5-Access Management and the Comprehensive Plan

The Comprehensive Plan

Access management is just one aspect of planning for your community's future. Access management is a tool to be used to improve the flow of people, goods, and services. Ideally, it should be an outgrowth of the comprehensive plan. Good access management guidelines are best implemented after a city has determined

- ***land patterns***—where development should be encouraged and where it should be limited. This is extremely important because future land development patterns can have a tremendous impact on traffic conditions, and can accomplish more than access management alone in reducing future traffic problems on arterials;

- ***traffic flow***—the extent to which traffic on the arterials in the community has increased in recent years and is likely to increase in the future; and

- ***the plan's relationship to access management***—how the community's transportation and land use policies can be enhanced by sensible access management guidelines.

The Role of the Comprehensive Plan

A local comprehensive plan is an important policy document that establishes the direction of future development and conservation in the community. There are many ways in which the comprehensive plan can address access management issues and set the stage for an effective local access management program.

Goals, Policies, Strategies

The comprehensive plan's goals, policies, and strategies can directly address strip development along the community's highway arterials by recommending one or more of the following:

- Designate compact growth areas and limit the amount of development that can take place in rural areas along arterials.

- Prohibit strip development along arterials, including a proliferation of single-lot, house-by-house development.
- Develop regulations to require that development along the arterials be clustered or limited to certain areas.
- Include guidelines (such as those described in Chapter 4) in a local ordinance to ensure that arterial development will not significantly reduce traffic safety and traffic carrying capacity.
- Require traffic impact analyses and site plans for all developments exceeding a certain threshold.
- Meet with officials of adjacent communities to review transportation issues and develop a coordinated, regional approach to access management.

Table 9 offers an example of a plan's guidelines.

Capital Investment Plan

The capital investment plan (CIP) can include recommendations that developers be required to pay for some or all of the transportation and other public improvement costs necessitated by their developments. The CIP can recommend that future public investments discourage strip investment. For example, the CIP can state that there will be no sewer extensions along the arterials.

Future Land Use Map

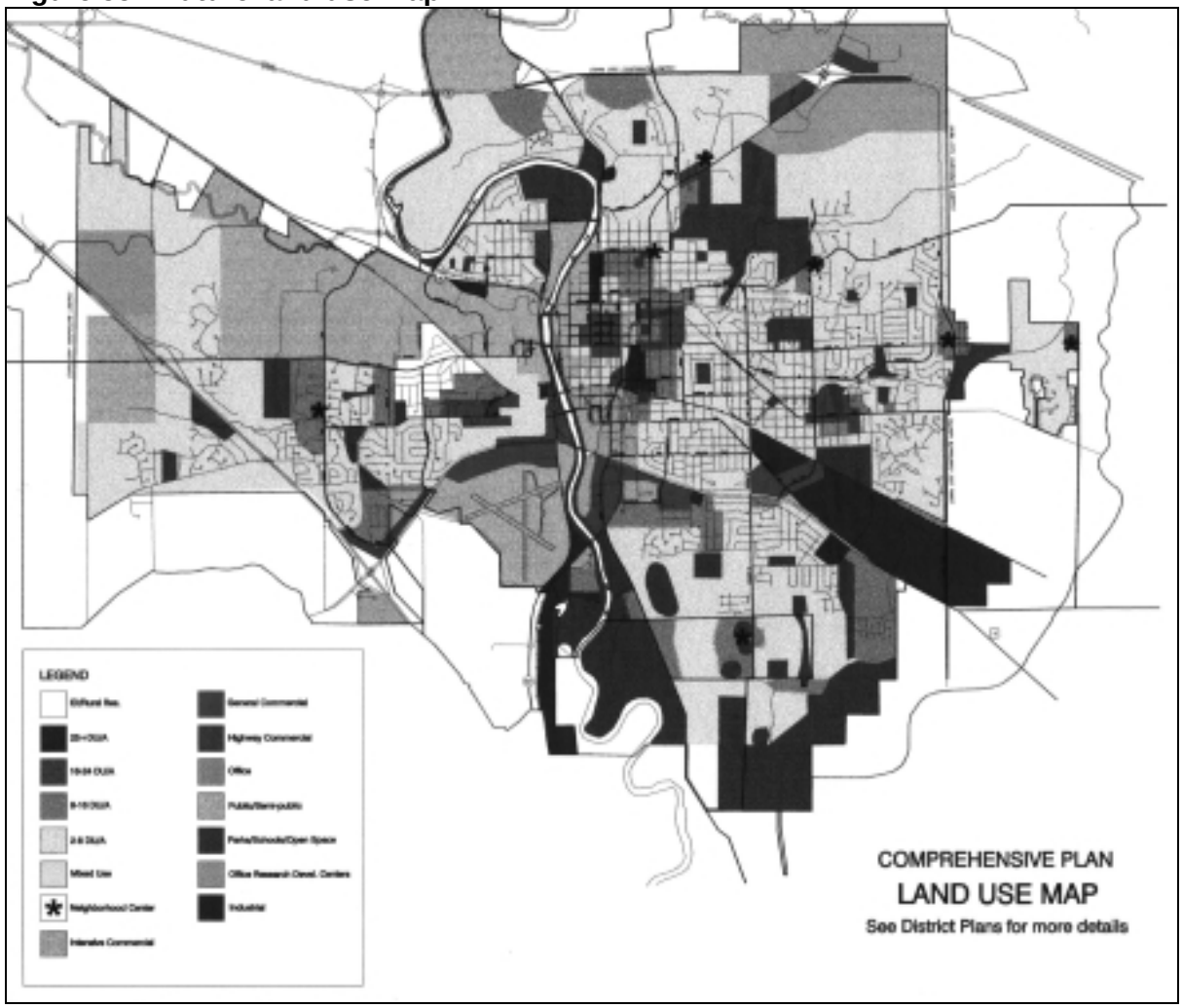
The city's future land use map can include recommended zoning patterns that will direct future growth away from the community's arterials (Figure 55). The most obvious approach is to delineate future growth areas adjacent to the community's arterials for rural or low density residential development. Other alternatives are described in the following section.

Table 9—Example guidelines

Functional Class	Function	Traffic Speed (mph)	Design Volume (ADT)	No. of Lanes	Direct Driveway Access	Turning Movements	Sidewalks
Freeway/ Expressway	Inter-community circulation	55 - 65	Unlimited	4 - 6	None, controlled access	Fully controlled	None
Primary Arterial	Inter- & intra-community circulation	35 - 55	15,000 to 30,000	2 - 4	None	Separated	None
Secondary Arterial	Intra-community circulation; land access	30 - 45	2,500 to 20,000	2 - 4	Limited to large develop-ments	Separated as necessary	None
Collector	Distribute traffic between local streets & arterials; land access	25 - 35	1,000 to 5,000	2	Yes, but limited	Separated as necessary	On one side only, if necessary
Local	Land access	20 - 25	Less than 1,000	2	Yes, Unlimited	No separation	One or both sides

Source: Adapted from Endnote (5)

Figure 55—Future land use map



Source: Endnote (14)

Managing Future Commercial Growth

This section contains suggestions on how the comprehensive plan, and ultimately the local zoning ordinance, can direct future growth in a manner that avoids strip development. This discussion focuses on commercial development because it is this type of development that can have the greatest impact on traffic patterns, safety, and the traffic carrying capacity of the arterial. The general principles, however, can be applied to all types of development.

Too often the land adjacent to an arterial is zoned for commercial development. This pattern encourages commercial strip development, which in turn creates safety problems, congestion, and ultimately the need for expensive highway improvements or even the need for a bypass around the area. A better approach is to concentrate the commercial district around existing centers of development (Figures 56 and 57). Secondary roads, intersections, or frontage roads can then handle the traffic impacts and help keep local traffic off the arterials.

Figure 56—K-150 Highway Access Management Plan

The City of Overland Park, Kansas has been administering an access management plan along the K-150 Highway for over 10 years. It is a proactive effort of Overland Park and the neighboring communities of Leawood and Olathe to preserve the transportation function of the corridor and surrounding street network while accommodating expected growth. The plan was conceived when the corridor was largely undeveloped. The plan provides for a divided multi-lane highway with median breaks at half-mile intervals, right-turn-only access at quarter mile points between median openings, and policies on driveway spacing. In addition, a system of parallel access roads was planned to provide alternative access for higher intensity development. Despite periodic pressures to provide exceptions, City staff have been largely successful in achieving the access management objectives. Reasons include consistency of recommendations, adequate preparation and analysis of proposed deviations, adherence to principles of good access design, periodic refresher sessions on the plan for public officials, and a willingness to "roll with the punches."

Source: Endnote (10)

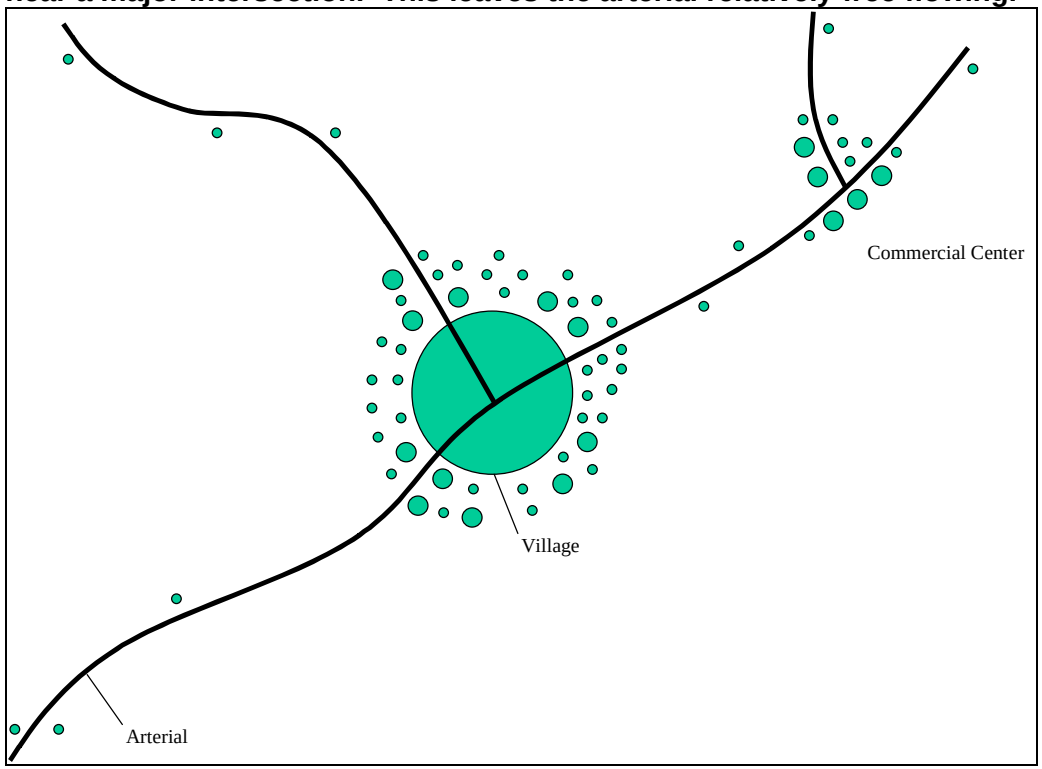
Commercial Cluster Development

As an alternative to allowing commercial structures to be located uniformly along an arterial, a municipality or county with zoning authority can require that new commercial buildings be sited in small clusters (as in an industrial park), be set back from the arterial, and have well landscaped areas between the clusters. In this approach, a section of the arterial may be zoned for commercial development, but only cluster developments are permitted. Cluster development works best where there are large parcels that allow room for several businesses on one lot. It probably won't work where the arterial is already lined with small developed parcels. The cluster concept can be applied successfully to shopping centers, mini-malls, and multiple-use facilities.

Commercial Centers

Another alternative to a continuous strip of commercial development is to create commercial centers located near major intersections that have the capacity to handle more traffic. These centers could include secondary road networks. The areas between commercial centers can be placed in a zoning category other than commercial. The community can help construct access roads that make these centers highly visible, accessible, and commercially viable. A municipality or county can ensure that the centers are the only areas to be developed commercially by designating commercial zones only at or near intersections. This should leave the arterial relatively free flowing (Figure 57).

Figure 57—Managed growth can concentrate new development near the existing town center, cluster several small businesses into one mini-mall, and/or establish a commercial center near a major intersection. This leaves the arterial relatively free flowing.



Source: Endnote (3)

Rural Business Districts

A municipality or county can take steps to preserve its rural character and still allow certain types of rural commercial development. A rural business zone might allow residential developments, home occupations, professional offices, tourist or agriculture-related businesses, and farm stands. It would not allow other types of commercial developments, including the types of retail operations that could just as easily be located in the downtown or growth area of the community.

Low-intensity Commercial Districts

A municipality or county can use its zoning powers to not allow businesses that generate high traffic volumes from locating in areas where they will create traffic problems. Such limits might be appropriate where the arterial is at or near capacity, where there are visibility problems, where the road grade is steep, or where there are other safety problems. Limits might include prohibitions, size limits, or a requirement for a traffic impact analysis plus remedial measures.

Retrofitting Existing Corridors

One of the challenges in managing access is how to improve access on already developed corridors. The level of demand on our transportation system has changed and so has our understanding of the issues and problems. As communities grow and change, roads originally intended to provide access to homes or businesses may be needed to serve through traffic. In addition, some of the access problems we now see are the result of poor subdivision and zoning practices in the past. It is much more difficult to manage these competing demands and solve access problems after the fact.

Common problems include limits to the right-of-way, development in close proximity to the right-of-way, and opposition by owners of adjacent properties and affected businesses. Land for access improvements is often unavailable, making it impossible to implement certain access management techniques and requiring the use of minimum rather than desirable guidelines. In addition, rights for access to property must be respected. Therefore, the most successful retrofit projects involve adjacent landowners and businesses in planning the access project from the earliest stages of project planning.

One strategy is to prepare access management plans for the higher priority corridors in the community. Restrictive medians with carefully designed crossovers are useful for controlling turning movements and improving safety on already developed corridors. Special corridor zoning and overlay zones can be designed to address the unique circumstances of the corridor while advancing access management objectives. Local ordinances can also include retrofitting guidelines that specify when existing users must come into compliance with the new guidelines, such as (1) substantial enlargements or improvements, (2) significant changes in trip generation, or (3) when new connection permits are requested. These represent opportunities to improve access to an existing corridor.

Table 10 highlights a variety of access techniques that can be used to retrofit existing roadways.

Table 10—Potential retrofit techniques

Driveways	- relocate, consolidate, eliminate
	- promote shared driveways
	- increase corner clearance
	- improve turn radius and driveway width
	- increase throat length
	- prohibit left turns out of driveway
	- decrease slope
Turn Lanes	- add or redesign left-turn lanes
	- add or redesign right-turn lanes or tapers
	- close or redesign median openings
	- add 2-way left-turn lane
	- add raised median
Service Roads	- provide backage road
	- provide or redesign frontage road

Source: Adapted from Endnote (2)

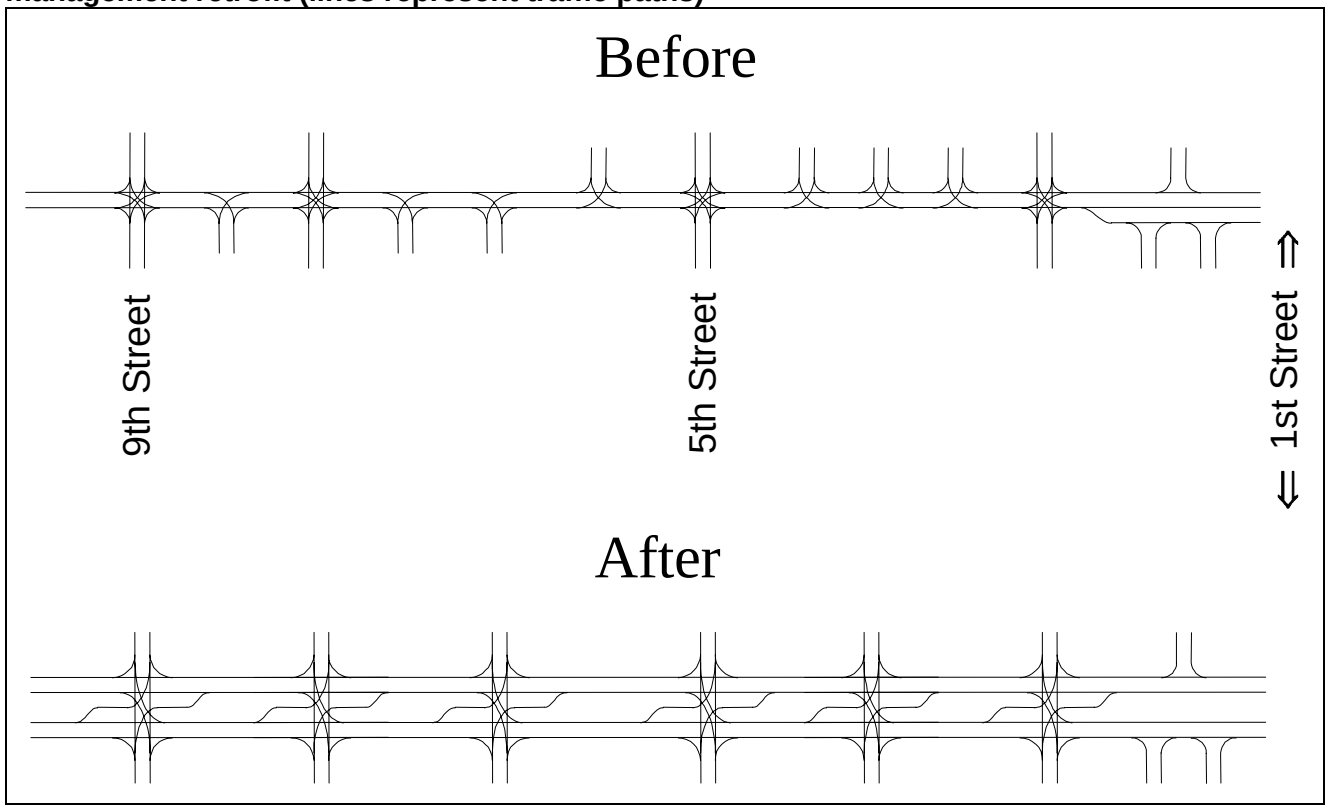
Example Retrofit Project: North Ankeny Boulevard

A number of these techniques were used to retrofit a one-mile segment of North Ankeny Boulevard in Ankeny (see Figure 8 in Chapter 3). Ankeny Boulevard (U.S. 69) is the main north-south arterial through Ankeny and the city's major commuter route to and from Des Moines.

Prior to reconstruction, Ankeny Boulevard was a two-lane undivided highway, and almost all businesses were allowed direct access. Due to rapid growth, increasing congestion, and increasing crash rates along the corridor, the City of Ankeny undertook a $2.5 million program of access improvements for North Ankeny Boulevard. Major improvements included conversion from a two-lane facility to a four-lane divided road with a 15-foot wide landscaped median and left-turn bays. Right-of-way was taken on both sides of the roadway, and access to business was concentrated at median openings and intersections. Minor improvements included the redesign of existing frontage roads and improved access between adjacent parking lots (Figure 58).

Following the completion of the project, traffic volumes increased by an average of over 4,000 vehicles per day while crash rates dropped almost 37 percent and the level of service improved from a "D" rating to a "B" rating. "D" indicates that some delays and congestion are present, while "B" indicates a situation in which traffic flows very freely.

Figure 58—Conflict point diagram of North Ankeny Boulevard before and after access management retrofit (lines represent traffic paths)



Source: Endnote (7)