



Engineering Guide

Access Management Primer

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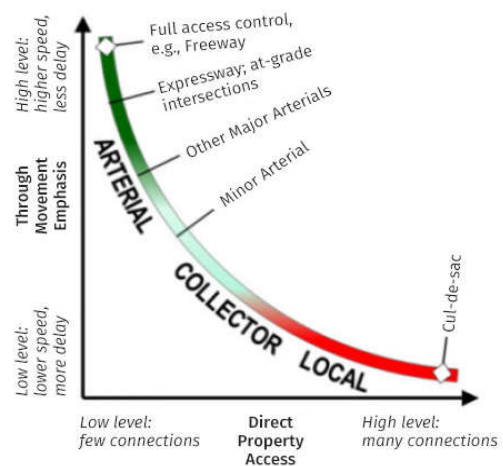
Access management is the practice of limiting driveway or street intersections on a road to avoid crashes and congestion.

Background Of Access Management

Access management began in the United States in 1906 when the Supreme Court ruled in *Hale v. Henkel* that states should determine the property rights of access. Since then, my profession has played a large part in the property rights of access through access management policies and comprehensive transportation plans.

Freeways sit on one end of the access management spectrum while local cul-de-sacs sit on the other. Interchanges are spaced out to greatly limit access, which promotes faster, better flowing traffic. Local residential streets with closely packed driveways provide easy access with lower travel speeds. Between these two extremes are the various other road types, each with its balance of access and mobility. Good access management policy for these roads improves the flow of traffic while providing appropriate access to private property.

Effective access management can help create a great functioning road; poor access management



Functional Hierarchy

can lead to traffic congestion. Multiple vehicle conflicts from uncoordinated turning movements create congestion and safety issues. Poor access management can hurt business, frustrate residents, impact the livability of a neighborhood, and slow drivers.

The effect of access management on nonmotorized traffic is mixed. Any reduction in the number of driveways or full access intersections reduces the number of vehicle conflicts. However, that same access reduction can also lead to higher vehicle speeds, impacting the comfort and increasing

safety concerns for pedestrians and bicyclists.

Different features that support and create a safe environment for pedestrian, bicycle, and transit use, can be incorporated into any access management plan. Such design elements could include small driveway radii, having driveways ramp up to the sidewalk rather than the opposite, and orientating driveways at 90 degrees to sidewalks or crossings.

Taking a long term view of accessibility to any property will help ensure future prosperity. Driveways close to a signalized intersection, for example, may seem fine initially, but future traffic growth may increase vehicle stacking at the signal and block the driveway. A traffic impact study is often the best method of determining the need for access management as well as what shape that management should take.

Designers of major roadway reconstruction projects should include access management techniques to ensure the appropriate level of property access, such as installing raised medians or pedestrian crossings. A traffic study should also be done on sites with existing safety concerns or congestion to determine the cause and extent of the issue. That data can be examined to determine what access management techniques, if any, can be applied to improve operations and safety.

Every agency should develop an access management policy, so developers, architects, and engineers know in advance the guidelines to use when creating new driveways and street connections.

BENEFITS OF ACCESS MANAGEMENT

- **Reduced congestion and better overall traffic flow.**
- **A lower potential for crashes as there are fewer places where cars cross paths with other cars, as well as with pedestrians.**
- **Added capacity, which could reduce the number of through lanes needed and, in turn, reduce the chance of crashes.**
- **Decreased travel times for commuters, truck drivers, and others.**
- **Easier movement between properties, improving the livability of adjacent neighborhoods.**

Components Of Access Management

Facility hierarchy: Determine where on the hierarchy of thoroughfares (principal arterial, arterial, collector, or local road) a road is, to help define its balance between mobility and access. All agencies should have defined these categories in their policies or comprehensive plan.

Intersection spacing: Establish the location of public intersections as well as which intersections will have traffic signals, all-way stops, or roundabouts.

Driveway spacing: Decide the location of driveways and how close to the public intersections they should be, as well as proximity to other driveways.

Public and private intersection types: Determine which vehicle movements will be allowed at each

intersection. Preventing some movements through $\frac{3}{4}$ -access (allowing left and right turns from the main road but only right turns from the driveway or side street) or right-in/right-out only access (allowing only right turns from the main road and the driveway or side street) may be desirable at some locations.

Overall development of connectivity: For access management to work, smaller properties must have some access to the remaining median openings and signals.

LIMITATIONS OF ACCESS MANAGEMENT

- Adversely affect certain types of land uses that depend on convenient access, such as gas stations and fast food restaurants.
- May push congestion to the local street network.
- Autonomous vehicles could make access management unnecessary by driving safely and efficiently no matter the number of access points.

Access Management Techniques

- Create connectivity between adjacent commercial properties to better serve businesses with reduced road access, such as a frontage or backage road connecting several properties.
- Consolidate private driveways, either through shared access or reduced access.
- Provide a center median to limit access,

including retrofitting a two-way left turn lane.

- Use exclusive turn lanes to remove turning vehicles from the through lanes.
- Create service roads for better access to multiple properties.
- Remove barriers between adjacent parking lots.
- Limit street and driveway connections to right-in/right-out, or $\frac{3}{4}$ accesses.
- Use roundabouts to allow for easier U-turns compared to traditional intersections.

Resources

- [Institute of Transportation Engineers Access Management](#)
- [Federal Highway Administration Access Management](#)
- [Federal Highway Administration Proven Safety Countermeasures](#)
- [Transportation Research Board Committee on Access Management](#)
- [Minnesota Department of Transportation \(MnDOT\) Access Management](#)