ROAD PRICING IN SINGAPORE

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www.lta.gov.sg
Area Licensing Scheme (ALS)

- Prepaid paper license
- Introduction in 1975: morning peak only
- Extension to evening peak in 1989
- Extension to whole day in 1994
Area Licensing Scheme (ALS)
ALS Daily & Monthly Licenses
Road Pricing Scheme (RPS)

- Prepaid paper license
- Progressive implementation
- Expressways from 6/1995
- Change over to ERP in 9/1998
ALS: Features & Application

- Initially to cars only
- Shuttle bus services
- Extended to taxis, lorries, buses, motorcycles
- Car-pool exemption (until 1989)
- High demand on manpower (120)
- Limited in varying charges
Switchover to Electronic Road Pricing (ERP)
Map of ERP Area
Electronic Road Pricing (ERP)

- Full replacement in 9/98
- Expansion from 33 to 44 gantries
- 28 Gantries in CBD (8.00-19.00)
- 16 on expressways & outer ring roads
  7.30-9.30 (morning peak)
ERP Sign at Gantry
ERP in Operation
ERP Features

- Dif. pricing charges for dif. vehicle categories
  - Cars (1)
  - Motorcycles (0.5)
  - Lorries/Buses (1.5)
  - Large vehicles (2.0)
  - Smart card from local banks for multiple users
  - Top-up at ATM, petrol station, outlets, etc.
Types of In-vehicle Unit (IU)
Cash Card & Automated Teller Machine
Simple Process

- Start of journey: insert card into IU, checking
- Gantries: automatic deduction, balance shown
- End of journey: remove cash card
- Low balance indicator: on inserting & when passing gantry
Validity Check Process
Control Centre

- 24 hours operation à working in order
- Monitoring of all equipments
- Processing of financial transactions
- Processing of violation images
Fitting IU & Control Centre
Checking & Rectification
Testing in Try-out Period

Tested Your CashCard & IU?
Fitting In-vehicle Units

- Free 10 months in advance of Introd.
- Installation not compulsory, yet 97%
- Handling charges required afterwards
Equipment on Gantry: Antennae
Equipment on Gantry: Vehicle Detection
Equipment on Gantry: Enforcement Cameras
How ERP works? 1
How ERP works? 2
How ERP works? 3
Publicity

- Special hotlines
- Brochures for all veh. Owners
Switch-on Trial Period (On Test)
- Set at zero-rate
- Check & rectify stations
PR: Brochures for the Public
Overseas Visitors

- Battery-powered IU for rental
- Install IU (frequent visitors)

Violations: 0.3% of transaction
Errors: 0.05% of transaction
Handling Foreign Vehicles
Transport Policy Changes

- Lower vehicle tax
- Vehicle tax rebates
- Reduce charges for commercial vehicles
Effects on CBD Traffic (1975-1995)

![Graph showing the effect of ALS on CBD traffic](image_url)

- **Start of ALS**
- **Start of evening ALS**
- **Start of Whole-Day ALS**

Source: LTA

Data are scaled to 100 for base year 1975

Rijkswaterstaat
Comparison of CBD Inbound Traffic

Comparison of inbound traffic into the CBD

- Black: Before Whole-Day ALS
- Red: After Whole-Day ALS
Role of central Government

- Strategic transport planning
- Authority with legislative power
- Ensure equal playing-field
- Facilitate, stimulate, disseminate
Impacts on CBD Traffic Volume

- Morning (2 hours): -13%
- Off-Peak (7.5 hours): -9%
- Evening (2 hours): -8%

Legend:
- Green: Before
- Pink: After
- Gray: End-2000
Adjustment of Charges

- Expressways:
  - Increase: 20 kph
  - Decrease: 30 kph

- Other Roads:
  - 45 kph
  - Decrease: 65 kph

Rijkswaterstaat
Successful Factors

- No exemption (almost)
- Authority has no record of transaction
- Flexibility: adapt/optimise over time
- Policy measures: package deal
- Continuous monitoring & PR