roads from the main roads to urban streets, the relevant consultant/applicant/designer is recommended to seek guidance and subsequent approval from both the authorities i.e. DoT and UPC.

As per the functionality of the roads, the ROW utility cross section should be developed in accordance with the road corridor's four basic functions, which are as follows:

1. Public Space: The roads should be designed as attractive public spaces with high standards of safety and security, convenience and conformability, aesthetically pleasing to the eye, and a source of civic pride.
2. Accessibility: The roads provide access to localities/neighbourhoods located adjacent to them. The degree of access ranges from vehicle driveways to inter destination trips. The adjacent land use and the type of access provided/required are important determinants of the character of a road corridor. To provide best access the road corridors should be properly spaced with effective access control and high level of connectivity and continuity.
3. Multi Modal Corridors: The high capacity and the high diversity functions of the main roads distinguish them from the remaining hierarchy of the local roads. Both of these functions are achieved by developing multi modal routes, where the road corridors accommodate higher volume of people, goods and services. Typical examples of such roads are the road corridors with Mass Transit lines or the overhead transmission lines. In designing such roads, their design should facilitate the safe and efficient movement of these modes. Furthermore, these high capacity roads should also be designed to facilitate the safe and efficient movement of large and heavy vehicles e.g. trucks, buses, and emergency service vehicles.
4. Service and Utility Route: The roads accommodate a range of utilities and services such as piped water, sanitary sewers, irrigation lines and storm sewers, as well as utilities such as, power supply, telephone, gas and telecommunications lines. Trees and lighting poles are also part of the public infrastructure. The provision of suitable vertical and horizontal clearances for each of these utilities and services is an important design challenge. The maintenance and operation of this infrastructure, and of the road corridor itself, are also important design considerations. To function as a service and utility route, the road corridors should be infrastructure compatible, vegetation supportive, width flexible, operable and maintainable.

The above four functions are not always entirely complementary. For example, it is often difficult to develop a desirable public space along a high speed arterial road. The pre eminence of the various functions, therefore, often varies by road corridor type. This is the challenge that should be addressed during the process of developing the ROW utility cross section.

4.3.1 Basic ROW Width

Based on the above detailed functionality and associated functions of the road, the basic ROW width can be estimated by considering the following road elements:

1. Median width; which is dependent on the type of infrastructure that is to be placed within the median. Usually, the light poles are placed in the median; however, in certain cases the transit lines are also accommodated within the median. The minimum width of a median is