

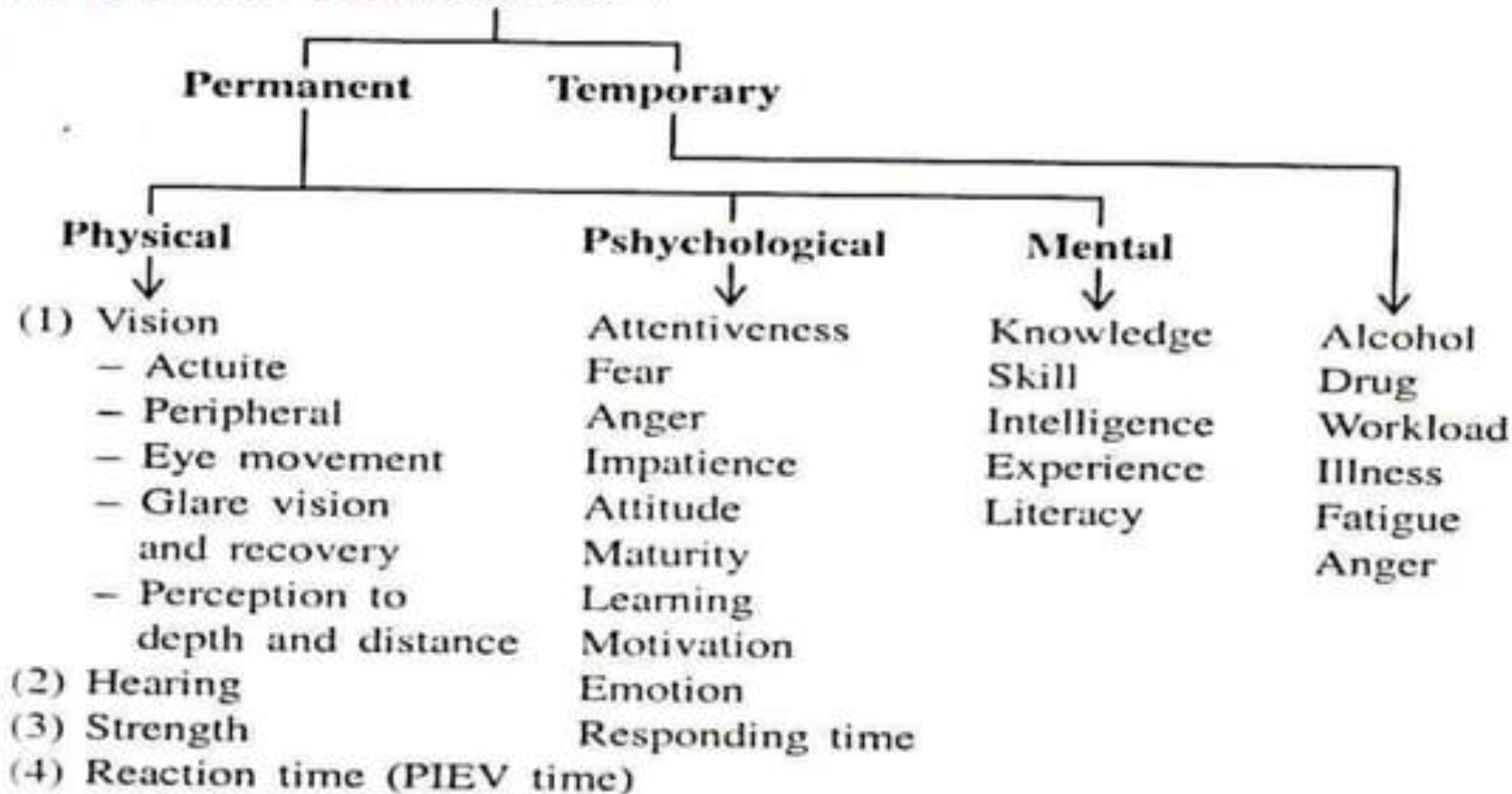
Transportation Engineering-1

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Roaduser Characteristics

(A) ROADUSER CHARACTERISTICS

(A) Roaduser Characteristics :



Total reaction or the Perception Intellection Emotion and Volition [PIEV] time of the drivers vary considerably from driver to driver and situation. The total reaction time of an average driver may vary from 0.5 seconds for simple situations to as much as 3 to 4 seconds or even more in complex condition. Generally, for design purpose it is taken as 2 second.

Vehicular Characteristics

B) Vehicular Characteristics :

Vehicular Characteristics

Static

- Dimensions – Length, Width, Height
- Weight – Gross vehicular weight, axle load
- Max. turning angle/radius
- Height of vehicle
- Height of driver seat
- Height of headlight
- Clearance below the chassis

Dynamic

- Speed
- Acceleration
- Braking
- Engine horsepower

Traffic Survey

- It is quite important to study the various vehicular characteristics which affect the design and traffic performance, because it is possible to design, a road for any vehicle but not for an indefinite vehicle. It will not be economically feasible to keep on increasing the geometric standards and thickness of pavement from time to time to meet the needs of a few vehicles whose weight and dimensions are increased.
- Traffic studies are carried out to analyse the traffic characteristics to decide geometric features and traffic control for safe and efficient movements.

Major types of survey are as below:

Traffic Volume Study:

- Traffic volume is the number of vehicles crossing a section of road per unit time at any selected period. Traffic volume is used as a quantity measure of flow. The commonly used units are vehicles per day and vehicles per hour. A complete traffic volume study may include classified volume study by recording the volume of various types and classes of traffic. The distribution by direction and turning movements and the distribution or different lanes per unit time.
- Different vehicles classes are converted to one common standard **vehicle unit-PCU- Passenger Car Unit**. Number of vehicles are multiplied by equivalency factor to convert number of vehicles into PCU.