ITS Developments in Hong Kong and Potential Cooperation

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Agenda

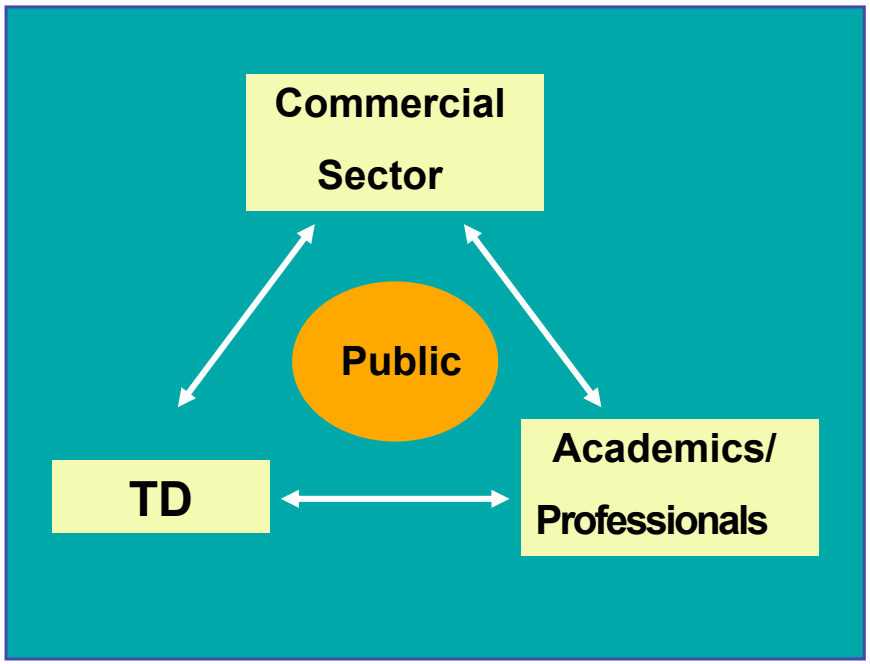
- Introduction
- Intelligent Transport Systems (ITS) in Hong Kong
  - Objectives
  - Traffic Information
  - Traffic Control
  - Enforcement
  - Infrastructure
- The Future
- Opportunities for Cooperation

Statistics

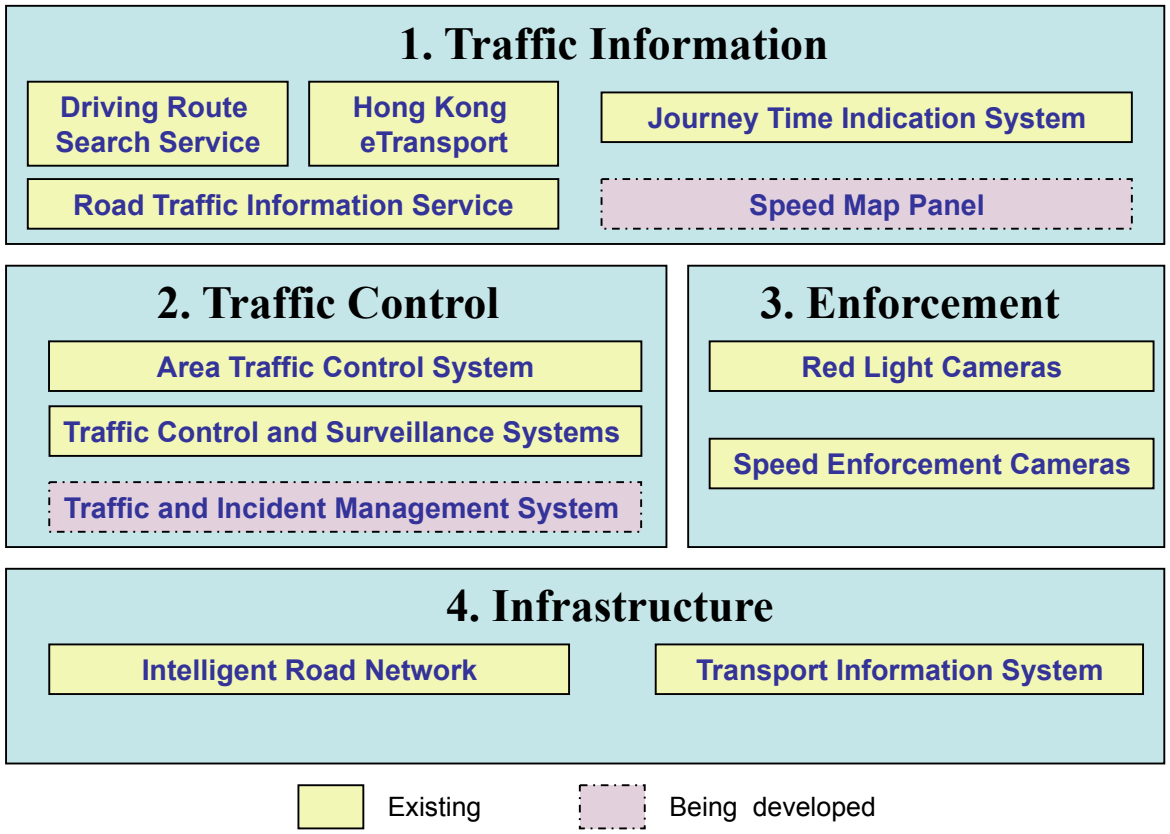
- Total lane area: 1018 sq km, 1/3 is usable
- Population: c. 7 million
- Road length: c. 2086 km
- No of licensed vehicles: c. 630,000
- Density: 300 vehicles / km
  c. 0.3 km / 1000 people
- Public transport usage: c. 90% (12m passenger trips / day)

ITS in Hong Kong - 1

- Wider application of advanced technologies
- Objectives:
  - Safe
  - Reliable
  - Sustainable



ITS in Hong Kong - 2



Traffic Information

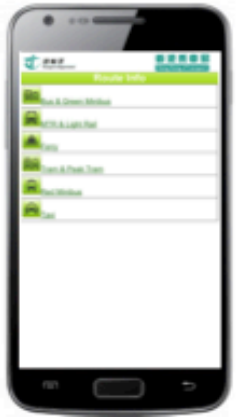
Hong Kong eTransport

- Point-to-point public transport route search service

Desktop Website : http://hketransport.gov.hk

App Store / Android : HKeTransport

Mobile Website : http://m.hketransport.gov.hk

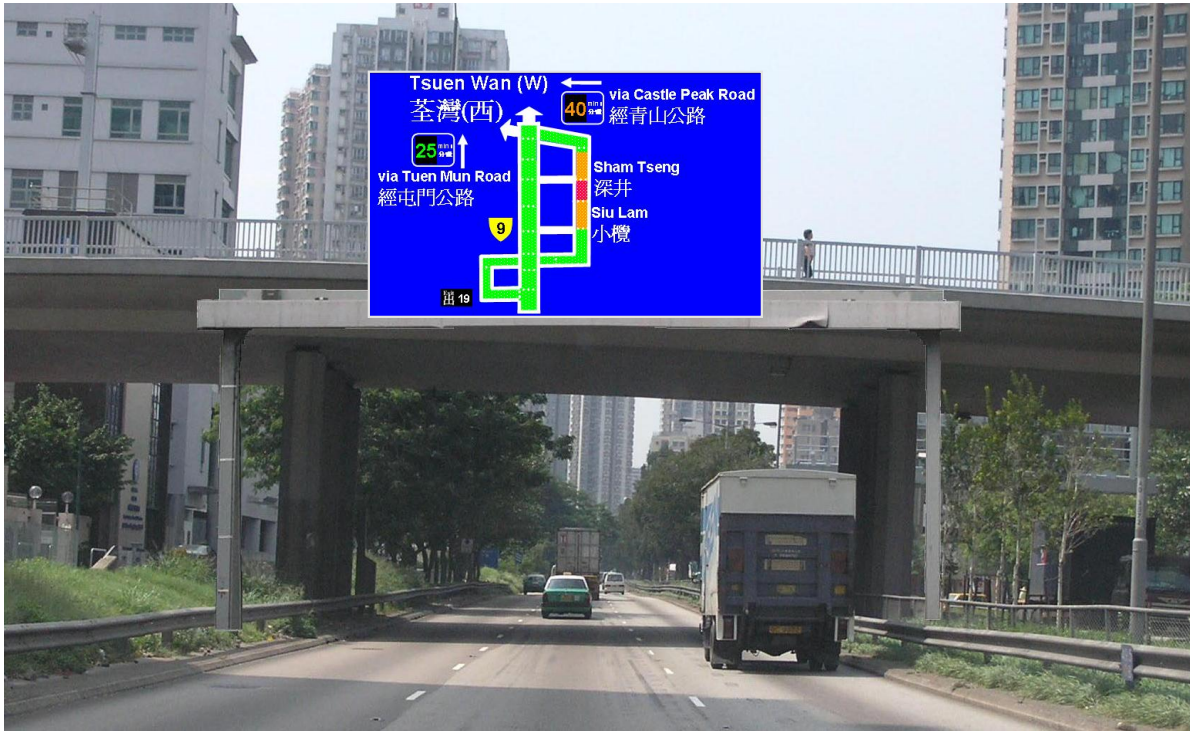


Journey Time Indication System (JTIS)

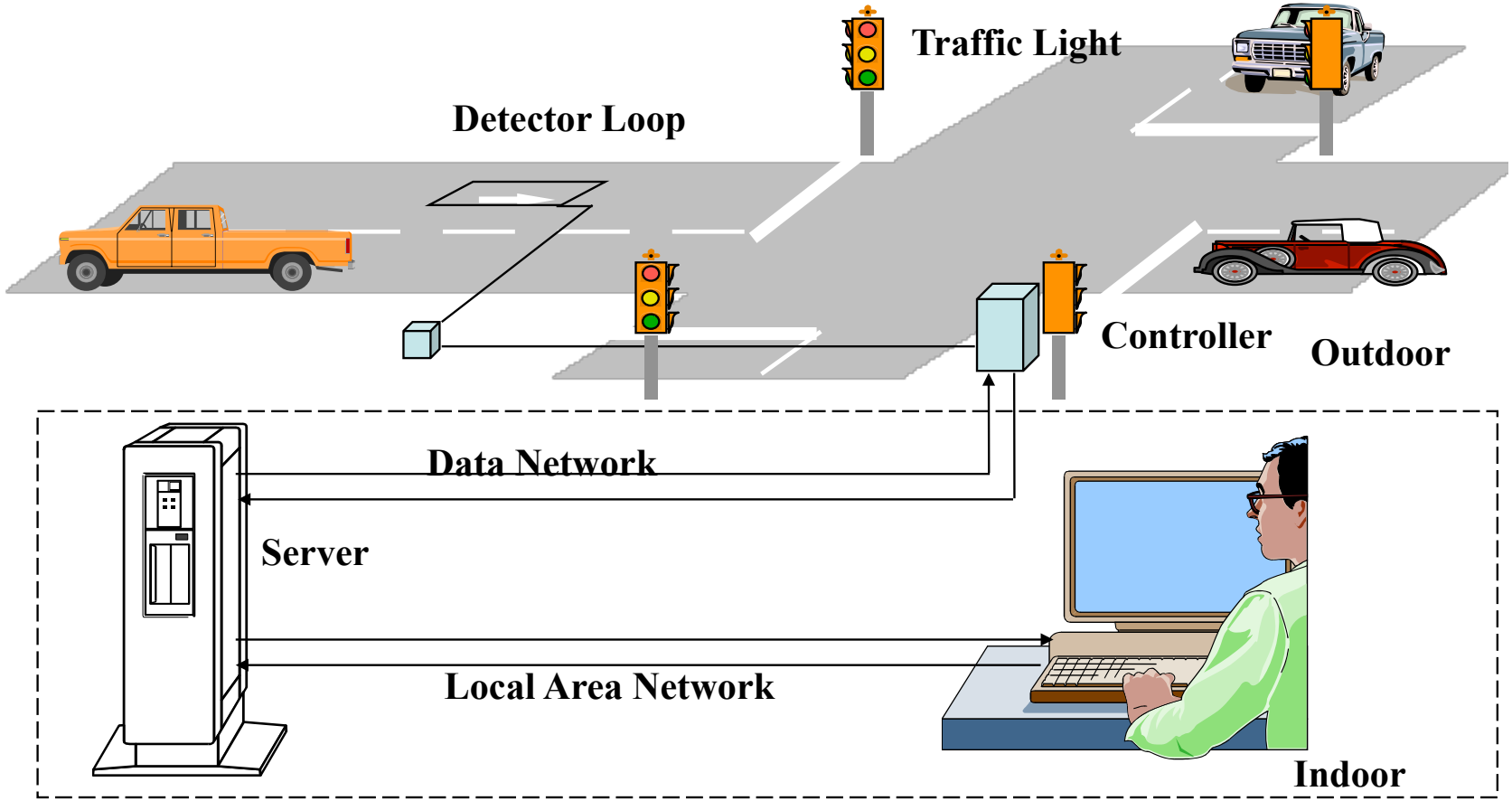
- Estimated journey time for crossing the cross-harbour tunnels

Speed Map Panels (SMP) by 2012/13

- Real-time traffic conditions of the roads ahead



Area Traffic Control System

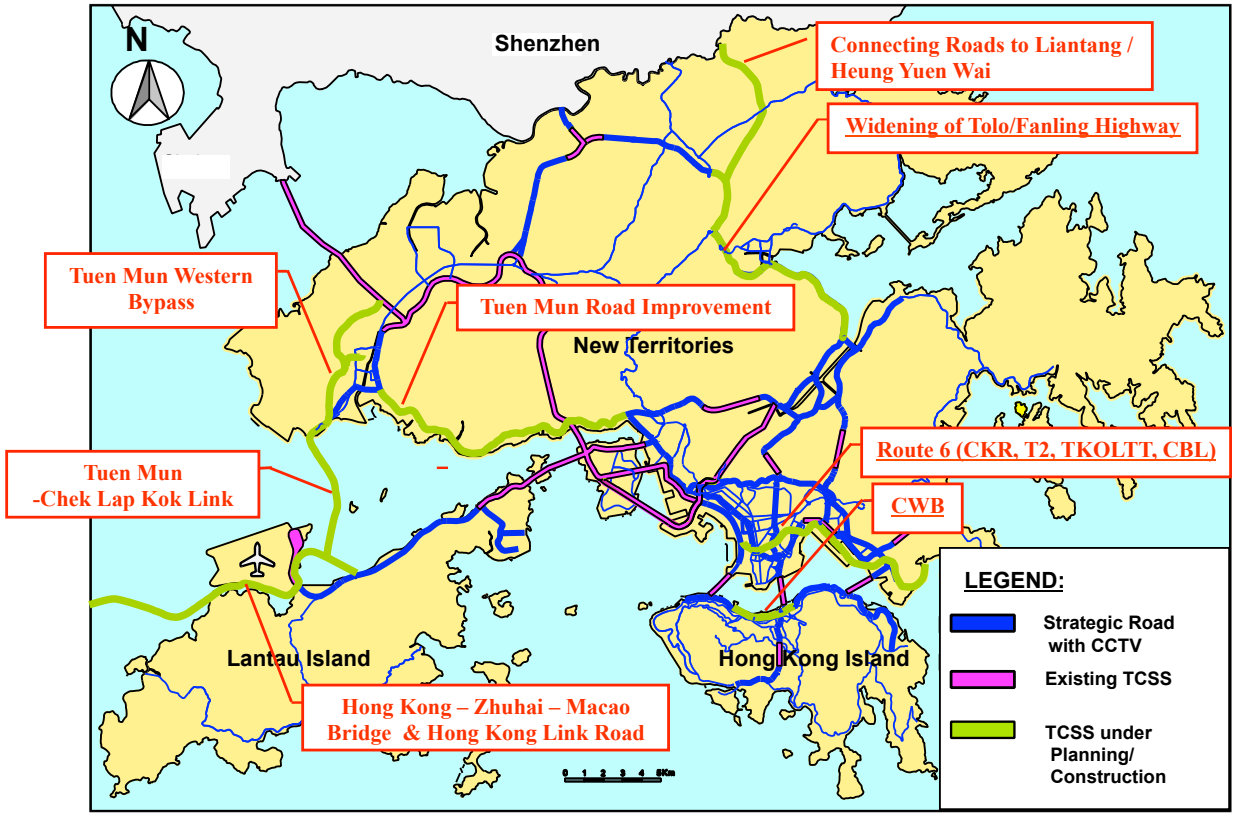


Traffic Control and Surveillance Systems (TCSS)

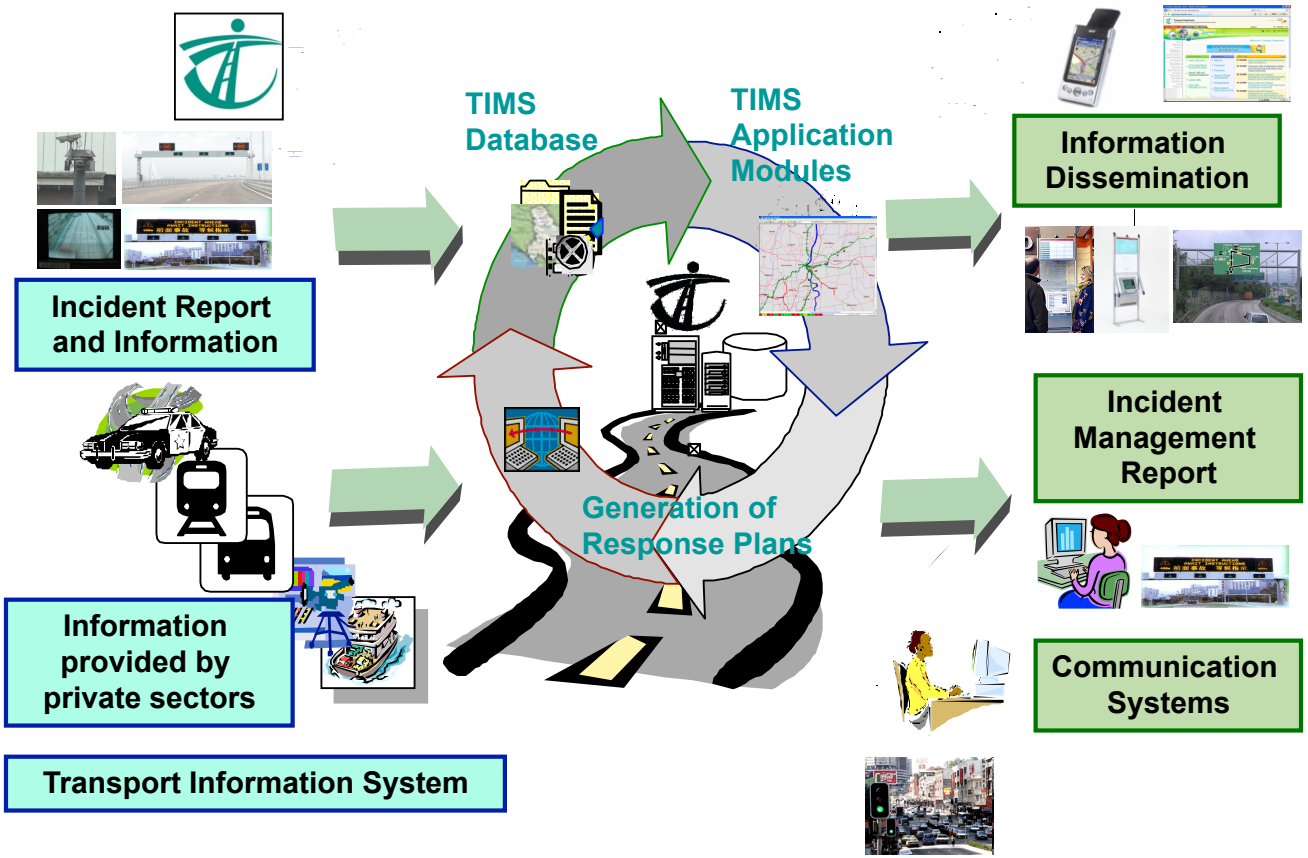
- Lane Use Signals
- Variable Message Signs
- Variable Speed Limit Signs
- CCTV Cameras
- Automatic Incident Detection
- Over-height detectors
- Speed Enforcement Cameras

Traffic Control and Surveillance Systems (TCSS)

Tunnels, bridges and some expressways

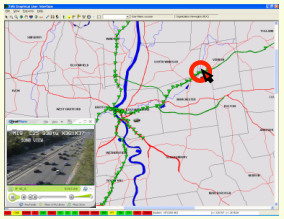


Traffic & Incident Management (TIM) System



Traffic & Incident Management (TIM) System

Increase efficiency

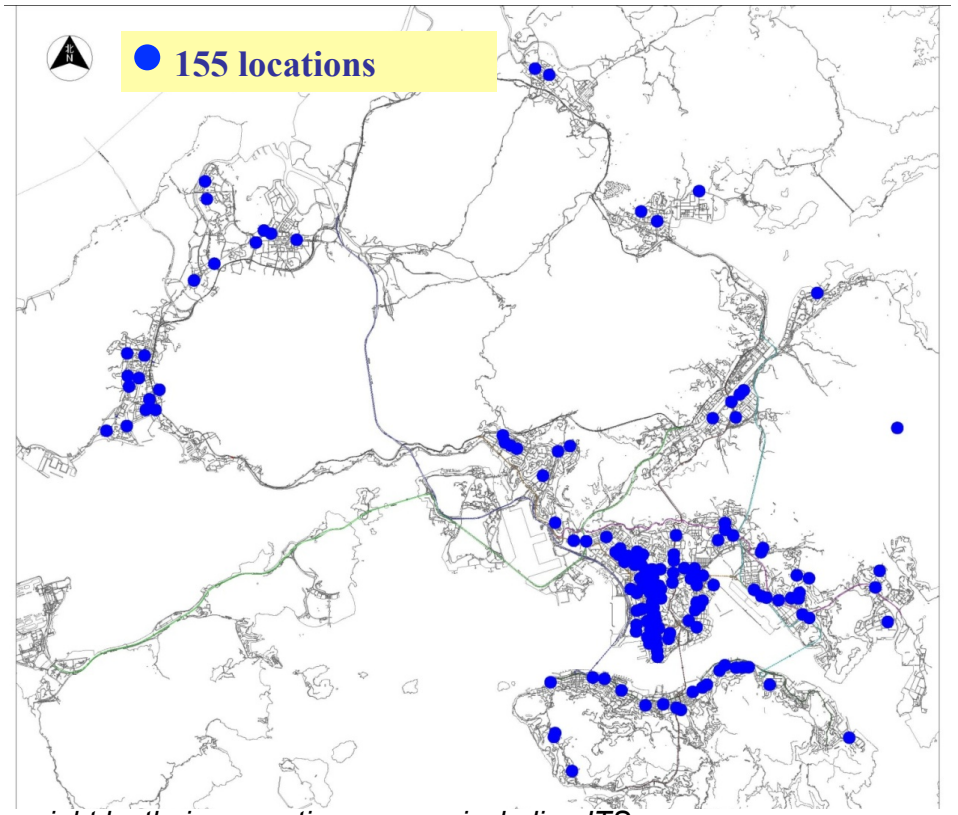


In-time traffic information

Create business opportunities

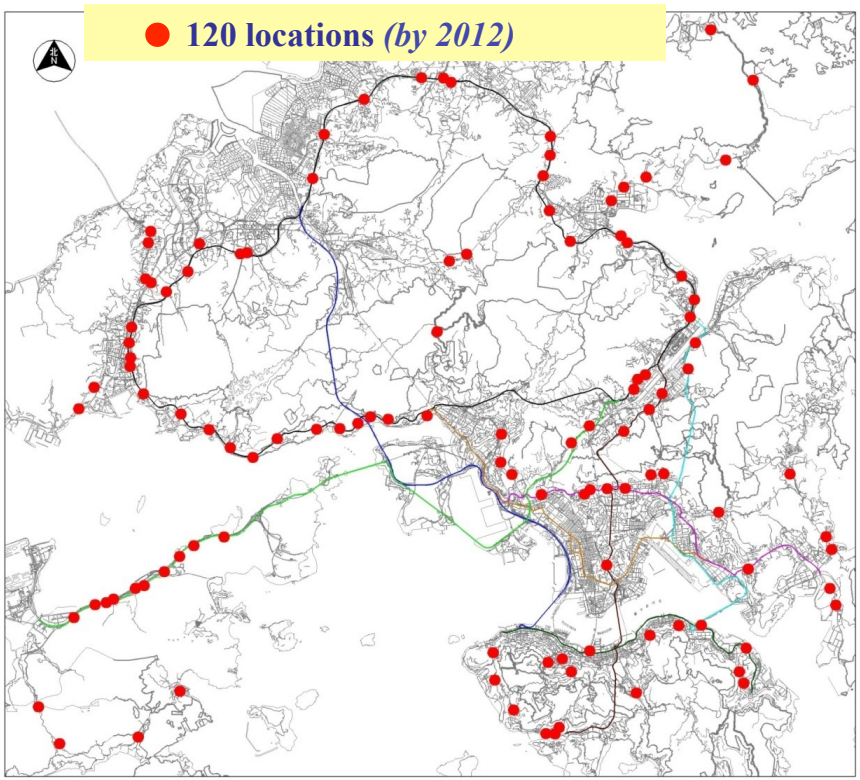
Enforcement - 1

Red Light Camera System

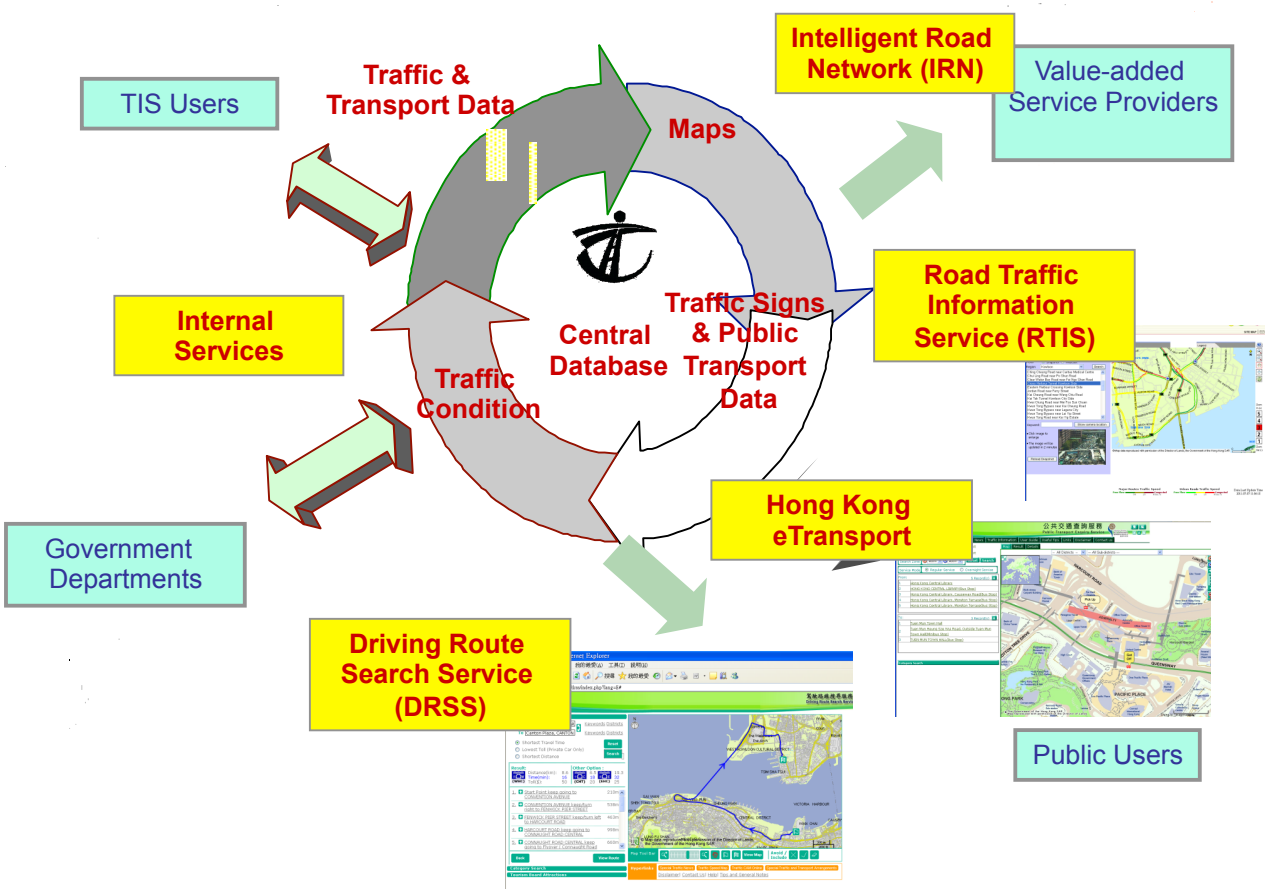


Enforcement - 2

Speed Enforcement Camera System



Transport Information System (TIS)



Challenges Ahead - 1

- Increasing Cross-boundary traffic
- Major changes to the transport and traffic network
- Heavy construction traffic and temporary traffic arrangement
- Population growth

Challenges Ahead - 2

- Increasing road congestion
- Reduced opportunities for new infrastructure developments in urban areas
- Dense urban environment:
  - limits use of dedicated lanes
  - Presents challenges for commercially available satellite-based vehicle positioning systems
- Application of standards – need to adapt rather than create
- Data integration between disparate ITS ‘islands’ and across jurisdictional boundaries
- Cross-modal coordination

Major Changes to the Transport & Traffic Network

- HK-Zhuhai-Macao Bridge
- Tuen Mun-Chep Lap Kok Link, Tuen Mun Western Bypass
- South Island Line
- Shatin to Central Link
- Guangzhou to Shenzhen HK Express Rail Link

HK-Zhuhai Macao Bridge / Tuen Mun – Chep Lap Kok Link / Tuen Mun Bypass

- Total 35km bridge, tunnel and man-made island, Tuen Mun = 9km (5km subsea)
- Links HK, Macao and Zhuhai
- Boundary crossing facilities
- 6 lane freeway, 2 lanes for Tuen Mun
- Completion target for 2016

Potential enablers / Asia – Pacific best practice

- The use of standardization to improve data integration, reduce procurement risk and reduce integration risk amongst disparate subsystems,
- Multi-lane free flow (MLFF) electronic toll collection and mandatory fitment of in-vehicle units (tags) to vehicles,
- Performance management to refocus public and private sector operators towards service delivery and route availability,
- Managed motorways and mandatory speed limits on the Strategic Road Network (SRN)

Potential enablers / Asia – Pacific best practice

- Nomadic traveller information systems suitable for the urban environment,
- Steps towards vehicle-highway integration to improve the efficiency of existing infrastructure,
- Automated incident detection and predictive modelilng to reduce operational risk of near-saturated networks, and.
- Improved intermodal operations (and related traveller information systems)

Acknowledgments

- ITS Hong Kong
- Transport Department

Thankyou!

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