TRAFFIC SIGNAL CO-ORDINATION

When there are series of signals on a city road at each intersection with crossroad, the signal system may be operated with only one controller. But it is desirable that a vehicle moving along a main road at normal speed should not have to stop at a very signalized intersection till getting the Go signal. Hence there should be proper co-ordination of the signal system to provide a through band.

Need for co-ordinated control

(i) To pass maximum amount of traffic without enforced halts.

(ii) To have minimum overall delay to traffic streams, both in main and side roads.

(iii) To prevent the queue of vehicles at one intersection from extending and reaching the next intersection.

Type of traffic signal system:

There are four general types of co-ordination of signals for road network, as listed below:

- Simultaneous system
- Alternate system
- Simple progressive system, and
- Flexible progressive system

SIMULTANEOUS SYSTEM:

In this system all the signals along a given road always show the same indication (green, red etc.) at the same time. As the division of cycle is also the same at all intersections, this system does not work satisfactorily.

The disadvantages of a simultaneous systems are:

(i) The overall speed often reduced.

(ii) It encourages speeding of drivers between stops.

(iii) It is not conductive to give continuous movement of all vehicles.

ALTERNATE SYSTEM:

In this system, alternate signals or groups of signals show opposite indications in a route at the same time. This system is also operated by a single controller, but by reversing the red and green indicator connections at successive signal systems. This system generally is considered to be more satisfactory than the simultaneous system.

The disadvantages of this systems are:

(i) The green time for both the main and side streets have to be substantially equal, resulting inefficiency at most of the intersections.

(ii) Adjustments are difficult for changing traffic conditions.

SIMPLE PROGRESSIVE SYSTEM:

A time schedule is made to permit, as nearly as possible, a continuous operation of groups of vehicles

along the main road at a reasonable speed. The signal phases controlling "GO" indications along this road is scheduled to work at the predetermined time schedule. The phases and intervals at each signal installation may be different; but each signal unit works as fixed time signal, with equal signal cycle length.

FLEXIBLE PROGRESSIVE SYSTEM

This system is an improvement over the simple progressive system with the following provisions:

(i) It is possible to introduce flashing or shut down during off-peak hours.

(ii) It is possible to vary the cycle time and division at each signal depending upon the traffic.

VMS AND ROAD MARKINGS

Variable Message Signs (VMS) are digital road signs used to inform car drivers about specific temporary events and real-time traffic conditions. The signs are often linked to a manned control centre via a local network or a radio link.

Variable Message Signs (VMS) is one of the most convenient and cutting-edge tools for dynamic traffic control. LED-based, they provide brilliant legibility, are energy-efficient and have an excellent luminance ratio. The unique optical design avoids the problems associated with reflections. Even at low sun position best legibility is guaranteed. Furthermore, their designs are weather-resistant and modern, keeping in mind the importance of aesthetics for a smart city.

Key Benefits

- Only highest quality LEDs from renowned manufacturers
- Low weight to reduce cost of structural system
- Low maintenance with quick and easy replacement of parts
- Reliable power supply for LED displays and controller
- Adaptable to different ambient light conditions
- Integrated sensors for temperature and light
- Supports all regional languages
- Worldwide integration using different interfaces and protocols for control and data exchange
- Continuous monitoring with status reports to control centre
- An onboard operating system that provides permanent diagnosis and reports any error status to the central system