



# 7. Toolkit: Smart Cities

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### 7. Toolkit: Smart Cities

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**Scenario:** Your mayor wants to be known for innovative solutions.

**Question:** What are the ways you can use digitalisation to further reduce urban energy use and improve urban services?

## Which of the following are available/used in your municipality ?

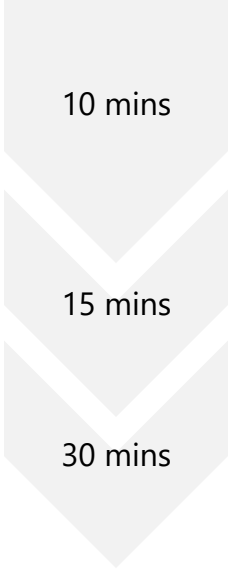
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## 1. Energy efficiency in smart cities

- Focusing on energy demand
- Elements of a smart city services

## 2. Activity 1: Smart solutions

## 3. Activity 2: Enabling energy efficient smart cities



10 mins

15 mins

30 mins

# 1. Energy efficiency in smart cities

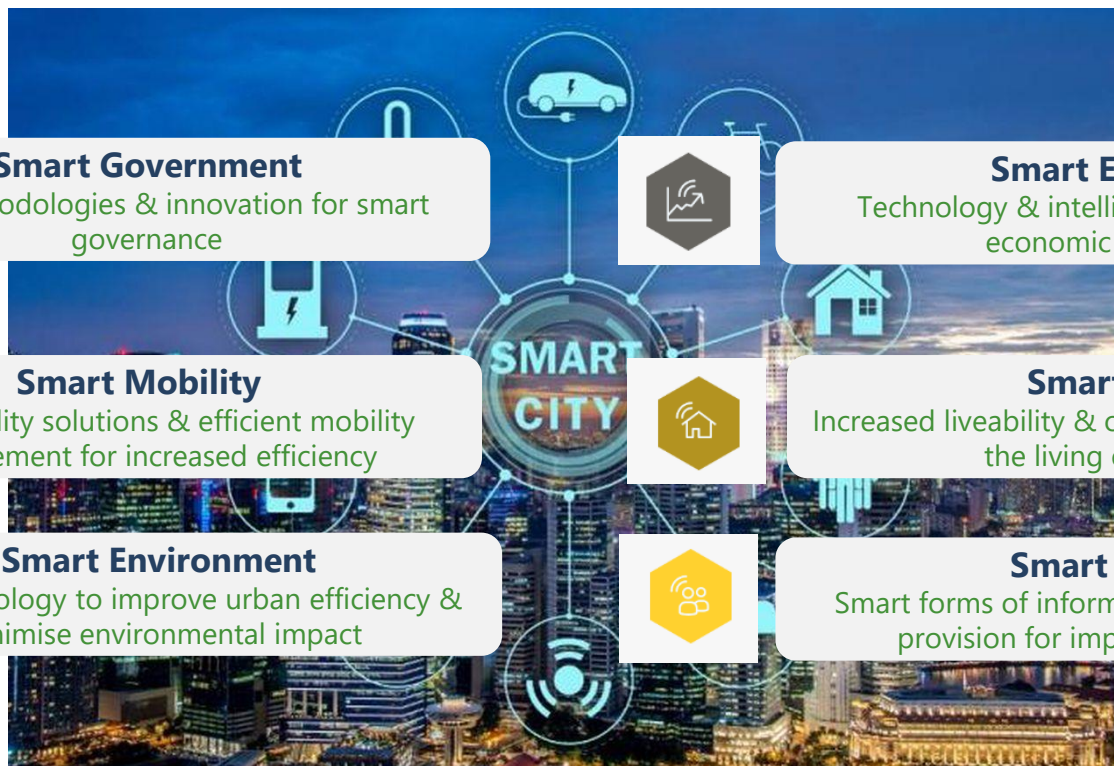
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# What do we think of when we hear smart city?

Where to start?

Tools

What are the steps?



## Smart Government

New methodologies & innovation for smart governance



## Smart Economy

Technology & intelligent approaches for economic prosperity



## Smart Mobility

New mobility solutions & efficient mobility management for increased efficiency



## Smart Living

Increased liveability & optimised management of the living environment



## Smart Environment

New technology to improve urban efficiency & minimise environmental impact



## Smart People

Smart forms of information & public service provision for improved interaction

# What do we think of when we hear smart city?

Where to start?

Tools

What are the steps?

Growing amount of data and analytics that can be done

## Visualisation of an urban informatics service:



**Mobility**

### Distributed mobility

Real-time data indicating location, speed, occupancy etc. is drawn directly from trams, buses and trains. This data is visualised into interactive 'living maps' of the city's transit (which is combined with bike and pedestrian wayfinding information).

Projected signs contain real-time information as well as directions, and highlight connectivity between modes.

Real-time visualization of trams, buses and trains in Melbourne, indicating connections & delays, drawn direct from the vehicles.

Tram-stops, bus-stops and train stations are 'informationally-rich' spaces, embedded with real-time transit data & wayfinding elements.

Distributing pervasively (mobile, web, street) increases the amenity and quality of service associated with walking, cycling and public transit.

ARUP

# Activity 1: Smart solutions

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# Activity 1: Smart solutions

List out some of the smart solutions to increase energy efficiency in the following sectors

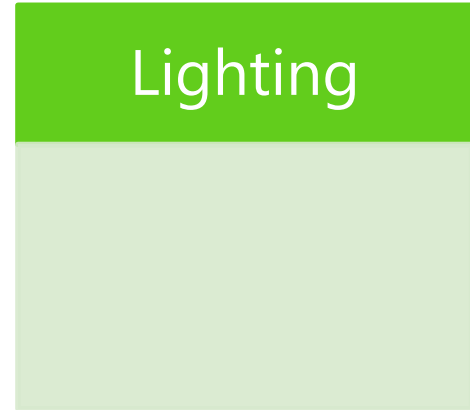
Transport

A rectangular box with a dark blue top half containing the word "Transport" in white text, and a light grey bottom half.

Water

A rectangular box with a red top half containing the word "Water" in white text, and a light pink bottom half.

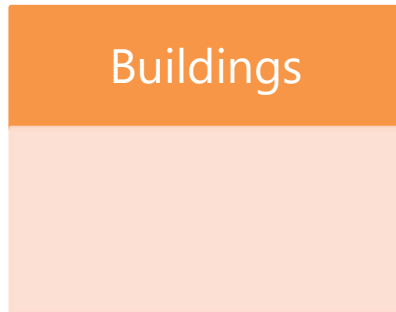
Lighting

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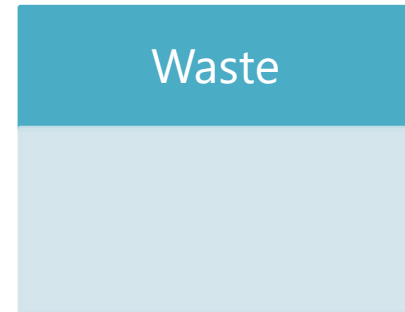
Urban Design

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Buildings

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Waste

A rectangular box with a teal top half containing the word "Waste" in white text, and a light blue bottom half.

Some of the examples:

## Transport



Smart Mobility as a service

## Water



Leakage and energy management systems

## Lighting



Intelligent lighting systems

## Urban Design




Mapping and other data tools for planning

## Buildings



Smart building controls

## Waste



Smart bins

# Activity 2: Enabling energy efficient smart cities

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# Breaking apart the elements of a smart solution

Where to start?

Tools

What are the steps?

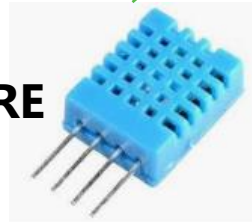
**SERVICE**



**DATA**



**INFRA-  
STRUCTURE**



Building temperature and humidity sensors



**Smart building controls**



Electric meter



Lighting systems



Motion detectors

**Break out into 3 groups and choose one of the topic and determine its contributors**

## Transport




Smart Mobility as a service

## Water



Leakage and energy management systems

## Lighting



Intelligent lighting systems

- Elaborate the issues that you might face in infrastructure, data, and service delivery (privacy, cost, ownership, legal authority?)
- Use the internet if necessary

## MOOC: Smart Cities – Management of Smart Urban Infrastructures



Learn about the principles of management of urban infrastructures in the era of Smart Cities. The introduction of Smart urban technologies into legacy infrastructures has already resulted and will continue to result in numerous challenges and opportunities. This course will help you to make the best out of the introduction of these smart technologies in your cities' legacy infrastructures.

<https://www.coursera.org/learn/smart-cities>



<http://www.sharingcities.eu/>



<https://asean.org/asean/asean-smart-cities-network/>



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