# VUKAN R. VUCHIC

### 1. Personal

- 1.1 Born: 1935 in Belgrade, Yugoslavia.
- 1.2 Immigrated in 1961; U.S. citizen since 1968.
- 1.3 Married, four children, five grandchildren.

### 2. Education

- 2.1 Diploma in Transportation and Traffic Engineering University of Belgrade, Yugoslavia, 1960.
- 2.2 M.Eng. in Civil Engineering Transportation ITTE, University of California, Berkeley, 1965.
- 2.3 Ph.D. in Engineering Transportation ITTE, University of California, 1966.
- 2.4 Languages: English, German, Russian and Serbo-Croatian (mother tongue).

### 3. Academic Appointments

- 3.1 University of California, School of Business Administration, Berkeley 1966, Acting Assistant Professor.
- Founded the **Program in Transportation Systems Engineering** (Undergraduate and Graduate) at the University of Pennsylvania -1967.
  - Positions at the University of Pennsylvania: Assistant Professor 1967; Associate Professor 1970; Professor 1975; UPS Foundation Professor of Transportation, Department of Systems Engineering 1990 (present position, with #3.7 below).
- 3.3 University of Belgrade, Visiting Professor 1970.
- University of Stellenbosch, Republic of South Africa, Visiting Professor, 1981, 1982, 1983, 1993, 2001, 2003 and 2006. In 2004 he was appointed Professor Extraordinary in Civil Engineering at this university.
- 3.5 University of Lisbon, Visiting Professor 1988 and 1990.
- 3.6 University of Sao Paulo, Brazil, Visiting Professor, 1998.
- 3.7 University of Pennsylvania, Professor of City and Regional Planning, 2002.
- 3.8 University of Pretoria, Republic of South Africa, Visiting Professor, 2003 and 2006.

- 3.9 Nanyang University, Singapore Mass Rapid Transit (SMRT) Visiting Professor of Transportation Engineering, 2004.
- 3.10 Land Transport Authority Academy, Singapore, **Program Leader and Lecturer** of a 5-day course on Rail Transit and other Guided Systems, 2008.
- 3.11 Technical University of Munich TUM, Visiting Professor, Sep-Nov. 2009.

### 4. Professional Experience

- 4.1 Hamburger Hochbahn AG (Public Transport Co.), Hamburg, Germany, 1960-61, Planning Engineer.
- 4.2 Wilbur Smith & Associates, Consulting Engineers, New Haven, CT, 1961-63 and in San Francisco part-time 1964-65, Principal Engineer.
- 4.3 University of California, College of Engineering, Operations Research Center, Berkeley, 1966, Junior Specialist.

### 5. Major Consulting Activities

- 5.1 Wurster, Bernardi & Emmons, Consulting Architects; San Francisco, 1964-66.
- 5.2 Lawrence Halprin and Associates, Landscape Architects; San Francisco, 1965-66.
- 5.3 Wallace Holm Associates, Consulting Architects; Monterey, CA, 1966.
- 5.4 Wilbur Smith & Associates, Consulting Engineers, Washington, 1967.
- 5.5 David A. Crane, Urban Planning and Design; Philadelphia, 1967-68.
- 5.6 Dechert, Price and Rhoads, Attorneys; Philadelphia, 1969-70.
- 5.7 Turnpike Engineers, Inc., Consulting Engineers; Philadelphia, 1970.
- 5.8 University City Science Center; Philadelphia, 1971.
- 5.9 Vincent Kling Associates, Consulting Architects; Philadelphia, 1972-76.
- 5.10 Transportation Systems Center, U.S. D.O.T., Cambridge, MA, 1971-72.
- 5.11 Township of Middletown, PA, 1972-80.
- 5.12 Interplan Corporation, Consulting Planners; Santa Barbara, CA, 1971-75.
- 5.13 MITRE Corporation; McLean, VA, 1974.

- 5.14 Office of Technology Assessment, U.S. Congress; Washington, 1975.
- 5.15 Urban Mass Transportation Administration (U.M.T.A.), D.O.T., Washington, 1975-77.
- 5.16 DeLeuw, Cather and Co., Consulting Engineers, Washington, 1975-77.
- 5.17 Township of Springfield, PA, 1978-79.
- 5.18 Venturi and Rauch, Architects and Planners, Philadelphia, PA, 1978-79.
- 5.19 Mattioni, Mattioni, & Mattioni, Attorneys, Philadelphia, PA, 1979-81.
- 5.20 Gellman Associates, Consultants, Philadelphia, PA, 1979.
- 5.21 City of Philadelphia, Mayor's Office, 1980.
- 5.22 Boston College, School of Education, on UMTA-sponsored project about assisting rail transit use by the blind, 1980-81.
- 5.23 City of Edmonton, Alberta, Canada; member of a 3-person international team of consultants for light rail transit network planning, 1982.
- 5.24 Sistema Transporte Regional, Caracas, Venezuela, 1981-82.
- 5.25 Cambridge Systematics, Cambridge, MA, 1981-83.
- 5.26 Bruinette, Kruger, Stoffberg, Pretoria, South Africa, 1982-83.
- 5.27 Southeastern Pennsylvania Transportation Authority SEPTA, Philadelphia, PA, 1983-86.
- 5.28 Certainteed Corporation, Tredyffrin, PA, 1984.
- William T. Coleman, Jr. (on Thompson-Coleman's report on SEPTA's Regional High Speed Lines), 1985.
- 5.30 Westinghouse Electric Corporation, Pittsburgh, 1985.
- 5.31 Greater Manchester Council, England: consultant on the regional rail/light rail transit plan for Manchester; April 1986.
- Autoridad Autonoma del Proyecto Especial Sistema Electrico de Transporte Masivo de Lima y Callao, Peru; one of two international experts invited to review and advise the government on transit planning for Lima, 1986-88.
- 5.33 CRS Sirrine, Inc., Denver/Phoenix; 1987-88; transit planning for Phoenix.

5.34 City of Philadelphia and Southeastern Pennsylvania Transportation Authority -SEPTA: Chair of Peer Review Group on Evaluation of North Philadelphia Streetcars; 1987-88. 5.35 Minister of Transport, Western Australia; one of two international experts invited to review transit plans for the City of Perth, 1988. 5.36 San Francisco Bay Area Rapid Transit District - BARTD, 1991- present. Advisor on system evaluation, operations planning, design of the Airport Extension and the Bay Area Regional Rail Planning. 5.37 Burns & McDonnell, Kansas City, MO; transit planning for the Kansas City Metropolitan Area; 1993. 5.38 Donald J. Bergmann & Associates, Consulting Engineers and Planners Rochester, NY, 1993. 5.39 Toronto Transit Commission, one of three Peer Review Group members; 1993-94. 5.40 Los Angeles County Metropolitan Transportation Commission; 1994. Buckhurst, Fish & Jacquemart, Consultants, on evaluation of PANY&NJ's plan for 5.41 LGA-JFK Airports Access Line; New York City, 1994. 5.42 Washington Metropolitan Area Transportation Authority, 1998-2002. 5.43 Metropolitan Atlanta Rapid Transit Authority - MARTA, 1998. 5.44 Niagara Frontier Transportation Authority - Buffalo, 1999 5.45 Chicago Transit Authority - Chicago, 1999 5.46 New York City Transit Authority - NYCTA - New York, 2000-03 5.47 City of Napoli, Italia, 2000. City of Belgrade, Serbia, 2003-present. 5.48 5.49 Mexico City Transportation Office, Mexico DF, 2001, 2005-06. 5.50 Metropolitan Transportation Authority, New York City, 2002. Gannett Fleming, Philadelphia, PA 2002-present. 5.51 5.52 U.S.Department of Justice, Southern District of New York, 2007 and 2009. Member of the International Advisory Panel to the Land Transport Authority, 5.53

- appointed by the Minister for Transport, Republic of Singapore, 2007-2009.
- 5.54 Veolia Transport, Advisory Board, 2008.
- 5.55 METRO Metropolitan Transit Authority, Houston, 2007 and 2010.
- 5.56 All-Inclusive Project Development Services Ltd APDSL, Trinidad, 2008.

### 6. Professional and Honorary Societies

- 6.1 Association of Transportation Engineers and Technicians of Serbia, Belgrade, Serbia Member (since 1959).
- 6.2 International Association of Public Transport UITP, Brussels, Belgium Personal Associate Member (1962-). Member of the Editorial Board of the Public Transport International journal.
- 6.3 Institute of Transportation Engineers ITE, Washington Life Member (joined in 1965). Member of three technical committees (1968, 1970, 1980); Assistant Chairman, Planning Applications Division (1971-72).
- 6.4 Chi Epsilon.
- 6.5 **Operations Research Society of America ORSA**, Member (1967-80); Transportation Science Section Council Member (1969-70).
- Transportation Research Board TRB, Member since 1967; Representative of the University of Pennsylvania (1968-present). Chairman of the Rail Transit Committee 1977-83. One of the initiators of the Light Rail Transit and Commuter Rail Committees; presently member of the Intermodal Transfer Facilities Committee and of Commuter Rail Committee. Emeritus Member of two committees.
- 6.7 American Society of Civil Engineers ASCE, Washington Member (1971-).
- 6.8 Theodore M. Matson Memorial Corporation Member (1972).
- 6.9 Transportation Subcommittee, Mayor's Science and Technology Advisory Committee, Philadelphia, Vice-Chairman (1972-80).
- 6.10 Tau Beta Pi (2006).

### 7. Awards

7.1 Award for high academic grade score; University of Belgrade, Yugoslavia, 1960.

- 7.2 Automotive Safety Foundation Fellowship for Doctoral Studies, University of California, Berkeley, 1964-65 and 1965-66.
- 7.3 M.S. honoris causa University of Pennsylvania, Philadelphia, 1971.
- 7.4 International Association of Traffic and Safety Sciences, Tokyo, Visiting Fellowship for a 2-month visit to Japan for research, lecturing and professional exchange; May-June 1979.
- 7.5 Co-recipient of the 1980 **Urban Design Administration Honor Award** given by the Department of Housing and Urban Development for a project on Old City renovation in Philadelphia (as consultant to Venturi & Rauch).
- 7.6 Recipient of the first "Dr. Friedrich Lehner Medal," given by the "Dr. Friedrich Lehner Stiftung (Endowment)" in Hannover, F.R. Germany, to "persons who have dedicated a life work to urban public transportation and excelled in that effort"; received in Munich, 15 June 1982.
- 7.7 **Senior Guest Fellowship from NATO-CNR**; Consiglio Nazionale delle Recerche, Roma, 1987.
- 7.8 **Senior Guest Fellowship from NATO-CNR**; Consiglio Nazionale delle Recerche, Universita di Salerno, 1989.
- 7.9 Awarded the UPS Foundation Chair as Professor of Transportation at the University of Pennsylvania, 1990.
- 7.10 Transportation Engineer of the Year, Philadelphia Section of the American Society of Civil Engineers (ASCE), 1991.
- 7.11 Serbian Academy of Sciences and Arts SANU, Foreign Member, 1994.
- 7.12 Most Successful among the 1,300 Graduates in Transportation Engineering in the Field of Science; Awarded at the 50<sup>th</sup> Anniversary of the founding of the Transportation Engineering Faculty, 1950-2000, University of Belgrade, Yugoslavia.
- 7.13 Russian Academy for Architecture and Construction Sciences RAASN, Foreign Member, 2006.
- 7.14 Wilbur S. Smith Distinguished Transportation Educator Award; Institute of Transportation Engineers (ITE), 2007.
- 7.15 Member Emeritus, Committees on Light Rail Transit and on Intermodal Transfer Facilities, Transportation Research Board, 2008.

## 8. <u>Publications - Books</u>

- 8-A <u>Transit Operating Manual</u>; Pennsylvania DOT; 1976, second edition 1978; 220 pages.
- 8-B Gray and Hoel (Editors), <u>Public Transportation: Planning, Operations and Management</u> (Vuchic author of two chapters); Prentice-Hall, 1979/revised 1992.
- 8-C <u>Urban Public Transportation Systems and Technology</u>; Prentice-Hall, Inc., 1981, 673 pages. Japanese translation published by Gihodo Shuppan, Inc., Tokyo, 1990, ~650 pages.
- 8-D <u>Javni gradski prevoz sistemi i tehnika</u>; in Serbo-Croatian; translated and adapted book #8-C; Naučna Knjiga, Beograd, 1987, 574 pages.
- 8-E <u>Transportation for Livable Cities:</u> Center for Urban Policy Research. Rutgers University, 1999; 376 pages.
- 8-F <u>Urban Transit: Operations, Planning and Economies;</u> John Wiley & Sons. 2005 660 pages.
- 8-G <u>Urban Transit Systems and Technology</u>: John Wiley & Sons, 2007, 618 pages.

Books 8-E, 8-F and 8-G are known as the "Transit Trilogy" series.

#### **Publications - Articles**

(Asterisk \* with co-author's names indicates that Vuchic is the first author)

- 8.1 "Some Remarks about the Traffic Regulation in W. Germany and Denmark"; <u>Transportation</u> 2/1959, pp. 317-319 (in Serbian, summary in German).
- 8.2 "Highway and Urban Traffic in Great Britain"; <u>Transportation</u> 5/1959, pp. 866-871 (in Serbian, summary in English).
- Review of the Book: H. K. Evans (Editor): "Traffic Engineering Handbook"; <u>Transportation</u> 10/1959, p. 1660 (Serbian).
- 8.4 "Public Transportation in London"; <u>Urban Transportation</u> 10-11/1959 pp. 11-30 (Serbian). Also published with modifications, in <u>Transportation</u> 1/1961, pp. 154-161 (Serbian, summary in English).
- 8.5 "Development of Road Networks in Scandinavian Countries"; <u>Transportation</u> 4/1960, pp. 824-828 (Serbian, summary in English).
- 8.6 Review of the book: W. W. Hay: "Railroad Engineering"; Transportation 4/1960,

- p. 832 (Serbian).
- 8.7 Review of the Road Research Laboratory (England) reports: "Road Research in 1956" and "Road Research in 1957"; <u>Transportation</u> 4/1960, pp. 832-833 (Serbian).
- 8.8 Review of the book: Baker and Funaro: "Parking"; <u>Transportation</u> 8/1960, p. 1602 (Serbian).
- 8.9 "Traffic Signals"; <u>Transportation</u> 6/1961, pp. 1115-1123 (Serbian, summary in German).
- 8.10 "Role of Public Transportation in Hamburg, Germany"; <u>Traffic Quarterly</u>, 1/1964, pp. 118-140.
- 8.11 Discussion on the paper "Airport Accessibility Affects Passenger Development"; in the <u>Journal of the Aero-Space Transport Division</u>, Proceedings of the ASCE, 1/1966.
- 8.12 "Pedestrian Crossing Time in Determining Widths of Signalized Traffic Arterials"; <u>Transportation Science</u>, Vol. 1, No. 3, Aug. 1967, pp. 224-231.
- 8.13 (with G. F. Newell)\* "Rapid Transit Interstation Spacings for Minimum Travel Time"; <u>Transportation Science</u> Vol. 2, No. 4, Dec. 1968, pp. 303-339.
- 8.14 "Fahrplanstörungen zusätzliche Faktoren, betriebliche Maßnahmen" ("Schedule irregularities additional factors and operational measures"); Verkehr und Technik Vol. 22, No. 4, April 1969, pp. 97-100.
- 8.15 "Propagation of Schedule Disturbances in Line-haul Passenger Transportation" (in French, English and German); Revue de l'UITP, No. 4, 1969; Brussels, Belgium (an expanded version of paper #8.14).
- 8.16 "Rapid Transit Interstation Spacings for Maximum Number of Passengers"; <u>Transportation Science</u> Vol. 3, No. 3, Aug. 1969, pp. 214-232.
- 8.17 "A System View at the Urban Highway Transportation Situation"; <u>Proceedings of the Pennsylvania Highway Transportation Conference</u>, Pennsylvania State University, 1969.
- 8.18 "Minicar Transit System A New Concept and Its Evaluation"; <u>Highway Research</u> Record 318, pp. 27-39; Washington 1970.
- 8.19 (with W. S. Homburger) "Federation of Transit Agencies as a Solution for Service Integration"; Traffic Quarterly, July 1970, pp. 373-391.
- 8.20 "Concept of Flexibility in Transportation System Analysis"; <u>High Speed Ground</u> Transportation Journal Vol. 5, No. 1, 1971, pp. 53-61.

- 8.21 (with B. F. Byrne): "Public Transportation Line Positions and Headways for Minimum Cost"; <u>Traffic Flow and Transportation</u>; Editor: G.F. Newell; American Elsevier, 1972, pp. 347-360.
- 8.22 (with W. S. Homburger): "Transit Federation A Solution for Service Integration"; (in French, English and German) Revue de l'UITP No. 2, 1972, pp. 73-100; Brussels, Belgium (an updated version of paper #8.19).
- 8.23 (with R. M. Stanger)\*: "Lindenwold Rail Line and Shirley Busway A Comparison"; HR Record 459, pp. 13-28; Washington, 1973.
- (with M. J. Weston)\*: "Urban Transportation Improvements Through Low Cost Traffic Engineering Measures"; <u>HR Record 461</u>, pp. 30-34, Washington, 1973.
- Skip-Stop Operation as a Method for Transit Speed Increase"; <u>Traffic Quarterly</u>, April 1973, pp. 307-327.
- 8.26 Discussion of Reports 3a, 3b, and 6; <u>Proceedings</u> of the 39th UITP Congress in The Hague; UITP, Brussels, 1973.
- "Quo Vadis, ASCE?"; Civil Engineering, June 1973, pp. 59-61.
- 8.28 "Rapid Transit Automation and the Last Crew Member"; Railway Gazette International, October 1973, pp. 382-385; London.
- 8.29 (with S. Kikuchi)\*: "Design of Outlying Rapid Transit Station Areas"; <u>TR Record</u> 505, pp. 1-12, Washington, 1974.
- (with E. L. Tennyson and W. C. Underwood)\*: "Application of Guidelines for Improvement of Transit Service and Operating Efficiency"; <u>TR Record 519</u>, pp. 66-72, Washington, 1974.
- 8.31 "National Transportation Policy The Basic Prerequisite for Progress"; Hearings, Subcommittee of the Committee on Appropriations, U.S. House of Representatives; Part I, pp. 217-253. <u>USGPO</u> Washington, 1974.
- (with R. M. Stanger)\*: "New Transit Technologies: An Objective Analysis is Overdue"; Railway Gazette International, Oct. 1974, pp. 384-387; London.
- (with B. F. Day and R. M. Stanger)\*: "Rail Transit: Characteristics, Innovations and Trends"; TR Record 552, pp. 1-18, Washington, 1975.
- (with B. F. Day)\*: "Some Comments on Bus Capacity Analysis"; Discussion of a paper by Levinson/Hoey; TR Record 546, pp. 41-42, Washington, 1975.
- 8.35 Discussion of a paper by Boyd, et al.; TR Record 559, pp. 45-47, Washington, 1976.
- 8.36 "Comparative Analysis and Selection of Transit Modes"; TR Record 559, pp. 51-62,

- Washington, 1976.
- "Schnellbahn Automation und "der Letzte Mann" am Zug"; adapted translation of #8.28; Verkehr und Technik, March 1975, pp. 90-94.
- 8.38 "Urban Transportation Policy: Time for Reorientation"; written testimony to the Transportation Committee of the <u>National Conference of Democratic Mayors</u>; New Orleans, 22 March 1975.
- 8.39 "Place of Light Rail in the Family of Transit Modes"; <u>TRB Special Report 161</u>, pp. 62-76, 1975. Also published in <u>Saobracaj u gradovima</u> (in Serbian); Belgrade, 1977.
- (with B. F. Day and B. Anderson)\*: "Theoretical and Practical Capacities of Transit Modes"; presented at the <u>IntersocietyConference of Transportation</u>, Atlanta, 1975.
- "Evaluating UMTA's Work"; <u>Proceedings</u> of the R & D Priorities Conferences, DOT/UMTA with APTA, Washington, February 1976, pp. 7-99, and Nov.-Dec. 1976, pp. 52-54.
- "Skip-Stop Operation: High Speed with Good Area Coverage" (in French, English and German revised version of #8.25), <u>UITP Revue</u>, No. 2, Brussels, 1976.
- 8.43 "Transit Regulation: Improve It, Decrease It, or Eliminate It?"; <u>Transit Journal</u> November 1976, pp. 5-14. Also published in: Urban Transportation Economics, <u>TRB Special Report 181</u>, 1978, pp. 76-79.
- 8.44 Discussions of Reports 3a, 4 and 8; <u>Proceedings</u> of the 41st UITP Congress in Montreal; UITP, Brussels, 1977.
- 8.45 "Rail Transit in Perspective"; <u>Rail Transit Conference of APTA</u>, Washington, June 1977.
- "Heavy Obstacles for Light Rail;" Highlights from the paper #8.49; Railway Age, 12 Sep. 1977, pp. 62-63.
- Which Mode Can Save Most Energy? No Simple Answer Exists", written testimony for the Senate Committee on Environment and Public Works, 5 Oct. 1977.
- 8.48 "Integrated Urban Transportation A Major Challenge for Trans-portation Engineers", Proceedings of the 47th Annual Meeting of the Institute of Transportation Engineers, Mexico City, Oct. 1977.
- 8.49 "Current Trends: Problems and Prospects of Light-Rail Transit"; <u>TRB Special Report 182</u>, "Light-Rail Transit: Planning and Technology"; pp. 8-12, 1978.
- 8.50 "Die Bedeutung des öffentlichen Nahverkehrs aus nordamerikanischer Sicht";

- Schriftenreihe für Verkehr und Technik, Heft 67, pp. 76-100; Bielefeld, W. Germany, 1978.
- 8.51 "Light Rail Transit in Boston Symbol of a New Era"; <u>Proceedings</u> of the International Symposium "Roads in Towns", sponsored by Asahi Shimbun, Tokyo, 16-18 May 1979; pp. 17-1 to 17-18. Also published in Japanese translation of the <u>Proceedings</u>, pp. 17-1 to 17-12.
- (with R.M. Stanger), "The Design of Bus-Rail Transit Facilities"; <u>Transit Journal</u>, APTA, Washington, Fall 1979, pp. 61-72.
- 8.53 "High-Performance Transit Planning, Modes and Networks"; <u>Proceedings of Mass Rapid Transit System Seminar</u>; Taipei, Taiwan, Dec. 1980; pp. 17-72.
- 8.54 "Designers widen the urban rail options"; <u>Railway Gazette International</u>, Jan. 1982, (4 pp.), London.
- 8.55 (with S. Kikuchi), "Transit Vehicle Stopping Regimes and Spacings"; <u>Transportation Science</u>, Vol. 16, No. 3, Aug. 1982, pp. 311-331.
- 8.56 "Javni gradski promet: sistemi i tehnologija" (adapted sections from Vuchic's book); <u>Suvremeni promet</u> March 1982, pp. 239-243; Zagreb, Yugoslavia.
- 8.57 "Transportation Technologies for Cities in Developing Countries"; paper in English, French and Spanish, presented at <u>CODATU II Conference</u>, Caracas, Venezuela, Oct. 1982.
- (with T. J. Potter)\* "Train Crew Reduction for Increased Productivity of Rail Transit"; TR Record 908, pp. 51-57, Washington, 1983.
- 8.59 "Analytical Review of Guided Transit Systems"; in <u>Rapid Transport Systems</u>, Proceedings of the Conference on Advanced Rapid Transit Systems in Amalfi, Italy in Oct. 1983; pp. 141-152. ICTS Elsevier, 1985.
- 8.60 "The auto versus transit controversy: Toward a rational synthesis of urban transportation policy"; <u>Transportation Research</u> Special Issue on Public Policy; Vol. 18A, No. 2, pp. 125-133, Spring 1984.
- 8.61 "Transit Technology Today"; <u>Proceedings</u>, Symposium on Recent Developments of Urban Transit Technology, pp. A-1 - A-30; Nov. 1984, Taipei.
- 8.61a "Tecnologia dei trasporti urbani di massa"; <u>Ingegneria Ferroviaria</u>, Nov. 1986, pp. 767-775, 780; Roma (translation of #8.61).
- 8.62 "O-Bahn Description and Evaluation of a New Concept"; <u>TR Record 1011</u>, pp. 8-15, Washington, 1985.
- 8.63 (with R. M. Stanger) "Automated Guided Transit versus Conventional Rail"; TR

- News 120, pp. 8-13; Washington, Sep/Oct. 1985.
- 8.64 "Light rail transit Ugly duckling becomes a swan"; Railway Gazette International, Nov. 1985, pp. 829-835; London.
- (with S. Kikuchi)\* "Planning an Integrated Regional Rail Network: Philadelphia Case"; TR Record 1036, pp. 51-62; Washington, 1985.
- 8.66 "Der spurgeführte Bus Analyse und Vergleich der O-Bahn mit anderen ÖPNV-Systemen"; Der Nahverkehr June 1985, pp. 44-50; Düsseldorf, W. Germany.
- 8.67 "Deregulation: a return to the primitive"; <u>City Transport</u>, May/June 1986, pp. 18-20; London.
- 8.68 "Trends in the Development of Urban Passenger Transport Systems and Vehicles"; Proceedings of the XXI FISITA Congress, pp. 2.29-2.35; Belgrade, 2-6 June 1986.
- \*Recent Transit Developments in North America"; <u>Proceedings</u> of the Symposium on Public Transport Futures, Nottingham, April 1986, pp. 69-84.
- "Metro systems in year 2000: modernization, diversification and expansion"; (in English, French and German); <u>UITP Revue</u>, 4/1986, pp. 307-334, Brussels.
- 8.71 "Deregulierung ein Rückfall ins Primitive?" (modified and updated translation of #8.67); Der Gastkommentar in <u>Der Nahverkehr</u>, January 1987, pp. 6-8.
- 8.72 "Urban Transit: A Public Asset of National Significance"; <u>Urban Resources</u> Vol. 4, No. 1, pp. 3-6, 63; University of Cincinnati, 1987.
- (with A. Musso) "Characteristics of Metro Networks and Methodology for Their Evaluation"; TR Record 1162, pp. 22-33, Washington, 1988.
- 8.73a "Karakteristike metro mreza i metodologija za njihovo vrednovanje"; Serbo-Croatian translation of an adapted version of #8.73; Saobracaj u gradovima, 1/1991, pp. 1-12, Belgrade.
- 8.74 "Design, Evaluation and Selection of Transit Systems: Theory and Practice"; <u>Proceedings</u> of the Conference on les Transports Collectifs Urbains, Ecole Nacionale des Ponts et Chaussees, pp. 287-299, Paris, 1988.
- 8.75 (with A. Bata)\* "U.S. cities lead fight against graffiti"; Railway Gazette International January 1989, pp. 39-41.
- 8.76 "The Great Debate: Potential Roles of Different Transit Modes" TRB Special Report 221, pp. 62-65, 1989.

- 8.77 "National Transportation Policy Urban/Suburban Systems"; written testimony at the DOT Hearing in Philadelphia, 30 August 1989.
- 8.78 Review of the book "Urban Railways and the Civil Engineer"; <u>Transportation Science</u>, ORSA, Vol. 23, No. 4, November 1989, pp. 300-301.
- 8.79 (with O. Olanipekun)\* "Lindenwold Rail Line and New Jersey Transit Buses: a Comparison"; TR Record 1266, pp. 123-138, Washington, 1990.
- 8.80 "Prospects for Competitiveness of Urban Public Transport"; <u>Proceedings of Urbania</u>, International Seminar in Padova, Italy, 19-23 February 1991; 9 pp.
- 8.80a "Considerazioni e proposte per la competitivita del trasporto pubblico urbano"; Italian translation of paper #8.80; <u>Ingegneria Ferroviaria</u>, Luglio-Agosto 1991, pp. 464-467.
- 8.81 "From Suburban Railways to Regional Rail Systems"; <u>Proceedings of S-Bahn nach Mass</u>, International Conference in Zürich, 24-26 Apr. 1991; pp. 107-116.
- (with A. Musso)\* "Theory and practice of metro network design" (in English, French and German); Public Transport International, 3/1991, pp. 298-325, Brussels.
- 8.83 "Recognizing the Value of Rail Transit" <u>TR News 156</u>, Sep.-Oct. 1991, pp. 13-19, Washington.
- 8.84 "The Role of Automated Guided Transit Systems in Urban Transportation" (in English and Korean); <u>Proceedings of the International Symposium on Automated Guided Transit</u>, Seoul, 1-2 Dec. 1992; published by Korea Transport Institute, pp. 129-148.
- "Regional Rail Developments in North America"; invited paper; <u>Proceedings</u> of the 6<sup>th</sup> World Conference on Transport Research WCTR, Lyon, June 1992; 12 pp.
- (with A. Musso)\* "The Role and Organization of Transfers in Transit Networks"; <u>Proceedings</u> of the 6<sup>th</sup> World Conference on Transport Research - WCTR, Lyon, June 1992; 12 pp.
- "The Family of Urban Transport Modes"; <u>The Urban Transport Industries Report</u> 1993; pp. 20-22; Campden Publishing Ltd., London, Great Britain.
- 8.88 "The Role of Rail Transit in Contemporary Cities"; in <u>The City as a Human Environment</u>, pp. 105-112. Praeger, 1994.
- 8.89 (with S. Kikuchi, N. Krstanoski & Y.E. Shin)\* "The Negative Impacts of HOVs on Transit"; Proceedings of the 7<sup>th</sup> National HOV Conference in Los Angeles, June 1994.
- 8.90 "Urban Transportation a Special Challenge for Civil Engineers"; Proceedings of

- the JSCE 80<sup>th</sup> Anniversary International Symposium, Yokohama, Japan, 1994; pp. 275-290.
- 8.91 "Erfahrungen mit Busspuren in USA"; <u>Der Nahverkehr</u> 11/1994, pp. 61-64; Düsseldorf, Germany.
- 8.92 (with S. Kikuchi, N. Krstanoski & Y. E. Shin)\* "Negative Impacts of Busway and Bus Lane Conversions into High-Occupancy Vehicle Facilities"; TR Record 1496, pp. 75-86, Washington, 1995.
- 8.93 (with E. C. Bruun) "Time-Area Concept: Development, Meaning and Applications"; TR Record 1499, pp. 95-104, Washington, 1995.
- 8.94 "Transportation for Livable Seoul"; <u>Proceedings</u> of the International Seminar "Seoul a Livable City"; Seoul, 1995.
- 8.95 "Deregulation: A Return to the Primitive"; an updated and expanded version of #8.67, in English and Serbo-Croatian; <u>Urban Transportation</u> 2/1996, pp.3-10; Belgrade, Yugoslavia.
- 8.96 (with F. DeFalco, T. Young & J.-C. Ziv) "Linea C: la scelta tecnologica Un' expertise internazionale"; Comune di Roma, Campidoglio, 1996. Vuchic's report pp. 21-30.
- 8.97 "Personal Rapid Transit: An Unrealistic System"; <u>Urban Transport International</u> 7/1996, p.35; also in <u>The Urban Transportation Monitor</u>, Nov. 22, 1996, p.7; discussion in Dec. 20, 1996 issue.
- (with Y.E. Shin, E.C. Bruun & N. Krstanoski)\* "Urban Transportation Policies and Practices in the United States and Its Peer Countries"; <u>TR Record 1576</u>, pp. 132-139; Washington, 1997.
- (with Y.J. Lee & Y.E. Shin)\* "Travel Costs and Intermodal Distribution In Urban Transportation"; TR Record 1649, pp. 105-112; Washington, 1998.
- 8.100 (with A. Musso)\* "Increasing Potential of Road Pricing for Improved Efficiency of Urban Transportation"; <u>Proceedings</u>, 8<sup>th</sup> World Conference on Transport Research, Antwerp, Belgium, 1998.
- 8.101 "LRT A Dynamic Transit Mode with Continuing Innovations"; <u>Proceedings</u>, UITP Third International Light Rail Conference, 30 Sep. 2 Oct. 1996.
- 8.101a Review of the book "Alternate Route: Toward Efficient Urban Transportation" by Winston and Shirley, Brookings Institution Press, 1998. In <u>Transportation Journal</u> vol.38/No.3, Spring 1999, pp. 68-70. Also published in <u>The Urban Transportation</u> Monitor, May 28, 1999, pp. 4-7.

- 8.102 (with E.C.Bruun, V.R.Vuchic and Y.E.Shin) "Graphical Schedules A Powerful Tool for Service Planning and Control"; <u>Journal of Public Transportation</u> Vol.2, No.2, 1999, pp. 1-24.
- 8.103 "Achieving Intermodal Balance for Efficiency and Livability of Cities"; Proceedings, UITP 53<sup>rd</sup> Congress in Toronto, 1999.
- 8.104 "Die Automatisierung des U-Bahn-Systems und Erfahrungen aus Nordamerika"; Internationales Forum zum automatischen U-Bahn-Betrieb B Tagungsband; pp. 221-235; BVG, Berlin, 2000.
- 8.105 "Light Rail Transit System: Its Forms and Roles in Urban Areas"; <u>Proceedings of the LRT Workshop B 2000</u> University of Kaiserslautern, Germany, Mar. 2000, pp. 27-32.
- 8.106 "Comparison of LRT with Bus Semirapid Transit System"; <u>Proceedings</u>, UITP 5<sup>th</sup> LRT Conference in Melbourne; UITP, Brussels, Belgium, 2001.
- 8.107 "Selection of Maglev Questioned" and "Maglev vs. High Speed Rail: The Debate"; The Urban Transportation Monitor, resp. 16 Feb. and 30 Mar. 2001, pp. 8-11.
- 8.108 "Medium Capacity Guided Transit Systems"; <u>Proceedings</u> of the Workshop on Medium-Capacity Transit, Korea Railroad Research Institute, Korea, 25-26 Apr. 2002, pp. 45-72.
- 8.109 "Städte und Stadtverkehr im 21. Jahrhundert"; <u>Der Nahverkehr</u> 3/2002, pp. 13-18.
- 8.110 (with J. M. Casello)\* "Evaluation of Maglev Technology and Its Comparison with High-Speed Rail"; <u>Transportation Quarterly</u>, Vol. 56, Spring 2002, pp. 33-49.
- 8.111 "Bus Semirapid Transit Mode Development and Evaluation"; <u>Journal of Public Transportation</u>, Vol. 5, No. 2, 2002, pp. 71-95.
- 8.112 (with J. M. Casello)\* "Washington Metro: Planning for Growth"; <u>Urban Transport International</u>, No. 40, Mar/Apr 2002, pp. 26-30.
- 8.113 "Urban Public Transportation Systems" in Section 6.40 Transportation Engineering and Planning of <u>UNESCO Encyclopedia of Life Support Systems EOLSS</u>, edited by T.J.Kim; EOLSS Publishers, Oxford, UK, 2003; 24 pages. [http://www.eolss.net]
- 8.114 "Livable Cities Will Transportation Professionals Answer the Challenge?" <u>Transportation Research News, Nov.-Dec.</u> 2003, pp. 22-26.
- 8.115 (with Y. E. Shin, P.-S. Sin and C.-G. Eun) "Planning for the First Light Rail Transit System in Korea"; TR Record 1872, pp. 46-55; Washington, DC 2004.
- 8.116 "Ensuring Sustainability through Mass Transit"; <u>Proceedings of the Second International Conference on Urban Public Transportation Systems</u>, ASCE, 2004, pp.

- 483-489.
- 8.117 (With Young-Jae Lee) "Transit Network Design with Variable Demand"; <u>Journal of Transportation Engineering</u>, vol. 131 #1, Jan. 2005, pp. 1-10.
- 8.118 "Light rail and BRT: Competitive or complementary?" <u>Public Transport International</u> 05/2005, pp. 10-13.
- 8.119 "Refuting Misconceptions and Misinformation About Transit"; <u>Passenger Transport</u>, Vol. 58, No. 38, 25 Sept. 2000, pp. 4, 70.
- 8.120 "Transportation Problems of Moscow and Possible Solutions" (in Russian); Academia Arhitektura i Stroitel'stvo 4/2005, pp. 41-43. Moscow.
- 8.121 (With J. Casello & R. Wright) "Context-Sensitive Urban Transportation Design in West Philadelphia"; TR Record 1956, 2006, pp. 165-174.
- 8.122 (With Hufang Cui) "Impacts of Suppressing Bicycles on Mobility and Transportation Efficiency"; <u>Proceedings of the 6<sup>th</sup> Asia-Pacific Transportation Development Conference in Hong Kong and Macau</u>; 29 May-1 June 2006..
- 8.123 "Transportation Systems Policies for Sustainable Cities;" <u>Thermal Science</u> vol. 12/4, 2008, pp. 7-17.
- 8.124 "Implementing the Solutions: Measures for Achieving Intermodal Balance;" pp. 284-296 in E. Birch, Ed., The Urban and Regional Planning Reader, Routledge, 2009.
- 8.125 (With Jeffrey Casello) "Transit Planning," Chapter 16, pp.679-775, in M. Meyer (Ed.) <u>Transportation Planning Handbook</u>, 4<sup>th</sup> Edition, Institute of Transportation Engineers, Washington, DC. 2009.
- 8.126 "Transportation for Liveable Cities: Problems, Obstacles and Successful Solutions;"pp. 105-130 in Ling & Yuen, Editors, World Cities Achieving Liveability and Vibrancy; World Scientific Publishing Company, Singapore, 2010.

#### 9. Published Reports and Manuals

- 9.1 <u>Interstation Spacings for Line-haul Passenger Transportation;</u> report of the Operations Research Center, University of California, Berkeley, to the National Bureau of Standards, 1966; 144 pages.
- 9.2 (with D. E. Boyce), <u>A Critique of the D.V.R.P.C. 1985 Regional Transportation Plan;</u> University of Pennsylvania, Oct. 1969; 19 pages.

- 9.3 (Editor and co-author), <u>Minicar Transit Systems</u>; Final Report of the multidisciplinary research group, University of Pennsylvania, to UMTA U.S. Department of Transportation; Sep. 1970; 274 pages.
- 9.4 <u>Value of Speed in Public Transit Services</u>; Transportation Studies Center, University of Pennsylvania, 1970; 57 pages.
- 9.5 <u>Light Rail Transit System A Definition and Evaluation</u>; report to UMTA through the Transportation Systems Center, Cambridge, MA, 1972; 111 pages.
- 9.6 (with S. Kikuchi)\* <u>Design of Outlying Rapid Transit Stations</u>; report to UMTA US Department of Transportation; NTIS, Spring field, VA, 1973; report PB 223279, 52 pages.
- 9.7 <u>Integration of Transit Systems</u>; report UMTA RI-06-0005-73-3 by Interplan Corporation, Vuchic co-author; 4 volumes; NTIS Springfield, VA, June 1973.
- 9.8 <u>Design for a National Urban Transportation Reporting System;</u> report to UMTA-US DOT, 1976. 86 pp.
- 9.9 <u>Light Rail Transit--A State-of-the-Art Review</u>; report to UMTA-DOT by DeLeuw, Cather & Company, Vuchic consultant; 1976.
- 9.10 <u>Land Use Impacts of Rapid Transit: Implications of Recent Experience;</u> report by De Leuw, Cather & Company to the Department of Transportation; Vuchic consultant; Aug. 1977.
- 9.11 (with S. Hessami)\*, <u>Parking Policy as a Transportation SystemManagement Measure</u>; report to UMTA-US DOT; NTIS, Springfield, VA, 1978; 67 pages.
- 9.12 <u>Report on Interstate 476</u>; Congressman Edgar's Transportation Advisory Committee (Vuchic Chairman); Feb. 1979; 51 pages.
- 9.13 <u>Timed Transfer System Planning, Design and Operation;</u> Report to UMTA; program report DOT-I-83-28; 124 pages.
- 9.14 <u>Train Crew Reduction for Increased Productivity of Rail Transit;</u> report to UMTA US DOT; NTIS, Springfield, VA, 1982; 86 pages.
- 9.15 De Leuw, Cather & Company; <u>Light Rail Transit: Surface Operations</u> (a. report; b. Technical Appendix); Vuchic co-author. Report to UMTA/DOT-IT-06-0103; Washington, 1981.
- 9.16 (with H. Felz and D. Howard), <u>South Edmonton Light Rail TransitPlan Review</u>; report to the City of Edmonton, Canada, April 1982; 46 pages.
- 9.17 Levinson and Weant (Editors), <u>Urban Transportation Perspectives and Prospects</u> (includes an adapted version of paper #8.29 by Vuchic and Kikuchi, pp. 275-281);

- Eno Foundation, Westport, CT, 1982.
- 9.18 <u>Transportation in Philadelphia</u>; report of the Task Force on Transportation, co-chaired by Vuchic and W. B. Allen, part of the study "Philadelphia Past, Present and Future", 1982; (Vuchic wrote a section on Passenger Transportation, 29 pages).
- 9.19 (with S. Kikuchi)\*, General Operations Plan for the SEPTA Regional High Speed System; report to SEPTA, Philadelphia, PA, 1984; 220 pp.
- 9.20 Contributor to the <u>Report on the Regional High Speed Lines</u> by Thompson and Coleman, submitted to SEPTA, Philadelphia, 1985.
- 9.21 (with S. Kikuchi)\*, <u>Infrastructure and Operational Improvements of the SEPTA Regional Rail System</u>; report to SEPTA, Philadelphia, 1987; 124 pp.
- 9.22 (with P. Newman and D. Howard), <u>A Review of Northern Suburbs Rapid Transit Options</u>; Report of Expert Panel to Minister of Transport of Western Australia; Perth, Australia, October 1988; 27 pp.
- 9.23 (with R. Landgraf & T. Parkinson)\*, <u>A Future for the Philadelphia Surface Streetcar System</u>; report to the City of Philadelphia and SEPTA by the Peer Review Group; January 1990; 55 pp.
- 9.24 New York City Transit Authority Control Center Modernization Project, Phase I; report to NYCTA, April 1990; 149 pp.
- 9.25 (with S. Kukuchi)\*, <u>Recommendations for Improvement of Green Lines Subway</u>
  Operations; report to SEPTA, Philadelphia, June 1990; 98 pp.
- 9.26 (with S. Kikuchi et al.)\*, <u>A Plan for SEPTA's Regional Metrorail System</u>; report to SEPTA, Philadelphia, April 1993; ~170 pp.
- 9.27 (with S. Kikuchi)\*, <u>Short-term Improvements for SEPTA's Regional Rail System</u>; report to SEPTA, Philadelphia, June 1994, ~75 pp.
- 9.28 (with S. Kikuchi et al.)\*, <u>The Bus Transit System: Its Underutilized Potential;</u> report to the Federal Transit Administration, (FTA DOT), Washington, May 1994, ~82 pp.
- 9.29 (with A. Young & J.-C. Ziv)\* <u>Selection of Technology for Metro Line C in Rome</u>; report to the Mayor of Rome; <u>December 1995</u>.
- 9.30 <u>Cars, Transit and Livable Cities</u>; Report to The Energy Foundation, 1996, ~120 pp.
- 9.31 <u>Transportation Improvements for Increased Livability in the Philadelphia Region;</u> Report sponsored by the William Penn Foundation, Philadelphia, 1999; 46 pages.
- 9.32 The Maglev Transportation Systems and the Baltimore-Washington Proposed

<u>Project - and Independent Review;</u> report to Citizens Planning and Housing Association, Baltimore, MD, January 2001. 29 pp.

### 10. Major Seminars, Testimonies and Presentations

### a. Major Seminars

- Sole lecturer at an one-day seminar on "Transit Planning" organized by the Ministry of Transport, Province of Ontario, Toronto, 6 May 1975.
- Initiator, member of Organizing Committee and Speaker at the First National Conference on Light Rail Transit; sponsored by TRB, UMTA, APTA and University of Pennsylvania; Philadelphia, June 1975.
- 10a-3 "Mass Rapid Transit Planning Seminar", organized by the <u>Taiwan Ministry of Communications</u>, Taipei, 9-11 Dec. 1980; Vuchic one of the five invited speakers.
- Sole lecturer at a one-day seminar on "Urban Transportation Issues and Policies" in the <u>Department of Transportation</u>, <u>Republic of South Africa</u>; Pretoria, 3 Aug. 1981.
- 10a-5 "Transit Policy Planning, Management and Operation"; <u>course for SEPTA Management Personnel</u>; Vuchic organizer and principal lecturer (32 out of 44 hours). The course given at the University of Pennsylvania, Philadelphia, Fall 1980 and Spring 1982.
- Sole lecturer of a 3-day continuing education course on "Urban Public Transport Planning", <u>University of Stellenbosch</u>, 13-15 July 1983.
- 10a-7 "Light Rail Transit"; one-day seminar organized by BKS, Pretoria, 1 Aug. 1983.
- Five lectures in a 4-day "Seminar on Guided Transit Systems" organized by COVITUR, Mexico, 24-27 Oct. 1983.
- 10a-9 "Public Transportation in Cities"; one-day seminar organized by <u>AS Oslo Sporveier</u>, 16 June 1986, Oslo.
- "Contemporary Issues in Transit Management, Planning and Policy"; <u>Professional Seminar for SEPTA Board</u>; Vuchic organizer and principal lecturer (7 out of 16 hours). University of Pennsylvania, Oct. 1987.
- Organizer and Keynote Speaker at the <u>Transit First Policy Seminar</u>, sponsored by the David Williamson Memorial Fund at the University of Pennsylvania, 1 Dec. 1989.

- Organizer and Moderator of the Exchange <u>Urban Transportation</u>: <u>Unlocking the Grid</u>; 250th Anniversary of the University of Pennsylvania, 17 May 1990.
- Organizer and Speaker at the Mobility for the Whole Region Seminar, sponsored by the David B. Williamson Memorial Fund at the University of Pennsylvania, 4 Dec. 1990.
- 10a-14 Keynote Address at the <u>Sixth Annual Metropolitan Conference on Public Transportation Research</u>, "Our Urban Transportation Policies Require Drastic Revisions"; University of Illinois at Chicago, 7 June 1991.
- 10a-15 Main speaker at the Seminar <u>Light Rail Transit in Bergen</u>, Bergen, Norway, 20 June 1991.
- 10a-16 Main speaker at the Seminar <u>Kollektiv transport i storby</u>, AS Oslo Sporveier, Oslo, 21 June 1991.
- Main Speaker in the Plenary Session on Environment and Health, <u>30th Congress of the International Union of Local Authorities IULA</u>, Oslo, 25 June 1991.
- "Role of Urban Transportation: from Policy and Planning to Project Solution"; Keynote speech; and "Development of Transit in Los Angeles an Example for Other Cities"; lecture at the <u>International Symposium Transport 2000</u> in Ischia, Italy, 11-12 Oct. 1991.
- 10a-19 Organizer and speaker at the <u>Third David Williamson Symposium</u>, University of Pennsylvania, 1993.
- Organizer of the Reunion marking 30-Year Anniversary of the Transportation Engineering Program at the University of Pennsylvania with a number of professional presentations; 9-10 May 1997.
- 10a-21 Keynote Speaker at the <u>100 Jahre Dr. Friedrich Lehner Symposium</u>: "Stadtetwicklung im 21. Jahrhundert: Analyse nach Dr. Friedrich Lehner;" VDV 2000 Jahrestagung, Berlin, 24 May 2000.
- 10a-22 "Dialogue with Vukan R. Vuchic", Featured Lecture Session, <u>TRB Annual</u> Meeting, Washington, DC, 15 Jan. 2002.
- "Choices for the Future Transportation System"; Keynote speech at the Conference Public Transportation for the City 2002; Oslo, Norway, 27 May 2002.
- "Urban Transportation: Lessons from the 20<sup>th</sup> for the 21<sup>st</sup> Century;" <u>Keynote Speaker, Seminar of the Institute for Transportation Policy Studies</u>, Tokyo, 17 May 2003.
- "Transportation in Moscow: Past Experiences, Present Conditions and Directions for the Future;" The Moscow City Planning Institute, 27 July 2005.

- "Transport Systems and Policies for Sustainable Cities;" Keynote Speaker at <u>The Dubrovnik Conference on Sustainable Development, Energy, Water and Environmental Systems,</u> Theme: Transportation and Sustainability; Dubrovnik, Croatia, 4 June 2007.
- "Intermodal Balanced Transport with Focus on Efficient Transit;" as member of the International Advisory Panel of the Land Transport Authority - LTA, Singapore, 6 Nov. 2007.
- 10a-28 "Intermodal Balance: Roles of Different Modes and Transportation Policies;" China Planning Network – 1<sup>st</sup> Urban Transportation Congress, Beijing, 2 Aug. 2007.
- 10a-29 "Toward Rational Policies in Urban Transportation and Their Effective Implementation;" World Urban Transport Leaders Conference, LTA, Singapore, 4 Nov. 2008.

## b. Testimonies

- Hearings on the National Transportation Policy; Transportation Subcommittee of the Committee of Appropriations, <u>US House of Representatives</u>, Washington, 6 March 1974 (#8.31).
- Hearings on the National Urban Transportation Policy; Transportation Committee, National Conference of Democratic Mayors, New Orleans, 22 March 1975 (#8.38).
- Hearing on the 1975 Highway Federal Aid Act, Transportation Subcommittee, Public Works Committee, <u>US House of Representatives</u>, Washington, 8 Sep. 1975.
- "Let Us Treat Transportation as a Coordinated System"; testimony to the Subcommittee on Surface Transportation House Committee on Public Works and Transportation; <u>US House of Representatives</u>, Washington, 15 July 1981.
- 10b-5 Member of the Advisory Group for UMTA-DOT on formulating the National Transportation Policy, 1989.
- Testimony on the National Transportation Policy (publication #8.78); hearing in Philadelphia, 30 Aug. 1989.

Numerous testimonies to the City Council in the City of Philadelphia.

c. <u>Presentations and Lectures at Professional Society Meetings and in Major</u> Transportation Agencies

- 10c-1 <u>Association of Transport Engineers and Technicians of Yugoslavia</u> (DITJ): Belgrade 1960, 1970, 1976, 1986.
- Operations Research Society of America (ORSA): New York 1967, Miami Beach 1969, Detroit 1970, Atlantic City 1972; INFORMS, Philadelphia 1999.
- 10c-3 <u>Institute of Engineering Education (IEE)</u>: Andover, NH, 1967.
- 10c-4 Hamburger Hochbahn AG: Hamburg 1968, 1971.
- 10c-5 <u>Transportation Research Board (TRB)</u>: Presentations of papers, major panel discussions, etc.: 1970, 1973, 1974 (2), 1975 (3), 1976, 1977, 1980 (2), 1981, 1983, 1988(2), 1990 (2) including one in the "Best Papers" session, 1995, 1997, 1998 (2), 1999, 2001 (2), 2002 (3), 2006, 2009, 2010, including "Dialog with Vukan Vuchic"; see 10a-21.
- 10c-6 Regional Science Association of America (RSA): Philadelphia 1972, 1985.
- 10c-7 <u>International Union of Public Transport (UITP)</u>: The Hague 1973, Montreal 1977, Lausanne 1987, Toronto 1999.
- 10c-8 <u>Caltrans'</u> course "Public Transportation State-of-the-Art"; Sacramento 1974, San Diego 1974, San Mateo 1975.
- 10c-9 <u>American Public Transit Association (APTA)</u>: New York 1974, Washington 1977, Philadelphia 1981, San Diego 1983, Washington 1988.
- 10c-10 Engineering Society of Detroit 1975.
- 10c-11 <u>American Society of Civil Engineering (ASCE)</u>: Philadelphia Section: 1975, 1983, 1989, 1994, 1999.
- 10c-12 <u>Urban Mass Transportation Administration (UMTA)</u>: R&D Conferences in Washington, 1976 (2); TTS Conference in Portland, OR, 1983; Conference on Privatization, Louisville, KY, May 1990.
- 10c-13 German Scientific Transport Association (DVWG): Hamburg 1976.
- 10c-14 Institute of Transportation Engineers (ITE): Mexico 1977.
- 10c-15 German Association of Transit Agencies (VDV): Frankfurt 1978, Munich 1982, Berlin 2000.
- 10c-16 Oahu Development Conference: Honolulu 1978.
- 10c-17 <u>International Conference on Urban Transport</u> organized by Asahi Shimbun: Tokyo 1979.

- 10c-18 <u>Teito Rapid Transit Authority (TRTA)</u>: Tokyo 1979.
- 10c-19 <u>International Association of Traffic and Safety Sciences (IATSS)</u>: Tokyo 1979.
- 10c-20 Northeast-Midwest Coalition, U.S. Congress: 1979.
- 10c-21 Chartered Institute of Transport: Cape Town 1981.
- 10c-22 <u>International Center for Transportation Studies (ICTS)</u>: Amalfi, Italy 1983.
- 10c-23 Symposium of Recent Development of Urban Transit Technology, Keynote speech: "Transit Technology Today" (#8.61); Taipei, 27-29 Nov. 1984.
- 10c-24 <u>China Road Federation</u> Annual Meeting, Keynote speech: "Present and Future of Highway Transportation"; Taipei, 30 Nov. 1984.
- 10c-25 <u>London Underground, Ltd.</u>, "Full Automation in Rapid Transit: Problems and Prospects"; London, 7 Apr. 1986.
- 10c-26 <u>Collegio Ingegneri Ferroviari Italiani</u>: "Full Automation of Rapid Transit Trains: Problems and Prospects"; Rome, 23 May 1986.
- 10c-27 <u>Association of Transportation Engineers of Yugoslavia</u>: "Coordination of Urban Development and Transport Systems"; Belgrade, 28 May 1986.
- 10c-28 XXI FISITA Congress: "Trends in the Development of Urban Passenger Transport Systems and Vehicles" (#8.68); Belgrade, 4 June 1986.
- 10c-29 <u>Association of Transportation Engineers of Yugoslavia</u>: "Increase of Speed in Transit Services"; Belgrade, 5 June 1986.
- 10c-30 <u>International Mass Transit Association</u>: "Transit Planning and Financing: Factors often Overlooked"; Washington, 9 Feb. 1987.
- 10c-31 <u>Chicago Metropolitan Council</u>: "Transit Planning for CBD Areas", followed by a 3-hour discussion; Chicago, 22 June 1988.
- 10c-32 <u>Montgomery County Planning Commission</u>: "Public Transportation Planning for Low-Density Suburban Areas"; Silver Spring, MD, 11 Oct. 1988.
- 10c-33 Western Australia Department of Transportation: "Street Design and Traffic Engineering for Contemporary Cities"; Perth, Australia, 19 Oct. 1988.
- 10c-34 <u>Transperth</u> (Transit Agency): "Mode Selection in Urban Transportation Planning"; Perth, Australia, 21 Oct. 1988.
- 10c-35 DART Seminars on Transit Planning: "Place of Rapid Transit in Modern Cities";

- Dallas, TX, 27 Oct. 1988.
- 10c-36 New York City Transit Authority: "NYCTA Control Centers Modernization"; presentation to the top level managers, 8 Mar. 1989.
- 10c-37 Metropolitan Transit Authority MTA: "State-of-the-Art of Transit Control Centers"; Baltimore, MD, 21 Apr. 1989.
- 10c-38 Rene Dubos Center: participant in the Panel on Transportation, Seminar on Urban Environment; New York City, 16-17 May 1989.
- 10c-39 The World Bank: "Characteristics of Urban Transportation Systems"; lecture in the Seminar on Urban Transportation, Washington, DC, 13 Sep. 1989.
- 10c-40 <u>Istituto Superiore dei Trasporti ISTRA</u>: Discussion of the National and Urban Transportation Policies USA and Italy; Roma, 18 Oct. 1989.
- 10c-41 <u>Innovative Land Transportation in the 21st Century</u>: Member of two panels; Snowmass, CO, 8-10 Oct. 1990.
- 10c-42 <u>2a Mostra e Convegno Internazionale per la Gestione Coordinata della Citta:</u> "Prospects for Competitiveness of Urban Public Transport"; Padova, Italy, 20 Feb. 1991.
- 10c-43 <u>S-Bahn nach Mass Internationale Studientage in Zürich</u>: "Von der klassischen Eisenbahn zur S-Bahn" (in German), publication #8.81; 24 Apr. 1991.
- 10c-44 <u>American Society of Landscape Architects</u>: Philadelphia Section Meeting, "Role of Transportation in Cities"; Philadelphia, PA, 3 Apr. 1992.
- 10c-45 <u>International Symposium and Exhibition on Automated Guided Transit:</u> presentation of the paper #8.84; Seoul, Korea, 1 Dec. 1992.
- 10c-46 7th National HOV Conference: presentation of paper #8.89; Los Angeles, CA, 8 June 1994.
- 10c-47 Planning Department of Queensland: "Transit Planing for Low-Density Areas"; Melbourne, Australia, 17 June 1994.
- New South Wales Department of Transport: "The Role of Transport Systems in Planning for More Livable Cities"; Sydney, Australia, 20 June 1994.
- 10c-49 <u>Puget Sound RTA Board</u>: Presentation and discussion on urban transportation systems; Seattle, WA, 15 Sep. 1994.
- 10c-50 <u>JSCE 80<sup>th</sup> Anniversary International Symposium</u>: presentation of paper #8.90, Yokohama, Japan, 24 Nov. 1994.

- 10c-51 National Transit Institute: "Characteristics and Roles of Different Modes of Urban Transportation"; Newark, NJ, 26 May 1995, 17 May 1996, New Brunswick, NJ, 27 Oct. 1999.
- "Seoul a Livable City" <u>International Seminar in Seoul</u>: Presentation of paper #8.94, 27 Oct. 1995.
- "Selection of Technology for Metro Line C in Rome"; Presentation of paper #9-dd and a press conference, Rome City Hall, 2 Dec. 1995.
- 10c-54 <u>UITP Light Rail Transit Conference</u>: "LRT A Dynamic Mode with Continuing Innovations"; San Jose, CA, 1 Oct. 1996.
- 10c-55 <u>APTA's Commuter Rail Conference</u>: "Modernizing Regional Rail Systems"; Philadelphia, PA, 23 Mar. 1998.
- 10c-56 <u>Associacao National de Transporte Publicos ANTP</u>: "Trends in Urban Transportation"; Sao Paulo, Brazil, 10 Aug. 1998.
- 10c-57 <u>Associação des Engenheiros e Arquitetos do Metro de Sao Paulo,</u> Keynote Speech at the 4<sup>th</sup> Seminar on Metropolitan Railways: "Trends in Urban Rail Transit"; Sao Paulo, 12 Aug. 1998.
- 10c-58 Newman Real Estate Institute's Forum Development Conference: "Regional Rail in the New York City Region: the Neglected Giant"; Baruch College, New York City, 13 Nov. 1998.
- 10c-59 <u>53<sup>rd</sup> UITP Congress</u>, Plenary Session: "Achieving Intermodal Balance for Efficiency and Livability of Cities"; Toronto, May 1999.
- 10c-60 <u>Electric Railroaders Association</u> Annual Meeting: "Rail Transit in the 20<sup>th</sup> Century"; Philadelphia, 04 July 1999.
- 10c-61 <u>Strategic Planning for Transit Symposium</u>: "Transportation and Urban Character"; Metropolitan Transit Development Board, San Diego, CA, 18 Sep. 1999.
- 10c-62 <u>National Transit Institute at Rutgers</u>: "Cities, Transit Systems and Their Operation" (3-hour lecture); New Brunswick, NJ, 27 Oct. 1999.
- 10c-63 <u>INFORMS</u>, Annual Meeting: "Applications of Operations Research in Transit"; Philadelphia, 07 Nov. 1999.
- 10c-64 <u>UITP Metropolitan Railways Operations Committee</u>: "The BART System"; New York City, 19 Nov. 1999.
- 10c-65 <u>Transportation Research Board</u>: "Transfers in Transit Networks: Theory and Practice" (with J. M. Casello), 12 Jan. 2000.

- 10c-66 <u>Transportation Research Board</u>: "Transportation and Access the Main Factors in Planning the New Phillies Stadium in Philadelphia" (with T. D=Emidio and J. Kahn); 13 Jan. 2000.
- 10c-67 <u>Berliner Verkehrsgesellschaft BVG</u>: "Automatisierung der U-Bahn und Erfahrungen in Nord America"; Seminar, "Star 2000," Berlin, 11 Feb. 2000.
- High Speed Ground Transportation Society, Annual Meeting: "Needed: A Rational Policy Toward High Speed Ground Transportation"; Philadelphia, 12 May 2000.
- 10c-69 <u>DP Prague Transit Agency</u>: "Current Issues in Transit Development"; Prague, 31 May 2000.
- 10c-70 <u>BKV Budapest Transit Agency:</u> "Intermodal Transportation for Livable Cities"; Budapest, 05 June 2000.
- 10c-71 <u>UITP Light Rail Conference</u>: "Comparison of LRT with Bus Semirapid Transit System" (paper #8.106); Melbourne, 09 Oct. 2000.
- 10c-72 <u>Second Annual Felicia Gayle Lecture</u>: "Transportation for Livable Cities"; Citizens for Modern Transit, St. Louis, MO, 14 Nov. 2000.
- 10c-73 <u>Federal Department of Transportation, Argentina</u>: "Urban Transport in Sustainable Cities: Lessons and Experiences from North America"; Buenos Aires, 20 Dec. 2000.
- 10c-74 TRB Annual Meeting: "Inconsistent Policies toward Amtrak and Maglev Program Impede the Progress of High Speed Rail Development"; Committee A1E13, Washington, DC, 08 Jan. 2001.
- 10c-75 TRB Annual Meeting: "Clarifying the Concepts about HSGT: a Comparison of Maglev with High Speed Rail"; Committee A2MO5, Washington, DC, 10 Jan. 2001.
- 10c-76 Annual Meeting of the Board of Directors, National Association of Railroad Passengers: "Needed: a Rational Policy toward Passenger Rail"; Washington, DC, 26 Apr. 2001.
- 10c-77 Conference of Minority Transportation Officials COMTO: "The Implications of High Speed Rail"; Miami, FL, 20 June 2001.
- 10c-78 TRB Conference on Bus Rapid Transit: "Bus Semirapid Transit as an Option in Alternatives Analysis"; Pittsburgh, PA, 12 Aug. 2001.
- 10c-79 <u>TRB Annual Meeting</u>: "Rail Transit System Capacity: Interaction Between Line and Stations"; Washington, DC, 15 Jan. 2002.
- 10c-80 TRB Annual Meeting: "An Evaluation of Maglev Technology and Its Comparison

- with High-Speed Rail"; Washington, DC, 16 Jan. 2002.
- 10c-81 <u>ASCE Second International Conference on Urban Public Transportation Systems</u>: "Ensuring Sustainability Through Mass Transit"; Washington, DC, 17 Apr. 2002.
- 10c-82 <u>Department of Transportation</u>, Seoul, Korea: "Medium Capacity Transit Systems"; Seminar on Urban Transportation Systems, 26 Apr. 2002.
- 10c-83 Professional Seminar on Transit Systems, Lectures: "Public Transit Systems in Medium-Size Cities" and "Attracting New Riders to Public Transit"; Bergen, Norway, 23 May 2002.
- 10c-84 <u>Atlantic City Rail Line Symposium</u>: Panelist; South Jersey Transportation Authority, Atlantic City, 16 Oct. 2002.
- 10c-85 <u>American Planning Association</u>: "Comparison of Maglev with High Speed Rail and the Baltimore-Washington Project"; Baltimore, 3 Dec. 2002.
- 10c-86 <u>ATAC Rome Transit Agency</u>: "Technical and Systems Innovations in Urban Transit with Case Studies"; Rome, 25 June 2003.
- 10c-87 "Current Urban Transportation and Sustainability;" <u>The Urban Sustainability</u> <u>Forum, Philadelphia, 19 Jan. 2006.</u>
- 10c-88 85<sup>th</sup> TRB Annual Meeting, "Context Sensitive Design for Urban Transportation in West Philadelphia;" presentation with Jeffrey Casello; Washington, DC 24 Jan. 2006.
- 10c-89 "Transportation Systems for Livable and Sustainable Cities: Definition and Implementation;" <u>Kittelson & Associates</u>, Consultants, Fort Lauderdale, FL (telecast to five Kittelson offices); 19 July 2007.
- 10c-90 <u>Urban Land Institute</u>: "Transportation Goals and Policies as the Basis for Infrastructure Development;" 2<sup>nd</sup> Annual Forum on Infrastructure, Philadelphia, 15 May 2008.
- e-Tech Consulting Company, "Implementing Balanced Transportation System: Incentives, Disincentives and Potential Role of Light Rail Transit;" Port of Spain, Trinidad, 29 May 2008.
- e-Tech Consulting Company, "Upgrading Intercity and Urban Public Transport in Trinidad;" Port of Spain, 16 Oct. 2008.
- 10c-93 <u>Indianapolis Government Center</u> MPO & Health by Design: "Transportation for Livable Cities;" 23 Mar. 2009.
- 10c-94 <u>INECO Railway Consulting Company</u>, "Process and technical Aspects of rail Transit Line and network Planning and Design;" Madrid, 21 Sep. 2009.

- 10c-95 <u>International Festival Conference</u>, "Defining and Achieving an Effective Balance between Public and Private Transport in High-Density Cities;" Moscow, 21 Oct. 2009.
- 10c-96 <u>EU Bus Study Action COST TU 603</u>, "Buses with High Level of Service: Definition, Characteristics and Role in Urban Transit;" Hamburg, 26 Oct. 2009.

# 11. Invited Lectures at Universities and Academies of Science

- \* designates the first lecture by Vuchic at that university.
- \*11.1 <u>Beogradski Univerzitet</u>, Faculty of Transportation and Traffic Engineering: invited lecturer in the graduate program (16 hrs.- in Serbo-Croatian); Dec. 1970 (see #3.3).
- \*11.2 <u>Sveuciliste Zagreb</u>, Faculty of Civil Engineering: "Trends in Urban Transportation Systems Development" (in Serbo-Croatian); 21 Dec. 1970.
- \*11.3 <u>University of Pennsylvania</u>, Towne School, Colloquium on Urbanism: "Urban Transportation in Future Perspective"; Philadelphia, 3 Mar. 1971.
- \*11.4 <u>Southern Illinois University</u>: "Planning and Environment A Comparative Review of European and American Approaches"; Carbondale, IL, 2 June 1971.
- \*11.5 <u>Technische Universität München</u>, Department of Transportation Engineering and City Planning: "Urban Transportation Modes and Technologies in the United States" (in German); 15 June 1972.
- \*11.6 <u>University of Salford</u>, Department of Civil Engineering: "Light Rail Transit Systems"; Salford, England, 21 June 1972.
- \*11.7 <u>Pennsylvania State University</u>, Transportation and Safety Center: "Urban Transportation Modes: Characteristics, Relationships and Optimal Domains"; State College, PA; 11 Jan. 1973.
- \*11.8 Ohio State University, Department of Civil Engineering: "Comparative Analysis of Transportation Modes"; Columbus, OH; 22 Feb. 1973.
- \*11.9 <u>Temple University</u>: "Urban Transportation Systems: New Technology"; Philadelphia, 13 and 15 Mar. 1973.
- 11.10 <u>Technische Universität München</u>, Department of Transportation Engineering and City Planning: "New Transportation Systems: Real Potential or Misdirection?" (in German); 24 May 1973.
- \*11.11 <u>Carnegie-Mellon University</u>, Pittsburgh Professional Program in Urban Transportation; lecturer on topics: transit scheduling, rail and bus transit, comparative analysis of modes; 3-7 hrs. each year, 1973-1979.

- 11.12 Ohio State Univsersity, Department of Civil Engineering: "Toward Formation of Urban Transportation Systems"; Columbus, OH, 13 Nov. 1973.
- \*11.13 <u>University of California</u> ITS: "Comparative Analysis of Transit Modes"; Berkeley, 27 Mar. 1974.
- \*11.14 <u>Princeton University</u>, Department of Civil Engineering: "Automated Transit Systems"; Nov. 1974.
- \*11.15 <u>University of Wisconsin</u>, Seminar on Light Rail Transit: speaker at two sessions; Milwaukee, 25-26 Apr. 1975.
- 11.16 <u>University of Pennsylvania</u>, Department of Civil and Urban Engineering: "Society, Professionals and Academia"; Herbert Spencer Lecture Series; Philadelphia, 11 Dec. 1975.
- \*11.17 <u>University of Hawaii,</u> Department of Civil Engineering, with Oahu Development Conference: "Urban Design and Transportation Planning"; Honolulu, 4 Jan. 1978.
- \*11.18 <u>Universität Karlsruhe</u>, Institut für Wirtschaftspolitik und Wirtschaftsforschung: "Methodology for Comparison of Transit Modes" (in German); 16 June 1978.
- \*11.19 <u>Portland State University</u>, School of Urban Affairs: keynote speaker at the Workshop on Light Rail Transit; Portland, OR; 14 Sep. 1978.
- \*11.20 <u>Universidad Simon Bolivar</u>, Department of Civil Engineering: a series of lectures (10 hrs.) in the Graduate Seminar on Urban Transportation Planning; Caracas, 2-6 Oct. 1978.
- \*11.21 <u>Georgia Institute of Technology</u>, School of Civil Engineering: "Family of Transit Modes: Definitions and Characteristics"; Atlanta, 19 Apr. 1979.
- \*11.22 <u>University of Tokyo</u>, Department of Civil Engineering: "Trends in Rail Transit"; 24 May 1979. Also three lectures in an undergraduate course, 4-6 June 1979.
- \*11.23 <u>University of Hokkaido</u>, Department of Civil Engineering: "Interchange Design"; Sapporo, 28 May 1979.
- \*11.24 <u>Tokyo Institute of Technology</u>, Department of Social Engineering: "Trends in Rail Transit"; 31 May 1979.
- \*11.25 <u>University of Kobe</u>, Department of Civil Engineering: "Trends in Rail Transit"; 18 June 1979.
- \*11.26 <u>University of Kyoto</u>, Department of Civil Engineering: "Trends in Rail Transit"; 19 June 1979.

- \*11.27 <u>Taiwan Technical University and Transportation Planning Board</u>: "Urban Transportation Trends: Theoretical Analyses and Practical Policies"; Taipei, 26 June 1979.
- \*11.28 <u>Dartmouth College</u>, Thayer School of Engineering: "Urban Transportation Policies under Prospects of Limited Energy"; Charles C. Jones Seminar Series, Andover, NH, 4 Oct. 1979.
- \*11.29 <u>Polytechnic Institute of New York,</u> Department of Transportation Planning and Engineering: "Present and Future Role of Transit in U.S. Cities"; Seminar Series in Transportation, New York City, 20 Feb. 1980.
- \*11.30 <u>Villanova University</u>, Department of Civil Engineering: "Definitions and Characteristics of Urban Transportation Modes"; Philadelphia, 26 Feb. 1980.
- \*11.31 <u>Massachusetts Institute of Technology</u>, Center for Transportation Studies: "Are Current Urban Transportation Policies Responsive to the Needs of Our Cities?"; Cambridge, MA, 19 Sep. 1980.
- \*11.32 <u>National University of Taiwan</u>, Department of Civil Engineering: "Trends in Rail Transit"; Taipei, 12 Dec. 1980.
- \*11.33 <u>University of Alberta</u>, Light Rail Transit Study Program: lectures on LRT Network Planning, Infrastructure and Rolling Stock (4 hrs); Edmonton, Alberta, Canada, 25-26 May 1981.
- \*11.34 <u>University of Calgary</u>, Department of Civil Engineering: "Urban Transportation Developments in the Light of Environmental and Energy Aspects"; Calgary, Alberta, Canada, 27 May 1981.
- \*11.35 <u>University of Stellenbosch</u>, Department of Civil Engineering: as Visiting Professor, lectured courses on urban public transportation; Stellenbosch, South Africa, 20 July 12 Aug. 1981; 18 May 12 June 1982; 18 July 9 Aug. 1983; 24 May 10 June 1993; 8-12 Oct. 2001 (27 hours) and 3-7 Nov. 2003 (27 hours). (See #3.4).
- 11.36 <u>Beogradski Univerzitet</u>, Faculty of Transportation Engineering: "Trends in and Relationships Among Urban Transportation Modes" (in Serbian); 26 Aug. 1981.
- \*11.37 <u>Instituto Politecnico Nacional</u>, Division de Ciencias Sociales: three lectures in the area of Urban Transportation; Mexico City, 21-23 Sep. 1981.
- \*11.38 <u>Universidad Central</u>, Department of Civil Engineering: "Rail Transit Systems Design and Operation"; (5 lectures); Caracas, 23-27 Nov. 1981.
- \*11.39 <u>Drexel University</u>, Department of Civil Engineering: "Public Transportation"; Philadelphia, 1 Dec. 1982, 8 Mar. 1983 and 5 Mar. 1984.
- \*11.40 University of Michigan, Transportation Center: "Technological Innovations and

- Their Impact on Transit Role in Cities"; Ann Arbor, MI, 11 Feb. 1983.
- \*11.41 <u>University of Orange Free State</u>, Department of Urban Planning: "The Role of Public Transportation in City Planning"; Bloemfontain, South Africa, 9 Aug. 1983.
- \*11.42 <u>University of Virginia</u>, Department of Civil Engineering: "Urban Form and Transportation: Recent Experiences"; Charlottesville, VA, 22 Mar. 1984.
- \*11.43 <u>University of Delaware</u>, Department of Civil Engineering: "Auto vs. Transit Controversy in Urban Transportation"; Newark, DE, 4 Nov. 1985.
- \*11.44 <u>University of Nottingham</u>, Conference on Public Transport Futures: "Recent Transit Developments in North America"; Nottingham, England, 11 Apr. 1986.
- \*11.45 <u>Universita di Roma</u>: "Current Developments in Rail Transit Planning, Technology and Operations"; 21 May 1986.
- 11.46 <u>Universita di Roma</u>: "Trends in the Development of Transit Systems"; 22 May 1986.
- 11.47 <u>Beogradski Univerzitet</u>, Faculty of Transportation Engineering: "Trends in the Development of Urban Passenger Transport Systems and Vehicles" (in Serbo-Croatian); 27 May 1986.
- 11.48 <u>Sveuciliste Zagreb</u>, Faculty of Transportation Sciences: "Trends in the Development of Urban Public Transportation" (in Serbo-Croatian); 30 May 1986.
- 11.49 <u>University of Pennsylvania</u>, Systems Engineering Seminar: "Full Automation of Trains in Rapid Transit Systems"; 29 Jan. 1987.
- \*11.50 <u>Eidgenössische Technische Hochschule (ETH) Zürich</u>: "Der öffentliche Nahverkehr in Nord-Amerika: Erfahrungen, Probleme und Erfolge in Theorie und Praxis"; 1 June 1987.
- 11.51 <u>Technische Universität München</u>: "Voll-automatisierte Züge in U-Bahn Systemen"; 3 June 1987.
- \*11.52 Universita di Napoli: "Light Rail Transit", 16 June 1987.
- \*11.53 <u>Universidade Tecnica de Lisboa</u>, Instituto Superior Tecnico: short course (16 hours) on Urban Public Transportation; Lisbon, Portugal, 25-30 April 1988; and a 20-hour course, 4-8 June 1990 (see #3.5).
- \*11.54 <u>Ecole Nationale des Ponts et Chaussees</u>: presentation, panel member and discussant at the Colloque "Les Transports Collectifs Urbains", Paris, 3-5 May 1988.
- 11.55 <u>University of Pennsylvania</u>: "A World Review of Transit Control Centers"; Systems Department Series on Contemporary Issues in Transit; Philadelphia, 6 Apr.

1989.

- \*11.56 <u>Universita di Salerno</u>: "Developments in Urban Transportation"; Salerno, Italy, 20 Oct. 1989.
- \*11.57 <u>Sveuciliste Vladimir Bakaric</u>: "Urban Transit: Application of World Experiences to Possibilities in Rijeka" (in Serbo-Croatian); Rijeka, Yugoslavia, 24 Oct. 1989.
- 11.58 <u>Sveuciliste Zagreb</u>: "Innovations in Urban Transit" (in Serbo-Croatian); 25 Oct. 1989.
- 11.59 <u>Beogradski Univerzitet</u>: "Geometric Analysis of Metro Networks Theory and Applications" (in Serbo-Croatian); 26 Oct. 1989.
- 11.60 <u>Beogradski Univerzitet</u>: "Methods of Control for Transit Systems" (in Serbo-Croatian); 27 Oct. 1989.
- 11.61 <u>University of Pennsylvania</u>: "Metro Network Design: Theoretical Aspects and Empirical Experiences"; Department of Systems Seminar, 5 Feb. 1990.
- 11.62 <u>University of Delaware</u>: "How Can National Transportation Policy Alleviate Our Urban Transportation Problems?", Newark, DE, 16 Feb. 1990.
- \*11.63 <u>Polytechnic University of New York</u>: "Theory of Metro Network Forms and Its Applications"; Seminar in Transportation Series, Brooklyn, NY, 13 Mar. 1990.
- \*11.64 <u>University of North Carolina at Charlotte</u>: "Our Cities and Their Transportation: Major Changes in Policies are Needed"; Charlotte, 4 Apr. 1990.
- \*11.65 <u>University of Wisconsin Milwaukee</u>: "Transportation Supply: Transit Options"; Conference and Workshop "Urban Mobility in Southeast Wisconsin", Milwaukee, 14 Nov. 1990.
- 11.66 <u>Universita di Salerno</u>: lectures "Operations Research in Transit" and "Highway Design"; Salerno, 2 and 3 May 1991.
- \*11.67 <u>University of Illinois in Chicago</u>: presentation #10a-13, 7 June 1991.
- 11.68 <u>Drexel University</u>: "Full Automation of Rapid Transit: Problems and Prospects"; Philadelphia, 21 Oct. 1991.
- 11.69 <u>University of North Carolina at Charlotte</u>: "Roles of Different Transit Modes"; 26 Mar. 1992.
- \*11.70 <u>University of New Hampshire, Durham</u>: "The Role and Intermodal Relationships of Regional Rail"; Conference on Building Regional Rail, 26 May 1992.
- \*11.71 Serbian Academy of Sciences and Arts (Srpska Akademija Nauka i Umetnosti -

- SANU): Invited presentation: "Review of Planning High-Performance Transit Systems"; Belgrade, Yugoslavia, 7 November 1993.
- \*11.72 <u>University of Melbourne</u>: "Transportation for Livable Cities"; Keynote speech at the <u>Conference on Livable Cities</u>; Melbourne, Australia, 15 June 1994.
- \*11.73 <u>Virginia Polytechnic University</u>: Course on Urban Transportation sponsored by the International Road federation IRF; Washington, DC, 26 Sep. 1994, 28 Sep. 1995, 17 Oct. 1996. The same course organized by Georgia Polytechnic, 7 Oct. 1997.
- 11.74 <u>University of Kobe</u>: "Urban Transportation New Challenges for Engineers"; Kobe, Japan, 21 Nov. 1994.
- \*11.75 <u>University of Fukuoka</u>: "Characteristics of Transportation Systems and Their Impacts"; Fukuoka, Japan, 22 Nov. 1994.
- 11.76 <u>University of Pennsylvania</u>: "Urban Transportation: Understanding the Problem"; Systems Engineering Seminar Series, 27 Feb. 1995.
- \*11.77 <u>Seoul National University</u>: "Intermodal Coordination and Equilibrium in Urban Transportation"; Seoul, Korea, 26 Oct. 1995
- 11.78 <u>Beogradski Univerzitet</u>: "Planning of Rail Transit Systems"; Belgrade, Yugoslavia, 28 Nov. 1995.
- \*11.79 <u>Universidad Autonoma de Mexico</u>: "Overview of Transportation of Goods and persons in Urban Areas"; Continuing Education Course, Mexico, 13 May 1996.
- \*11.80 <u>Conservatoire National des Arts et Metiers CNAM</u>: "Cars, Transit and Quality of Life in the World Today"; Paris, France, 28 May 1996.
- 11.81 <u>Beogradski Univerzitet</u>: "Organization and Regulation in Urban Transportation"; Belgrade, Yugoslavia, 6 June 1996.
- \*11.82 <u>Universidad Metropolitana</u>: Lectures in <u>Il Curso Intensivo en Transporte Urbano</u> Professional Course: "Characteristics and Roles of Different Urban Transportation Modes and Their Impacts on Cities"; Caracas, Venezuela, 26 Sep. 1996 and 1 Dec. 1997.
- 11.83 <u>University of California</u>: "Urban Transportation: Present Paradoxes and Lack of Vision"; Invited Seminar, Berkeley, CA, 4 Oct. 1996.
- 11.84 <u>Georgia Institute of Technology</u>: "Role of Transit, Its Forms and Relevant Policies"; 4-hour lecture in the Course on Urban Transportation sponsored by IRF; Alexandria, VA, 7 Oct. 1997.
- \*11.85 New Jersey Institute of Technology: "Transportation and Livable Cities: A Vision and New Policies Are Needed"; Newark, NJ, 30 Oct. 1997.

- 11.86 <u>Universidad Metropolitana</u>: "Education in Transportation"; <u>Il Curso Intensivo en Transporte Urbano</u>; Caracas, Venezuela, 5 June 1998.
- 11.87 <u>Beogradski Univerzitet</u>: "Rail Transit Systems Planning and Design"; 3 hour seminar; Belgrade, Yugoslavia, 10 June 1998.
- 11.88 <u>Srpska Akademija Nauka i Umetnosti</u> (Serbian Academy of Sciences and Arts SANU): "Cities and Transportation Dilemma of Our Civilization"; Acceptance Lecture as Academician; Belgrade, Yugoslavia, 11 June 1998.
- \*11.89 <u>Univerzitet Novi Sad</u>: "Systems Approach to the Understanding and Solving Urban Transportation Problems"; Novi Sad, Yugoslavia, 15 June 1998.
- 11.90 <u>Technische Universität München</u>: "Auf der Suche nach einer attraktiven Stadt mit einem leistungsfähigen Verkehrssystem Theorie und Praxis" (The Search for a Livable City with an Efficient Transportation System); Munich, 19 June 1998.
- \*11.91 <u>Universidad Sao Paulo</u>: "Urban Transportation"; 20-hour graduate course; Sao Carlos, Brazil, 3-7 Aug. 1998 (see #3.5)
- \*11.92 <u>Universidad de Rio de Janeiro</u>: "Urban Transportation a Dilemma of Contemporary Society"; Rio de Janeiro, Brazil, 13 Aug. 1998.
- \*11.93 <u>Southern Texas University</u>, Keynote speech: "Light Rail Transit Systems"; Dallas, 18 Feb. 1999.
- 11.94 <u>University of California Berkeley</u>: "The BART system: Its Concept, Technology and Role in the Bay Area"; Berkeley, CA 17 Sep. 1999.
- Pennsylvania Institute of Technology: "Transportation for Livable Cities"; P.I.T. Fine Communicators in Technology Lecture, Media, PA, 17 Feb. 2000.
- \*11.96 <u>Universität Kaiserslautern</u>: "Light Rail Transit System: Its Forms and Roles in Urban Areas;" Kaiserslautern, Germany, 20 Mar. 2000.
- 11.97 <u>ETH, Zürich</u>: "Anwendung der Systemanalyse zur Lösung der Stadtverkehrsprobleme"; (Application of Systems Analysis to Solving Urban Transportation Problems), Zürich, 23 Mar. 2000.
- \*11.98 <u>City University of New York</u>: "Infrastructure 2000 Investing for Growth"; Rebuilding America Coalition Symposium, New York City, 28 Mar. 2000.
- \*11.99 <u>Technische Universität Dresden</u>: "Verkehr und Lebensfähige Städte Vergleichend Behandelt mit Beispielen" (Transport and Livable Cities with Comparison of Examples); Dresden, 25 May 2000
- \*11.100 Technical University of Prague: "Intermodal Transportation for Livable Cities";

- Prague, 29 May 2000.
- 11.101 <u>Beogradski Univerzitet</u>: "Trends in Urban Transit Organizations;" Belgrade, 28 Sep. 2000.
- \*11.102 <u>University of New South Wales</u>, Symposium on Transport for Livable Cities: "Importance and Forms of High-Performance Transit Systems in Livable Cities"; Sydney, Australia, 11 Oct. 2000.
- 11.103 <u>Massachusetts Institute of Technology MIT</u>, Center for Transportation Studies, Distinguished Speaker Series: "The Future of High Speed Ground Transportation"; 16 Mar. 2001.
- 11.104 <u>University of Illinois at Chicago</u>: "Transportation Planning and Operation on University Campuses"; 1 Nov. 2001.
- 11.105 <u>Beogradski Univerzitet</u>: "Development and Innovations in Rail Transit"; 3 June 2002.
- \*11.106 <u>University of Utsunomiya</u>: "Contemporary Problems in Urban Transportation"; Utsunomiya, Japan, 14 May 2003.
- 11.107 <u>Srpska Akademija Nauka i Umetnosti</u> SANU: "World Trends in Planning Metro Systems with a Review of Developments in Belgrade"; Belgrade, Serbia, 18 June 2003.
- 11.108 <u>Universita di Roma</u>: "Intermodal Transportation for Efficient and Livable Cities"; Rome, 24 June 2003.
- 11.109 <u>Universita di Napoli Federico II</u>: "Technical and Systems Innovations in Urban Transit in Large Cities"; Naples, 26 June 2003.
- \*11.110 <u>University of Pretoria</u>: "Urban Public Transport Systems"; Pretoria, 30-31 Oct. 2003 (14 hours).
- 11.111 <u>University of Stellenbosch</u>: "Urban Public Transportation"; Stellenbosch, 3-7 Nov. 2003 (27 hrs.).
- \*11.112 Nanyang University: six public lectures as SMRT Visiting Professor; 1-20 Mar. 2004.
- 11.113 <u>Universita di Roma</u>, "Trends in Intermodal Relations in Urban Transportation;" 6 June 2005.
- 11.114 Russian Academy for Architecture and Structural Sciences (RAASN), City Planning

  Division "Transportation in Moscow: Problems and Suggested Solutions;" Moscow,
  1 Aug. 2005.

- 11.115 <u>University of Pretoria, South Africa,</u> "Transit Systems and Urban Transportation: Operations, Planning, Management and Policies;" 16-hour course for graduate students and professionals; 19-20 Oct. 2006. 41 student.
- 11.116 <u>University of Stellenbosch, South Africa</u> "Urban Transportation Systems: Technology, Operations, Planning and Policies" 30-hour course for graduate students and professionals; 23-27 Oct. 2006. 43 students.
- \*11.117 <u>Istanbul Institute of Technology</u>, "Urban Transportation Systems, Technology, Operations, Planning and Policies;" Graduate/Continuing Education course, 20-24 Nov. 2006. ~ 100 students.
- \*11.118 <u>Simon Fraser University</u>, Vancouver, "The Role of Rail Transit in Making Cities Sustainable;" Invited seminar, 12 Feb. 2007.
- \*11.119 <u>Helsinki University of Technology</u>, Helsinki, Three-hour lecture in the International Course on Urban Transportation, 24 May 2007.
- 11.120 <u>Universita di Roma</u>, "Innovations in Urban Transit: Medium-Capacity Modes, Automation, Diversification;" 28 May 2007.
- 11.121 <u>Universita di Roma</u>, "Livable and Sustainable Cities: Their Definition and Implementation;" 30 May 2007.
- 11.122 <u>Universita di Napoli Federico II,</u> "Transportation Systems for Livable Cities: Review of Technology, Balanced Transportation Concept and Its Implementation;" 31 May 2007.
- \*11.123 <u>Beijing Jiaotong University</u> "Interrelationship between Transportation and City: Past Experiences and Future Directions;" 5-hour lecture, 30 July 2007.
- \*11.124 <u>University of Niš</u>, Serbia, "Role of Rail Transit Modes in Achieving Sustainable Cities" (in Serbian); 18 June 2008.
- \*11.125 <u>Land Transport Academy</u>, Singapore, "Rail Transit and Other Guided Systems: Planning, Design and Evaluation;" 16-lecture-hours course, 26 Jun-1 Jul 2008.
- \*11.126 <u>Rutgers University</u>, New Brunswick, NJ "Efficient Urban Transportation Requires Systems Approach and Rational Policies;" 27 Jan. 2009.
- \*11.127 <u>Indiana University</u>, Bloomington, IN, School of Law Urban Planning Scholar Series: "Transportation for Livable Cities;" 23 Mar. 2009.
- 11.128 <u>Beogradski Univerzitet</u> School of Transportation Engineering, "Development and Role of Rail Transit Systems in Livability and Sustainability of Cities" (in Serbian),

- 2 June 2009.
- 11.129 <u>Beijing Jiaotong University</u>, "Rational Policies in Urban Transportation and Their Effective Implementation;" Beijing, 20 Aug. 2009.
- \*11.130 <u>Technical University of Catalonia</u>, "Role of Transportation Modes in Making Cities Livable and Sustainable;" Barcelona, Spain, 18 Sep. 2009.
- \*11.131 <u>Technical University of Madrid</u>, "Role of Transportation Modes in Making Cities Livable and Sustainable;" 25. Sep. 2009.
- 11.132 <u>Technische Universität München und Verkehrszentrum des Deutschen Museums,</u> "Urban Transportation and Climatic Change an International Analysis and Developments in the USA;" (in German), Munich, 29 Oct. 2009.

### 12. Professional Activities on Public Issues and Projects

- Published a number of articles on current transportation issues in daily newspapers and journals.
- Numerous <u>interviews and quotes</u> in the press in Philadelphia, Boston, San Francisco and many other U.S. cities, in Germany, Italy, Yugoslavia/Serbia, Japan, Norway, Australia, Korea, Russia, China and other countries. (New York Times, The Philadelphia Inquirer, Bulletin, and <u>Daily News, Christian Science Monitor, Scientific American, Politika, Vreme, NIN, Washington Times</u>, Izvestiya, many others).
- 12.3 <u>Television and radio interviews</u>, e.g. in Belgrade, Baltimore, Beijing, Chicago, Dallas, Honolulu, Istanbul, London, Melbourne, Minneapolis, Moscow, National Public Radio, Perth, Philadelphia, Pretoria, Sao Paulo and Singapore.

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