WHO Global Road Safety Facts

• Every year, there are 1.24 million road traffic deaths worldwide
• 92% of road traffic deaths occur in low- and middle-income countries
• Vulnerable road users account for half of all road traffic deaths globally

Source: World Health Organization – 10 Facts on Global Road Safety, March 2013
Car Ownership Trends and Projections (2000-2050)

Source: European Environment Agency, 2010

Other nations can learn from our mistakes
NCHRP Report 121 (1971)

“The lack of access control along arterial highways has been the largest single factor contributing to the [loss of function] of ...an entire generation of new arterial facilities built only a short while ago.”

Typical U.S. Highway Access Problems

- Linear development
- Frequent driveway access
- Lack of supporting networks
- Frequent traffic signals
- Lack of raised medians or frequent median openings
- No consideration of pedestrians or bicyclists
- Crashes, congestion, & poor appearance
As access points increase, so does the rate and frequency of highway crashes...

Source: NCHRP Report 420 (estimated from various sources)

More conflicts lead to more crashes

- Full movement intersection
  - 32 total conflict points

- Directional median opening
  - 8 total conflict points
Access and Safety

“Florida’s most notorious roads are all high-speed, multilane highways breached by hundreds of driveways and side streets. All serve haphazardly developed urban areas.”

Source: Gary Sokolow, Florida Department of Transportation

Intersection Conflicts in Beijing

Conflicts between turning vehicles, pedestrians and bicyclists
Businesses on Bangkok Expressway

Access management is the coordinated planning, regulation, and design of access between roadways and land development.
Access Management Programs

1. An access classification system that builds upon functional class
2. Permitted level of access for each access class
3. Regulatory and design standards
4. Means of enforcement
5. Written variance criteria and procedures
6. Corridor management plans and agreements

Goals of Access Management

1. To provide access to developed land, while maintaining the safe and efficient movement of people and goods.
2. To minimize conflicts on the roadway system and at the interface of travel modes.
3. To achieve a roadway hierarchy that is designed and managed according to its planned function.
Traditional Goals of Access Management

- Enhance mobility with reduced conflict and improved safety (vehicular focused)

Expanded Goals of Access Management

- Enhance mobility with reduced conflict and improved safety for all modes (multimodal focused)

Source: Florida Department of Transportation, Corridor Access Management Training Workshop, Kittelson & Assoc.

Designing for all Users

Complete Streets =
- Bicycle
- Pedestrian
- Vehicle
- Transit
- Appropriate Land Use mix

Credit: Michele Weissbart
Reconciling Land use Context and Roadway Function

1. Prepare corridor access management plans for specific segments

2. Use special access categories or “overlays” to accommodate unique roadside environments
A few key principles of access management

#1: Limit conflict points and separate conflict areas

Source: Oregon Department of Transportation
Case example
Bridgeport Way (Before)

- 67 crashes per year before
  - 1/3 injury
  - ⅓ right angle

Source: contextsensitivesolutions.org

Bridgeport Way (After)

- 60% Crash Reduction
  (19 -> 8 in five blocks)
  - 7% Speed Reduction
  (35.3 -> 33.4 mph)

Source: contextsensitivesolutions.org
#2. Use nontraversable medians on major roadways

#3: Avoid access in the functional area of intersections and interchanges
Problem with signal too close to ramp

Traffic merging onto surface street from interchange ramp near signalized intersection frequently backs up onto the high-speed freeway.

#4: Remove turning vehicles from through traffic lanes

- Use auxiliary lanes, such as right turn lanes into development sites and left turn storage lanes at median openings.
#5: Locate signals to favor through movement

Source: Transportation and Land Development (ITE 2002)

Access Management & Roundabouts

No left turns, which account for most access related crashes
Fewer, less severe conflicts
Accommodate U-turns
More flexibility in intersection location and spacing
Replacement of irregularly spaced signals or closely spaced intersections
#6. Provide a supporting street system

Access, Connectivity & Congestion
Why is Access Management Important?

- Reduces crashes up to 50%
- Improves predictability
- Increase roadway capacity 23% to 45%
- Reduce travel time and delay 40% to 60%
- Increased market area for businesses
- Improved customer safety and convenience
- More area for landscaping
- More attractive corridors and communities

What YOU can do!

- Country specific research
- Development and adoption of manuals and guidelines
- Case studies
- Tools and evaluation
- Share experiences and findings

Second edition is coming soon!
Thank You!

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