

TELAGANA

Growth Analysis

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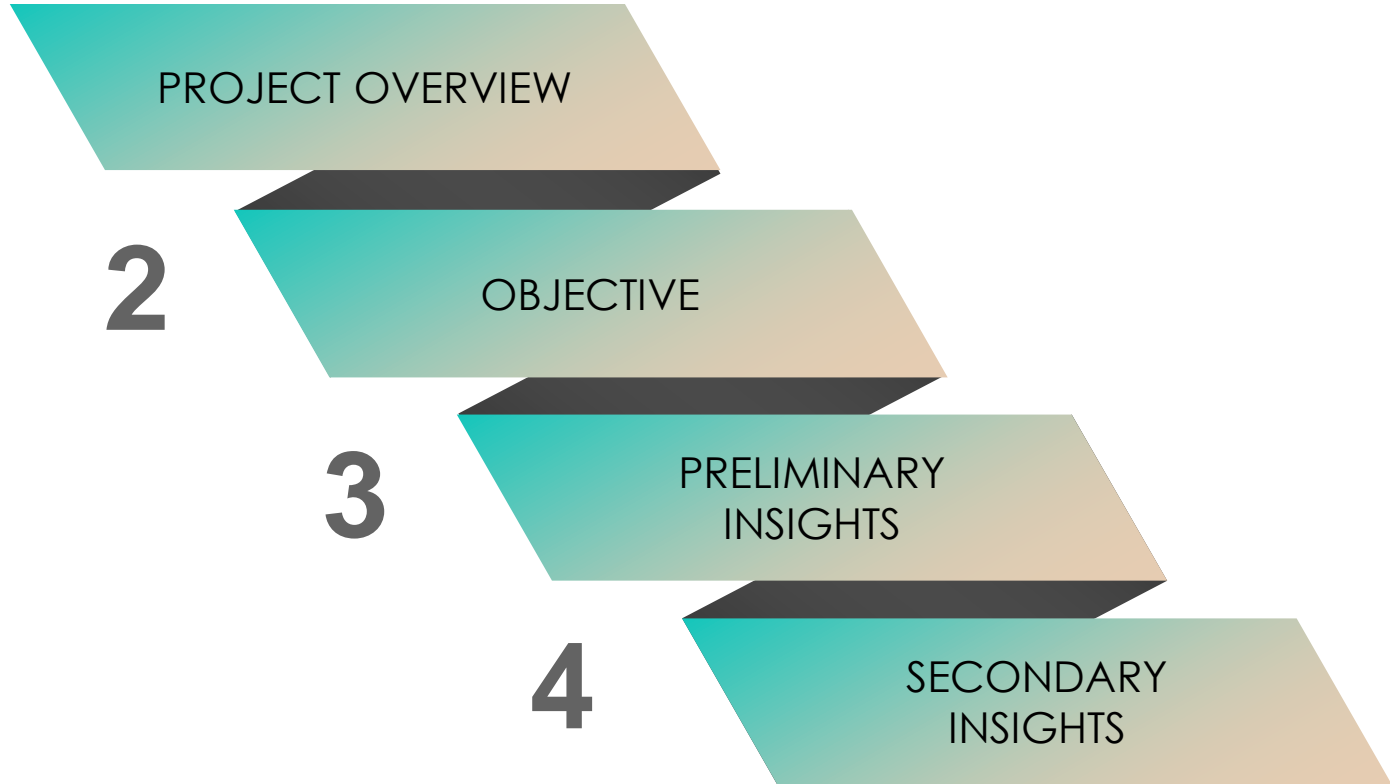
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PROJECT OVERVIEW

The Telangana Growth Analysis project involves analyzing data from Stamp Registration, Transportation, and Ts-lpass datasets to uncover trends, correlations, and growth opportunities. The goal is to provide valuable insights and recommendations to support informed decision-making for the state's development. The project integrates geospatial mapping to visualize insights at the district level and aims to engage top-level management with a persuasive presentation and notification strategy.

OBJECTIVE



01

Descriptive Analysis

Explore Stamp Registration, Transportation and Ts-Ipass Datasets. Understand their attributes, categories and time period.

02

Exploratory Data Analysis

Analyze trends and patterns within each department.

03

Strategic Analysis

Identify growth opportunities and areas needing attention.

04

Multivariate Analysis

Find correlation among these departments and report the overall growth of the state through insights and relevant visuals such as shape maps.



PRELIMINARY INSIGHTS

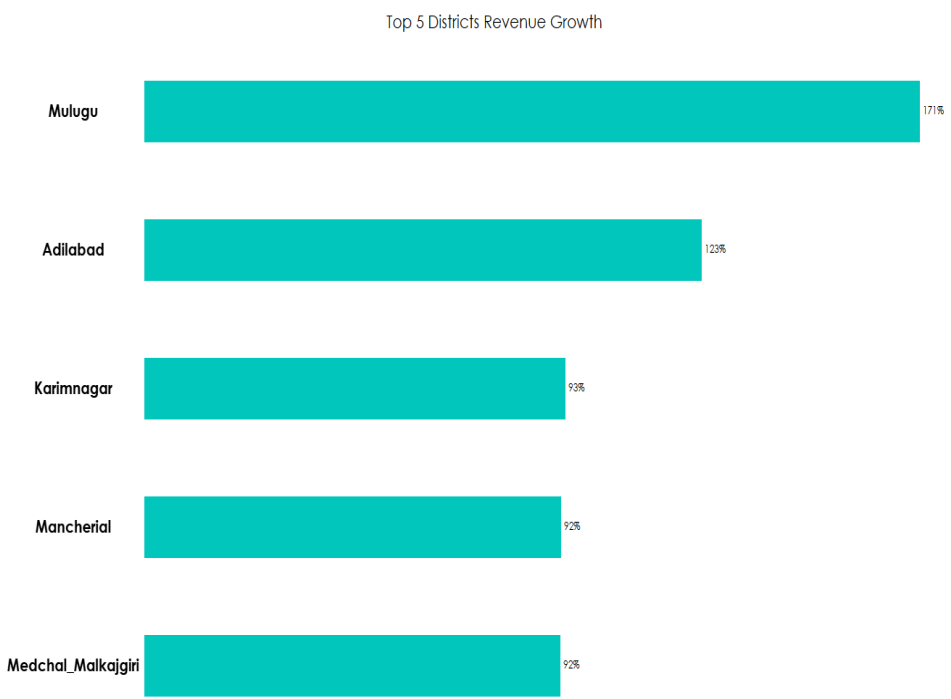


A person in a dark suit and patterned tie is seated at a wooden desk. Their hands are visible, one resting on a document. On the desk, there is a red and silver stamping machine and some papers. A teal rectangular box is superimposed over the center of the image, containing the text 'STAMP REGISTRATION' in bold black letters.

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.

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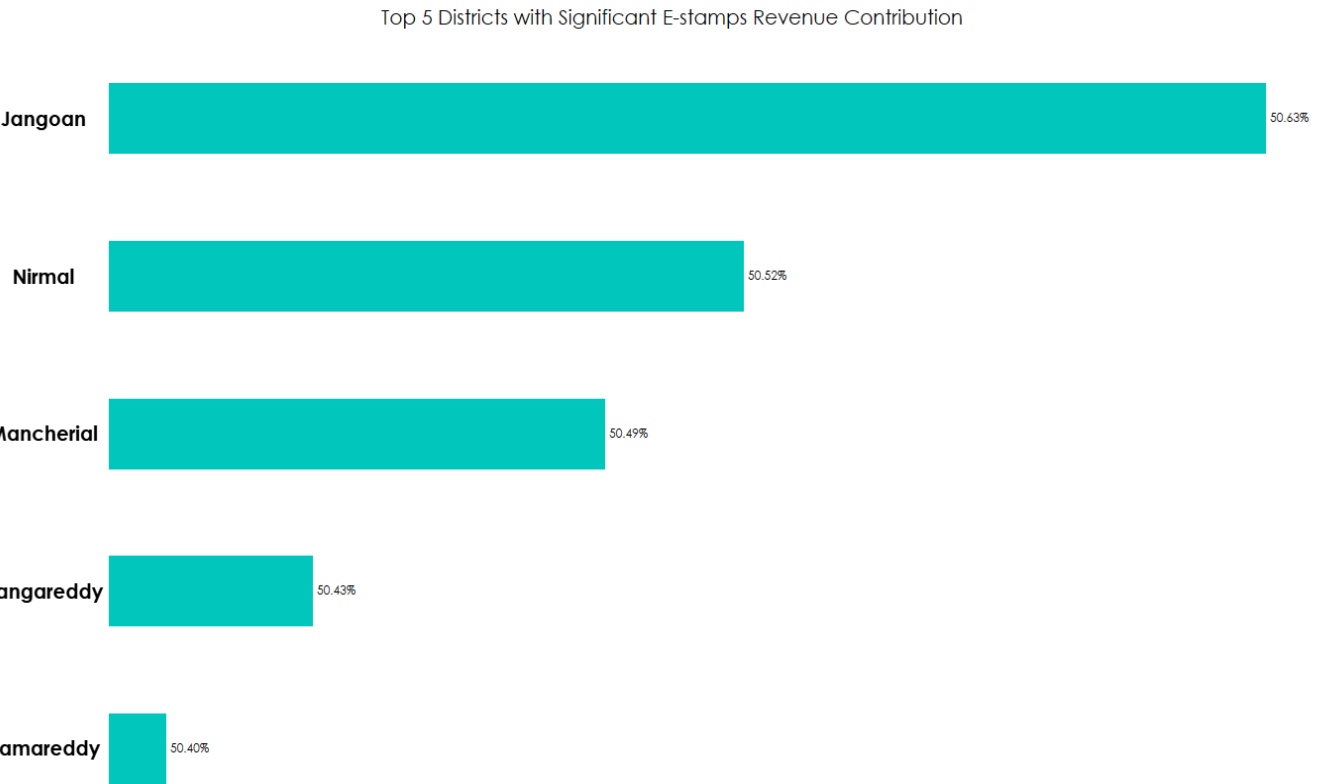


Mulugu: The district achieved an impressive 171% growth in document registration revenue, reflecting strong economic activity and property transactions.

Adilabad: Adilabad district's second-highest ranking growth of 123% in document registration revenue highlights its vibrant real estate market.

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?

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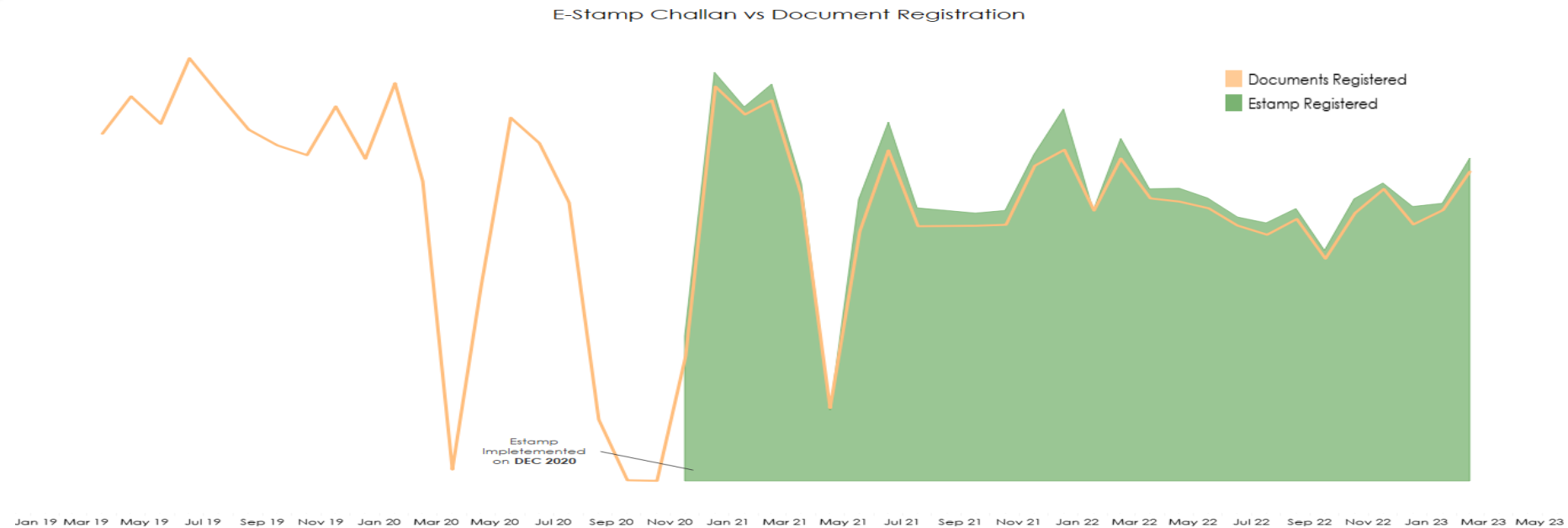


Jangoan: The District takes the lead in e-stamps revenue generation, constituting 50.63% of its total revenue, which amounted to ₹ 486 million, while the revenue generated from document registration stood at ₹474 million.

Nirmal: The District ranks as the second-highest in e-stamp revenue contribution, accounting for 50.52% of its total revenue. E-stamp revenue amounted to ₹ 346 million, closely followed by document revenue at ₹ 339 million.

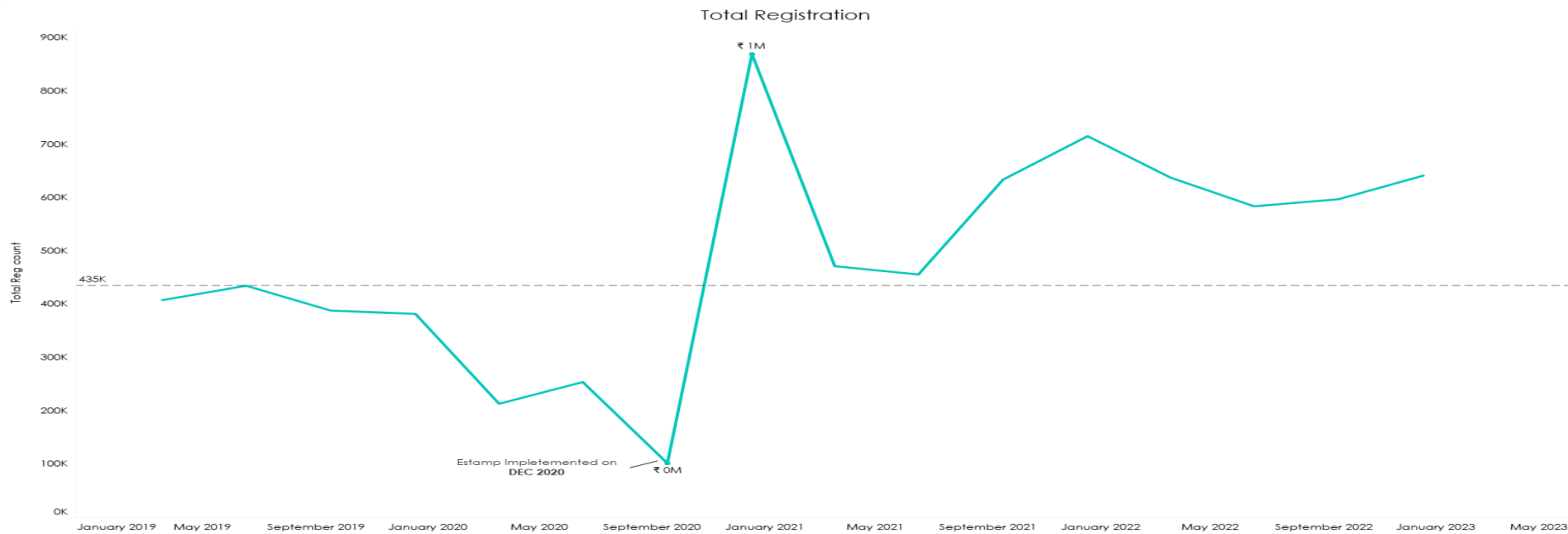
3. Is there any alteration of e-Stamp challan count and document registration count pattern since the implementation of e-Stamp challan? If so, what suggestions would you propose the government?

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After implementing e-stamps in December 2020, there was a sudden surge in revenue, and it has since maintained a balanced 50-50 ratio between e-stamp and document registration revenue.

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?



Before the implementation of e-stamps, the highest revenue was 435k After implementation, it reached a peak of 1 million and has since maintained an average of approximately 600k

Suggestion for Government

Promote E-Stamp Awareness: Sustain initiatives to enhance awareness of E-Stamp within the community, enterprises, and legal organizations. Implement educational campaigns and offer resources to ease the shift from conventional stamps to digital ones.

Create Step-by-Step YouTube Tutorials: Develop comprehensive step-by-step YouTube tutorials on how to generate e-stamps from the website. These tutorials should cater to users of all levels of technical expertise, making the process easy to understand.

Streamline Payment Options: Make payment options more user-friendly by offering a variety of payment methods, including credit/debit cards and digital wallets. Additionally, consider providing concessions for transactions made using UPI (Unified Payments Interface) to incentivize its usage.

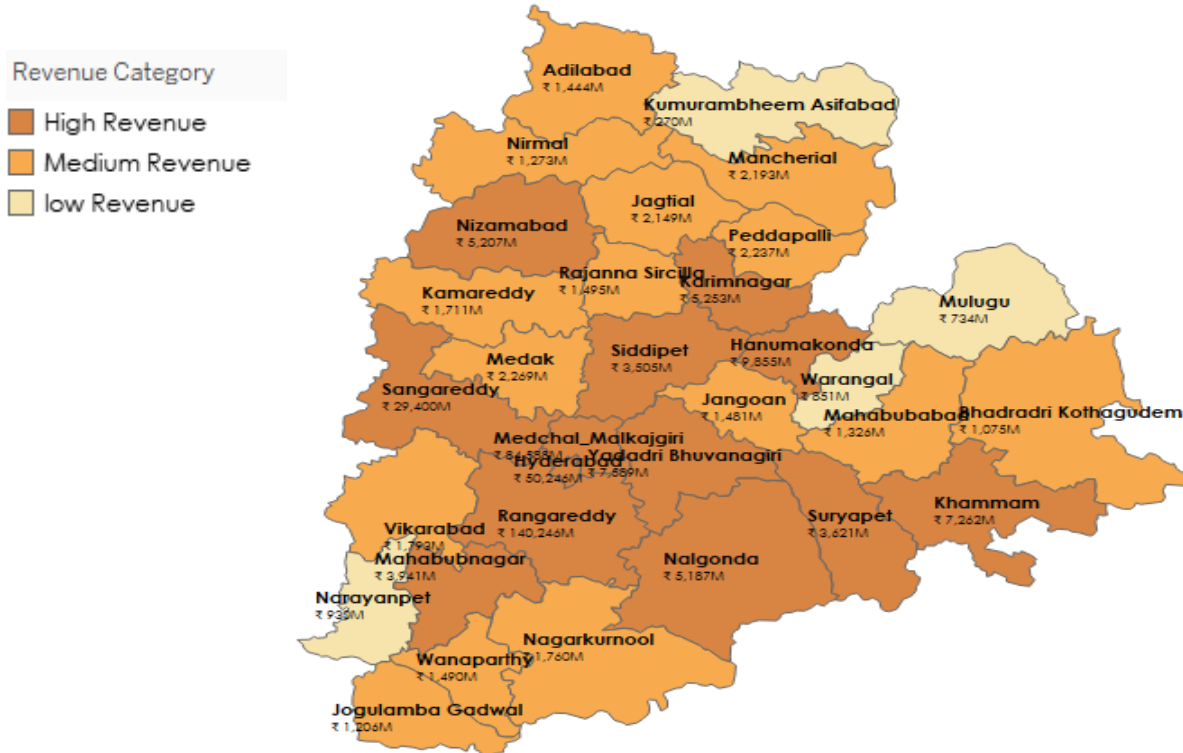
Simplify User Interface: Ensure that the website's user interface is simple, clean, and user-friendly. Avoid unnecessary complexity to make it accessible to a wide range of users.

Include Local Language (Telugu): Offer the website in the local language (Telugu) in addition to the standard English format. This will enhance accessibility for users who are more comfortable with their native language.

Provide Customer Support: Establish a customer support system to assist users who may have doubts or encounter errors while using the e-stamp platform. Ensure that customer support is available during normal working hours to assist users promptly and efficiently.

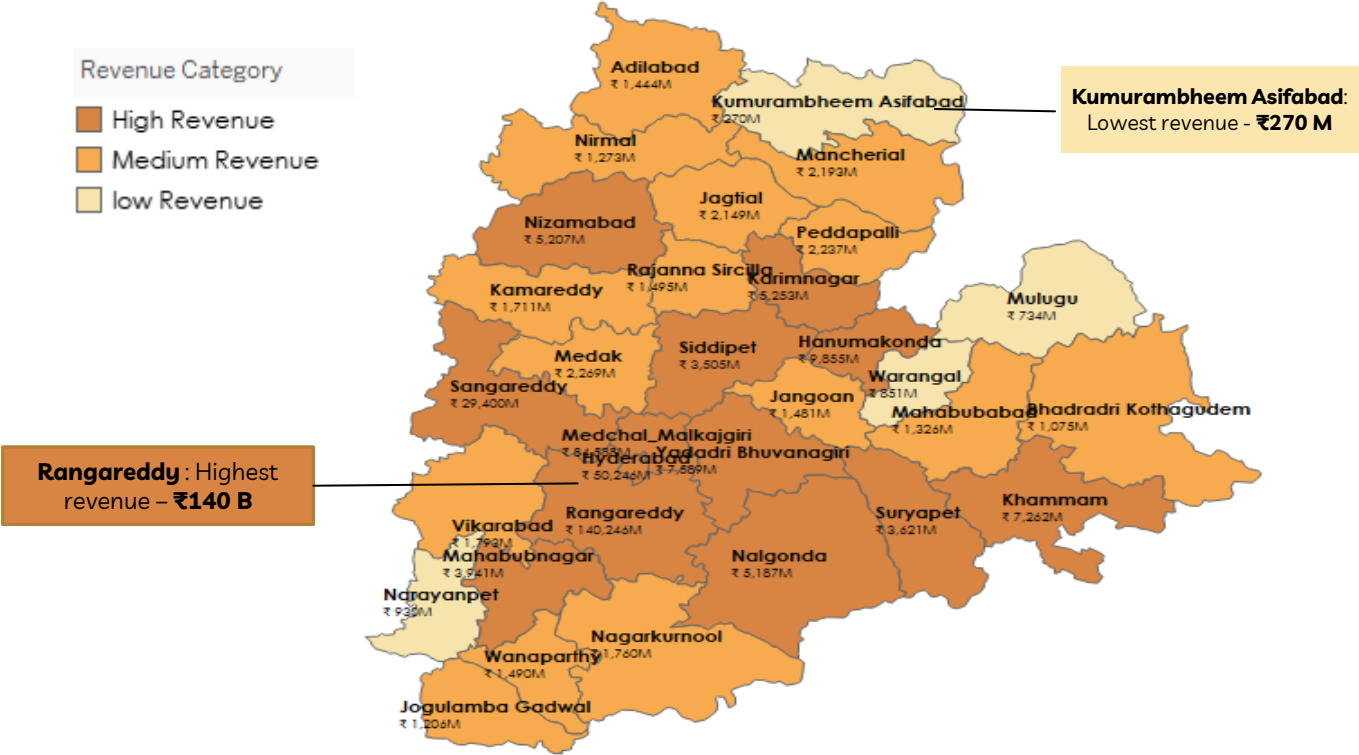
4. Categorize districts into three segments based on their stamp registration revenue generation during the fiscal year 2021 to 2022

District wise stamp registration fiscal year 2021 - 2022



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District wise stamp registration fiscal year 2021 - 2022

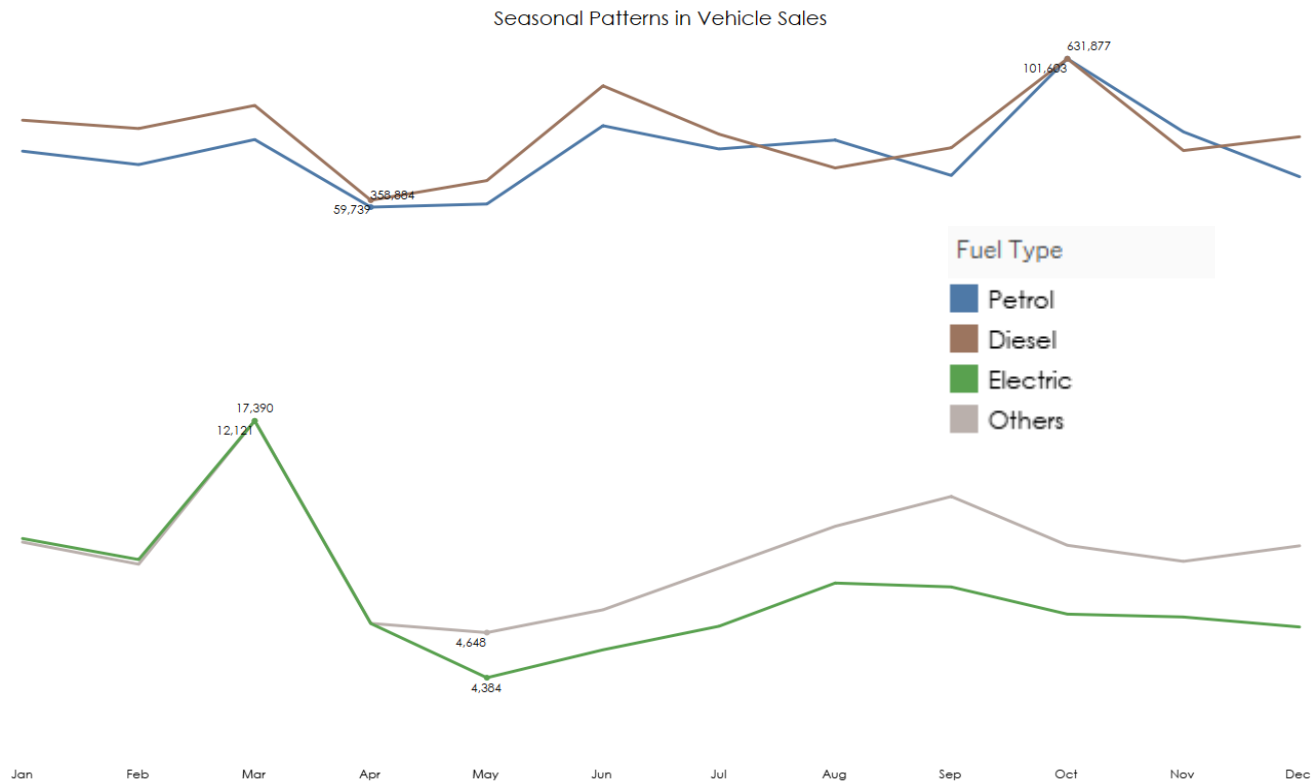




TRANSPORTATION

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)

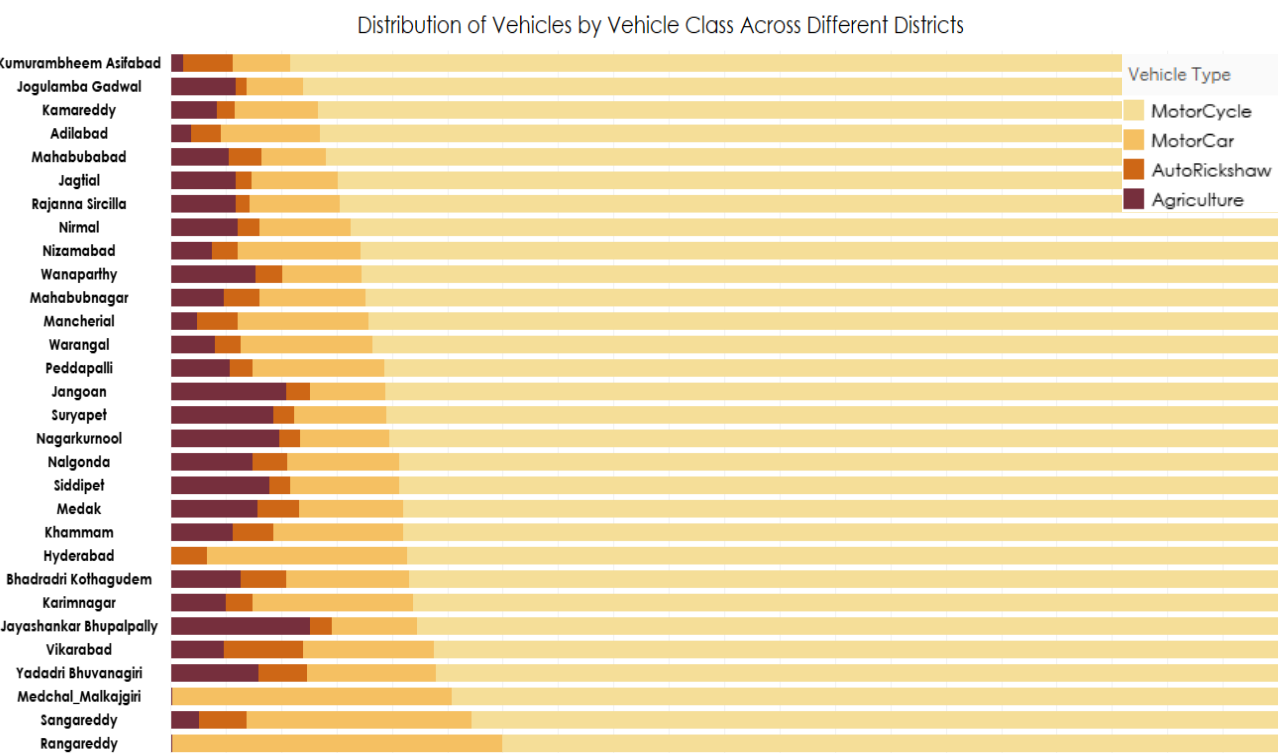
5. Investigate whether there is any correlation between vehicle sales and specific months or seasons in different districts. Are there any months or seasons that consistently show higher or lower sales rate, and if yes, what could be the driving factors? (Consider Fuel-Type category only)



Trends: Telangana witnesses a surge in petrol and diesel vehicle sales during October, driven by the festival season and year-end sales promotions that attract customers seeking affordable options. On the other hand, electric vehicle sales peak towards the fiscal year end in March, with consistent sales throughout the rest of the year.

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.

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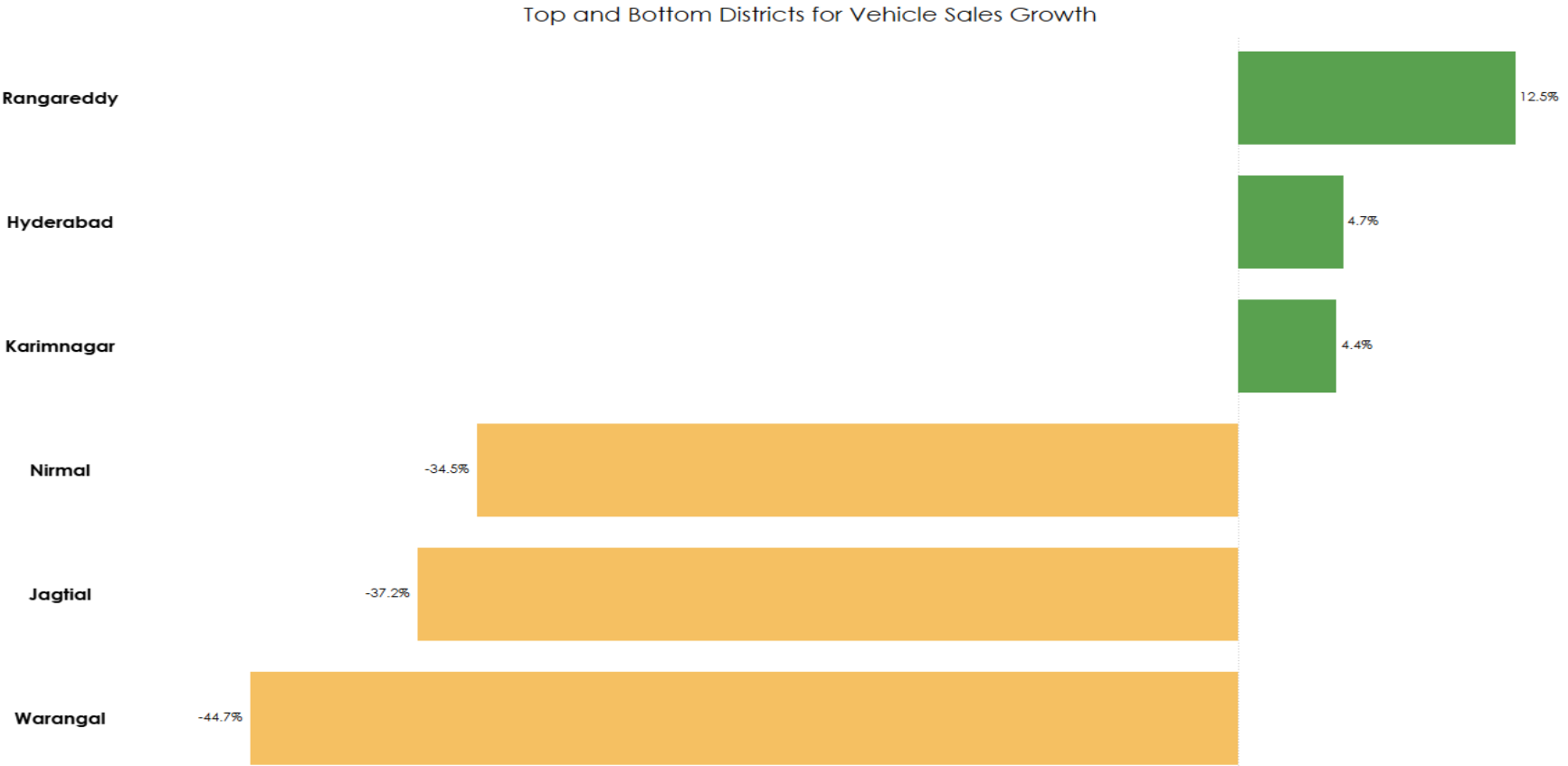


Motorcycle Dominance: Across all districts, motorcycles are the predominant vehicle class, indicating a common preference for two-wheelers in all region.

Hyderabad, being the capital of Telangana, boasts the highest overall Motorcycle sales at 206,819 units. Among these sales, autorickshaws saw significant demand, with over 8,397 units sold, especially in urban areas due to their practicality and convenience.

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)

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The background of the slide is a colorful illustration. On the left, a large, dark, billowing cloud of smoke or pollution rises from behind a grey industrial building with two smokestacks. One smokestack has a white recycling symbol on it. In the foreground, a red sports car is parked. To the right of the car is a green tree. In the center, several white wind turbines are visible. On the far right, a man in a blue suit and red tie is running towards the left, carrying a black briefcase and holding a yellow ribbon. In the background, there are green hills and a city skyline with a prominent tower.

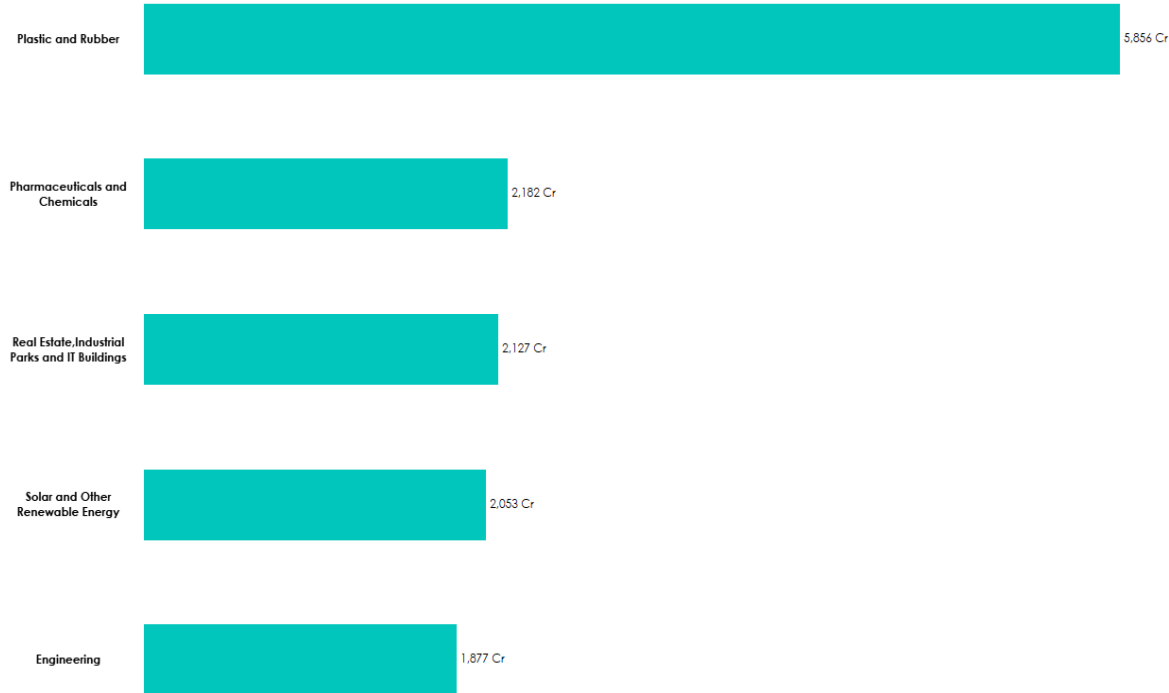
Ts-Ipass

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

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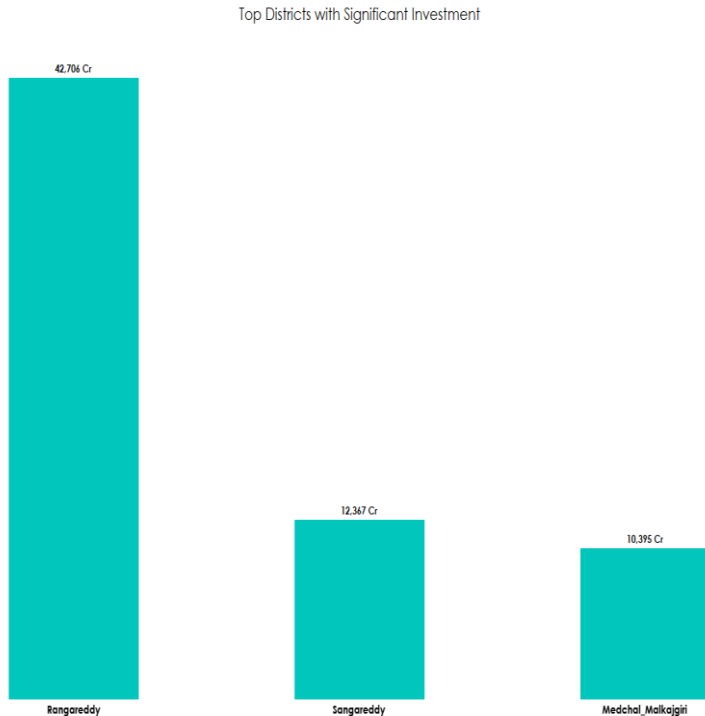
Top Sectors with Significant Investment



These investments signify a diversified economic landscape in FY 2022, with a significant emphasis on industries such as **plastics**, **pharmaceuticals**, real estate, renewable energy, and engineering. These sectors play a crucial role in driving economic growth and development in the region.

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?

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Proximity to Hyderabad: All three districts are in close proximity to Hyderabad, the state capital and an economic hub. This proximity provides access to a skilled workforce, infrastructure, and market opportunities, making them favorable locations for investments.

Industrial Infrastructure: These districts have developed industrial parks, technology zones, and IT clusters, creating an enabling environment for businesses to thrive.

Government Policies: The government's pro-business policies, investment incentives, and ease of doing business initiatives have encouraged companies to invest in these districts.

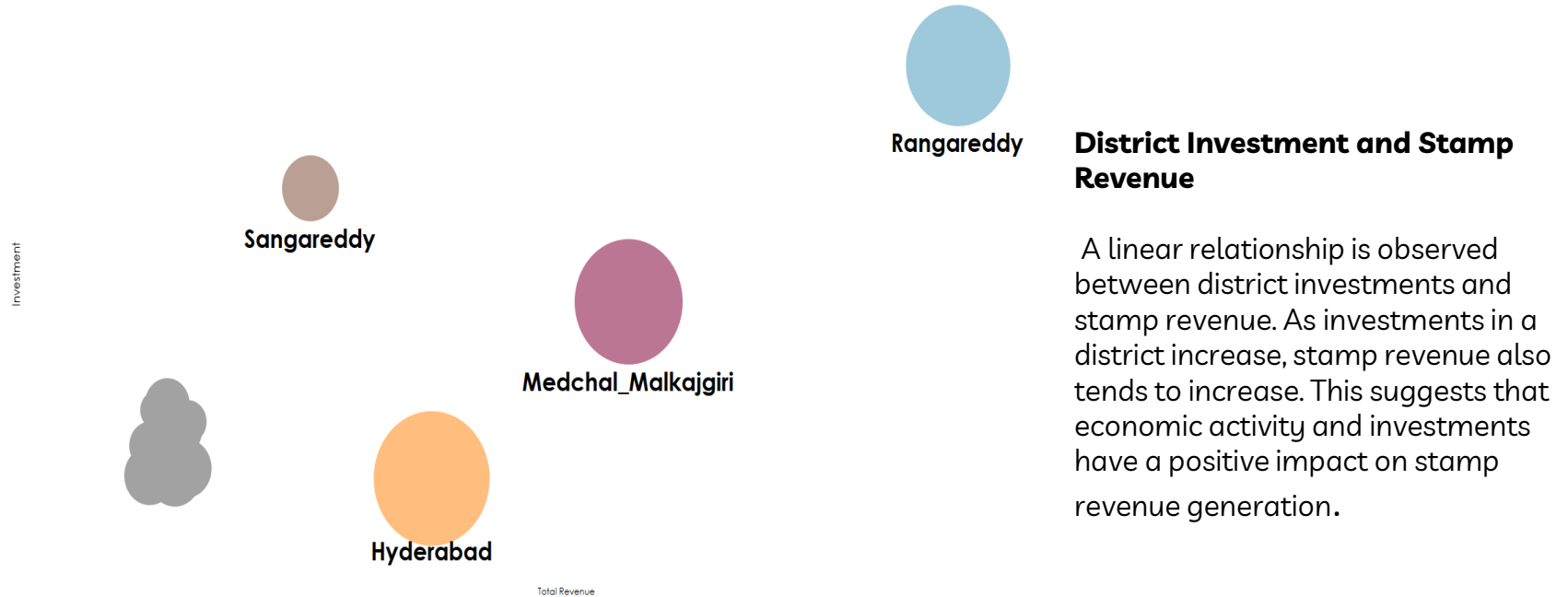
Connectivity: Good transportation networks and connectivity to major cities and ports enhance the attractiveness of these districts for logistics and manufacturing companies.

Economic Diversification: The districts have diversified economies, with a focus on sectors like IT, manufacturing, real estate, and pharmaceuticals, attracting a wide range of investments.

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

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District Investments, Vehicle Sales, and Stamps Revenue Analysis



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

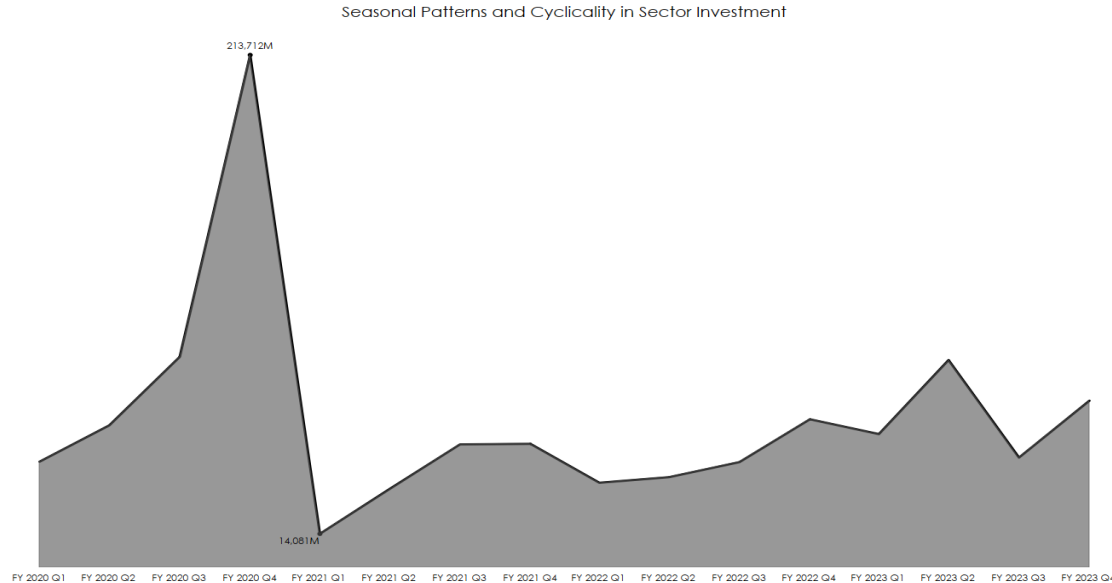
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District	Food Processing	Cement, Cement & C..	Engineering	Agro based incl Cold Stor..	Granite and Stone Crush..	Pharmaceutic als and Che..	Beverages	Plastic and Rubber	R&D	Others
Sangareddy	8.15 Cr	3.75 Cr	8.53 Cr			138.61 Cr	76.00 L	1553.25 Cr	188.02 Cr	13.81 Cr
Narayanpet	3.70 Cr					2.66 Cr	852.50 Cr			7.31 Cr
Mahabubna..	5.03 Cr				72.90 Cr	77.08 Cr		1.83 Cr	2.61 Cr	113.54 Cr
Medchal_Ma..	55.00 L	74.00 L	24.10 Cr	20.25 Cr	30.50 Cr	12.42 Cr		23.37 Cr	3.49 Cr	108.33 Cr
Siddipet	20.77 Cr	15.50 L	33.49 Cr	25.00 L				13.50 Cr	16.55 Cr	
Rangareddy	41.16 Cr	2.24 Cr	11.46 Cr	25.00 L	2.65 Cr	3.55 Cr		14.80 Cr		6.54 Cr
Yadadri Bhuv..	11.49 Cr		19.03 Cr	2.90 Cr	8.26 Cr	60.00 L		14.11 Cr		3.86 Cr
Suryapet		0			25.00 L	52.39 Cr				
Medak	10.97 Cr	50.00 L	14.24 Cr			8.99 Cr	2.05 Cr	3.66 Cr	91.00 L	5.00 Cr
Karimnagar	3.65 Cr		65.50 L		8.76 Cr		60.00 L			1.81 Cr
Mahabubab..	1.23 Cr	8.00 L		9.61 Cr	1.90 Cr					
Jangoan	8.74 Cr	16.20 L			1.20 Cr		12.80 L			79.00 L
Khammam	2.19 Cr		4.00 L	70.06 L	7.09 Cr					61.46 L
Hanumakon..	2.29 Cr	90.17 L	30.00 L		1.68 Cr					2.93 Cr
Warangal	6.13 Cr	96.00 L						85.00 L		14.00 L
Wanaparthy	5.87 Cr	80.79 L								
Jagtial	6.37 Cr		11.00 L				20.00 L			
Nagarkurnool	5.82 Cr									
Nalgonda	97.00 L			2.00 Cr		1.01 Cr	67.80 L	46.00 L		41.00 L
Rajanna Sircil..	3.50 Cr	64.00 L			25.00 L					
Kumurambh..						3.00 Cr				
Peddapalli	2.64 Cr		20.00 L							
Bhadradi Ko..	9.00 L						14.00 L			1.97 Cr
Nizamabad	1.40 Cr	23.73 L	14.00 L							21.00 L
Mancherla		1.16 Cr					15.00 L	10.00 L		10.00 L
Vikarabad	40.50 L				59.50 L		8.20 L		65.04 L	
Jogulamba ..		40.00 L		82.32 L						
Kamareddy	1.20 Cr									
Nirmal	80.90 L		4.00 L							
Hyderabad		80.00 L								
Adilabad	20.60 L	30.30 L								
Jayashankar ..	6.00 L	19.50 L								
Mulugu		19.00 L								

[illegible]

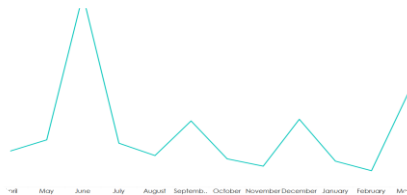
12. Can we identify any seasonal patterns or cyclicality in the investment trends for specific sectors? Do certain sectors experience higher investments during particular months?

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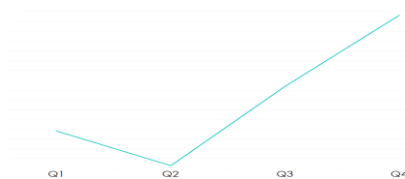
Overall Sector Investments:

FY 2021 Q1 records the lowest overall sector investments at 14,081 M, while FY 2020 Q4 stands out with the highest investments at 213,712 M.



Agro-Based and Cold Storage

The Agro-Based sector, specifically Cold Storage, experiences its highest investments in June at 6,058 M, which aligns with the agricultural harvest season.



Beverages

Beverages back-to-back invested heavily in the particular district of **Narayanpet**. They seem to follow a seasonal pattern of substantial investments in both the third and fourth quarters.



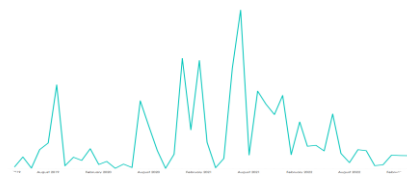
Electric and Electronic

Invested during the second and fourth quarters, displaying a seasonal pattern of alternating investments from one quarter to the other.



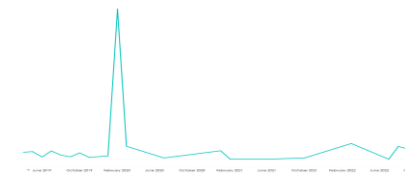
Engineering Sector:

Investments in the engineering sector notably increase in February 2021, an investment of 6,373 million was allocated to Rangareddy for infrastructure and development.



Pharmaceuticals and Chemicals:

Pharmaceuticals and chemical industries significantly increased their investments in two districts, Medchal-Malkajgiri and Sangareddy, following the peak of the COVID-19 pandemic in June 2021.



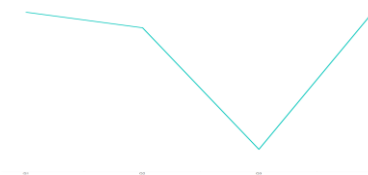
Real Estate, Industrial Parks, and IT Buildings:

This sector experienced substantial investments in February 2020, amounting to 177,934 M in Rangareddy district, indicating a potential pattern related to fiscal year-end planning.



Textiles

Investments in this sector are highest in September, reaching 11,918 M.



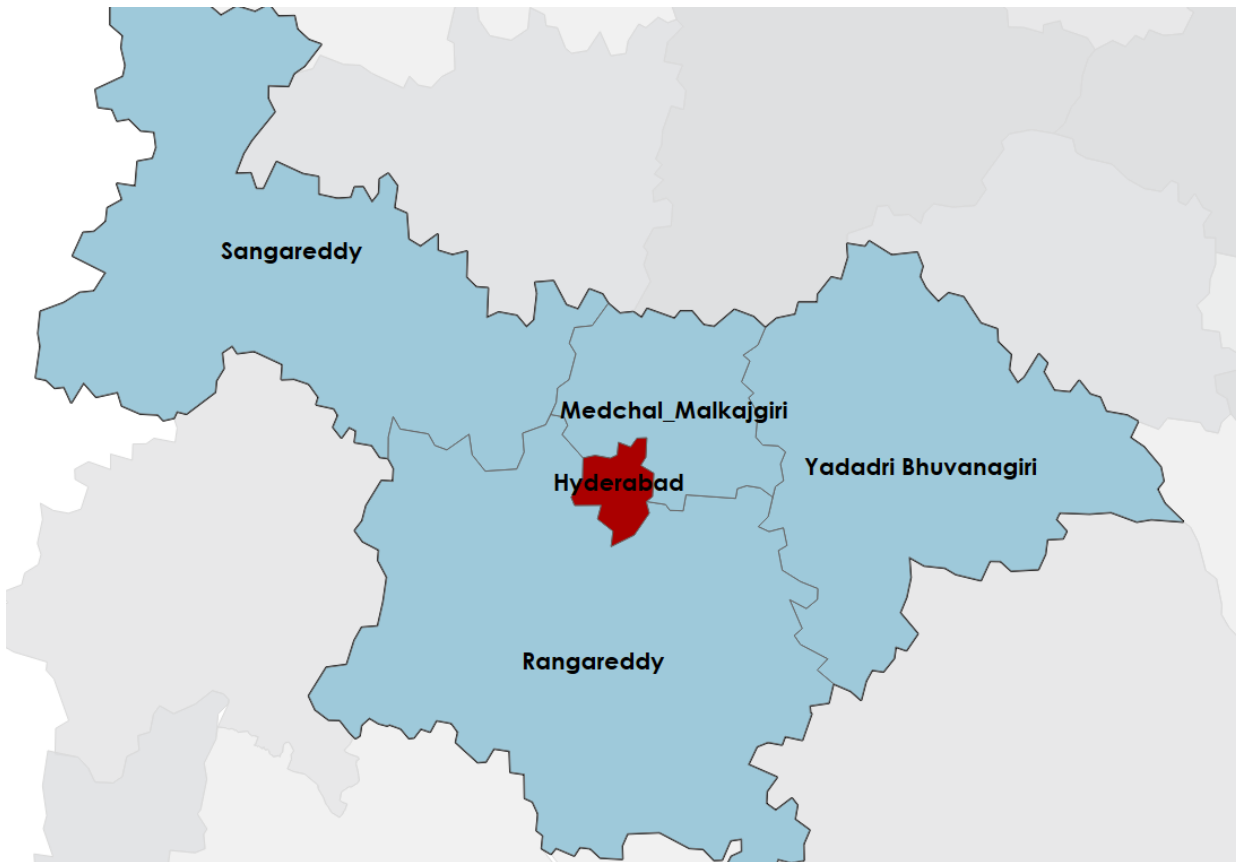
R&D Sector:

There is a noticeable trend where investments are consistently lower during the third quarter (October to December) compared to the rest of the year. Investment in R&D is notably higher in the other three quarters.

SECONDARY INSIGHTS



Top 5 districts to buy commercial properties in Telangana



Top 5 districts to buy commercial properties in Telangana



Hyderabad

Justification: Hyderabad, as the capital city of Telangana, is a prime location for commercial real estate. It has a strong economy, a well-developed infrastructure, and a growing IT and business sector. Areas like HITEC City, Gachibowli, and Banjara Hills are particularly popular for commercial investments.



Rangareddy

Justification: Known for industrial corridors, proximity to the international airport, growing commercial zones, and a significant recent investment of 28,970 crores in the real estate sector.



BITS Pilani
Hyderabad Campus



Medchal Malkajgiri

Justification: This District's is the second most populous and highly urbanized district after Hyderabad, marked by its rapid growth, proximity to educational and IT hubs, and strong connectivity, establishing it as an emerging commercial hub within the Hyderabad Metropolitan Region.



Sangareddy

Justification: This District, strategically positioned along National Highway 65 and boasting the second-highest investment of 12,367 crores in the region, offers immense potential for logistics and warehousing businesses while also maintaining a strong foothold in agriculture and the dairy industry.



Yadadri Bhuvanagiri

Justification: This district in Telangana offers strategic commercial opportunities due to its location on National Highway 163, proximity to Hyderabad, growth in industrial and manufacturing sectors, agriculture, education, healthcare, and government initiatives. Potential commercial ventures include manufacturing, agriculture-related businesses, real estate development, retail, and trade, but thorough market research and due diligence are essential for investors considering this district for commercial investments.

What significant policies or initiatives were put into effect to enhance economic growth, investments, and employment in Telangana by the current government? Can we quantify the impact of these policies using available data?

TS-iPASS: This flagship program has attracted significant investments and created employment opportunities. In the fiscal year 2021-22, TS-iPASS attracted INR 17,889 Crores of investment through 3,938 new industries and created employment for 95,982 people. Cumulatively, TS-iPASS has attracted investments of INR 2,32,311 Crores and created employment for 16.48 lakhs people

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Real Estate,Industrial Parks And It Buildings	22,150	42,216	1,81,520	3,31,795	2,46,982	98,958	214	6,436
Textiles	631	1,786	2,051	1,89,594	3,634	3,963	2,418	1,217
Pharmaceuticals And Chemicals	18,881	7,864	13,105	13,008	9,794	14,215	37,403	11,019
Food Processing	12,947	5,381	9,660	12,548	8,735	10,376	11,435	7,567
Engineering	4,618	5,547	12,452	11,315	12,108	8,148	12,106	8,528
Others	35,169	35,872	56,175	41,673	34,354	27,516	37,902	38,141
Total	94,396	98,666	2,74,963	5,99,933	3,15,607	1,63,176	1,01,478	72,908

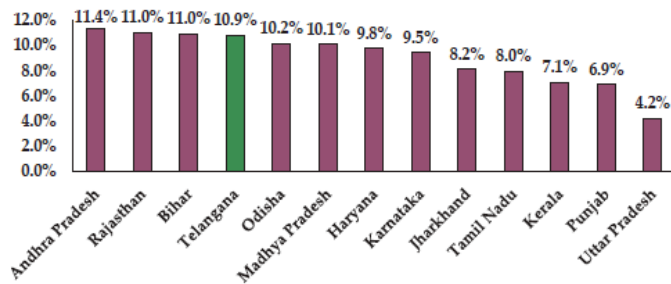
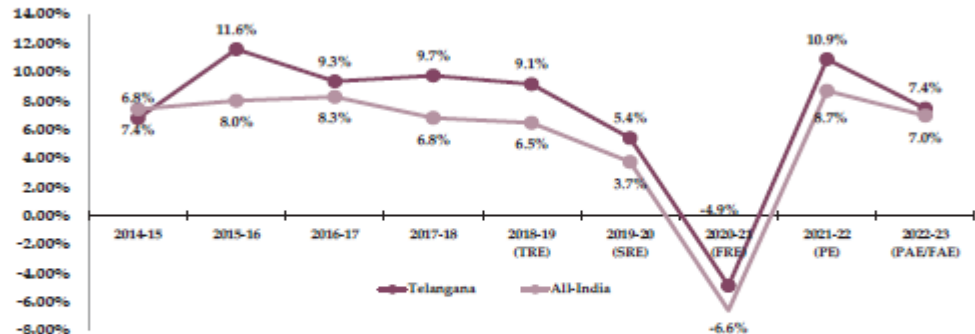
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Technology-Hub(T-HUB):

- T-Hub, established in 2015, is a key innovation intermediary and incubator in Hyderabad, dedicated to promoting entrepreneurship in Telangana.
- It has made significant contributions to innovation, entrepreneurship, and ecosystem development, surpassing over 55 other participating incubators in India.
- T-Hub's impact extends to supporting 2500+ startups, hosting 1000+ events, and creating more than 12,000 jobs in Telangana.
- The launch of T-Hub Phase 2 in June 2022 has further solidified its position as one of the world's largest innovation campuses, with a capacity to accommodate 4,000 startups.
- Telangana's innovation policies and startup incentives, coupled with T-Hub's efforts, have fostered the success of startups like "Darwin Box" and "Skyroot Aerospace," with the former joining the unicorn club and the latter developing India's first private rocket.

What significant policies or initiatives were put into effect to enhance economic growth, investments, and employment in Telangana by the current government? Can we quantify the impact of these policies using available data?

Growth Rate of Gross Domestic Product at Constant (2011-12) Prices for Telangana and India (2014-15 to 2022-23)



Year	2014-15	2015-16	2016-17	2017-18	2018-19 (TRE)	2019-20 (SRE)	2020-21 (FRE)	2021-22 (PE)	2022-23 (PAE/FAE)
Telangana's GSDP at constant prices (in Rs. lakh crore)	4.16	4.65	5.08	5.57	6.08	6.41	6.10	6.76	7.27
India's GDP at constant prices (in Rs. lakh crore)	105.28	113.69	123.08	131.45	139.93	145.16	135.58	147.36	157.60

Telangana's economic growth has come a long way since its formation. Initially, it started with a lower growth rate compared to the national average. However, the following year, it exceeded the national growth rate by 3.6 percentage points. Since 2015-16, Telangana's real growth rate has consistently outpaced the national average. In 2022-23, the gap between Telangana's GSDP growth rate and India's GDP growth rate was just 0.4 percentage points.

Provide top 5 Insights & 5 recommendations to Telangana government for sustained growth in the next 5 years based on your analysis.

Top Insights:

- **Leverage the Tech Ecosystem:** Telangana has a thriving tech ecosystem in Hyderabad. To sustain growth, the government should continue to promote technology innovation, support startups, and foster a favorable environment for tech companies. Investments in emerging tech fields like AI, blockchain, and biotechnology can further strengthen the state's technological edge.
- **Infrastructure Development:** Focusing on infrastructure development, especially in rural areas, can spur economic growth. Improved connectivity, modernized transportation, and enhanced logistics can attract industries and create jobs beyond urban centers.
- **Agriculture Diversification:** Encouraging diversification in agriculture, promoting agribusiness, and implementing efficient water management practices can boost agricultural productivity and income for farmers, leading to rural development.
- **Skilling and Education:** Invest in skill development and education to create a highly skilled and adaptable workforce. Align educational institutions with industry needs to address the skills gap and enhance employability.
- **Sustainable Practices:** Embrace sustainability in all sectors. Promote renewable energy adoption, sustainable agriculture, and eco-friendly manufacturing to ensure long-term environmental and economic sustainability.

Recommendations for Sustained Growth:

- **Leverage the Tech Ecosystem:** Invest in Innovation Hubs: Establish innovation hubs in different regions of the state to encourage entrepreneurship and innovation outside of Hyderabad. These hubs can focus on local strengths and attract diverse industries.
- **Ease of Doing Business:** Continuously improve the ease of doing business through simplified regulatory processes and transparent approvals. Implement digital solutions to streamline administrative procedures and reduce bureaucratic hurdles for businesses.
- **Agricultural Reforms:** Implement policies that encourage crop diversification, provide access to modern farming techniques, and create markets for high-value agricultural products. Promote farmer producer organizations and Agri-tech startups.
- **Skill Reskilling and Upskilling:** Develop a comprehensive skill development framework that aligns with emerging industry needs. Invest in vocational training and reskilling programs to ensure the workforce remains competitive in a rapidly evolving job market.
- **Smart Urban Planning:** Plan urban development with a focus on sustainability, efficient public transportation, and affordable housing. Encourage the development of satellite towns to decongest urban centers and distribute economic growth more evenly.

Thank you

