

PAUL M. SCHONFELD, Ph.D., P.E.

PROFESSOR

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
UNIVERSITY OF MARYLAND
COLLEGE PARK, MARYLAND 20742
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Revised on Jan. 2, 2026

PROFESSIONAL REGISTRATION

- Maryland Professional Engineering License #14013 [1984]

MAIN RESEARCH INTERESTS

- Transportation Systems Analysis
- Urban Public Transportation Systems
- Infrastructure Location and Design
- Inland Waterways
- Air Transportation
- Transportation Economics
- Freight Logistics
- Transportation Network Development
- Infrastructure Maintenance Management

EDUCATION

■ B.S.	Civil Engineering, Massachusetts Institute of Technology	[1974]
■ M.S.	Civil Engineering, Massachusetts Institute of Technology	[1974]
■ Ph.D.	Civil Engineering, University of California, Berkeley	[1978]
Minor Areas: Economics and Business Administration		

ACADEMIC EXPERIENCE

- **University of Maryland, College Park, MD**
Assistant Professor of Civil Engineering [1978]
Associate Professor [1984]
Professor [1993]
- **University of California, Berkeley, CA**
Research Assistant (then Research Specialist) [1975 - 1977]
- **Massachusetts Institute of Technology, Cambridge, MA**

Teaching Assistant [1972 – 73]

PROFESSIONAL EXPERIENCE

PRIVATE SECTOR EMPLOYMENT

- ◻ **Transportation Engineer, IBM Scientific Center, Cambridge, MA.** Development of simulation, evaluation, optimization, and control techniques for innovative transportation systems, including automated personal rapid transit systems, demand-responsive ride sharing and automatic vehicle location and control, 1973 - 1975.
- ◻ **Student Engineer, General Motors Research Labs, Warren, MI.** Development of evaluation and optimization methods for automated transportation systems, 1972.
- ◻ **Consulting Technician, Peat, Marwick, Mitchell & Company, Boston, MA.** Modal split forecasting for the Boston area, 1971.

SELECTED CONSULTING WORK

- ◻ **The World Bank.** St. Vincent port study, 2018
- ◻ **National Institutes of Health, Bethesda, MD.** Review of logistics aspects of proposals, 2013.
- ◻ **Information Technology Curves, Gaithersburg, MD.** Methods for Managing Ridesharing Operations, 2011.
- ◻ **CDM - Federal Programs Corporation, Carbondale, IL.** Review of waterway research reports, 2005.
- ◻ **National Institute of Standards and Technology Gaithersburg, MD.** Assessments of various inventions, 1997 - 1998.
- ◻ **SoHaR, Inc., Los Angeles, CA.** Review of Air Traffic Reliability Analysis for the Federal Aviation Administration 1997 - 1998.
- ◻ **U.S. Army Corps of Engineers - Baltimore District.** Review of Study on Baltimore Harbor Anchorages and Channels, 1995 - 1996.
- ◻ **COMSIS Inc., Silver Spring, MD.** Public Transportation Planning for Tianjin, China, 1994.
- ◻ **Martin Guerin & Associates, Inc., Arlington, VA.** Automated Vehicle Location and Control for Public Transportation, 1993.
- ◻ **VITECH.** Traffic Impacts of School Consolidation in Easton, MD, 1988.
- ◻ **Louis Berger International, Seoul, Korea.** Traffic engineering study for the U.S. Army's Yongsan Base, 1987.
- ◻ **Byrd, Tallamy, MacDonald and Lewis, Falls Church, VA.** Highway Maintenance Standards for the Virginia Department of Highways and Transportation, 1986.
- ◻ **DMJM, Inc., Washington DC.** Evaluation of Highway Alignment Alternatives for Maine DOT, 1984.
- ◻ **AMAF, Inc., Columbia, MD.** Safety and Cost Effectiveness of Textured Shoulder Treatments on Highways, 1984.
- ◻ **J.A. Reyes & Co., Washington, DC.** Insurance Coverage Requirements for Motor Carriers, 1980 - 1981.
- ◻ **System Design Concepts, Inc., Washington, DC.** Transportation Energy Contingency Planning for N.Y. State DOT, 1980.
- ◻ **Urban Mass Transit Administration, Washington, DC.** Cost Effectiveness of Exclusive Lanes for High Occupancy Vehicles, 1979.

PROFESSIONAL AND HONOR SOCIETIES

- ◻ **American Society of Civil Engineers**
Fellow since August 1994; Member since 1983; Life Member since Jan. 1, 2015.

Awarded ASCE's 2018 James Laurie Prize for career contributions in transportation engineering.
Editor, Journal of Transportation Engineering, ASCE Air Transport Division, Feb. 1991 – Oct. 1994.
Chairman, Publications Committee of the Air Transport Division, Feb. 1991 - Oct. 1994. Member 1990 – 2008.
Chairman, Planning Committee of the Air Transport Division, 1996 – 1998; Vice Chairman, 1992 – 1996;
Member since 1979.
Vice Chairman of Air Cargo Subcommittee. 1986 - 1991. Secretary 1988 – 1992; Member 1981 - 1995.
Member of Steering Committee and Proceedings Editor of the 1997 Conference on Aviation Simulation and Modeling.
Chairman, Waterways Committee of the Waterways, Port, Coastal and Ocean Engineering Division, 1996 - 1998. Vice Chairman, 1995 – 1996;
Secretary, 1994 – 1995; Member since 1993.
Member of the Governing Board of the Coasts, Oceans, Ports and Rivers Institute, 2017-2019.

- ▣ **Institute of Transportation Engineers**
Fellow since January 1998; Member since 1979.
Chairman, International Committee 6A-26 on Travel Reduction Options. 1981 - 1985. Prepared ITE report on the effectiveness of travel reduction options.
Chairman, International Committee 6Y-45 on Transportation Demand Reduction Measures, May 1988 - January 1990.
Faculty Advisor to the ITE Student Chapter at the University of Maryland, 1979 - 1991, 1996 - 2003, 2015 - 2016, 2018 – 2025.
Chairman, Washington, DC Section Education Committee. 1980 - 1984.
Chairman, Washington, DC Section Technical Affairs Committee. 1987 - 1988.
- ▣ **Advanced Transit Association**
Editor, Journal of Advanced Transportation, Jan. 2003 – Feb. 2012; Associate Editor March 1990 – Jan. 2003.
- ▣ **Transportation Research Board**
Member, Aircraft-Airport Compatibility Committee. 1980 - 1985.
Member, Ports and Waterways Committee. 1983 - 1989.
Chairman, Subcommittee on Air Traffic Management Performance. March 1997 - January 2001.
Member, Committee on Rail Transit Systems. March 2010 – 2019.
Member, Committee on Intermodal Freight Terminal Design and Operation (AT050), April 2016 – Jan. 2020.
Member, Committee on Intermodal Freight Transport (AT045), January 2020 - April 2028.
TRB Representative of the University of Maryland, December 1998 - present.
- ▣ **Operations Research Society of America (now INFORMS)**
Chairman, Urban Transportation Session. May 1984 ORSA Meeting, San Francisco, CA.
Chairman, Public Transportation Session. May 1990 ORSA Meeting, Las Vegas, NE.
Chairman, Public Transportation Session. October 1990 ORSA Meeting, Philadelphia, PA.
Best Paper Award of 2022. Transportation Science and Logistics Section of INFORMS
- ▣ **IVHS America (IVHS = Intelligent Vehicle Highway Systems; now ITS America)**
Member, Systems Architecture Committee. 1991-2001.
Member, Advanced Public Transportation Systems Committee. 1991-2001.
- ▣ **Urban Rail Transit Journal**, Associate Editor, since Sept. 2015.
- ▣ **KSCE (Korea Society of Civil Engineers) Journal of Civil Engineering**
Guest Editor of Special Issue on Mobility as a Service, Dec. 2020 – May 2022.

- ❑ **Sustainability Journal**, Editorial Board, since 2021.
- ❑ **Intelligent Transportation Infrastructure Journal**, Associate Editor, since December 2021.
- ❑ **Transportmetrica A: Transport Science**, Associate Editor, since May, 2023.
- ❑ **Journal of Railway Science and Technology**, Editorial Board, since April 2025
- ❑ **Tau Beta Pi**
- ❑ **Chi Epsilon**
- ❑ **Sigma Xi**

GRADUATE ADVISEMENT

PH.D. DISSERTATIONS SUPERVISED

1. Shou-min Tsao, "Analysis of Zonal Transit Service," Dec. 1981, (Professor, Civil Engineering Department, National Taiwan University, Taipei, Taiwan).
2. Yi-chin Hu, "Traffic Flow Optimization on Rural Networks," June 1983.
3. Georgine Glatz, "Design and Performance Evaluation of an Attenuating Highway Barrier," Dec. 1988.
4. Osama Sharafeldien, "Hierarchical Traffic Flow Optimization for Congested Networks," Dec. 1988.
5. Jason S.K. Chang, "Analytic Optimization of Bus Systems in Heterogeneous Environments," May 1990, (Professor, Civil Engineering Department, National Taiwan University, Taipei, Taiwan).
6. Melody D.M. Dai, "Delay Estimation on Congested Waterways," Aug. 1991, (Associate Professor, Dept. of Transportation Management & Communication, National Cheng Kung University, Tainan, Taiwan).
7. David Martinelli, "Investment Planning of Interdependent Waterway Projects," Aug. 1991, (Professor, Civil Engineering Department and Director of Transportation Center, West Virginia University, Morgantown, WV).
8. Kurt K.T. Lee, "Transfer Coordination in Transportation Terminals," Feb. 1993, (Associate Professor, Civil Engineering Department, Feng Chia University, Taipei, Taiwan).
9. Louis C.H. Wei, "Neural Network Applications in Priority Programming for Congested Transportation Networks," Aug. 1993, (Professor, Dept. of Transportation & Communication Management, National Cheng Kung University, Tainan, Taiwan).
10. Henry Lieu, "An Integrated Diversion Control System for Freeway Corridors," Dec. 1993.
11. Chin Chang, "Flight Sequencing and Gate Assignment in Airport Hubs," May 1994, (Associate Professor, Dept. of Transportation Technology & Logistics Management, Chung Hua University, Hsin Chu, Taiwan).
12. Steven Chien, "Optimization of Coordinated Intermodal Transit Networks," Oct. 1995, (Professor, Civil Engineering Department, N. J. Inst. of Technology, Newark, NJ).
13. Yeon Myung Kim, "Methodology for Design and Evaluation of Airport Terminal Configuration," May 1997. (Professor and Vice-President, Hanseo University).
14. Ching Jung Ting, "Transfer Coordination in Transit Networks," Dec. 1997, (Professor, Yuan Ze University, Chung-Li, Taiwan).
15. Jyh-Cherng Jong, "Optimizing Highway Alignments with Genetic Algorithms," June 1998.
16. Manoj Jha, "A Geographic Information Systems-based Model for Highway Design Optimization," May 2000.
17. Shiaau Lir Wang, "Simulation and Optimization of Interdependent Waterway Improvement Projects," May 2001.
18. Sze-Wei Chang, "Integrated Flight Scheduling and Fleet Assignment," Aug. 2001, (Major General ROC Air Force and Assistant Professor, China University of Science and Technology, Taiwan).
19. Eungcheol Kim, "Intersections in Highway Alignment Optimization," Dec. 2001, (Professor and Chairman, Division of Urban and Environmental

Engineering Department, Incheon National University, Incheon, Korea).

20. Jasenka Rakas, "Models for Air Traffic Management Performance during Equipment Outages," Dec. 2001.
21. Peter Chen, "Integrated Management of Highway Maintenance and Traffic," Dec. 2002.
22. Xianding Tao, "Parallel Genetic Algorithms for Selection and Scheduling of Interdependent Transportation Projects," May 2003.
23. Ying Luo, "Heuristics and Performance Metamodels for the Dynamic Dial-A-Ride Problem," May 2006, (Associate Professor, Chongqing University, Chongqing, China).
24. Somnuk Ngamchai, "Air Express Network Design with Hub Sorting," Sept. 2007.
25. Min Wook Kang, "An Alignment Optimization Model for a Simple Highway Network," May 2008, (Professor, Univ. of South Alabama, Mobile, AL).
26. Ning Yang, "Optimization of Highway Work Zone Decisions Considering Short-Term and Long-Term Impacts," May 2010.
27. Alex Tien, "Demand-Responsive Airspace Sectorization and Air Traffic Controller Staffing," Sept. 2010.
28. Frank Chen, "Intermodal Transfer Coordination in Logistic Networks," Dec. 2010, (Professor, National Dong Hwa University, Taiwan).
29. Zichuan Li, "An Integrated Control Model for Freeway Interchanges," Dec. 2011.
30. Xiaorong Lai, "Optimization of Station Locations and Track Alignments for Rail Transit Lines," May 2012.
31. Edward Kim, "Optimization Models for Improving Bus Transit Services," May 2013, (Associate Professor, Florida Polytechnic University).
32. Nikola Markovic, "Evasive Flow Capture," Dec. 2013, (Associate Professor, University of Utah).
33. Yanshuo Sun, "Stochastic Models for Airport Facility Development," Aug. 2016, (Associate Professor, Florida State University).
34. Elham Shayanfar, "Planning and Prioritizing Interrelated Road Network Projects by Integrating Cell Transmission Model and Genetic Algorithm," Dec. 2018.
35. Youngmin Choi, "Adjustment Factors and Applications for Analytic Approximations of Tour Lengths," Aug. 2021.
36. Mofeng Yang, "Empowering Traffic Operations and Safety with Transportation Big Data: Practice Scan, Methodology and Applications," Dec. 2022.
37. Songhua Hu, "A Big-data Driven Framework for Spatiotemporal Travel Demand Estimation and Prediction," May 2023, (Assistant Professor, City University of Hong Kong).
38. Qianqian Sun, "National Origin-Destination Truck Flow Estimation Using Passive GPS Data," May 2023.
39. Fei Wu, "Selection and Scheduling of Interrelated Network Improvement Projects under Uncertainties," Aug. 2023.
40. Linxi Chen, "Flexible-Route Bus Service Design for Urban and Suburban Areas," Aug. 2025.
41. Dongwook Kim, "Multimodal Road Space Allocation and Network Evolution," expected Dec. 2025.
42. Zheyu Li, "Stochastic Optimization of Rural Passenger Transportation Systems," expected May 2026.
43. Po-Yuan Wang, "A Reliable, Patient-Institution Coordinated Scheduling and Routing Framework for Non-Emergency Medical Transportation," expected May 2026.
44. Arturo Ramirez, "Optimized Development of a Multi-modal Public Transportation Network," expected Aug. 2026.
45. Samrad Babaee, "Location of Electric Vehicle Charging Stations under Uncertainties," expected Aug. 2026.
46. Lin, Chen-Yen, "Network Development with Evolving Vehicle Technologies," expected August 2027.

M.S. THESES SUPERVISED

1. Dan Takacs, "An Analysis of the Maryland Demonstration Bikeway Projects," July 1979.
2. James Cardenas, "Optimum Traffic Flow Assignment Model" March 1981.
3. Warren Hughes, "Analysis of Recreational Travel Management Alternatives," May 1981.
4. Farid Khorsandian, "Evaluation of Crash Attenuators," Dec. 1984.
5. Chung-sue Chen, "Effects of Vehicle Size on Parking Facility Design," June 1985.

6. Lazar Spasovic, "Optimization of Public Transportation System Coverage," Dec. 1986.
7. Abdulrahman Al-Mesainid, "Comparison of Alternative Highway Maintenance Strategies," Dec. 1987.
8. Rahul Trivedi, "A Methodology for Estimating Truck Volumes," June 1988.
9. Natacha Thomas, "The Effects of Additional Through Lanes on Intersection Performance," Dec. 1989.
10. Xu Fang, "Operating Strategies for Containerport Storage Yards," Dec. 1989.
11. Mamadou Sevede, "Analysis of Air Cargo Transfer Operations," May 1990.
12. Lu Bin, "Coordination Options for Intersecting Bus Routes," May 1990.
13. Lori Lehnerd, "Base Airport Selection for General Aviation Aircraft," Dec. 1990.
14. Li Hsin Wang, "Simulation of Curbside Transfer of Passengers and Baggage at Transportation Terminals," Dec. 1990.
15. Steven Chien, "Joint Optimization of Rail Transit Lines and Feeder Bus Networks," Dec. 1991.
16. Sharon Kuo, "Optimal Mixed Bus Fleets for Urban Operations," May 1992.
17. Jiangeng Song, "A Method for Fitting Rail Transit Modes in Urban Areas," Dec. 1992.
18. Kang-Min Xu, "Optimal Road Space Allocation among Competing Transportation Modes," Dec. 1993.
19. Kangzhi Liang, "Optimal Maintenance Cycles for Single Track Railroads," Dec. 1993.
20. Peter Shen, "Real-time Control of Flight Departures from Hub Airports," May 1994.
21. Ping Liang, "Control of Service Reliability for Bus Transit Systems," May 1994.
22. Ramanathan Venkatesh, "Optimal Inspection and Maintenance Scheduling for Waterway Locks," Aug. 1994.
23. Dong Keun Seo, "Optimal Traffic Signal Adjustments to Assist Bus Operations," May 1997.
24. Jasenka Rakas, "Terminal Airspace Route Design for Tiltrotor Aircraft," Dec. 1997.
25. Sonia Viera-Colon, "Highway Maintenance Procedures and Schedules," Dec. 1999.
26. Allen Proper, "Arterial Signal Control for Bus Operations," May 2000.
27. Daliborka Stanojevic, "Scheduling of Waterway Lock Operations," Aug. 2001.
28. Lulu Mao, "Synchronized Optimization of Multiple Intersections Using Dynamic Programming," Dec. 2001.
29. Liang Zhu, "The Potential Benefit of Automated Intersections," Aug. 2002.
30. Shu-ta Yeh, "Integrated Optimization of Kinematics and Vertical Alignment for Rail Transit," Dec. 2003.
31. Hyunah Kim, "Effects of Subsidies on Bus Transportation Optimization," Aug. 2004.
32. Sangjae Park, "Scheduling and Coordination of Bus Routes with Genetic Algorithms," May 2005.
33. Sameer Kamble, "Relations among Traffic, Staffing and Performance in Air Traffic Management Systems," Dec. 2005.
34. LaToya Johnson, "Optimization Models for Comparing Conventional Bus, Dial-A-Ride and Taxi Systems in Rural Areas," Aug. 2006.
35. Wei-Chen Cheng, "Phased Implementation of Rail Transit Lines," Aug. 2007.
36. Nikola Markovic, "Scheduling under Uncertainty for a Single-hub Intermodal Freight System," Dec. 2010.
37. Zun Wang, "Geometric and Environmental Considerations in Highway Alignment Optimization," June 2011.
38. Ammara Asif, "Environmental Cost Estimation for Highway Alignment Evaluation," Sep. 2012.
39. Reuben Juster, "A Trip Time Comparison of Automated Guideway Transit Systems," May 2013.
40. Tong Zhou, "Optimization Models for Runway Location, Orientation and Longitudinal Grade Design," May 2014.
41. Han Dong, "Real-Time Control Model for Airline Delay Management," Dec. 2014.
42. Elham Shayanfar, "Prioritizing and Scheduling Interrelated Road Projects using Metaheuristic Algorithms," May 2015.
43. Yanshuo Sun, "Holding Decisions for Correlated Vehicle Arrivals at Intermodal Freight Transfer Terminals," May 2016.
44. Kai Zhao, "Network Development with Bicycle Lanes," Aug. 2016.

45. Zach Vander Laan, "Modeling Heterogeneous Traffic with Cooperative Adaptive Cruise Control Vehicles," March 2017.
46. Rahil Saeedi, "Analysis of Slack Times for Dynamic Ridesharing," Aug. 2017.
47. Uros Jovanovic, "Network Development Models with Intersections," Dec. 2017.
48. Garima Sharma, "A Method for Integrating Multi-region Flexible-route Bus Services," Aug. 2018.
49. Shiyi Liu, "Effects of Driverless Vehicles on the Competitiveness of Public Transportation Systems," May 2019.
50. Fei Wu, "Optimized Phased Development of a Pre-designed Rail Transit Line, May 2020.
51. Zheyu Li, "A Planning Model for Flexible-route Freight Deliveries in Rural Areas," Dec. 2023.
52. Tao Yang, "Multi-zone Flexible-route Bus Services with Coordinated Transfers," Dec. 2023.
53. Arturo Ramirez, "Phased Replacement of Bus Lines by Rail in a Transit Network with Passenger Flow Modeling," Dec. 2024.
54. Mohammad Ashoori, "The Impact of COVID-19 on Internal Migration Patterns in the United States", expected Jan. 2026.
55. Hanson Liao, "Development of Intersections with Bicycle Lanes," expected May 2026.

M. S. SCHOLARLY PAPERS SUPERVISED

1. Michael Jobanek, "The Benefits of Implementing a Microwave Landing System," Aug. 1978.
2. John Moeller, "Citizen Participation in Transportation Decisions," May 1979.
3. Gary Johnson, "Carpooling Experiences in Prince George's County," July 1979.
4. Ray Benaquista, "Airport Location and Access," April 1980.
5. Ron Boenau, "Driver Eye Height and Changing Vehicle Dimensions," July 1980.
6. Richard Baker, "Temporary Noise Abatement for Three Sites in Baltimore," Aug. 1980.
7. Norman Bellamy, "Highway Safety Implications of Changes in Maryland's Vehicle Fleet," Dec. 1981.
8. John St. Louis, "Transportation Planning for the Elderly and Handicapped," Dec. 1981.
9. Jannie Lathan, "Automobile Travel Reduction Options," Aug. 1982.
10. Abdulla Meer, "Models for Optimizing Zonal Transit Service," Dec. 1982.
11. Feng Lee Lin, "Models of Search Time and Walk Distance for Parking," Jan. 1983.
12. Steven Frank, "An Analysis of Ship Loading Operations," May 1983.
13. Sokari Bob-Manuel, "Data Needs for Air Cargo Planning," Oct. 1983.
14. Hani Maghrabi, "Analysis of Storage Arrangements in Containerports," June 1985.
15. Gary Luczak, "The Cost Effectiveness of High-speed Exits for Airport Runways," June 1987.
16. Ghazi Barrawi, "Analysis of Methods to Reduce Skidding Accidents," June 1987.
17. Steven Lucchesi, "Selection of Design Aircraft for Runway Length Decisions" Dec. 1987.
18. Mohammed Al-Nayel, "Statistical Estimation of Urban Bus Service Costs," Dec. 1987.
19. Matt Storck, "Safety Evaluation of Walking Routes to Schools," Aug. 1988.
20. Obi Chukuka, "Cargo Transfer Optimization in Airport Hubs," Aug. 1992.
21. Mazen Dawoud, "Phased Development of a Rail Transit Line," Dec. 1993.
22. Ping-Hsiu Ho, "Scheduling of Airline Hub Operations," May 1995.
23. Jung Ting Ke, "Hub Location Decisions in Airline Planning and Scheduling," Aug. 1996.
24. Kuangda Hsu, "Coordination of Crane and Truck Operations in Container Ports," Dec. 1996.
25. Guang-Chen Zhou, "Maintenance Scheduling on Two-Lane Roads," Dec. 1996.
26. Panja Hanjongkol, "Toll Plaza Operating Strategy Analysis," Jan. 1997.

27. Shiaaulir Wang, "Waterway Queuing Delays with Equilibrium Demand," Aug. 1997.
28. Don Stefanick, "Automated People Mover Systems for Airports," Dec. 1997.
29. Ying Zhou, "Tradeoffs in Bus Transit Systems between Subsidies and Welfare Maximization," Dec. 2000.
30. Shirlene Cleveland, "An Analysis of Unseparated High Occupancy Toll Lanes," Dec. 2001.
31. Jothsna Rao, "Effect of Accessibility to a Transit Station on Land Use," May 2004.
32. Serese Aranha-Scott, "Construction Time versus Cost Tradeoffs in Pavement Resurfacing," Aug. 2004.
33. Ming-Yu Chien, "Optimization of Runway Exit Locations," May 2005.
34. Ravi Amin, "Determination of Parking Facility Location and Configuration with a GIS," March 2006.
35. Koffi Ameftia, "Noise Analysis of Aircraft Arrival Trajectories," Aug. 2006.
36. Sun Ho Kwak, "Minimization of User Delays in Freeway Work Zones based on Optimized Diversion Rates," Dec. 2006.
37. Min Wook Kang, "Highway Alignment Optimization through Feasible Gates," Dec. 2007.
38. Robert Smythe, "Maintenance Optimization for 2-Lane 4-Way Intersections," Dec. 2011.
39. Edward Kim, "Analysis of Vertical Alignments for Rail Transit," Nov. 2012.
40. Aphisit Phoowarawutthipanich, "Effects of Attitudes toward a Car Rental System on Mode Choice in Bangkok," Dec. 2013.
41. Farhad Abasahl, "Operational Improvement Alternatives for a Signalized Intersection," Oct. 2021.
42. Ruiqi Zhang, "Effects of Connected and Autonomous Vehicles on Freeway Capacity," expected May 2026.

RESEARCH PROJECTS DIRECTED AT THE UNIVERSITY OF MARYLAND

1. **A Systems Analysis of Recreational Travel to Maryland's Eastern Shore Network**, Federal Highway Administration and Maryland State Highway Administration, 1979 - 1983.
2. **System Optimization Models for Air Transportation**, Minta Martin Fund, 1978.
3. **Intercampus Transportation Study**, Office of the President, University of Maryland, 1979.
4. **Seatbelt Usage Study**, Maryland Department of Transportation, Safety Division, 1979.
5. **The Efficiency Implications of Aircraft Size**, Minta Martin Fund, 1979.
6. **Highway Safety Training Needs Study**, Maryland Department of Transportation, Safety Division, 1979 - 1980.
7. **Air Cargo Market for the Baltimore - Washington International Airport**, Maryland Aviation Administration, 1980 - 1981, Co - directed with Dr. Thomas Corsi.
8. **Statistics for Traffic Safety Analysis**, Maryland Department of Transportation, 1980 - 1981.
9. **Implications of Changes in Maryland's Vehicle Fleet**, Maryland Department of Transportation, Safety Division, 1981 - 1982.
10. **Evaluation of Crash Attenuators**, Maryland State Highway Administration, 1983 - 1985.
11. **Analysis Methods for Weaving Traffic on Arterial Streets**, Maryland State Highway Administration, 1986.
12. **Truck Lane Restrictions on Freeways**, Maryland State Highway Administration, 1986.
13. **Analysis and Forecasting of Truck Traffic Volumes**, Maryland State Highway Administration, 1986.
14. **Safety Benefits of Highway Lighting**, Maryland State Highway Administration, 1986 - 1987.
15. **Intersections and Driveways near Freeway Ramps**, Maryland State Highway Administration, 1986 - 1987.

16. **Defining Trucks for Highway Engineering Purposes**, Maryland State Highway Administration, 1986 - 1987.
17. **Service Levels for Different Interchange Configurations**, Maryland State Highway Administration, 1986 - 1987, \$7,500.
18. **Increasing Intersection Capacity with Additional Through Lanes**, Maryland State Highway Administration, 1986 - 1987.
19. **Commercial Driveways and Median Openings on Arterial Streets**, Maryland State Highway Administration, 1986 - 1987, Co - directed with Dr. E.C. Carter.
20. **Removal of Non - applicable Pavement Markings in Work Zones**, Maryland State Highway Administration, 1986 - 87, Co - directed with Dr. E.C. Carter.
21. **Study of Offset T Intersections**, Maryland State Highway Administration, 1986 - 1987.
22. **Flashing Operation of Traffic Signals**, Maryland State Highway Administration, 1986 – 1987, Co - directed with Dr. E.C. Carter.
23. **Warrants for Firehouse Signals**, Maryland State Highway Administration, 1987.
24. **Effectiveness of Word and Symbol Pavement Markings**, Maryland State Highway Administration, 1987, Co - directed with Dr. E.C. Carter.
25. **Shoulder Surface Treatment and Use**, Maryland State Highway Administration, 1987, Co - directed with Dr. E.C. Carter.
26. **Traffic Response to Variable Message Signs**, Maryland State Highway Administration, 1986 - 1987, Co - directed with Dr. E.C. Carter.
27. **Guidelines for Effective Use of Delineation**, Maryland State Highway Administration, 1986 - 1987.
28. **Evaluation of Maryland's Seat Belt Use Law**, Maryland Department of Transportation, Office of Transportation Planning, 1986 - 1987, Co - directed with Dr. E.C. Carter.
29. **Analysis of Dundalk Containerport Crane Operations**, Maryland Port Administration, 1987.
30. **Anne Arundel County Airport Study**, Anne Arundel County, Maryland 1989, Co - directed with Dr. E.C. Carter.
31. **Analysis of the Brakemaster Truck Braking System**, Maryland Industrial Partnerships Program, 1989 - 1990, Co - P. I. with Dr. E.C. Carter.
32. **Selection and Scheduling of Transportation Corridor Improvements**, Office of Transportation Planning, Maryland Department of Transportation, 1989 - 1990.
33. **Lock Performance Evaluation**, U. S. Army Corps of Engineers, 1989 - 1990.
34. **Economic Evaluation Methods for Waterway Improvements**, U. S. Army Corps of Engineers, 1987 - 1991.
35. **Expert System Development for Isolated Intersection Signalization**, Federal Highway Administration, 1989 - 1991, Co - P. I. with Drs. G.L. Chang and E.C. Carter.
36. **Integration of Geographic Information Systems in Transit Planning**, Maryland Mass Transit Administration, 1990 - 1991, Co - P. I. with Dr. G.L. Chang.
37. **Methods for Analyzing Weaving Flows on Arterials**, Maryland State Highway Administration, 1990 - 1992.
38. **Priority Programming for Congested Networks**, Maryland State Highway Administration, 1990 - 91.
39. **The Joint Cost of Highway Maintenance and Traffic Operation**, Maryland State Highway Administration, 1991 - 1992.
40. **Non - motorized Transportation for Asian Cities**, World Bank, 1991 - 92.
41. **Waterway Network Performance**, U. S. Army Corps of Engineers and U. S. Department of Agriculture, 1991-1992.
42. **Control Systems for Waterway Operations**, U. S. Army Corps of Engineers and U. S. Department of Agriculture, 1992 - 1995.
43. **College Park Campus Access Study**, University of Maryland Administration, 1993.
44. **Adaptive Control of Transit Operations**, Federal Transit Administration, 1993 - 1995.
45. **Analysis Methods for Vertiport Capacity and Delays**, Federal Aviation Administration, 1994 - 1995.
46. **Civil Tiltrotor Air Traffic Control**, Federal Aviation Administration, through CSSI, Inc., 1994 - 1995.

47. **Compensating for Missing Accident Data**, Federal Highway Administration Eisenhower Fellowship for Julie Zhu, 1994 - 1996.
48. **Integration of Traffic Simulation and Planning Models**, Federal Highway Administration Eisenhower Fellowship for Ping Liang, 1994 - 1996.
49. **Evaluation of DARTS Transportation Services**, Charles County Department of Community Services, 1995 - 1996.
50. **Waterway Network Planning and Operations**, U. S. Army Corps of Engineers and U. S. Department of Agriculture, 1995 - 1996.
51. **Airspace System Performance during Equipment Outages**, Federal Aviation Administration, 1996 - 1997, \$58,000.
52. **Development of CADD Software for Highway Design**, Maryland State Highway Administration, 1996.
53. **BWI Airport Capacity and Delay Analysis**, Maryland Aviation Administration, 1996.
54. **Analysis Methods for Inland Waterway Transportation**, U. S. Army Corps of Engineers and U. S. Department of Agriculture, 1996 - 2000.
55. **Development of CADD Software for Highway Design-Phase II**, Maryland State Highway Administration, 1997 - 1998, Co - directed with Dr. A. Haghani.
56. **Preliminary Optimization with the SIMMOD Air Traffic Model**, Federal Aviation Administration, 1997, Co - directed with Dr. M. Fu.
57. **Systems Analysis of Air Traffic Management Reliability**, Federal Aviation Administration, 1996 - 1999.
58. **Noise Analysis with SIMMOD and INM**, Maryland Aviation Administration, 1997 - 2001.
59. **CADD Software for Highway Design Automation and Optimization**, Maryland State Highway Administration, 1998 - 1999, Co - directed with Dr. A. Haghani.
60. **Human and Automated Decisions in Traffic Management**, Maryland State Highway Administration, May - Dec. 1999.
61. **Detailed Highway Design Optimization**, Maryland State Highway Administration, 1999 - 2000.
62. **Intersection Evaluation and Optimization Methods**, Maryland State Highway Administration, 2000 - 2001.
63. **Integrated Management of Maintenance and Traffic**, Maryland State Highway Administration, 2001 - 2004.
64. **Airport Development Analysis with INM and GIS**, Maryland Aviation Administration, 2001 - 2002.
65. **Development of Strategic Simulator**, Federal Aviation Administration, 2002 - 2007.
66. **Statistical Analysis of Maryland Accidents**, Maryland State Highway Administration, 2003 - 2004.
67. **Alignment Optimization for Brookeville Bypass**, Maryland State Highway Administration, 2003 - 2004.
68. **Improvements to IWR Simulation Models**, U. S. Army Corps of Engineers, 2003 - 2005.
69. **Optimization of Work Zone Decisions through Simulation**, Maryland State Highway Administration, 2004 - 2006.
70. **Simulation-Based Optimization Models for Waterway Project Planning**, U. S. Army Corps of Engineers, 2005 - 2007.
71. **Statistical Analyses of Maryland Accidents - Phases 5 & 6**, Maryland State Highway Administration, 2005 - 2007.
72. **Improved Alignment Evaluation and Optimization Model**, Maryland State Highway Administration, 2006 - 2007.
73. **Port Operations and Security Analysis**, Center for Intermodal Freight Transportation, 2006 - 2 007.
74. **Development of Detailed Lock Model**, U.S. Army Corps of Engineers, 2007 - 2008.
75. **Software-Simulated Test and Evaluation of Positioning and Routing Algorithms**, TRMC, U. S. Dept. of Defense, 2007 - 2010.
76. **Transfer Coordination in Freight Terminals**, Center for Intermodal Freight Transportation, 2008.
77. **A Multi-Objective Bilevel Approach to Highway Alignment Optimization**, National Science Foundation, Jan. 1, 2008 – June 30, 2009.
78. **Intermodal Transfer Coordination in Logistic Networks**, USDOT, Nov. 2008 - Nov. 2011.
79. **Analysis of Lock Control Policies**, U.S. Army Corps of Engineers, 2009 - 2010.
80. **Integration of Conventional Transit and Paratransit Services**, USDOT, Nov. 2009 – Nov. 2011.
81. **Application of Highway Alignment Optimization Model to U.S. Route 220 Project**, Maryland State Highway Administration, 2010 - 2011.
82. **Development and Testing of Ridesharing Algorithms**, IT Curves, Jan. 2011 – Jan. 2012, Co-directed with Dr. E. Miller-Hooks.
83. **Smart Ridesharing Algorithms**, Maryland Industrial Partnerships Program and Information Technology Curves, July 2011 – June 2012, Co-directed

with Dr. E. Miller-Hooks.

84. **Flexibility and Responsiveness in Public Transportation Systems**, USDOT, Oct. 2011 – Oct. 2012.
85. **Improved Methods for Operating Public Transportation Services**, Mid-Atlantic University Transportation Center, Jan. – Dec. 2012.
86. **Integration of Multi-modal Public Transportation Systems**, Mid-Atlantic University Transportation Center, June 2012 – May 2013.
87. **BWI Airport Internal Circulation Analysis**, Maryland Aviation Administration, June 2012 – May 2013.
88. **Next Generation Algorithms and Decision Support Tools for Managing Ridesharing Services**, Maryland Industrial Partnerships Program and Information Technology Curves, July 2012 – June 2013, Co-directed with Dr. E. Miller-Hooks.
89. **Needs, Barriers and Analysis Methods for Integrated Urban Freight Transportation**, Mid-Atlantic University Transportation Center, Oct. 2012 – Jan. 2015.
90. **Phased Development of Transportation Facilities**, Mid-Atlantic University Transportation Center, Dec. 2012 – Aug. 2015, \$93,752.
91. **Integration of Multimodal Transportation Services**, Mid-Atlantic University Transportation Center, May 2013 – June 2015, \$76,550, Co-directed with Dr. E. Miller-Hooks.
92. **Smarter Algorithms for Managing Ridesharing Services**, Maryland Industrial Partnerships Program and Information Technology Curves, July 2013 – Sept. 2014, \$135,000, Co-directed with Dr. E. Miller-Hooks.
93. **Evasive Flow Capture Problem: Optimal Allocation of Weigh-in-Motion Stations and Security Checkpoints**, National Science Foundation, Sept. 2013 – Aug. 2016, \$220,000.
94. **Estimating the Economic Impacts of Multimodal Transportation Improvements**, Maryland State Highway Administration, Oct. 2013 – Dec. 2015, \$150,000, Co-directed with Dr. Lei Zhang.
95. **Efficiency and Reliability in Freight Transportation Systems**, National University Transportation Center for Economic Competitiveness, Oct. 2013 – Sep. 2017, \$80,000.
96. **Safe Accommodation of Bicyclists on High-Speed Roadways in Maryland**, Maryland State Highway Administration, Feb. 2015 – Dec. 2016, \$133,000.
97. **Improving the Reliability of Freight Transportation**, National University Transportation Center for Economic Competitiveness, Jan. 2015 – Sep. 2017, \$120,000.
98. **Market Opportunity Assessment for the Eastern Shore Short-Line Rail in Maryland**, Maryland Department of Transportation, April –Sept. 2015, \$133,000, Co-directed with Drs. Cinzia Cirillo and Lei Zhang.
99. **Methods for Improving the Reliability of Freight Transportation Systems**, National University Transportation Center for Economic Competitiveness, Jan. 2016 – Sep. 2017, \$120,000.
100. **ADHS NTC Research Fellowship**, Appalachian Regional Council and National University Transportation Center for Economic Competitiveness, June 2016 – Oct. 2018, \$122,950, Co-directed with Dr. Lei Zhang.
101. **Research to Support Ex-post Analysis for Transportation Economics: AASHTO EconWorks**, AASHTO, Nov. 2016 – Nov. 2017, \$500,000, Co-directed with Drs. Lei Zhang and Qingbin Cui.
102. **Optimized Development of Urban Transportation Networks**, Urban Mobility and Equity Center, June 2017 – June 2020, \$116,000.
103. **Optimization with Data Acquisition in Transportation Engineering**, National Science Foundation, Aug. 2017 – July 2018, \$150,000.
104. **Innovative Methods for Delivering Fresh Foods to Underserved Populations**, Urban Mobility and Equity Center, Oct. 2017 – Sept. 2018, \$140,000, Co-directed with Drs. Hyeon-Shic Shin and Young-Jae Lee of Morgan State University.
105. **Information Source for Major Transportation Projects**, Federal Highways Administration, June 2018 – May 2019, \$825,891, Co-directed with Drs. Qingbin Cui and Lei Zhang.
106. **ADHS NTC Research Fellowship**, Appalachian Regional Council and Maryland Transportation Institute, Oct. 2018 – Oct. 2020, \$130,000, Co-directed with Dr. Lei Zhang.

107. **Methods for Evaluating, Selecting and Scheduling Interrelated Alternatives for Network Development**, Maryland Transportation Institute, Jan.2020 – Dec. 2020, \$25,000.
108. **Topology-based Freight System Resilience Evaluation and Network Improvement**, Federal Railroad Administration, June 2020 – June 2021, \$89,000.
109. **Equitable Complete Streets: Data and Methods for Optimal Design Implementation**, Urban Mobility and Equity Center, July 2020 – Sept. 2021, \$120,000, Co-directed with Drs. Cinzia Cirillo and Mansoureh Jeihani.
110. **ADHS NTC Research Fellowship**, Appalachian Regional Council and Maryland Transportation Institute, Oct. 2020 – Sept. 2025, \$439,852.
111. **Deployment of Personalized and Dynamic Travel Demand Management Technology**, Federal Highway Administration and Metropolitan Washington Council of Governments, Nov. 2020 – Nov. 2023, \$1,673,097.
112. **Parametric Analysis of Telecommuting Effects on Transportation Tax Revenues**, District of Columbia Dept. of Transportation, Aug. 2021 – Jan. 2023, \$212,000. Co-directed with Dr. Mehdi Shokouhian.
113. **Analysis of Interrelated Network Improvement Alternatives**, Urban Mobility and Equity Center, Oct. 2021 – May 2023, \$170,000.
114. **User Preference Analysis for Mobility-as-a-Service (MaaS) and Its Impact in Maryland**, Urban Mobility and Equity Center, Oct. 2021 – June 2023, \$120,000, Co-directed with Drs. Young-Jae Lee and Hyeon-Shic Shin.
115. **Integrated Mobility Services**, Urban Mobility and Equity Center, Aug. 2022 – Sept. 2023, \$59,374.
116. **Development of Advanced Multimodal Travel Demand Management and Continuous Operations of incenTrip Smartphone Technology in Maryland**, Maryland Dept. of Transportation, Nov. 2022 – Aug. 2023, \$150,000.
117. **Evaluating MDOT SHA's Facility Maintenance Technician's (FMT) Training Program**, Maryland State Highway Administration, July 2023 – June 2024, \$136,983, Co-directed with Drs. Xianfeng Yang and Cinzia Cirillo.
118. **Optimized Development of Multi-modal Transportation Networks**, CMMM Center, Sept. 2023 – Aug. 2024 \$100,000.
119. **Planning and Operation of Flexible-route Transportation Services for Persons and Freight**, CMMM Center, June 2024 – Dec. 2025, \$160,000.
120. **Transportation Infrastructure Development Under Uncertainties**, SMARTER University Transportation Center, July 2024 – June 2025, \$40,000.
121. **Road Space Allocation for Complete Streets**, CMMM Center, March 2025 – Aug. 2026, \$160,000.
122. **Enhancing Intersection Safety through Advanced Planning and AI Integration**, SMARTER University Transportation Center, Dec. 2025 – Sept. 2027, \$180,000, Co-directed with Drs. Cinzia Cirillo and Xianfeng Yang.
123. **Development and Restoration of Multi-modal Transportation Networks**, CMMM Center, Jan. 2026 – Dec. 2026, \$100,000.

WORK ON OTHER SPONSORED PROJECTS AT THE UNIVERSITY OF MARYLAND

1. **I-70 Corridor Study**, Maryland State Highway Administration, Interstate Division, 1979.
2. **Washington Area External Origin - Destination Survey**, Maryland Dept. of Transportation, 1980 - 1981.
3. **Evaluation of Selective Enforcement of Speeds and Drunk Driving on Maryland Highways**, Maryland State Police, 1982.
4. **Evaluation of the Metrobus Revenue Allocation Process**, Washington Metropolitan Area Transit Authority, 1982.
5. **Hyattsville Traffic Study**, City of Hyattsville, MD 1988.
6. **Integrated, Personalized, Real-time Traveler Information and Incentive Technology for Optimizing Energy Efficiency in Multimodal Transportation Systems**, U.S. Dept. of Energy, 2015-2018.
7. **Autonomous Technology Center Feasibility Study for the Greater Cumberland Regional Airport**, Potomac Highlands Airport Authority, MD, 2018.
8. **Marginal Costs of Highway Infrastructure Use**, Federal Highway Administration, 2021-2023.

SELECTED SERVICES TO THE UNIVERSITY OF MARYLAND

- ◻ **Transportation Program Director.** Civil Engineering Department, Aug. 1979 - Aug. 1980, Aug. 1981 - June 1994, July 2003 – Aug. 2007.
- ◻ **Director, Center for Intermodal Freight Transportation,** Aug. 2007 – 2011.
- ◻ **Faculty Advisor of the Institute of Transportation Engineers Student Chapter.** June 1979 - June 1991, Jan. 1997 - Feb. 1999, Sept. 2015 – present.
- ◻ **Faculty Advisor of the Intelligent Transportation Systems & Institute of Transportation Engineers Student Chapter.** From Sept. 2015 – present.
- ◻ **Faculty Advisor.** Delta Kappa Epsilon Fraternity. 1991 - 1996.
- ◻ **Representative of the Civil Engineering Department on the Engineering School's Appointments, Promotions and Tenure Committee.** 1993 – 1995, 2001 – 2003, and 2024 - 2025.
- ◻ **Instructor and developer of continuing education courses for the UMD Transportation Studies Center.** 1978 - 1997.
- ◻ **Instructor in EIT Exam review course for undergraduates.** 36 times since Spring 1987.
- ◻ **Member of UMD Campus Transportation Advisory Committee.** 2018 - 2019.
- ◻ **Director of unfunded Intercampus Transportation Study for the Office of the President.** 1979 - 1980.
- ◻ **Member of Civil Engineering Department Executive Committee.** 2003 - 2009.
- ◻ **Member of Civil Engineering Department Undergraduate Education Committee.** 2007 - 2019 and 2023 -present.
- ◻ **Member of Civil Engineering Department Faculty Development Committee.** 2013 - 2019.
- ◻ **Member of Civil Engineering Department Curriculum Development Committee.** 2019.
- ◻ **Member of Transportation Engineering faculty Search Committee.** 2021- 2022
- ◻ **Chairman of Civil Engineering Department Committee on Ph.D. Degree Requirements.** 1987 - 1988.
- ◻ **Chairman of Civil Engineering Department Graduate Committee.** 2002 - 2003, Member 1999 - 2002.
- ◻ **Chairman of Transportation Faculty Search Committees.** 1988, 2000-2001, 2001-2, 2005-6, 2007-8.
- ◻ **Chairman of Civil Engineering Department Organization Committee.** 2001 - 2002.
- ◻ **Chairman of Civil Engineering Department Faculty Evaluation Committee.** 2004
- ◻ **Chairman of Civil Engineering Department Committee on Teaching Workload.** 2005.
- ◻ **Chairman of Civil Engineering Department Faculty Merit Pay Committee.** 2007, 2014.
- ◻ **Member of 37 Doctoral Committees in the College of Business and Management.** 1980 – 2025.
- ◻ **Member of 13 Doctoral Committees in the Applied Math Program.** 1980 – 2025.
- ◻ **Member of 8 Doctoral Committees in the Urban Studies Program.** 2005 – 2020.
- ◻ **Member of 199 other UMD Doctoral Committees (39 as Chair), mostly in Civil Engineering,** 1978 – 2024.
- ◻ **Member of 14 Doctoral Committees at other universities, including Virginia Tech (3), Indian Institute of Technology Kanpur (1), Indian Institute of Technology Bombay (1), George Mason University (1), New Jersey Institute of Technology (1), Morgan State University (3), University of Calgary (3), and University of Utah (1),** 1991 – 2023.
- ◻ **Member of 183 M.S. Thesis Committees (59 as Chair) and 97 M.S. Scholarly Paper Committees (41 as Chair) at UMD,** 1978 – 2023.

COURSES TAUGHT

UNIVERSITY OF MARYLAND UNDERGRADUATE COURSES [JAN 1978 – MAY 2026]

- ◻ ENCE 370 - Fundamentals of Transportation Engineering - 19 times in 1978 - 2022
- ◻ ENCE 463 - Engineering Economics and Systems Analysis - 13 times in 1978 - 2002
- ◻ ENCE 466 - Design of Civil Engineering Systems (Capstone) - 6 times in 2001 - 2012
- ◻ ENCE 472 - Transportation Engineering - 31 times in 1996 - 2026
- ◻ ENCE 473 - Air and Water Transportation Engineering - 2 times in 1978 - 1995
- ◻ ENCE 474 - Rail and Mass Transit Engineering - 14 times in 1978 - 1995
- ◻ Over 30 independent study courses

UNIVERSITY OF MARYLAND GRADUATE COURSES [JAN 1978 – DEC 2025]

- ◻ ENCE 670 - Highway Traffic Characteristics and Measurements – once since 1978
- ◻ ENCE 672 - Regional Transportation Planning - 43 times in 1978 - 2025
- ◻ ENCE 674 - Public Transportation Planning - 26 times in 1978 – 2025
- ◻ ENCE 675 - Airport Planning and Design - 29 times in 1978 – 2024
- ◻ ENCE 681 – Freight Transportation Analysis – 4 times in 2015 – 2020
- ◻ Over 60 independent study courses

UNIVERSITY OF MARYLAND CONTINUING EDUCATION COURSES [JAN1978 – DEC 2019]

- ◻ Urban Transportation Planning - 5 times
- ◻ Traffic Engineering - 15 times
- ◻ Basic Statistics for Traffic Safety Analysis: 4 times in 1980 - 1981
- ◻ Energy Conservation in Transportation - once in 1979
- ◻ Engineering Economics Review for the EIT Exam - 36 times
- ◻ Highway Design Review for PE Exam - 22 times since Sept. 2004
- ◻ Transportation Engineering Review for PE Exam - 3 times since Sept. 2015
- ◻ Analysis and Optimization of Transportation Systems – July 2017, Sept. 2018 and Dec. 2019

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (AS TEACHING ASSISTANT)

- ◻ Information Systems (Computer Science): 2 sections in Fall 1972
- ◻ Transportation Economics: Spring 1973
- ◻ Transportation Systems Analysis: Spring 1973

BECHTEL CORPORATION, GAITHERSBURG, MARYLAND

- ◻ Engineering Economics Review for P.E. Exam: 6 times in 1979 - 1982

NORTHERN JIAO TONG UNIVERSITY, BEIJING, CHINA

- ◻ Analysis and Optimization of Transportation Systems: Aug 3 - 15, 1987

MARYLAND STATE HIGHWAY ADMINISTRATION

- Engineering Economics and Transportation Engineering Review for P.E. Exam: Fall 1987, Spring 1989

CHINA DEPARTMENT OF TRANSPORTATION, BEIJING, CHINA

- Planning and Design of Freeway Facilities: Jan. 1990

UNIVERSITY OF MARYLAND – BALTIMORE COUNTY

- Highway Engineering Review for P.E. Exam: 46 times in 1994 – 2010, in several locations.

POLYTECHNIC UNIVERSITY OF TORINO, ITALY

- GIS-based Evaluation and Optimization of Highway Alignments: May 2014.

UNIVERSITY OF NEVADA, LAS VEGAS

- Public Transportation, Dec. 16-17, 2015

PUBLICATIONS

SELECTED ARTICLES IN REFEREED JOURNALS

1. Tsao, S.M., and Schonfeld, P. "Optimization of Zonal Transit Service," *J. of Transp. Engineering*, ASCE, 109-2, March 1983, 257-272.
2. Tsao, S.M., and Schonfeld, P. "Branched Transit Services: An Analysis," *J. of Transp. Engineering*, ASCE, 110-1, Jan. 1984, 112-128.
3. Carter, E., Chadda, H., and Schonfeld, P. "A Comparison of Transportation Planning in Developed and Developing Countries," *Transp. Quarterly*, Jan. 1984, 69-86.
4. Meer, A., and Schonfeld, P. "Small Cars: Problems and Opportunities," *ITE Journal*, March 1984, 49-53.
5. Hu, Y.C., and Schonfeld, P. "Simulation and Optimization of Regional Networks," *J. of Transp. Engineering*, ASCE, 110-4, July 1984, 431-443.
6. Hu, Y.C., and Schonfeld, P. "Optimizing Traffic Diversion Around Bottlenecks," *Transp. Research Record* 957, 1984, 22-27.
7. Schonfeld, P., and Frank, S. "Optimizing the Utilization of a Containership Berth," *Transp. Research Record* 984, 1984, 50-63.
8. Chadda, H., and Schonfeld, P. "Are Pedestrians Safe at Right on Red Intersections?" *J. of Transp. Engineering*, ASCE, 111-1, Jan. 1985, 1-16.
9. Schonfeld, P., and Chadda, H. "Automobile Travel Reduction Options for Urban Areas," *ITE Journal*, April 1985, 44-48.
10. Schonfeld, P. and Chadda, H. "An Assessment of Urban Travel Reduction Options," *Transp. Quarterly*, July 1985, 391-406.
11. Schonfeld, P., and Sharafeldien, O. "Optimal Berth and Crane Combinations in Container Ports," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 111-6, Nov. 1985, 1060-1072.
12. Chen, C.S., and Schonfeld, P. "Optimum Stall Angle for Large Parking Lots," *J. of Transp. Engineering*, ASCE, 114-5, Sept. 1988, 574-583.
13. Chang, S.K. and Schonfeld, P. "Optimization Models for Comparing Conventional and Subscription Bus Feeder Services," *Transp. Science*, 25-4, Nov. 1991, 281-298.
14. Chang, S.K. and Schonfeld, P. "Multiple Period Optimization of Bus Transit Systems," *Transp. Research Part B: Methodological*, 25B-6, Dec. 1991, 453-478.
15. Lee, K.T. and Schonfeld, P. "Optimal Slack Times for Timed Transfers at a Transit Terminal," *J. of Advanced Transp.*, 25-3, Fall 1991, 281-308.
16. Chang, S.K. and Schonfeld, P. "Integration of Fixed and Flexible Route Bus Systems," *Transp. Research Record* 1308, 1991, 51-57.
17. Dai, D.M. and Schonfeld, P. "Simulation of Waterway Transportation Reliability," *Transp. Research Record* 1313, 1991, 98-105.
18. Carter, E., and Schonfeld, P. "Safety Belt Use and Highway Safety in Maryland," *Transp. Research Record* 1325, 1991, 45-50.
19. Wei, C.H., Dai, D.M. and Schonfeld, P. "Computational Characteristics of a Numerical Model for Series of Waterway Queues," *Transp. Research Record* 1333, 1992, 45-54.
20. Martinelli, D., Dai, D.M., Schonfeld, P. and Antle, G. "A Methodology for Planning Interdependent Waterway Improvements," *Transp. Research Record* 1383, June 1993, 49-

21. Chang, S.K. and Schonfeld, P. "Optimal Dimensions of Bus Service Zones," *J. of Transp. Engineering*, ASCE, 119-4, July/Aug. 1993, 567-585.
22. Wei, C.H. and Schonfeld, P. "An Artificial Neural Network Approach for Evaluating Transportation Network Improvements," *J. of Advanced Transp.*, Vol. 27-2, Summer 1993, 129-152.
23. Chang, S.K. and Schonfeld, P. "Welfare Maximization with Financial Constraints for Bus Transit Systems," *Transp. Research Record 1395*, Aug. 1993, 48-57.
24. Spasovic, L.N. and Schonfeld, P. "A Method for Optimizing Transit Service Coverage," *Transp. Research Record 1402*, Oct. 1993, 28-39.
25. Ramanathan, V. and Schonfeld, P. "Approximate Delays Caused by Lock Service Interruptions," *Transp. Research Record 1430*, Jan. 1994, 41-49.
26. Lee, K.T. and Schonfeld, P. "Real - time Dispatching Control for Coordinated Operations in Transit Terminals," *Transp. Research Record 1433*, Sept. 1994, 3-9.
27. Wei, C.H. and Schonfeld, P. "Multi - period Network Improvement Model," *Transp. Research Record 1443*, Oct. 1994, 110-118.
28. Kim, Y.M. and Schonfeld, P. "Neural Network Estimation of Lock Service Times," *Transp. Research Record 1497*, July 1995, 36-43.
29. Lee, K.T., Kuo, H.F. and Schonfeld, P. "Optimal Mixed Bus Fleet for Urban Operations," *Transp. Research Record 1503*, July 1995, 39-48.
30. Chang, C. and Schonfeld, P. "Flight Sequencing in Airport Hub Operations," *Transp. Research Record 1506*, July 1995, 26-33.
31. Martinelli, D. and Schonfeld, P. "Approximating Delays at Interdependent Locks," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 121-6, Nov. 1995, 300-307.
32. Ting, C.J. and Schonfeld, P. "Effects of Tow Sequencing on Lock Capacities and Service Times," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 122-1, Jan./Feb. 1996, 16-26.
33. Kim, D.N. and Schonfeld, P. "Benefits of Dipped Vertical Alignments for Rail Transit Routes," *J. of Transportation Engineering*, ASCE, 123-1, Jan./Feb. 1997, 20-27.
34. Chien, S. and Schonfeld, P. "Optimization of Grid Transit Systems in Heterogeneous Urban Environments," *J. of Transportation Engineering*, ASCE, 123-1, Jan./Feb. 1997, 28-35.
35. Dai, D.M. and Schonfeld, P. "Metamodels for Estimating Delays through Series of Waterway Queues," *Transp. Res. Part B: Methodological*, 32B-1, Jan. 1998, 1-19.
36. Wei, C.H. and Schonfeld, P. "A Research Framework for Cost-Effective Highway Maintenance Planning," *Public Works Management and Policy*, 2-4, April 1998, 340-349.
37. Ting, C.J. and Schonfeld, P. "Optimization through Simulation of Waterway Transportation Investments," *Transp. Research Record 1620*, 1998, 11-16.
38. Chien, S. and Schonfeld, P. "Joint Optimization of a Rail Transit Line and its Feeder Bus System," *J. of Advanced Transp.*, 32-3, Fall 1998, 253-284.
39. Ting, C.J. and Schonfeld, P. "Integrated Control for Series of Waterway Locks," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol. 124-4, July/Aug. 1998, 199-206.
40. Schonfeld, P. and Chien, S. "Optimal Work Zone Length for Two-Lane Highways," *J. of Transp. Engineering*, ASCE, Vol. 125-1, Jan./Feb. 1999, 21-29.
41. Ting, C.J. and Schonfeld, P. "Effects of Speed Control on Tow Travel Costs," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 125-4, July/Aug. 1999, 203-206.
42. Jong, J.C. and Schonfeld, P. "Cost Functions for Optimizing Highway Alignments," *Transp. Research Record 1659*, Aug. 1999, 58-67.
43. Zhu, L., Schonfeld, P., Kim, Y. M. Flood, I. and Ting C. J. "Waterway Network Analysis with Artificial Neural Networks," *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, v13, 1999, 365-375.
44. Jong, J.C., Jha, M. and Schonfeld, P. "Preliminary Highway Design with Genetic Algorithms and Geographic Information Systems," *Computer - aided Civil and Infrastructure Engineering*, 15-4, 2000, 261-271.
45. Jha, M. and Schonfeld, P. "Integrating Genetic Algorithms and GIS to Optimize Highway Alignments," *Transp. Research Record 1719*, 2000, 233-240.
46. Jha, M. and Schonfeld, P. "GIS-based Analysis of Right-of-way Cost for Highway Optimization," *Transp. Research Record 1719*, 2000, 241-249.
47. Jong, J.C. and Schonfeld, P. "A Genetic Algorithm for Selecting and Scheduling Interdependent Projects," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 127-1, Jan./Feb. 2001, 45-52.
48. Ting, C.J. and Schonfeld P. "Control Alternatives at a Waterway Lock," *J. of Waterway, Port, Coastal and Ocean Engineering*, 127-2, March/April 2001, 89-96.
49. Ting, C.J. and Schonfeld, P. "Efficiency Versus Fairness in Priority Control: A Waterway Lock Case," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE, 127-2, March/April 2001, 82-88.
50. Chien, S. and Schonfeld, P. "Optimal Work Zone Lengths for Four - lane Highways," *J. of Transp. Engineering*, ASCE, 127-2, March/April 2001, 124-131.
51. Jha, M., McCall, C. and Schonfeld, P. "Using GIS, Genetic Algorithms and Visualization in Highway Development," *Computer - aided Civil and Infrastructure Engineering*, 16-6,

2001, 399-414.

52. Kim, E. and Schonfeld, P. "Estimating Highway Earthwork Cross Sections Using Vector and Parametric Representation," *Transp. Research Record* 1772, 2001, 48-54.
53. Chien, S., Tang Y., and Schonfeld, P. "Optimizing Work Zones for Two - lane Highway Maintenance Projects," *J. of Transp. Engineering*, ASCE, 128-2, March/April 2002, 145-155, (awarded Best Paper of 2002 in the ASCE Journal of Transportation Engineering).
54. Jong, J.C. and Schonfeld, P. "An Evolutionary Model for Simultaneously Optimizing Three-dimensional Highway Alignments," *Transp. Research Part B: Methodological*, 37B-2, Feb. 2003, 107-128.
55. Jha, M. and Schonfeld, P. "Tradeoffs between Initial and Maintenance Costs of Highways in Cross - slopes," *J. of Infrastructure Systems*, ASCE, 9-1, March 2003, pp. 16-25.
56. Jha, M. and Schonfeld, P. "A Highway Alignment Optimization Model Using Geographic Information Systems," *Transp. Research*, Part A, 38A-6, July 2004. 455-481.
57. Kim, E., Jha, M. and Schonfeld, P. "Intersection Construction Cost Functions for Alignment Optimization," *J. of Transp. Engineering*, ASCE, 130-2, March/April 2004, 194-203.
58. Chang, S.W. and Schonfeld, P. "Optimized Schedules for Airline Routes," *J. of Transp. Engineering*, ASCE, 130-4, July 2004, 412-418.
59. Rakas, J. and Schonfeld, P. "Deterministic Models for Degraded Airside Capacity and Delays," *J. of Transp. Engineering*, ASCE, 130-5, September 2004, 545-554.
60. Kim, E., Jha, M., Lovell, D., and Schonfeld, P. "Intersections Modeling for Highway Alignment Optimization," *Computer Aided Civil and Infrastructure Engineering*, v19, 2004, 119-129.
61. Chen, C.H. and Schonfeld, P. "Work Zone Optimization for Two-lane Highway Maintenance Projects," *Transp. Research Record* 1877, 2004, 95-105.
62. Wang, S., and Schonfeld, P. "Scheduling Interdependent Waterway Projects through Simulation and Genetic Optimization," *J. of Waterway, Port, Coastal and Ocean Engineering*, ASCE 131-3, May/June 2005, 89-97.
63. Ting, C.J. and Schonfeld, P. "Schedule Coordination in a Multiple - hub Transit Network," *J. of Urban Planning and Development*, ASCE, 131-2, June 2005. 112-124.
64. Kim, E., Jha, M. and Schonfeld, P. Closure to "Intersection Construction Cost Functions for Alignment Optimization," *J. of Transp. Engineering*, ASCE, 131-9, Sept. 2005, 723.
65. Chen, C.H. and Schonfeld, P. "Work Zone Lengths for a Four - lane Road with an Alternate Route," *J. of Transp. Engineering*, ASCE, 131-10, Oct. 2005, 780-789.
66. Chen, C.H., Schonfeld, P. and Paracha, J. "Work Zone Optimization for Two - lane Highway Resurfacing Projects with an Alternate Route," *Transportation Research Record* 1911, October 2005, 51-66.
67. Pathomsiri, S., Schonfeld, P., and Haghani, A. "Vehicle Miles Traveled in Multi - vehicle Households," *Transp. Research Record* 1926, Dec. 2005, 198-205.
68. Tao, X., and Schonfeld, P. "Lagrangian Relaxation Heuristic for Selecting Interdependent Transportation Projects under Cost Uncertainty," *Transp. Research Record* 1931, 2005, 74-80.
69. Wang, S., Tao, X., and Schonfeld, P. "Modeling Shippers' Response to Scheduled Waterway Lock Closures," *Transp. Research Record* 1963, Oct. 2006, 33-43.
70. Tao, X., and Schonfeld, P. "Selection and Scheduling of Interdependent Transportation Projects with Island Models," *Transp. Research Record* 1981, Dec. 2006, 133-41.
71. Kim, E., Jha, M., Schonfeld, P. and Kim, H.S., "Highway Alignment Optimization Incorporating Bridges and Tunnels," *Journal of Transportation Engineering*, ASCE, 133-2, Feb. 2007, 71-81.
72. Kang, M.W., Schonfeld, P. and Jong, J.C., "Highway Alignment Optimization through Feasible Gates," *J. of Advanced Transp.*, 41- 2, Spring 2007, 115-144.
73. Ting, C.J. and Schonfeld, P. "Dispatching Control at Transfer Stations in Multi-Hub Transit Networks," *J. of Advanced Transp.*, 41-3, Fall 2007, 217-243.
74. Luo, Y. and Schonfeld, P., "A Rejected-Reinsertion Algorithm for the Static Dial-A-Ride Problem", *Transp. Research - Part B: Methodological*, 41B-7, Aug. 2007, 736-755.
75. Jha, M., Schonfeld, P. and Samanta, S., "Optimizing Rail Transit Routes with Genetic Algorithms and GIS," *J. of Urban Planning and Development*, ASCE, 133-3, Sept. 2007, 161-171.
76. Wang, S., and Schonfeld, P. "Demand Elasticity and Benefit Measurement in a Waterway Simulation Model," *Transp. Res. Record* 2033, Dec. 2007, 53-61.
77. Tien, S.L. and Schonfeld, P. "Passenger Market Equilibrium for Competing Airports in a Multiple Airport Region," *Transp. Res. Record* 2007, Dec. 2007, 13-21.
78. Tao, X. and Schonfeld, P. "Island Models for a Stochastic Problem of Transportation Project Selection and Scheduling, *Transp. Res. Record* 2039, Dec. 2007, 16-23.
79. Wang, S. and Schonfeld, P., "Scheduling of Waterway Projects with Complex Interrelations," *Transp. Research Record* 2062, Oct. 2008, 59-65.
80. Zhou, Y., Kim, H.S., Schonfeld, P. and Kim, E., "Subsidies and Welfare Maximization Tradeoffs in Bus Transit Systems," *Annals of Regional Science*, 42-3, Nov. 2008, 643-660.

81. Kim, D. and Schonfeld, P. "Integrated Analysis of Toll Lanes and Bus Priority Lanes," *Transp. Res. Record* 2076, Nov. 2008, 70-80.
82. Yang, N., Schonfeld, P. and Kang, M.W. "A Hybrid Methodology for Freeway Work Zone Optimization with Time Constraints," *Public Works Management and Policy*, 13-3, Jan. 2009, 253-264.
83. Kang, M., Schonfeld, P. and Yang, N. "Prescreening and Repairing in Highway Alignment Optimization," *Computer-Aided Civil and Infrastructure Engineering*, 24-2, Feb. 2009, 109-119.
84. Bilbrey, J. and Schonfeld, P. "The Development of an Online Simulation Model for Managing Inland Waterway Fleets," *International J. of Management*, 26-1, Apr. 2009, 115-126.
85. Wang, S., Yang, N. and Schonfeld, P. "Simulation-based Network Maintenance Planning and Scheduling," *Transp. Res. Record* 2100, July 2009, 94-102.
86. Chen, C.C. and Schonfeld, P. "Modeling and Performance Assessment of Intermodal Transfers at Cargo Terminals," *Transp. Res. Record* 2162, Oct. 2010, 53-62.
87. Kang, M., Yang, N., Schonfeld, P. and Jha, M., "Bi-level Highway Route Optimization," *Transp. Res. Record* 2197, Dec. 2010, 107-117.
88. Luo, Y. and Schonfeld, P. "Online Rejected-Reinsertion Heuristics for the Dynamic Multi-Vehicle Dial-a-Ride Problem," *Transp. Res. Record* 2218, Sep. 2011, 59-67.
89. Markovic, N. and Schonfeld, P. "Scheduling under Uncertainty for a Single-Hub Intermodal Freight System," *Transp. Res. Record* 2238, Dec. 2011, 24-31.
90. Chen, C.C. and Schonfeld, P. "Alleviating Schedule Disruptions at Intermodal Freight Transfer Terminals: Real-Time Dispatching Control," *Transp. Res. Record* 2238, Dec. 2011, 32-43.
91. Kim, M. and Schonfeld, P. "Conventional, Flexible and Variable-type Bus Services," *J. of Transp. Engineering*, ASCE, 138-3, March 2012, 263-273.
92. Kang, M., Jha, M. and Schonfeld, P. "Applicability of Highway Alignment Optimization Models," *Transp. Research Part C: Emerging Technologies*, 21-1C, Apr. 2012, 257-286.
93. Wang, S. and Schonfeld, P. "Simulation-based Scheduling of Mutually Exclusive Projects with Precedence and Regional Budget Constraints," *Transp. Res. Record* 2273, 2012, 1-9.
94. Lai, X. and Schonfeld, P. "Optimization of Rail Transit Alignments Considering Vehicle Dynamics," *Transp. Res. Record* 2275, 2012, 77-87.
95. Kim, M., Schonfeld, P. and Kim, E. "Comparison of Vertical Alignments for Rail Transit," *J. of Transp. Engineering*, 139-2, ASCE, Feb. 2013, 230-238.
96. Markovic, N. and Schonfeld, P. "Stochastic Scheduling for a Single-Terminal Transfer System with Poisson Arrivals," *Strojniski Vestnik (Slovenian J. of Mechanical Eng.)*, 59-9, Sept. 2013, 564-572.
97. Kim, M. and Schonfeld, P. "Integrating Bus Services with Mixed Fleets," *Transp. Research Part B: Methodological*, 55B, Sept. 2013, 227-244.
98. Kim, M., Schonfeld, P. and Kim, E. "Simulation-based Rail Transit Optimization Model," *Transp. Res. Record* 2374, Dec. 2013, 43-153.
99. Juster, R. and Schonfeld, P. "Personal Rapid Transit as Urban Transportation," *Transp. Res. Record* 2350, Dec. 2013, 128-135.
100. Markovic, B., Milinkovic, S., Schonfeld, P. and Drobniak, Z. "Planning Dial-a-Ride Services: Statistical and Metamodeling Approach," *Transp. Res. Record* 2352, Dec. 2013, 120-127.
101. Yang, N., Kang, M., Schonfeld, P. and Jha, M. "Multi-objective Optimization of Highway Alignments Incorporating Preference Information," *Transportation Research Part C: Emerging Technologies*, 40C-12, March 2014, 36-48.
102. Markovic, N., Drobniak, Z. and Schonfeld, P. "Dispatching Trucks for Drayage Operations," *Transportation Research Part E: Logistics and Transp. Review*, 70E-1, Oct. 2014, 99-111.
103. Kim, M. and Schonfeld, P. "Integration of Conventional and Flexible Bus Services with Timed Transfers," *Transp. Research Part B: Methodological*, 68B-2, Oct. 2014, 76-97.
104. Feng, L., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Optimizing Ridesharing Services for Airport Access," *Transp. Res. Record* 2467, Dec. 2014, 157-176.
105. Markovic, N., Ryzhov, I. and Schonfeld, P. "Evasive Flow Capture: Optimal Location of Weigh-in-Motion Systems, Tollbooths, and Security Checkpoints," *Networks*, 65-1, Jan. 2015, 22-42. (Winner of the Glover-Klingman Prize for the best paper published in *Networks* in 2015)
106. Li, Z. and Schonfeld, P. "Hybrid Simulated Annealing and Genetic Algorithm for Optimizing Arterial Signal Timings under Oversaturated Traffic Conditions," *J. of Advanced Transp.*, 49-1, Jan. 2015, 153-170.
107. Yang, N., Wang, S. and Schonfeld, P. "Simulation-Based Optimization of Waterway Projects using a Parallel Genetic Algorithm," *International J. of Operations Research and Information Systems*, 6-1, Jan.-March 2015, 49-63.
108. Markovic, N., Nair, R., Schonfeld, P., Miller-Hooks, E. and Mohebbi, M. "Optimizing Dial-a-Ride Services in Maryland: Benefits of Computerized Routing and Scheduling,"

Transp. Res. Part C: Emerging Technologies, vol. 55, Jan. 2015, 156-165.

109. Markovic, N., Milinkovic, S., Tikhonov, K.S. and Schonfeld, P. "Analyzing Passenger Train Arrival Delays with Support Vector Regression," *Transp. Res. Part C: Emerging Technologies*, vol. 56, July 2015, 251-262.

110. Vodopivec, N., Tobias, D., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Taxis as a Recourse Option for Ridesharing Services," *Transp. Res. Record* 2536, Sept. 2015, 86-97.

111. Xin, W., Li, Q., Yuan, J. and Schonfeld, P. "Metro Passengers' Behaviors and their Relation to Metro Incident Involvement," *Accident Analysis & Prevention*, v82, Sep. 2015, 90-100.

112. Sun, Y. and Schonfeld, P. "Stochastic Capacity Expansion Models for Airport Facilities," *Transp. Res. Part B*, v80, Oct. 2015, 1-18.

113. Kim, M. and Schonfeld, P. "Maximizing Net Benefits for Conventional and Flexible Bus Services," *Transp. Research Part A: Policy and Practice*, v80, Oct. 2015, 116-133.

114. Sun, Y. and Schonfeld, P. "Optimization Models for Public Transportation Operations under Subsidization and Regulation," *Transp. Res. Record* 2530, Dec. 2015, 44-54.

115. Kastrouni, E., Shayanfar, E., Schonfeld, P., Mahapatra, S. and Zhang, L. "Statewide Assessment of the Broader Economic Benefits from Transportation Investment: A Practical Approach Integrating Travel Demand Models and SHRP2 C11 Tools with Applications in Maryland," *Transp. Res. Record* 2531, 2015, 17-25.

116. Cheng, W. and Schonfeld, P. "A Method for Optimizing the Phased Development of Rail Transit Lines," *Urban Rail Transit*, 1-4, Dec. 2015, 227-237.

117. Sun, Y. and Schonfeld, P. "Schedule-based Route Choice Estimation for Rail Transit Passengers using Automatic Fare Collection Data," *J. of Transp. Engineering*, ASCE, 142-1, Jan. 2016, 04015037. DOI: 10.1061/(ASCE)TE.1943-5436.0000812.

118. Chen, C.C. and Schonfeld, P. "A Dispatching Decision Support System for Countering Delay Propagation in Intermodal Logistics Networks," *Transp. Planning and Technology*, 39-3, March 2016, 254-268.

119. Lai, X. and Schonfeld, P. "Concurrent Optimization of Rail Transit Alignment and Stations," *Urban Rail Transit*, 2-1, March 2016, 1-15.

120. Chen, L., Schonfeld, P. and Miller-Hooks, E. "Welfare Maximization for Bus Transit Systems with Timed Transfers and Financial Constraints," *J. of Advanced Transp.* 50-4, June 2016, 421-433.

121. Shayanfar, E., Abianeh, A.S., Schonfeld, P. and Zhang, L. "Prioritizing Interrelated Road Projects Using Metaheuristics," *J. of Infrastructure Systems*, 22-2, ASCE, June 2016, 04016004. DOI: 10.1061/(ASCE)IS.1943-555X.0000293, 9 pages.

122. Markovic, N., Kim, M. and Schonfeld, P. "Statistical and Machine Learning Approach for Planning Dial-A-Ride Services," *Transp. Res. Part A: Policy and Practice*, v89, July 2016, 41-55.

123. Li, W., Pu, H., Schonfeld, P., Zhang, H. and Zheng, X. "Methodology for Optimizing Constrained 3-dimensional Railway Alignments in Mountainous Terrain," *Transp. Research Part C: Emerging Technologies*, v68, July 2016, 549-565.

124. Sun, Y. and Schonfeld, P. "Holding Decisions for Correlated Vehicle Arrivals at Intermodal Freight Transfer Terminals," *Transp. Research Part B: Methodological*, v90, Aug. 2016, 218-240.

125. Sun, Y., Shi, J. and Schonfeld, P. "Identifying Passenger Flow Characteristics and Evaluating Travel Time Reliability by Visualizing AFC Data: A Case Study of Shanghai Metro," *Public Transport*, v8, Aug. 2016, 341-363.

126. Sun, Y., Schonfeld, P., Lu, Y., and Zhou, M. "Redesigning Rail Transit Short Turn Operations for Congestion Mitigation: A Case Study of Line 2 of Shanghai Metro," *Transp. Res. Record* 2540, 2016, 46-55.

127. Sun, Y., Guo, Q., Schonfeld, P. and Li, Z. "Implications of the Cost of Public Funds in Public Transit Subsidization and Regulation," *Transportation Research Part A: Policy and Practice*, v91, Sep. 2016, 236-250.

128. Chen, C.C., Tsai, Y.H. and Schonfeld, P. "Schedule Coordination, Delay Propagation, and Disruptions Resilience in Intermodal Logistic Networks," *Transp. Res. Record* 2548-2, 2016, 16-23.

129. Sun, Y., Fan, W. and Schonfeld, P. "Static Parking Choice Model Considering Parking Duration," *Transp. Res. Record* 2543, 2016, 134-142.

130. Xin, W., Schonfeld, P., and Li, Q. "What Factors Determine Metro Passengers' Risky Riding Behavior? An Approach Based on an Extended Theory of Planned Behavior," *Transp. Res. Part F: Traffic Psychology and Behaviour*, Part 1 v42, Oct. 2016, 125-139.

131. Sun, Y. and Schonfeld, P. "Capacity Investment Model for Airport Facilities under Demand Uncertainty," *J. of Advanced Transp.*, 50-8, Dec. 2016, 1896-1911.

132. Sun, Y., Guo, Q., Schonfeld, P. and Li, Z. "Evolution of Public Transportation Modes in a Commuter Corridor," *Transp. Research Part C: Emerging Technologies*, v75, Feb. 2017, 84-102.

133. Markovic, N., Ryzhov, I. and Schonfeld, P. "Evasive Flow Capture: A Multi-period Stochastic Facility Location Problem with Independent Demand," *European Journal of Operations Research*, 257-2, March 2017, 687-703.

134. Chen, C.C. and Schonfeld, P. "A Hybrid Heuristic Technique for Optimal Coordination in Intermodal Logistics Scheduling," *International J. of Shipping and Transport Logistics*, 9-4, 2017, 475-499.

135. Sun, Y. and Schonfeld, P. "Coordinated Airport Facility Development under Uncertainty," *Transp. Res. Record* 2603, 2017, 78-88.

136. Li, W., Pu, H., Schonfeld, P., Yang, J., Zhang, H., Wang, L. and Xiong, J. "Mountain Railway Alignment Optimization with Bidirectional Distance Transform and Genetic Algorithm", *Computer-Aided Civil and Infrastructure Engineering*, v. 32, 2017, 691-709.

137. Shi, J., Sun, Y., Schonfeld, P. and Qi, J. "Joint Optimization of Tram Timetables and Signal Timing Adjustments at Intersections," *Transp. Research Part C: Emerging Technologies*, v83, Oct. 2017, 104-119.

138. Guo, Q., Chow, J.Y.J. and Schonfeld, P. "Stochastic Dynamic Switching in Fixed and Flexible Transit Services as Market Entry-exit Real Options," *Transp. Research Part C: Emerging Technologies*, v23, 2017, 380-399.

139. Huang, H., Li, K. and Schonfeld, P. "Real-time Energy-saving Metro Train Rescheduling with Primary Delay Identification," *PLOS ONE*, doi.org/10.1371/journal.pone.0192792, 13-2, 2018, 22 pages.

140. Kim, M., Schonfeld, P. and Kim, E. "Switching Service Types for Multi-region Bus Systems," *Transp. Planning and Technology*, 41-6 March 2018, 617-643.

141. Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Interrelated Projects: Application in Urban Road Network Investment," *International J. of Logistics Systems and Management*, 29-4, 2018, 436-454.

142. Sun, Y., Schonfeld, P. and Guo, Q. "Optimal Extension of Rail Transit Lines," *International J. of Sustainable Transportation*, 12-10, 2018, 753-769.

143. Jovanovic, U., Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Link and Intersection Improvements in Urban Networks," *Transportation Research Record*, v2672, Dec. 2018, 1-11.

144. Guo, Q., Chen, S., Schonfeld, P. and Li, Z. "How Time-Inconsistent Preferences Affect Investment Timing for Rail Transit," *Transp. Research Part B: Methodological*, v118, Dec. 2018, 172-192.

145. Li, K., Huang, H. and Schonfeld, P. "Metro Timetabling for Time-varying Passenger Demand and Congestion at Stations," *J. of Advanced Transp*, v2018 <https://doi.org/10.1155/2018/3690603>, July 2018, 26 pages.

146. Li, W., Pu, H., Schonfeld, P., Song, Z., Zhang, H., Wang, L., Wang, J., Peng, X. and Peng, J. "A Method for Automatically Re-creating the Horizontal Alignment Geometry of Existing Railways," *Computer-Aided Civil and Infrastructure Engineering*, v34, 2019, 71-94.

147. Peng, Y., Li, Z. and Schonfeld P. "Development of Rail Transit Network over Multiple Time Periods," *Transp. Research Part A: Policy and Practice*, v121, March 2019, 235-250.

148. Pu, H., Song, T., Schonfeld, P., Li, W., Zhang, H., Wang, J., Hu, J., Peng, X. and Wang, J. "Railway Alignment Optimization in Mountainous Regions through a Stepwise & Hybrid Particle Swarm Optimization Incorporating Genetic Operators," *Applied Soft Computing*, 78, May 2019, 41-57.

149. Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Interrelated Road Projects with Uncertain Demand," *Transportmetrica A: Transport Science*, 15-2, June 2019, 1712-1733.

150. Shayanfar, E., Schonfeld, P. and Wang, J. J. "Prioritizing Highway Development Projects Based on Market Access in Appalachia," *Transportation Research Record* 2673 no. 8, Aug. 2019, 333-342.

151. Pu, H., Zhang, H., Schonfeld, P., Li, W., Wang, J., Peng, X., and Hu, J. "Maximum Design Gradient for Railways based on Convolutional Neural Network," *J. of Transportation Engineering, Part A: Systems* 145-11, 04019047, 12 pages, online Sept. 2019.

152. Pu, H., Song, T., Schonfeld, P., Li, W., Zhang, H., Wang, J., Hu, J., and Peng, X. "A Three-Dimensional Distance Transform for Optimizing Constrained Mountain Railway Alignments," *Computer-Aided Civil and Infrastructure Engineering*, 34-11 Nov. 2019, 972-990.

153. Kim, M., Levy, J. and Schonfeld, P. "Optimal Zone Sizes and Headways for Flexible-Route Bus Services," *Transp. Research Part B: Methodological*, v130, Dec. 2019, 67-81.

154. Shi, Z., Zhang, N., Schonfeld, P. and Zhang, J. "Short-term Metro Passenger Flow Forecasting Using Ensemble Learning with Chaos Support Vector Regression,"

Transportmetrica A: Transport Science, 16-2, Feb 2020, 194-212.

155. Liu, S. and Schonfeld, P. "Effects of Driverless Vehicles on the Competitiveness of Bus Transit Services," *J. of Transportation Engineering, Part A: Systems*, 146-4, April 2020, 12 pages.

156. Song, Z., Yang, F., Schonfeld, P., Li, J. and Pu, H. "Heuristic Strategies of Levenberg-Marquardt Algorithm for Fitting Transition Curves," *J. of Surveying Engineering*, 146-2, 04022001, Apr. 2020, 11 pages. DOI: 10.1061/(ASCE)SU.1943-5428.0000307.

157. Song, T., Pu, H., Schonfeld, P., Li, W., Zhang, H., Ren, Y., Wang, J., Hu, J. and Peng, X. "A Parallel Three-dimensional Distance Transform for Railway Alignment Optimization using OpenMP," *J. of Transportation Engineering, Part A: Systems*, 146-5, 04020029, May 2020. 11 pages.

158. Liu, J., Schonfeld, P., Peng, Q. and Yin, Y. "Measures of Travel Reliability on an Urban Rail Transit Network," *J. of Transportation Engineering, Part A: Systems*, v146-6, June 2020, 14 pages. DOI: 10.1061/JTEPBS.0000327.

159. Lai, X., Teng, J., Schonfeld, P. and Ling, L. "Resilient Schedule Coordination for a Bus Transit Corridor," *J. of Advanced Transportation*, June 2020, 12 pages. doi.org/10.1155/2020/5398298

160. Liu, J., Schonfeld, P., Li, A., Peng, Q. and Yin, Y. "Effects of Line Capacity Reductions on Urban Rail Transit System Service Performance," *J. of Transportation Engineering, Part A: Systems*, 146-10, June 2020, 12 pages.

161. Liu, J., Schonfeld, P., Yin, Y. and Peng, Q. "Effects of Link Capacity Reductions on the Reliability of an Urban Rail Transit Network," *J. of Advanced Transp.*, vol. 2020, Oct. 2020, ID 9020674, <https://doi.org/10.1155/2020/9020574>, 15 pages.

162. Zhang, H., Pu, H., Schonfeld, P., Song, T., Li, W., Wang, J., Peng, X. and Hu, J. "Multi-objective Railway Alignment Optimization Considering Costs and Environmental Impacts," *Applied Soft Computing*, v89, 106105, 2020, 496-522.

163. Vander Laan, Z. and Schonfeld, P. "Modeling Heterogeneous Traffic with Cooperative Adaptive Cruise Control Vehicles: A First-order Macroscopic Perspective," *Transportation Planning and Technology*, 43-2, 2020, 113-140.

164. Xiao, M., Chien, S., Schonfeld, P. and Hu, D. "Optimizing Flight Sequencing and Gate Assignment Considering Terminal Configuration and Walking Time," *J. of Airport Management*, 86, 101816, July 1, 2020, 15 pages.

165. Song, T., Pu, H., Schonfeld, P., Zhang, H., Li, W., Hu, J. and Wang, J. "Mountain Railway Alignment Optimization Considering Geological Impacts: A Cost-Hazard Bi-objective Model," *Computer-Aided Civil and Infrastructure Engineering*, 35-12, Dec. 2020, 1365-1386.

166. Sun, Y., Gong, H., Schonfeld, P., Guo, Q. and Li, Z. "Regulating a Public Transit Monopoly under Asymmetric Cost Information," *Transp. Research Part B: Methodological*, v139, Sept. 2020, 496-522.

167. Choi, Y., Schonfeld, P., Lee, Y. and Shin, H. "Innovative Methods for Fresh Food Deliveries to Underserved Populations," *J. of Transportation Engineering, Part A: Systems*, 147-1, 04020140, Jan. 2021, 14 pages.

168. Song, Z., Yang, F., Schonfeld, P., Liu, H. and Li, J. "Integrating Segmentation and Parameter Estimation for Recreating Vertical Alignments," *Computer-Aided Civil and Infrastructure Engineering*, 36 (4), 2021, 472-488, <https://doi.org/10.1111/mice.12634>

169. Pu, H., Xie, J., Schonfeld, P., Song, T., Li, W., Wang, J. and Hu, J. "Railway Alignment Optimization in Mountainous Regions Considering Spatial Geological Hazards: A Sustainable Safety Perspective," *Sustainability*, 13-4, 1661, 2021. <https://doi.org/10.3390/su13041661>

170. Pu, H., Zhu, L., Schonfeld, P., Li, W., Zhang, H., Song, T., Wang, J., Hu, J. and Peng, X. "Optimization of Grade-separated Road and Railway Crossings Based on Distance Transform Algorithm," *Engineering Optimization*, 54-2, Feb. 2021, 232-251.

171. Song, T., Pu, H., Schonfeld, P., Zhang, H., Li, W., Hu, J., Wang, J. and Wang, J. "Bi-objective Mountain Railway Alignment Optimization Incorporating Seismic Risk Assessment," *Computer-Aided Civil and Infrastructure Engineering*, 36-2, Feb. 2021, 143-163.

172. Pu, H., Li, X., Schonfeld, P., Li, W., Zhang, H., Song, T., Wang, J., Hu, J. and Peng, X. "Concurrent Optimization of Mountain Railway Alignment and Station Locations with a Three-Dimensional Distance Transform Algorithm Incorporating a Perceptual Search Strategy," *IEEE Access*, v9, Feb. 2021, 34736-34754. 10.1109/ACCESS.2021.3061587

173. Choi, Y. and Schonfeld, P. "A Comparison of Optimized Deliveries by Drones and Trucks," *Transp. Planning & Technology*, 44-3, March 2021, 319-336.

174. Wang, Q., Schonfeld, P. and Deng, L. "Profit Maximization Model with Fare Structures and Subsidy Constraints for Urban Rail Transit," *J. of Advanced Transp.*, v2021, Article

ID 6659384, 14 pages. <https://doi.org/10.1155/2021/6659384>

175. Guo, Q., Sun, Y., Schonfeld, P. and Li, Z. "Time-dependent Transit Fare Optimization with Elastic and Spatially Distributed Demand," *Transp. Research Part A: Policy and Practice*, v148, June 2021, 353-378. <https://doi.org/10.1016/j.tra.2021.04.002>

176. Song, Z., Fang, T., Schonfeld, P. and Li, J. "Effect of Point Configurations on Parameter Estimation Analysis of Circles," *J. of Surveying Engineering*, 147-3, Aug. 2021, 10 pages. 04021010

177. Song, T., Pu, H., Schonfeld, P., Zhang, H., Li, W., Peng, X., Hu, J. and Liu, W. "GIS-based Multi-criteria Railway Design with Spatial Environmental Considerations," *Applied Geography*, v131, June 2021, 14 pages. <https://doi.org/10.1016/j.apgeog.2021.102449>

178. Wu, F., Schonfeld, P. and Kim, M. "Optimized Restoration Sequence for Disrupted Freight Rail Network," *J. of Transportation Engineering, Part A: Systems*, 147-9, Sept. 2021, 9 pages. 147 04021053

179. Liu, J., Schonfeld, P., Chen, J., Ying, Y. and Peng, Q. "Perceived Trip Time Reliability and its Cost on a Rail Transit Network," *Sustainability*, 13-13, Dec. 2021. 7504. <https://doi.org/10.3390/su13137504>

180. Bayrak, M., Guler, S. I. and Schonfeld, P. "Implementation Sequence Optimization for Dedicated Bus Lane Projects," *Transportation Research Record*, online May 26, 2021; 2675(10) 1184-1195. doi.org/10.1177/03611981211014889

181. Zhang, H., Pu, H., Schonfeld, P., Song, T., Li, W., Wang, J., Peng, X., Hu, J. "Railway Alignment Optimization Considering Life-cycle Costs," *Intelligent Transportation Systems Magazine*, Oct. 2021. DOI: 10.1109/MITS.2021.3071032.

182. Choi, Y. and Schonfeld, P. "Review of Length Approximations for Tours with Few Stops," *Transportation Research Record*, 2676-3, published Oct. 28, 2021. doi.org/10.1177/03611981211049433

183. Gao, T., Li, Z., Gao, Y., Schonfeld, P., Feng, X., Wang, Q., and He, Q. "Mountain Railway Alignment Optimization: A Deep Reinforcement Learning Approach," *Computer-Aided Civil and Infrastructure Engineering*, 37-1, 2022, 73-92.

184. Chen, Y., Markovic, N., Ryzhov, I. and Schonfeld, P. "Data-driven Robust Resource Allocation with Monotonic Cost Functions," *Operations Research*, 70-1, Jan. 2022, 73-94; winner of INFORMS TSL 2022 best paper award. <https://doi.org/10.1287/opre.2021.2145>

185. Chen, C.Y. and Schonfeld, P. "Unit Load Device Reassignment Following Temporary Airport Closures," *International J. of Shipping and Transport Logistics*, v15, Nos. 3/4, 2022, 239-255.

186. Khadem, N., Shin, H., Lee, Y., Choi, Y. and Schonfeld, P. "Optimal Options for Fresh Food Deliveries in Baltimore Food Deserts," *International Journal of Urban Planning and Smart Cities*, 3-1, 2022, 1-18.

187. Song, T., Pu, H., Schonfeld, P. and Hu, J. "Railway Alignment Optimization under Uncertainty with a Minimax Robust Method," *IEEE Intelligent Transport Systems Magazine*, Feb. 24, 2022, 14 pages.

188. Song, T., Pu, H., Schonfeld, P., Zhang, H., Li, W., Hu, J. "Simultaneous Optimization of Passenger Railway Alignments and Station Locations," *Computer-Aided Civil and Infrastructure Engineering*, online June 22, 2021. DOI: 10.1111/mice.12739.

189. Liu, J., Liu, Y., Schonfeld, P., Peng, Q. and Zhan, S. "Measuring and Enhancing the Connectivity Reliability of a Rail Transit Network," *Transportmetrica A: Transport Science*, 18-3, Dec. 2022, 1699-1733. doi.org/10.1080/23249935.2021.1965241

190. Wu, F. and Schonfeld, P. "Optimized Two-directional Phased Development of a Rail Transit Line," *Transp. Research Part B: Methodological*, v155, 2022, 424-447.

191. Song, T., Pu, H., Schonfeld, P., Hu, J. and Liu, J. "Robust optimization method for mountain railway alignments considering preference uncertainty for costs and seismic risks," *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 8-1, 20220301, March 2022, 1-18.

192. Song, Z., Ma, X., Schonfeld, P. and Li, J. "Effect of Parameter Selections on Fitting Vertical Curves to Data," *J. of Surveying Engineering*, 148-2, online Jan. 24, 2022, 9 pages. DOI:10.1061/(ASCE)SU.1943-5428.0000394.

193. Liu, J., Schonfeld, P., Yin, Y., Peng, Q. and Zhan, S. "Reducing the Passenger-oriented Vulnerability of an Urban Rail Transit Network by Adding Turn-back Tracks," *Transportmetrica B: Transport Dynamics*, 10-1, 2022, 667-692.

194. Wu, F., Schonfeld, P., Ayyub, B., and Kim, M. "A Topological Approach for Optimizing Railroad Freight Network Restoration after Disruptions," *Transportation Research Record*, 2676-12, 2022, 750-759.

195. Li, W., Zhen, S., Schonfeld, P., Pu, H., Zhang, Z., Zhao, L., Qin, X., Wei, F. and Yan, W. "Re-creating Existing Railway Horizontal Alignments Automatically Using Overall Swing Iteration," *J. of Transportation Engineering, Part A: Systems*, 148-8, online May 18, 2022, 04022046, 13 pages. DOI:10.1061/JTEPBS.0000691

196. Song, T., Pu, H., Schonfeld, P., Liang, Z., Zhang, M., Hu, J., Zhou, Y., and Xu, Z. "Mountain Railway Alignment Optimization Integrating Layouts of Large-scale Auxiliary Construction Projects," *Computer-Aided Civil and Infrastructure Engineering*, 38-4, March 2023, 433-453. DOI: [10.1111/mice.12839](https://doi.org/10.1111/mice.12839)

197. Chen, L. and Schonfeld, P. "Optimized Zone Sizes and Headways for Flexible-route Bus Services - A Two Zone Case," *KSCE J. of Civil Engineering*, 26(7) July 2022, 3136-3149; DOI 10.1007/s12205-022-1381-x

198. Pu, H., Fu, H., Schonfeld, P., Song, T., Zhao, L., Li, W., Peng, X., and Zhang, M. "Modelling and Optimization of Constrained Alignments for Existing Railway Reconstruction," *International J. of Rail Transportation*, 11-3 May 4, 2023, 428-447. DOI: 10.1080/23248378.2022.2081878

199. Ling, S., Zhu, X., Wang, Q. and Schonfeld, P. "Prediction of Charging Requirements for Electric Vehicles Based on Multiagent Intelligence," *J. of Advanced Transportation*, v2022, May 19, 2022, 16 pages. <https://doi.org/10.1155/2022/2309376>.

200. Kim, M., Schonfeld, P., Roche, A. and Raleigh, C. "Optimizing Service Zones and Frequencies for Flexible-route Freight Deliveries," *Transp. Research Part A: Policy and Practice*, v159, May 2022, 182-199.

201. Pu, H., Fan, X., Schonfeld, P., Li, W., Zhang, W., Wei, F., Wang, P. and Li, C. "Extending IFC for Multi-component Subgrade Modeling in a Railway Station," *Automation in Construction*, v141, online June 21, 2022. doi.org/10.1016/j.autcon.2022.10443

202. Li, W., Qiu, X., Pu, H., Schonfeld, P., Zhen, S., Zhou, Y., and Xu, Z. "Concurrent Optimization of Subway Vertical Alignments and Station Elevations with Improved Particle Swarm Optimization Algorithm," *IEEE Transactions on Intelligent Transportation Systems*, July 28, 23-12, Dec. 2022, 24929-24940. DOI: 10.1109/TITS.2022.3195754

203. Liu, J., Schonfeld, P., Shuai, C., He, M. and Wang, K.C.P. "The Controllability of China's High-speed Rail Network in Terms of Delivering Emergency Supplies," *Physica A: Statistical Mechanics and its Applications*, v606, 2022, 128055. doi.org/10.1016/j.physa.2022.

204. Wang, Q., Bai, Y., Chen, Y., Fu, Q. and Schonfeld, P. "Optimization of Metro Vertical Alignment for Minimized Construction Costs and Traction Energy: A Dynamic Programming Approach," *Tunnelling and Underground Space Technology*, online Aug. 26, 2022; v129, 104722. doi.org/10.1016/j.tust.2022.104722

205. Liu, J., He, M., Schonfeld, P., Kato, H. and Li, A. "Measures of Accessibility Incorporating Time Reliability for an Urban Rail Transit Network: A Case Study in Wuhan, China," *Transp. Research Part A: Policy and Practice*, v165 Nov. 22, 2022, 471-489.

206. Pu, H., Wan, X., Song, T., Schonfeld, P., Li, W., and Hu, J. "A Geographic Information Model for 3-D Environmental Suitability Analysis in Railway Alignment Optimization," *Integrated Computer-Aided Engineering*, 30-1, 2022, 67-88.

207. Ng, M., and Schonfeld, P. "Sequencing Interdependent Transportation Network Improvement Projects: Exact Solution Method via Network Flow Reformulation," *Transp. Research Part D: Transport and Environment*, v115, Feb. 1, 2023, 103565. <https://doi.org/10.1016/j.trd.2022.103565>

208. He, Q., Gao, T., Gao, Y., Li, H., Schonfeld, P., Zhu, Y., Li, Q., and Wang, P. "A Bi-Objective Deep Reinforcement Learning Approach for Low-carbon-emission High-Speed Railway Alignment Design," *Transp. Research Part C: Emerging Technologies*, v147 Feb. 1, 2023. 104006.

209. Zhang, H., Song, T., Schonfeld, P., Pu, H., Li, W., Hu, J., and Liu, L. "Vertical Alignment Optimization of Mountain Railways with Terrain-driven Greedy Algorithm Improved by Monte Carlo Tree Search," *Computer-Aided Civil and Infrastructure Engineering*, 38-7, May 2023, 873-891. doi.org/10.1111/mice.12923

210. Song, T., Schonfeld, P. and Pu, H. "A Review of Recent Alignment Optimization Research for Roads, Railways and Rail Transit Lines," *IEEE Transactions on Intelligent Transportation Systems*, 24-5, May 2023 4738-4757. DOI: [10.1109/TITS.2023.3235685](https://doi.org/10.1109/TITS.2023.3235685)

211. Pu, H., Cai, L., Song, T., Schonfeld, P. and Hu, J. "Minimizing Costs and Carbon Emissions in Railway Alignment Optimization: A Bi-objective Model," *Transportation Research Part D: Transport and Environment*, v116, March 6, 2023, 103616. doi.org/10.1016/j.trd.2023.103615

212. Zhang, T., Gao, Y., Gao, T., Schonfeld, P., Wu, Y., Zhu, Y., Yang, S., Wang, P. and He, Q. "A Sequential Exploration Algorithm for the Design Optimization of Horizontal Road Alignment," *Computer-Aided Civil and Infrastructure Engineering*, 38-15, Oct. 2023, 2049-2071.

213. Wang, Q., Schonfeld, P., Ling, S., Deng, L. and Xu, G. "Optimization of Differentiated Fares and Subsidies for Different Rail Transit Users," *Computers & Industrial Engineering*, v179, May 1, 2023, 109144.

214. Liu, J., Schonfeld, P., Zhan, S., Du, S., He, M., Yong, Y. and Wang, K.C.P. "The Economic Value of Reserve Capacity Considering the Reliability and Robustness of a Rail Transit Network," *J. of Transportation Engineering Part A: Systems*, 149-6, June 1, 2023, 04023046.

215. Jha, M., Schonfeld, P. and McCullough, F. "A Machine Learning and Simulation-based Dynamic Parking Choice Model for Airports," *J. of Air Transport Management*, v111, Aug. 1, 2023, 102425.

216. Hu, S., Xiong, C., Chen, P. and Schonfeld, P. "Examining Nonlinearity in Population Inflow Estimation Using Big Data: An Empirical Comparison of Explainable Machine Learning Models," *Transp. Research Part A: Policy and Practice*, v174, Aug. 1, 2023, 103743.

217. Pu, H., Fan, X., Li, W., Zhang, W., Schonfeld, P., Wei, F. and Xu, Z. "Realizing a Quick Partial BIM Update of Subgrade in Railway Stations," *ASCE J. of Construction Engineering and Management*, 149-9, Sep. 1, 2023, 04023073.

218. Choi, Y., Wang, J. and Schonfeld, P. "Trends and Impacts of Local Access Roads Investment in Appalachia," *Transportation Research Record*, 2667-12, 2023, 770-781. doi 03611981231169534.

219. Wan, X., Pu, H., Schonfeld, P., Song, T., Li, W., Peng, L., Hu, J. and Zhang, M. "Mountain Railway Alignment Optimization Based on Landform Recognition and Presetting of Dominating Structures," *Computer-Aided Civil and Infrastructure Engineering*, 39-2, Jan. 2024, 242-263. DOI 10.1111/mice.13073.

220. Guo, Q., Chen, S., Sun, Y. and Schonfeld, P. "Investment Timing and Length Choice for a Rail Transit Line under Demand Uncertainty", *Transp. Research Part B: Methodological*, v175, Sept. 1, 2023, 102800.

221. Pu, H., Xie, S., Song, T., Schonfeld, P., and Peng, X. "Three-dimensional Subway Alignment Recreation Considering Tunnel Construction Gauges," *Tunnelling and Underground Space Technology*, v141, Nov. 1, 2023, 141357.

222. Miao, K., Lou, W., Schonfeld, P., Xiao, Z. "Optimal Earthmoving Equipment Combination Considering Carbon Emissions with an Indicator-based Multi-objective Optimizer," *J. of Construction Engineering & Management*, 150-1, Jan. 1, 2024, 04023152.

223. Song, Z., Chen, J., Schonfeld, P. and Li, J. "Two Algorithms for Reconstructing Vertical Alignments by Exploring the Neural Dynamics Model of Adeli and Park," *Computer-Aided Civil and Infrastructure Engineering*, v39, Feb. 25 2024, 692-706. <https://doi.org/10.1111/mice.13101>

224. Pu, H., Song, T., Yang, T.Y., Schonfeld, P., Wan, X., Li, W., Zhu, Z., Zhang, H. and Hu, J. "Modelling Earthquake-induced Landslide Risk for Mountain Railway Alignment Optimization," *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 10(2), June 2024, 04024005.

225. Pu, H., Fu, H., Song, T., Schonfeld, P. and Peng, X. "Recreating Horizontal Alignments of Existing Railways with a Hybrid Analytic and Harmony Search Algorithm," *Engineering Applications of Artificial Intelligence*, v128, Feb. 1, 2024, 107354.

226. Wang, Q., Zhao, W., Schonfeld, P., Xue, D. and Yue, Z. "Effects of a Price Incentive Policy on Urban Rail Transit Passengers: A Case Study in Nanjing, China," *Transp. Research Part A: Policy and Practice*, v178, Dec. 1, 2023, 103879.

227. Song, T., Pu, H., Yang, T.Y., Schonfeld, P., Li, W. and Hu, J. "Optimizing Net Present Values of Risk Avoidance for Mountain Railway Alignments with Seismic Performance Evaluation," *Computer-Aided Civil and Infrastructure Engineering*, 39(7), Apr. 2024, 944-962.

228. Pu, H., Wang, G., Song, T., Schonfeld, P. and Zhang, H. "Multi-task Deep Learning Methods for Determining Railway Major Technical Standards," *IEEE Transactions on Intelligent Transportation Systems*, 25(6), June 2024,

229. Wang, G., Pu, H., Song, T., Schonfeld, P., Li, W., Zhang, H., Peng, L., Hu, J. and Qiao, H. "A 3D Monte Carlo Tree Search Method for Railway Alignment Optimization," *Applied Soft Computing*, v151, Jan. 2024, 111158.

230. Pu, H., Hu, T., Song, T., Schonfeld, P., Wan, X., Li, W. and Peng, L. "Modeling and Application of a Customized Knowledge Graph for Railway Alignment Optimization," *Expert Systems with Applications*, v244, June 2024, 122999.

231. Pu, H., Wan, X., Song, T., Schonfeld, P. and Peng, L. "A 3D-RRT-star Algorithm for Optimizing Constrained Mountain Railway Alignments," *Engineering Applications of Artificial Intelligence*, v130, Apr. 2024, 107770.

232. Gao, Y., Zhang, T., Zhu, C., Yang, S., Schonfeld, P., Zou, K., Zhang, J., Zhu, Y., Wang, P. and He, Q. "Bi-objective Optimization for Railway Alignment Fine-grained Designs with Parallel Existing Railways," *Computer-Aided Civil and Infrastructure Engineering*, 39-3, 2024, 438-457.

233. Wan, X., Pu, H., Schonfeld, P., Song, T., Li, W. and Peng, L. "Railway Route Optimization in Constrained Environments Based on Semantic Topological Maps" *Integrated Computer-Aided Engineering*, 31(4), Nov. 2024, 421-437.

234. Pang, Z., Wang, L., Schonfeld, P., Liu, J., Peng, Q. and Li, L. "A Disturbance Driven Textual Model for Train Running Time Prediction on High-speed Railways," *J. of Transportation Engineering Part A: Systems*, 150(10), Oct. 1, 2024, 0402062.

235. Choi, Y., Golden, B. and Schonfeld, P. "Improving Analytic Approximations of TSP Tour Lengths with Adjustment Factors," *Transportmetrica A*, online April 29, 2024. doi.org/10.1080/23249935.2024.2346631

236. Ling, S., Jin, S., Wang, Q. and Schonfeld, P., "Can Smart Transportation Reduce Carbon Emission Intensity? - An Empirical Study from Macro and Micro Perspectives in China," *J. of Management Science and Engineering*, 9 (4), Dec.1, 2024, 490-509.

237. Hu, S., Xiong, C., Ji, Y., Wu, X., Liu, K. and Schonfeld, P. "Understanding Factors Influencing User Engagement in Incentive-Based Travel Demand Management Program," *Transp. Research Part A: Policy and Practice*, v186, Aug. 2024, 104145.

238. Wang, Q., Ma, S., Xu, G., Yan, R., Wu, X. and Schonfeld, P. "Enhancing Financial Viability and Social Welfare in Public Transportation: A Study of Subsidy Schemes for Urban Rail Transit Systems," *Computers & Industrial Engineering*, June 24, 2024, 110313.

239. Xu, S., Gao, T., Yang, D., Feng, X., Schonfeld, P., Li, H., Zhu, Y., Wang, P. and He, Q. "Energy-saving Design of Underground Metro Vertical Alignment with Deep Reinforcement Learning," *Tunneling and Underground Space Technology*, v149, July 1, 2024, 105803.

240. Zhang, T., Xu, S., Deng, T., Gao, Y., Schonfeld, P., Wang, P., Zhu, Y., Zou, Y. and He, Q., "A 3D Constrained Hybrid A* Approach to Mountainous Road Alignment Optimization," *Automation in Construction*, v166, Oct. 2024, 105645.

241. Fan, X., Pu, H., Schonfeld, P., Zhang, S., Wei, F., Wang, P., Li, W., Ran, Y. and Wang, J. "Micoprism-based Layered BIM Modeling for Railway Station Subgrade," *Automation in Construction*, v166, Oct. 2024, 105652.

242. Chen, C.C. and Schonfeld, P. "Optimal Clustering Analysis for Airport Parking," *J. of Air Transport Management*, v120, Sept. 2024, 102659.

243. Farhadmanesh, M., Rashidi, A., Schonfeld, P., Rakas, J., and Marković, N. "Aircraft Surface Movement and Operation Monitoring Systems in General Aviation and Commercial Airports: A State-of-the-Art Review" *Iranian J. of Science and Technology Transactions of Civil Engineering*, Oct. 2024 1-22.

244. Wan, X., Pu, H., Song, T., Schonfeld, P., Ran, Y., Li, W. and Hu, J. "An Event Tree-based Distance Transform Algorithm for Simultaneously Determining Mountain Railway Alignments and Station Locations," *Expert Systems with Applications*, v261, Feb. 2025, 125575.

245. Pu, H., Hu, T., Song, T., Schonfeld, P., Li, W. and Peng, L. "Knowledge Graph-driven Mountain Railway Alignment Optimization Integrating Karst Hazard Assessment," *Applied Soft Computing*, v167, Dec. 2024, 112421.

246. Hu, T., Song, T., Schonfeld, P., Pu, H. and Hu, J. "Optimizing Mountain Railway Alignments Considering Geo-hazard Impacts Based on a Knowledge Graph," accepted for *Intelligent Transportation Infrastructure*, Nov. 11, 2024.

247. Schonfeld, P., "Selection and Scheduling of Interrelated Alternatives in Transportation Network Development," *Iris J. of Economics & Business Management*, 2(5), Dec. 6, 2024. DOI: 10.33552/IJEBM.2024.02.000548

248. Zhou, Y., Li, W., Cheng, K. and Schonfeld, P. "Enhanced USV Path Planning Through Integrated Bi-RRT and DWA Algorithms Considering Environmental Factors and Radar Search Radius," *J. of Marine Engineering & Technology*, Dec. 2024, 1-17.

249. Shi, Z., Shen, W., Schonfeld, P., Liu, Y. and Zhang, N. "Adaptive Inference for Dynamic Passenger Route-usage Patterns in a Metro Network Considering Time-varying and Heavy-tailed Travel Times," *Transp. Research Part C: Emerging Technologies*, v171, Feb. 2025, 105007.

250. Zhou, Y., Li, W., Cheng, K., Shi, G. and Schonfeld, P. "Automatic Ship Collision Avoidance Algorithm Based on AIS Data Processing and Improved DWA Algorithm," accepted for *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, Feb. 12, 2025.

251. Wan, X., Pu, H., Schonfeld, P., Cai, L., Song, T., Li, W., Peng, L. and Hu, J. "Environmental Suitability Analysis Integrating Carbon Emission Evaluation for Green Railway Alignment Optimization," accepted for *International J. of Rail Transportation*, Feb. 27, 2025; online March 10, 2025; 1-27.

252. Wan, X., Pu, H., Schonfeld, P., Ran, Y., Song, T., Li, W. and Hu, J. "Tunnel Location Optimization for Railway Alignment Design in Complex Mountainous Regions," *Automation in Construction*, 174(2025) 106132, accepted March 13, 2025.

253. Song, T., Pu, H., Schonfeld, P., Yang, T.Y., Hu, J. and Peng, L. "Many-objective Optimization of Railway Alignments with Strengthened Pareto Dominance Analysis," *IEEE Intelligent Transportation System Transactions*, April 4, 26-8, Aug. 2025, 11372-11387

254. Zhao, L., Zou, L., Wang, Z., Song, T., Schonfeld, P., Chen, F., Li, R. and Li, P. "Multi-Task Graph Sharing Network for Metro Commuting Flow Prediction Under Changing Urban Conditions," accepted for *Computer-Aided Civil and Infrastructure Engineering*, April 27, 2025; online May 12, 2025. 1-20.

255. Liu, J., Li, X., Liu, W., Schonfeld, P. and P., Du, B. "Hybrid Ensemble Learning Based on Neural Network Models for Predicting Urban Rail Transit Accident

Consequences," accepted for *IEEE Transactions on Intelligent Transportation Systems*, May 25, 2025. T-ITS-23-10-3058

256. Dirirsa, S.L., Gao, Y., Schonfeld, P., Wan, Q., Xu, S., Atumo, A.A. and He, Q. "Assessing the Economic and Environmental Sustainability of Urban Integrated Railway-Highway Bridges," accepted for *Transportation Research Part D: Transport and Environment*, June 2, 2025.

257. Lou, W., Miao, K., Schonfeld, P. and Xiao, Z. "Non-Specific Obstacle Detection in the Railway Track Area Based on Deep Learning," accepted for *Engineering Research Express*, June 24, 2025.

258. Wan, X., Pu, H., Song, T., Schonfeld, P., Yang, T.Y. and Peng, P. "Optimizing Mountain Railway Alignments with a Potential Field Guided 3D-RRT-star Algorithm," accepted for *J. of Railway Science and Technology*, July 16, 2025.

259. Li, Z., Choi, Y.M. and Schonfeld, P. "Locations for Electric Truck Charging Stations and Impact of Battery Technology Improvement," accepted for *Transp. Res. Record*, July 20, 2025. TRBAM-25-00308

260. Zhang, T., Gao, Y., Xu, S., Deng, T., He, Q., Schonfeld, P., Zou, Y., Liang, D. And Wang, P. "A Bidirectional Bi-objective Graph Model for Economical and Sustainable Urban Railway Alignment Optimization," *Engineering Applications of Artificial Intelligence*, v153, Aug.1, 2025, 110943.

261. Song, T., Pu, H., Yang, T.Y., Schonfeld, P., Hu, T., Hu, J. and Zhang, M. "Data-driven Distributionally Robust Optimization of Railway Alignments Considering Active Fault Zone Risks," accepted for *Computer-Aided Civil and Infrastructure Engineering*, Aug. 15, 2025.

262. Lin, C.Y., Lu, C.C. and Schonfeld, P. "Charging Facility Location Modeling with Route Choice Behavior of Multiple User Classes," accepted for *Networks and Spatial Economics*, Aug. 18, 2025.

263. Li, Z., Guo, V. Q. and Schonfeld, P. "Joint Optimization of Capacity Expansion Timing and Increment in Airport Terminals: Addressing Stochastic Demand and Logistic Growth," accepted for *Transp. Research Part C: Emerging Technologies*, Sept. 11, 2025. TRC-25-00305

264. Pu, H., Zeng, Q., Song, T., Schonfeld, P., Wang, G., Li, W., Peng, L. and Hu, J. "A Hybrid Proximal Policy Optimization and Particle Swarm Algorithm for Highway Alignment Optimization," accepted for *Advanced Engineering Informatics*, Oct. 6, 2025.

265. Wan, X., Pu, H., Schonfeld, P., Ran, Y., Peng, L. and Yang, Y. "Integrating Energy Harvesting, Ride Stability and Cost in Sustainable Railway Design," accepted for *Transportation Research Part D: Transport and Environment*, Oct.12, 2025, v149, Dec. 2025, 105060, <https://doi.org/10.1016/j.trd.2025.105060>

266. Pu, H., Hu, T., Lv, C., Song, T., Schonfeld, P., Wei, L. and Hu, J. "Bi-level Railway Alignment Optimization Considering Earthwork Allocation and Transportation," accepted for *Integrated Computer Aided Engineering*, Dec. 1, 2025.

267. Sun, Z., Li, W., Shi, G. and Schonfeld, P. "Dynamic Obstacle Avoidance Navigation for a USV Based on Multi-Head Attention Mechanism and Distributional Reinforcement Learning," accepted for *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, Jan. 2, 2026.

268. Guo, V. Q., Lu, J. and Schonfeld, P. "Policy Selection and Schedules for Exclusive Bus Lane and High Occupancy Vehicle Lane in a Bi-modal Traffic Corridor," submitted to *Transport Policy*, Aug. 7, 2024; re-submitted Dec. 31, 2024.

269. Zhou, Y., Li, W., Cheng, K. and Schonfeld, P. "Enhanced USV Path Planning Through Integrated Bi-RRT and DWA Algorithms Considering Environmental Factors and Radar Search Radius," submitted to *Ocean Engineering*, April 24, 2024.

270. Wan, X., Song, T., Pu, H., Yang, T.Y., Schonfeld, P., He, C. and Hu, J. "Distributionally Robust Optimization with Bi-hazard Seismic Risks Evaluation for Railway Planning and Design," submitted to *Transportation Geotechnics*, May 27, 2025.

271. Chen, L., and Schonfeld, P. "Integrated Fixed- and Flexible-route Bus System Design with Slice-aggregation Zoning," submitted to *Transp. Research Part B: Methodological*, July 12, 2025.

272. Li, Z. and Schonfeld, P. "Hybrid Scheduling and Routing for Rural Transit with Flexible and Fixed-Route Integration," submitted to *Transportation Research Record*, July 31, 2025. TRBAM-26-02208

SELECTED ARTICLES IN CONFERENCE PROCEEDINGS

1. Hu, Y.C., and Schonfeld, P. "Flow Optimization on Intercity Road Networks," Compendium of Technical Papers, Annual ITE Meeting. London, UK, Aug. 1983, pp.16-21.
2. Carter, E., and Schonfeld, P. "Transportation System Management Strategies for Medium Size Cities," Proc. of the International Symposium on Urban Transportation,

Taipei, ROC, Nov. 1986, pp. 139-157.

3. Chadda, H., Schonfeld, P., and Carter, E. "Criteria for Pedestrian Overpasses and Underpasses," Compendium of Technical Papers, Annual ITE Meeting, New York, NY, August 1987, pp. 199-202.
4. Dai, M.D.M. and Schonfeld, P. "Approximation Methods for Queuing Delays in Waterway Networks," Proceedings of the World Transportation Research Conference. Lyon, France, June 1992.
5. Dai, M.D.M. and Schonfeld, P. "Meta - modeling Approach for Approximating Series of G/G/1 Queues on Congested Waterways," Proceedings of the First ASCE Congress on Computing in Civil Engineering. Washington, DC, June 1994.
6. Schonfeld, P. "Modeling of Airport Hub Operations," Proceedings of the Airport Modeling and Simulation Conference, August 1997, Roslyn, VA, ASCE 1999.
7. Jong, J. C. and Schonfeld, P. "Optimizing Vertical Alignments for Highways with Genetic Algorithms," Annual TRB Meeting, Jan. 1999 (99-0719 on CD-ROM).
8. Ting, C. J. and Schonfeld, P. "Optimal Headways for Transit Networks with Coordinated Transfers," Annual TRB Meeting, Jan. 1999 (99-0701 on CD-ROM).
9. Jha, M. and Schonfeld, P. "Integrating Genetic Algorithms and GIS to Optimize Highway Alignments," Annual TRB Meeting, Jan. 2000.
10. Rakas, J. and Schonfeld, P. "Air Traffic Management Performance during Equipment Outages," Annual TRB Meeting, Jan. 2000 (00-0954).
11. Jha, M. and Schonfeld, P. "Considering Maintainability in Highway Alignment Optimization," Annual TRB Meeting, Jan. 2001 (01-3170).
12. Kim, E., Jha, M. and Schonfeld, P. "Intersection Cost Modeling for Highway Alignment Optimization," Proc. of the 9th World Conference on Transportation Research, Seoul, Korea, July 2001.
13. Kim, E., Jha, M., Lovell, D., and Schonfeld, P. "Local Optimization of Intersections for Highway Alignments," Annual TRB Meeting, Jan. 2002 (02-2712).
14. Wang, S. and Schonfeld, P. "Development of Generalized Waterway Simulation Model," Annual TRB Meeting, Jan. 2002, (02-2194 on CD_ROM).
15. Jha, M. and Schonfeld, P. "Transit Line Optimization with Genetic Algorithms and GIS," Annual TRB Meeting, Jan. 2003, (03-4383).
16. Chen, C.H.P. and Schonfeld, P. "Work Zone Lengths for a Four-lane Road with an Alternate Route," Annual TRB Meeting, Jan. 2003, (03-2944).
17. Tao, X. and Schonfeld, P. "A Simulation Method for Selecting and Scheduling Waterway Projects," Annual TRB Meeting, Jan. 2004 (04-2899 on CD-ROM).
18. Pathomsiri, S., Haghani, A. and Schonfeld, P. "Operational Efficiency of Airports in Multiple Airport Systems," Annual TRB Meeting, Jan. 2005, (05-0495).
19. Luo, Y. and Schonfeld, P. "Tour Length of Many-to-One Dial-A-Ride Service," Annual TRB Meeting, Jan. 2005 (05-0561).
20. Kang, M., Jha, M., and Schonfeld, P. "Three-Dimensional Highway Alignment Optimization for the Brookeville Bypass," Annual TRB Meeting, Jan. 2006, (06-1023).
21. Wang, S., Tao, X., and Schonfeld, P. "Modeling Shippers' Response to Scheduled Waterway Lock Closures," Annual TRB Meeting, Jan. 2006, (06-1833).
22. Chen, C.H.P., and Schonfeld, P. "Work Zone Optimization for Multiple - Lane Highway Resurfacing Projects with Time Constraints and an Alternate Route," Annual TRB Meeting, Jan. 2006, (06-1812).
23. Tien, S.L. and Schonfeld, P. "Duration versus Cost Tradeoffs in Work Zone Optimization," Annual TRB Meeting, Jan. 2006, (06-1789).
24. Wang, S., and Schonfeld, P. "Modeling Demand Response to Unscheduled Waterway Lock Closures," Annual TRB Meeting, Jan. 2007, (07-1849).
25. Chen, C.H.P. and Schonfeld, P. "Pavement Resurfacing Intervals in Work Zone Optimization," Annual TRB Meeting, Jan. 2007, (07-1625).
26. Kim, D. and Schonfeld, P., "Road Space Allocation in a Congested Transportation Network with Bus and Toll Lanes," Proc. of the 11th World Conference on Transport Research, Berkeley, California, June 2007.
27. Ngamchai, S. and Schonfeld, P., "Air Express Network Design with Hub Sorting," Proc. of the 11th World Conference on Transport Research, Berkeley, California, June 2007.
28. Tien, S.L. and Schonfeld, P. "Model of Controller Requirements for Enroute Traffic," Proc. of the 29th International Air Transport Conference, Irving, Texas, Aug. 2007.
29. Wang, S., Yang, N. and Schonfeld, P. "Simulation-Based Maintenance Planning for Waterway Networks," Annual TRB Meeting, Jan. 2008, (08-2602).
30. Kim, D. and Schonfeld, P. "Road Network Design with Road Space Allocation and Toll Funding," Annual TRB Meeting, Jan. 2008, (08-2873).
31. Tien, S.L. and Schonfeld, P. "Ordinal Regression Model for Forecasting Enroute Controller Requirements," Annual TRB Meeting, Jan. 2008, (08-1652).
32. Yang, N., Wang, S. and Schonfeld, P. "Simulation-Based Optimization of Waterway Projects using a Parallel Genetic Algorithm," Annual TRB Meeting, Jan. 2008, (08-2571).
33. Jha, M.K., Chen, C.C., Schonfeld, P. and Kikuchi, S. "An Evolutionary Algorithm for Military Applications," Proc. of IEEE 3rd International Conference on Systems of Systems Engineering (SoSE 2008), Monterey, CA, June 2-4, 2008.

34. Kim, D. and Schonfeld, P. "Multicriteria Network Equilibrium Model for Pricing in a Multimodal Network," Annual TRB Meeting, Jan. 2009, (09-3702).
35. Cheng, W. and Schonfeld, P. "Phased Development of Rail Transit Routes," Annual TRB Meeting, Jan. 2009, (09-314).
36. Yang, N., Kang, M., Schonfeld, P. and Jha, M. "Multi-objective Optimization of Highway Alignments Incorporating Preference Information," Annual TRB Meeting, Jan. 2010, (10-1128).
37. Chen, C.C., Wang, S. and Schonfeld, "Dynamic Path Optimization for Robotic Agents," Annual TRB Meeting, January 2010, (10-1420).
38. Lai, X. and Schonfeld, P. "Optimizing Rail Transit Alignments Connecting Multiple Major Stations," Annual TRB Meeting, Jan. 2010, (10-2837).
39. Schonfeld, P. "GIS-Based Evaluation and Optimization of Highway Alignments," Keynote Presentation, Proc. of Expressway and Transportation Research Conference, Feb. 4, 2010, Seoul, Korea.
40. Luo, Y. and Schonfeld, P. "Performance Metamodels for Dial-a-Ride Services with Time Constraints," Annual TRB Meeting, Jan. 2011 (11-3144).
41. Chen, C.C., Hwang, D., Wang, S.L. and Schonfeld, P. "Incorporating Visibility Analysis into a Military Path Planning Algorithm," Annual TRB Meeting, Jan. 2011 (11-2253).
42. Chen, C.C. and Schonfeld, P. "Real-Time Dispatching Control to Alleviate Schedule Disruptions at Intermodal Freight Transfer Terminals," Annual TRB Meeting, Jan. 2011 (11-2268).
43. Yang, N. and Schonfeld, P. "Impact of User Diversion Behavior on Work Zone Operation Optimization," Annual TRB Meeting, Jan. 2011 (11-4175).
44. Tien, S.L., Hoffman, R. and Schonfeld, P. "En Route Sector Combination Scheme to Minimize En Route Controller Staffing," Annual TRB Meeting, Jan. 2011 (11-3247).
45. Kang, M., Wang, S., Jha, M., Chen, C.C. and Schonfeld, P. "A Simulation Framework for the Path Planning of Unmanned Autonomous Systems," Proc. of ASCE-ICVRAM 2011 and ISUMA 2011 Conferences (Bilal Ayyub, Ed.), College Park, MD, April 2011, pp. 129-137.
46. Kim, M., Schonfeld, P. and Kim, E. "Speed Optimization for Rail Transit Alignments Connecting Stations at Different Elevations," Annual TRB Meeting, Jan. 2012 (12-4363).
47. Markovic, N. and Schonfeld, P. "Location of Truck Inspection Stations Based on Stochastic Flows," Annual TRB Meeting, Jan. 2012 (12-2624).
48. Markovic, N., Drobnjak, Z. and Schonfeld, P. "Non-stationary Markov Chain Framework for Optimizing Dedicated Check-In Service," Annual TRB Meeting, Jan. 2012 (12-3902).
49. Markovic, N. and Schonfeld, P. "Simulation-based Optimization of Recovery for a Multi-terminal Freight Transportation System," Annual TRB Meeting, Jan. 2012 (12-2650).
50. Chen, C.C. and Schonfeld, P. "A Hybrid Heuristic Technique for Optimizing Intermodal Logistics Timed Transfer Systems," Proc. of 2012 Transport Research Arena Conference, Elsevier, Apr. 2012 (Winner of Best Paper Award at this conference, awarded Apr. 24.) Also in *Procedia – Social and Behavioral Sciences*, Vol. 48, 2012, pp. 2566-2576.
51. Luo, Y. and Schonfeld, P. "Fleet Size Metamodel for Dial-a-Ride Services with Time Constraints," in Sustainable Transportation Systems, Bai, Y. et al Eds., ASCE, 2012, pp. 257-267.
52. Chen, C.C. and Schonfeld, P. "Clustering Analysis for Airport Parking," Proc. of the 17th International Conference of the Hong Kong Society for Transportation Studies, Transportation & Logistics Management, Dec.15-17, 2012, Hong Kong (HKSTS 118).
53. Chen, C.C. and Schonfeld, P. "A Dispatching Model for Countering Delay Propagation in Intermodal Logistics Timed-transfer Systems," Annual TRB Meeting, Jan. 2013 (13-1640).
54. Markovic, N. and Schonfeld, P. "Planning Dial-a-Ride Services: Statistical and Metamodeling Approach," Annual TRB Meeting, Jan. 2013 (13-4205).
55. Besinovic, N, Markovic, B. and Schonfeld, P. "Optimal Allocation of Truck Inspection Stations Based on k-Shortest Paths," Annual TRB Meeting, Jan. 2013 (13-3123).
56. Chen, C.C., and Schonfeld, P. "Uncertainty Analysis for Flexible Airport Gate Development," COTA Conference, Shenzhen, China, August 2013, in *Procedia – Social and Behavioral Sciences*, 96-11, 2013, pp. 2953-2961.
57. Markovic, N., Nair, R., Schonfeld, P., Miller-Hooks, E. and Mohebbi, M. "Optimizing Dial-a-Ride Services in Maryland," Annual TRB Meeting, Jan. 2014 (14-1705).
58. Juster, R. and Schonfeld, P. "An Assessment of Trip Times in Automated Guideway Transit Systems," Annual TRB Meeting, Jan. 2014 (14-3235).
59. Sun, Y. and Schonfeld, P. Schedule-based Route Choice Estimation with Automatic Fare Collection Data for Rail Transit Passengers," Annual TRB Meeting, Jan. 2014 (14-0834).

60. Zhou, T. and Schonfeld, P. "A Model for Optimizing Runway Location and Orientation," Annual TRB Meeting, Jan. 2015 (15-3439).
61. Chen, L. and Schonfeld, P. "A Simulation Study of Coordinated Logistic Network Design," Annual TRB Meeting, Jan. 2016 (16-1148).
62. Shayanfar, E. and Schonfeld, P. "Prioritizing Interrelated Road Projects using a Genetic Algorithm," Annual TRB Meeting, Jan. 2016 (16-5523).
63. Kim, M., Schonfeld, P. and Kim, E. "Service Type Variation for Multi-region Bus Systems," Annual TRB Meeting, Jan. 2016 (16-6238).
64. Kang, M. and Schonfeld, P. "Analysis of Seasonal Variation of Upper Mississippi Towboat Traffic," Annual TRB Meeting, Jan. 2017 (17-02212).
65. Choi, Y. and Schonfeld, P. "Optimization of Multi-package Drone Deliveries Considering Battery Capacity," Annual TRB Meeting, Jan. 2017 (17-05769).
66. Sun, Y., Guo, Q., Schonfeld, P. and Li, Z. "Effects of Costly Public Funds on Public Transit Subsidization and Regulation," Annual TRB Meeting, Jan. 2017 (17-03305).
67. Guo, Q., Chow, J.Y.J. and Schonfeld, P. "Stochastic Dynamic Switching in Fixed and Flexible Transit Services as Market Entry-exit Real Options," Transp. Research Procedia, 22nd Int'l Symp. on Transp. and Traffic Theory, Chicago, Illinois, vol 23, July 2017, pp 380-399.
68. Ryan, P. and Schonfeld, P. "Optimized Local and Express Train Headways for Irregular Station Spacings and Heterogeneous Demand," Annual TRB Meeting, Jan. 2018 (18-05393).
69. Choi, Y. and Schonfeld, P. "Drone Deliveries Optimization with Battery Energy Constraints," Annual TRB Meeting, Jan. 2018 (18-02726).
70. Yu, L., Sun, Y. and Schonfeld, P. "Nonlinear Complementarity Problem Formulation for Bus Transit Assignment under General Stochastic Equilibrium Conditions," Annual TRB Meeting, Jan. 2019 (19-03021).
71. Choi, Y., Schonfeld, P., Lee, Y. and Shin, H. "Innovative Methods for Delivering Fresh Food to Underserved Populations," Annual TRB Meeting, Jan. 2019 (19-03523).
72. Shayanfar, E., Schonfeld, P. and Wang, J.J. "Prioritizing Highway Development Projects Based on Market Access in Appalachia," Annual TRB Meeting, Jan. 2019 (19-03836).
73. Choi, Y. and Schonfeld, P. "Analytic Approximations of Realistic Tour Distances: Case Studies for Deliveries by Robots and Drones," Annual TRB Meeting, Jan. 2020. (20-03619).
74. Lai, X., Teng, J. Schonfeld, P. and Ling, L. "Reliable Schedule Coordination for a Bus Transit Corridor: A Shanghai Case," Annual TRB Meeting, Jan. 2020. (20-04092)
75. Raleigh, C., Kim, M. and Schonfeld, P. "Optimization of Service Zones and Frequencies for Freight Deliveries," Annual TRB Meeting, Jan. 2020. (20-04458).
76. Bayrak, M., Guler, S. I. and Schonfeld, P. "Implementation Sequence Optimization for Dedicated Bus Lane Projects," Annual TRB Meeting, Jan. 2021. (21-00837)
77. Choi, Wang, J. J. and Schonfeld, P. "Optimization of Farm Product Logistics: A Case Study in Central Appalachia," Annual TRB Meeting, Jan. 2021. (21-03072)
78. Wu, F., Schonfeld, P. and Kim, M. "Optimized Restoration Sequence for Disrupted Freight Rail Network," Annual TRB Meeting, Jan. 2021. (21-03438)
79. Khadem, N., Shin, H., Lee, Y., Choi, Y. and Schonfeld, P. "Optimal Options for Fresh Food Deliveries in Baltimore Food Deserts," Annual TRB Meeting, Jan. 2022. TRBAM-22-03740
80. Wu, F., Schonfeld, P., Ayyub, B., and Kim, M. "A Topological Approach for Optimizing Railroad Freight Network Restoration after Disruptions," Annual TRB Meeting, Jan. 2022. TRBAM-22-03894
81. Hu, S., Xiong, C., Chen, P. and Schonfeld, P. "Revisiting Travel Demand Using Big Data: An Empirical Comparison of Explainable Machine Learning Models," Annual TRB Meeting, Jan. 2023. TRBAM-23-00853
82. Choi, Y., Wang, J. and Schonfeld, P. "Trends and Impacts of Local Access Roads Investment in Appalachia," Annual TRB Meeting, Jan. 2023. TRBAM-23-01276
83. Hu, S., Xiong, C., Ji, Y., Wu, X., Liu, K. and Schonfeld, P. "Understanding Factors Influencing User Engagement in Incentive-Based Travel Demand Management Program," Annual TRB Meeting, Jan. 2024. TRBAM-24-02107
84. Li, Z., Wang, J. and Schonfeld, P. "A Planning Model for Flexible-route Delivery Optimization of Farm Products: A Case Study in Central Appalachia," Annual TRB Meeting, Jan. 2024. TRBAM-24-04252
85. Wu, F., Du, J., Schonfeld, P. and Rakha, H. "Optimized Road Network Development with Comparison of Microsimulation and Traffic Assignment," Annual TRB Meeting, Jan. 2024. TRBAM-24-05369
86. Liu, J., Li, X., Liu, W., Schonfeld, P. and P., Du, B. "An Ensemble Learning-based Neural Network Model for Predicting Urban Rail Transit Accident Consequence Category," Annual TRB Meeting, Jan. 2024. TRBAM-24-05672
87. Wan, X., Pu, H., Schonfeld, P., Ran, Y., Song, T., Li, W., Hu, T. and Peng, L. "A Potential Field-RRT-Star Algorithm for Mountain Railway Alignment Optimization

Incorporating Environmental Suitability Analysis," accepted for the Annual TRB Meeting, Jan. 2025. TRBAM-25-00042

88. Li, Z., Choi, Y.M. and Schonfeld, P. "Locations for Electric Truck Charging Stations and Impact of Battery Technology Improvement," accepted for the Annual TRB Meeting, Jan. 2025. TRBAM-25-00308
89. Li, Z. and Schonfeld, P. "Optimization of Runway Exits Locations Based on Fleet Mix and Operational Delays," accepted for the Annual TRB Meeting, Jan. 2025. TRBAM-25-03220
90. Liu, J., Zhao, T., Schonfeld, P., He, M., Du, B. and Xie, T. "Optimizing Vehicle Routing for Multi-commodity Distribution with Route Redundancy," Annual TRB Meeting, Jan. 2025. TRBAM-25-03302
91. Li, Z., Guo, Q., and Schonfeld, P. "Stochastic Models for Airport Terminal Capacity Expansion Planning," accepted for the Annual TRB Meeting, Jan. 2025. TRBAM-25-05153
92. Sevim, A., Ozguven, E. E., Guo, Q. and Schonfeld, P. "Dynamic Mode Control for Transit Services in Disaster Evacuations Using a Hawkes-Based Jump-Diffusion Process," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01020
93. Liu, J., Liu, Z., Lin, Y., Schonfeld, P., Chen, J., He, M., Li, W. and Du, B. "Vulnerability Evaluation and Critical Turn-Back Interval Identification for an Urban Rail Transit Network," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01742
94. Liu, J., Wang, Q., Zhao, Y., Schonfeld, P., He, M., Wu, X., Du, B. and Xie, Y. "Enhancing Distribution Resilience: Multi-Commodity Vehicle Routing Optimization with Redundancy," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01791
95. Li, Z. and Schonfeld, P. "Hybrid Scheduling and Routing for Rural Transit with Flexible and Fixed-Route Integration," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-02208

BOOKS AND BOOK CHAPTERS

1. Newnan, B., Ed., Schonfeld, P. Contributing Author. Engineering Economy Exam File, Engineering Press, 1984.
2. Schonfeld, P. "Transportation Systems," Section 12.4 of The Engineering Handbook, edited by R. Dorf, CRC Press. 1995. Revised as Section 85 in Second Edition, 2005.
3. Schonfeld, P. "Transportation Systems," Section 10.4 of The CRC Handbook of Mechanical Engineering, edited by F. Kreith, CRC Press, 1998.
4. Mumayiz, S. and Schonfeld, P., Eds. Airport Simulation and Modeling, Proceedings of the Aviation Simulation and Modeling Conference, August 1997. Roslyn VA, ASCE, 1999, 303 pp.
5. Schonfeld, P. "Inland Waterways," section of World Book Encyclopedia, 2005.
6. Jha, M., Schonfeld, P.S., Jong, J.C. and Kim, E. Intelligent Transportation Systems, WIT Press, 2006.
7. Schonfeld, P. "Inland Waterway Transportation" Chapter 20 in Handbook of Transportation edited by D. Teodorovic, Routledge, 2015.
8. Yang, N. Wang, S. and Schonfeld, P. "Simulation-based Scheduling of Waterway Projects using a Parallel Genetic Algorithm," Chapter 16 in Transportation Systems and Engineering: Concepts, Methods, Tools and Applications, IGI Global, June 2015.
9. Kang, M. and Schonfeld, P. Artificial Intelligence in Highway Location and Alignment Optimization, World Scientific Publishing, Aug. 2020.

SELECTED REPORTS AND LIMITED DISTRIBUTION PUBLICATIONS

1. Schonfeld, P. "Optimization of Urban Transportation Networks," MIT M.S. Thesis. September 1974, 200 pp.
2. Schonfeld, P. "Transportation System Optimization Model," IBM Report FSD 75-0129, July 1975.
3. Jones, D., Schonfeld, P., and Clausen, T. "The Environmental Context of Transportation Systems Management: Institutional Arrangements, Transportation Networks, and Urban Activity Patterns," ITS Working Paper for Contract No. DOT-OST-50237. University of California, Berkeley, March 1976.
4. Jones, D., Garrison, W., May, A., and Schonfeld, P. "Managing the Future Evolution of the Urban Transportation System," Special Report UCB-ITS-SR-77-1. Berkeley, Oct.

1976.

5. Schonfeld, P. "A Sketch Planning Methodology for Transportation Policy Analysis," Interim Technical Report for Contract DOT-03-30237. Inst. of Transp. Studies, Berkeley, Dec. 1976.
6. Schonfeld, P. "A Macroscopic Methodology for Transportation Policy Analysis," Ph.D. Dissertation UCB-ITS- DS-77-6. University of California, Berkeley, Dec. 1977, 237 pp.
7. Jones, D., Garrison, W., May, A., and Schonfeld, P. "Transportation System Management: Promise, Performance and Prognosis," ITS Research Report UCB-PR-78-2. University of California, Berkeley, Dec. 1977.
8. Tsao, S., Banks, J., and Schonfeld, P. "Safety Belt Usage in Maryland," Transportation Studies Center Report 79-003, University of Maryland, College Park, Dec. 1979.
9. Schonfeld, P. "Transportation Service between College Park and Catonsville," Summary Report for the Intercampus Transportation Study, University of Maryland, College Park, Dec. 1979.
10. Mulinazzi, T., White, J., Hanscom, J., and Schonfeld, P. "Highway Safety Training Needs for Maryland," TSC Report 79-015. University of Maryland, College Park, Jan. 1980.
11. Corsi, T., Schonfeld, P., and Steadman, C. "International Air Cargo Potential at BWI Airport," TSC. University of Maryland, College Park, Jan. 1981.
12. Bixby, R., Reno, A., Corsi, T., Carter, E., and Schonfeld, P. "Analysis of the Impacts of Future Fuel Shortage Scenarios," Preliminary Research Report 194, New York State Department of Transportation, Jan. 1981, 150 pp.
13. Bixby, R., Reno, A., Corsi, T., Carter, E., Schonfeld, P., and Hess, M. "Analysis of Actions Appropriate for Transportation Energy Contingencies," Preliminary Res. Report 195, New York State Department of Transportation, Jan. 1981, 170 pp.
14. Schonfeld, P. "Management of Recreational Traffic on Maryland's Eastern Shore," Summary Report, TSC, University of Maryland, College Park, March 1981.
15. Hughes, W. and Schonfeld, P. "Survey of Recreation Travel Behavior on the Maryland Eastern Shore," TSC, University of Maryland, College Park, March 1981.
16. Schonfeld, P. and Tsao, S. "Statistics for Traffic Safety Analysis," Evaluation Report, TSC. University of Maryland, College Park, April 1981.
17. Schonfeld, P. "Minimum Cost Transit and Paratransit Services," TSC Report. University of Maryland, College Park, April 1981.
18. Schonfeld, P. "Changes in Maryland's Vehicle Fleet," Evaluation Report for Project TSD 11-099, TSC. University of Maryland, College Park, Sept. 1982.
19. Schonfeld, P., Meer, A., and Cha, D. "Implications of Changes in Maryland's Vehicle Fleet," Technical Report for Project TSD 81-099, TSC, University of Maryland, College Park, Sept. 1982.
20. Hu, Y. and Schonfeld, P. "Simulation and Optimization of Traffic Flow on Intercity Networks," Technical Report for Project AW083-248-046, TSC. University of Maryland, College Park, Sept. 1982.
21. Schonfeld, P. "Effects of Airliner Size on Transportation System Efficiency," TRB Circular 212, April 1984, pp. 2-10. [Refereed paper]
22. Schonfeld, P. and Khorsandian, F. "Evaluation of Crash Attenuators," Final Report for Project AW084-302-046, TSC, University of Maryland, College Park, Dec. 1984.
23. Trivedi, R. and Schonfeld, P. "Arterial Weaving Analysis Methods," Technical Report for Project AW087-313-046E, TSC. University of Maryland, College Park, Jan. 1987.
24. Sirisoponsilp, S. and Schonfeld, P. "Effectiveness of Truck Lane Restrictions on Urban Freeways," Technical Report for Project AW087-313-046F, TSC, University of Maryland, College Park, Dec. 1986.
25. Trivedi, R. and Schonfeld, P. "Truck Volume Estimation Methods," Technical Report for Project AW087-315-046, TSC, University of Maryland, College Park, March 1987.
26. Sirisoponsilp, S. and Schonfeld, P. "Truck Volume Forecasting Methods," Technical Report for Project AW087-315-046, TSC, University of Maryland, College Park, March 1987.
27. Schonfeld, P. and Carter E. "Optimal Timing of Airport Facility Development," TSC Report 87-21. University of Maryland, College Park, June 1987.
28. Sirisoponsilp, S. and Schonfeld, P. "Defining Trucks for Traffic Engineering Purposes," TSC Report, University of Maryland, College Park, July 1987.
29. Dai, D.M., Carter, E.C. and Schonfeld, P. "Service Levels for Different Interchange Configurations," TSC Report, University of Maryland, College Park, July 1987.
30. Trivedi, R. and Schonfeld, P. "Safety Benefits of Highway Lighting," TSC Report University of Maryland, College Park, July 1987.
31. Chiu, H., Carter, E. and Schonfeld, P. "Intersections and Driveways near Freeway Ramps," TSC, University of Maryland, College Park, Aug. 1987.
32. Trivedi, R., Fang, X., Carter, E. and Schonfeld, P. "Guidelines for Effective Use of Delineation," TSC, University of Maryland, College Park, Aug. 1987.

33. Chiu, H., Carter, E. and Schonfeld, P. "Effectiveness of Word and Symbol Pavement Markings," TSC, University of Maryland, College Park, Dec. 1987.
34. Chiu, H., Carter, E.C. and Schonfeld, P. "Commercial Driveways and Median Openings on Arterial Streets," TSC, University of Maryland, College Park, Jan. 1988.
35. Sirisoponsilp, S. and Schonfeld, P. "A Queueing Analysis of Containerport Operations at the Dundalk Terminal," TSC, University of Maryland, College Park, Jan. 1988.
36. Chang, S.K., Carter, E. and Schonfeld, P. "Study of Offset T Intersections," TSC, University of Maryland, College Park, April 1988.
37. Dai, D.M., Carter, E. and Schonfeld, P., "Warrants for Firehouse Signals," TSC, University of Maryland, College Park, April 1988.
38. Dai, D.M. and Schonfeld, P., "Summary of Waterway Simulation Model," TSC, University of Maryland, College Park, April 1988.
39. Sirisoponsilp, S., Carter, E.C. and Schonfeld, P., "Traffic Response to Variable Message Signs," TSC, University of Maryland, College Park, May 1988.
40. Carter, E. and Schonfeld, P. "A Study of the Traffic Impact of Consolidating Elementary Schools in Easton," for the Talbot County School Board. Easton, Maryland, May 1988.
41. Dai, D.M., Carter, E.C. and Schonfeld, P.M. "Evaluation of Additional Through Lanes at Intersections," TSC, University of Maryland, College Park, May 1988.
42. Fang, X., Carter, E.C. and Schonfeld, P. "Shoulder Surface Treatment and Use," TSC, University of Maryland, College Park, May 1988.
43. Carter, E.C., Schonfeld, P. and Martinelli, D.R. "Evaluation of Maryland's Safety Belt Law," TSC, University of Maryland, College Park, Oct. 1988.
44. Dai, D.M. and Schonfeld, P. "Description of Waterway Simulation Model," TSC, University of Maryland, College Park, Feb. 1989.
45. Dai, D.M. and Schonfeld P. "Effects of Waterway Transportation Reliability on Optimal Coal Inventories," TSC Report 89-24. University of Maryland, College Park, Feb. 1989.
46. Chang, S.K. and Schonfeld, P. "Feeder Bus Systems with Time Dependent and Elastic Demand," TSC Report 89-21. University of Maryland, College Park, June 1989.
47. Chang, S.K. and Schonfeld, P. "Analytic Optimization of Parallel Bus Routes with Time Dependent and Elastic Demand," TSC Report 89-2. University of Maryland, College Park, Oct. 1989.
48. Chang, S.K. and Schonfeld, P. "Optimization Models for Comparing Conventional and Subscription Bus Feeder Services," TSC report 89-23. University of Maryland, College Park, Nov. 1989.
49. Martinelli, D. and Schonfeld, P. "Priority Analysis and Scheduling of Selected Lock Improvements," Report for the Inst. for Water Resources, May 1990.
50. Chang, S.K. and Schonfeld, P. "Integration of Fixed and Flexible Route Transit Systems," TSC Report 90-21. University of Maryland, College Park, July 1990.
51. Chien, I.J., Lee, K.T. and Schonfeld, P. "Lock Performance Evaluation Measures," Report for the Institute for Water Resources, TSC-90-23. July 1990.
52. Fang, S. and Schonfeld, P. "Effects of Clustering on the Accessibility of Storage Spaces," TSC Report 90-22, University of Maryland, College Park, July 1990.
53. Wei, L. and Schonfeld, P. "Selection and Scheduling of Maryland Commuter Corridor Projects," TSC Report 90-23, University of Maryland, Dec. 1990.
54. Chang, S.K. and Schonfeld, P. "Optimal Configurations of Bus Service Zones," TSC Report 91-21. University of Maryland, College Park, January 1991.
55. Chang, C. and Schonfeld, P. "Waterway Traffic Variability During 1989," Report for the Institute for Water Resources. March 1991.
56. Dai, D.M. and Schonfeld, P. "A Metamodel for Waterway Delays through A Series of G/G/1 Queues," TSC Report 91-22. University of Maryland, College Park, March 1991.
57. Lee, K.T. and Schonfeld, P. "Slack Times for Timed Transfers at a Transit Terminal," TSC Report 91-23. University of Maryland, College Park, April 1991.
58. Chang, S.K. and Schonfeld, P. "Welfare Maximization with Financial Constraints for Bus Transit Systems," TSC Report 91-24. University of Maryland, College Park, Aug. 1991.
59. Wei, C.H., Dai, M.D.M. and Schonfeld, P. "Computational Characteristics of a Numerical Model for Series of G/G/1 Queues," TSC Report 91-25.

University of Maryland, College Park, Aug. 1991.

60. Chang, C. and Schonfeld, P. "Statistical Analysis of Lock Service Times," TSC Report 92-21. University of Maryland, College Park, Feb. 1992.
61. Lee, K.T., and Schonfeld, P. "Pre - planned Optimization of Multiple - route Transfers in Transit Terminals," TSC Report 92-22. University of Maryland, College Park, June 1992
62. Wei, C.H. and Schonfeld, P. "The Combined Cost of Highway Maintenance and Traffic Operations," TSC Project Report 92-23. University of Maryland, College Park, June 1992.
63. Chang, C. and Schonfeld, P. "Models for Estimating Service Times at Waterway Locks," TSC Report 92-24. University of Maryland, College Park, June 1992.
64. Dai, D.M., and Schonfeld, P. "Effects of Lock Service Time Variances on Waterway Speeds and Operating Costs," TSC Report 92-25. University of Maryland, College Park, June 1992.
65. Wei, C.H. and Schonfeld, P. "Approximating Traffic Assignment Evaluations with an Artificial Neural Network," TSC Report 92-26. University of Maryland, College Park, July 1992.
66. Lee, K.T. and Schonfeld, P. "Optimal Operating Cycles at Airport Hub Terminals," TSC Report 92-27. University of Maryland, College Park, Sept. 1992.
67. Chang, C. and Schonfeld, P. "Integrated Flight Scheduling and Gate Assignment for Hub Airports," TSC Report 92-28. University of Maryland, College Park, Nov. 1992.
68. Chien, I.J. and Schonfeld, P. "Integrated Optimization of Rail and Bus Transit Corridors," TSC Working Paper 92-29. University of Maryland, College Park, Nov. 1992.
69. Chien, I.J. and Schonfeld, P. "Interdependence of Delays at Adjacent Waterway Locks," TSC Report 92-30. University of Maryland, College Park, Nov. 1992.
70. Schonfeld, P. "Optimal Lengths and Cycle Times for Maintenance Sections on Two-lane Roads," TSC Report 93-21. University of Maryland, College Park, January 1993.
71. Chien, I.J. and Schonfeld, P. "Service Sequencing at Waterway Locks," TSC Working Paper 93-22. University of Maryland, College Park, Jan. 1993.
72. Venkatesh, R. and Schonfeld, P. "Delay Approximation for Service Interruptions at Waterway Locks," TSC Report 93-23. University of Maryland, College Park, Jan. 1993.
73. Lee, K.T. and Schonfeld, P. "Real - time Control of Transfers in Transit Terminals," TSC Report 93-24. University of Maryland, College Park, May 1993.
74. Ramanathan, V. and Schonfeld, P. "A Micro Simulation Model for the Analysis of Waterway Junctions," TSC Report 93-25. University of Maryland, College Park, June 1993.
75. Wei, C.H. and Schonfeld, P. "A Multiperiod Network Development Model," TSC Working Paper 93-25. University of Maryland, College Park, July 1993.
76. Ramanathan, V. and Schonfeld, P. "Effects of Staggered Lock Closures on Tow Delays," TSC Report 94-21. University of Maryland, College Park, Jan. 1994.
77. Kim, Y.M. and Schonfeld, P. "Tow Sequencing through Waterway Locks," TSC Report 94-22. University of Maryland, College Park, Feb. 1994.
78. Chien, I.J. and Schonfeld, P. "Optimization of Coordinated Transit Networks," TSC Report 94-23. University of Maryland, College Park, March 1994.
79. Ting, C.J. and Schonfeld, P. "Effects of Tow Sequencing on Capacity and Delays at a Two-chamber Lock," TSC Report 94-24. University of Maryland, College Park, June 1994.
80. Kim, Y.M. and Schonfeld, P. "Estimation of Lock Service Times Using Neural Networks," TSC Report 94-25. University of Maryland, College Park, July 1994.
81. Chang, C. and Schonfeld, P. "Flight Sequencing in Hub Airports," TSC Report 94-26. University of Maryland College Park, July 1994.
82. Chang, C. and Schonfeld, P. "Assignment of Flights to Airport Gates," TSC Report 94-27. University of Maryland, College Park, July 1994.

83. Ting, C.J. and Schonfeld, P. "Effects of Speed Control on Tow Travel Costs," TSC Report 94-28. University of Maryland, College Park, Dec. 1994.
84. Kim, Y.M. and Schonfeld, P. "Tow Dispatching with Chamber Packing at a One-chamber Lock," TSC Report 94-29. University of Maryland, College Park, Dec. 1994.
85. Kim, Y.M., Schonfeld, P. and Rakas, J. "Vertiport Capacity Analysis Methods," Report DOT/FAA/ND-95/3. Federal Aviation Administration, Feb. 1995.
86. Lin, G.S., Liang, P., Schonfeld, P. and Larsen R. "Adaptive Control of Transit Operations," FTA Report No. MD-26-7002. Nov. 1995, 121 pp.
87. Lin, G.S., and Schonfeld, P. "Maintenance Planning and Scheduling for Maximizing Waterway System Reliability, TSC Report 95-22. University of Maryland, College Park, Dec. 1995.
88. Chen, M.Y.Z. and Schonfeld, P. "Projection of Weaving Distributions on Urban Networks," Research Report for the Maryland State Highway Administration, University of Maryland, College Park, 1995.
89. Ting, C. J. and Schonfeld, P. "Joint Control of Adjacent Waterway Locks," TSC Report 96-21. University of Maryland, College Park, July 1996.
90. Kim, Y.M. and Schonfeld, P. "Neural Network Model of Merged Flow Variances," TSC Report 96-22. University of Maryland, College Park, Nov. 1996.
91. Zhu, L. and Schonfeld, P. "Neural Network Model of Diverged Flow Variances," TSC Report 96-23. University of Maryland, College Park, Dec. 1996.
92. Zhu, L. and Schonfeld, P. "Neural Network Model of Lock Delays," TSC Report 97-21. University of Maryland, College Park, Jan. 1997.
93. Zhu, L. and Schonfeld, P. "Neural Network Model of Lock Outflow Variances," TSC Report 97-22. University of Maryland, College Park, Feb. 1997.
94. Kim, Y.M. and Schonfeld, P. "Neural Network Model of Tow Diffusion on Waterways," TSC Report 97-23. University of Maryland, College Park, March 1997.
95. Chien, S. and Schonfeld, P. "Joint Optimization of Work Zone Length and Traffic Control for Two - lane Highways," Report 98-21. University of Maryland, College Park, Jan. 1998.
96. Jha, M. and Schonfeld, P. "Estimating Land Acquisition Costs with a Geographic Information System," TSC Report 98-22. University of Maryland, College Park, July 1998.
97. Ting, C.J. and Schonfeld, P. "Dispatching Control at Transfer Stations in Transit Networks," TSC Report 98-23. University of Maryland, College Park, July 1998.
98. Wang, S.L. and Schonfeld, P. "Review of Waterway Transportation Analysis Models," TSC Report 98-24. University of Maryland, College Park, September 1998.
99. Rakas, J. and Schonfeld, P. "Airspace System Performance after Equipment Outages," Report for Federal Aviation Administration. University of Maryland, College Park, September 1998.
100. Ting, C.J. and Schonfeld, P. "An Algorithm for Truck Dispatching at a Consolidation Terminal," TSC Working Paper 99-21. University of Maryland, College Park, Jan. 1999.
101. Ting, C.J., and Schonfeld, P. "Efficiency versus Fairness in Priority Control: A Waterway Lock Case," TSC Working Paper 99-22. University of Maryland, College Park, Jan. 1999.
102. Zhu, L. and Schonfeld, P. "Benefits of Automated Intersections," TSC Working Paper 99-23. University of Maryland, College Park, March 1999.
103. Ting, C.J. and Schonfeld, P. "Dispatching Control at Transfer Stations in Transit Networks," TSC Report 99-24. University of Maryland, College Park, April 1999.
104. Wang, S. and Schonfeld, P. "Conceptual Framework for Generalized Waterway Network Simulation Model," TSC Report 99-25. University of Maryland, College Park, Dec. 1999.
105. Wang, S. and Schonfeld, P. "Documentation of Generalized Waterway Network Simulation Model," TSC Report 99-26. University of Maryland, College Park, Dec. 1999.
106. Jong, J.C. and Schonfeld P. "A Genetic Algorithm for Optimizing Vertical Alignments," TSC Report 99-27, University of Maryland, College Park, Dec.

1999.

107. Zhu, L., Rakas, J. and Schonfeld, P. "Integrated SIMMOD/INM Model," Report for the Maryland Aviation Administration. University of Maryland, College Park, Jan. 2000.
108. Stanojevic, D., Schonfeld, P. and Tarnoff, P. "Decision Processes in the CHART Traffic Management Center," Report for the Maryland State Hwy. Administration. University of Maryland, College Park, June 2000.
109. Wang, S. and Schonfeld, P. "Waterway Project Selection and Scheduling with Genetic Algorithms," TSC Report 2000-21. University of Maryland, College Park, Feb. 2000.
110. Wang, S. and Schonfeld, P. "Validation of Waterway Simulation Model," TSC Report 2000-22. University of Maryland, College Park, April 2000.
111. Wang, S. and Schonfeld, P. "Computational Characteristics of Waterway Simulation Model," TSC Report 2000-23. University of Maryland, College Park, July 2000.
112. Wang, S. and Schonfeld, P. "Analysis of Lock Control Alternatives," TSC Report 2000-24. University of Maryland, College Park, Aug. 2000.
113. Wang, S. and Schonfeld, P. "Waterway Simulation with Dynamic Demand," TSC Report 2000-25. University of Maryland, College Park, Sept. 2000.
114. Wang, S. and Schonfeld, P. "Simulation and Optimization and Interdependent Waterway Improvements," TSC Report 2000-26. University of Maryland, College Park, Nov. 2000.
115. Donohue, G. Brecht-Clarke, J., Fromme, W., Guffey, D.J., Lebron, J.E., Martel, N., Rakas, J., Schonfeld, P. and Yazdani, A. "Airspace and Airports Critical Issues for the 21st Century," Transportation Research Board Millenium Paper, 2000, Committee on Airspace Capacity and Delay (A1J05); also appeared in the book Global Civil Aviation and Airport Development, Airports Chapter, The World Market Research Centre, London, England, 2001.
116. Schonfeld, P., Kim, E., Huang, R., Chen, P. and Mao, L. "Intersection Evaluation and Optimization Methods," Phase 1 Report for the Maryland State Highway Administration. Univ. of Maryland, College Park, June 2001.
117. Zhu, L., Rakas, J., and Schonfeld, P. "Noise Impact of Airfield Improvements and Traffic Growth at BWI Airport," Report for the Maryland Aviation Administration. University of Maryland, College Park, Dec. 2001.
118. Chen, C.H.P., Kim, E. and Schonfeld, P. "Integrated Management of Maintenance and Traffic," Phase I Final Report, Department of Civil & Envir. Engineering. University of Maryland., College Park, July 2002.
119. Zhu, L. and Schonfeld, P. "Noise Impacts of Airfield Improvements and Traffic Growth at BWI Airport," Task 3 Final Report for the Maryland Aviation Administration. University of Maryland, College Park, Nov. 2002.
120. Luo, Y. and Schonfeld, P. "Airport Capacity and Airspace Performance Module," Phase 2 Report for FAA, University of Maryland, College Park, Aug. 2003.
121. Zhu, L., and Schonfeld, P. "Potential Benefits of Automated Intersections," TSC Report 2003-22, Univ. of Maryland, College Park, Aug. 2003.
122. Chen, C.H.P., Schonfeld, P. and Luo Y. "Integrated Management of Highway Maintenance and Traffic," Phase 2 Report, University of Maryland, College Park, Dec. 31, 2003.
123. Wang, S. and Schonfeld, P. "Navsym Model Review," Report for IWR. University of Maryland, College Park, April 2004.
124. Wang, S. and Schonfeld, P. "Navsym Model Validation," Report for IWR. University of Maryland, College Park, June 2004.
125. Schonfeld, P., Kang, M. W., and Jha, M. K. "3D Alignment Optimization for the Brookeville Bypass," Report for the Maryland State Highway Administration, Nov. 2004.
126. Chen, C.H.P. and Schonfeld, P. "Work Zone Optimization for Two - lane Highway Maintenance Projects," TSC Report 2004-21, Univ. of Maryland, College Park, Aug. 2004.
127. Tao, X. and Schonfeld, P. "A Simulation Method for Selecting and Scheduling Waterway Projects," TSC Report 2004-22, Univ. of Maryland, College Park, Aug. 2004.
128. Chen, C.H.P. and Schonfeld, P. "Pavement Resurfacing Intervals in Work Zone Optimization," TSC Report 2005-21, Univ. of Maryland, College Park, Dec. 2005.

129. Schonfeld, P., Yang, N. and Tien, S. "Optimization of Work Zone Decisions through Simulation," Report for the Maryland SHA, Dept. of Civil & Envir. Engineering, Univ. of Maryland, College Park, July 2006, 127 pp.

130. Kang, M. and Schonfeld, P. "Analysis of Towboat Operating Areas," Final Report for the Institute for Water Resources (IWR), U.S. Army Corps of Engineers, March 2006.

131. Wang, S. and Schonfeld, P. "Genetic Algorithms for Selecting and Sequencing Waterway Projects," Report for IWR, April 2006.

132. Yang, N., Schonfeld, P. and Kang, M.W. "A Hybrid Methodology for Freeway Work Zone Optimization with Time Constraints," TSC Report 2006-23, Univ. of Maryland, College Park, Aug. 2006.

133. Kang, M.W. and Schonfeld, P. "Prescreening and Repairing in Highway Alignment Optimization," TSC Report 2006-24, Univ. of Maryland, College Park, Aug. 2006.

134. Tien, S.L. and Schonfeld, P. "Passenger Market Equilibrium for Competing Airports in a Multiple Airport Region," TSC Report 2006-25, Univ. of Maryland, College Park, Aug. 2006.

135. Chen, C.C. and Schonfeld P. "Analysis of Clustered Storage Options for Container Ports," TSC Report 2006-26, Univ. of Maryland, College Park, Aug. 2006.

136. Wang, S. and Schonfeld, P. "Simulation-based Selection and Scheduling of Interdependent Waterway Improvements," TSC Report 2006-27, Univ. of Maryland, College Park, Aug. 2006.

137. Schonfeld, P., Yang, N. and Tien, S. "Optimization of Work Zone Decisions through Simulation," TSC Report 2006-28 for the Maryland SHA, Sept. 2006.

138. Wang, S., and Schonfeld P., "Genetic Algorithms for Selecting and Scheduling Waterway Projects," TSC Report 2006-29 for IWR, Univ. of Maryland, College Park, Nov. 2006.

139. Kim, D. and Schonfeld, P. "Multicriteria Network Equilibrium Model for Pricing in a Multimodal Network," TSC Report 2007-22, Univ. of Maryland, College Park, Aug. 2007.

140. Wang, S., Yang, N. and Schonfeld P., "Improved Genetic Algorithms for Selecting and Scheduling Waterway Projects," TSC Report 2007-21 for IWR, Univ. of Maryland, College Park, May 2007.

141. Yang, N., Wang, S. and Schonfeld, P. "Parallel Computing in Waterway Optimization," TSC Report 2007-22 for IWR, Univ. of Maryland, College Park, May 2007.

142. Chen, C.C. and Schonfeld, P. "Uncertainty Analysis for Flexible Airport Gate Development," Report 2007-23, Univ. of Maryland, College Park, Aug. 2007.

143. Tien, S.L. and Schonfeld, P. "Ordinal Regression Model for Forecasting Enroute Controller Requirements," Report 2007-24, Univ. of Maryland, College Park, Aug. 2007.

144. Yang, N., Wang, S.L. and Schonfeld, P. "Simulation-Based Optimization of Waterway Projects using a Parallel Genetic Algorithm," TSC Report 2007-25 for IWR, Univ. of Maryland, College Park, Aug. 2007.

145. Schonfeld, P., Jha, M.K., Kang, M.W., and Karri, G., "Improved Alignment Evaluation and Optimization," Report MD-07-SP608B4P, Maryland State Highway Administration, Sep. 2007.

146. Wang, S., Yang, N., Chen, C.C. and Schonfeld, P. "Status Report of Detailed Lock Model," Report for IWR, Univ. of Maryland, College Park, Dec. 2007.

147. Kim, D. and Schonfeld, P. "Road Space Allocation and Network Evolution," TSC Report 2008-21, Univ. of Maryland, College Park, July 2008.

148. Kang, M. and Schonfeld, P. "Preliminary Highway Design and Optimization," TSC Report 2008-22, Univ. of Maryland, College Park, July 2008.

149. Cheng, W. and Schonfeld, P. "Phased Development of Rail Transit Routes," TSC Report 2008-23, Univ. of Maryland, College Park, July 2008.

150. Chen, C.C. and Schonfeld, P. "Clustering Analysis for Airport Parking," TSC Report 2008-24, Univ. of Maryland, College Park, Dec. 2008.

151. Schonfeld, P. "Center for Intermodal Freight Transportation Mobility and Security," Progress Report for the Federal Highway Administration, Aug. 2008.

152. Jha, M.K., Schonfeld, P. and Kikuchi, S., "Software-Simulated Test and Evaluation of Military Missions using Positioning and Routing Algorithms," Phase 1 Report for U.S. Dept. of Defense, Dec. 2008.

153. Kang, M.W., Yang, N., Schonfeld, P. and Jha, M.K., "Multi-Objective Bi-Level Highway Alignment Optimization, Phase I Final Report for the U.S. National Science Foundation, NSF-STTR-074098, Jan. 2009.

154. Kang, M.W., Yang, N., Schonfeld, P. and Jha, M.K., "Multi-Objective Bi-Level Highway Alignment Optimization, Phase IB Final Report for the U.S. National Science Foundation, NSF-STTR-074098, July 2009.

155. Chen, C.C. and Schonfeld, P. "Intermodal Transfer Coordination in Logistic Networks," Phase 1 Final Report, Center for Integrated Transportation System Management, Univ. Of Maryland, College Park, Feb. 2010.

156. Schonfeld, P., Wang, S., Chen, C.C., Hwang, D, and Kim, M. "Dynamic Path Planning for Military Applications," Phase 2 Report to the U.S. Dept. of Defense, Univ. of Maryland, College Park, June 2010.

157. Wang, S. and Schonfeld, P., "Lock Control Policies – An Application of the Detailed Single Lock Simulation Model (DLSIM)," Report for IWR, Univ. of Maryland, College Park, June 2010.

158. Jha, M.K., Schonfeld, P. and Kikuchi, S., "Software-Simulated Test and Evaluation of Military Missions Using Positioning and Routing Algorithms," Phase 2 Technical Report to the U.S. Dept. of Defense, June 2010.

159. Yang, N., Kang, M., Schonfeld, P. and Jha, M. "Multi-objective Optimization of Highway Alignments Incorporating Preference Information," TSC Report 2010-21, Univ. of Maryland, College Park, June 2010.

160. Schonfeld, P. (Ed), "Center for Intermodal Freight Transportation Mobility and Security," Final Report, Dept. of Civil & Environmental Engineering, Univ. of Maryland, College Park, Oct. 2010.

161. Schonfeld, P., Kim, M. and Cheong, S. "Integration of Fixed and Flexible Route Public Transportation Systems," TSC Report 2010-21, Univ. of Maryland, College Park, Dec. 2010.

162. Kang, M., Jha, M., Shariat, S., Schonfeld, P. and Wang, Z. "Alternative Alignments Development and Evaluation for the US 220 Project in Maryland," Final Report for the Maryland State Highway Administration, MD-11-SP009B49, Maryland Department of Transportation, June 2011.

163. Kim, M., Schonfeld, P., "Integration of Fixed and Flexible Route Public Transportation Systems," TSC Phase 1 Report 2011-21, Univ. of Maryland, College Park, July 2011.

164. Yang, N., Kang, M., Schonfeld, P. and Jha, M. "Multi-objective Optimization of Highway Alignments Incorporating Preference Information," TSC Report 2011-22, Univ. of Maryland, College Park, July 2011.

165. Chen, P. and Schonfeld, P. "Work Zone Optimization for Multiple-lane Highway Resurfacing Projects with Time Constraints and an Alternate Route," TSC Report 2011-23, Univ. of Maryland, College Park, July 2011.

166. Wang, Z. and Schonfeld, P. "Energy and Environmental Considerations in Highway Alignment Optimization," TSC Report 2011-23, Univ. of Maryland, College Park, July 2011.

167. Markovic, N., Nair, R., Schonfeld, P., Miller-Hooks, E. and Mohebbi, M. "Optimizing Dial-a-Ride Services for the Washington DC Region," TSC Report 2012-21, Univ. of Maryland, College Park, July 2011.

168. Kim, M., Schonfeld, P. and Cheong, S. "Integration of Fixed and Flexible Route Public Transportation Systems," Phase 2 Report for the Mid-Atlantic Universities Transportation Center, Univ. of Maryland, College Park, Jan. 2012.

169. Kim, M., and Schonfeld, P. "Integration of Fixed and Flexible Route Public Transportation Systems," Phase 2 Report for the Mid-Atlantic Universities Transportation Center, Univ. of Maryland, College Park, March 2012.

170. Kim, M. and Schonfeld, P. "Variable Mode Operation with Mixed Fleets," TSC Report 2012-24, Univ. of Maryland, College Park, July 2012.

171. Kim, M., Juster, R., Cirillo, C. and Schonfeld, P. "Critical Factors for Motorcycle Incidents," TSC Report 2012-26, Univ. of Maryland, College Park, July 2012.

172. Kim, M., Kim, E. and Schonfeld, P. "Effects of Introducing a Distance-based Road User Fee Policy in Korea," TSC Report 2012-27, Univ. of Maryland,

College Park, July 2012.

173. Chen, C.C., Wang, S. and Schonfeld, "Dynamic Path Optimization for Unmanned Military Vehicles," TSC Report 2013-21, Univ. of Maryland, College Park, Jan. 2013.
174. Markovic, N. and Schonfeld, P. "Location of Truck Inspection Stations Based on Stochastic Flows," TSC Report 2013-23, Univ. of Maryland, College Park, Jan. 2013.
175. Markovic, N., Drobnjak, Z. and Schonfeld, P. "Non-stationary Markov Chain Framework for Optimizing Dedicated Check-In Service," TSC Report 2013-24, Univ. of Maryland, College Park, Jan. 2013.
176. Markovic, N. and Schonfeld, P. "Simulation-based Optimization of Recovery for a Multi-terminal Freight Transportation System," TSC Report 2013-25, Univ. of Maryland, College Park, Jan. 2013.
177. Chen, C.C. and Schonfeld, P. "A Dispatching Model for Countering Delay Propagation in Intermodal Logistics Timed-transfer Systems," TSC Report 2013-26, Univ. of Maryland, College Park, Feb. 2013.
178. Besinovic, N., Markovic, B. and Schonfeld, P. "Optimal Allocation of Truck Inspection Stations Based on k-Shortest Paths," TSC Report 2013-27, Univ. of Maryland, College Park, Feb. 2013.
179. Drobnjak, Z., Markovic, N. and Schonfeld, P. "Dispatching Trucks for Drayage Operations," TSC Report 2013-28, Univ. of Maryland, College Park, Feb. 2013.
180. Li, Z. and Schonfeld, P. "Hybrid Simulated Annealing and Genetic Algorithm for Optimizing Arterial Signal Timings under Oversaturated Conditions," TSC Report 2013-29, Univ. of Maryland, College Park, Feb. 2013.
181. Sanchez, A., Unnikrishnan, A., Martinelli, D., Schonfeld, P. and Kim, M., "Improved Methods for Operating Public Transportation Services," Final Report, Mid Atlantic Universities Transportation Center, March 2013.
182. Sun, Y. and Schonfeld, P. Schedule-based Route Choice Estimation using Automatic Fare Collection Data for Rail Transit Passengers," TSC Report 2013-30, Univ. of Maryland, College Park, Aug. 2013.
183. Besinovic, N., Markovic, N., Markovic, M., Schonfeld, P., and Goverde R. "Optimizing Work Zones for a Double-track Railway Line," TSC Report 2013-31, Univ. of Maryland, College Park, Aug. 2013.
184. Feng, L., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Optimizing Ridesharing Services for Airport Access," TSC Report 2013-32, Univ. of Maryland, College Park, Aug. 2013.
185. Juster, R. and Schonfeld, P. "An Assessment of Trip Times in Automated Guideway Transit Systems," TSC Report 2013-33, Univ. of Maryland, College Park, Aug. 2013.
186. Markovic, N., Ryzhov, I. and Schonfeld, P. "Evasive Flow Capture: Optimal Location of Weigh-in-Motion Systems," TSC Report 2013-34, Univ. of Maryland, College Park, Aug. 2013.
187. Kim, M. and Schonfeld, P. "Integration of Conventional and Flexible Bus Services with Timed Transfers," TSC Report 2013-35, Univ. of Maryland, College Park, Nov. 2013.
188. Ngamchai, S. and Schonfeld, P. "Air Express Network Design with Hub Sorting," TSC Report 2013-36, Univ. of Maryland, College Park, Nov. 2013.
189. Kim, M. and Schonfeld, P. "Maximizing Net Benefits with Subsidy Constraints for Conventional and Flexible Services," TSC Report 2013-36, Univ. of Maryland, College Park, Nov. 2013.
190. Chen, L., Schonfeld, P. and Miller-Hooks, E. "Welfare Maximization for Bus Transit Systems with Timed Transfers and Financial Constraints," TSC Report 2014-21, Univ. of Maryland, College Park, Aug. 2014.
191. Zhou, T. and Schonfeld, P. "A Model for Optimizing Runway Location and Orientation," TSC Report 2014-22, Univ. of Maryland, College Park, Aug. 2014.
192. Markovic, N., Park, H. and Schonfeld, P. "Machine Learning Models for Design of Dial-a-Ride Systems," TSC Report 2014-23, Univ. of Maryland, College Park, Aug. 2014.

193. Vodopivec, N., Tobias, D., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Taxis as a Recourse Option for Ridesharing Services," TSC Report 2014-25, Univ. of Maryland, College Park, Aug. 2014.

194. Sun, Y. and Schonfeld, P. "Models for Airport Capacity Expansion under Demand Uncertainty," TSC Report 2014-27, Univ. of Maryland, College Park, Aug. 2014.

195. Sun, Y. and Schonfeld, P. "Optimization Models for Public Transportation Operations under Subsidization and Regulation," TSC Report 2014-29, Univ. of Maryland, College Park, Aug. 2014.

196. Sun, Y. and Schonfeld, P. "Bilevel Optimization Model for Phased Development of Rail Transit Lines," TSC Report 2014-30, Univ. of Maryland, College Park, Oct. 2014.

197. Chen, C.C. and Schonfeld, P. "A Dispatching Decision Support System for Countering Delay Propagation in Intermodal Logistics Networks," TSC Report 2014-32, Univ. of Maryland, College Park, Oct. 2014.

198. Chen, C.C. and Schonfeld, P. "A Hybrid Heuristic Technique for Optimal Coordination in Intermodal Logistics Scheduling," TSC Report 2014-33, Univ. of Maryland, College Park, Nov. 2014.

199. Sun, Y., Shi, J. and Schonfeld, P. "Identifying Passenger Trip Characteristics and Evaluating Travel Time Reliability by Visualizing Shanghai Metro AFC Data," TSC Report 2015-01, Univ. of Maryland, College Park, Jan. 2015.

200. Markovic, N., Kim, M. and Schonfeld, P. "Statistical Online Tool for Planning Dial-A-Ride Services," TSC Report 2015-02, Univ. of Maryland, College Park, Jan. 2015.

201. Zhang, L., Schonfeld, P., Kastrouni, E., Shayanfar, E. and He, X. "Estimating the Economic Impacts of Multimodal Transportation Improvements," Final Report SP409B4M for the Maryland State Highway Administration, Feb. 2015.

202. Sun, Y., Fan, W. and Schonfeld, P. "Parking Choice Models Considering Parking Duration," TSC Report 2015-03, Univ. of Maryland, College Park, Apr. 2015.

203. Chen, C.C. and Schonfeld, P. "Efficiency and Reliability in Freight Transportation Systems," Final Report NTC2014-50-R-07, National Transportation Center, University of Maryland, College Park, April 2015.

204. Shayanfar, E. and Schonfeld, P. "Characteristics of the Sioux Falls Test Network," TSC Report 2015-04, Univ. of Maryland, College Park, Aug. 2015.

205. Hao, P., Wei, L., Schonfeld, P., Wei, L. "Methodology for Optimizing Multi-Constrained Railway 3D Paths," TSC Report 2015-05, Univ. of Maryland, College Park, Aug. 2015.

206. Kim, M. Schonfeld, P. and Kim, E. "Service Type Variation for Multi-region Bus Systems," TSC Report 2015-07, Univ. of Maryland, College Park, Aug. 2015.

207. Chen, C.C., Tsai, Y.H. and Schonfeld, P. "Schedule Coordination, Delay Propagation, and Disruptions Resilience in Intermodal Logistic Networks," TSC Report 2015-09, Univ. of Maryland, College Park, Aug. 2015.

208. Chen, L. and Schonfeld, P. "A Simulation Study of Coordinated Logistic Network Design," TSC Report 2015-10, Univ. of Maryland, College Park, Aug. 2015.

209. Shayanfar, E. and Schonfeld, P. "Prioritizing Interrelated Road Projects using a Genetic Algorithm," TSC Report 2015-13, Univ. of Maryland, College Park, Aug. 2015.

210. Cirillo, C., Schonfeld, L., Zhang, L., Shayanfar, E. and Dong, H. "Market Opportunity Assessment for the Eastern Shore Short-Line Rail in Maryland," Final Report for the Maryland State Highway Admin., Oct. 2015.

211. Sun, Y., Guo, Q. and Schonfeld, P. "The Cost of Public Funds in Public Transit Subsidization and Regulation," TSC Report 2015-14, Univ. of Maryland, College Park, Oct. 2015.

212. Li, Z. and Schonfeld, P. "A Trie-based Algorithm for Classic User-Equilibrium Traffic Assignment," TSC Report 2016-01, Univ. of Maryland, College Park, Jan. 2016.

213. Chavis, C., Gayah, V., Kim, M., Chen, L., Miller-Hooks, E. and Schonfeld, P. "Integration of Multimodal Transportation Services," Report for the Mid-

Atlantic Universities Transportation Center, March 2016.

214. Sun, Y. and Schonfeld, P. "Phased Development of Rail Transit Lines," TSC Report 2016-02, Univ. of Maryland, College Park, Jan.2016.
215. Guo, Q., Sun, Y. Schonfeld, P. and Li, Z. "Evolution of Public Transportation Modes in a Commuter Corridor," TSC Report 2016-03, Univ. of Maryland, College Park, Aug. 2016.
216. Sun, Y. and Schonfeld, P. "Capacity Investment Model for Airport Facilities under Demand Uncertainty," TSC Report 2016-04, Univ. of Maryland, College Park, Aug. 2016.
217. Abasahl, F. and Schonfeld, P. "Selecting Operational Improvement Alternatives for an Isolated Signalized Intersection," TSC Report 2016-05, Univ. of Maryland, College Park, Aug. 2016.
218. Shi, J., Sun, Y., Schonfeld, P., Yang, J. and Jian, Q. "Coordinating Tram Movements and Signal Timing Adjustments at Intersections," TSC Report 2016-06, Univ. of Maryland, College Park, Aug. 2016.
219. Li, W., Pu, H., Schonfeld, P., Yang, J., Zhang, H., Wang, L. and Xiong, J. "Mountain Railway Alignment Optimization with Bidirectional Distance Transform and Genetic Algorithm", TSC Report 2016-07, Univ. of Maryland, College Park, Aug. 2016.
220. Guo, Q., Chow, J.Y.J. and Schonfeld, P. "Stochastic Dynamic Switching between Fixed and Flexible Transit Service as a Market Entry-exit Real Options Model," TSC Report 2016-08, Univ. of Maryland, College Park, Aug. 2016.
221. Sun, Y. and Schonfeld, P. "Coordinated Airport Facility Development under Uncertainty," TSC Report 2016-09, Univ. of Maryland, College Park, Aug. 2016.
222. Choi, Y. and Schonfeld, P. "Optimization of Multi-package Drone Deliveries Considering Battery Capacity," TSC Report 2016-10, Univ. of Maryland, College Park, Aug. 2016.
223. Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Interrelated Road Projects with Demand and Travel Time Uncertainties," TSC Report 2016-11, Univ. of Maryland, College Park, Sept. 2016.
224. Kang, M. and Schonfeld, P. "Analysis of Seasonal Variation of Upper Mississippi Towboat Traffic," TSC Report 2016-12, Univ. of Maryland, College Park, Sept. 2016.
225. Schonfeld, P. and Markovic, N. "Evasive Flow Capture: Optimal Location of Weigh-in-Motion Systems, Tollbooths, and Security and Safety Checkpoints," Final Report for Award No. 1335416, National Science Foundation, Nov. 2016.
226. Schonfeld, P., Miller-Hooks, E., Zhao, K. and Conrad, D., "Safe Accommodation of Bicyclists on High-Speed Roadways in Maryland," Final Report for Research Project SP509B4H, Maryland State Highway Administration, Dec. 2016.
227. Huang, H. Li, K and Schonfeld, P. "Real-time Energy-Saving Metro Train Scheduling with Primary Delay Identification," TSC Report 2017-1, Univ. of Maryland, College Park, Apr. 2017.
228. Vander Laan, Z. and Schonfeld, P. "Modeling Heterogeneous Traffic with Adaptive Cruise Control Vehicles: A First Order Macroscopic Perspective," TSC Report 2017-2, Univ. of Maryland, College Park, Apr. 2017.
229. Saeedi, R. and Schonfeld, P. "Analysis of Slack Time for a Teal-time Rideshare System," TSC Report 2017-3 Univ. of Maryland, College Park, July 2017.
230. Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Interrelated Road Projects with Uncertain Demand," TSC Report 2017-4 Univ. of Maryland, College Park, July 2017.
231. Peng, Y.T., Li, Z.C. and Schonfeld, P. "Optimized Development of Rail Transit Networks with Budget Constraints," TSC Report 2018-1 Univ. of Maryland, College Park, July 2018.
232. Cui, Q., Zhang, L., Schonfeld, P., Kastrouni, E., Donaldson, D., Suwal, S., Diao, C., Sharma, G., Woodbury, D. and Scassero, M. "Autonomous Technology Center Feasibility Study at The Greater Cumberland Regional Airport," Maryland Transportation Institute, August 2018.
233. Liu, S. and Schonfeld, P. "Effects of Driverless Vehicles on the Competitiveness of Bus Transit Services," TSC Report 2018-2, Univ. of Maryland, College Park, Aug. 2018.
234. Choi, Y.M., Schonfeld, P., Lee, Y.J. and Shin, H.S. "Innovative Methods for Delivering Fresh Food to Underserved Populations," TSC Report 2018-3,

Univ. of Maryland, College Park, Aug. 2018.

235. Choi, Y.M. and Schonfeld, P. "Dockless Bike Fleet Optimization with User Mode Choice and Random Bike Distribution," TSC Report 2018-4, Univ. of Maryland, College Park, Aug. 2018.

236. Kim, M., Levy, J. and Schonfeld, P. "Optimal Zone Sizes and Headways for Flexible-Route Bus Services, TSC Report 2018-5, Univ. of Maryland, College Park, Dec. 2018.

237. Huynh, N., Smith, D., Dulebnets, M., Sun, Y., Schonfeld, P., van Duin, R., Sauri, S., Dan-Ngo, T., Harder, F. and Khankarli, G. "Challenges and the Road Ahead for Intermodal Freight," Centennial Paper of TRB Committee AT050, Feb. 2019.

238. Schonfeld, P. "Optimized development of Urban Transportation Networks," Report to the Urban Mobility and Equity Center, May 2019.

239. Wu, F. and Schonfeld, P. "Phased Development Optimization for a Rail Transit Line," TSC Report 2019-1, Univ. of Maryland, College Park, Aug. 2019.

240. Choi, Y. and Schonfeld, P. "Analytic Approximations of Realistic Tour Distances: Case Studies for Deliveries by Robots and Drones," TSC Report 2019-2, Univ. of Maryland, College Park, Aug. 2019.

241. Raleigh, C., Kim, M. and Schonfeld, P. "Optimization of Service Zones and Frequencies for Freight Deliveries," TSC Report 2019-3, Univ. of Maryland, College Park, Aug. 2019.

242. Wu, F. and Schonfeld, P. "Optimized Two-directional Phased Development of a Rail Transit Line," TSC Report 2020-1, Univ. of Maryland, College Park, May 2020.

243. Liu, J., Schonfeld, P., Yin, Y. and Peng, Q. "Effects of Link Capacity Reductions on the Reliability of an Urban Rail Transit Network," TSC Report 2020-2, Univ. of Maryland, College Park, May 2020.

244. Choi, Y. and Schonfeld, P. "Review of Length Approximations for Tours with Few Stops," TSC Report 2020-3, Univ. of Maryland, College Park, May 2020.

245. Wu, F. Schonfeld, P. and Kim, M. "Optimized Restoration for Disrupted Freight Rail Network," TSC Report 2020-4, Univ. of Maryland, College Park, Aug. 2020.

246. Chen, L. and Schonfeld, P. "Optimized Zone Sizes and Headways for Flexible-route Bus Services with Transfers," TSC Report 2021-1, Univ. of Maryland, College Park, July 2021.

247. Wu, F. and Schonfeld, P. "Integrated Optimization of Short-term Restoration and Long-term Resilience Improvement for a Freight Railroad Network," TSC Report 2021-2, Univ. of Maryland, College Park, Aug. 2021.

273. Choi, Y., Golden, B. and Schonfeld, P. "Adjustment Factors for Analytic Approximations of Traveling Salesman Tour Lengths," TSC Report 2022-1, Univ. of Maryland, College Park, June 2022.

248. Shokouhian, M., Schonfeld, P., Owolabi, O., Amiegbebor, D., Bandpey, Z., Yang, T. and Wu, F. "Parametric Analysis of Telecommuting Effects on Transportation Tax Revenues," report for the District of Columbia Dept. of Transportation by Morgan State University and the University of Maryland at College Park, Feb. 22, 2023.

249. Schonfeld, P., Rakha, H., Wu, F. and Du, J. "Analysis of Interrelated Network Improvement Alternatives," Final Report for Urban Mobility and Equity Center, Aug. 2023.

250. Lee, Y.J., Shic, H.S., Schonfeld, P., Rezapour, H., Abdulmalik, M.M. and Yang, T. "User Preference Analysis for Mobility-as-a-Service (MaaS) and Its Impact," Final Report for Urban Mobility and Equity Center, Aug. 2023.

251. Schonfeld, P. and Ramirez, A. "Optimized Development of Multi-modal Transportation Networks," Final Report for the Center for Multi-Modal Mobility, March 2025.

252. Yang, K., Zhang, Y., Gong, Y., Yang, X., Cirillo, C. and Schonfeld, P. "Evaluating MDOT SHA's Facility Maintenance Technician's (FMT) Training Program," Report MD-23-SHA/UM/6-24 for the Maryland State Highway Administration, May 2025.

SELECTED CONFERENCE PRESENTATIONS

1. Schonfeld, P. "Aircraft-Airport Compatibility Tradeoffs," Annual TRB Meeting, Washington DC, January 1980.
2. Schonfeld, P. "A Transportation System Optimization Model," Second ASCE Conference on Computing in Civil Engineering, Baltimore, MD, June 1980.
3. Schonfeld, P. "Efficiency Implications of Aircraft Size," Annual TRB Meeting, Washington, DC, Jan. 1982.
4. Hu, Y., and Schonfeld, P. "Flow Optimization on Intercity Road Networks," Annual ITE Meeting, London, UK, Aug. 1983.
5. Schonfeld, P., and Frank, S. "Optimizing the Utilization of a Containership Berth," Annual TRB Meeting, Washington DC, Jan. 1984.
6. Hu, Y., and Schonfeld, P. "Optimizing Traffic Diversion around Bottlenecks," Annual TRB Meeting, Washington DC, Jan. 1984.
7. Schonfeld, P., and Sharafeldien, O. "Containerport Sizing," ORSA Meeting, Operations Research Society of America, San Francisco, CA, May 1984.
8. Schonfeld, P. "Optimization Guidelines for Urban Transit Systems," ORSA Meeting, San Francisco, CA, May 1984.
9. Schonfeld, P., and Sirisoponsilp, S. "Optimizing Container Handling in Ports," Annual TRB Meeting, Washington DC, Jan. 1987.
10. Schonfeld, P. "Railroad Transportation Developments in the United States," China Railway Administration, Chengdu, China, Aug. 1987.
11. Chadda, H., Schonfeld, P., and Carter, E. "Criteria for Pedestrian Overpasses and Underpasses," Annual ITE Meeting, New York, NY, Aug. 1987.
12. Schonfeld, P. and Carter, E. "Optimal Timing of Airport Facility Development," 20th International Air Transportation Conference, Orlando, FL, June 1988.
13. Lee, K. and Schonfeld, P. "Influence of Belly and All-cargo Operations on Airport Design," Annual TRB Meeting, Washington DC, Jan. 1989.
14. Dai, M.D.M. and Schonfeld, P. "Simulation of Waterway Transportation Reliability," Annual TRB Meeting, Washington DC, January 1989.
15. Chang, S.K. and Schonfeld, P. "Optimization of Feeder Bus Services," ORSA Meeting, New York, NY, October 1989.
16. Dai, M.D.M. and Schonfeld, P. "Analysis of Service Time Reliability on Waterways," ORSA Meeting, New York, NY, Oct. 1989.
17. Martinelli, D.R., Dai, D.M. and Schonfeld, P. "Interdependencies of Serial Locks on Waterways," ORSA Meeting, New York, NY, Oct. 1989.
18. Chang, S.K. and Schonfeld, P. "Optimization of Feeder Bus Systems with Unsteady and Elastic Demand," Annual TRB Meeting, Washington DC, Jan. 1990.
19. Chang, S.K. and Schonfeld, P. "Analytic Optimization of Integrated Bus Systems," ORSA Meeting, Las Vegas, NV, May 1990.
20. Schonfeld, P. and Chang, S.K. "Public Transit Optimization Guidelines," ORSA Meeting, Philadelphia, PA, Oct. 1990.
21. Chang, S.K., and Schonfeld, P. "Integration of Fixed and Flexible Route Bus Systems," Annual TRB Meeting, Washington DC, Jan. 1991.
22. Carter, E. and Schonfeld, P. "Safety Belt Use and Highway Safety in Maryland," Annual TRB Meeting, Washington DC, Jan. 1991.
23. Chang, S.K. and Schonfeld, P. "Analytic Optimization of Bus Routes With Time Dependent Equilibrium," Annual TRB Meeting, Washington DC, Jan. 1991.
24. Dai, M.D.M. and Schonfeld, P. "Metamodels for Estimating Waterway Delays through Series of G/G/1 Queues," Annual TRB Meeting, Washington DC, Jan. 1992.
25. Dai, M.D.M. and Schonfeld, P. "Approximation Methods for Queuing Delays in Waterway Networks," World Transportation Research Conference, Lyon, France, June 1992.
26. Chang, S.K. and Schonfeld, P. "Welfare Maximization with Financial Constraints for Bus Transit Systems," Annual TRB Meeting, Washington DC, Jan. 1993.
27. Dai, M.D.M., Schonfeld, P. and Antle, G. "Optimal Speeds on Waterways with Lock Congestion and Unreliability," Annual TRB Meeting, Washington DC, Jan. 1993.
28. Spasovic, L.N. and Schonfeld, P. "A Method for Optimizing Transit Service Coverage," Annual TRB Meeting, Washington DC, Jan. 1993.
29. Lee, K.T. and Schonfeld, P. "Schedule Optimization for Multiple-Route Timed-transfer Terminals," Annual TRB Meeting, Washington DC, Jan. 1993.
30. Martinelli, D.R., Dai, M.D.M., Schonfeld, P. and Antle, G. "A Methodology for Planning Interdependent Waterway Improvements," Annual TRB

Meeting, Washington DC, Jan. 1993.

31. Wei, C.H. and Schonfeld, P. "An Artificial Neural Network Approach for Estimating Multiperiod Travel Times in Transportation Networks," Annual TRB Meeting, Washington DC, Jan. 1993.
32. Schonfeld, P. "A Queuing Model for Optimizing Containerport Operations," Baltimore Port Operations Conference, Feb. 1992.
33. Schonfeld, P. "Queuing and Simulation Methods for Analyzing Inland Waterway Improvements," Baltimore Port Operations Conference, Feb. 1993.
34. Lee, K.T. and Schonfeld, P. "Real - time Control for Coordinated Operations in Transit Terminals," Annual TRB Meeting, Jan. 1994.
35. Dai, M.D.M. and Schonfeld, P. "Metamodeling Approach for Approximating Series of G/G/1 Queues on Congested Waterways," First ASCE Congress on Computing in Civil Engineering, Washington, DC, June 1994.
36. Schonfeld, P., Lee, K.T. and Chang, C. "Scheduling and Real-Time Dispatching of Flights in Hub Operations," Annual ASCE Meeting, Atlanta, GA, Oct. 1994.
37. Chang, C. and Schonfeld, P. "Efficient Gate Assignment for Airport Hub Operations," Annual ASCE Meeting, Atlanta, GA, Oct. 1994.
38. Schonfeld, P. "Management of Airport Hub Operations," 30th Annual Transportation Symposium, Tainan, Republic of China, Dec. 1994.
39. Chang, C. and Schonfeld, P. "Flight Sequencing in Hub Airports," Annual TRB Meeting, Jan. 1995.
40. Kim, Y.M. and Schonfeld, P. "Neural Network Estimation of Lock Service Times," Annual TRB Meeting, Jan. 1995.
41. Wei, C.H. and Schonfeld, P. "Computational Issues in Neural Network Applications to Multiperiod Network Design," National INFORMS Meeting, Los Angeles, CA, April 1995.
42. Wei, C.H. and Schonfeld, P. "Research Framework for Cost Effective Highway Maintenance Planning," Annual TRB Meeting, Jan. 1996.
43. Schonfeld, P. "Optimization Options with SIMMOD," Annual Meeting of the North American SIMMOD Users Group, Washington, DC, March 1997.
44. Schonfeld, P. "Analysis of Hub Terminal Operations," ASCE Aviation Simulation and Modeling Conference, Rosslyn, VA, Aug. 1997.
45. Zhu, L. Schonfeld, P., Kim, Y.M., Flood, I. and Ting, C.J. "An Artificial Neural Network Analyzer for Waterway Traffic," Annual TRB Meeting, Jan. 1998.
46. Ting, C.J. and Schonfeld, P. "Optimization through Simulation of Waterway Transportation Investments," Annual TRB Meeting, Jan. 1998.
47. Jong, C.J. and Schonfeld, P. "Optimizing Vertical Alignments for Highways with Genetic Algorithms," Annual TRB Meeting, Jan. 1999 (99-0719 on CD-ROM).
48. Jong, J.C. and Schonfeld, P. "Cost Functions for Optimizing Highway Alignments," Annual TRB Meeting, Jan. 1999, (99-0700 on CD-ROM).
49. Ting, C.J. and Schonfeld, P. "Optimal Headways for Transit Networks with Coordinated Transfers," Annual TRB Meeting, Jan. 1999 (99-0701 on CD-ROM).
50. Jha, M. and Schonfeld, P. "Integrating Genetic Algorithms and GIS to Optimize Highway Alignments," Annual TRB Meeting, January 2000.
51. Rakas, J. and Schonfeld, P. "Air Traffic Management Performance during Equipment Outages," Annual TRB Meeting, Jan. 2000 (00-0954).
52. Jha, M. and Schonfeld, P. "GIS - based Analysis of Right-of-Way Cost for Highway Optimization," Annual TRB Meeting, Jan. 2000 (00-1065).
53. Rakas, J. and Schonfeld, P. "Airspace Reliability Models," NEXTOR Symposium, Washington DC, Nov. 2000.
54. Ting, C.J. and Schonfeld, P. "Optimal Scheduling in Multiple-hub Transit Networks," 5th Annual International Conference on Industrial Engineering Theory, Applications and Practice, Hsinchu, Taiwan, Dec. 13-15, 2000.
55. Jha, M. and Schonfeld, P. "Considering Maintainability in Highway Alignment Optimization," Annual TRB Meeting, Jan. 2001 (01-3170).
56. Kim, E. and Schonfeld, P. "Estimating Highway Cross Section Using Vector and Parametric Representation," Annual TRB Meeting, Jan. 2001 (01-2682).
57. Kim, E., Jha, M., and Schonfeld, P. "Intersection Cost Modeling for Highway Alignment Optimization," 9th World Conf. on Transp. Research, Seoul, Korea, July 2001.
58. Kim, E., Jha, M., Lovell, D., and Schonfeld, P. "Local Optimization of Intersections for Highway Alignments," Annual TRB Meeting, Jan. 2002 (02-2712)

59. Wang, S. and Schonfeld, P. "Development of Generalized Waterway Simulation Model," Annual TRB Meeting, Jan. 2002 (02-2194).
60. Jha, M. and Schonfeld, P. "Transit Line Optimization with Genetic Algorithms and GIS," Annual TRB Meeting, Jan. 2003 (03-4383).
61. Chen, C.H.P. and Schonfeld, P. "Work Zone Lengths for a Four - lane Road with an Alternate Route," Annual TRB Meeting, Jan. 2003 (03-2944).
62. Schonfeld, P. "Selection and Scheduling of Interdependent Projects," Korea Transport Inst. Inchon. ROK, Aug. 6, 2003.
63. Chen, C.H.P. and Schonfeld, P. "Work Zone Optimization for Two - lane Highway Maintenance Projects," Annual TRB Meeting, Jan. 2004 (04-3898).
64. Tao, X. and Schonfeld, P. "A Simulation Method for Selecting and Scheduling Waterway Projects," Annual TRB Meeting, Jan. 2004 (04-2899).
65. Tao, X. and Schonfeld, P. "Parallel Genetic Algorithms for Selecting and Scheduling Interdependent Transportation Projects," INFORMS Meeting, Denver, Oct. 27, 2004.
66. Pathomsiri, S., Haghani, A. and Schonfeld, P. "Operational Efficiency of Airports in Multiple Airport Systems," Annual TRB Meeting, Jan. 2005, (05-0495).
67. Luo, Y. and Schonfeld, P. "Tour Length of Many-to-One Dial-A-Ride Service," Annual TRB Meeting, Jan. 2005 (05-0561).
68. Chen, C.H.P., Schonfeld, P. and Paracha, J. "Work Zone Optimization for Two-lane Highway Work Zone Projects with an Alternate Route," Annual TRB Meeting, Jan. 2005 (05-1820).
69. Tao, X., and Schonfeld, P. "A Lagrangian Relaxation Algorithm for Selecting Interdependent Projects under Cost Uncertainty," Annual TRB Meeting, Jan. 2005 (05-0565).
70. Pathomsiri, S., Haghani, A. and Schonfeld, P. "Vehicle Miles Traveled in Multi - vehicle Households," Annual TRB Meeting, Jan. 2005, (05-0494).
71. Kim, E., Schonfeld, P., Kim, H.S. and Jha, M.K. "Highway Alignment Optimization Incorporating Bridges and Tunnels," Annual TRB Meeting, Jan. 2005, (05-2574).
72. Wang, S. and Schonfeld, P. "Genetic Algorithms for Selecting and Scheduling Waterway Projects," NETS Symposium. Salt Lake City, Jan. 12-14, 2006.
73. Kang, M., Jha, M., and Schonfeld, P. "Three- Dimensional Highway Alignment Optimization for the Brookeville Bypass," Annual TRB Meeting, Jan. 2006, (06-1023).
74. Tao, X., and Schonfeld, P. "Selection and Scheduling of Interdependent Transportation Projects with Island Models," Annual TRB Meeting, Jan. 2006, (06-1105).
75. Wang, S., Tao, X., and Schonfeld, P. "Modeling Shippers' Response to Scheduled Waterway Lock Closures," Annual TRB Meeting, Jan. 2006, (06-1833).
76. Chen, C.H.P., and Schonfeld, P. "Work Zone Optimization for Multiple - Lane Highway Resurfacing Projects with Time Constraints and an Alternate Route," Annual TRB Meeting, Jan. 2006, (06-1812).
77. Tien, S.L. and Schonfeld, P. "Duration versus Cost Tradeoffs in Work Zone Optimization," Annual TRB Meeting, Jan. 2006, (06-1789).
78. Schonfeld, P. "Optimizing Challenging Problems with Artificial Intelligence Heuristics," Invited Presentation, Annual TRB Meeting, Jan. 21, 2007.
79. Tao, X. and Schonfeld, P. "Island Models for a Stochastic Problem of Transportation Project Selection and Scheduling," Annual TRB Meeting, Jan. 2007, (07-1895).
80. Tien, S.L. and Schonfeld, P. "Passenger Market Equilibrium for Competing Airports in a Multiple Airport Region," Annual TRB Meeting, Jan. 2007, (07-1635).
81. Wang, S. and Schonfeld, P. "Demand Elasticity and Benefit Measurement in a Waterway Simulation Model," Annual TRB Meeting, Jan. 2007, (07-2579).
82. Wang, S. and Schonfeld, P. "Modeling Demand Response to Unscheduled Waterway Lock Closures," Annual TRB Meeting, Jan. 2007, (07-1849).
83. Chen, C.H.P. and Schonfeld, P. "Pavement Resurfacing Intervals in Work Zone Optimization," Annual TRB Meeting, Jan. 2007, (07-1625).
84. Zhou, Y., Kim, H.S., Schonfeld, P. and Kim, E., "Subsidies and Welfare Maximization Tradeoffs in Bus Transit Systems," Western Regional Science Association Conference, Newport Beach, California, Feb. 24, 2007.
85. Karri, G.A.K., Jha, M.K., Kang, M.W. and Schonfeld, P., "Application of GIS in Highway Alignment Optimization," 20th Annual Geographic Information Sciences Conference, Towson Univ., Baltimore, Maryland, March 2007.
86. Kim, D. and Schonfeld, P., "Road Space Allocation in a Congested Transportation Network with Bus and Toll Lanes," 11th World Conference on

Transport Research, Berkeley, California, June 2007.

87. Ngamchai, S. and Schonfeld, P., "Air Express Network Design with Hub Sorting," 11th World Conference on Transport Research, Berkeley, California, June 2007.
88. Tien, S.L. and Schonfeld, P. "Model of Controller Requirements for Enroute Traffic," 29th International Air Transport Conference, Irving, Texas, Aug. 2007.
89. Yang, N. and Schonfeld, P. "A Hybrid Methodology for Freeway Work Zone Optimization with Time Constraints," INFORMS National Meeting, Seattle, Washington, Nov. 6, 2007.
90. Tien, S.L. and Schonfeld, P. "Regression Model for Forecasting Enroute Controller Requirements in Response to Future Traffic Growth," INFORMS National Meeting, Seattle, Washington, Nov. 6, 2007.
91. Wang, S.L. and Schonfeld, P., "Scheduling of Waterway Projects with Complex Interrelations," Annual TRB Meeting Jan. 2008, (08-2512).
92. Wang, S.L., Yang, N. and Schonfeld, P. "Simulation-Based Maintenance Planning for Waterway Networks," Annual TRB Meeting, Jan. 2008, (08-2602).
93. Kim, D. and Schonfeld, P. "Road Network Design with Road Space Allocation and Toll Funding," Annual TRB Meeting, Jan. 2008, (08-2873).
94. Kim, D. and Schonfeld, P. "Integrated Analysis of Toll Lanes and Bus-Priority Lanes," Annual TRB Meeting, Jan. 2008, (08-2906).
95. Tien, S.L. and Schonfeld, P. "Ordinal Regression Model for Forecasting En-route Controller Requirements," Annual TRB Meeting, Jan. 2008, (08-1652).
96. Yang, N., Wang, S.L. and Schonfeld, P. "Simulation-Based Optimization of Waterway Projects using a Parallel Genetic Algorithm," Annual TRB Meeting, Jan. 2008, (08-2571).
97. Jha, M.K., Chen, C.C., Schonfeld, P. and Kikuchi, S. "An Evolutionary Algorithm for Military Applications," IEEE 3rd International Conference on Systems of Systems Engineering (SoSE 2008), Monterey, CA, June 2008.
98. Cheng, W. and Schonfeld, P. "Phased Development of Rail Transit Routes," Annual TRB Meeting, Jan. 2009, (09-3114).
99. Kim, D. and Schonfeld, P. "Multicriteria Network Equilibrium Model for Pricing in a Multimodal Network," Annual TRB Meeting, Jan. 2009, (09-3702).
100. Yang, N., Kang, M., Schonfeld, P. and Jha, M. "Multi-objective Optimization of Highway Alignments Incorporating Preference Information," Annual TRB Meeting, Jan. 2010 (10-1128).
101. Kang, M., Yang, N., Schonfeld, P. and Jha, M., "Bi-level Highway Route Optimization," Annual TRB Meeting, Jan. 2010 (10-1330).
102. Chen, C.C. and Schonfeld, P. "Modeling and Performance Assessment of Intermodal Transfers at Cargo Terminals," Annual TRB Meeting, Jan. 2010 (10-2924).
103. Chen, C.C., Wang, S.L. and Schonfeld, "Dynamic Path Optimization for Robotic Agents," Annual TRB Meeting, Jan. 2010 (10-1420).
104. Lai, X. and Schonfeld, P. "Optimizing Rail Transit Alignments Connecting Multiple Major Stations," Annual TRB Meeting, Jan. 2010 (10-2837).
105. Chen, C.C. and Schonfeld, P. "Intermodal Transfer Coordination in Logistic Networks," Korea Transport Research Institute, Feb. 3, 2010, Incheon, Korea.
106. Schonfeld, P. "GIS-Based Evaluation and Optimization of Highway Alignments," Keynote Presentation, Korea Transportation Research Conference, Feb. 4, 2010, Seoul, Korea.
107. Luo, Y. and Schonfeld, P. "Online Rejected-Reinsertion Heuristics for the Dynamic Multi-Vehicle Dial-a-Ride Problem," Annual TRB Meeting, Jan. 2011 (11-1655).
108. Luo, Y. and Schonfeld, P. "Performance Metamodels for Dial-a-Ride Services with Time Constraints," Annual TRB Meeting, Jan. 2011 (11-3144).
109. Yang, N. and Schonfeld, P. "Impact of User Diversion Behavior on Work Zone Operation Optimization," Annual TRB Meeting, Jan. 2011 (11-4175).
110. Markovic, N. and Schonfeld, P. "Scheduling under Uncertainty for a Single-Hub Intermodal Freight System," Annual TRB Meeting, Jan. 2011 (11-2291).
111. Chen, C.C., Hwang, D., Wang, S.L. and Schonfeld, P. "Incorporating Visibility Analysis into a Military Path Planning Algorithm," Annual TRB Meeting, Jan. 2011 (11-2253).
112. Chen, C.C. and Schonfeld, P. "Real-Time Dispatching Control to Alleviate Schedule Disruptions at Intermodal Freight Transfer Terminals," Annual

TRB Meeting, Jan. 2011 (11-2268).

113. Tien, S.L., Hoffman, R. and Schonfeld, P. "En-route Sector Combination Scheme to Minimize En-route Controller Staffing," Annual TRB Meeting, Jan. 2011 (11-3247).

114. Kang, M., Wang, S., Jha, M., Chen, C.C. and Schonfeld, P. "A Simulation Framework for the Path Planning of Unmanned Autonomous Systems," Fifth International Symposium on Uncertainty Modeling and Analysis, College Park, MD, April 2011.

115. Yang, N. and Schonfeld, P. "Impact of User Diversion on Work Zone Optimization," 18th World Congress on Intelligent Transportation Systems, Oct. 17, 2011, Orlando, Florida.

116. Kim, M., Schonfeld, P. and Kim, E. "Speed Optimization for Rail Transit Alignments Connecting Stations at Different Elevations," Annual TRB Meeting, Jan. 2012 (12-4363).

117. Markovic, N. and Schonfeld, P. "Location of Truck Inspection Stations Based on Stochastic Flows," Annual TRB Meeting, Jan. 2012 (12-2624).

118. Markovic, N., Drobnjak, Z. and Schonfeld, P. "Non-stationary Markov Chain Framework for Optimizing Dedicated Check-In Service," Annual TRB Meeting, Jan. 2012 (12-3902).

119. Markovic, N. and Schonfeld, P. "Simulation-based Optimization of Recovery for a Multi-terminal Freight Transportation System," Annual TRB Meeting, Jan. 2012 (12-2650).

120. Wang, S.L. and Schonfeld, P. "Simulation-Based Scheduling of Mutually Exclusive Projects with Precedence and Regional Budget Constraints," Annual TRB Meeting, Jan. 2012 (12-1164).

121. Lai, X. and Schonfeld, P. "Optimization of Rail Transit Alignments Considering Vehicle Dynamics," Annual TRB Meeting, Jan. 2012 (12-2553).

122. Chen, C.C. and Schonfeld, P. "A Hybrid Heuristic Technique for Optimizing Intermodal Logistics Timed Transfer Systems," Transport Research Arena Conference, Athens, Apr. 2012 (winner of Best Paper Award at this conference, awarded Apr. 24).

123. Kim, M. and Schonfeld, P. "Integration of Conventional and Flexible Bus Services," Workshop on Enhancing Intermodal Passenger Travel, Montreal, Canada, May 31, 2012.

124. Luo, Y. and Schonfeld, P. "Fleet Size Metamodel for Dial-a-Ride Services with Time Constraints," Ninth Asia Pacific Transportation Development Conference, Chongqing, China, June 29-July 1, 2012.

125. Chen, C.C. and Schonfeld, P. "Clustering Analysis for Airport Parking," The 17th International Conference of the Hong Kong Society for Transportation Studies, Transportation & Logistics Management, Hong Kong (HKSTS 118), Dec. 15-17, 2012.

126. Juster, R. and Schonfeld, P. "Personal Rapid Transit as Urban Transportation," Annual TRB Meeting, Jan. 2013 (13-1186).

127. Chen, C.C. and Schonfeld, P. "A Dispatching Model for Countering Delay Propagation in Intermodal Logistics Timed-transfer Systems," Annual TRB Meeting, Jan. 2013 (13-1640).

128. Markovic, B. and Schonfeld, P. "Planning Dial-a-Ride Services: Statistical and Metamodeling Approach," Annual TRB Meeting, Jan. 2013 (13-4205).

129. Besinovic, N., Markovic, B. and Schonfeld, P. "Optimal Allocation of Truck Inspection Stations Based on k-Shortest Paths," Annual TRB Meeting, Jan. 2013 (13-3123).

130. Kim, M., Schonfeld, P. and Kim, E. "Simulation-based Rail Transit Optimization Model," Annual TRB Meeting, Jan. 2013 (13-1196).

131. Chen, C.C. and Schonfeld, P. "Uncertainty Analysis for Flexible Airport Gate Development," 13th COTA International Conference of Transportation Professionals, Shenzhen, Aug. 13-16, 2013.

132. Markovic, N., Nair, R., Schonfeld, P., Miller-Hooks, E. and Mohebbi, M. "Optimizing Dial-a-Ride Services in Maryland," Annual TRB Meeting, Jan. 2014 (14-1705).

133. Feng, L., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Optimizing Ridesharing Services for Airport Access," Annual TRB Meeting, Jan. 2014 (14-3203).

134. Juster, R. and Schonfeld, P. "An Assessment of Trip Times in Automated Guideway Transit Systems," Annual TRB Meeting, Jan. 2014 (14-3235).

135. Sun, Y. and Schonfeld, P. "Schedule-based Route Choice Estimation with Automatic Fare Collection Data for Rail Transit Passengers," Annual TRB

Meeting, Jan. 2014 (14-0834).

136. Vodopivec, N., Miller-Hooks, E., and Schonfeld, P. "Benefits of Recourse in the Stochastic Dial-A-Ride Problem," The International Federation of Operational Research Societies (IFORS) 2014 Conference, Barcelona, Spain, July 13-18, 2014.
137. Vodopivec, N., Miller-Hooks, E., and Schonfeld, P. "The Dial-A-Ride Problem with Uncertain Travel Times," Inst. for Operations Research and Management Sciences (INFORMS) 2014 Conference, San Francisco, California, Nov. 9-12, 2014.
138. Sun, Y. and Schonfeld, P. "Optimization Models for Public Transportation Operations under Subsidization and Regulation," Annual TRB Meeting, Jan. 2015 (15-0563).
139. Zhou, T. and Schonfeld, P. "A Model for Optimizing Runway Location and Orientation," Annual TRB Meeting, Jan. 2015 (15-3439).
140. Kastrouni, E., Shayanfar, E., Schonfeld, P., Mahapatra, S. and Zhang, L. "Statewide Assessment of the Broader Economic Benefits from Transportation Investment: A Practical Approach Integrating Travel Demand Models and SHRP2 C11 Tools with Applications in Maryland," Annual TRB Meeting, Jan. 2015 (15-4777).
141. Vodopivec, N., Tobias, D., Miller-Hooks, E., Schonfeld, P. and Mohebbi, M. "Taxis as a Recourse Option for Ridesharing Services," Annual TRB Meeting, Jan. 2015 (15-5478).
142. Zhang, L., Schonfeld, P., Kastrouni, E. Shayanfar, E. and Mahapatra, S. "Integrating Travel Demand Models and SHRP2 C11 Tools for Statewide Assessment of the Broader Economic Benefits from Transportation Investment," 15th TRB National Transportation Planning Applications Conference, May 17-21, 2015, Atlantic City, NJ.
143. Schonfeld, P. "Multi-modal Integration and Transfer Coordination in Transportation Systems," Keynote Presentation, International Conference on Integrated Intermodal Transport, Xian, China, June 11, 2015.
144. Yousefzadeh, R., Goldstein, T. and Schonfeld, P. "Real-time Optimal Decisions in Hierarchical Freight Transportation Systems," 7th Annual Complexity in Business Conference, Washington, DC, Nov. 14, 2015.
145. Chen, C.C., Tsai, Y.H. and Schonfeld, P. "Schedule Coordination, Delay Propagation, and Disruptions Resilience in Intermodal Logistic Networks," Annual TRB Meeting, Jan. 2016 (16-1213).
146. Chen, L. and Schonfeld, P. "A Simulation Study of Coordinated Logistic Network Design," Annual TRB Meeting, Jan. 2016 (16-1148).
147. Sun, Y. Fan, W. and Schonfeld, P. "Static Parking Choice Model Considering Parking Duration," Annual TRB Meeting, Jan. 2016 (16-1453).
148. Sun, Y., Lu, Y., Zhou, M. and Schonfeld, P. "Redesigning Rail Transit Short Turn Operations for Congestion Mitigation: A Case Study of Line 2 of Shanghai Metro," Annual TRB Meeting, Jan. 2016 (16-1663).
149. Shi, J. Sun, Y. Schonfeld, P. and Guo, Q. "Identifying Passenger Trip Characteristics and Evaluating Travel Time Reliability by Visualizing AFC Data," Annual TRB Meeting, Jan. 2016 (16-2344).
150. Shayanfar, E. and Schonfeld, P. "Prioritizing Interrelated Road Projects using a Genetic Algorithm," Annual TRB Meeting, Jan. 2016 (16-5523).
151. Kim, M., Schonfeld, P. and Kim, E. "Service Type Variation for Multi-region Bus Systems," Annual TRB Meeting, Jan. 2016 (16-6238).
152. Sun, Y. and Schonfeld, P. "Coordinated Airport Facility Development under Uncertainty," INFORMS Annual Meeting, Nashville, TN, Nov. 2016.
153. Kang, M. and Schonfeld, P. "Analysis of Seasonal Variation of Upper Mississippi Towboat Traffic," Annual TRB Meeting, Jan. 2017 (17-02212).
154. Choi, Y. and Schonfeld, P. "Optimization of Multi-package Drone Deliveries Considering Battery Capacity," Annual TRB Meeting, Jan. 2017 (17-05769).
155. Sun, Y., Guo, Q., Schonfeld, P. and Li, Z. "Effects of Costly Public Funds on Public Transit Subsidization and Regulation," Annual TRB Meeting, Jan. 2017 (17-03305).
156. Sun, Y. and Schonfeld, P. "Coordinated Airport Facility Development under Uncertainty," Annual TRB Meeting, Jan. 2017 (17-01561).
157. Guo, Q., Chow, J.Y.J. and Schonfeld, P. "Stochastic Dynamic Switching in Fixed and Flexible Transit Services as Market Entry-exit Real Options," Transp. Research Procedia, 22nd Int'l Symp. on Transp. and Traffic Theory, Chicago, Illinois, vol. 23, July 2017, pp 380-399.
158. Guo, Q., Chow, J.Y.J. and Schonfeld, P. "Real Options Switching Strategies in Dynamic Transport Service Operations," Inst. for Operations Research and Management Sciences (INFORMS) Conference, Houston, Texas, Oct. 22-25, 2017.

159. Jovanovic, U., Shayanfar, E. and Schonfeld, P. "Selecting and Scheduling Link and Intersection Improvements in Urban Networks," Annual TRB Meeting, Jan. 2018 (18-05088).

160. Ryan, P. and Schonfeld, P. "Optimized Local and Express Train Headways for Irregular Station Spacings and Heterogeneous Demand," Annual TRB Meeting, Jan. 2018 (18-05393).

161. Choi, Y. and Schonfeld, P. "Drone Deliveries Optimization with Battery Energy Constraints," Annual TRB Meeting, Jan. 2018 (18-02726).

162. Shayanfar, E., Schonfeld, P. and Wang, J. "Optimizing the Priority of ADHS Projects by Integrating Simulation and Genetic Algorithm," 6th International Transportation and Economic Development Conference, Washington, DC, June 2018.

163. Schonfeld, P. "Selection and Scheduling of Interrelated Improvements in Transportation Systems," COTA International Conference of Transportation Professionals, Beijing, July 5-8, 2018.

164. Yu, L., Sun, Y. and Schonfeld, P. "Nonlinear Complementarity Problem Formulation for Bus Transit Assignment under General Stochastic Equilibrium Conditions," Annual TRB Meeting, Jan. 2019 (19-03021).

165. Choi, Y., Schonfeld, P., Lee, Y. and Shin, H. "Innovative Methods for Delivering Fresh Food to Underserved Populations," Annual TRB Meeting, Jan. 2019 (19-03523).

166. Shayanfar, E., Schonfeld, P. and Wang, J. J. "Prioritizing Highway Development Projects Based on Market Access in Appalachia," Annual TRB Meeting, Jan. 2019 (19-03836).

167. Schonfeld, P. "Analysis and Scheduling of Interrelated Alternatives for Network Development," 4UniC 2019 Conference, Calgary, Canada, Aug. 2019.

168. Chen, Y., Markovic, N., Ryzhov, I., and Schonfeld, P. "Data-driven robust resource allocation with isotonic cost functions," INFORMS Annual Meeting, Oct. 22, 2019.

169. Choi, Y. and Schonfeld, P. "Analytic Approximations of Realistic Tour Distances: Case Studies for Deliveries by Robots and Drones," Annual TRB Meeting, Jan. 2020. (20-03619)

170. Lai, X., Teng, J. Schonfeld, P. and Ling, L. "Reliable Schedule Coordination for a Bus Transit Corridor: A Shanghai Case," Annual TRB Meeting, Jan. 2020. (20-04092)

171. Raleigh, C., Kim, M. and Schonfeld, P. "Optimization of Service Zones and Frequencies for Freight Deliveries," Annual TRB Meeting, Jan. 2020. (20-04458)

172. Schonfeld, P. "Selection and Scheduling of Interrelated Alternatives for Transportation System Development," Keynote Lecture, 13th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), IIT Bombay, India, December 10-11, 2020.

173. Liu, J., Schonfeld, P., Chen, J., Ying, Y. and Peng, Q. "Perceived Trip Time Reliability and its Cost on a Rail Transit Network," Annual TRB Meeting, Jan. 2021. (21-00652)

174. Bayrak, M., Guler, S. I. and Schonfeld, P. "Implementation Sequence Optimization for Dedicated Bus Lane Projects," Annual TRB Meeting, Jan. 2021. (21-00837)

175. Choi, Y., Wang, J. J. and Schonfeld, P. "Review of Length Approximations for Tours with Few Stops," Annual TRB Meeting, Jan. 2021. (21-02044)

176. Choi, Y., Wang, J. J. and Schonfeld, P. "Optimization of Farm Product Logistics: A Case Study in Central Appalachia," Annual TRB Meeting, Jan. 2021. (21-03072)

177. Wu, F., Schonfeld, P. and Kim, M. "Optimized Restoration Sequence for Disrupted Freight Rail Network," Annual TRB Meeting, Jan. 2021. (21-03438)

178. Wu, F., Schonfeld, P. and Kim, M. "Optimized Sequencing of Post-disaster Restoration Alternatives for Freight Railroad Networks," Joint Rail Conference, ASME, Apr. 2021. (virtual)

179. Wu, F., Schonfeld, P. and Kim, M. "An Optimization Method for Integrating Short-term Post-disruption Restoration and Long-term Improvement of Freight Railroad Networks," Joint Rail Conference, ASME, Apr. 2021. (virtual)

180. Carriere, P., Kim, M., Schonfeld, P. and Wu, F. "Network Centrality and Long-term Investment Decisions for Railroad Networks," Joint Rail

Conference, ASME, Apr. 2021. (virtual)

181. Khadem, N., Shin, H., Lee, Y., Choi, Y. and Schonfeld, P. "Optimal Options for Fresh Food Deliveries in Baltimore Food Deserts," Annual TRB Meeting, Jan. 2022. TRBAM-22-03740

182. Wu, F., Schonfeld, P., Ayyub, B., and Kim, M. "A Topological Approach for Optimizing Railroad Freight Network Restoration after Disruptions," Annual TRB Meeting, Jan. 2022. TRBAM-22-03894

183. Chen, Y., Markovic, N., Ryzhov, I. and Schonfeld, P., "Data-Driven Robust Resource Allocation with Monotonic Cost Functions," presented at TSL Awards Meeting of INFORMS, Indianapolis, Oct. 18, 2022.

184. Schonfeld, P. "Selection and Scheduling of Interrelated Alternatives in Transportation Networks," Keynote presentation, International Conference and Annual Meeting of the Chinese Institute of Transportation, Keelung, Taiwan, Dec. 1, 2022.

185. Hu, S., Xiong, C., Chen, P. and Schonfeld, P. "Revisiting Travel Demand Using Big Data: An Empirical Comparison of Explainable Machine Learning Models," Annual TRB Meeting, Jan. 2023. TRBAM-23-00853

186. Choi, Y., Wang, J. and Schonfeld, P. "Trends and Impacts of Local Access Roads Investment in Appalachia," Annual TRB Meeting, Jan. 2023. TRBAM-23-01276

187. Hu, S., Xiong, C., Ji, Y., Wu, X., Liu, K. and Schonfeld, P. "Understanding Factors Influencing User Engagement in Incentive-Based Travel Demand Management Program," Annual TRB Meeting, Jan. 2024. TRBAM-24-02107

188. Li, Z., Wang, J. and Schonfeld, P. "A Planning Model for Flexible-route Delivery Optimization of Farm Products: A Case Study in Central Appalachia," Annual TRB Meeting, Jan. 2024. TRBAM-24-04252

189. Wu, F., Du, J., Schonfeld, P. and Rakha, H. "Optimized Road Network Development with Comparison of Microsimulation and Traffic Assignment," Annual TRB Meeting, Jan. 2024. TRBAM-24-05369

190. Liu, J., Li, X., Liu, W., Schonfeld, P. and P., Du, B. "An Ensemble Learning-based Neural Network Model for Predicting Urban Rail Transit Accident Consequence Category," Annual TRB Meeting, Jan. 2024. TRBAM-24-05672

191. Wan, X., Pu, H., Schonfeld, P., Ran, Y., Song, T., Li, W., Hu, T. and Peng, L. "A Potential Field-RRT-Star Algorithm for Mountain Railway Alignment Optimization Incorporating Environmental Suitability Analysis," Annual TRB Meeting, Jan. 2025. TRBAM-25-00042

192. Li, Z., Choi, Y.M. and Schonfeld, P. "Locations for Electric Truck Charging Stations and Impact of Battery Technology Improvement," Annual TRB Meeting, Jan. 2025. TRBAM-25-00308

193. Li, Z. and Schonfeld, P. "Optimization of Runway Exits Locations Based on Fleet Mix and Operational Delays," Annual TRB Meeting, Jan. 2025. TRBAM-25-03220

194. Liu, J., Zhao, T., Schonfeld, P., He, M., Du, B. and Xie, T. "Optimizing Vehicle Routing for Multi-commodity Distribution with Route Redundancy," Annual TRB Meeting, Jan. 2025. TRBAM-25-03302

195. Li, Z., Guo, Q., and Schonfeld, P. "Stochastic Models for Airport Terminal Capacity Expansion Planning," Annual TRB Meeting, Jan. 2025. TRBAM-25-05153

196. Guo, Q., Lu, J., Chow, J. and Schonfeld, P. "Equity-aware Design and Timing of Fare-free Transit Zoning under Demand Uncertainty," Bridging Transportation Researchers (BTR) Conference, online Aug. 6-7, 2025.

197. Sevim, A., Ozguven, E. E., Guo, Q. and Schonfeld, P. "Dynamic Mode Control for Transit Services in Disaster Evacuations Using a Hawkes-Based Jump-Diffusion Process," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01020

198. Liu, J., Liu, Z., Lin, Y., Schonfeld, P., Chen, J., He, M., Li, W. and Du, B. "Vulnerability Evaluation and Critical Turn-Back Interval Identification for an Urban Rail Transit Network," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01742

199. Liu, J., Wang, Q., Zhao, Y., Schonfeld, P., He, M., Wu, X., Du, B. and Xie, Y. "Enhancing Distribution Resilience: Multi-Commodity Vehicle Routing Optimization with Redundancy," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-01791

200. Li, Z. and Schonfeld, P. "Hybrid Scheduling and Routing for Rural Transit with Flexible and Fixed-Route Integration," accepted for the Annual TRB

Meeting, Jan. 2026. TRBAM-26-02208

201. Liu, J., Mo, Y., Jiao, Y., Schonfeld, P., Du, B., Shuai, C. and He, M. "Predicting Travel Time Reliability with Automatic Fare Collection Data for An Urban Rail Transit Network," accepted for the Annual TRB Meeting, Jan. 2026. TRBAM-26-02259