



LIVABLE  
CITIES

Asian Development Bank

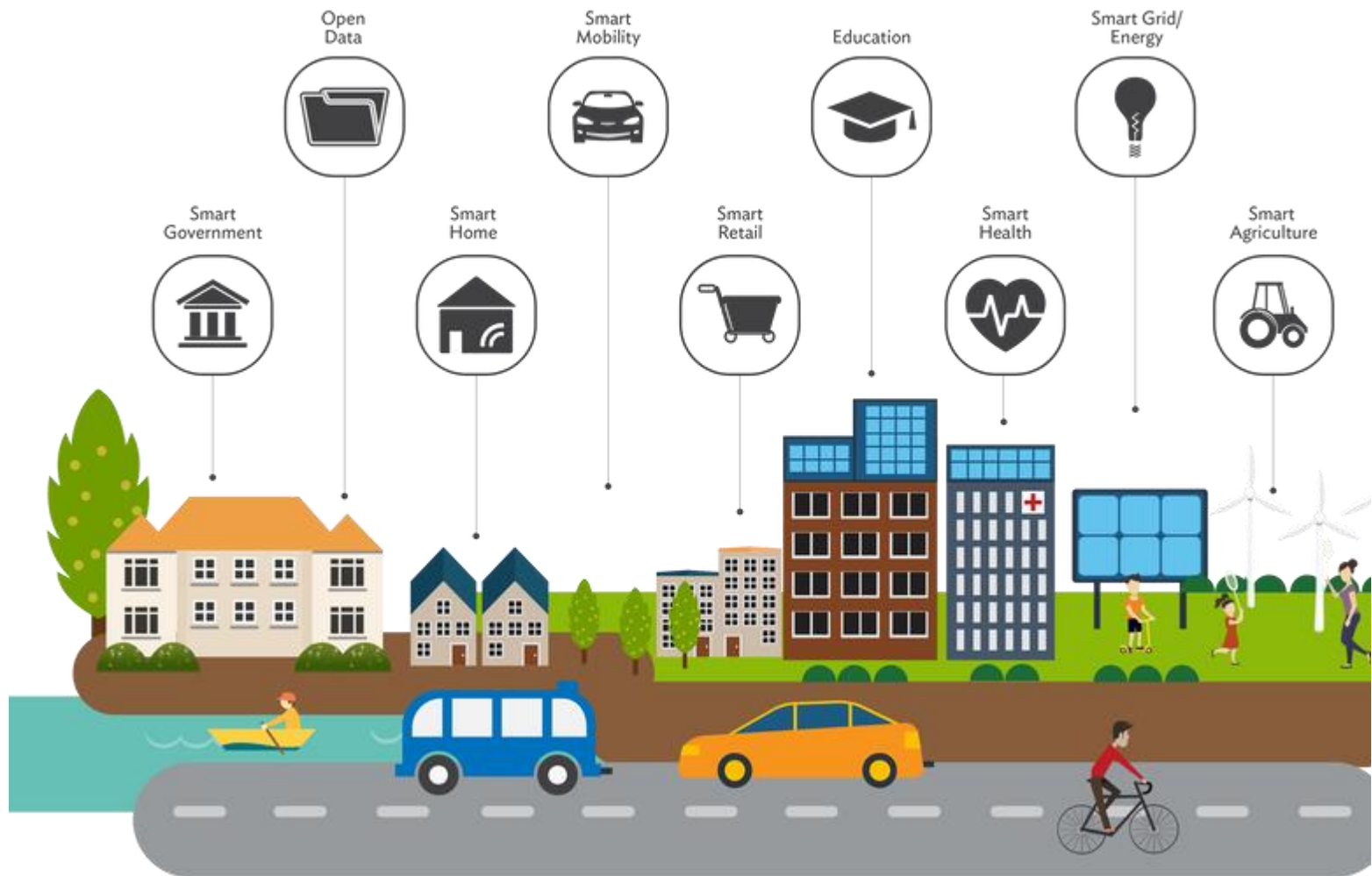
## Financing

### Smart City Solutions

ASIAN DEVELOPMENT BANK  
Urban Sector Group

July 2018

# Framework for a Smart City



# Difference Between Financing and Funding

## Funding

- Government pays
- No expectation of return

## Financing

- Financial Institution
- Debt
- Equity

# Why is Financing Smart Cities so Challenging?

- Risk
- ROI uncertain
- Multisector vs. single sector focus
- Preference for long term projects
- Benefits difficult to give \$ Value



# Revenue Model

- Infrastructure made more efficient
- Clear path of steady revenue.
- New revenue streams.

# What combination of existing and new approaches exist to fund/finance smart cities? Smart lighting example.



## Capabilities

- Dimmable LED lights
- CCTV cameras
- Intelligent signs
- E-V charging stations

## Sensors

 Moisture	 Temperature
 Ambient light	 Air quality
 Seismic activity	 Radiation
 Wind	

## Three layers of apps for turning smart street lighting into a profit center



**Apps for lighting control and energy management**  
SSL vendor develops app for city/utility entity; cost is included with smart lighting

**Benefit:** Adjusts light using motion-based dimming, saving energy costs



**Apps for security, parking, event coordination**  
Apps developed by third-party vendors using Sensity's APIs and tools; small fee charged

**Benefit:** Gunshot detection using audio sensors can help accelerate response time to violent crime



**Apps for planetary data on earthquake detection, global warming, etc.**  
Sensity charges vendors fees to access data and develop on their own platforms

**Benefit:** Provides insights on weather—for example, solar energy producers are notified ahead of cloud cover events

## Bridging the infrastructure gap with new and innovative approaches to financing and funding smart infrastructure projects

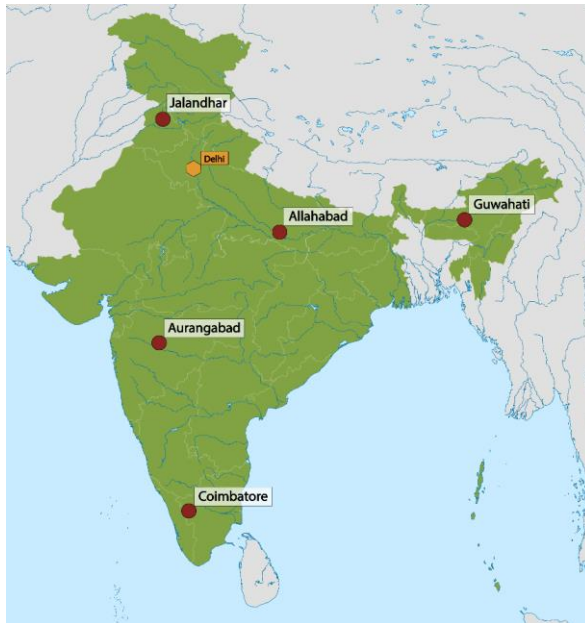
Source	Comments
<b>Taxes</b>	<ul style="list-style-type: none"><li>• Taxes could be used to raise funding for infrastructure investment</li></ul>
<b>Bonds</b>	<ul style="list-style-type: none"><li>• The government guarantees the cash flows</li><li>• Interest rate is dependent on the government's credit rating</li></ul>
<b>User charges</b>	<ul style="list-style-type: none"><li>• Users may be unwilling to pay the fees</li><li>• It may be difficult and costly to collect the revenues</li></ul>
<b>Cost savings</b>	<ul style="list-style-type: none"><li>• Savings are difficult to predict accurately</li></ul>
<b>Land asset leverage</b>	<ul style="list-style-type: none"><li>• Not sustainable in the long-term</li><li>• High volatility of land prices</li></ul>
<b>Sale of data collected</b>	<ul style="list-style-type: none"><li>• There may be privacy concerns</li></ul>



Financing smart solutions depends on level of preparation and quality of project design to access downstream funding within ADB Operations

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## India Smart Cities





Technical assistance and grant funding enable pilot projects:  
Digital land registry with blockchain prototype in Suva, Fiji

ADB TA: Promoting Smart Systems in ADB's Future Cities Program  
with co-funding from the Japan Fund for Poverty Reduction



For more information, contact Chee Anne Rono, [rro.no.consultant@adb.org](mailto:rro.no.consultant@adb.org)



Knowledge partners can provide a level of expertise and efficiency to deliver smart city projects (Finance ++)

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## ADB-Future Cities Laboratory partnership in Bandung



For more information, contact Chee Anne Rono, [rro.consultant@adb.org](mailto:rro.consultant@adb.org)