



FHWA / AASHTO Scan

Signalized Intersection Safety

May 10, 2002

through

May 26, 2002



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Scan Approach

- ◆ Develop an overview paper framing the issues and scope
- ◆ Assemble a diversified team of experts
- ◆ Complete a desk scan report to identify agencies to visit abroad
- ◆ Develop amplifying questions for host agencies
- ◆ Complete scan and prepare summary report
- ◆ Implement promising strategies



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Goals and Objectives

- ◆ To identify promising and readily implementable intersection-safety solutions and/or programs for deployment in the United States.
- ◆ To identify and overcome implementation barriers and special needs.
- ◆ To gather specific examples and documentation



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The Scan Team - 13 Members

◆ Representatives:

- ⑦ 3 - FHWA
- ⑦ 1 - AASHTO
- ⑦ 3 - State DOT's
- ⑦ 3 - Municipal Transportation Agencies
- ⑦ 1 - University
- ⑦ 2 - Private sector/non-profit



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The Scanning Team



The Team

Gene K. Fong, Co-Chair

Director of Field Services – East, FHWA

James H. Kopf, Co-Chair

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Mississippi DOT*

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AASHTO*

Kevin Slack

*VP, Senior Transportation Engineer
CH2M Hill*



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Six Focus Areas

- ◆ Selection, Design, Operation of Traffic Control Devices
- ◆ Innovative Traffic Control Devices
- ◆ Innovative Geometric Design
- ◆ Identify Problems & Select Countermeasures
- ◆ Low Cost Improvements
- ◆ Research Projects



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Countries Visited



Working Meetings

55 presentations



followed by



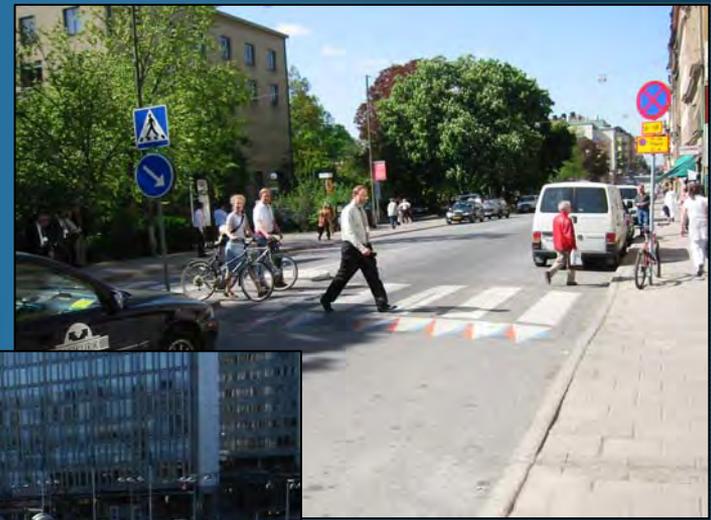
Q & A



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Site Visits

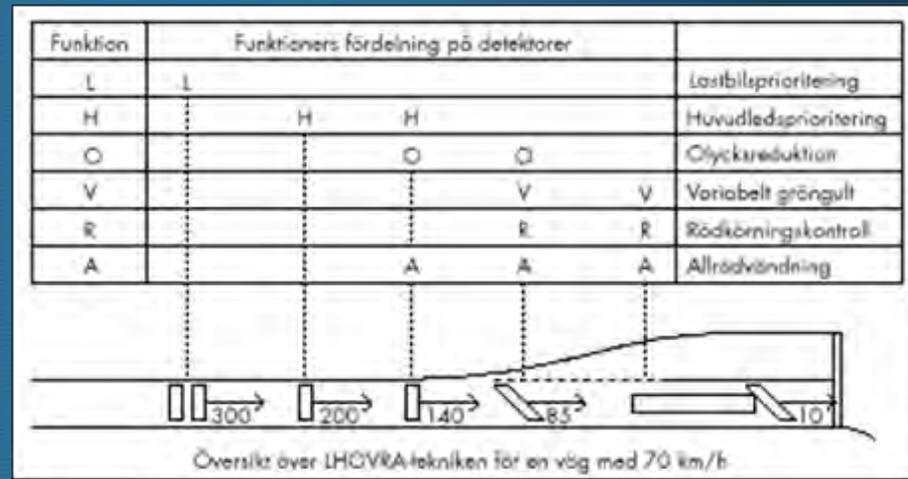


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Findings & Observations - Sweden

- ◆ Intersection Safety driven by national Goals set forth in “Vision Zero” (50% reduction in fatalities 1997 to 2007)
- ◆ Safety efforts are focused on fatalities and injuries (serious accidents)
- ◆ Emphasize the safety of vulnerable road users (peds & bikes)
- ◆ Developed LHOVRA to address safety at isolated intersections
- ◆ Special detectors being used at school crossings



Findings & Observations - Germany

- ◆ Local, multidisciplinary, safety commissions set safety priorities and identify solutions
- ◆ Thorough, uniform calculations are completed to determine conflict clearance for all modes of travel at signalized intersections
- ◆ Extensive use of pavement markings for peds & bikes
- ◆ Use cameras for red light running and speed enforcement
- ◆ Formalized safety checklists are completed during design phase (safety audits)



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Findings & Observations - The Netherlands

- ◆ Intersection safety driven by national sustainable safety goals
- ◆ Philosophy is to reduce speed through intersections.
- ◆ Extensive use of photo enforcement to control speed and red light running
- ◆ Converting signalized intersections to roundabouts (rural)
- ◆ Use of comprehensive public relations campaigns to convey safety message
- ◆ Consistency by functional classification is a key to safety

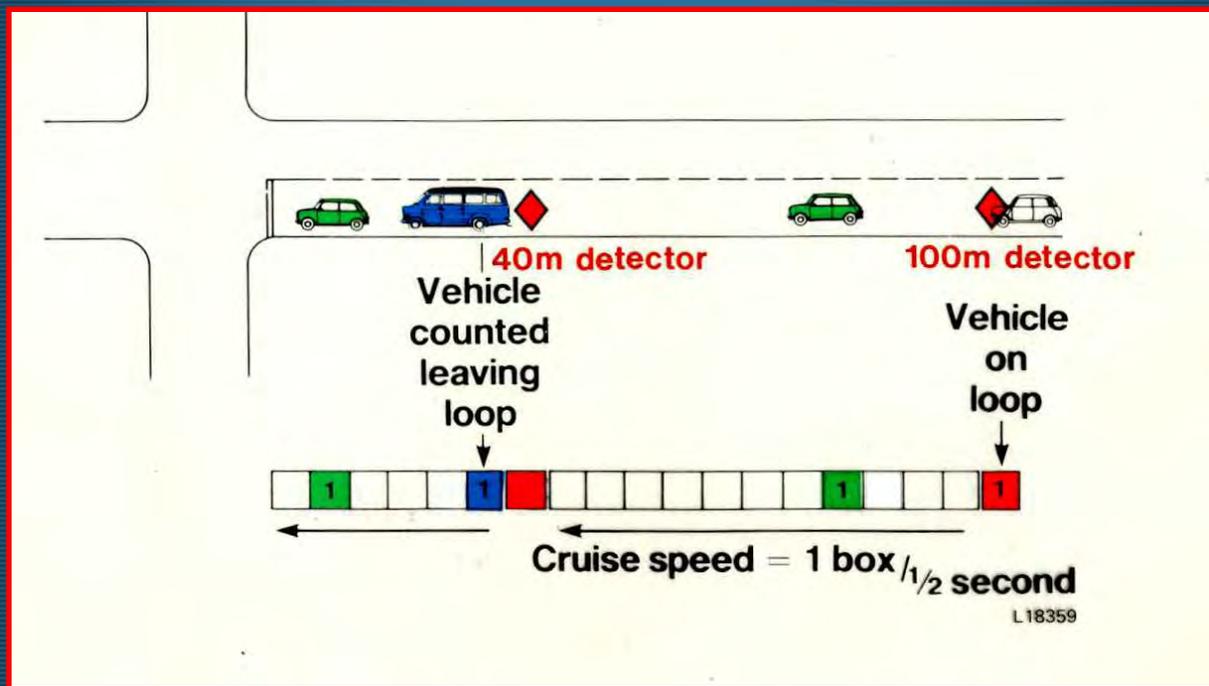


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Findings & Observations - United Kingdom

- ◆ Challenged to balance safety with congestion/mobility
- ◆ Developed MOVA to improve safety and operations at isolated locations



Findings & Observations - United Kingdom *(cont.)*

- ◆ Detector technology being deployed to improve safety and operations of ped. & Bike crossings
- ◆ Using accident prediction models for signalized intersection design (OSCADY)
- ◆ Comprehensive safety audit process - Planning, Design, Construction, Operation

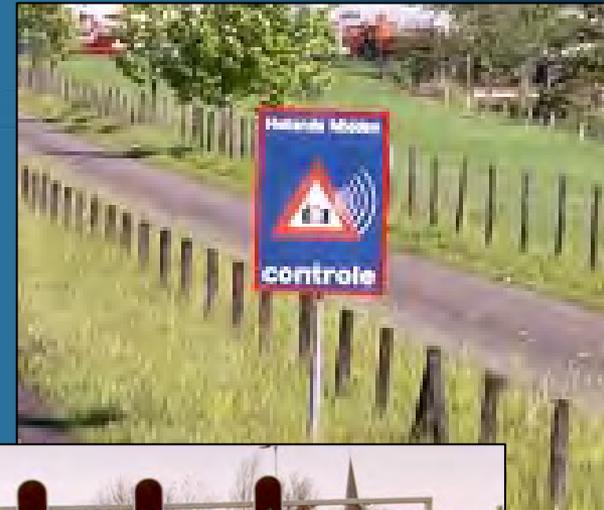


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Preliminary Recommendations

- ◆ Develop model photo enforcement process/program for implementation at signalized intersections
 - ⑦ Build on European experience
 - ⑦ Communicate process through ITE, AASHTO, Insurance Institute for Highway Safety, etc.

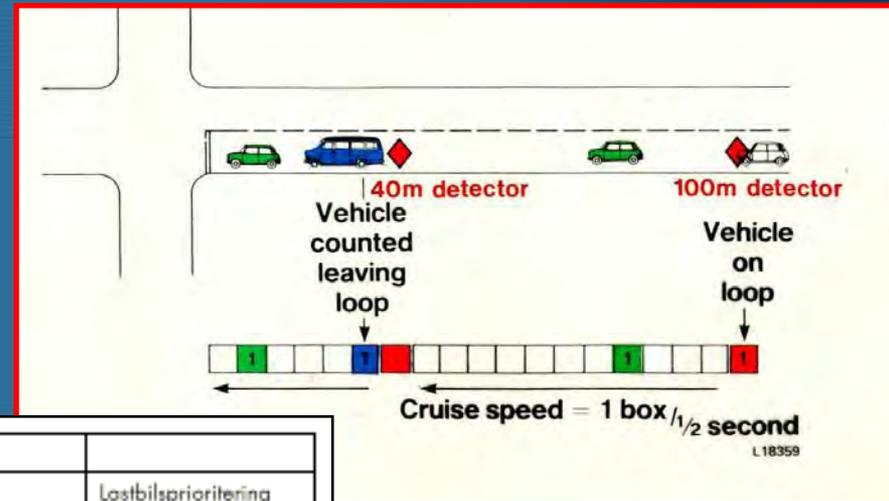


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Preliminary Recommendations

- ◆ Identify and implement demonstration projects for enhanced dilemma zone detection using principals of LHOVRA & MOVA



Funktion	Funktioners fördelning på detektorer					
L	L				Lastbilsprioritering	
H		H	H		Huvudledsprioritering	
O			O	O	Olycksreduktion	
V				V	V	Variabelt grängult
R				R	R	Rödkörningskontroll
A			A	A	A	Allrödvändning



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Preliminary Recommendations

- ◆ Develop a pilot project to control speed through intersections using a combination of practices implemented in Europe

- ⑦ Geometric (lane widths & speed tables)
- ⑦ Pavement markings
- ⑦ Variable message signs
- ⑦ Photo enforcement, etc.



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Preliminary Recommendations

- ◆ Promote understanding and the application of single lane roundabouts as alternatives to signalized intersections
 - ⑦ Emphasis on managing the consequences of collisions
 - ⑦ Efficient use of computer simulation (operational and geometric)
 - ⑦ Determine the appropriate circumstances



Preliminary Recommendations

◆ Develop Guidelines and identify pilot projects to enhance pedestrian Crossings

- ⑦ pedestrian detection technology
- ⑦ audible pedestrian signals
- ⑦ Pedestrian Countdown indicators
- ⑦ improve communication with drivers and pedestrians



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Next Steps

- ◆ Draft report by early September 2002
 - ⑦ Team and agency Review by November 2002.
 - ⑦ Final Report Spring 2003
- ◆ Implementation begins May 28, 2003



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Implementation Team Contacts

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Team Information Sharing

- ◆ Mississippi Transportation Institute, Oct 2002
- ◆ AASHTO Subcommittee on Design, Jun 2002
- ◆ AASHTO Subcommittee on Traffic Engineering, Jun. 2002
- ◆ AASHTO Task Force on Geometric Design, Jun 2002
- ◆ AASHTO Annual Meeting, Oct 2003
- ◆ AASHTO Standing Committee on Traffic Safety
- ◆ AASHTO Standing Committee on Highways
- ◆ FHWA Annual Leadership Meeting, Jun 2002
- ◆ FHWA Signalized Intersection Design Guidelines Task Force



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Team Information Sharing

- ◆ National Committee on Uniform Traffic Control Devices (NCUTCD), Jun 2002
- ◆ NCUTCD, Jan 2003
- ◆ American Public Works Association, Sep 2002
- ◆ TxDOT Traffic Operations Conference, June 2002
- ◆ Northwestern University Continuing Education Courses:
 - ⑦ Traffic Signal Workshop
 - ⑦ Traffic Control Devices Workshop
 - ⑦ Traffic and Transportation Engineering Seminar
 - ⑦ Bicycle Facilities Planning and Design Workshop
 - ⑦ Pedestrian Facilities Planning and Design Workshop



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Team Information Sharing

- ◆ ITE International Meeting, Aug 2002
- ◆ ITE, Illinois Section, Oct 2002
- ◆ ITE, Intermountain Section, May 2002
- ◆ ITE, Arizona Section Sep 2002
- ◆ ITE, Local Sections in CA, NV, OR, WA
- ◆ ITE, Fundamentals of Traffic Engineering Course, Oct 2002, Jan 2003, May 2003
- ◆ TRB Signalized Intersection Committee Meeting, Jul 2002
- ◆ European Transport Forum, Sep 2002
- ◆ TRB Sessions at the national meeting, Jan 2003
- ◆ Urban Street Design Symposium, Sep 2003



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Questions?



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