



Telangana Growth Analysis

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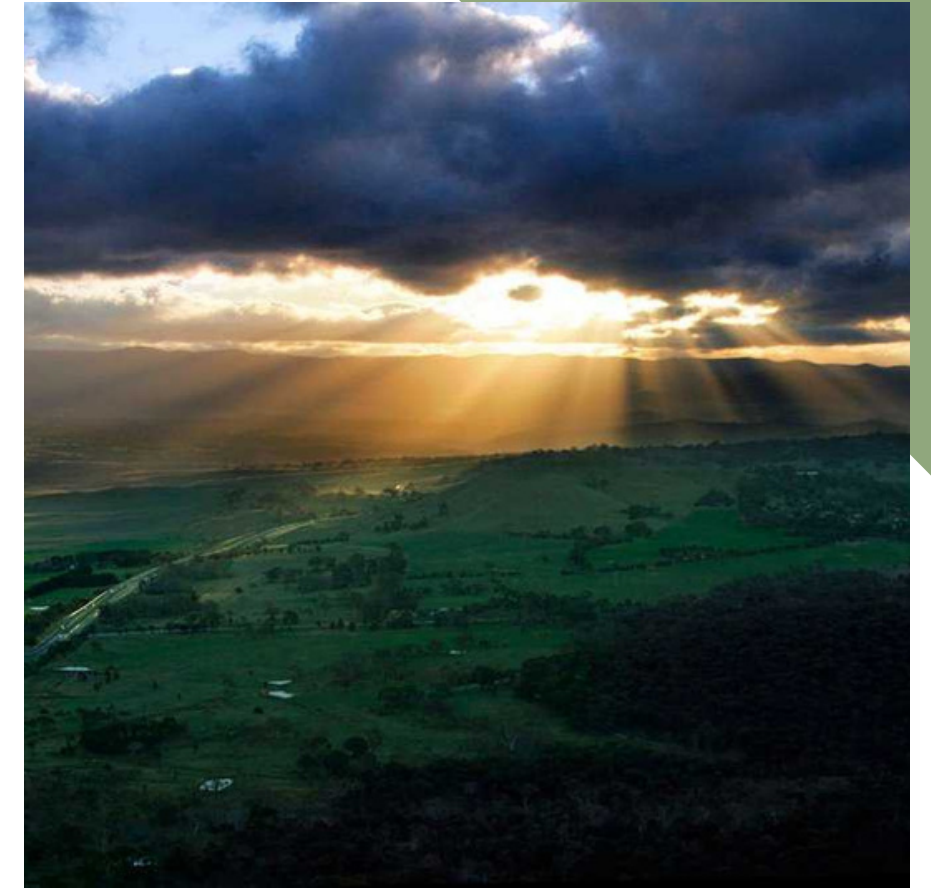
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About Telangana

- Telangana, a vibrant state in southern India, is renowned for its rich cultural heritage, dynamic economy, and diverse landscapes.
 - Telangana is India's youngest state born on 2nd June 2014
 - With Hyderabad as its capital and largest city, Telangana boasts a unique blend of tradition and modernity.
 - Telangana's booming IT sector, along with its focus on innovation and entrepreneurship, has positioned it as a major technology hub, attracting global investments and talent.
 - Telangana's journey as a separate state, carved out of Andhra Pradesh in 2014, reflects its determination to thrive and contribute to India's progress.
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Our Goals and Objectives

The primary objective of this project is to analyze, gain insights and give recommendations from 3 different datasets related to Telangana government activities: Stamp Registration, Transportation and Ts-Ipass

Research and Analysis Questions

1

Stamp Registration

Primary Questions:

Stamp Registration

1. How does the revenue generated from document registration vary across districts in Telangana? List down the top 5 districts that showed the highest document registration revenue growth between FY 2019 and 2022.
2. How does the revenue generated from document registration compare to the revenue generated from e-stamp challans across districts? List down the top 5 districts where e-stamps revenue contributes significantly more to the revenue than the documents in FY 2022?
3. Is there any alteration of e-Stamp challan count and document registration count pattern since the implementation of e-Stamp challan? If so, what suggestions would you propose to the government?
4. Categorize districts into three segments based on their stamp registration revenue generation during the fiscal year 2021 to 2022.

2

Transportation



Transportation

5. Investigate whether there is any correlation between vehicle sales and specific months or seasons in different districts. Are there any months or seasons that consistently show higher or lower sales rate, and if yes, what could be the driving factors? (Consider Fuel-Type category only)
6. How does the distribution of vehicles vary by vehicle class (MotorCycle, MotorCar, AutoRickshaw, Agriculture) across different districts? Are there any districts with a predominant preference for a specific vehicle class? Consider FY 2022 for analysis.
7. List down the top 3 and bottom 3 districts that have shown the highest and lowest vehicle sales growth during FY 2022 compared to FY 2021? (Consider and compare categories: Petrol, Diesel and Electric)

3

Ts-Ipass

Ts-Ipass (Telangana State Industrial Project Approval and Self Certification System)

8. List down the top 5 sectors that have witnessed the most significant investments in FY 2022.
9. List down the top 3 districts that have attracted the most significant sector investments during FY 2019 to 2022? What factors could have led to the substantial investments in these particular districts?
10. Is there any relationship between district investments, vehicles sales and stamps revenue within the same district between FY 2021 and 2022?
11. Are there any particular sectors that have shown substantial investment in multiple districts between FY 2021 and 2022?
12. Can we identify any seasonal patterns or cyclicity in the investment trends for specific sectors? Do certain sectors experience higher investments during particular months?

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Secondary Questions

Ts-Ipass (Telangana State Industrial Project Approval and Self Certification System)

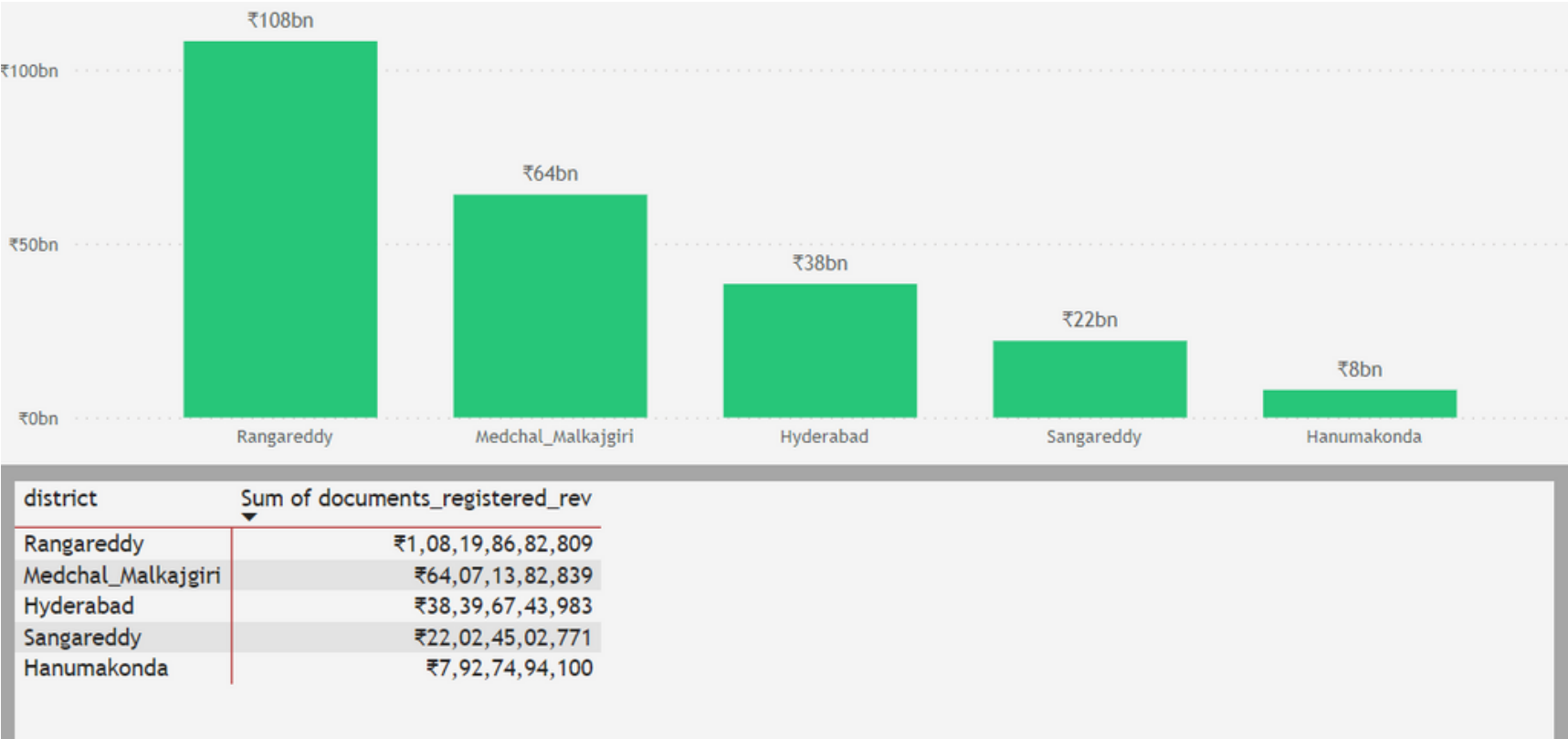
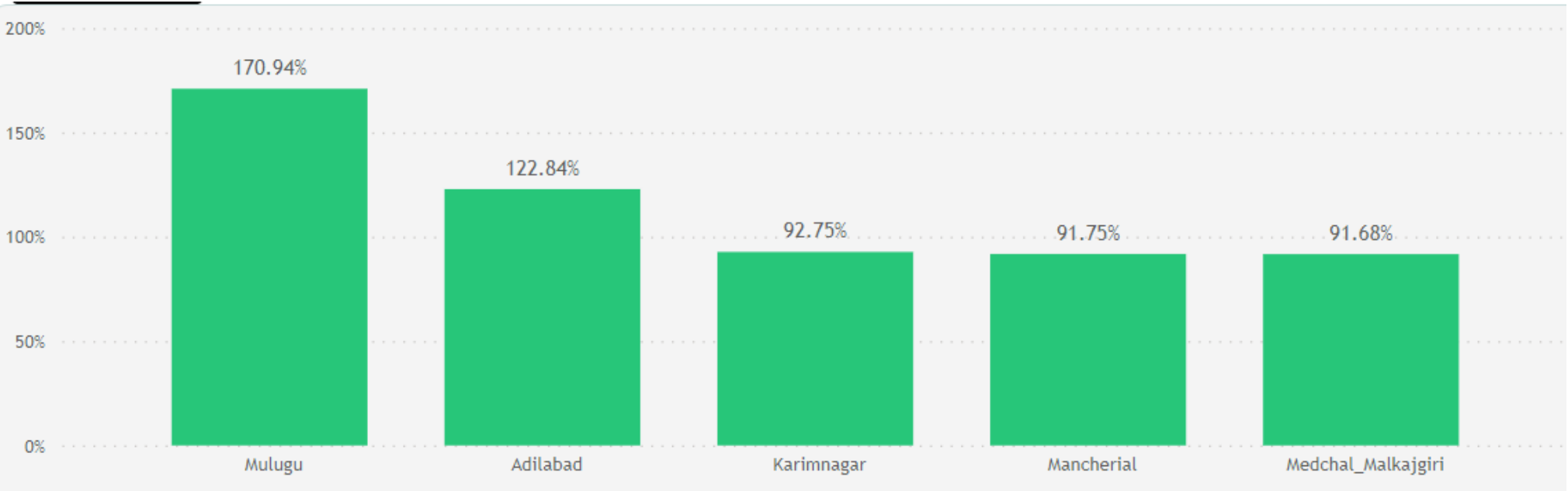
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1. How does the revenue generated from document registration vary across districts in Telangana? List down the top 5 districts that showed the highest document registration revenue growth between FY 2019 and 2022.

Mulugu, Adilabad, Karimnagar, Mancherial and Medchal Malkajgiri exhibited most significant growth in document registration between FY2019 and FY2022.

Mulugu formed in 2019 exhibit highest growth in document registration revenue.



Rangareddy, Medchal Malkajgiri, Hyderabad, Sangareddy and Hanumakonda collected highest document registration revenue.

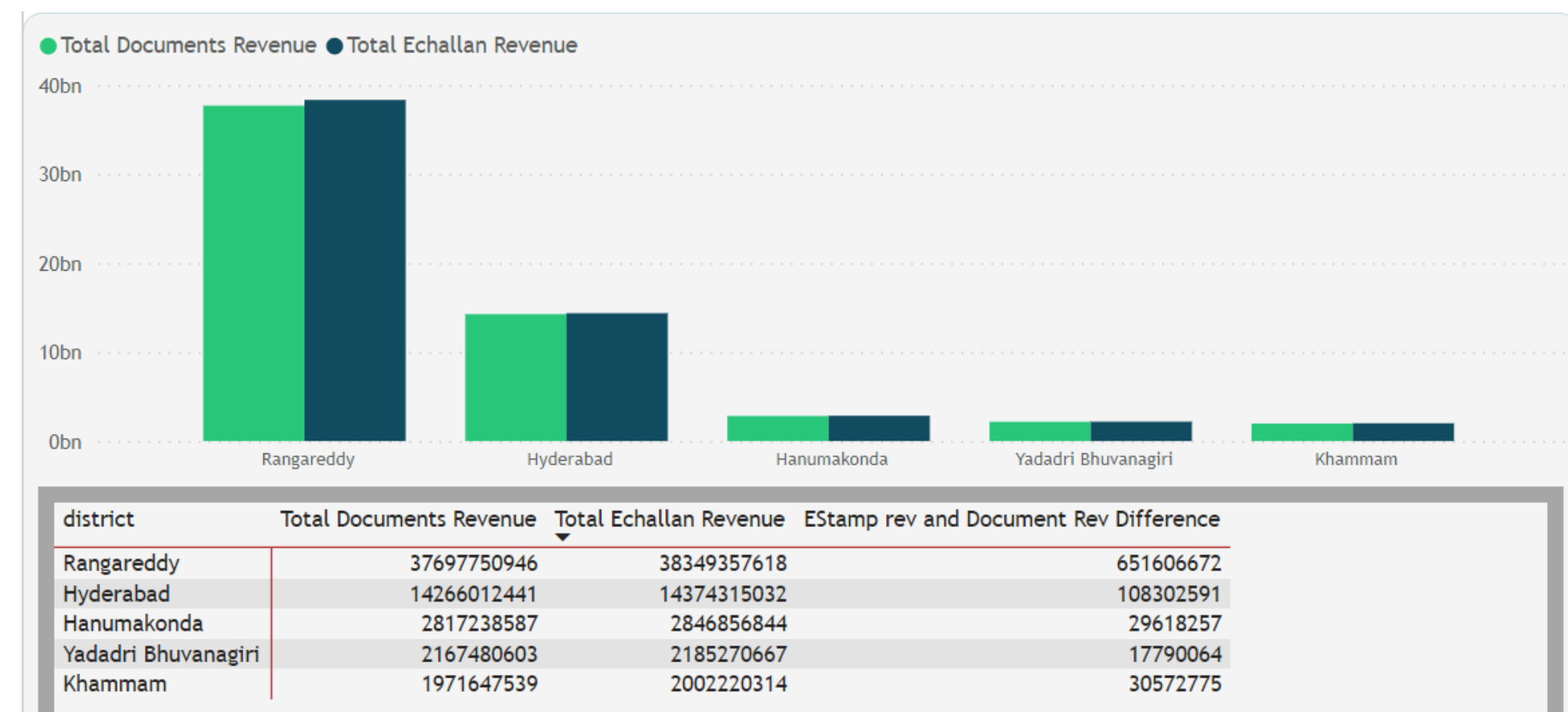
3 out of 5 of these districts are near Hyderabad which is the IT hub. Urbanization and population growth of these districts could lead to revenue generation.

2. List down the top 5 districts where e-stamps revenue contributes significantly more to the revenue than the documents in FY 2022?

Rangareddy, Hyderabad, Hanumakonda, Yadadri Bhuvanagiri and Khammam are top 5 districts that has significantly higher e-stamps revenue than documents revenue.

E-Stamps challans were introduced in 2020. Since, the introduction of E-stamps, the revenue generated through E-stamps is 221 Billion and revenue generated through Document Registration is 233 billion.

The E-stamps are being used more by each passing year which shows the online method is becoming popular

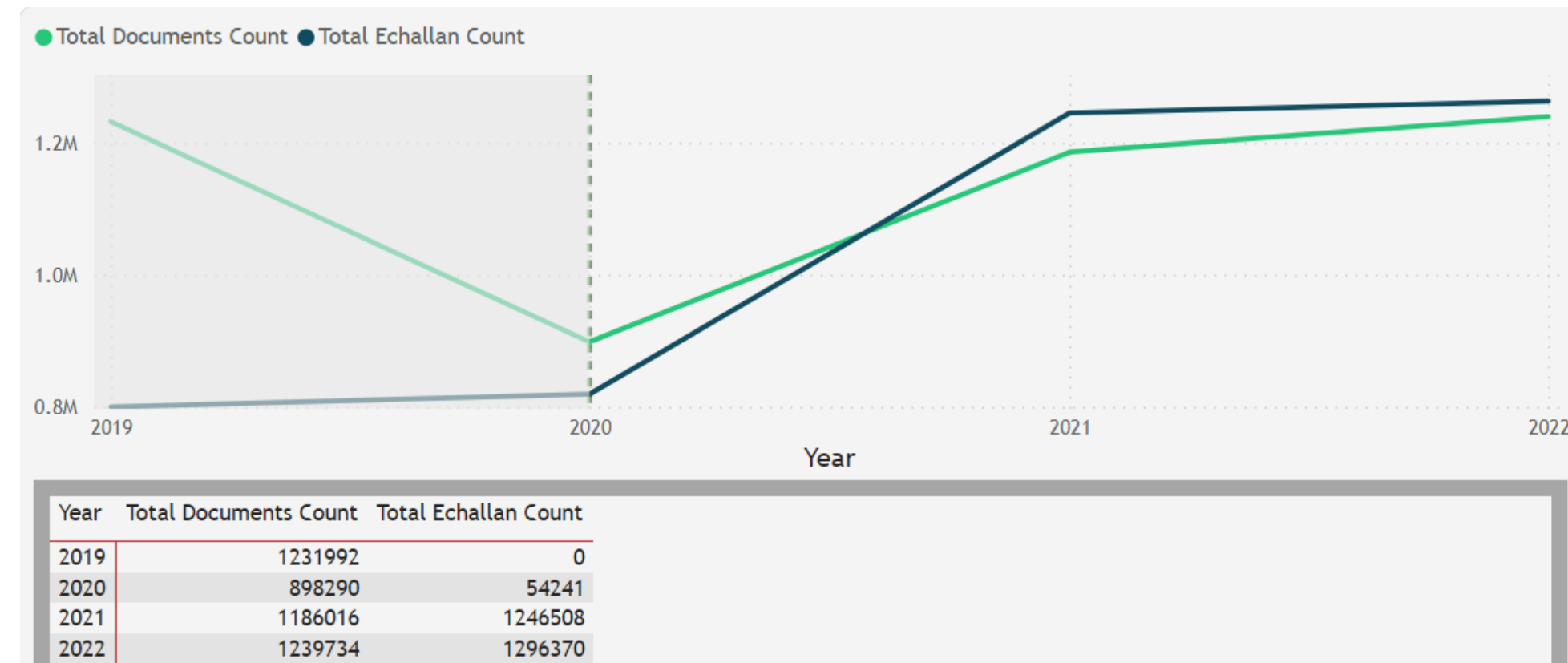


3. Is there any alteration of e-Stamp challan count and document registration count pattern since the implementation of e-Stamp challan?

Yes, there is an alteration, E-Stamps challan count has been increasing gradually since their introduction in FY2020 whereas Document registration count has decreased since FY2020.

The E-Stamp Challans have been popular since their introduction. The use of E-stamps can be further increased:

- **Promotions and Awareness:** Govt. can promote use of e-stamps through awareness campaign.
- **Digital Literacy:** Digital literacy among population can help further increase in e-stamp count
- **Simplify the Process:** Continuously improve the user interface and user experience of e-stamp systems to make them more user-friendly.



4. Categorize districts into three segments based on their stamp registration revenue generation during the fiscal year 2021 to 2022.

Telangana districts categorized into three segments based on stamp registration revenue generation in FY 2021-22:

High Revenue: 4 Districts

Moderate Revenue: 13 Districts

Low Revenue: 16 Districts

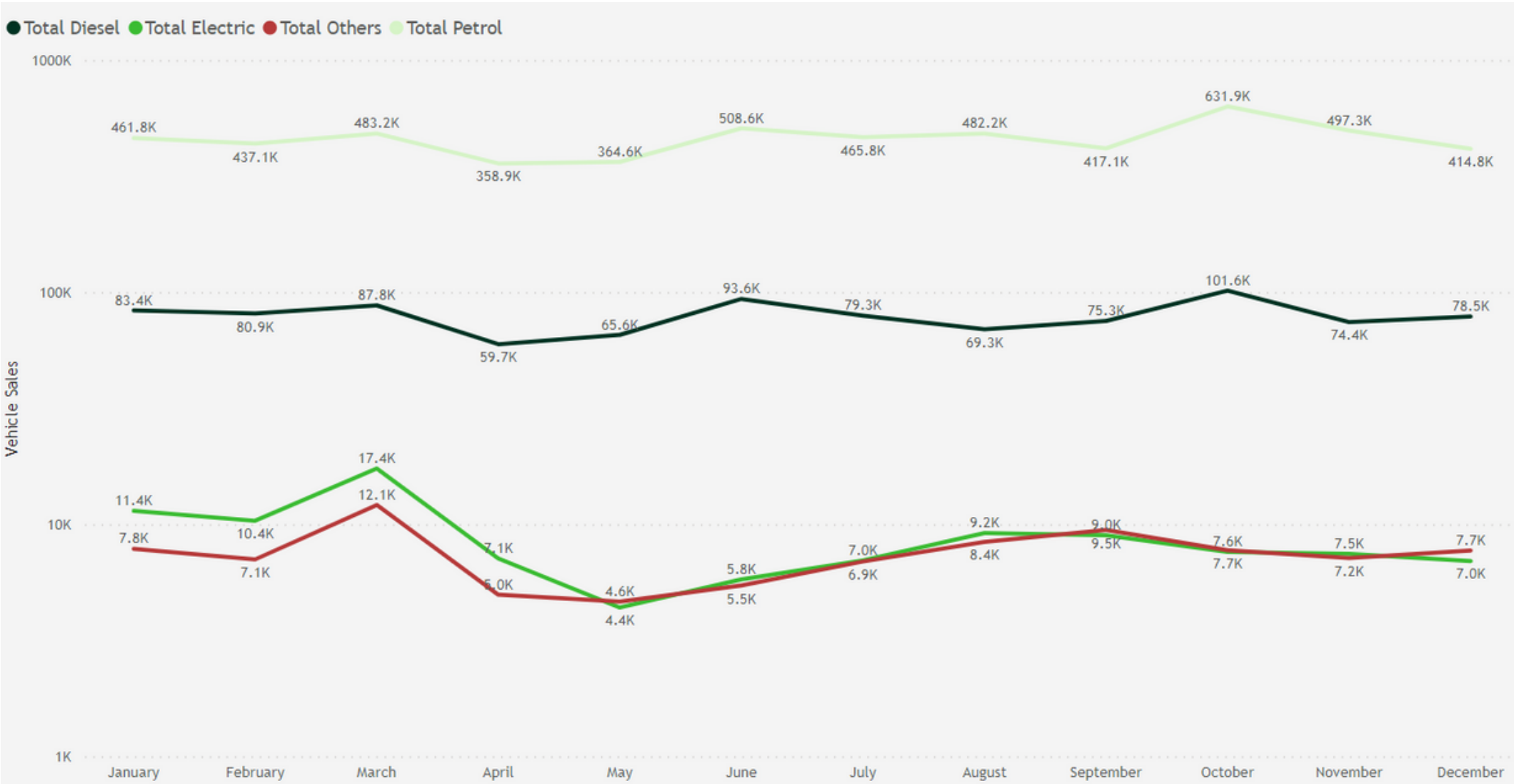
- Districts with over 10 billion revenue are categorized in High Revenue Districts.
- Districts with over 1 billion revenue are categorized in Moderate Revenue Districts.
- Districts with less than 1 billion revenue are categorized in Low Revenue Districts

district	Total Echallan Revenue	District Revenue Categorization
Rangareddy	70682297387	High Revenue
Medchal_Malkajgiri	42344075412	High Revenue
Hyderabad	25267992981	High Revenue
Sangareddy	14782041561	High Revenue
Hanumakonda	4959670232	Moderate Revenue
Yadadri Bhuvanagiri	3801870232	Moderate Revenue
Khammam	3646844602	Moderate Revenue
Karimnagar	2633977624	Moderate Revenue
Nizamabad	2614662871	Moderate Revenue
Nalgonda	2600080824	Moderate Revenue
Mahabubnagar	1981371785	Moderate Revenue
Suryapet	1818082431	Moderate Revenue
Siddipet	1762872744	Moderate Revenue
Medak	1146081195	Moderate Revenue
Peddapalli	1126687326	Moderate Revenue
Mancherial	1105983406	Moderate Revenue
Jagtial	1079332319	Moderate Revenue
Vikarabad	906189501	Low Revenue
Nagarkurnool	881618696	Low Revenue
Kamareddy	859661958	Low Revenue
Rajanna Sircilla	750209633	Low Revenue
Jangoan	747428965	Low Revenue
Wanaparthy	746269937	Low Revenue
Adilabad	723003081	Low Revenue
Mahabubabad	666572041	Low Revenue
Nirmal	639557126	Low Revenue
Jogulamba Gadwal	603996030	Low Revenue
Bhadradri Kothagudem	540722552	Low Revenue
Narayanpet	468512790	Low Revenue
Warangal	424814165	Low Revenue
Mulugu	369302299	Low Revenue
Kumurambheem Asifabad	133420327	Low Revenue
Jayashankar Bhupalpally		Low Revenue

5. Investigate whether there is any correlation between vehicle sales and specific months or seasons in different districts. Are there any months or seasons that consistently show higher or lower sales rate, and if yes, what could be the driving factors?

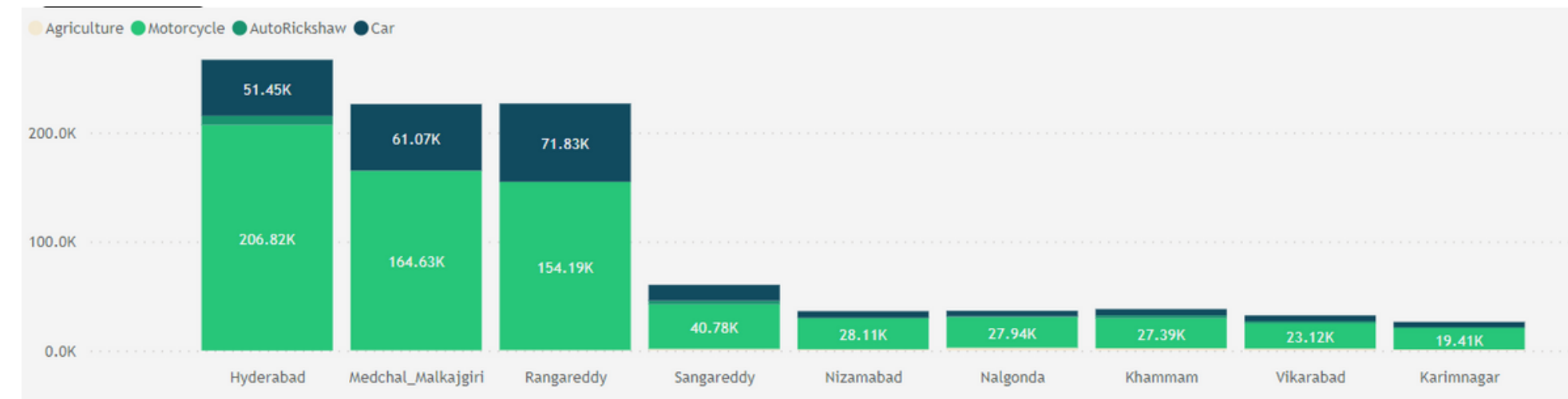
Yes there is correlation between vehicle sales and specific months or seasons.

- The sales for Petrol and Diesel Vehicles is consistently higher in Quarter 4.
- The sales for Electric and Other Vehicles is consistently higher in Quarter 1.
- In terms of months, October has highest sales for Petrol and Diesel vehicles. March has highest sales for electric and other vehicles.
- Reasons for seasonal variations in vehicle sales could be festivals.



6. How does the distribution of vehicles vary by vehicle class (MotorCycle, MotorCar, AutoRickshaw, Agriculture) across different districts? Are there any districts with a predominant preference for a specific vehicle class? Consider FY 2022 for analysis.

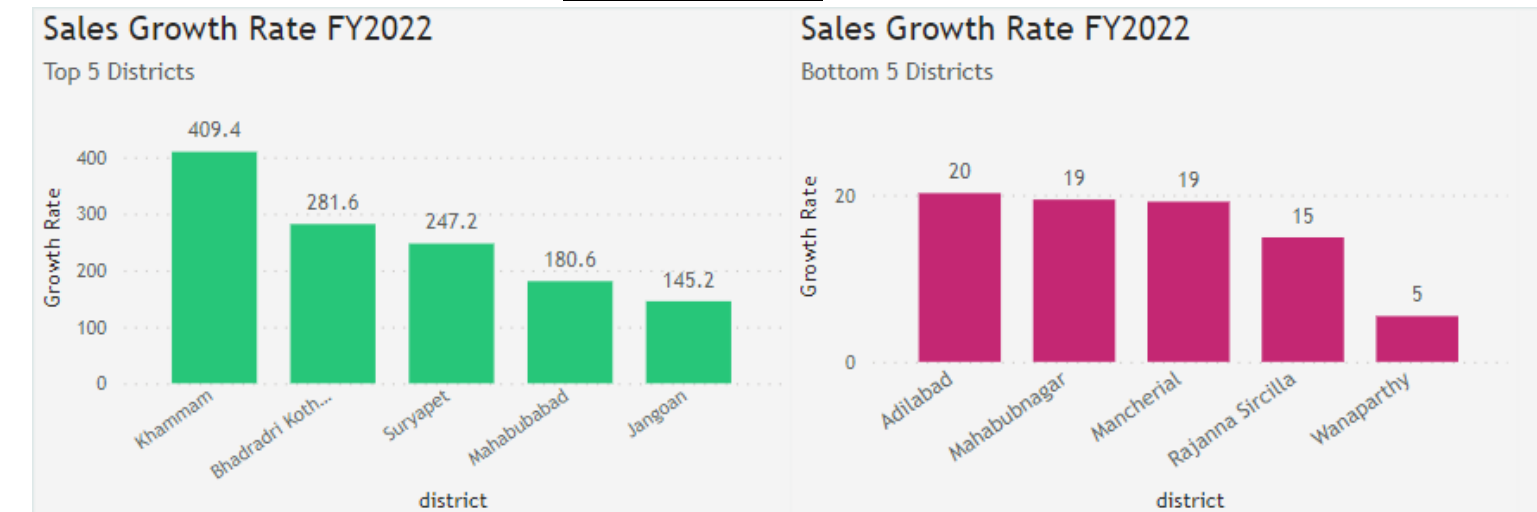
- Both Motorcycle, Motorcar sales are highest in Hyderabad, Medchal Malkajgiri, Rangareddy.
- Kumurambheem Asifabad had lowest sales for Motorcycle and Car sales.
- Hyderabad had predominantly highest sales in Autorickshaw. Hyderabad being an IT Hub attracts lots of people and visitors which requires local transportation.
- Nalgonda, Siddipet and Suryapet have highest sales in Agriculture vehicles.



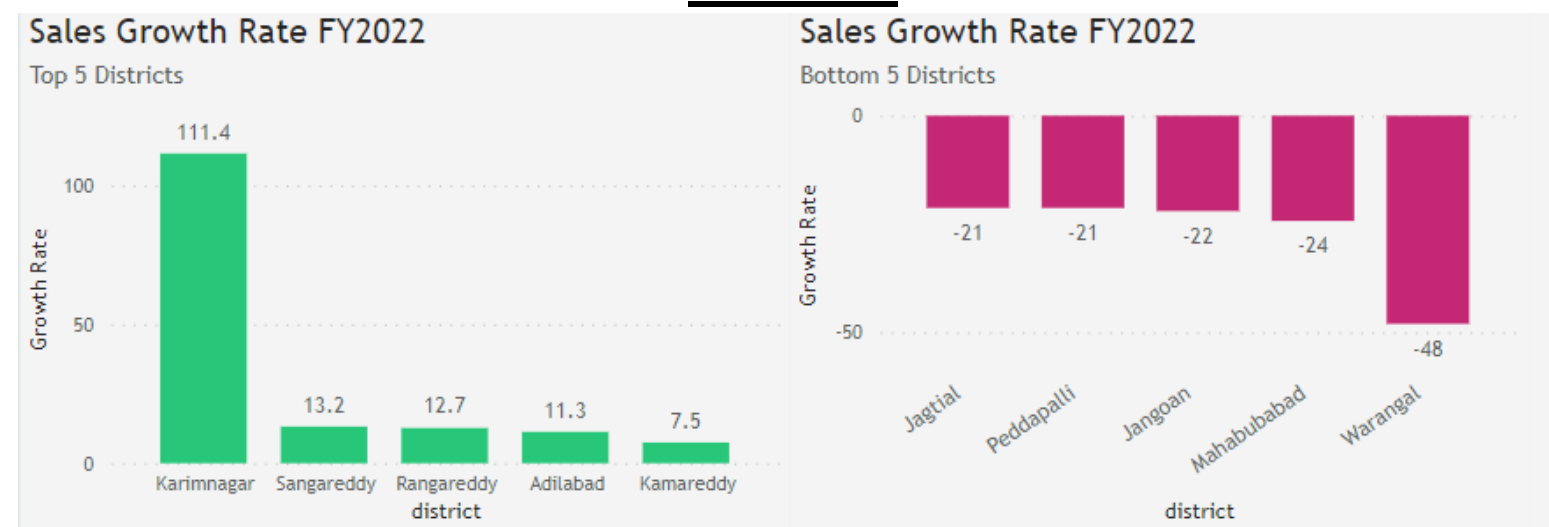
7. List down the top 3 and bottom 3 districts that have shown the highest and lowest vehicle sales growth during FY 2022 compared to FY 2021?

- Electric vehicle sales has higher growth rate compared to other vehicle types.
- Electric vehicles sales has grown in each districts since FY2021.
- Khammam has highest growth rate with 409%
- Wanaparthy which has the lowest growth rate is 5%.

Electric

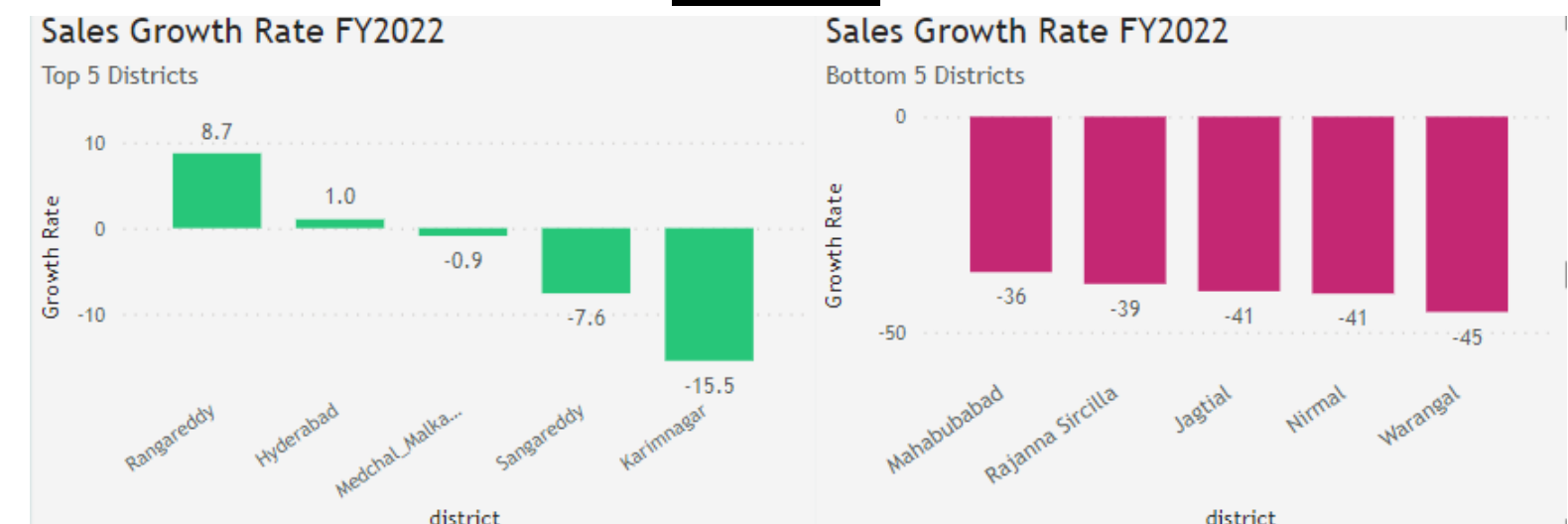


Diesel



- Karimnagar has highest growth rate of 111.4% in Diesel vehicles sales. Apart from Karimnagar, Growth Rate is below 14% for other districts.
- Warangal has lowest growth rate for both diesel vehicles and petrol vehicles sales.

Petrol



- Rangareddy and Hyderabad are only districts which has increase in Petrol vehicles sales with growth rate of 8.7% and 1%.
- Other than these two districts, the petrol vehicles sales has decreased in all districts.

Reasons for increase in Electric vehicles sales and decrease in diesel and petrol vehicles sales could be :

- Government Policies and Incentives
- Changes in Consumer Preferences due to operating costs

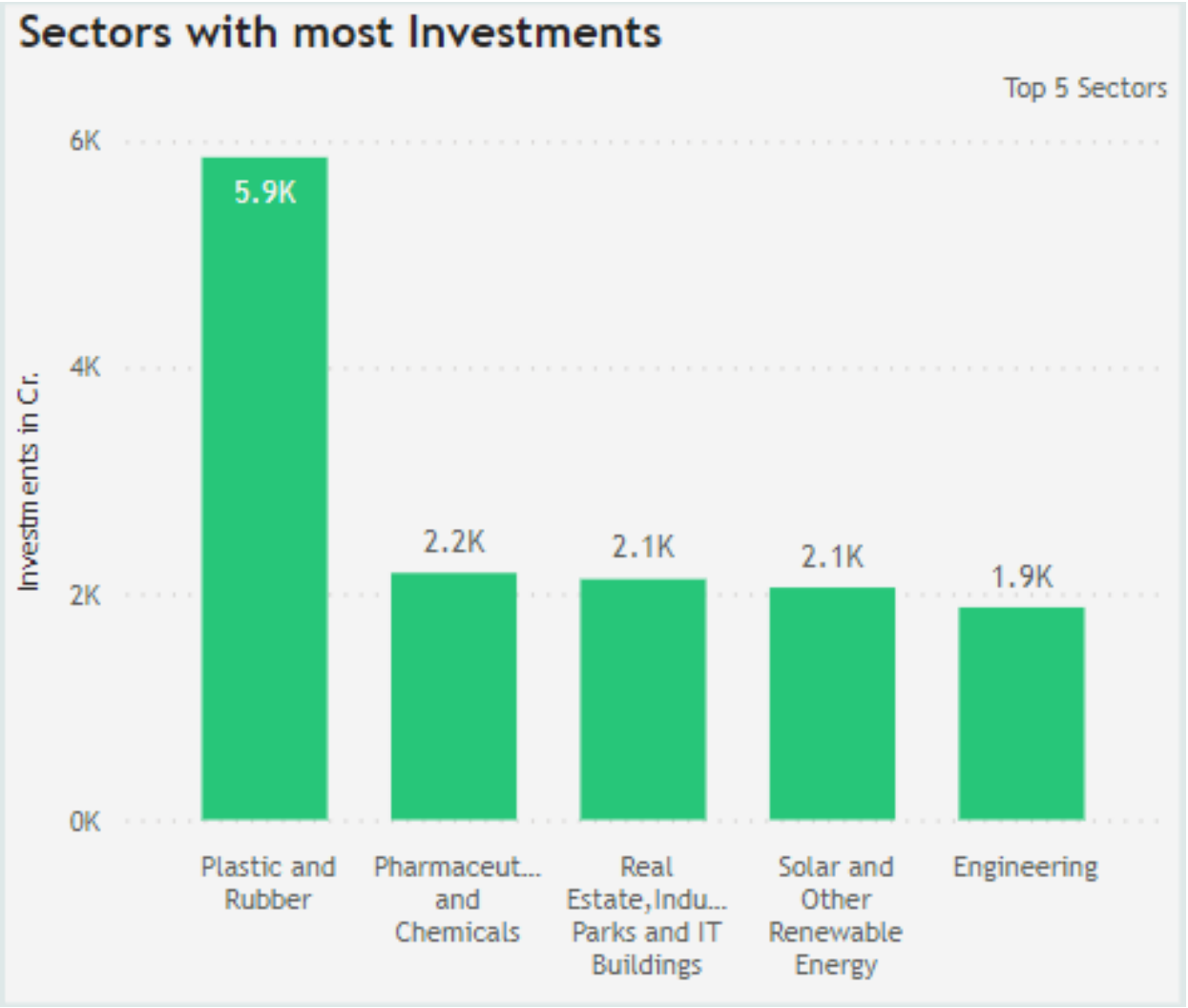
8. List down the top 5 sectors that have witnessed the most significant investments in FY 2022.

The top 5 sectors that have witnessed the most significant investments in FY 2022:

- Plastic and Rubber: 5.9K Cr.
- Pharmaceuticals and Chemicals: 2.2K Cr.
- Real Estate, Industrial Parks and IT Buildings:2.1K Cr.
- Solar and Other Renewable Energy:2.1K Cr.
- Engineering:1.9K Cr.

The Plastic and Rubber sector had highest investment in Cr. of 5.9k which accounted for 22.73% of Sum of investment in Cr.

These investments can be influenced by a combination of factors, including economic conditions, government policies, market trends, and investor sentiment.



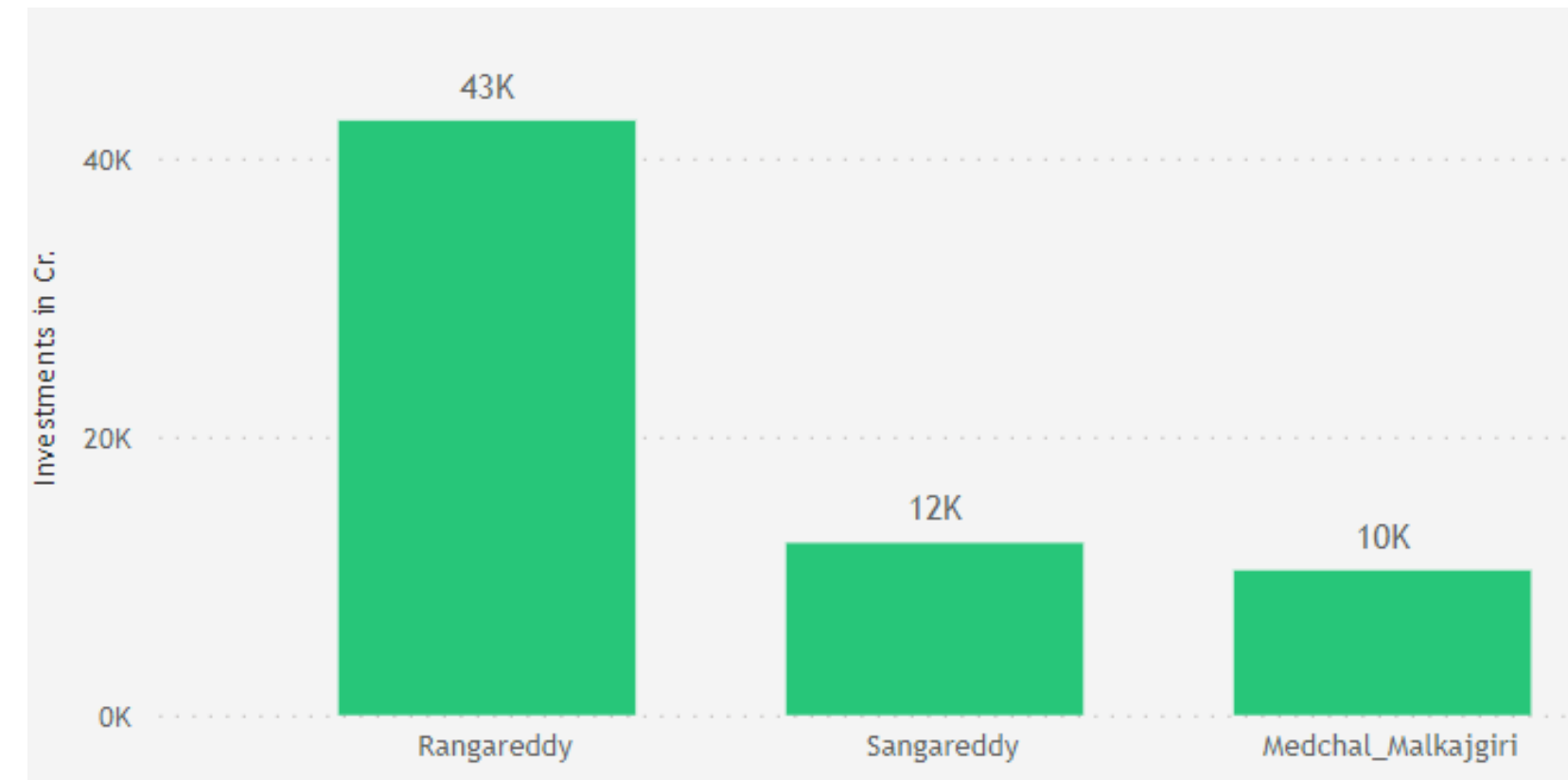
9. List down the top 3 districts that have attracted the most significant sector investments during FY 2019 to 2022? What factors could have led to the substantial investments in these particular districts?

The districts that have attracted the most significant investments are:

- Rangareddy- 43K Crore
- Sangareddy- 12K Crore
- Medchal Malkajgiri- 10K Crore

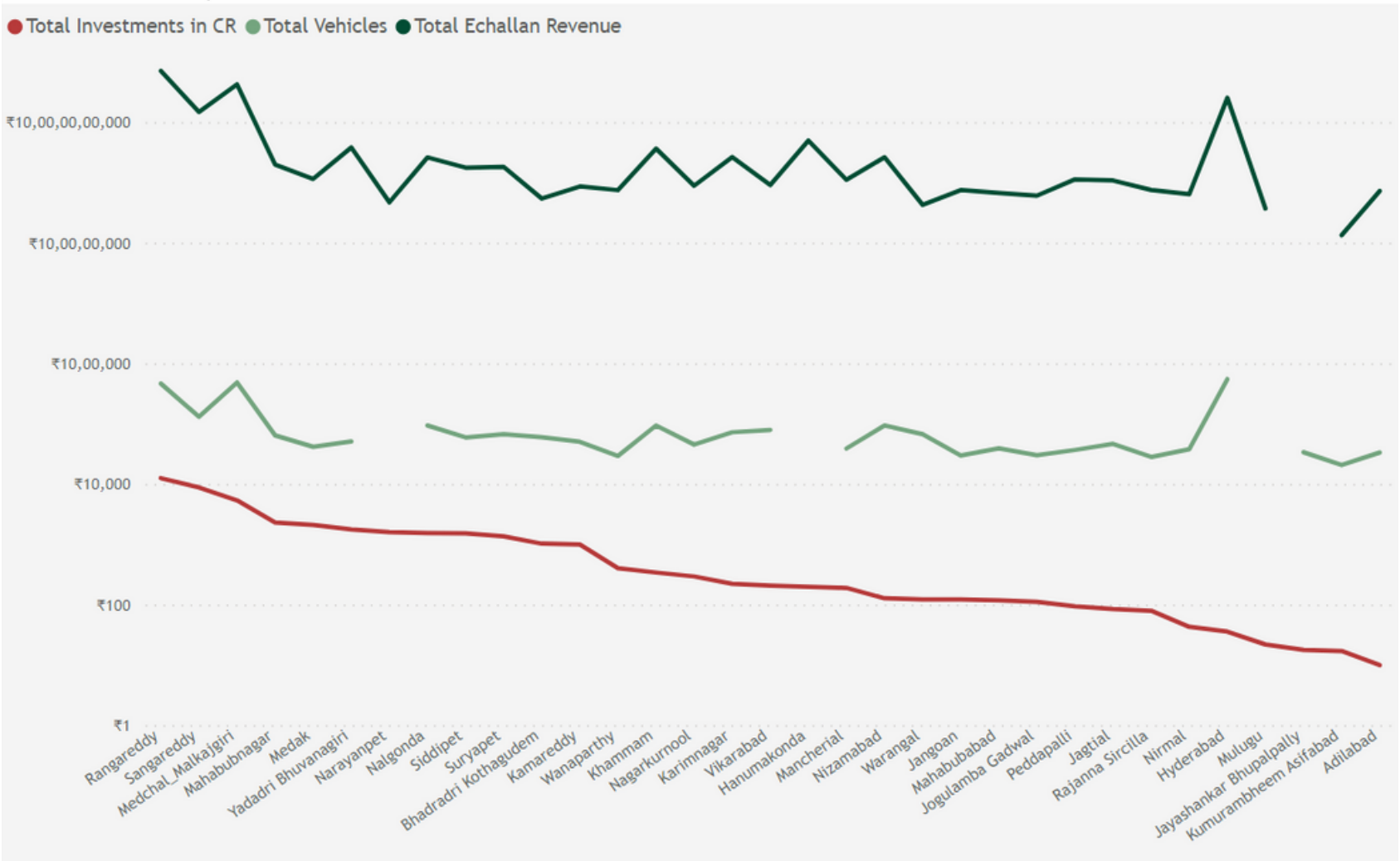
Factors that could have led to substantial investments in these districts are:

- **Proximity to Hyderabad:** These districts are located in the vicinity of Hyderabad, the state capital and a major economic center in India. The presence of Hyderabad's infrastructure, skilled workforce, and business ecosystem often extends into these districts, making them attractive destinations for investment.
- **Strategic Location:** Being strategically located near Hyderabad and having good connectivity to major transportation hubs, including airports and highways



10. Is there any relationship between district investments, vehicles sales and stamps revenue within the same district between FY 2021 and 2022?

- There is no relationship between district investments, vehicles sales and stamps revenue.
- Rangareddy have highest E-challan revenue and Total Investments among all districts. But few other districts have better vehicles sales than rangareddy.
 - Hyderabad has highest Vehicles sales but lags behind in E-challan revenue and Total Investments.
 - There might be several reasons behind lack of relationship between them. Districts like Hyderabad which are already developed and attract many visitors has high number of vehicle sales and high E-Challan but do not require as much investment as other districts.

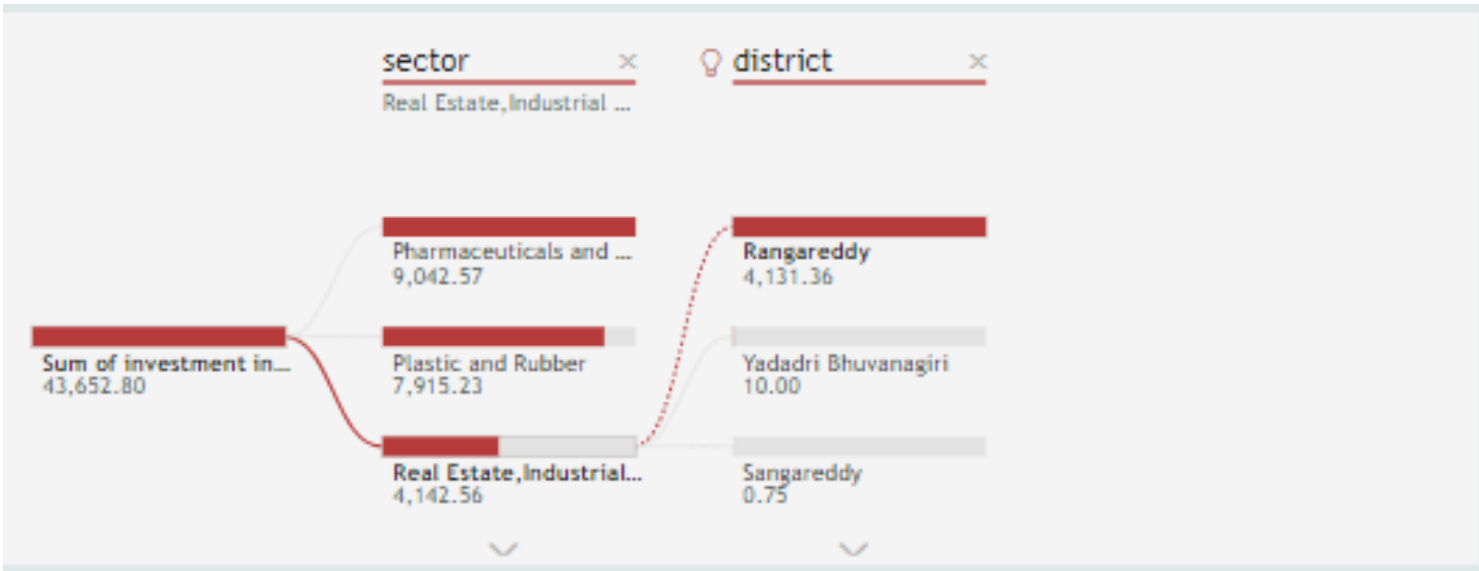
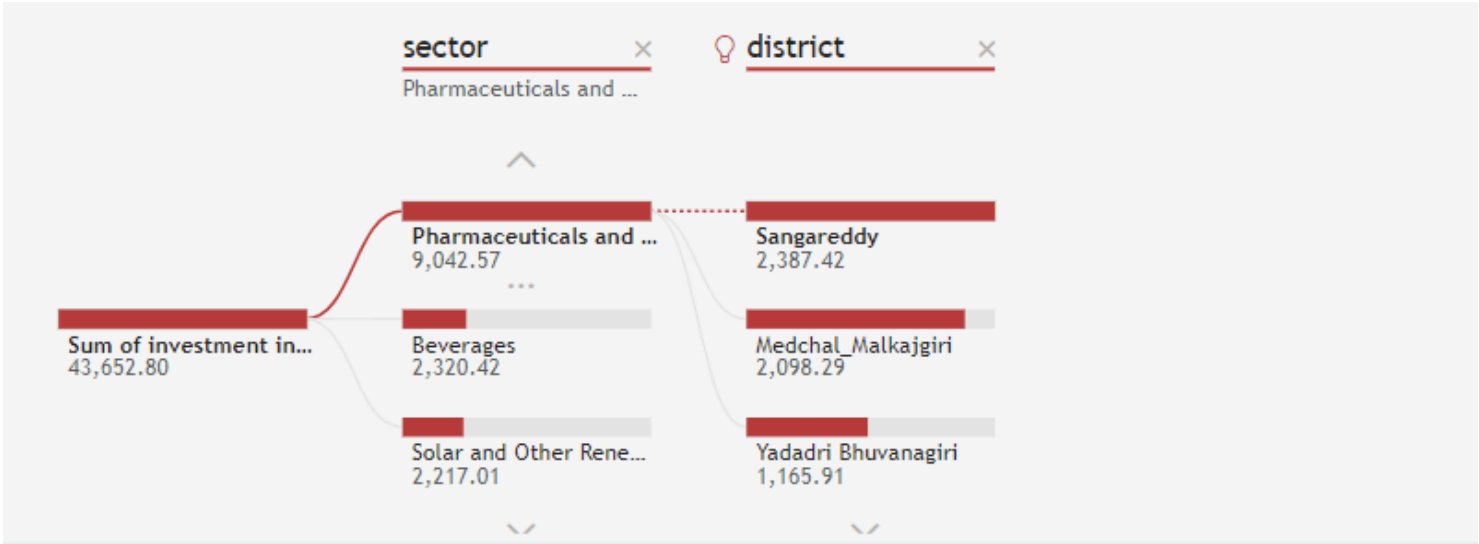


11. Are there any particular sectors that have shown substantial investment in multiple districts between FY 2021 and 2022?

The Total sum of Investments in Crore was 43,652.

Sectors that have shown substantial investment in multiple districts:

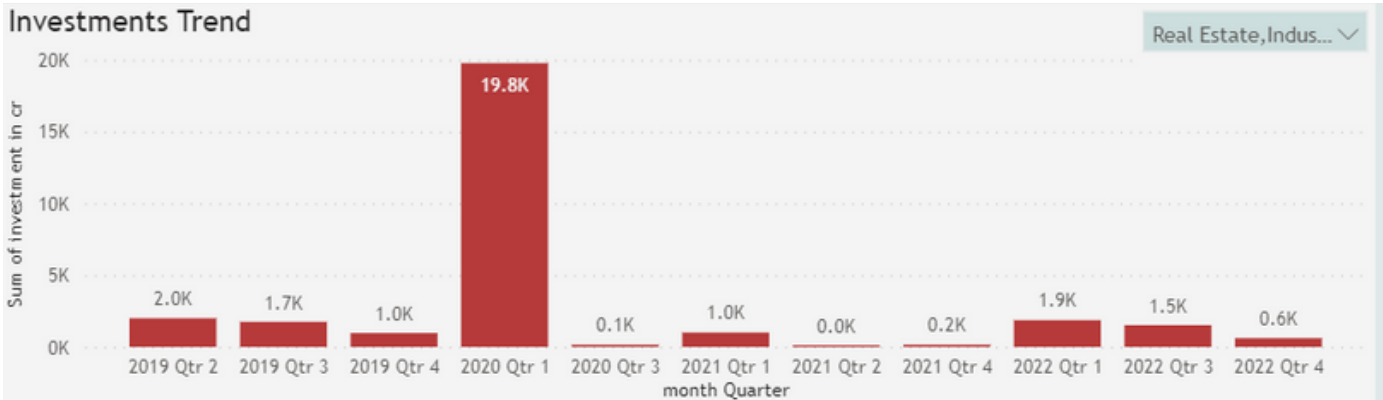
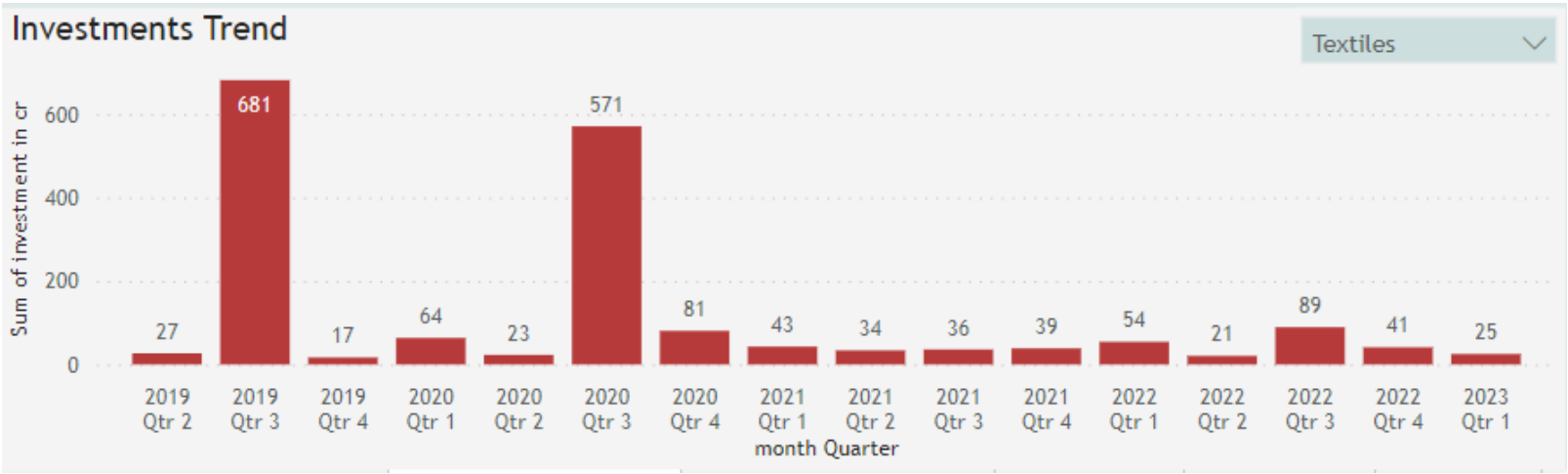
- Pharmaceuticals and Chemicals had investments of 9,042 Crores: This sector had significant investments in Rangareddy, Medchal Malkajgiri, Yadadri Bhuvanagiri.
- Plastic Rubber with Investment of 7,915 Crore: This sector had significant investments in Rangareddy, Sangareddy.
- Real Estate, Industrial Parks and IT Parks: This sector had significant investments in Rangareddy.
- Beverages sector had 2320 Crore in investment: This sector had significant investments in Narayanpet.



12. Can we identify any seasonal patterns or cyclicality in the investment trends for specific sectors? Do certain sectors experience higher investments during particular months?

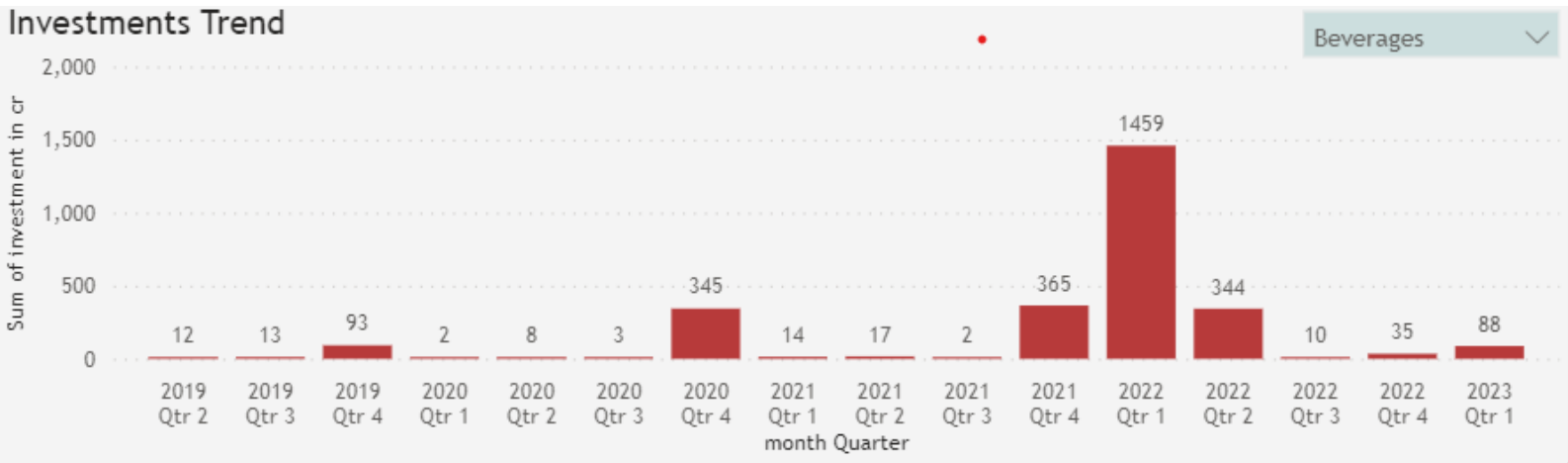
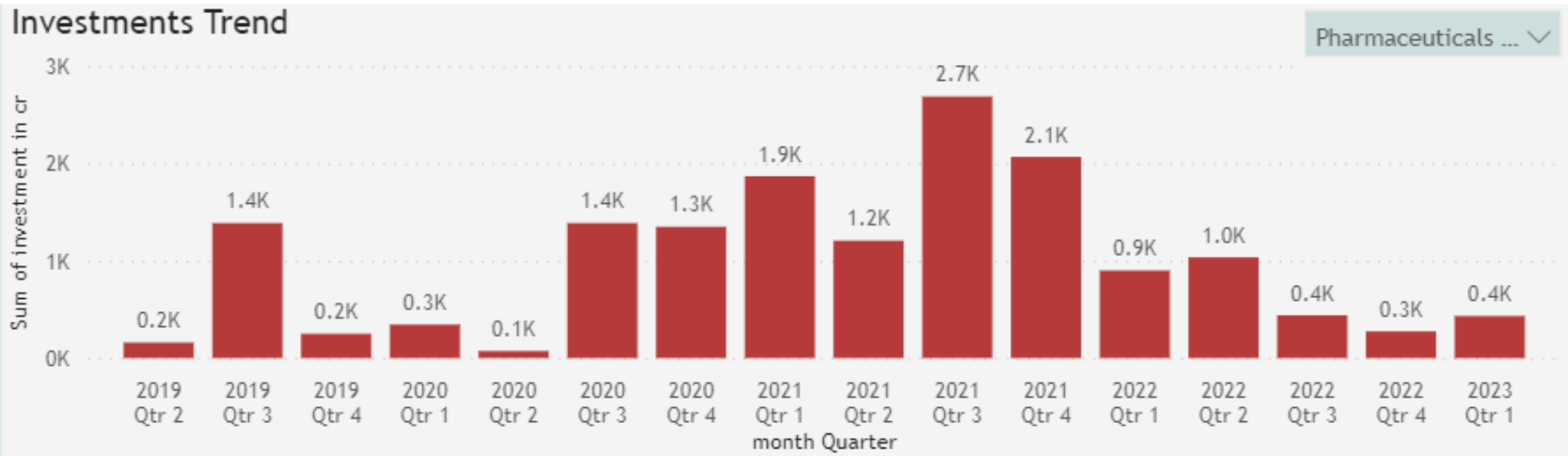
Textiles Sector had highest investments in Quarter 3 of the year.
Reasons for this cyclicality could be:

- **Market Demand**- The demand for textile products, both domestically and internationally, can drive investments. If there was a surge in demand for textiles or textile-related products in Quarter 3, investors might have been keen to capitalize on the opportunity.



Real Estate, Industrial Parks and IT buildings sector had highest investments in Quarter 1 of year. Reason likely because people are likely to invest in real estate before tax filing to get benefits.

Pharmaceuticals and Chemicals Sector had consistent investment through out the year. Government must have seen an opportunity after Coronavirus pandemic which led to high and consistent Investments.



Beverages Sector has higher investments in Quarter 4 and Quarter 1 of year. There is always more demand for beverage in Winter season and during holidays season.

1. What are the top 5 districts to buy commercial properties in Telangana? Justify your answer

Here are five districts that were considered promising for commercial real estate in Telangana, along with justifications:

1. **Hyderabad:** The state capital, Hyderabad, is a major hub for commercial real estate in Telangana. It offers diverse opportunities across various commercial property types, including office spaces, retail outlets, and IT parks.
2. **Rangareddy:** This district, which surrounds Hyderabad, benefits from its proximity to the capital. It's an attractive location for logistics and warehousing businesses due to its connectivity to major highways.
3. **Medchal-Malkajgiri:** Located on the outskirts of Hyderabad, this district has been experiencing rapid urbanization. It's a potential area for commercial property investment, particularly for residential-cum-commercial projects catering to the growing population.
4. **Sangareddy:** Sangareddy is a district in Telangana, and its proximity to Hyderabad can be advantageous. It has Telangana Aerospace and Defence park. It has attracted thousands of crores of investment in several sectors like Pharmaceuticals and Chemicals, Plastic and Rubber and Automobile.
5. **Medak:** Medak is district in northwest of Hyderabad. It is known for developed infrastructure and attracted investments in Engineering, Pharmaceuticals and Chemicals which attracts a lots of skilled labor.

2. Telangana Government Initiatives

- **WE Hub-** WE Hub is a start-up incubator exclusively for women entrepreneurs. Through WE Hub aims to support women entrepreneurs with innovative ideas, solutions and entities focusing on emerging areas in technology.
- **T-Fiber-** T-Fiber aims at creating a scalable, robust, resilient, secure and long-lasting digital infrastructure to deliver various services, applications, content from Government and service providers.
- **T-hub-** T-Hub (Technology Hub) is an innovation hub and ecosystem enabler. Based out of Hyderabad, India, T-Hub leads India's pioneering innovation ecosystem. With a mission of enabling and empowering an ecosystem hungry for innovation.
- **SHE Teams-** Keeping rising incidents of crime against women in mind, the Telangana government has constituted a seven member committee headed by IAS officer Poonam Malakondaiah to advise it on the measures to be taken for the safety and security of women and girls. The teams keep tab on the eve-teasers and stalkers in crowded places.
- **Arogya Lakshmi-** Telangana government provides one nutritious meal every day to pregnant and lactating women and children below the age of six through Anganwadi centres.
- **Haritha Haram-** Telangana Ku Haritha Haaram, a flagship programme of the Telangana Government envisages to increase the present 24% tree cover in the State to 33% of the total geographical area of the State.
- The capital city of Hyderabad (also the capital for earlier larger Andhra Pradesh state) is a hub for information technology (IT) and pharmaceutical sectors. IT and ITeS exports from Telangana increased at a CAGR of 11.32% from 2013-14 to Rs. 145,522 crore (US\$ 20.05 billion) in 2021-21.
- Thermal power was the largest contributor to the state's total installed capacity with 10,331.92 MW, followed by renewable energy with 5105.37 MW, hydropower with 2,479.93 MW and nuclear power with 148.73 MW.
- According to the India Residential Energy Survey 2020, conducted by the Council of Energy, Environment and Water (CEEW), Telangana is one of the eight states in the country that has achieved 100% electrification in households.

3. Provide top 5 Insights & 5 recommendations to Telangana government for sustained growth

Insights

- Production of fruits & vegetables reached 2,309.96 thousand tonnes and 1,682.28 thousand tonnes, respectively, in 2021-22.
- In FY21, the Telangana State Industrial Infrastructure Corporation (TSIIC) developed 10 new industrial parks and allotted 810 acres of land to 453 industries with an expected investment of Rs. 6,023 crore (US\$ 822 million) and potential employment of 7,623 people.
- Pharmaceutical export also has a majority share in the total merchandise export from the state. Pharmaceutical exports also have a majority share in the total merchandise exports from the state. In FY22, pharmaceutical product exports** from the state stood at US\$ 4.66 billion. Hyderabad is poised to grow to a US\$ 100 billion business generator by 2030, up from US\$ 13 billion (2020), as per projections made in the Life Sciences report of the Telangana government.
- As per the State government data, Hyderabad has attracted investments in the pharma, biotech and medical devices arenas over the last few years.
- The state's GSDP increased at a CAGR of 10.23% between 2018-19 and 2023-24BE. Tertiary sector has been the largest sector, growing at a CAGR of 11.70% (in rupee terms) between 2011-12 and 2020-21, accounting for 59.31% share of the overall GSDP. At current prices, Telangana's gross state domestic product (GSDP) was estimated at Rs. 14.0 trillion (US\$ 169.59 billion) in 2023-24BE.

Recommendation

- **Invest in Education:** Strengthen the education system by increasing funding, improving the quality of teaching, and enhancing access to quality education, especially in rural areas. This will create a well-educated workforce ready for future challenges.
- **Promote Entrepreneurship:** Foster a conducive environment for entrepreneurship by providing incentives, simplifying regulatory processes, and offering financial support to startups and small businesses.
- **Enhance Healthcare:** Upgrade healthcare infrastructure and services, with a focus on rural areas. Invest in telemedicine and healthtech solutions to ensure better access to healthcare, especially during crises like pandemics.
- **Smart Urban Planning:** Develop smart cities with sustainable and efficient urban planning. Promote public transportation, green spaces, and affordable housing to accommodate the growing urban population.
- **Diversify Economic Base:** Reduce dependence on specific industries by diversifying the economic base. Encourage the growth of sectors such as tourism, manufacturing, and e-commerce to create a resilient and balanced economy.