CE 493/593
Design and Operation of Bicycle and Pedestrian Infrastructure

Resource and Reading List
Last modified July 6, 2017 by C.Monsere

Key Design-Related References

We will use the design references both for assigned readings, lecture support material, and as references for homework, labs, and the design projects. Many of them are available free online. The NACTO guides are also available in printed copy for a nominal price ($50). The "purchase required" references are only available in hard copy and expensive. I have a couple of copies that can be made available to you.

Available Online

- FHWA HEP (2016) Small Town Small Town and Rural Multimodal Networks (link)
- MassDOT (2015) Separated Bike Lane Planning & Design Guide. (link)
- FHWA (2015) Separated Bike Lane Planning and Design Guide. (link)
- Caltrans (2015) Class IV Bikeway Guidance, Separated Bikeways / Cycle Tracks, Design Bulletin No. 89 (link).
- NACTO (2013) Urban Streets Design Guide. (link)
- NACTO (2011) Urban Bikeway Design Guide. (link)
- Oregon DOT (2011) Bicycle and Pedestrian Design Guide (Appendix L), 3rd Edition. (link)
- Access Board (2011) Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way. (link)
- ITE (2010) Design Walkable Urban Thoroughfares: A Context Sensitive Approach (link)
- Manual on Uniform Traffic Control Devices. (2009). Washington, D.C.: Federal Highway Administration (link)
- PROWACC (2007) Accessible Rights-of-Way: A Design Guide. (link)

Purchase Required

- AASHTO (2012) Guide for the Development of Bicycle Facilities, 4th edition. Washington, DC American Association of State Highway and Transportation Officials
- TRB (2010) Highway Capacity Manual.
- AASHTO (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities. Washington, D.C. American Association of State Highway and Transportation Officials.
- CROW (2007) Design Manual for Bicycle Traffic, ede Rik de Groot H, editor.

Reading List

The reading list is organized in three categories 1) "Required", 2) "Optional Journal Articles" and 3) "Additional Resources". It is expected that **all students will read the required materials** in advance of the lecture that covers the material. The optional journal articles may be of interest to students who wish to advance their knowledge independently. Graduate students should expect to read 1 or 2 additional articles from this list for assignments. The "Additional Resources" list is reports or guides that are likely to be encountered by a professional in the field. These are usually lengthy documents and you are not expected to read the material.

1 – Introduction

Required

- **Introduction:** Oregon DOT (2011), Bicycle and Pedestrian Design Guide (Appendix L), 3rd Edition.
- **Chapter 2:** Bicycling and Walking in the United States 2014 Benchmarking Report.
- **Chapter 3:** FHWA (2015) Separated Bike Lane Planning and Design Guide.

Optional Journal Articles

- Dumbaugh, E. (2005). Safe streets, livable streets. *Journal of the American Planning Association, 71*(3), 283-298.
- Pucher, J. & Buehler, R. (2008). Making cycling irresistible: lessons from the Netherlands, Denmark, and Germany. *Transport Reviews*, 28, 1-56.
- Pucher, J., Garrard, J. & Greaves, S. (2011). Cycling down under: a comparative analysis of bicycling trends and policies in Sydney and Melbourne. *Journal of Transport Geography*, 19, 332-345.

Additional Resources

- FHWA (2010). National Bicycling and Walking Study: 15 Year Status Report. Federal Highway Administration, Washington, DC. (link)
- NHTSA (2008). National Survey of Bicyclist and Pedestrian Attitudes and Behavior. (link)

2 – Safety

Required

- **Chapter 3**: Bicycling and Walking in the United States 2014 Benchmarking Report.
- Jacobsen, P. L. (2003). Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention : Journal of the International Society for Child and Adolescent Injury Prevention, 9,* 3, 205-9. doi:10.1136/ip.9.3.205
- DiGioia, J., Watkins, K.E., Xu, Y., Rodgers, M., Guensler, R. Safety impacts of bicycle infrastructure: A critical review. Journal of Safety Research volume 61, issue , year 2017, pp. 105 - 119. doi.org/10.1016/j.jsr.2017.02.015
- Reynolds, C. C., Harris, M. A., Teschke, K., Cripton, P. A., & Winters, M. (2009). "The impact of transportation infrastructure on bicycling injuries and crashes: a review of the literature". *Environmental Health*, 8, 47. doi:10.1186/1476-069X-8-47
- Hanson S, C., Noland B, R., and Brown, C. (2013). "The severity of pedestrian crashes: an analysis using Google Street View imagery". *Journal of Transport Geography*, 33, pp 42–53. doi:10.1016/j.jtrangeo.2013.09.002

Optional Journal Articles

- Osama, Ahmed, and Tarek Sayed. (2016). "Evaluating the Impact of Bike Network Indicators on Cyclist Safety Using Macro-Level Collision Prediction Models." Accident Analysis and Prevention 97. doi:10.1016/j.aap.2016.08.010.
- Cho, Gihyoug, Daniel A Rodríguez, and Asad J Khattak. (2009). "The Role of the Built Environment in Explaining Relationships between Perceived and Actual Pedestrian and Bicyclist Safety". *Accident Analysis and Prevention* 41 (4) (July): 692–702. doi:10.1016/j.aap.2009.03.008.
- Teschke, K., Harris, M. A., Reynolds, C. C. O., Winters, M., Babul, S., Chipman, M., Cripton, P. A. (2012). Route infrastructure and the risk of injuries to bicyclists: A case-crossover study. American Journal of Public Health, 102(12), 2336–2343. doi:10.2105/AJPH.2012.300762
- Elvik, R. (2013). Can a safety-in-numbers effect and a hazard-in-numbers effect co-exist in the same data? *Accident Analysis and Prevention, 60,* 57-63 doi:10.1016/j.aap.2013.08.010
- Gladhill, K., and Monsere, C. (2012). "Exploring Traffic Safety and Urban Form in Portland, Oregon". *Transportation Research Record: Journal of the Transportation Research Board*, 2318(-1), 63–74. http://doi.org/10.3141/2318-08
- Wegman, F., Fan Zhang, Atze Dijkstra, (2012). How to make more cycling good for road safety?, Accident Analysis & Prevention, Volume 44, Issue 1, January 2012, Pages 19-29, ISSN 0001-4575, http://dx.doi.org/10.1016/j.aap.2010.11.010.
- Ewing, R. and Dumbaugh, E. (2009). "The Built Environment and Traffic Safety: A Review of Empirical Evidence" *Journal of Planning Literature* , 23 (4), 347–367. doi:10.1177/0885412209335553
- Ewing, Reid, and Shima Hamidi. (2015). "Urban Sprawl as a Risk Factor in Motor Vehicle Occupant and Pedestrian Fatalities: Update and Refinement". *Transportation Research Record: Journal of the Transportation Research Board* (2513): pp 40–47. doi:10.3141/2513-05.
- Tuckel, Peter, William Milczarski, and Richard Maisel. (2014). "Pedestrian Injuries Due to Collisions with Bicycles in New York and California". *Journal of Safety Research* 51 (December): pp 7–13. doi:10.1016/j.jsr.2014.07.003.
- Nordback, Krista, Wesley E. Marshall, and Bruce N. Janson. (2014) "Bicyclist Safety Performance Functions for a U.S. City". *Accident Analysis & Prevention* 65 (April 2014): 114–122. doi:10.1016/j.aap.2013.12.016
- Singleton, P., and L. Wang. (2014). "Safety and Security in Discretionary Travel Decision Making: A Focus on Active Travel Mode and Destination Choice." *Transportation Research Record: Journal of the Transportation Research Board* (2430): 21p. doi:10.3141/2430-06.
- Pulugurtha, S. S., and Thakur, V. (2015). "Evaluating the effectiveness of on-street bicycle lane and assessing risk to bicyclists in Charlotte, North Carolina". *Accident Analysis and Prevention*, *76*, 34–41. doi:10.1016/j.aap.2014.12.020
- Chen, L., Chen, C., Srinivasan, R., McKnight, C. E., Ewing, R., & Roe, M. (2012). Evaluating the safety effects of bicycle lanes in New York City. *American Journal of Public Health*, *102*(6), 1120–7. doi:10.2105/AJPH.2011.300319
- Vanparijs, Jef, Luc Int Panis, Romain Meeusen, and Bas de Geus. (2015). Exposure Measurement in Bicycle Safety Analysis: A Review of the Literature. *Accident Analysis and Prevention* 84 (August 18): 9–19. doi:10.1016/j.aap.2015.08.007.
- Lusk, Anne C., Patrick Morency, Luis F. Miranda-Moreno, Walter C. Willett, and Jack T. Dennerlein. (2013). "Bicycle Guidelines and Crash Rates on Cycle Tracks in the United States." *American Journal of Public Health* 103 (7) (July): 1240–1248. doi:10.2105/AJPH.2012.301043.

Additional Resources

- Nabors, D., Goughnour, E., Thomas, L., DeSantis, W., Sawyer, M.. (2012) Bicycle Road Safety Audit Guidelines and Prompt Lists. FHWA DTFH61- 10-D-00022 pp. 87 (link)
- Carter, D. L., Hunter, W. W., Zegeer, C. V., Stewart, J. R., & Huang, H. F. (2006). Pedestrian and bicycle intersection safety indices: Final report. Washington, D.C.: Federal Highway Administration.
- Mead, J, Zegeer, C., Bushnell, M. (2013) Evaluation of Pedestrian-Related Roadway Measures: A Summary of Available Research, Federal Highway Administration, DTFH61-11-H-00024.
- Stutts, J. C., & Hunter, W. W. (1999). *Injury to pedestrians and bicyclists: An analysis based on hospital emergency department data*. McLean, VA: Federal Highway Administration. Available at (link)
- Hunter, W. W., Stutts, J. C., Pein, W. E., & Cox, C. L. (1996). Pedestrian and bicycle crash types of the early 1990's: Technical summary. Washington, D.C.: Federal Highway Administration. Available at (link):
- Nabors, D., Gibbs, M., Sandt, L., Rocchi, S., Wilson, E., & Lipinski, M. (2007). Pedestrian road safety audit guidelines and prompt lists. Washington, D.C.: Federal Highway Administration.
- Raborn, J. C., Torbic, D.J., Gilmore, D.K., Thomas, L.J., et al. (2008). *A Guide for Reducing Collisions Involving Bicycles. Guidance for Implementation of the AASHTO Strategic Highway safety plan. NCHRP Report 500:* Volume 18. Washington, DC: Transportation Research Board
- Zegeer, C.V., Stutts, J., Huang, H., Cynecki, M.J., Van Houten, R., Alberson, B., Pfefer, R., Yaacov, Z., Neuman, T.R., Slack, K.L., Hardy, K.K. (2004). Guidance for Implementation of the AASHTO Strategic Highway Safety Plan: A Guide for Reducing Collisions Involving Pedestrians. *NCHRP Report* 500: Volume 10. Washington, D.C.: Transportation Research Board.

3 – Planning

Required

- **Chapter 4:** FHWA (2015) Separated Bike Lane Planning and Design Guide.
- Dill, J., & Carr, T. (2003) "Bicycle commuting and facilities in major U.S. cities: If you build them, commuters will use them". *Transportation Research Record: Journal of the Transportation Research Board ,* 1828, 116-123. doi:10.3141/1828-14
- Ewing, R., Handy, S., Brownson, R. C., Clemente, O., & Winston, E. (2006). "Identifying and measuring urban design qualities related to walkability". *Journal of Physical Activity and Health, 3* (Suppl 1), S223-S240. (link)

Optional Journal Articles

- Buehler, Ralph, and Jennifer Dill. (2016). "Bikeway Networks: A Review of Effects on Cycling." Transport Reviews 36 (1). doi:10.1080/01441647.2015.1069908.
- Kerr, Z., Rodriguez, D., Evenson. K, Semra A. Aytur, Pedestrian and bicycle plans and the incidence of crash-related injuries, Accident Analysis & Prevention, Volume 50, January 2013, Pages 1252-1258, ISSN 0001-4575, http://dx.doi.org/10.1016/j.aap.2012.09.028
- Schneider, R. J., and J. Stefanich. (2015). "Neighborhood Characteristics That Support Bicycle Commuting." Transportation Research Record: Journal of the Transportation Research Board 2520: 41–51. doi:10.3141/2520-06.
- Dill, J. (2009) Bicycling for Transportation and Health: The Role of Infrastructure*, Journal of Public Health Policy*, 30 (SI): 95-110.

- Walljasper, Jay. (2015). "The Safest Streets." Planning 81 (5) (May): pp 14–21. (link).
- Pucher, J., Dill, J., & Handy, S. (2010). Infrastructure programs and policies to increase bicycling: an international review. *Preventive Medicine, 50*, S106-S125.
- Barnes, G. & Krizek, K. (2005). Estimating bicycling demand. *Transportation Research Record, 1939*, 45-51.
- Ewing, R., & Cervero, R. (2001). Travel and the Built Environment: A Synthesis. *Transportation Research Record: Journal of the Transportation Research Board*, 1780, 87–114. doi:10.3141/1780-10
- Saelens, B., & Handy, S. (2008). Built environment correlates of walking: A review. *Medicine & Science in Sports & Exercise, 40*, 550-566.
- Moudon, A. V., Lee, C., Cheadle, A. D., Collier, C. W., Johnson, D., Schmid, T. L. & Weather, R. D. (2005). Cycling and the built environment, a US perspective. *Transportation Research Part D-Transport and Environment, 10*(3), 245-261.
- Wardman, M., Tight, M., & Page, M. (2007). Factors influencing the propensity to cycle to work. *Transportation Research Part A: Policy and Practice, 41*(4), 339-350.
- Garrard, J., Rose, G. & Lo, S. K. (2008). Promoting transportation cycling for women: The role of bicycle infrastructure. *Preventive Medicine, 46*(1), 55-59.

Additional Resources

- Guidebook on methods to estimate non-motorized travel: overview of methods. Publication No. FHWA-RD-98-165. (1999). Washington, DC: Federal Highway Administration.

4 – Counting

Required

- **Chapter 4.** FHWA. (2013). Traffic Monitoring Guide. U. S. Department of Transportation. Washington D.C. 468p

Optional Journal Articles

- Esawey, M. El, Clark L., T. Sayed, and A. Mosa. 2013. "Development of Daily Adjustment Factors for Bicycle Traffic." *Journal of Transportation Engineering*: 859–871. doi:10.1061/(ASCE)TE.1943-5436.0000565.
- Schneider, R J, T Henry, M F Mitman, L Stonehill, and J Koehler. 2012. "Development and Application of Volume Model for Pedestrian Intersections in San Francisco, California." *Transportation Research Record* (2299): 65–78. doi:10.3141/2299-08.
- Miranda-Moreno, L. F., Nosal, T., Schneider, R. J., & Proulx, F. (2013). Classification of bicycle traffic patterns in five North American Cities. Transportation Research Record: Journal of the Transportation Research Board, 2339(2339), 68–79. doi:10.3141/2339-08
- Figliozzi, M., Johnson, P., Monsere, C. M., & Nordback, K. (2014). Methodology to Characterize Ideal Short-Term Counting Conditions and Improve AADT Estimation Accuracy Using a Regression-Based Correcting Function. Journal of Transportation Engineering, 140(5), 1–16. doi:10.1061/(ASCE)TE.1943-5436.0000663.

Additional Resources

- Ryus, P., E. Ferguson, K.M. Laustsen, R. J. Schneider, F. R. Proulx, T. Hull, L. Miranda-Moreno. (2014). Guidebook on Pedestrian and Bicycle Volume Data Collection, NCHRP Report 797
- Figliozzi, M., Monsere, C., Nordback, K., Johnson, P. and Blanc, B. "Design and

Implementation of Pedestrian and Bicycle-Specific Data Collection Methods in Oregon". Final Report, Oregon Department of Transportation SPR Project No. 754, June 2014. (link)

5 – Analysis of Facility Performance

Required

- Furth, P. G., (2012). Low-Stress Bicycling and Network Connectivity Blog Post http://www.northeastern.edu/peter.furth/criteria-for-level-of-traffic-stress/
- LaMondia, J., and N. Moore. (2015). Using Bicycle Level of Service for Decision Making. *Transportation Research Record: Journal of the Transportation Research Board* 2520: 123–131. doi:10.3141/2520-14. doi:10.3141/2520-14.
- Petritsch, T. A., Landis, B. W., McLeod, P. S., Huang, H. F., & Challa, S. (2004). "Level of service model for signalized intersections for pedestrians". *Transportation Research Record: Journal of the Transportation Research Board, 1939*, 55-62.

Optional Journal Articles

- Foster, N., C. Monsere, J. Dill, and K. Clifton. (2015). "Level-of-Service Model for Protected Bike Lanes." *Transportation Research Record: Journal of the Transportation Research Board* 2520: 90–99. doi:10.3141/2520-11.
- Lowry, M., Callister, D., Gresham, M., & Moore, B. (2012). "Assessment of Communitywide Bikeability with Bicycle Level of Service". *Transportation Research Record: Journal of the Transportation Research Board,* 2314, 41–48. doi:10.3141/2314-06.
- Parks, J., Tanaka, A., Ryus, P., Monsere, C., McNeil, N., & Goodno, M. (2013). "An Assessment of Three Alternative Bicycle Infrastructure Quality of Service Metrics". *Transportation Research Record, No. 2387*, 56-65 .
- Petritsch, T. A., Landis, B. W., Huang, H. F., McLeod, P. S., Lamb, D., Farah, W., & Guttenplan, M. (2007). "Bicycle Level of Service for Arterials". *Transportation Research Record: Journal of the Transportation Research Board, 2031*, 34-42.
- Landis, B. W., Vattikuti, V. R., & Brannick, M. T. (1997). "Real-time human perceptions toward a bicycle level of service". *Transportation Research Record, 1578*, 119-126
- Jensen, S. U. (2007). "Pedestrian and Bicyclist Level of Service on Roadway Segments". *Transportation Research Record, 2031*, 43-51.
- Sorton, A. & Walsh, T. (1994). "Bicycle stress level as a tool to evaluate urban and suburban bicycle compatibility". *Transportation Research Record: Journal of the Transportation Research Board, 1438*, 17-24.

Additional Resources

- Mekuria, M. C., Furth, P. G., & Nixon, H. (2012). Low-Stress Bicycling and Network Connectivity. Mineta Transportation Institute Report 11-19. (link)
- Dowling, R. G., Reinke, D. B., Flannery, A., Ryus, P., Vandehey, M., Petritsch, T. A. (2008). Multimodal level of service analysis for urban streets. NCHRP Report, 616.
- San Francisco Department of Public Health (2009). Bicycle Environmental Quality Index (BEQI).

6 – Design Characteristics For Bicycling

Required

- **Chapter 3:** AASHTO *Guide for the Development of Bicycle Facilities, 4th edition* (2012). Washington, DC: American Association of State Highway and Transportation Officials.

(**D2L-Design Manuals**)

- **Chapter 2 and 3**: Design Manual for Bicycle Traffic, CROW ede Rik de Groot H, editor. Design Manual for Bicycle Traffic. CROW, Ede; (2007) (**D2L-Design Manuals**)
- **Chapter 10:** Monsere, C., Foster, N., Borkowitz, T., Downey, M. Kothuri, S. Bertini, R.L. "Chapter 10: Bicycle Transportation. Handbook of Transportation Engineering". Taylor and Francis. (2015), pp 143-164. (**D2L-Handbook Chapters**)

Optional Journal Articles

- Dill, J., & McNeil, N. (2013). Four Types of Cyclists? Transportation Research Record: Journal of the Transportation Research Board, 2387, 129–138. doi:10.3141/2387-15
- Monsere, C., McNeil, N., & Dill, J. (2012). Multiuser Perspectives on Separated, On-Street Bicycle Infrastructure. Transportation Research Record: Journal of the Transportation Research Board, 2314, 22–30. doi:10.3141/2314-04
- Langford, Brian Casey; Chen, Jiaoli; Cherry, Christopher R. (2015) "Risky riding: Naturalistic methods comparing safety behavior from conventional bicycle riders and electric bike riders". Accident Analysis & Prevention, Volume 82, 2015, pp 220-226 doi:10.1016/j.aap.2015.05.016
- Li, Zhibin, Mao Ye, Zheng Li, and Muqing Du. (2015). "Some Operational Features in Bicycle Traffic Flow." *Transportation Research Record: Journal of the Transportation Research Board* 2520, pp 18–24. doi:10.3141/2520-03.
- Raksuntorn, W., & Khan, S. (2003). Saturation Flow Rate, Start-Up Lost Time, and Capacity for Bicycles at Signalized Intersections. *Transportation Research Record: Journal of the Transportation Research Board*, 1852(1), pp 105–113. doi:10.3141/1852-14
- Taylor, Dean, and W. Davis. (1999) "Review of Basic Research in Bicycle Traffic Science, Traffic Operations, and Facility Design." *Transportation Research Record: Journal of the Transportation Research Board* 1674, pp 102–110. doi:10.3141/1674-14.
- Broach, J., Dill, J., & Gliebe, J. (2012). Where do cyclists ride? A route choice model developed with revealed preference GPS data. Transportation Research Part A: Policy and Practice, 46(10), 1730–1740. doi:10.1016/j.tra.2012.07.005

Additional Resources

- **Chapter 2:** Monsere, C., M. Figliozzi, S. Thompson and K. Paulsen. Operational Guidance For Bicycle-Specific Traffic Signals in the United States. Oregon Department of Transportation, SPR Report 747, 2013. (link)
- Wilson, D. G. (2004). Bicycling Science. MIT Press.
- Chapter 4 Section 4, "Traffic Flow and Capacity Concepts - Bicycles", Highway Capacity Manual 2010

7 – Bicycle Facility Design and Operation

Required

- **Chapter 1, 2, 3 and 6:** Oregon DOT (2011), Bicycle and Pedestrian Design Guide (Appendix L), 3rd Edition. Salem, Oregon
- **Chapter 5:** FHWA (2015) Separated Bike Lane Planning and Design Guide
- **Chapter 10:** NACTO (2013) Urban Streets Design Guide

Optional Journal Articles

- Fees, C. A., Torbic, D. J., Bauer, K. M., Van Houten, R., Roseberry, N., & LaPlante, J. (2015). "Design Guidance for Bicycle Lane Widths". *Transportation Research Record: Journal of the Transportation Research Board*, 2520, 78–89. doi:10.3141/2520-10

- Monsere, C. M., Foster, N., Dill, J., & McNeil, N. (2015). "User Behavior and Perceptions at Intersections with Turning and Mixing Zones on Protected Bike Lanes". *Transportation Research Record: Journal of the Transportation Research Board*, 2520, 112–122. doi:10.3141/2520-13
- Dill, J., Monsere, C. M., & McNeil, N. (2011). Evaluation of bike boxes at signalized intersections. Accident Analysis and Prevention, 44(1), 126–134. doi:10.1016/j.aap.2010.10.030
- Thompson, S. R., Monsere, C. M., Figliozzi, M., Koonce, P., & Obery, G. (2013). Bicycle-Specific Traffic Signals. Transportation Research Record: Journal of the Transportation Research Board, 2387(-1), 1–9. doi:10.3141/2387-01
- Stanek, David, and Charles Alexander. 2016. "Simulation Analysis of Intersection Treatments for Cycle Tracks." In Proceedings of the Transportation Research Board, Annual Meeting, 9p. http://trid.trb.org/view/1392337

Additional Resources

- AASHTO (2012) Guide for the Development of Bicycle Facilities, 4th edition. Washington, DC American Association of State Highway and Transportation Officials
- CROW (2007) Design Manual for Bicycle Traffic, ede Rik de Groot H, editor.

8 – Design Characteristics of Pedestrians

Required

- **Chapter 2**: M. Brewer, B. Ullman; J. Whitacre; E.Park; S. Turner, N. Trout, D. Lord; N. Lalani; K. Fitzpatrick; P. Carlson. (2006) "Improving Pedestrian Safety at Unsignalized Crossings". National Research Council. NCHRP Report 562Washington, DC: The National Academies Press. (link)
- **Chapter 9:** Monsere, C., Foster, N., Borkowitz, T., Downey, M. Kothuri, S. Bertini, R.L. "Chapter 9: Pedestrians. Handbook of Transportation Engineering". Taylor and Francis. 2015, pp 119-142 (**D2L-Handbook Chapters**)
- **Chapter 1: Introduction**: PROWACC (1999) Accessible Rights-of-Way: A Design Guide

Optional Journal Articles

- Pecchini, Dario, and Felice Giuliani. 2015. "Street-Crossing Behavior of People with Disabilities." Journal of Transportation Engineering 141 (10) (October 2): 04015022. doi:10.1061/(ASCE)TE.1943-5436.0000782.
- Gupta, Ankit, and Nitin Pundir. 2015. "Pedestrian Flow Characteristics Studies: A Review." Transport Reviews 35 (4) (March 6): 445–465. doi:10.1080/01441647.2015.1017866.

Additional Resources

- Chapter 4 Section 3, "Traffic Flow and Capacity Concepts - Pedestrians", Highway Capacity Manual 2010
- AASHTO Guide for the planning, design, and operation of pedestrian facilities, 1st Edition (2004). Washington, DC: American Association of State Highway and Transportation Officials.
- Balk, S. A. , Bertola, M. A. , Shurbutt, J. , and Do, A. (2014). "Human factors assessment of pedestrian roadway crossing behavior." FHWA-HRT-13-098, Federal Highway Administration, Washington, DC

9 – Pedestrian Facility Design and Operation

Required

- **Chapter 4, 5 and 6:** Oregon DOT (2011), Bicycle and Pedestrian Design Guide (Appendix L), 3rd Edition.
- **Chapters 3**: Fitzpatrick, Kay; Turner, Shawn M; Brewer, Marcus; Carlson, Paul J; Ullman, Brooke; Trout, Nada D; Park, Eun Sug; Whitacre, Jeffrey; Lalani, Nazir; Lord, Dominique. Improving Pedestrian Safety at Unsignalized Crossings. TCRP-NCHRP Report, 2006, 109p (link)

Optional Journal Articles

- Duduta, N., Zhang, Q., & Kroneberger, M. (2014). Impact of Intersection Design on Pedestrians' Choice to Cross on Red. *Transportation Research Record: Journal of the Transportation Research Board*, (2464), pp 93–99. Retrieved from http://dx.doi.org/10.3141/2464-12
- DeLaere M, G., Van Houten, R., & Shurbutt, J. (2016). Countdown Pedestrian Signals With and Without the Flashing Hand: A Field Study (p. 14p). Retrieved from http://trid.trb.org/view/1392791
- Sacchi, E., Sayed, T., & Osama, A. (2015). Developing crash modification functions for pedestrian signal improvement. Accident Analysis & Prevention, 83, pp 47–56. Retrieved from http://dx.doi.org/10.1016/j.aap.2015.07.009
- DeLaere M, G., Van Houten, R., & Shurbutt, J. (2016). Countdown Pedestrian Signals With and Without the Flashing Hand: A Field Study (p. 14p). Transportation Research Board, Annual Meeting. Retrieved from http://trid.trb.org/view/1392791
- Zhang, Y., Mamun A, S., Ivan N, J., Ravishanker, N., & Haque, K. (2015). Safety effects of exclusive and concurrent signal phasing for pedestrian crossing. Accident Analysis & Prevention, 83, pp 26–36. Retrieved from http://dx.doi.org/10.1016/j.aap.2015.06.010

Additional Resources

- AASHTO (2004). Guide for the Planning, Design, and Operation of Pedestrian Facilities. Washington, D.C. American Association of State Highway and Transportation Officials.
- Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (2011) (link)
- US. Architectural and Transportation Barriers Compliance Board. (1999). Accessible Rights-of-Way: A Design Guide. (link)
- Chapter 8: Designing Walkable Urban Thoroughfares : A Context Sensitive Approach, ITE and Congress on the New Urbanism ITE and Congress for the New Urbanism, ISBN: 978-1-933452-52-4 March 2010, 215 pp.
- Chapter 19, Highway Capacity Manual 2010

10 – Shared Use Path Design

Required:

- **Chapter 7:** Oregon DOT (2011), Bicycle and Pedestrian Design Guide (Appendix L), 3rd Edition. Salem, Oregon (**D2L-Design Manuals**)

Optional Journal Articles

- Beiler, M. and Waksmunski, E. (2015). "Measuring the Sustainability of Shared-Use Paths: Development of the GreenPaths Rating System." *Journal of Transportation Engineering*,

10.1061/(ASCE)TE.1943-5436.0000796, 04015026.
- Gittings, G., Torbic, D., & Zangwill, L. (2007). "Evaluation of Planning and Design Issues for Multiuse Trail and Highway Crossings". *Transportation Research Record: Journal of the Transportation Research Board*. http://trrjournalonline.trb.org/doi/abs/10.3141/1538-14
- Librett, J. J., Yore, M. M., &Schmid, T. L. (2006). Characteristics of physical activity levels among trail users in a U.S. national sample. *American Journal of Preventive Medicine, 31*(5), 399-405.

Additional Resources

- Patten, R. S., Schneider, R. J., Toole, J. L., Hummer, J.E., & Rouphail, N. M. (2006). *Shared-use path level of service calculator--A user's guide*. Washington, D.C.: Federal Highway Administration. (link)

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