

Table of Contents

SECTION A		INTRODUCTION . 2
CHAPTER 6	ACCESS MANAGEMENT	2
A. OVERVIEW		2
B. ACCESS MANAGEMENT GOALS AND PRINCIPLES		2
1. Provide a Specialized Roadway System		3
2. Limit Direct Access to Major Roadways.....		3
3. Promote Intersection Hierarchy		3
4. Locate Signals to Favor Through Movements.....		4
5. Preserve the Functional Area of Intersections and Interchanges		4
6. Limit the Number of Conflict Points		4
7. Separate Conflict Areas		4
8. Remove Turning Vehicles from Through Traffic Lanes		4
9. Use Non-Traversable Medians to Manage Left-Turn Movements.....		4
10. Provide a Supporting Street and Circulation System.....		5
C. BENEFITS OF ACCESS MANAGEMENT.....		5
D. ACCESS MANAGEMENT, TRANSPORTATION, AND LAND USE PLANNING		7
E. ACCESS MANAGEMENT AND LOCAL AGENCY PROJECT DELIVERY		9
1. Local Agency Projects on the Local System		10
2. Local Agency Projects That Impact the State System		10
3. Local Agency Projects On The State System		10
4. Local Agency Projects On The National Highway System.....		11
F. ADDITIONAL RESOURCES.....		11

SECTION A

INTRODUCTION

Chapter 6

Access Management

This chapter describes principles and practices commonly used to define and implement access management for public roadways and streets. The purpose of this chapter is to provide an overview of access management and describe how it impacts federally funded local agency project delivery both on the local roadway system and on the state highway system.

A. OVERVIEW

Access management is the careful planning and management of the location, design, and operation of driveways, median openings, interchanges, and street connections. Roadways serve two primary and important purposes – mobility and access.

Mobility is the efficient and safe movement of people and goods. Mobility is achieved through the elimination of congestion, providing adequate capacity, maintaining reasonable and uniform speeds and through reducing the need for through traffic to stop.

Access is the ability for people and goods to safely reach specific properties adjacent to the roadway. Access is achieved through on-street parking, driveways, unsignalized and signalized intersections.

Since no roadway can provide both high levels of mobility and high levels of access, balancing mobility and access to maintain the roadway function based on its classification, is one of the key objectives of effective access management.

[FHWA's Office of Operations](#) discusses access management as follows.

Access Management (AM) is the proactive management of vehicular access points to land parcels adjacent to all manner of roadways. Good access management promotes safe and efficient use of the transportation network. AM encompasses a set of techniques that state and local governments can use to control access to highways, major arterials, and other roadways.

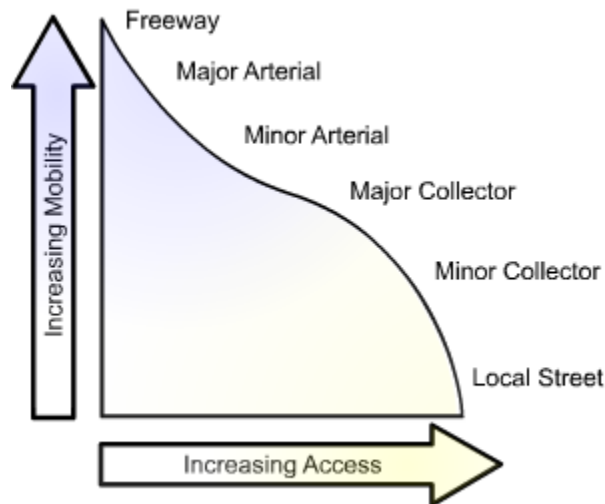
B. ACCESS MANAGEMENT GOALS AND PRINCIPLES

ODOT's goal for access management in Oregon, as described in [Goal 3 of the Oregon Highway Plan](#) is as follows.

To employ access management strategies to ensure safe and efficient highways consistent with their determined function, ensure the statewide movement of goods and services,

enhance community livability and support planned development patterns, while recognizing the needs of motor vehicles, transit, pedestrians and bicyclists.

The relationship between typical roadway classifications, mobility, and access is shown in the following [FHWA Office of Operations](#) graphic.



Ten access management principles as described on the [Transportation Research Board's Access Management website](#) are:

1. Provide a Specialized Roadway System

Different types of roadways serve different functions. It is important to design and manage roadways according to the primary functions that they are expected to serve.

2. Limit Direct Access to Major Roadways

Roadways that serve higher volumes of regional through traffic need more access control to preserve their traffic movement function. Frequent and direct property access is more compatible with the function of local and collector roadways.

3. Promote Intersection Hierarchy

An efficient transportation network provides appropriate transitions from one classification of roadway to another. For example, freeways connect to arterials through an interchange that is designed for the transition. Extending this concept to other roadways results in a series of intersection types that range from the junction of two major arterial roadways, to a residential driveway connecting to a local street.

4. Locate Signals to Favor Through Movements

Long, uniform spacing of intersections and signals on major roadways enhances the ability to coordinate signals and to ensure continuous movement of traffic at the desired speed. Failure to carefully locate access connections or median openings that later become signalized, can cause substantial increases in arterial travel times. In addition, poor signal placement may lead to delays that cannot be overcome by computerized signal timing systems.

5. Preserve the Functional Area of Intersections and Interchanges

The functional area of an intersection or interchange is the area that is critical to its safe and efficient operation. This is the area where motorists are responding to the intersection or interchange, decelerating, and maneuvering into the appropriate lane to stop or complete a turn. Access connections too close to intersections or interchange ramps can cause serious traffic conflicts that result in crashes and congestion.

6. Limit the Number of Conflict Points

Drivers make more mistakes and are more likely to have collisions when they are presented with the complex driving situations created by numerous conflict points. Conversely, simplifying the driving task contributes to improved traffic operations and fewer collisions. A less complex driving environment is accomplished by limiting the number and type of conflicts between vehicles, vehicles and pedestrians, and vehicles and bicyclists.

7. Separate Conflict Areas

Drivers need sufficient time to address one set of potential conflicts before facing another. The necessary spacing between conflict areas increases as travel speed increases, to provide drivers adequate perception and reaction time. Separating conflict areas helps to simplify the driving task and contributes to improved traffic operations and safety.

8. Remove Turning Vehicles from Through Traffic Lanes

Turning lanes allow drivers to decelerate gradually out of the through lane and wait in a protected area for an opportunity to complete a turn. This reduces the severity and duration of conflict between turning vehicles and through traffic and improves the safety and efficiency of roadway intersections.

9. Use Non-Traversable Medians to Manage Left-Turn Movements

Medians channel turning movements on major roadways to controlled locations. Research has shown that the majority of access-related crashes involve left turns. Therefore, non-traversable medians and other techniques that minimize left turns or reduce the driver workload can be especially effective in improving roadway safety.

10. Provide a Supporting Street and Circulation System

Well-planned communities provide a supporting network of local and collector streets to accommodate development, as well as unified property access and circulation systems. Interconnected street and circulation systems support alternative modes of transportation and provide alternative routes for bicyclists, pedestrians, and drivers. Alternatively, commercial strip development with separate driveways for each business forces even short trips onto arterial roadways, thereby reducing safety and impeding mobility.

Interwoven throughout these goals and principles is the basic premise that successful access management requires cooperation among property owners, local land use authorities, local jurisdictions and ODOT in order to provide safe access to adjacent property and protect the public investment in roads.

C. BENEFITS OF ACCESS MANAGEMENT

The benefits of effective access management in terms of roadway safety and system efficiency are well documented. These benefits, described in the following five items, apply to businesses, land owners and the traveling public.

1. As reported in the Transportation Research Board's [*Access Management Manual, Chapter 1*](#) national studies have shown that an effective access management program may achieve the following:

- Reduce crashes as much as 50 percent;
- Increase roadway capacity by 23 to 45 percent; and
- Reduce travel time and delay as much as 40 to 60 percent.

2. Appropriate access management can prevent the following adverse consequences listed in the Transportation Research Board's [*Access Management Manual*](#):

- An increase in vehicular crashes;
- More collisions involving pedestrians and bicyclists;
- Accelerated reduction in roadway efficiency;
- Unsightly commercial strip development;
- Degradation of scenic landscapes;
- More cut-through traffic in residential areas due to overburdened arterials;
- Homes and businesses adversely affected by a continuous cycle of widening roads; and
- Increased commute times, fuel consumption, and vehicular emissions as numerous driveways and traffic signals intensify congestion and delays along major roads.

3. The "[*Safe Access is Good for Business*](#)" brochure developed by the U.S. Department of Transportation further discusses some of the benefits to businesses of access management.

Access management not only improves roadway safety, it also helps reduce the growing problem of traffic congestion. Frequent access and closely spaced signals increase congestion on major roads. As congestion increases, so does delay, which is bad for the economy and frustrating to your customers. Well-managed arterials can operate at speeds well above poorly managed roadways – up to 15 to 20 miles per hour faster. This means more traffic past your door and better exposure for your business. It also means a more convenient shopping experience for your customers.

4. Additional information regarding the benefits of access management can be found in:

- FHWA’s [“Benefits of Access Management”](#) brochure;
- The paper *“Access Management for Small and Medium-sized Communities”* which describes the broad authority local governments have to manage access. This paper can be found on ODOT’s [Access Management](#) website. The [Model Land Development Regulations That Support Access Management](#) is a document developed by the Center For Urban Transportation Research that provides model ordinance language for cities or counties wishing to incorporate access management and other regulatory techniques into their local land development codes. This document was developed for Florida Department of Transportation and provides in-depth and useful information related to access management.
- [Functional Integrity of the Highway System](#) paper.

Refer to the [“Additional Resources”](#) section at the end of this chapter for additional information.

5. The relationship between access and traffic flow is shown in the following figure.

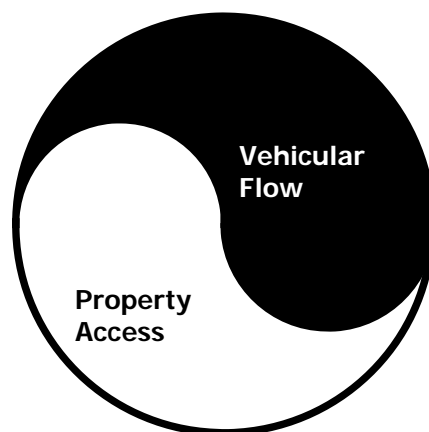


Figure 2
Driver expectancies change due to this relationship

This figure, from the [FHWA Office of Operations](#) website is described by the following FHWA quote.

The [access management] program outcomes will realize the benefits of managing access to all hierarchy of roadways. In simplest terms, access management is defined by the "yin and yang" relationship between property access and vehicular flow. As one is increased, the other usually decreases, in terms of driver satisfaction and expectancies.

D. ACCESS MANAGEMENT, TRANSPORTATION, AND LAND USE PLANNING

A variety of state and local planning statutes, rules, policies and guidelines discuss the linkage among good land use and transportation system planning and access management. A brief description of these items follows.

- [OAR 734 Division 51](#) provides state regulations and requirements for Highway Approaches, Access Control, Spacing Standards and Medians. The purpose of Division 51 rules is "...to provide a safe and efficient transportation system through the preservation of public safety, the improvement and development of transportation facilities, the protection of highway traffic from the hazards of unrestricted and unregulated entry from adjacent property, and the elimination of hazards due to highway grade intersections." These rules establish procedures and criteria used by the Department to govern highway approaches, access control, spacing standards, medians and restriction of turning movements in compliance with statewide planning goals and in a manner compatible with acknowledged comprehensive plans and consistent with Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and the 1999 [Oregon Highway Plan](#).
- [Section 1.1.06 of ODOT's 2005 Development Review Guidelines](#) details coordination requirements for local agencies when a proposed local land use change or development will affect the state transportation system. This includes land uses with and without direct access to a state transportation facility. If a local agency project does have a direct affect on the state system, the local agency should contact the ODOT [Regional Local Agency Liaison](#).
- Section 3.2.00 of ODOT's 2005 Development Review Guidelines explains how to implement the March 2005 amendments to Oregon's [Transportation Planning Rule](#), OAR 660-012-0060, as they apply to state highways. The new rules detail requirements for local plan or land use regulation amendments that "significantly effect" a transportation facility, including the state highway system. The rules identify types of amendments that cause a significant effect, including the allowance of "...land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility." The following quote from the Transportation Planning Rule discusses this issue.

[OAR 660-012-0060\(1\)](#) is directed at maintaining balance between the land uses allowed under a comprehensive plan and zoning and the transportation system that supports those land uses. The rule provides that where a proposed comprehensive plan or land use regulation amendment would “significantly affect” an existing or planned transportation facility, then the local government must put in place measures to assure that the land uses allowed by the amendment are consistent with the identified function, capacity and performance standards of the affected facility.

- ODOT’s 2001 [Transportation System Planning \(TSP\) Guidelines](#) are intended for use by local jurisdictions in preparing and/or updating transportation system plans. This document provides guidance on addressing the requirements of applicable rules, policies, and procedures and describes the steps involved in a typical work program for preparing or updating a TSP.
- The 2006 [Oregon Transportation Plan](#) is the state's long-range multimodal transportation plan for Oregon's airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation and railroads. The Oregon Transportation Plan establishes policies, strategies and initiatives to guide statewide multimodal and modal plans as well as regional and local transportation system plans. These modal, regional and local transportation plans should, to the maximum extent feasible, conform to Oregon Transportation Plan guidance.

Goal 2 of the Oregon Transportation Plan is to improve the efficiency of Oregon’s transportation system by optimizing existing system capacity by use of improved operations and system management. As discussed in the Oregon Transportation Plan, access management is a key element of achieving this goal.

- Oregon’s [Transportation and Growth Management](#) program provides funds for local government planning efforts that lead to more livable, economically vital, transportation-efficient, pedestrian-friendly communities. Its mission is to “support community efforts to expand transportation choices for people. Transportation and Growth Management works in partnership with local governments to link land use and transportation planning, to create vibrant, livable places in which people can walk, bike, take transit or drive where they want to go.” Transportation and Growth Management primarily serves local governments through a grant program and a program of direct community assistance.

[Transportation and Growth Management](#) grants help to local governments in two areas:

1. Transportation System Planning – Development of transportation system plans that implement the [Transportation Planning Rule](#), the [1999 Oregon Highway Plan](#), and the [2006 Oregon Transportation Plan](#).
2. Integrated transportation and land-use planning – Development of integrated land use and transportation plans that promote compact, mixed-use, pedestrian-friendly development, increase opportunities for transit, walking, and cycling, or reduce reliance on the state highway for local travel needs.

Note that selected projects must meet Transportation and Growth Management objectives such as enhancing mobility, efficient use of public resources, and protecting existing transportation facilities.

The [Transportation and Growth Management](#) grant application specifically calls out access management plans as an eligible project. Most Transportation and Growth Management projects include consideration of access issues, either at a community wide level in Transportation System Planning and development code revisions, or at a site specific level in projects such as interchange area management plans or refinement plans.

- [Oregon Highway Plan Goal 2](#) highlights the need for cooperative partnerships between ODOT and local jurisdictions as a vital element to increase the efficiency, safety and effectiveness of Oregon’s overall roadway system. This need for cooperation and collaboration is equally vital when considering inter-jurisdictional access management issues.
- [Goal 3 of the Oregon Highway Plan](#) provides information related to the history of access management in Oregon as well as current roadway classification and access spacing standards.
- The paper “*Access Management for Small and Medium-sized Communities*,” describes the broad authority local governments have to manage access. This paper, which can be found on ODOT’s [Access Management](#) website, states the following.

Local governments have authority to accomplish access management from both land use and transportation perspectives. They can engage in access management through land use planning, transportation planning, public works projects, zoning, subdivision regulation, development review, traffic impact assessment, development exactions, and permitting. Because of their broad authority, local governments are well positioned to develop a comprehensive and effective access management program – provided that they adopt the appropriate plans, policies, ordinances and procedures.

E. ACCESS MANAGEMENT AND LOCAL AGENCY PROJECT DELIVERY

Application of access management principles and practices has a significant positive impact on the functionality, safety and efficiency of state and local transportation systems. Access management should be considered during development and delivery of all local agency transportation projects where it has the potential to improve roadway safety or operational efficiency.

Generally, as noted in Chapter 2 of ODOT’s [Highway Design Manual](#), local agency projects must conform to current American Association of State Highway and Transportation Officials ([AASHTO Standards](#)). However, also as noted in the *Highway Design Manual*, depending on project parameters, local agencies must or may use either their own or ODOT design standards.

Local agencies should refer to ODOT's [Highway Design Manual](#) to decide which design standards are appropriate for specific projects.

1. Local Agency Projects on the Local System

Developing appropriate access management processes and practices for local agency projects, which are entirely on the local system, is the responsibility of the individual local agency.

An assessment of access management needs must be performed as part of the development of any federally funded local agency transportation project. This assessment must conform to the AASHTO requirement for a 20 year operational design life. It is also recommended that local agencies develop and codify access spacing standards, policies and plans in local code, street standards and ordinances that support the functional category of local streets.

2. Local Agency Projects That Impact the State System

Chapter 4 of the Transportation Research Board's [Access Management Manual](#) provides an excellent description of access management programs for local agencies. As stated previously, inter-agency communication and cooperation is vital for successful access management.

ODOT's [Development Review Guidelines](#), section 1.1.06 addresses the process and coordination requirements for ODOT and local agencies to collaborate on development impacts to the state system. This collaboration is imperative for local agency projects that, even though they may be entirely on the local road system, develop access management decisions that could have an adverse impact on the functionality of the state system. Such local agency projects are normally analyzed for potential impact to the state system through the development review process. Pursuant to the requirements and procedures of individual ODOT Regions, ODOT should be provided formal notice of development applications that could impact the state system. The ODOT [Regional Local Agency Liaison](#) will coordinate with key ODOT contacts for this process including the [Region Planner](#) or [District Manager](#). These staff work closely with the ODOT [Regional Access Management Engineer \(RAME\)](#) to coordinate with local agencies to discuss and resolve access management and local/state system functionality issues.

3. Local Agency Projects On The State System

Local agency projects that are on the state system are required to conform to the requirements of [OAR 734-051-0155](#), [OAR 734-051-0285](#) and ODOT's [Project Delivery Operational Notice 03 \(PDLT 03\)](#) "Access Management in the Project Development/Delivery Process." Guidelines for implementing PDLT 03 are available on ODOT's [Access Management](#) website.

It is essential that local agency projects on the state system be closely coordinated with ODOT Region staff to determine project requirements and processes under OAR 734-051 and PDLT 03. The OAR provides specific authorities to the Region Manager to modify, mitigate, or remove approaches during project delivery. The Region Manager's authority to take these actions on a state highway may not be delegated except under special circumstances. It is important that the local agency work with the ODOT region staff to determine the appropriate jurisdictional

authority to implement actions related to access on the state highway. The ODOT [Regional Local Agency Liaison](#) is a key contact for determination of these project requirements.

4. Local Agency Projects On The National Highway System

As discussed in the Chapter 2 of ODOT's [Highway Design Manual](#), local agency projects that are on the local system and that are also on the National Highway System (NHS) must conform to current [AASHTO Standards](#).

The AASHTO [A Policy on Geometric Design of Highways and Streets](#) states, "Ideally, driveways should not be located within the functional area of an intersection or the influence area of an adjacent driveway." Refer to the Transportation Research Board's [Access Management Manual, Chapter 8](#) for additional information regarding this issue and to see a suggested hierarchy of access connections as well as a method for establishing a functional intersection area.

[Goal 17 of the AASHTO Strategic Highway Safety Plan](#), "Improving the Design and Operation of Highway Intersections" states:

Injury and fatality statistics for highway intersections and interchanges are ample evidence that strategies to improve the safety of these crash-prone areas are urgently needed. About one in every four fatal crashes occurs at or near an intersection, one-third of which are signalized. Safety literature also indicates that the two most prominent crash scenarios involve left turns and being struck from the rear. Right-angle collisions are a predominate cause of death at signalized intersections.

Strategy 17D of this plan is to "include more effective access management policies with a safety perspective."

Refer to the current [AASHTO Strategic Highway Safety Plan](#) for further information.

F. ADDITIONAL RESOURCES

- [National Cooperative Research Program \(NCHRP\) Report 351](#), "Access Rights – A Synthesis of Highway Practice."
- [ORS Chapter 374](#) describes the authorities and responsibilities of ODOT and local jurisdictions related to access management.
- [AASHTO Bookstore](#).
- [ODOT Access Management](#)-Planning Resources.