



## FDM 7-35-1 Introduction

September 15, 1997

One of WisDOT's goals is effective management of transportation corridors. Corridor management is the larger framework within which access management is done. Corridor management is the systematic evaluation and implementation of changes or improvements to a particular highway segment to ensure that the segment meets the transportation needs of its users while supporting the transportation needs of the region's communities. Corridor access management includes controlling the amount of traffic flow onto a highway, creating or eliminating access onto the corridor, and spacing access points along a corridor.

Evaluation of changes or improvements to a corridor can utilize a wide range of analytical techniques, depending on the character of the corridor -- urban, urban fringe, or rural. On heavily traveled urban corridors, congestion and the presence of large traffic generators will be major factors in determining the design and type of access onto the roadways.

It is important to keep in mind the significance of the overall functionality of the corridor as it relates to and affects the entire highway system. Corridor management activities should include the identification of congestion, as well as the assessment of the environmental, safety, land use, and economic development benefits of management decisions. Consideration should be given to identifying the types, numbers, and frequency of vehicles entering at access points along the corridor.

## FDM 7-35-5 Analytical Activities

December 20, 2013

The following are suggested analytical activities to use when considering corridor and access management decisions:

### 5.1 Current Traffic and Traffic Forecasts

An analysis of the current transportation corridor usage and functionality can be developed using current and forecasted traffic data that are available locally, regionally, and statewide. See [FDM 11-5-2](#) for guidance on how to obtain traffic counts and forecasts.

It should be determined whether access onto the corridor will increase or decrease the functionality of the highway segment.

### 5.2 Congestion

Incidents of congestion on the corridor should be evaluated. Investigate detailed accident data to confirm safety concerns and anticipated improvements to the corridor. Determine how access decisions will increase or decrease safety and functionality of the corridor. Evaluate housing and economic development plans along the corridor and determine level of impact at the access points. Seek background information from the Division of Transportation Investment Management's Safety section.

### 5.3 Needs and Costs Estimates

Due to limited state and local funding, region offices and local governments may have established a priority list for highway maintenance and improvements. Based upon the needs and priorities of the region and local governments, construction and maintenance projects such as bridges, interchanges, intersections, and access roads will have to be evaluated and incorporated into any access management decision.

### 5.4 Economic Development

Economic development impacts should be considered when evaluating changes to access on a corridor. Changes include access point improvements, approval of new access points, or elimination of access points. Socio-economic trends should be identified. These include new growth, as well as commercial and industrial expansion near the access points and along the corridor in general. Development can be identified by analyzing local development plans, identifying existing commercial and industrial parks, and other generators of traffic such as hospitals, schools, recreational and cultural centers, and plotting them along the affected corridor.

Information on development plans may be found in a community's land use plan or obtained from MPOs and RPCs, local economic development organizations, chambers of commerce, private employers, and developers. Economic indicators may be found in the Division of Transportation Investment Management's Economic Strategies Section's geographic information system (GIS) economic database. Freight movement data and

related commodities information can be obtained from WisDOT's commodity flow database and from interviews with shippers who use the corridor. This information will help to describe the functionality and transportation needs of the corridor from an economic development perspective.

Economic indicators are difficult to grasp due to the changing nature of consumer preferences and corporate expansions, consolidation, and downsizing. Corridor analysis can only attempt to forecast these changes utilizing whatever techniques are made available to highway designers and planners.

## 5.5 Environmental Impacts

Environmental impacts must be factored into corridor management decisions. Examine past EIS documents and consider updated environmental data on the affected corridor. DNR and DOT databases should have available information for evaluation. When additional access is requested, it must be determined whether the access would have a positive, negative, or neutral effect on the environment of the immediate and surrounding corridor area. Environmental data can be found with local MPOs and RPCs. Consult with the regional Environmental Coordinator and the DNR for existing environmental characteristics along the corridor and access points.

Requests for access along highway corridors are difficult to predict due to the ever-changing nature of land use along the corridor. Land use decisions, which are often driven by the motivation and preferences of local elected officials and private land owners, can alter the landscape along a highway corridor through zoning changes. What was once agricultural land may be converted to residential, commercial, or industrial development. This can increase the type and amount of traffic along a particular highway segment.

The most accurate prediction about land use plans is that they will be in a constant state of change. By considering the above recommendations and ensuring that intergovernmental agreements are in place (see [FDM 7-35-10](#)) highway planners would have at least taken into consideration those potential factors that may decrease or increase demand for access along the corridor in the future.

### FDM 7-35-10 Additional Tools for Managing Access

February 15, 2023

Various access management tools are used to protect highway corridors from problems that result from uncontrolled access. These tools are used to preserve mobility, minimize congestion, maximize safety, and delay or prevent the need for capacity expansions and bypasses. Many corridor management tools are used prior to implementation of WisDOT's access management authority under sections 84.09 and 84.25 of the state statutes. These tools include, but are not limited to, the following:

1. Land use/access management plans;
2. Traffic impact analyses (TIAs);
3. Land division/development review -- subdivision plats, certified survey maps (CSMs), and planned unit developments (PUDs);
4. Joint and cross access easements for new and existing development;
5. Official mapping of transportation corridors;
6. Early WisDOT review of local zoning revisions and/or site development plans;
7. WisDOT input into local zoning ordinances/land use plans that affect state highways.

WisDOT has developed a standardized letter for region offices to send to local units of government, requesting that the department be given the opportunity to review proposals for developments that would generate significant impacts on state transportation facilities. A copy of the letter is provided in [Attachment 10.1](#).

## 10.1 Land Use/Access Management Plans

Land use/access management plans are plans developed jointly between local units of government and WisDOT. They have traditionally been initiated by local units of government facing rapid development of an area served by one or more state trunk highways. The local communities and WisDOT both realize that those highways must be preserved, to the extent possible, for future increased traffic volumes.

In a few cases, WisDOT has initiated the development of land use/access management plans, and in many other instances, WisDOT functions as a mediator between local units of government with differing objectives. WisDOT, counties, municipalities, and regional planning commissions/MPOs can all be appropriate parties to a land use access plan. These plans often result in formal intergovernmental agreements, which are described in more detail at the end of this section.

Land use/access management plans show existing and future access points to state trunk highways. For multilane highways, they show median crossovers as well. Ideally, these plans should be in place prior to

development in an area. In reality, land development is often what prompts a land use/access management plan to be initiated. If the adoption of the plan is accompanied by the signing of a formal intergovernmental agreement, no changes in access or median crossovers can occur without the agreement of all parties to the plan.

WisDOT is interested in expanding land use/access management planning because it promotes a strong partnership between land use and transportation. Some of the steps that could be included in a land use/access management planning process are:

- Agreement among the relevant parties that a plan should be developed.
- Survey of existing land uses along the highway corridor, planned land uses, zoning, and any subdivision regulations.
- Identification and review of both the number and use of existing access points.
- Identification and review of permitted access points not currently in use.
- Identification and review of any access plans for the corridor.
- Identification and review of any transportation facility or service improvements planned for the corridor.
- Identification and review of any economic development plans for the area, including new and expanded industrial/commercial parks adjacent to the corridor.
- Development of a plan for appropriate future access. The plan should address issues such as private access, public access, frontage roads, signals, median openings, turn lanes, access closures, access upgrades, etc.
- The use of an aerial base map to display details of the land use/access management plan.
- Conclusion of the planning process with the adoption of local government resolutions supporting the plan. WisDOT would endorse the resolutions.

The land use/access management planning process may result in a formal intergovernmental agreement. Statutory authority for such agreements is found in section 66.30 of the Wisconsin Statutes under the heading of intergovernmental cooperation. Various public agencies can enter into intergovernmental agreements under this statute. However, the parties to the agreement are each only allowed to act within their own legal powers and duties. For example, WisDOT cannot be granted oversight authority for something in an intergovernmental agreement that the department does not already have the legal authority to do.

Intergovernmental agreements generally include a purpose or mission statement, a list of objectives, a description of the parties' responsibilities, the agreement process, and a description of how the agreement will be enforced. Agreements may also include procedures for: making amendments, allowing one or more parties to withdraw from the agreement, dissolution of the agreement, and addressing agreement violations.

## 10.2 Traffic Impact Analyses (TIAs)

A TIA is an engineering study that compares before and after traffic conditions on a road network due to a proposed land use change. Either a development driven request for a change in access controls or a request for a driveway permit may trigger the need for a TIA. A TIA is produced to identify, for both WisDOT and the developer, the optimum number and location of highway access points and any roadway changes needed to accommodate the traffic generated by the development. The study is an integral part of the site plan design.

A TIA should be considered whenever traffic generated by the proposed development is expected to exceed 100 vehicles in the peak hour. Greater consideration should be given to requiring a TIA on an already congested or unsafe highway than on one with lower traffic volumes and crash rates. Whenever WisDOT determines a TIA is necessary, the developer is required to provide it.

Current policy requires the developer to pay all costs of making the necessary STH changes including the engineering, real estate and construction. In many cases, this involves providing the engineering, dedicating right-of-way and employing the construction contractor. The TIA must be prepared by a professional engineer. WisDOT staff must review and approve the TIA before any STH access changes are authorized.

A TIA should include the following components:

1. A description of the proposed development and that portion of the road network that will be affected by the development.
2. A description of the existing conditions including access points, daily and hourly traffic volumes, crash data, and a capacity analysis of future traffic without the proposed development. (Existing and forecasted volumes without development should be obtained from WisDOT when available.) See [FDM 11-5-2](#) for guidance on how to obtain traffic forecasts. It should also include estimated traffic volumes resulting from any other known development proposals and a capacity analysis that that incorporates those volumes and/or those of any previously proposed roadway improvements.

3. An estimate of trips generated by the proposed development based on land use and/or possible tenants. The reference source of the trip estimates should be identified. Trip estimates should include hourly and directional distribution of the generated trips based on the developer's market share analysis.
4. Trip assignments distributed to existing and proposed access points and to alternative access locations. Generally, at least one alternative should be considered if more than one access to the STH is proposed, if local roads exist which can or will be used, or if terrain or other features may affect safety. In highly developed areas, assignments may extend to controlled intersections beyond the immediate development area.
5. Total volumes combining existing traffic, trips generated by other known developments and trips generated by the proposed development. These volumes should be estimated for each alternative being considered.
6. Capacity analyses for the proposed and alternative access arrangements.
7. Conclusions and recommendations.

The methodology for a TIA essentially superimposes the estimated trip generation volumes and directional distribution on the existing volumes and projected volumes similar to a design year concept in improvement project design. These trips are then assigned to alternative access locations and schemes for analysis of their individual impacts and merits. The process becomes more complicated when other adjacent land use plans or road network changes are imminent and must be considered in the analysis. This brings other entities into the process of reaching agreements; and a lead agency or landowner is often required to coordinate the separate proposals into an integrated plan including all agreements on access, cost sharing and implementation. It is important to recognize that these last two responsibilities often affect the final design.

A TIA should be an integral part of the site plan development and review process. Since traffic circulation patterns are an integral part of the site plan and are dependent upon highway access locations, the decision to require a TIA should be made early in the site planning process. The amount of detail in the TIA should be commensurate with the size and scope of the development. An agreement to construct improvements to the roadway system identified by WisDOT based on the TIA is required as a condition to granting legal authorization for new access points and for the driveway or access road permits.

It is difficult to separate the TIA itself from the whole access approval process. As presented here, it is a tool but it differs from the others in that, by itself, it carries no authority. It is a study that produces recommendations which are executed under other access management regulations, usually the permit or platting processes.

See the WisDOT Traffic Impact Analysis Guidelines Manual for more guidance on preparing a TIA:

<https://wisconsindot.gov/dtsdManuals/traffic-ops/manuals-and-standards/tiaguide.pdf>

The three primary references on TIAs are: NCHRP 348, "Access Management Guidelines for Activity Centers"; ITE "Trip Generation"; and the ITE Recommended Practice for "Multimodal Transportation Impact Analysis for Site Development."

### 10.3 Land Division/Development Review

Land can be divided and/or developed in a number of ways. Land can be divided and planned for development through an official subdivision proposal; it can be divided through a certified-survey-map(CSM)<sup>1</sup> process; or it can be planned for development as a single planned-unit development (PUD)<sup>2</sup>. Under Ch. 236 of state statutes, and Administrative Rule Trans. 233 WisDOT is required to review subdivision proposals for land that abuts one or more state highway. However, WisDOT is sometimes offered the opportunity to review and comment on proposed PUDs. and other types of land divisions WisDOT is interested in reviewing these development proposals because of the development's potential to generate significant impacts on state highways. (The sample letter in [Attachment 10.1](#) may be used by regions to request such review.)

In many instances, land owners subdivide their land in phases, rather than all at once. This allows them the

<sup>1</sup> Certified Survey Maps can be used for land divisions of no more than 4 parcels. Chapter 236 states "A certified survey map may not alter areas previously dedicated to the public or a restriction placed on the platted land by covenant, by grant of an easement, or by any other manner."

<sup>2</sup> Planned Unit Developments (PUDs) are accomplished through special provisions in municipal zoning ordinances. PUDs often involve a mix of single- and multi-family residences, commercial uses, and, occasionally, industrial uses. PUDs allow flexibility in lot size, land use mixture, and other features not ordinarily found in a zoning ordinance. PUDs are considered conditional uses by local governments and are approved on a case by case basis.

flexibility to respond to market demand with a minimal amount of financial investment. Phased land divisions are of particular interest to WisDOT because of their potential cumulative impact on state transportation facilities.

When land division proposals are submitted to WisDOT for review, a careful check should be made to determine whether the owner of the land division has other contiguous land that is not part of the proposal. The owner and surveyor should also be contacted to determine the need for an overall area development plan. Such a plan could identify the need for additional future access points, or it could show that adequate access exists for future travel needs.

An access covenant should be developed and submitted to the property owner, requiring its execution as a condition of approval of the land division. This will provide for orderly development in the future and a well-thought-out plan by the developer.

#### **10.4 Joint and Cross Access Easements**

Joint access easements should be considered as a tool for corridor management and land use/access management plans. They can be used by adjacent land owners to create shared access points for two or more destinations from a single point of access; they can also provide several access points to many destinations and function as a quasi-private frontage road. Joint access easements can reduce traffic congestion on the through street by allowing people access to several destinations from a single access point.

Cross-access easements are used when: 1) a parcel without highway frontage has access to that highway across another landowner's property; and 2) to enable vehicles to move between adjacent parcels abutting a highway. In the latter case, the cross-access easement does not necessarily eliminate direct access to all fronting parcels. However, it does eliminate the need for vehicles to enter the highway to access adjacent properties, and it can facilitate direct access to median openings on divided highways.

Easements are agreements among land owners which should be recorded on property deeds to protect access rights in the transfer of ownership.

#### **10.5 Official Mapping**

Official mapping of transportation corridors is an important planning tool. By officially mapping transportation corridors in advance of their need, public agencies can limit development in the corridor and thus save future acquisition, site clearance, and/or relocation costs. Officially mapping transportation corridors in advance of construction also makes area land owners aware of future transportation plans and helps them to make appropriate decisions about their property.

Official maps are maps prepared by a unit of government for the area over which it has jurisdiction. Local units of government have the authority to officially map the area within their boundaries, showing features such as streets, highways, waterways, schools, parks and other public land uses. WisDOT has the statutory authority to officially map designated freeways and expressways, showing the future location of these types of facilities. (See [FDM 7-40-1.](#))

This tool is not frequently used by WisDOT because, once a corridor is mapped, land owners often become uninterested in improving property within the mapped corridor, and will claim financial hardship and ask the department to purchase the land even though it is not yet needed for highway construction. If a property owner wishes to make improvements within a mapped corridor, WisDOT must be notified. The department then has 60 days to initiate proceedings to purchase the property. If the property is not purchased at this time, the owner must be compensated for the improvements when the property is purchased for the transportation project.

If WisDOT works with local governments and requests them to officially map transportation corridors within their boundaries, the department can work toward protecting areas needed for future transportation facilities without creating some of the problems that currently prevent the use of this tool. An appropriate time for WisDOT to officially map a transportation corridor is following the completion of the environmental impact statement.

#### **10.6 Zoning Revision/Site Plan Review**

WisDOT can pursue its access management goals through participation with local governments in reviewing zoning changes and site plans in areas adjacent to or near state highways. The law requires that WisDOT, as an abutting land owner, be notified when adjacent land is proposed for rezoning. However, local governments often do not think of a state highway as adjacent property, and so notification of WisDOT is frequently overlooked. When WisDOT is notified of a rezoning proposal, the department can offer comments about the potential impact of the rezoning on the state highway.

Development site design can also affect state highways in terms of traffic flow and volume. When WisDOT is allowed to participate with local governments in the review of site plans, the department can make specific comments about how a site plan could be improved to facilitate the flow of traffic onto and off of the state

highway and improve safety. This review can also help to facilitate improved transit use and accommodate/enhance pedestrian and bicycle travel.

### **10.7 Zoning/Land Use Planning Input**

In addition to reacting to local rezoning proposals and site plans, WisDOT can also take a pro-active stance in working with local governments to coordinate local land use decisions and state highway access management goals. By offering to assist local governments in developing zoning ordinances, comprehensive plans, and/or land use plans, WisDOT can offer a perspective often not otherwise available in the local planning process. WisDOT can offer this type of assistance when a more formal land use access plan is either not appropriate or not feasible.

### **LIST OF ATTACHMENTS**

[Attachment 10.1](#)      Sample Letter to Local Units of Government