








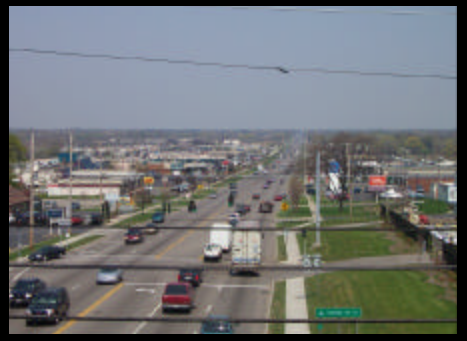


Transit Road Corridor Management Study

Final Report
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Town of Clarence

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Table of Contents

I Introduction to Corridor Planning and Access Management

A. The Value of Corridor Planning

Corridor planning has evolved over the last couple of decades to encompass a comprehensive approach to managing roadways and transportation systems. While traffic data (volumes, accidents, speeds, delay, etc.) remain important factors in the transportation decisions that are made today, they are not the only consideration.

Corridor planning is a "big picture" approach that incorporates access, safety, historic preservation, context-sensitive design, land use and good decision making practices into one process.

The process typically includes ample community input throughout the planning effort, either in the form of a diverse advisory committee, public meetings and workshops, or a combination of these. To that end, the pool of experts who assist in the process of corridor planning has expanded to reflect the diverse perspectives that must be addressed. Transportation engineers have been joined by community planners, landscape architects and a variety of municipal representatives to ensure that the end result supports the "big picture."

Successful corridor planning requires a variety of strategies to be utilized at the same time. Chief among them is access management.

B. What is Access Management?

Access management is a comprehensive approach to improving corridor safety and access. Transportation systems are designed to complement existing and future land uses along the targeted roadways. As a result, improved access and movement are achieved in a manner that respects the surrounding community and its plans for future development.
Access management does more than preserve the safety and efficiency of travel. Well-designed access systems can help preserve community character, advance economic development goals, and protect the substantial public investment in roads and highways.

Recommendations for access management usually include the location of private and public access drives as well as the development and site design of nearby lands. Access management plans also include coordinated land development and subdivision regulations, as well as transportation and land use strategies that work together to address the issues identified by the community or communities involved.

An access management plan will identify reasonable, efficient ways to achieve the goals and objectives developed through the planning process. The plan will consider the following roadway information: number

and widths of lanes; presence and/or need for medians; pedestrian access and linkages; number and location of curb cuts; intersection locations and performance; and new streets or extensions of existing streets.

In addition, access management plans consider the following community-related information:

- Current land use and zoning;
- Future land use and zoning changes;
- Anticipated development projects;
- Other municipal policies and regulations that could impact the study area.

C. Why is Access Management Important?

Whether it is applied to a single intersection or an entire region, access management is designed to address several key issues: safety; access to goods and services; efficiency of travel; economic impact.

When each of the key issues is examined, it is important to consider their relationship to one another and their collective impact on the surrounding communities.

Connectivity is an important aspect of access management. In addition to affecting how well motorists and pedestrians can access their respective destinations, access management is also inherently tied to a community's vision, sense of place and future success.
The diagram below illustrates the symbiotic relationship between access and land development. Changes to the transportation system or adjacent land uses do not occur in isolation. Modifications to one have a tremendous impact on the other. Consequently, it makes sense to consider the key issues both individually and collectively.

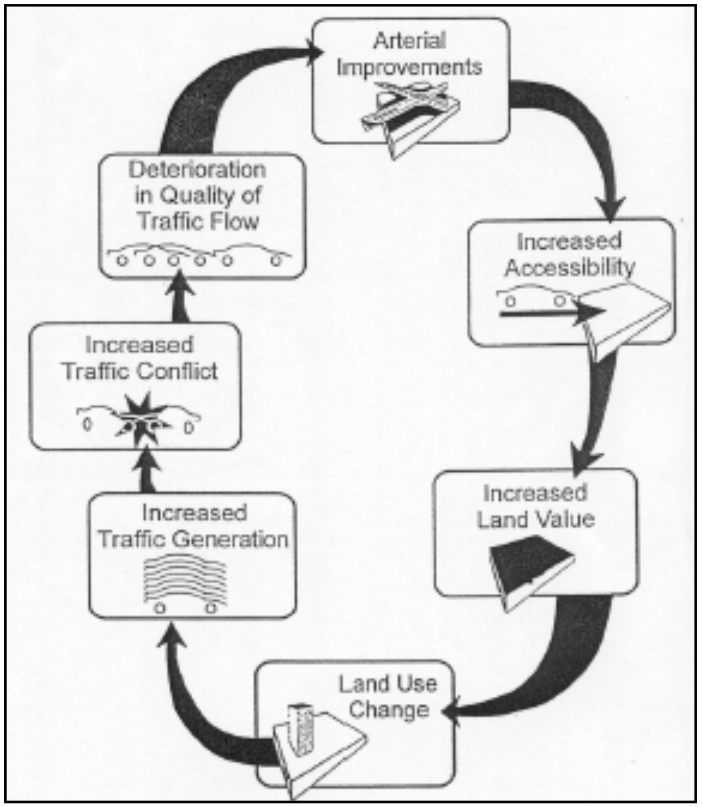

Figure I-1: The land use & transportation cycle.

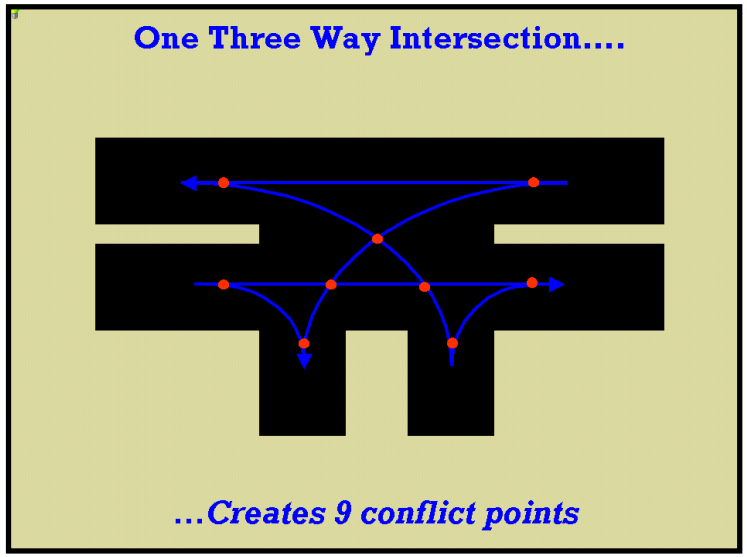

Figure I-2: A full access three way intersection.

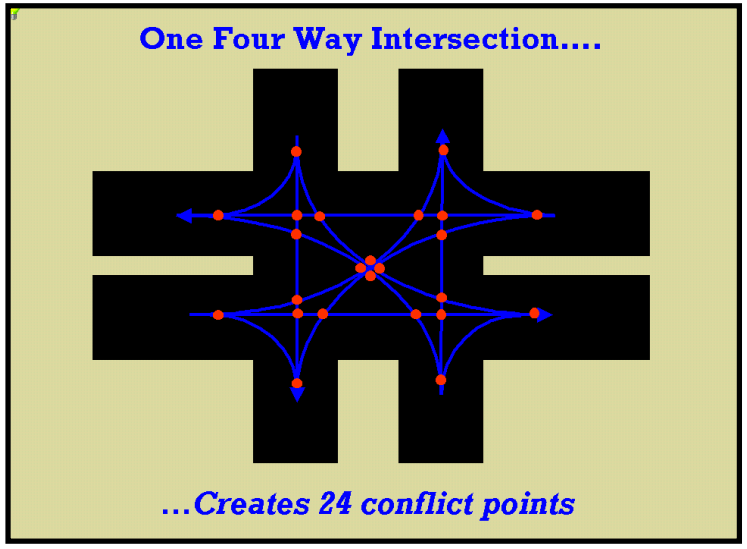

Figure I-3: A full access four way intersection.

Safety

One of the primary concerns of an access management study is safety. Safety of motorists and pedestrians is affected primarily by speed and conflicts. Traffic conflicts occur when the paths of vehicles and pedestrians intersect. Merging, diverging, stopping, weaving or crossing movements create conflict points.

As conflict points increase, driving conditions become more complex and drivers and pedestrians are more likely to make mistakes and have collisions. Figures I-2 and I-3 illustrate the typical vehicular conflict points present in three and four-way intersections, respectively. These diagrams do not factor in pedestrian and bicycle movements, which would only further complicate the driving conditions. A less complex driving environment is achieved by minimizing the number and type of conflicts between vehicles, vehicles and pedestrians, and vehicles and bicyclists, which can be achieved through a variety of roadway improvements including the installation of raised medians or the development of access roads.

Access management also explores ways to separate conflict points and reduce interference with through traffic. For example, adequate spacing between driveways allows drivers to react to one access point at a time and reduces potential conflicts at each successive downstream driveway. Consequently design decisions related to driveway spacing, corner clearance standards, turning lanes and restricted turning movements positively impact a corridor's safety.

Access to Goods and Services

The dictionary defines access as the "means or act of approaching, entering, exiting, communicating with, or making use of something." With regard to transportation access, that "something" is often the goods and services available in a given area.

Whether the businesses are located along a rural country road or in a densely developed commercial center, the range of access management techniques that can be utilized to maximize movement and safety are similar.

The illustrations shown in Figure I-4 demonstrate the sequence and cycle of development and its impact on land use. Transportation design plays a big part in how changes in transportation infrastructure take place and its impact on the surrounding community. There is an interdependence between transportation and land use, whereby land development impacts and is impacted by modifications to an area's transportation infrastructure. If access to new development is managed well, patrons can reach their destinations easily, whether they are driving, walking or peddling. Successful access management, at every scale, makes "approaching, entering, exiting, communicating with, or making use of something" much easier and safer. It can also forestall or even prevent the need for costly and disruptive transportation infrastructure improvements in the future.

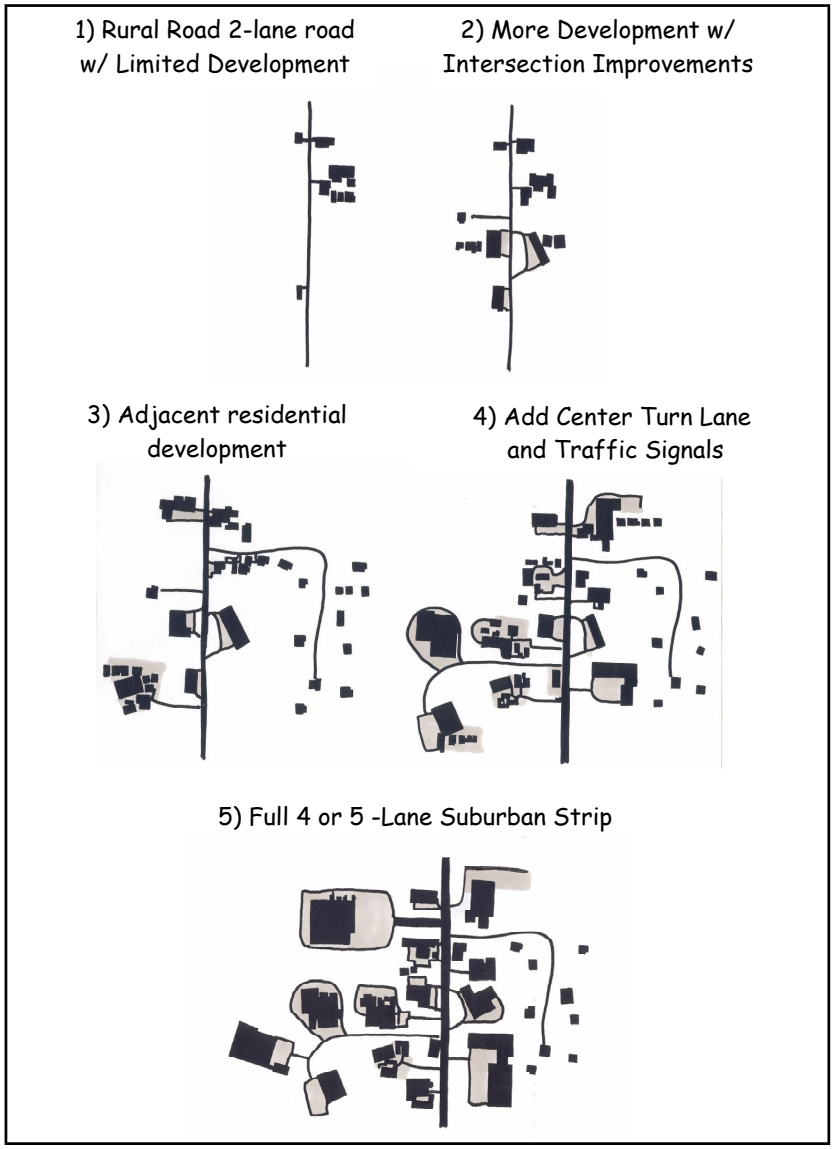

Figure I-4: These diagrams illustrate how the typical land use development and transportation improvement cycle often occurs in a community.

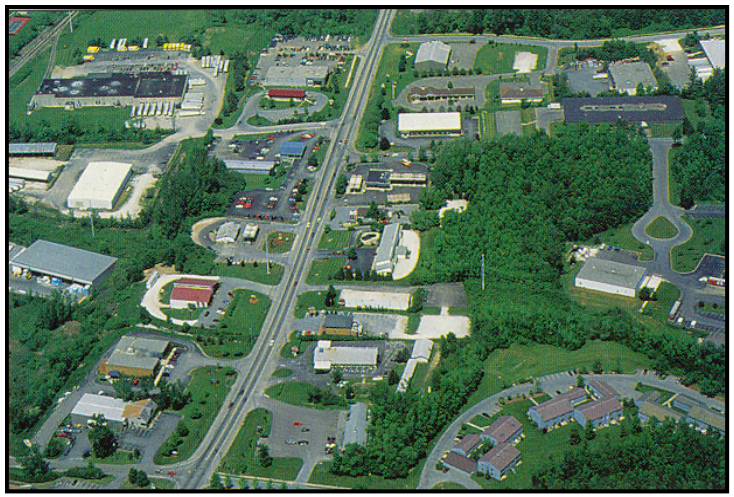

Figure I-5: Typical suburban strip with no access management provisions.

Figure I-6: Highway commercial uses that are interconnected and have access to the lower volume side road.

Efficiency of Travel

The two images to the left are from the book entitled Above and Beyond and are illustrative of good and bad examples of access management. These images are particularly helpful in showing how efficiency of travel is impacted by access management or the lack thereof.

The upper-left image shows a typical suburban corridor with little or no access management provisions. Each parcel has one to two curb cuts, the driveways are not spaced properly, and there is no interconnection between parcels.

The lower-left image shows two highway commercial uses that are interconnected, which are both serviced by one full access driveway on the main road, one right-in and right-out access on the main road closer to the intersection, and a full access driveway onto the lower volume side road.

This corridor design improves efficiency of travel by allowing on-site movement between compatible uses that are adjacent to one another. This reduces the number of movements and conflicts along the main road. The cross-access design and reduction of curb cuts limit the frequency of motorists entering and exiting the main road for multiple stops along the way. The right-in, right-out access on the main road allows free flowing rights which are unimpeded by waiting for the more difficult left-turn movement. This design also reduces left turns into and out of the site from the main road.

Economic Impact

Although access management plans and projects are often perceived as a negative impact to businesses, recent studies have shown that is often not true. For example, motorists surveyed in Iowa had a favorable opinion of access management improvements made to roadways because congestion was reduced and roads were safer to travel (Iowa State University, Iowa Access Management Research and Awareness Project: Executive Summary, 1997). It is reasonable to assume that improvements to traffic flow and safety will draw more motorists to an area, which increases the number of potential customers.

A raised median is perhaps the most controversial access management tool in terms of its perceived negative impact on surrounding business. Yet studies have shown otherwise. While various studies of median projects throughout the U.S. have reported adverse economic impacts during the construction phase, the economic performance of businesses was largely unaffected once the medians were constructed. Business owners surveyed in a Texas Transportation Institute study reported no change in pass-by traffic (the number of vehicles on the road) after median installation.

The difficulty with assessing economic impact of access management projects stems from the lack of financial data available. Studies on this issue typically rely upon opinion surveys of affected businesses and motorists since sales and business activity data are sensitive and not readily available. While opinion survey results have been largely favorable, they are very subjective and, therefore, less convincing to some. However, some of the recent studies have found that land values, which are a more objective measure of economic impact, also remained the same or increased after access management projects were completed.

The economic impact of access management extends beyond the businesses on or near the corridor(s). Access management can provide a substantial reduction in accident costs. According to the American Association of State Highway and Transportation Officials (AASHTO), 50 to 70 percent of all accidents are access related. Economic benefits are also realized in the reduced need to build more roadways, which can be a substantial cost to communities and businesses.