



Sustainable Urban Transport

International Best Practice

Michael J Saunders, PhD

CTA UNDP RUST Project




Overview

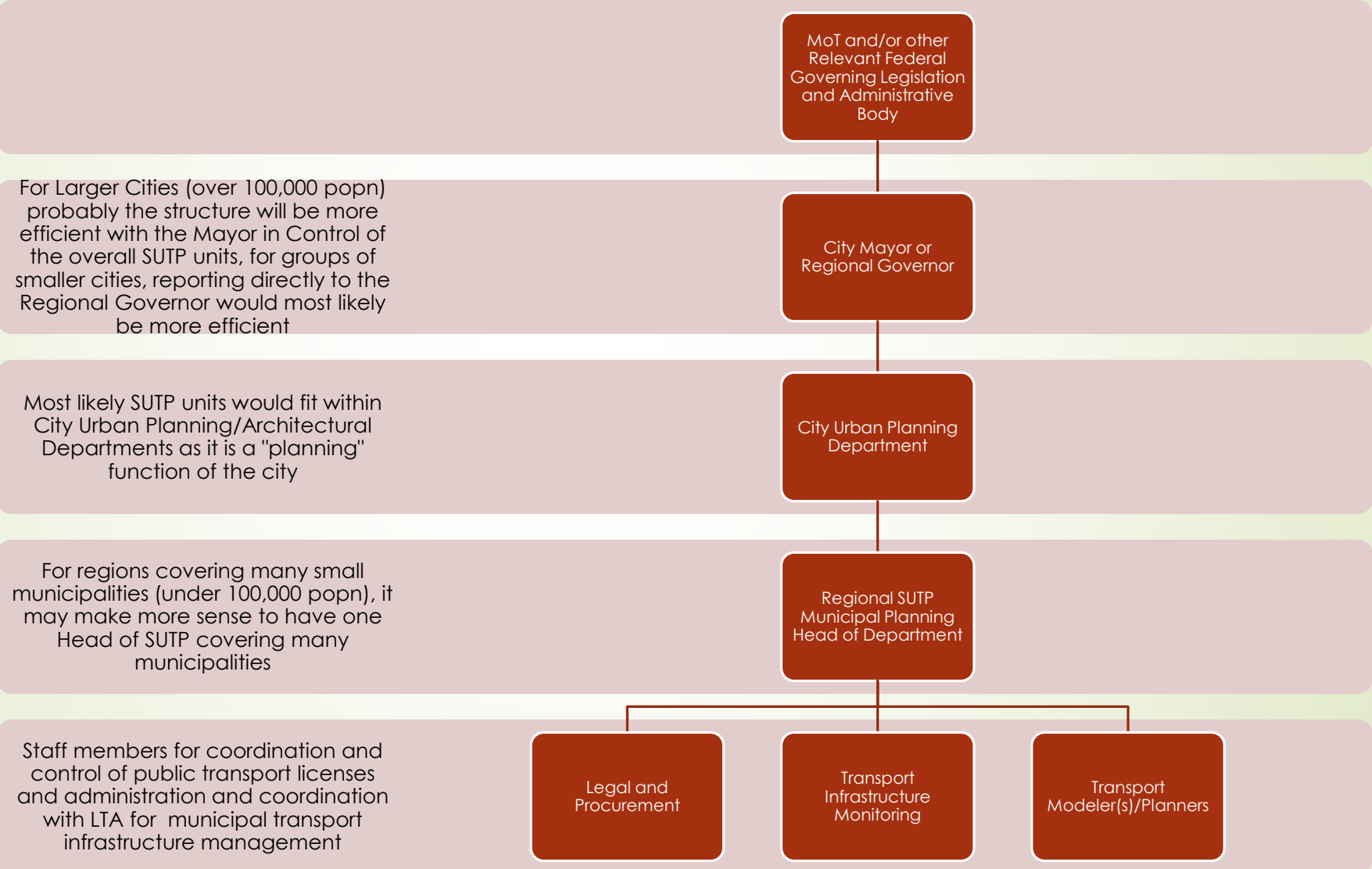
- Replication Strategy Recommendations for the Project
 - Education Changes
 - Structural Changes
- Vehicle Movement Restrictions for Pollution Control
 - Case Study: London
- Autonomous Vehicle Technology
 - Case Study: NuTonomy



Replication Strategy - Education

- ▶ Clearer Definition of Sustainable Transport Planning within Existing Degree Structures (Western University Equivalent – Major of Civil Engineering)
 - ▶ Short Courses Training for Existing Professionals
- 

Replication Strategy – Structural Changes



Vehicle Movement Restrictions

Type	Description	Equipment Costs	Operating Costs	User Inconvenience	Price Adjustability
Pass	Motorists must purchase a pass to enter a cordoned area.	Low	Low	Medium	Poor to medium.
Toll Booths	Motorists stop and pay at a booth.	High	High	High	Medium to high.
Electronic Tolling	An electronic system bills users as they pass a point in the road system.	High	Medium	Low	High
Optical Vehicle Recognition	An optical system bills users as they pass a point in the road system.	High	Medium	Low	High
GPS	GPS is used to track vehicle location. Data are automatically transmitted to a central computer that bills users.	High	Medium	Low	High

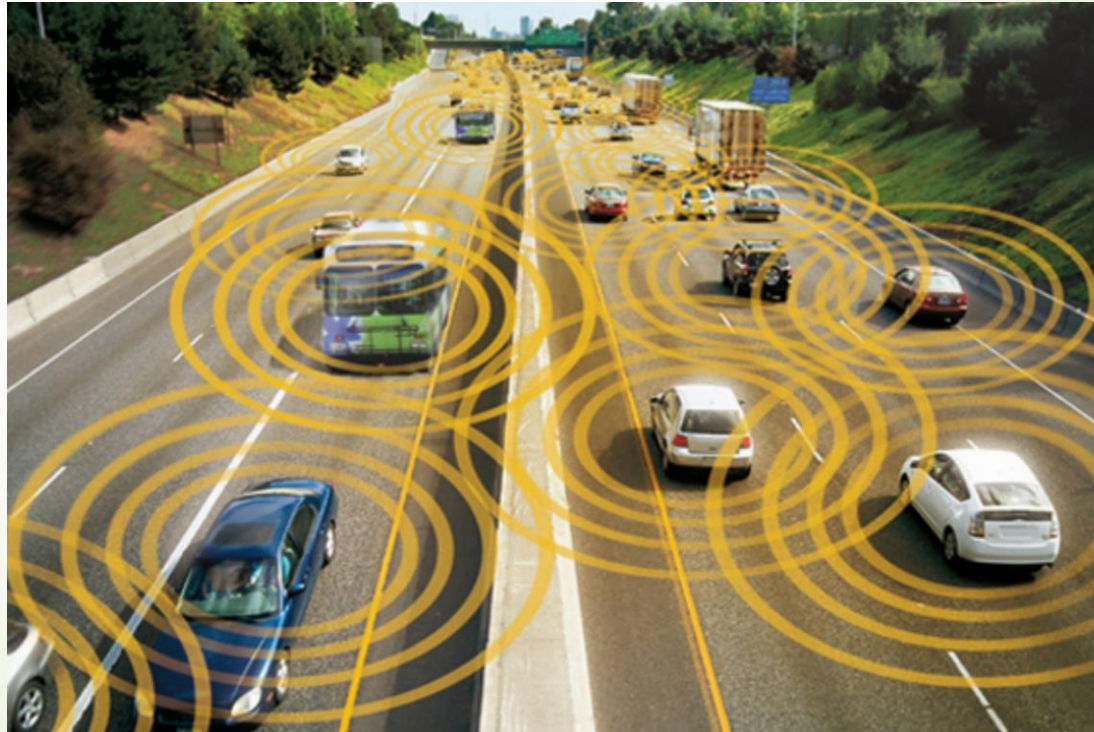
LEZ Case Study: London

- ▶ LEZ controlling buses and trucks since 2008
- ▶ 2019 ULEZ will be introduced for all vehicles
- ▶ Congestion charging in addition to LEZ
 - ▶ Up to US\$20 per day
 - ▶ LEZ Charge on top of this
- ▶ Additional large vehicles movement restrictions



Autonomous Vehicle Technology

- ▶ Now in Trial Mode
- ▶ Some Countries Changing Regulations – Advertising for Testing
 - ▶ New Zealand
 - ▶ UK
 - ▶ USA

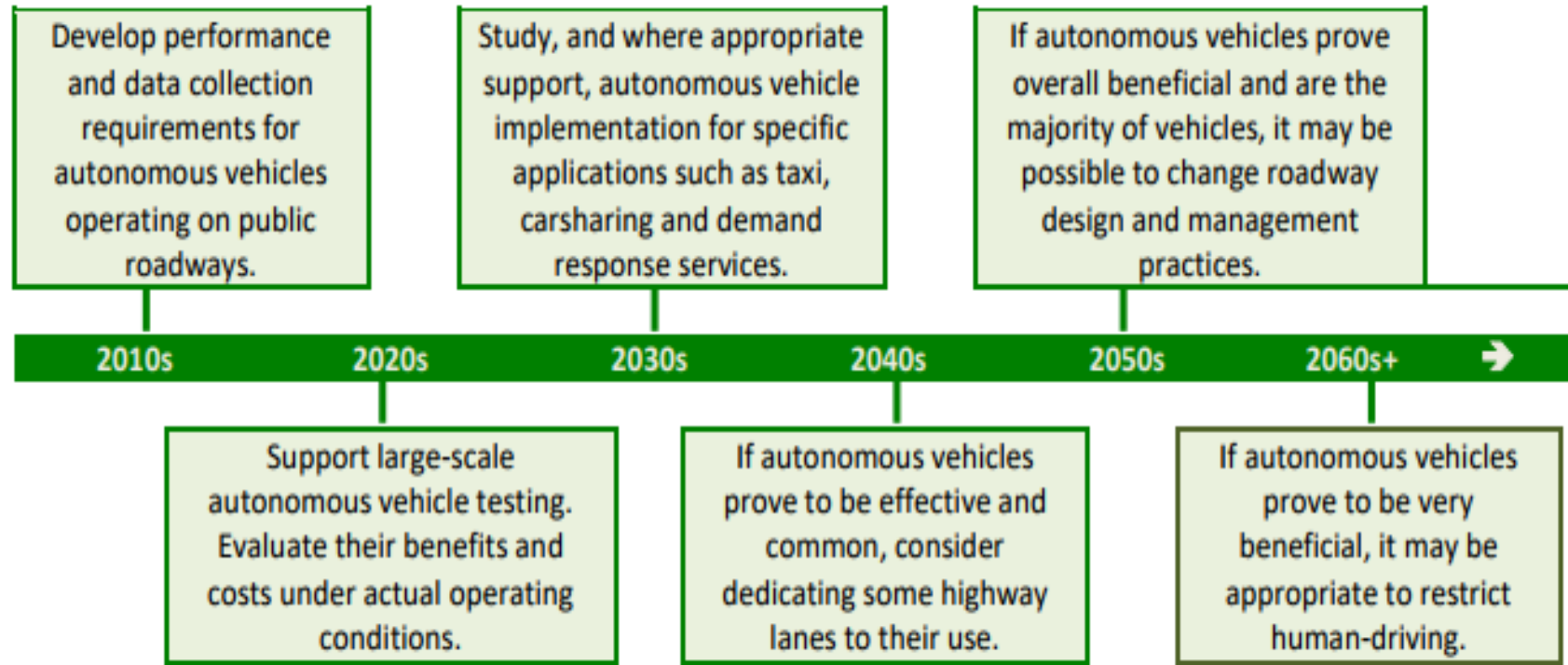




Autonomous Vehicle Technology

- ▶ Together with Electrical Vehicle Introductions
 - ▶ Potential to globally reduce CO2 emissions up to 10%
 - ▶ Potential to eliminate parking problems and congestion
 - ▶ Taxi and ride share service
 - ▶ Reduction in Road deaths and injuries
 - ▶ Dramatic improvement in Urban Air Pollution levels

Timeline to Autonomous



Litman, 2017

Autonomous Vehicle Case Study: NuTonomy

- ▶ Taxi service currently being trialed in Singapore and Boston
- ▶ Joined forces with Lyft – US Rideshare Platform
- ▶ Autonomous Taxi service to begin in Singapore in 2018





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