Congestion Pricing Experiences in Singapore

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Congestion Pricing – just one component of a Transport Strategy

- Cannot work on its own

- Singapore:
  - Public Transport is key alternative
  - A Traffic Management Tool – Not for revenue generation
Area Licensing Scheme

- First practical application of road pricing started June 1975.
- Paper licences required for entry (only) into the Central Business District (RZ), demarcated by gantries.
Area Licensing Scheme

- Daily and monthly paper licences.
Area Licensing Scheme

- Manually enforced.
Area Licensing Scheme

- Cordon-based marked by gantries
- Paper licences (for payment on entries)
- Enforcement - manual
The Change-over to ERP

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

Goodbye ALS, hello ERP

And instead of signs showing the scheme in operation, motorists will be greeted by ERP signboards change at various times of the day.

The LTA also reminded motorists to insert Cashpricing means the paper licence sale booths will no longer be used.

Officers from the Urban

Call us

THE Electronic Road Pricing scheme goes islandwide from
Singapore’s Electronic Road Pricing

- Cordon-based marked by gantries
- Electronic In-Vehicle Unit with smart-card (for payment on entries)
- Enforcement – camera images
- Back-end Central Control System
Started in 1998 with 33 gantries
Increased over the years – presently 66 gantries
Road Pricing Charges

- Varies by vehicle type
- Varies by location of gantry
- Varies by time of day - ranges from S$0.50 to S$4.00 per pass
Payment Modes

- Deducted at point of use from smart-card
- Post-payment with administrative charges
- Credit card payment
Impact - Traffic Volume (CBD)

Peak Period Flow

- Morning (2 hours)
  - Before: -13%
  - After: -9%
  - End-2000: -8%

- Off-Peak (7.5 hours)
  - Before: -9%
  - After: -9%
  - End-2000: -8%

- Evening (2 hours)
  - Before: 0
  - After: 0
  - End-2000: 0

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Adjustment of ERP Charges

- To ensure use of road space is optimised
- Review at 3-monthly intervals
- Reduced during long school holidays

**Expressways**
- Increase: 20 kph
- Decrease: 30 kph
- 45 kph
- 65 kph

**Other Roads**
- Decrease
Extending the Singapore’s Electronic Road Pricing

- Aug 05 – ERP extended to manage evening peak hour congestion for home-bound trips (on the Central Expressway, CTE)
Evening ERP for home-bound trips
Evening ERP for home-bound trips

- Aug 05 – ERP extended to manage evening peak hour congestion for home-bound trips (on the Central Expressway, CTE)
- Travel time between 6 – 8 pm improved.
- Motorists have a choice.
Smooth flow as
Alternative routes pleasant

THE road less travelled turned out to be a pleasant ride when The Straits Times tried out two alternative routes to the Central Expressway (CTE) last Thursday and Friday.

One entailed getting off the CTE heading towards Ang Mo Kio at the Pan-Island Expressway/Upper Serangoon Road exit.

At first, the car got stuck in a bottleneck before that slip road. But that was soon negated and it was a breeze from then.

The car bowled along Upper Serangoon Road, stopping only at two traffic lights. There were few vehicles on the road, and even fewer when the car took the Serangoon Viaduct at 70km/h. It took nine minutes to travel the 5km from the slip road to the junction of Upper Serangoon and Boundary roads, towards Hougang.

Getting to that point took the same amount of time when we took the traditional route — exiting a little later, at Ang Mo Kio Avenue 1, which is after the new gantry, and then driving along Lorong Chuan and Boundary Road.

The distance travelled on both routes was the same too. But the extra distance driven on the CTE felt more stressful. Vehicles crowded all five lanes of the highway.

The Straits Times had a similar experience travelling from Dhoby Ghaut to Ang Mo Kio Avenue 1. With and without using the CTE, the journey was 10.8km and took 25 minutes.

On the CTE, the car encountered heavy traffic in the tunnel. It was the same thing near the Ang Mo Kio Avenue 1 exit. But on the alternative route, via Cavenagh, Kampong Java, Thomson and Marymount roads, through Ang Mo Kio Avenue 6 and Ang Mo Kio Avenue 3, traffic appeared lighter.

However, motorists will have to pass 14 traffic lights here.

The Land Transport Authority (LTA) will monitor traffic conditions for a week before commenting on whether the evening toll had simply shifted the congestion to these other roads.

A Straits Times check of real-time traffic conditions managing 65km/h, a speed that surprised even the cabby himself.

"This is the fastest trip I've taken along the CTE at peak hours," he said. "I'd rather pay the toll than go one big round. Traffic will be transferred to the other roads and they will be congested."

The LTA hopes the new charges will raise average travel speeds during the evening, from below 40km/h, to between 45km/h and 65km/h.

The new levy will affect commuters who take taxis, who also have to pay more from today on almost all cabs if they get stuck in a jam.

The meter will go up by 10 cents for every 25 seconds the vehicle does not move, instead of every 30 seconds previously.
Impact on Traffic Flows (Aug 05)
Evening ERP for home-bound trips
Evening ERP for home-bound trips
Extending the Singapore’s Electronic Road Pricing

- Oct 05 – Two distinct pricing cordons in city – Orchard and CBD with different operating hours and charges
- Orchard cordon has different traffic characteristics
- Intent is to reduce through traffic on Orchard corridor
ERP for Orchard Cordon

- **Additional Gantries**
- **Orchard**
- **CBD**

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Orchard ERP: Many caught unawares

THE launch of noon-to-8pm electronic road pricing (ERP) in Orchard Road yesterday was smooth, but the new timing caught many drivers off guard. Some could be seen hastily inserting Cash Cards into their card readers just before the new gantries next to the YMCA and near Handy Road. Motorcyclists even stopped by the roadside to fumble for their cards. Others unwilling to pay simply took to the back streets.

It also said the flow of vehicles into Orchard Road remained smooth but increased slightly after 8pm, easing shortly after.

Meanwhile, Fort Canning Road has been converted from a one-way to a two-way street so that motorists, like those coming out of the Registry of Marriages or Fort Canning Park, can stay within the restricted zone.

But motorists have pointed out that the narrow road will become more hazardous and there

not cause much increase in traffic yesterday evening.

I am glad I chose an alternative route to get to Marina Square.
ERP on Orchard Rd - Weekday

<table>
<thead>
<tr>
<th>Time</th>
<th>Through Traffic</th>
<th>Orchard Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>25%</td>
<td>35%</td>
</tr>
<tr>
<td>Oct-05</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>Nov-05</td>
<td>29%</td>
<td>25%</td>
</tr>
<tr>
<td>Jan-06</td>
<td>29%</td>
<td>25%</td>
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</tbody>
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Afternoon (1.30-3.30pm)
ERP on Orchard Rd - Weekday

Evening (5.30-7.30pm)
ERP on Orchard Rd - Saturday

Afternoon (1.30-3.30pm)

- Before: 35%
- Oct-05: 25%
- Nov-05: 22%
- Jan-06: 19%

Evening (5.30-7.30pm)

- Before: 36%
- Oct-05: 26%
- Nov-05: 25%
- Jan-06: 19%
Pricing intra-city traffic in the City (July 08)

Operates 6-8pm weekdays
Pricing intra-city traffic in the City (July 08)
Managing Traffic

What other measures should be used to complement ERP in addressing traffic congestion?

- Improve design of the roads: 44.7%
- Allow less vehicles on the roads: 40.2%
- ERP is good enough: 24.4%
- Provide cheaper public transport: 0.2%
- Discouraging vehicle ownership: 0.2%
- No comments: 4.5%

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Lessons

- Pricing Strategy to be flexible and relevant
- ERP complements other transport tools
  - land-use planning, road building, use of technology, traffic & incident mgmt
- Viable Travel Alternatives Needed
- Keep Scheme and Pricing Simple
- Not to generate revenue for Government
- Communications is never enough
- Not just a fiscal measure but to change behaviour
Making ERP Rates Visible
Thank You