The function of each component in the traffic management system:

**1. Traffic Control Center**

- Central hub for monitoring and controlling all traffic management activities.

- Coordinates with various subsystems to ensure smooth traffic flow.

**2. Traffic Management**

**Auto-fixation of Traffic Violations:** Automatically detects and addresses traffic violations using cameras and sensors.

**Traffic Light Control:** Manages the operation of traffic lights to optimize flow and reduce congestion.

**Real-time Traffic Conditions Monitoring**: Continuously monitors traffic conditions and provides updates.

**Providing Traffic Participants with Information:** Supplies drivers and pedestrians with real-time information on traffic conditions, alternative routes, and potential delays.

**3. Intelligent Transportation System (ITS)**

**Advanced Traffic Management Systems (ATMS):** Implements advanced technologies for efficient traffic management.

**Advanced Vehicle Control and Safety Systems (AVCSS):** Enhances vehicle control and safety through automation and communication technologies.

**Advanced Public Transportation Systems (APTS):** Improves public transportation efficiency and reliability.

**Commercial Vehicle Operations (CVO):** Manages the movement and operation of commercial vehicles to ensure safety and compliance.

**4. Data Collection Module**

**Data Collection:** Gathers traffic data from various sources such as sensors and cameras.

**Data Storing:** Stores collected data for analysis and future reference.

**Data Transfer:** Transfers data between different subsystems for processing and decision-making.

**5. Traffic Control**

**Smart Traffic Lights:** Uses sensors and algorithms to adapt traffic light patterns in real-time based on current traffic conditions.

**Toll Booths**: Manages the collection of tolls and regulates vehicle flow at toll points.

**6. Sensors and Data Sources**

**GPS Sensors:** Tracks the location and movement of vehicles to provide real-time traffic data.

**CCTV Cameras:** Monitors traffic conditions, detects incidents, and helps in enforcing traffic laws.

**In-Road Sensors:** Embedded in the road to detect vehicle presence, speed, and count.

**Car Park Sensors:** Monitors the availability of parking spaces and provides information to drivers.

Each component works together to create a comprehensive system that enhances traffic efficiency, safety, and management.

