

RESEARCH ANALYSIS ON PPP PROJECTS IN INDIA



The better the question. The better the answer. The better the world works.



EY

Building a better
working world

AGENDA

1

Introduction

2

**Research on all
PPP Projects**

3

**Research on
Successful
Projects**

4

**Research on Non-
successful
Projects**

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**Conclusion &
References**

INTRODUCTION

PUBLIC - PRIVATE PARTNERSHIP PROJECTS

01 Overview

- A government-private sector contract for infrastructure/services, sharing risks/rewards.
- Long-term (05–30 yrs)
- Private sector funds, builds, operates
- Government oversees public goals

Examples:

- Metro Rail (Delhi, Hyderabad)
- Airports (Bangalore, Hyderabad)
- Roads (Golden Quadrilateral)

02 Why PPPs Are Needed

India's Infrastructure Needs

- Estimated requirement: \$1.4 trillion (₹115 lakh crore) by 2030 (Source: NITI Aayog)
- Government funding gap: ~₹30–40 lakh crore

Why PPPs Are Needed

- Bring private capital and technical expertise
- Deliver projects faster and more efficiently
- Reduce public sector debt burden

03 Legal and Institutional Framework

- **Department of Economic Affairs (DEA):** PPP Cell for central support
- **NITI Aayog:** Policy development and monitoring
- **State PPP Cells:** Planning and execution at state level

Key Policies:

- Viability Gap Funding (VGF) Scheme – up to 40% of capital cost
- India Infrastructure Project Development Fund (IIPDF)

Public-Private Partnership (PPP)

Public-Private Partnership (PPP) is a collaborative development model where government support meets private sector innovation and efficiency, creating sustainable, investor-friendly infrastructure. It ensures shared risks, faster execution, making it an ideal gateway to invest in.



Viability Gap Funding (VGF) – Department of Economic Affairs (DEA), GoI

- ▶ VGF is a capital grant to support economically essential but financially non-viable PPPs
- ▶ VGF up to 20% of project cost from GoI
- ▶ Additional 20% by State Governments
- ▶ Commonly used in highways, water supply, sewerage, solid waste management urban transport, etc.

Key Features

- ▶ Risk Sharing
- ▶ Innovation
- ▶ Financing
- ▶ Infrastructure Development



Benefits of PPP

- ▶ Land acquisition, policy support by government
- ▶ Stable Long-Term Revenue Streams
- ▶ PPP unlocks access to essential sectors
- ▶ Multilateral Support by DEA, GOI & agencies like ADB/World Bank

PPP Models

- ▶ BOT (Build-Operate-Transfer)
- ▶ BOOT (Build-Own-Operate-Transfer)
- ▶ DBFOT (Design-Build-Finance-Operate-Transfer)
- ▶ OMT (Operate-Maintain-Transfer)
- ▶ Hybrid Annuity Model (HAM)
- ▶ Lease/Concession



Eligible sectors

- ▶ Transport & Logistics Infrastructure
- ▶ Energy & Power
- ▶ Sewerage, solid waste management
- ▶ Telecom



RESEARCH ON ALL PPP PROJECTS

Total Projects Analysed- 2200+ projects*

Data Source: public datasets (available on web), <https://www.pppinindia.gov.in/>

Key Sectors: Transport, Ports & Logistics, Energy, Social Infrastructure, Telecom & IT

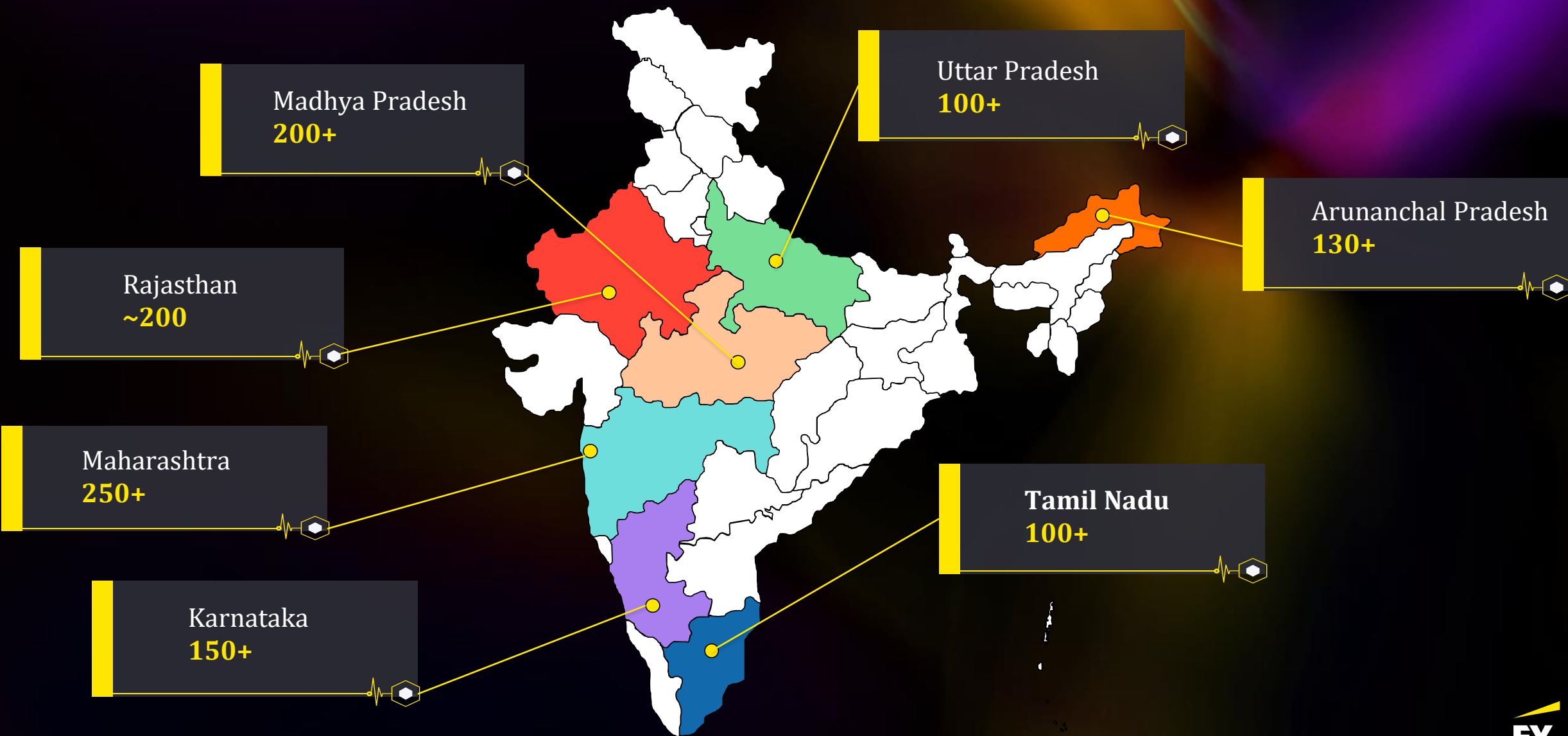
Insight: ~60% of projects are already operational.

Project Status Distribution



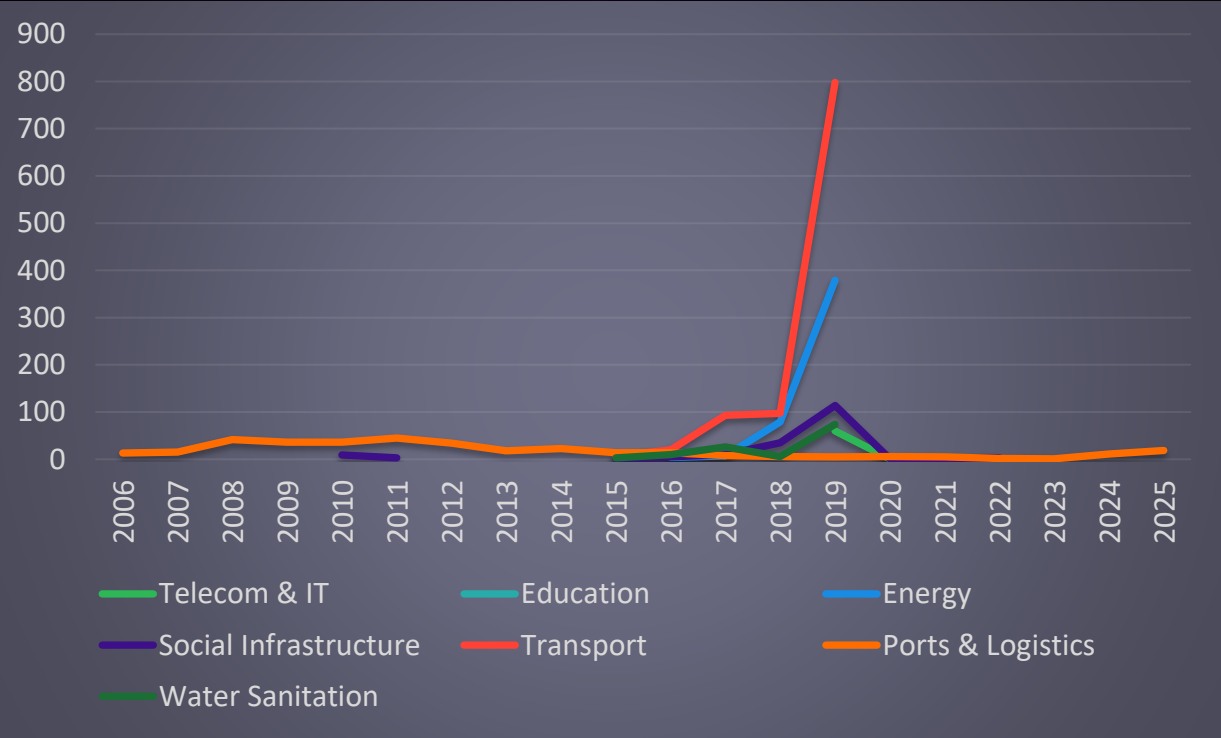
* Maximum data available till 2019 (Pre-covid)

STATES WITH MOST PPP PROJECTS



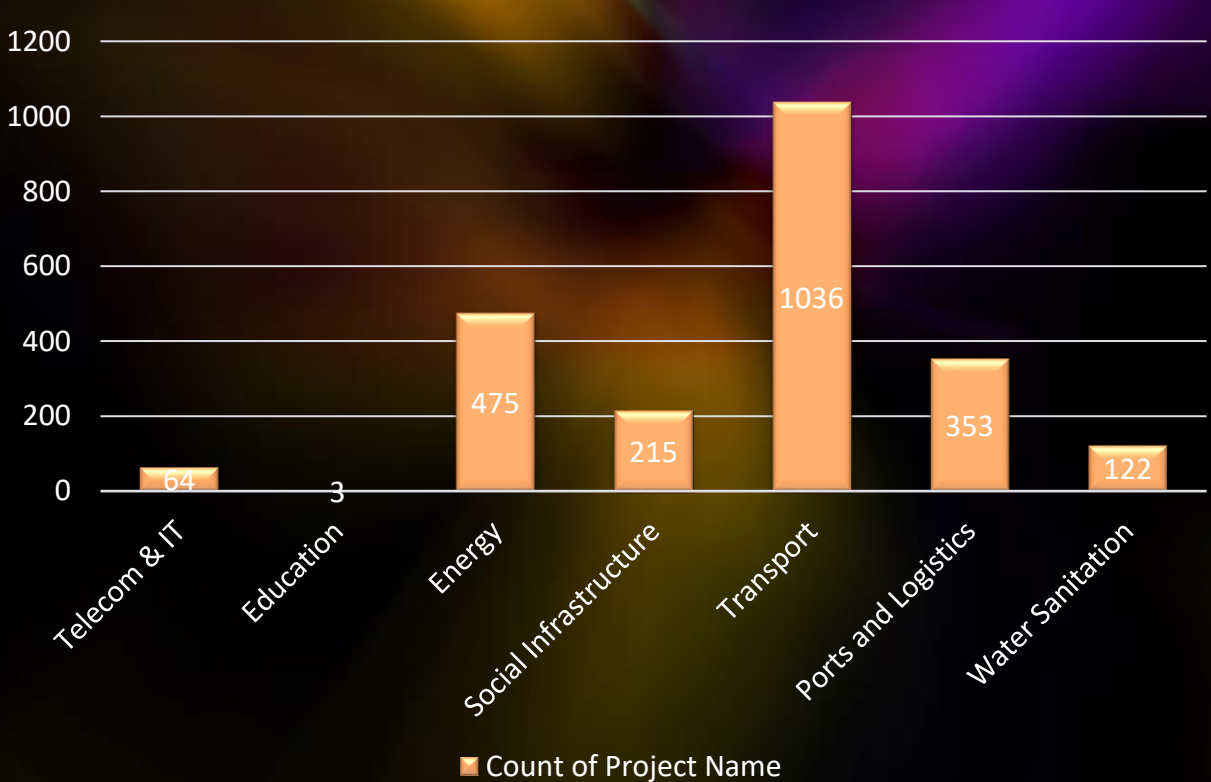
ANALYSIS OF ALL PPP PROJECTS

Per year project & sector trend



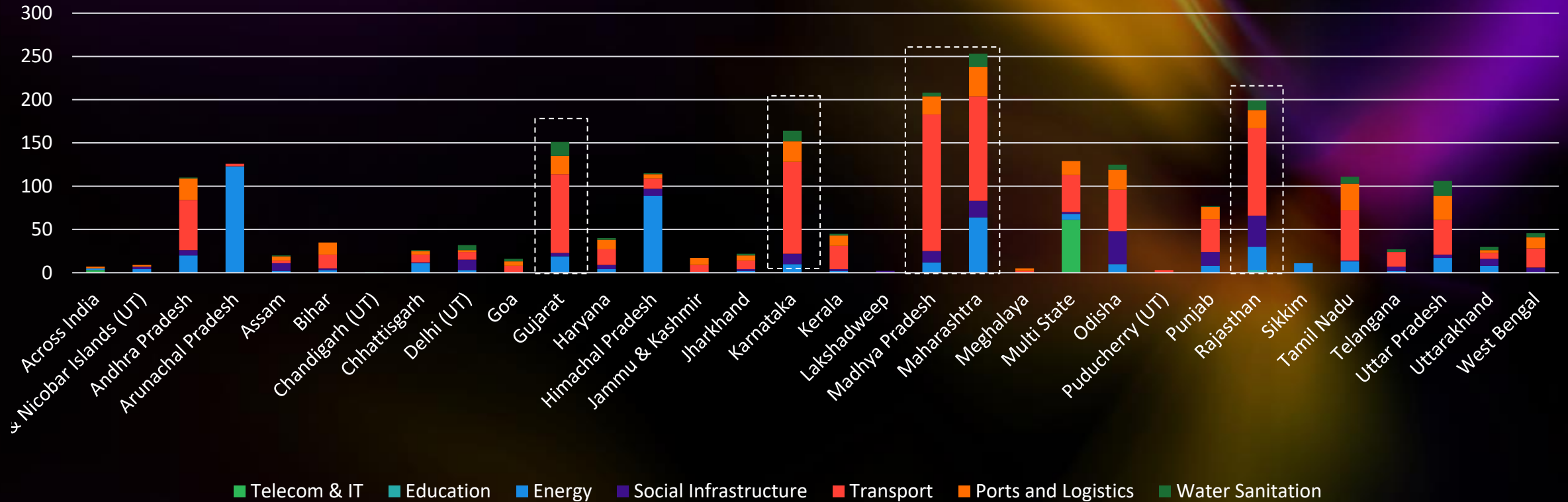
- A sharp rise in PPP projects around 2018-2019, mainly in the transport sectors (~798 projects), driven by government infrastructure initiatives
- A noticeable decline post-2020, indicating disruptions due to the COVID-19 pandemic, funding issues, or policy slowdowns

No. of projects per sector



- Transport leads with the highest number of PPP projects, showing strong focus on infrastructure
- A need for policy incentives and innovative financing models to attract private players in underdeveloped sectors like Water & Sanitation, Education, Telecom & IT for balanced and inclusive growth

No. of project and sectors with respect to state



- Top performing states are Maharashtra, Madhya Pradesh, Rajasthan, Karnataka, Gujarat especially in Transport and Ports & Logistics sectors
- States like Tamil Nadu, Andhra Pradesh, Uttar Pradesh show average participation across sectors including Energy, Water Sanitation, and Social Infrastructure
- Regions like Jammu & Kashmir, Goa, Arunachal Pradesh, Puducherry, Chandigarh show very low PPP activity.

RESEARCH ON SUCCESSFUL PPP PROJECTS

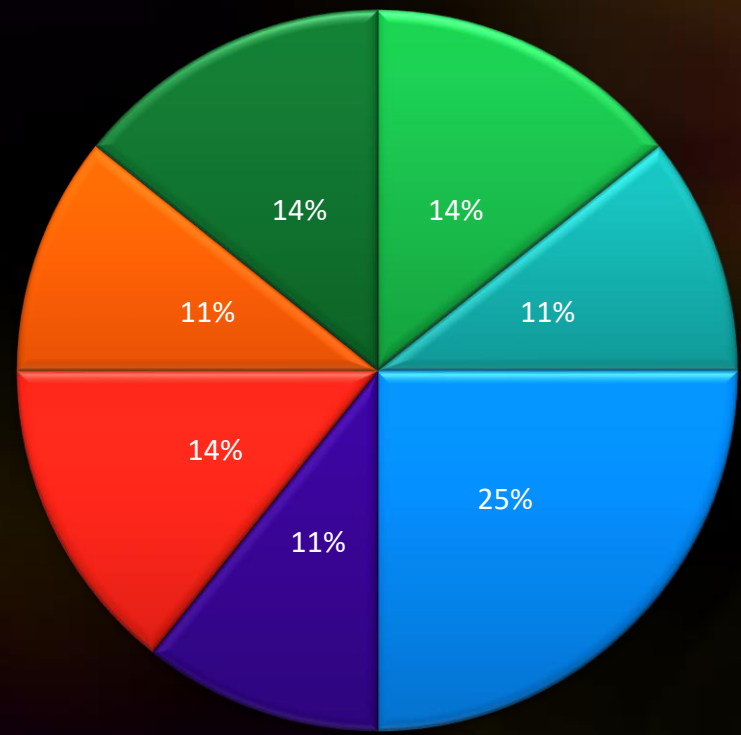
Overview

- Total Successful Projects: Took a sample of ~30 projects
- Most Used Models: BOOT, DBFOT
- Support Mechanisms: Viability Gap Funding (VGF)
- Geographic Spread: Pan-India with state-specific projects
- Total Investment: Over ₹350,000 crore (estimated from available data)

Examples:

- Hyderabad Metro Rail (HMR), **Completion date:** November 29, 2017 (Phase I fully inaugurated), **Private Partner:** L&T Metro Rail (Hyderabad), DBFOT Model

Sector Distribution



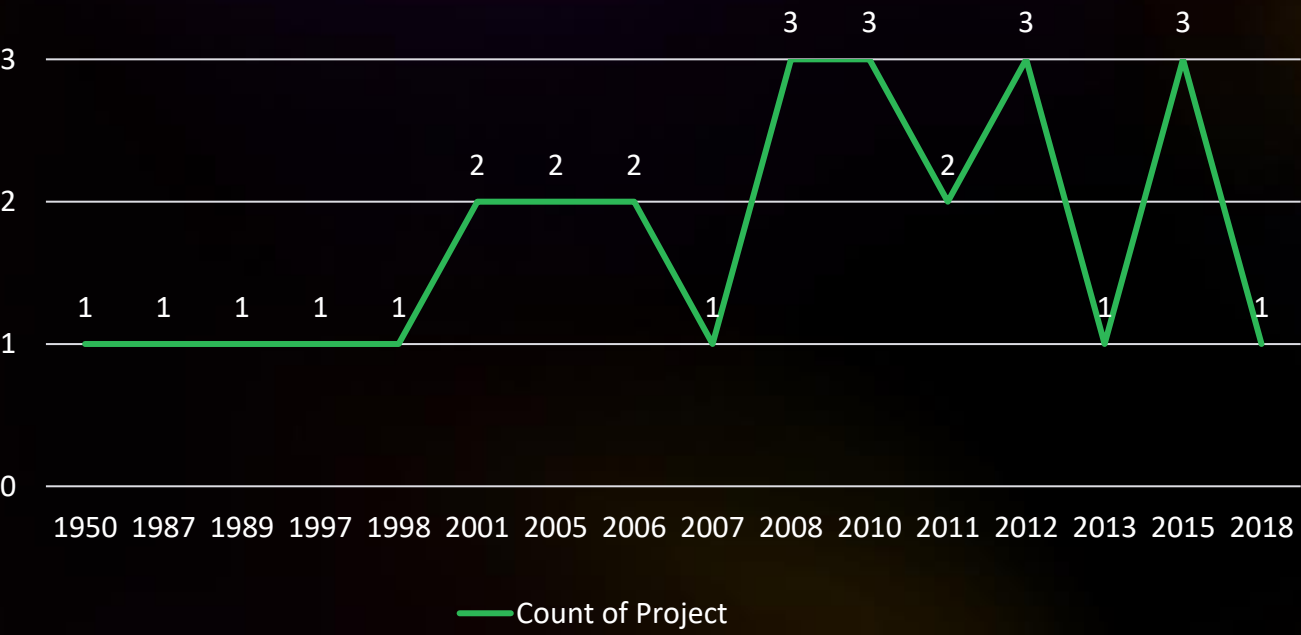
- Airports
- Infrastructure & Transport
- Social Infrastructure
- Water & Sanitation
- Energy
- Ports & Logistics
- Telecom & IT

Key Success Factors

- 1 Government support (funding and policies)
- 2 Strong private sector involvement
- 3 Viability support (VGF) and clear contract structures
- 4 Operational Excellence
- 5 Robust planning and early land acquisition

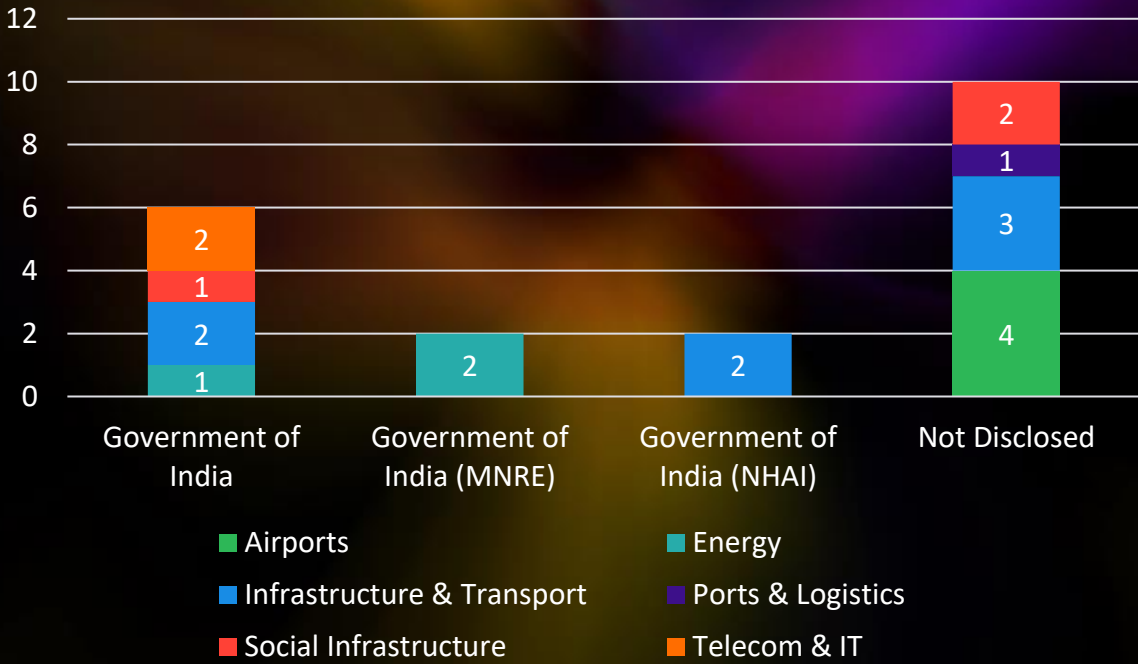
ANALYSIS OF SUCCESSFUL PPP PROJECTS

Year wise trend of successful projects



- PPP project activity notably increased its success after 2000, peaking around the mid-2000s
- Consistent fluctuations suggest the need for stable, long-term PPP policy frameworks to sustain momentum

VGF provider (GOI) to sectors



- GOI mostly has provided VGF to sectors Infrastructure & Transport and telecom & IT, which reflects prioritization of sectors that directly impact socio-economic development, connectivity, and digital inclusion
- Non disclosure of VGF providers has led to the lack of transparency

RESEARCH ON NON-SUCCESSFUL PPP PROJECTS

Overview

Total Non-successful projects: Sampled ~30 projects

Examples:

Delhi-Mumbai Industrial Corridor – ₹1,00,000 Cr
– Delayed

Mumbai Trans Harbour Link (PPP) – Cancelled –
Financial unviability

Chennai-Bangalore Expressway – Stalled – Land
acquisition issues

Sector Distribution

- **Infrastructure & Transport:** 4 projects (13%)
- **Airports:** 5 projects (16%)
- **Social Infrastructure:** 8 projects (26%)
- **Energy:** 5 projects (16%)
- **Ports & Logistics:** 4 projects (13%)
- **Telecom & IT:** 5 projects (16%)

**Initiation of PPP
Projects**



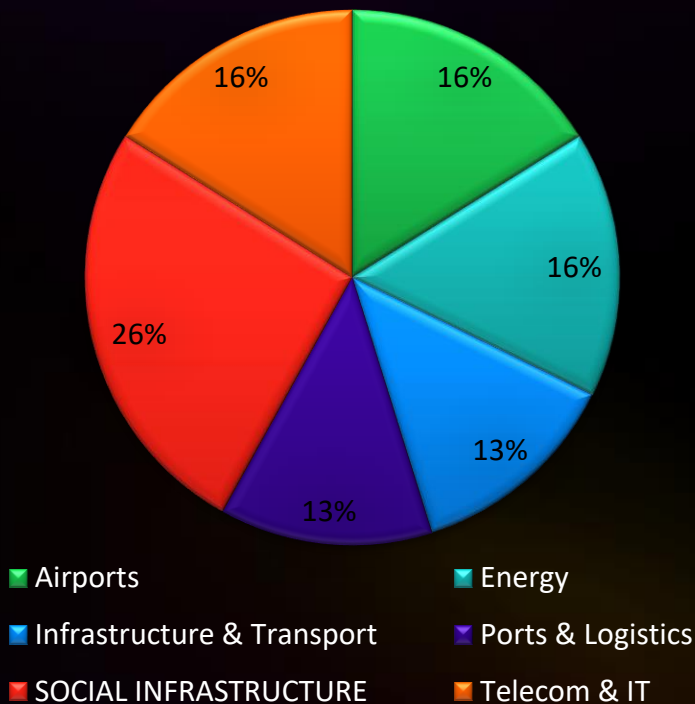
**Regulatory delays,
legal issues, poor
financial structuring**



**Non-successful PPP
Projects**

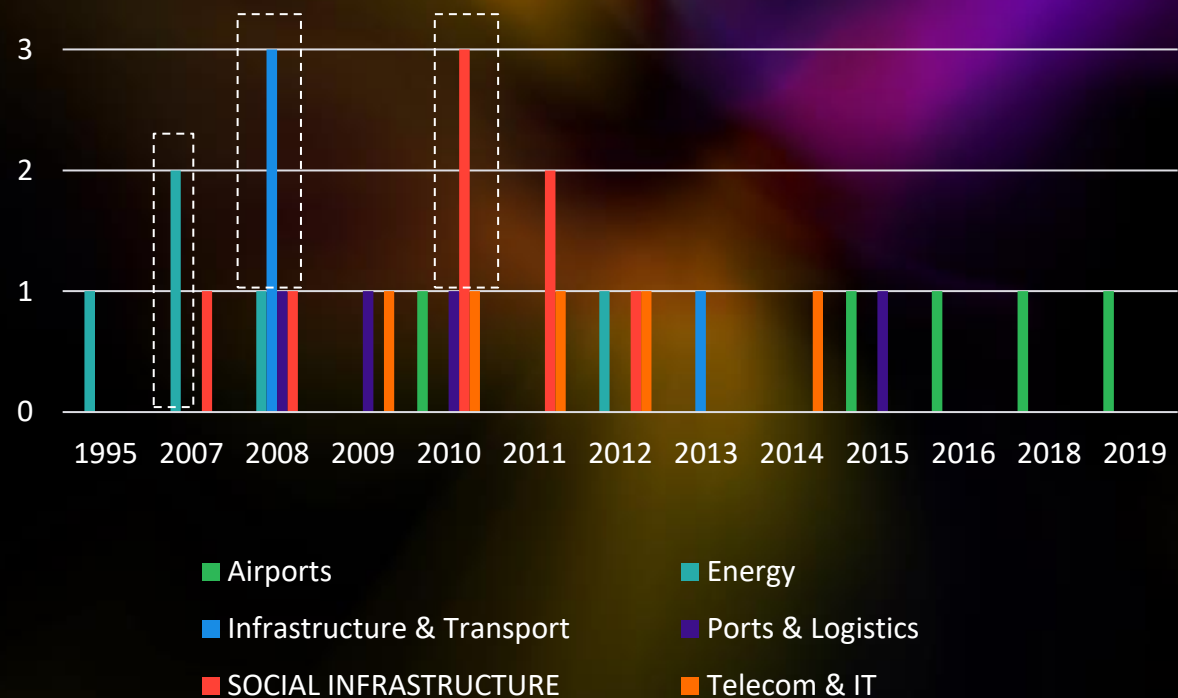
ANALYSIS OF NON-SUCCESSFUL PPP PROJECTS

Non-Successful projects in each sector



- Almost every sector faced non-successful PPP Projects with social Infrastructure projects like healthcare, urban development projects being the most unsuccessful
- The projects can boost success through skilled public sector management, tech-based monitoring, and investor-friendly policies

Year wise trend of non-successful projects



- Most non-successful projects were between 2005 and 2012
- Social Infrastructure and Infrastructure & Transport show the highest unsuccessful spikes, likely due to land or policy issues.

MAJOR REASONS FOR NON-SUCCESSFUL PPP PROJECTS

1

Land Acquisition Issues

32%

2

Financial distress

13%

3

Regulatory delays

16%

4

Environmental Issues

9%

5

Political or Legal Disputes

10%

6

Contractor/Execution Issues

9%

7

Low Private Interest

6%

8

Fraud Claims

3%

INDIA INFRASTRUCTURE GRID (IIG)

1

Roads/Highways dominate in both volume and investment

2

PPP pipeline heavily tilted toward road infrastructure

3

Tourism has a similar opportunity count to Waste & Water, its total invested value (~₹0.37 lakh crore) is much smaller than Waste & Water's ₹3.18 lakh crore.

4

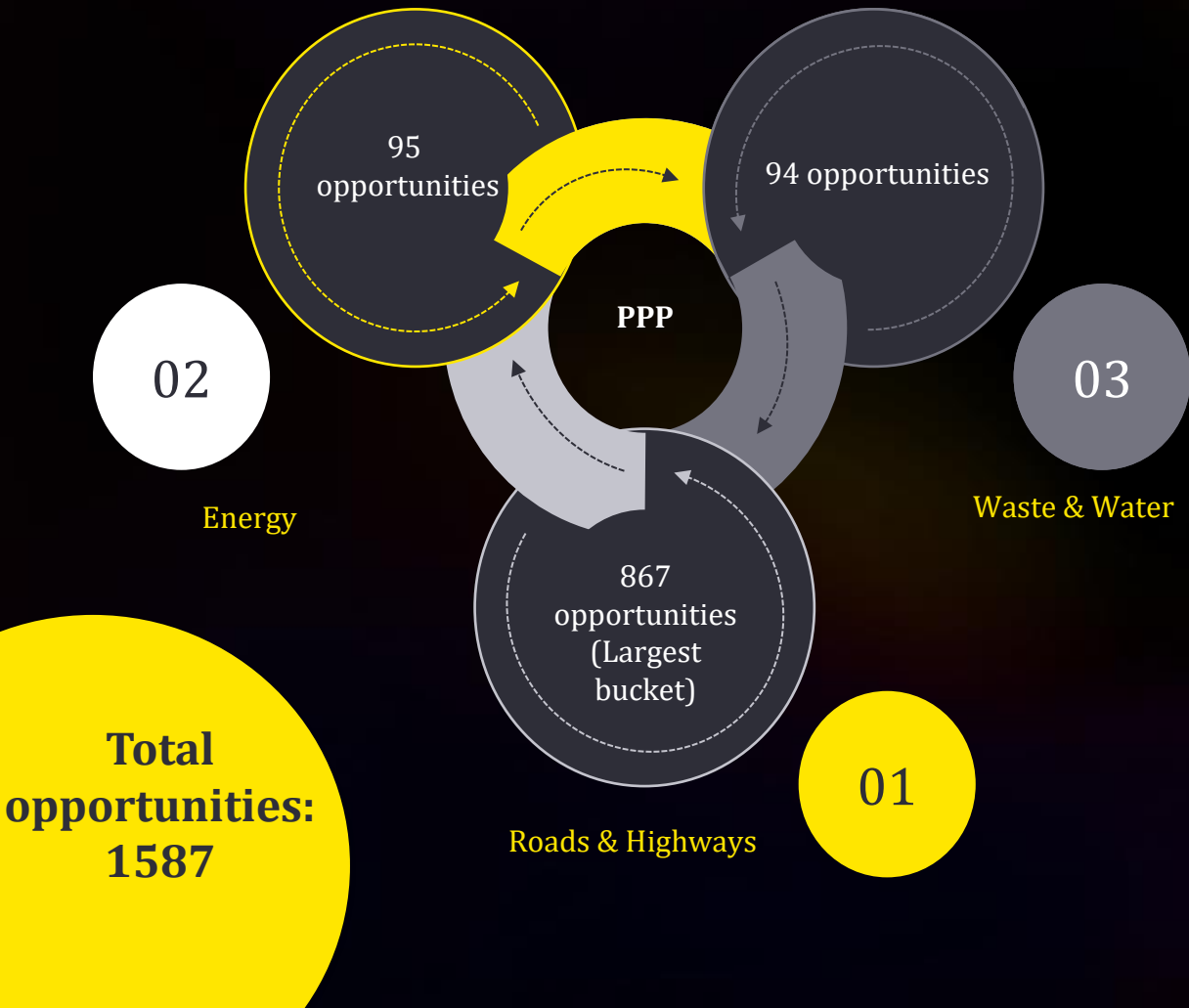
Over half of the pipeline is still in development

5

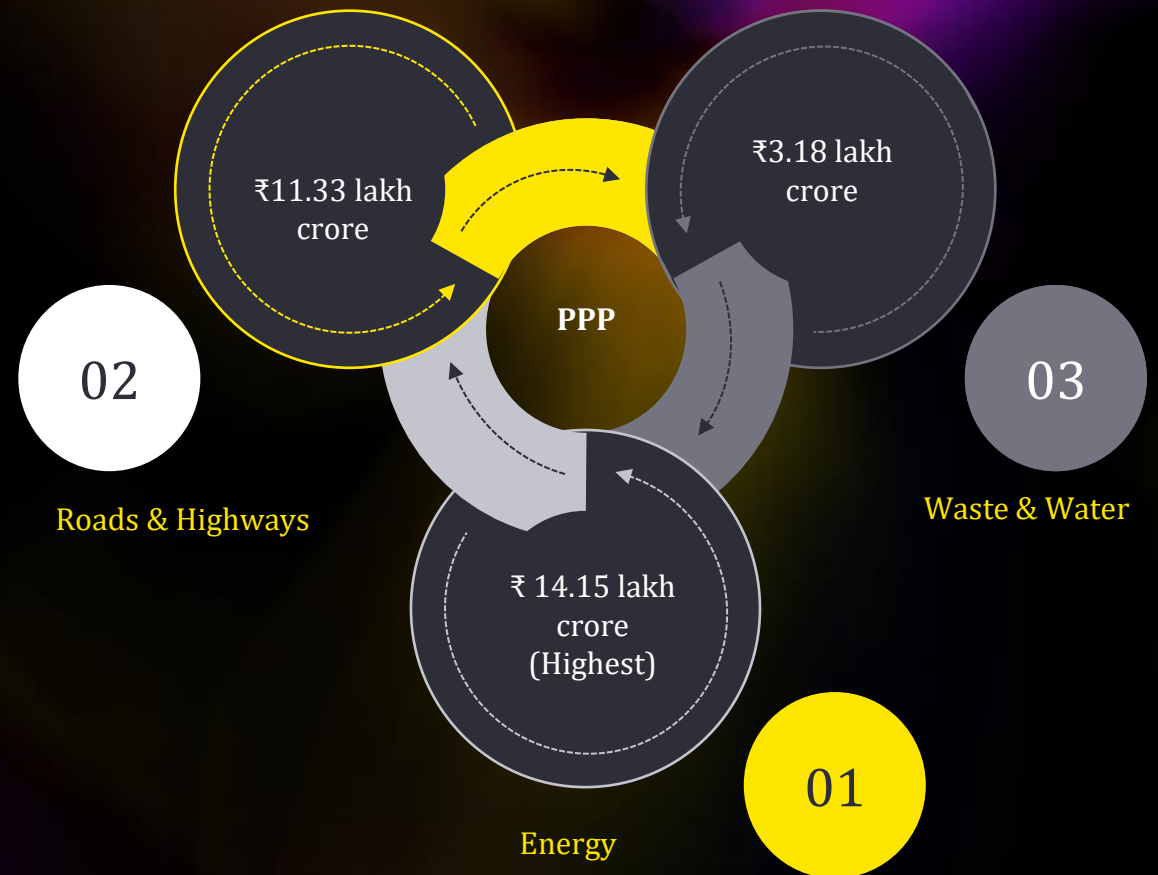
DBFOT is the most common procurement model

INDIA INFRASTRUCTURE GRID (IIG)

Sectoral Distribution by Opportunity Count



Largest Sectors by Financial Size



TOP 15 SECTORS OF IIG

Roads & highway

Projects :- 867
Total amount :-11.33 lac cr

Energy

Projects :- 95
Total amount :-14.28 lac cr

Inland Waterways

Projects :- 48
Total amount :- 0.18 lac cr

Shipping

Projects :- 37
Total amount :- 0.64 lac cr

Food Processing & Agriculture

Projects :- 31
Total amount :- 0.16 lac cr

Waste & Water

Projects :- 94
Total amount :-3.18 lac cr

Real Estate

Projects :- 57
Total amount :- 1.52 lac cr

Railways

Projects :- 40
Total amount :-1.27 lac cr

Education

Projects :- 34
Total amount :-0.061 lac cr

Urban Public Transport

Projects :- 31
Total amount :-0.84 lac cr

Tourism, Hospitality & Wellness

Projects :- 86
Total amount :- 0.37 lac cr

Healthcare

Projects :- 54
Total amount :-0.11 lac cr

Sports

Projects :- 32
Total amount :-0.062 lac cr

Logistics Infrastructure

Projects :- 18
Total amount :-0.31 lac cr

UTTAR PRADESH: OVERVIEW

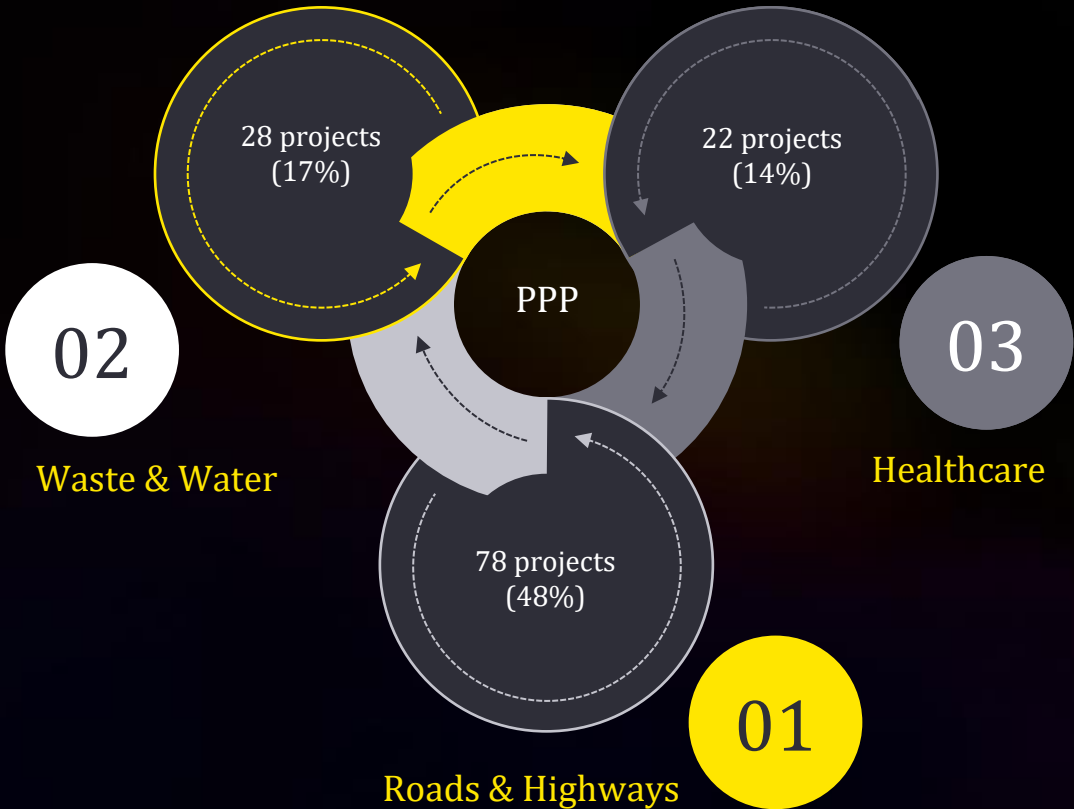
1
Total PPP Projects: 161

2
Aggregate Project Cost:
₹244,593.22 Cr

3
Funding Mix

- Central: ₹161,161.03 Cr	- State: ₹27,687.62 Cr
- Debt: ₹40,678.05 Cr	- VGF: ₹8,612.00 Cr

Major Sectors in Uttar Pradesh

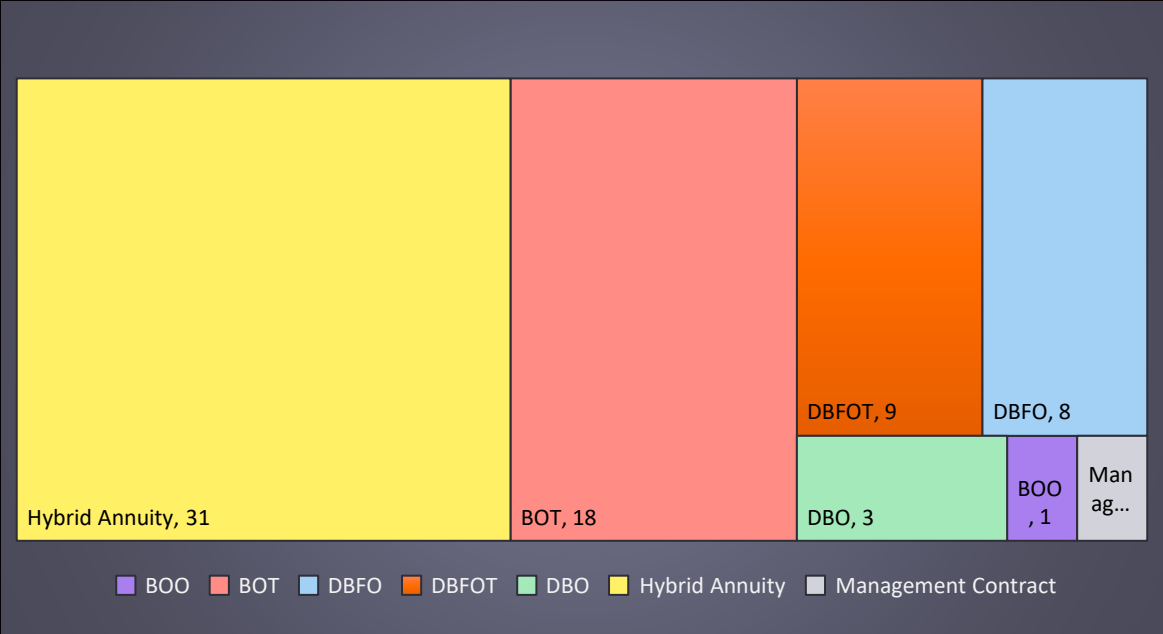


Roads & Highways Sector

- Dominates with 48% of total projects
- Highest cumulative cost: ₹171,304 Cr

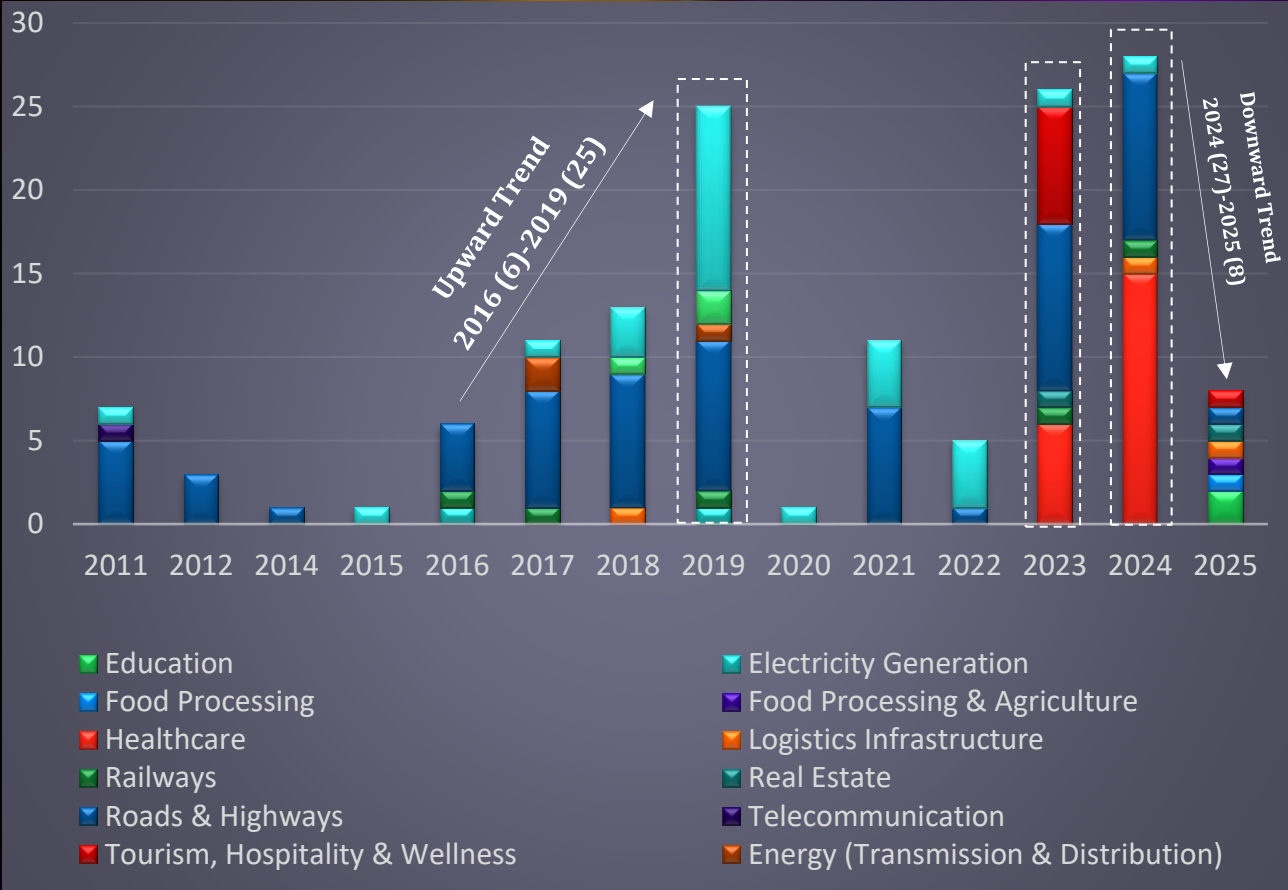
ANALYSIS OF UP PROJECTS (IIG)

Most Used Models



- Hybrid Annuity and BOT dominate the PPP landscape, reflecting a strong preference for balanced risk-sharing models that offer stable returns and reduce private sector exposure.
- Limited use of fully private models (BOO, Management Contract) indicates that the government prefers to retain ownership/control while leveraging private expertise for efficiency and operations.

No. of projects sector wise year trend



- PPP projects surged after 2016, peaking in 2019, 2023, and 2024
- Shift towards sectors like Healthcare, Power, and Transport.

ANALYSIS OF UP PROJECTS (IIG)

Funding Trends

1
Central funding > State support every year

3
Debt vs. Total Cost correlation: $r \approx 0.85$

2
Central funding doubled from ~₹20K Cr (2018) to ~₹40K Cr (2023)

4
Indicates high reliance on debt for large projects

Key Takeaways

1
Strong central support driving PPP growth

2
Roads & Highways key focus area

3
Debt plays a crucial role in financing

4
Need to monitor and address stalled projects

CONCLUSIONS

Public-Private Partnerships (PPPs) have emerged as a vital model for bridging the infrastructure gap in India, enabling faster project execution and better service delivery through shared responsibilities

The **success stories** like **Delhi Metro**, **Hyderabad Metro**, and **Yamuna Expressway** demonstrate that with **strong institutional support, clear policy frameworks**, and coordinated stakeholder efforts, PPPs can deliver world-class infrastructure within deadlines

However, the non-successful projects remind us that **poor planning, land acquisition issues**, delayed clearances, and **financial uncertainties** can derail even the most ambitious projects

A key takeaway is that PPPs are not a one-size-fits-all solution. Their success depends on **choosing the right model** for the right sector, having **well-defined contracts**, and maintaining a transparent risk-sharing mechanism

Clear regulatory frameworks and land availability for infrastructure development are critical. Some measures to prevent failure of such projects can be conducting **detailed feasibility studies**, **strong collaboration** between **government bodies**, local authorities, and **private investors**, structuring fair viability gap funding (**VGF**), **subsidies**, and revenue sharing is essential

Focus
Sectors

Transport Sector

Infrastructure Sector

Tourism Sector

Energy Sector

THANKS

