Traffic Signals:

The use of traffic signals, such as traffic lights, to control the right of way at intersections.

Traffic Signs:

Clear and standardized signage communicate rules, warnings, and information to drivers.

Traffic Lanes:

Organizing roads into different lanes for different types of vehicles and turning movements.

Speed Limits:

Setting and enforcing speed limits to improve safety and control traffic flow.

Roundabouts:

Implementing roundabouts to improve traffic flow and reduce the need for traffic signals.

Road Design:

Creating well-designed road infrastructure that accommodates different types of vehicles and pedestrians.

Public Transportation:

Encouraging the use of public transportation to reduce congestion and pollution.

Traffic Law Enforcement:

Enforcing traffic laws to ensure that drivers follow rules and regulations.

Traffic Calming Measures:

Implementing measures like speed bumps, chicanes, and narrowing lanes to reduce speeding in residential areas.

Traffic Management Software:

Using technology and software for real-time traffic monitoring and management.

Pedestrian Crosswalks:

Providing safe crossings for pedestrians, including crosswalks and pedestrian signals.

Bicycle Lanes:

Designating lanes for cyclists to improve safety and encourage non-motorized transportation.

Parking Management:

Efficient management of parking areas to prevent congestion and promote turnover.

Emergency Response Routes:

Designating clear routes for emergency vehicles to respond quickly.

Traffic Education:

Public awareness and education campaigns to inform drivers, cyclists, and pedestrians about safe practices.

MODEL TRAINING

```cpp
#include <iostream>
#include <string>

Using namespace std;

Int main() {
   Int trafficLight = 0; // 0 represents green, 1 represents yellow, 2 represents red

   While (true) {
      // Display the current traffic light status
      If (trafficLight == 0) {
         Cout << "Traffic Light: Green" << endl;
      } else if (trafficLight == 1) {
         Cout << "Traffic Light: Yellow" << endl;
      } else {
         Cout << "Traffic Light: Red" << endl;
      }

      // Simulate time passing
      // In a real program, you'd use timers or system time
      For (int i = 0; i < 1000000000; i++) {}

      // Change the traffic light status
      trafficLight = (trafficLight + 1) % 3; // Cycle through green, yellow, red
   }

   Return 0;
}
```

```

# Evaluation :

| Vehicle | Detector | Traffic Controller | Optimizer | Signal |
|---------|----------|--------------------|-----------|--------|

1: Cross the detector

2: Detect Vehicle

3: Send Traffic Flow

4: Collect details from all sensor

5: Send the traffic data

6: Request for optimization

7: Send the optimized data

8: Set the Signal and Timer

9: Check for the signal

10: Granted(Green Signal)

11: Not Granted(Red Signal)