Planning for Low-Carbon Transport in Hong Kong: A Study of Urban Structure and Travel Patterns

CUHK Institute of Future Cities (IOFC)
January, 2015
Low Carbon Transport

- Policy priority ("Towards low carbon transport in Europe", www.transport-research.info)
  - Towards efficient use of transport infrastructure and services
    - Infrastructure planning
      - New and upgraded infrastructure
      - Integrated spatial planning
    - Modal shift
    - Intelligent transport systems (ITS) and transport demand management
  
- Towards more energy efficient transport
  - Fuel efficiency regulation
  - Research on new technologies and engines
  - Green public procurement
Low Carbon Transport

- Low-carbon transport in London (Imperial College London and University of Oxford)

  - Over 150 policy interventions were examined and grouped together into 12 complementary policy packages, such as:
    - Urban planning
    - Investment in public transport, walking and cycling
    - Low-emission vehicles
    - Alternative fuels
    - Pricing regimes
    - Ecological driving
    - Freight logistics planning
Objectives

- The overall objective is to plan for low carbon transport in Hong Kong through better spatial planning. The specific tasks include:
  1. To measure accessibility and evaluate the level of job-housing spatial mismatch in Hong Kong
  2. To explore the reasons for spatial mismatch in view of Hong Kong’s economic structure and job distribution
  3. To study commute patterns and commuters’ stress and satisfaction level of work trips
  4. To provide policy recommendations to reduce congestion and commute stress in Hong Kong
     - Spatial planning
     - Local economy
     - Alternative work schedules
Research Plan

• Literature review
  – Review existing transport studies in Hong Kong
  – Identify research gaps

• Data collection
  – Census data
  – Street network
  – Transit network
  – GIS files of TPU (town planning unit)
  – Travel Characteristics Survey

• Survey
  – Hongkongers’ commute patterns, stress, and satisfaction level
    • Commute time and distance
    • Modal choice
    • Commute stress and satisfaction level
    • Acceptance of alternative work schedules
Research Outputs

• A summary report (and possibly an academic publication)
• A press conference/workshop/forum
• A number of potential policy recommendations to the public and private sectors. Interested government units and private parties may include but not limited to:
  – Planning Department
  – Transport Department
  – MTR
  – Other transport operators
• Raising societal awareness for a number of transport-related issues
  – Sustainable transport
  – Accessibility
  – Travel behavior
  – Commute stress
  – Alternative work schedules
Future Studies

• Spatial planning: a big data approach
  – Usage of Octopus Card in the public transport systems
  – Analysis of travel patterns
  – Implications to transport policymaking and urban planning
Principal Investigators

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