Debriefing Session by HKIHT Delegates

19 December 2019, CITAC

Agenda

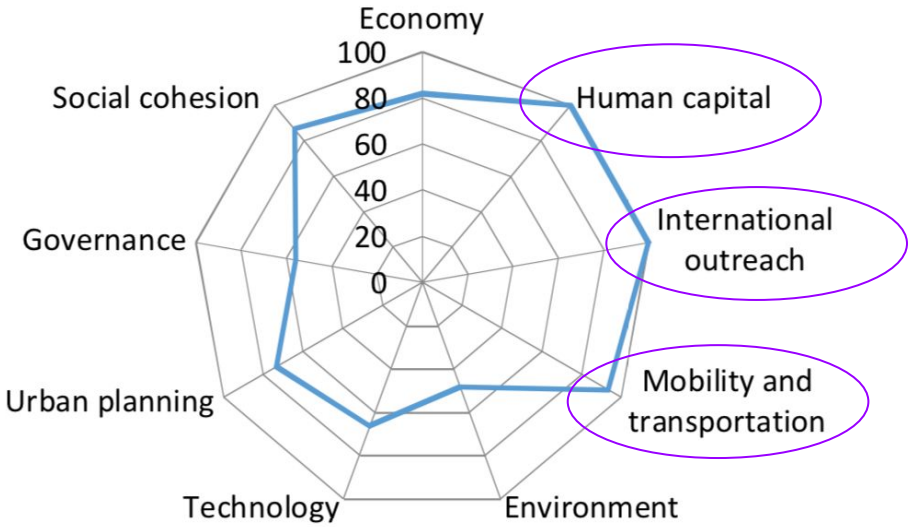
- Why London?
- Area of Study in the delegation
- Overseas Visits Highlights
- Insights
  - Innovation
  - Sustainability
  - Funding and Policies

Why London?

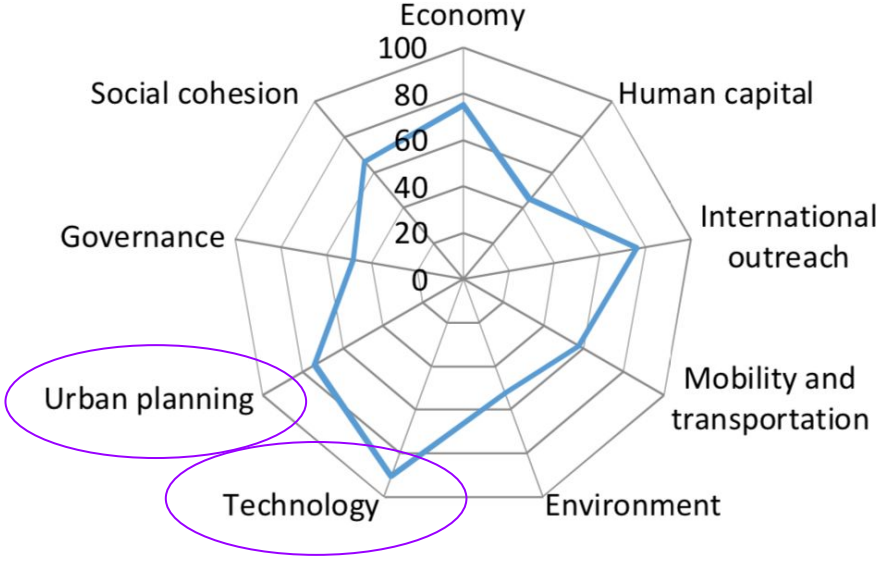
IESE Cities in Motion Index 2019

Hong Kong Ranking: 11/174 (London: 1/174)

1 - London - United Kingdom



11 - Hong Kong - China



Asia-Pacific Top Five

IESE Cities in Motion Index 2019

City	Regional position	Global position 2016	Global position 2017	Global position 2018
Tokyo - Japan	1	7	6	6
Singapore - Singapore	2	8	8	7
Hong Kong - China	3	19	14	11
Seoul- South Korea	4	10	10	12
Taipei - Taiwan	5	28	30	30

HKIHT 1st Overseas Delegation...

Delegation Advisors (HKIHT Council)

Ir Ian Chung

President, HKIHT

Chief Executive, Greater China
AECOM

Ir Francis Kung

Council Member, HKIHT

Managing Director
Meinhardt Infrastructure and Environment Ltd

Ir Francis Sootoo

Council Member, HKIHT

Director
Systra MVA

Area of Study in the delegation

- Innovation
- Sustainability
- Funding and Policies

Smart Mobility



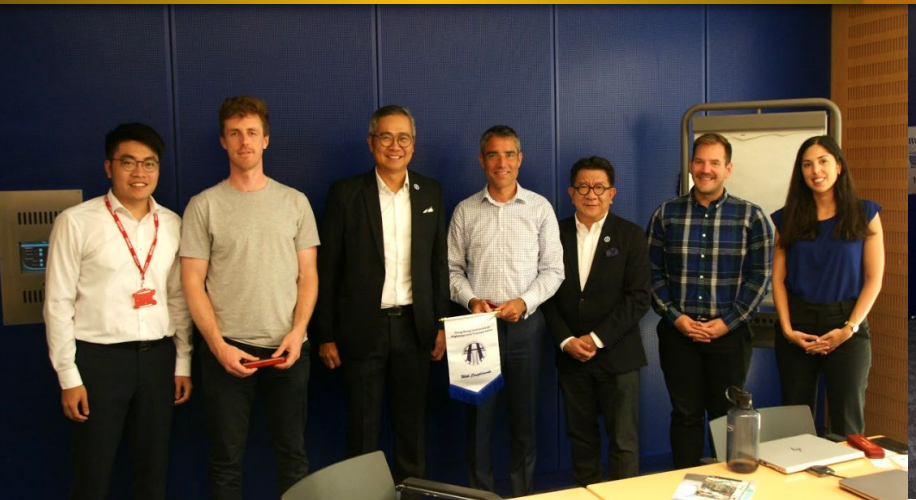

Overseas Visits - Highlights

12 August 2019 - 16 August 2019

Seminar on Smart Mobility - Ian Ralph (TfL) & Zeina (Cities Forum)

Auto-mobile development in the UK

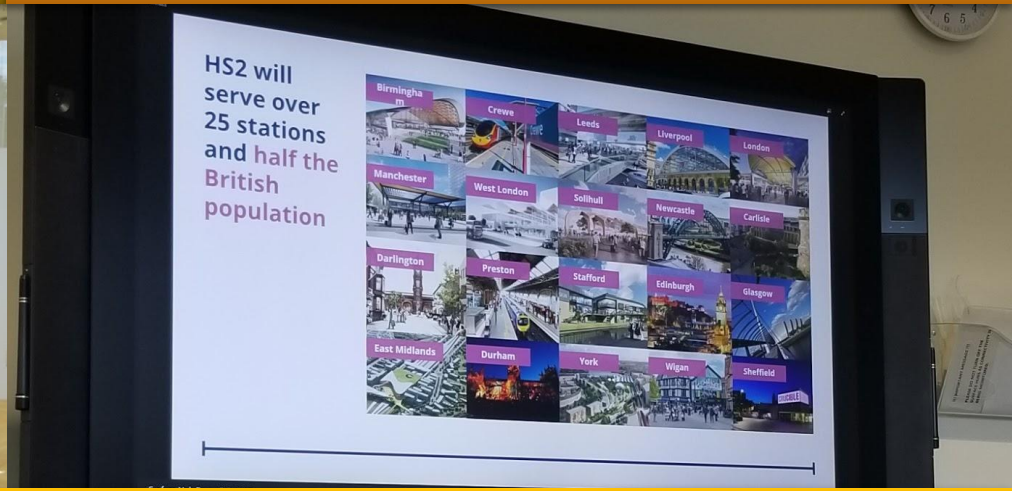
London Infrastructure Plan 2050 by Arup



Social and economic aspects of infrastructure development

Seminar on High Speed 2 by HS2 Limited

Construction Phases of HS2



HS2: Connect the North and South

Project Management Framework discussion with aPM

Seminar on Road Investment Strategy 2 & Fleet Operator Recognition Scheme by CIHT

Young Engineer Exchange at CIHT

Presentation on Smart Mobility in Hong Kong

Presentation on Hong Kong 2030+

Seminar on Strategy for Transportation by AECOM

UK Infrastructure investment plan

Visit to Crossrail (Liverpool Street Station) by AECOM

Passenger flow and the design of the platform (no photos allowed in the platform!)

Seminar on London Bridge Station Redevelopment project by Grimshaw Architects

Design of the London Bridge station

Visit to London Bridge Station by Grimshaw Architects

Woolwich Station to be opened in 2020

More than 2000 new homes will be built nearby

Visit Woolwich Station by Crossrail

Station Interior

Visit to Luton Airport - Direct Air-Rail Transit by Arup

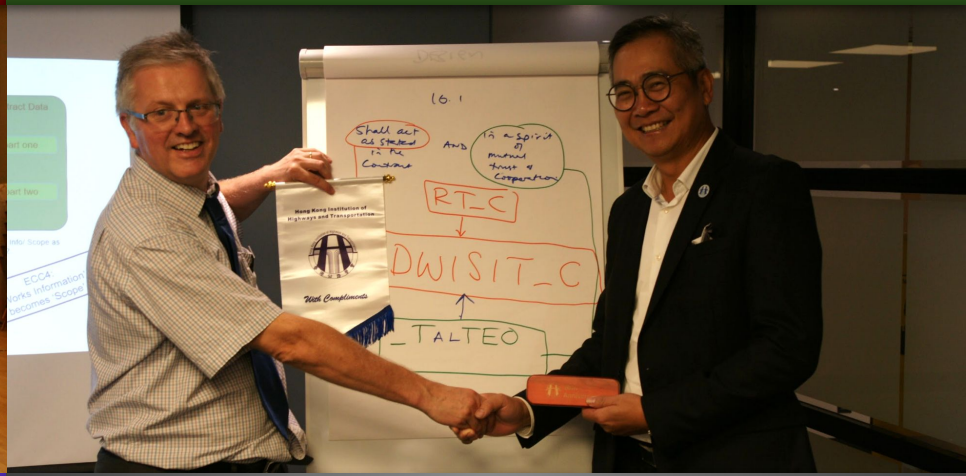
Underpinning method for the walkway

Visit to Luton Airport - Direct Air-rail Transit by Arup

Excavation and Lateral Support (ELS)

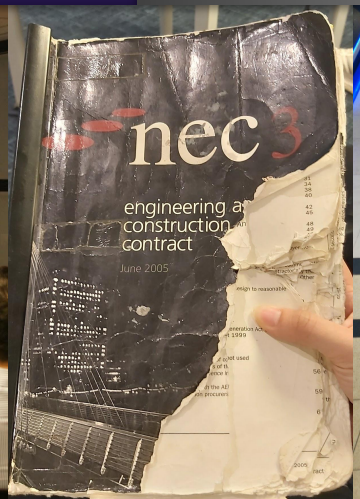
Tour at Institution of Civil Engineers, 15 Aug 2019

"NEC in 30 flipcharts" by Richard Patterson (NEC)



Sharing on NEC

NEC at ICE



Tour on Street Design by Christopher Martin (Urban Movement)

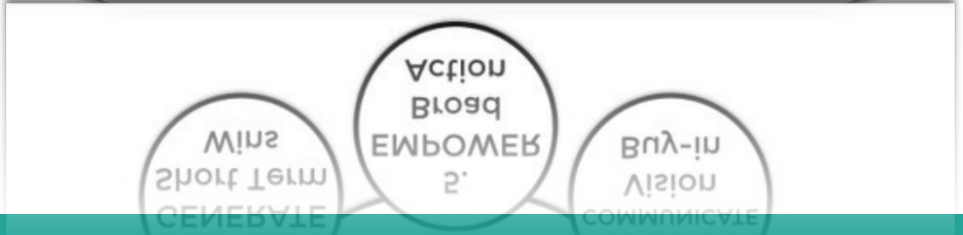
BIM for Infrastructure Training Course by Steven Eglinton

Streetscape and landscape design

BIM Implementation - Putting People First training, 16 Aug 2019

Innovation

- BIM Implementation
- Movement Insights and Value Management
- Innovative Construction Methods



Org

Team

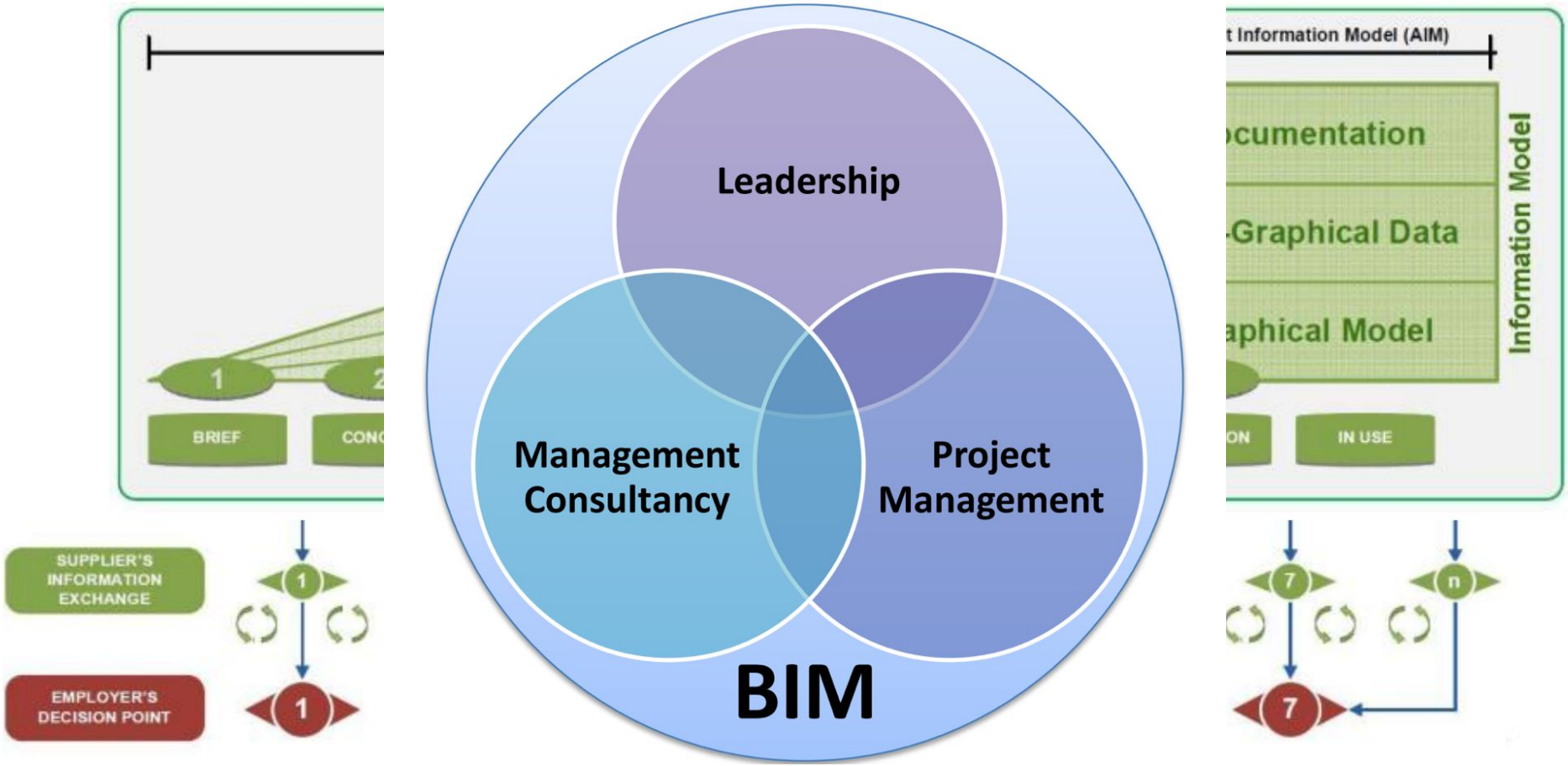
Job

Qualifications

Accreditations

'Badges'

Incentives



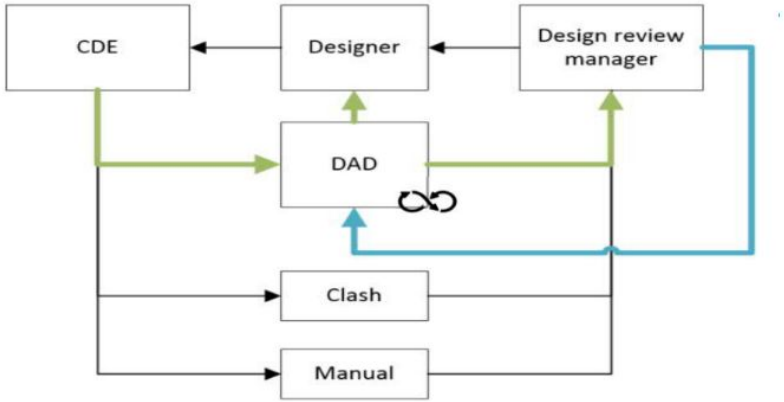
BS EN ISO19650-1:2018 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - information management using building information modelling. Concepts and principles

Movement Insights

- ✓ Data Harvester and Data Lake
- ✓ TravelTime
- ✓ Mobility Mosaic
- ✓ Agent Based Modelling

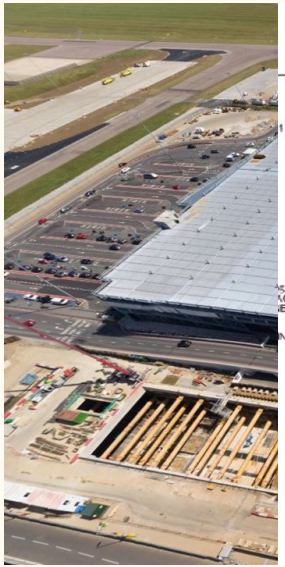
Value Management

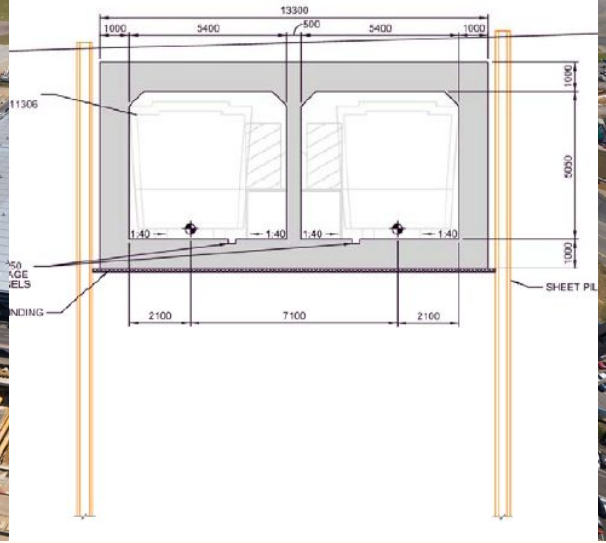
- Digital Design Review by VR
- Design Anomaly Detector (DAD)
- Automated Design



Innovative Construction Methods


RYANAIR

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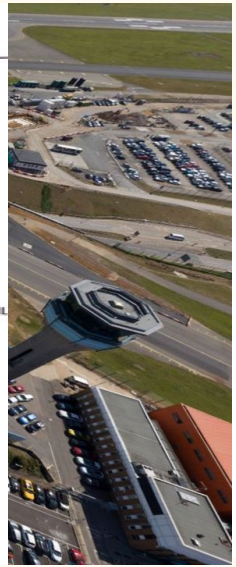
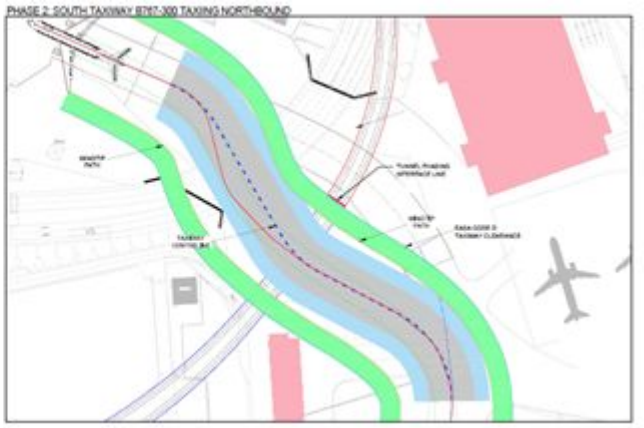
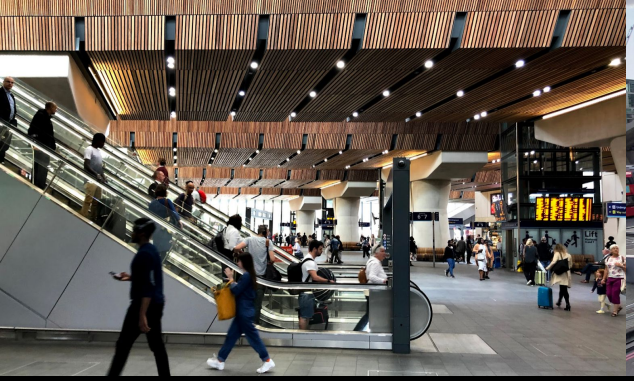



PHASE 2: SOUTH TAXIWAY B787-300 TAXING NORTHBOUND

Modular Construction

CNCT Arch: Data Communication Systems (DIS) by 3D printing

- ✓ Off-site pre-fabricated components
- ✓ Shift work from busy site to more structured and controlled facility
- ✓ Faster installation
- ✓ Safer work conditions
- ✓ Higher quality
- ✓ Lower cost



Pedestrian

Cyclist

Public Transport

Driver

Sustainable Development vs Historic Preservation

Sustainability

—

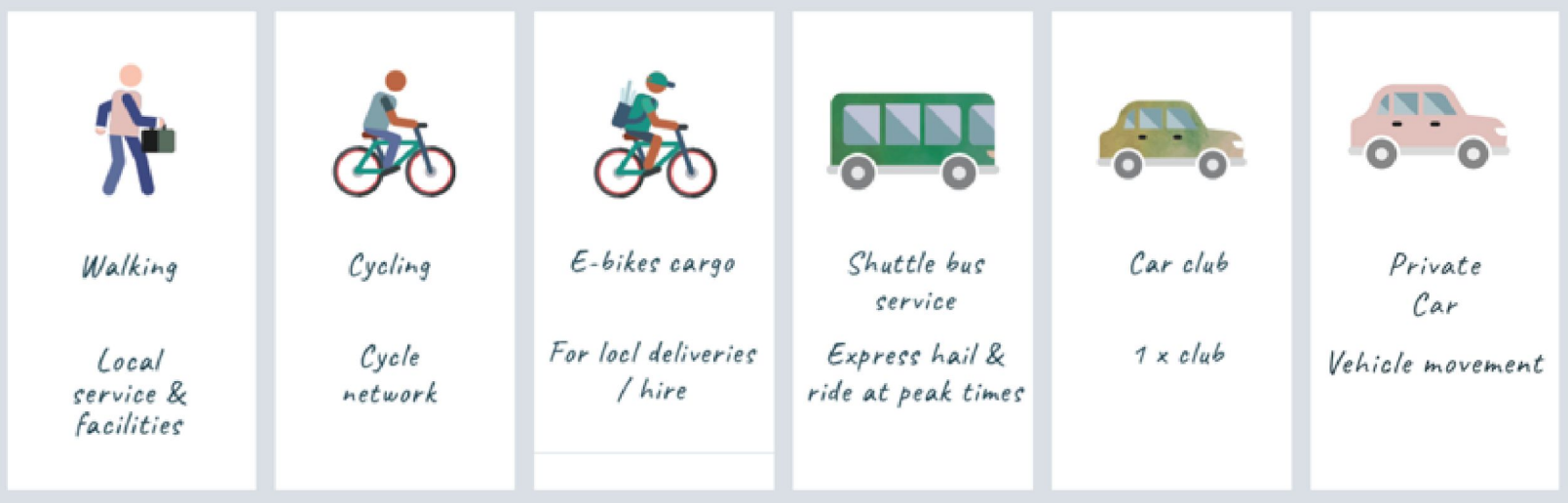
- Hierarchy of Road Users *(Vauxhall, by Urban Movement)*
- Renovation/ Extension *(London Bridge Station, by Grimshaw)*

Sustainability - Principles for Urban Strategy

- key elements to be considered for urban planning
- address the uprising social needs/ problems **without compromising the availability of resources** for future generation

→ Challenging for coming up sustainable solutions that balanced the needs in **environmental**, **economic** and **social** aspects

Hierarchy of Road Users



- **Pedestrians** & **Cyclist** shall come **1st**
- **Private Car Users** shall come **Last**
- Make environment be better for walking, cycling and public transport

Pedestrian



- Speed Table/ Raised Crosswalks
- Pavers for indicating the priority of pedestrian
- Greenery/ Streetscape Enhancement - water retention planter

→ Similar traffic calming measures are introduced but not widely implemented in HK

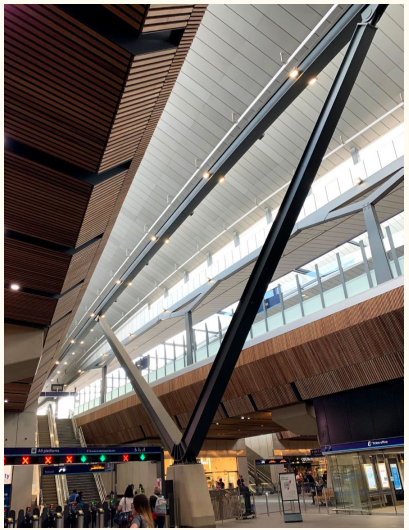
Cyclist

- Speed Table for private car
- Priority given to cyclist

Cyclist - Cycle Superhighway

Sustainable Design - London Bridge Station

- Natural light
- Enhance the user experiences
- Step-free Circulation



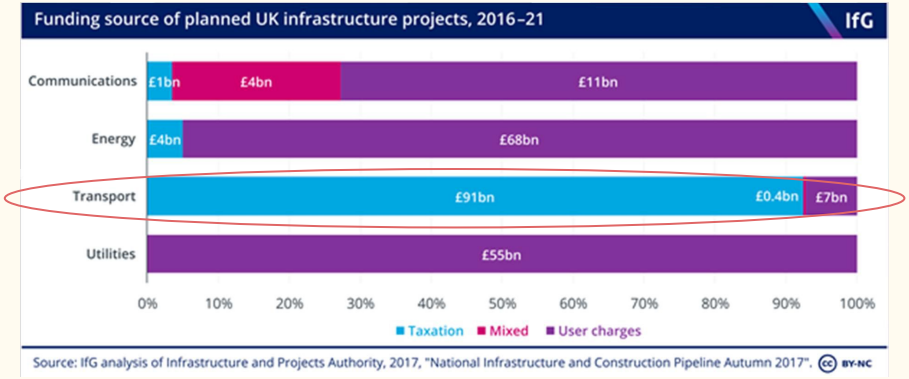
Renovation/ Extension - London Bridge Station

- Redevelopment vs Preservation
- Sustaining historical characteristics

Funding & Policies

- Public-Private-Partnership
- Funding Gap Reduction
- Cost-Effective Policy

Fiscal Devolution



- London has minimal fiscal autonomy compared to other capital cities in the world.
  (~70% of London's revenue from central government, as compared to 26% in New York, 16.3% in Paris.)

- London's limited fiscal power is the major constraint to respond to changed to economy and social needs.

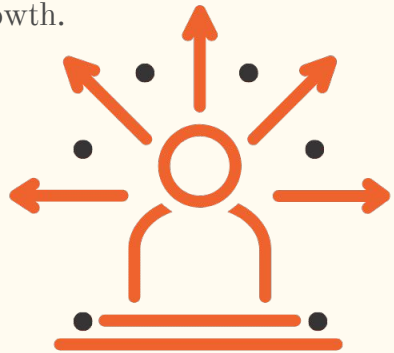
- The Local Authority in London controls fundraising powers restricted to council tax, business rates and user charges only, which in sum comprise direct contact of only 5% share of locally raised taxation.

- Under current setting, London is seen as a country-wise net contributor (to public finance) not net beneficiary, as taxation revenues are redistributed across the country.

Fiscal Devolution

Solution: Local authorities to grasp the opportunity for greater fiscal decentralization, and transfer of expenditure responsibilities and revenue assignments to lower levels of government.

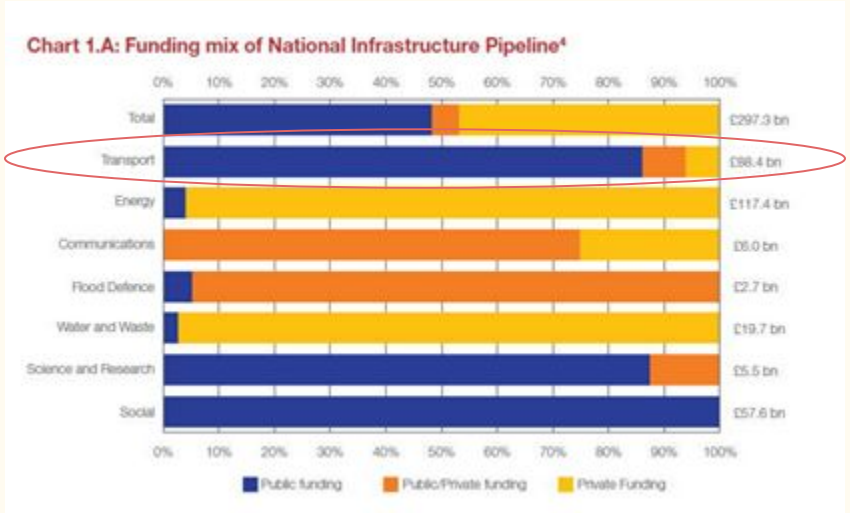
1. Bringing closer the taxpayers to the decision makers.
2. Diverse revenue streams can generate more revenue.
3. Efficiency gains by avoiding the distorting effects of taxes.
4. Ability to attract businesses by manipulating taxes.
5. A greater range of fiscal powers could be regularly adjusted to fine tune the effect on local growth.



Public-Private-Partnership

Private funding does not play a major role in funding among the UK's transport infrastructure projects.

In the UK, transport infrastructure is mainly financed by public funding at a proportion of over 85% (2016 figure).



Public-Private-Partnership

- E.g. Cross-rail

Public-Private-Partnership

Private sector was set to fund half of the UK's infrastructure pipeline:

1. Control of construction costs due to incentives for the private sector, improvement of operational efficiency, quality and maintenance of assets.
2. National infrastructure investment can be increased without raising government debt or public spending; and
3. Transfers risk to the private sector.

The UK government has initiated the UK Guarantee Scheme to support private investment in ‘nationally significant’ projects.

UKGS can issue up to an aggregate sum of £40 billion of guarantees to at least 2026. To date, guarantees have been approved for 10 projects with a capital value of around £23 billion, including Northern Line Extension and Hinkley Point C.

Cost-Effective Policy

According to Transport for London (TfL), the Government had cut its grant funding by a total of £2.8 billion from 2015-16 to 2020-21. As commented by TfL in 2016, this would equate to approximately £300 million less to spend on capital projects a year than previously planned.

Cost-Effective Policy

In 2016, the Mayor and TfL announced that they had identified savings to cover the first two years of the fares freeze pledge:

1. A fundamental review of TfL's organizational structure to review management layers and eliminate wasteful duplication across all its functions (estimated saving – £20-25 million).
2. Improved procurement and renegotiation of contracts from suppliers and other third-party spending which accounts for over two thirds of TfL's total budget (estimated saving – £50-60 million).
3. The reprioritisation and consolidation of IT projects which delivered relatively low benefits (estimated saving – £20-30 million).
4. Freezing recruitment for all but the most essential roles and significantly cutting the most expensive of the existing ~3,000 agency contractors currently engaged by TfL (estimated saving – £2 million for reduction of IT contractors).
5. Assessing the cost-effectiveness of various concessionary fare schemes


DREAM BIG.


THANK YOU!

Backup Slides

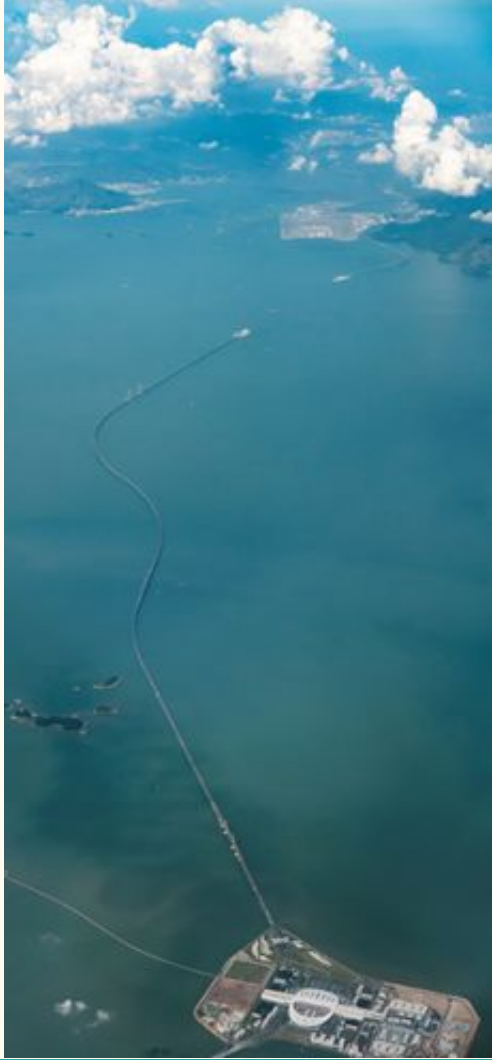
Introduction of HKIHT

Established in 1999, Hong Kong Institution of Highways and Transportation (HKIHT) is a **learned society** comprising professional practitioners, academics and subject matter experts from highway engineering and transportation fields in Hong Kong.

Through organizing regular technical conferences, delegations and construction site visits, the Institution plays an advisory role in public engagement of major infrastructure projects in Hong Kong. With the Institute's strong network of fellow organizations in Mainland China, the Institution also facilitates cross regional collaboration connecting professionals with similar interests and aspirations.

Vision & Mission

- To promote the activities and interests of professionals engaged in highways engineering and transportation
- To meet the challenges of providing safe, efficient and environmentally acceptable highway networks and transportation infrastructures
- To advance, for the benefits of the general public, the science and art associated with highways engineering and transportation
- To promote education, training, research and development of the science and art associated with highways engineering and transportation



- To share the experience gained in Hong Kong and to exchange ideas among local professionals
- To foster mutual support and help raise the standards of highways and transportation developments in Hong Kong
- To create, maintain and expand communication and collaboration with other learned societies, in particular those in the mainland and overseas on matters of common interest