

Human Factors Issues in Surface Transportation

Notes

1. Why do accidents happen?
 - a. Reason (1990) – contributions of multiple factors “aligning,” the Swiss Cheese model
 - b. Three major facets: the driver, the automobile, and the environment
 - i. Error can be introduced within each of these.
 - ii. There are important HF contributions to be made within each.
2. Control of the vehicle
 - a. Gibson & Crooks, 1938
 - b. Sheridan, 2004
3. Perceptual Issues
 - a. Often claimed that 90% of driving information is visual (Sivak, 1996)
 - b. The connection between visual performance and accident rates is spurious (See Henderson & Burg, 1974)
 - i. Dynamic visual abilities do seem to matter
 - ii. Useful Field of View (UFOV)
4. The driver as an information processor
 - a. Shinar, 1978
 - b. DeWaard, 1996
5. Driver distraction
 - a. McKnight & McKnight (1993) – driver distraction leads to accidents
 - b. Summala & Näätänen (2002) – most driver distraction factors are under the direct control of the driver.
6. Technology in the car

References & Resources

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