

CV for Professor Otto Anker Nielsen

Degrees:

- 1991, MSc in civil engineering and transport, Technical University of Denmark (DTU)
- 1994, PhD-study in transport modelling, DTU
- 2008, Research Management Education at Copenhagen School of Business (CBS)

Positions:

- 2019-Present. Member of the Green Transport Commission for the Danish Government
- 2016-Present. Leader for the Transport Division, DTU Management
- **2000-Present. Full Professor in Transport Modelling at DTU**
- 2006-2007. Visiting Professor at TU Delft, Netherlands
- 2017-2018. Member of future transport expert group, for the Minister of Transport
- 2013-2014. Danish Congestion Commission, for the Minister of Transport
- 2001- Present. Cofounder of Rapidis Ltd. and chair of the board
- 1998-2000 Manager of Research and Development, Railnet Denmark
- 1992-1998 Academic career at DTU Transport, group leader since 1996
- 1991-1992 Carl Bro Ltd.

Memberships of scientific committees, review panels (selected)

- Has been member of about 4-5 scientific evaluation committees per year since 2000 for PhD-students and/or faculty appointments (professorships) in Denmark (DTU, Aalborg University), Norway (NTNU, Molde, TØI), Sweden (KTH, LTH, Chalmers, Linköping, Blekinge), Switzerland (EPFL), Netherland (TUDelft, Erasmus University), England (ITS Leeds) and Scotland (St. Andrews)
- Member of editorial boards of "Transportmetrica A: Transport Science", "Network and Spatial Economics", "Transportation", "EURO Journal on Transportation and Logistics" and "International Journal of Railway Operations Research"
- Chairman of the board for the Professor Bendtsen Transport Foundation
- Reviewer for European Research Council (ERC grants)
- Member of the Award Committee for "Hedorfs Foundation" (Danish Research Award)

Distinctions and awards:

- US Transportation Research Board, Pyke Johnson Award for the best 2014 paper in the area of planning and environment. \$1400 travel grant to the award ceremony in Washington DC
- Hedorfs Foundation Prize for Transport Research, 2008, 100,000 DKK
- Prof. Bendtsens Annual Remembrance Grant for excellent young Transport Researchers, 2000
- Director P. Gorm-Petersens remembrance grant for the best Ph.D.-study of the year at DTU's Annual Prize Day, 1995 (10,000 DKK)

Grants, 2012 – present (selected ongoing or finished in 2012 or later):

29 grants as grant holder and project leader. Total amount is 69.1 million DKK. Largest grants below;

- IPTOP, integrated public transport planning and optimization. Danish Innovation Fund, 18.6 mill. DKK.
- UNITE, Uncertainties in transport project evaluation. Danish Strategic Research Council. 13,160,000 DKK.
- TransTools 3. 7th Framework Programme. EC. 2 Million Euro, hereoff 4,614,081 DKK at DTU. Consortium leader. 14 partners in the project.

Research Area:

Route choice models and traffic assignment, transport demand modelling and transport behaviour. Road pricing and GPS-based data. Integrated Public Transport Optimisation and Planning.

International relations

Among others close cooperation with Institute of Transport Studies Leeds University (prof. David Watling), Massachusetts Institute of Technology (Prof Nigel Wilson, and Prof Moshe ben-Akiva), University of Queensland (Prof Carlo Prato) and ETH (Prof Kay Axhausen)

Supervision of PhDs

He has been/is supervisor for 27 PhD-students, , heref 14 since 2012, 8 visiting PhD-students

List of publications, Otto Anker Nielsen

Bibliometrics:

- Web of Science; 45 publications, h-index 10, 314 citations
- Scopus; 58 documents, h-index 12, i10-index 16, 482 citations, 56 co-authors
- Google Scholar; 1938 citations, h-index 22, i10-index 51

Publications (only refereed journal papers and book chapters, 100+ conference papers not included)

Harrod, S.; Cerreto, F. & Nielsen, O. A. (2019). A Closed Form Railway Line Delay Propagation Model. **Transportation Research. Part C: Emerging Technologies**. Vol 102, pp. 189-209. Elsevier

Dastjerdi, AM; Kaplan, S; Abreu, J, Nielsen, OA & Pereira, F. (2019). Participating in Environmental Loyalty Program with a Real-time Multimodal. Travel App: User Needs, Environmental and Privacy Motivators. **Transportation Research Part D: Transport and Environment**. 67, pp.224-243. Elsevier

Jensen, A.F.; Thorhauge, M.; de Jong, G; Rich,J; Dekker, T. ; Johnson, D.; Cabralb, M.O.; Bates, J. & Nielsen,.OA. (2019). A disaggregate freight transport chain choice model for Europe. **Transportation Research Part E**. Vol 121, pp 43-62. Elsevier

Paulsen, M., Rasmussen, T.K., Nielsen, O.A.. (2018). Output variability caused by random seeds in a multi-agent transport simulation model. **Procedia Computer Science**. 130, pp. 850-857

Ingvardson, JB & Nielsen, OA (2018). How urban density, network topology and socio-economy influence public transport ridership: Empirical evidence from 48 European metropolitan areas. **Journal of Transport Geography**. Vol 72, pp. 50-63. Elsevier.

Watling, DP; Rasmussen, TK.; Prato, CG & Nielsen, OA. (2018). Stochastic User Equilibrium with a Bounded Choice Model **Transportation Research Part B: Methodological**. Volume: 114 pp. 254-280. Elsevier.

Ingvardson, JB.; Kaplan, S.; Silva, JA; Ciommo, F; Shifan, Y & Nielsen, OA. (2018). Existence, Relatedness and Growth Needs as mediators between mode choice and travel satisfaction: evidence from Denmark. **Transportation**. On-line. Springer

Parbo, J.; Nielsen, OA. & Prato, C. (2018). Reducing passengers' travel time by optimising stopping patterns in a large-scale network: A case-study in the Copenhagen Region. **Transportation Research Part A: Policy and Practice**. Vol 113, pp.197-212. Elsevier

Cerreto, F; Nielsen, B.F.; Nielsen, OA. & Harrod, S. (2018). Application of data clustering to railway delay pattern recognition. **Journal of Advanced Transportation**, special issue on Simulation and Optimization for Railway Operations Management. 6164534. Hindawi.

Ingvardson, J.; Nielsen, O.A., Raveau, S. & Nielsen, B.F. (2018). Passenger arrival and waiting time distributions dependent on train service frequency and station characteristics: A smart card data analysis. **Transportation Research Part C, Emerging Technologies**. Vol 90, pp.292-306. Elsevier.

Prato, C.G., Halldórsdóttir, K. & Nielsen, O.A. (2018). Evaluation of land-use and transport network effects on cyclists' route choices in the Copenhagen Region in value-of-distance space. **International Journal of Sustainable Transportation**. On-line. Taylor & Francis

Ingvardson, J.; Nielsen, O.A. & Kaplan, S. (2018). Effects of new bus and rail rapid transit systems – an international review. **Transport review**. Vol. 38, Issue 1, Pp 96-116, Taylor & Francis

Prato, C.G., Halldórsdóttir, K. & Nielsen, O.A. (2017). Home-end and activity-end preferences for access to and egress from train stations in the Copenhagen Region. **International Journal of Sustainable Transportation**. Vol 11, No. 10, 776–786. Taylor & Francis.

Ingvardson, J.; Jensen, J.K. & Nielsen, O.A. (2017). Analysing improvements to on-street public transport systems: a mesoscopic model approach. **Public Transport**. Vol. 9, Issue 1-2, pp 385-409, Springer.

Kaplan, S.; Monteiro, M.M.; Anderson, M.K.; Nielsen, O.A. & Enilson, M.D.S., (2017). The role of information systems in non-routine transit use of university students: Evidence from Brazil and Denmark. **Transportation Research Part A: Policy and Practice**. Vol 95, pp34-48. Elsevier

Jensen, L.W.; Landex, A.. Nielsen, O.A.; Kroon; L.G. & Schmidt, M. (2017). Strategic assessment of capacity consumption in railway networks: Framework and Model. **Transportation Research Part C, Emerging Technologies**. Volume 74, pp.126-149. Elsevier

Raovic, N.; Nielsen, O.A. & Prato, Carlo G (2017). Dynamic queuing transmission model for dynamic network loading. **Transport**. Vol. 32, Issue 2, pp.146-159, Taylor & Francis.

- Prato, C.G., Halldórsdóttir, K. & Nielsen, O.A (2017). Latent Lifestyle and Mode Choice Decisions when Travelling Short Distances. **Transportation**. Vol. 44, Issue 6, Pp 1343-1363, Springer.
- Anderson, M.K., Nielsen, O.A., Prato, C.G. (2017). Multimodal route choice models of public transport passengers in the Greater Copenhagen Area. **EURO Journal on Transportation and Logistics**. Vol. 6, Issue 3, pp. 221-245.
- Rasmussen, T.K., Nielsen, O.A., Watling, D.P. & Prato, C.G. (2016). The Restricted Stochastic User Equilibrium with Threshold model: Large-scale application and parameter testing. **European Journal of Transport Infrastructure Research (EJTIR)**. Issue 17(1), pp1-24
- Rasmussen, K.R., Anderson, M.K., Nielsen, O.A. & Prato, C.G. (2016) Timetable-based simulation method for choice set generation in large-scale public transport networks. **European Journal of Transport Infrastructure Research (EJTIR)**. Vol 16. Issue 3. pp. 467-489, ISSN: 1567-7141
- Parbo, J., Nielsen, O.A., & Prato, C. G. (2016). Passenger perspectives in railway timetabling: A literature review. **Transport Reviews**. Volume 36, Issue 4, pp. 500-526. Routledge, Taylor & Francis Group.
- Rasmussen, Thomas Kjær; Ingvarðson, Jesper Bláfoss; Halldórsdóttir, Katrín & Nielsen, Otto Anker (2015). Improved methods to deduct trip legs and mode from travel surveys using wearable GPS devices: A case study from the Greater Copenhagen Area. **Computers, Environment and Urban Systems**. Volume 54, November, Pp. 301–313. Elsevier
- Rasmussen, Thomas Kjær, Watling, David Paul; Prato, Carlo Giacomo & Nielsen, Otto Anker. In press (2015). Stochastic User Equilibrium with equilibrated choice sets: Part II – Solving the Restricted SUE for the logit family. **Transportation Research Part B: Methodological**. Vol 77, pp. 146-165.. Elsevier
- Watling, David Paul, Rasmussen, Thomas Kjær, Prato, Carlo Giacomo., Nielsen, Otto Anker. In press (2015). Stochastic User Equilibrium with equilibrated choice sets: Part I – Model formulations under alternative distributions and restrictions. **Transportation Research Part B: Methodological**. Vol 77, pp. 166-181. Elsevier
- Rich, Jeppe & Nielsen, Otto Anker (2015). System convergence in transport models: algorithms efficiency and output uncertainty. **European Journal of Transport Infrastructure Research (EJTIR)**. Issue 15(3), 2014. pp. 38-62, ISSN: 1567-7141
- Manzo, Stefano; Nielsen, Otto Anker & Prato, Carlo Giacomo (2015). How uncertainty in socio-economic variables affects large-scale transport model forecasts. **European Journal of Transport Infrastructure Research (EJTIR)**. Issue 15(3), 2014. pp. 25-37, ISSN: 1567-7141
- Salling, Kim Bang & Nielsen, Otto Anker (2015). Uncertainties in Transport Project Evaluation - Editorial. **European Journal of Transport Infrastructure Research (EJTIR)**. Issue 15(3), 2014. pp. 1-4, ISSN: 1567-7141
- Manzo, Stefano; Prato, Carlo Giacomo & Nielsen, Otto Anker (2015). How uncertainty in input and parameters influences transport model outputs: a four-stage model case-study. **Transport Policy**. Volume 38, February 2015, Pages 64–72. Elsevier
- Halldórsdóttir, Katrín; Rieser-Schüssler, Nadine; Axhausen, Kay W.; Nielsen, Otto Anker & Prato, Carlo G (2014). Efficiency of choice set generation methods for bicycle routes. **European Journal of Transport Infrastructure Research (EJTIR)**. Issue 14(4), 2014, pp. 1-17, ISSN: 1567-7141
- Parbo, J., Nielsen, O.A. & Prato, C. (2014). User Perspectives in Public Transport Timetable Optimisation. **Transportation Research C, Emerging Technologies**, 48, pp. 269-284, Elsevier
- Prato, Carlo Giacomo; Rasmussen, Thomas Kjær & Nielsen, Otto Anker (2014). Estimating Value of Congestion and of Reliability from Observation of Route Choice Behaviour of Car Drivers. **Transportation Research Record: Journal of the Transportation Research Board**. Volume 2412 / Travel Behaviour 2014, Vol. 1
- Manzo, Stefano; Nielsen, Otto Anker; Prato Carlo Giacomo (2014). Effects of Uncertainty in Speed-flow Curve Parameters on Large-Scale Model - Case Study of the Danish National Model. **Transportation Research Record: Journal of the Transportation Research Board**. Volume 2429 / Travel Demand Forecasting 2014, Vol. 1
- Jensen, L.W., Landex, A., Nielsen, O.A. (2014). Evaluation of robustness indicators using railway operation simulation. **WIT Transactions on the Built Environment**. 135, pp. 329-339
- Trabo, I., Landex, A., Schneider-Tilli, J.E., Nielsen, O.A. (2012). The new line copenhagen-ringsted: The benefits from eu railway benchmarking. **WIT Transactions on the Built Environment** 127, pp. 369-378
- Nielsen, Bo Friis; Frølich, Laura; Nielsen Otto Anker & Filges, Dorte (2013). Estimating passenger numbers in trains using existing weighing capabilities. **Transportmetrica A: Transport Science**. Taylor & Francis

- Gehlert, Tina; Kramer, Christina; Nielsen, Otto Anker & Schlag, Bernhard (2011). Socioeconomic differences in public acceptability and car use adaptation towards urban road pricing. **Transport Policy**. Volume 18, Issue 5, Elsevier.
- Larsen, M.K. & Nielsen, Otto Anker (2008). Improving and optimising road pricing in Copenhagen. **ICE Transport**, Special Issue August 2008 – Road User Charging. The Institution of Civil Engineers, London.
- Gehlert, T., Nielsen, O. A., Rich, J. & Schlag, B. (2008). Public acceptability change of urban road pricing schemes. **Proceedings of ICE, Transport**, 161 (2), pp. 111-121.
- Nielsen, Otto Anker & Jørgensen, René Munk (2008). Estimation of speed-flow and flow-density relations on the motorway network in the greater Copenhagen region. **IET Intelligent Transport Systems**. The Institution of Engineering and Technology, UK. Vol 2., No. 2, June, pp. 120-131.
- Nielsen, Otto Anker and Frederiksen, Rasmus Dyhr (2008). Large-scale schedule-based transit assignment – Further optimisation of the solution algorithm. *Schedule-based Modelling of Transportation Networks: Theory and Applications*. Series: **Operations Research/Computer Science Interfaces**. Vol 46. (Eds) Wilson, Nigel H.M. & Nuzzolo, Agostino. Springer, ISBN: 978-0-387-84811-2
- Nielsen, Otto Anker; Landex, Alex & Frederiksen, Rasmus Dyhr (2008). Passengers route choices in delayed rail networks. *Schedule-based Modelling of Transportation Networks: Theory and Applications*. Series: **Operations Research/Computer Science Interfaces**. Vol 46. (Eds) Wilson, Nigel H.M. & Nuzzolo, Agostino. Springer, ISBN: 978-0-387-84811-2
- Nielsen, Otto Anker & Sørensen, Majken Vildrik (2008). The AKTA road pricing experiment in Copenhagen. Chapter 6 in *Roadpricing, the economy and the environment*. Edited by Jensen-Butler, Chris; Sloth, Birgitte; Larsen, Morten Marrot; Madsen, Bjarne; & Nielsen, Otto. Springer, pp. 93-110. **Advances in spatial Science**, ISBN 978-3-540-77149-4
- Rich, Jeppe & Nielsen, Otto. External Effects and Road Charging (2008). Chapter 13 in *Roadpricing, the economy and the environment*. . Edited by Jensen-Butler, Chris; Sloth, Birgitte; Larsen, Morten Marrot; Madsen, Bjarne; & Nielsen, Otto. Springer, pp. 267-276. **Advances in spatial Science**, ISBN 978-3-540-77149-4
- Nielsen, Otto Anker & Vuk, Goran (2008). Car users' trade off between trip time, length, cost and road pricing in behavioural models. Chapter 18 in *Roadpricing, the economy and the environment*. edited by Jensen-Butler, Chris; Sloth, Birgitte; Larsen, Morten Marrot; Madsen, Bjarne; & Nielsen, Otto. Springer, pp. 351-374. **Advances in spatial Science**, ISBN 978-3-540-77149-4
- Jensen-Butler, Chris; Sloth, Birgitte; Larsen, Morten Marrot; Madsen, Bjarne; & Nielsen, Otto Anker (editors) (2008). *Roadpricing, the economy and the environment*. **Advances in spatial Science**, XV. 425 pp. Springer. ISBN 978-3-540-77149-4
- Rich, Jeppe & Nielsen, Otto Anker (2007). A socio-economic assessment of proposed road user charging schemes in Copenhagen. **Transport Policy**, No 14, pp.330-345, Elsevier
- Schönfelder, S., Rich, J. Nielsen, O.A. & Würtz, Christian (2007). Road Pricing and its consequences for individual travel patterns. **Mobilities**, Vol. 2. No. 1. pp. 75-98. Taylor & Francis.
- Nielsen, Otto Anker & Frederiksen, Rasmus Dyhr (2006). Optimisation of timetable-based, stochastic transit assignment models based on MSA. *Annals of Operations Research*. Vol. 144, Issue 1 pp 263-285. Kluwer.
- Zabic, M., Nielsen, O.A. (2006). An analysis of stand-alone GPS quality and simulated GNSS quality for road pricing. **WIT Transactions on the Built Environment**, 89, pp. 859-868.
- Landex, A., Nielsen, O.A. (2006). Simulation of disturbances and modelling of expected train passenger delays. **WIT Transactions on the Built Environment**. 88, pp. 521-529
- Nielsen, Otto Anker & Larsen, Allan (2005). Strengthening knowledge within logistics and freight transport. **Public Service Review**. Winter 2004, Pp. 66-68. PSCA International.
- Nielsen, Otto Anker (2004). Behavioural responses to pricing schemes: Description of the Danish AKTA experiment. **Journal of Intelligent Transportation Systems**. Vol. 8(4). Pp. 233-251. Taylor & Francis
- Rich, Jeppe Husted & Nielsen, Otto Anker (2004). Assessment of Traffic Noise Impacts. **International Journal of Environmental Studies**. Vol. 61(1), pp. 10-29. Taylor & Francis.
- Nielsen, Otto Anker (2004) A large scale stochastic multi-class schedule-based transit model with random coefficients. **Schedule-Based Dynamic Transit Modelling – Theory and Applications**. Chapter 4 in book edited by Nigel Wilson (MIT) and Agostino Nuzzolo (Univ. of Rome). Kluwer Academic. pp. 51-77.

- Nielsen, Otto Anker & Frederiksen, Rasmus Dyhr (2003). Rule-based, object-oriented modelling of public transport systems – A description of the Transportation Object Platform. **9th WCTR Selected Proceedings**. Elsevier.
- Nielsen, Otto Anker; Frederiksen, Rasmus Dyhr & Daly, Andrew (2002). A stochastic Route Choice Model for Car Travellers in the Copenhagen Region. **Networks and spatial economics**. No 2. pp. 327-346. Kluwer.
- Daly, Andrew & Nielsen, Otto Anker (2001). Large Scale Model Systems. **Travel behaviour Research: The Leading Edge**. Chapter 18 in Book edited by David Hensher. Pergamon press, Elsevier. pp 315-325.
- Nielsen, Otto Anker; Hansen, Christian Overgaard & Daly, Andrew (2001). A Large-scale model system for the Copenhagen-Ringsted railway project. **Travel behaviour Research: The Leading Edge**. Chapter 35, in book edited by David Hensher. Pergamon press, Elsevier. pp 603-626.
- Nielsen, Otto Anker (2000). A Stochastic Traffic Assignment Model Considering Differences in Passengers Utility Functions. **Transportation Research Part B Methodological**. Vol. 34B, No. 5, pp. 337-402. Elsevier Science Ltd.
- Nielsen, Otto Anker (1998). Two new methods for estimating Trip Matrices from Traffic Counts. Chapter in **Travel Behaviour Research: Updating the state of play**. Edited by Ortúzar, H. D., Hensher, D & Jara-Díaz, D. Elsevier Science Ltd. Oxford, UK. 1998. pp. 221-250.
- Nielsen, Otto Anker; Simonsen, Nikolaj & Frederiksen, Rasmus Dyhr (1998). Using Expert System Rules to establish data on Intersections and Turns in Road Networks. **International Transactions in Operational Research**. Vol. 5, No. 6, pp. 569-581. Pergamon, Elsevier Science Ltd.
- Nielsen, Otto Anker; Simonsen, Nikolaj & Frederiksen, Rasmus Dyhr (1998). Stochastic User Equilibrium Traffic Assignment with Turn-delays in Intersections. **International Transactions in Operational Research**. Vol. 5, No. 6, pp. 555-568. Pergamon, Elsevier Science Ltd.
- Nielsen, Otto Anker (1995). Using GIS in Denmark for Traffic Planning and Decision Support. **Journal of Advanced Transportation**, Special issue on GIS Applications in Transportation Engineering and Planning. Vol. 29, No. 3, pp 335-354.