

# *Payments Newsletter*

Creating Smarter Cities  
through Digital  
Payments

November 2017



---

# *F* **Foreword**

Dear Readers,

It is my pleasure to bring to you the latest edition of our Payments newsletter, where we take a look at the recent developments taking place across the country as part of the Government's Smart Cities Mission. We also throw light on current use cases along with what we believe is the future role of stake holders towards achieving a digitally enabled India.

I hope you will find this to be a good and insightful read.

For further details or feedback, please write to

[vivek.belgavi@in.pwc.com](mailto:vivek.belgavi@in.pwc.com) or [mihir.gandhi@in.pwc.com](mailto:mihir.gandhi@in.pwc.com)



***Vivek Belgavi***

*Partner*

*Financial Services Technology  
Consulting Leader, PwC*



---

# *I* *In this issue*

**Foreword**

**Introduction**

**Payments in Smart Cities**

**Use Cases**

**Recommendations**

# *I* Introduction

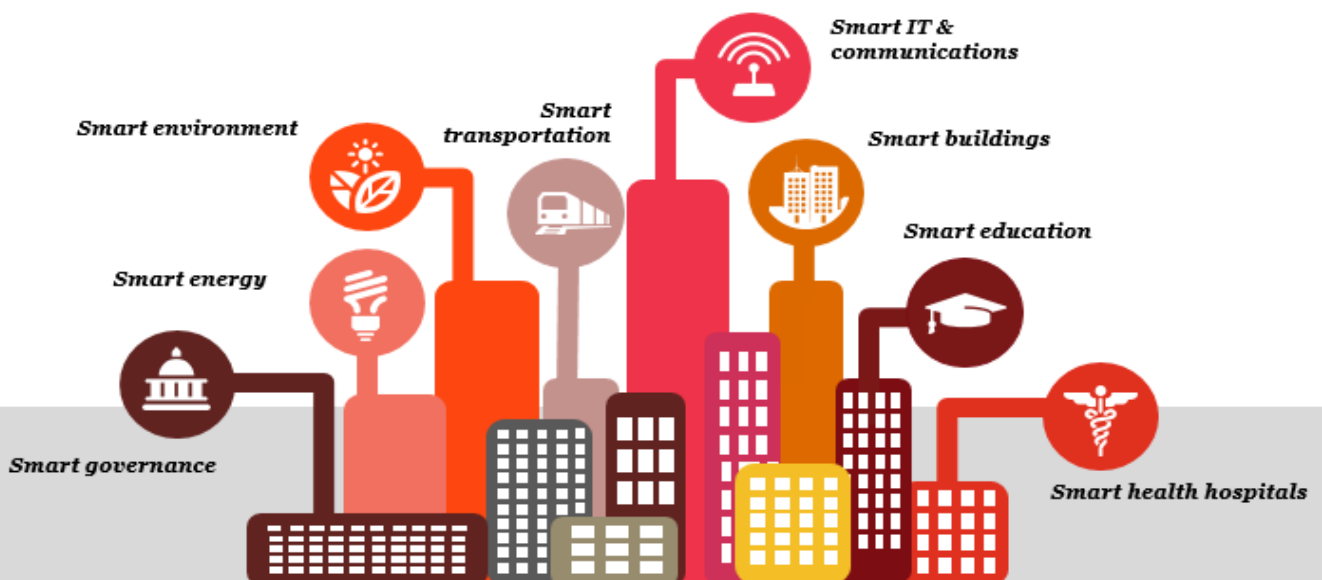
Cities are the engines of growth for every nation and provide various opportunities to those that dwell in them. Therefore, it comes as no surprise that every minute close to 25–30 people from rural areas migrate to major Indian cities for socio-economic benefits – a prime pull-factor. If this momentum holds true, by 2050 it is estimated that 843 million people will live in urban areas. While mass urbanization is giving rise to megacities on track to generate 80% of economic growth in the future, this accelerated growth comes with a host of problems, including bleak environmental conditions, low hygiene levels and a shortage of everything from water and affordable homes to schools, public transport and open spaces.

In order to combat issues such as these, India has to build on her physical, institutional, social and economic infrastructure which will not only provide a consistent high quality of life, but will further spark the cycle of sustainable development. The development of Smart Cities is a step in this direction.

The Government of India chartered a budget of INR 70.6 billion (US\$1.2 billion) for Smart Cities in 2014-15. A smart city, by definition, attempts to attain progressive growth, alongside environmental

sustainability, social inclusion, a high quality of life and ‘Smart’ solutions. These cities prioritize their citizens, by marrying innovation with technology to create urban plans, policies and partnerships that predict and address the needs of their residents, while promoting a more inclusive and greener environment. To provide for the aspirations and needs of the citizens, urban planners ideally aim at developing the entire urban eco-system, which is represented by the eight pillars of comprehensive development illustrated below.

Payments, featuring in a majority of the basic services availed by citizens, form the core of every economic flow in a city, including salaries, consumer spending, business procurement and tax collection. With that, more and more cities realize the value of smart payment technology and the integral part it plays in achieving the country’s smart city vision. Off the 20 cities chosen as part of this vision, multiple cities are already well on their way towards reaping the benefits of their payments digitization initiatives, with others recently deploying projects towards achieving the same.



## **8 Pillars of Smart Cities**

*The motivation to become a smart city is driven by the need to surpass the challenges posed by traditional and conventional cities.*

# P Payments in Smart Cities

Digital payments form an integral part of the smart city vision, with a rising acknowledgment of the value they bring to local governments and their citizens. With the intent well in place to improve the payments ecosystem across various departments, use cases can be extended to cover multiple Citizen to Government (C2G) payments – Tax, Toll & Transit, Water, Electricity, Education, CFC Centers, Tourist places, Healthcare and social services, Public convenience, Penalties - and Government to Citizen (G2C) payments – Scholarships, Subsidies, Monetary awards, Farmer benefits, senior citizen benefit - resulting in increased security and efficiency through reduced dependence on cash.

While the need and importance of smart payments infrastructure is well established for the upcoming smart cities, there exists a number of challenges both internal and external which have caused a hindrance in their wide scale adoption.

## Internal Challenges

- The infrastructure currently in place for payments and collections in government bodies is primarily focused on physical modes like cash and cheque and not adequately equipped to accepting digital payments
- Digitization of existing data records is a

challenge that is further amplified by siloed businesses and limited information sharing across departments, divisions and channels.

- Absence of a unified strategic vision, governance framework and a well-defined future roadmap for revamping payment infrastructure is resulting in payments digitization efforts being less effective.

## External Challenges

- Poor infrastructure, low internet connectivity and penetration is negatively impacting customer experience for online transactions.
- Inadequate training of operational staff towards the seamless delivery of payment services, exception handling and managing customers with special needs has led to low trust in technology based payments. There is also an overall hesitation towards to change in processes that comes with adopting digital payments.
- The lack of a centralized marketing strategy and digital payments promotion campaigns has led to inadequate citizen awareness thereby dampening the rate of adoption of initiatives undertaken by municipal corporations and ULBs.

## A checklist to ascertain if your city is receptive to digital payment Can your citizens...

..Make payments using mobile and online channels?

..Pay for public transportation using digital means?

..Make digital payments without incurring an additional fee/charge for doing so?

..Schedule payments from anywhere using any instrument or via agents?

..Walk into bank branches, ward offices or other touch points for assisted payment services?

# Payments use cases in smart cities

Various corporations in India have started taking steps towards building a sustainable cashless ecosystem. Given the multiple challenges, below are examples of solutions currently being implemented aimed at overcoming current challenges and boosting the adoption of digital payments.

## Citizen Facilitation Center

A few corporations in India are taking steps towards digitizing their ward offices. In addition to mobile apps and web based payments, POS terminals have been deployed by corporations to accept the tax collections in a cashless manner. Corporations have also started accepting the payments in the form of NACH mandate forms and AEPS using Aadhaar data.



## Doorstep Solution

Few corporations have started a service wherein, taxes, payments are collected digitally by officers at the citizen's doorstep at the date and time authorized by the citizen. This same service also extends to other documents including birth and death certificates.

## One city - one card

One of the leading corporations in India is in process of implementation of a one city-one card system.

It is an open loop prepaid card which can be used for payments across multiple services such as transport, municipal taxes, government owned activities, etc.

Citizens can also withdraw money from the card and can top-up the card at various corporation ward office and select bank branches. The corporation also plans to use this card to transfer benefits to citizens.



## Aadhaar based Direct Benefits Transfer

Some municipal corporations in India have started to transfer benefits to the citizens, corporation staff and school children based on their Aadhaar loaded on prepaid card. School children can use the prepaid card to purchase uniforms, stationary items, shoes etc. with the card only working at the corporation defined vendor stores, it ensures that funds transferred are used solely for the purposed defined by the corporation.



## Increasing Online Payment Instruments

Corporations are moving beyond credit and debit cards and net banking payment options towards EBPP, mobile wallets, UPI/BHIM, BharatQR and IMPS based modern payment instruments to help boost digital payments.

They are also looking to bring multiple departments online and integrating them with payment gateways to collect their taxes in a cashless manner.



# R Recommendations

In addition to the current initiatives being adopted across smart cities, there are still those that hold massive potential yet to be implemented on a wide scale.

## **Emerging digital payment solutions and initiatives**

### **1 Unified Payments Instrument**

- A common digital payments mode for payments made towards public transport including metros, local trains and buses
- A health card to access hassle free medical benefits under social welfare schemes
- A common instrument for transferring benefits to school children, women and others for social development and welfare schemes

### **2 Mobile and web-based portals**

- Mobile and POS terminals to enable transactions at markets and *mandis*, retail stores selling farming equipment, seeds and municipal benefits

### **3 Value added services and alternate channels**

- Doorstep services for the collection of documents and the delivery of civic amenities and services

The solutions or initiatives implemented should balance cost and generate revenue while addressing infrastructure limitations. Creators of smart cities need to invest in building a payments ecosystem that allows players to collaborate seamlessly so as to provide services that cater to the needs of intended target groups.

## **Roles for stakeholders**

### **Government & Urban Local Bodies**

ULBs, State/Central government departments and Smart city corporations can study existing models in India to explore implementation of digital payments, while seeking expert opinion and advice in choosing the optimum solution to meet their specific requirements. They should leverage upon existing & upcoming payment technologies, channels and services on public private partnership model to enable cashless payments across services.

### **Regulatory bodies**

Regulatory bodies should encourage and incentivize the participation of key players such as Post offices and Microfinance Institutions, so as to create a greater push for digital payments. Providing clear guidelines and process standards for an interoperable and secure payment system that takes into account different form factors, products and channels is a crucial step towards the development of a digital payments ecosystem. In addition, creating mandates that enforce the adoption of digital payments will help propel the cause.

### **Financial Institutions**

Banks and other financial institutions should work towards the creation of innovative service delivery models that encourage the acceptance of cashless payments for ULBs, Government Bodies and citizens. They can also incentivize online G2C and C2G transactions through cash and non-cash rewards and a user friendly mobile and net based payment application.

### **Technology providers**

Technology providers should develop comprehensive platforms combining technology solutions, man-power, payment channels and processes that can be deployed on a plug and play basis across government department, so as to increase the ease of integration into existing infrastructure.

---

# P Payment Technology Updates

## **Free WiFi, 'Pink' toilets for women, animal shelter houses - BJP's key poll promises in UP civic polls**

*The Economic Times*

Free WiFi at prominent public places, "pink toilets" for women and free water connections to all homes are among the key promises made in BJP's 'Sankalp Patra' released here today ahead of the Uttar Pradesh civic polls.

[\(Read more\)](#)

## **Bhopal Smart City - Makeover Mission**

*Business Line*

There are three prongs to Bhopal's pan-city proposals: maximise reuse of existing infrastructure; create a backbone for smarter initiatives; modernise service delivery. Specifically, the plans will have two components: advancing 'smart united governance' and installing 'intelligent street lighting'.

[\(Read more\)](#)

## **New 'Smart City' Hatches Solutions to India's Urban Chaos**

*The Wall Street Journal*

The government planners now dreaming up India's first "smart city" realize they have a problem. To solve it they are planning to dispatch a fleet of drones, bury the power grid and link a biometric database to every square foot of land here in India's newest state capital.

[\(Read more\)](#)

## **PM Modi's rap speeds up smart city projects**

*The New Indian Express*

A rap from Prime Minister Narendra Modi appears to have woken up the mandarins at the Ministry of Housing and Urban Affairs (MoHUA) to the need for speeding up the work on the Smart City projects.

[\(Read more\)](#)

## **Smart City challenge calls for startups working towards social impact**

*The ET-Rise*

A new Smart City challenge has been launched in India which encourages young entrepreneurs to identify local problems and develop innovative solutions which have a lasting social impact and are also successful businesses.

[\(Read more\)](#)

## **How to fund climate-smart cities**

*Business Line*

According to UN-Habitat's estimates, over 64 per cent of the world population is expected to reside in cities by 2050. Cities consume enormous resources. The Intergovernmental Panel on Climate Change estimates that urban infrastructure accounts for two-third of the global energy use and 70 per cent of energy related Green House Gas (GHG) emissions. By 2025 megacities of 10 million or more people will house more than half the world's population and contribute more than half of global GDP.

[\(Read more\)](#)



---

# *P* **Please contact**

*For more information, please contact:*

**Vivek Belgavi**

*Partner & Leader – Financial Services Technology*

Tel: +91 9820280199

Email: [vivek.belgavi@in.pwc.com](mailto:vivek.belgavi@in.pwc.com)

**Mihir Gandhi**

*Director & Leader - Payments Transformation*

Tel: +91 9930944573

Email: [mihir.gandhi@in.pwc.com](mailto:mihir.gandhi@in.pwc.com)