Perception-Reaction Process

–PIEV is important for safety of cars, drivers, and pedestrians

–Examples of uses:

- Minimum sight distance
- Length of the amber phase
- Length of pedestrian phase (or red)

PIEV = f (Complexity of the task, Level of expectancy, Variability of the drivers)

1. Environment: Urban vs. Rural, Night vs. Day, Wet vs. Dry
2. Age
3. Physical Condition: Fatigue, Drugs/Alcohol
4. Ability to see: lighting conditions, presence of fog, snow, etc
5. Complexity of situation: (more complex = more time)
6. Complexity of necessary response
7. Expected versus unexpected situation: (traffic light turning red vs. dog darting into road)

– For design purposes:

- AASHTO (American Association of State Highway and Transportation Officials) and TAC (Transportation Association of Canada) recommended 2.5 sec for stopping sight distance
- Accommodates about 90% of drivers