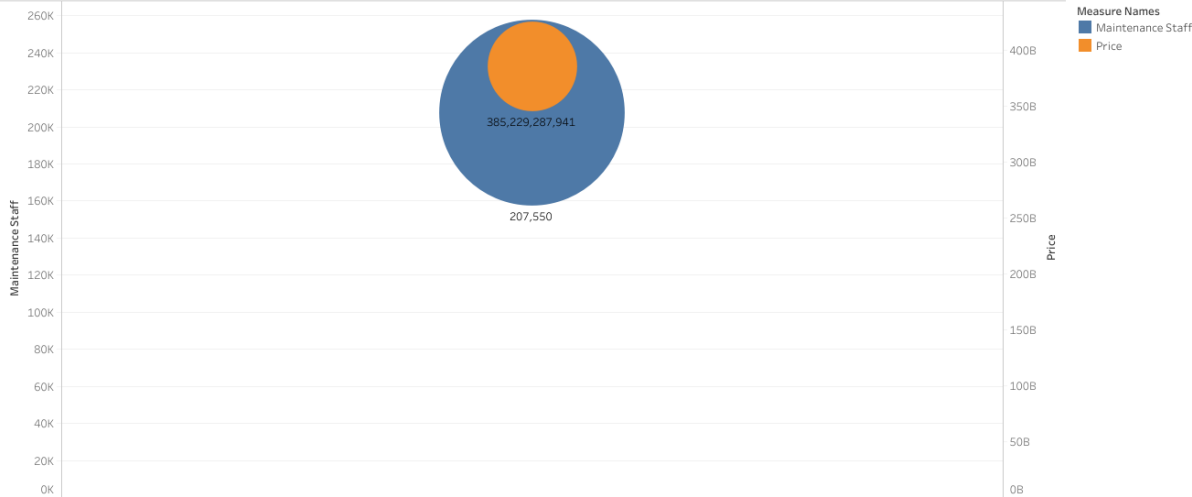


Sheet 3

**Rainwater harvesting practices can indirectly housing prices. In regions where water scarcity is a concern having efficient rainwater harvest pits or systems could potentially enhance property values.**



Sheet 5

**Vastu-compliant homes, following traditional Indian principles of architecture, may have an influence on housing prices, especially in areas were these beliefs are culturally significant.**

Sheet 7

Maintenance Staff

385,229,287,941

207,550

Price

Measure Names
- Maintenance Staff
- Price

**Proximity to hospitals and schools significantly impacts housing prices.  Homes located near quality schools and healthcare facilities tend to we more desirable, potentially leading to higher prices.**

Sheet 6

Hospital

206,568

206,404

School

Measure Names
- Hospital
- School
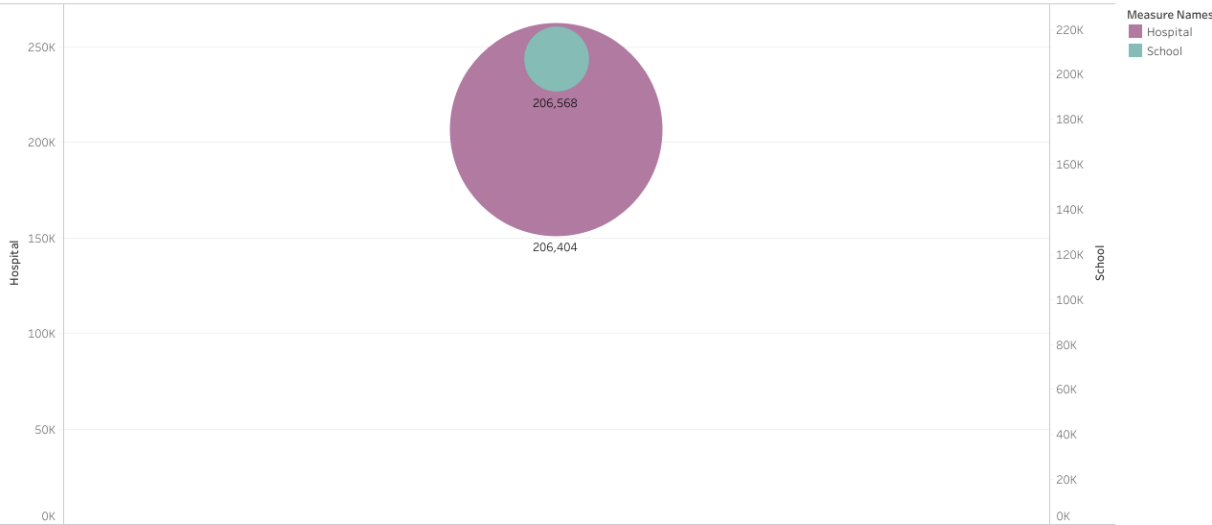
# The availability and quality of maintenance staff or services in a housing community can influences housing prices.

Sheet 10
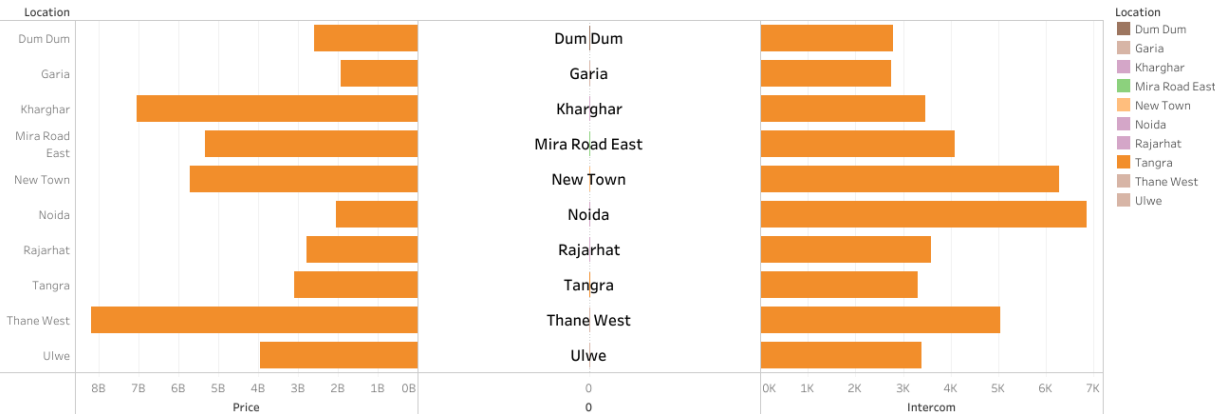


# The presence of an intercom system in a house may contribute to its overall value, albeit to a lesser extent compared to more essential features.

Sheet 9
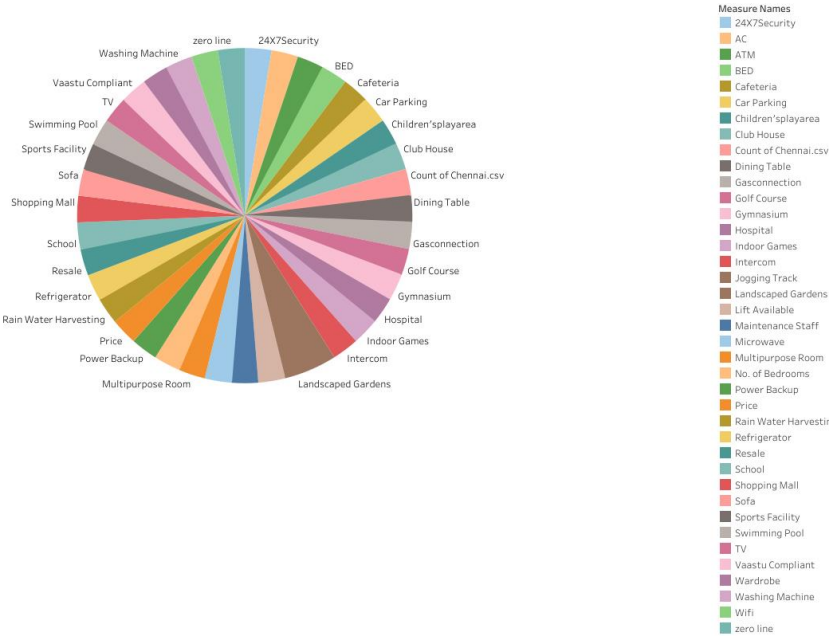
**Housing prices are often influenced by a range of services in a given location. Access to good schools, healthcare facilities, public transportation tends to increase property values.**
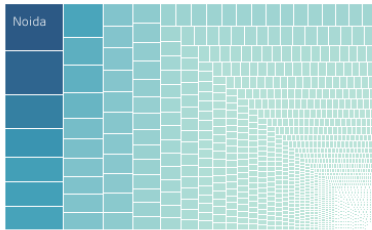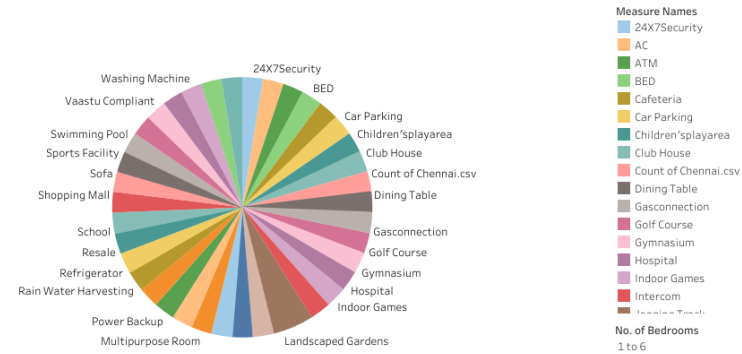
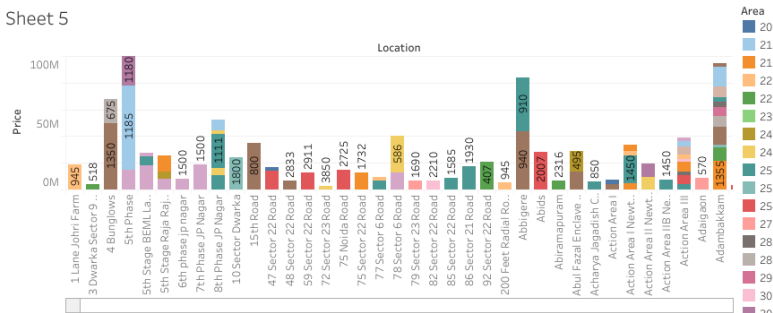**Dashboard:**
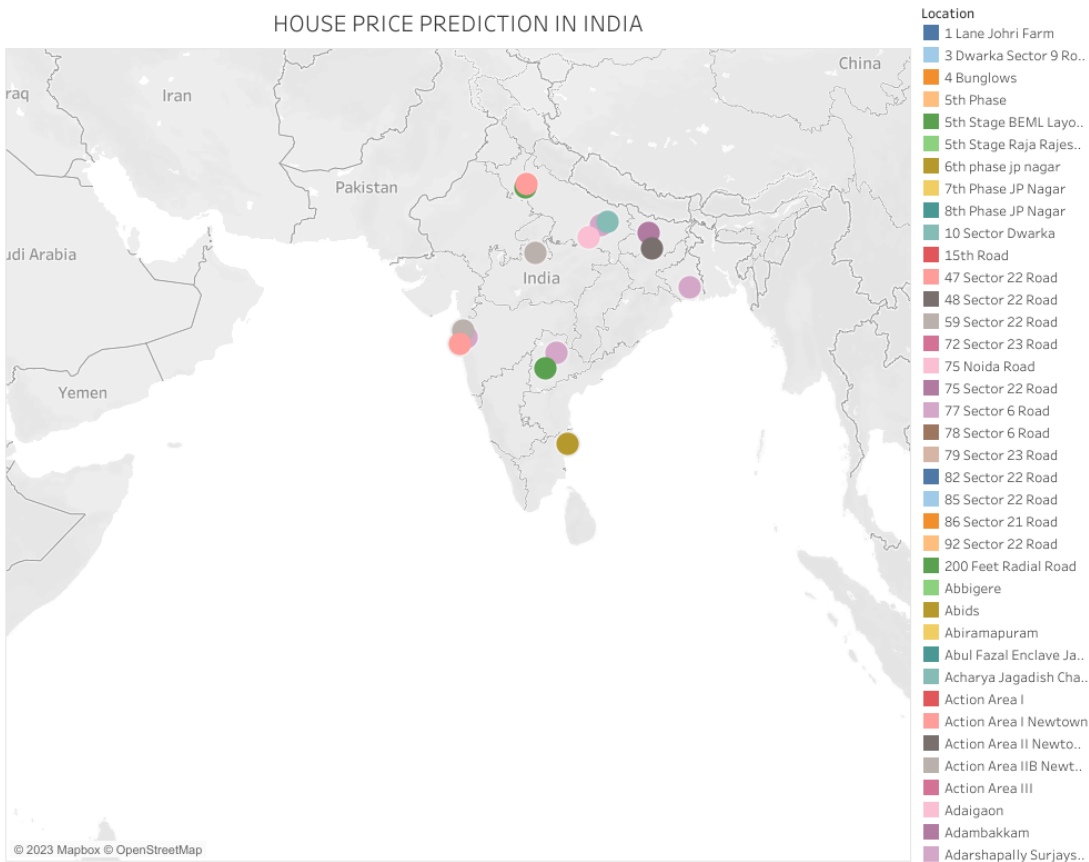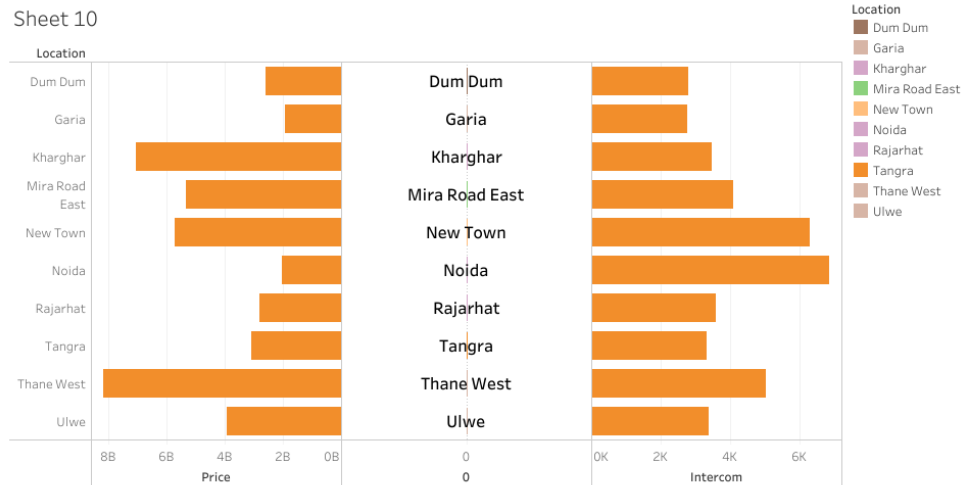
## Sheet 3
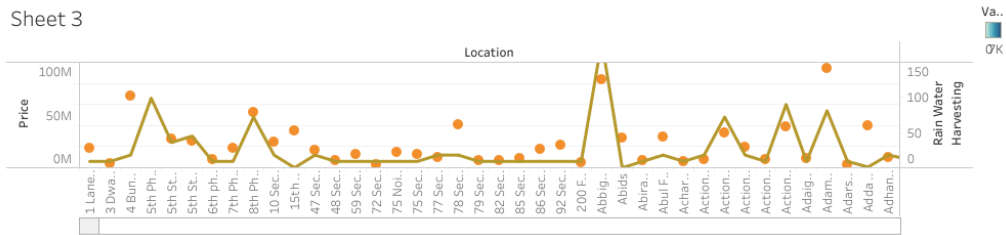


## Sheet 4



## Sheet 2



## Sheet 9



## Sheet 5

**The housing prices based on all services an number of bedrooms. Analyzing the correlation between the number of bedrooms and housing prices can help in predicting the value of the property based on its bedroom count.**



**An intercom can add convenience and security, its impact on housing prices might be modest compared to factors like location, size, and overall conditions of the property.**
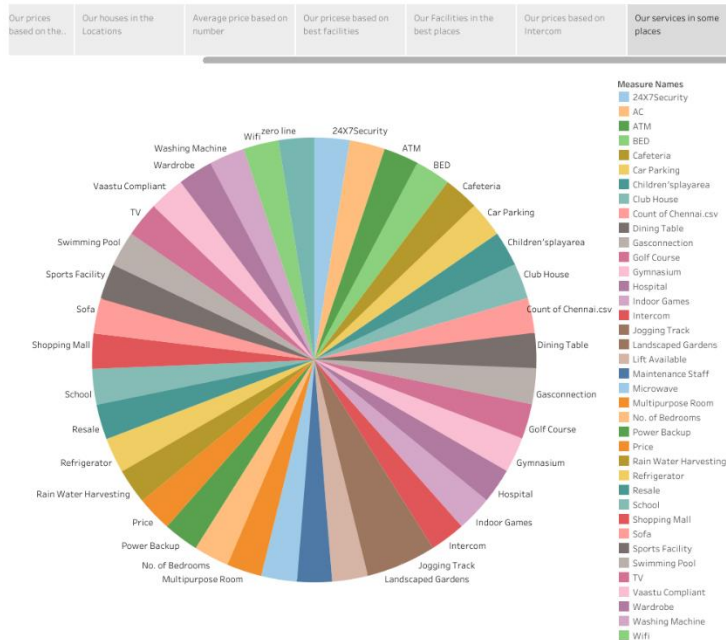
Story is a series of visualisations with a caption that helps to present our visualisations in an effective way.

## 4.ADVANTAGE:

1. Stable and gradually increasing housing prices can offer several advantages.
2. A buoyant housing market often attracts investment, fostering economic growth and job opportunities in the construction and real estate sectors.
3. Housing price appreciation can instill confidences in the overall economy, influencing consumer spending and sentiment positively.

## 5.DISADVANTAGE:

1. Fluctuating or excessively high housing prices can introduce a host of challenges.

2. Rapidly rising prices can contribute to housing bubbles, where the becomes inflated beyond its true value.
3. High housing costs also strain household budgets, leaving individuals with less disposable income for other essential needs.

## 6.Application:

- ✓ Real Estate Investment
- ✓ Mortgage Lending
- ✓ Urban Planning
- ✓ Housing Market Analysis
- ✓ Insurance and Risk Assessment
- ✓ Personal Financial Planning
- ✓ Government Policy Making

## 7.Conclusion:

Housing prices in metropolitan areas of India have been experiencing a steady increase in recent years. Factors such as rapid urbanization, population growth, and limited availability of land have contributed to the rise in housing prices. Additionally, the demand for housing in these areas has also been fueled by the influx of migrants seeking better economic opportunities.

Furthermore, advancements in technology and data analysis techniques offer promising opportunities for further improving the accuracy and reliability of housing price predictions. The integration of alternative data sources, geospatial analysis, real-time predictions, and enhanced transparency can contribute to more precise and dynamic predictions.

## 8.Future scope:

1. Enhanced Data Analytics: Advancements in data analytics techniques can improve the accuracy and reliability of housing price predictions.

2. Improved Transparency and Explainability: Enhancing the transparency and explainability of housing price prediction models can help build trust among users.

3. Regional and Global Market Integration: As the world becomes more interconnected, housing price prediction models that can integrate regional and global market dynamics can provide a broader perspective.