# RESEARCH TITLE

**The potential of Architectural Design Simulation (ADS) on the development of Environmental Performance Evaluation (EPE) of smart cities**

# RESEARCH AIM

To develop the environmental performance evaluation of smart city, it's necessary to highlight the importance of geographic information system in sustainable performance development.

How architecture design simulation (ADS) develops construction industry, then explore the way to merge the architecture design simulation (ADS) in the geographical information system (GIS) and how to manage (GIS), then determine the potential of architecture design simulation on the development of the environmental performance in the smart city. there are previous studies to merge the simulation system in GIS, (Roosaare, 2017)

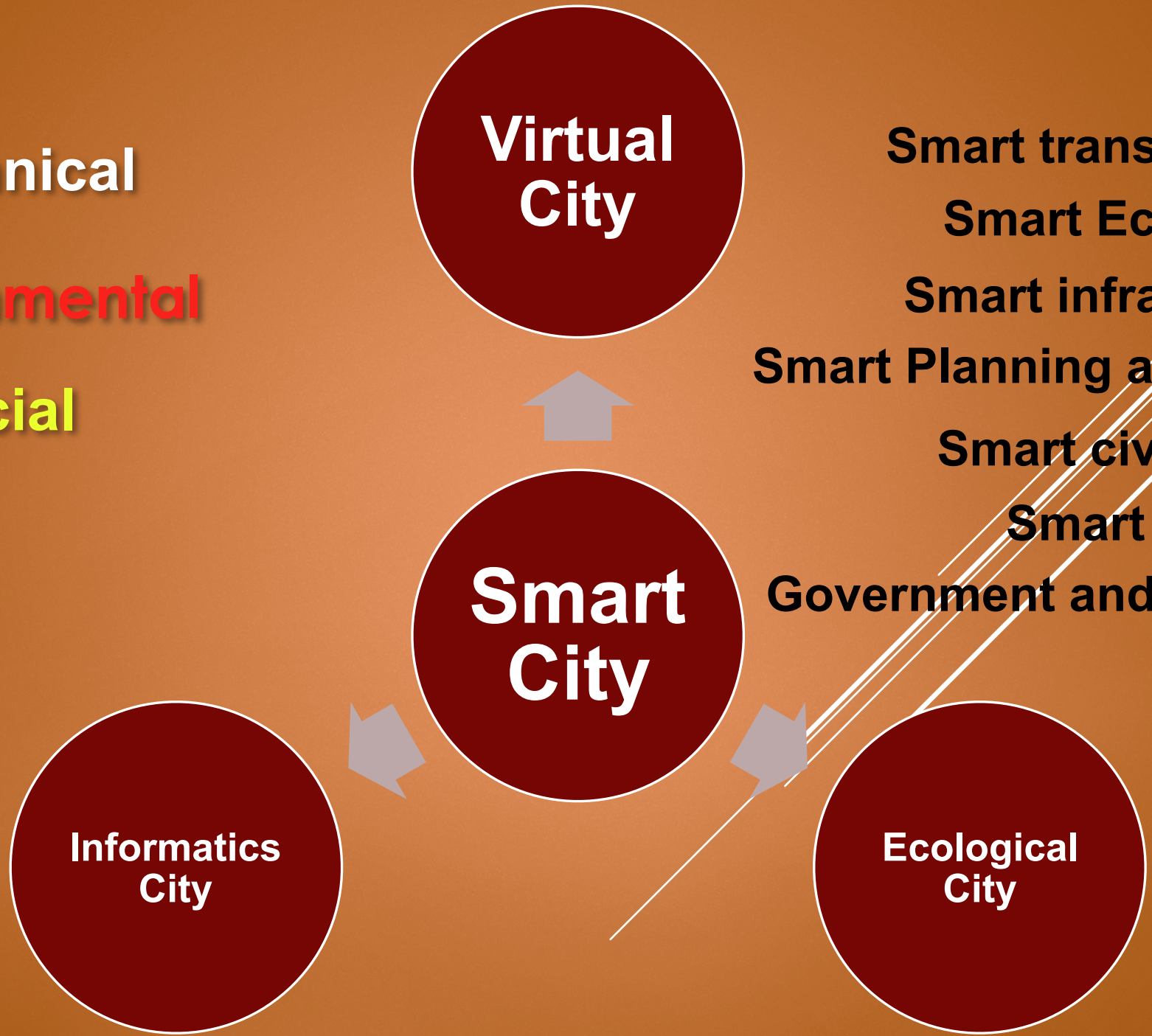
There are no previous studies about the potential of the architectural design simulation (ADS) through geographical information system (GIS) to develop the environmental performance in smart cities. This is the main gap that this research aims to address.

**This research aims to examine the potential of Architectural Design Simulation (ADS) on the development of Environmental Performance Evaluation (EPE) of smart cities**

Technical

Environmental

Social




Smart transportation

Smart Economy

Smart infrastructure

Smart Planning and environment

Smart civil society

Smart Living

Government and administration

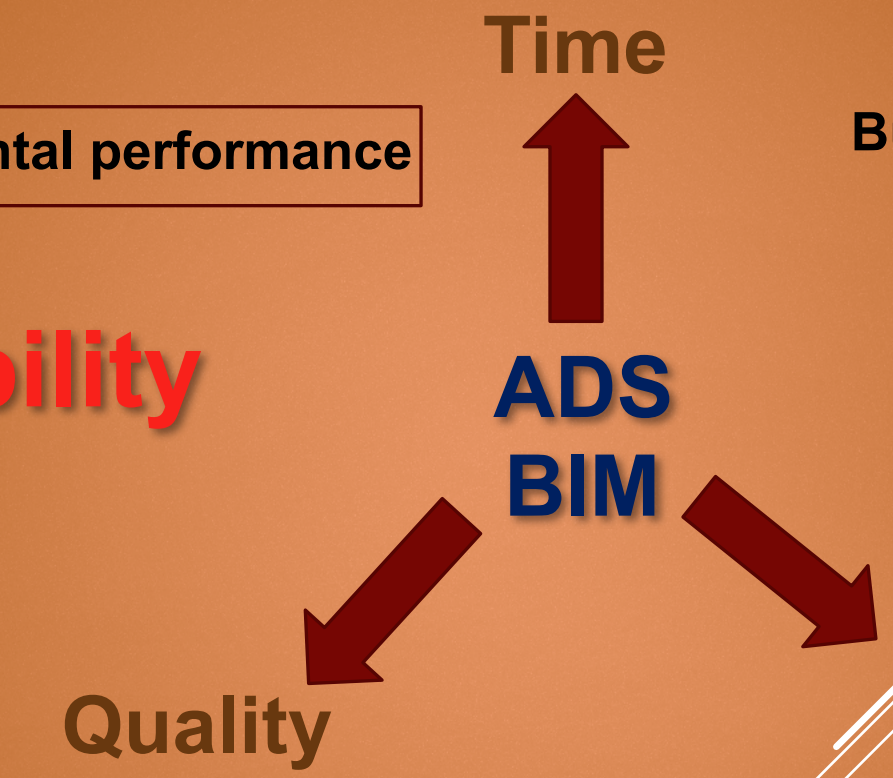
# Intelligent Comprehensive Technology of Smart City

| | | |
|---|---|---|
| Intelligent Comprehensive Technology | Planning and Management | Public Safety |
| | | Government and Agency Administration |
| | | City Planning and Operation |
| | | Building |
| | Infrastructure | Energy |
| | | Water |
| | | Transportation |
| | People | Education |
| | | Smarter Care |
| | | Social Programs |

# RESEARCH OBJECTIVES

Increase the environmental performance

Sustainability



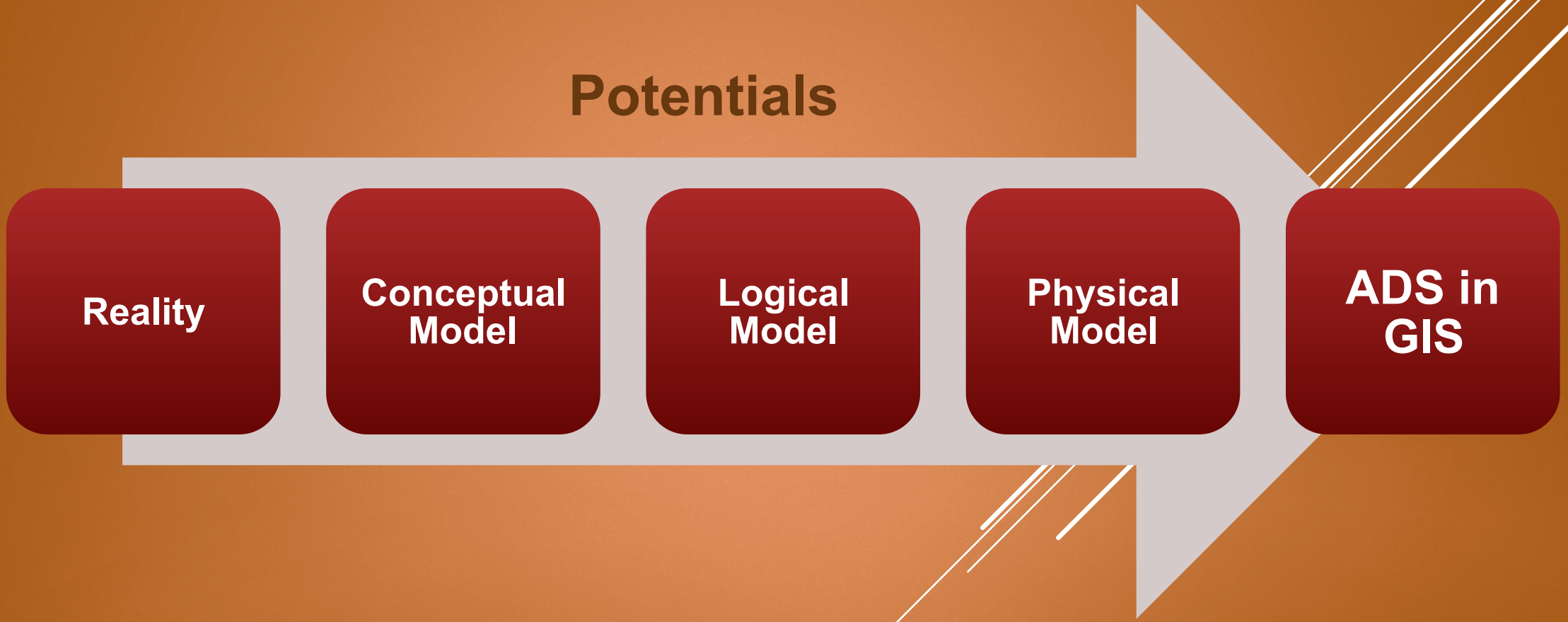

Building performance expectation

Avoid the design problems

Study of sustainable materials

To identify the impact of using Architectural Design Simulation (ADS) in developing and improving environmental performance in buildings.

# RESEARCH OBJECTIVES




To identify the potential of Architectural Design Simulation (ADS) on the Geographic Information System (GIS) of Smart City.

# RESEARCH OBJECTIVES

Cost Reduction

Cost Avoiding

Increase Revenue

Getting New Products

**ADS**

Integration

BIM in GIS

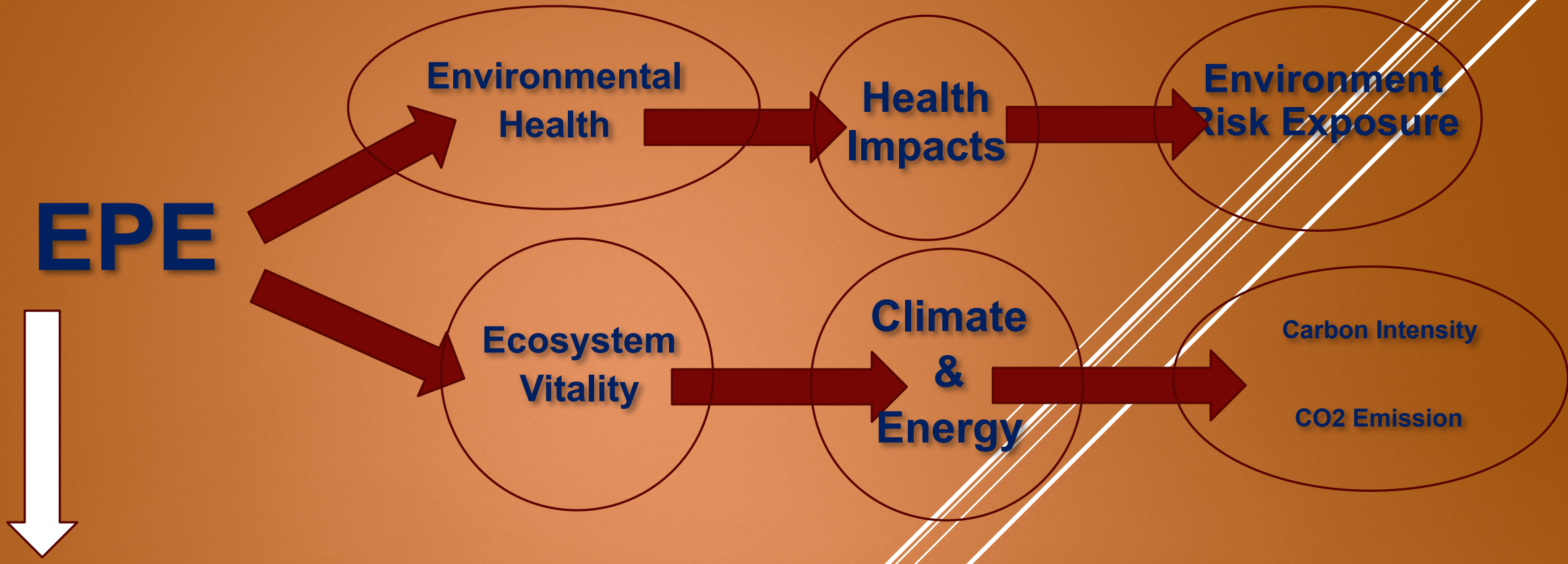
**GIS**

Getting Non-tangible Benefits

Better decision making

**To explore the integration of architectural design simulation (ADS) system into Geographic Information System (GIS) in Smart Cities.**

# ENVIRONMENTAL PERFORMANCE EVALUATION




**Do** Planning environmental performance evaluation by selecting relevant indicators.

**Plan** Collecting and analysing data and assessing information and reporting results.

**Check & act** Review and improve environmental performance.

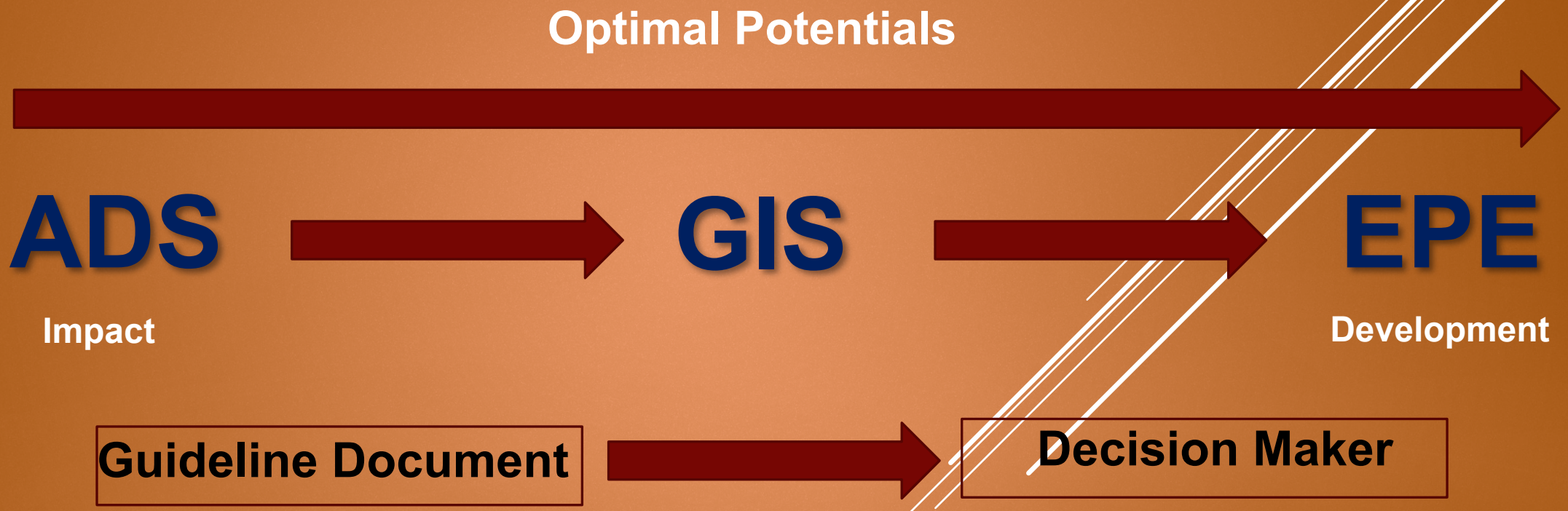
# RESEARCH OBJECTIVES

Electronic government | Urban planning | Services | Healthcare | Transportation


Live and direct link to databases | Vehicle Tracking Systems | Water and Sanitation

To explore the impact of Geographic Information System (GIS) in the Environmental Performance Evaluation (EPE) of smart cities.

# RESEARCH OBJECTIVES




To specify the Optimal Potentials of architecture design simulation (ADS) in GIS as a Guideline Document helps the Decision Maker to develop the Environmental Performance Evaluation of smart cities.

# Firas Ilan

# Any Question

# Thanks