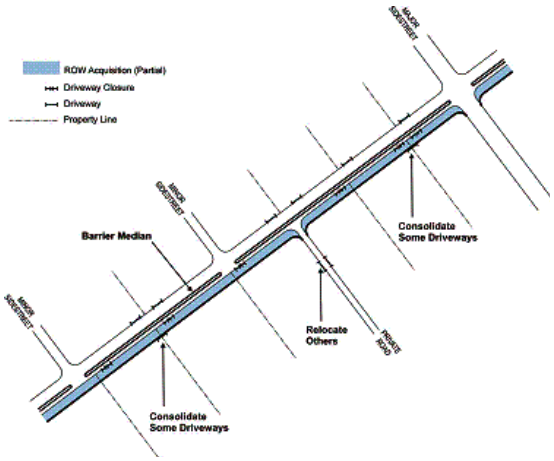
Classification System

The access classification system is the most important element of the access program. It establishes the appropriate level of access control for each roadway segment based on the planned roadway function. Typical considerations include roadway and land use characteristics, addressing urban and rural conditions, administrative boundaries, and highway purpose as defined by adopted state and regional plans.

Access criteria in the classification system support the planned highway function through mobility, capacity and safety measures. Classification criteria may include signal location and spacing, type and spacing of access, use of raised medians, and warrants for auxiliary turn lanes.

A good hierarchy of access classifications ensures the appropriate level of access control is applied on a specific segment in light of current and ultimate planned conditions and roadway function. Benefits of an access management classification system include:

- Establishes consistent standards for achieving planned roadway functions.
- Provides sound planning and engineering criteria for evaluating the location of access and signals.
- Allows daily access permitting actions to support the state transportation plan.
- Allows the level of access control to fit land development conditions.
- Communicates the realistic performance expectations of the highway.
- Promotes better coordination of land use and transportation planning and decision making.



Information Resources

Below are some valuable resources and links to find out more about access management.

National Access Management Website, Access Management Committee,Transportation Research Board
http://www.accessmanagement.gov

Center for Urban Transportation Research, Access Management Guides and Studies
http://www.cutr.usf.edu/research/access_m/access_mgmt_pubs.htm

Iowa Access Management Awareness Project
http://www.ctre.iastate.edu/Research/access/index.htm

Florida Median Handbook
http://www.accessmanagement.gov/pdf/FL_Median_Handbook.pdf

Managing Corridor Development: A Municipal Handbook
http:/www.accessmanagement.gov/pdf/corridor.pdf

Reinventing America's Suburban Strips (ULI)
http://www.accessmanagement.gov/pdf/ULI_Ten_Principles.pdf

For More Information

http://tpd.azdot.gov//planning/am_statewideplan

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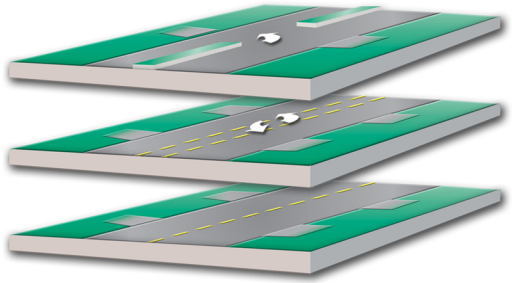
Citations

1. Department of Transportation, Federal Highway Administration, "Benefits of Access Management", Brochure FHWA-QP-03-066.
2. Table 2-5, Access Management Manual, Transportation Research Board, 2003.

Benefits of a Statewide Access Management Program for Arizona



ARIZONA
ACCESS MANAGEMENT

ADOT

Arizona Department of Transportation

What is Access Management?

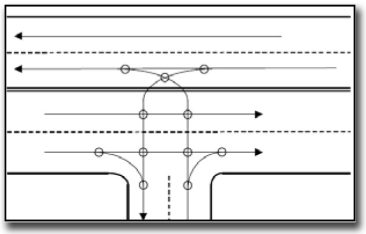
Access management is the careful planning and control of the location, design and operation of driveways, median openings, interchanges and street connections. The purpose is to ensure that access to development is properly designed so it maintains public safety and roadway efficiency. Common access management techniques includes:

- Use of exclusive turning lanes;
- Increasing spacing between signals;
- Driveway spacing criteria;
- Use of service and frontage roads;
- Land use policies that promote unified access and circulation plans for development along highways;
- Median treatments.

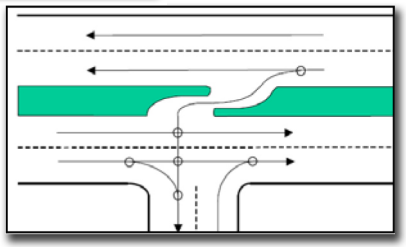
Access management is accomplished in a variety of ways, such as roadway improvements, corridor access management plans, and state highway access permitting. Agency rules, engineering standards, and procedures must be adopted to ensure that access decisions are fair, consistent and that the resulting access is designed to preserve highway safety and efficiency.

Benefits of Access Management

Improved traffic flow is one of many benefits of applying access management techniques. Roadways where access management techniques have been applied will likely be safer, have better circulation, and improved travel times. Installing a raised median and left turn lane, for example, can reduce the number of traffic conflicts and potential crashes by nearly half as illustrated in the following graphic.



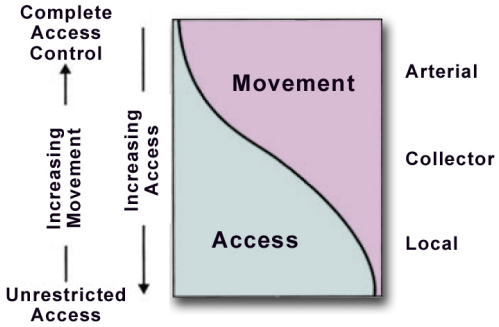
Before



After

Improved Circulation System

The frequency of driveways and other intersections greatly influences the function and capacity of roadways. The more access points and intersections on a roadway, the more conflicts and friction in the traffic stream, the more congestion and crashes. Therefore, arterial roadways need more access control (fewer access points) to allow traffic to move at higher speeds over longer distances safely and efficiently. Local roads provide frequent, direct access and high speed movement must be curtailed to preserve the neighborhood environment and the safety of streets for pedestrians and bicyclists. This relationship between roadway function and the appropriate amount of access is illustrated in the graphic below.



Installing medians and turning bays on major roads, as shown in the photo below, improve through traffic movement and safety. Raised medians have been shown to reduce crashes 40 to 60 percent.[1] Turning lanes remove turning cars from through lanes as they wait to turn, helping reduce traffic delays and rear end collisions.

For even higher levels of access control intersections can be grade separated as shown below.

Enhanced Communities

Applying access management techniques can enhance the livability of your community. Access management has been shown to reduce auto crashes as much as 60%, while improving pedestrian/bicycle safety. The mobility benefits include increases in roadway capacity of 23% to 45%, with reductions in travel time and delay of 40% to 60%. Improved traffic progression means reduced emissions and less fuel consumption.

The economic benefits of access management include preserving market area for businesses, improving customer safety and convenience, more efficient freight movement, and a positive effect on property values.

Access management also improves community/scenic character. Fewer driveways and the use of medians means more area for landscaping and enhances the appearance of highway corridors. Promoting unified access and circulation systems for highway developments allows citizens

Documented Effects of Techniques[2]

Treatment	Effects
Add continuous two-way left turn lane (TWLTL)	35% reduction in total crashes 30% decrease in delay 30% increase in capacity
Add non-traversable median	≥55% reduction in total crashes ≥30% decrease in delay ≥30% increase in capacity
Replace TWLTL with a non-traversable Median	15%-57% reduction in crashes on 4-lane roads 25%-50% reduction in crashes on 6-lane roads
Add a left-turn bay	25%- 50% crash reduction on 4-lane roads Up to 75% reduction in total crashes at unsignalized access 25% increase in capacity
Painted / separator / Raised divider	32% reduction in total crashes 67% reduction in total crashes
Add right-turn bay	20% reduction in total crashes Limit right-turn interference with platooned flow, increased capacity
Increase driveway speed from 5 mph to 10 mph	50% reduction in delay per maneuver; less exposure time to following vehicles
Visual cue at driveways, driveway illumination	42% reduction in crashes
Prohibition of on-street parking	30% increase in traffic flow 20%-40% reduction in crashes
Long signal spacing with limited access	42% reduction in total vehicle-hours of travel 59% reduction in delay 57,500 gallons fuel saved per mile per year