BIBLIOGRAPHY

[1] K. Petty, Small time scale analysis of loop data, http://ipa.eecs.berkeley.edu/pettyk/FSP/, Accessed November 20, 2006.

[2] J.G. Wardrop, Some theoretical aspects of road traffic research, in: Proceedings of the Institution of Civil Engineers, Part II, Vol. I, 1952, pp. 325–362.

[3] N. Gartner, C.J. Messer, A.K. Rathi, Revised Monograph of Traffic Flow Theory: A State-of-the-Art Report, Transportation Research Board, 2001.

[4] D. Ni, Determining traffic flow characteristics by definition for application in ITS, IEEE Tran. Intellig. Transport. Syst. 8 (2) (2007) 181–187.

[5] M. Szeto, D. Gazis, Application of Kalman filtering to the surveillance and control of traffic systems, Transport. Sci. 6 (4) (1972) 419–439.

[6] L.C. Edie, Discussion on traffic stream measurements and definitions, in: Proceedings of the 2nd Int. Symp. Theory Traffic Flow, Paris, France, 1963, pp. 139–154.

[7] Y. Makigami, G. Newell, R. Rothery, Three-dimensional representation of traffic flow, Transport. Sci. 5 (3) (1971) 302–313.

[8] D.R. Drew, Traffic Flow Theory and Control, McGraw-Hill Book Company, 1968, (Chapter 12).

[9] B. Greenshields, A study of traffic capacity, Proc. Highway Res. Board 14 (1934) 448–477.

[10] H. Greenberg, An analysis of traffic flow, Operat. Res. 7 (1959) 78–85.

[11] R. Underwood, Speed, volume and density relationships, quality and theory of traffic flow, Yale University Report, New Haven, CT, 1961.

[12] J. Drake, J. Schofer, A. May, A statistical analysis of speed density hypotheses, Highway Res. Record 154 (1967) 53–87.

[13] D. Drew, Deterministic aspects of freeway operations and control, Highway Res. Record 99 (1965) 48–58.

[14] L. Pipes, Car following models and fundamental diagram of road traffic, Transport. Res. 1 (1967) 21–29.

[15] P. Munjal, L. Pipes, Propagation of on-ramp density perturbations on uni-directional and two- and three-lane freeways, Transport. Res. B 5 (4) (1971) 241–255.

[16] L. Edie, Car-following and steady state theory for noncongested traffic, Operat. Res. 9 (1961) 66–76.

[17] A.D. May, Traffic Flow Fundamentals, Prentice-Hall, Englewood Cliffs, NJ, 1989.

[18] H. Wang, J. Li, Q.-Y. Chen, D. Ni, Logistic modeling of the equilibrium speed-density relationship, Transport. Res. A 45 (6) (2011) 554–566.

[19] H. Wang, D. Ni, Q.-Y. Chen, J. Li, Stochastic modeling of equilibrium speed-density relationship, J. Adv. Transport. 47 (1) (2013) 126–150.

[20] J. Li, H. Wang, Q.-Y. Chen, D. Ni, Analysis of LWR model with fundamental diagram subject to uncertainties, Transportmetrica 8 (6) (2012) 387–405.

[21] H. Payne, FREFLO: a macroscopic simulation model for freeway traffic, Transport. Res. Record 722 (1979) 68–77.

[22] R. Illner, C.S. Bohun, S. McCollum, T.V. Roode, Mathematical Modelling: A Case Study Approach, American Mathematical Society, Providence, RI, 2005.

[23] R. Knobel, An Introduction to the Mathematical Theory of Waves, American Mathematical Society, Providence, RI, 2000.

[24] M. Lighthill, G. Whitham, On kinematic waves II. A theory of traffic flow on long crowded roads, Proc. Royal Society of London, Part A 229 (1178) (1955) 317–345.

[25] P. Richards, Shock waves on the highway, Operat. Res. 4 (1956) 42–51.

[26] A. May, FREQ User Manual, Tech. Rep., California Department of Transportation Berkeley, CA, 1998.

[27] P. Michalopoulos, Dynamic freeway simulation program for personal computers, Transport. Res. Record 971 (1984) 68–79.

[28] C. Daganzo, The cell transmission model: a dynamic representation of highway traffic consistent with the hydrodynamic theory, Transport. Res. B 28 (4) (1994) 269–287.

[29] C. Daganzo, The cell transmission mode, Part II: Network traffic, Transport. Res. B 29 (2) (1995) 79–93.

[30] G. Newell, A simplified theory on kinematic waves in highway traffic, Part I: General theory, Transport. Res. B 27 (4) (1993) 281–287.

[31] G. Newell, A simplified theory on kinematic waves in highway traffic, Part II: Queueing at freeway bottlenecks, Transport. Res. B 27 (4) (1993b) 289–303.

[32] G. Newell, A simplified theory on kinematic waves in highway traffic, Part III: Multi-destination flows, Transport. Res. B 27 (4) (1993c) 305–313.

[33] B. Son, A study of G.F. Newell's simplified theory of kinematic waves in highway traffic, Ph.D. thesis, Department of Civil Engineering, University of Toronto, Canada, 1996.

[34] V.F. Hurdle, B. Son, Road test of a freeway model, Transport. Res. A 34 (7) (2000) 537–564.

[35] D. Ni, Extension and generalization of Newell's simplified theory of kinematic waves, Ph.D. thesis, Department of Civil and Environmental Engineering, Georgia Institute of Technology, 2004.

[36] D. Ni, J.D. Leonard, B.M. Williams, The network kinematic waves model: a simplified approach to network traffic, J. Intell. Transport. Syst. Technol. Plan. Operat. 10 (1) (2006) 1–14.

[37] H. Payne, Models of freeway traffic and control, in: Simulation Council Proceedings, vol. 1, 1971, pp. 51–61.

[38] G. Whitham, Linear and Nonlinear Waves, John Wiley and Sons Inc., New York, 1974.

[39] W. Phillips, A kinetic model for traffic flow with continuum implications, Transport. Plan. Technol. 5 (1979) 131–138.

[40] R. Kühne, Macroscopic freeway model for dense traffic—stop-start waves and incident detection, in: Ninth International Symposium on Transportation and Traffic Theory, 1984, pp. 20–42.

[41] R. Kühne, Freeway control and incident detection using a stochastic continuum theory of traffic flow, in: 1st International Conference on Applied Advanced Technology in Transportation Engineering, San Diego, CA, 1989, pp. 287–292.

[42] B. Kerner, P. Konhäuser, Cluster effect in initially homogeneous traffic flow, Phys. Rev. E 48 (4) (1993) 2335–2338.

[43] P. Michalopoulos, P. Yi, A. Lyrintzis, Continuum modelling of traffic dynamics for congested freeways, Transport. Res. B 27 (1993) 315–332.

[44] H. Zhang, A theory of nonequilibrium traffic flow, Transport. Res. B 32 (7) (1998) 485–498.

[45] M. Treiber, A. Hennecke, D. Helbing, Derivation, properties and simulation of a gas-kinetic-based, nonlocal traffic model, Phys. Rev. E 59 (1) (1999) 239–253.

[46] J. Yi, H. Lin, L. Alvarez, R. Horowitz, Stability of macroscopic traffic flow modeling through wavefront expansion, Transport. Res. B 37 (7) (2003) 661–679.

[47] C. Daganzo, Requiem for second-order fluid approximations of traffic flow, Transport. Res. B 29 (4) (1995) 277–286.

[48] I. Prigogine, F.C. Andrews, A Boltzmann-like approach for traffic flow, Operat. Res. 8 (6) (1960) 789–797.

[49] J.M. del Castillo, P. Pintado, F.G. Benitez, A formulation for the reaction time of traffic flow models, in: Proceedings of the 12th Int. Symp. Theory Traffic Flow, Paris, France, 1993, pp. 387–405.

[50] P.G. Michalopoulos, J.K. Lin, D.E. Beskos, Integrated modelling and numerical treatment of freeway flow, Appl. Math. Model 11 (401) (1987) 447–458.

[51] C.J. Leo, R.L. Pretty, Numerical simulation of macroscopic continuum traffic models, Transport. Res. B 26 (3) (1992) 207–220.

[52] L.A. Pipes, An operational analysis of traffic dynamics, J. Appl. Phys. 24 (1953) 271–281.

[53] T. Forbes, Human factor considerations in traffic flow theory, Highway Res. Record 15 (1963) 60–66.

[54] T. Forbes, M. Simpson, Driver and vehicle response in freeway deceleration waves, Transport. Sci. 2 (1) (1968) 77–104.

[55] R. Chandler, R. Herman, E. Montroll, Traffic dynamics: studies in car following, Operat. Res. 6 (1958) 165–184.

[56] D.C. Gazis, R. Herman, R. Rothery, Non-linear follow the leader models of traffic flow, Operat. Res. 9 (1961) 545–567.

[57] P. Gipps, A behavioral car following model for computer simulation, Transport. Res. B 15 (1981) 105–111.

[58] G.F. Newell, Nonlinear effects in the dynamics of car following, Operat. Res. 9 (2) (1961) 209–229.

[59] G. Newell, A simple car-following theory: a lower order model, Transport. Res. B 36 (3) (2002) 195–205.

[60] M. Treiber, A. Hennecke, D. Helbing, Congested traffic states in empirical observations and microscopic simulations, Phys. Rev. E 62 (2000) 1805–1824.

[61] D. Helbing, A. Hennecke, V. Shvetsov, M. Treiber, Micro- and macro-simulation of freeway traffic, Math. Comput. Model. 35 (5) (2002) 517–547.

[62] M. Van Aerde, Single regime speed-flow-density relationship for congested and uncongested highways, in: Presented at the 74th Transportation Research Board (TRB) Annual Meeting, Paper number 950802, Washington, DC, 1995.

[63] M. Van Aerde, H. Rakha, Multivariate calibration of single regime speed-flow-density relationships, in: Proceedings of the 6th 1995 Vehicle Navigation and Information Systems Conference, Seattle, WA, USA, 1995, pp. 334–341.

[64] R. Wiedemann, Simulation des Straenverkehrsflusses, Ph.D. thesis, Schriftenreihe des Instituts für Verkehrswesen der Universität Karlsruhe, Germany, 1974.

[65] R. Benekohal, J. Treiterer, Carsim: car following model for simulation of traffic in normal and stop-and-go conditions, Transport. Res. Record 1194 (1988) 99–111.

[66] T. Forbes, H. Zagorski, E. Holshouser, W.A. Deterline, Measurement of driver reaction to tunnel conditions, Proc. Highway Res. Board 37 (1958) 345–357.

[67] I. Kosonen, HUTSIM—urban traffic simulation and control model: principles and applications, Ph.D. thesis, Helsinki University of Technology, 1999.

[68] H. Jia, Z. Juan, A. Ni, Develop a car-following model using data collected by "five-wheel system", in: The Proceedings of the 2003 IEEE International Conference on Intelligent Transportation Systems, vol. 1, 2003, pp. 346–351.

[69] S. Panwai, H. Dia, Neural agent car-following models, IEEE Trans. Intell. Transport. Syst. 8 (1) (2007) 60–70.

[70] D. Ni, Challenges and strategies of transportation modeling and simulation under extreme conditions, Int. J. Emergen. Manage. 3 (4) (2006) 298–312.

[71] D. Ni, A framework for new generation transportation simulation, in: Proceedings of Winter Simulation Conference '06, Portola Plaza Hotel, Monterey, CA, December 3-6, 2006.

[72] D. Ni, D. Henclewood, Simple engine models for VII-enabled in-vehicle applications, IEEE Trans. Vehicular Technol. 57 (5) (2008) 2695–2702.

[73] B.K. Powell, A dynamic model for automotive engine control analysis, in: 18th IEEE Decision and Control Conference, 1979.

[74] D.J. Dobner, A mathematical engine model for development of dynamic engine control, Tech. Rep., Society of Automotive Engineers (SAE) Report No. 800054, 1980.

[75] D.J. Dobner, Dynamic engine models for control development. Part I: Nonlinear and linear model formulation, Int. J. Vehicle Design SP4 (1983) 54–74.

[76] F.E. Coates, R.D. Fruechte, Dynamic engine models for control development. Part II: Application to idle speed control, Int. J. Vehicle Design SP4 (1983) 75.

[77] J.D. Powell, A review of IC engine models for control system design, in: Proceedings of 10th World Congress on Automatic Control, Munich, Germany, 1987.

[78] J. Moskwa, J. Hedrick, Automotive engine modeling for real time control application, in: Proceedings of the 1987 American Control Conference, Minneapolis, MN, 1987, pp. 341–346.

[79] P. Yoon, M. Sunwoo, A nonlinear dynamic modelling of SI engines for controller design, Int. J. Vehicle Design 26 (2001) 277–297.

[80] D. Cho, J.K. Hedrick, Automotive powertrain modeling for control, Trans. ASME J. Dyn. Syst. Measur. Control 111 (1989) 568–576.

[81] J.J. Moskwa, Automotive engine modeling for real time control, Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, MA, USA, 1988.

[82] B. Akinci, C. Hendrickson, I. Karaesmen, Exploiting motor vehicle information and communications technology for transportation engineering, J. Transport. Eng. 129 (2003) 469–474.

[83] P.F. Puleston, G. Monsees, S.K. Spurgeon, Air-fuel ratio and speed control for low emission vehicles based on sliding mode techniques, Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering 216 (2002) 117–124.

[84] G. Rizzoni, Estimate of indicated torque from crankshaft speed fluctuations: a model for the dynamics of the IC engine, IEEE Trans. Vehicular Technol. 38 (1989) 168–179.

[85] G. Rizzoni, Stochastic model for the indicated pressure process and the dynamics of the internal combustion engine, IEEE Trans. Vehicular Technol. 38 (1989) 180–192.

[86] P.R. Crossley, J.A. Cook, A nonlinear engine model for drivetrain system development, in: International Conference on Control, Vol. 2, Edinburgh, UK, 1991, pp. 921–925.

[87] C. Hong, Automotive dynamic performance simulator for vehicular powertrain system design, Int. J. Vehicle Design 16 (1995) 264–281.

[88] J.B. Heywood, Internal combustion engine fundamentals, McGraw-Hill, New York, 1989.

[89] C.S. Daw, M.B. Kennel, C.E.A. Finney, F.T. Connolly, Observing and modeling nonlinear dynamics in an internal combustion engine, J. Amer. Phys. Soc. Rev. E 57 (1998) 2811–2819.

[90] Y. Shiao, C.H. Pan, J.J. Moskwa, Advanced dynamic spark ignition engine modelling for diagnostics and control, Int. J. Vehicle Design 15 (1994) 578–596.

[91] O. Chiavola, Integrated modelling of internal combustion engine intake and exhaust systems, Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy 215 (2001) 495–506.

[92] Z.D. Ma, N.C. Perkins, An efficient multibody dynamics model for internal combustion engine systems, Multibody Syst. Dyn. 10 (2003) 363–391.

[93] M. Kabganian, R. Kazemi, A new strategy for traction control in turning via engine modeling, IEEE Trans. Vehicular Technol. 50 (2001) 1540–1548.

[94] J.R. Wagner, D.M. Dawson, L. Zeyu, Nonlinear air-to-fuel ratio and engine speed control for hybrid vehicles, IEEE Trans. Vehicular Technol. 52 (2003) 184–195.

[95] S. Delprat, J. Lauber, T.M. Guerra, J. Rimaux, Control of a parallel hybrid powertrain: optimal control, IEEE Trans. Vehicular Technol. 53 (2004) 872–881.

[96] J.J. Scillieri, J.H. Buckland, J.S. Freudenberg, Reference feedforward in the idle speed control of a direct-injection spark-ignition engine, IEEE Trans. Vehicular Technol. 54 (2005) 51–61.

[97] K.L. Butler, M. Ehsani, P. Kamath, Matlab-based modeling and simulation package for electric and hybrid electric vehicle design, IEEE Trans. Vehicular Technol. 48 (1999) 1770–1778.

[98] D.W. Gao, C. Mi, A. Emadi, Modeling and simulation of electric and hybrid vehicles, in: Proc. IEEE, 95 (2007) 729–745.

[99] J.A. Cook, B.K. Powell, Modeling of an internal combustion engine for control analysis, IEEE Control Syst. Mag. 8 (4) (1988) 20–26.

[100] D. Swaroop, J.K. Hedrick, C.C. Chien, P. Ioannou, Comparison of spacing and headway control laws for automatically controlled vehicles, Vehicle Syst. Dyn. 23 (1994) 597–625.

[101] D.J. Grieve, Simulation of dynamic systems—MECH 337, http://www.tech.plym.ac.uk/sme/mech331/partb1.htm. Accessed November 20, 2006.

[102] G. Genta, Motor Vehicle Dynamics: Modeling and Simulation, World Scientific, Singapore, 2003.

[103] M.D. Artamonov, V.A. Ilarionov, M.M. Morin, Motor Vehicles: Fundamentals and Design, Mir Publishers, Moscow, 1976.

[104] G. Bar-Meir, Fundamentals of compressible fluid mechanics, Potto Project, 2007.

[105] M. Ehsani, Y.M. Gao, S.E. Gay, A. Emadi, Modern Electric, Hybrid Electric, and Fuel Cell Vehicles, CRC Press, Boca Raton, FL, 2005.

[106] D. Henclewood, D. Ni, A dynamic-interactive-vehicle model for modeling traffic beyond the microscopic level, Int. J. Vehicle Informat. Commun. Syst. 2 (1-2) (2009).

[107] R.G. Mortimer, L. Segel, H. Dugoff, J.D. Campbell, C.M. Jorgeson, R.W. Murphy, Brake force requirement study: driver-vehicle braking performance as a function of brake system design variables, Report Number: DOT/HS 800 253, Tech. Rep., Highway Safety Research Institute Ann Arbor, MI, 1970.

[108] T.D. Gillespie, Fundamentals of Vehicle Dynamics, Society of Automotive Engineers, Inc., Troy, MI, 1992.

[109] E.N. Moret, Dynamic modeling and control of a car-like robot, Master's thesis, Department of Electrical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, VA, 2003.

[110] D. Ni, A unified perspective on traffic flow theory, Part I: The field theory, Appl. Math. Sci. 7 (39) (2013) 1929–1946.

[111] R.M. Michaels, Perceptual factors in car following, in: Proceedings of the 2nd International Symposium on the Theory of Road Traffic Flow (London, England), OECD, 1963.

[112] S. Kikuchi, P. Chakroborty, Car-following model based on a fuzzy inference system, Transport. Res. Record 1365 (1992) 82–91.

[113] D. Ni, J.D. Leonard, C. Jia, J. Wang, Vehicle longitudinal control and traffic stream modeling, Transport. Sci., 2015, Published online July 10, 2015. Permalink: http://dx.doi.org/10.1287/trsc.2015.0614.

[114] D. Ni, Multiscale modeling of traffic flow, Math. Aeterna 1 (01) (2011) 27–54.

[115] D. Ni, A unified perspective on traffic flow theory, Part I: The field theory, Appl. Math. Sci. 7 (39) (2013) 1929–1946.

[116] M. Treiber, A. Kesting, Traffic Flow Dynamics, Springer, New York, 2013.

[117] D. Ni, H. Wang, A unified perspective on traffic flow theory, Part III: Validation and benchmarking, Appl. Math. Sci. 7 (39) (2013) 1929–1946.

[118] J.M. del Castillo, F.G. Benítez, On the functional form of the speed–density relationship—I: General theory, Transport. Res. B Meth. 29 (5) (1995) 373–389.

[119] H. Rakha, Validation of Van Aerde's simplified steadystate car-following and traffic stream model, Transport. Lett. Int. J. Transport. Res. 1 (3) (2009) 227–244.

[120] J.M. Del Castillo, Three new models for the flow-density relationship: derivation and testing for freeway and urban data, Transportmetrica 8 (6) (2012) 443–465.

[121] M. Koshi, M. Iwasaki, I. Ohkura, Some findings and an overview on vehicular flow characteristics, in: 8th International Symposium on Transportation and Traffic Flow Theory, Toronto, 1983, pp. 403–426.

[122] J.H. Banks, Freeway speed-flow-concentration relationships: more evidence and interpretations, Transport. Res. Record 1225 (1989) 53–60.

[123] H. Rakha, M. Arafeh, Calibrating steady-state traffic stream and car-following models using loop detector data, Transport. Sci. 44 (2) (2010) 151–168.

[124] Highway Capacity Manual, Transportation Research Board, 2010.

[125] W.J.M. Rankine, On the thermodynamic theory of waves of finite longitudinal disturbances, Philosophical Transactions of the Royal Society 160 (1870) 277–288.

[126] H. Hugoniot, Propagation des mouvements dans les corps et spécialement dans les gaz parfaits" (in French), Journal de l'Ecole Polytechnique 57 (1887) 3.

[127] D. Ni, A unified perspective on traffic flow theory, Part II: The unified diagram, Appl. Math. Sci. 7 (39) (2013) 1929–1946.

[128] Highway Capacity Manual, Bureau of Public Roads, U.S. Dept. of Commerce, 1950.

[129] D. Ni, A unified perspective on traffic flow theory, Part II: The unified diagram, Appl. Math. Sci. 7 (40) (2013) 1947–1963.

[130] H. Wang, J. Li, Q.-Y. Chen, D. Ni, Representing the fundamental diagram: the pursuit of mathematical elegance and empirical accuracy, in: Pre-print CD-ROM, the 89th Transportation Research Board (TRB) Annual Meeting, Paper number 10-1354, Washington, D.C., 2010.

[131] J.M. del Castillo, F.G. Benítez, On the functional form of the speed-density relationship—II: Empirical investigation, Transport. Res. B Meth. 29 (5) (1995) 391–406.

[132] M. Abe, Theoretical analysis on vehicle cornering behaviours in braking and in acceleration, Vehicle Syst. Dyn. 14 (1–3) (1985) 140–143.

[133] E.M. Lowndes, J. David, Development of an intermediate degree of freedom vehicle dynamics model for optimal design studies, Amer. Soc. Mech. Eng. DE 106 (2000) 19–24.

[134] W. Wierwille, G. Gagne, J. Knight, An experimental study of human operator models and closed-loop analysis methods for high-speed automobile driving, IEEE Trans. Human Factors Electron. HFE-8 (3) (1967) 187–201.

[135] T. Gordon, M. Best, On the synthesis of driver inputs for the simulation of closed-loop handling manoeuvres, Int. J. Vehicle Design 40 (1–3) (2006) 52–76.

[136] U. Kramer, G. Rohr, A model of driver behaviour, Ergonomics 25 (10) (1982) 891–907.

[137] Z. Gao, N. Zheng, H. Guan, K. Guo, Application of driver direction control model in intelligent vehicle's decision and control algorithm, in: IEEE Trans. Intelligent Vehicle Symposium, 2002, vol. 2, 2002, pp. 413–418.

[138] C.C. Macadam, G.E. Johnson, Application of elementary neural networks and preview sensors for representing driver steering control behaviour, Vehicle Syst. Dyn. 25 (1) (1996) 3–30.

[139] Y. Lin, P. Tang, W. Zhang, Q. Yu, Artificial neural network modelling of driver handling behaviour in a driver-vehicle-environment system, Int. J. Vehicle Design 37 (1) (2005) 24–45.

[140] A. Zadeh, A. Fahim, M. El-Gindy, Neural network and fuzzy logic applications to vehicle systems: literature survey, Int. J. Vehicle Design 18 (2) (1997) 132–193.

[141] M. Irmscher, T. Jurgensohn, H.-P. Willumeit, Driver models in vehicle development, Vehicle Syst. Dyn. 33 (Suppl) (1999) 83–93.

[142] C.C. Macadam, Understanding and modeling the human driver, Vehicle Syst. Dyn. 40 (1-3) (2003) 101–134.

[143] P. Gipps, A model for the structure of lane-changing decisions, Transport. Res. B 20 (1986) 403–414.

[144] K. Ahmed, M. Ben-Akiva, H. Koutsopoulos, R. Mishalani, Models of freeway lane-changing and gap acceptance behavior, in: Proceedings of the 13th International Symposium on the Theory of Traffic Flow and Transportation, 1996, pp. 501–515.

[145] P. Hidas, K. Behbahanizadeh, Microscopic simulation of lane changing under incident conditions, in: Proceedings of the 14th International Symposium on the Theory of Traffic Flow and Transportation, 1999, pp. 53–69.

[146] Y. Zhang, L. Owen, J. Clark, A multi-regime approach for microscopic traffic simulation, in: 77th Transportation Research Board Annual Meeting, 1998.

[147] R. Sukthankar, Situation awareness for tactical driving, Ph.D. thesis, Carnegie Mellon University, 1997.

[148] M. Raff, J. Hart, A volume warrant for urban stop signs, tech. rep., Eno Foundation for Highway Traffic Control, Saugatuck, Connecticut, 1950.

[149] S.M. Velan, M. Van Aerde, Gap acceptance and approach capacity at unsignalized intersections, ITE J. 66 (3) (1996) 40–45.

[150] M. Hamed, S. Sama, R. Batayneh, Disaggregate gap-acceptance model for unsignalised t-intersections, J. Transport. Eng. ASCE 123 (1) (1997) 36–42.

[151] R. Herman, G. Weiss, Comments on the highway crossing problem, Operat. Res. 9 (1961) 838–840.

[152] D. Drew, L. LaMotte, J. Buhr, J. Wattleworth, Gap acceptance in the freeway merging process, Tech. Rep., Texas Transportation Institute, 1967, pp. 430–432.

[153] R. Hewitt, Using probit analysis with gap acceptance data, Tech. Rep., Department of Civil Engineering, University of Glasgow 1992.

[154] R. Rossi, C. Meneguzzer, The effect of crisp variables on fuzzy models of gap-acceptance behaviour, in: Proceedings of the 13th Mini-EURO Conference: Handling Uncertainty in the Analysis of Traffic and Transportation Systems, 2002.

[155] S. Hoogendoorn, P. Bovy, State-of-the-art of vehicular traffic flow modelling, Proceedings of the IMechE Part I, J. Syst. Control Eng. 215 (4) (2001) 283–303.

[156] L. Smith, R. Beckman, D. Anson, K. Nagel, M. Williams, TRANSIMS: transportation analysis and simulation system, in: Fifth National Conference on Transportation Planning Methods Applications, vol. II, 1995.

[157] M.E. Ben-Akiva, M. Bierlaire, H. Koutsopoulos, R. Mishalani, DynaMIT: a simulation-based system for traffic prediction, in: DACCORS Short Term Forecasting Workshop, 1998.

[158] G.-L. Chang, T. Junchaya, A.J. Santiago, A real-time network traffic simulation model for atms applications: part i—simulation methodologies, J. Intell. Transport. Syst. 1 (3) (1994) 227–241.

[159] I. Prigogine, A Boltzmann-like Approach to the Statistical Theory of Traffic Flow, Theory of traffic Flow, Elsevier, Amsterdam, 1961.

[160] F. Haight, Vehicles as particles. (Book Reviews: Kinetic Theory of Vehicular Traffic by Prigogine and Herman), Science 173 (3996) (1971) 513.

[161] S. Paveri-Fontana, On Boltzmann-like treatments for traffic flow: a critical review of the basic model and an alternative proposal for dilute traffic analysis, Transport. Res. 9 (1975) 225–235.

[162] D. Helbing, Theoretical foundation of macroscopic traffic models, Phys. A Stat. Theoret. Phys. 219 (3-4) (1995) 375–390.

[163] W. Phillips, Kinetic model for traffic flow, Tech. Rep., Report DOT/RSPD/DPB/ 50-77/17. U. S. Department of Transportation, 1977.

[164] P. Nelson, A kinetic model of vehicular traffic and its associated bimodal equilibrium solutions, Transport Theory Stat. Phys. 24 (1995) 383–409.

[165] R. Wegener, A. Klar, A kinetic model for vehicular traffic derived from a stochastic microscopic model, Transport Theory Stat. Phys. 25 (1996) 785–798.

[166] A. Klar, R. Wegener, A hierarchy of models for multilane vehicular traffic (Part I: Modeling and Part II: Numerical and stochastic investigations), SIAM J. Appl. Math. 59 (1999) 983–1011.

[167] D. Helbing, Traffic and related self-driven many-particle systems, Rev. Mod. Phys. 73 (2001) 1067–1141.

[168] S. Yager, CORQ - a model for predicting flows and queues in a road corridor, Transport. Res. Record 533 (1975) 77–87.

[169] R.C. Tolman, The Principles of Statistical Mechanics, Dover Publications, New York, 1980.

[170] S. Harris, An Introduction to the Theory of the Boltzmann Equation, Dover Books on Physics, Dover Publications, New York, 2004.

[171] C. Daganzo, A finite difference approximation of the kinematic wave model of traffic flow, Transport. Res. B 29 (4) (1995) 261–276.