

ACCESS MANAGEMENT: WHAT IS IT? WHO IS RESPONSIBLE FOR IT? AND WHAT ARE SOME OPERATIONAL BENEFITS FROM ITS IMPLEMENTATION?

By Raymond Brushart—Program Manager

Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway. It also involves roadway design applications, such as median treatments and auxiliary lanes, and the appropriate spacing of traffic signals.

The purpose of access management is to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system. The contemporary practice of access management extends the concept of access design and location control to all roadways – not just limited-access highways or free-ways.

By managing roadway access, government agencies can extend the life of roads and highways, increase public safety, reduce traffic congestion, and improve the appearance and quality of the built environment. Not only does access management preserve the transportation functions of roadways, it also helps preserve long-term property values and the economic viability of abutting development. From an environmental perspective, improved traffic flow translates into greater fuel efficiency and reduced

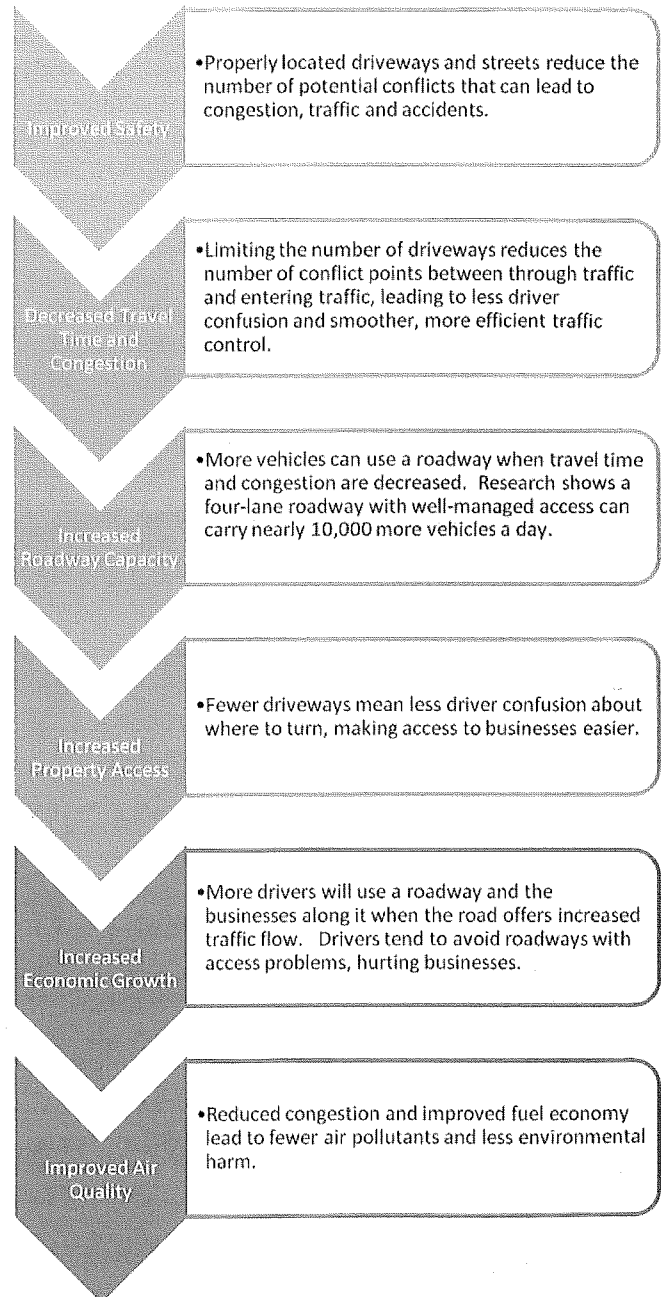
vehicular emissions. Consolidating access roads is also less damaging to rural landscapes or environmentally sensitive areas than numerous individual private drives.

As with most transportation and land use issues, access management has many dimensions. It crosses jurisdictions, organizational lines, and professions. The primary professions that guide urban development – planners, engineers, and architects – have important roles in determining access outcomes. Other key players include developers, elected officials, citizens, and attorneys who interact with each other and agency staff to shape urban policy and decisions.

Access management is achieved through the systematic application of planning, regulatory, and design strategies. The following are the basic methods of accomplishing access management:

- Policies, directives, and guidelines
 - Access Management regulations
 - Acquisition of access rights
 - Land development regulations
 - Development review and impact assessment
 - Geometric Design
- State and local agencies are granted the basic au-

Advantages of Access Management



Summary of Research on Access Management Techniques

| Treatment | Effect |
|---|---|
| 1. Add continuous Two Way Left Turn Lane (TWLTL) | <ul style="list-style-type: none"> • 35% reduction in total crashes • 30% decrease in delay • 30% increase in capacity |
| 2. Add non-traversable median | <ul style="list-style-type: none"> • 35% reduction in total crashes • 30% decrease in delay • 30% increase in capacity |
| 3. Replace TWLTL with a non-traversable median | <ul style="list-style-type: none"> • 15% - 57% reduction in crashes on 4-lane roads • 25% - 50% reduction in crashes on 6-lane roads |
| 4. Add a left-turn bay | <ul style="list-style-type: none"> • 25% - 50% reduction in crashes on 4-lane roads • up to 75% reduction in total crashes at unsignalized access • 25% increase in capacity |
| 5. Type of left-turn improvement: <ul style="list-style-type: none"> a. Painted b. Raised divider | <ul style="list-style-type: none"> • 32% reduction in total crashes • 67% reduction in total crashes |
| 6. Add right-turn bay | <ul style="list-style-type: none"> • 20% reduction in total crashes • limit right-turn interference with platooned flow, increased capacity |
| 7. Increase driveway speed from 5 mph to 10 mph | <ul style="list-style-type: none"> • 50% reduction in delay per maneuver; less exposure time to following vehicles |
| 8. Visual cue at driveways, driveway illumination | <ul style="list-style-type: none"> • 42% reduction in crashes |
| 9. Prohibition of on-street parking | <ul style="list-style-type: none"> • 30% increase in traffic flow • 20% - 40% reduction in crashes |
| 10. Long signal spacing with limited access | <ul style="list-style-type: none"> • 42% reduction in total vehicle-hours of travel • 59% reduction in delay • 57,500 gallons of fuel saved per mile per year |

thority to engage in access management to some degree through their general police powers and powers of eminent domain. In addition, transportation agencies are granted the authority under state transportation law to manage all aspects of roadway design to protect the public health, safety, and welfare. However, the

specific extent of agency authority to regulate land development and access varies considerably from state to state. Thus, a thorough examination of state law is an essential element of developing an access management program.

Studies of the effects of access management on

roadway operations have addressed effects of access spacing on travel time and have simulated traffic performance. Collectively, these studies indicate that access management helps to maintain desired speeds and reduces delays.

For example, the Colorado Access Control Dem-

onstration Project, a FHWA demonstration project authorized by the Highway Transportation Act, compared average travel speeds, average daily traffic volume per lane, total crashes, rear-end crashes, and broad-side collisions for various roadways in the Denver metropolitan area. The study found that total ve-

ACCESS MANAGEMENT (cont'd)

hicle-hours of travel per hour decreased by more than 40% on access-controlled roadways compared with those with uncontrolled access and that total delay decreased by about 50%. The "access-controlled" scenario was based on 1/2-mile signal spacing, a non-traversable median, and right turns only at 1/4-mile spacing. The "uncontrolled-access" scenario was based on 1/4-mile signal spacing, with full median openings at 1/8 mile.

Other analyses suggest that a four-lane divided major roadway with long, uniform signal spacing, directional openings between signals, and auxiliary turn lanes could accommodate a volume and a quality of service similar to those of a six-lane divided roadway having traffic signals at 1/4-mile intervals, full access between the signals, and no auxiliary turn lanes.

In summary, research has shown that access management reduces crashes,

improves travel time, and has potential economic benefits. The aesthetic and environmental opportunities associated with access management also contribute to a more sustainable transportation system. The various effects have two important applications: (a) they may be used to estimate the benefits and impacts of specific access management techniques or applications, and (b) they may be used as a rationale for specific actions. Here at the Ohio LTAP Center, we

will be offering an Access Management Class this fall. More details on the class will follow in the next issue.

Technical Resources Available for Our Customers

The following materials are available for our customers on a first come, first served basis:

- *Sign Retroreflectivity Tool Kit for Small, Local Agencies*—Covers the new traffic sign maintenance requirements, steps to implementation, funding, technical resources, educational resources, sample forms and letters and more! Please only request a print copy if you do not have access to the internet. Those with internet access can view this resource at: http://safety.fhwa.dot.gov/roadway_dept/night_visib/retrotoolkit/. FHWA (2009).
- *Operators Pre-Start Motor Grader Inspection DVD* — Promotes motor grader safety and productivity for county and city road agencies—70 minutes in length.— Texas LTAP (2009)

Call 1-877-800-0031 to request your copies.

