

DISCUSSION

DESIGN STANDARDS

Design standards are required to reflect the revised classification system in a practical manner and in a way that continues to ensure a high level of service and safety for the travelling public. They also should reflect the service aspect of each highway and its sensitivity to the environment in which it is located. With these principles in mind, revised basic standards were developed that allowed for slightly lower standards on Secondary Arterial and Collector routes and higher standards on Primary Arterials.

For level of service (See **Schedule 1 - Definitions on page 13**), there is a consensus among engineering staff that Expressways and Arterials should be designed to provide a minimum level of service 'B'. This is largely because these routes serve long distance traffic with trucks carrying goods to far markets. To this end, they should generally provide a running speed of 90 km / h. Whereas, Collector routes should provide a minimum level of service 'C'. These levels of service are recommended for roads in rural areas that do not fall under the Parkway or Suburban Highway special design categories. However, before highway upgrades are considered, a thorough engineering and economic justification that takes into account road user benefits / costs is required.

The proposed "**Basic Design Standards for Provincial Highways (For New & Major Reconstruction)**" given in **Table 1 to Transportation Planning Policy TP 2 / 98**, represent a combination and rationalization of the current standards for PTHs and PRs.

Design Speed

The proposed Basic Design Standards for Provincial Highways include previously adopted design speeds (See **Table 2 - "Basic Design Speed Standards for Rural Provincial Highways" on page 4**). These speeds are still justified as some speed limits on Arterial routes have been increased from 90 km / h to 100 km / h. Also, it is noted that actual operating speeds on 2-lane highways are close to 100 km / h in southern Manitoba and 110 km / h in remote areas. Actual operating speed on 4-lane divided highways (with depressed median) is close to 110 km / h. For low volume Collector highways, the design speed remains 100 km / h (flat terrain), 90 km / h (rolling terrain) and 80 km / h (rugged terrain), to reduce environmental impact (e.g., minimize land fragmentation at curves) and construction costs. **Specific speed related traffic operation definitions are given in Schedule 1 - Definitions on page 13.**

It is generally recommended that unless the construction costs and environmental impacts are great, highways be designed for the upper design speed in each range. It should be kept in mind that once the highway is constructed, the design speed is a permanent feature which cannot be altered without extensive reconstruction.

Based upon these design speeds and TAC geometric standards, appropriate values of alignment have been incorporated in the abovementioned **Table 1**. The only exception being the Trans-Canada Highway where the minimum recommended radius is 1100 -1200 m to enable longer trucks, trailers and trains to make use of this highway.