



香港城市大學  
City University of Hong Kong

**Sensor-based Smart City Modelling: with Collaborative Urban Analytics by ACE & BST Students (Inter-disciplinary Project)** 學生們利用跨學科合作項目: 採用協作城市化分析去創造立體的智慧城市模型, 裡面每座建築物或基建已具備定位之感應器, 不同位置配搭的分佈, 通過電腦程式之同步介面, 可得出整體的效益值 (例如: 能源效益), 學生可即時改變位置或設計, 在介面可看到各效益之變化!

**Project Number:** 6000618

**Principal Investigator:** Dr. Raymond LEE

**Grant Type:** TDG

**Abstract:**

In the 2015 Policy Address, the Chief Executive announced that the Government would use Kowloon East as a pilot area to explore the feasibility of developing a Smart City. In the pilot study, the Government would examine the feasibility of, among other things, using technology to enhance pedestrian and vehicular accessibility, manage district facilities, and disseminate information to the public in digital format with a view to making the area a better place for work and play...

Urban Analytics focuses on data-driven analyses of economic activity, urban perception, human behavior, mobility patterns, and resource consumption to form the Smart City design process.

Parametric urban design tools and computer simulations will enable the creation of rapid prototyping tools for the placement of mobility nodes, street typologies, and resource allocation.

Targeted interventions for existing cities and phasing strategies for the development of new cities will be generated in an evidence-based fashion, influenced

by the findings of living laboratory experiments, and sophisticated data analysis.

Our TDG project will be linked closely to the Smart City

Modelling design and technology curriculum (for ACE &

BST students) and will assist students in rapid prototyping



香港城市大學  
City University of Hong Kong

of their ideas and innovations. The project team also

propose in linking the Collaborative Urban Analysis with 3D model design (with sensors) and workflow through to the whole civil engineering and management curriculum; to explore the

intensive students' engagement (ACE and BST students) with collaborative urban analysis approach to Smart City Modelling, which consist FIVE major areas : Smart Health Care, Smart Education, Smart Energy Planning, Smart Transportation and Green Building; by [software : simulation (linked

with sensors (on 3-D building models) on the platform) and [hardware : using a large-scaled 3D Printer to produce 3-D building blocks and infrastructure (with sensors) to form Smart City demonstration].

Overall Efficiency (E!) will be calculated for each combination of Smart City.