RESUMES



Jake Kononov, PhD, PE

- **PhD Transportation Engineering, University of Colorado**
- **MS Transportation Engineering University of Colorado**
- **BS Civil Engineering, University of Colorado**

2006-PRESENT

Dr. Kononov is the founding Principal of DiExSys and is an internationally known expert in highway safety. Jake has over 30 years of experience in all aspects of highway and traffic engineering. As Principal of DiExSys he has provided Expert Advice, Policy Guidance, and Decision Support analysis on highway safety and traffic operations related matters to numerous Departments of Transportation and Public Road Authorities throughout the US. Jake is highly experienced in project and program management. His experience at the Colorado DOT included being responsible for Traffic Operations and Safety in the Denver Metropolitan Area and providing Traffic Engineering and Planning input for all Transportation Projects in the Denver Metropolitan Area, making presentations on traffic operations and safety related matters to the Transportation Commission and dealing with the media. Dr. Kononov also served as CDOT's Director of Research and TRB Representative. Jake chaired Transportation Research Board (TRB) Committee on Safety Management and served on Standing Committees on Safety Data Analysis and Evaluation and Highway Safety Manual (Safety Performance). Jake served on numerous research study panels at the National Cooperative Highway Research Program (NCHRP). Dr. Kononov is an author of numerous research papers on road safety published by the TRB of the National Academies, Swedish National Road and Transport Institute (VTI), German Road Research Institute (BAST), Italian Society oh Highway Infrastructure (SIIV) and Public Works Magazine. He is the lead author of Best Paper of the Year awarded by the TRB Committee on Safety Data Analysis and Evaluation. Dr. Kononov is registered Professional Engineer in Montana, Colorado and Wyoming. Dr Kononov is also an Associate Professor Adjunct at the Graduate School of Civil Engineering at the University of Colorado in Boulder.

RECENT RELEVANT PROJECT EXPERIENCE

Arapahoe County Local Road Safety Plan

Jake functioned as a Project Manager for all aspects of the recently completed project. Its focus was to assist the County with prioritization of safety needs on County roads thru data driven decision support analysis integrated with active public involvement. Its emphasis was on congested roads in Arapahoe County with special consideration of rural county roads with lower traffic volumes. Following network screening analysis, diagnostic examination and rigorous stakeholder's involvement the study identified 77 (seventy-seven) potential safety projects.

Douglas County Local Roads Safety Plan

Jake functioned as a Project Manager. A county-wide safety study of Douglas County was conducted by DiExSys; its intent was to identify opportunities for cost-effective road safety improvements. Its emphasis was on the non-state roads in Douglas County with special consideration of rural county roads with lower traffic volumes. County Project Manager Kathy Haire were impressed with the quality and content of deliverables which included scopes for 51 safety improvement projects rank ordered by their Benefit/Cost (B/C) ratio.

Montana Roadway Departure Safety Implementation Plan (RDSP)

Jake functioned as a Project Manager. The DiExSys-FHU team developed the Montana-Specific Safety Knowledge base for Segments comprised of 18 SPFs (9 Frequency and 9 Severity Models) and related diagnostic norms, and on its basis prepared Roadway Departure Safety Implementation Plan.

Development of VSL Algorithm I-25 Gap Project (Douglas Co, Colorado)

Jake functioned as a Project Manager. DiExSys has developed the relationships between crash rate, road/weather conditions, volume per lane and speed on I-25 south of Denver, between the Baptist Road and Plum Creek Interchanges, by direction. On the basis of these relationships DiExSys developed safety-based speed limit tables to be used in response to changing traffic conditions. Project was completed within budget and on schedule.

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PUBLICATIONS (Abbreviated List)

- Kononov, J., Williams, J. and Durso, K., *Diagnostics Revisited.* Accepted for Presentation and Publication, 2020 Transportation Research Board Annual Meeting
- Kononov, J., Durso K., Lyons, C. and Allery, B. *Level of Service of Safety Revisited.* In Transportation Research Record 2514, National Research Council, Washington, D.C., 2015 pp. 10-20.
- Kononov, et al, *Relationship between Traffic Density, Speed and Safety and Its Implications for Setting Variable Speed Limits on Freeways*. In Transportation Research Record 2280, National Research Council, Washington, D.C., 2013 (presented 2012) pp. 1-10.
- Kononov, et al, *Relationship between Freeway Flow Parameters and Safety and its Implications for Hard Shoulder Running*. In Transportation Research Record 2280, National Research Council, Washington, D.C., 2013 (presented 2012) pp. 10-18.
- Kononov, et al, *Relationship between Freeway Flow Parameters and Safety and its Implications for Adding Lanes.* In Transportation Research Record 2279, National Research Council, Washington, D.C., 2013 (presented 2012) pp. 118-124.
- Kononov, J., Lyon, C and Allery, B. *Relation of Flow, Speed and Density of Urban Freeways to Functional Form of a Safety Performance Function*. In Transportation Research Record 2236, National Research Council, Washington, D.C., 2012.pp. 11-19. TRB BEST PAPER OF THE YEAR AWARD

COMMITTEES

Transportation Research Board (TRB) of National Academies

- Served as a Chairman of the TRB Standing Committee on Safety Management
- Served as Member of the TRB Standing Committee on Safety Data, Design, Analysis and Evaluation
- Served as Member of the TRB Standing Committee on Highway Safety Performance
- NCHRP Review of Truck Characteristics as Factors in Roadway Design. Served as Study Panel Chairman
- NCHRP System-wide Impact of safety and Traffic Operations Design Decisions on RRR Projects. Study Panel Member

EMPLOYMENT HISTORY

2006-2012 Director of Research, Colorado Department of Transportation (CDOT)

- Responsible for Management of Research Program at CDOT
- Representing Colorado DOT at the Transportation Research Board of the National Academies
- Identifying opportunities for new research
- Providing policy guidance on research related matters
- Setting strategic direction in the area of research
- Making recommendations on research projects at the NCHRP
- Supervising and training staff

2001-2006 Regional Traffic and Safety Engineer for the Greater Denver Metropolitan Area, Colorado Department of Transportation (CDOT) Region 6 (Now Region 1)

- Responsible for Traffic Operations and Safety in the Denver Metropolitan Area.
- Providing Traffic Engineering and Planning input for all Transportation Projects in the Denver Metropolitan Area with Combined Annual Construction budget of $400,000,000.
- Making presentations on traffic operations and safety related matters to the Transportation Commission and dealing with the media.
- Conducting public meetings and responding to elected officials.
- Supervision and training of engineers, technicians, and operations personnel (staff of 65 employees), and making manpower allocations to meet critical schedules.

- Contract negotiations with private consultants and government entities.
- Responsible for managing annual operations budget of $12,000,000.

1995-2001 State Safety Programs Engineer, CDOT Staff Traffic

- Responsible for the conceptual development and implementation of strategies and programs to improve highway safety.
- Planning and budgeting of statewide safety improvement programs. Overseeing assessment of safety needs and making recommendations for safety improvements on the statewide resurfacing program (budget $100,000,000), reconstruction, realignment and major widening projects.
- Managing the process of optimization of investments into safety improvements to maximize program-wide accident reduction within constraints of available budget.
- Providing expert advice and supporting analysis on safety related matters to six engineering regions. Analyzing statewide safety needs and providing timely input to six engineering regions to ensure early consideration of safety in the planning, scoping, design, construction and maintenance of transportation facilities.
- Participation in public meetings and responding to elected officials and public inquiries.
- Supervision and training of engineers and technicians, making manpower allocations to meet critical schedules. Contract negotiations with private consultants.
- Manage the Federal Hazard Elimination Program for the State of Colorado dealing with both CDOT and Local Agencies and the approval process of the projects.