SCAN TOUR ON HIGHWAY GEOMETRIC DESIGN

By Sandra L. Otto, Scan Co-Chair and Division Administrator FHWA - Arkansas Division

Scan Basics

- FHWA, AASHTO, APWA, Academia
- Review and document procedures and practices in highway geometric design and CSD
- Denmark, Sweden, Netherlands, Great Britain, Germany
Scan Topics of Interest

- Project Planning
- Environmental Concerns
- Speed
- Design Flexibility
- Rural Roads
- Traffic Calming
- Roundabouts
- Bikes and Peds

Project Planning

- Focus on improving the existing system by making better use of it
- Improve safety while remaining sensitive to community needs
- Similar but longer planning process
Environmental Concerns

- U.S. NEPA has been integrated more efficiently within the project development process
- Recognition of environmental concerns is an every-day practice
- Issues presented were mainly human related

Speeds

- Safety correlated with speed
- Narrow range of speed per road category for consistent design
- Self-explaining, self-enforcing roads
- Acceptance of lower operating speeds by road users
Design Flexibility

- Design guidelines and design exception process for all countries
- Design flexibility responsive to site specific limitations
- Public acceptance of lack of flexibility on motorways
Rural Roads

- Focus on controlling and reducing speeds
- Use of narrower lane widths
- Clear zones not typically provided
- 2+1 facilities with customized design by country
Traffic Calming

- Commitment to reduce speeds through urban areas
- Integration of all modes and users in the same space
- Area wide strategy and community acceptance is essential for success

2+1 Lanes
Traffic Calming
Roundabouts

- Extensive use in all countries
- Safety and capacity gains
- Flexibility to accommodate site specific conditions
Bicyclists and Pedestrians

- SW, DK, and NL use systematic efforts to promote alternative use of transport modes
- Also provide separate facilities as part of network
- GB and G give lower priority
- Mobility needs have priority in urban areas
Bike facilities

Conclusions

- Roadways are designed for a specific purpose, implement an aesthetic approach to visually explain this concept, and address safety in a way that considers all users.
- Willingness to provide roadways that self-enforce speed reductions, potentially increase levels of congestion, and promote alternative modes.
Implementation

- Investigate the use of design workshops
- Promote “self-explaining, self-enforcing” roads concept
- Encourage proper use of roundabouts and traffic calming devices
- Support development of workshops on Context Sensitive Design

Thank You!