

**Theodore A. Petritsch, P.E.**  
Senior Transportation Engineer

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**CERTIFICATION**

State of Florida, Professional Engineer Registration No. 48857  
League of American Bicyclists, League Certified Instructor No., 859

**EDUCATION**

Bachelor of Civil Engineering, University of Florida, 1990

**EXPERIENCE**

Mr. Petritsch is a Senior Transportation Engineer for *SCI*. He is a registered Professional Engineer with extensive experience in traffic and roadway safety engineering. Mr. Petritsch is a nationally recognized expert on pedestrian and bicycle facilities design, operations and safety. He is a core instructor for the National Highway Institute's *Bicycle and Pedestrian Facility Design Courses*, actively teaching roadway design engineers of state DOTs throughout the United States.

Mr. Petritsch served for six years as Florida's Pedestrian and Bicycle Coordinator in the Florida Department of Transportation Safety Office and five years as a Traffic Operations Engineer in the FDOT's Jacksonville Urban Office. He has worked on the local, state and national levels developing guidelines for the design and operation of pedestrian and bicycle facilities. Mr. Petritsch developed and taught FDOT's *Pedestrian and Bicycle Facilities Design Courses* and has presented at conferences throughout the country.

Mr. Petritsch's experience includes interstate traffic safety studies, fatal crash analysis, roadway corridor crash reviews, intersection analysis, and general traffic studies. He served on Florida's Safety Management Steering Committee and FDOT's Intersection Design Guide Advisory Committee. Mr. Petritsch has also served as an advisor or project manager on numerous research projects.

**APPOINTMENTS / AFFILIATIONS**

Transportation Research Board:

- Committee A3B07 – Bicycle Transportation, Member
- Subcommittee A3B97 (4) Planning for Bicycles
- Committee A3B04 – Pedestrian Committee, Friend of the Committee

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Association of Pedestrian and Bicycle Professionals, Member

National Committee on Uniform Traffic Control Devices, Bicycle Technical Committee, Member



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## **PUBLICATIONS**

Landis, **Petritsch**, Huang, and Do. "Characteristics of Emerging Road and Trail Users", 83<sup>rd</sup> Annual Meeting Compendium of Papers, Transportation Research Board, Washington, DC 2004.

Landis, Vattikuti, Ottenberg and **Petritsch**. "Intersection LOS for the Bicycle Through Movement". *Transportation Research Record 1828*. Transportation Research Board, Washington, DC. 2003.

*"Designing Pedestrian Friendly Intersections"* for the *I Can't Get There From Here International Pedestrian Conference*, Winter Park, FL, 1992.

*"Pedestrian Crashes in Two-Way Left Turn Lanes"* for the *I Can't Get There From Here International Pedestrian Conference*, Winter Park, FL, 1992.

*"Enforcement of Traffic Laws with Respect to Bicycle Safety"* for the Bicycle Safety Forum, CDC and NHTSA, Washington, D.C., 2000.

*"Operational Characteristics of In-line Skaters"* in *Transportation Research Record 1773* TRB, National Research Council, Washington, DC, 2001

## **PRESENTATIONS**

"Be a Better Bikeway Builder—Bicycle Accommodations, Planning, Design, & Engineering—the Basics" SCDOT Bicycle and Pedestrians Accommodations Conference, October 2004

"Characteristics of Emerging Road and Trail Users", Transportation Research Board Annual Meeting, January 2004.

"Approaches and Benefits of Planning for Multi-Modal Transportation Corridors" Southern Environmental Leadership Summit, Raleigh NC, May 2003.

"Bicycle Facilities Design" OHIO LTAP Presentation, Columbus, OH, February 2003.

"Innovative Bicycle Signs, Signals, and Markings" Lifesavers 2002 Conference, Orlando, FL.

"Innovative Pedestrian Treatments" Alaskan Bicycle Summit, Anchorage, AK, September 2001.

"Innovative Pedestrian and Bicycle Safety Treatments" Section 10 ITE Annual Meeting, Jacksonville, FL, Spring 2001.

Theodore Petritsch, P.E.



“Traffic Safety Initiatives of the Florida DOT Safety Office”, FSITE Annual Mtg, Tampa, FL.

“Bicycle Law Enforcement” National Bicycle Safety Forum, Washington, D.C., July 2000.

“Bicycle and Pedestrian Facilities” Lifesavers 1997, Orlando, FL.

“Working with Government Agencies to Promote Bicycling” Colorado Bicycle Summit, September, 1997.

“Roadway Design for a Pedestrian Friendly Downtown” Waterfronts Florida, St. Andrews Beach Meeting, 1999.

“Roundabout Design Issues” presented to FDOT Central Office Traffic Operations and Design Staff, 1994.

## ***SELECTED PROJECTS, STUDIES AND CASES***

**AASHTO Strategic Highway Safety Plan Pedestrian Strategic Plan** – AASHTO’s Strategic Highway Safety Plan outlines a comprehensive, integrated approach that has the potential to significantly reduce deaths on our highways. The plan includes 22 focus areas to be further developed. In the spring of 2002 a team of experts was assembled to develop strategies for addressing the pedestrian focus area of the Highway Safety Plan. This team evaluated strategies for effectiveness, possible negative aspects and costs. The final product will be a document containing strategies that can be implemented to improve the safety of pedestrians.

**Federal Highway Administration (FHWA): Pedestrian Safety Engineering and ITS-Based Countermeasures Program for Reduced Pedestrian Fatalities, Injuries, Conflicts and Other Surrogate Measures** – This ongoing project is evaluating more than thirty innovative countermeasures to reduce pedestrian crashes in three cities (Miami, FL, Las Vegas, NV, and San Francisco, CA). The project involves countermeasures identification, development of evaluation methodologies, and analysis of evaluation data across the three cities.

***Mendez v. City of Albuquerque***, Allegra Carpenter, Esq., 505.843.6161

**Bicycle Facility Selection and Sidepath Guidelines** – This research in progress is evaluating the safety of shared use paths placed adjacent to the roadway and how that safety is influenced by geometric and operational design.

**Federal Highway Administration (FHWA): Operational & Safety Characteristics of Emerging Road and Trail Users National Study** – This ongoing study is evaluating the physical and operational characteristics of numerous emerging road and shared use path

users. Evaluated users include bicyclists, in-line skaters, users of various assistive devices, kick scooters, skateboards, and hand cycles as well as others.

**Pedestrian Midblock Crossing Difficulty Report** – This project’s aim was to develop a level of service methodology for pedestrians crossing roadway at midblock locations. The study determined what variables are correlated with pedestrians perceived level of service at midblock locations.

**Weingust v. G.L. Homes of Florida** - Rand Ackerman, Esq., 561.347.2400

**Pedestrian Facilities Users Guide** – This guide was developed by FHWA to help traffic safety professionals identify solution to pedestrian safety concerns. A team of nationally recognized authorities on pedestrian safety was assembled to review and comment on the safety treatments discussed in this guide. The cost, effectiveness, and design considerations were included in the guide to help users identify appropriate treatments.

**Operational Characteristics of In-line Skaters** – With the growing popularity of in-line skating, engineers and planners are being called upon to design facilities appropriate for skaters. Additionally, questions have been raised as to whether or not skaters should be allowed on roadways. This research used observational studies to evaluate the operating requirements of in-line skaters, such as foot and hand sweep widths, speeds, stopping techniques and required stopping distances.

**Bicycle Safety Forum** – In July of 2000, NHTSA and the CDC sponsored a forum on bicycle safety to address the issues of bicyclist education, enforcement, helmets and facilities design. The product of the forum was a plan with targeted strategies to reduce bicycle crashes. Enforcement of the traffic laws as they relate to bicycle safety was the subject of a whitepaper presented at this forum. The reasons for enforcing the laws, barriers to enforcement and techniques for overcoming those barriers were addressed.

**NCHRP Pedestrian Facilities Planning and Design Guide** - NCHRP was charged with developing a design guide which could be adopted by AASHTO or serve as a basis for AASHTO Guide for the Development of Pedestrian Facilities. The document included planning considerations and design guidelines. Review teams reviewed and commented on the initial outline, draft chapters and draft final report.

**Praver v. Daganais** - J. Frank Beachamp, III, Esq., 561.393.6335

**Application of a Multidisciplinary Approach to Improve Pedestrian Safety at Crosswalks in St. Petersburg, Florida** – This project identified engineering treatments, educational interventions and enforcement issues targeted at increasing motorists’ yielding to pedestrians at marked crosswalks. Special signs were developed promoting courteous driving and pedestrian behaviors; law enforcement officers were trained in pedestrian safety enforcement; innovative signals were used at pedestrian crossings; and media coverage was coordinated throughout the project.



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**Designing Trail Termini** – This document addresses how to integrate pedestrians and bicyclists back into the roadway and sidewalk network when a trail is terminated. It included evaluating several existing trails and recommending modifications to their termini.

**Greenbook Committee** – The Florida Greenbook, the Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways, sets the design criteria for roadway, pedestrian and bicycle facilities for all local roadways in Florida. Mr. Petritsch served on the Greenbook Committee from 1996 to 2002. He co-authored and drafted the chapters concerning pedestrian facilities, bicycle facilities, residential street design, and traffic calming. He also incorporated bicycle and pedestrian design consideration into the general roadway design chapter.

**David E. Sage V. City of Jacksonville** - Alan K. Regan, Esq., 904.630.1700

**Bicycle Facilities and Pedestrian Facilities Planning and Design Courses** – Each of these courses is a one day course developed for FDOT teaching the basics of bicycle or pedestrian facilities design. The bicycle facilities course includes information on crash causation and prevention, in-roadway treatments, trail design and the design of trailheads. The pedestrian design course includes information on crash causation, ADA requirements, and what makes a pleasant walking environment.

**Pompa v. Jaramillo** - Laurie J. Adams, Esq. 561.640.0303

**Innovative Bicycle and Pedestrian Safety Treatments Study** – The Florida Department of Transportation's desire to provide safe treatments for pedestrians and bicyclists led this study to evaluate non-standard treatments for pedestrians and bicyclists. The researchers evaluated innovative treatments, such as pedestrian countdown signals, in-pavement flashing lights, painted bike lanes and shared lane markings. Since pedestrian and bicycle crashes are not numerous enough to provide statistically relevant data, surrogate measures and were developed and evaluated. In some cases, when before data could not be collected, control sites were used for comparison to treated locations. This research has added significantly to the body of knowledge on the studied treatments. Project Manager and Technical Advisor

**Fatal Crash and Fatalities Analysis Study** - This study, which is still on going at FDOT, is the most ambitious safety study ever performed by FDOT. Every fatal crash that occurred on the State Highway System in 2000 and the fatal commercial vehicle crashes from 1998 – 2000 are being reviewed to determine causes of the crashes and the causes of the fatalities. The results of the study will be used to implement changes in design criteria, enforcement programs and public information campaigns. (Project Manager and Technical Advisor).

**Intersection Design Guide** – This guide addresses the geometric and operational design of intersections within Florida. The guide represents a combination of material from authoritative references and research reports combined with the consensus of a broad based Technical Advisory Committee of transportation professionals. (Steering Committee member)

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***Bicycle Facilities Planning and Design Handbook*** – Widely regarded as one of the best bicycle design guides in the country, this FDOT document has undergone numerous revisions since first introduced in 1996. Through these revisions it has continued to give comprehensive, up to date, and cutting edge information on bicycle facilities planning, design, and operation.

***Pedestrian Facilities Planning and Design Handbook*** – This document contains information concerning the planning, design and operation of pedestrian facilities throughout Florida. Subjects it discusses include crash causation, human factors, intersection design, midblock crossings, providing for people with disabilities and school crossings.

***Menendez v. One, Two, Tree*** - Tom Pennekamp, Esq, 305.442.8666

**Indian River County – Indian River County MPO Bicycle & Pedestrian Plan Update – Principal Engineer** – This bicycle and pedestrian master plan document includes Level of Service and Latent Demand analyses of the entire arterial and collector street network in the Indian River County MPO. Additionally, detailed safety analyses were conducted around two elementary school and recommendations made to improve access and safety to the schools. A quantitative evaluation of each roadway segment in the study network was performed to develop a benefit/cost index and set priorities for funding.

**Bicycle Facility Selection and Multi-Use Sidepath Trail Design Guidelines** – Senior Engineer – On-going 2003.

**Multi Modal Point Level of Service Project** - Steering Committee Member

**Roundabouts, An Informational Guide** - Reviewed and commented on drafts