

**SPEECH BY MR RAYMOND LIM, MINISTER FOR TRANSPORT AND
SECOND MINISTER FOR FOREIGN AFFAIRS,
AT THE VISIT TO KALLANG-PAYA LEBAR EXPRESSWAY WEDNESDAY,
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ENSURING SMOOTH FLOWING ROADS

KPE to Open by September 2008

1. It is a pleasure to join you this morning at the Kallang-Paya Lebar Expressway (KPE) Operations Control Centre for an update on KPE Phase 2. The KPE project team has worked very hard and made good progress. I am pleased to announce that the full KPE will be opened on 20 September 2008. With this new high speed access, northeast residents can expect travel time to the city to be cut by 25%. The KPE will also help relieve congestion on the Central Expressway (CTE).

Building Roads for the Future

2. Beyond short-term needs, our priority is to continue investing for the future. The \$2.5 billion Marina Coastal Expressway (MCE) is on track for completion by 2013. A key expressway supporting the development of the Marina Bay, the MCE is crucial for the long-term growth of Singapore.

3. Indeed, when it comes to investing for growth, we do not stand still. Following LTA's studies, the Government has given the go-ahead to build the North-South Expressway or NSE by 2020 to cater to the projected growth in travel between the northern and city areas. With the 21 km-long NSE, Singapore's 11th expressway costing \$7-8 billion, residents in the north can expect travel time to the city to be cut by 30%.

Addressing Congestion Holistically

4. Besides these billion-dollar road projects, the LTA will continue to improve roads across Singapore, for example, widening the CTE and the Tampines Expressway (TPE) to increase capacity and improving interchanges such as the Woodsville Interchange to enhance connectivity and traffic flow. Likewise, intelligent transport solutions such as the Expressway Monitoring and Advisory System or EMAS will be expanded to optimise the use of our roads.

5. However, increasing road capacity and deploying traffic engineering measures will not in themselves guarantee smooth flowing roads. Additional lanes and new roads attract more traffic and congestion soon returns. As a Time Magazine writer put it, "traffic is like water; it oozes across all available surface."

6. The insatiable appetite for more cars has led to an uphill battle against gridlock in many cities. In fast growing economies like China, the car population grows at more than 20% a year and peak-hour traffic in mega-cities like Beijing and Shanghai crawls at 5km an hour. In the United States,

motorists spent more than 4.2 billion hours stuck in jams, enough time to fill 65 million iPod Nanos with music, and used up enough extra fuel to fill 58 supertankers. The “congestion invoice” in the US stands at some \$78 billion each year while congestion costs are estimated to be about 1% of GDP in European countries such as Britain and France.

7. Singaporeans likewise desire to own cars and our policies, in particular, the use of Electronic Road Pricing (ERP) to manage traffic, have made it possible for many Singaporeans to do so. And so the vehicle population has grown steadily to the 850,000 vehicles today. With rising affluence, not only are more Singaporeans owning cars, they are also using them more intensively. While the number of cars increased by 10% between 1997 and 2004, the number of car trips increased by 23%, more than double.

8. The effects are telling. Congestion levels have increased by about 25% since 1999, with more roads congested during the peak hours. A December 2007 Singapore Business Review article entitled “Gridlocked Nation” warned that “if Singapore’s growing traffic problems [were] not solved soon, the surging economy could feel the crunch.”

9. Against our ever growing appetite for car use, we are faced with the immutable realities of Singapore’s situation: a compact city state with 12% of its land already used up for roads. While we will continue to build roads like the NSE, going ahead, the pace of road expansion will have to slow down, from 1% a year over the last 15 years, to 0.5% a year over the next 15 years.

10. There are three inescapable conclusions from these observations. First, as more and more Singaporeans own cars, it is clearly not possible for all of them to drive their cars to and from work every day. The only way to move large numbers of people efficiently in our densely populated city is by public transport. It is therefore critical that we make public transport much more attractive to the vast majority of Singaporeans, including those who have access to cars.

11. Second, the trade-offs that we are faced with have become much sharper. The more cars Singaporeans own, the more extensive ERP coverage and the higher the charges would have to be. This is the key trade-off we have to make, to maintain smooth flowing roads.

12. Third, even with more extensive ERP, the current vehicle growth rate of 3% is not sustainable, given the already large vehicle population and the slowdown in road growth. We have to lower vehicle growth.

13. These are not easy issues but we have to make these difficult decisions and act decisively to manage car growth and usage to ensure that Singaporeans will continue to enjoy a quality living environment.

(I) Improving Public Transport

14. First and foremost, we are taking major steps to make public transport a choice mode of travel. We will plan our bus and rail network as an

integrated system from the commuters' perspective, with more frequent services and seamless transfers. We will also spend billions of dollars to double our rail network, enabling many more people to benefit from fast and reliable MRT connections. These measures will transform our bus and rail services, reduce journey times and increase comfort and convenience for commuters. Beyond these, we will also make immediate improvements to public transport – both bus and rail - so that people will have a good alternative to cars. Let me begin with the buses.

Improving Bus Services

15. Long waiting times, long journey times and overcrowding are the three most common complaints amongst bus commuters. These are the same reasons that discourage more people from taking public transport today. The bus priority measures such as bus lanes which we are putting in by June 2008 will help reduce waiting and journey times. These measures will help improve average bus speeds to 20-25kph, up from today's 16kph for feeder buses and 19kph for trunk buses. In addition, we will:

- (i) Increase frequencies of basic bus services, including feeder services;
- (ii) Allow basic bus services to duplicate parts of the rail network; and
- (iii) Expand premium bus services to provide more choices.

Increasing Frequencies of Basic Bus Services, including Feeder Services

16. To shorten bus journey and waiting times, and reduce crowding, we will enhance the frequency of basic bus services. In particular, we will put priority on corridors affected by impending ERP expansion, where the bus operators will increase the peak period frequency of all basic bus services from 15 minutes to 12 minutes by June 2008 and 10 minutes by August 2009.

17. Many commuters use feeder bus services to connect to MRT stations and bus interchanges. To reduce their waiting time, we will increase the frequency of feeder services. Over and above the minimum frequencies which the Public Transport Council (PTC) specifies for all bus services, the PTC will also be spelling out a separate and higher Quality of Service (QoS) standard for peak hour feeder bus services. The PTC will announce changes after consultation with the public transport operators.

18. The bus operators will have to procure additional buses to run the trunk and feeder bus services at higher frequencies. As this will take time, LTA will in the interim, extend the statutory life span of existing buses to expedite implementation.

Allowing Basic Bus Services to Duplicate Parts of the Rail Network

19. Today, trunk buses are not allowed to run routes that are parallel to rail lines. This avoids wasteful duplication of resources, which would increase

the overall cost of our public transport system. However, LTA has reviewed and will relax this rule for the mature rail lines, namely the North-South and East-West lines, where ridership is high and the scope for expanding rail capacity quickly is limited. From June 2008, we will allow new bus services to ply along the North-South and East West lines where there is persistent heavy passenger loading during peak hours. For example, it will now be possible to have a more direct bus that runs parallel to the North-South Line, from Ang Mo Kio to Orchard Road, compared to existing services which have more indirect routes. This would give commuters an attractive alternative to trains.

Expanding Premium Bus Services to Provide More Choices

20. We will also expand premium bus services which provide more comfortable and direct journeys. We currently have 42 services. We will work with the bus operators to increase the number to at least 72 by June 2008, putting priority on routes affected by ERP expansion. For example, premium bus services will provide direct connections from residential areas such as Katong, Holland, Bukit Timah, Choa Chu Kang, Sengkang, Tampines, and Yio Chu Kang to the Shenton Way, Robinson Road, Suntec City and Orchard Road areas. The operators will also provide return trips in the evening on high demand services.

Increasing Train Capacity

21. Even as we improve bus services, we will also increase the frequency and capacity of our trains, for a more comfortable ride.

22. I have mentioned in my earlier speech that an immediate improvement is the addition of 93 train trips a week during the morning and evening peak periods from February. For commuters, this will mean less crowded trains and a reduction in waiting time by about 10-15% during peak hours.

23. Further, as part of LTA's effort in revising the rail Operating Performance Standards, more frequent services will be required during peak time periods. For example, commuters should only have to wait for about 2 to 3 minutes during the morning peak-of-peaks when commuter volume is highest. During the lunch period, the frequency would be improved to about 5 to 6 minutes, down from the current 7 minutes. LTA will work with the rail operators to bring about these improvements.

(II) Ensuring that ERP Remains Effective

24. Besides vastly improving public transport, we will also need to enhance our ERP system. As with putting in more roads and traffic engineering measures, simply improving public transport on its own will not solve the congestion problem. Of all the different measures to deal with congestion, ERP is the only one that addresses the problem directly by requiring individuals to take into account the costs of congestion caused by their driving to others. Many other cities are coming to the same conclusion that there is no choice but to introduce congestion charging on heavily used

roads. London, Stockholm and Milan have done so and New York and Amsterdam are considering it. Without ERP, Singaporeans would be spending many hours in traffic snarls, just like people in Tokyo, Los Angeles and many other US cities, who pay for congestion, not with their wallets, but with the time that they have lost, stuck in traffic gridlock.

25. However, it is a growing challenge to keep our roads smooth flowing. On the one hand, road growth is slowing; on the other hand, we are packing more and more cars onto our roads. In the last ten years, the car population grew by almost 40%, from 370,000 in 1997 to 515,000 today. Coupled with this is the fact that our cars are among the most intensively used in the world, averaging 21,000 km a year, compared to 9,100 km in London, 13,900 km in Melbourne, and 19,800 km in Chicago. Not surprisingly, all these have resulted in the crowded roads and frequent peak hour congestion that we see today.

26. Our ERP system has served us well, but it is coming under strain. We often hear feedback that ERP has not helped to ease congestion on the highest demand roads like the CTE beyond a temporary respite; that ERP rate increases have little impact on travel behaviour; and that even though people pay ERP, they still face congestion on priced roads. There is some truth in this. The reason is that rising affluence has led to a greater propensity to drive which in turn has caused a dramatic rise in traffic volumes; so much so that the scale and intensity of traffic congestion today is far different from what it was a decade ago. Increasingly, given the more pervasive congestion today, the emphasis must be on encouraging motorists to shift to public transport, rather than drive on alternative roads to their destination. This is why the Government is spending billions of dollars to improve our public transport system to make it a viable alternative to the car.

27. Further, our ERP system has essentially remained unchanged since 1998. Hence, it is critical that we review the ERP system and enhance it to better address current and future traffic conditions. As a Thomson resident told me when I visited the area recently, people are willing to pay ERP charges but they must see the benefit from it. In other words, the ERP system must be made more effective. LTA has studied the matter carefully and assessed that, to manage congestion effectively, it is necessary to make the following changes:

- (i) Refine the method of measuring traffic speeds;
- (ii) Update the ERP rate structure; and
- (iii) Manage congestion in the city area.

Refine Method of Measuring Traffic Speeds

28. The optimal traffic speed thresholds of 45 kph on our expressways and 20 kph for arterial roads have been set to ensure smooth-flowing traffic. Yet, very often, motorists who pay ERP still find themselves getting caught in slow traffic, and even experiencing “stop-start” conditions, despite fine weather, and with no accident in sight.

29. LTA did a traffic study which found that the 45 kph and 20 kph threshold speeds which were set 10 years ago, are today close to the point where traffic flow can deteriorate very rapidly to what traffic engineers call the “unstable zone”, where “stop-start” traffic conditions become common. When this happens, all it takes is a minor disturbance in the traffic flow and the traffic speeds can drop quite sharply. This is undesirable and we need to create a buffer to ensure better traffic conditions.

30. After careful review, LTA has decided to address this problem by adopting a more representative method of measuring actual traffic conditions for ERP rate reviews, with speeds determined using the 85th percentile speed measurement method. The 85th percentile speed measurement method is also an international traffic engineering practice for assessing traffic conditions.

31. The 85th percentile speed measurement method will result in better driving conditions for more motorists than the current methodology of using the average or mean speed, as it ensures that 85% of motorists will experience speeds above the threshold. The nature of averaging is such that lower speed readings would be evened out by higher speed readings. Hence, even if the average speed on an ERP-priced road is recorded as being above the threshold, the actual speeds may well be lower than the threshold for a significant part of the time. For example, even though the average travelling speed on the PIE from 7.30 to 8 am was above 45 kph in early January this year, up to 38% of the motorists were actually travelling at speeds below 45 kph. On Thomson Road in October 2007, about half of the motorists travelled at speeds below 20 kph between 8.30-9am, even though the average speed was 20 kph. Thus, using average speeds aggravates the risk of traffic falling into the unstable zone. This also explains why there is at times a disconnect between what LTA says and motorists’ actual driving experience. LTA is correct that the average speed is above the speed thresholds but a good number of motorists are not actually experiencing such speeds.

32. Hence, LTA will no longer use average travelling speeds to determine ERP rate changes. Instead, LTA will use the speed taken at the 85th percentile level. With this change, at least 85% of motorists will be assured of smooth travel on ERP-priced roads.

Update the ERP Rate Structure

33. Traffic volumes have increased substantially in the last few years. This has resulted in the need to make more frequent rate changes on our ERP-priced roads and expressways, from 9 times in 2006 to 25 times in 2007, based on the same number of gantries. Instead of resorting to so many small adjustments, it would be more effective to make larger rate increments. Indeed, many people have commented that the 50 cents rate increment has only a temporary impact on driving behaviour as it is not significant enough to cause people to change their travel behaviour.

34. Therefore, for ERP charges to remain effective in influencing motorists’ behaviour, LTA will raise the incremental ERP charge from \$0.50 to \$1. In addition, the ERP base charge, which is the starting charge for a new

ERP gantry point, will be increased from the current \$1 to \$2. These changes will improve the effectiveness of the ERP system, so that each time ERP rates are adjusted, motorists who still choose to drive on these roads would see a visible improvement in traffic flows.

Manage Congestion in the City Area

35. City traffic has been building up in the last few years. It is now much more congested in and around the city. Compared to 5 years ago, speeds on major roads in the CBD have fallen by more than 25%. For example, five years ago, a motorist crossing the city from Bugis to Chinatown in the evening enjoyed travelling speeds of 25 kph. Today, the speeds have fallen by almost 30% to 18 kph. At major cross junctions between North Bridge Road and Bras Basah Road, as well as South Bridge Road and Cross Street, the build-up of traffic has resulted in motorists having to wait for 3 or more traffic light changes before they are able to cross the junctions. We cannot let conditions deteriorate further.

36. LTA has carefully studied the traffic situation and will introduce additional ERP gantries in the city area in July 2008 to manage traffic more effectively. These gantries will run roughly along the Singapore River from Clemenceau Avenue to Fullerton Road. Their purpose is to reduce the through traffic, which currently makes up about 38% of the traffic, in this very busy area.

Phasing In the Changes

37. The revised speed measurement criteria and the new rates will be introduced from July 2008, only after the public transport improvements have been rolled out by June 2008. These public transport measures will increase rail and bus passenger capacity by 15,000 trips and 6,800 trips respectively during the morning peak hours. These are more than sufficient to cater to the 6,000 passenger car trips that LTA estimates may be affected by these ERP changes during that period.

38. LTA will phase in the ERP changes, starting with the CBD and Orchard cordons in July as the city area is a key priority. It will then extend the new criteria and rates to other roads progressively with an additional 6 new gantries put up to deal with peak hour congestion in November. This is to give time for people to adjust their travel plans and allow for the impact of changes in the city area to work its way through the rest of the road network. Hence, if as a result of the new ERP rates in the city area, fewer motorists drive on the arterial roads and expressways leading to the city, we may not need to adjust the ERP rates even with the new criteria. LTA will give more details of the new ERP gantries later.

Vehicle Ownership Taxes to be Lowered

39. With all these changes to the ERP system, the expected increase in ERP revenue will be about \$70 million a year. In line with our policy to shift progressively towards taxing on the basis of vehicle usage rather than

ownership, the Government will reduce road tax by 15% for all vehicles, including taxis. I urge taxi operators to pass on the savings to taxi drivers. This permanent road tax reduction will cost the Government about \$110 million annually. It underlines the point that the higher ERP charge is to address congestion and is not a revenue raising measure. If motorists were to drive less, the Government would be happy to collect less ERP revenue.

40. In addition, to lower the upfront cost of car ownership, we will also reduce the Additional Registration Fee (ARF) for cars, lowering the rates from 110% of Open Market Value (OMV) to 100% of OMV with effect from March 2008. The Government will collect about \$200 million less annually.

(III) Lower Vehicle Growth Rate

41. Besides enhancing the effectiveness of ERP, we will also need to lower the vehicle growth rate.

42. Every weekday morning and evening, we feel the impact of our 850,000-strong vehicle population on the roads. When I go to dialogue sessions, I often get questions like "Don't you think there are too many cars on the roads?" People tell me that it is not just the city areas that are getting congested but also suburban areas like Serangoon and Thomson, which they say get chock-a-block full of cars in the evenings. One of the reasons for this increasing congestion is that in applying a 3% growth rate to the current vehicle population base, we have been adding 25,000 vehicles onto the roads each year, compared to 16,000 vehicles back in 1990 when the Vehicle Quota System was introduced. If we continue at a 3% growth rate, we would have enough vehicles, packed bumper to bumper, to turn our entire road network into a giant car park in the not too distant future. If we take into account that road growth will go down to 0.5% a year, then clearly, the 3% vehicle growth rate is no longer tenable.

43. We will, therefore, lower the vehicle population growth rate from the current 3% to 1.5% from Quota Year 2009 (beginning in May 2009). We will review the growth rate after 3 years, and assess then whether a further reduction is necessary, in light of the slowdown in road growth.

Conclusion – Moving A Nation

44. Quite a number of people have suggested to me that I should just focus on improving the public transport system and leave these tough car demand measures to the future. They argue that since we are making such significant improvements to our public transport system, this should be sufficient to deal with our congestion problems. I wish it were so. But unfortunately, I know that it is not the case. The reason is that even if we free up some roads because some motorists decide to switch to public transport, other motorists will soon take their place, attracted by the smooth flowing traffic and very soon, these roads will again be congested. So improving public transport is necessary but not sufficient in itself to deal with congestion. We need both – public transport improvements and congestion measures.

45. There is always a tension between the individual's personal interest in wanting unrestrained driving and the social goal of a liveable city. We have to decide whether as a people, we are willing to take hard decisions that will benefit our country; or whether, we will, like many other cities, postpone the necessary, store up the trouble and suffer future gridlock, with the attendant costs to the economy and living environment.

46. So we must move – building up our public transport so that people will have a viable alternative to the car and taking firm steps to curb excessive car travel demand, so that all of us will enjoy a quality urban environment now and into the future.