

# Proceedings from the 2<sup>nd</sup> Urban Street Symposium

## Table of Contents

### **SESSION 1: URBAN STREET DESIGN – COMING AT IT FROM DIFFERENT DIRECTIONS**

Engineers, Planners, and Philosophers

James L. Gattis

Livable Streets Initiative: The Tension Between Alternative Designs and Virginia Code and Guidelines

Robert B. Case

Safety in Planning, Design and Operations Decisions

Douglas W. Harwood

Comparison of Safety Performance of Urban Streets Before and After Landscape Improvements

Jeonghun Mok, Harlow C. Landphair, Jody R. Naderi

Cars, Trucks, Peds, Bikes: Can This Mix Be Fixed?

Elizabeth Hilton

How Planning Decisions Impact Highway Collision Histories

Philip Demosthenes

Moving Forward When You Cannot See: Issues for Pedestrians Who are Visually Impaired in the Urban Street Environment

Janet M. Barlow

### **SESSION 2: PEDESTRIANS**

Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Results from 30 Cities

Charles V. Zegeer, Carol H. Tan Esse, J. Richard Stewart, Herman H. Huang, Peter Lagerwey

Using the Number of Passing and Meeting Events to Design Pedestrian and Bicycle Shared-Use Paths

Julie S. Green, Joseph E. Hummer, Nagui M. Roupail

In-Pavement Flashing Crosswalks – State of the Art

Rock Miller

### **SESSION 3: ACCESS MANAGEMENT**

Iowa's Statewide Urban Design Standards Promote Improved Access Management

David Plazak, Dale Harrington

The Use of GPS and GIS to Analyze Access Near Intersections

Chris Huffman

Comparison of Crashes on Median-Divided and Five-Lane Roadways in Charlotte, North Carolina

Debbie R. Self

## **SESSION 4: TRANSIT AND MULTIMODAL FACILITIES**

### [Identifying Locations for Bus Nub Installation on Urban Roadways](#)

Janice R. Daniel, Rajat Rajbhandari, Walter Konon, Rongfang (Rachel) Liu

### [Median Bus Lane Design in Vancouver, BC: The #98 B-Line](#)

Simon Li

### [The Alameda Corridor: A Project of National Significance](#)

Arthur B. Goodwin

### [Bus Rapid Transit on City Streets: How Does It Work](#)

Herbert S. Levinson

## **SESSION 5: LEARNING FROM THE PROJECTS**

### [A Tale of Two Streetscapes](#)

Gregory Giering

### [Grant Avenue in Odessa, Texas: A Downtown Streetscape Success](#)

William E. Frawley, William L. Eisele

### [Public Involvement Plan for the Kelly Parkway Corridor Study: Context Sensitive Design](#)

Rodolfo J. Rivera, Raquelle Wooten

### [Traffic Calming in a Smart Growth Community](#)

Christopher V. Forinash

## **SESSION 6: CHALLENGES IN URBAN STREET DESIGN**

### [A Methodology to Assess Design Features for Pedestrian and Bicyclist Crossings at Signalized Intersections](#)

Norman Steinman, Keith Hines

### [Evaluating Operating Speeds for Low-Speed Urban Streets](#)

Karen K. Dixon, Jun Wang

### [Implementing a Program for Access Management in Texas: Lessons Learned](#)

William E. Frawley, William L. Eisele

### [Simulating Roundabouts with VISSIM](#)

Michael Trueblood, Jim Dale

### [Slippery Metal Covers: How Long Are We Gonna Bear With It?](#)

Zhongren Wang

### [Urban Street: Is There Room for Segway Human Transporter \(HT\)?](#)

Rongfang Liu, Rohini Parthasarathy

### [Blind Pedestrians at Unfamiliar Signalized Intersections: Research on Safety](#)

Billie Louise Bentzen, Janet M. Barlow

### [A Roundabout Case Study Comparing Capacity Estimates from Alternative Analytical Models](#)

Rahmi Akçelik

### [Cross Bronx Connector Road System](#)

Jerome Gluck, Susan Papayannoulis

## **SESSION 7: SMART GROWTH**

### [Characteristics and Performance of Smart Growth Transportation Systems](#)

Jeffrey Ang-Olson, Liisa Ecola, Mary Kay Santore

### [Smart Growth Alternatives to Minimum Parking Requirements](#)

Christopher V. Forinash, Adam Millard-Ball, Charlotte Dougherty, Jeffrey Tumlin

### [Street Systems and Classifications to Support Smart Growth](#)

Brian Bochner, Frederick Dock

### [Design Guidance for Great Streets: Addressing Context Sensitivity for Major Urban Streets](#)

Ellen Greenberg, Frederick Dock

## **SESSION 8: ROUNDABOUTS**

### [Operational Efficiency of Roundabouts](#)

Eugene R. Russell, Margaret J. Rys, Srinivas Mandavilli

### [Use of Roundabouts in an Urban Setting](#)

Beatrice Isaacs, Jill P. Barrett

### [Field Observations of Path and Speed of Motorists at Double-Lane Roundabouts](#)

Vaughan W. Inman, Teddy Shafer, Bryan J. Katz, Joseph G. Bared, Gregory W. Davis

### [Signing and Pavement-Marking Strategies for Multi-Lane Roundabouts: An Informal Investigation](#)

Christopher S. Kinzel

## **SESSION 9: CONTEXT SENSITIVE DESIGN**

### [Context Sensitive Design Challenges for Major Suburban Arterial Street Projects](#)

Timothy A. Bevan, Roger Mason, John Anthony McKenzie

### [Charlotte's Urban Street Design Guidelines: A Context-Sensitive Decision-Making Method](#)

Tracy Newsome, Norman Steinman, Reid Ewing

### [Design Changes for Livable Urban Streets](#)

Kenneth H. Voigt, Norman Steinman

## **SESSION 10: INTERSECTIONS**

### [Left-Turn Lane Installation Guidelines](#)

Kay Fitzpatrick, Tim Wolff

### [Safety Effectiveness of Intersection Left- and Right-Turn Lanes](#)

Michael S. Griffith, Douglas W. Harwood, Karin M. Bauer, Ingrid B. Potts, Darren J. Torbic, Karen R. Richard, Emilia R. Kohlman Rabbani, Ezra Hauer, Lily Elefteriadou.

### [The Double-Wide Design: An Inexpensive Way to Increase the Capacity of Signalized Intersections on Four-Lane Highways](#)

Joseph E. Hummer

### [New Interchange and Intersection Designs: The Synchronized Split-Phasing Intersection and the Diverging Diamond Interchange](#)

Gilbert L. Chlewicki

## **SESSION 11: SCHOOLS**

### **Transportation Concerns Near Schools**

Mark D. Wooldridge, Scott A. Cooner, Kay Fitzpatrick

### **Traffic Operations and Safety at Schools: Review of Existing Guidelines**

Scott A. Cooner, Mark D. Wooldridge, Kay Fitzpatrick

### **The Effects of School Zones on Driver Behavior**

Elizabeth J. Young, Karen K. Dixon

## **SESSION 12: CROSS SECTION**

### **How Much Do You Lose When Your Road Goes on a Diet?**

Herman F. Huang, J. Richard Stewart, Charles V. Zegeer, Carol H. Tan Esse

### **Urban Minor Arterial Four-Lane Undivided to Three-Lane Conversion Feasibility: An Update**

Keith K. Knapp, Karen L. Giese, Woochul Lee

### **Back in Angle Parking in the Central Business District**

John A. Nawn

## **APPENDICES**

### **Program**

### **1st Urban Street Symposium Proceedings**