A routing protocol uses software and routing algorithms to determine optimal network data transfer and communication paths between network nodes. Routing protocols facilitate router communication and overall network topology understanding. This is the routing protocol that we will use here. The routing protocols used to communicate with different networks use two different methods, static and dynamic. Protocols that perform dynamic routing can be summarized in the following diagram. We need to use decoupling protocols to route buses between cities. For instance, we can use the distance vector protocol and the **Link State Protocol** routing protocols. In these protocols, routes are determined depending on the distance and direction vectors. The distance is determined by the number of jumps (stops) that have passed; the direction is also determined by the next hobby or the exit interface (interface). Distance Vector Protocols use the Bellman-Ford algorithm to determine the best route. Although the Bellman-Ford algorithm allows you to store the information of accessible networks in the database; no router has a map of the entire topology, since there is as much information available as the neighboring router sends.

In these protocols, the router December sends the entire routing table to its neighbors, even if only part of the record in the table changes. This causes significant traffic on large networks. In addition, the update occurs slowly, as changes are made when sending packages. Since distance vector protocols use simple algorithms when choosing the best path, they do not impose much load on the router's processor, but sometimes they may not be able to choose the most correct path. These protocols; it is preferable in simple networks that do not require a special hierarchical layout, in some special networks, such as hub-and-spoke (the structure in which the router in the center serves others), and where the conversion time (all routers in the topology learn all networks) is not important. Routers working with these protocols can map the topology of the entire network thanks to the information they have learned from other routers. That dec, they have knowledge of all the paths between two points. In this way, they collect all the subnets in a tree and make the most accurate decision about which way to go with the Shortest Path First algorithm. Also, once the topology sits down, instead of periodic updates, when there are only changes, updates are made with small packages, which prevents traffic from occurring. Since packets are transferred to a neighboring router without any changes to it, the speed problem encountered in the distance vector protocols does not exist in these protocols. However, since they use complex and multi-parameter algorithms, they need a more powerful processor and ram compared to distance vector protocols. Although previously this situation seemed to be an economic disadvantage, today it has ceased to be a significant disadvantage because processor and ram prices have fallen. The Line State Protocol is preferred in large networks with a hierarchical structure and in cases where the brevity of the conversion time is important. Bus lines are fixed and have numerous stations.

We use coordinates of the stations to represent a bus line, we can’t acquire the route exactly, but we can acquire the positions where buses or vehicles must pass and stop. Most buses run on the main road, therefore, using coordinates of the stations to replace a bus line is reasonable, and simplify the previous method that using GPS to get path information. We design a data table to store the minimum distance between current position and the target line, replace the route contact oracle what is used for storing the total duration of the contacts among buses. Routing protocol forwards messages based on the data table, then it can avoid an inaccurate condition that traffic jams lead to increase the contact time among buses.