

CBRE RESEARCH | 2018

PowerHouse Karnataka

THE HARBINGER OF
INDIA'S ECONOMIC REVOLUTION





Karnataka, the seat of the historic Vijayanagara empire, is among the fastest-growing states of India and contributes significantly to the country's economic and social progression. The state's investor-friendly environment and enabling policies have attracted significant private investment, which has helped in positioning the state as an investment destination on the world map. Many reform initiatives have been introduced to make Karnataka a competitive and attractive destination for global investments. The state has worked towards easing administrative procedures; created supporting infrastructure, sector-specific industrial zones and SEZs; and provided incentives to specific industries while promoting skill development to enhance talent availability.

CONTENTS

04

UNDERSTANDING
KARNATAKA'S
ECONOMIC
DYNAMICS

10

PHYSICAL
INFRASTRUCTURE IN
KARNATAKA:
A SNAPSHOT

18

REAL ESTATE
INITIATIVES BY THE
STATE

27

OUTLOOK:
WHAT'S NEXT FOR
KARNATAKA?

KARNATAKA : A Pioneer in Development

EASE OF DOING BUSINESS 2017-18

Karnataka ranks **8th** across India with a score of **96.42%** better than Maharashtra and Tamil Nadu⁵

₹ **928,400 Cr**

Gross State Domestic Product (GSDP) of Karnataka in 2017¹

₹ **7.3%**

Contribution to the country's GDP in 2017¹

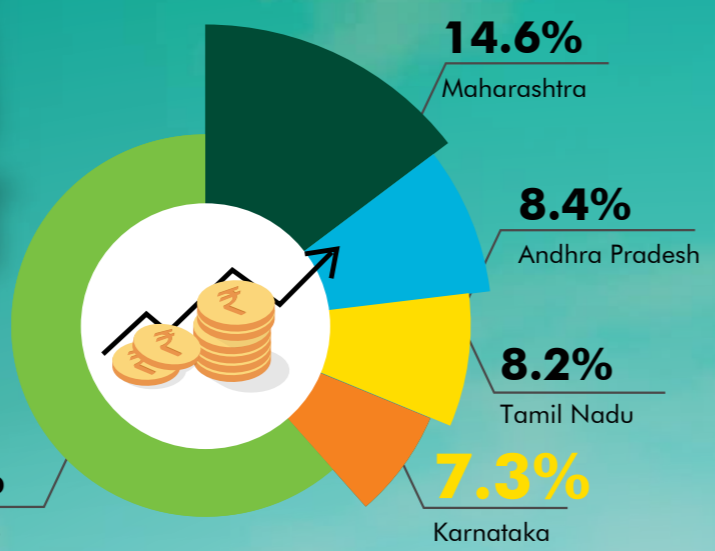
₹ **6.3%**

CAGR between 2011-17, the highest among southern states¹

₹ **68%**

Contribution of tertiary sector to Karnataka GDP as compared to an average 52% in other states¹

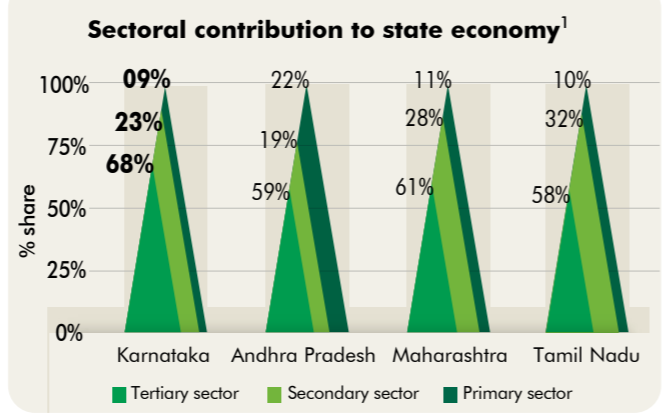
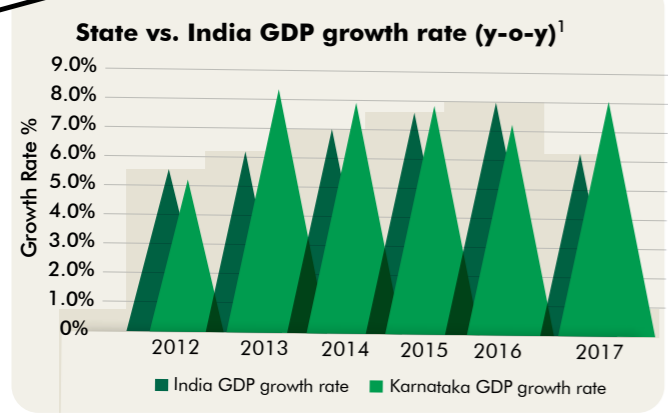
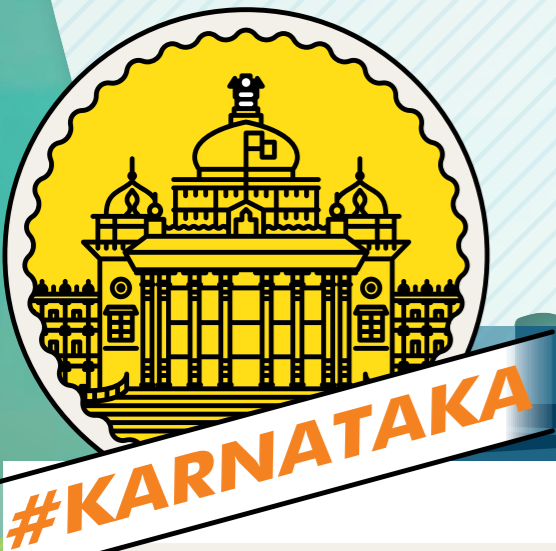
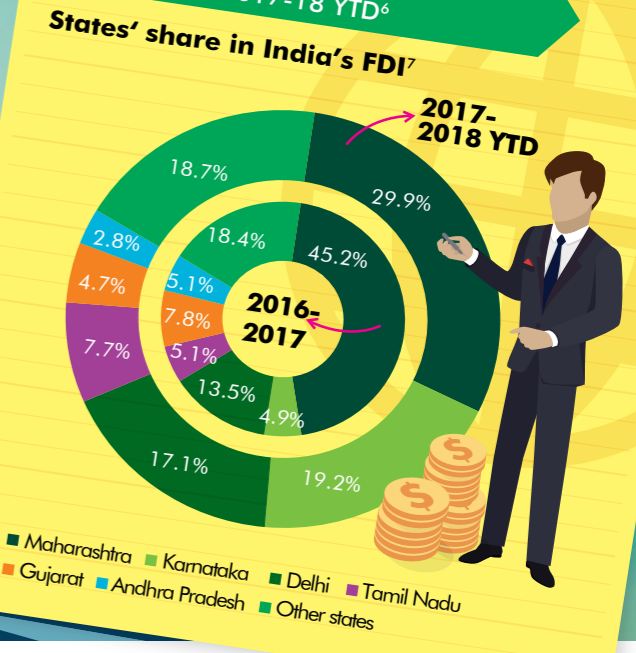
States' share in India's GDP in 2017¹



In 2017, Karnataka's per capita income² was **46% higher than the national average**, second³ only to Maharashtra

Share of Karnataka in the country's overall exports rose from **19% in 2016-17 to 30% in 2017-18** to touch almost **INR 255,000 Cr.**⁴

In 2017-18 YTD, the state's FDI was second highest in the country after Maharashtra⁷
Accounting for 19% of the country's FDI, the state's investments almost quadrupled in 2017-18 YTD⁶



TECH HUB OF THE COUNTRY⁸

IT BEHEMOTH

Present status (2017-18)	By 2020
<ul style="list-style-type: none"> Largest software exporter in India 80% of Fortune 500 companies have their outsourcing operations in Karnataka 	<ul style="list-style-type: none"> State expected to be the largest IT cluster globally by 2020; employment to touch almost 2 mn Bengaluru houses 30% of India's start-ups; state aims 20,000 by 2020

INDUSTRIAL STRONGHOLD

- Present status (2017-18)**
- 4th largest automobile producing state
 - Contributes 65% to aerospace exports from the country
 - Hosts almost 61% of the country's total bio technology units
 - Country's second highest producer of special purpose machinery and heavy electrical machinery

1. Calculated basis data from Oxford Economics
4. Economic Survey of Karnataka, 2017-18
7. <http://dipp.nic.in/publications/fdi-statistics>

2. Calculated basis data from Oxford Economics
5. <http://eoddb.gov.in/>
8. Economic Survey of Karnataka, 2017-18

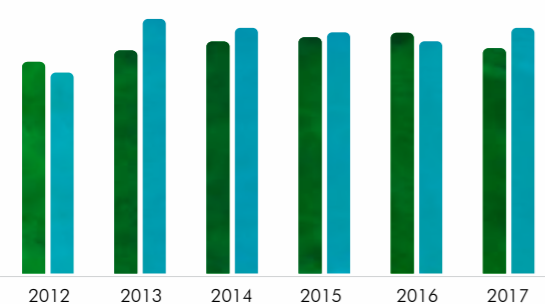
3. Compared versus Andhra Pradesh, Maharashtra, Tamil Nadu
6. 2016-17 compared to 2017-18 (Apr - Sept)

This report was prepared by the CBRE India Research Team, which forms part of CBRE Research – a network of preminent researchers who collaborate to provide real estate market research and econometric forecasting to real estate investors and occupiers around the globe.
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UNDERSTANDING KARNATAKA'S ECONOMIC DYNAMICS

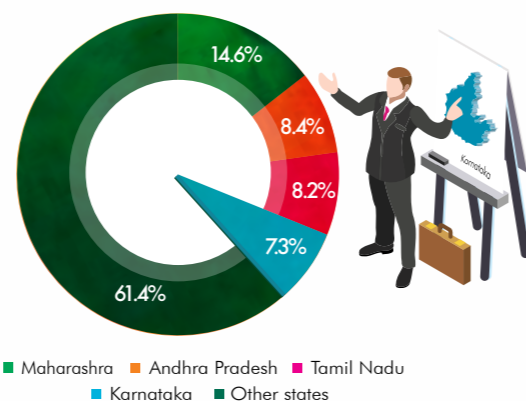
Karnataka, India's seventh largest state in terms of geographical area, accounts for about 5% of the country's population. It is the country's seventh most urbanized state, with almost 40% of the population living in urban areas¹.

State vs. India GDP growth rate (y-o-y)



Source: Oxford Economics, CBRE Research, Q3 2018.

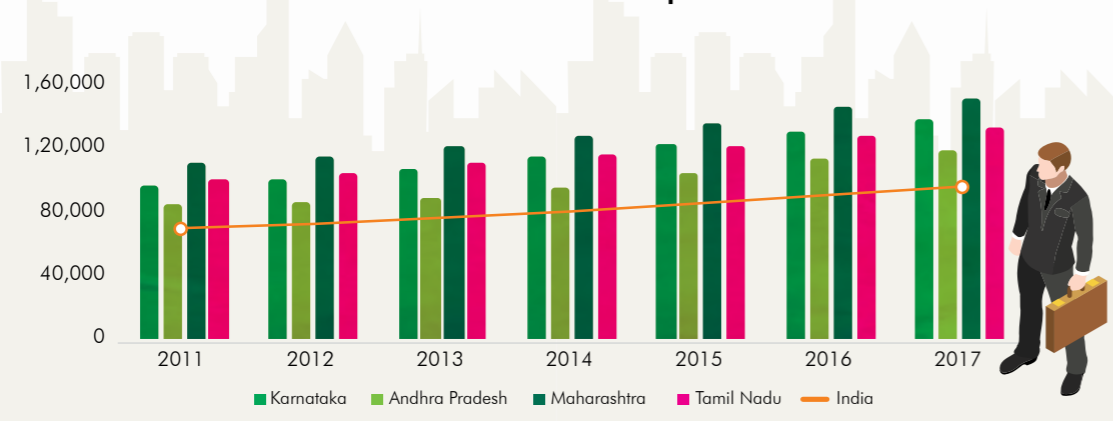
States' share in India's GDP in 2017



Source: Oxford Economics, CBRE Research, Q3 2018.

The state contributed 7.3% (about INR 928,400 crore) to the country's GDP in 2017. Moreover, in 2017, Karnataka's per capita income was 46% higher than the national average, second only to Maharashtra. Strong growth across key sectors such as IT/ITeS, automobile, aerospace, biotechnology, services and manufacturing resulted in the state's per capita income increasing by a CAGR of about 5.4% during 2011-2017². This growth was relatively higher than the country's CAGR average (4.7%) as well as of other large states such as Maharashtra (4.6%), Andhra Pradesh (5.1%) and Tamil Nadu (4.1%).

Growth in Karnataka's Per Capita Income



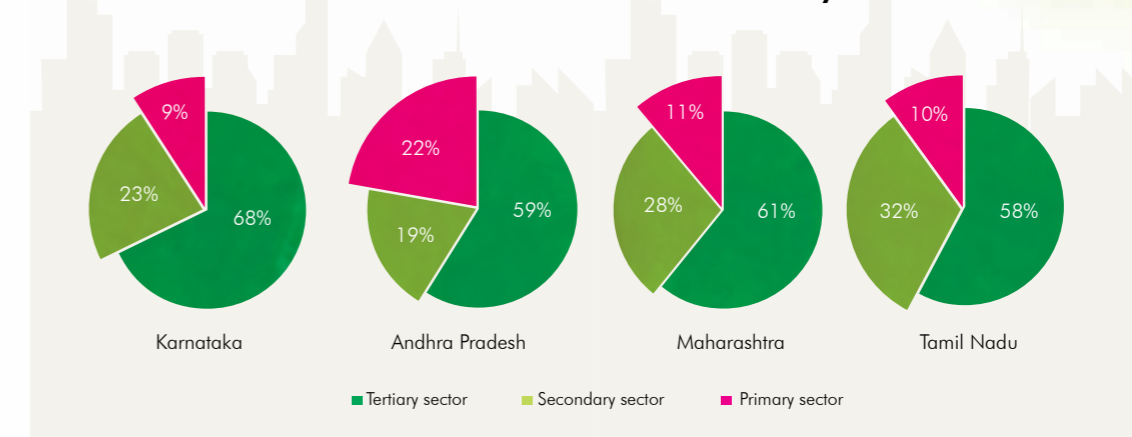
Source: Calculated basis data from Oxford Economics, CBRE Research, Q3 2018.

1. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018.
2. Calculated basis data from Oxford Economics, CBRE Research, Q3 2018.

What is driving Karnataka's economy?

The state's progression can be attributed to the tertiary sector, which contributed almost 68% to its GSDP, followed by the secondary sector (about 23%). Given the potential of the state, its GSDP is estimated to grow at a CAGR of almost 6% by 2022³.

Sectoral contribution to state economy



Source: Calculated basis data from Oxford Economics, CBRE Research, Q3 2018.

Karnataka's Ecosystem Advantage – Talent, Innovation Culture and Infrastructure⁴

As the horizons of India's technology sector expand, Bengaluru has emerged as a dominant growth frontier, offering a new growth paradigm to the country's new economic sectors such as information technology, biotechnology, pharmaceuticals, manufacturing and other services sectors. In the past two decades, Bengaluru has transformed from being a "Pensioners' Paradise" to India's "Silicon Valley" and has become the hub of research and innovation.

Talent

- Bengaluru was ranked first on the 'Best place to live and work' list by Mercer
- 100,000 skilled engineers and Ph.D. holders graduate in the city annually

Innovation culture

- Bengaluru was ranked second on the Global Startup Ecosystem Growth Index by 'Compass'

Infrastructure

- Largest software exporter in India
- 80% of Fortune 500 companies have their outsourcing operations in Karnataka
- 50% of world's CMM⁵ level 5-certified companies

In recent years, other cities of Karnataka have also seen growth in technology (and related sectors), with the state now home to over 3,500 tech companies. Additionally, Karnataka was the first state to roll out a full-fledged multi-sector start-up policy in the country. The policy aims to set up 20,000 technology start-ups in the state by 2020⁶.

3. Oxford Economics
4. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018
5. Capability Maturity Model
6. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018

Key Sectors Powering the State⁷



IT/ITES

- Karnataka is the largest software exporter in India
- Expected to be the largest IT cluster globally by 2020, employing around 2 million people
- 80% (400) of Fortune 500 companies have their outsourcing operations in Karnataka
- Aims to set up 20,000 technology start-ups by 2020
- 30% of India's start-ups are from Bengaluru



AUTOMOBILE AND AUTO COMPONENTS

- Home to 7 major OEMs and 50+ auto component manufacturers
- 4th largest automobile manufacturing state in India
- Accounts for 8.5% of the national automobile production
- More than 14 million registered vehicles in the state



AEROSPACE AND DEFENCE

- State produces a quarter of India's aircraft and spacecraft
- Accounts for 65% of the country's aerospace exports
- Belgaum is India's first operational aerospace SEZ
- Home to the Indian Space Research Organization (ISRO)



BIOTECHNOLOGY

- Bengaluru is India's top biotech hub, with a revenue of USD 1.18 bn (2013-14)
- The Bengaluru Bio Innovation Centre has 25 fully furnished labs to promote innovation-driven R&D start-ups
- Hosts more than 60% of the country's total biotechnology units
- Karnataka accounts for one-third of the country's biotech exports
- Karnataka has the highest biotech R&D expenditure in south India (third in the country)



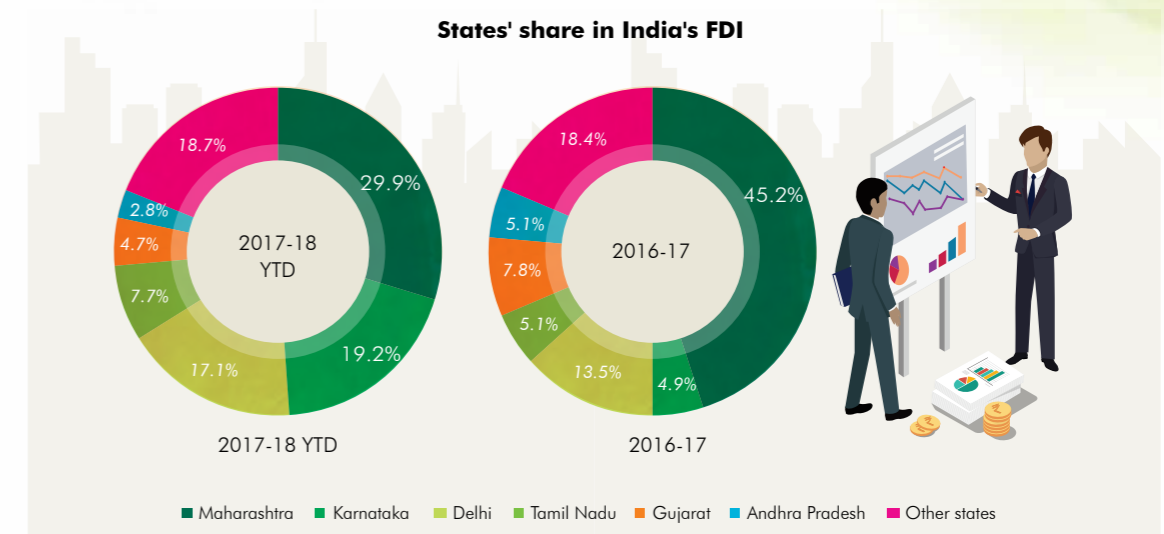
HEAVY ENGINEERING AND MACHINE TOOLS

- Country's second largest producer of special purpose machinery and heavy electrical machinery
- Leading state in the machine tools industry; Bengaluru alone produces 60% (in terms of value) of the machine tools in the country

7. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018.

Leading Investment Destination of the Country

The state was the first to enact the Industrial Facilitation Act to help investors⁸. In 2017-18 YTD, Karnataka accounted for 19.2% of the total FDI inflows into India – second only to Maharashtra. As a result, the state's investments have almost quadrupled in 2017-18 YTD, as compared with 2016-17⁹.



Source: Department of Industrial Policy and Promotion, CBRE Research, Q3 2018.

Karnataka ranked first in software/service exports and stood fourth in merchandise exports in the national export basket. Fueled primarily by the software / service sector, the share of Karnataka in the country's overall exports rose from 19% in 2016-17 to 30% in 2017-18 YTD (almost INR 255,000 crore¹⁰).

Karnataka: A State-wise Perspective

Karnataka has performed exceedingly well on a number of indicators for the overall progress of the state. Mentioned below are a few parameters on which Karnataka has performed exceedingly well.

On the State Innovation Index 2017, Karnataka was among the top five most innovative economies amongst the middle-income states in India. The index considered industry presence as well as incidence of institutes of higher education, economic and social indicators and a linkage between innovation potential and manufacturing / services sector of the state as parameters.

	Karnataka	Mizoram	West Bengal	Punjab	Andhra Pradesh
STATE INNOVATION INDEX 2017					
RANK	#1	#2	#3	#4	#5
INDEX	35.07	30.87	28.75	27.18	26.73

Source: Institute for Competitiveness, CBRE Research, Q3 2018.

8. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018.

9. Department of Industrial Policy and Promotion, CBRE Research, Q3 2018.

10. Economic Survey of Karnataka, 2017-18, CBRE Research, Q3 2018. Values for 2017-18 YTD are from April to September 2017

Additionally, according to the State Competitiveness Report 2017, Karnataka was also the top state in the country when analyzed based on the Porter's Diamond¹¹ model.

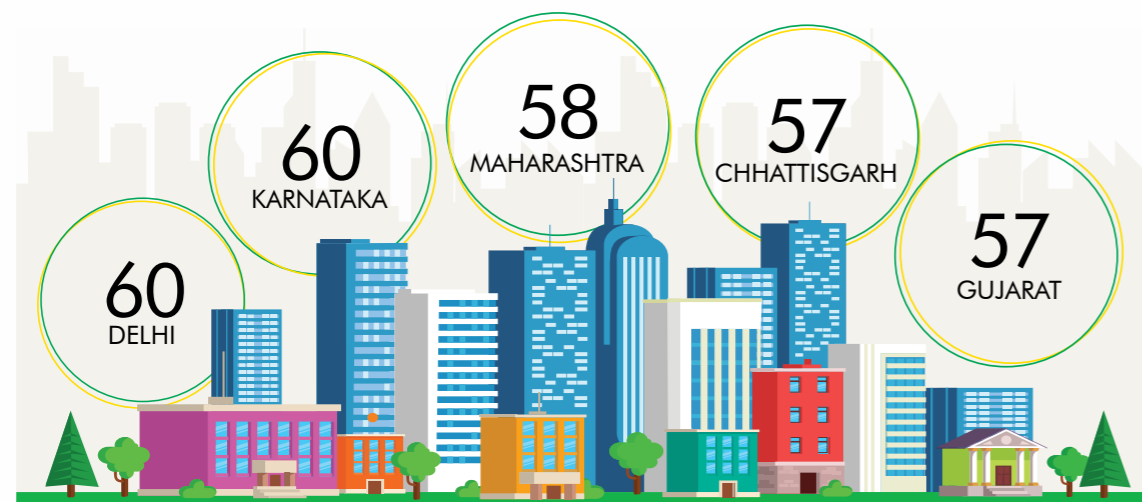
State Competitiveness Report 2017



Source: Institute for Competitiveness, CBRE Research, Q3 2018.

On the Social Progress Index 2017, Karnataka ranked second (after Delhi) among the high social progress states in India. The index considered three broad categories of social progress – basic human needs, foundations of wellbeing and opportunity to capture what matters to societies and people¹².

Social Progress Index 2017



Source: Institute for Competitiveness, CBRE Research, Q3 2018.

The Public Affairs Index 2018, released by the Public Affairs Centre, is based on parameters such as essential infrastructure, support to human development, social protection, transparency and accountability. It listed Karnataka among the top five states in India¹³.

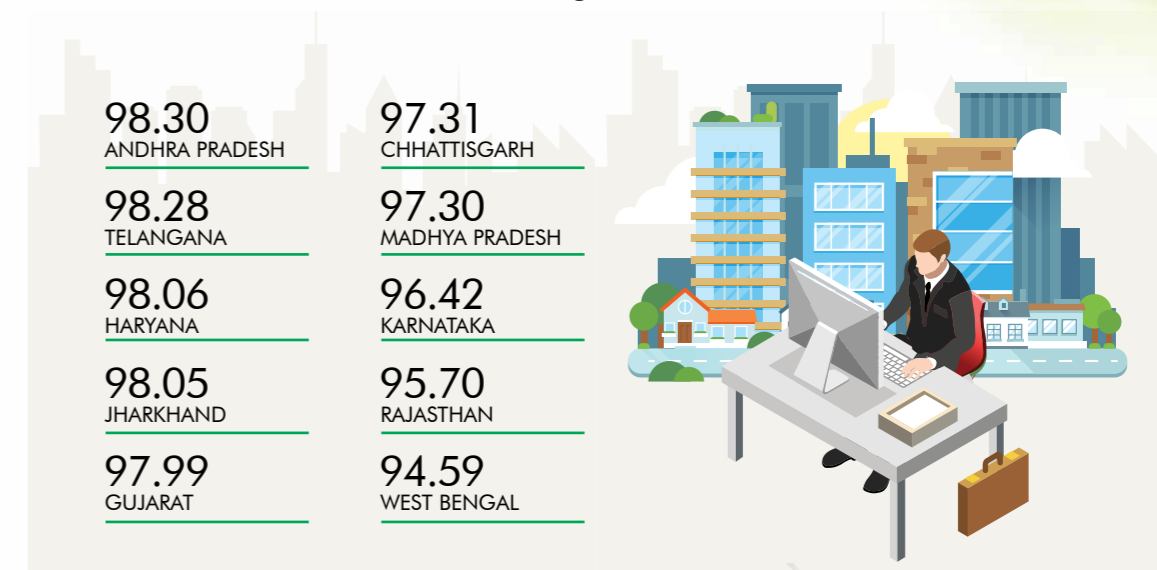
Public Affairs Index 2018



Source: Institute for Competitiveness, CBRE Research, Q3 2018.

Touted as one of the key investment destinations in the country, Karnataka's Ease of Doing Business ranking was eighth across India in 2017, ahead of Maharashtra and Tamil Nadu. The state scored the highest in terms of maximum reforms for enabling construction permits. Additionally, the state also scored well on reforms implemented relating to 'access to information and transparency'¹⁴.

Ease of Doing Business 2017



Source: World Bank, DIPP, CBRE Research, Q3 2018

In addition, the state was ranked fourth among 22 states on Logistics Ease Across Different States (LEADS) Index in 2017, based on parameters such as infrastructure, services, timelines, track and trace, competitiveness of pricing and safety of cargo. Among the 22 states evaluated, Karnataka was among the top five in terms of timeliness, services, safety of cargo, infrastructure and competitiveness of pricing¹⁵.

Table 1.1: LEADS Score for Karnataka on Key Parameters

KEY PARAMETERS	SCORE	POSITION
Timeliness	3.36	3
Services	3.40	4
Safety of cargo	3.39	5
Infrastructure	3.34	5
Competitiveness of pricing	2.71	5
Operating environment	3.28	6
Regulatory process	3.12	6

Source: LEADS, Deloitte, January 2018

11. The model analyses a regions' competitiveness based on various parameters; Institute for Competitiveness
 12. Institute for Competitiveness
 13. Institute for Competitiveness

14. Ease of Doing Business
 15. LEADS, Deloitte, January 2018

PHYSICAL INFRASTRUCTURE IN KARNATAKA: A SNAPSHOT

Karnataka has been a frontrunner in terms of undertaking various infrastructure initiatives to ensure excellent road, rail, air and port connectivity. Even in terms of power production/supply, the state government has embarked on several routes in order to cater to its growing economy.

Road development

As of 2016-17, the state had a total road length of almost 262,000 km¹⁶, the highest among key states:

Table 2.1: Road infrastructure across key states (in km)

	KARNATAKA	MAHARASHTRA	TAMIL NADU	TELANGANA
National Highways	6,572	16,136	4,861	3,862
State Highways	19,578	30,589	10,561	2,471
Major District Roads	49,909	110,753	11,315	12,105
Municipal Roads & Other Roads	8,366	-	-	9,161
Rural Roads	177,542	145,881	-	-
Total Road length	261,967	303,359	62,468	27,599

Source: Economic Survey of respective states, CBRE Research, Q3 2018.

The state government has divided the road transport administration into four corporations with the aim of fulfilling diverse needs of commuters through independent control:

Table 2.2: Road transport corporations in the state

CORPORATION	PARTICULARS
Bengaluru Metropolitan Transport Corporation (BMTC)	Primarily focused on Bengaluru, the BMTC's robust fleet of more than 6,000 buses covers 11.5 lakh km per day and serves around 45 lakh commuters.
Karnataka State Road Transport Corporation (KSRTC)	Operating in 17 southern districts of Karnataka, the KSRTC has a fleet of more than 8,500 vehicles which cover more than 16,000 villages and carry almost 28 lakh commuters daily.
North Eastern Karnataka Road Transport Corporation (NEKRTC)	The NEKRTC operates more than 4,500 buses which cover a total distance of almost 14 lakh km daily.
North Western Karnataka Road Transport Corporation (NWKRTC)	Covering six districts, the NWKRTC's fleet of 5,000 vehicles covers a total of almost 17 lakh km daily.

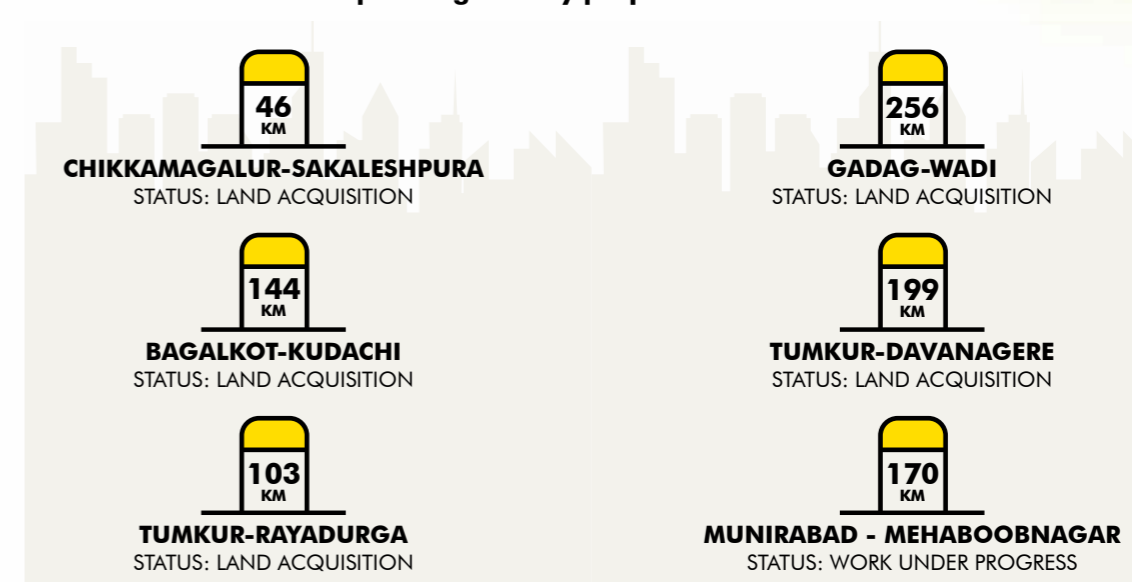
Source: Economic Survey of Karnataka, CBRE Research, Q3 2018.

16. Economic Survey of Karnataka, 2017-18

Railway network

With a rail network of more than 3,200 km, the state is well connected to other parts of the country. Moreover, to increase rail routes and broad gauge densities as well as to accelerate the pace of implementation, Karnataka has agreed to take up new railway projects on a 50:50 cost-sharing basis alongside the Union Ministry of Railways¹⁷.

Upcoming railway projects in the state



Source: Economic Survey of Karnataka, 2017-18; CBRE Research, Q3 2018.

Metro services in Bengaluru

The state has been at the forefront of providing public transport. A case in point is the recent commencement of the Namma Metro operations in Bengaluru. With a total track length of 42.3 km, phase-I of the Bengaluru metro started operations in June 2017. Phase-II work is currently underway and is estimated to have a total track length of 72.1 km. The second phase is further split into two sub-phases: 2A and 2B, which will connect Silk Board to K R Puram (expected to be completed by 2020) and Nagawara to the Kempegowda airport (expected to be completed by 2023), respectively¹⁸.

Air connectivity

The state has four key domestic airports and two international airports:

Table 2.3: Operational airports in Karnataka

INTERNATIONAL
Kempegowda International Airport
Mangalore International Airport
DOMESTIC
Mysuru Airport
Hubbali Airport
Belgaum Airport
Ballari Airport

Source: Economic Survey of Karnataka, 2017-18; CBRE Research, Q3 2018.

17. Economic Survey of Karnataka, 2017-18

18. Economic Survey of Karnataka, 2017-18

Work on four more airports in the state is currently underway:

Table 2.4: Upcoming airports in Karnataka

AIRPORT	STATUS
Kalburgi	Expected to be completed by the end of 2018
Shivamogga	Site surveys ongoing
Ballari	Land acquisition stage
Hassan	Land acquisition stage

Source: Economic Survey of Karnataka, 2017-18; CBRE Research, Q3 2018.

Port connectivity

Karnataka has a 300-km-long coastline, with only one major port (Mangalore) and 12 minor ports. The state government is now planning to improve infrastructure facilities by developing minor ports and has formulated the Karnataka Minor Port Development Policy 2014¹⁹.

Table 2.5: Ports in Karnataka

AIRPORT	STATUS
Major port	New Mangalore
Key minor ports	Karwar, Belekeri, Honnavar, Bhatkal, Hangarkatta, Malpe, Old Mangaluru

Source: Economic Survey of Karnataka, 2017-18; CBRE Research, Q3 2018.

Karnataka – Making of a powerhouse

Recognizing the crucial role of power in achieving economic progress, Karnataka was among the first few Indian states to implement power sector reforms. The state government has been taking various initiatives to implement projects to improve installed capacities for power generation in the public and private domains. Daily peak demand and energy supply in the state have been increasing on an annual basis since 2008-09²⁰. The state accounted for about 13% of the renewable energy production in the country in 2016-17²¹.

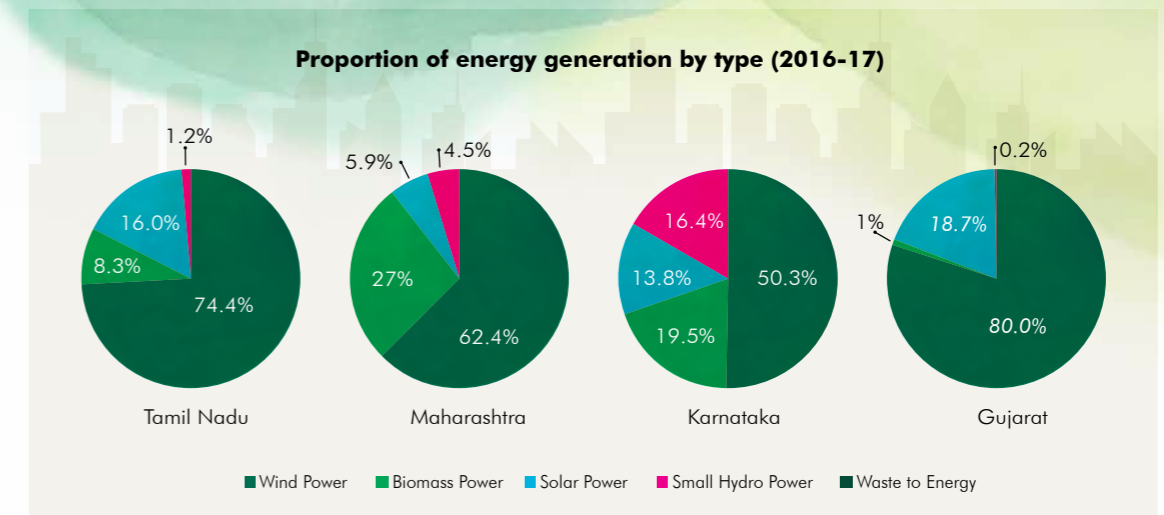
Table 2.6: Top states that contribute to more than 50% of India's 2016-17 renewable energy

STATE	CAPACITY (IN MW)	STATE'S SHARE IN INDIA'S RENEWABLE ENERGY GENERATION
Tamil Nadu	10,562.4	18.5%
Maharashtra	7,647.6	13.4%
Karnataka	7,458	13.0%
Gujarat	6,672	11.7%

Source: Energy Statistics 2018, Central Statistics Office, CBRE Research, Q3 2018.

Additionally, in 2016-17, almost half of Karnataka's renewable energy production came from wind power, followed by biomass. To provide an impetus to solar energy, the state published its solar policy for 2014-2021, which aims to achieve more than 34,000 MW of solar power capacity by 2022. More recently in March 2018, the state witnessed the inauguration of the first phase of the world's largest solar park (2 GW capacity) in Pavagada, Tumkur. The project is expected to be completed in the coming quarters²².

19. Economic Survey of Karnataka, 2017-18
 20. Economic Survey of Karnataka, 2017-18
 21. Energy Statistics 2018, Central Statistics Office
 22. Energy Statistics 2018, Central Statistics Office



Source: Energy Statistics 2018, Central Statistics Office; CBRE Research, Q3 2018.

“Karnataka has been a frontrunner in terms of undertaking various infrastructure initiatives to ensure excellent road, rail, air and port connectivity. Even in terms of power production/supply, the state government has embarked on several routes in order to cater to the growing economy.”

Airports, Ports, Upcoming Smart cities, Tech hubs in Karnataka

SMART CITY

- Bengaluru
- Belagavi
- Devanagere
- Hubballi-Dharwad
- Mangaluru
- Shivamogga
- Tumakuru

TECH HUBS

- AEQUS SEZ, Belagavi
- KIADB Aerospace SEZ, Bengaluru
- Bio-innovation Centre, Bengaluru
- N2P2, Mysuru
- STPI, Bengaluru
- STPI, Hubballi-Dharwad

MAJOR PORT

- Mangaluru

MINOR PORT

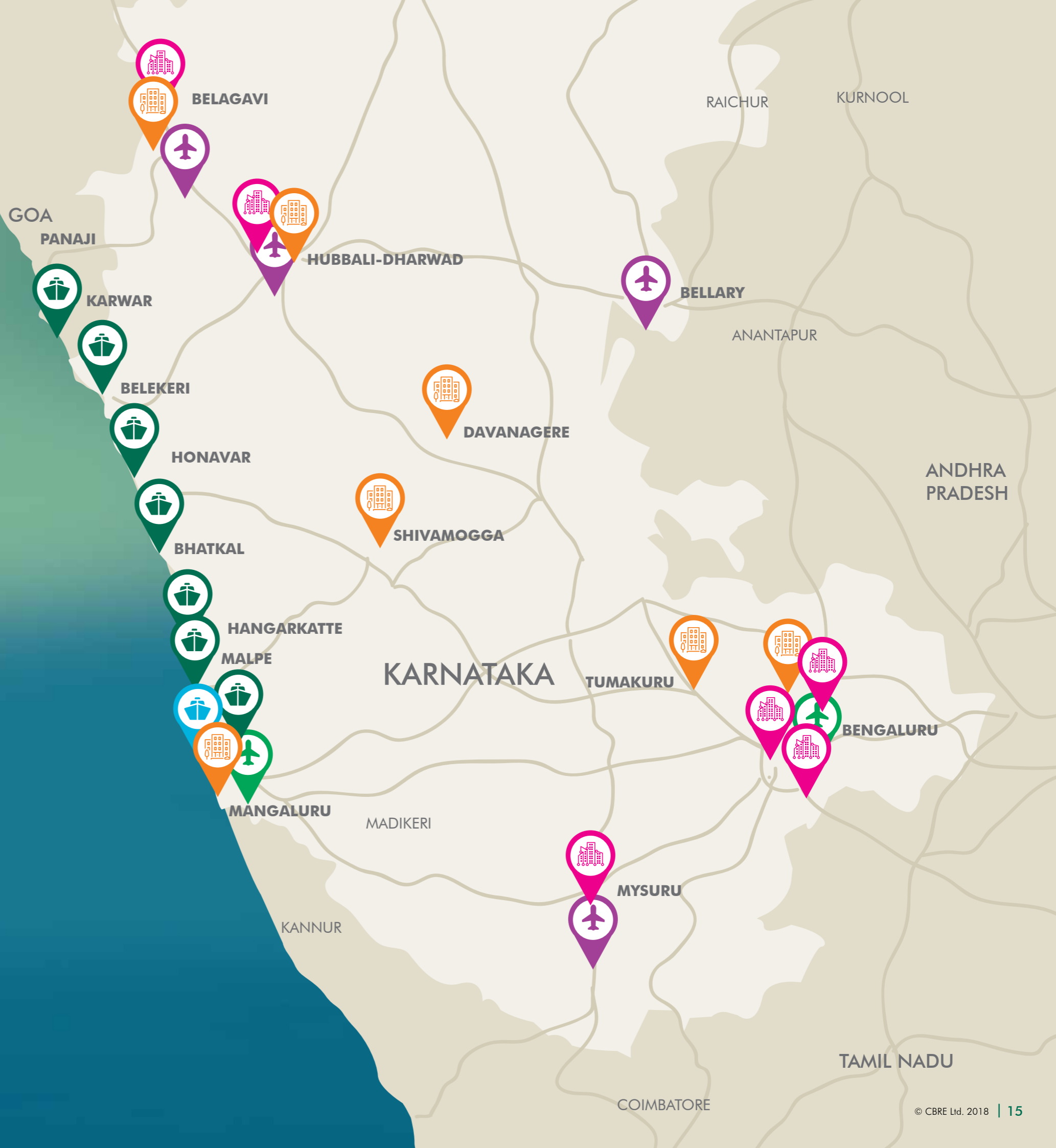
- Karwar
- Belekeri
- Honavar
- Bhatkal
- Hangarkatte
- Malpe
- Mangalore Old

INTERNATIONAL AIRPORT

- Bengaluru
- Mangaluru

DOMESTIC AIRPORT

- Mysuru
- Hubballi-Dharwad
- Belagavi
- Bellary



Source: Economic Survey of Karnataka, 2017-18 CBRE Research, Q3 2018

Upcoming Industrial Corridors

INTER- STATE CORRIDORS

Bengaluru- Chennai Industrial Corridor

- 1 - Ponneri, Tamil Nadu
- 2 - Krishnapatnam, Andhra Pradesh
- 3 - Tumakuru, Karnataka

Bengaluru- Kochi Industrial Corridor

- 4 - Bengaluru, Karnataka
- 5 - Coimbatore, Tamil Nadu
- 6 - Palakkad, Kerala
- 7 - Kochi, Kerala

Bengaluru- Mumbai Industrial Corridor

- 3 - Tumakuru, Karnataka
- 4 - Bengaluru, Karnataka
- 8 - Chitradurga, Karnataka
- 9 - Dharwad, Karnataka
- 10 - Belgaum , Karnataka
- 11 - Kolhapur, Maharashtra
- 12 - Satara, Maharashtra
- 13 - Mumbai, Maharashtra

Naidupet- Mulbagal Road Upgradation

- 14 - Naidupeta, Andhra Pradesh
- 15 - Mulbagal, Karnataka

INTRA- STATE CORRIDORS

Raichur- Belgaum Corridor

- 10 - Belgaum, Karnataka
- 20 - Bagalkot, Karnataka
- 19 - Raichur, Karnataka

Tumakuru- Honnavar Corridor

- 3 - Tumakuru, Karnataka
- 21 - Shimoga, Karnataka
- 22 - Honnavar, Karnataka

Chitradurga- Karwar Corridor

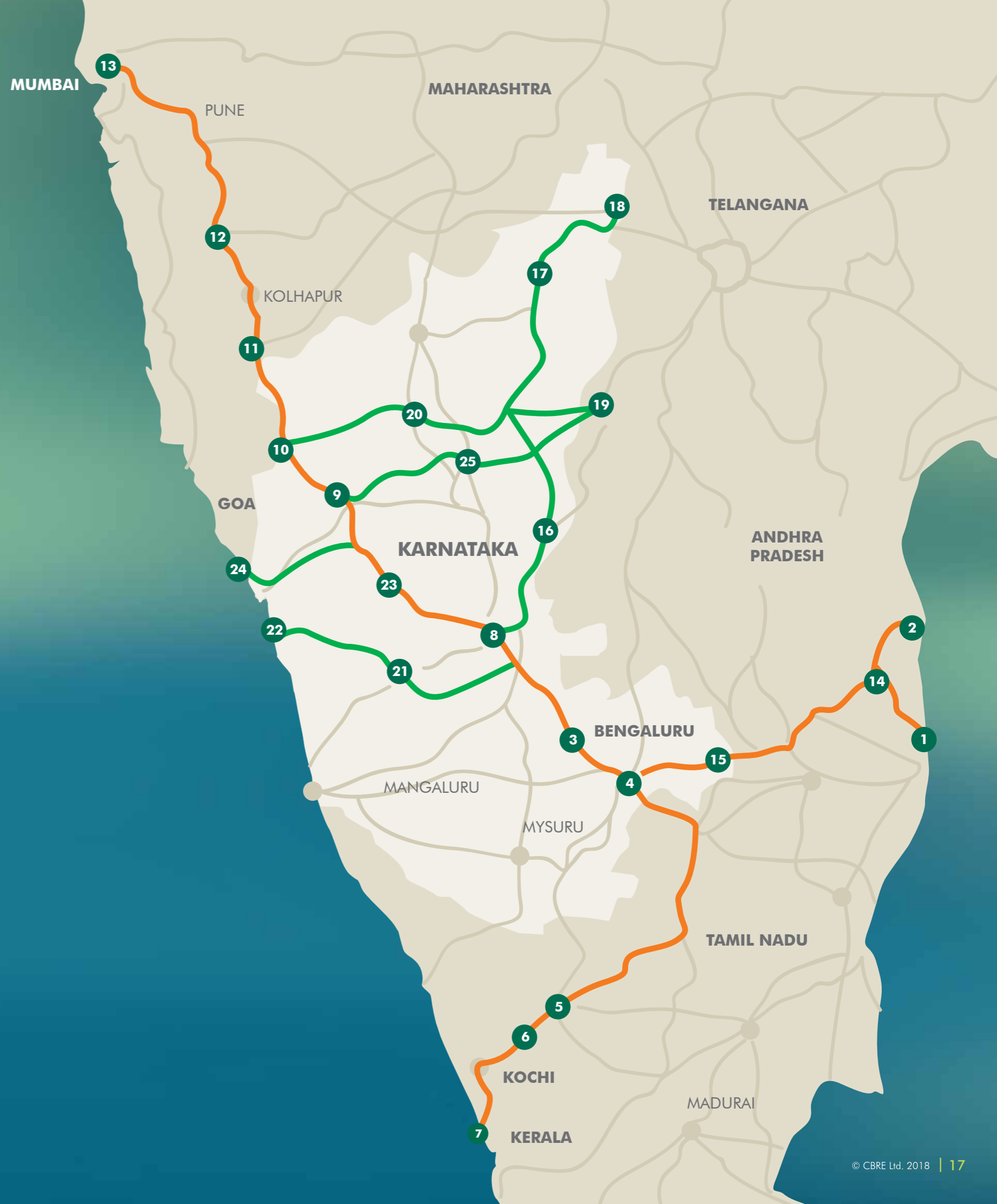
- 8 - Chitradurga, Karnataka
- 23 - Haveri, Karnataka
- 24 - Karwar, Karnataka

Dharwad- Raichur Corridor

- 9 - Dharwad, Karnataka
- 25 - Koppal, Karnataka
- 19 - Raichur, Karnataka

Chitradurga- Bidar Corridor

- 8 - Chitradurga, Karnataka
- 16 - Bellary, Karnataka
- 17 - Gulbarga, Karnataka
- 18 - Bidar, Karnataka



Source: DIPP, respective industrial corridor/ consultant websites, CBRE Research, Q3 2018

REAL ESTATE INITIATIVES BY THE STATE

The Indian real estate sector is on the cusp of change due to several government initiatives in the past few years. The state government has actively been implementing key central policies related to real estate, key among which are the Real Estate Regulatory Act (RERA), affordable housing under Pradhan Mantri Awas Yojana (PMAY), Smart Cities Mission and construction of interstate industrial corridors.

Real Estate Regulatory Act

RERA, which came into effect on 1 May 2017, paved the way for a formal governance authority for India's real estate sector. The act mandates the registration of real estate projects, directs developers to delineate functions and duties of promoters, and sets out penalties for non-compliance. While RERA's implementation has been slow, more than 20 states have already notified the rules and 18 have an active online portal (as of August 2018). Below is a lowdown of the current scenario in the country in terms of the implementation of the Act:

The Ups...

- Some states (such as Maharashtra and Gujarat) have taken a lead in RERA compliances, while a few others are still putting together a functional website.
- Despite slow implementation, several state regulatory authorities have become active in upholding the act and penalizing developers that flout norms.
- The Union government has made efforts to further uphold the spirit of the Act by clearing an ordinance to amend the Insolvency and Bankruptcy Code (IBC) in order to treat homebuyers at par with institutional financial creditors during bankruptcy proceedings.
- Developers are increasingly ensuring that their under-construction projects and new launches are registered with the state RERA as buyer focus is concentrated across RERA-registered projects.
- The act is gradually reducing the risk perception associated with real estate in India as it has stringent disclosure norms and penal provisions.

...And the downs

- Several states have diluted key provisions of the central act – which include exempting a majority of under-construction projects from RERA's purview or easing non-compliance penalties.
- While the Bombay High Court has ruled that RERA provisions will apply to all ongoing projects and that it was fair to protect buyers; it deviated from the pro-buyer stand by saying that in exceptional cases, the RERA authority has the power to provide an extension to the project without a penalty.
- Project-level information on RERA websites can sometimes be difficult to understand, owing to incomplete /incorrect data.

Table 3.1: Status of implementation of the Act in states

STATE	STATUS OF RERA AUTHORITY	PROJECTS REGISTERED ²²	STATUS OF RERA WEBSITE
Karnataka	In the absence of a permanent regulatory authority, the Karnataka government has appointed the principal secretary in the state department of housing as the interim authority. It has also appointed a RERA secretary.	1,983	The state also has the RERA website in place, which enables the public to access all the required information, including projects under investigation. Its search feature is extremely dynamic, and it also has a complaints tracker page.
Maharashtra	The Maharashtra Real Estate Regulatory Authority (MahaRERA) has four-member primary team consisting of a chairperson, a secretary and two members	17,478 (excludes Dadra and Nagar Haveli & Daman and Diu)	The MahaRERA website provides all the required details on the state act's provisions as well as registered projects and promoters. It enables a visitor to conduct project and location-based search. It also provides additional statistics such as number of registered projects and agents as well as those awaiting approval. The website also provides information on complaints registered, being heard and orders passed
Tamil Nadu	The state has yet to appoint a RERA chairperson. As a result, the housing and urban development secretary has been acting as the interim chairman of the authority. In addition, there are two more team members – an appellate authority and a public information officer	646 (280 in 2017 and 366 so far in 2018)	The website contains information on registered residential projects and agents until date, along with details of projects whose applications were rejected. It also enables online submission of grievances
Andhra Pradesh	The government has appointed officer on special duty in the MA and UD department as the temporary member secretary of the Andhra Pradesh RERA. However, no information on the appointment of a chairman is currently available	26	The website is completely functional and even features a graph and dashboard on the number of projects, agents and complaints registered with the authority
Telangana	Although the rules have been notified by the government, it has yet to form an authority or appoint a chairperson	16	The website is completely functional with details of list of registered project and real estate agents with provision for filing online application for new registrations.

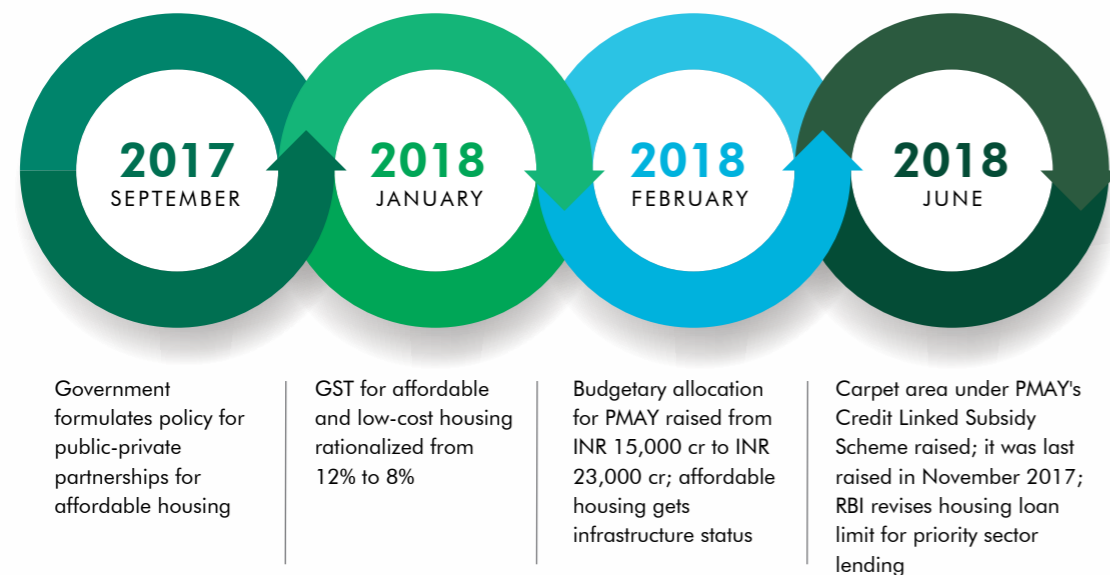
Source: Respective RERA websites, CBRE Research, Q3 2018

22. Projects registered as on August 2018

Affordable Housing

Affordable housing, especially in India, has always had the potential to drive the growth of the residential segment in the country. The government's focus over the past two years has resulted in various steps to ease both supply and demand side issues impacting the affordable housing sector in India. These steps included relaxation in carpet area and granting of infrastructure status to the sector.

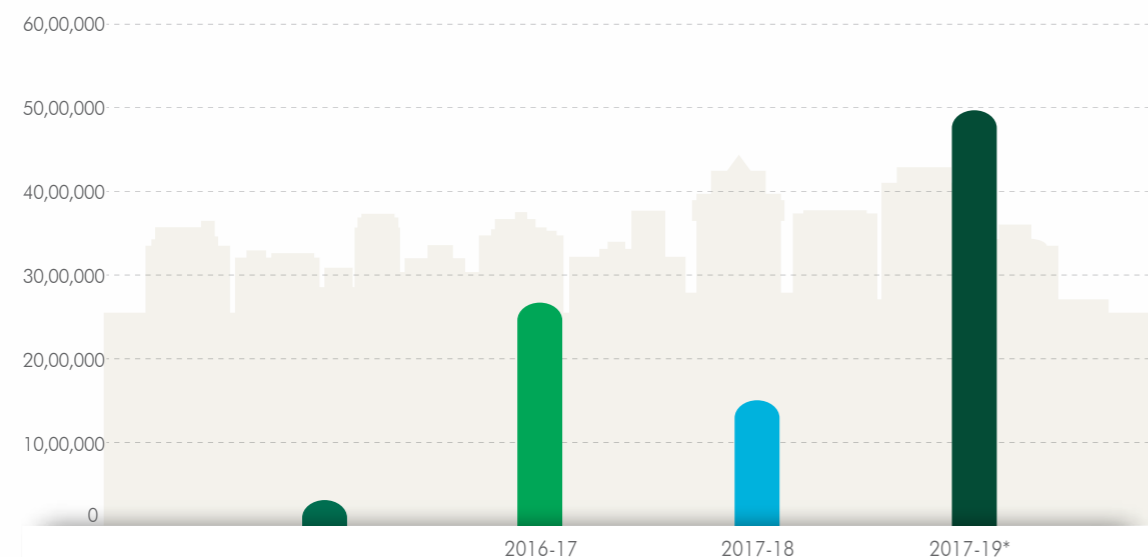
Timeline for government initiatives on affordable housing



Source: CBRE Research, Q3 2018

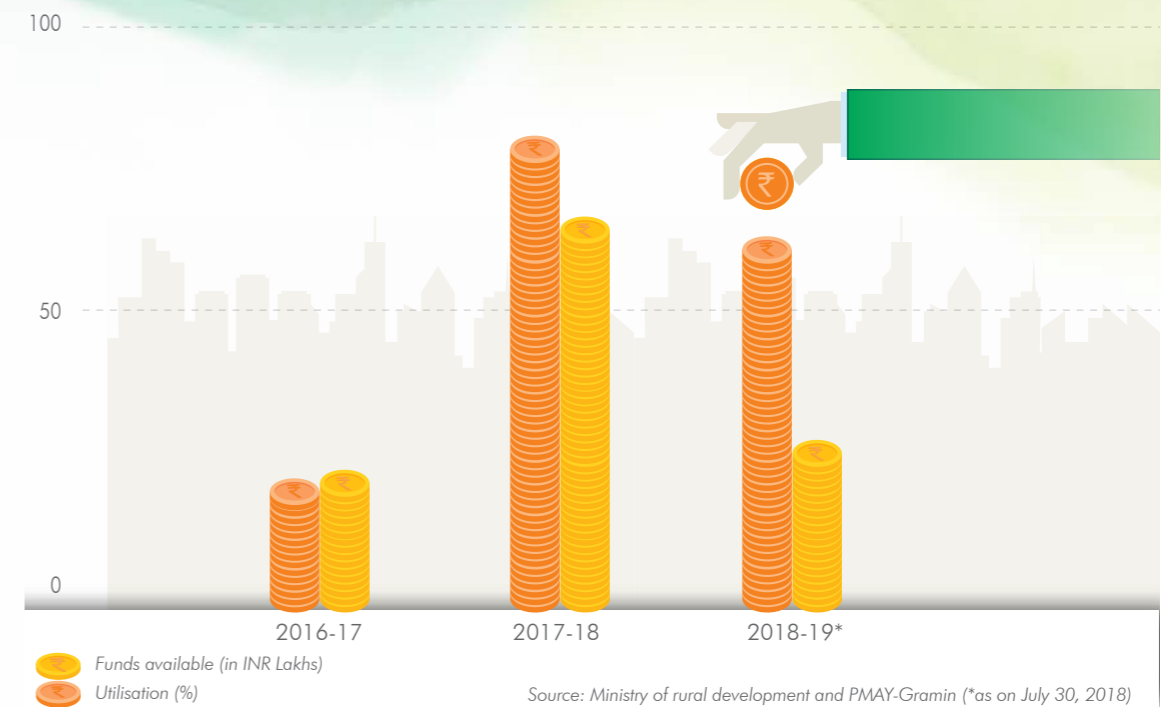
PMAY, a flagship scheme promoted by the government, aims to construct 10 million homes by 2019 for families living in 'kuccha' houses. It provides a host of incentives to enable private participation and spur the supply side for affordable housing. Some of the key highlights of the PMAY are illustrated below:

Houses completed under PMAY



*No. of houses completed in 2017 - 18 are 44.54 lakh;
Source: Ministry of rural development and PMAY-Gramin (Cumulative progress as on July 30, 2018)

Fund utilisation for PMAY



Source: Ministry of rural development and PMAY-Gramin (*as on July 30, 2018)

Progress of PMAY in urban areas



Source: PMAY (Urban) ; Data as on 16 July 2018

Drawing Synergies – Affordable housing under Smart cities

The government has been working towards ensuring synergetic benefits between its various flagship schemes. For instance, it has been leveraging the Smart City mission to expand the reach of its affordable housing initiatives. Of the cities selected for the Smart City mission, 60 have undertaken affordable housing projects worth a total of INR 17,035 crore to improve the lifestyle of their population²³.

So what is the status in Karnataka?

Several affordable upcoming housing projects are now coming up across the state under the Smart City mission:

Table 3.2: Key affordable housing projects in Karnataka under the Smart City Mission

CITY	PROJECT NAME	PROJECT COST (INR CRORE)
Belagavi	Development of Affordable Housing for EWS	84
Belagavi	EWS Housing in Approved BUDA Layout	43.5
Hubli Dharwad	Affordable Housing	103.3
Mangaluru	EWS Housing	7.8
Shivamogga	Slum Redevelopment	81
Tumkur	EWS – Institute Development	55

Source: Smart City Mission – GoI, CBRE Research, Q3 2018.

23. Projects registered as on July 2018

Affordable housing projects are also coming up in areas such as Hoskote, Devenahalli, Sarjapura, Anekal/Chandapura Road and Electronic City in and around Bengaluru. Koramangala in the capital city too has an upcoming affordable housing project, which will have more than 1,500 units and is scheduled for completion by March 2020.

Smart City Mission²⁴

Launched in 2015, the central government's '100 Smart Cities Mission' aims to convert our cities into sustainable and livable urban centres of growth. The focus is on sustainable and inclusive development through the use of 'smart' solutions. The mission mandates the selection of cities based on a nationwide challenge, requiring cities to first compete at the state level and then at the national level. Scores are awarded on the basis of the cities' implementation of reforms in areas such as sanitation and governance. As of June 2018, the government had selected all of the 100 cities for the Smart City Mission, with Shillong being chosen as the 100th smart city.

The development of smart cities is a considerable task that requires financial support from all quarters. As a result, the government has earmarked INR 48,000 crores over five years i.e. an average of INR 100 crore per city per year. The selected cities have come up with varied ways of utilizing these funds. Many of the proposed and under-development projects in the selected cities are based on the PPP model, which the government has sought to encourage in a bid to encourage private participation and funding. The piped gas distribution network in Belagavi, Karnataka is one such instance of a PPP project.

In Karnataka, seven cities have been identified as 'smart cities' under this mission including Belagavi, Hubli-Dharwad, Mangaluru, Shivamogga, Davanagere, Tumkur and most recently, Bengaluru. The following table showcases projects (with a cost of less than INR 100 crore) in various stages of undertaking in these cities:

Table 3.3 Projects in Karnataka under Smart City Mission with a cost of less than INR 100 crore

CITY	CUMULATED PROJECT COST (IN INR CRORES)	NO. OF PROJECTS	PROJECT TYPE
Bengaluru	More than 260	15	Upgradation of KR Market, redevelopment, integrated mobility, clean-up of drainage, etc
Belagavi	More than 1,317	54	Affordable housing, EWS housing, e-governance (applications, 3P services), 7 open spaces and riverfront development projects, etc
Hubli-Dharwad	More than 678	19	Waste management system, 2 open spaces and riverfront development projects, public toilets, etc
Mangaluru	More than 1,253	60	EWS housing, public mobility app-based project, 3 open spaces and riverfront development projects, etc
Shivamogga	More than 414	19	Slum redevelopment, open spaces and riverfront development project
Davanagere	More than 211	7	Area based bin-less solid waste Management System, ICT & e-governance, an open spaces and riverfront development project, etc
Tumkur	More than 870	34	EWS – institute development, 2 open spaces and riverfront development projects, etc

Source: Smart City Mission, Gol, CBRE Research, Q3 2018

24. CBRE Research, Q3 2018

The following table showcases projects worth more than INR 100 crore that are being undertaken under this mission in Karnataka:

Table 3.4 Projects in Karnataka under Smart City Mission with a cost of more than INR 100 crore

CITY	CUMULATED PROJECT COST (IN INR CRORES)	NO. OF PROJECTS	PROJECT TYPE
Bengaluru	More than 1,531	3	Upgradation and redevelopment of Mallechwaram market, Revitalization of city, etc
Belagavi	More than 2,193	12	Urban mobility, sewerage system, solar rooftop paneling, wind power generation, city gas distribution, bus terminals with multi-utility facilitation centers, 24x7 water supply - Phase I, etc.
Hubli-Dharwad	More than 983	6	Renovation of core city market areas, transport terminal hub - with wi-fi enabled services, underground ducting of electrical/data with electrical smart metering, affordable housing, roof top solar, ULB smart initiatives, etc
Mangaluru	More than 746	5	Widening of roads, upgradation of roads, installation of rooftop solar on govt. buildings, waste water coverage and treatment, underground wiring, etc
Shivamogga	More than 1,102	4	Underground ducting, river front development, green initiatives and sustainable initiatives
Davanagere	More than 1,096	4	Economic rejuvenation of Mandipet, underground drainage facility, intelligent urban mobility system and secure environment
Tumkur	More than 1,353	6	Integrated bus terminal redevelopment, water supply system, underground drainage system, underground ducting, redevelopment of multi-speciality hospital with medical college, street-lighting control system, etc

Source: Smart City Mission, Gol, CBRE Research, Q3 2018

Upcoming/planned infrastructure initiatives in Karnataka

Under the central government's 'Make in India' campaign, the manufacturing sector's contribution to the country's GDP is aimed to rise to 25% by 2022. For the same, industrial corridors were announced to boost industrial production, three of which are in Karnataka: Chennai-Bengaluru Industrial Corridor (CBIC), Bengaluru-Mumbai Economic Corridor (BMEC) and Kochi-Bengaluru Industrial Corridor (KBIC). Additionally, there are several other infrastructure projects which are expected to further improve the states' connectivity.

Table 3.5: Key upcoming/planned infrastructure initiatives in Karnataka

NAME	LOCATIONS	CURRENT STATUS / OTHER COMMENTS
CBIC to be developed by Japan International Cooperation Agency (JICA) and DMICDC	Tumkur in Karnataka, Krishnapatanam in Andhra Pradesh and Ponneri in Tamil Nadu.	<ul style="list-style-type: none"> Prospective Plan for the overall CBIC region has been finalized. Consultants appointed for detailed Master Planning and Preliminary Engineering for Krishnapatanam and are being appointed for Ponneri and Tumkur. Shareholder's Agreement (SHA) and State Support Agreement (SSA) being discussed with the respective state Govt.(s) Spanning 560 km, Karnataka government in 2012 also proposed extending this corridor to Mangaluru. Two backbone infrastructure projects: Bengaluru Chennai Expressway and Bengaluru Chennai Dedicated Freight Corridor are proposed to be constructed.
BMEC to be developed by UK Trade and Investment (UKTI) and DMICDC	Bengaluru in Karnataka and Mumbai in Maharashtra	<ul style="list-style-type: none"> Three priority nodes (Dharwad, Belagavi and Chitradurga-Davangere) finalized in Karnataka. Master planning for Dharwad in progress Pune, Solapur and Sangli nodes being considered in Maharashtra Prospective Plan finalized. Government of Maharashtra has given in-principle approval for the development of Sangli/Solapur Node in the State Overall length expected to be 1,000 km and is delineated around the existing National Highway 4 (NH4) (which connects Bengaluru to Mumbai), the existing Bengaluru -Mumbai railway line and the Dabhol- Bengaluru natural gas pipeline.
Kochi Bengaluru Industrial Corridor (KBIC)	Passes through Palakkad in Kerala and Coimbatore in Tamil Nadu to link with CBIC	<ul style="list-style-type: none"> Kerala State Industrial Development Corporation Limited (KSIDC) is in the process of selecting consultants for planning for identified integrated manufacturing cluster (IMC) Expected to span over 550 km, it is expected to be delineated along NH 544.
Naidupeta – Mulbagal Road Upgradation	Road widening of Naidupeta in Nellore in Andhra Pradesh and Mulbagal in Karnataka	<ul style="list-style-type: none"> Detailed Project Report (DPR) is currently being prepared. This road widening is expected to reduce traffic of Bengaluru and Tirupati in Andhra Pradesh to NH-16, thereby connecting industrial areas in Nellore, Andhra Pradesh.
Bengaluru-Chennai Hyperloop	Network planned to connect Karnataka, Maharashtra and Andhra Pradesh.	<ul style="list-style-type: none"> MoU signed between Karnataka government and Hyperloop One to undertake a feasibility study.
Bengaluru-Chennai bullet train project	Bengaluru in Karnataka and Chennai in Tamil Nadu	<ul style="list-style-type: none"> Expected to span over 330 km; if implemented, the bullet train would reduce the travel time between Bengaluru and Chennai to thirty minutes; feasibility study being implemented by the railway authority
Elevated Corridor, Bengaluru	Bengaluru	<ul style="list-style-type: none"> Project connecting four corners of the city through 83 km of six-lane elevated corridors. Proposed corridors include one North-South, two East-West and three connecting corridors.

Source: DIPP, respective industrial corridor/consultant websites, CBRE Research, Q3 2018

Upcoming tier II cities in Karnataka²⁵

Recognizing the potential of tier II cities in terms of their contribution to the state's economy, the Karnataka government has been promoting them as the next industrial hubs. The potential of these cities can be gauged from a favourable business environment, competitive real estate prices, and the presence of large talent pools. CBRE has identified four cities which are expected to have a significant impact on the state's growth in the coming years. The following table highlights the characteristics of their industrial and talent base, as well as their inter- and intra-state connectivity infrastructure:

Table 3.6: Upcoming tier II cities in Karnataka

CITY	INDUSTRIAL BASE	CONNECTIVITY	TALENT BASE
Belagavi	<ul style="list-style-type: none"> The city is home to India's first Aerospace SEZ which houses Boeing, Airbus, Lockheed-Martin etc. Almost 10,000 acres of planned industrial area in the city falls under the National Investment and Manufacturing Zones (NIMZ). Key MSME²⁶ industries include readymade garments, engineering and wooden furniture. Large-sized prominent companies include Hindalco, Tata Power Project and Venkateshwar Power Project. 	<ul style="list-style-type: none"> The city is situated in the 'golden quadrilateral' and has excellent connectivity via rail and road networks and a domestic airport. Major highways passing through the city are NH4, NH4A and SH-20. 	<ul style="list-style-type: none"> Prominent universities / institutes include Jawaharlal Nehru Medical College, Visvesvaraya Technological University (201 affiliated colleges), Karnataka Law Society, Rani Channamma University (UG- 325 & PG-66) and KLE Deemed University.
Hubbali-Dharwad	<ul style="list-style-type: none"> Infosys and KIADB each have upcoming SEZs in the city. It is one of the largest commercial and industrial hubs in the state, with almost 5,000 small-scale industrial units. Key industrial sectors include agro, engineering, machine tools, chemical and pharmaceutical products, and industrial valves. The state has set up seven industrial estates which include the Belur Industrial Area, Tarihal Industrial Area, Lakamanahalli Industrial Area and Sattur Industrial Area. It houses an IT/ITeS STPI²⁷, which spans 275,000 sq. ft. and has an operational incubation facility housing SMEs. 	<ul style="list-style-type: none"> The city falls within the golden quadrilateral; key roads include Asian Highway-47, NH-63 and NH-218. It has an operational domestic airport. 	<ul style="list-style-type: none"> Prominent educational institutes in and around the city include 249 colleges affiliated to the Karnataka University, 101 institutes that fall under the Karnataka State Law University, IIT-Dharwad and the Indian Institute of Information Technology.

25. MSME Institute, www.karnatakaindustry.gov.in, CSEZ website, Uddkar website

26. Micro Small & Medium Enterprises

27. Software Technology Parks of India

CITY	INDUSTRIAL BASE	CONNECTIVITY	TALENT BASE
Mangalore	<ul style="list-style-type: none"> • Mangalore SEZ, spread over 1,600 acres and located only 15 km away from city center, houses industrial infrastructure and has provision for social infrastructure. • Key MSME industries include wooden furniture, readymade garments, steel fabrication and agro. • Large-sized prominent companies include BASF, Bharat Petroleum and Hindustan Unilever. 	<ul style="list-style-type: none"> • The New Mangalore port is an all-weather port and is the biggest and only major port in Karnataka. It also has a greenfield yard, which is a part of the Bharati Shipyard. • Major highways passing through the town are NH-66 and NH-48. • Mangalore has an operational international airport; extension of the runways is currently under consideration. 	<ul style="list-style-type: none"> • Almost 190 institutes fall under the Mangalore University; these include St. Aloysius College, St. Agnes College and St. Ann's College.
Mysuru	<ul style="list-style-type: none"> • Infosys and L&T have operational SEZs in the city. • Key MSME industries include the famous 'Mysore silk', wooden furniture, metal (steel fabrication), chemical and agro. • Large-sized industries include auto and heavy machinery. 	<ul style="list-style-type: none"> • Located just 140 km away from Bengaluru, the city is well connected by road to the capital city. Key highways passing through the city are NH-275, NH-766 and SH-17. • It also has an operational domestic airport. 	<ul style="list-style-type: none"> • The city houses the University of Mysore, which has 226 affiliated colleges, 66 research centers, 157 outreach / research centers and 8 training centers. Other key institutes include JSS Dental College, JSS College of Pharmacy, Central Food Technological Research Institute, Central Institute of Indian Languages and Defence Food Research Laboratory.

Source : MSME Institute, www.karnatakaindustry.gov.in, CSEZ website, Uddkar website, CBRE Research Q3 2018

OUTLOOK: WHAT'S NEXT FOR KARNATAKA?

Backed by growing implementation of policy reforms, Karnataka is expected to witness sustained interest from both domestic and foreign investors as these reforms are expected to result in a more secure environment for these companies by providing them better exit opportunities. This interest will be further bolstered by the government's continued efforts to enhance the infrastructure across the state to ensure excellent all-round connectivity. The continued attractiveness of the state as an investment destination is likely to push it to the forefront of innovation and technological evolution as companies are increasingly adopting innovative technology (such as artificial intelligence and Big Data) in their quest to keep pace with the changing times.

We expect Karnataka's growth story to percolate quickly to its tier II cities. Already, these cities are well on their way to becoming business powerhouses, owing to their proximity to the state capital as well as the administration's stress on wholesome infrastructure development (including affordable housing). We expect investor interest in these tier II cities to grow substantially in the future as they look for expansion avenues, thereby safeguarding the state's position as a premium investment destination.



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