

# INTELLIGENT TRANSPORT SYSTEMS

Intelligent Transport Systems (ITS) are information and control systems which the Land Transport Authority (LTA) uses to manage our roads, making them safer, free-flowing and more efficient.



Harnessing the power of technology, ITS are becoming essential components within our transportation network.

These systems are namely:

- Expressway Monitoring and Advisory System (EMAS)
- Green Link Determining System (GLIDE)
- Junction Electronic Eyes (J-Eyes)

At the heart of these systems is the ITS Centre. It operates round the clock to keep track of traffic flow on the roads based on information gathered by the various ITS.

The control centre also disseminates traffic information to motorists through these channels:

- Travel Information Displays along the expressways
- Radio
- Television
- Internet



# EXPRESSWAY MONITORING AND ADVISORY SYSTEM



The Expressway Monitoring and Advisory System (EMAS) is an intelligent incident management tool that manages traffic on our expressways.

It uses strategically located detection cameras to detect incidents and congestion on the expressways and alerts the traffic controllers at the control centre.

Recovery crews are sent to the site to provide assistance to motorists and remove obstructions. Through swift response, EMAS minimises traffic congestion and enhances safety on the expressways.



EMAS brings these benefits to motorists:

- Provides quick response to motorists who need help on the expressways
- Minimises congestion arising from incidents, through the display of messages to inform motorists of traffic conditions on the expressways and incident locations to avoid
- Makes our expressways safe

# GREEN LINK DETERMINING SYSTEM

The Green Link Determining System (GLIDE) controls all traffic signals along the arterial roads.

By allocating green time for motorists and pedestrians based on demand, it regulates the flow of traffic at road junctions and improves the safety of motorists.



GLIDE is able to sense traffic demand with the aid of detector loops placed beneath the road surface and the use of push buttons at pedestrian crossings. It then adjusts the green time according to the traffic volume in each direction.

GLIDE also links traffic signals between adjacent junctions to provide a "green wave", so that motorists can travel from one junction to another with minimal stops.

With the use of GLIDE, road users benefit from:

- Longer green time for motorists and pedestrians based on demand
- "Green wave" link between adjacent junctions, thereby minimising the number of stops by vehicles
- Prompt rectification of traffic signal faults



# JUNCTION ELECTRONIC EYES



Junction Electronic Eyes (J-Eyes) comprise surveillance cameras installed at major road junctions.

They act as remote eyes for the traffic controllers at the ITS Centre.

Surveillance cameras are mounted on special poles, street lamp posts and buildings. They are able to pan, tilt and zoom to capture clear video images of the traffic situation at junctions.

These images are sent back to the control centre to allow the controllers to detect and respond quickly to traffic incidents.



J-Eyes enhance traffic flow at major road junctions by:

- Enabling traffic controllers to spot and rectify causes of traffic congestion
- Enabling the controllers to study the impact of any traffic signal timing adjustments remotely