

ETMS

(Expressway Traffic Management System)

By Hong, Sukkee
Korea Expressway Corporation (KEC)
skhong@ex.co.kr

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Highway, expressway & freeway

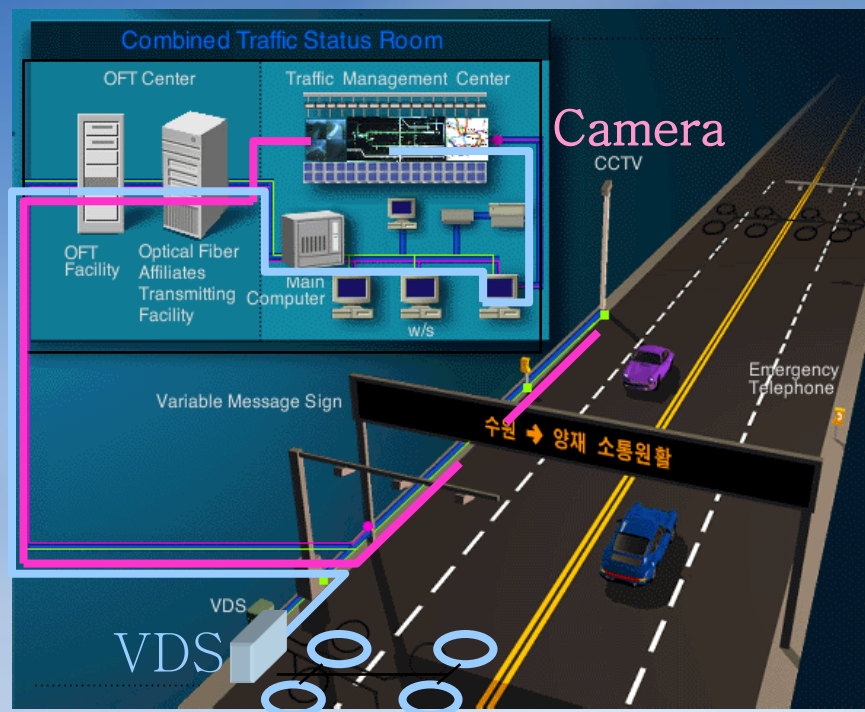
- ◆ **Highway** is “a main road intended for travel by the public between important destinations, such as cities and towns” – *Wikipedia* –
- ◆ **Expressway** is “a high speed divided highway for through traffic with access partially or fully controlled and grade separations at important intersections with other roads” – *Webster* –
- ◆ **Freeway** is “1. an expressway with fully controlled access. 2. a toll-free highway” – *Webster* –

Objectives of ETMS

- to reduce the impacts and occurrence of recurring congestion
- to minimize the duration and effects of nonrecurring congestion
- to maximize the operational safety and efficiency of the public traveling
- to provide facility users with information
- to provide solutions to users who have encounter problems

Collecting traffic info

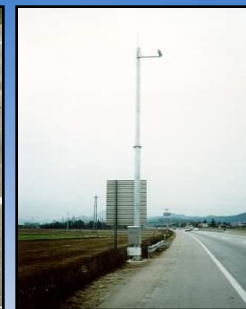
- monitoring real-time traffic condition
- identifying the location and causes of any operational problems that occur



Camera



Loop



Video detector



Patrol car



Driver



TCS

Providing traffic info

- Informing travelers of real-time data about running speed, traffic situation, accidents, maintenance works, weather, etc



Traffic info center



Lane-use control

- to deal with problems on the roads safely
- to maximize the efficient use of existing pavement within the right-of-way



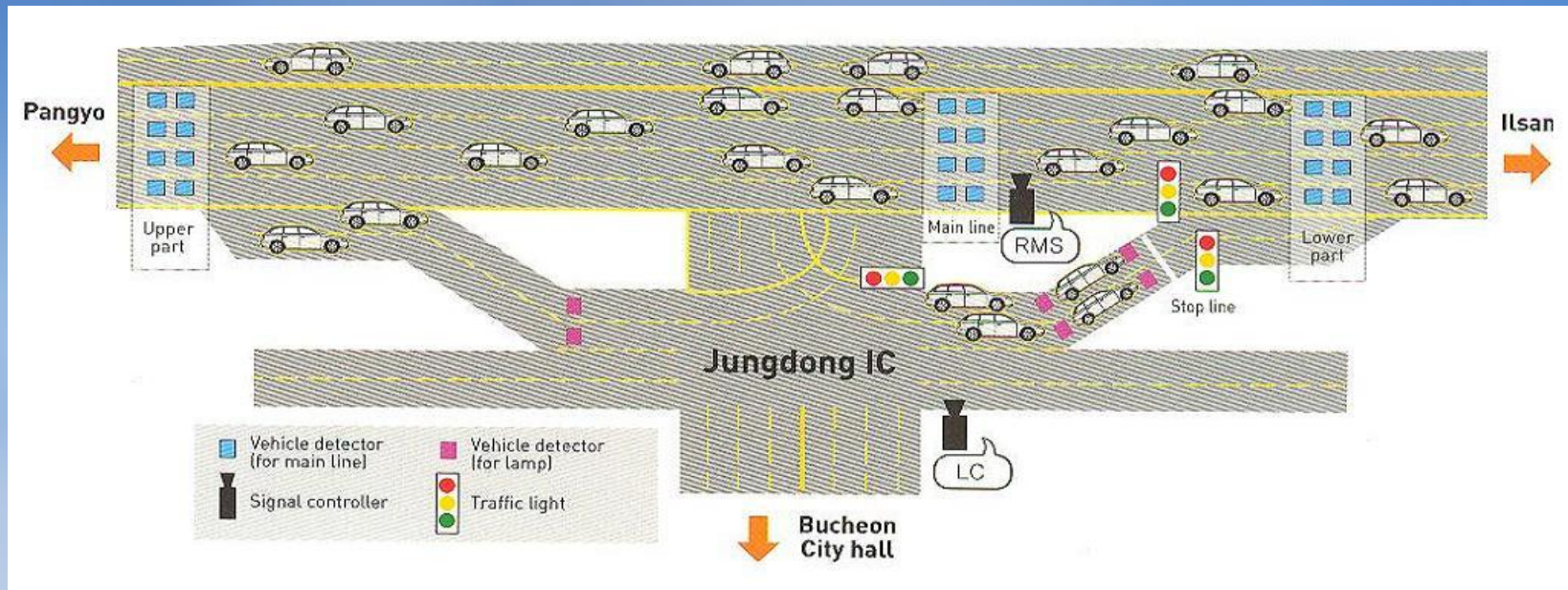
Mainline control



Temporary shoulder utilization

Ramp metering

- to reduce turbulence in expressway flow near the ramps and improve overall expressway operation by managing traffic volume in expressway.



HOV (high-occupancy vehicle) lane

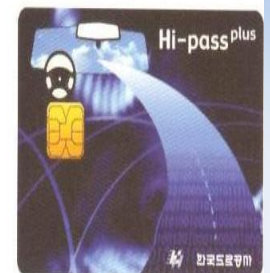
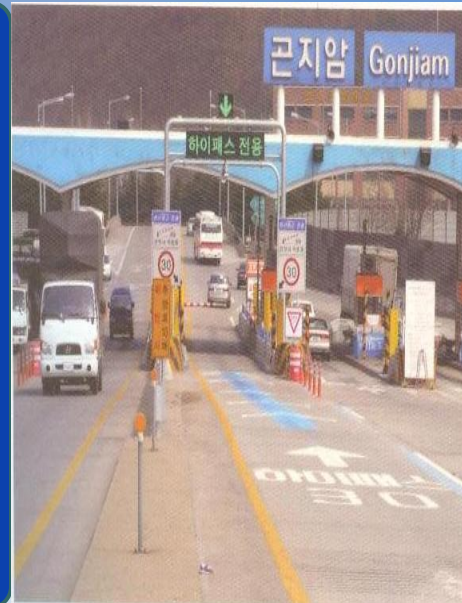
- to give priority to high-occupancy vehicles to go faster
 - to carry more passengers by the same traffic volume
-
- ◆ 44.8 km from 7 am to 9 pm on weekdays
 - ◆ 137 km from 7 am to 9 pm on weekends & holidays
 - ◆ all day long on big national holidays like Thanksgiving



Electronic Toll Collection

- to pay tolls automatically without stopping
- Wireless communication between an electronic unit in the car and an antenna at the toll gate makes it possible

- ◆ An ETC lane can deal with 3 to 5 times more vehicles than an ordinary lane.
- ◆ This system greatly relieves delay from toll payment.



Raising speed limits

- More expressway users are choosing express trains
- to compete against express trains

◆ At present

- Speed limits are 100 – 110 km/hr
- Design speeds are 100 – 120 km/hr

◆ We plan to make speed limits up to 120km/hr

- A pilot test & facility improvements in process

Managing recurring congested areas

- **“Congestion” means “less than 40 km/hr”**
“Recurring “ means “more than one hour a day”
 - **Recurring congested areas are 414km in 3,630km of the expressways (11%) in 2011**
-
- **They are specially managed for relieving congestion by traffic info, lane-use control, ramp metering, etc**

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- Traffic Management 2011-05-11
- Traffic Information Center(TIC) 2011-05-11
- E-learning Program of KEC 2011-05-11
- introduction of Expressway & Trans.. 2011-05-11


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Korea Expressway Corporation

430, DaewangPangPangyoro, Sujeong-gu, SeongNam-si, Gyeonggi-do 461-703, Korea Tel. 82-31-799-5317.
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