



Asociación Argentina
de Carreteras



November 6th - 8th, 2013 Hotel Panamericano – City of Buenos Aires, Argentina
“URBAN MOBILITY, ROADS NETWORK OPERATION AND ITS APPLICATIONS”

Congestion Pricing in Singapore

Dr Kian-Keong CHIN
Land Transport Authority
Singapore



Where is Singapore?



Singapore

Population	- 5.3 million
Land Area	- 710 sq km
Road Network	- 3,300 km
Expressway Network	- 162 km
Vehicle Population	- 960,000
Car Population	- 590,000



**12% of land
used for roads**

Challenges of Conventional Approaches in Singapore

- Limited land for transport infrastructure
- High capital cost
- High-density development



Managing Travel Demand

A necessary component in Singapore's Land Transport Strategy

Congestion (or Road) Pricing Scheme

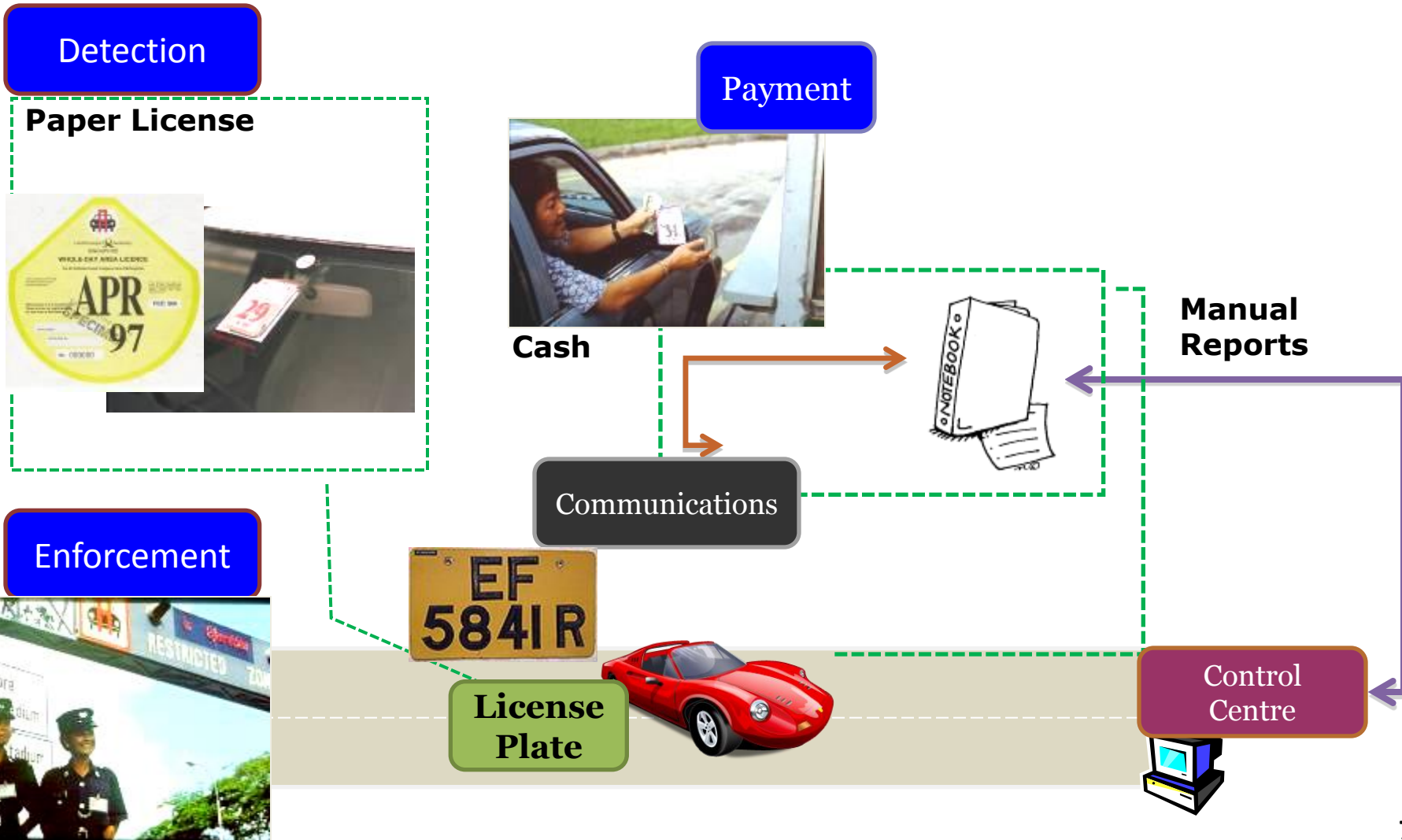
“Road pricing was already around when I started driving as a young man. Have always been part of my driving experience”

Kenneth, 57-year old, driving since 1975

Quote from a report in 2011



Area Licensing Scheme (1975-98)



The Change-over to ERP (1998)



LAI HOOK KONG

Marking the end of an era, a manual road pricing gantry is taken down. Electronic road pricing begins islandwide today.

Goodbye ALS, hello ERP

By **GERALDINE YEO**

TWENTY manual road pricing gantries came down in a round-the-clock operation last night, to make way for

And instead of signs showing the scheme in operation, motorists will be greeted by ERP signboards along nine routes today.

The Land Transport Au-

change at various times of the day.

The LTA also reminded motorists to insert Cash-Cards into their In-vehicle Units (IUs) if they plan to

pricing means the paper licence sale booths will no longer be used.

Officers from the Urban Redevelopment Authority (URA) went from booth to

Call us

THE Electronic Road Pricing scheme goes islandwide from today.

Tell us about

Electronics Road Pricing ERP

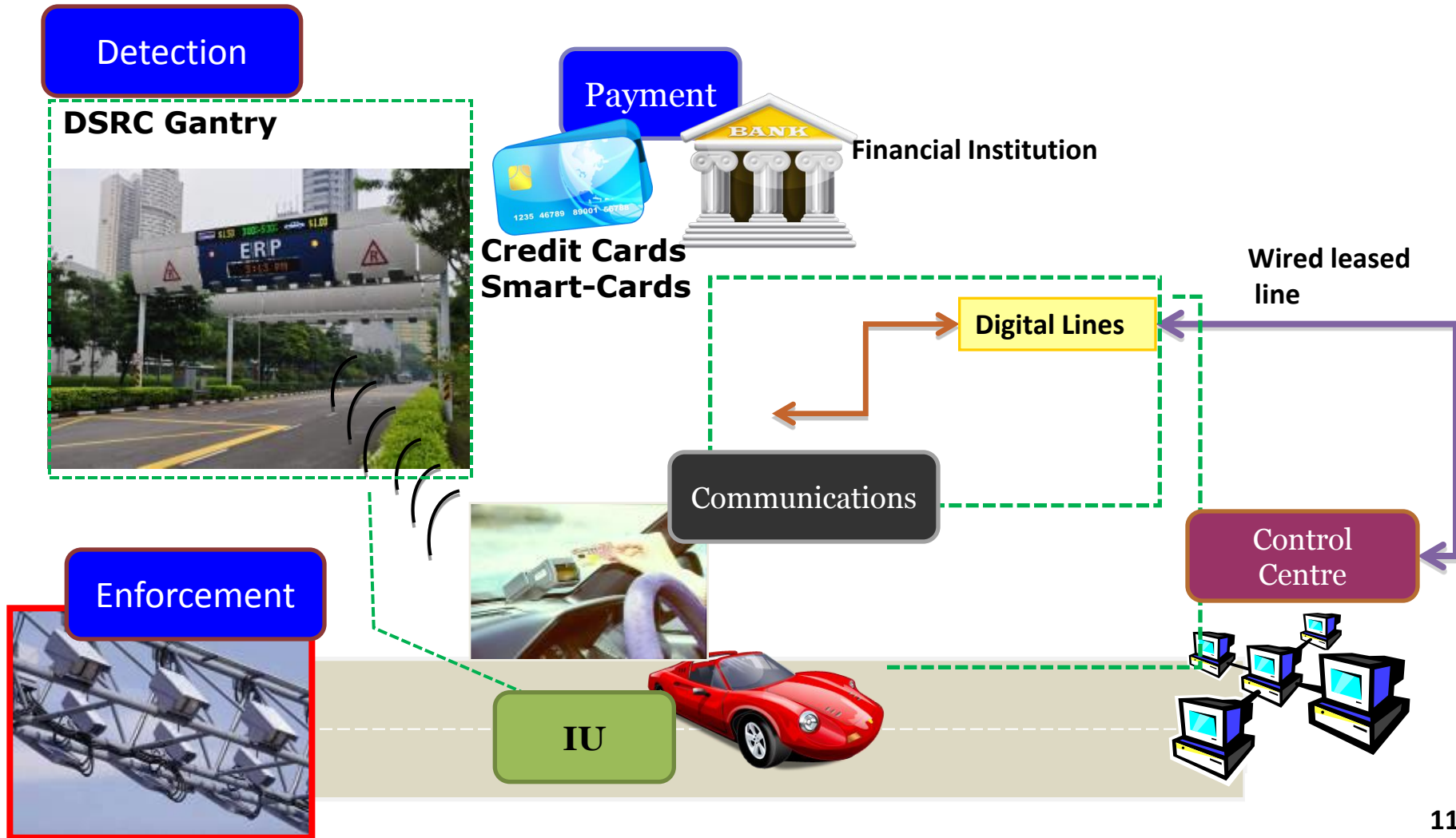
Variable Msg Sign

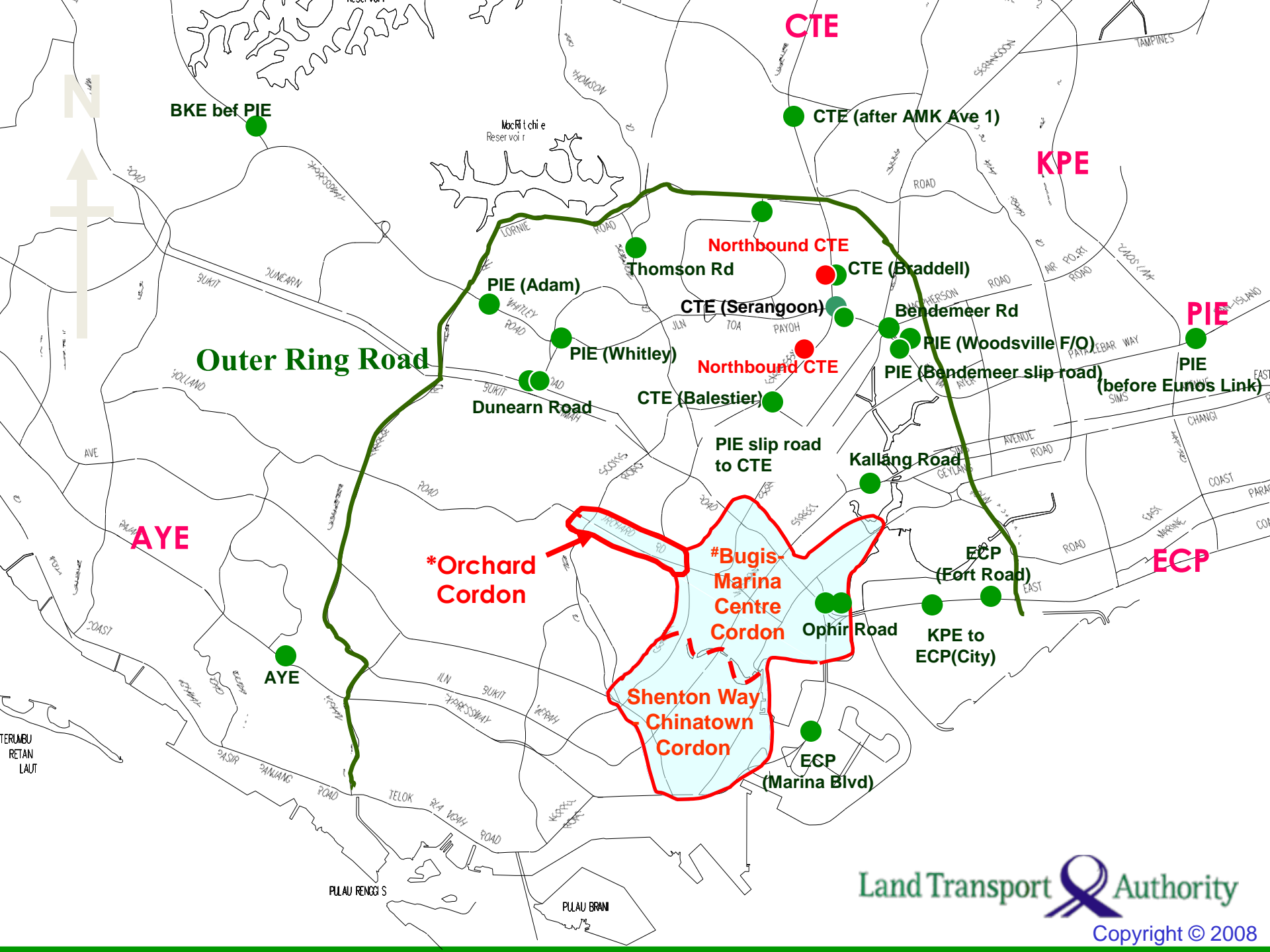


ERP Gantry



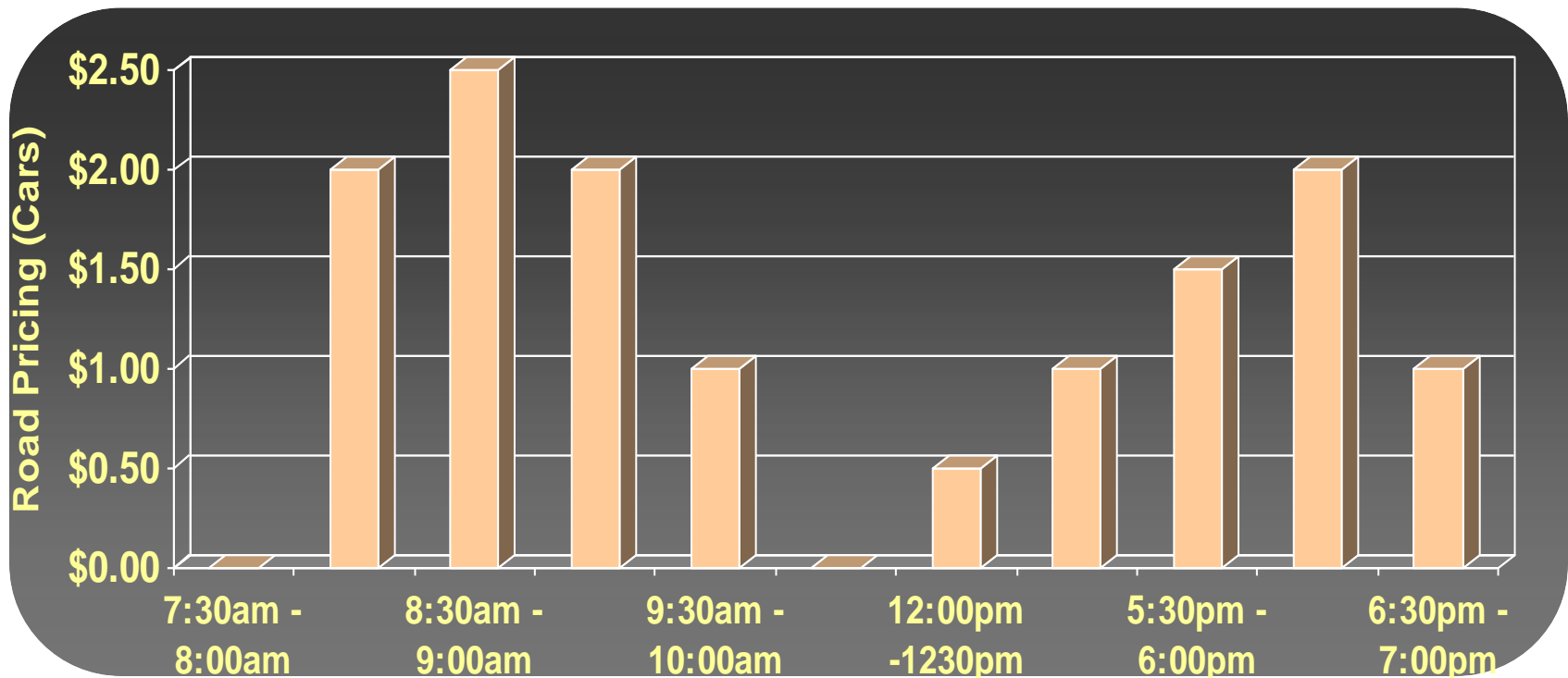
Electronic Road Pricing - ERP (from 1998)





Road Pricing Charges

- Varies by **vehicle type**, location of gantry, time of day
- Progressive rate changes



In-Vehicle Unit (IU)

6 different types for different categories of vehicles

- allow variable pricing
- facilitate use of stored-value smart cards

Very Heavy
Goods Vehicle

Heavy Goods
Vehicle

Taxi

Passenger Car /
Light Goods Vehicle

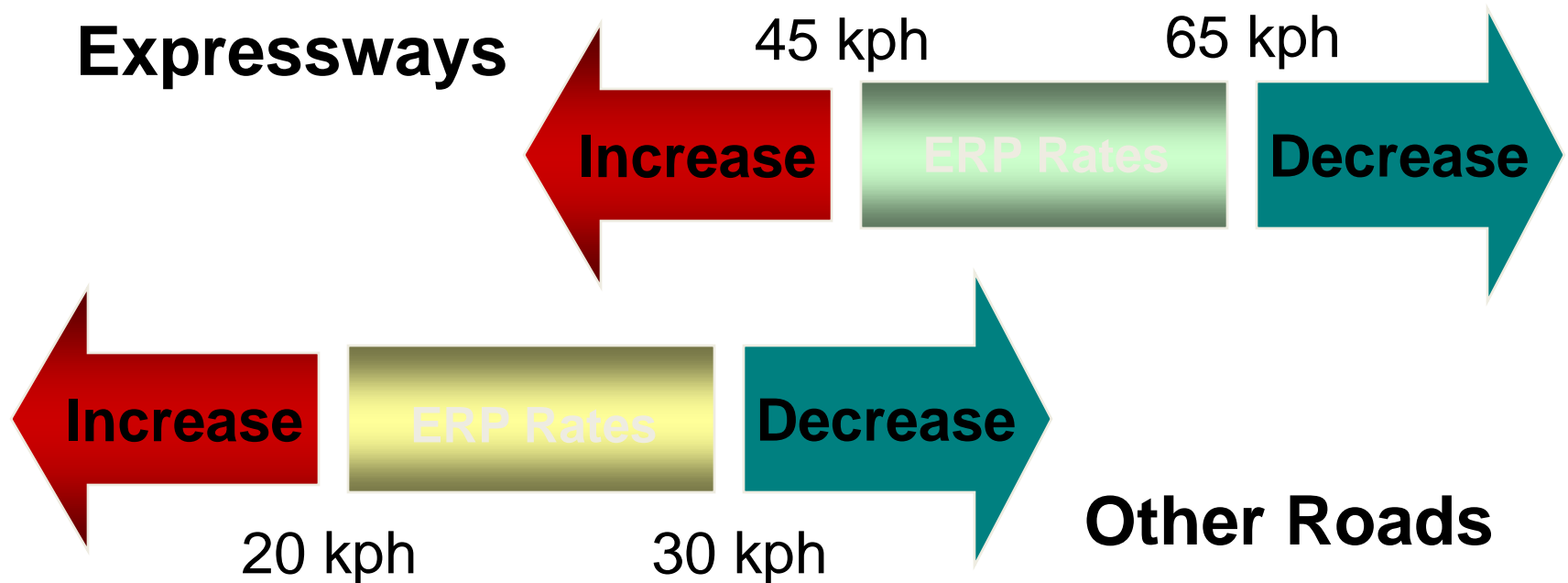
Motorcycle

Exempted



ERP Rates Review

- Reviewed every 3 months and school holidays
- To ensure optimal use of road space



Operations Statistics

- **Transactions***
 - 10 million per month
 - Over 400,000 per day
 - Busiest Gantry: Over 7,500 per hour
- **Violations (about 0.5%)**
 - **No IU**
 - Fine of S\$70
 - **No CashCards or Insufficient value in card**
 - Admin fee \$10, lower fee if paid via e-Payment services

Lessons Learnt

- Strong Technical and Logical Rationale for Congestion Charging
- Complements other transport tools
 - land-use planning, road building, use of technology, traffic & incident mgmt
- Viable Travel Alternatives
- Keep it Simple
- Stress that ERP is not to raise revenue
- Publicity is Never Enough



Electronic Parking with ERP Technology

Electronics Parking System (EPS)

Alternative payment for vehicle without IU



For vehicle with IU

Host PC





Asociación Argentina
de Carreteras



November 6th - 8th, 2013 Hotel Panamericano – City of Buenos Aires, Argentina
“URBAN MOBILITY, ROADS NETWORK OPERATION AND ITS APPLICATIONS”

Thank you for your attention

Email: kian_keong_chin@lta.gov.sg



UNA EMPRESA DEL GOBIERNO DE LA CIUDAD

