**SMART CITY INFRASTRUCTURE**

**PROJECT PROPOSAL**

**Introduction:**

Smart cities have friendly, well-functioning neighbourhoods that are safe. Using advanced sensors, integrated electronics, a network, and electronic equipment, supervise all usage, including transportation, water, gas, and electricity. Eventually, the computer database system, analysis method, and solution are integrated with these services.

Features of a smart city include:

* Applications and services across several fields, including health, education, security, and the economy.
* Intercommunity connectivity via integrated service architecture.

The CPU task on the devices gets challenging when network resources are used in conjunction with numerous other devices. Large urban networks, for instance, have substantial advertising packages. The artificial interface's modular design decreases bandwidth loss while enhancing the pertinent experience in each product. There are various components to network management and network management systems' duties.

**Objectives and Aims:**

The objectives of the study area unit are as follows:

* Design and simulation of smart city networks using Cisco Packet Tracer.
* Analysis of network device configuration and point-to-point connection

**Requirements:**

There are some features that the Smart City must have or else it will not be efficient in managing all the different variety of domains.These features incudes:

* Scalability: Implies that the system can easily scale by adding additional resource units.
* Reliability: Fault tolerance under many conditions.
* Flexibility: The system responds well to integration or implementation in various situations.
* Availability: The system is always up.
* Maintainability: System code and components are easy to maintain

Below are some networks and protocol requirements.

* **Network Devices:**

1. Routers
2. Switches
3. Wireless Network
4. Virtual LANS
5. Access Control List (IP Addressing, Subnet Masking, Default Subnet Masking)

* **Protocols:**

1. Voiceover Internet (VoIP)
2. Dynamic Host Configuration Protocol

* **Network Models:**

1. TCP/IP Model
2. OSI Model
3. Internet
4. Intranet
5. Peer-To-Peer Network Model
6. Client-Server Network Model