International Scan on Pedestrian and Bicyclist Safety and Mobility: May 2009

Sponsored by
Federal Highway Administration (FHWA)
American Association of State Highway Transportation Officials (AASHTO)
National Cooperative Highway Research Program (NCHRP)
Outline

1. Introduction
2. General Findings: broader issues and themes that provide context for later details
3. Key Findings: details for the 5E’s
   - Engineering
   - Education
   - Enforcement
   - Encouragement
   - Evaluation (Monitoring)
4. Recommendations
Scan Tour Objectives

• Improving Pedestrian and Bicyclist Safety and Mobility
  – Policy
  – Engineering
  – Education
  – Enforcement
• Safe Routes to School Programs
• Monitoring Usage Levels and Exposure
• Safety Research and Evaluation
May 2009 Scan Tour

- Denmark
  - Copenhagen
  - Nakskov
  - Malmö

- Sweden
  - Lund

- Germany
  - Berlin
  - Potsdam

- United Kingdom
  - Bristol
  - London

- Switzerland
  - Winterthur
  - Bern

- United Kingdom

- Denmark

- Sweden

- Germany

- Switzerland
Overall Framework

Policies

1. Engineering
2. Enforcement
3. Education
4. Encouragement
5. Evaluation (Monitoring)
Deliberate Combination of Policies and Practices

- Urban and land use policy
- Political support at all levels, not just staff
- Motor vehicle operating costs
- Parking policies
- Enforcement policies
- Street design hierarchy
- Integration with public transport
- Connected on-street and off-street networks
- Traffic safety education for children
- Many other details that make walking and bicycling easy, convenient, and enjoyable
Historical Perspective
Winterthur, Switzerland

Pedestrian Priority Zone in Historical City Center, 2009

(Source: Presentation by Stefan Gerber, City of Winterthur, Switzerland)
Winterthur, Switzerland

1955

1970

1980

2000

(Source: Presentation by Stefan Gerber, City of Winterthur, Switzerland)
Strøget, Copenhagen, 1960

Source: Gehl and Gemzøe, *New City Spaces*, 2000
Strøget, Copenhagen, 2000

Source: Gehl and Gemzøe, *New City Spaces*, 2000
Bern, Switzerland, 1960s/70s

Source: http://www.parlament.ch
Bern, Switzerland, 2009
Safety-in-Numbers (Awareness-in-Numbers)

• When pedestrians and bicyclists are a common element on/along streets, motorists expect their presence.
• For this reason, biking and walking is actively promoted beyond providing “asphalt and concrete.”
Engineering Measures for Pedestrians

- Passive detection to call, truncate, extend, or cancel pedestrian phase (PUFFIN signal)
- Near-side pedestrian signal heads
Engineering Measures for Pedestrians

- Crossing islands
- Railing to direct pedestrians to preferred crossing locations
- Raised crosswalks at unsignalized crossings
Engineering Measures for Bicyclists

Intersection safety

- Convex mirrors
- Advanced stop bars
- Bicycle-specific traffic signals
- Bike boxes
Engineering Measures for Bicyclists

Separated facilities

- Cycle tracks
- Cycle paths
Engineering Measures for Bicyclists

Pavement markings
• Dashed bike lanes through intersections
• Color at conflict points
• Longitudinal bike symbols
Low-Speed Street Design

- Residential and commercial areas
- 20 mph, 20 to 30 kilometers per hour
- 4 conditions for use
Widespread Photo Enforcement

• Not just a tool for motor vehicle safety
• Better motorist compliance with speed limits and traffic signals improves walking and biking safety
Traffic Safety Education

- Pervasive, widespread, ongoing education programs for children
- Participation from wide range of agencies and organizations
- Branded traffic safety campaigns
Encouragement

• Promotion was important for both mode share and safety goals
• Variety of programs and activities
  – Route signing and maps
  – Online travel planners
  – Employer-sponsored programs (bike-to-work)
  – Public health-sponsored programs
  – Government marketing campaigns
Integration With Public Transport

• Plentiful, convenient bike parking at stations
• Bikes on trains & buses, even during peaks
• Bike rental or sharing near stations
• Channels/ramps on stairways for bike access
Evaluation (Monitoring)

• Regular performance reports that measure progress toward policy goals
  – Pedestrian and bicyclist mode share
  – Pedestrian and bicyclist safety
• “Showcase” counters in highly visible location

Introduction  General Findings  Key Findings  Recommendations
Recommended Implementation

1. Establish policies that gives biking & walking modes highest priority in the road user hierarchy

   – Collect transportation and land use policies and strategic plans

   – Draft examples of successful policies
Recommended Implementation

2. Develop & implement a performance reporting program that regularly measures progress toward stated goals
   - Performance measure framework
   - Data collection systems
3. Deploy engineering measures for pedestrian and bicyclist safety (under consideration)
   – Passive detection
   – Accessible confirmation for ped pushbuttons
   – Crossing islands
   – Raised crosswalks at unsignalized ped crossings
   – Convex mirrors
   – Advanced stop bars for bike lanes
   – Separated facilities
   – Bicyclist pavement markings
Recommended Implementation

4. Evaluate engineering measures in US context (under consideration)
   – Near side pedestrian signals
   – Near side traffic signals at midblock pedestrian crossing
   – Bike boxes
   – Bicycle traffic signals
5. Evaluate applicability of lower-speed street design in commercial and residential areas

6. Develop guidance on best practices for integrating biking and walking with public transit
   - Review available TCRP synthesis/case studies
Recommended Implementation

7. Institutionalize ongoing traffic safety education at an early age
8. Unify all US traffic safety campaigns under a single national brand
9. Promote the use of photo enforcement as a tool to improve pedestrian and bicyclist safety
10. Develop & implement programs that encourage and enable regular walking and biking
Next Steps

• Scan team identified numerous approaches
• Have already started implementation phase
• Will also rely on “champions” in the U.S. to implement policies and practices