Managing roadway access in Iowa: Why, how, and is it working?

Up to 50 percent of traffic accidents involve vehicles turning off or onto a roadway at a driveway connecting the roadway to an adjacent property. These accidents happen when turning traffic interferes with through traffic.

Access management, which efficiently manages vehicles’ access to and from major arterial roadways, can reduce accidents and generally improve traffic flow. Side benefits include better fuel economy, reduced vehicle emissions, and reduced delays along managed roadways.

In addition, incorporating access management strategies into existing streets often increases their capacity, reducing the need to build costly new roadways and providing a maximum return on the investment in existing roadways.

An Iowa study
A recent study by CTRE, the Iowa Department of Transportation, the Iowa Access Management Task Force, and the University of Northern Iowa asked the following questions about access management practices in Iowa:

• How is roadway access being managed in Iowa?
• What are the perceived and actual benefits of access improvements?
• How does incorporating access management strategies affect Iowa businesses along managed roadways?
• What are the barriers to implementing access management strategies?

To answer these questions, the research team studied seven access management projects in Iowa. The projects represented a variety of access issues, geographic situations, and management strategies. Suburban, urban, small city, and rural access management projects were included. Most of the access improvements studied were completed in the mid-1990s. Where possible, at least three years of before-and-after data were used.

Iowa access improvements
According to the Federal Highway Administration, the basic elements of access management include limiting the number of driveways with access to roadways, providing plenty of space between driveways, and improving the design and location of driveways.

Typical access management projects in Iowa include one or more of the following specific improvements:

• consolidating or closing selected driveways to reduce conflicts associated with turning traffic
• adding continuous left-hand turning lanes to generally separate turning and through traffic
• adding frontage roads and backage roads to completely separate turning traffic from through traffic
• adding raised medians near major intersections to prevent some turning movements
• adding raised medians along entire roadways to eliminate many conflict points

The study focused primarily on the measured effects of access management on traffic safety and on adjacent business vitality, as well as the reaction of motorists to the improvements.

The study team used four methods to examine the seven selected case studies.

(1) Each case was examined in the field and as much historic information as possible was gathered, generally via project files from the Iowa Department of Transportation.

(2) Detailed before-and-after accident studies were conducted using the Iowa DOT’s computerized Accident Location and Analysis System (PC-ALAS).

(3) Business trends for the studied corridors were analyzed, primarily using retail sales tax data.

(4) Opinion surveys of business owners and managers, as well as motorists and customers, were conducted along the corridors.

Case study results
The results from the Iowa case studies were overwhelmingly positive.

Traffic safety. A typical access management project in Iowa may be expected to reduce accident rates by 10 to 65 percent. The average reduction in accident rates for the seven projects was 40 percent.

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The illustrations on this page depict five popular access management strategies used in Iowa. Graphics by Chris Albrecht, graduate research assistant.

**Who should attend Iowa’s Access Management Conference?**

Participants will include personnel from:
- city, county, and state transportation agencies
- metropolitan planning organizations
- city councils, administrators, planning and zoning boards, and planners
- county boards of supervisors
- chambers of commerce
- land developers and commercial realtors
- consulting engineers and planners
- university and college transportation educators
- interested others

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Personal injury accidents and property damage accidents were reduced significantly, but property-damage-only accidents were reduced by a greater percentage.

At the same time, the access management projects raised the level of traffic service to motorists along the improved corridors during the peak hour by one level. Motorists could travel faster with less traffic congestion and fewer delays.

**Business vitality and corridor development.** Corridors with completed access management projects performed better in terms of retail sales than the surrounding communities. Business failure rates along access management corridors were generally at or below the statewide average for Iowa.

Eighty percent of businesses along access management corridors reported sales at least as high after access improvements were finished. Relatively few business owners (about five percent) felt they were hurt by the project.

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About 80 percent of businesses reported no customer complaints about access to their businesses after the access projects were completed. Those businesses that tended to report complaints were highly oriented toward automobile traffic (e.g., restaurants, auto sales, and auto service).

Furthermore, some evidence from the Iowa case studies shows that business redevelopment, investment, and revitalization begins to occur along a corridor a few years after access management projects are completed.

Motorist opinions. Ninety to 100 percent of motorists surveyed in this study had favorable opinions about the roadway improvements. The vast majority agreed that the improved roadways were safer, easier to drive on, and more efficient.

Barriers to access management
A major obstacle to implementing access improvements, not only in Iowa but across the country, can be the lack of communication between the agencies responsible for roadways and agencies responsible for local land use planning and regulation.

In addition, the Iowa study found that a minority of businesses and motorists along a corridor proposed for access management improvements will not support the proposal because of feared sales declines and traveling inconvenience. Their perceptions can lead to difficulties for the agencies that must implement access management projects.

For more information
A vital first step in improving cooperation and support for access management strategies is to identify and communicate the benefits of access management to all stakeholders. The study group (CTRE, the Iowa Department of Transportation, the Iowa Access Management Task Force, and the University of Northern Iowa) is taking several actions to educate and inform the various constituents interested in and affected by access management.

A statewide conference is being planned for May 1998 (see sidebars on pages 4 and 5). The conference will bring a variety of Iowa stakeholders together, focusing on the benefits of access management and identifying best access management practices.

The study group has published three reports: *Access Management: A Review of Recent Literature; Access Management: Current Policies and Practices in Iowa;* and *Access Management: Phase II Report* (as well as a *Phase II Summary Report*). These reports are online at the Iowa Access Management Project World Wide Web site: http://www.ctre.iastate.edu/access.

Limited printed copies of the reports are available through CTRE; call 515-294-8103. Loan copies are available through CTRE’s library; contact Stan Ring, library coordinator, 515-294-9481; stan@ctre.iastate.edu.

Educational materials—booklets, brochures, and a short videotape—will be available through CTRE later this spring.

For information about the Iowa study and ongoing educational efforts, contact David Plazak, transportation policy analyst, 515-294-8103; plazak@ctre.iastate.edu.