

Bibliography

- Aw A, Rascle M (2000) Resurrection of "second order models" of traffic flow? SIAM Journal on Applied Mathematics 60(3):916–938
- Bagnerini P, Rascle M (2003) A multiclass homogenized hyperbolic model of traffic flow. SIAM Journal on Mathematical Analysis 35(4):949–973
- Bando M, Hasebe K, Nakayama A, Shibata A, Sugiyama Y (1995) Dynamical model of traffic congestion and numerical simulation. Physical Review E: Statistical, nonlinear and soft matter physics 51:1035–1042
- Benzoni-Gavage S, Colombo RM (2003) An *n*-populations model for traffic flow. European Journal of Applied Mathematics 14(05):587–612
- Bexelius S (1968) An extended model for car-following. Transportation Research 2(1):13–21
- Bourrel E, Lesort JB (2003) Mixing microscopic and macroscopic representations of traffic flow hybrid model based on Lighthill-Whitham-Richards theory. Transportation Research Record: Journal of the Transportation Research Board 1852:193–200
- Branston D (1976) Models of single lane time headway distributions. Transportation Science 10(2):125–148
- Buckley DJ (1968) A semi-Poisson model of traffic flow. Transportation Science 2(2):107–133
- Chandler R, Herman R, Montroll E (1958) Traffic dynamics: Studies in car following. Operations Research 6(2):165–184
- Chanut S, Buisson C (2003) Macroscopic model and its numerical solution for twoflow mixed traffic with different speeds and lengths. Transportation Research Record: Journal of the Transportation Research Board 1852:209–219
- Cremer M, Ludwig J (1986) A fast simulation model for traffic flow on the basis of boolean operations. Mathematics and Computers in Simulation 28(4):297–303
- Daganzo CF (1994) The cell transmission model: A dynamic representation of highway traffic consistent with the hydrodynamic theory. Transportation Research Part B: Methodological 28(4):269–287

- Daganzo CF, Lin WH, del Castillo J (1997) A simple physical principle for the simulation of freeways with special lanes and priority vehicles. Transportation Research Part B: Methodological 31(2):103–125
- Drake JS, Schofer JL, May AD (1967) A statistical analysis of speed-density hypotheses. Highway Research Record 154:53–87
- Edie L (1961) Car-following and steady-state theory for noncongested traffic. Operations Research 9(1):66–76
- Gazis DC, Herman R, Rothery RW (1961) Nonlinear follow-the-leader models of traffic flow. Operations Research 9(4):545–567
- Gipps PG (1981) A behavioural car-following model for computer simulation. Transportation Research Part B: Methodological 15(2):105–111
- Greenshields BD (1934) The photographic method of studying traffic behavior. In: Proceedings of the 13th Annual Meeting of the Highway Research Board, pp 382–399
- Helbing D (1997) Modeling multi-lane traffic flow with queuing effects. Physica A: Statistical and Theoretical Physics 242(1-2):175–194
- Helbing D, Schreckenberg M (1999) Cellular automata simulating experimental properties of traffic flow. Physical Review E: Statistical, nonlinear and soft matter physics 59(3)
- Helbing D, Hennecke A, Shvetsov V, Treiber M (2001) Master: macroscopic traffic simulation based on a gas-kinetic, non-local traffic model. Transportation Research Part B: Methodological 35(2):183–211
- Helly W (1961) Simulation of bottlenecks in single lane traffic flow. In: Herman R (ed) Theory of Traffic Flow 1959, proceedings, Elsevier, Amsterdam, pp 207–238
- Herman R, Montroll EW, Potts RB, Rothery RW (1959) Traffic dynamics: Analysis of stability in car following. Operations Research 7(1):86–106
- Hoogendoorn SP (1999) Multiclass continuum modelling of multilane traffic flow. PhD thesis, Delft University of Technology/TRAIL Research school, Delft
- Hoogendoorn SP, Bovy PHL (2001) Generic gas-kinetic traffic systems modeling with applications to vehicular traffic flow. Transportation Research Part B: Methodological 35(4):317–336
- Kerner BS, Klenov SL (2002) A microscopic model for phase transitions in traffic flow. Journal of Physics A: Mathematical and General 35(3)
- Kerner BS, Klenov SL (2006) Deterministic microscopic three-phase traffic flow models. Journal of Physics A: Mathematical and General 39(8)

- Kerner BS, Rehborn H (1996) Experimental features and characteristics of traffic jams. Physical Review E: Statistical, nonlinear and soft matter physics 53:1297–1300
- Kerner BS, Klenov SL, Wolf DE (2002) Cellular automata approach to three-phase traffic theory. Journal of Physics A: Mathematical and General 35(47)
- Kometani E, Sasaki T (1961) Dynamic behaviour of traffic with a nonlinear spacing-speed relationship. In: Herman R (ed) Theory of Traffic Flow 1959, proceedings, Elsevier, Amsterdam, pp 105–119
- Laval JA, Daganzo CF (2006) Lane-changing in traffic streams. Transportation Research Part B: Methodological 40(3):251–264
- Laval JA, Leclercq L (2010) A mechanism to describe the formation and propagation of stop-and-go waves in congested freeway traffic. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 368(1928):4519–4541
- Lebacque JP (1996) The Godunov scheme and what it means for first order traffic flow models. In: Lesort JB (ed) Transportation and Traffic Theory: Proceedings of the 13th International Symposium on Transportation and Traffic Theory, 1996, Pergamon, pp 647–677
- Leclercq L (2007) Hybrid approaches to the solutions of the "Lighthill-Whitham-Richards" models. Transportation Research Part B: Methodological 41(7):701–709
- Lenz H, Wagner CK, Sollacher R (1999) Multi-anticipative car-following model. The European Physical Journal B: Condensed Matter and Complex Systems 7:331–335
- Lighthill MJ, Whitham GB (1955) On kinematic waves II: A theory of traffic flow on long crowded roads. Proceedings of the Royal Society of London Series A, Mathematical and Physical Sciences 229(1178):317–345
- van Lint JWC, Hoogendoorn SP, Schreuder M (2008) Fastlane: A new multi-class first order traffic flow model. Transportation Research Record: Journal of the Transportation Research Board 2088:177–187
- Logghe S, Immers LH (2008) Multi-class kinematic wave theory of traffic flow. Transportation Research Part B: Methodological 42(6):523–541
- Mahnke R, Kühne R (2007) Probabilistic description of traffic breakdown. In: Schadschneider A, Pöschel T, Kühne R, Schreckenberg M, Wolf DE (eds) Traffic and Granular Flow '05, Springer, pp 527–536
- Moutari S, Rascle M (2007) A hybrid Lagrangian model based on the Aw-Rascle traffic flow model. SIAM journal of applied mathematics 68:413–436

- Nagel K, Schreckenberg M (1992) A cellular automaton model for freeway traffic. Journal de physique I France 2(12):2221–2229
- Nair R, Mahmassani HS, Miller-Hooks E (2012) A porous flow model for disordered heterogeneous traffic streams. In: Transportation Research Board 89th Annual Meeting Compendium of Papers (DVD), Washington D.C.
- Newell GF (1961) Nonlinear effects in the dynamics of car following. Operations Research 9(2):209–229
- Newell GF (1965) Instability in dense highway traffic, a review. In: The 2nd International Symposium on the Theory of Traffic Flow, 1963, pp 73–83
- Newell GF (2002) A simplified car-following theory: a lower order model. Transportation Research Part B: Methodological 36(3):195–205
- Ngoduy D, Liu R (2007) Multiclass first-order simulation model to explain non-linear traffic phenomena. Physica A: Statistical Mechanics and its Applications 385(2):667–682
- Ossen S, Hoogendoorn SP (2006) Multi-anticipation and heterogeneity in carfollowing empirics and a first exploration of their implications. In: Intelligent Transportation Systems Conference, 2006. IEEE, pp 1615–1620
- Paveri-Fontana SL (1975) On Boltzmann-like treatments for traffic flow: A critical review of the basic model and an alternative proposal for dilute traffic analysis. Transportation Research 9(4):225–235
- Payne HJ (1971) Models of freeway traffic and control. In: Simulation Council Proceedings, Mathematical models of public systems, pp 51–61
- Phillips WF (1979) A kinetic model for traffic flow with continuum implications. Transportation Planning and Technology 5(3):131–138
- Pipes LA (1953) An operational analysis of traffic dynamics. Journal of applied physics 24(3):274–281
- Prigogine I, Andrews FC (1960) A Boltzmann-like approach for traffic flow. Operations Research 8(6):789–797
- Richards PI (1956) Shock waves on the highway. Operations Research 4(1):42-51
- Smulders S (1990) Control of freeway traffic flow by variable speed signs. Transportation Research Part B: Methodological 24(2):111–132
- Tampère CMJ, van Arem B, Hoogendoorn SP (2003) Gas-kinetic traffic flow modeling including continuous driver behavior models. Transportation Research Record: Journal of the Transportation Research Board 1852:231–238

- Treiber M, Hennecke A, Helbing D (1999) Derivation, properties, and simulation of a gas-kinetic-based, nonlocal traffic model. Physical Review E: Statistical, nonlinear and soft matter physics 59(1):239–253
- Treiber M, Hennecke A, Helbing D (2000) Congested traffic states in empirical observations and microscopic simulations. Physical Review E: Statistical, nonlinear and soft matter physics 62(2):1805–1824
- Treiber M, Kesting A, Helbing D (2006) Delays, inaccuracies and anticipation in microscopic traffic models. Physica A: Statistical Mechanics and its Applications 360(1):71–88
- Treiterer J, Myers JA (1974) The hysteresis phenomenon in traffic flow. In: Buckley D (ed) Proceedings of the 6th International Symposium on Transportation and Traffic Theory, 1974, Elsevier, pp 13–38
- van Wageningen-Kessels FLM, van 't Hof B, Hoogendoorn SP, van Lint JWC, Vuik C (2013) Anisotropy in generic multi-class traffic flow models. Transportmetrica A: Transport Science 9(5):451–472
- Wiedemann R (1974) Simulation des Strassenverkehrsflusses. Tech. rep., Institute for Traffic Engineering, University of Karlsruhe
- Wilson RE (2008) Mechanisms for spatio-temporal pattern formation in highway traffic models. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 366(1872):2017–2032
- Wong GCK, Wong SC (2002) A multi-class traffic flow model: an extension of LWR model with heterogeneous drivers. Transportation Research Part A: Policy and Practice 36(9):827–841
- Zhang HM (1999) A mathematical theory of traffic hysteresis. Transportation Research Part B: Methodological 33(1):1–23

This Electronic Supplementary Material is provided with the article 'Genealogy of traffic flow models' by Femke van Wageningen-Kessels, Hans van Lint, Kees Vuik and Serge Hoogendoorn published in EURO Journal on Transportation and Logistics.