Yorgos J. Stephanedes, Ph.D., P.E.
Registered Professional Engineer
State of Minnesota, USA, Registration No. 20269
Greece, Registration No. 76144

EDUCATION

1978 Ph.D., Transportation. Thayer School of Engineering, Dartmouth
1974 M.S., Electrical Engineering. Carnegie Institute of Technology, Carnegie-Mellon University
1973 B.A., Engineering Science (ΦΒΚ, Summa Cum Laude, High Distinction), Dartmouth

PROFESSIONAL EMPLOYMENT
2011-date	Director, Environmental Engineering and Transportation Division, Dept. of Civil Engineering, University of Patras
2010-date	Director, ITS Program, Dept. of Civil Engineering, University of Patras
2008-date	Professor, Dept. of Civil Engineering, University of Patras

HONORS
2009	International Braun Intertec Award, USA

PROJECTS
2013-	Project Manager, UPatras, Greece-Italy facilities for transport 2.0
2013-	Project Coordinator and Lead Partner Project Manager, "Integrated accessibility and routing guidance platform for safe multimodal transport in sustainable smart ports and regions"
2013-	Project Coordinator and Lead Partner Project Manager, "Green procurement and smart city support in the energy sector"(GRASP1C-MED12-33)
2010-	Transportation Technical Director, "Real time demand estimation in dynamic carpooling"
2006-09	Project Technical Director, "Wireless communications and telematics networks for transportation and tourist information systems and services in urban and rural areas"
2006-08	Program Advisor, "Transportation Logistics Program for City of Tripolis and adjacent urban and rural areas"
2003-08	Project Design Director, "Machine vision system in motorways and toll station areas"
2002-06	Project Manager for Construction Studies, "Upgrading of traffic signal network and development of integrated ITS for traffic management & control in Attiki Prefecture (EE1/02)"

TEACHING CONTRIBUTIONS
Development of Short Courses (2000-2006) – EU
■ Communications networks for real-time transportation management systems, 2006.
■ Demand diversion and transportation management in motorway/arterial junctions, 2002.
■ Traffic and incident management in work zones, 2000.

Book Chapters

Stephanedes, Y.J. (2005). Intelligent Transportation Systems. Chapter 86, The Engineering Handbook, 2nd Edition, Ed. R. C. Dorf. ISBN 0-8493-1586-7, CRC Press, Boca Raton, Florida.

Papers

Stephanedes, Y.J. and Stanitsas, P. (2011). "Detection of shockwave propagation speed," *Innovation and Society*, Patras, 3-4 October.

Stephanedes, Y.J., Raxis, P., Argyropoulos, I. and Fretzagias, C. (2011). "Intelligent Green Transportation: The case for dynamic carpooling," *Innovation and Society*, Patras, 3-4 October.

Stephanedes, Y.J., Matsoukis, E. and Tzelepis, E. (2011). "Intelligent prediction of emergency lane traffic flow," *Innovation and Society*, Patras, 3-4 October.

Stanitsas, P. and Stephanedes, Y.J. (2011). "Real time data management for estimating probabilities of incidents and near misses," *Proc., Urban Data Management Symposium,* Urban Data Management Society, Delft, 28-30 September 2011.

Stephanedes, Y.J., Davis, G. and Hourdos, J. (2010). "Dynamic freeway management based on real-time estimation of incidents and incident-prone traffic conditions," *Proc., Second International Symposium in Freeway Operations*, 21-24 June 2009, Transportation Research Board, Hawaii.

Stephanedes, Y.J. (2010). "Comparative analysis of incident prediction methods," *Proc., Second International Symposium in Freeway Operations*, 21-24 June 2009, Transportation Research Board, Hawaii.

Tzamali, E., G. Akoumianakis, A. Argyros and Y.J. Stephanedes (2006). Improved Design for Vision-based Incident Detection in Transportation Systems Using Real-Time View Transformations. ASCE J. of Transportation Engineering, 132:11, 837-844, *Manuscript no.:* TE/2005/023349, November.

Presentations

Stephanedes, Y.J. (2011). Traffic dynamics of precursors to near-incidents. Inter-University Network, "Modelization and Analysis of Biomedical and Physical Systems (MABIPHYS)," Patras, December.

Stephanedes, Y.J. (2011). Ευφυή Συστήματα Μεταφορών στην Ελλάδα: Ερευνα, καινοτομία, προοπτικές, Ημερίδα Ερευνας στις Ευφυείς Μεταφορές, ΥΠΥΜΕΔΙ, 4 Νοεμβρίου.

Stephanedes, Y.J. (2011). ITS Innovation. ITS 2011 Conference, Patras, October 2011.

Stephanedes, Y.J. (2011). Εξελίξεις στα Ευφυή Συστήματα Μεταφορών, Συνέδριο για την Μεταφορική Αλυσσίδα, Αθήνα, Φεβρουάριος.

Stephanedes, Y.J. (2011). Demand analysis in dynamic carpooling, Eurostars Conference, Bucharest, 30 May.

Stephanedes, Y.J. (2007). Comparative analysis of experimental performance from incident management telematics, CM Conference, Brussels, Belgium, April.

Stephanedes, Y.J. (2006). Findings from intelligent traveler information systems in EU, CM Conference, Brussels, Belgium, May.

Seminars (selected)
Istanbul Kültür Üniversitesi, "Intelligent transportation systems applications to estimation of environmental impact of traffic flow," Constantinople, 18 November 2011.

University of Minnesota, The Braun-Intertec Lecture, "New methods for anticipatory freeway management," Minneapolis, May 2009.

University of Cyprus, Dept. of Civil Engineering. "Incident management in motorways," Lefkosia, Cyprus, March 2008.

Purdue University, Dept. of Civil Engineering. "Recent developments in ITS in Europe," W. Lafayette, February 2007.

Texas A&M University, Dept. of Civil Engineering. "Improved effectiveness of integrated incident management strategies," College Station, February 2007.

University of Patras, Dept. of Civil Engineering. "Structural and derived problems and solutions in the design of transportation systems." Patra, 25 May 2005.

Purdue University, Dept. of Civil Engineering. "Incident probability estimation, detection, verification and integrated management," W. Lafayette, May 2005.

Research Reports (selected)
"Wireless communications and telematics networks for transportation and tourist information systems and services in urban & rural areas." Ph. I Report Gen. Dir. Res. Tech., BSI, Athens, 2007.

"Upgrading of traffic signal network and development of integrated ITS for traffic management and control in Attiki Prefecture." Final Study Report Min. Pub. Works, Athens, 2006.

"Master Plan for City of Tripolis and adjacent urban and rural area." Phase I Report City of Tripolis, Athens, 2005.

Organization of Conferences and Workshops
Synthesis Workshop, "Conflict and Risk in Dynamical Engineering Processes," Chair, with T. Bountis, Scientific Organizing Committee, University of Patras, 22 December 2011.

1st International Conference in ITS Innovations, Patras, October 2011.

7th International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, Shangai, June 2005. Planning Committee.

Conference Session Chair
"Innovative ITS products and systems – ITS Hellas as an industrial and research cluster," ITS 2011, Patras, October 2011.

"ITS Roundtable," ITS 2011, Patras, October 2011.

"Safety issues in Transportation," Transportation Safety and Security, Athens, May 2008.

<u>Review Duties</u>
2010-	Transportation Research Journal, Pergamon
2010-	Transportation Research Board, National Academy of Sciences
2000-07	Greece, General Secretariat for Research and Technology, Evaluator
2002-06	EU, DG INFSO, Telematics in Transportation, Evaluator

EARLIER WORK

PROFESSIONAL EMPLOYMENT

2000-2006	President and Managing Director, Tenesys S.A., Athens.
2000-2003	Visiting Research Scientist, Institute of Computer Science, Foundation for Research and Technology, Univ. of Crete, Heraklion.
1997-2000	Director of International Projects, Hellenconsult S.A., Athens.
1995	Visiting ITS Specialist to Director, Directorate General XIII, European Union, Brussels.
1991-1994	Director of Graduate Studies, Department of Civil Engineering, Univ. of Minnesota
1989-1996	Professor, Dept. Civil Engineering, Univ. of Minnesota.
1984-1989	Associate Professor, Dept. Civil Engineering, Univ. of Minnesota.
1978-1984	Assistant Professor, Dept. Civil Engineering, Univ. of Minnesota.
1975-1978	Grad. Res. Asst., Thayer School of Engg (U.S.DOT), Dartmouth College, Hanover, NH.
1975	Research Associate, Nuclear Division, Oak Ridge National Laboratories, Tennessee.

HONORS

IEEE Invited Editor, Intelligent Transportation Systems
CTS Research Partnership Award
TRB D. Grant Mickle Award
Who's Who in Science and Engineering
Who's Who in Frontiers of Science and Technology
American Men and Women of Science
Associate Fellow, Minnesota Supercomputer Institute

FIELDS OF INTEREST

■ **Transportation and traffic network dynamics, management and control**
Automatic incident management in freeways/arterials based on stochastic properties of traffic flow
Dynamic traffic estimation-prediction using control theory, behavioral principles, Kalman filtering.
Theory of dynamic nonlinear transportation and traffic modeling.
Stochastic specifications in urban/rural transport and intercity commercial vehicle operations.
Demand diversion for hierarchical control in freeway corridors.
Real-time optimal ramp control in freeway networks.
Adaptive traffic network control.
Integrated traffic simulation-assignment for real-time evaluation of control/guidance strategies.
Dynamic transportation demand-supply interactions
Advanced public transportation systems

■ **Intelligent infrastructure**
Advanced freeway and arterial traffic management systems
Machine vision for surveillance, management, control in freeway and arterial management systems
Machine vision for incident management in urban and rural areas.
Machine vision for electronic toll area management.
Communications systems for real-time guidance/navigation of travelers and commercial vehicles.
Sensor algorithms and technology.
Weather monitoring
Advanced regional, multimodal travel information systems
Emergency management and services in metropolitan and rural areas

■ **Artificial intelligence in transportation**
Neural networks for incident probability estimation, incident detection, ramp metering, network control
Expert systems for strategic incident response in freeway corridors and urban/rural areas.
Pattern recognition algorithms for computer-aided decision support systems.
Data fusion

■ **Transportation and Economic Development**
Transportation supply dynamics and local/regional economic impacts
Transit management and urban/rural mobility
Advanced rural transportation systems
Travel and tourism services in urban and rural areas

PROFESSIONAL PROJECT WORK (1992-DATE)

2006-date   Project Technical Director, "Wireless communications and telematics networks for transportation and tourist information systems and services in urban and rural areas"

2006-date   Program Advisor, "Transportation Logistics Program for City of Tripolis and adjacent urban and rural areas"

2002-05   Project Manager for Construction Studies, "Upgrading of traffic signal network and development of integrated ITS for traffic management & control in Attiki Prefecture (EE1/02)"

2003-date   Project Design Director, "Machine vision system in motorways and toll station areas"

2003-04   Project Director, "Telematics for underground parking garage station"

2001-03   Project Design Director, "Machine vision system in urban transportation and traffic systems"

2001-03   Program Advisor, "Master Plan for City of Tripolis and adjacent urban and rural area"

2001-02   Project Advisor, "Telematics system for water supply of Cities of Tripolis and Thana"

2001-02   Project Technical Director, "Traffic signal network study for upgraded ITS in Attiki"

2001-02   Project Technical Director, "Incident estimation and response in ITS road networks," funding by EU, participation by Germany, Greece, UK, Spain, Netherlands.

2001-02   Project Technical Director, "Fiber optics system in Attiki Odos Motorway area"

2001   Study Technical Advisor, "Underground tunnel connection of Maliakos Bay"

2000-01   Project Coordinator and Technical Director, "Intelligent Transportation and Guidance Networks for traveller independence," funding by EU, participation by Austria, Finland, Greece, Italy.

2000-01   Technical Transportation Director, "Automated management of incidents, traffic congestion and driver information at traffic junctions" – funding by Ministry of Economy.

1999-01   Technical Transportation Director, "Telematics support of road safety measures at road works areas" – funding by Min. of Development.

1999-00   Project Coordinator and Technical Director, "Intelligent networks for collection and dissemination of information on transportation and the environment in real time" – funding by EU, participation by Germany, Greece, UK.

1998-0   Transportation Technical Manager, "Integrated incident management telematics, emergency healthcare logistics and environment monitoring in road networks," funding by EU and including UK, Norway, Italy and Greece.

1997-99   Project Coordinator and Project Manager, "Incident response with on-line innovative sensing," funding by EU and including Germany, Greece, France, UK, Norway, Spain and the Netherlands.

1996-98   Technical Consultant, "Albanian Road Network Reconstruction and Logistics Study: Argyrokastro," funding by Ministry of Economy.

1996-98   Technical Consultant, "Collection of Trip Characteristics," funding by ATTIKO METRO

1994-96   Technical Consultant on Transportation Logistics, Traffic and Energy Impacts: THERMIE-ENTRANCE, DG XIII, funding by EU.

1992-95   Technical Consultant on Transportation, Traffic and Pollution Impacts: "DRIVE-2, SCOPE," DG XIII, funding by EU.

1992-95   Technical consultant, "Systems of environmental monitoring and safety impacts in transportation operations," funding by FHWA.

TEACHING CONTRIBUTIONS

Development of Short Courses (2000-2006) – EU
■ Communications networks for real-time transportation management systems, 2006.
■ Demand diversion and transportation management in motorway/arterial junctions, 2002.
■ Traffic and incident management in work zones, 2000.

Regular University Courses Taught -- University of Minnesota
CE 3200   Introduction to Transportation Engineering

Development of New Courses -- University of Minnesota
CE 5210   Transportation Systems Analysis
CE 5212   Transportation Productivity and Energy Conservation
CE 5298   Advanced Transportation Laboratory
CE 8210   Consumer Choices in Transportation
CE 8211   Travel Demand Forecasting
CE 8212   Automatic Incident Detection
CE 8214   Transportation Dynamics and Control

Course Reorganization -- University of Minnesota
CE 1001 HONORS   CME Honors Program (computer-aided instruction)

GRADUATE STUDENT SUPERVISION

Awards

Milton Pikarsky Awards for Best U.S.Thesis, Council of University Centers.

Bernard Michel. Macroscopic modeling of freeway-to-freeway interactions at freeway interchanges and weaving areas, August 1996: *Best M.S. Thesis, 1996.*

Athanassios Chassiakos. Spatial-temporal filtering and correlation techniques for detection of incidents and traffic disturbances, November 1992. Now Assoc. Professor, University of Patra, Rio, Greece: *Best Ph. D. Thesis, 1994.*

Other completed Ph.D.'s – University of Minnesota

Nikos Vairamidis. Demand responsive freeway entrance ramp control with off-line optimization. Now President, Okyalos Communications Systems, Athens, Greece.

Kai-kuo Chang. Direct ramp metering in hierarchical control of freeway systems. Now Department of Transportation, Taiwan.

Eil Kwon. Dynamic diversion modeling for on-line control in freeway corridors. Now Director, ITS Research Program and Professor, University of Minnesota, Duluth. Previously at Minnesota Department of Transportation, Minnesota ITS Institute, Minnesota Center for Transportation Studies.

Vijaya Kumar. Dynamic modeling in intercity air travel.

Saleh Ali. Regional freight demand modeling with application to grain transport. Now Professor, Kuwait University.

Other completed M.S. Plan A (with Thesis) – University of Minnesota

1. **John Hourdakis**. Decision support system for freeway incident detection. 1997. Now Director, ITS Laboratory, University of Minnesota, Minneapolis.
3. **Sabhari Shankar**. Incident detection and off-scene response in urban networks, September 1996.
4. **Tidhar Carmeli**. Evaluation of adaptive control for urban networks, November 1996. PB.
5. **Haris Antoniades**. High-level coordination for large urban networks, 22 November 1995.
6. **Ping Yao**. Real-time traffic-responsive continuous freeway control using ramp interaction matrix, 1994.
7. **George Vassilakis**. Incident detection and response at intersections, 1994.
8. **Ling Yu**. Optimal real-time traffic-responsive discrete freeway control sensitive to ramp exit volume and entrance queue, 1994.
9. **Athanassios Chassiakos**. Improved time-space incident detection algorithms, 1990.
10. **Nikos Vairamidis**. Classification and pattern recognition algorithms for adaptive transportation management, 1990.
11. **Kai-kuo Chang**. Real-time control in freeway corridors, 1990.
12. **Timothy Grebner**. Estimation of dynamic transfer volumes in transit networks, 1990.

13. **Iossif Argyropoulos**. Advanced simulation/assignment method for real-time control in freeway corridors, 1989.
14. **Murari Lakshminarayanan**. Expert system for strategic incident response in freeway corridors, 1988.
15. **Angela Zante**. Dynamic modeling of interactions between transportation and county income/employment, 1988.
16. **Eric Tweit**. Pattern recognition techniques for classification of transit systems, 1987.
17. **Eil Kwon**. Microcomputer-assisted interactive method for dynamic decision making in transit routes, 1986.
18. **John Ziotas**. Heuristic procedure for highway investments and programming, 1986.
19. **Alan T. Forsberg**. Development and evaluation of barge fleeting strategies, 1985.
20. **Dante Gabriel**. Impacts of energy conservation policies on transportation operations, 1982.
21. **C. Habib Abdullah**. Sensitivity analysis for improved transportation management, 1982.

RESEARCH CONTRIBUTIONS

Books and Book Chapters

- Chapters in Books

A1. Stephanedes, Y.J. (2005). Intelligent Transportation Systems. Chapter 86, The Engineering Handbook, 2nd Edition, Ed. R. C. Dorf. ISBN 0-8493-1586-7, CRC Press, Boca Raton, Florida.

A2. Stephanedes, Y.J. (2002). Intelligent Transportation Systems. Chapter 65, Civil Engineering Handbook, 2nd Edition, Ed. W. Chen and J. Liew. ISBN 0-8493-0958-1, CRC Press, Boca Raton, Florida, 6501-6561.

A3.   Stephanedes, Y.J. (1995). Intelligent Transportation Systems. Chapter 62, Civil Engineering Handbook, *Winner of the 1996 Choice Outstanding Academic Book award*. ISBN 0-8493-8953-4, CRC Press, Boca Raton, Florida, 2343-2386.

A4.   Stephanedes, Y.J. (1994). Traffic Control Technology. Chapter 7, Infrastructure for China, Sterling Publications, London.

A9. Reichert, T. and Y.J. Stephanedes (1981). Addendum on Differential Diagnosis of Three Diseases of the Cervical Spine, Entropy Minimax Sourcebook, Vol. 4, 255-258.

- Books

A5. Finn, B., G. Fisher, N. Hounsell, M. McDonald, Y.J.Stephanedes, and M.Traversi (1996). Impacts of Telematics Applications in Transport. Directorate General XIII, European Commission, Volumes I and II, 231 pages, Brussels.

A6.   Stephanedes, Y.J. and F. Filippi, eds. (1996). Applications of Advanced Technologies in Transportation Engineering. ISBN 0-7844-0146-2, 742 pages, New York.

A7.   Stephanedes, Y.J. and K.C. Sinha, eds. (1991). Applications of Advanced Technologies in Transportation Engineering. ISBN 0-87262-818-3, 484 pages, New York.

A8. Taylor, R., R. Sandler, S. Butler, C. Schneider, and Y.J. Stephanedes (1986). Economic Factors in the Provision of Transportation Services. Transportation Research Board, National Research Council, Libr. of Congr. 86-23678, 76 pages, Wash., D.C., Energy Citation PB-87-137477/XAB.

Papers in Refereed Journals

1. Tzamali, E., G. Akoumianakis, A. Argyros and Y.J. Stephanedes (2006). Improved Design for Vision-based Incident Detection in Transportation Systems Using Real-Time View

Transformations. ASCE J. of Transportation Engineering, 132:11, 837-844, *Manuscript no.:* TE/2005/023349, November.

2. Kwon, E. and Y.J. Stephanedes (1998). Development of an adaptive control strategy in a live intersection laboratory.   Transportation Research Record 1634, 123-129.

3. Stephanedes, Y.J. and J. Hourdakis (1996). Transferability of freeway incident detection algorithms. Transportation Research Record 1554, 184-195, ASIN B0006QD6XQ.

4. Stephanedes, Y.J. and X. Liu (1995). Artificial neural networks for freeway incident detection. Transportation Research Record 1494, 91-97.

5. Kwon, E. and Y.J. Stephanedes (1994). Comparative evaluation of adaptive and neural-network exit demand prediction for freeway control. Transportation Research Record 1446, 66-76.

6. Stephanedes, Y.J. and A. Chassiakos (1993). Freeway incident detection through filtering. Transportation Research Journal, 1C:2, 219-234.

7. Stephanedes, Y.J. and E. Kwon (1993). Adaptive demand-diversion prediction for integrated control of freeway corridors. Transportation Research Journal, 1C:1, 23-42.

8. Chassiakos, A. and Y.J. Stephanedes (1993). Smoothing algorithms for incident detection. Transportation Research Record, 1394, 8-16.

9. Stephanedes, Y.J. and A. Chassiakos (1993). Applications of filtering techniques for incident detection. ASCE Journal of Transportation Engineering, 119:1, 13-26.

10. Stephanedes, Y.J., E. Kwon, and K. Chang (1993). Control emulation method for evaluating and improving traffic-responsive ramp metering strategies. Transportation Res Rec 1360, 42-46.

11. Stephanedes, Y.J. and K. Chang (1993). Optimal control of freeway corridors. ASCE Journal of Transportation Engineering, 119:4, 504-514.

12. Stephanedes, Y.J., A. Chassiakos, and P. Michalopoulos (1993). Comparative performance evaluation of incident detection algorithms. Transportation Research Record, 1360, 50-57.

13. Zografos, K. and Y.J. Stephanedes (1993). Impact of state highway investment on employment along major highway corridors. Transportation Research Record, 1359, 151-155.

14. Stephanedes, Y.J., E. Kwon, and P. Michalopoulos (1991). On-line diversion prediction for dynamic control and vehicle guidance in freeway corridors. Transportation Res Rec 1287, 11-19.

15. Stephanedes, Y.J. (1990). Distributional effects of state highway investment on local and regional development. Transportation Research Record, 1274, 156-164.

16. Stephanedes, Y.J., I. Argyropoulos and P. Michalopoulos (1990). On-line traffic assignment for optimal freeway corridor control. ASCE J. of Transportation Engineering, 116:6, 744-755, Energy Citation 5554938.

17. Stephanedes, Y.J. (1990). Real time traffic control - a review. ASCE Journal of Transportation Engineering, 116:6, 700-702.

18. Stephanedes, Y.J., E. Kwon, and P. Michalopoulos (1989). Demand diversion for vehicle guidance, simulation and control in freeway corridors. Transportation Research Rec 1220, 12-20.

19. Stephanedes, Y.J. and E. Kwon (1988). Optimization strategies for transit systems in urban corridors. Transportation Research Record 1165, 75-85, ASIN B000719E36.

20. Eagle, D. and Y.J. Stephanedes (1988). Dynamic highway impacts on economic development. Transportation Research Record 1116, 56-62.

21. Stephanedes, Y.J., J. Ziotas, and S. Arora (1988). Heuristic decision framework for upgrading highway weight limits. Transportation Research Record 1156, 96-104.

22. Kumar, V. and Y.J. Stephanedes (1988). Dynamic forecasting of demand and supply in nonstop air routes. Transportation Research Record 1158, 14-20.

23. Sinha, K.C., L. Cohn, C. Hendrickson, and Y.J. Stephanedes (1988). Role of advanced technologies in transportation engineering. ASCE Journal of Transportation Engineering 114:4, 383-92. [Also Proc. NSF/ASCE Conf.: CE in 21st Century, 172-182, Williamsburg, VA, Nov 87]

24. Stephanedes, Y.J. and D. Eagle (1987). Highway impacts on regional employment. Journal of Advanced Transportation 21:1, 67-79.

25. Kwon, E. and Y.J. Stephanedes (1987). Incremental optimization design of transit service. ASCE Journal of Transportation Engineering 113:4, 437-449, Energy Citation 6192582.

26. Stephanedes, Y.J. and D.M. Eagle (1986). Time-series analysis of interactions between transportation and manufacturing/retail employment. Transportation Research Rec 1074, 16-24.

27. Alderson, S. and Y.J. Stephanedes (1986). Transportation corridor strategies and land use. ASCE Journal of Transportation Engineering 112:1, 15-28.

28. Stephanedes, Y.J. and D.M. Eagle (1986). Highway expenditures and non-metropolitan employment. Journal of Advanced Transportation 20:1, 43-61.

29. Stephanedes, Y.J. (1985). SOLON: Microcomputer interactive method for evaluating and improving transit route performance. Transportation Research Record 1013, 1-9.

30. Stephanedes, Y.J., P. Michalopoulos, and T. Bountis (1985). Dynamic transit scheduling under efficiency constraints. Transportation Research 19B:2, 95-111.

31. Eagle, D. and Y.J. Stephanedes (1985). Dynamic impacts of transport service on unemployment. Environment and Planning 12B, 121-126.

32. Okutani, I. and Y.J. Stephanedes (1984). Dynamic prediction of traffic volume through Kalman Filtering Theory. Transportation Research 18B:1, 1-11.

33. Stephanedes, Y.J. and V. Kumar (1984). Comparative evaluation of intercity demand models. London Papers in Regional Science 14, 114-121.

34. Stephanedes, Y.J., V. Kumar and B. Padmanaban (1984). Fully disaggregate mode-choice model for business intercity travel. Transportation Planning & Technology 9:1, 13-23.

35. Ali, S. and Y.J. Stephanedes (1984). Policy-sensitive disaggregate techniques for estimating freight highway and rail use. Transportation Research Forum XXV:1, 155-162.

36. Stephanedes, Y.J. and D.M. Eagle (1983). Work location estimation for small urban and rural areas. Transportation Research Record 931, 83-90.

37. Stephanedes, Y.J. and D.M. Eagle (1983). Job search trip distribution in rural areas. Journal of Advanced Transportation 17:2, 183-199.

38. Stephanedes, Y.J. (1982). Improved demand estimation for rural work trips. Transportation Research Record 842, 10-16.

39. Stephanedes, Y.J. (1982). Control applications in analyzing transportation and system performance under dynamic constraints. Lecture Notes Control/Information Sciences 38, 814-818

40. Stephanedes, Y.J., P. Michalopoulos and R. Plum (1981). Comparative performance evaluation of demand prediction algorithms. Traffic Engineering and Control 22:10, 544-547.

41. Stephanedes, Y.J. (1981). Modeling dynamic operating and financial strategies in transportation. Systems Dynamics and Analysis of Change, 19-32.

42. Stephanedes, Y.J., P. Michalopoulos and R. Plum (1980). Improved estimation of traffic flow for real-time control. Transportation Res Rec 795, 28-39.

43. Reichert, T. and Y.J. Stephanedes (1981). Addendum on differential pattern recognition. Entropy Minimax Sourcebook: Applications IV, 253-258.

44. Stephanedes, Y.J. and T.J. Adler (1979). Forecasting experiments for rural transit policy makers. Transportation Research Record 718, 42-44.

Papers in Proceedings

188. Stephanedes, Y.J., Davis, G. and Hourdos, J. (2010). "Dynamic freeway management based on real-time estimation of incidents and incident-prone traffic conditions," *Proc., Second International Symposium in Freeway Operations*, 21-24 June 2009, Transportation Research Board, Hawaii.

45. Chassiakos, A.P. and Y.J. Stephanedes (1997). "Detection of Incidents and Compression Waves in Freeways", Proceedings of the 8th IFAC/IFIP/IFORS Symposium on Transportation Systems, Chania, Greece, 113-118.

46. Kwon, E. and Y.J. Stephanedes (1996). An intelligent intersection environment for field evaluation of advanced traffic management strategies. Compendium of Technical Papers, 66th ITE Ann Mtg, Institute of Transportation Engineers, September, 200-202.

47. Stephanedes, Y.J. and In-Response (1996). Incident management in Europe. Intertraffix, Amsterdam, 1-3 April.

48. Stephanedes, Y.J. and G. Vassilakis (1995). Accident detection at intersections for ITS. ASCE 1995 Transportation Congress, San Diego, 22-26 Oct., 239-244.

49. Vassilakis, G. and Y.J. Stephanedes (1995). Automated on-scene management of traffic accidents. 4th Intern Conf on Appl of Adv Technol in Transp Engrg, ASCE, Capri, 27-30 June, 292-295.

50. Antoniades, H. and Y.J. Stephanedes (1995). Single station incident detection for sparsely instrumented freeway sites. 4th Int Conf App Adv Tech Transp Engrg, ASCE, Capri, 27-30 June, 218-221.

51. Benson, L., D. Foderberg and Y.J. Stephanedes (1995). Minnesota Intelligent Transportation Systems Laboratory. 4th AATT Conference, ASCE, Capri, 27-30 June, 525-534.

52. Stephanedes, Y.J. (1995). Integrated freeway control and incident management. Safety: A global isssue, Kuwait, 15-20 January, vol. 8, 1-5.

53. Stephanedes, Y.J. (1994). Implementation of on-line zone control strategies for optimal ramp metering in the Minneapolis ring road. 7th International Conference on Road Traffic Monitoring and Control, IEE, London, 26-28 April, 391, 181-184.

54. Stephanedes, Y.J., M. McDonald, and K. Zografos (1993). Real time public transport information systems in SCOPE. 3rd Intern Conf on Appl of Adv Technol in Transp Engrg, ASCE, Seattle, 25-28 July, 549-555.

55. Stephanedes, Y.J. and X. Liu (1993). Neural networks in freeway control. 3rd Intern Conference on Applications of Adv Technol in Transp Engrg, ASCE, Seattle, 25-28 July, 184-90.

56. Chassiakos, A. and Y.J. Stephanedes (1993). Detection of incidents and traffic disturbances in freeways. 3rd Intern Conf Appl Adv Techn Transp Engrg, ASCE, Seattle, 25-28 July, 407-12.

57. Stephanedes, Y.J., K.G. Zografos, and C. Veinoglou (1992). Integrated traffic management and traveler information in a multimodal network. 3rd International Conf on Vehicle Navigation/Information Systems, Oslo, Norway, 2-4 Sep, 524-529.

58. Stephanedes, Y.J. (1992). Continuum modeling in optimal control of freeway corridors. First National Congress on Computational Mechanics, GRACM/IACM, Athens, Greece, 3-4 September, Vol. 1, 435-441.

59. Stephanedes, Y.J. and A. Chassiakos (1992). Improved incident detection for adaptive control in IVHS networks. 25th International Symposium on Automotive Technology & Automation, Road Transport Informatics/Intelligent Vehicle-Highway Systems, Florence, Italy, 1-5 June, 393-400.

60. Stephanedes, Y.J. (1991). Dynamic diversion prediction for real-time control in IVHS networks. 24th ISATA, RTI/IVHS, Florence, Italy, 20-24 May, 459-464.

61. Stephanedes, Y.J. and K. Chang (1991). Optimal ramp metering control for freeway corridors. 2nd Intern Conf Appl Adv Technol Transp Engnrg, ASCE, Mnpls, 18-21 Aug, 172-6.

62. Stephanedes, Y.J. and A. Chassiakos (1991). A low pass filter for incident detection. 2nd Intern Conf on Appl of Adv Technol in Transp Engnrg, ASCE, Mnpls, 18-21 August, 378-382.

63. Stephanedes, Y.J., E. Kwon, S.G. Tzafestas and C. Botsaris (1990). Optimal control of nonlinear dynamic transportation systems. 29th IEEE Conference on Decision and Control, IEEE Control Systems Society, Honolulu, Hawaii, December, 1641-1645.

64. Stephanedes, Y.J., I. Argyropoulos and P. Michalopoulos (1989). Advanced methods for automated real-time control in freeway corridors. Int Conf App Adv Tech Tr Eng, ASCE, 287-93

65. Lakshminarayanan, M. and Y.J. Stephanedes (1989). Expert system for strategic response to freeway incidents. Intern Conf on Appl of Adv Technologies in Transp Engnrg, ASCE, 153-158.

66. Stephanedes Y.J. (1987). Dynamic impacts of transportation policies on regional development. 27th European Congress, 1, 355-363, Reg. Sci. Assoc., Athens, Greece, August.

67. Westeren, K., H. Akhavi, and Y.J. Stephanedes (1987). Consequences for regional development of a change in industry transportation costs: A comparative analysis of forest products industry in NE Minnesota, Central Norway. 27th EC, 5, 355-374, RSA, Athens, Aug.

68. Lakshminarayanan, M. and Y.J. Stephanedes (1987). Expert system for transportation corridors. Microcomputer Applications in Transportation II, VII: Advanced Technologies and Future Considerations, 639-648, ASCE, New York.

69. Stephanedes, Y.J. and D. Eagle (1987). Dynamic effects of road network improvements on economic development. Expert Meeting and Symposium on the Appraisal of Social/Economic

Effects of Road Network Improvements, 371-378, Road Transport Research Programme, Directorate for Science, Technology and Industry, Organization for Economic Cooperation and Development (OECD), Yokohama, Japan, May (limited to 26 presentations).

70. Stephanedes, Y.J., S. Tzafestas, and C. Botsaris (1986). Optimal control of single and multi-objective dynamic transportation systems. Large Scale Systems: Theory and Applications, 4th Intern. Federation Automatic Control-IFORS, Zurich, Switzerland, August.

71. Stephanedes, Y.J. (1985). Improved management and training in public transit. Microcomputer Applications In Urban Transp, 136-45, ASCE, New York.

72. Huber, M. and Y.J. Stephanedes (1985). Queuing application for stop sign operation. Microcomputer Applications In Urban Transp, 255-64, ASCE, New York.

73. Stephanedes, Y.J. and S. Ali (1984). Grain traffic modeling and policy analysis. AMSE Summer Conf in Modeling-Simulation 4, 301-5, Mnpls, August.

74. Stephanedes, Y.J. (1984). TRANSIT: Route scheduling and performance optimization. Modeling/Simulation on Microcomputers, Soc for Comp Simul, 15-18, La Jolla, CA, February.

75. Ali, S. and Y.J. Stephanedes (1984). Disaggregate demand models for grain transport. 1984 Transportation Conference: Bulk Transport - Solid, Liquid or Gas, 8-13, Perth, W. Australia, October.

76. Kumar, V. and Y.J. Stephanedes (1984). Dynamic intercity passenger demand modeling. AMSE Conference in Modeling & Simulation 4, 293-300, Mnpls, August.

77. Ali, S. and Y.J. Stephanedes (1983). Abstract mode approach to statewide trip distribution and modal split for grain movements. AMSE Conference 5, 423-442, Nice, France, September.

78. Stephanedes, Y.J. (1983). Energy strategies for aiding transport decisions. Melecon IEEE Mediterranean Electrotechnical Conf, Athens, Greece, May.

79. Stephanedes, Y.J. (1983). Dynamic methodologies for assessing transport policy impacts. World Conf on Transp Res 2, 1008-18, Hamburg, Germany, April.

80. Stephanedes, Y.J. and T.C. Bountis (1982). Nonlinear dynamics in transportation demand and supply. 10th IMACS World Congress on System Simulation and Scientific Computation 1, 17-18, Montreal, Canada.

81. Stephanedes, Y.J. and P. Michalopoulos (1982). Dynamic modeling and stability of transport systems. International Conference Modelling & Simulation 13, 65-66, AMSE, Paris-Sud, France.

82. Michalopoulos, P. and Y.J. Stephanedes (1982). Shock wave modelling for traffic signal analysis and design. Modelling, Simulation and Control, Review of the AMSE 1982 Issues, 251-252, Vallee de Chevreuse, France.

83. Eagle, D., Y.J. Stephanedes and T.C. Bountis (1982). Transportation and economic development dynamics. From the Physical Sciences to the Social Sciences II, 59-63, 7th International Conference on System Dynamics, Universite Libre de Bruxelles, Brussels, Belgium.

84. Stephanedes, Y.J. and D. Eagle (1980). Dynamic impacts of transportation policies on unemployment. International Conference of Cybernetics and Society, Institute of Electrical and Electronic Engineers (IEEE), Boston.

85. Stephanedes, Y.J. (1979). A simulation approach to policy evaluation of transportation programs. 10th Ann Conf Mod-Simul 10, 1973-6, Pittsburgh, May.

86. Stephanedes, Y.J. (1979). Transportation policy modeling and evaluation using dynamic systems methodologies. Systems, Man, Cybernetics Intern. Conf., 431-435, IEEE, Denver, Oct.

87. Stephanedes, Y.J. (1978). A feedback dynamic model for transportation systems. 2nd International Symposium on Large Engineering Systems, University of Waterloo and IEEE, Waterloo, Ontario, Canada.

Invited Papers

88. Stephanedes, Y.J., C. Douligeris and S. Takaba (1996). Communications for the Intelligent Transportation System. Guest editorial, IEEE Communications Magazine, 34:10, 24-30, October.

89. Stephanedes, Y.J. (1990). Do highway funds spur economic development? CURA Reporter XX:5, 5-8.

90. Stephanedes, Y.J. and A. Amin (1980). Dynamic treatment of transportation policy impacts on individual mobility. Modeling and Simulation 11, 895-898.

Presentations

Conferences – Invited

91. Stephanedes, Y.J. (2006). Comparative analysis of experimental performance from incident management telematics, CM, Brussels, Belgium, April.

92. Stephanedes, Y.J. (2005). Findings from intelligent traveler information systems in EU, CM, Brussels, Belgium, May.

93. Stephanedes, Y.J. (1999). Results from incident management telematics in In-Response, 8th CM, Brussels, Belgium, 9 March.

94. Stephanedes, Y.J. et al. (1998). Workshop in Incident Management Telematics, 7th CM, Brussels, Belgium, 15 September.

95. Stephanedes, Y.J. (1996). Incident classification. Session on "Traffic control," INFORMS National Meeting, Washington, D.C., 5-8 May.

96. Stephanedes, Y.J. (1996). Overview of applications of advanced technologies in transportation. Session on "Applications of advanced technology in transportation engineering," 75th Ann Mtg of the Transportation Research Board, Washington, D.C., 7-11 January.

97. Stephanedes, Y.J. et al. (1995). Adaptive traffic control and traffic safety. Session on "Traffic control," INFORMS National Meeting, New Orleans, 29 October-1 November.

98. Stephanedes, Y.J. (1995). Institutional issues in advanced technologies in transportation. Plenary Session, 4th Int Conf Appl Adv Tech Transp Eng, ASCE, Capri, 27-30 June.

99. Stephanedes, Y.J. (1995). Integrated freeway control and incident management. Safety: A global isssue, Kuwait, 15-20 January.

100. Kwon, E., Stephanedes, Y.J., Davis, G., Grau, R., and J. Barcelo (1995). A strategy for real-time traffic responsive adaptive control. Session on "Adaptive Control," INFORMS National Meeting, Los Angeles, 23-26 April.

101. Stephanedes, Y.J. (1994). Incident detection and management at intersections: A hybrid AI approach. Session on "Applications of Hybrid Artificial Intelligence Systems In Transportation," 73rd Annual Meeting of the Transportation Research Board, Washington, D.C., 9-13 January.

102. Stephanedes, Y.J. (1992). Hierarchical control in IVHS freeway corridors. In "Real Time Traffic Control," ORSA/TIMS Nat Mtg, San Fransisco, 1-4 November.

103. Stephanedes, Y.J. (1992). Real time urban traffic control. Session on "Applications of Advanced Technology," 71st Ann. Mtg Transportation Research Board, Wash., D.C., 12-16 Jan.

104. Stephanedes, Y.J., A. Chassiakos, and P.Michalopoulos (1992). Review and evaluation of freeway incident detection algorithms. Session on "Freeway Incident Management," TIMS/ORSA Joint National Meeting, Orlando, 26-29 April.

105. Stephanedes, Y.J. (1991). Optimal control framework in freeway ATMS. Session on "Analysis of Traffic Networks Under Information," ORSA/TIMS Nat Mtg, Anaheim, 3-6 November.

106. Stephanedes, Y.J. and E. Kwon (1991). Demand responsive freeway ramp metering control. Session on "Intersection and Freeway Control," Second Annual Transportation Research Conference, St. Paul, Minnesota, 7-8 May.

107. Stephanedes, Y.J. (1991). Techniques for rural transit service design. Session on "The State Transportation System," 2nd Ann Transp Res Conf, St. Paul, Minn., 7-8 May.

108. Stephanedes, Y.J. and E. Kwon (1990). Diversion prediction and vehicle guidance in freeway corridors. In "Operations and Systems Management," 1st An Tr Res Conf, St. Paul, Mn, 2-3 May.

109. Stephanedes, Y.J. (1990). Techniques for designing rural transit service. Mountain Plains Consortium Transp Res Conf, Salt Lake City, 29 November.

110. Stephanedes, Y.J. (1990). Transit need and service design. Session on "Systems Planning," First Ann Transp Res Conf, St. Paul, Minnesota, 2-3 May.

111. Stephanedes, Y.J. (1989). Highway impacts on employment and income: The case for community centers. Panel on "Transportation, Tourism, and Highways: Keys to Economic Development?", Southwestern Social Sci. Assoc. Mtg., Little Rock, Arkansas, 29 March-1 April.

112. Stephanedes, Y.J. (1987). Highway improvements and local economic growth. Session on Transportation Improvements for Economic Development, 66th Ann.TRB, Wash., DC, 13 Jan.

113. Stephanedes, Y.J. (1987). Discussion of 'Theoretical developments in urban systems dynamics' by D. Dendrinos, Univ. of Kansas. XXVII European Congress of the Regional Science Association, Athens, Greece, 25-28 August.

114. Stephanedes, Y.J. (1978). Forecasting the effects of policy and operational changes. Symposium on Rural Transit Planning and Evaluation, Thayer School of Engineering, Dartmouth College, Hanover, N.H.

Conferences – Refereed

115. Vassilakis, G. and Y.J. Stephanedes (1995). Expert systems for intersection incident management. Session on "Advanced computer technologies in IVHS/ITS," ASCE 1995 Transportation Congress, San Diego, 22-26 Oct.

116. Stephanedes, Y.J. (1995). Minnesota ITS - Towards integration of optimal ramp control and incident detection. 4th Int Conf Appl Adv Technol Transp Engrg, ASCE, Capri, 27-30 June.

117. Kwon, E. and Y.J. Stephanedes (1995). A machine-vision, live intersection laboratory for development of on-line control strategies. 4th AATT Conference, ASCE, Capri, 27-30 June.

118. Stephanedes, Y.J. (1995). Global optimization for ramps on large freeway systems. Session on "Applications of genetic algorithms to transportation engineering," 74th Ann Mtg of the Transportation Research Board, Washington, D.C., 22-28 Jan.

119. Stephanedes, Y.J. and G. Vassilakis (1995). Intersection incident detection for IVHS. Session on "Methodologies for ITS evaluation and analysis," 74th Ann Mtg of the Transportation Research Board, Washington, D.C., 22-28 Jan.

120. Stephanedes, Y.J. and E. Kwon (1995). Intersection traffic analysis for improved control and road safety with machine vision. Sixth Ann Transp Research Conference, St. Paul, Minn, May.

121. Stephanedes, Y.J. and X. Liu (1994). Applications of advanced control strategies in freeway and urban networks. Session on "Advanced Traffic Management Systems," Fifth Ann Transp Research Conference, St. Paul, Minn, 12-13 May.

122. Stephanedes, Y.J. and K.G. Zografos (1994). Modeling the impact of pre-trip freeway delay advisories on commuter departure time and route choice. 73rd Ann Mtg of the Transportation Research Board, Washington, D.C., 9-13 Jan.

123. Stephanedes, Y.J. and A. Chassiakos (1993). Impact of pre-trip delay advisories on commuter travel. Session on "IVHS: Traveler Information Systems," Fourth Ann Transp Research Conference, St. Paul, Minn, 19-20 May.

124. Stephanedes, Y.J., X. Liu and N. Vairamidis (1993). Demand responsive traffic control with neural networks. Session on "IVHS: Traffic Management Systems," Fourth Ann Transp Research Conference, St. Paul, Minn, 19-20 May.

125. Chassiakos, A. and Y.J. Stephanedes (1993). Filtering and correlation for detection of incidents. Session "Traffic Safety Improvements," 4th Ann Tr Res Conf, St. Paul, Mn, 19-20 May

126. Stephanedes, Y.J. (1990). Real-time control of freeway traffic flow. Session "Operations & Systems Management," 1st Ann Tr Res Conf, St. Paul, Mn, 2-3 May.

127. Stephanedes, Y.J. (1985). Microcomputer applications in operations monitoring and transit service planning. ASCE Nat Spring Conv, Denver, May.

128. Stephanedes, Y.J. (1984). Stability conditions in transport dynamics. 6th Intern. Congress of Cybernetics and Systems of World Organization of General Systems-Cybernetics, Paris, Sept.

129. Alderson, S. and Y.J. Stephanedes (1984). Developing compatible land use - transportation relationships in a changing urban economic structure. Symposium on the Role of Transportation in Regional Economic Development, ASCE Ann Convention and Exposition, San Francisco, Oct.

Minnesota Workshops

130. Operations Management Task Force, "Transportation and local economic development," 14 March 1990.

131. 1988 Economic Report to the Governor, "The future of technology and technological developments," Minn. Department of Energy and Economic Development (DEED), 27 May 1987

132. Development Policy Workshop, State and Regional Research Center, "Highway investment and economic development in Minnesota," St. Paul, 22 April 1986.

133. 1986 Report to the Governor, Subcabinet on Jobs and Economic Development, "Jobs and economic development," Executive Branch Policy Development Program, DEED, 7 Nov 1985.

Seminars (selected)

134. Purdue University, Dept. of Civil Engineering. "Recent Developments in ITS in Europe," W. Lafayette, February 2007.

135. Texas A&M University, Dept. of Civil Engineering. "Improved effectiveness of integrated incident management strategies," College Station, February 2007.

136. University of Patras, Dept. of Civil Engineering. "Structural and Derived Problems and Solutions in the Design of Transportation Systems." Patra, 25 May 2005.

137. Purdue University, Dept. of Civil Engineering. "Incident Probability Estimation, Detection, Verification and Integrated Management," W. Lafayette, 26 May 2004.

138. University of Thessaloniki, "Automated traffic control methods at urban and rural intersections." Thessaloniki, 1 April 1999.

139. University of California, Institute of Transportation Studies. "Real time freeway control." Irvine, 19 May 1992.

140. University of Miami, Dept. of Civil and Architectural Engineering. "ATMS: Incident detection for hierarchical traffic control." Miami, 30 April 1992.

141. National Technical University of Athens, Dept. of Civil Engineering. "Automatic incident detection and driver guidance." Athens, 18 Dec 1991.

142. Lehrstuhl fur Steuerungs- und Regelungstechnik, Technische Universitat Munchen. "Demand Responsive Freeway Ramp Metering Control." Munich, Germany, 4 June 1991.

143. Governor's Transportation Study Board, "Influence of transportation on economic development." St. Paul, 29 November 1989.

144. Massachusetts Institute of Technology, Dept. of Civil Engineering. "Recent advances in transportation dynamics and control." Cambridge, 29 April 1985.

145. Laboratoire d'Informatique et de Mathematiques Appliquees de Grenoble (IMAG), Institut National Polytechnique de Grenoble, Universite Scientifique et Medicale de Grenoble. "Quelques modeles dynamiques de prevision en urbanisme et transport." Grenoble, France, 11 May 1983.

Research Reports (selected)

146. "Wireless communications and telematics networks for transportation and tourist information systems and services in urban and rural areas." Phase I Report Gen. Dir. Res. Tech., BSI, Athens, 2007.

148. "Upgrading of traffic signal network and development of integrated ITS for traffic management and control in Attiki Prefecture." Final Study Report Min. Pub. Works, Athens, 2006.

149. "Master Plan for City of Tripolis and adjacent urban and rural area." Phase I Report City of Tripolis, Athens, 2005.

150. "Traffic signal network study for upgraded ITS in Attiki." Fin. Rep. Min. Pub. Works, Athens, 2003.

151. "Incident estimation and response in ITS road networks." Final Report EU, Foundation for Research and Technology, Univ. of Crete, Brussels, 2003.

152. "Intelligent Transportation and Guidance Networks for traveler independence." Final Report EU, Forthnet, Brussels, 2002.

153. "Automated management of incidents, traffic congestion and driver information at traffic junctions." Final Report Min. Economy, Tenesys, Athens, 2001.

154. "Telematics support of road safety measures at road works areas." Final Report Min. Development, Tenesys, Athens, 2001.

155. "Intelligent networks for collection and dissemination of information on transportation and the environment in real time." Final Report EU, Tenesys and Netpage Consortium, Brussels, 2001.

156. "Albanian Road Network Reconstruction and Logistics Study: Argyrokastro." Final Report Min. Economy, Tenesys, Athens, 2001.

157. "Integrated incident management telematics, emergency healthcare logistics and environment monitoring in road networks." Final Report EU, Tenesys and In-emergency Consortium, Brussels, 2000.

158. "Incident response with on-line innovative sensing." Final Report EU, In-response Consortium, Brussels, 2000.

159. "Transportation Logistics, Traffic and Energy Impacts: THERMIE-ENTRANCE." Final Report DG XIII, EU, Entrance Consortium, Brussels, 1999.

160. "DRIVE-2, SCOPE." Final Report DG XIII, EU, Scope Consortium, Brussels, 1998.

161. "Comparative analysis of accident detection methods." Final Report U of California and PATH, California DOT, Dept. of Civil Engineering, Univ. of Minnesota, 1998.

162. "Development and application of on-line, integrated control strategies for optimal metering,incident management and driver guidance in freeway networks." Final rep. Minn/DOT, Dept. of Civil Engineering, Univ. of Minnesota, 1998, 15 pp., ASIN B0006PDK4C.

162. "Development of on-line control strategies in freeway networks." Final Report for Minnesota Department of Transportation, University of Minnesota, 1998, 115 pp., ASIN B0006S4MXC.

163. Kwon E., Stephanedes, Y.J., and Xiao Liu, "Development and application of on-line integrated control strategies for optimal metering, incident management and driver guidance in freeway networks," Final Report for Minnesota Department of Transportation and Center for Transportation Studies, University of Minnesota, October 1996.

164. "Additional real-time traffic-adaptive signal control prototype development." Final Report FHWA, Dept. of Civil Engineering, Univ. of Minnesota, 1996.

164. "Transit System Monitoring and Design," Local Road Research Board, www.lrrb.gen.mn.us, June 1994.

165. "On-line traffic strategies for optimal intersection control." Phase rep. Minn/DOT and CTS, Dept. of Civil Engineering, Univ. of Minnesota, 1994, B0006QB4PS.

166. "Techniques for detection of incidents and traffic disturbances." Final rep. Minn/DOT and CTS, Dept. of Civil Engineering, Univ. of Minnesota, 1994, 102 pp., ASIN B0006QOB9O.

166. "Development and application of incident detection techniques to improve incident management and road safety in freeway corridors." Final rep. Minn/DOT and CTS, Dept. of Civil Engineering, Univ. of Minnesota, 1993, ASIN B0006QOCEI.

167. "On-line, integrated control strategies for optimal metering, incident management and road safety in freeway corridors." Final rep. Minn/DOT and CTS, Dept. of Civil and Mineral Engineering, Univ. of Minnesota, 1993.

168. Stephanedes, Y. J., Kwon E. and Michalopoulos, P. G. "Development and application of on-line strategies for intersection control, Phase I" Final Report for Center for Transportation Studies, University of Minnesota, 1992.

169. "Control emulation method for evaluating and improving traffic responsive ramp metering strategies." Minnesota Supercomputer Institute Research Report UMSI 92/34, 15 pp., 1992.

170. "Freeway corridor optimal control." Minn Superc Inst Res Rep UMSI 92/35, 22 pp., 1992.

171. "Development and application of demand-responsive intersection control strategies." Phase rep. Minn/DOT and CTS, Dept. of Civil and Mineral Engineering, Univ. of Minnesota, 1992.

172. "Development and application of demand-responsive ramp metering control to improve traffic management and road safety in freeway corridors." Final rep. CTS, Dept. Civ/Min Engrg, Univ. of Minn., 1991.

173. "Dynamic diversion prediction for real time control in IVHS networks." Minnesota Supercomputer Institute Res Rep UMSI 91/196, 1991.

174. "Techniques for rural transit service design." Fin. rep. MPC, Civ/Min Engrg, U Minn, 1991, 84 pp., ASIN B0006OXQHE.

175. "On-line demand-diversion prediction for integrated control of freeway corridors." Minn. Supercomputer Institute Res Rep UMSI 91/49, 42 pp., 1991.

176. "Demand-responsive hierarchical control strategies for freeway corridors." Final rep. NSF/CES-8713277, Dept. Civil/Mineral Engineering, Univ. of Minnesota, 1991.

177. "Influence of transportation on economic development." Final rep. MNDOT-59757M-62179, Dept. of Civil and Mineral Engineering, Univ. of Minnesota, 1989, ASIN B00073ECJK.

177. "Minnesota Transit Laboratory: Improving transit services." Final rep. Dept. of Civil and Mineral Engineering, Univ. of Minnesota, 1989, Energy Citation PB-90-225376/XAB, ASIN B00071YBKC.

178. "Delphi method for identifying major problems in public transportation." Final rep. MNDOT-59757M-63948, Dept. Civil/Mineral Engineering, Univ. of Minn., 1989.

179. "Interactive method for decision-making in urban transit." Final rep. MNDOT-59757M-62180, Dept. of Civil and Mineral Engineering, Univ. of Minnesota, 1987.

180. "Development of time-series techniques for modeling transportation-economy interactions." Ph Fin rep MNDOT-59757M-62179, Dept. Civ/Min Engrg, U Minn, 1987.

181. "Pattern recognition and classification to improve transit vehicle insurance selection plans." Fin rep MNDOT-5975M-62180-S, Dept Civ/Min Engnrg, U Minn, 1987.

182. "Method for policy evaluation in small-urban and rural transit systems." Phase Fin. rep. MNDOT-59757M-62180, 92 pp., Civil and Min. Engineering, U. Minn., 1987.

183. "Analyzing the impacts of transportation policies on rural mobility and economic development," Fin. rep. DOT-RC-92019, 277 pp., Civ/Min Engrg, Univ. of Minnesota, 1982.

184. "Development and implementation of dynamic methodologies for evaluating energy conservation strategies," Fin. rep. MN-11-0004, 184 pp., Civ/Min Engrg, U. of Minn., 1982, Energy Citation PB-82-240763/240771.

185. "Development and evaluation of optimal control strategies for urban transportation networks," with P Michalopoulos, R Plum. Fin rep DOT-OS-RC-82008 Civ/MinEng, UMn, 1980

186. "Techniques for analyzing the performance of rural transit systems," Fin. rep. DOT-OS-80006 II, 211 pp., Thayer Sch. of Engineering, Dartmouth Coll., 1978.

187. "Fluidized bed heat transfer experiments." Fin. rep., Oak Ridge National Laboratories, Nuclear Division, Oak Ridge, Tennessee, 1975.

Sponsored projects at University of Minnesota

1996 (2 yrs) "Development of traffic control laboratory (TRACLAB)." CTS and MinnDOT, $700,000. (PI)

1995 (2 yrs) "On-line, integrated control strategies for optimal metering, incident management and road safety in freeway corridors." CTS and MinnDOT, $330,000. (PI)

1995 (1 yr) "Activation of I-394 Traffic Laboratory" CTS, $120,000. (CO-PI)

1994 (1 yr) "Additional real-time traffic-adaptive signal control prototype development." FHWA, $479,400. (PI)

1994 (2 yrs) "Development and application of incident detection techniques to improve incident management in freeway corridors." CTS, $95,000. (PI)

1994 (1 yr) "Identification of factors affecting the occurrence and severity of traffic accidents." CTS and IVHS Institute, $55,000. (CO-PI)

1994 (1 yr) "Comparative analysis of accident detection methods." PATH, California Dept. of Transportation, $35,000. (CO-PI)

1994 (1 yr) "Development and management of freeway database." Minn DOT, $37,000. (CO-PI)

1993 (2 yrs) "Real-time traffic prediction for advanced traffic management" CTS $120,000 (coPI)

1992 (3 yrs) "On-line strategies for optimal intersection control." CTS/MnDOT, $320,000. (PI)

1992 (2 yrs) "Development and application of incident detection techniques to improve incident management and road safety in freeway corridors." CTS, $145,000. (PI)

1992 (2 yrs) "Stochastic dynamic traffic assignment and real-time network control." NSF, $157,400. (PI)

1991 (2 yrs) "On-line, demand-responsive integrated control strategies for optimal metering, incident management and road safety in freeway corridors." CTS/MinnDOT, $135,000. (PI)

1991 (1 yr) "Decision support system (DSS) for the design and evaluation of transit operations." CTS and MinnDOT, $50,000. (PI)

1991 (1 yr) "Testing and evaluation of algorithms for real-time prediction of traffic diversion in freeway corridors." Minn. Supercomputer Inst., $7,300. (PI)

1991 (1 yr) "International transportation conference in applications of advanced technologies in transportation." FHWA, MinnDOT and CTS, $50,000.

1990 (1 yr) "Institute of Advanced Transportation Systems." U.S. DOT, $370,000. (CO-PI)

1990 (1 yr) "Prediction algorithms for adaptive control of freeway traffic flow using parallel iterative methods." Minn. Supercomputer Inst., $13,500. (PI)

1989 (2 yrs) "Advanced network techniques for rural transit service design, transferability and implementation." NCR and Minn DOT, $132,100. (PI)

1987 (2 yrs) "Demand-responsive hierarchical control strategies for freeway corridors." NSF, $147,600. (CO-PI)

1987 (3 yrs) "Dynamic forecasting of traffic assignment for real time control and road safety." DOE, $347,500. (PI)

1987 (2 yrs) "Advanced design tools for testing traffic management and control strategies." DOE, $143,800. (PI)

1987 (1 yr) "Traffic management strategies to alleviate urban congestion and increase road safety through advanced monitoring/information systems." DOE, $81,000. (PI)

1987 (1 yr) "Minnesota Transit Laboratory." Minn DOT, $30,000. (PI)

1984 (3 yrs) "Interactive method for policy evaluation and decision-making in small urban and rural transit systems." Minn DOT, $91,900. (PI)

1986 (2 yrs) "Traffic management strategies for freeway corridors." MnDOT, $190,600. (CO-PI)

1986 (1 yr) "Effects of highway investment on Minnesota employment." Center for Urban and Regional Affairs Research Award, $18,700. (PI)

1984 (2 yrs) "Influence of transportation on economic development." Minn DOT, $82,300. (PI)

1984 (1 yr) "Development of intersection analysis simulation programs" MnDOT $42,100 (co-PI)

1983 (1 yr) "Development of macroscopic freeway simulation program for microcomputers." Minn DOT, $57,600. (CO-PI)

1983 (1 yr) "Development of CAD methods for urban transit control." Center for Urban and Regional Affairs Research Award, $4,700. (PI)

1982 (1 yr) "Development and application of dynamic ridership models for urban work trips." U. of Minnesota Grad School Award, $4,500. (PI)

1982 (3 mos) "Pricing and scheduling public transit policies under economic constraints." U. of Minn. Grad School Summer Research Fellowship, $3,300. (PI)

1980 (2 yrs) "Development and implementation of dynamic methodologies for evaluating energy conservation strategies." Urban Mass Transportation Administration, $70,000. (PI)

1979 (3 yrs) "Analyzing the impacts of transportation policies on rural mobility and economic development." U.S.DOT (OUR), $128,400. (PI)

1979 (1 yr) "I-394 alternative design analysis." Federal Highway Admin., $100,000. (CO-PI)

1979 (2 yrs) "Development and evaluation of optimal control strategies for large scale urban transportation networks." U.S.DOT, $228,000. (CO-PI)

Organization of Conferences and Workshops

1. 7th International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, Shangai, June 2004. Planning Committee.

2. Control in Transportation Systems 2000. Intern. Federation of Automatic Control (IFAC), Braunschweig, Germany, June 2000. Conference Committee.

3. 5th International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, California, 26-29 April 1998. Planning Committee.

4. IFAC International Conference. Chania, Greece, July 1997. Organizing Committee. Session Chairman, Traffic Incident Detection Session.

5. 4th International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, Capri, 26-30 June 1995. Conference Co-Chairman .

6. 3rd International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, Seattle, 25-28 July 1993. Planning Committee. Session Chairman, "Tutorial on Communications Systems in IVHS."

7. 4th Annual Transportation Research Conference. Minneapolis, 19-20 May 1993. Planning Committee. Session Chairman, "IVHS Update: Traffic Management Systems."

8. 4th International Conference on Microcomputers in Transportation. ASCE, Baltimore, 22-24 July 1992. Organizing Committee.

9. 3rd Ann. Transportation Research Conference. St. Paul, 5-6 May 1992. Planning Committee.

10. 2nd International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, Minneapolis, 18-21 August 1991. Conference Chairman.

11. Leadership Conference of ASCE - Urban Transportation Division. Minneapolis, 16-18 August 1991. Conference Co-Chairman.

12. 2nd Ann. Transportation Research Conference. St. Paul, 7-8 May 1991. Planning Committee.

13. International Workshop: Transit Laboratory. Midwest Regional Transit Conference and Expo, Minneapolis, 7-9 May 1990. Co-Chairman.

14. International Conference on Applications of Advanced Technologies in Transportation Engineering. ASCE, San Diego, 6-8 February 1989. Scientific Committee. Chair, Expert Systems in Traffic Signal Control.

15. International Conference on Microcomputers in Transportation. ASCE, San Fransisco, 21-23 June 1989. Scientific Committee. Session Chairman, "Expert Systems for Roadway Analysis/Design"; "Intersection Analysis Applications" sessions.

16. Twenty-seventh European Congress of the Regional Science Association. RSA, Athens, Greece, 25-28 August 1987, 390 participants. Session Chairman, Transport and Urban Systems -- Theory and Practice session.

17. North-American Conference on Microcomputers in Transportation. ASCE, Boston, 29 June-1 July 1987, 142 participants. Organizing Committee. Session Chairman, Pavement Analysis and Management session.

18. National Conference on Microcomputers in Urban Transportation. ASCE, San Diego, 19-21 June 1985, 126 participants. Organized 7 sessions.

19. International Modelling & Simulation Summer Conference. AMSE, Minneapolis, 13-17 August 1984, 234 presentations (37 countries). General Chairman.

20. Symposium on Rural Transit Planning and Evaluation. U.S. Department of Transportation, Hanover, New Hampshire, 3 August 1978, 34 participants. Organizing Committee.

Journal Issues

21. Special Issue, ASCE Journal of Transportation Engineering, Real-time Traffic Control, Vol. 116, No. 6, November/December 1990, 16 papers.

22. Special Issue, ASCE Journal of Transportation Engineering, Microcomputers in Transportation, Vol. 113, No.4, July 1987, 11 papers.

Review Duties

2000-07	Greece, General Secretariat for Research and Technology, Evaluator
1997-98	Greece, General Secretariat for Research and Technology, Program Evaluator
2002-06	EU, DG INFSO, Telematics in Transportation, Evaluator
1996-00	EU, DG XII, IST Evaluator
1993-95	USDOT, IVHS - IDEA Evaluator
1992-95	USDOT, IVHS / ITS.
1992-94	EU, DG XIII, DRIVE Program Auditor
1992	EU, DG XVI, Special Team for Regional Development
1991	EU, DG XIII, DRIVE Program Evaluator
1990-91	USDOT, Strategic Highway Research Program - IDEA
1984-91	National Science Foundation
1987	Transportation Science
1986-92	International Journal of Modelling and Simulation
1986-92	Applied Mathematical Modeling
1985	State of Louisiana, Stimulus for Excellence in Research Initiative
1985	Macmillan Publishing Company
1984-98	American Society of Civil Engineers, Urban Transportation Journal
1983-98	Transportation Research International Journal
1983-91	Transportation Research Forum
1977-98	Transportation Research Record
1979-82	Institute Electrical and Electronic Engineers; Transactions Systems, Man, Cybernetics

Editorial Positions

1993-1998	Editorial Board, Transportation Research International Journal, Part C: Emerging Technologies

1990-1998	Editorial Board, Journal of Advanced Transportation
1983-1985	Editor, Institute of Transportation Engineers NCITE Newsletter

DISCIPLINE-RELATED SERVICE ACTIVITIES (WHILE AT UNIV. OF MINNESOTA)

International and National Committees

1994-1998	Transportation Supply Analysis Committee (A1C05), TRB
1994-1996	Committee on Institutional Issues, ITSA Education and Training Subcommittee
1994-	Transportation Systems Technical Committee, IFAC
1993-1994	Standards Coordinating Committee on IVHS (SCC32), IEEE Subcommittee on Definitions and Terminology
1993-1996	Founder and Control Member, IVHS/ITS Committee, ASCE
1993-1996	Council of Standards Organizations, ITSA
1990-1994	Chairman, Committee on Advanced Technology Applications in Urban Transportation, ASCE (Control Member 1986-, VP 87-90)
1990-1995	Committee on Applications of Emerging Technology (A2H01), TRB
1990-1995	Committee on Application of Economic Analysis to Transportation Problems (A1C01), TRB
1991-1993	Steering Committee on Standards and Specifications, ITSA
1991-1994	Committee on Advanced Transportation Management Systems, ITSA
1991	Intelligent Vehicle and Highway Systems (IVHS/ITS) America, Founding Member
1985-1994	Committee on Networks and Transportation, IEEE
1984-1994	Committee on Microcomputers in Urban Transportation, ASCE
1984-1998	Committee on Publications, Urban Transportation Division, ASCE
1980-1996	Committee of University Chapter Advisors, ITE
1979-1982	Committee on Energy Conservation and Transportation Demand: Subcommittee on Energy Considerations in Urban Transportation, TRB
1977-1980	Committee on Rural Public Transportation: Research Subcommittee, TRB

Other discipline-related service activities

University of Minnesota

1990-94	Graduate School Physical Sciences Policy and Review Council
1986-96	Minnesota Center for Survey Research Advisory Committee
1985-96	Honors Division, Faculty Adviser Program
1983-84	IT Unclassified Student Central Advising
1983	Organized "MICROCOMPUTERS & THE CIVIL ENGINEER", UM course 65-19.
1982-85	IT Library Committee
1982	Participated in organizing Continuing Education-Extension Conference, "COMPUTER APPLICATIONS IN PUBLIC WORKS I & II," Hennepin County DOT.
1979	Participated in organizing IT Alumni Seminars, "TODAY'S TECHNOLOGY FOR TOMORROW'S TRANSPORTATION," IT Alumni Association.
1979	Transportation Brochure: Secured $4K from CURA, Mech Eng, Geography, Bus Adm and CME. Conducted interviews, designed, wrote "Transportation Program." 44 pp. Quality commended by IT Dean.
1979-96	Publicity for U: Invited presentations, seminars, workshops, newspaper

interviews. Governor's Transp Study Board, Mn DOT, Regional Transit Board, Metropolitan Council, City of Minneapolis, Metro Transit Commission, ITE, UNITE-TV, KUOM radio, other media.

1978-88   Transportation Advisory Committee

Dept of Civil Engineering

1991-94	Chair, Graduate Studies Committee (Act.Ch., March-August 1990)
1979-96	Transportation Research Board Representative at University of Minnesota
1993-94	Undergraduate Studies Committee
1991-93	IVHS Institute, worked for its establishment with Center for Transportation Studies, Minnesota DOT, City of Minneapolis.
1990-91	Developed new CME computer laboratory and course
1989-90	Chair, Ad hoc committee on review of CME criteria for promotion/tenure
1988-91	Assoc. Chair, Graduate Studies Committee (member, 1985-88)
1987-88	Developed new Dept. of Civil and Mineral Engineering 54-page brochure.
1987,91	Chair, Center for Transportation Studies Search Committees
1987	CME Mission Committee
1981-86	Center for Transportation Studies, worked for its establishment with Minnesota DOT, Regional Transit Board, Metropolitan Council.
1986-90	Honors Committee
1984-85	Chair, Time Sharing Computing
1984-85	Seminar Committee
1984	ASCE Student Paper Award Committee
1983-85	Scholarship Committee
1983-84	CME faculty advisor, unclassified engineering students
1982-85	CME Representative, Engineering Library Committee
1982-84	Chair & founder, Outstanding Student Citation Committee
1981-85	Undergraduate Honors Program Committee
1981-84	Chair, Transportation Seminars
1981-84	Coordinated cooperative research by CME and IBM
1980-92	Faculty Advisor, ITE Student Chapter
1978-82	Civil Engineering Intern Committee

State of Minnesota

1991-96	Minnesota IVHS Transit Innovations Committee.
1989-96	Minnesota Intelligent Vehicle/Highway Systems (IVHS/ITS) Planning Group.
1989-90	Developed GUIDESTAR brochure sections describing IVHS activities at Minnesota Department of Transportation and University of Minnesota.
1985	Developed "EXECUTIVE BRANCH POLICY DEVELOPMENT PROGRAM", Jobs and Economic Development session, Minn Dept of Energy & Economic Development.