

# Opportunities in Building Smart Cities in India

*This paper details the Smart City opportunity in terms of the total CAPEX vis-à-vis ICT CAPEX and percentage of ICT CAPEX in Total CAPEX basis the smart city proposals submitted by 20 cities.*

Smart is a relevant word and has an altogether different interpretation when it comes to the Indian context. The recent proposals of 20 Smart Cities predominantly captures the creation of basic civil infra, security, transport, connectivity and e-governance services, which has nevertheless brought a lot of alacrity and excitement among the people. It is a huge opportunity for the enterprises as well.

With the recent win of smart city implementation projects for Gandhinagar & Jaipur, Sterlite Technologies is all set to align to the Smart City initiative of the Government of India. This paper elaborates on the Smart City opportunity in terms of the total CAPEX vis-à-vis ICT CAPEX and percentage of ICT CAPEX in Total CAPEX basis the smart city proposals submitted by 20 cities.

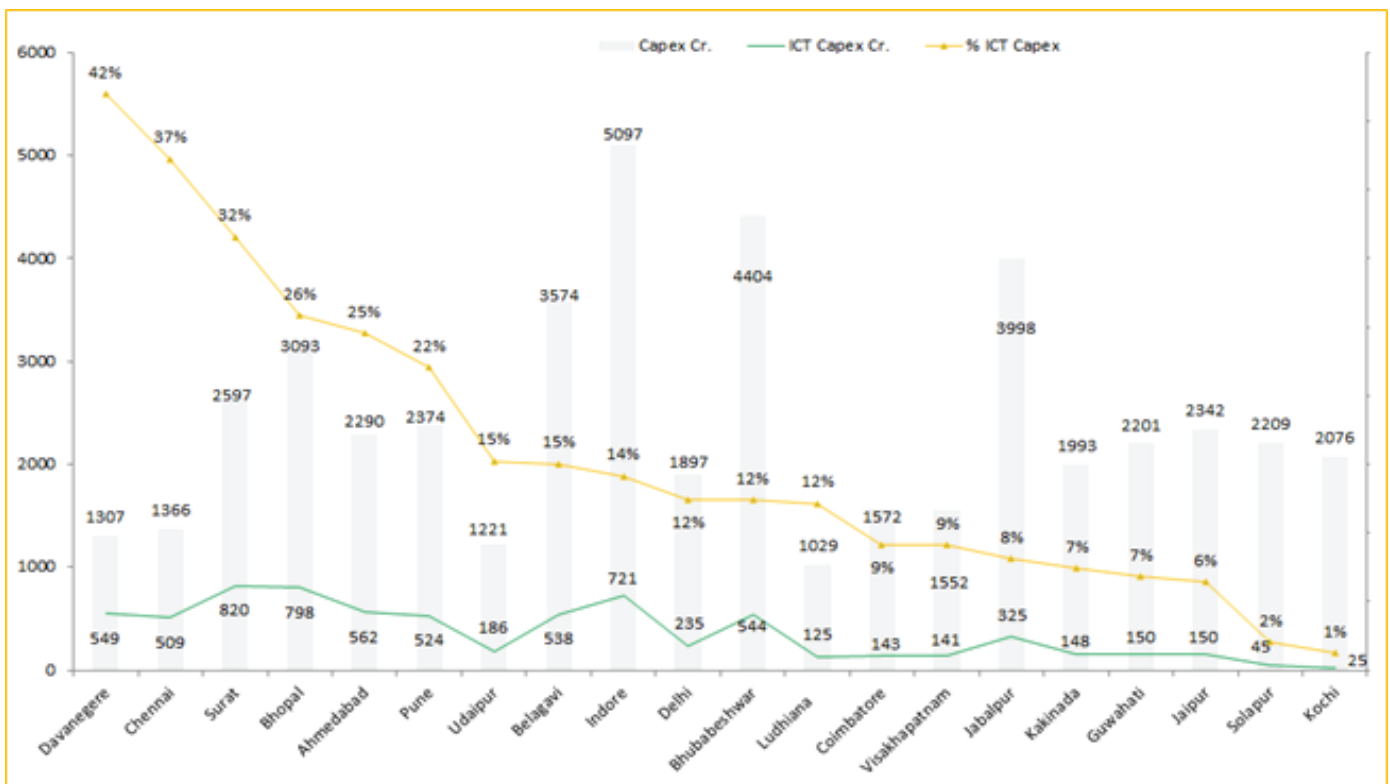


Chart depicts Total CAPEX vs ICT CAPEX

The Total CAPEX allocated to Smart cities is ~Rs 50,000 crore of which ~78% is allocated for area-based solution and ~22% is for pan city based solutions.

To elaborate further the total budget of every Smart City is broken into 2 parts – pan city & area based. Here area-based proposal can be for Retrofit area (Min 500 acres), Redevelopment area (Min 50 acres) and Greenfield area (Min 250 acres) and pan city is the proposal to be submitted for the entire city.

Citizens of every city have been consulted before preparing the proposal, and basis the cities' requirements, solutions have been proposed.

Out of the ~Rs 50,000 crore budget that has been allocated for the 20 cities, the ICT pie which Sterlite can target is 15% of total CAPEX, i.e. ~Rs 7,000 crore. There are a variety of solutions proposed by different cities and for ICT alignments, this paper taps the top cities based on ICT CAPEX which Sterlite can align from future business perspective. This paper also details the scope of work for each city.

For most of the cities, their ICT budget is 100% of the pan city capex, making them very lucrative for a player like Sterlite to participate in the RFP.

Top 10 cities scope has been elaborated in terms of area-based, pan-city and total CAPEX, area-based, pan city and total ICT CAPEX and break-up of solution-wise total ICT budget. Below are the top 10 cities arranged as per their ICT Budgets to enable quick picks as ICT targets:

Cities	Capex Cr.	ICT Capex Cr.
Surat	2597	820
Bhopal	3093	798
Indore	5097	721
Ahmedabad	2290	562
Davanegere	1307	549
Bhubaneshar	4404	544
Belagavi	3574	538
Pune	2374	527
Chennai	1366	509
Jabalpur	3998	325

## Here is the city wise break-up scope:

### 1. Surat:

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	2597	Total	820
Area	1802	Area	25
Pan city	795	Pan city	795

ICT Solution Capex breakup: Area base + Pan city: **Rs 820 crore**

- **Area Based:** Smart City System (Advance Grievance Redressal system, Smart waste collection system, Air & water quality Monitoring, Area surveillance network) **Rs 25 crore**
- **Pan City Based:** IT-MAC, Automatic Fare collection system, Development of ERP with GIS Platform, SMAC Centre, S-connect card, Connected Surat-FTH **Rs 795 crore**

For Surat, 100% of the Pan City budget has been allocated to ICT.

### 2. Bhopal

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	3092.71	Total	798.21
Area	2444.5	Area	150
Pan city	648.21	Pan city	648.21

ICT Solution CAPEX breakup: Area based + Pan city: **Rs 798.21 crore**

- **Area Based:** Robust IT connectivity and digitalisation, intelligent traffic management, smart parking, safety of citizens, additional smart applications: **Rs 150 crore**
- **Pan City Based:**
  - o **Smart Governance:** Ease of doing Business applications, Citizen engagement and grievance module, City level application and smart dashboard, Data Analytics and MIS, City Level GIS, Mobile service delivery, Waste to Energy conversion, GPS based garbage vehicle tracking, Asset and operation management system,

RFID tagging of garbage bins, Waste network simulation, GIS based grievance redressal, Geo-fencing of assets **Rs 200 crore**

- o Intelligent street light with scheduling, surveillance and SOS, environment and water level sensors, Wi-Fi, intelligent shopping apps, smart phone detection, interactive digital signage **Rs 448.21 crore**

Again, in Bhopal, 100% of the Pan City budget has been allocated to ICT (worth Rs 648.21 crore) and this is likely to come as single RFP and so is the area-based opportunity (Rs 150 crore).

### 3. Indore

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	5096.99	Total	720.69
Area	4466.15	Area	332.69
Pan city	388	Pan city	388

ICT Solution Capex breakup: Area based + Pan city: **Rs 720.69 crore**

- **Area Based: Rs 332. 69 crore**
  - o **Underground Electrification & Utilities Shifting:** Utility ducts, shifting of power & Telecom lines, laying of OFC network, gas network and other utilities **Rs 227 crore**
  - o **IT Connectivity & IT Enabled Government Services:** 100% public Wi-Fi connectivity, common backbone OFC network to integrate with pan-city proposals, command & control center with adequate software/hardware & city dashboard for urban governance and services **Rs 42 crore**
  - o **Safety & Security:** Smart & energy efficient street-lighting including pedestrian area & public open spaces, CCTV for surveillance & traffic monitoring, fire hydrants network **Rs 63.69 crore**
- **Pan-City Based: Rs 388 crore**
  - o Central command & control center with multi-purpose backbone comm. network & city dashboard **Rs 118 crore**

- o Intelligent transport system (ITS) **Rs 250 crore**
- o Intelligent solid waste management **Rs 20 crore**

Indore too has allotted 100% of Pan City budget to ICT (worth Rs 388 crore) which may come as single RFP. Pure-play area-based ICT opportunity may also come for IT connectivity worth Rs 42 crore and surveillance worth **Rs 63.69 crore**.

#### 4. Ahmedabad

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	2290	Total	562
Area	1751	Area	23
Pan city	539	Pan city	539

ICT Solution Capex breakup: Area based + Pan city: **Rs 562 crore**

- **Area Based: Rs 23 crore**
  - o OFC Network **Rs 2 crore**
  - o Wifi Hotspots **Rs 1 crore**
  - o Intelligent traffic management **Rs 6 crore**
  - o Smart Parking **Rs 11 crore**
  - o Energy Efficient Street Lighting **Rs 2 crore**
  - o Surveillance Cameras **Rs 1 crore**
- **Pan City Based: Rs 539 crore**
  - o Integrated Transit Management Platform (GPS & AVLS, PIS, etc) **Rs 90 crore**
  - o Common Card Payment System (Smart Cards, readers, software, etc) **Rs 104 crore**
  - o Command & Control Centre + OFC Network connectivity **Rs 203 crore**
  - o Surveillance Equipment & Integration, Intelligent Traffic Management **Rs 107 crore**
  - o Integration with other services & Real Time Tracking / Monitoring **Rs 35 crore**

Ahmedabad has already issued its Ahmedabad city which has similar scope as that of Pan city based proposal.

#### 5. Davangere

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	1307.18	Total	548.75
Area	809.39	Area	50.96
Pan city	497.79	Pan city	497.79

ICT Solution Capex breakup: Area based + Pan city: **Rs 548.75 crore**

- **Area Based: Rs 50.96 crore**
  - o **Underground Utility Corridor of 59 Km:** All utilities like electric wires, OFC Cables, telephone lines, water lines, etc to be laid: **Rs 50.96 crore**
- **Pan City Based: 497.79 crore**
  - o **ICT & E-Governance:** GIS map to enable interactive government to citizen communication, one city one website & app – interlinking all government departments. One City One Number – An IVRS based call centre backed 4-digit unique number for citizens to access and communicate with any Government Official gets required information, register and track complaints **Rs 38.44 crore**
  - o **ICT based Mobility Plan & Urban Transport Facility Rs 459.35 crore**

In Davangere, 100% of the Pan City budget has been allocated to ICT worth Rs 497.79 crore and this may come as single RFP.

#### 6. Bhubaneshwar

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	4404.4	Total	544.4
Area	4095	Area	235
Pan city	309.40	Pan city	309.40

ICT Solution Capex breakup: Area based + Pan city: **Rs 544.4 crore**

- **Area Based: Rs 235 crore**
  - o Build Basics Sub-Plan – for projects like citizens connect, town center online, one-map **Rs 26 crore**
  - o Technology For All Sub-Plan– Rs.209 Cr for City Wi-Fi Project, Smart metering and Digital Literacy: **Rs 209 crore**

- **Pan City Based: Intelligent City Operation and Management Centre Rs 442 crore: Capex is 70% (Rs 309.40 crore)**
  - o Traffic Management **Rs 215 crore**
  - o Parking management **Rs 16 crore**
  - o Bus service operations **Rs 72 crore**
  - o Common payment card **Rs 25 crore**
  - o Emergency response & City incidence management **Rs 30 crore**
  - o Command control center **Rs 84 crore**

Bhubaneshwar has allotted 100% of its Pan City Capex for ICT (Rs 309.40 crore) and this may come as single RFP. Another big single opportunity here is Area-based budget for technology (Rs 209 crore).

#### 7. Belagavi

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	3574.4	Total	537.6
Area	1695.6	Area	0
Pan city	1878.8	Pan city	537.6

ICT Solution Capex breakup: Area based + Pan city: **Rs 537.6 crore**

- **Pan City Based: Rs 537.6 crore**
  - o E-governance and IT enablement **Rs 173.5 crore**
  - o Traffic, Transport, Mobility and Intelligent Traffic Systems **Rs 364.1 crore**

Belagavi may have two different big-ticket RFQ opportunities for Pan city proposal for E-governance (Rs 173 crore) and ITMS (Rs 364 crore).

#### 8. Pune

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	2376.85	Total	527
Area	1864.85	Area	255
Pan city	512	Pan city	272

ICT Solution Capex breakup: Area based + Pan city: **Rs 527 crore**

- **Area based: Rs 255 crore**
  - o **ICT enabled bus stops Rs 27 crore**

- o Citizen services, e-governance, security **Rs 228 crore**
  - CCTVs **Rs 27 crore**
  - IT connectivity **Rs 146 crore**
  - Digital Literacy **Rs 2 crore**
  - Smart Parking **Rs 50 crore**
  - Fire stations **Rs 3 crore**
- **Pan City Based:**
  - o Pan city Transportation **Rs 272 crore**
    - Adaptive Traffic Management Systems **Rs 123 crore**
    - Bus system ITMS **Rs 70 crore**
    - Command Control Center **Rs 42 crore**
    - Smart Parking initiatives **Rs 15 crore**
    - Intelligent road management **Rs 3 crore**
    - Traffic Modeling (Citilogik) **Rs 18 crore**
    - E-challan **Rs 1 crore**

Pune is expected to come out with a single RFP for Area-based opportunity from Citizen Services & E-governance perspective (Rs 228 crore). For Pan city again there can be single RFP for Pan city transportation solution (Rs 272 crore).

## 9. Chennai

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	1366.25	Total	508.76
Area	877.93	Area	56.44
Pan city	488.32	Pan city	452.32

ICT Solution Capex breakup: Area based + Pan city: **Rs 508 crore**

- **Area based: Rs 56.44 crore**
  - o Robust IT Connectivity **Rs 50.69 crore**
  - o Energy Efficient LED Street Lighting **Rs 5.75 crore**
- **Pan City based: Rs 452.32 crore**
  - o **ICT for Non-Motorised Transport:** Includes Cycle sharing system to ensure last mile connectivity, parking management to effectively increase the available effective carriage way and ease traffic congestion, LED street lighting and city surveillance system to ensure safety of pedestrians and Intelligent traffic management system to integrate the public transport **Rs 452.32 crore.**

In Chennai, Area based proposal for Robust IT connectivity RFP is expected to be worth Rs 50.69 crore. The Pan city ICT opportunity for non-motorised transport order is likely to be worth **Rs 452.32 crore.**

## 10. Jabalpur

Total Budget	Capex (Rs crore)	ICT Budget	Capex (Rs crore)
Total	3997.94	Total	324.7
Area	3604.16	Area	121.32
Pan city	203.38	Pan city	203.38

ICT Solution Capex breakup: Area based + Pan city: **Rs 324.7 crore**

- **Area based: Rs 121.32 crore**
  - o Robust IT Connectivity **Rs 44.96 crore**
  - o Safety & Security **Rs 76.36 crore**
- **Pan City based: Rs 203.38 crore**
  - o RFID components including OFC cabling **Rs 169.57 crore**
  - o Vehicle tracking and monitoring system **Rs 13.76 crore**
  - o Central command and control Center **Rs 3 crore**
  - o Other misc. components including IEC campaigns **Rs 17.05 crore**

Here in area-based proposal, two pure play ICT opportunities comes from robust ICT connectivity worth Rs 45 crore and safety & security worth: Rs 76.36 crore. In pan-city major opportunity is aligned to OFC cabling worth **Rs 169.57 crore.**