HSAM Volume 1: PLANNING

Corridor Management Agreement Guidance, Model Land Development Regulations

Tennessee Department of Transportation | April 2026

Executive Summary

The Tennessee Department of Transportation (TDOT) developed the Highway System Access Manual (HSAM) to better promote the use of sound access management principles to address the traffic demands and safety goals associated with the continued growth of Tennessee counties. This manual serves as a resource for all TDOT staff and external partners when applying access management strategies and techniques in transportation planning, land use planning, roadway design, and in managing all access entrances to the State Highway System. This Volume 1 of the HSAM provides corridor management agreement guidance and model land development regulations.

Corridor Management Agreement Guidance

The corridor management agreement guidance is meant to serve as a resource for TDOT Office of Community Transportation (OCT) staff, as well as local and regional planning officials seeking to implement a corridor management agreement. While corridor management agreements have been executed in Tennessee over the last several years, this guidance serves to strengthen the existing program and provide uniform recommendations based on national best practices in corridor management agreements and corridor planning.

To this end, this document provides an overview of corridor management agreements, including their recent history in Tennessee and the benefits participating jurisdictions may expect from implementation. It provides an overview of national best practices in corridor management agreements, including lessons learned and best practices from peer states and communities that have successful cooperative corridor management programs. Finally, it outlines the process, from initial conceptualization to agreement execution and implementation that a lead agency should follow to successfully implement an agreement to address identified deficiencies and needs along the subject corridor.

This guidance will ultimately improve corridor management practice throughout the State of Tennessee, leading to better safety and mobility outcomes for users; enhanced economic development potential for property owners, businesses, and communities; and improved models for cooperative governance throughout the state.

Model Land Development Regulations

The model land development regulations (LDRs) are meant to serve as a resource for TDOT Long Range Planning Division staff and local jurisdictions seeking to proactively implement sound

access management principles in their communities. While access management guidance and best practices often focus on the transportation system, access management may also be effectively promoted through local land development regulations.

Neither TDOT nor any other state agency assumes authority for local land use planning decisions or the regulations governing these decisions. The regulation of land use at the local level has been and will remain an exclusive responsibility of local legislative bodies and, ultimately, the citizens electing the representatives therein.

For local jurisdictions wishing to better promote sound access management by way of their land development regulations, this document serves as a guide to doing so. Specifically, this guide provides the following:

1) An overview of national best practices of incorporating access management standards into land development regulations;
2) An introduction to the various planning and regulatory tools through which local jurisdictions may promote access management standards and principles; and
3) Model ordinance language that may be adopted as a stand-alone access management ordinance or otherwise incorporated into the local regulatory code.

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Corridor Management Agreement Guidance

Introduction

What is a Corridor Management Agreement?

A corridor management agreement is a collaborative agreement among multiple communities or agencies that addresses the development, management, and operations of a roadway corridor. The agreement can be deployed to address any number of issues communities may face at the transportation-land use nexus, including, but not limited to:

- Access Management;
- Roadway Design and Capacity;
- Traffic Management and Operations;
- Land Use Planning;
- Bicycles and Pedestrians;
- Transit; and
- Streetscape.

Generally, corridor management agreements can take many forms (see call-out box), including resolutions, memorandum of understanding (MOUs), and intergovernmental/interlocal agreements. While intergovernmental agreements are legally binding (e.g. highway maintenance agreements), resolutions and MOUs establish shared policies, plans, and courses of action. For advance corridor planning, state departments of transportation (DOTs) have used a broad range

INSTRUMENTS OF COOPERATION FOR CORRIDOR MANAGEMENT

- **Resolution** – a formal statement of support or approval by a legislative body. This offers a means for the body to publicly take a position on an issue, as well as express intent regarding future legislation or budget decisions.
- **Memorandum of Understanding (MOU)** – a legally non-binding agreement among jurisdictions that outlines the terms and details of a mutual understanding or agreement, noting each party's roles and responsibilities – but without establishing a formal, legally-enforceable contract. This is the most common type of agreement for corridor management with respect to corridor studies and access management.
- **Intergovernmental Agreement** – an agreement that involves or is made between two or more governments in cooperation to solve problems of mutual concern. The maintenance agreement is the most common form of intergovernmental agreements deployed with respect to access management. These agreements are generally legally-binding, as they impact signatories' budgets through commitments to resource allocation.

of cooperative agreements to partner with other government entities and manage transportation corridors.

Corridor management agreements are not an end unto themselves. They establish a long-term framework for corridor management among the participating communities and agencies that will be maintained in perpetuity (at the discretion of the participants) and transcend public office terms, economic cycles, and short-term trends.

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Corridor Management Agreements in Tennessee

Corridor management agreements in Tennessee have been in the state's public policy discourse for much of the last decade. The Tennessee Advisory Commission of Intergovernmental Relations (TACIR) published a staff report titled *Land Use and Planning in Tennessee*. The report explored the relationship between land use and planning in the state, which highlighted problematic land use trends and emphasized the need for a more comprehensive approach at the state level, which could bring cohesion to local land use plans and work towards a shared vision for the state.

The Tennessee Department of Transportation (TDOT) completed the state's first corridor management agreements in 2013 for State Route (SR) 60 in Bradley County and SR 109 in Sumner and Wilson Counties. Currently, MOUs are used to establish a framework in which the state and local jurisdictions can work collaboratively and promote safe, reliable, and efficient operations, economic development, and environmental conservation along state highway corridors.

Benefits of Corridor Management Agreements

There is no "one-size-fits-all" approach to corridor management agreements. Each agreement must be carefully crafted to meet the unique needs and contexts of the subject corridor and the communities in which it is located. However, certain benefits can be expected as a result of effective corridor management. In general, the agreements effectively preserve and create high quality transportation corridors that will, in addition to providing high levels of mobility, promote economic development, result in more livable communities, and be sustainable over the long-term. Corridor management agreements establish a framework for better coordinating transportation and land use decisions. An integrated approach to transportation and land use planning will result in:

- Increased economic competitiveness achieved through high levels of accessibility resulting in better market penetration, lower distribution costs, and less travel time;
- The opportunity to have a wide range of convenient and affordable travel choices at each citizen's disposal, including walking, cycling, riding transit, and driving;
- Affordable housing through decisions that account for the impact of transportation investments on the total cost of living;
- Context-sensitive transportation design that strikes a balance between mobility and the creation of safe, attractive, and livable places;
- Reductions in driving and greenhouse gas emissions through the creation of compact, well-connected places in close proximity; and
- Relief for an underfunded transportation system through reductions in overall travel demand coupled with the expansion of more efficient alternatives.

National Best Practices in Corridor Management Agreements

Best practices in corridor management, broadly defined, have been documented and advanced over the past twenty years primarily through the National Cooperative Highway Research Program (NCHRP) in a series of reports, syntheses, and scans (see Figure 1-1). Two research projects, in particular, bracket the foundations and current state of corridor management and are discussed in the following sections. Before turning to the two research projects, it is also important to note that NCHRP 08-124: Quantifying the Impacts of Corridor Management is an ongoing research initiative scheduled for completion in late 2021. NCHRP 08-124 should yield important insights on methods to quantify impacts associated with corridor management and support improved, proactive, coordinated planning and decision-making.

NCHRP Synthesis 337: Cooperative Agreements for Corridor Management (2004)

In many respects, corridor management as defined in this study traces its origins to the pioneering work undertaken by the State of Florida in growth management and concurrency – or, how a community can ensure that public facilities and services are coordinated and timed to match the pace of growth and development. Within this larger state growth management framework, the Center for Urban Transportation Research (CUTR) at the University of South Florida has worked closely with the Florida Department of Transportation (FDOT) to develop a set of strategies and tools that maximize the long-term value of transportation investments through interjurisdictional collaboration.

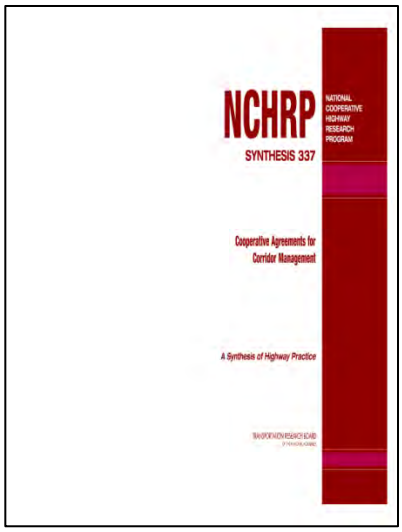


Figure 1-1: NCHRP Synthesis 337

While corridor management or cooperative agreements vary in form and content across different communities and states, NCHRP Synthesis 337 and CUTR more generally have documented keys to successful agreements. The keys to success, highlighted in Figure 1-2, include:

- An agreement should be pursued in a spirit of mutual compromise. The potential benefits to each party through participating in and supporting the process should be made as clear as possible;
- Achieving a shared vision of the corridor and its function is important to long-term success;
- A corridor management plan is more than a roadway improvement study. It also addresses land use, access management, street networks, and right-of-way needs along a major roadway;
- It is vital to proactively confront the tough corridor management issues through direct involvement of the affected parties. It is also helpful to have a committed champion who can articulate to affected landowners and elected officials the reasons for a corridor management plan;
- Partners should be asked to incorporate the substance of the agreement into their plans, policies, and regulations to facilitate enforcement. The strongest suggestion for improving enforcement is to encourage local governments to incorporate the necessary policies, design standards, and regulations into local comprehensive plans, design

manuals, and codes. State transportation agencies and metropolitan planning organizations can facilitate this process through technical assistance to local governments where needed. In addition, state transportation agencies may need to revisit their policies and practices;

- Establish a joint committee or multiparty amendment process for the administration of a corridor management plan. Action should be taken to incorporate formal mechanisms and timelines for addressing needed changes to corridor management plans; and
- Create frequent opportunities for educating partners and their stakeholders on the importance of the corridor management effort. Those having success recognize that corridor management is an ongoing process that benefits from continuous education and periodic technical assistance.

Finally, and importantly, NCHRP Synthesis 337 highlights several ongoing challenges associated with corridor management agreements, notably:

- Institutional factors – state and/or local agency resistance to long-term commitments, agency reluctance to assume a leadership or mediation role, and a lack of internal cooperation among divisions or functions in an organization; and

- Political factors – including turnover of elected officials, political expediency, short-term orientation, reluctance to adhere to prior commitments, intergovernmental competition for tax base, growth/no-growth politics, and anti-government attitudes.

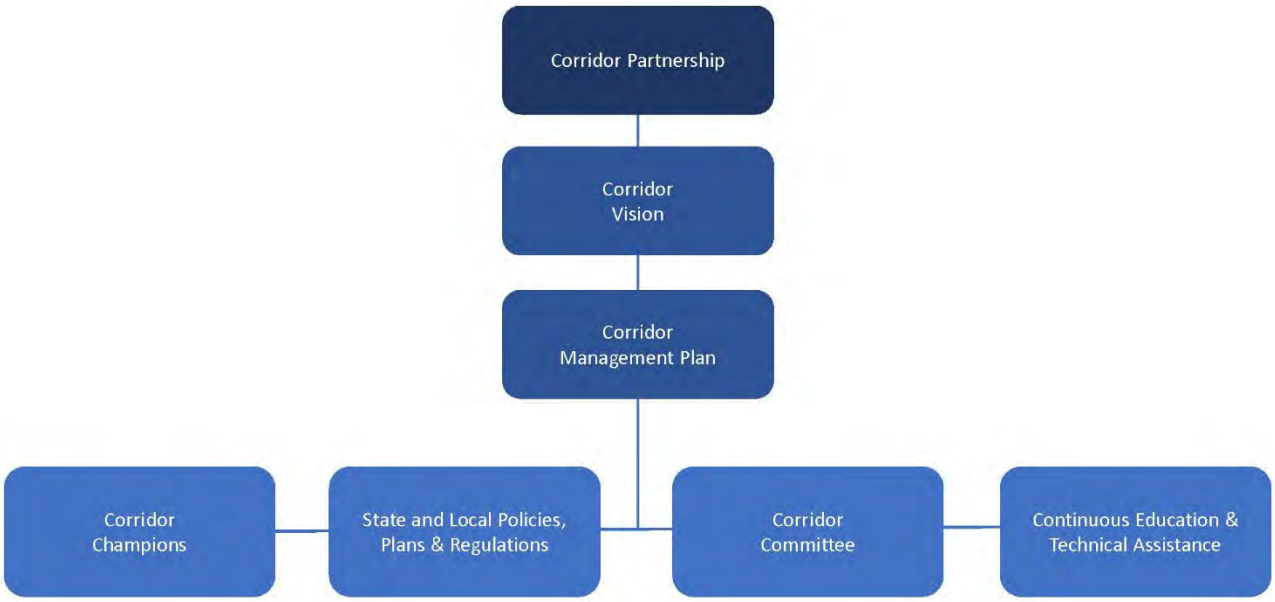


Figure 1-2: Corridor Management Agreements – Keys to Success

NCHRP Project 20-68A, Scan 14-02: Successful Intermodal Corridor Management Practices for Sustainable System Performance (2016)

Much of the work around corridor management agreements has traditionally focused on access management. In practice, access management represents a recurring issue for state and local governments to address cooperatively in managing the highway system. With increasing growth and development, however, other issues inherent to corridor management – specifically, multimodal transportation, street networks, and land use planning – have assumed greater importance and have, in turn, emphasized the need for agreements to expand beyond access management.

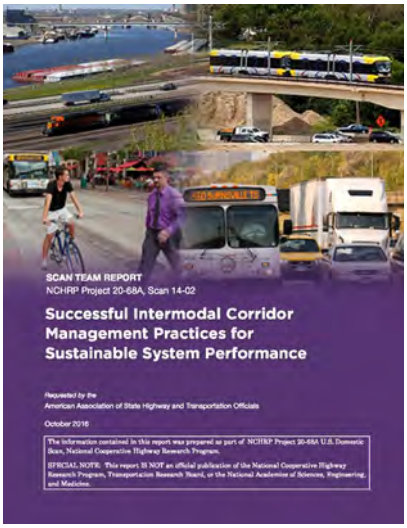


Figure 1-3: NCHRP Project 20-68A, Scan 14-02

In 2016, NCHRP completed a scan of transportation agencies in the United States (see Figure 1-3) at the forefront of corridor management. Agencies participating in the research scan included state departments of transportation from Arizona, California, Florida, Maryland, Massachusetts, New York, North Carolina, Utah, and Virginia. As discussed in the scan,

intermodal corridor management "builds on the principles of multimodal corridor planning, integrated corridor management (ICM), and active traffic management." Not to be confused with ICM, intermodal corridor management is further defined as:

- Intermodal corridor management presents a strategic way to determine the best investments in multiple modes to improve a transportation corridor's productivity to support longer term social goals related to economy, environment, and community development and quality of life.

And, like earlier efforts in corridor management agreements, the NCHRP scan underscores and builds on the importance of developing a corridor vision and plan and identifying corridor champions:

- Corridor Vision and Plan – establishing a common vision and set of goals that all levels of government, the private sector, and the public can share in identifying and managing transportation decisions and investments. Who drives the effort is less important than the outcome of developing a guiding vision with clear objectives and quantifiable goals to set the context and coalesce support for subsequent decisions; and
- Corridor Champions – The higher placed and more inclusive the champions of visioning and goal-setting are, the greater the likelihood of future success, particularly when some of those champions will still be there past the next election cycle. Leadership can focus efforts, break down silos, drive and empower organizational and cultural change, and provide champions. Leadership and championing from the top are very important; however, to really get results you also need to get buy-in from the bottom up.

Recent efforts in intermodal corridor management, nevertheless, deviate from and expand on past efforts in conventional corridor management agreements in important ways (Figure 1-4). The NCHRP scan found:

- There are no "silver bullets" when it comes to examples of successful, fully developed intermodal corridor management; many areas of the country, however, are putting the pieces together to provide best practices that others can use as they move forward.
- Linking corridor initiatives to a statewide plan provides the basis and purpose for a corridor plan and corridor management as well as structure and discipline to the ongoing process. A

statewide vision provides a means for developing desired outcomes that can be used to identify and prioritize transportation corridors and adopt appropriate performance metrics.

Figure 1-4: Corridor Management Agreements – Additional Tools

- Recognizing the importance of a statewide vision, successful intermodal corridor management is still both locale- and situation-dependent. Not all facilities and services fit everywhere, and not all performance goals can be achieved everywhere.
- Several of the departments of transportation participating in the scan project have adopted policies and organizational structures intended to break down modal and funding silos to support developing intermodal and multimodal transportation systems and corridors – including statutory frameworks for multimodal system development and project evaluation, selection, and prioritization.
- Gaining and sustaining popular and political support for intermodal corridor management and operation depends on explaining performance goals and results in terms that are meaningful and important to customers. System users will support corridor management

efforts and investments that provide practical choices, improve modal performance, and achieve other societal goals, like economic growth, healthy communities, and environmental quality.

- Data is necessary for planning, improving, and managing intermodal corridors. Data tells the story of a corridor's performance, to support managing the corridor on a daily basis, to justify additional investments, and to sustain support for ongoing operations and maintenance costs.
- Sustained funding for intermodal corridor management is a challenge; funding challenges reinforce the need to make the business case about outcomes the public understands, cares about, and is willing to pay for.

Key Findings

Like most areas in transportation, corridor management and corridor management agreements are an evolving field. Early work on corridor management agreements still provides a strong foundation and basic framework for developing, implementing, and managing agreements. Key elements of corridor management agreements that can continue to play a critical role in their success include the quality and character of:

- Corridor partnerships;
- Corridor vision;
- Corridor management plan;
- Corridor champions;
- Supporting state and local policies, plans, and regulations;
- Corridor committee; and
- Continuous education and technical assistance.

Significantly, over the past twenty years, many state DOTs have expanded and improved their corridor planning and management programs. In addition to the key components of corridor management discussed above, there is increased awareness that corridor management needs a comprehensive approach that weaves together multimodal planning, integrated corridor management, active traffic management, land use planning, and land development regulations. Underpinning a more comprehensive approach requires additional emphasis on:

- Linking corridor management to a statewide plan;
- Focusing on customer-oriented goals and performance measures;

- Utilizing data to plan, improve, and manage corridors; and
- Making the business case for corridor management.

TDOT Corridor Management Agreement Guidance

The corridor management agreement guidance is intended to provide step-by-step direction and information for practitioners, including TDOT representatives, local planning and development staff, and elected public officials, seeking to implement an intergovernmental agreement for management of a corridor. The guidance provides a common denominator approach to corridor management, covering action steps and coordination activities that are more or less common to all corridor management efforts. Given that corridor needs and the strategies necessary to address them are not universal, in that all corridors reflect the unique physical, economic, and political contexts in which they are located, sound planning judgement and expertise are critical to the success of each agreement. Local jurisdictions are ***strongly encouraged*** to coordinate with TDOT staff early in the process, ideally once a potential candidate corridor has been identified, and secure professional planning assistance if little local capacity is available.

The guidance is organized around the four key steps in the corridor management agreement development process:

1) Identification of a Candidate Corridor;
2) Definition of Corridor Vision and Needs;
3) Drafting an Effective Corridor Management Agreement; and
4) Incentives and Implementation.

The steps are discussed in detail in the subsequent sections.

Identification of a Candidate Corridor

Identifying an ideal candidate corridor is an important first step in the corridor management agreement process. A corridor management agreement is not necessarily the most appropriate to address mobility, growth, and development along all corridors in the state. For example, an agreement for a corridor segment residing entirely within a single jurisdiction would generally be unnecessary, given that any single local jurisdiction possesses, or can implement, the tools necessary for effective transportation and land use integration on its own. (See *Model Land Development Regulations* for tools and strategies individual local jurisdictions can deploy.)

Whether a corridor is a good candidate for an intergovernmental agreement is ultimately at the discretion of the involved jurisdictions and/or agencies. These criteria are not intended to be exhaustive, nor should they necessarily be used to eliminate a corridor from consideration if local

interest in a cooperative agreement is present. However, for local or agency officials considering whether conditions exist for which an agreement may be an effective tool, the following primary and secondary criteria may be used. Primary criteria outline the general context of candidate corridors, while secondary criteria apply to more specific examples of locally- and regionally-significant corridors. Ideal candidate corridors will likely possess a combination.

Primary Criteria

New Construction or Planned / Programmed Improvements

Given the proactive nature of corridor management agreements, new roadway construction or the major improvement or reconstruction of an existing roadway offer high potential opportunities for corridor management. Given that development pressures often follow, or are concurrent with, major transportation infrastructure investments, establishing a corridor management framework prior to the completion of major construction or reconstruction allows local jurisdictions to get in front of future development or development.

For example, SR 66 in Hamblen and Jefferson Counties was in the process of relocation in 2020, including construction of a new four-lane highway through relatively undeveloped lands in both counties. An adjacent State Route, SR 474, had its designation changed to SR 66. The result was a seven-mile corridor of continuous four- and five-lane highway linking US 11E and Interstate 81 (I-81).

In advance of the project's completion, a corridor management agreement was executed among the six local jurisdictions and agencies with jurisdiction along the corridor in an effort to promote safe and efficient operation, enhance and sustain economic development, and support environmental conservation, as well as to provide a vehicle for the implementation of previously agreed-upon planning approaches.

Development Context

The land use development context of a corridor can also present opportunities for the deployment of proactive corridor management tools and strategies. Imminent development or redevelopment of land within a corridor often precedes classic access management issues, such as insufficient driveway spacing, substandard driveway design, and poor street connectivity. While development and redevelopment are exciting economic growth opportunities for jurisdictions, the mobility problems associated with poor land use, transportation coordination, and/or interjurisdictional coordination can be addressed up front, maximizing both economic development potential and roadway capacity. Development and redevelopment can be catalyzed

by specific actions, such as the construction of a new interchange, or regional trends, such as population and employment growth.

Network Connectivity

Roadway corridors that act as the primary regional north-south or east-west connector, or that provide key system-to-system connections, should be considered in the context of corridor management. These corridors often act as key avenues of both commuter and freight traffic and, if located in a growing region, attract high levels of both residential and commercial development. Strategically balancing mobility and access along these routes can provide benefits to the larger transportation network.

The first corridor management agreement in the state, covering SR 109 in Sumner and Wilson Counties, cited network connectivity as a key impetus. SR 109 acts as the primary north-south route through both counties and provides a direct connection between I-65 and I-40 that bypasses the downtown Nashville area.

Safety and Access Issues

Poor access management often results in safety deficiencies that are a direct result of many small decisions related to access implemented over time. Nearly everyone has encountered a heavily developed commercial corridor with closely-spaced driveway cuts and intersections, often accompanied by a higher-than-average crash rate. Corridor management agreements are proactive in nature, and only apply to new or altered development, not existing homes and businesses. They will not immediately solve access problems that have already emerged. However, as discussed previously, the agreements are also long-term in nature, creating a framework in perpetuity to actively manage a corridor over time. As such, as land uses change over time, having a corridor management agreement in place can ensure that sound corridor management techniques can be instituted as those changes occur.

Secondary Criteria

Routes Serving Major Destinations

Regionally-significant corridors that serve key destinations or activity centers often have unique mobility challenges associated with providing access to high trip-attracting locations. Examples of these destinations include major tourist attractions, airports, or any other destination that consistently draws heavy traffic volumes, which will often peak during certain times of the year. Effective management of these corridors can protect the economic activity these destinations provide by ensuring safe and efficient roadway operations.

Future Growth Corridors

Future growth corridors represent areas that, while not experiencing pending construction or reconstruction, have been identified as candidates for likely capacity expansion or major rehabilitation. These designations often originate in state or regional long range transportation plans. Establishing a corridor management framework ahead of the planning and programming of improvements allows the involved jurisdictions to proactively establish a planning approach and corridor management strategies.

Preservation of Natural Scenic Value or Cultural Significance

Corridor management agreements can be effective tools in managing roadways serving natural or historic areas, or those with scenic viewsheds or other unique natural or cultural value. In addition to typical components of a corridor management agreement, such as access standards or land use controls, design standards and branding or wayfinding can be incorporated into the agreement for a standardized user experience regardless of the jurisdiction.

Other Corridors Designated by State or Local Agencies

Some corridors may not neatly meet the criteria outlined here. However, state and local agencies should feel empowered to exercise discretion when identifying a candidate corridor. Geographical context and unique local needs can present opportunities not captured in these criteria. Additionally, corridors identified as locally- or regionally-significant in state or regional plans should be examined carefully to determine if a corridor management agreement would be an appropriate vehicle for identifying and deploying strategies to meet the identified needs.

Definition of Corridor Boundaries

Once a candidate corridor has been identified the limits of the corridor to be managed should be clearly defined. The corridor boundaries should be identified in relation to the specific *transportation facility* in question. This should include the primary facility (e.g., a roadway and its associated facilities such as bicycle and pedestrian paths) as well as intersecting and parallel facilities (e.g., road, railroad, or non-motorized trail), particularly existing or potential routes that could alleviate transportation problems along the primary facility. Similarly, airports, transit hubs, intermodal terminals, or other major trip attractors or generators should be included if they are significant sources of corridor traffic or influence the utilization of the primary facility.

All parcels adjacent to the identified primary and supporting transportation facilities should be included, at a minimum. A broader inclusion of parcels may be appropriate depending on the corridor context. For example, a walkshed of one-half mile may be used to capture additional

parcels. Parcels within a regional activity center, such as a mall or shopping center, may be included as well to ensure major trip attracters are fully incorporated into the corridor.

The corridor endpoints should be set broadly enough to include the identified locations of primary transportation-related need or concern, corridor transportation facilities as defined above, and any adjacent areas with a significant influence on transportation conditions within the corridor. For example, if a major issue involves high levels of congestion in a series of towns along a particular state highway route, the endpoints should be set to include the towns of concern. In the towns at each end of the corridor, the endpoint should be established far enough outside the town center to encompass all problems and potential solutions for that particular town (e.g., access management, land use, alternate routes). The location of the endpoint should also take into consideration the communities' urban growth boundaries or areas where population expansion may be expected in the future.

If a neighboring community includes traffic generators that make a significant contribution to traffic in the corridor (such as a regional shopping center or tourist attraction), it should be included as well.

Definition of Corridor Vision

Tools for Vision and Needs Definition

The definition of a corridor's vision and needs should be articulated within a framework that also identifies and analyzes the corridor's existing and future conditions. The preferred tool is a corridor management plan, which is a document that takes a standard planning approach to the analysis of existing conditions and future trends, discussion of the specific needs to be addressed, articulation of the vision and goals for the corridor, and exploration of the policies and strategies that will best address the needs within the context of the corridor vision. The plan is a stand-alone document, solely addressing the corridor in question, allowing for more intensive focus on issues facing the corridor and the engagement of the public and stakeholders on specific corridor issues.

While a corridor management plan is preferred, it is not required. Other locally- or regionally-led plans and studies can also be effective vehicles for defining a corridor vision and needs. Examples include comprehensive plans, subarea plans and studies, and long range transportation plans. The primary difference of these vehicles is a broader focus on geographies and issues not directly related to the corridor.

Given the often-controversial nature of corridor management agreements, early and clear communication with agreement participants and affected parties is critical; undertaking a planning process with a singular focus on the subject corridor ensures that discussion of corridor issues is not "lost" among other competing priorities.

Beginning a Corridor Management Plan

A corridor management plan will typically be initiated by TDOT or the appropriate metropolitan planning organization (MPO), transportation planning organization (TPO), rural planning organization (RPO), or local jurisdiction. In some cases, local officials may seek to initiate the study in coordination with TDOT or the MPO/TPO/RPO. The term *lead agency* will henceforth refer to the agency initiating and overseeing the corridor management plan and agreement development process.

An advisory committee should be formed to provide policy and technical direction throughout the planning process. The committee should include, at minimum, representatives of the jurisdictions and agencies that will be signatories to the corridor management agreement and, ultimately, responsible for the implementation of any strategies recommended by the plan.

When developing a corridor management plan, the first step in the process is to develop a statement of goals for the plan itself. This statement should describe what the existing or expected concerns are for the corridor, and how the corridor management plan is expected to help address these concerns. The identified corridor boundaries may need to be adjusted for consistency with the statement.

Development of the study goals should reflect the issues motivating the study. Lead agency staff should review relevant existing studies and plans relating to the corridor. Such studies and plans may include previous corridor studies; town plans and local economic development plans; regional plans, including the regional transportation plan, Transportation Improvement Program (TIP), and economic development plans; statewide transportation plans, including modal policy plans, the long-range transportation plan, and the Statewide Transportation Improvement Plan (STIP); and any other relevant plans or studies.

Early review of past efforts can help to define an appropriate focus for the current corridor study, by identifying issues and needs as well as solutions already recommended (or rejected). The goals and scope of the current corridor management plan can be crafted with the benefit of this experience.

The second step in undertaking a corridor management study is to research, document and analyze existing and expected future conditions, issues, and needs in the corridor. This step will provide a foundation for identifying, evaluating, and selecting corridor management and improvement strategies.

Analysis of Existing Conditions

Data must be collected that paints an accurate picture of the corridor's existing conditions. Wherever possible, already existing data should be used. Some new data collection may be required; lead agencies should coordinate with TDOT or their MPO/TPO/RPO to identify data points that these agencies may already maintain.

Certain questions to keep in mind when collecting data include, but are not limited to:

- What types of travel is the corridor now serving (e.g., local versus through trips, mode of travel);
- What transportation facilities and options now exist and how are they currently performing;
- Where and when are transportation problems occurring;
- What characteristics of the corridor influence the range of solutions that should be considered (e.g., land use, natural environment); and
- What are possible and likely future development patterns that will affect transportation demand in the future.

Recommended data points to be considered for existing conditions analysis are listed in Table 1-1. Information on state highway characteristics, including roadway geometry, posted speeds, and crash history, can be obtained from the Enhanced Tennessee Roadway Information Management System (E-TRIMS); a TDOT contact can assist with providing this information.

While much of the information will be quantitative (e.g., traffic volumes, crash rates), some information will be qualitative or descriptive in nature. Examples of qualitative information include roadside aesthetics and the historic character of communities served by the corridor. Information will typically include or be presented as a combination of maps, narrative text, tables, and graphs. Aerial photographs also can be a very effective way to present information on the corridor. Information should include relevant historical information (e.g., 10-year population or traffic trends) in addition to a "current year" snapshot.

The information assembled and collected should be used to describe the primary roles and functions of the transportation corridor (e.g., local travel, interregional travel, truck travel, tourism, bicycle touring route). The roles and functions of the corridor also can be determined based on discussions with stakeholders and public input. Key issues should continue to be addressed in the study process, even if quantitative data are not available to document these issues (e.g., pedestrian and bicycle travel).

Table 1-1: Existing Conditions Data

Transportation Supply, Demand, and Performance	Location of major facilities in corridor, including major intersections or crossings
	Average Annual Daily Traffic (AADT) on all roadway segments, including 10 years of historical data, if available
	Volume and percentage of truck traffic
	Freight movements in the corridor (e.g. commodity types, tonnage)
	Turning movement volumes at major intersections
	Crash data, including location, crash type, and severity
	Posted speed limits by roadway segment
	Roadway functional class, ownership, and route designations
	Existing access control or access classification
	Roadway geometry by segment
	Type of controls at each intersection
	Existing sidewalks, sidepaths, shared-use paths, or bicycle facilities
	Locations of railroads and railroad crossings
	Existing public transportation services, including routes and stops
	Locations of intermodal facilities
Land Use, Socioeconomic, and Environmental	Jurisdictional boundaries
	Existing land use and zoning
	Future land use
	Existing population, household, and employment estimates
	Existing socioeconomic characteristics (e.g. minority and low-income populations)
	Key environmental features
	Locations of major trip generators and attractors
	Character of existing development patterns along the corridor
	Major known or likely development that may affect travel demand or behavior

Analysis of Future Conditions

The purpose of this task is to assess how land use and transportation conditions might be expected to change in the future, if additional corridor management or improvement strategies are not implemented. This work will help to develop a vision for the corridor (as discussed below). To meet the long-term objectives of corridor planning, conditions should be evaluated over a 20-year time horizon. Key factors influencing these changes include the amount and nature of growth in population, employment, and special generators within the corridor; the characteristics of trips generated by this development; growth in background traffic levels (i.e., through traffic passing through the corridor); and any currently programmed transportation management or improvement projects.

Given the considerable uncertainty inherent in forecasting both future land use changes and traffic growth, it is recommended that "high" and "low" growth forecasts be developed and evaluated, rather than simply relying on a single forecast of future conditions. Evaluating a range of potential future conditions will be very helpful for development of strategies. For example, some strategies like signal retiming might be beneficial under both the "high" and "low" forecasts and therefore should be pursued regardless of conditions. On the other hand, other strategies like intersection redesign may become warranted only if "high" growth forecasts are realized. In such cases, the corridor study should define performance thresholds that trigger more detailed evaluation and/or implementation of the strategy.

Recommended data points for future conditions analysis are listed in Table 1-2. Lead agencies should coordinate with TDOT or their MPO or RPO to identify data points that these agencies may already maintain.

Corridor Vision and Goals

Put simply, achieving a shared vision of the corridor and its function is critical to the long-term success of a corridor management agreement. Participants should work to clearly articulate a vision and to identify goals to pursue in service of that vision.

The *vision* is a concise statement that paints a picture of the desired future for the corridor – from both a land use and transportation perspective. It is critical that development of the vision be a locally-led process, as local buy-in will be critical to the early and long-term success of the agreement.

The *goals* support the vision and lay out desired long-range outcomes to be achieved through the corridor management agreement.

Table 1-2: Future Conditions Data

Minimum Data Requirements	Twenty-year projections for population, households, and employment
	Future traffic volumes (e.g. loaded future year-network in TDM)
	Performance (LOS, V/C ratios, delay) at major intersections
	Performance (LOS, V/C ratios, delay) for roadway segments
Supplemental Data Items	Projected future truck volumes
	Projected corridor travel times
	Projected growth in trip generation
	Projected changes in crash rate and total crashes

The initial set of goals that were established for the corridor management plan should serve as the starting point for this activity, which will involve developing a consensus across a broader set of stakeholders.

The process of establishing a vision and goals creates an opportunity for stakeholders to discuss the core function(s) of the corridor. For example, should the primary roadway in the corridor serve as a high-speed facility providing efficient access between different regions of the state? Or is it a "main street" of historic communities where speed for through traffic is traded off against creating a quality pedestrian environment? What type of development should occur along the corridor, and how should access be provided?

In many cases, corridors serve multiple functions. The vision and goals may acknowledge the need to balance competing desires, and that different strategies may be appropriate according to the roadway context (e.g., rural versus urban/suburban).

The corridor vision and goals should:

- Establish a unified vision across jurisdictional boundaries, even while recognizing different corridor development contexts (e.g., urban versus rural);

- Consider the range of social, economic, and environmental issues;
- Reflect existing roadway designations (e.g., functional class, access management category, National Highway System (NHS), truck route, scenic byway);
- Reflect existing policy documents such as local comprehensive plans and statewide and regional transportation plans;
- Incorporate and reflect current public input about how local residents view their communities and the transportation corridor; and
- Recognize the needs of those who may not be well-represented within the corridor planning process, such as through travelers from outside the study corridor or visitors from other states.

If possible, the vision and goals statements should be supplemented by graphics such as maps showing the roadway context (urban, transitional, rural) and growth policy areas (e.g., village conservation areas, designated growth centers, rural conservation areas), as well as by illustrations of typical development patterns and roadway cross-sections specific to these areas.

Objectives and Performance Measures

For some small-scale corridor planning efforts, having a statement of vision and goals will be sufficient to move ahead with defining strategies. For larger efforts, it may be helpful to develop a set of more specific objectives and quantitative performance measures that back up the vision and goals. This will provide a useful framework for identifying strategies. It also will provide a framework for future monitoring to see if the actions taken were effective, and if additional actions are needed to achieve the desired outcomes.

For example, the *goal* of a safer road might be backed up with specific *objectives* for improving pedestrian safety at three key intersections. A *performance measure* could be defined based on the number of crashes involving pedestrians at the intersections. *Strategies* to achieve the objectives might include intersection redesign, stepped-up enforcement, or improved signage. The performance measure could be used in the future to determine how effective these strategies were, and if additional strategies are needed.

Some examples of commonly-used quantitative measures of performance are shown in Table 1-3. These may be helpful for those corridor management efforts wishing to pursue a more quantitative approach to analyzing strategies and monitoring future corridor performance.

For corridor management plans that involve state highways, the performance measures identified in TDOT's Transportation Performance Management (TPM) program should be considered. TPM is a strategic approach which uses system information to make investment and policy decisions to achieve outcomes related to national performance goals.

Table 1-3: Examples of Performance Measures and Targets

Objective	Performance Measure	Target (Example)
Safety	Number of major crashes per year	5% reduction from 2020 to 2040
	Number of high-crash locations	Eliminate all those with identified cost-effective fix
	Number of crashes involving bicyclists or pedestrians	Annual reduction
	Percent of corridor with bicycle facilities or adequate shoulder width for bicyclists	100%
Mobility	Average travel time between key destinations	No decline in travel time
	Intersection delay	Less than 5% increase over 10 years
	Maximum volume-to-capacity ratio	0.7
Resource Protection	Loss of critical environmental resources (e.g. wetlands)	No net loss
	Percent of growth occurring in designated growth centers	85%

Identification of Strategies

The first step in identifying strategies is to compile a list of transportation improvement projects that currently are underway, or which are programmed and have a high probability of moving forward. The STIP, or the local MPOs TIP, if applicable, can be a good source of information for this. This set of projects should serve as a baseline for the development of additional transportation strategies. In addition, other planned programs or initiatives impacting the corridor that are not capital in nature should be identified. These might include pending modifications to zoning codes, or bus service changes.

After identifying what is likely to happen, the next step is to see what other strategies already have been recommended in existing planning documents. Documents that may have recommended strategies for the corridor include previous corridor studies, local comprehensive plans, and statewide and regional transportation plans. The corridor management plan development process is a valuable opportunity to bring all of these proposed strategies together,

rationalize them, and build consensus on what the priorities for the corridor should be over the next 20 years – given realistic funding scenarios.

Ideas should also be gathered from stakeholder and public input collected during the assessment of current conditions, issues, and needs. Initially, a full range of potential strategy types should be considered. Individual strategies (e.g., improve intersection at Main and Elm Streets) should be listed according to strategy type in order to facilitate further screening and analysis. At this stage, strategies may be conceptual in nature without specifying details.

Table 1-4 lists examples of potential corridor management and improvement strategies.

Public and Stakeholder Involvement

The corridor management plan guidance, to this point, has periodically mentioned outreach and engagement efforts directed at members of the public or key stakeholders. The exact nature and timing of public and stakeholder involvement in the corridor planning process will vary. Regardless, it is critical that the lead agency 1) provide complete, timely, and accurate information regarding the purpose of the corridor management plan and the nature of the plan's implementation by way of a corridor management agreement, and 2) provide meaningful opportunities for public and stakeholder input and ensure that comments received are seriously considered and, when appropriate, incorporated into the plan.

Public outreach and engagement should be consistent, at minimum, with the standards of Level Two projects in the TDOT Public Involvement Plan. If a public meeting is held, it should be conducted early in the planning process. The meeting should introduce the public to the goals of the management plan and solicit feedback. The public should also be asked to weigh in on the corridor vision and existing and future needs. Any additional issues that need to be considered can then be identified, and the study goals may be revised or expanded to encompass these issues, if necessary. Public input can also confirm the appropriate geographic scope of the corridor boundaries.

Stakeholder engagement is critical to the long-term success of the corridor management agreement. Stakeholders are generally defined as parties who will be most directly impacted by the deployment of corridor management strategies, the consequences of which may be favorable to some stakeholders and unfavorable to others. Interaction with stakeholders should include a clear description of the corridor management process, including key outcomes and the benefits that can be expected, as well as an opportunity for stakeholders to candidly express

their concerns. Being upfront and clear about the nature of the strategies to be implemented is paramount, even, perhaps especially, when those strategies may be controversial or otherwise met with initial concern. A communications framework with stakeholders should be started early, remain open throughout the planning and agreement development process, and continue throughout ongoing implementation activities.

Strategy Type	Examples
Minor Roadway and Operational Improvements	Improved signage and pavement markings
	Signals and other intersection controls
	Bulbouts and pedestrian signals
	Off-road safety improvements
	On-street parking restrictions
	Designated truck routes
Major Roadway Improvements	Lane additions at intersections
	Roundabouts
	Medians and channelization
	Shoulder widening
	Horizontal and vertical curve realignment
	Climbing lanes
	Passing lanes
	Capacity improvements
Zoning and Land Use	Land use and zoning provisions to encourage more concentrated development
	Corridor overlays
	Site plan review requirements
	Subdivision regulation modifications for improved network connectivity
	Access management ordinance
	Growth management tools, such as development phasing and concurrency requirements
	Design standards
Access Management	Driveway consolidation
	Turn restrictions and medians
	Intersection spacing
	Interchange area management
Multimodal Improvements	Signs and pavement markings
	Sidewalk improvements

	Off-road bicycle and pedestrian paths
	Transit service improvements

Table 1-4: Types of Corridor Management and Improvement Strategies

Stakeholders who should be considered for targeted outreach and engagement include, but are not limited to:

- Abutting property and business owners;
- Chambers of Commerce;
- Developers and builders;
- Industries relying on the corridor for goods movement;
- Tourism industry representatives;
- Community and neighborhood groups;
- Local Board of Education;
- Area colleges and/or universities;
- Transit service providers; and
- Bicycle and pedestrian advocacy groups.

TDOT Corridor Management Agreement Content

The corridor management agreement acts as the implementation vehicle for the strategies identified in the corridor management plan. In addition to the benefits associated with improved corridor management, the agreement also represents an opportunity to strengthen interjurisdictional coordination and establish a framework for improved governance going forward.

At its core, the corridor management agreement simply represents the formal ratification of the corridor management plan among the jurisdictions and agencies responsible for its implementation. That said, consensus building during the corridor planning process, discussed in the previous section, is critical to ensure that substantive issues are addressed up front in the planning process, rather than during the agreement drafting process, which can delay or even prevent the successful ratification of the agreement. Those with formal decision-making authority should be included in the planning process or otherwise kept abreast of the direction of the plan, so they will not be caught off-guard after the fact.

This section focuses on the best practices of drafting an effective agreement and the content of the agreement itself.

Drafting the Corridor Management Agreement

A Corridor Management Agreement should follow a deliberate approach to drafting an agreement that allows for several built-in opportunities for review and comment by affected

parties, similar to the review process associated with a long-range transportation plan. The following list provides basic parameters that should be considered when drafting an agreement.

- Assign the drafting of the agreement to a professional staff person familiar with the corridor management planning effort. Generally speaking, TDOT Office of Community Transportation (OCT) staff should draft the agreement or oversee the drafting process, given the staff's familiarity with corridor management agreements in Tennessee.

- Have representatives of the agreement's signatories review and revise the agreement as needed to implement the corridor management plan's strategy recommendations.

- Distribute copies of the draft agreement and ordinance to all local jurisdictions for review by elected officials, staff, and legal counsel. Comments should be requested by a specific deadline that is far enough in the future to allow municipal officials adequate time to review and respond to the draft.

- Follow up with each local jurisdiction to ensure a complete and timely review.

- Allow sufficient time for negotiation among signatories based on the complexity of the implementation strategies. Be aware of past disagreements or "baggage" among signatory local jurisdictions and provide space for discussion of past issues or disagreements.

- Prepare a revised draft based on the comments received. If changes are significant or controversial, additional review by review participants may be required. Otherwise, the revised draft may now be distributed to each local jurisdiction and proceed to signing and adoption with a relative assurance that all participating local jurisdictions are satisfied with the content.

The drafting process should be structured, with clear review timelines and target deadlines for completion. However, an agreement should not be rushed or otherwise held to artificial administrative deadlines. A spirit of genuine compromise is critical for the success of the agreement; adequate time should be allotted for negotiation and revision. If an agreement party expresses firm opposition to the agreement late in the process, the boundaries of the corridor may be modified to include only parties genuinely interested in participating. (The next section provides model incentives the state can provide to encourage participation.)

Content of the Agreement

Since TDOT began implementing corridor management agreements throughout the state, the agreements have been structured as MOUs among the signatory jurisdictions and agencies. This structure has proven effective, despite issues with the implementation of individual agreements. As such, this guidance recognizes MOUs as the preferred structure of corridor management agreements going forward. This section discusses the general elements that should be included within the body the agreement.

Participants and Geographic Coverage

An agreement must identify each party to the agreement and the geographic area it covers. All parties involved in an MOU or agreement, regardless of number, are generally identified in the first paragraph. The number of parties to an agreement varies according to the purpose of the agreement and the geographic area involved.

The boundaries of the geographic area covered by agreements need to be clearly defined for the purposes of administration. The agreements reviewed generally define the area of coverage in terms of a segment of roadway between two intersecting roadways. Some also include mile points and location maps for clarification. Some agreements also divide the subject area into segments for the purpose of administering separate access management plans.

Purpose and Need

The purpose and need section of the agreement should clearly state the activity or activities to be handled through the agreement, any standards that the activity should meet, and any exceptions to those standards. The stated purpose of the agreement is to clarify the level of importance of the specific roadway for regional mobility and to establish the intent of the participating entities to cooperate in managing an arterial to preserve safety and mobility.

Elements to include in the purpose and need should generally follow the broad outlines of the corridor management plan and include a statement outlining the vision for the corridor; the agreement's consistency with any state, regional, or local plans or policies; the goals and objectives identified to support the realization of the vision; and the strategies identified to achieve the corridor goals.

Roles and Responsibilities

The agreement should clearly state the roles and responsibilities of each signatory with respect to implementation of the agreement. The level of detail required depends on the complexity of

the corridor management strategies being agreed upon and the necessary actions each signatory must take to implement them in their respective jurisdictions or agencies.

The lead agency and signatories may exercise discretion in the strength of the language used. Some actions may be standards, which are more concrete and binding in nature, and often prefaced by the words *shall* or *will.* Others may be guidelines, which provide recommendations for actions and are less binding in nature, often prefaced by the words *should* or *could*. This distinction provides flexibility in implementation direction, though standards language for action should be pursued to the extent possible.

Adoption, Duration, Amendment, and Termination

This element may include such information as the effective date, the period covered by the agreement measured in time or completion, terms for renewal or amendment, and termination requirements. Because situations change over time, some issues addressed in an agreement may need to be updated in response to new conditions. Establishing a regular timeline for discussing salient features of the agreement can proactively address unforeseen changes and help head off problems or escalation of concerns.

It is critical that the duration of the agreement and the timeline for amendments be structured in a way that transcends local electoral terms. Coordinating these timelines closely with the local electoral schedule could make the agreement susceptible to unwanted political influence and threaten its ability to transcend changes in political leadership or direction.

Programming, Funding, Budgeting, and Reimbursement

While some agreements result in direct financial outlays by some or all parties, this is generally not the case in agreement executed in Tennessee. A statement should acknowledge that the agreement is not a fiscal or funding obligation, nor a vehicle for obligating signatories to expend appropriations, obligate funds, or enter into a legal contract. While the agreement may result in additional consideration for future funding opportunities (see the discussion of potential incentives in the next section) such consideration is not guaranteed.

Administration

The agreement should specify that TDOT will coordinate ongoing agreement coordination and implementation activities. The signatory parties must be directed to form a corridor committee to oversee and implement the actions identified in the agreement. (Additional discussion of the corridor committee is included in the next section.)

Implementation

Successful implementation of a corridor management agreement is predicated on two key considerations: 1) the willingness of the signatory partners to enter into the agreement and commit to the implementation actions and strategies therein, and 2) the ability of the signatory partners to maintain a long-term cooperative framework, addressing internal changes or disagreements effectively while maintaining external support for the vision, goals, and strategies of the agreement. While the nature of these considerations will almost certainly vary from agreement to agreement, this section provides general best practices for each.

Incentivizing Corridor Management Agreements

An incentive-based program for corridor management agreements can aid in implementation both by educating local staff and representatives on corridor management strategies and benefits, and providing direct, short-term benefits to signatory communities.

The potential state incentives for local participation in corridor management agreements build on national best practices and strategies previously examined in the State of Tennessee / National Governors Association transportation and land use initiative. For each strategy, corridor management best practices at the state, regional, and local levels form the basis for proposed incentives. Effectively, the goal is to incentivize local participation in best practices contained in the agreement.

Table 1-5 organizes the potential state incentives in three categories:

- Planning and Technical Resources;
- Planning Grants; and
- Infrastructure.

Implementing Corridor Management Agreements

Successful implementation of a corridor management agreement is an ongoing process. Establishing a successful framework for implementation up-front is critical to ensuring that the agreement is sustained through changes in local leadership, fluctuations in economic trends, and stakeholder concern or opposition. Key among the factors that promote immediate and long-term success of corridor management agreements are the 1) corridor committee; 2) corridor champion(s); 3) consistency of local plans, policies, and regulations; and 4) periodically updating the corridor management plan and agreement.

Corridor Committee

The corridor committee functions as the single steering committee for the agreement and as the primary agent for the implementation of the strategies identified therein. The committee will perform both executive and technical advisory roles. The committee should be formed concurrently with the adoption of the agreement and exist throughout the agreement term, which is essentially in perpetuity. At a minimum, the committee should consist of one representative from each of the signatory parties to the agreement, which will always include the subject jurisdictions, the appropriate MPO, TPO, or RPO (as applicable), and TDOT. These representatives, in addition to overseeing the direction of implementation of activities, will also act as liaisons to their respective legislative bodies or executive leadership, which have discretion over the adoption or approval of agreement provisions.

Table 1-5: Potential Incentives for Corridor Management Agreements

Planning / Technical Resources	Facilitation of permit review processes on projects with access management components
	Access management training for local agency staff and officials
	Training and technical assistance on supporting plans, policies, and standards
Planning Grants	Preferred consideration for multimodal planning grants
	Cost sharing of local plans and policies (e.g. comprehensive plan, major thoroughfare plan)
	Cost sharing of corridor management plans or local access management plans
Infrastructure	Funding for integrating access management improvements in transportation capacity or maintenance projects
	Preferred consideration for multimodal access grants
	Additional weight in transportation project selection formula for criteria that support access management (e.g. cost, impacts, safety)
	Funding for stand-alone streetscape projects
	Priority funding for state projects in growth areas identified in corridor management plans
	Funding for ITS and TSM&O strategies identified in corridor management plans

Additional representation on the corridor committee may be warranted, depending on the location and context of the corridor and the strategies identified in the agreement. For example, a corridor abutting a Tennessee State Park, National Recreation Area, or Scenic Byway may warrant representation by the Tennessee Department of Environment and Conservation (TDEC)

or the National Park Service if the strategies impact or are impacted by the site(s). Other agencies, such as a Chamber of Commerce, that have a general interest in the corridor may be considered as well.

It is important to distinguish potential committee representatives from key stakeholders. Committee representation should be limited only to durable agencies or institutions; that is, organizations whose existence are not dependent on an individual leader, advocate, or specific context. For this reason, neighborhood associations, transportation advocacy groups, and property owners are generally not represented on the committee, though may still be involved as non-voting partners. That said, committee membership is ultimately at the discretion of the signatory jurisdictions, in close coordination with TDOT staff. Table 1-6 identifies potential organizations and agencies whose participation on the committee may be considered.

Table 1-6: Potential Corridor Committee Member Additions

Required Members	Signatory Jurisdictions (e.g. cities, counties)
	MPO/TPO/RPO
	Tennessee Department of Transportation
	County Road Superintendents (where applicable)
Potential Members	Tennessee Department of Environment and Conservation
	Tennessee Wildlife Resources Agency
	Tennessee Department of Tourism
	U.S. National Park Service
	U.S. Forest Service
	Chamber of Commerce
	Economic Development Office
	Tourism Development Office
	Board of Education
	College or University
	Railroad Owners and Operators

	Transit Service Providers
	Human Resource Agencies (Rural Transit)

Corridor Champion(s)

As discussed previously, it is vital to proactively confront tough corridor management issues by way of direct involvement with the affected parties. It is important to keep all parties to the agreement apprised of substantive developments throughout the process to ensure a smooth transition from the corridor management plan to the agreement. While the written agreement serves to ratify the spirit of cooperation that has already been worked out through direct involvement of the signatories, it is helpful to have a committed corridor champion who can articulate to affected landowners and elected officials the reasons for the corridor management plan. This individual may also take the time to sit with people and walk them through a corridor management plan, which may help win support of affected property owners and businesses.

Identifying an effective champion will be largely dependent on the political and social leadership capacity within each community. Potential champions may arise organically within the corridor management planning process. They may also need to be actively sought out among established community leaders. Ideally the individual or individuals will not otherwise have direct involvement in the planning process as elected officials or staff. Leaning on local knowledge and expertise in identifying a potential champion will be more effective than relying solely on the opinions of TDOT or consultant staff. Examples may include economic development officials, advocacy group leaders, or former elected officials, though this may vary substantially from community to community. Regardless of the individual or individuals identified, they must be willing to act as a positive voice for the plan and subsequent agreement, faithfully representing corridor management goals while listening and responding to criticism or skepticism from affected parties.

Consistency of Local Plans, Policies, and Regulations

Signatory partners should be asked to incorporate the substance of the agreement into their respective plans, policies, and regulations to facilitate enforcement of the corridor management strategies. Continuity of enforcement will likely be a major factor in the success of an agreement, as uneven adherence to the strategies therein will result in a patchwork of access control and development policies along the corridor, the exact condition the agreement seeks to remedy. Signatory partners should be asked to incorporate the necessary policies, design standards, and

regulations into local comprehensive plans, design manuals, and codes. TDOT and MPOs can facilitate this process through technical assistance to local governments as needed. In addition, TDOT may need to periodically review its own policies and practices. Outdated or ineffective policies and procedures can impede the ability of TDOT to effectively cooperate with local governments on corridor management issues.

Partners should, at a minimum, ensure that local plans, policies, and regulations are consistent with the terms and spirit of the agreement. Some local jurisdictions may opt to enact more aggressive policies than others; local autonomy and flexibility is acceptable and encouraged, provided that the agreement is implemented appropriately.

Additionally, one or more of the signatory partners may have existing policies or regulations in place along the corridor, such as an overlay zoning district, signage and wayfinding standards, or a design review policy. The corridor management agreement should not be assumed to supersede any existing policies, as legislative action is required for any and all strategy implementations. Conversely, existing policies or regulations that are consistent with the strategies identified in the agreement may present an opportunity to negotiate their expansion beyond the subject jurisdiction's boundaries, provided that other signatory partners are willing to adopt the necessary statutory language or framework to do so.

Updates to Management Plan and Agreement

The corridor committee should oversee periodic updates of the plan and agreement, at a minimum every three to five years, to revise it in response to changing conditions and/or needs. The frequency of these updates should be clearly delineated in the agreement itself. Minor updates may include the addition or deletion of recommended actions. Major updates may include significant reprioritization of corridor strategies, for example, based on rapidly changing conditions in the corridor, an evolving vision of the corridor, or changes in funding availability. Corridor stakeholders and the public should be informed of updates and be given opportunities to provide input to updates that will directly affect them or for which they are an implementation partner.

Conclusion

Corridor management agreements represent a means to formalize cooperation among neighboring jurisdictions for application of corridor management strategies. These tools, when successfully implemented, can provide a framework for improved mobility, safety, and economic development, in addition to improved governance, in perpetuity. The factors and considerations

discussed in this guidance offer best practices suggestions for ensuring the success of an agreement. Ultimately, however, a spirit of genuine cooperation and a desire to substantively improve corridor management are the key factors that determine the effectiveness of any agreement. Local governments considering this approach to corridor management should know they have a willing and capable partner in TDOT.

Model Land Development Regulations

Access Management Standards in Land Development Regulations

Access management is most effectively promoted at the state and local levels. The Tennessee Department of Transportation (TDOT) deploys tools based on their ability to set standards and guidelines associated with roadway design, such as turn lanes and non-traversable medians, and the permitting of the design, location, and spacing of driveways and intersecting streets.

While design and permitting on the state highway system falls under the purview of TDOT, local jurisdictions can play an integral role in effective access management. In addition to the safety and operation of arterial and collector roadways, local jurisdictions can promote a range of access management policies and strategies through their land development regulations (LDRs). Strategic land use controls, in congress with state access management efforts, can help improve the transportation system for users of all ages and abilities. As such, TDOT is increasingly partnering with local jurisdictions to coordinate land use and transportation decisions as they relate to access management. However, neither TDOT nor any other state agency has the authority to dictate land development policy to local jurisdictions. As such, the guidance contained in this volume is purely voluntary and may be modified as needed to fit local needs and conditions.

Access management standards can be advanced through three primary vehicles of LDRs (each of these is discussed in more detail in a later section): the comprehensive plan, the zoning ordinance, and land development and subdivision regulations.

It should be noted that some local jurisdictions may deploy a unified development ordinance (UDO), which combines the components of the zoning ordinance and the land development and subdivision regulations into a single vehicle. For the purposes of this guidance, the zoning ordinance and land development and subdivision regulations will be discussed separately, with the understanding that the two may be combined to meet the regulatory needs of a community.

Comprehensive Plan

The comprehensive plan serves as the local policy guide that expresses intent for development and growth. As the basis for the zoning ordinance and subdivision regulations, the plan may define the jurisdiction's preferred approach for access management by defining the balance between access and mobility. Some roadways may have a more access-oriented nature, trading higher operating speeds for increased access to adjacent parcels. Other roadways may have a

more mobility-oriented nature, with higher operating speeds and fewer access points. While the plan itself will not result in any regulatory action, the recommendations may be adopted as policy by way of the zoning ordinance and subdivision regulations.

Zoning Ordinance

While the comprehensive plan is a policy document expressing intent, the zoning ordinance serves as the legally-enforceable mechanism for implementing the development and growth vision outlined in the plan. Based on the preferred balance of access and mobility identified in the plan, the zoning ordinance may include provisions for the inclusion and enforcement of access management policies, including, but not limited to:

- Driveway spacing and location;
- Parking area design;
- Joint and cross access;
- Corner and side street clearance;
- Interchange area access management;
- Overlay districts;
- Traffic impact studies; and
- Site plan review and approval.

Land Division and Subdivision Regulations

Land division and subdivision regulations, which are complementary regulatory tools, govern the division of land into two or more parts. The regulations specify the standards for drawing and recording a plat (a map of the subdivision), and requirements for public improvements necessary to make the property suitable for development. As the regulations provide standards to a site before its development, they can be quite effective in promoting good access management. Provisions included in the land division and subdivision regulations can designate:

- Lot size and shape;
- Block size;
- Street network and connectivity;
- Driveway spacing and location;
- Pedestrian and bicycle access; and
- Location and placement of transit access.

Land Development Regulations in Tennessee

The power to engage in comprehensive planning and to adopt land use controls is authorized by the planning and zoning enabling statutes contained under Tennessee Code Annotated (TCA)

Title 13. The statutes, which have remained largely unchanged since 1935, grant local jurisdictions (municipalities and counties) the authority to establish planning commissions, prepare and adopt a general plan for future development, and adopt and enforce subdivision regulations and a zoning ordinance.

A notable component of the enabling statutes involves the comprehensive plan. Local jurisdictions and counties are not required to develop a comprehensive plan in order to adopt and enforce subdivision regulations and zoning, nor is there a requirement for consistency between the zoning ordinance and a comprehensive plan. An amendment to Title 13, adopted in 2008, gave local jurisdictions the authority for the planning commission to recommend adoption of the plan by their legislative body. In the event that the comprehensive plan is adopted as policy by their legislative body, then subsequent land use decisions must then be consistent with the comprehensive plan.

National Best Practices in Land Development Regulations

TRB Access Management Manual, 2nd Ed. (2014)

The Transportation Research Board (TRB) *Access Management Manual* draws on national and state research to respond to the need for a more coordinated approach to transportation and community design that preserves the safe and efficient movement of people and goods, provides supporting networks in developed areas, and reinforces desired urban form, by bringing together best practices on evolving trends in access management and the optimal applications of these management concepts (see Figure 1-5).

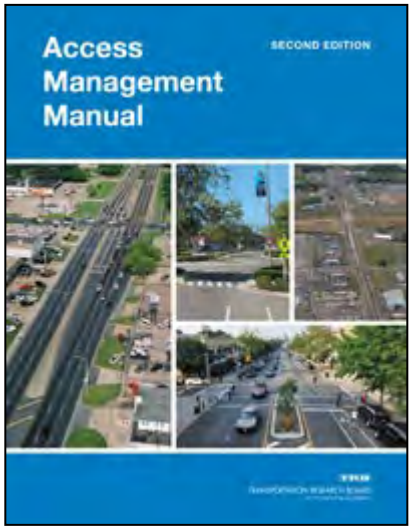


Figure 1-5: TRB Access Management Manual

The manual identifies zoning, land division and subdivision regulations, and access controls as the primary tools by which local jurisdictions can promote effective access management, providing common issues and associated solutions that can be deployed. The manual also discusses special case tools for new development, interchange areas, and multimodal development and access.

Drawing on the case studies and best practices analyzed, the manual provides a variety of land development and access management strategies local jurisdictions may use for improving roadway access, including:

- Increase minimum lot frontage and setback requirements along major roadways;
- Increase the minimum lot size for corner lots to improve corner clearance;
- Regulate access to outparcels;
- Provide an incentive for combining access points or relax parking and dimensional requirements where necessary to achieve shared access;
- Optimize driveway location and access design in the development review process;
- Establish policies for internal access for residential subdivisions and manage lot splits to promote shared access to and from major thoroughfares;
- Regulate flag lots and restrict them along major roadways;
- Consider a corridor overlay ordinance for high-priority corridors; and
- Develop a connected local road network of side streets and parallel roads to accommodate desired land development along major thoroughfares.

Additionally, the manual outlines measures state Department of Transportations (DOTs) can pursue to enhance their ability to address land development and access issues, including:

- Pursue statutory changes to allow for DOT review of subdivision applications along state highways, if such authority is not currently available;
- Requiring local jurisdictions to establish interchange area access policies as a condition of applications for new or improved interchanges;
- Acquiring additional access rights in interchange areas;
- Constructing parallel supporting routes as part of roadway improvement or interchange projects; and
- Coordinate with local jurisdictions in development and access review and request advance notification of any subdivision, rezoning, or development proposal that would significantly affect the state highway system.

Most of the tools available to state and local jurisdictions are conventional applications of existing land use regulatory authority. Others, such as state review of subdivision applications, may require additional enabling legislation at the state level.

NCHRP Synthesis 549: Incorporating Roadway Access Management into Local Ordinances (2020)

The National Cooperative Highway Research Program (NCHRP) recently completed a synthesis summarizing national best practices with respect to access management in local ordinances (see Figure 1-6). The objective of this synthesis is twofold. It documents regulatory tools and practices used by local jurisdictions to support access management, and it provides strategies to facilitate state and local coordination on issues related to access management. Two primary areas of inquiry are explored:

1) Local access management ordinances – examples of local policy and regulatory tools to promote access management; and
2) State/local collaborative initiatives – examples of collaborative initiatives that promote state and local coordination in arterial access management.

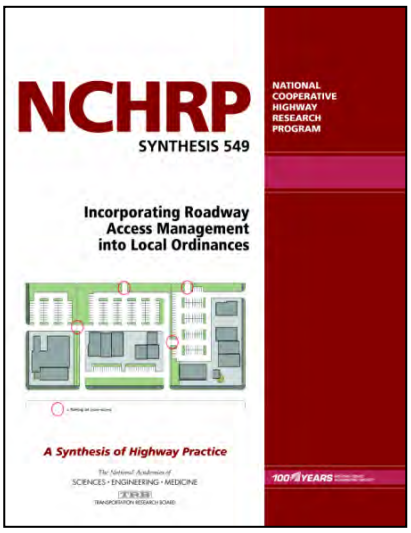


Figure 1-6: NCHRP Synthesis 549

Taken together, these areas of inquiry reinforce the idea that while effective access management policies and strategies can be undertaken by both state and local agencies, more progress can be made through mutual cooperation than either agency could achieve alone.

Local Access Management Regulations

A review of over 48 ordinances, regulatory plans, and guidance documents revealed common strategies and policies deployed by jurisdictions to better promote access management at the local level. As shown in Table 1-7, typical features of these ordinances included access management classification schemes and corresponding spacing standards, interparcel cross access requirements, intersection functional area or corner clearance standards, limits on driveways per site, unified access and circulation requirements for outparcels, allowances for deviations from standards, and access permitting and development (site plan) review procedures and criteria.

State/Local Collaboration Initiatives

In 2019, the NCHRP completed a scan of transportation agencies in the United States relative to state and local coordination, with 38 of the 50 states providing a response. A majority of respondents indicated some level of coordination between state and local agencies on access management, through means such as development or subdivision application review, or ongoing initiatives to promote better state and local coordination on access management issues.

The scan received near-consensus responses regarding success factors and lessons learned, namely:

- Early and frequent communication is the key to successful cooperation and coordination between state and local agencies; and
- Developing strong working relationships with local agencies, which is particularly useful when development may not be in compliance with state standards, thereby ensuring that problems are identified and mitigated early and do not become a financial burden.

Table 1-7: Examples of Local Access Management Tools and Strategies

Access Management Ordinances	Zoning	Subdivision Regulations	Development Review
Classify roadways by function and level of access control.	Apply corridor overlay zoning to implement corridor and interchange access management plans.	Manage land division activity on arterial frontage; restrict flag lots and commercial or residential strips.	Require permits and establish access review criteria for subdivision and site plan reviews.
Adopt access location, spacing, and design standards for each roadway class and intersection functional areas.	Increase minimum lot frontage requirements on arterial roadways where the network is not internalized.	Require continuation and connectivity of subdivision roads; regulate street spacing; implement service roads on major corridors.	Require traffic impact studies to identify needed improvements to site access and circulation.
Establish provisions for improving access during redevelopment.	Enact form-based codes to implement block and street patterns, restrict curb cuts on street frontage, and require alley access.	Provide for shared (joint) access and interparcel cross access under certain conditions.	Establish criteria for administering exemptions from standards.

Require auxiliary lanes and access design elements, such as minimum driveway throat lengths.	Establish land use activity centers and transit-oriented development districts versus strips for improved multimodal access and circulation.	Require unified access and circulation and manage outparcel access.	Provide for coordinated permitting with state DOT on state highways.

Case Studies

To better examine the application of local access management ordinances and state/local collaborative initiatives, six case studies were examined that highlight innovative policies and strategies for effective access management practice. Common methods applied in the case studies include cooperative agreements, corridor access management plans, local policies and ordinances, funding mechanisms, and technical assistance.

Specific methods applied by both state and local partners include:

- State DOT funding of local network improvements, contingent upon the adoption of a corridor access management master plan (Hays, KS);
- Incorporation of conceptual roadway network on future land use maps, ensuring that developers are aware of planned streets and where access is to be permitted (Goochland County, VA);
- Expansion of the municipal ordinance to incorporate street design, traffic impact studies, and access management provisions (Franklin Township, PA);
- Development of a statewide access management manual, the provisions of which are applied when the state DOT reviews plats, environmental documents, and development plans, and during review of access permit requests (Minnesota DOT);
- State DOT coordination with local jurisdictions through cooperative agreements, such as memorandums of understanding (MOUs), to promote the coordination and management of access of state highways within municipal boundaries (New Hampshire DOT); and
- Development of access management plans for areas likely to develop or redevelop, to establish standards for access ahead of development, with density and intensity incentives for compliance (Citrus County, FL).

Additional opportunities and challenges from the case study participants include:

- Local motivations for engaging in access management include economic development, a desire to improve safety, and opportunities to receive funding for roadway improvements;
- Technical assistance in access management planning, model ordinances, and guidance documents from state DOTs were beneficial in advancing the state of local practice;
- State DOT review of lot splits was seen as effective in raising local awareness for the need of internalizing and consolidating access to individual lots on major roadways, particularly as achieving a coordinated plan among individuals is more challenging;
- In high-growth regions, state DOT education efforts, including access management workshops or regularly scheduled opportunities to discuss access permitting with affected local jurisdictions, could further promote access management in areas of high need;
- Pressures and political influence from the development community for unrestricted access coupled with a local desire for economic development were identified as continuing challenges; and
- Strategies for more effectively communicating the value of access management may be beneficial in overcoming these barriers.

National Best Practices – Key Findings

Land use and transportation are inherently interdependent, particularly in the context of access management. There are a number of policy tools available to local jurisdictions, largely within their existing regulatory authority, that can be deployed to implement access management principles. The most effective local strategies often include a combination of tools, specifically those addressing:

- Access management ordinances;
- Zoning;
- Subdivision regulations; and
- Development review.

Access management policies and strategies can be deployed by both state and local agencies, though the most effective model involves close coordination and complementary actions between the two. Methods of coordination can include conditional funding opportunities, cooperative agreements, technical assistance, or, preferably, a combination of methods.

Regardless of the coordination method(s) used, two key factors influence the success of interagency access management initiatives:

- Early and frequent coordination between state and local agencies; and
- Developing strong working relationships early in the process, reducing the need for costlier and more difficult solutions later in the process.

Access management continues to be an evolving field. In addition to the tools discussed here, best practices for model ordinances and agreements in applications such as complete streets, form-based codes, and transit-oriented development can better position cities and towns to incorporate access management principles at all levels of development.

Introduction to Model Land Development Regulations

The purpose of the Highway System Access Manual's (HSAM) model land development regulations (LDRs) is to provide tools and strategies local jurisdictions can deploy to better promote access management through their existing codes and ordinances. Effective access management requires both planning and regulatory solutions. Prior to regulatory changes, local jurisdictions should establish a policy framework that supports access management in their local comprehensive plan, consider corridor management plans for high priority routes or specific problem areas (such as interchange areas), and encourage sound site planning practice. Local jurisdictions are also strongly encouraged to prepare thoroughfare plans, either as stand-alone plans or in conjunction with the comprehensive plan, to guide development of the overall transportation network.

The model LDRs are organized as a stand-alone access management ordinance, which can be adopted into the municipal code. Alternatively, individual sections of the model LDRs may be extracted and implemented as deemed most effective or desirable by local staff and elected representatives. Regardless of the implementation method chosen, the model LDRs are not intended to provide a "silver bullet" approach to access management issues; rather, they should be considered within a larger local planning and regulatory framework to promote sound access management principles.

This introductory section discusses the various access management strategies suggested for local government application. The model LDRs are broken into 25 sections in *Model Land Development Regulations* beginning on page 1-52 of this document; specific references are made

throughout this section to corresponding sections of the model regulations (e.g. outlined in Section *X*).

Comprehensive Plan

The comprehensive plan acts as a policy guide for future growth and development, addressing both land use and transportation, and guides capital improvement decisions of a local government. The plan consists of an examination of existing conditions and future trends, the identification of key planning issues facing the community, the community's vision for the future, and the goals, objectives, and strategies needed to achieve that vision. While the plan itself does not necessarily directly result in changes in policy, if adopted by the legislative body of a jurisdiction, its recommendations become binding for future policy decisions.

The importance of incorporating access management and right-of-way preservation strategies into the comprehensive plan cannot be overstated.

Put simply, the importance of incorporating access management and right-of-way preservation strategies into the comprehensive plan cannot be overstated. Ideally, local comprehensive plans should define and functionally classify the roadway system, identify the desired level of access for each major roadway, and designate any corridors, such as new roadways or high growth areas, that require special treatment.

Specific techniques for addressing access management in the local comprehensive plan include the following:

- Include a section that describes the general principles and benefits of access management in the transportation element of the comprehensive plan;
- Include specific goals, objectives, and policies related to access management that will be carried out through the local planning and regulatory program;
- Establish a thoroughfare plan that identifies a system of planned roadways, classifies them according to function and land use context, and provides guidelines for each roadway type (e.g., general right of way needs, cross section alternatives, design guidance, access control). Include maps or lists that identify future right-of-way needs for planned roadways and that assign access classifications to major roadways;
- Establish activity centers and nodes in the future land use element and require internal street networks, access roads or unified site access, and circulation plans in these areas; and

- Discourage strip development of arterial frontage and address the need for a supporting street and pedestrian/bicycle network, including new collector roadways, in all developing commercial and residential areas.

Specifically, four components, taken together, can provide sound guidance for access management principles while providing a sound legal basis for future regulatory action:

- Future land use plan;
- Right-of-way needs map and ordinances;
- Local access classifications; and
- Multimodal transportation/Complete Streets.

Future Land Use Plan

The future land use plan, often the most visible component of a comprehensive plan, is a geographic and thematic representation of the direction for physical planning in a community. Advisory in nature, it lays the foundation for making changes to zoning in the future, though it is neither zoning nor a zoning map. With respect to access management, the land use plan can provide a clear view of where new growth and development may be expected in a community, or areas where redevelopment may be likely. Coordination between the future land use plan and existing or planned transportation facilities is critical to ensuring that access issues are addressed early in the planning process.

A simple way to coordinate future land use and transportation facilities is to incorporate the conceptual roadway network on the plan's future land use maps (see Figure 1-7). The inclusion of future roadways on land use maps helps ensure that developers are aware of planned streets and of where access is to be permitted early in the development process.

Right-of-Way Needs Map and Ordinances

The purpose of a right-of-way needs map and ordinance is to prevent development from encroaching upon the future right-of-way of a planned roadway. These maps (see Figure 1-7) and associated policies are typically contained in the transportation element of the local comprehensive plan. The thoroughfare right of way needs identification map and/or list categorizes the major roadway network by function and designates future rights-of-way for new, extended or widened streets, or other public ways. Ideally, thoroughfare plans also integrate right-of-way provisions with example cross sections and access management and design criteria.

To carry out the transportation plan, local jurisdictions will need to adopt certain measures in their Code of Ordinances to manage corridor development. Depending upon state law, ordinances for right-of-way preservation could include the following:

- Restrictions on building in the right-of-way of a mapped transportation facility;
- Requirement to measure setbacks from the planned future right-of-way line, particularly where the right-of-way line has been clearly established;
- Criteria for right-of-way exactions and a process for determining the amount of right-of-way dedication that is roughly proportionate to the impact of the proposed development;
- An option for clustering developments by reducing setbacks or other site design requirements to avoid encroachment into the right-of-way;

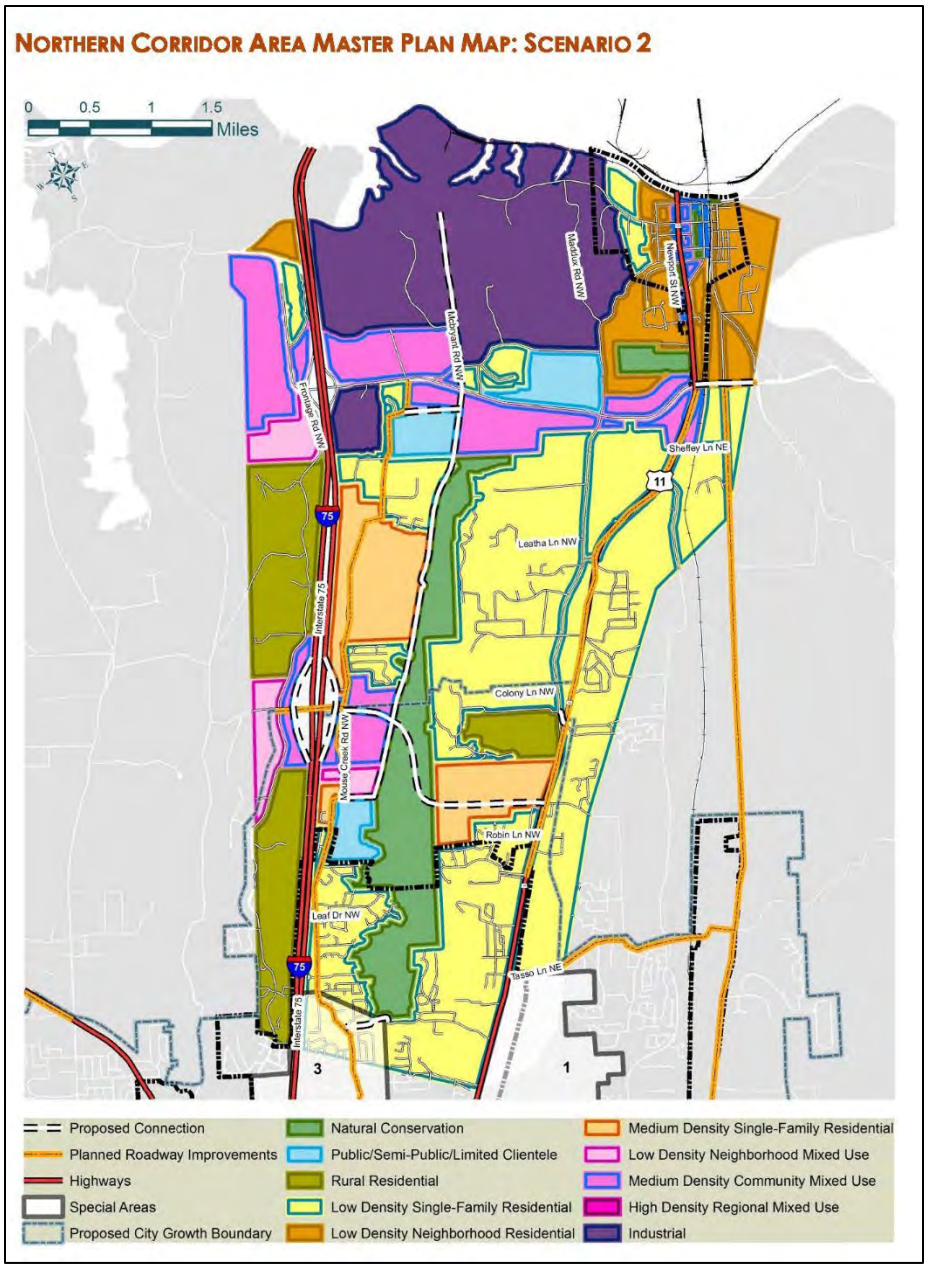


Figure 1-7: Future Land Use Plan with Transportation

Source: Bradley County (TN) Northern Corridor Area Plan

- Allowances for some interim use of transportation right-of-way for uses having low structural impact through an agreement that requires the property owner to relocate or discontinue the use at their expense when the land is ultimately needed for the transportation facility;

- Allowances for on-site density transfer from the preserved right-of-way to the remainder of the parcel;
- Allowances for impact fee credits for transportation right-of-way dedication;
- Standards for issuing variances or relief to severely restricted property; and
- Procedures for intergovernmental coordination between the local agency and state transportation agency for State Routes.

Disadvantages of maps of reservation include speculation on the corridor and the potential for a regulatory taking where a building permit is denied. To minimize regulatory takings exposure, the following strategies are recommended:

1) Include provisions that compensate landowners for existing improvements within a mapped street;
2) Provide for short time periods for reservation of the right-of-way based on a public commitment to acquire the right-of-way (generally the shorter the better); and
3) Provide remedial measures, including variances and an option for public acquisition of the property when a building permit is requested (similar to those noted above).

Local Access Classifications

The transportation element of the comprehensive plan should include a definition of local access categories and the roadways to which those categories are assigned. Access categories, generally, represent the trade-off between vehicular mobility and access to adjacent land uses along a corridor (see Figure 1-8). The planned function of a roadway in relation to through movement versus land access guides determinations as to the appropriate level of access control. Arterial highways and other primary roads require a higher level of access control to move vehicular traffic safely over long distances at the desired operating speed. Conversely, local streets and other minor roads provide frequent, direct property access. For local roadways, the movement function is curtailed to increase safety for low speed local circulation by pedestrians, bicyclists, and motorized vehicles. Collector streets collect and distribute traffic on the local and regional network and should have moderate levels of access control, with major collectors requiring higher access management standards than minor collectors.

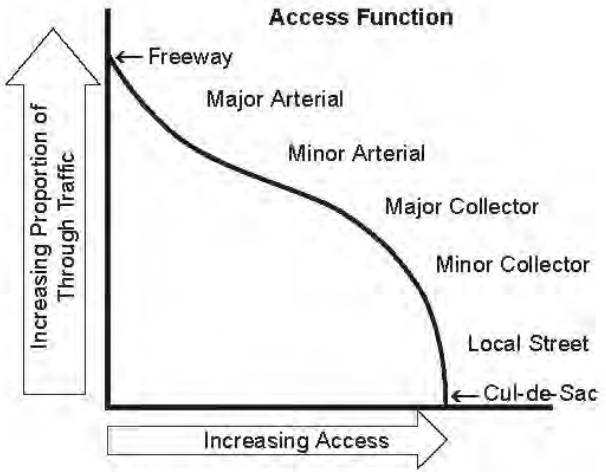


Figure 1-8: Conceptual Roadway Functional Hierarchy

Contemporary thoroughfare plans are increasingly "context-sensitive" in recognition that roadway design also varies by land use context and modal priority. Context zones are used to classify land use contexts from rural to urban core or district. These classification systems (also known as transects) provide transportation agencies with more refined understanding of design context than conventional "rural" and "urban" designations. The latest national guidance for context-sensitive classification systems is provided in the American Association of State Highway Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets 7th Edition* (also known as "The Green Book").

The Green Book's classification system is based on the intersection of a roadway's functional classification (broadly defined as either freeway, arterial, collector, or local road or street) and its context classification, which describes the character of the roadway's location, including development density, land uses, and building setbacks. The five contexts underscore distinctions that require different geometric design practices in terms of desired operating speeds, access demands, and user groups. The context categories, illustrated in Figure 1-9, are as follows:

1) **Rural**: Areas with lowest density, few houses or structures (widely dispersed or no residential, commercial, and industrial uses), and usually large setbacks.

2) **Rural Town**: Areas with low density but diverse land uses with commercial main street character, potential for on-street parking and sidewalks, and small setbacks.

3) **Suburban**: Areas with medium density, mixed land uses within and among structures (including mixed-use town centers, commercial corridors, and residential areas), and varied setbacks.

4) **Urban**: Areas with high density, mixed land uses and prominent destinations, potential for some on-street parking and sidewalks, and mixed setbacks.

5) **Urban Core**: Areas with highest density, mixed land uses within and among predominately high-rise structures, and small setbacks.

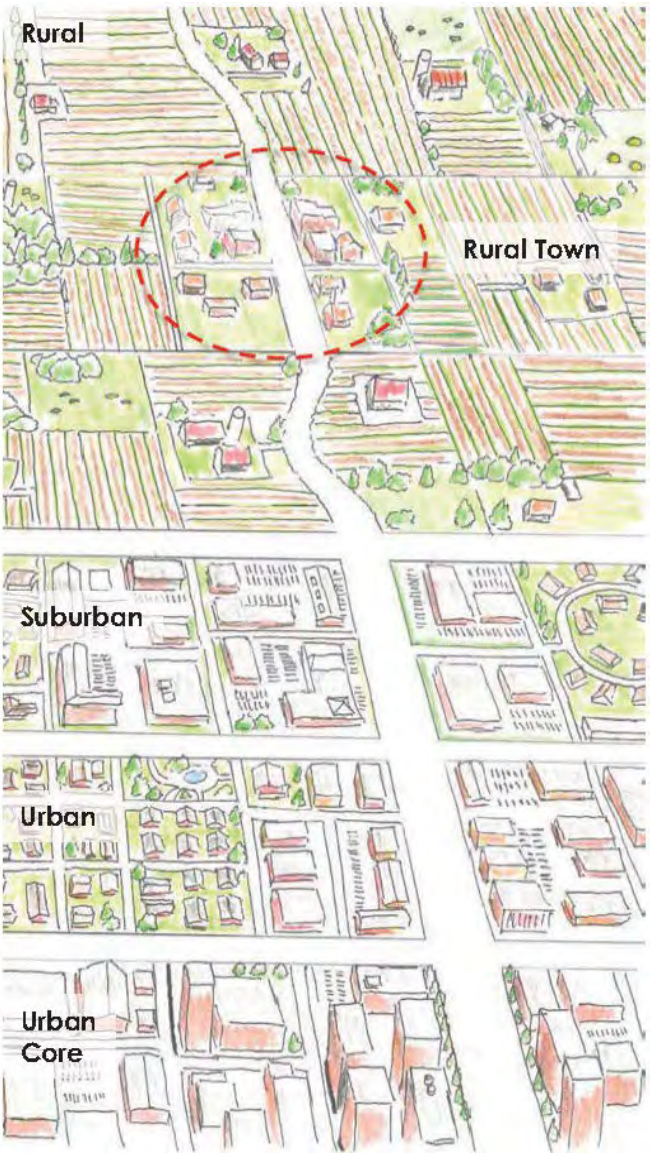


Figure 1-9: Context Categories

The access categories for the model LDRs (outlined in *Section 5 Access Category System*) use both functional and context classes to develop a unified access category system local jurisdictions can implement to better organize and deploy their access management strategies.

Multimodal Transportation / Complete Streets

Also integral to context sensitive thoroughfare planning is "complete streets" – a concept aimed at ensuring that the needs of all transportation system users are addressed in roadway planning, design, and operation. Access management advances complete streets by maintaining safe and efficient roadway corridors for all intended users. The focus of access management is to reduce the potential for traffic conflicts and crashes within the traffic stream regardless of mode and to promote effective circulation planning for bicycles, pedestrians, transit, and trucks in the development review process. Although access management policies and regulations tend to focus on the arterial system and managing vehicular interactions, they provide direct safety and operational benefits to non-auto users.

The inclusion of preferred multimodal improvements and a policy commitment to the implementation of complete streets are powerful tools that can be incorporated into a comprehensive plan to better promote safety and comfort for non-automobile users of all ages and abilities.

Access Controls

There are a number of provisions within local ordinances and regulations that govern the design and placement immediately adjacent to or within a roadway's right-of-way. These provisions, dealing generally with roadway feature geometry or design as they relate to access management, are referred to as access controls. Like land development and subdivision regulations, these provisions govern the relationship between developed land and the roadway(s) along which it is located and/or on which it relies for access to the broader transportation network. Some issues related to access controls that are addressed in the model LDRs include the following:

- *Section 7 Corner Clearance and Side Street Access* – standards that address driveway spacing at intersections and corners in a manner that protects the functional area of the intersection with the goal of maintaining adequate sight distance, response times, and space for vehicles to queue without frequently blocking the access;

- *Section 8 Driveway Location and Design* – standards that limit the number of driveways on a roadway by mandating a minimum separation distance between access connections, thereby

reducing the number of conflict points; driveway design standards that relate to access management, including turning radius or flare, number of lanes, throat length, auxiliary turn lanes, directional controls (e.g., right-turn only), and pedestrian access;

- *Section 9 Nonconforming Access* – conditions under which nonconforming properties, otherwise known as "grandfathered" properties, must be brought into compliance with existing standards;

- *Section 10 Joint and Cross Access* - policies that promote shared ingress and egress points and internal circulation routes (see Figure 1-10), thus accomplishing unified access and circulation among adjacent parcels under separate ownership; and

- *Section 11 Outparcels and Phased Development Plans* – regulations that foster unified on-site circulation systems that serve outparcels as well as interior development, thereby reducing driveways on an arterial and increasing land available for landscaping.

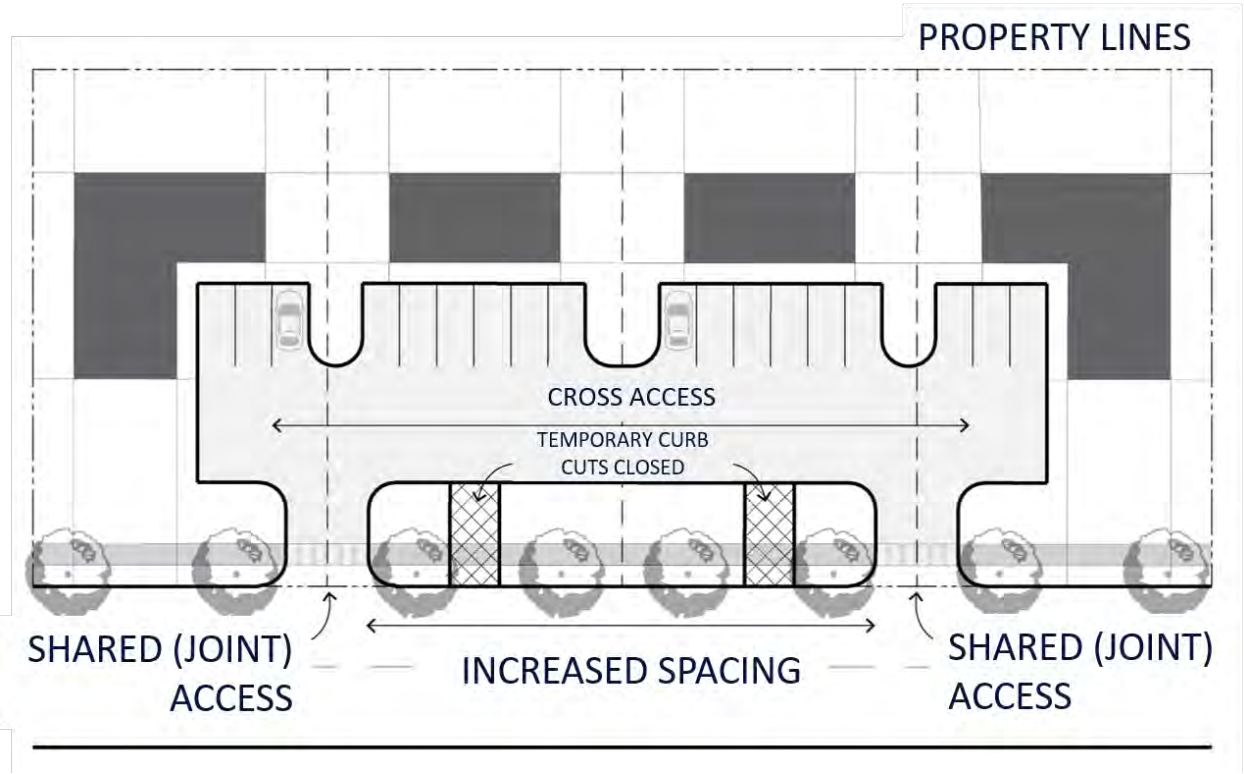


Figure 1-10: Joint and Cross Access

Land Division and Subdivision Regulations

Subdivision regulations guide the division and subdivision of land into lots, blocks, and streets. They complement zoning regulations, which establish development standards related to land use, parking and loading, building setbacks, and lot dimensions. The subdivision ordinance establishes: the administrative review and evaluation procedure for processing conceptual, preliminary, and final plats; information that must be included on the plat; design principles and standards for lots, blocks, streets, public places, pedestrian ways, and utilities; required improvements, including streets, sidewalks, water, sewer, and curbs and gutters; and financing and maintenance responsibilities.

The presence or lack of certain provisions in land development and subdivision regulations can result in challenging access management issues. This represents a major missed opportunity as access management principles are best incorporated *prior* to the subdivision of land; however, certain revisions to existing regulations can promote better access management while also providing clarity and consistency for both property owners and developers. Some issues related to subdivision regulations that are addressed in the model LDRs include the following:

- *Section 12 Street Network and Connectivity* – regulations limiting the construction of subdivisions with a single ingress and egress point; provision requiring new subdivisions to continue or extend planned streets or to connect to the surrounding street system;

- *Section 18 Flag Lot Standards* – regulations restricting lots with narrow frontages along a roadway, which afford inadequate spacing between driveways and increase safety hazards from vehicles turning on and off a high-speed roadway;

- *Section 21 Review of Minor Subdivisions* – regulations that address land division activity that is otherwise exempt from subdivision review, preventing issues such as unbuildable lots, excessive flag lots, or other land division patterns that can lead to access problems; and

- *Section 22 Private Roads* – regulations preventing common issues associated with private roads, including roads that are inaccessible to emergency vehicles or delivery trucks, roads that deteriorate quickly and lack a maintenance agreement, buyers unaware of maintenance issues associated with private roads, narrow rights-of-way that impede the placement of public utilities, and the exacerbation of inefficient land development patterns.

Zoning

Access management regulations may be applied to thoroughfares in the context of local zoning regulations. Lot frontage and dimensional requirements (Section 19) address minimum lot size, minimum lot frontage, and building setback requirements, which are established in zoning for various zoning districts. Minimum lot frontage requirements set the minimum lot width or frontage on a public road. Setback requirements include minimum front, side, and rear yard setbacks to separate buildings from each other and from abutting roadways. Minimum lot size requirements establish the minimum allowable acreage for individual lots, beyond which properties may not be further subdivided.

Corridor overlay zones (Section 16) add special requirements onto an existing zoning district while retaining other requirements of the underlying zone. They are a versatile method for managing access along high-priority corridors because they allow standards to be mixed and matched to fit the unique circumstances of a particular corridor. Standards for the overlay district are included in the land development (or zoning) code, and the affected corridors are designated on the zoning map. Overlay requirements may address issues of concern, such as joint access, parking lot cross access, reverse frontage, minimum lot frontage, driveway spacing, and limitations on new driveways or subdivisions.

Variances, Deviations, and Exemptions

Clear procedures are needed for considering deviations from access management standards to promote fair and consistent decisions. An effective approach is to establish a threshold for minor and major deviations from standards, where minor deviations (typically less than ten percent of the standard) may be decided by local jurisdiction staff, and major deviations require more extensive review and justification. This streamlines the permit process for minor deviations, while discouraging frivolous requests for major deviations through more rigorous review. The process for handling major deviations could begin with an internal committee of upper level staff from key divisions of the local jurisdiction (engineering, planning, zoning, etc.), with the option for further appeals to the appropriate decision-making body, such as the planning commission. Local jurisdiction staff may also ask to be notified regarding any requests for deviation from standards on a state highway within their jurisdiction to be reviewed by the appropriate TDOT regional office.

Land division or subdivision should not create issues that would violate access rules, including, but not limited to, driveway density per linear foot of frontage or offset from the corner or property lines. Because land division and access controls can be controversial, local approving

Departments are advised to develop strategies for addressing potential concerns before advancing recommendations. Be aware of the practical concerns of those most affected by proposed amendments and craft effective variance procedures and other strategies to provide flexibility where appropriate and ameliorate hardship. Public meetings, advisory committees, opinion surveys, and other techniques can be used to inform stakeholders and generate support.

Model Land Development Regulations

Commentary: The following model ordinance language is provided for adoption into the local land development code. The model language may be adopted in full or partially adopted on a section-by-section basis. Any of the recommendations, with the exception of state standards along State Routes and the contexts in which they apply, may be modified as needed. Local jurisdictions should obtain professional planning and legal assistance when adapting the model language to fit local needs. Although a regulatory program is essential, local jurisdictions are ***strongly encouraged*** *to prepare comprehensive or thoroughfare plans to guide development of the transportation network, as well as subarea or corridor management plans to promote network development and manage access along high priority corridors and near interchanges that are experiencing development pressure. Local plans and studies addressing access management along State Routes should be coordinated with the Tennessee Department of Transportation (TDOT) Office of Community Transportation (OCT) representatives from the appropriate regional office(s).*

Section 1 Intent and Purpose Variances, Deviations, and Exemptions

The intent of this ordinance is to manage access to land development in a manner that preserves the safe and efficient movement of people and goods and reduces the potential for traffic conflicts between vehicles, pedestrians, and bicyclists. To achieve this intent, major roadways in *(city/county)* are categorized for access management according to their planned functions, with the highest level of access control applied to state highways and other principal arterial roadways. This ordinance regulates access spacing and design, auxiliary lanes, and medians in order to separate areas of potential traffic conflict on major roadways and guide turning movements to safe and predictable locations. Requirements for unified site access and circulation, interparcel cross access, service roads, and network connectivity serve to enhance the accessibility of developed areas. In so doing, these regulations and standards protect public safety and general welfare, provide for the mobility of people and goods, further the orderly layout and use of land, protect community character, and preserve the function of major roadways. This ordinance balances the right of reasonable access to private property, with the right of the public to safe and efficient travel.

Section 2 Applicability Variances, Deviations, and Exemptions

This ordinance shall apply to all roadways functionally classified as arterials and collectors within *(city/county)* and to all properties that abut these roadways. The access classification system and standards of TDOT shall apply to all roadways on the State Highway System. Special access management standards may apply to certain high priority roadways, corridors with an adopted access management plan, or in areas with an adopted overlay district. Access legally established as of the effective date of this ordinance will not be subject to these regulations until a change in use occurs as provided in *Section 9 Nonconforming Access* or as changes to the roadway design allow.

Section 3 Conformance with Plans, Regulations, and Statutes

This ordinance implements *(cite specific policies or "the Transportation Element")* of the *(city/county comprehensive plan)*. The ordinance also advances and conforms with *(cite specific policies)* of the *[Metropolitan Planning Organization (MPO) long range transportation plan]*.

Commentary: The link between regulations and public policy is subject to legal scrutiny. Demonstrating conformance with publicly adopted plans and state law and regulations strengthens the legal basis for any local regulatory program. To establish this link, local jurisdictions should clearly identify the intent and purpose of the regulatory program, and specify any plans, state and federal regulations, or statutes that are carried out through the regulatory standards. Consider also citing specific planning objectives or policies advanced through the regulations.

Section 4 Definitions

Access – A way or means of approach to provide vehicular or pedestrian entrance or exit to a property.

Access Roads – See "Service Roads."

Accessibility – The number of travel opportunities or destinations within a particular travel radius, measured in terms of either travel time or distance.

Access Classification – A ranking system for roadways used to determine the appropriate degree of access management. Factors considered include functional classification, the appropriate local government's adopted plan for the roadway, subdivision of abutting properties, and existing level of access control.

Access Connection – Any driveway, street, turnout or other means of providing for the movement of vehicles to or from the public roadway system.

Access Management – The coordinated planning, regulation, and design of access between roadways and land development to preserve the safety and efficiency of the transportation system.

Access Management Plan (Corridor or Interchange) – A plan illustrating the design of access for lots and parcels on a highway segment or within an interchange area that may be developed jointly by the state, the metropolitan planning organization (MPO), and the affected jurisdiction(s).

Alley – A service road that is designed to provide access to properties abutting another street and that is not intended for general traffic circulation.

Cartway – That area of road surface from curb line to curb line or between the edges of the paved or hard surface of the roadway, which may include travel lanes, parking lanes, and deceleration or acceleration lanes.

Circulation system – The collection of public roadways and paths and private on-site facilities for the movement of automobiles, pedestrians, bicycles, trucks, and buses.

Complete Streets – Streets that serve the transportation needs of transportation system users of all ages and abilities, including but not limited to cyclists, freight handlers, motorists, pedestrians, and transit riders.

Conflict (traffic) – A traffic event that causes evasive action by a driver to avoid colliding with another vehicle.

Conflict point – An area in which intersecting traffic merges, diverges, or crosses.

Connection – Driveways, streets, turnouts, or other means of providing for the right of reasonable access to or from the roadway system.

Connection Spacing – The distance between connections, measured from the closest edge of pavement of the first connection to the closest edge of pavement of the second connection along the edge of the traveled way.

Corner Clearance – The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way (see Figure 1-11).

Corridor Access Management Plan – A plan that defines site-specific access management and traffic control features for a particular roadway segment, developed in coordination with the affected local government and adopted by the Tennessee Department of Transportation (TDOT) in cooperation with the *(city/county)* and other affected local government(s).

Corridor Overlay District – Special requirements added onto existing land development requirements along designated portions of a public thoroughfare.

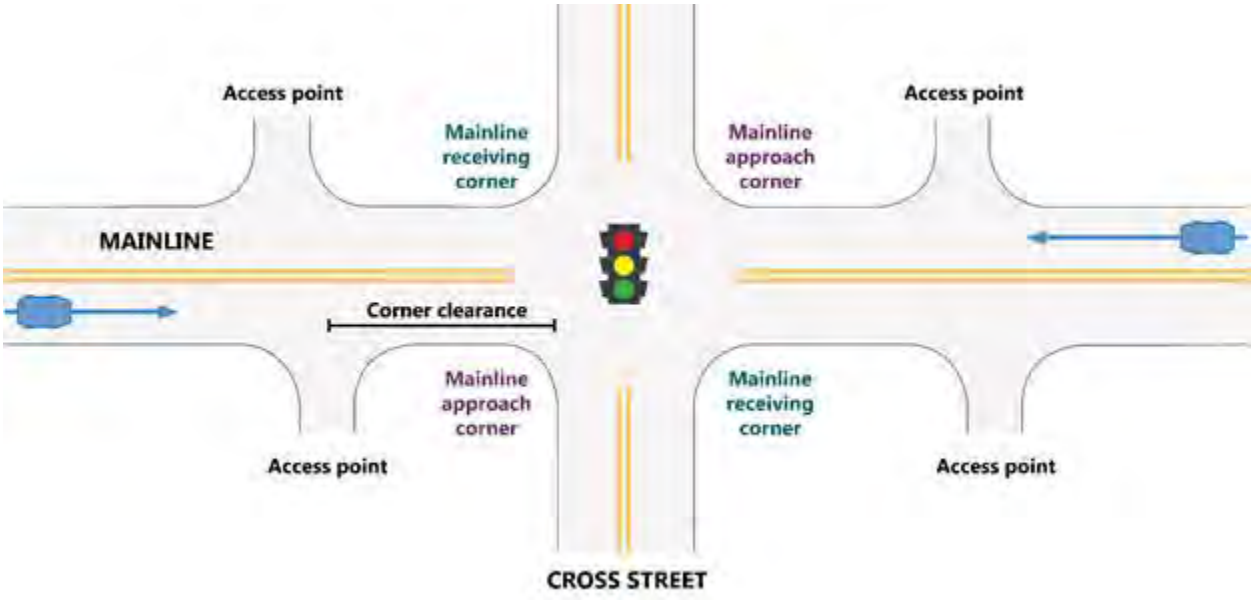


Figure 1-11: Corner Clearance

Cross Access – An easement or service drive providing vehicular access between two or more contiguous sites, so the driver need not reenter the public street system.

Deed – A legal document conveying ownership of real property.

Deviation – A departure from an adopted standard.

Directional Median Opening – An opening in a restrictive median that provides for specific movements and physically restricts other movements. Directional median openings for two opposing left or "U-turn" movements along a road segment are considered one directional median opening.

Driveway – The physical connection for vehicular traffic between a roadway and abutting land.

Driveway Flare – A triangular pavement surface at the intersection of a driveway with a public street that facilitates turning movements and is used to replicate turning radius in areas with curb and gutter construction.

Easement – A grant of one or more property rights by a property owner to or for use by the public, or another person or entity.

Frontage – The distance or width of a parcel of land abutting a public right-of-way and as measured upon such right-of-way. A corner property at a roadway intersection has a separate frontage along each roadway.

Frontage Road (see also Service Road) – A public or private drive which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street.

Full Median Opening – An opening in a restrictive median that allows all turning movements from the roadway and the intersecting road or access connection.

Functional Area (Intersection) – That area beyond the physical intersection of two facilities that comprises decision and maneuver distance, plus any required vehicle storage length, and where access should be avoided to protect the safety and operation of the intersection (see Figure 1-12).

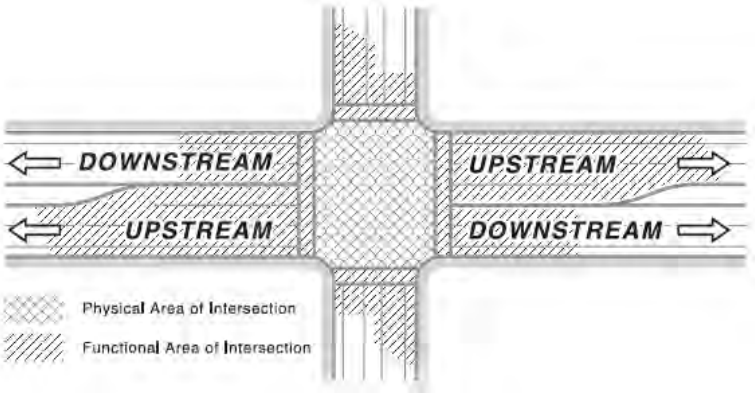


Figure 1-12: Functional Area of Intersection

Functional Classification – A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.

Joint Access (or Shared Access) – A driveway connecting two or more contiguous sites to the public street system.

Lot – A parcel, tract, or area of land whose boundaries have been established by some legal instrument, which is recognized as a separate legal entity for purposes of transfer of title, has frontage upon a public or private street, and complies with the dimensional requirements of this code.

Lot, Corner – Any lot having at least two contiguous sides abutting upon one or more streets, provided that the interior angle at the intersection of such two sides is less than 135 degrees.

Commentary: Corner lots can create confusion in relation to dimensional requirements. The recommended approach is to designate one frontage as the "front" and the rear lot line would be that opposite the designated frontage. Both portions of the lot with street frontage should still be required to meet the required front yard setback to ensure adequate sight distance and consistency of setback with abutting properties. A lot abutting a curved street(s) is typically considered a corner lot if the arc has a radius less than 150 feet.

Lot Depth – The average distance measured from the front lot line to the rear lot line.

Lot, Flag – A large lot not meeting minimum frontage requirements and where access to the public road is by a narrow, private right-of-way or driveway.

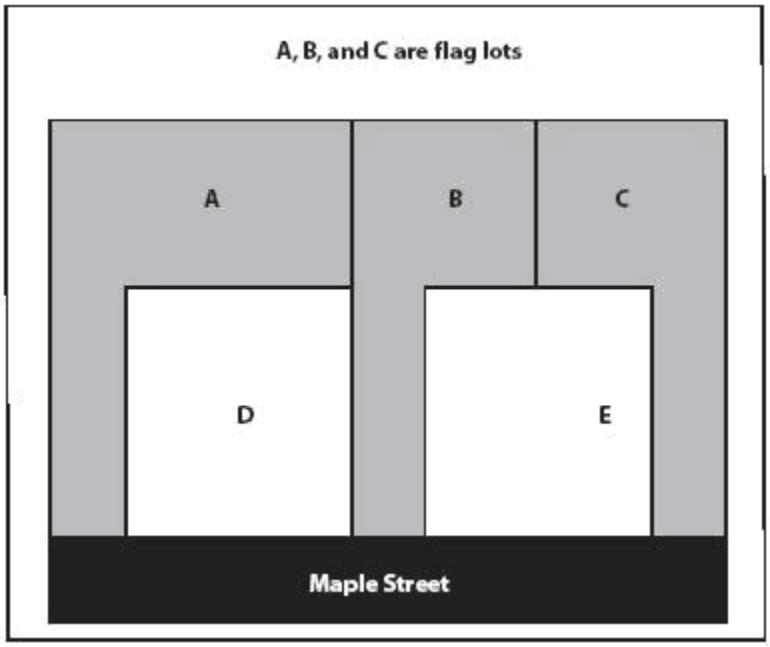


Figure 1-13: Flag Lot Examples

Lot, Nonconforming – A lot that does not meet the dimensional requirements of the district in which it is located and that existed before these requirements became effective.

Lot, Through (also called a double frontage lot) – A lot that fronts upon two parallel streets or that fronts upon two streets that do not intersect at the boundaries of the lot.

Lot Frontage – That portion of a lot extending along a street right-of-way line.

Lot of Record – A lot or parcel that exists as shown or described on a plat or deed in the records of the Clerk of the Circuit Court.

Lot Width – The horizontal distance between side lot lines measured parallel to the front lot line at the minimum required front setback line.

Manual of Uniform Traffic Control Devices – A federal document adopted by the Tennessee Department of Transportation (TDOT) that provides standards for traffic control devices. TDOT Rule 1680-03-01 establishes the Manual of Uniform Traffic Control Devices (MUTCD) to be Tennessee's Standard for traffic control devices.

Minor Subdivision – A subdivision of land into not more than two lots where there are no roadways, drainage, or other required improvements.

Nonconforming Access Features – Features of the access system of a property that existed prior to the date of ordinance adoption and do not conform with the requirements of this code.

Nonrestrictive Median – A median or painted centerline that does not provide a physical barrier between traffic traveling in opposite directions or turning left, including continuous center turn lanes and undivided roads.

Outparcel – A parcel of land abutting and external to the larger, main parcel, which is under separate ownership and has roadway frontage.

Parcel – A division of land comprised of one or more lots in contiguous ownership.

Plat – An exact and detailed map of the subdivision of land.

Private Road – Any road or thoroughfare for vehicular travel which is privately owned and maintained, and which provides the principal means of access to abutting properties.

Public Road – A road under the jurisdiction of a public body that provides the principal means of access to an abutting property.

Reasonable Access – The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the thoroughfare, as consistent with the purpose and intent of this code and any applicable plans and policies of the *[local government]*.

Restrictive Median – A physical barrier in the roadway that separates traffic traveling in opposite directions, such as a concrete barrier or landscaped island.

Right-of-Way – Land reserved, used, or to be used for a highway, street, alley, walkway, drainage facility, or other public purpose.

Service Road – A public or private street or road, auxiliary to and normally located parallel to a controlled access facility that maintains local road continuity and provides access to parcels adjacent to a controlled access facility.

Sight Distance – The distance of unobstructed view for the driver of a vehicle, as measured along the normal travel path of a roadway to a specified height above the roadway.

Sight Triangle – An area of unobstructed sight distance along both approaches of an access connection.

State Highway System (SHS) – limited access and controlled access highways that have been functionally classified and are under the jurisdiction of the State of Tennessee.

Stub-out (Stub-street) – A portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.

Subdivision – Is the process and the result of any of the following:

a) Dividing any tract or parcel into two or more lots, site, or other divisions requiring new street or utility connections [Tennessee Code Annotated (T.C.A.) § 13-3-401];

b) The platting of land into lots, building sites, blocks, open space, public areas, or any other division of land;

c) Establishment or dedication of a road, highway, street or alley through a tract of land, by the owner thereof, regardless of area;

d) The re-subdivision of land heretofore subdivided (however, the sale or exchange of small parcels of land to or between adjoining property owners, where such sale or exchange does not create additional lots and does not result in a nonconforming lot, building, structure, or landscape area, shall not be considered a subdivision of land);

e) The platting of the boundaries of a previously unplatted parcel or parcels; or

f) Any division less than five acres for sale of building development (T.C.A. § 13-4-301).

Substantial Enlargements or Improvements – A (*X%)* increase in existing square footage or (*X%)* increase in assessed valuation of the structure.

*Commentary**:** This definition sets typical thresholds used for determining when nonconforming situations must be brought into compliance with current standards. Check these thresholds for consistency with those of the local code. Typical values include a ten percent increase in existing square footage or a 50 percent increase in assessed valuation.*

Temporary Access – Provision of direct access to the controlled access facility until that time when adjacent properties develop, in accordance with a joint access agreement or frontage road plan.

Throat Length – The distance parallel to the centerline of a driveway to the first on-site location at which a driver can make a right-turn or a left-turn. On roadways with curb and gutter, the throat length shall be measured from the face of the curb. On roadways without a curb and gutter, the throat length shall be measured from the edge of the paved shoulder.

Throat Width – The distance edge-to-edge of a driveway measured at the right-of-way line.

Section 5 Access Category System

1) The following access categories have been assigned to major roadways based upon the primary role of the roadway in the overall thoroughfare system and the nature of the land use context:

   Commentary: Access classifications for the HSAM are derived from the AASHTO Green Book 7th Edition (see Figure 1-14). The latest access categories should be accessed in latest version of the AASHTO Green Book and used to populate the ordinance language.

Functional Class	Context Class				
	Rural	Rural Town	Suburban	Urban	Urban Core
Local Road or Street					
Collector Road or Street					
Arterial Road or Street					
Freeway					

Figure 1-14: Access Categories
Source: AASHTO Green Book 7th Edition Figure 1-1

2) Access spacing for all roadway segments with an assigned access category shall conform with the spacing requirements of that category, unless otherwise amended by adoption of a corridor access management plan.

3) Connection spacing shall be measured from the closest edge of the pavement to the next closest edge of the pavement. The projected future edge of the pavement of the intersecting road shall be used in measuring corner clearance where widening, relocation, or other improvement is indicated in an adopted local capital improvement plan or five-year transportation improvement program of the metropolitan planning organization (MPO).

4) Wherever an access connection is permitted in accordance with the requirements of this ordinance, access rights along the remaining thoroughfare frontage shall be dedicated to the (*city/county*), and all other pre-existing driveways shall be closed and eliminated. In the case of a joint-use driveway, the property owner shall enter into a written agreement with the (*city/county*), recorded in the records of the County and running with the land, that pre-existing driveways on the building site will be closed and eliminated at the property owner's expense after the construction of both sides.

5) If the access is proposed to have a traffic signal, or will necessitate modifications to a traffic signal, a progression analysis shall be required in addition to the warrant analysis. Considerations for approval shall include the through movement functions of the impacted roadway, the functional area of nearby signalized intersections, ability to maintain adequate pedestrian crossing times on cross streets, and the ability to coordinate signals for efficient progression.

Commentary: Currently, TDOT requires a Traffic Impact Study (TIS) for new development and redevelopment that meet certain trip generation thresholds outlined in the TDOT Traffic Impact Study Guide. The intent of this provision is not to supersede or replace a TIS, but rather to ensure that adequate analysis is conducted for signalized access, even if the parcel in question does not meet the trip generation thresholds required under a TIS. Applicants who do meet the thresholds should proceed with the required TIS, in addition to the progression and warrant analyses required for local review.

Section 6 Deviations and Waivers

1) If the access spacing standards cannot be achieved, or the standards can be achieved but the applicant wishes to propose an alternative, then the applicant shall submit an engineering study showing that a deviation will not create a safety or operational problem on the public road. The deviation request shall require approval by *X*.

Commentary: The deviation request shall require approval by the City Engineer or other appropriate review person designated by the jurisdiction.

2) Where the existing configuration of properties and driveways in the vicinity of the subject site precludes spacing of an access connection in accordance with this ordinance, the (*city/county*) Engineer shall be authorized to waive the spacing requirement if all of the following conditions have been met:

    a) A joint use driveway will be established to serve two or more abutting building sites with cross access easements, as provided in *Section 10 Joint and Cross Access.*

    b) The building site is designed to provide cross access and unified circulation with abutting sites; and

    c) The property owner agrees to close any pre-existing driveways that do not meet the requirements of this ordinance after the construction of both sides of the joint use driveway. The property owner shall enter a written agreement with the *(city/county)*, to be recorded with the deed, indicating any pre-existing driveways on the site to be closed and dedicating access rights along the remaining thoroughfare frontage to *the (city/county)*.

3) Development sites that cannot be permitted access under this section and that have no reasonable alternative means of access to the public road system will be issued approval for a nonconforming connection and shall be subject to the requirements of Section 9(2). Conditions shall be included in the permit that may limit access to a specific use, limit the intensity of development on the site, and/or require joint use driveways and cross access easements.

Commentary: This section provides flexibility in the application of access management standards through criteria and procedures for deviations, access management plans, joint use driveways, and interparcel cross access. It is essential that these standards and criteria be consistently applied and enforced and that data and other information supporting these decisions be well documented, or the community could be open to legal challenges regarding due process considerations.

Section 7 Corner Clearance and Side Street Access

1) Corner clearance for connections within the functional area of an intersection shall meet or exceed the minimum connection spacing requirements for the subject roadways. New connections shall not be permitted within this functional area, unless:

    a) No other reasonable access to the property is available, and

    b) The (*permitting authority*) determines that the connection does not create a safety or operational problem upon review of a site-specific study of the proposed connection prepared by a registered engineer and submitted by the applicant.

2) Where no other alternatives exist, the (*permitting department*) may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional controls (i.e., right-in/out, right-in only, or right-out only) may be required.

3) In addition to the required minimum lot size, all corner lots created on arterial or collector roadways shall have adequate street frontage to comply with corner clearance requirements, unless access is internalized or shared with abutting properties.

4) Side street access shall be provided to non-residential properties fronting on arterial and major collector roadways to allow access via the secondary street system. Side street connections shall be separated from the intersection to the maximum extent practical.

Commentary: Some local jurisdictions restrict side street access to commercial properties that abut residential areas. This type of regulation is typically adopted due to concerns that the side street access is too close to residences and will cause through traffic into the neighborhood. Experience and practice has shown that those benefitting most from the side street access tend to be the very residential neighborhoods that oppose it, as they can enter the business without circulating onto a major road.

Section 8 Driveway Location and Design

1) The following factors shall be considered by the (*city/county*) Engineer, in coordination with the appropriate TDOT representative, when assessing the suitability of a proposed connection:

    a) On undivided roadways, new access connections shall be aligned with those across the roadway if possible or offset an adequate distance to minimize overlapping left turns, jog maneuvers, and other maneuvers that may result in safety or operational problems. Minimum offset distance guidelines are provided in Table 1-8. Longer offsets may be required by the (*city/county*) Engineer depending on expected inbound left-turn volumes of the connections.

    b) Access connections shall be located so as to provide adequate intersection sight distance.

Commentary: Sight distance guidelines and additional guidance are provided in the TDOT Highway System Access Manual (latest version available) Volume 3: Geometric Design Criteria. It is common practice to require left-turn lanes at accesses aligned with median openings.

    c) Connections across from median openings shall be consolidated wherever feasible to coordinate access at the median opening.

Table 1-8: Minimum Offset Distance between Connections on Opposite Sides of Undivided Roadways

Roadway Classification	Minimum Offset (ft) [1]
Major Arterial	*X* [(2)], *X* [(3)]
Minor Arterial	*X*
Major Collector	*X*
Minor Collector	*X*

[(1)] Measured centerline-to-centerline of opposing driveways on intersections

[(2)] Posted speed of 45 miles per hour (mph) or greater

[3] Posted speed of 40 mph or less

Commentary: The roadway classifications in Table 1-8 conform to common functional classifications identified in Major Thoroughfare Plans. In the event that the local jurisdiction does not distinguish between major and minor arterials and collectors, the standards for major arterials and collectors should be used.

If the city/county does not have predetermined minimum offset dimensions they may refer to those provided in the TDOT Highway System Access Manual (latest version available) Volume 3: Geometric Design Criteria, Access Spacing Opposite Side of the Roadway.

2) The (*city/county*) Engineer may require auxiliary lanes (e.g., left- or right-turn lanes, bypass lane) where deemed necessary due to traffic volumes or where a safety or operational problem is expected without such a lane.

3) Driveway width and return radius shall be adequate to serve traffic volumes and provide for efficient movement of vehicles onto and off of major thoroughfares. The width of driveways shall not be so excessive as to pose safety hazards for pedestrians and bicycles. In addition, driveways shall be designed with adequate onsite storage for entering and exiting vehicles to reduce unsafe conflicts with through traffic or on-site traffic and to avoid congestion at the entrance. Guidelines for driveway design for passenger cars appear in Table 1-9 and 1-10. Where large volumes of trucks are expected, especially tractor trailer vehicles, the driveway design should be specific to the type and volume of vehicle.

Table 1-9: Design Guidelines for Signalized or Divided Driveways

No of Lanes				Entry		Exit	
Entry	Exit	Divider	Minimum Throat Length (ft)	Radius [1] (feet)	Width [2] (feet)	Radius [1] (feet)	Width [2] (feet)
1	2	Not Landscaped [3]	X	X	X	X	X
1	2	Landscaped [4]	X	X	X	X	X
2	3 [5]	Landscaped [4]	X	X	X	X	X
2	4 [5]	Landscaped [4]	X	X	X	X	X

(1) Where the radius is tangent to the edge of the roadway a 2-foot offset should be used to avoid structural failure.

(2) Width face-to-face of curbs, or face of divider at edge of driveway pavement.

(3) Driveway medians (dividers) that are not landscaped shall have a surface color that contrasts with the driveway pavement surface; the surface of the divider shall not be more than three (3) inches above the driveway pavement surface. The divider shall be outlined with a four (4) inch wide solid yellow line.

(4) Landscaped medians shall be at least ten (10) feet wide, face-to-face of curb. The length shall be equal to the throat length. A mountable type curb shall be used, preferably four (4) inches in height but not to exceed six (6) inches. A more liberal design is needed with a landscaped divider because an entering vehicle cannot encroach on the exit side of the drive.

(5) Includes a separate right-turn lane.

Commentary: If the city/county does not have predetermined dimensions they may refer to the guidance in the TDOT Highway System Access Manual (latest version available) Volume 3 Geometric Design Criteria, Driveway Geometrics section.

Table 1-10: Design Guidelines for Undivided Driveways

Roadway Class	Number of Lanes [2]		Entry Side		Exit Side		Total Throat Width (ft)	Minimum Total Throat Length (ft)
	Entry	Exit	Radius [1]	Width	Radius [1]	Width		
Major Arterial	X	X	X	X	X	X	X	X
Minor Arterial	X	X	X	X	X	X	X	X
Major Collector	X	X	X	X	X	X	X	X
Minor Collector	--	--	X	--	X	--	X	X
Local Street	--	--	X	--	X	--	X	X

(1) Where the radius is tangent to the edge of the roadway a two (2) foot offset should be used to avoid structural failure.

(2) Entry and exit sides of the driveway should be separated by a four (4) inch solid yellow line; exit lanes should be separated by a four (4) inch solid white line. Paint lines should extend the full length of the driveway throat.

Commentary: If the city/county does not have predetermined dimensions they may refer to guidance in the TDOT Highway System Access Manual (latest version available) Volume 3: Geometric Design Criteria (see "Driveway Geometrics" section).

4) Driveways with more than one entry and one exit lane shall incorporate channelization features (median dividers) to separate the entry and exit sides of the driveway. Where space is not available for trucks, a double yellow line may be considered.

5) Access connections shall not be approved within any turn lane, bypass lane, or acceleration/deceleration lane, including taper sections, except where no other reasonable or suitable access is available.

6) The (*city/county)* Engineer shall be authorized to allow a pair of one-way driveways in lieu of a two-way driveway, where traffic flow on the impacted roadway will be improved as a result.

7) To provide a clear view of intersecting streets and traffic to vehicles and pedestrians, a triangular area of clear visibility shall be maintained, as formed by two intersecting streets or the intersection of a driveway and a street. The following standards shall be met:

    a) Nothing shall be erected, placed, parked, planted, or allowed to grow in such a manner so as to materially impede vision between the height of two (2) feet and ten (10) feet above the grade, measured at the centerline of the intersection. Existing protected trees and plants shall remain if trimmed and maintained to comply with the visibility standards above.

    b) The clear vehicle and pedestrian visibility triangle shall be shown on the plans.

8) Driveway grades shall conform to the requirements of the *TDOT Highway System Access Manual (latest version available) Volume 3: Geometric Design Criteria*.

Section 9 Nonconforming Access

*Commentary**:** This section recognizes the existence of access connections that were lawful when established, but which do not meet newly adopted standards. It provides requirements to encourage the elimination of nonconforming access connections or reduce their adverse impacts on the roadway system as the opportunity arises.*

1) Permitted access connections in place at the time of adoption of this ordinance and that do not meet the standards herein shall be designated as nonconforming and allowed to remain.

2) Nonconforming access features shall be brought into compliance with applicable standards under the following conditions:

    a) When new connection permits are needed;

    b) When the existing use of the property changes to a land use with greater density or intensity on the site;

    c) When substantial enlargements or improvements are proposed; or

    d) As reconstruction of the abutting roadway allows.

Commentary: In many developed areas, full achievement of access management standards may not be feasible. In these cases, the goal is simply to improve upon the existing access and circulation system and advance the intent of access management to the maximum extent feasible. The provisions of Section 6 Deviations and Waivers and Section 25 Variance Standards would apply.

3) If the principal activity on a property with nonconforming access is discontinued for a consecutive period of *(x or x)* days or discontinued for any period of time without a present intention of resuming that activity, then that property must thereafter be brought into conformity with all applicable connection spacing and design requirements, unless otherwise exempted by the permitting authority. For uses that are vacant or discontinued upon the effective date of this code, the *(x or x)* day period begins on the effective date of this code.

Commentary: The period of time allowable for a principal activity on a property with nonconforming access before the property is required to be brought into conformity is typically 180 or 365 days. The period(s) designated in this section may be otherwise designated at the discretion of the local jurisdiction.

Section 10 Joint and Cross Access

1) The (*approving Department*), in coordination with the (*city/county*) Engineer shall be authorized to require interparcel cross access between adjacent developments or to designate cross-access corridors on properties adjacent to arterial and major collector roadways. Such requirement or designation may be made in connection with the approval of any subdivision or site plan within the affected area, or as part of an overall planning program.

2) Wherever a cross-access corridor has been designated in accordance with *Section 10(1)*, the business sites within the affected area shall be designed to provide for mutually coordinated or joint parking, access and circulation systems providing adequate access for customers as well as service and loading vehicles to each business site (see Figure 1-15). The cross-access corridor should be designed to include the following:

    a) A continuous service drive or cross access corridor extending the entire length of each block served or at least *x* feet of linear frontage along the abutting roadway;

    b) A design speed of *x* miles per hour (mph) and sufficient width for two-way travel aisles designed to accommodate automobiles, service vehicles, and loading vehicles;

    c) Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;

    d) Continuous and unobstructed pedestrian pathways for safe pedestrian circulation within and between sites, and

    e) Linkage to other cross-access corridors in the area.

Commentary: The recommended minimum frontage along the abutting roadway for a cross access corridor (see Section 2 Applicability Variances, Deviations, and Exemptions, Part a) is 1,000 feet. The recommended design speed of the cross-access corridor is ten (10) mph. These values may be otherwise designated at the discretion of the local jurisdiction.

3) Pursuant to this section, each applicant for subdivision or site plan approval shall provide such easements, agreements, and stipulations as may be necessary to be recorded in the public records of (*applicable city/county*) so as to constitute a covenant running with the land, including:

    a) An easement allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;

    b) An agreement that remaining access rights along the major roadway will be dedicated to the *(city/county)* and that any pre-existing driveways will be closed and eliminated after construction of the joint-use driveway; and

    c) A joint maintenance agreement defining maintenance responsibilities of property owners that share the unified access and circulation system.

Commentary: See Appendix A for an example cross access agreement.

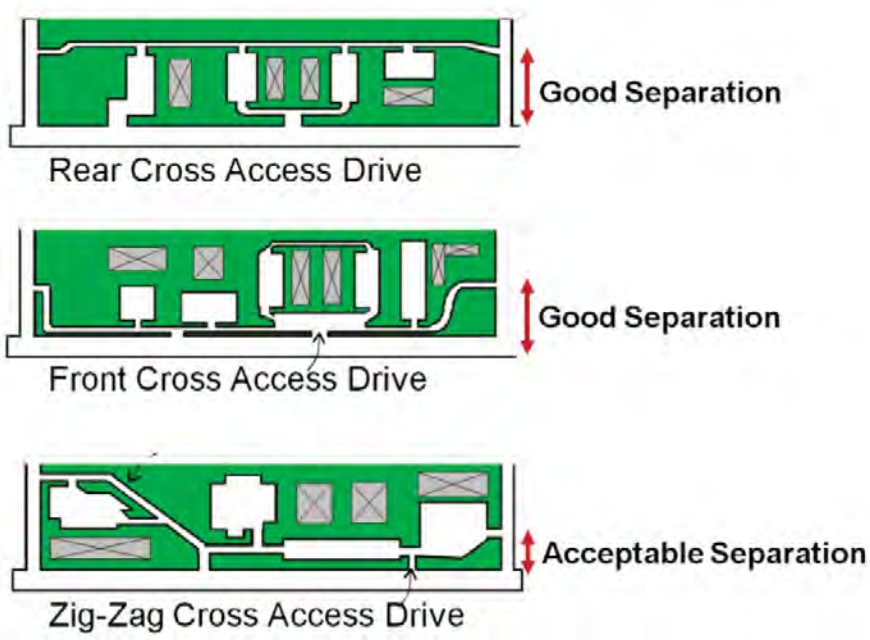


Figure 1-15: Examples of Cross Access Corridor Design
Source: City of Orlando (FL)

4) Driveway connections shall not be located within *x* feet of the extended side property line of the property to be serviced unless a notarized written agreement signed by all the owners of the adjoining property using the common driveway is filed with the (*approving Department*) stating that a joint-use driveway for the two adjoining properties shall be located on the common property line.

Commentary: The recommended minimum distance between a driveway connection and the extended side property line of the property to be serviced is three (3) feet. This value may be otherwise designated at the discretion of the local jurisdiction.

5) Where the abutting properties are in different ownership, cooperation between the various owners is encouraged but not required. Only the building site(s) under consideration for development approval shall be subject to required easements, agreements, and stipulations, which shall be recorded prior to the issuance of any building permits. If shared access/cross

access attempts are unsuccessful, then access roads and parking shall still be oriented so as to facilitate future cross access connections by adjacent parcels. Abutting properties developed or redeveloped at a later date shall at that time be required to provide unified access and circulation, together with all necessary easements, agreements, and stipulations.

6) The (*approving Department*) in coordination with the (*city/county*) Engineer may modify the requirements of this section where the characteristics or layout of abutting properties would make development of a unified or shared access and circulation system impractical.

7) Designated cross-access corridors shall be indicated on the Official Zoning Map and the map shall distinguish those portions of the designated corridor for which easements have been granted.

Commentary: Adjacent commercial uses are often not connected by a cross access drive and pedestrian pathway. As a result, customers who wish to patronize more than one location may need to exit the parking lot and travel a short distance on a major roadway, to access the adjacent or nearby site. A cross access drive and sidewalk reduces traffic on the major thoroughfare and reduces safety hazards for drivers, pedestrians, and cyclists. Furthermore, businesses can benefit from improved accessibility.

Section 11 Outparcels and Phased Development Plans

1) In the interest of promoting unified access and circulation systems, development sites under the same ownership or sites consolidated for the purposes of development or part of phased development plans and comprised of more than one building site shall not be considered separate properties in relation to access management standards. The following requirements shall apply:

    a) The number of connections permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage.

    b) All access to outparcels must be internalized using the shared circulation system of the principle development or retail center and designed to avoid excessive movement across parking aisles and queuing across surrounding parking and driving aisles. All necessary easements, agreements, and stipulations required under *Section 10 Joint and Cross Access,* shall be met.

c) The owner and all lessees within the affected area are responsible for compliance with the requirements of this code and both shall be cited for any violation.

2) The number of outparcels shall not exceed one per *x* acres of site area, with a minimum linear frontage of *x* feet per outparcel or greater where access spacing standards for that roadway require. This frontage requirement may be waived where access is internalized using the shared circulation system of the principle development or retail center. In such cases, the right of direct access to the roadway shall be dedicated to the *(city/county)* and recorded with the deed.

Commentary: It is recommended that the number of outparcels not exceed one per ten (10) acres of site area, with a minimum linear frontage of 300 feet per outparcel or greater. These values may be otherwise designated by the local jurisdiction.

Section 12 Street Network and Connectivity

Commentary: The purpose of this section is to ensure that the street system of all proposed subdivisions or development plans is designed to coordinate with surrounding existing, proposed, and planned streets.

1) All subdivision and development plans shall contribute to developing and/or enhancing a street system that will allow access to and from the proposed development, as well as access to all existing and future development within a *x* mile radius of the proposed development, via at least three arterial or major collector streets upon development of the remaining parcels within the *x* mile radius (see Figure 1-16).

Commentary: It is recommended that access to all existing and future development within a one-quarter mile radius of proposed development, via at least three arterial or major collector streets upon development of the remaining parcels within the one-quarter mile radius be secured. These values may be otherwise designated by the local jurisdiction.

2) Wherever a proposed subdivision or development abuts unplatted land or a future development phase of the same development, street stubs shall be provided as deemed necessary by the *(city/county)* to provide access to abutting properties or to logically extend the street system into the surrounding area. All street stubs shall end with a temporary turn-around or cul-de-sac unless specifically exempted by the (*city/county*) Engineer, and the

restoration and extension of the street shall be the responsibility of any future developer of the abutting land.

3) All subdivision or development plans shall incorporate and continue all sub-arterial streets stubbed to the boundary of the development plan by previously approved development plans or existing development. Developers required to extend collector roads may be eligible for impact fee credits where such extension is not reasonably related to the impacts of the development. The requirements of this subsection do not apply if it is demonstrated that a connection cannot be made because of the existence of one or more of the following conditions:

    a) Physical conditions preclude development of the connecting street; or

    b) Buildings or other existing development on adjacent lands, including previously subdivided but vacant lots or parcels, physically preclude a connection now or in the future, considering the potential for redevelopment.

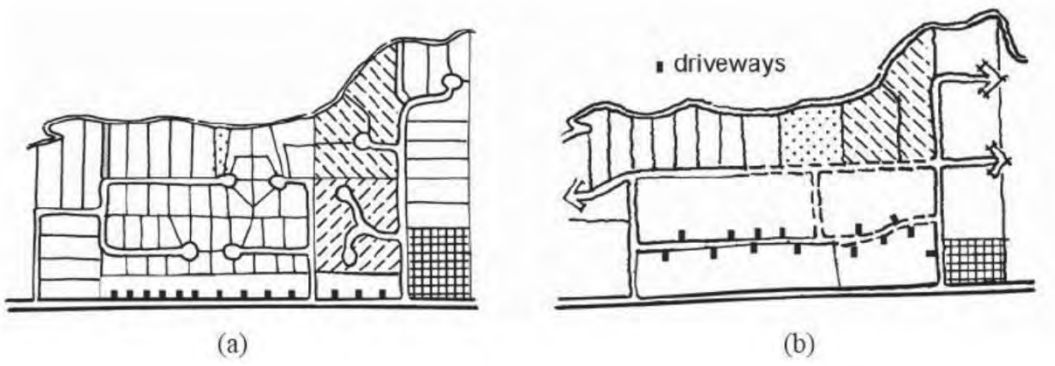
4) All subdivision and development plans in areas designated by the (*city/county*) as requiring a block pattern for walkability shall include block lengths that conform with that pattern, unless the block length must be greater due to the existence of one or more of the following conditions:

    a) Physical conditions (e.g. topography), buildings, or other existing development on adjacent lands physically preclude the appropriate block length; or

    b) An existing public street terminating at the boundary of the development site, has a longer block length, or is situated such that the extension of the street(s) into the development site would create a longer block length. In such cases, every effort shall be made to accomplish reasonable block lengths to maintain walkability.

5) Modified grids, T-intersections, roadway jogs, or traffic calming measures should be used to discourage the use of local residential streets for cut-through traffic.

Commentary: Local jurisdictions must maintain a tenuous balance between enhancing accessibility and limiting excessive through traffic in residential areas. These standards strive to address both considerations.



(a) Poor connectivity impedes walking, bicycling, and transit use. It also increases local trips on major roads and results in more properties requiring direct access to major roadways.

(b) Improved connectivity shortens local trips and improves multimodal mobility. It also enhances local mobility and provides opportunities for internalizing site access off of major roadways.

Figure 1-16: Street Network Connectivity and Access
Source: Model Regulations and Plan Amendments for Multimodal Districts (2004)

Section 13 Pedestrian and Bicycle Access

1) Subdivision and development plans shall employ site design strategies and bicycle/pedestrian access ways that seek to shorten walking distances and increase accessibility between residential areas and surrounding destinations, such as community facilities, transportation options, and employment centers. The following shall also apply:

    a) Sidewalks connecting residential developments to the sidewalk system of surrounding roadways shall be designed to meet the accessibility requirements of the Americans with Disabilities Act (ADA).

    b) New developments shall provide a direct pedestrian connection to existing or proposed transit stops within and at the edge of the development site (see Figure 1-17).

    c) A *x*-foot wide bicycle/pedestrian easement may be required in residential subdivisions where needed to connect cul-de-sacs, to pass through gated or walled areas or blocks in excess of *x* feet, or where needed for purposes of traffic safety or access to nearby schools, recreational areas, trails, transit stops, shopping, employment centers, or other community facilities and services.

Commentary: The recommended width of the bicycle/pedestrian easement is 20 feet. The minimum recommended block length for such an easement is 660 feet. These values may be otherwise designated by the local jurisdiction.

As used in (c) above, "nearby" means uses within one-quarter mile that can be reasonably expected to be used by pedestrians and bicyclists.

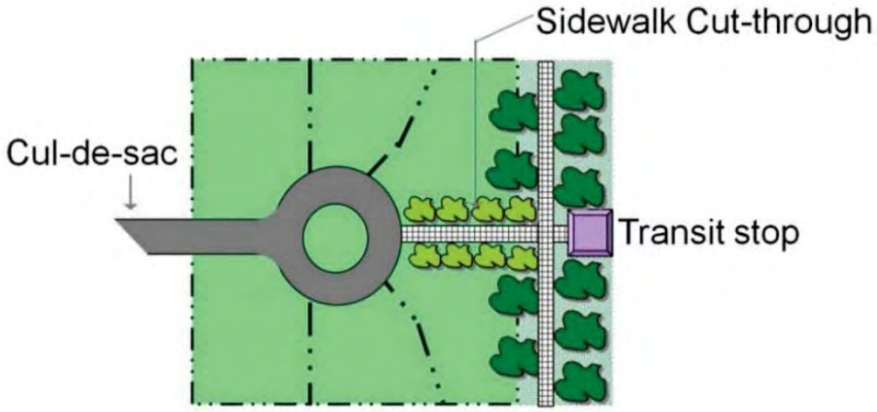


Figure 1-17: Illustration of Easement Providing Access to a Transit Stop
Source: TRB Access Management Manual, 2nd Ed.

2) New development and any alteration or change in use that results in the creation of new building entrance(s) shall be designed to support pedestrian and bicyclist mobility in accordance with the following:

    a) Safe and convenient pedestrian and bicyclist ways shall be provided between parking areas and from the building entrance to surrounding streets, external sidewalks, transit stops, and development outparcels.

    b) Convenient access to bicycle parking facilities shall be provided and shall minimize travel distances from adjoining sidewalks and pathways to the bicycle parking facilities.

    c) Where access is via a sidewalk or pathway, curb ramps shall be installed as appropriate.

3) All on-site pedestrian walkways located in vehicle use areas shall be distinguished from driving surfaces through the use of durable, low maintenance smooth surface materials to enhance pedestrian safety and comfort, as well as the attractiveness of the walkways.

4) Commercial uses set back *x* feet or more from the public right-of-way shall provide for direct pedestrian circulation from the building to buildings on adjacent lots. Pedestrian facilities may be incorporated into the required landscape buffer.

Commentary: The desired setback of commercial uses may be designated by the local jurisdiction. The setback should be sufficient to accommodate safe and comfortable pedestrian facilities within the landscape buffer.

5) Within multi-family residential development, on-site pedestrian and bicyclist facilities shall be constructed in the following locations:

   a) From every unit to all other units within the residential development.

   b) From every unit to all laundry, recreational and other community facilities in the residential development.

   c) From every building located within *x* feet of a public or private street to the street right-of-way line.

Commentary: In (c) above, it is recommended that bicycle and pedestrian facilities be constructed from every building located within 40 feet of a street or right-of-way line. This value may be otherwise designated by the local jurisdiction.

Section 14 Location and Placement of Transit Access

Commentary: See also Section 13 for provisions related to pedestrian access to transit.

The *(city/county)* shall coordinate with local transit agencies on the location and placement of bus and transit stops to ensure conformance with the best practice criteria of this Section.

1) Bus and transit stops shall be placed on the far-side of signalized intersections under the following circumstances:

a) On streets with multiple lanes where vehicular traffic may pass uncontrolled around the bus;

b) Where it is not desirable to stop the bus in a lane and a bus turnout is warranted; and

c) At complicated intersections with multiphase signals.

2) Near-side bus and transit stops shall be avoided at intersection with dedicated right-turn lanes where right-on-red turning is permitted. Where far-side stops cannot be provided, near-side stops should be located at least *x* feet in advance of the signalized intersection.

Commentary: Where far-side stops cannot be provided, TDOT Multimodal Design Guidance recommends that near-side stops be located at least 100 feet in advance of signalized intersections. This value may be otherwise designated on local roads but is required on State Routes.

3) Near-side stops are appropriate under the following conditions:

a) At prioritized signalized intersections;

b) When the bus or transit vehicle must stop in the travel lane for the front door of the bus to access an intersection and crosswalk because of curb-side parking;

c) In combination with curb extensions or bus bulbs to provide direct access from the bus or transit vehicle to the sidewalk;

d) In a right turn lane, if a queue jump signal is provided to allow the bus or transit vehicle to merge back into the travel lane and if accompanied by a sign on the road; and

e) On two-lane streets where vehicles cannot pass a stopped bus.

4) Mid-block stops are generally to be avoided, but are appropriate when:

a) Route alignments require a right-turn and the curb radius is short;

b) The distances between intersections is unusually long and major transit generators are located mid-block and cannot be served at the nearest intersection; and

c) The pedestrian crossing is accompanied by pavement marking and road lighting

5) Near primary schools, bus stops shall be placed in an area where they can be visually monitored by school personnel and/or crossing guards. Midblock stops shall be avoided.

Section 15 Interchange Area Access Management

Commentary: The purpose of this section is to maximize the development potential of interchange areas, while ensuring that property access in the vicinity of the interchange is located and designed to preserve safe and efficient operation of the interchange and its cross roads. The values for the section's design parameters are discussed in detail in the TDOT Highway System Access Manual (latest version available) Volume 3 Geometric Design Criteria.

1) New interchanges or significant modification of an existing interchange are subject to special access management requirements to protect the safety and operational efficiency of the limited access facility and interchange area crossroads. These requirements shall apply to the area extending one-half mile along the crossroad measured from the end of the taper of the ramp furthest from the interchange or up to the first intersection with an arterial road, whichever is less. The following access requirements shall apply:

    a) The distance to the first access connection shall be at least *x* feet where the posted speed limit is greater than 45 mph or *x* feet where the posted speed limit is 45 mph or less, and these connections should be right-in/right-out only. This distance shall be measured from the end of the taper for that quadrant of the interchange. Greater distances may be required depending upon the access classification of the crossroad.

    b) The minimum distance to the first full median opening or signalized intersection shall be at least (*x)* feet as measured from the end of the taper of the egress ramp. Where the (*city/county*) Engineer determines that this spacing is not feasible due to existing conditions and constraints, the minimum distance shall be no less than *x* feet.

    c) Local access roads shall be used for direct access to property within the interchange area. These roads shall be designed to connect to more than one other roadway for improved accessibility. Where properties are under the same ownership or consolidated for the purposes of development, the road shall be constructed by the developer. Where the road will serve properties under separate ownership, a method will be established to apportion the costs of initiating and constructing the road.

2) The minimum lot frontage for all properties with frontage on a crossroad within the one-half mile area of a new interchange shall be *x* feet, and the minimum lot depth shall be at least twice the width but no greater than four times the width. The frontage requirement shall not apply to properties that obtain access from an interior road.

Commentary: The purpose of this requirement is to avoid small lot frontages with access constraints and preserve opportunities for access roads and internal circulation.

3) All new development within the interchange area shall employ site design strategies that seek to shorten walking distances and shall provide sidewalks or other improved pedestrian access ways that support safe and convenient pedestrian circulation between hotels, restaurants, and other interchange area land uses and businesses. Pedestrian ways that traverse parking areas should be clearly demarcated.

Commentary: New highway interchanges can have substantial impacts on land development patterns around the interchange area. If land development is not properly planned, it can create safety hazards and interfere with the flow of traffic onto and off of the interchange. The above requirements promote street networks and service roads to serve new interchange development (see Figure 1-18). Local jurisdictions could also identify other appropriate access management standards around the interchange area, in accordance with a desired land development plan. Pedestrian circulation is a critical element that should be addressed to allow those staying in interchange area hotels to patronize nearby restaurants and services without the need for an automobile. The above standards are provided for incorporation into the local code. These requirements could alternatively be applied through development and adoption of an interchange area access management plan. Another concept is to establish an interchange activity center overlay district to address land use intensity and network development for high growth interchanges.

Figure 1-18: Interchange Area with Managed Access in Memphis
Source: Phil Demosthenes

Section 16 Corridor Access Management Plans and Overlays

1) The (*city/county*) may designate segments of roadway corridor for the purpose of developing corridor access management plans and overlay zones that apply special access management requirements to the designated corridors. The purpose of this designation is to develop a specific plan to reduce access problems on major thoroughfares and achieve the desired character of the area in conformance with the (*local government*) Comprehensive Plan. Elements of the plan shall include but are not limited to median openings, signal locations or roundabouts, access connections, supporting roadway networks, pedestrian and bicycle circulation, location of transit stops where applicable, and interparcel cross access and joint access requirements for adjacent developments.

2) ***Example Corridor Access Management Overlay Option***: No new or additional access rights will be permitted for properties created as the result of parcel or lot splits subsequent to the enactment of this Ordinance. All land in a parcel having a single tax code number, as of (*date of adoption*), fronting on (*define segment of affected thoroughfare or refer to a Table defining affected segments*), shall be entitled one (1) access connection on said public thoroughfare(s). When subsequently subdivided, typically as a recorded plat, the designated parcels herein shall provide access to all newly created lots via the permitted access connection. This may be achieved through subdivision roads, joint and cross access, service roads, and other reasonable means of ingress and egress in accordance with the requirements of this ordinance. The following standards shall also apply:

    a) As a condition of development approval, all development plans must provide for the construction of the section of service road that provides access to the (*designated thoroughfares*). This shall be accomplished as practical and may necessitate an escrow of funds and/or development agreement for future construction.

    b) Parcels adjacent to or in close proximity to service roads provided through development or depicted in an adopted Access Management Plan, shall obtain access via the service road.

    c) Each development plan shall provide for appropriate stub-outs to support cross access between adjacent parcels.

d) Parcels with large frontages may be permitted more than one access connection at the time of adoption of these requirements provided they are consistent with the applicable connection spacing standards.

e) Existing parcels with frontage less than the minimum connection spacing may not be permitted a direct connection to the thoroughfare under this section where the (*appropriate reviewing authority*) determines alternative reasonable access is available to the site.

f) Additional access connections may be allowed where the property owner demonstrates that safety and efficiency of travel on the thoroughfare will be improved by providing more than one access to the site.

g) Permitted connections shall be identified on a map that shall be adopted by reference and that portion of designated thoroughfare affected by these overlay requirements shall be delineated on the (*city/county*) zoning map (see Figure 1-19).

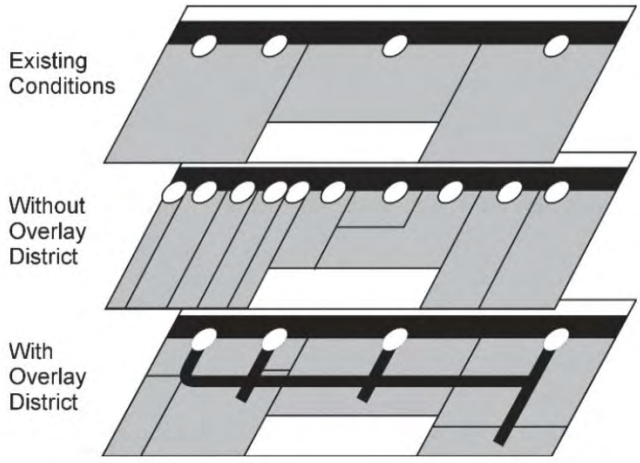


Figure 1-19: Corridor Access Management Overlay
Source: TRB Access Management Manual, 2nd Ed.

Commentary: Overlay zoning adds special requirements onto those of existing zoning districts. The above overlay regulations are intended for corridors that are planned for more intensive development and have not already been extensively subdivided into small lot frontages. Such corridors may or may

not be currently zoned for commercial or mixed-use development but may already be experiencing development pressure. This overlay "freezes" allowable access to one connection by right per existing lot or parcel at the time of adoption. Lots or parcels may be extensively subdivided, but all future lots must obtain access via the connections permitted at the time of overlay adoption. This stimulates development of access roads, joint use access, interparcel cross access, and other alternatives to direct thoroughfare access. Additional access connections may be permitted for large parcels that meet or exceed the minimum access spacing standards for that thoroughfare, or where safety would be increased as a result. Parcels with small frontages at the time of adoption are not permitted a driveway on the thoroughfare where this would create a safety hazard or where alternative reasonable access is available. In such cases, a temporary driveway could be permitted using the procedures in Section 10 Joint and Cross Access or Section 6 Deviations and Waivers, Part 2. Local jurisdictions are also encouraged to apply design guidelines that enhance community character and support active transportation modes, including standards for pedestrian and bicycle circulation and landscaping.

Section 17 Reverse Frontage

1) Access to double frontage lots shall be required on the street with the lower functional classification.

2) When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a frontage road or interior local road. Access rights of these lots to the arterial shall be dedicated to the (city/county) and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial. The berm or buffer yard shall not be located within the public right-of-way.

Commentary: These reverse frontage standards are typically applied to suburban arterials to reduce safety hazards caused by direct residential access to high-speed roadways and to buffer homes from the adverse impacts of vehicular traffic. In a low speed urban context, homes could face the major roadway with driveway access via an alley or local street at the rear of the property. Alternatively, regular side streets could provide access with homes facing the side street.

Section 18 Flag Lot Standards

1) Flag lots shall not be permitted when their effect would be to increase the number of building sites taking driveway access to a collector or arterial roadway.

2) Flag lots may be permitted for residential development when deemed necessary to achieve planning objectives, such as reducing direct access to thoroughfares, providing internal platted lots with access to a residential street, or preserving natural or historic resources, under the following conditions:

    a) Flag lot driveways shall be separated by at least twice the minimum frontage requirement of that zoning district.

    b) The flag driveway shall have a minimum width of *x* feet and maximum width of *x* feet.

    c) In no instance shall flag lots constitute more than *x* percent of the total number of building sites in a recorded or unrecorded plat, or three lots or more, whichever is greater.

    d) The lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area of that zoning district.

    e) No more than one flag lot shall be permitted per private right-of-way or access easement.

Commentary: Local plat maps often reveal lots shaped like flags with long narrow access "poles." Flag lots are especially prevalent along lakes, rivers, cul-de-sacs, and rural highways. Although they can be useful where natural features or land division patterns create access problems, they are subject to abuse. Flag lots may proliferate in rural areas where property owners use the technique to avoid plat review while subdividing land. The result is a subdivision that lacks adequate access and creates long-term problems for the community and those who purchase the lots. Under these standards, existing flag lots would be nonconforming and allowed to continue. In areas where flag lots are stacked to obtain access to a state or county thoroughfare, property owners should be contacted and advised to consolidate access and enact joint maintenance agreements with adjacent properties.

As shown in (b) above, it is recommended that the flag driveway have a minimum width of 20 feet and a maximum width of 50 feet. These values may be otherwise designated by the local jurisdiction.

As shown in (c) above, it is recommended that flag lots constitute no more than ten percent of the total number of building sites in a plat. These values may be otherwise designated by the local jurisdiction.

Section 19 Lot Width-to-Depth Ratios

To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed (*see commentary below for recommended dimensions*). The permitted depth may be higher in coastal areas subject to erosion or where necessary to preserve future right-of-way for planned thoroughfares identified on the future right-of-way needs identification map.

Commentary: Minimum lot frontage and maximum lot width-to-depth ratios prevent the creation of long and narrow or irregularly shaped lots that can lead to access and circulation problems. This standard is especially useful in rural areas, to govern the dimensions of newly created lots and parcels. Rural areas may adopt a maximum width-to-depth ratio of 1:4, meaning that parcels with 100 feet of frontage may not be deeper than 400 feet. Urban or suburban areas may use maximum ratios of 1:2.5 or 1:3. These values may be otherwise designated by the local jurisdiction.

Section 20 Small Subdivisions and Rural Residential Access

1) Subdivisions with frontage on the state highway system shall be designed into shared access points to and from the highway. Normally a maximum of two accesses shall be allowed regardless of the number of lots or businesses served (see Figure 1-20).

Commentary: This provision helps to reduce strip lots with individual driveways in semi-rural and rural areas and promotes land development patterns that are more compatible with the character of rural landscapes.

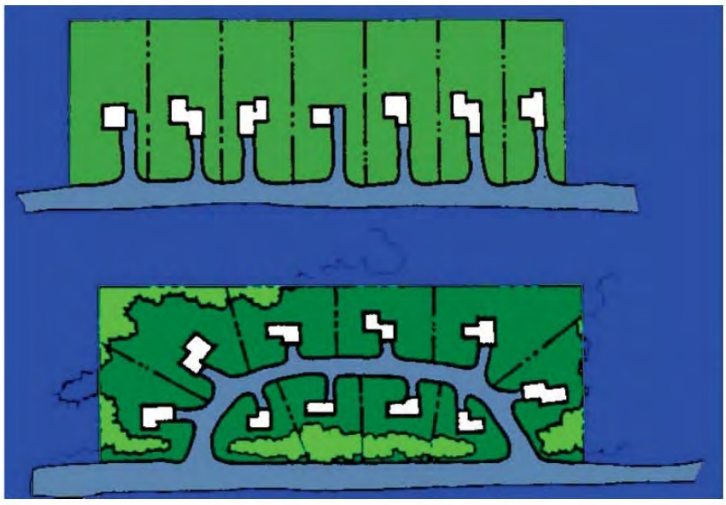


Figure 1-20: Subdivision Access on Major Roadways

Source: Cheryl S. Doble and George M. McCulloch. Community Design Guidelines Manual. New York State Tug Hill Commission, January 1991.

2) When a residential development is proposed that would abut an arterial or major collector roadway, it shall be designed to provide lots abutting the roadway with access from an interior local road. Direct driveway access to individual one and two family dwellings from arterial and major collector roadways shall be avoided. All other reasonable access alternatives shall be investigated and judged unacceptable by the (*city/county*) Engineer before direct residential driveway access to any arterial or major collector roadway is permitted.

Commentary: This provision is essentially the same as (1) above for rural areas but is more oriented to urban or suburban areas.

3) Subdivisions served by a single residential access street ending in a cul-de-sac shall not exceed *x* lots or dwelling units. The access street shall be no longer than *x* feet in length, and the cul-de-sac shall have a minimum cartway radius of *x* feet.

*Commentary**:** Subdivisions served by a single access street ending in a cul-de-sac may inhibit emergency access and increase traffic congestion during peak hours by providing only one point of ingress and egress. Single access problems may also result in phased subdivisions where additional access is proposed for future phases. If future phases are not built, the remaining subdivision may have insufficient access. Although this is not a problem where only a few dwelling units are served, how many lots is too many? Average daily trips for residential streets provide a baseline for access and cul-de-sac standards.*

It is recommended that subdivisions served by a single residential access street ending in a cul-de-sac shall not exceed 25 lots or dwelling units. The access street is recommended to be no longer than 1000 feet in length, and the cul-de-sac is recommended to have a minimum cartway radius of 30 feet. These values may be otherwise designated by the local jurisdiction.

4) Unpaved gravel residential drives serving fewer than *x* homes are permitted in rural areas to promote shared access to small rural subdivisions and provide an alternative to residential strips. Minimum driveway width shall be *x* feet for *x to x* homes, and *x* feet for *x to x* homes. Shared residential drives shall be built to standards appropriate for the amount of traffic to be accommodated (see Figure 1-21).

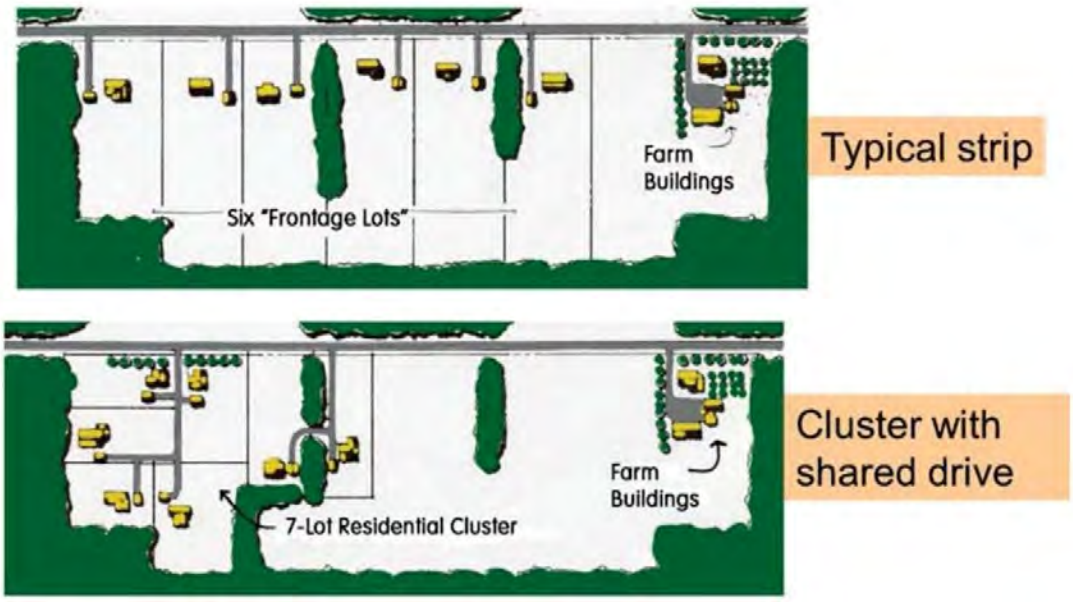


Figure 1-21: Shared Residential Access on Rural Thoroughfares
Source: R. Arendt, Rural by Design, 2015.

Commentary: Unpaved gravel roadways are recommended to be permitted to residential drives serving fewer than 8 homes. This value may be otherwise designated by the local jurisdiction.

Recommended minimum driveway length is 12 feet for one to four homes (14 feet where there is curb and gutter), and 16 feet for five to seven homes. These values may be otherwise designated by the local jurisdiction.

Use of cluster zoning and allowing less costly alternatives to paved subdivision streets encourages property owners in rural areas to accommodate residential development in a more creative "nonstrip fashion," as discussed in Rural by Design. Officials can reach out to property owners and promote these alternatives through simple graphics and sketch planning techniques. Section 22 Private Roads, Part 2 further provides regulatory language for private roads in rural and semi-rural areas.

Section 21 Review of Minor Subdivisions

1) The *(approving Department)* may approve a Minor Subdivision that conforms to the following standards:

    a) Each proposed lot must be buildable in conformance with the requirements of this Code and all other applicable regulations.

    b) Each lot shall abut a public or private street for the required minimum lot frontage for the zoning district where the lots are located.

    c) If any lot abuts a street right-of-way that does not conform to the design specifications of this Code, the owner may be required to dedicate one-half the right-of-way width necessary to meet minimum design requirements.

2) Further subdivision of the property shall be prohibited unless applicants submit a plat or development plan in accordance with requirements for major subdivisions in this Code.

*Commentary**:** This standard prohibits property owners from incrementally subdividing land to avoid review.*

3) The *(approving Department)* shall consider a proposed Minor Subdivision upon the submittal of the following materials:

    a) An application form provided by the (*city/county*);

    b) (*x*) copies of the proposed Minor Subdivision plat; (Note: The number of copies required should be based on number of entities that will review the plan under adopted procedures.);

    c) A statement indicating whether water and/or sanitary sewer service is available to the property; and

    d) Land descriptions and acreage or square footage of the original and proposed lots and a scaled drawing showing the intended divisions shall be prepared by a professional land surveyor registered in the State of Tennessee. In the event a lot

contains any principal or accessory structures, a survey showing the structures on the lot shall accompany the application.

4) Review Procedure

a) The (*approving Department*) shall transmit a copy of the proposed Minor Subdivision to the appropriate (departments or officials) for review and comment.

b) If the proposed Minor Subdivision meets the conditions of this section and otherwise complies with all applicable laws and ordinances, the (*approving Department*) shall approve the Minor Subdivision by signing the application form.

c) Upon approval of the Minor Subdivision, the (*approving Department*) shall record the plat on the appropriate maps and documents, and shall, at the applicant's expense, record the plat in the official county records.

Commentary: These requirements provide for local review of divisions of land or "lot splits" that would otherwise be exempted from subdivision review and platting requirements. A review process for lot splits prevents creation of lots that are not in conformance with land development regulations and thus could be rendered unbuildable. It further prevents creation of lots with inadequate or inappropriate access to a public road. This allows local jurisdictions to prevent access problems attributable to flag lots, through lots, and corner lots. This review process is streamlined, and platting requirements are less costly than those of a major subdivision, so as not to create a hardship for property owners engaged in only minor subdivision activity. Local jurisdictions are strongly advised not to provide exemptions from public review of land division activity based on lot size or number of lots, because this creates long-term problems that can seriously undermine the local planning and regulatory program.

Section 22 Private Roads

1) Private roads may be permitted in accordance with the requirements of this Section and the following general standards shall apply:

a) All *(city/county)* roads shall be constructed to public specifications and have an easement of a minimum of *x* feet in width, except as otherwise provided in *Section 22 Private Roads, Part 2*.

b) Private roads that by their existence invite the public in shall have all traffic control features, such as striping or markers, in conformance with the *Manual of Uniform Traffic Control Devices* (MUTCD).

c) The minimum distance between private road outlets on a single side of a public road shall be *x* feet, or less where provided by access classification and standards for state roads and local thoroughfares.

d) All properties served by the private road shall provide adequate access for emergency vehicles and shall conform to the approved local street numbering system.

e) All private roads shall be designated as such and will be required to have adequate signage indicating the road is a private road and not publicly maintained.

f) All private roads shall have a posted speed limit not to exceed *x* mph.

g) All private roads shall have adequate provisions for drainage and stormwater runoff as provided in Section *(refer to appropriate section of the local subdivision regulations)*.

Commentary: The standards are intended to provide flexibility and to preserve the character of rural areas. In section (a), the minimum recommended easement length is 66 feet. In section (c), the minimum distance between outlets is 660 feet. In section (f), the recommended posted speed limit is 20 mph or less. These values may be otherwise designated by the local jurisdiction.

2) Private roads in rural and semi-rural areas may be permitted reductions in easement and roadway width and pavement standards to provide for adequate access while retaining the rural character of the landscape and design flexibility. At a minimum, the private road shall meet the *(city/county)* specifications for gravel roadway construction. Other standards shall apply in accordance with the following schedule:

a) A private road serving up to two lots shall have a minimum right-of-way easement of *30* feet and a roadbed of at least *12* feet.

b) A private road intended to serve no more than three to six lots shall have a minimum right-of-way easement of *30* feet and a roadbed of at least *16* feet.

c) A private road intended to serve no more than seven to 12 lots shall have a minimum right-of-way easement of *66* feet and a roadbed of at least *20* feet. Paving shall be required for all areas with grades of greater than *three* percent. Such pavement shall be a minimum of *(18)* feet in width.

d) A private road intended to serve no more than *13 to 24* lots shall have a minimum right-of-way easement of *66* feet, a roadbed of at least *24* feet and shall be paved.

e) A private road intended to serve *25* or more lots or parcels shall provide at least two access connections to a public road and shall meet the minimum design requirements for public roads.

*Commentary**:** The italicized values in this section provide a sliding scale approach, allowing gravel roads, for non-commercial access, of about 12 feet to 18 feet wide for two to four parcels and requiring higher design specifications for larger developments. The italicized values are recommended standards; the local jurisdiction should review and modify as needed to best fit the local context. The standards are intended to provide flexibility and to preserve the character of rural areas. Communities considering a sliding scale approach to private roads should also adopt a site plan review process aimed at encouraging creative site design and landscape preservation.*

3) Applications for subdivision approval that include private roads shall include a drainage plan and road construction plan, prepared by a registered engineer. The (*city/county*) Engineer shall review private road plans for conformance with this Code.

4) Construction permits are required for connection to public roads. Application for road construction shall be made concurrent with the creation of a lot that does not have frontage on a public road. A road construction permit shall be issued after approval of the private road plan and the entire length of the road shall be inspected during construction and upon completion. If found in conformance, a final use permit shall be issued.

5) No building permit shall be issued for any lot served by a private road until the private road has been constructed and approved, so that all lots to be served by the private road have access to a public road.

6) A road maintenance agreement, prepared by the *(city/county)* attorney, shall be recorded with the deed of each property to be served by a common private road. The agreement shall provide for:

    a) A method to initiate and finance a private road and maintain that road in good condition;

    b) A method of apportioning maintenance costs to current and future users;

    c) A provision that the *(city/county)* may inspect, and if necessary, require that repairs be made to the private road to ensure that safe access is maintained for emergency vehicles. If required repairs are not made within six months of date of notice, the *(city/county)* may make the necessary repairs and assess owners of parcels on the road for the cost of all improvements plus an administrative fee, not to exceed *x* percent of total costs;

    d) A provision that the majority vote of all property owners on the road shall determine how the road is maintained except in the case of emergency repairs as outlined above;

    e) A statement that no public funds shall be used to construct repair or maintain the road;

    f) A provision requiring mandatory upgrading of the roadway if additional parcels are added to reach the specified thresholds; and

    g) A provision that property owners along that road are prohibited from restricting or in any manner interfering with normal ingress and egress by any other owners or persons needing to access properties with frontage on that road.

Commentary: As shown in section (c) above, it is recommended that the assessment for parcel owners, plus the administrative fee, not exceed 25 percent of the total cost. This value may be otherwise designated by the local jurisdiction.

7) No private road shall be incorporated into the public road system unless it is built to public road specifications of the (*city/county*). The property owners shall be responsible for bringing the road into conformance.

8) All private roads shall have a sign and name meeting (*city/county*) standards and shall include the following notice: "Private Road" "Not maintained by the (*city/county*)."

9) An application fee will be established by the (*appropriate local jurisdiction official*) to cover administrative, processing, and inspection costs.

10) All purchasers of property served by a private road shall, prior to final sale, be notified that the property receives access from a private road that shall be maintained collectively by all property owners along that road; that the *(city/county)* shall not be held responsible for maintaining or improving the private road; and that a right-of way easement to provide the only access to that property has been recorded in the deed for that property; and

11) The United States postal service and the local school *(board/district)* is not required to use the private road for access to the parcels abutting the private road and may require that service be provided only at the closest public access point.

Commentary: Some communities prohibit private roads altogether or require all private roads serving more than one dwelling unit to be built to public specifications and paved. This is because of problems associated with private roads, such as pressure to adopt the private road into the public road system in the future. Yet if properly regulated, private roads can offer an effective means of access to small subdivisions in rural areas. In the absence of private road regulations, common practice is the creation of multiple lots served by a common lot, easement, or multiple easements as in the example of stacked flag lots. The easement then becomes a private unpaved road serving several properties.

Unregulated private roads raise several problems. They may be inaccessible to emergency vehicles or large delivery trucks, placing public safety and private property at risk. Substandard roads deteriorate quickly and without a maintenance agreement, the local government may be called upon to maintain it. Buyers may not be aware of the maintenance issues associated with the road until after purchasing the property. Narrow rights-of-way may impede placement of utilities, and private roads can exacerbate inefficient land development patterns. These problems can be avoided through private road regulations that address design, construction, joint maintenance agreements, signage, and review. Private roads should be permitted for residential uses only and standards should be tied to lot split (minor replat) or subdivision regulations. Limitations should be placed upon the number of residences that may be served by a single access to a public road.

As in other land development regulations, private road provisions must be made for grandfathering existing nonconforming situations. Some ordinances address the situation by providing a different set of standards for nonconforming private access or by providing for expansion of existing substandard private roads or easements pursuant to the special use permit process.

Section 23 Emergency Access

In addition to minimum side, front, and rear yard setback and building spacing requirements specified in this code, all buildings and other development activities such as landscaping, shall be arranged on site to provide safe and convenient access for emergency vehicles.

Section 24 Site Plan Review Procedures

1) Applicants shall submit a preliminary site plan for review by (*name of department responsible for conducting review).* At a minimum, the site plan shall show:

    a) A complete site plan showing all proposed buildings and parking layouts, including north arrow and date;

    b) Location of access point(s) on both sides of the road where applicable;

    c) Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property;

    d) Driveway geometry, throat length, number and direction of lanes to be constructed on the driveway, plus striping plans;

    e) All planned transportation features (such as auxiliary lanes, signals, etc.);

    f) Trip generation data or appropriate traffic studies;

    g) Parking and internal circulation plans, including circulation for private vehicles, pedestrians, bicyclists, and delivery vehicles;

    h) Plat map showing property lines, right-of-way, and ownership of abutting properties; and

i) A detailed description of any requested deviation from standards or variance and the reason the deviation or variance is requested.

2) Subdivision and site plan review shall address the following access considerations:

a) Is the road system designed to meet the projected traffic demand and does the road network consist of hierarchy of roads designed according to function?

b) Is access properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access? Are entry roads clearly visible from the major roadway?

c) Do units front on and obtain access from residential access streets, rather than major roadways?

d) Does the site layout allow on-site vehicular circulation, without having to use the peripheral road network?

e) Does the road system provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection?

f) Have the edges of the roadways been landscaped? If sidewalks are provided alongside the road, have they been set back sufficiently from the road, and has a landscaped planting strip between the road and the sidewalk been provided?

g) Does the pedestrian and bicycle path system link buildings with parking areas, entrances to the development, open space, and recreational and other community facilities?

h) Other issues as identified in the (*city/county*) site plan review checklist.

*Commentary**:** The subdivision and site plan review process provides local jurisdictions with the most effective opportunity for addressing access considerations and preventing access problems before they occur. This should be done as early as possible in the process. Applicants will be much less amenable to revising the access plan later in the process or after the site plan or plat has been approved. The above checklist of access review considerations was adapted from The Subdivision and Site Plan*

Handbook (Listokin and Walker, 1989). A more detailed checklist from the Transportation Research Board (TRB) Access Management Manual (2014) is provided in Appendix B.

3) All developments will be reviewed for their potential multimodal impacts to the transportation system in accordance with (*city/county*) transportation impact study requirements and procedures. The *(city/county)* and TDOT also reserve the right to require a traffic and safety analysis where safety is an issue or where significant problems already exist.

Commentary: Local jurisdictions should have a TIS requirement and procedure in place as it is an essential part of development review. The studies are not only appropriate during access permitting, but also during requests for subdivision, rezoning, and other development activities that may have a substantial adverse impact on the transportation system. A well-prepared transportation impact study helps the developer and permitting agency accomplish the following:

- *Forecast the transportation impacts created by proposed development based on accepted practices, not perception;*
- *Determine improvements needed to accommodate the proposed development;*
- *More efficiently allocate limited funds;*
- *Relate land use decisions with transportation conditions;*
- *Evaluate the number, location, and design of access points;*
- *Update traffic data;*
- *Identify needed roadway improvements;*
- *Identify needed improvements for non-auto modes; and*
- *Provide a basis for determining the developer's responsibility for specific off-site improvements.*

The type, scope and detail needed for the TIS usually depends on the size, anticipated impact, and/or complexity of the development. The larger the development, as measured by the number of trips generated, the larger the area that may experience measurable traffic impact due to the development and the more extensive the TIS requirements. Very small developments (typically fewer than 100 trips per hour), generally require only a site access location and design review to ensure that access connections are safely located. Principal elements of this review include sight distance, driveway geometry, driveway throat length, site circulation, and provisions for bicycles and pedestrians. Larger

developments require more extensive review. If the local jurisdiction does not have local TIS guidance, it may refer to the TIS guidance in the TDOT Traffic Design Manual (Chapter 2). If the development in question located along a State Route, the TDOT standards must be followed.

4) Applicants shall be notified by the *(permitting department)* if any additional information is needed to complete the application within 30 days of filing the application.

5) Applications for development that involve access to the State Highway System, or subdivision that may involve future access to a State Route, will also be reviewed by TDOT for conformance with state access management standards. The (city/county) shall coordinate with TDOT regarding this determination prior to completing its review.

6) Upon review of the access application, the *(permitting department)* may approve the access application, approve with conditions, or deny the application. This determination will be issued within 90 days of receiving the complete application.

7) If the application is approved with conditions, the applicant shall resubmit the plan with the conditional changes made. The plan, with submitted changes, will be reviewed within *x* working days and approved or rejected. Second applications may only be rejected if conditional changes are not made.

8) If the access permit is denied, the *(city/county*) shall provide an itemized letter detailing why the application has been rejected and the process for appeals.

9) All applicants whose application is approved, or approved with conditions, have 30 days to accept the permit. Applicants whose permits are rejected or approved with conditions have *x* days to appeal.

*Commentary**:** Effective coordination with the TDOT and internal coordination among local engineering/public works and planning/development services personnel is essential to ensure conformance with access management requirements. One method of improving coordination is to withhold the building permit or certificate of occupancy until the applicant submits the necessary permits or certificates of approval from other regulatory agencies involved in development review. This should include a notice of intent to permit the proposed access connection from the TDOT where the State Highway System is involved to ensure conformance with TDOT access management requirements.*

A pre-application process and conceptual review, before submission of the preliminary site plan or plat, is highly recommended.

Section 25 Variance Standards

1) The granting of any variance from access management standards shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is explored.

2) Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. This shall include proof that:

    a) indirect or restricted access cannot be obtained;

    b) no engineering or construction solutions can be applied to mitigate the condition; and

    c) no alternative access is available from a street with a lower functional classification than the primary roadway.

3) Under no circumstances shall a variance be granted, unless not granting the variance would deny all reasonable access, endanger public health, welfare, or safety, or cause an exceptional and undue hardship on the applicant. No variance shall be granted where such hardship is self-created.

*Commentary**:** Each local government has its own process for handling appeals and variances. The standards above are unique to access management and should be incorporated into this process. The handling of any variance should also be consistent with the provisions in Section 6: Deviations and Waivers. Providing for variances and other remedial measures is crucial to avoiding a takings claim by providing due process to the property owner and avoiding unreasonable hardship that may arise in relation to the regulatory framework. Federal case law has established that property owners should first exhaust available administrative remedies, including appeals to the local board of adjustment, before the case may be heard in a court of law. If local appeal procedures exist and the property owner sues before first pursuing a variance or other remedial action, the case may be invalidated on this basis (aka "ripeness rules").*

Appendix

Appendix A – Sample Cross Access Agreement

CROSS ACCESS AND CROSS PARKING AGREEMENT

This Cross Access and Cross Parking Agreement (the "Agreement") is hereby made on this ____ day of _____, 2020; between Covelli Florida Properties, Inc., a Florida corporation and PND Tradition, LLC, a Georgia limited liability company.

WHEREAS, Covelli Florida Properties, Inc., is the owner of real property more fully described on Exhibit "A" (legal description) attached hereto and incorporated herein by references as "Parcel 1", on which it's tenant Covelli Family Limited Partnership II operates a Panera;

WHEREAS, PND Tradition, LLC, pursuant to an Agreement dated August 8, 2018, intends to purchase the real property more fully described on Exhibit "B" (legal description) attached hereto and incorporated herein by this reference as "Parcel 2," currently owned by Covelli Florida Properties, Inc.;

WHEREAS, the parties to this Agreement desire to create and grant an easement on, over, upon and across portions of each property (Parcel 1 and Parcel 2, collectively, the "Parcels") for purposes of vehicular and pedestrian ingress and egress to and from, and non-exclusive parking rights, and for all other uses expressly contemplated by this Agreement;

WHEREAS, the parties agree that these mutual easements will be defined, at a minimum, by the designated areas in Exhibit "C" attached hereto (the "Easement Areas").

WHEREAS, the interested parties representing Parcel 1 and Parcel 2 intend for the Parcels to be operated as a single property;

WHEREAS, the interested parties representing Parcel 1 and Parcel 2 are seeking approval from the City of Port St. Lucie (the "City") for P19-167, the Port Saint Lucie Dairy Queen Site Plan ("Approval" or "Site Plan") and the City is requiring the execution and recordation of this Agreement as a condition to the Approval and the issuance of permits.

WHEREAS, it is the desire of the interested parties representing Parcel 1 and Parcel 2, in consideration for the receipt of said permits and as a condition of the Approval, to create a unity of control, unifying the Parcels so that the requirements of the City and the Approval will be satisfied.

WHEREAS the interested parties representing Parcel 1 and Parcel 2 have agreed with the City of Port St. Lucie that, for the intended development of Parcel 2, the interested parties representing Parcel 1 and Parcel 2 shall provide for mutual and reciprocal right-of-ways for the purpose of ingress and egress, parking, drainage and utilities of whatsoever nature located within the Parcels, the enjoyment of which cross easements shall be shared by the respective parties owning any portion of either Parcel and their respective heirs, successors, assigns and successors in title to all or part of either Parcel and to tenants, lessees, agents, employees, guests and invitees of any owner of either Parcel or any portion thereof and guests and invitees of tenants and lessees legally occupying either Parcel.

WHEREAS, the City has a health, safety and welfare interest in safe and efficient traffic circulation on the road and driveway system and the establishment of common drainage and utilities through the establishment of the unity of control that covers the Parcels.

WHEREAS, the City is specifically intended to be a direct, third-party beneficiary to this Agreement.

1. **Recitals.** The above recitals are true and correct and are hereby made a part of and incorporated in this Agreement.

2. **Unified Control.** All structures, uses and parking areas on the Parcels are and will be part of a single unified planned development, regardless of ownership. In furtherance of the foregoing, the Parcels shall be operated and developed in accordance with the Site Plan attached to this Agreement as Exhibit D, and shall meet all building, zoning and land development requirements as if they are one lot.

3. **Granting of Easements**

3.1 Cross Access Easement. The interested parties representing Parcel 1 and Parcel 2 hereby grant and convey non-exclusive, mutual cross access easements for purposes of vehicular and pedestrian ingress and egress on, over, upon and across the areas defined in the Easement Areas. The Cross Access Easement is subject to the terms, conditions, restrictions and limitations set forth herein and in other recorded easements, reservations, rights-of-way, licenses, restrictions, conditions and limitations affecting the Easement Areas; provided, however, that the foregoing shall not unreasonably interfere with the easement rights under this Agreement. The Cross Access Easement is for the benefit of and is appurtenant to each of the Parcels, respectively, and may be used by the record title owner of each of the Parcels, respectively, and each of their respective successors, assigns, employees, contractors, agents, licensees, lessees under leases extending the use thereof to such lessees and other permittees (collectively the "Permitted Users") solely for the uses set forth herein (the "Permitted Uses") and for no other uses. Such Permitted Uses shall be for the benefit of the Parcels as now or hereafter improved, subdivided and/or developed.

3.2 Common Driveway Easement. The interested parties representing Parcel 1 and Parcel 2 hereby grant and convey non-exclusive, mutual common driveway easements for purposes of vehicular ingress and egress on, over, upon and across the areas defined in the Easement Areas.

2.3 Cross Parking Easement. The interested parties representing Parcel 1 and Parcel 2 hereby grant and convey non-exclusive, mutual cross parking easements for use of all parking spaces within the areas defined in the Easement Areas.

4. **Maintenance**

4.1 Maintenance of Easement Areas. Any construction of/on the Easement Areas shall be completed in a good and workmanlike manner free and clear of any construction liens and in full compliance with all present and future local, municipal, county, state and federal environmental and all other applicable laws, statutes, governmental constitutions, ordinances, codes, rules, regulations, resolutions, requirements, standards, applications and directives, as well as all decisions, judgments, writs, injunctions, orders, decrees or demands of courts, administrative bodies and other authorities construing any of the foregoing (collectively, the "Laws"). Each party shall maintain its respective Easement Areas, at its sole cost and expense, in a first-class condition and in full compliance with the Laws.

5 **Mutual Indemnities**

5.1 Indemnity. Each party held by this Agreement will indemnify, defend and hold harmless the other for, from and against any and all claims suffered or incurred in connection with any alleged bodily injury or property damage arising out of use or enjoyment of the Easement Areas, unless caused by negligence or willful misconduct of the party to be indemnified.

6. **Run with the Land**

6.1 The covenants, conditions, restrictions, easements, and the other provisions of this Agreement shall run with and be appurtenant to each portion of Parcel 1 and Parcel 2 and shall be binding upon each portion of Parcel 1 or Parcel 2 as applicable.

7. **Breach**

7.1 If any party breaches (such party being referred to as the "Breaching Party") any provision of this Agreement and fails to cure any such breach within fifteen (15) days after written notice thereof is given by the other party (the "Non-breaching party") in addition to any other right or remedy available to the Non-breaching party at law or in equity, the Non-breaching party shall have the right, but not the obligation, to cure any such breach. The Breaching Party shall reimburse the Non-breaching party for the cost thereof upon demand, together with interest accruing thereon at an annual rate of interest equal to the lesser of: (i) four percent (4%) above the prime rate of interest announced by SunTrust Bank, Central Florida, N.A.; or (ii) the highest rate of interest allowable by law (the "Default Rate"), from and after the date of the Non-breaching party's expenditure thereof, until the Non-breaching party's receipt of full payment therefor.

8. **Termination and Modification**

8.1 The terms and conditions of this Agreement may be abrogated, modified, rescinded or amended in whole or in part only by written instrument executed by all the then owners of Parcel 1 and Parcel 2 after the prior written consent of the City.

8.2 In the event a request is made in the future that the unity of control be terminated, should the Parcels otherwise be in compliance with the City's comprehensive plan, zoning ordinances and the regulations of the City, the City shall, upon written request by the interested parties representing Parcel 1 and Parcel 2, their successors or assigns, execute a recordable termination of the unity of control.

9. **Assignment**

9.1 This Agreement involves the granting of an appurtenant easement for the benefit of the Parcels and which burdens the Easement Areas. Therefore, this Agreement and the and the benefits and/or burdens of the easements granted herein, as applicable, shall be automatically assigned (either in whole or in part,

as applicable) to any person or entity to whom fee simple title to all or any portion of any of the Parcels and/or the Easement Areas are conveyed. Notwithstanding anything else contained in this Agreement, upon any such assignment or partial assignment, the rights, duties, obligations and liability of the assignor shall automatically terminate, and the assignee shall be deemed to have assumed and be bound by the applicable duties, obligations and liability so assigned and shall be entitled to all the rights and benefits so assigned with respect to that portion of the Parcels and/or the Easement Areas conveyed. Whenever and wherever the term "successors and assigns" is used in this Agreement, it shall mean only those successors and assigns who acquire their interest by a conveyance of any portion of the Parcels and/or the Easement Areas in accordance with and subject to this Section.

10. **Notices**

10.1 Each notice or communication under this Agreement shall be deemed delivered and received if in writing and either: (i) personally delivered; (ii) delivered by reliable overnight air courier service; or (iii) deposited with the United States Postal Service or any official successor thereto, certified or registered mail, return receipt requested, with adequate postage prepaid, delivered or addressed to the entity entitled or required to receive the same or (iv) sent via facsimile, provided that evidence of successful transmission is retained by the sender and further provided that a copy of such notice is also contemporaneously sent by one of the methods described in the preceding clause (i), (ii) or (iii) of this Section (it being understood and agreed, however, that such notice shall be deemed received upon receipt of such facsimile transmission), at the address (or facsimile number) set forth below or such other address (or facsimile number) as may have been designated by the party by written notice hereunder. Rejection or other refusal by the addressee to accept the notice, and inability to deliver the notice because of a change of address of the party of which no notice was given, shall be deemed to be the receipt of the notice on the third day following the date postmarked by the United States Postal Service or on the second day following the date accepted by the courier service. All notices shall be addressed as hereinbelow set forth, or to such other address as the parties shall hereafter give notice to the other in writing:

If to Covelli Florida Properties, Inc.:

Robert Fiorino
Covelli Florida Properties, Inc.
3900 E. Market Street
Warren, OH 44484
Bob.fiorino@covelli.com

With copy to:

Kevin P. Murphy
Harrington, Hoppe & Mitchell, Ltd.
108 Main Avenue SW, Suite 500
Warren, OH 44484
kmurphy@hhmlaw.com

If to PND Tradition, LLC:

Lee Perlis
PND Tradition, LLC
1220 16th Avenue E
Cordele, GA 31015
lee@perlisnease.com

With copy to:

Scott P. Newland
Hartley, Rowe, & Fowler, P.C.
12301 Veterans Memorial Hwy.
Douglasville, GA 30134
snewland@hrflegal.com

Any such notice shall be deemed given and received when actually so personally delivered or when receipt thereof is refused or, if mailed, as aforesaid, three (3) business days after the date of mailing, or, if sent by nationally-recognized overnight courier service, as aforesaid, one (1) business day after delivery of the same to such courier service for overnight delivery or if sent by facsimile, as aforesaid, at the time and on the date of receipt with receipt thereof confirmed by transmittal confirmation and telephonic acknowledgment if such date is a business day or if such day is not a business day, the following business day. Notwithstanding the foregoing, if any notice or other communication has not been sent in compliance with this Section but has in fact actually been received by its intended recipient, then such notice or communication shall be deemed duly given to and received by such recipient effective as of the date of actual notice. Any party may designate a different address or facsimile number for

receiving written notices by written notice to the other entities entitled to receive notice, such notice to be given in accordance with this Section.

11. **Counterparts**

11.1 This Agreement may be executed in counterparts; each of which shall be deemed to be an original and all of which shall together constitute one and the same instrument.

12. **Governing Law**

12.1 This Agreement shall be governed by, construed under and interpreted and enforced in accordance with the laws of the State of Florida.

13. **Third Party Beneficiary**

13.1 The City, as a third-party beneficiary of this Agreement, has the right to enforce this Agreement through legal, equitable, or administrative proceedings.

[Signature Page to Follow]

IN WITNESS WHEREOF, this Agreement has been made as of this ____ day of _____, 2020.

COVELLI FLORIDA PROPERTIES, INC.

_____
Signature

Kevin Ricci
Printed Name

President
Title

State of Florida

County of Hillsborough

The foregoing instrument was signed before me, the undersigned Notary Public,

this ____ day of December, 2019

by_____

Notary Public_____

PND TRADITION, LLC

_____
Signature

_____
Printed Name

_____
Title

State of _____

County of _____

The foregoing instrument was signed by me, the undersigned Notary Public,

this ____ day of December, 2019

by _____

Notary Public_____

Exhibit A

Parcel 1 Legal Description

Exhibit B

Parcel 2 Legal Description

Exhibit C

A portion of Parcel 1, Lot D-1, Tradition Plat No. 43, according to the plat thereof, as recorded in Plat Book 55, Pages 34 and 35, of the Public Records of Saint Lucie County, Florida.

Commence at the westerly most corner of Parcel 1, Lot D-1, Tradition Plat No. 43, according to the plat thereof, as recorded in Plat Book 55, Pages 34 and 35, of the Public Records of Saint Lucie County, Florida; thence run North 28 degrees 11 minutes 07 seconds East, along the west line of said Parcel 1, Lot D-1, a distance of 75.79 feet; thence North 00 degrees 13 minutes 39 seconds West, continuing along said west line of said Parcel 1, Lot D-1, a distance of 2.65 feet; thence North 89 degrees 46 minutes 21 seconds East, leaving said west line, a distance of 28.12 feet for a Point of Beginning; thence North 00 degrees 18 minutes 45 seconds East, a distance of 19.42 feet; thence North 89 degrees 48 minutes 18 seconds East, a distance of 125.38 feet; thence South 55 degrees 06 minutes 17 seconds East, a distance of 99.37 feet to the Northwesterly right of way line of Village Parkway per Warranty Deed recorded in Official Records Book 3776, Page 2778, of the Public Records of Saint Lucie County, Florida; thence South 30 degrees 43 minutes 17 seconds West, along said Northwesterly right of way line, a distance of 28.35 feet; thence North 56 degrees 35 minutes 47 seconds West, leaving said northwesterly right of way line, a distance of 101.33 feet; thence South 88 degrees 09 minutes 42 seconds West, a distance of 70.80 feet; thence North 01 degrees 55 minutes 45 seconds West, a distance of 8.01 feet; thence South 89 degrees 46 minutes 21 seconds West, a distance of 36.89 feet to the Point of Beginning.

Containing 5,782 square feet or 0.1327 acres of land, more or less.

Appendix

Appendix B – TRB Sample Subdivision and Site Plan Review Checklist

Site Plan Review Checklist for Access

Site plan review should address a variety of topics. This checklist addresses those items that relate to site access. Source: TRB Access Management Manual, Second Ed.

Vehicular Access

- Are all buildings and improvements (including billboards) located outside of planned easements and right of way areas?
- Is there an opportunity to provide alternative access to the site from a service road or existing local road?
- Are the number of proposed driveways the minimum necessary to serve the site and proposed use?
- Is there an opportunity to reduce the number of driveways serving the site?
- Can the proposed site provide a cross access connection and/or easement to an abutting parcel?
- Do adjacent sites have cross access easements that should be connected to the site under review?
- Should the site be redesigned to better accommodate cross access?
- Can the proposed site accommodate joint or shared access with an adjacent parcel?
- Can the site be designed to provide an opportunity to allow joint access in the future?
- Can you achieve access from this parcel to an adjacent traffic signal?
- Is the site driveway located outside of the functional area of an adjacent intersection as defined by adopted spacing standards and/or engineering analysis?
- If access is within the intersection functional area, has the site access been moved to the outside edge of the property line or can access be shared with adjacent properties?
- Does the location of the site access points provide adequate sight distance?
- Do proposed signs, landscaping or other improvements potentially obstruct the sight distance of drivers exiting the proposed access?
- Are driveways adequately offset from opposing driveways or streets across the roadway if no median is present?
- Is there adequate uninterrupted throat length for any driveways and frontage roads that serve the site?

- Are turning or access restrictions desirable for a proposed driveway located within the influence zone of an adjacent intersection?
- Is the site driveway located directly across from an existing driveway or at a location allowing for future shared use?
- Does the site plan show the property lines for properties to the rear, both sides, and across the street?
- Does the parking lot design facilitate safe movements?
- Does the proposed project connect with the surrounding street system?.

Pedestrian, Bicycle and Transit Access

- Does the site plan include a sidewalk connecting to adjacent properties, the adjacent roadway network, and ending at a logical terminus?
- Do sidewalks extend across the driveway opening? Is the sidewalk crossing designed in accordance with ADA requirements?
- Are there sidewalk connections between the building entrance and public sidewalk system?
- Is there an internal pedestrian connection to connect the building with the parking area?
- If there are multiple buildings on the parcel, is there an adequate pedestrian connection between the buildings?
- Do access locations and parking layout minimize potential conflicts with pedestrians and bicyclists?
- Is bicycle parking provided?
- Is there an adequate pedestrian connection to a transit stop on both sides of the roadway?
- Are measures needed to direct pedestrians to safe crossing points and pedestrian access ways?
- Are pedestrian travel zones clearly delineated from other modes of traffic through the use of striping, colored and/or textured pavement, signing, and other methods?
- Are building entrances located and designed to be obvious and easily accessible to pedestrians?
- Does the site include pedestrian lighting where appropriate?
- Is the path clear from both temporary and permanent obstructions?

Intergovernmental Coordination

- Has the state department of transportation (DOT) been identified as an interested or involved agency? If so, has the DOT been contacted?

- Has the county been identified as an interested or involved agency? If so, has the county been contacted?
- Has the access permit application process of other affected agencies been started?
- Have all necessary comments been received from other affected agencies relative to the proposed access?