

# US 72 Corridor Study

## FINAL REPORT

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Prepared for:

Shoals Area Metropolitan Planning Organization

By:



G R E S H A M  
S M I T H   A N D  
P A R T N E R S

Funded in part by:





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# TABLE OF CONTENTS

- 1. BACKGROUND AND INTRODUCTION..... 1**
- 2. THE CONTEXT ..... 3**
  - Existing Land Use and Character ..... 3
  - Mobility ... 3
  - Colbert County’s Economic Backbone ..... 3
  - Colbert County’s ‘Main Street’ ..... 4
  - Access and Mobility ..... 4
  - Land Development Trends ..... 4
- 3. THE PROCESS ..... 9**
  - Issues and Opportunities ..... 9
  - Alternative Futures ..... 9
  - Comparing the Scenarios ..... 9
- 4. THE PLAN17**
  - Preferred Development Concept ..... 17
  - Land Development and Access Management ..... 17
  - Parallel Streets ..... 17
- 5. IMPLEMENTATION ..... 23**
  - Zoning and Subdivision Regulations ..... 23
    - Urban Services ..... 23
    - Alabama Department of Transportation ..... 23
  - Planning and Programming for Major Streets ..... 23
  - Master Plans ..... 23
- 6. SUMMARY ..... 25**
- Appendix ..... 27**

# TABLES

- Table 2-1. Posted Speed, Travel Time, and Delay on US 72 ..... 3
- Table 2-2. Existing (2008) Traffic Volumes on US 72 ..... 3
- Table 4-1. Proposed Access Management Guidelines ..... 17

# FIGURES

- Figure 1-1. US 72 Corridor in Colbert County..... 1
- Figure 1-2. Regional Context..... 1
- Figure 2-1. Existing Land Use and Character ..... 5
- Figure 2-2. Existing Cross-sections on US 72 ..... 6
- Figure 2-3. Travel Times on US 72 in Colbert County ..... 7
- Figure 2-4. Driveway Spacing on US 72 ..... 8
- Figure 3-1. Scenario One: Continuous Strip Development ..... 11
- Figure 3-2. Scenario Two: Development Focused on Towns and Centers..... 12
- Figure 3-3. Scenario Three: Development Focused on Interchange Areas..... 13
- Figure 3-4a. Vacant and Developable Land in the US 72 Corridor ..... 14
- Figure 3-4b. Scenario One: Likelihood of Development on US 72 ..... 15
- Figure 3-4c. Scenario Two & Three: Likelihood of Development on US 72 ..... 16
- Figure 4-1. Development Concept for Activity Nodes ..... 17
- Figure 4-2. Corridor Development Concept for US 72..... 18
- Figure 4-3a. Land Development and Access Management Strategy for Activity Nodes ..... 19
- Figure 4-3b. Land Development and Access Management Strategy for Transition Areas..... 19
- Figure 4-3c. Land Development and Access Management Strategy for Rural Areas ..... 20
- Figure 4-3d. Land Development and Access Management Strategy in Context.. 20
- Figure 4-4. Proposed Access Management Classifications for US 72..... 21
- Figure 4-5. Posted Speed Limits Consistent with Access Strategy for US 72 .... 21
- Figure 5-1. Proposed Urban Service Areas on US 72..... 22



# 1. BACKGROUND AND INTRODUCTION

The US 72 corridor is one of the most valuable assets within Colbert County and the Northwest Alabama region. High levels of mobility coupled with access to natural resources make the corridor a natural choice for industry, as evidenced by the burgeoning development along the corridor.

In response to these emerging trends in growth and development, the Shoals Area Metropolitan Planning Organization (MPO), hosted by the Northwest Alabama Council of Local Governments (NACOLG), commissioned the US 72 Corridor Study in 2008. The study has several key objectives:

- Understand and evaluate current trends on US 72 from a mobility and development standpoint.
- Engage the public and other stakeholders in a discussion about the future of the corridor and the trade-offs associated with alternative options for growth and development.
- Develop a preferred vision for the corridor that balances the mission and purpose of the MPO with the desires of stakeholders.
- Recommend steps the MPO and local agencies can take to make the vision a reality.

This report documents the process, findings and recommendations of the US 72 Corridor Study. The limits of the study are US 72 from the western county line, at the Alabama state line, to the eastern county line, at the Colbert and Lawrence county line, a distance of approximately 38 miles.



Figure 1-1. US 72 Corridor in Colbert County

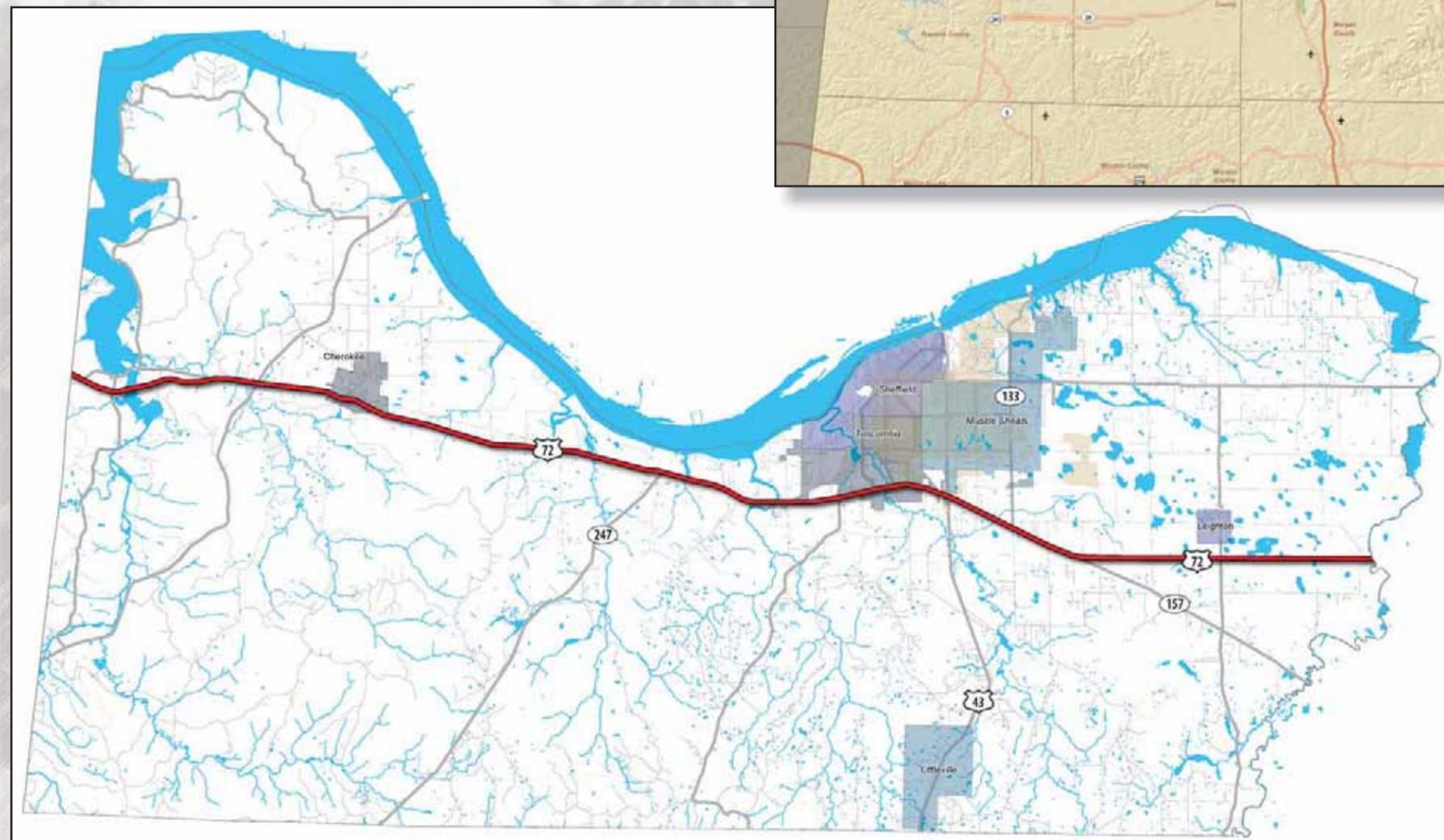
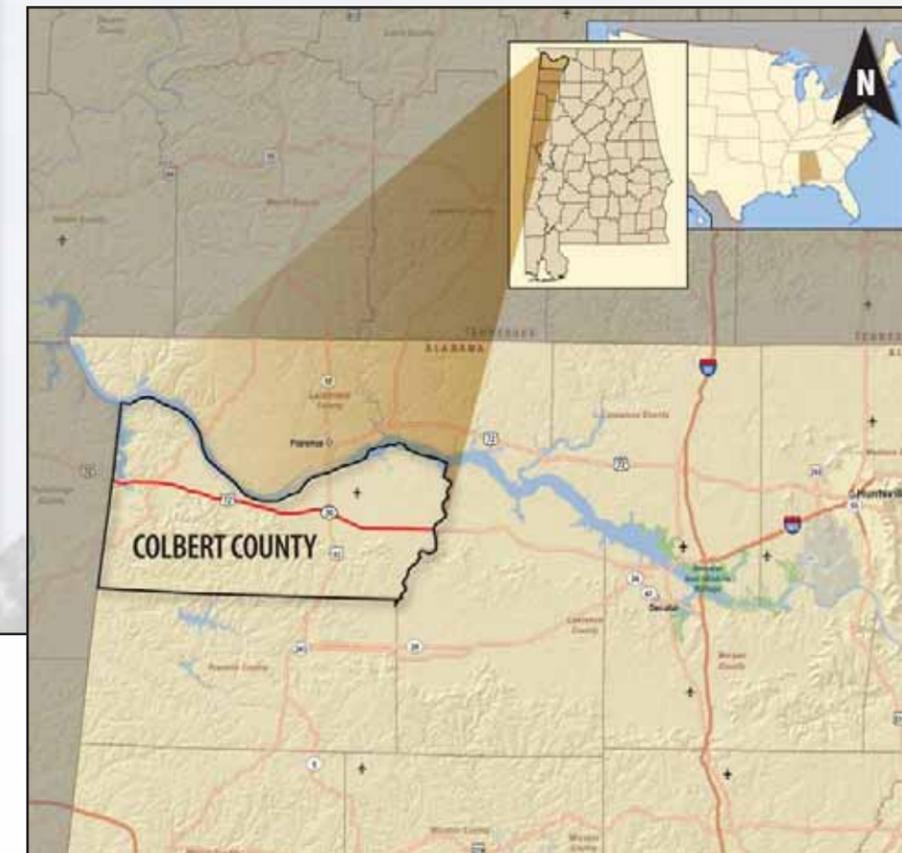


Figure 1-2. Regional Context





## 2. THE CONTEXT

Prior to engaging in a discussion about the future of the US 72 Corridor, it is first necessary to have an understanding of the context under which the corridor exists today. Key concepts that shape the existing context of US 72 include:

- The corridor contains a mix of rolling topography, agriculture, industry and commercial development and is defined by seven distinct places.
- US 72 is a high speed, high mobility corridor that moves significant amounts of motor vehicles at relatively low amounts of delay.
- High mobility, multiple means of freight movement and access to natural resources make the US 72 corridor a very popular location for industry and an economic backbone of the county and region.
- The corridor is the sole east-west link for many communities and is perceived as an important venue for commercial activity by those communities.
- Relatively low levels of access on US 72 contribute to its high speed, high mobility function.
- Recent development trends threaten the corridor’s high speed status and therefore threaten US 72’s long term economic viability.

### Existing Land Use and Character

The US 72 Corridor begins in the west at the Mississippi State line with wooded, rolling topography and wetland features, eventually giving way to agricultural and mining functions before leading into the commercially oriented sections within Tusculum and Muscle Shoals, eventually transitioning into the flat fields heading east toward the Lawrence County line (Figures 2-1 and 2-2).

The corridor can most easily be described in terms of seven distinct ‘places’:

- Cherokee
- Barton
- SR 247
- Woodmont Avenue
- US 43
- SR 133
- SR 157

These locations are perceived as places because they are either historic towns, clusters of commerce and/or industry or represent the confluence of major transportation corridors. Those traveling along the corridor experience US 72 in terms of these places, and future growth and development will occur relative to these locations. They will form a basic frame of reference for this study.

### Mobility

US 72 is designed as a high-speed, limited access roadway. The road includes two lanes in each direction and, for most of its length, includes wide shoulders/ auxiliary lanes and a wide, depressed median with left turn bays. Its high speed design and function is underlined by US 72’s classification as a major arterial and component of the National Highway System’s (NHS) Strategic Highway Network (STRAHNET).



Regional Travel Times on US 72

High speed design, coupled with relatively little development and access for most of its length results in high travel times at virtually free-flow speeds. Motor vehicles can travel the entire length of US 72 within Colbert County in under 40 minutes. Only minor delay occurs at signalized intersections with Woodmont Drive, US 43 and SR 133 (Figure 2-3).

Table 2-1. Posted Speed, Travel Time, and Delay on US 72

From	To	Posted Speed (mph)	Free Flow Travel Time	Actual Travel Time	Delay
Mississippi State Line	N. Pike Road (Cherokee)	65	7:30	7:30	0:00
N. Pike Road (Cherokee)	Mulberry Lane (Barton)	65	3:59	3:59	0:00
Mulberry Lane (Barton)	SR 247	65	4:46	4:46	0:00
SR 247	Woodmont Drive	55/65	6:25	6:43	0:18
Woodmont Drive	US 43	55	1:47	2:28	0:41
US 43	SR 133	55	2:16	2:47	0:31
SR 133	SR 157	65	2:16	2:36	0:20
SR 157	County Line	65	7:59	7:59	0:00
			36:58:00	38:48:00	1:50

From a regional standpoint, one can travel from the Mississippi State line to I-65 in Decatur (roughly 90 miles) in approximately one hour and 20 minutes, making it by far the fastest way to travel from west to east in Northwest Alabama. US 72 is arguably the most significant east-west corridor between I-40 in Tennessee and I-20 in Central Alabama.

Traffic volumes on US 72 in Colbert County range from under 10,000 motor vehicles per day at the eastern and western extents of the corridor to over 20,000 motor vehicles per day near Woodmont Drive, US 34 and SR 133 in Tusculum and Muscle Shoals. These volumes are within an acceptable range for limited access, higher speed roadway facilities.

Table 2-2. Existing (2008) Traffic Volumes on US 72

Location	Vehicles per Day
Between MS State line and Cherokee	9,200
Between Cherokee and Barton	9,600
Between Barton and SR 247	11,900
Between SR 247 and Tusculum City limits	18,100
West of Woodmont Drive	23,800
Between Woodmont Drive and US 43	22,000
Between US 43 and SR 133	21,500
Between SR 133 and SR 157	16,700
East of SR 157	8,400
West of Lawrence County line	9,500

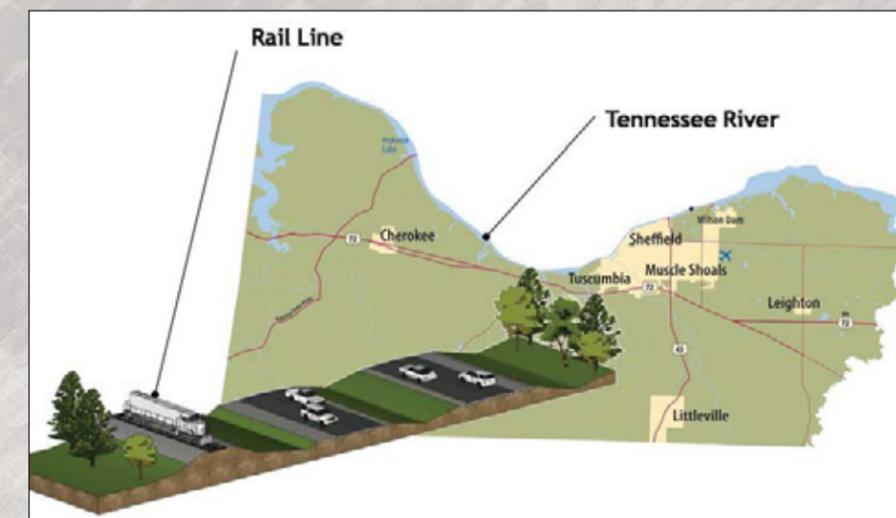
Source: Alabama Department of Transportation

### Colbert County’s Economic Backbone

In addition to the US 72 highway itself, the corridor includes two other forms of transportation:

- Norfolk Southern operates a Class I rail line that runs immediately parallel to US 72
- The Tennessee River, located north of US 72 along the Lauderdale County line, a major navigable waterway that includes a major port in the county

High levels of mobility on US 72, coupled with multiple means of freight movement and access to natural resources (both mining and the Tennessee River itself)



Multiple means of freight movement make the US 72 corridor very attractive for industry

make Colbert County a very popular location for industry. The Barton Riverfront Industrial Park, located between the river and US 72 near the Barton community, is a major location for manufacturing facilities. The plant recently experienced completion of the National Rail Car manufacturing facility, which could ultimately employ up to 1,500 workers.

As long as mobility and accessibility remain strong, the US 72 corridor will continue to be the economic backbone for the County and region.

### Colbert County's 'Main Street'

For the most part, US 72 is the only east-west roadway linking different places in the county. As a result, the corridor is perceived as an important venue for commercial activity by those communities. Recent development activity is evident near US 43 and Woodmont Avenue in Muscle Shoals and Tuscumbia. The Alabama Music Hall of Fame is located on US 72 along with a cluster of strip retail centers, a hotel and restaurants.

### Access and Mobility

There is a direct relationship between growth and development and the amount of access required. Currently, US 72 has a relatively low number of direct driveway connections, but that number increases with each new development. Generally speaking, the number of direct connections increases conflict points and 'friction' on the transportation system, which can impact mobility as well as safety.

Currently, the highest number of direct driveway connections is within vicinity of Woodmont Avenue, US 43 and SR 133/Wilson Dam Road. Not surprisingly, these are locations that experience delay (although it is relatively minor). Outside of those locations, the number of driveway connections is relatively low, which is a big reason why US 72 is a high speed, high mobility corridor.

### Land Development Trends

A review of recent land development within the corridor has yielded several observations about how each new development typically relates to US 72:

- **Direct driveway access** — each new developed parcel has its own direct driveway connection to US 72.
- **Multiple driveway access** — many new developments have multiple driveways that are closely spaced.
- **Lack of cross-access** — most developed parcels do not connect to each other, and rely exclusively on US 72 for lateral movement.
- **Full median openings** — most median openings on US 72 allow full access, meaning turn movements from all directions are permitted, and each movement crosses paths with the others.

The implication of this trend is that, if continued indefinitely, US 72 will have many closely spaced driveways with many turn movements to and from the roadway. In fact, US 72 may one day resemble US 43 in Muscle Shoals, which is noted for significant traffic congestion, delay and safety conflicts. The high mobility function of US 72 is at risk.



Continued development trends on US 72 mean that the corridor may one day look like US 43 in Muscle Shoals and in Florence.



Communities perceive US 72 as an important venue for commercial and tourist development.



Current Development Trends on US 72



Relatively few friction points - driveways and signals - are reasons why US 72 is a high-speed corridor.



Figure 2-1. Existing Land Use and Character

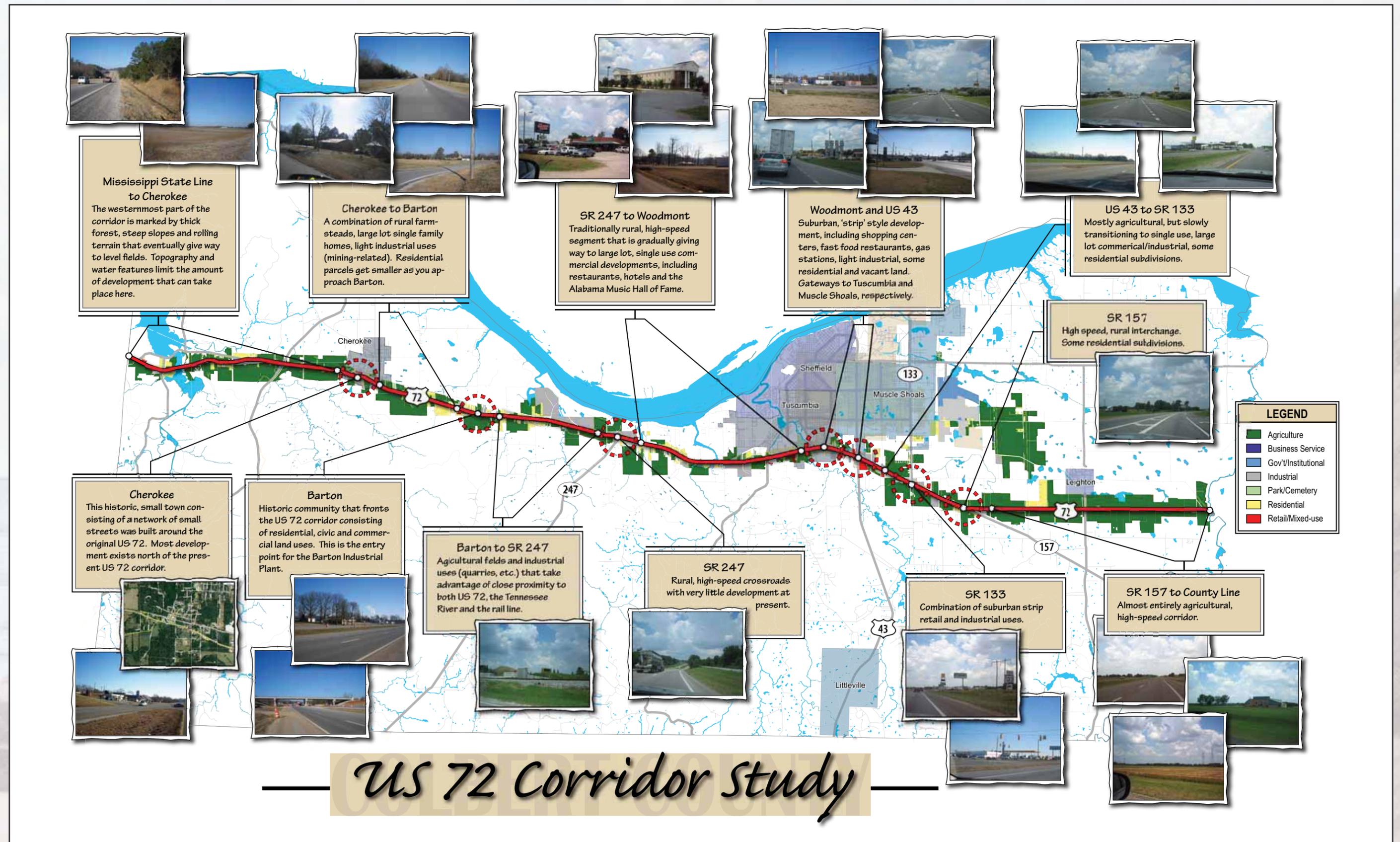
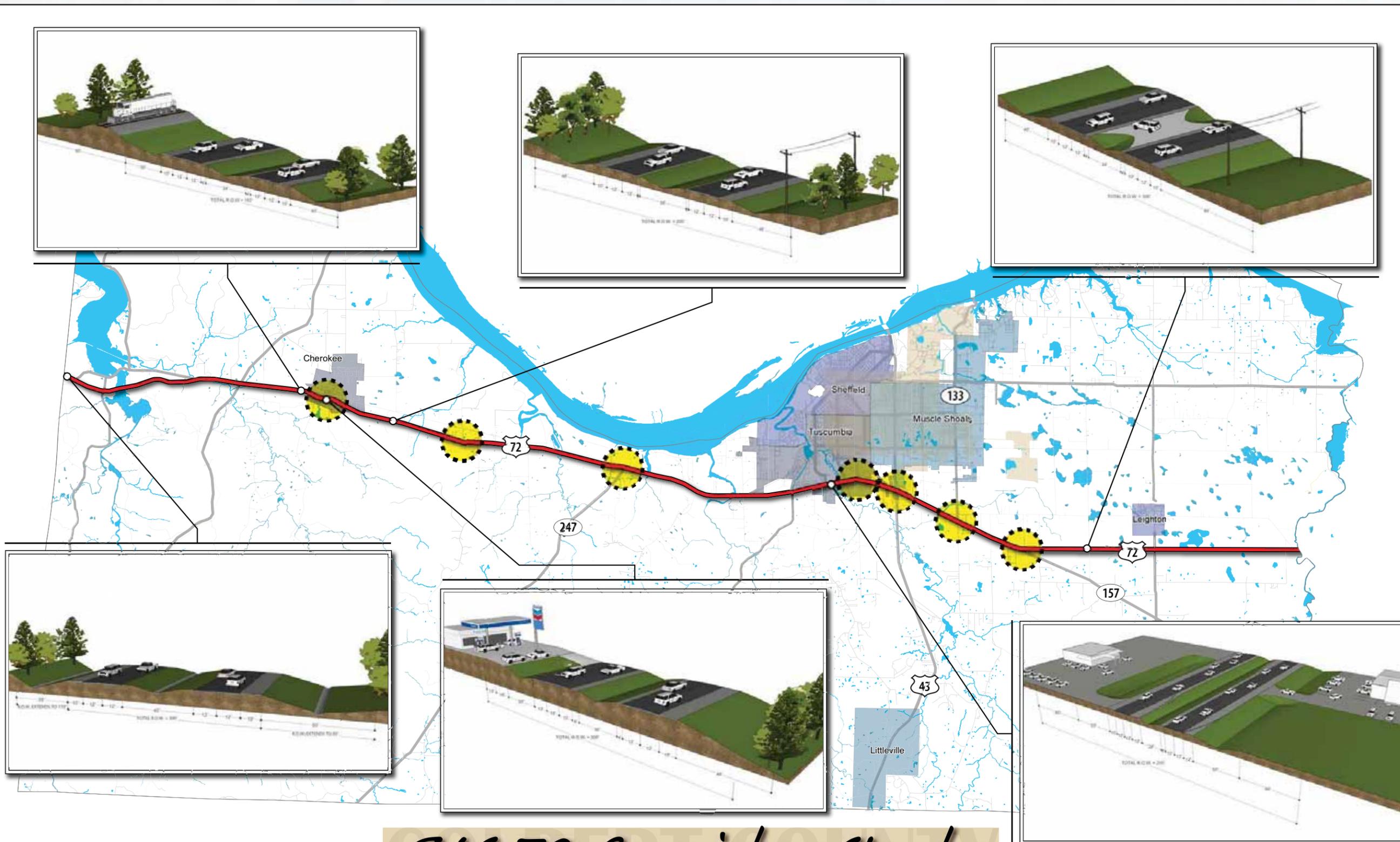
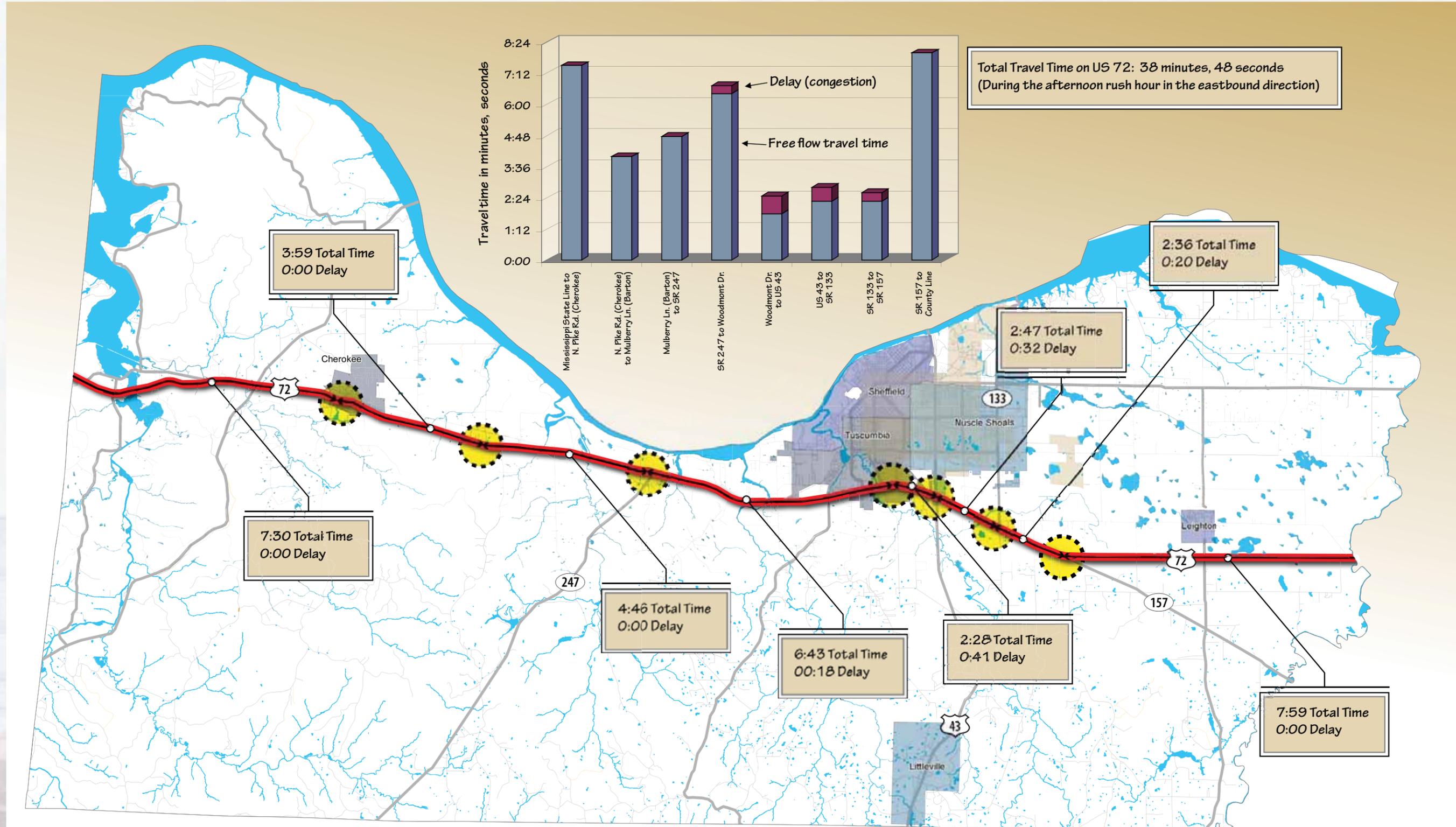


Figure 2-2. Existing Cross-sections on US 72



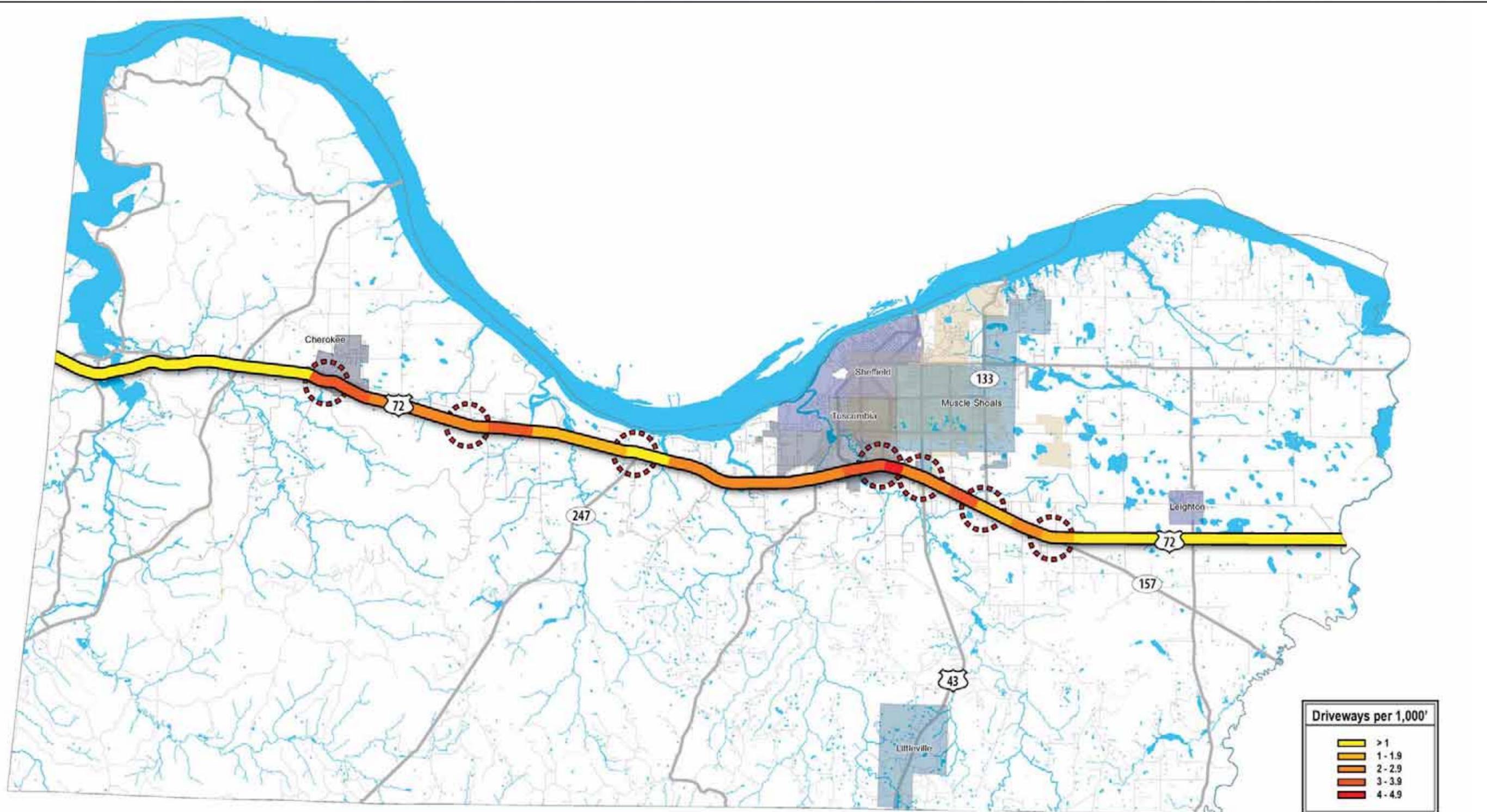
# US 72 Corridor Study

Figure 2-3. Travel Times on US 72 in Colbert County



*US 72 Corridor Study* | Travel Time along the US 72 Corridor

Figure 2-4. Driveway Spacing on US 72



*US 72 Corridor Study* | Driveways on the US 72 Corridor

### 3. THE PROCESS

Stakeholders and members of the public were engaged to craft a common vision for the corridor. This entailed a process of understanding the most meaningful issues and opportunities, responding with a series of distinct scenarios for the future of the corridor and getting consensus on a preferred approach.

#### Issues and Opportunities

A series of public meetings were held in late February in Tuscumbia and Cherokee current with a stakeholder group meeting comprised of members of the Shoals MPO Technical Coordinating Committee. Participants were engaged through a series of map exercises and a 'ranking' exercise, where they identified their most important issues and opportunities.

The top issues/opportunities identified for the US 72 corridor include:

1. Economic development – this was clearly the top priority among all three groups
2. Access to US 72 – many participants tied access to US 72 directly to economic development
3. Safety-including conflicts with truck traffic
4. Traffic congestion
5. Tourism/visitors – some participants were interested in using the US 72 corridor as a vehicle to support tourism in Colbert County.



Workshop participants provide input at a public meeting in Cherokee . . .



. . . and at a Stakeholder Group meeting.

#### Alternative Futures

To help the study team, members of the public and stakeholders better understand the trade-offs inherent to the issues identified for the corridor, a series of distinct scenarios were developed and evaluated for US 72. These scenarios represent hypothetical outcomes should different choices be made about growth and development. Each scenario has different implications for the issues identified above and for the MPO's core mission of maintaining mobility on US 72.

Three distinct scenarios were developed for the corridor:

- **Scenario One:** Continuous 'Strip' Development – current development trends continue; new development happens in strip fashion, extending the full length of the corridor. New development has unrestricted access to the corridor.
- **Scenario Two:** Towns and Centers – New growth and development is focused on towns and centers – the seven distinct 'places' along

the corridor. Access among development is coordinated by shared connections and parallel streets.

- **Scenario Three:** Interchanges – Development is focused on towns and centers, but with no direct access to the corridor. Instead, access is granted through a single grade-separated interchange.

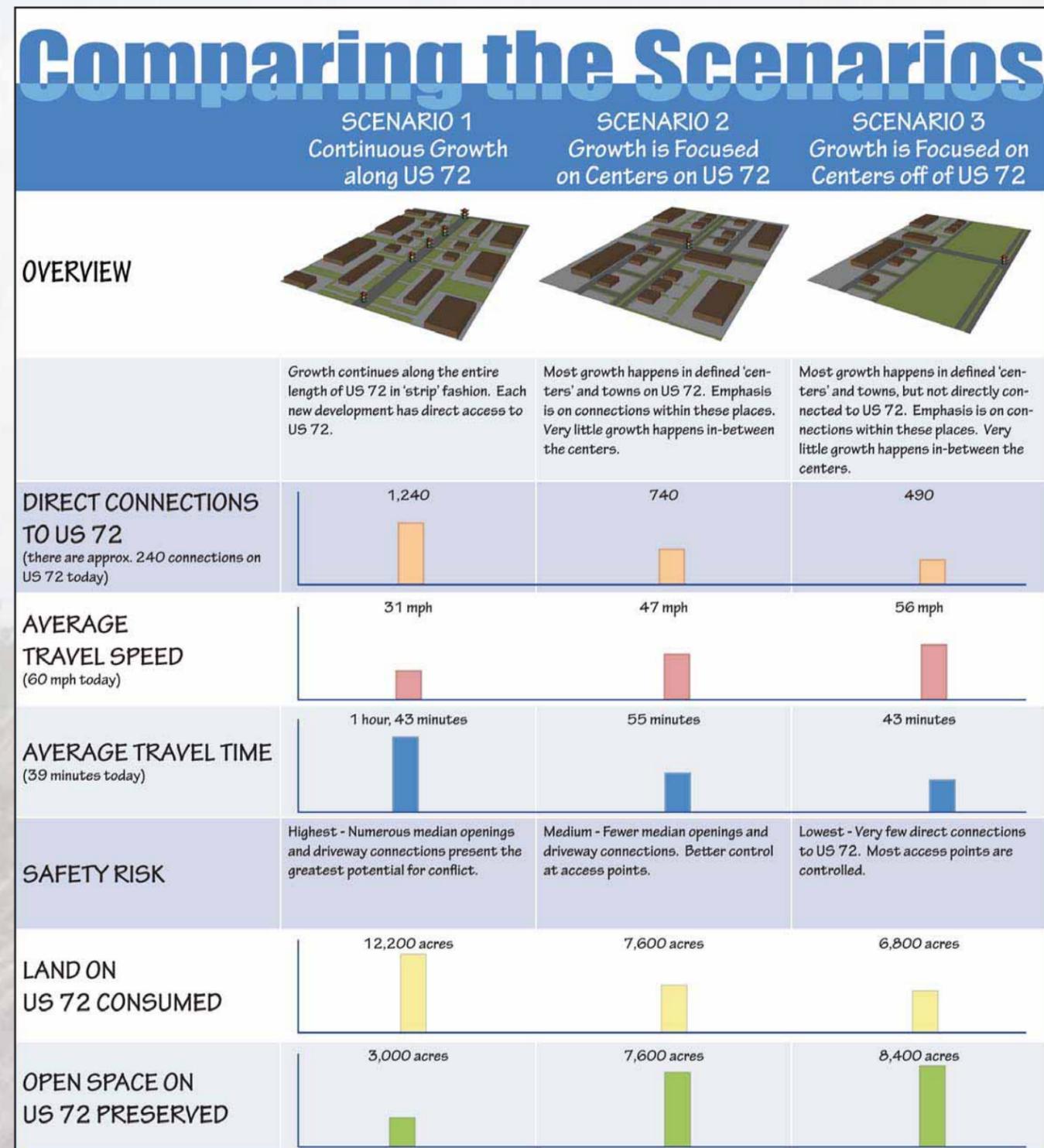
#### Comparing the Scenarios

The development potential and subsequent land use and transportation impacts of each scenario were estimated and analyzed. Key findings from the analysis include:

**Access** – Scenario One ('strip' development) provides, by far, the most direct access to the corridor. Based on the amount of developable and redevelopable land in the corridor, over 1,200 driveway connections are possible at buildout. This represents roughly 1,000 more driveway connections than what exists today. By contrast, Scenario Two, in which most driveways are limited to towns and centers, and Scenario Three, in which there are virtually no new direct driveway connections, provide just over 700 and about 500 connections, respectively. Operating under the assumption that direct access is important to economic development, Scenario One is clearly the favorite for this measure.

**Planning policy, guidance and regulation** – By definition, Scenario One requires the least amount of administrative or coordination effort. Under this scenario, new development, driveways and access are not planned or regulated. Scenario Two requires a significant amount of planning, and driveway access is regulated through standards and guidelines. Scenario Three requires even stricter application of regulations and standards.

**Mobility** – A direct impact of accessibility through driveway connections is mobility. The more driveways, the more 'friction' will occur in the corridor through starts and stops associated with turn movements; speed limits will be lowered for sight distance. Scenario One represents the greatest impact to mobility because of the high number of driveways: estimated county-wide travel times could increase to one hour and 40



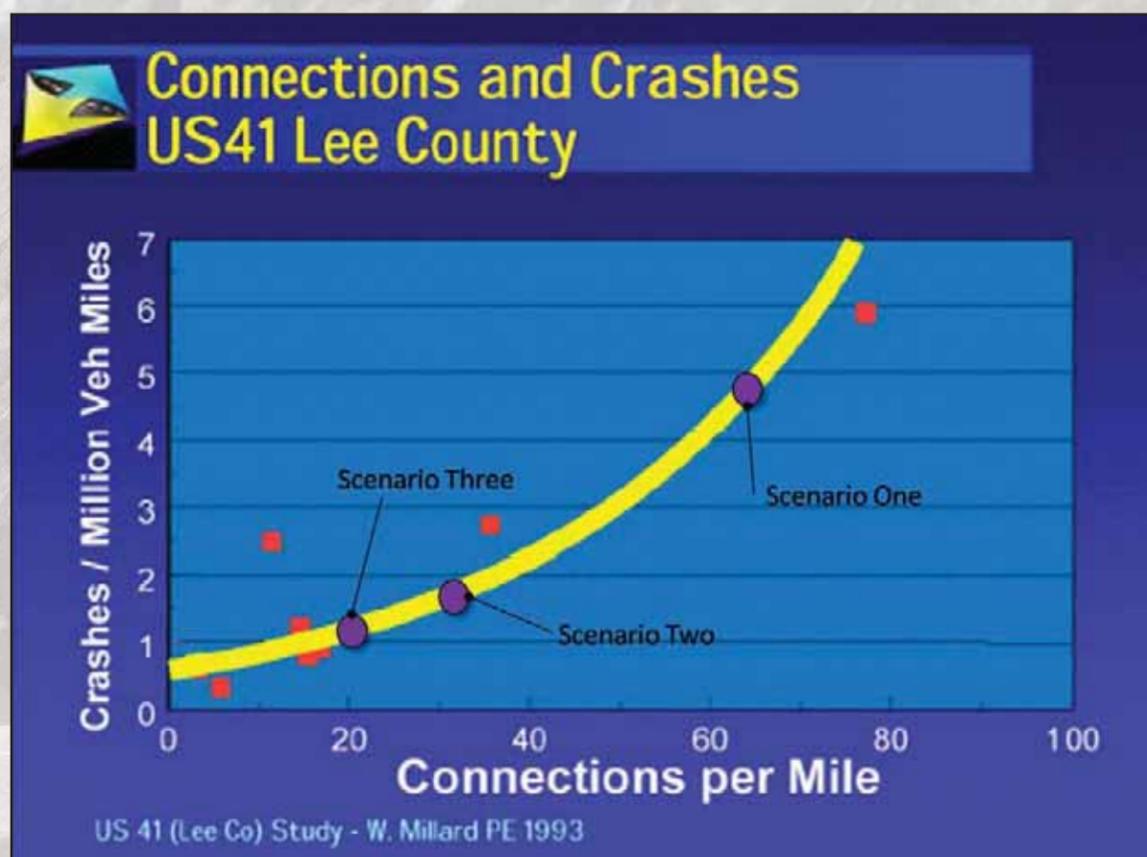
minutes under this scenario; this means that drivers could spend over up to an hour more than they do today in traffic. Scenario Two, in which the majority of new driveways occur in towns and centers, represents a minor increase in delay – estimated at approximately 55 minutes total travel time, a little more than 15 minutes longer than present travel times. At just over an estimated 40 minutes total travel time, Scenario Three represents very little impacts to mobility.

**Safety** – There is a clear relationship between crash rates and the number of driveways: the more driveways, the greater number of conflict points and the greatest potential for collisions. Looking at the crash histories of similar corridors, Scenario One is almost certain to result in a crash rate over double what might occur under Scenarios Two and Three.

**Open Space and Natural Resources** – Although it did not emerge as a top issue during the community outreach process, the impacts of each scenario on open space and natural resources is worth noting. The continuous development associated with Scenario One will consume virtually all of the open space along US 72 leaving just over 2,000 acres of mostly undevelopable land. Scenarios Two and Three place an emphasis on focused growth and on distinguishing between developed places and rural places. As a result, these scenarios preserve between 7,000 and 8,000 acres of open space and natural resources.

In summary, the trade-offs associated with the three scenarios is clear: more direct access means that mobility and safety will be compromised. Unplanned and unregulated access, as represented in Scenario One, will result in an outcome in which mobility is significantly impacted, effectively eliminating US 72's

competitive advantage. Scenarios Two and Three sufficiently preserve mobility on the corridor, but at a price to the communities that desire direct access to US 72 and a streamlined and unburdensome development review process.



There is a clear relationship between the driveways and crash rates.

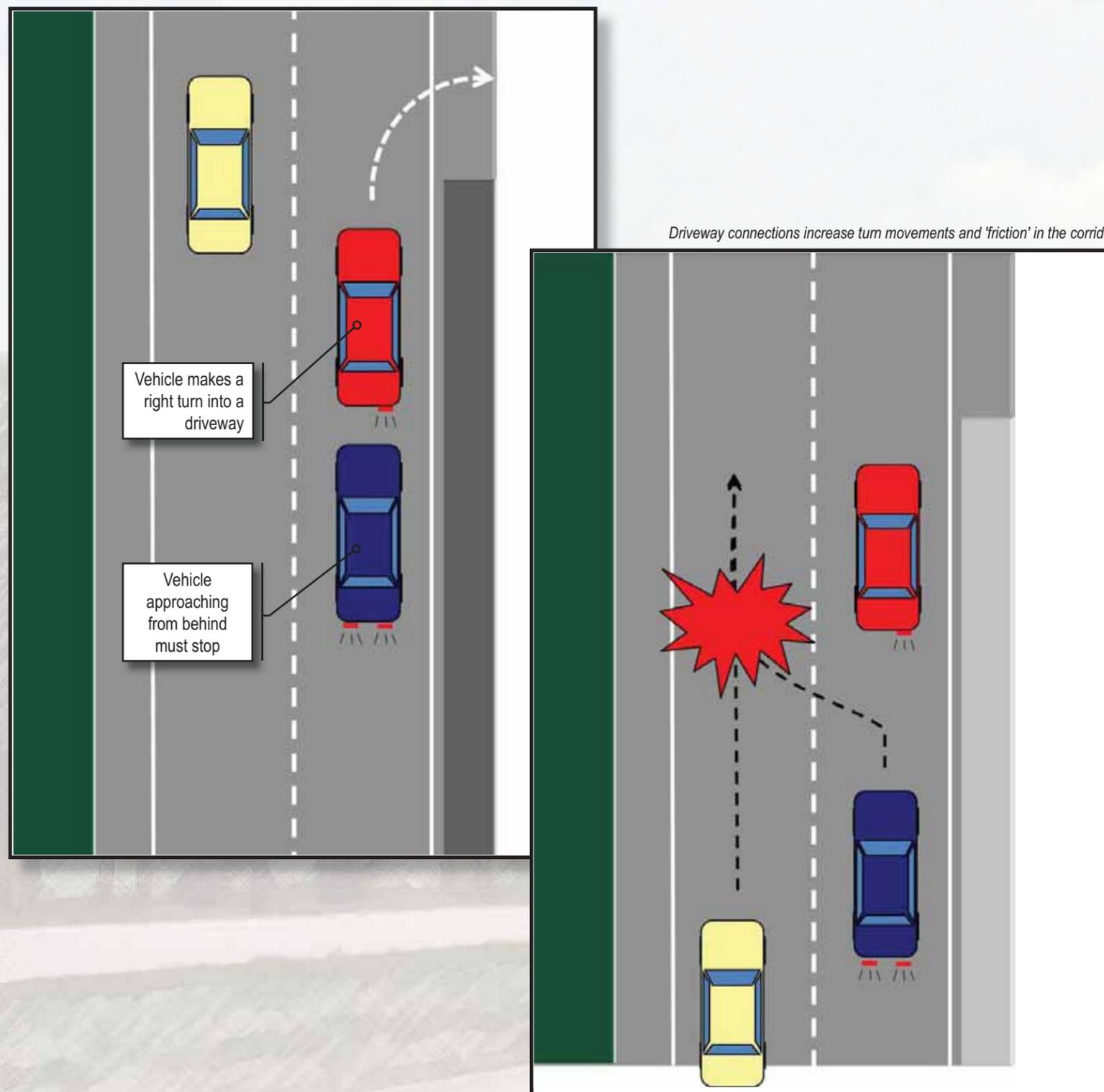
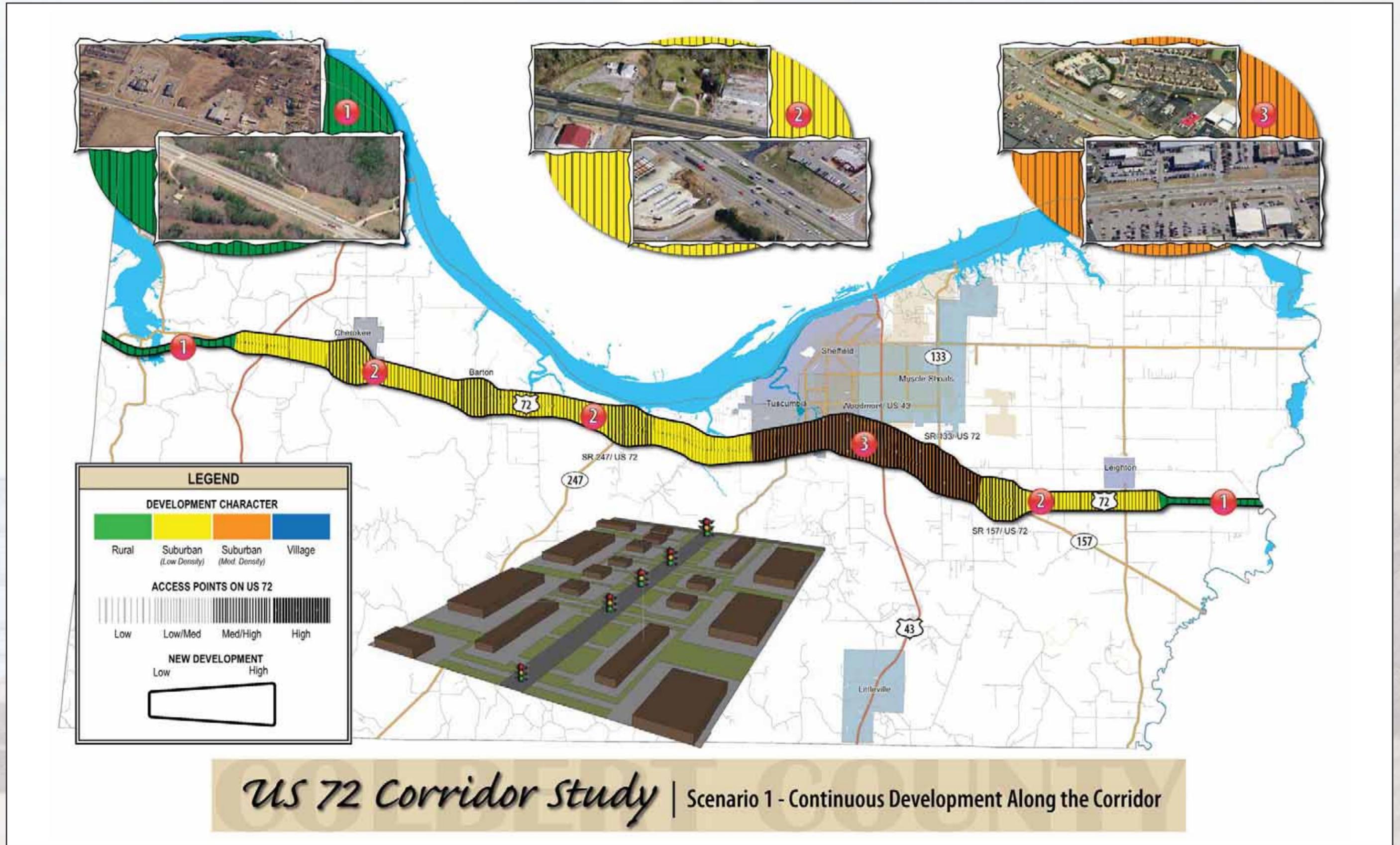
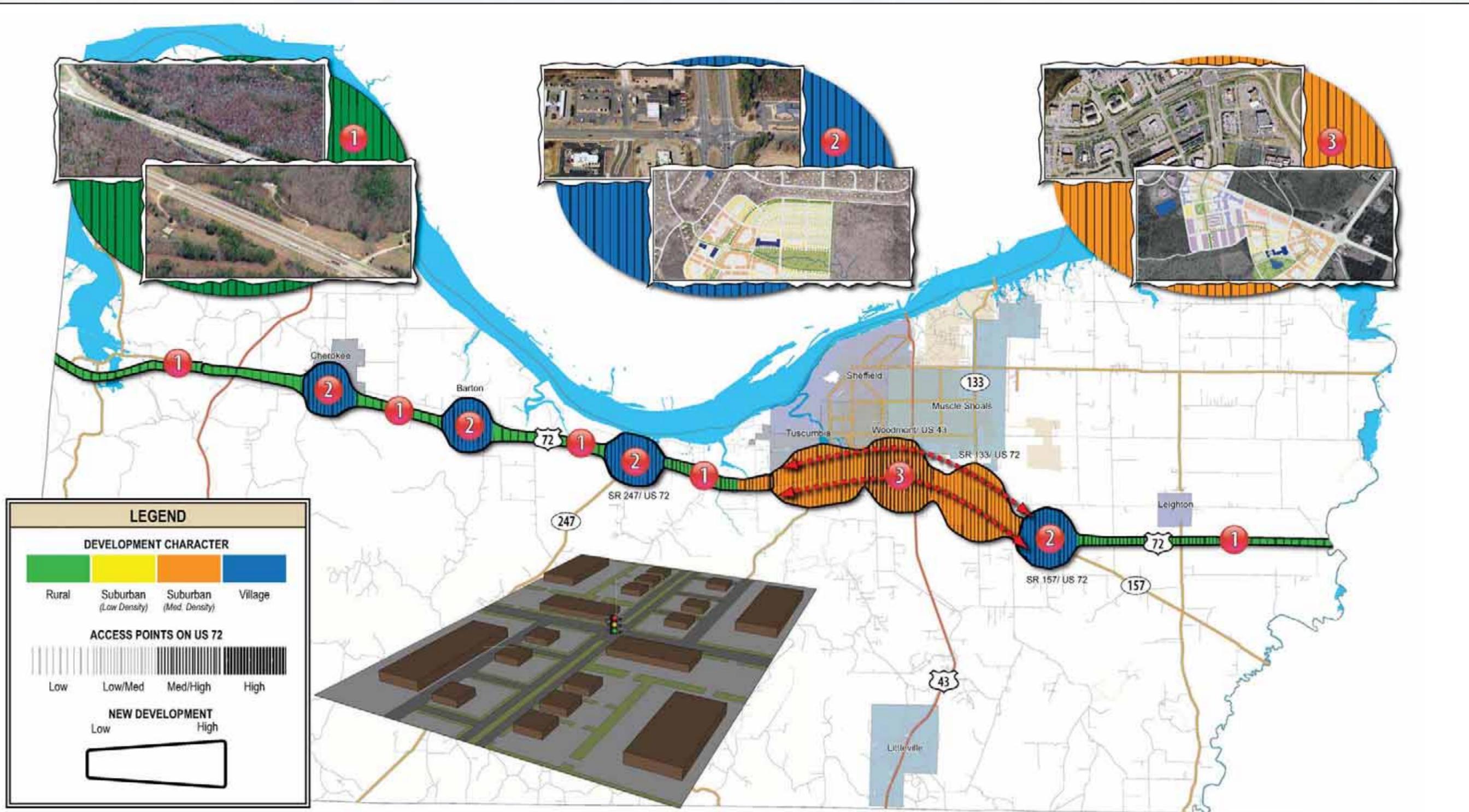


Figure 3-1. Scenario One: Continuous Strip Development



*US 72 Corridor Study* | Scenario 1 - Continuous Development Along the Corridor

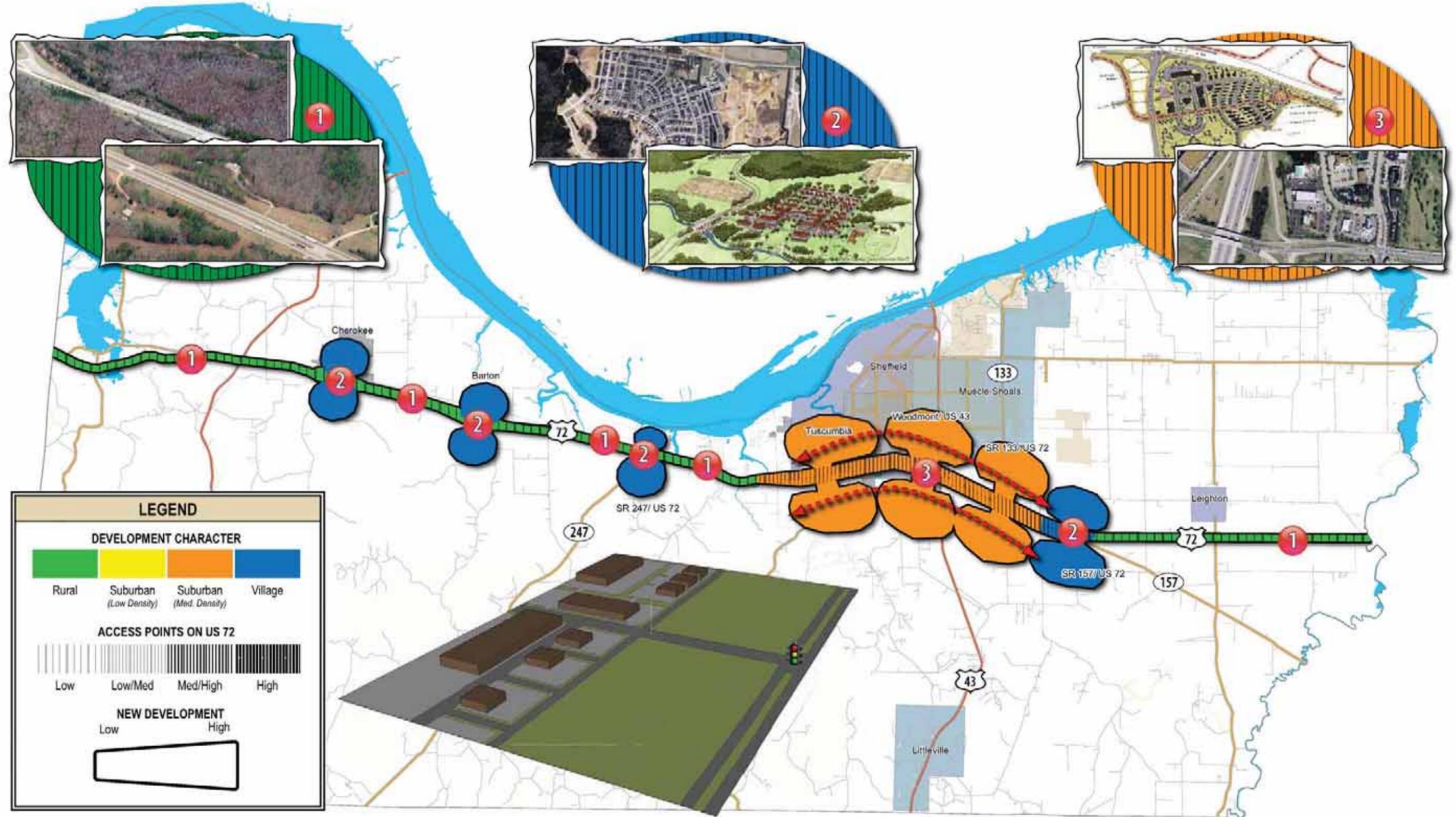
Figure 3-2. Scenario Two: Development Focused on Towns and Centers



*US 72 Corridor Study* | Scenario 2 - Development Focused on Town/Village Centers (on Corridor)



Figure 3-3. Scenario Three: Development Focused on Interchange Areas



*US 72 Corridor Study* | Scenario 3 - Development Focused on Town/Village Centers (off Corridor)

Figure 3-4a. Vacant and Developable Land in the US 72 Corridor

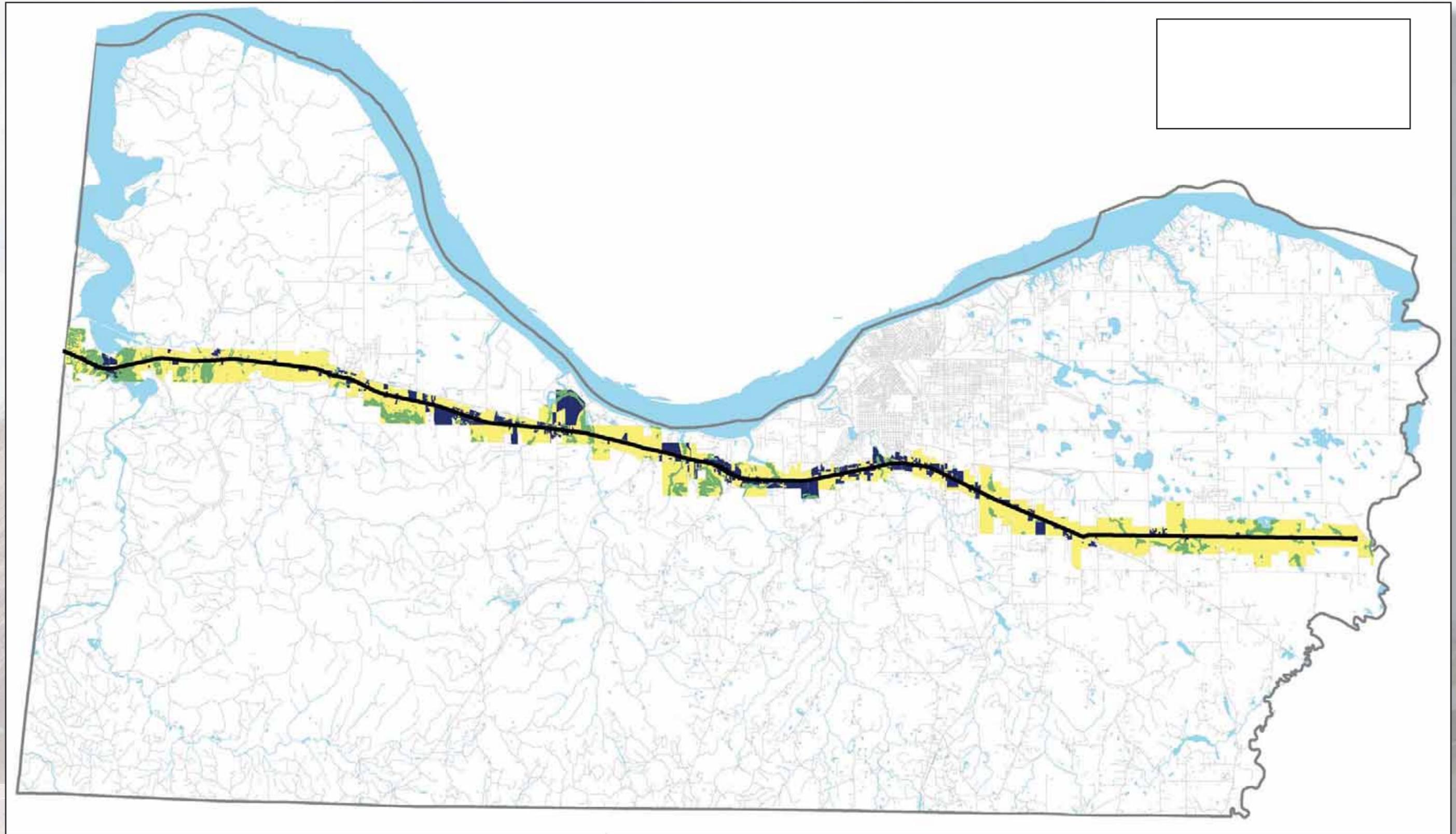


Figure 3-4b. Scenario One: Likelihood of Development on US 72

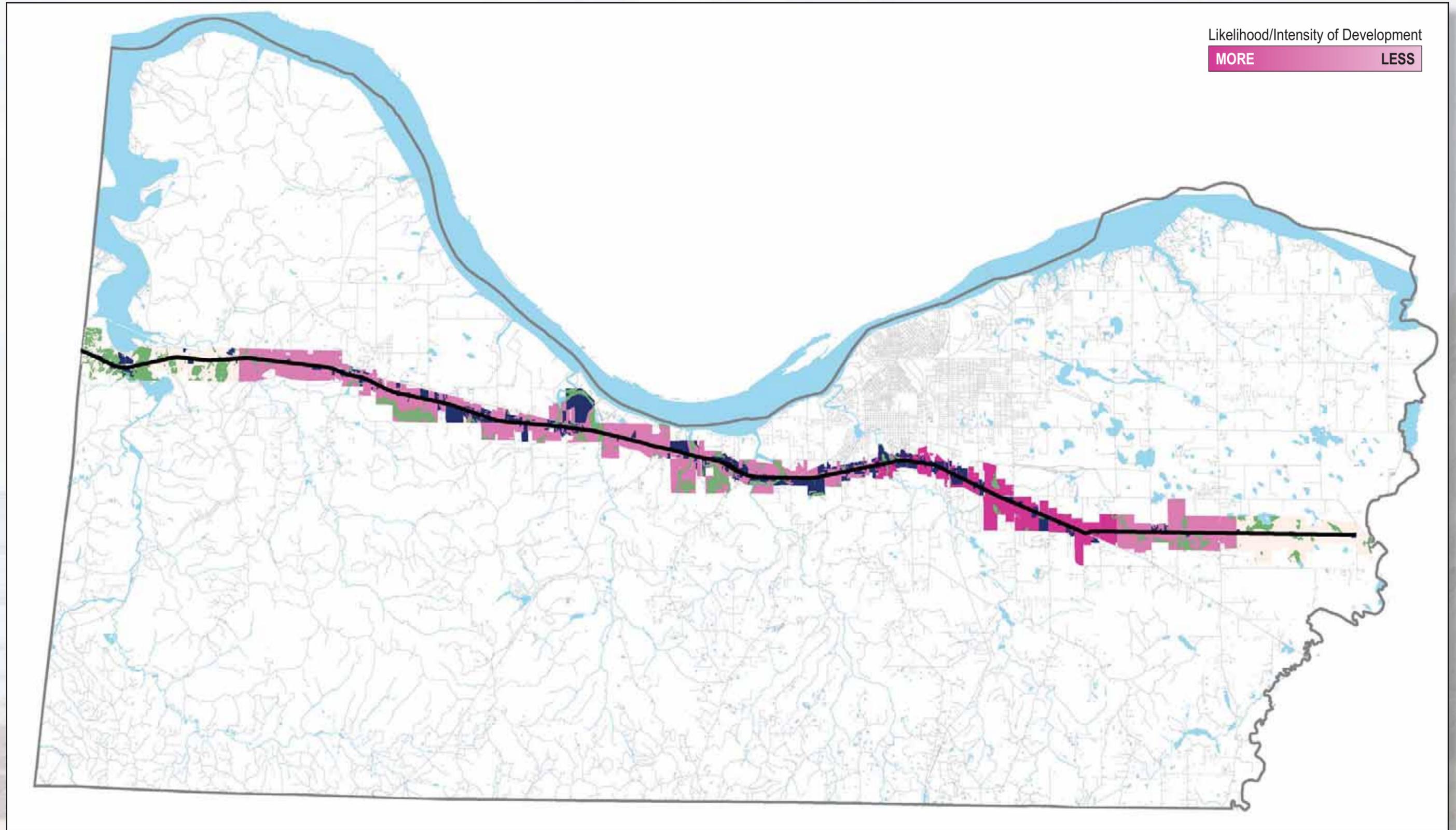
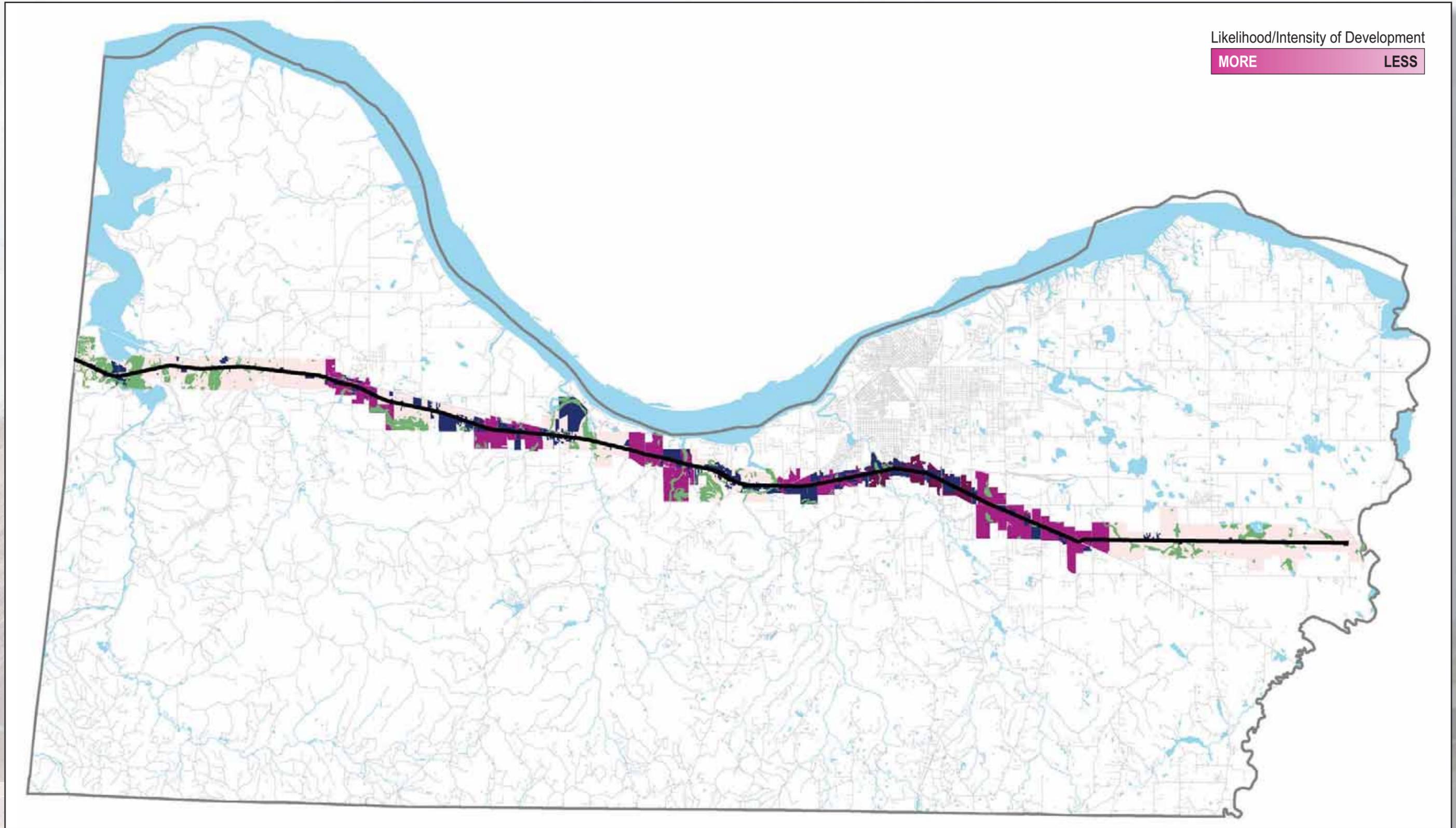


Figure 3-4c. Scenario Two & Three: Likelihood of Development on US 72



## 4. THE PLAN

The community and stakeholders were once again engaged in a public workshop in March 2009. Reactions to the alternative scenarios for US 72 were varied; however, most participants seemed to bristle at the concept of unfettered access and development along the corridor combined with significant travel delays and congestion. While most liked the high levels of mobility associated with the interchange concept in Scenario Three, it was not consistent with their vision for growth and economic development along the corridor and some were concerned with the cost of building interchanges.

A majority of participants stated a preference for Scenario Two as revealed by a questionnaire distributed at the meetings. The general sentiment is that this scenario, in which direct, coordinated access is permitted, but limited to designated towns and centers, represents a reasonable compromise between local access and regional mobility.

What is your most preferred outcome for US 72?		
Scenario 1	Scenario 2	Scenario 3
15%	70%	15%

### Preferred Development Concept

The preferred development concept for the US 72 corridor is derived from Scenario Two. This underlying premise of this concept is that growth, development, and access are concentrated in towns and centers along the corridor, leaving the places in-between as rural with limited access and US 72 as a high speed facility. The preferred development concept can be described in terms of three distinct elements:

**Focus areas for growth** — these are locations approximately one mile in width/diameter and include existing and emerging nodes and centers along the corridor. The Woodmont, US 43 and SR 133 nodes are spaced closely enough together that one large activity center is envisioned. Land uses and activities appropriate for growth focus areas include:

- Major retail/shopping;
- Services;
- Civic uses (administrative centers, libraries, public services, etc.), and
- Residential, including single family neighborhoods and multi-family (apartments, condominiums and townhomes).

The emphasis within focus areas is on places. Consistent with this emphasis, traffic moves slower (25 to 35 mph) and more access is provided along the corridor. Each place along the corridor may develop its own 'brand' or identity to provide travelers with a set of unique experiences as they travel longitudinally; this would support the tourist/visitor emphasis that many desire for the corridor.

**Rural segments** — these are essentially all places along the corridor that are not within focus areas. Here, the emphasis is on mobility. Vehicles move at a high rate of speed (55 to 65 mph) and development and access is limited. Land uses and activities appropriate for rural segments include:

- Greenfield/agricultural uses;
- Rural residential (less than one dwelling unit per five gross acres);

- Small scale community retail (i.e. markets, etc.), and
- Limited industrial access.

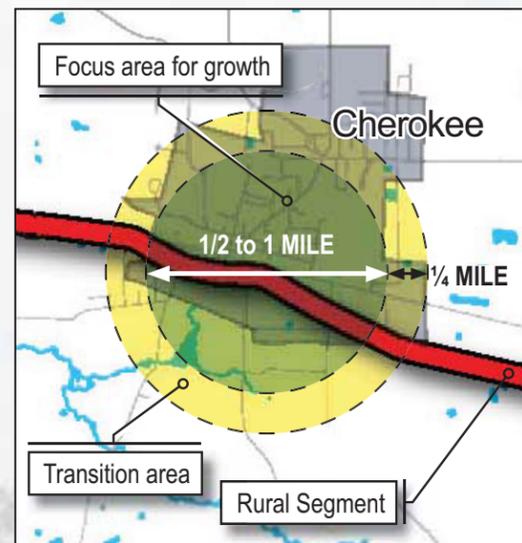
**Transition areas** — As the name implies, these areas are intended to signal a transition between the high speed rural segments and the low speed focus areas. They are approximately one quarter mile in length. Transition areas contain similar uses and activities as focus areas, but at a lower intensity and with more controlled access. Vehicular speeds get progressively lower (from 55 mph down to 35 mph) as the transition area moves from rural segments into focus areas.

### Land Development and Access Management

Inherent to each of the three distinct elements of the preferred development concept is a prescribed level of motor vehicle access consistent with the surrounding character, land use activity and speed. There are a number of ways to describe the relationship between land use and roadway access. The most important concepts include:

- **Signalized intersections** — traffic signals have perhaps the greatest impact on mobility within a corridor. Signalized intersections should be limited to focus and transition areas and used sparingly elsewhere.
- **Cross-streets and driveway connections** — Direct access for individual parcels should be avoided.
- **Shared access** — Access should be shared between individual parcels that in turn connect to each other through shared driveways and/or parallel streets.
- **Parallel streets** — Parallel streets are ideal for providing connectivity between land uses and facilitating local travel within focus areas.
- **Median openings** — full median openings should be limited to signalized intersections; channelized median openings should be used

**Figure 4-1. Development Concept for Activity Nodes**



elsewhere. Cross-streets and shared-access driveways should be aligned with median openings.

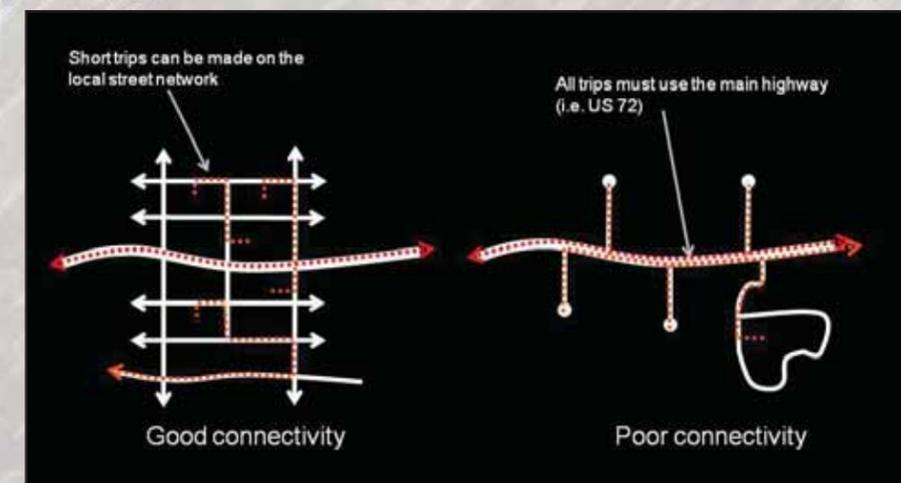
A set of spacing standards and access guidelines are proposed for each of the three distinct land development elements. These standards are derived from the Florida Department of Transportation (FDOT) and are consistent with the desired level of access speed and character for each element.

### Parallel Streets

The previous section describes parallel streets as a means to provide access to parcels within focus areas. These streets are small and local in function and can be built by the private sector concurrent with new development.

In contrast, the major activity center envisioned where the Woodmont, US 43 and SR 133 focus areas merge will likely require a higher level of parallel connectivity. In this location, a larger system of parallel streets is necessary to facilitate major east-west motor vehicle movements and shift local traffic from US 72 itself. A major east-west street will likely be necessary both north and south of the corridor at this location.

These parallel streets, which could span over three miles in length, are not something that can be built individually by the private sector, but will rather require a higher level of coordination. They should be considered projects in and of themselves.

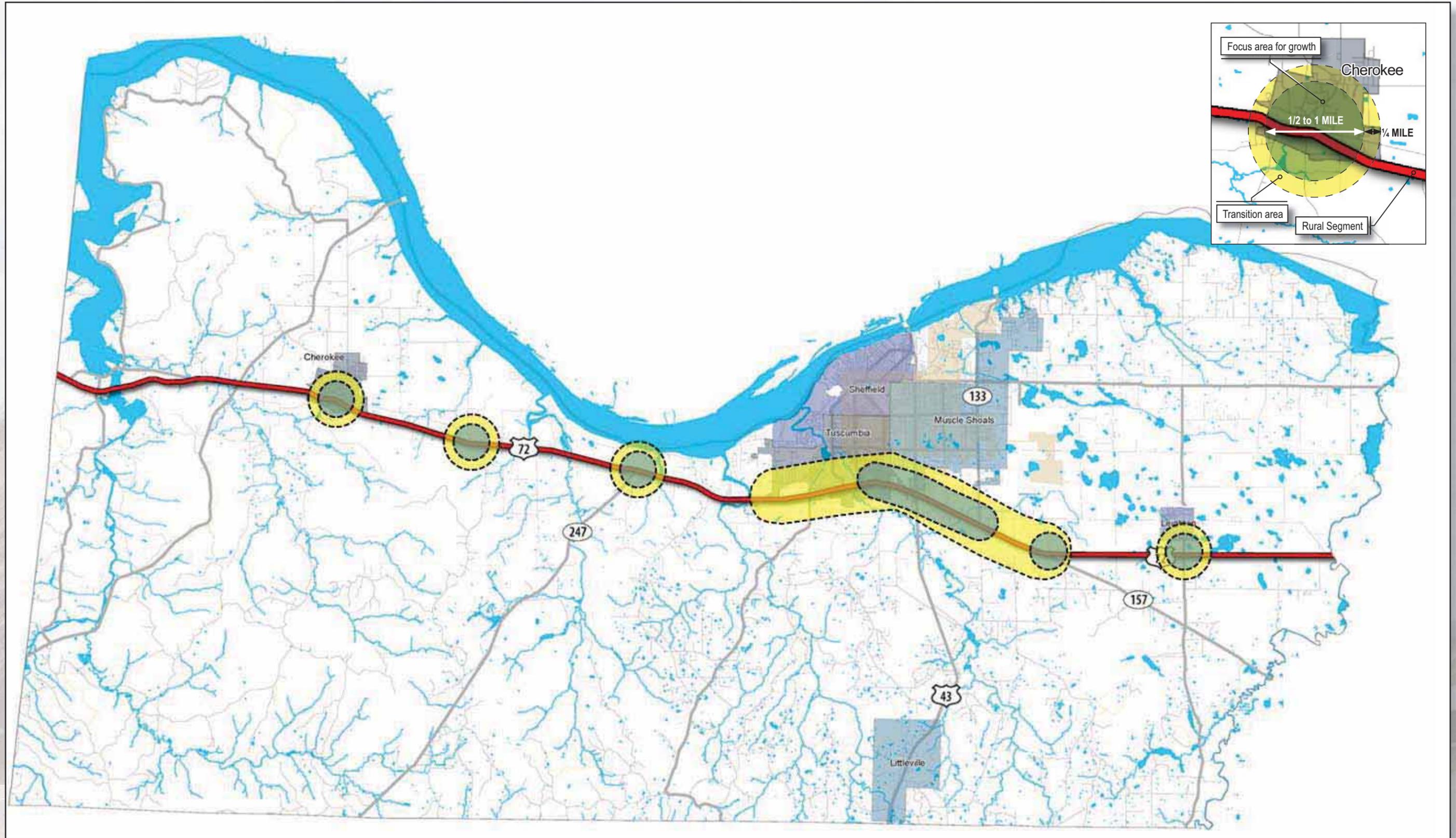


Parallel streets create connectivity and reduce local traffic on US 72

**Table 4-1. Proposed Access Management Guidelines**

Type	Emphasis	Median Opening		Connection Spacing	Signal Spacing
		Channelized	Full		
Class I (Focus Area)	Urban/ access	440	1,320	220	1,320
Class II (Transition)	Transition	660	1,320	440	1,320
Class III (Rural)	Rural/high speed	1,320	Use Sparingly	660	Use Sparingly

Figure 4-2. Corridor Development Concept for US 72



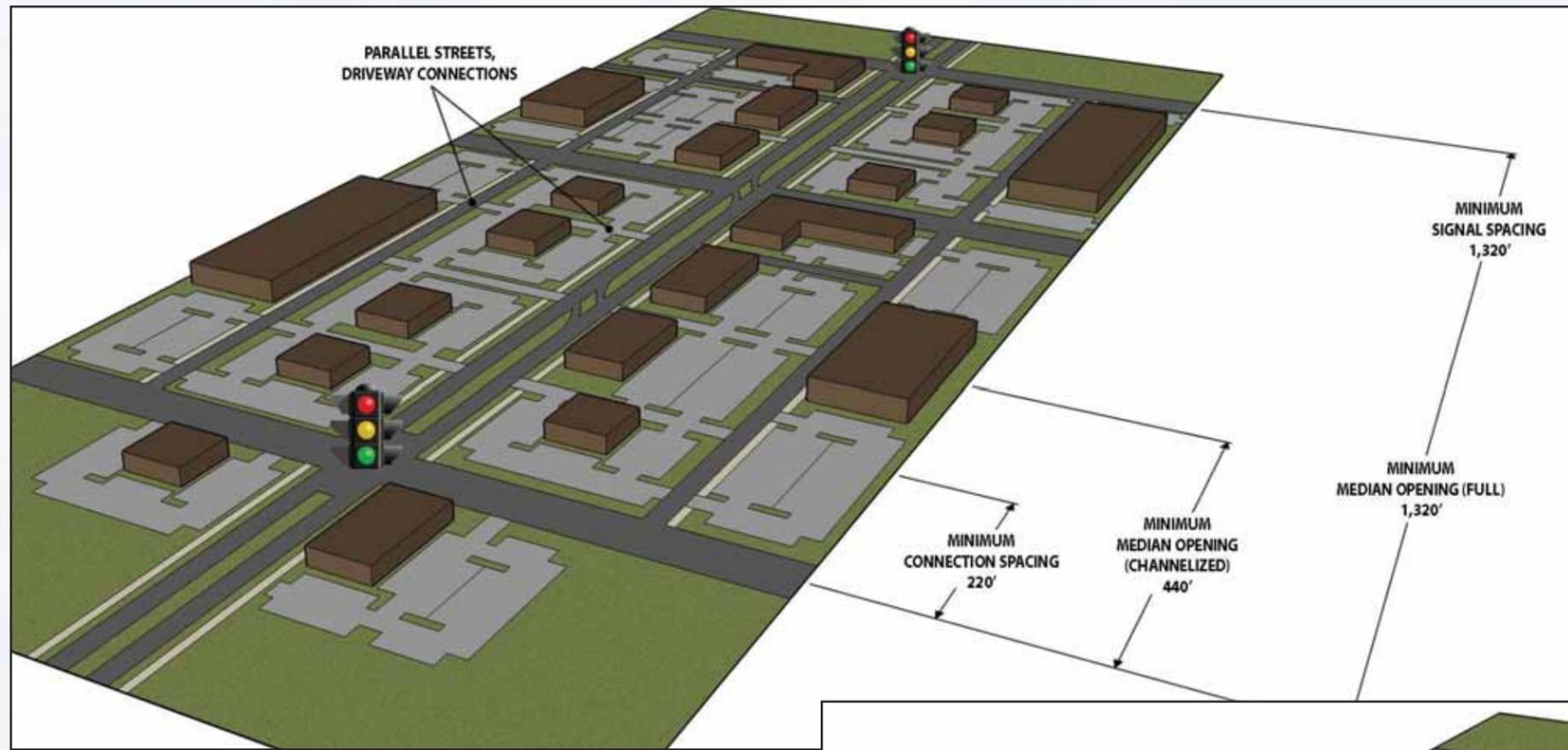


Figure 4-3a. Land Development and Access Management Strategy for Activity Nodes

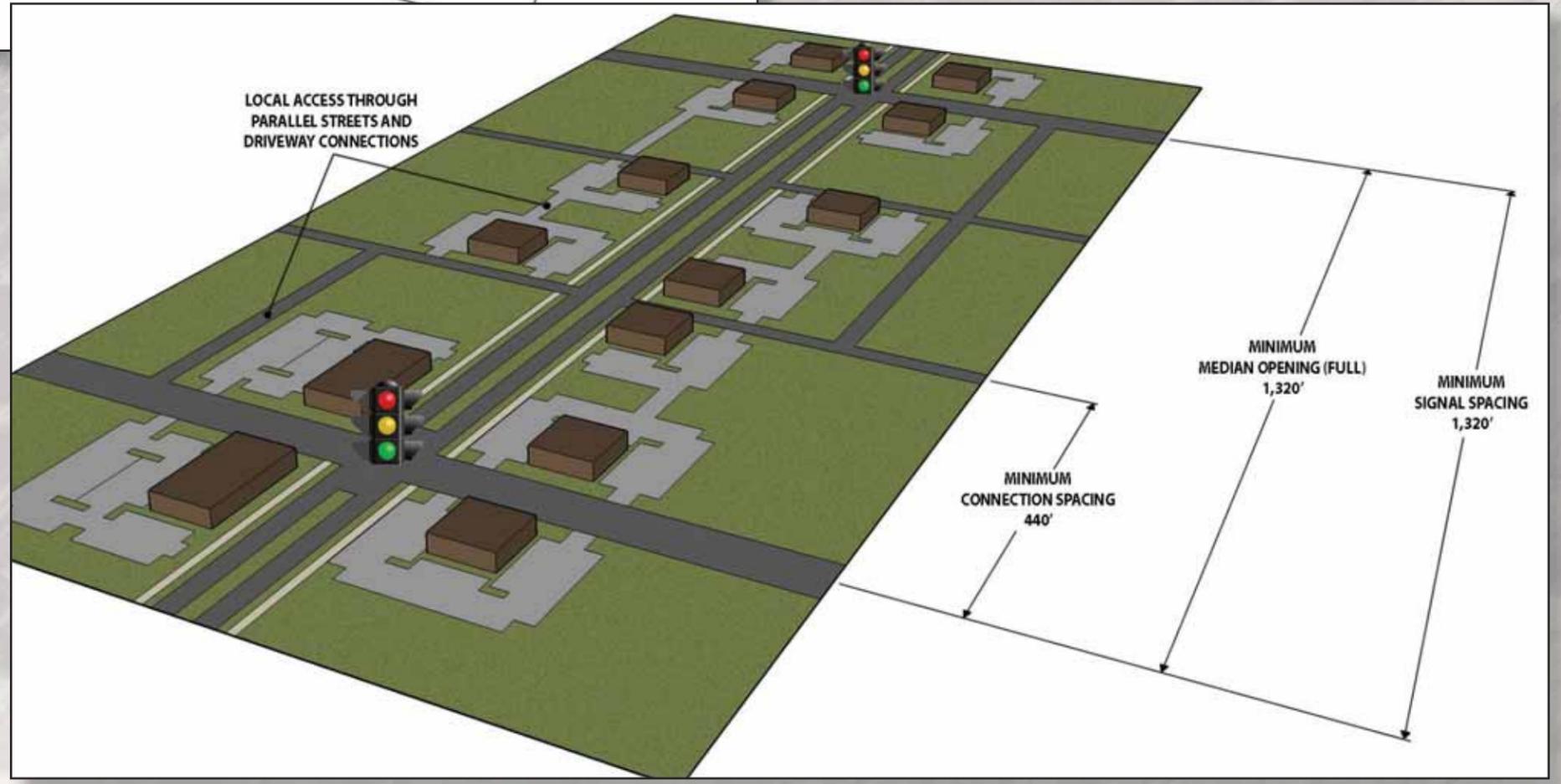


Figure 4-3b. Land Development and Access Management Strategy for Transition Areas

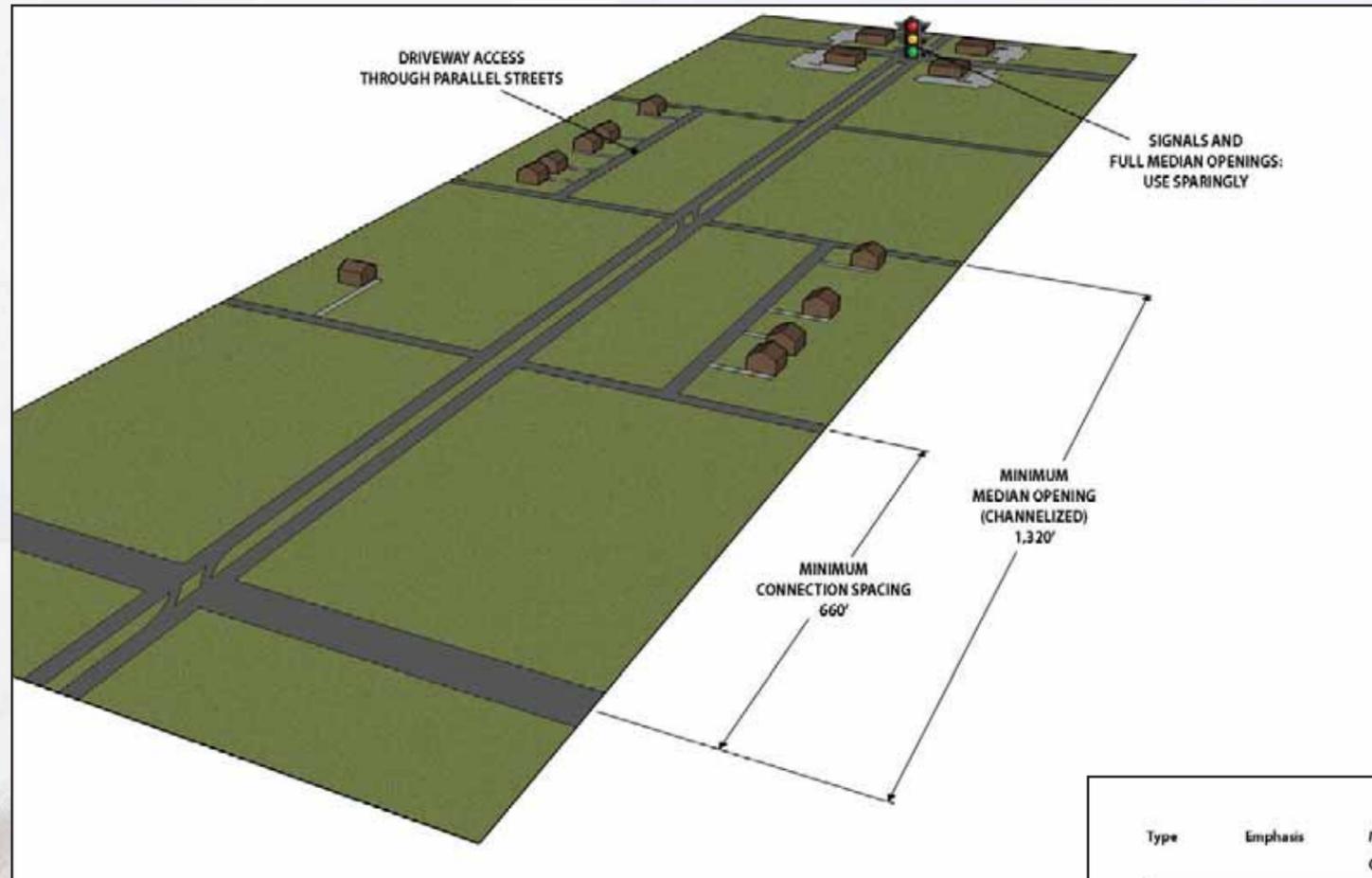


Figure 4-3c. Land Development and Access Management Strategy for Rural Areas

Type	Emphasis	Median Opening		Connection Spacing	Signal Spacing
		Channelized	Full		
Class I	Urban / Access	440	1,320	220	1,320
Class II	Transition	660	1,320	440	1,320
Class III	Rural / High Speed	1320	USE SPARINGLY	660	USE SPARINGLY

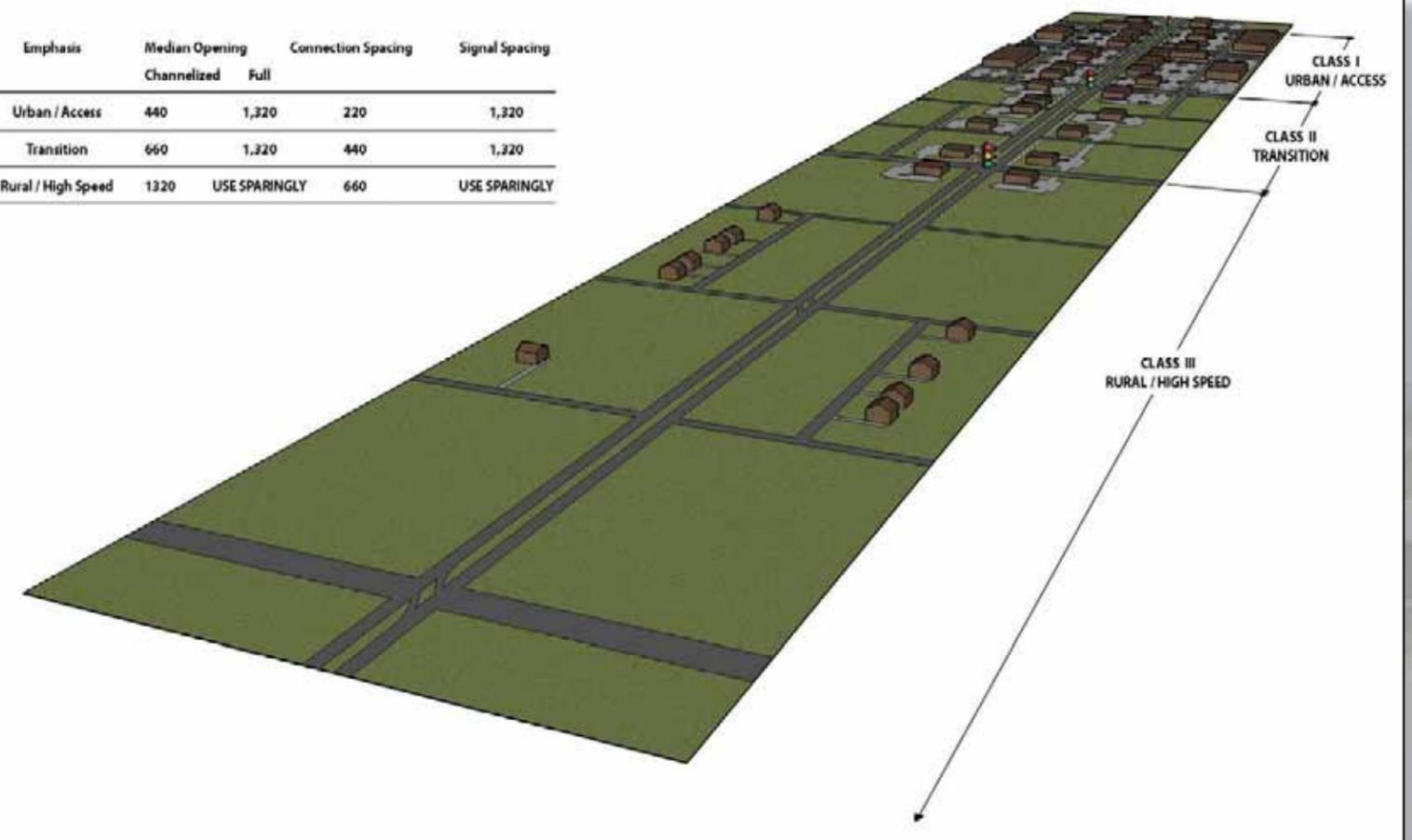


Figure 4-3d. Land Development and Access Management Strategy in Context



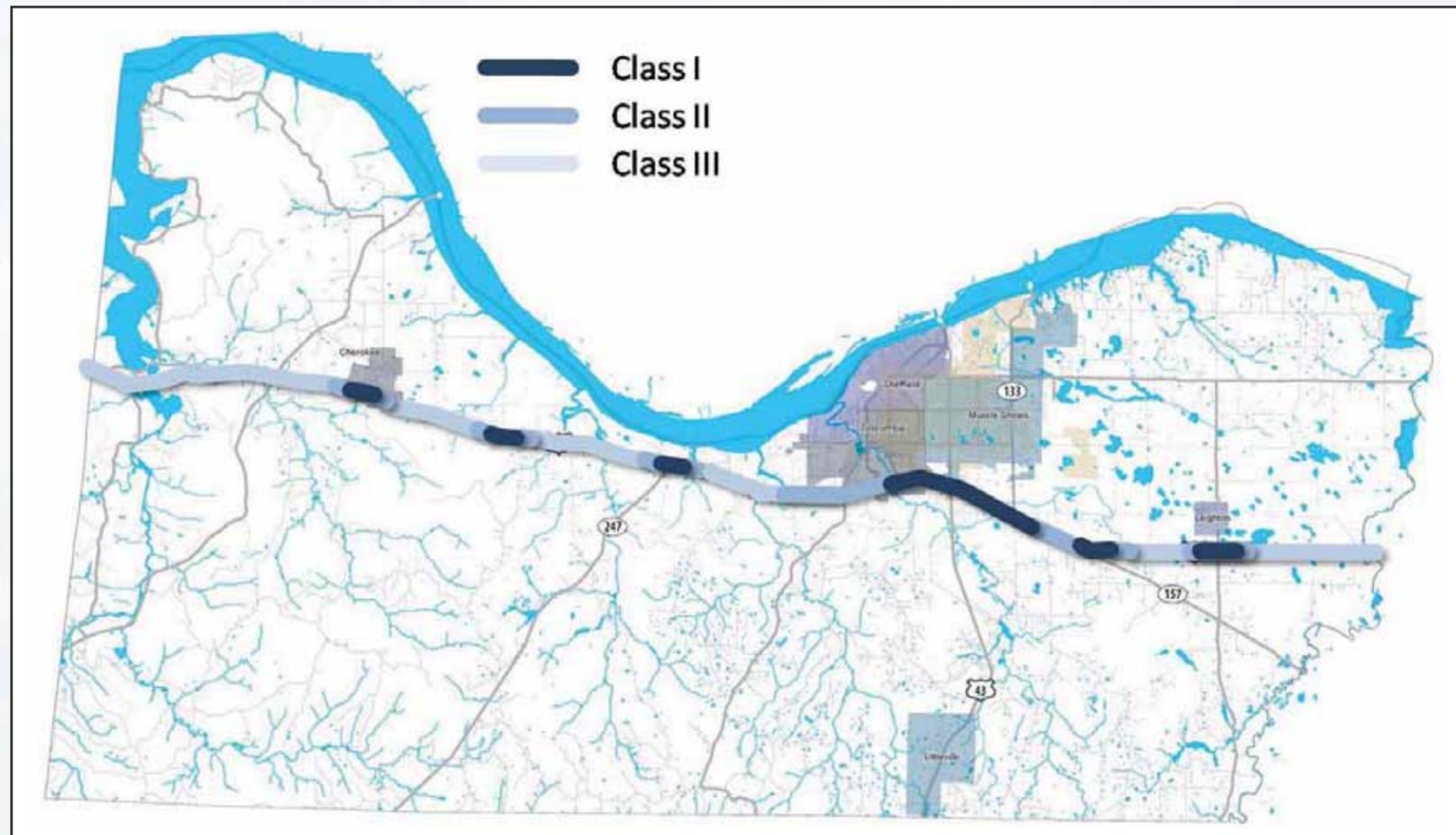


Figure 4-4. Proposed Access Management Classifications for US 72

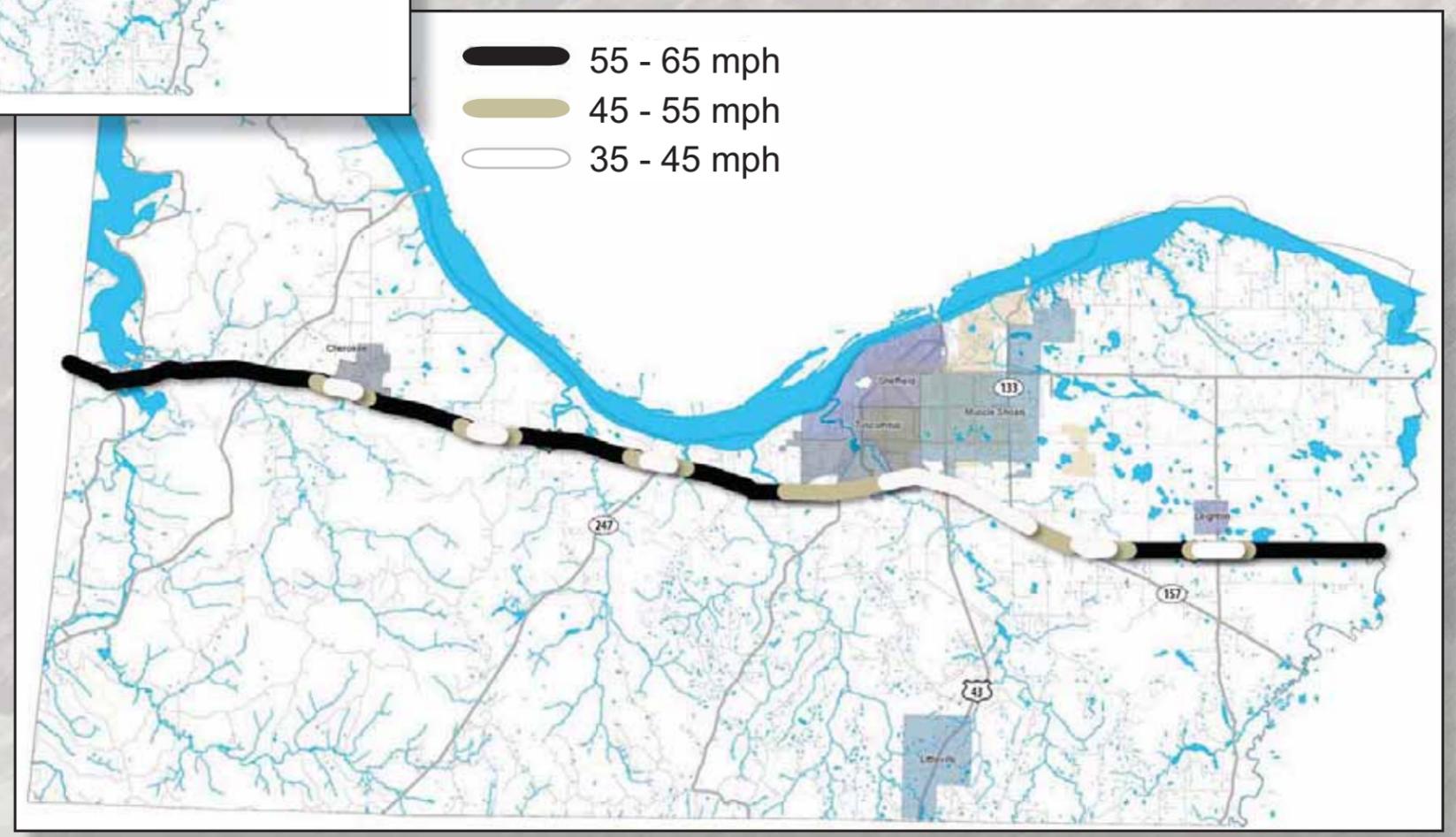
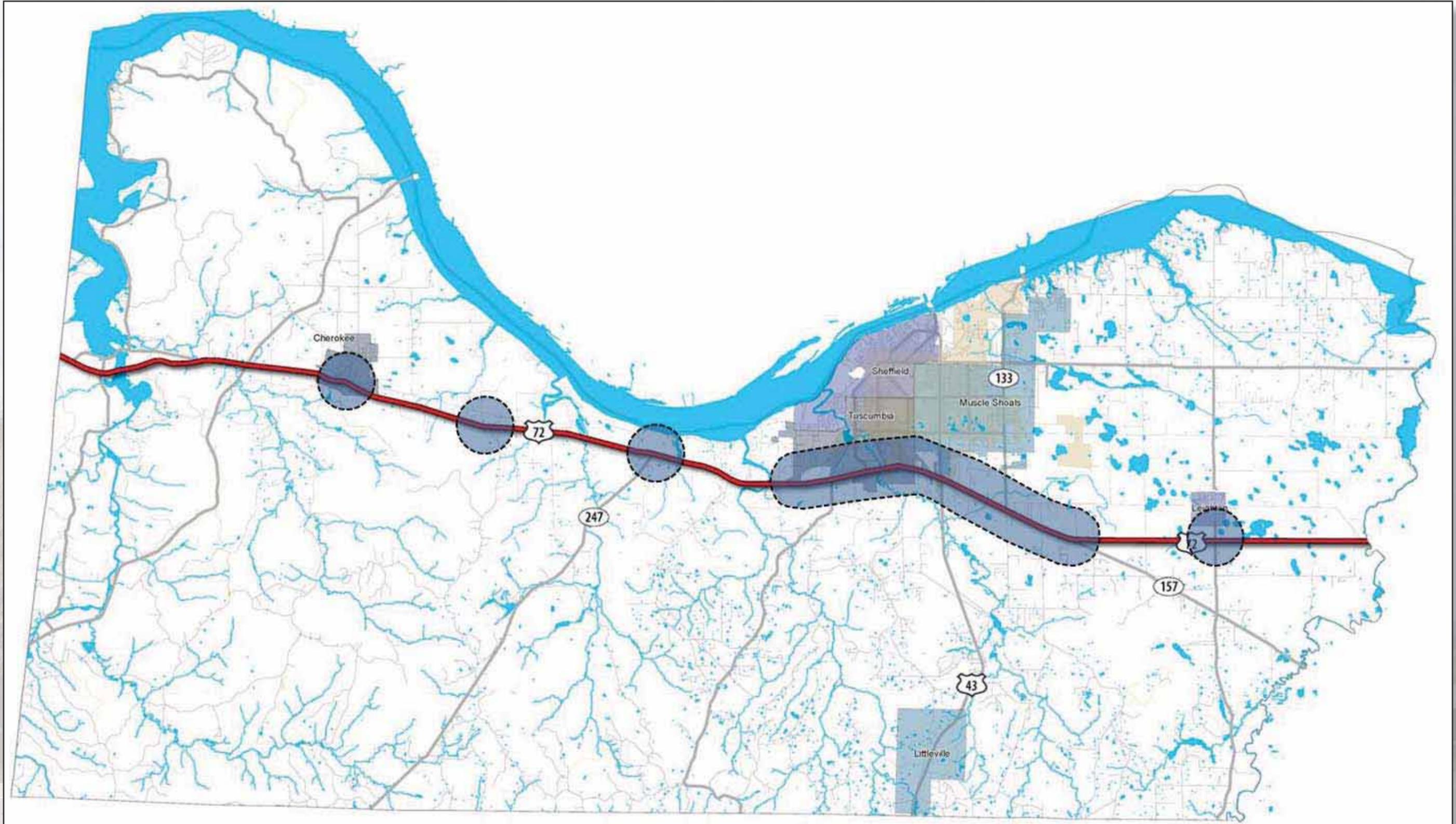


Figure 4-5. Posted Speed Limits Consistent with Access Strategy for US 72

Figure 5-1. Proposed Urban Service Areas on US 72



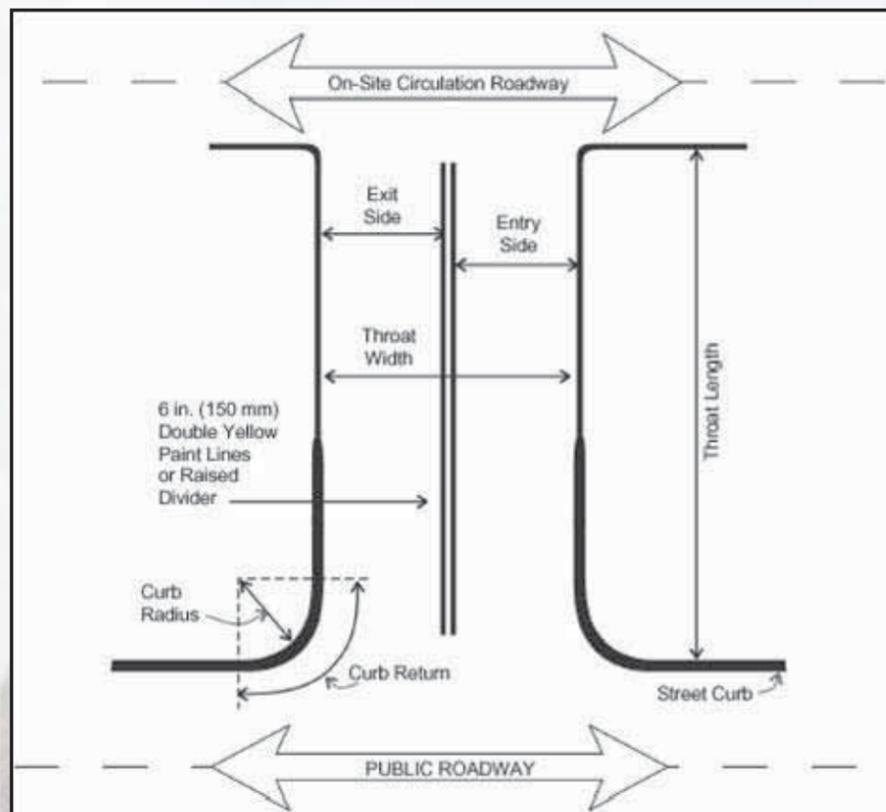
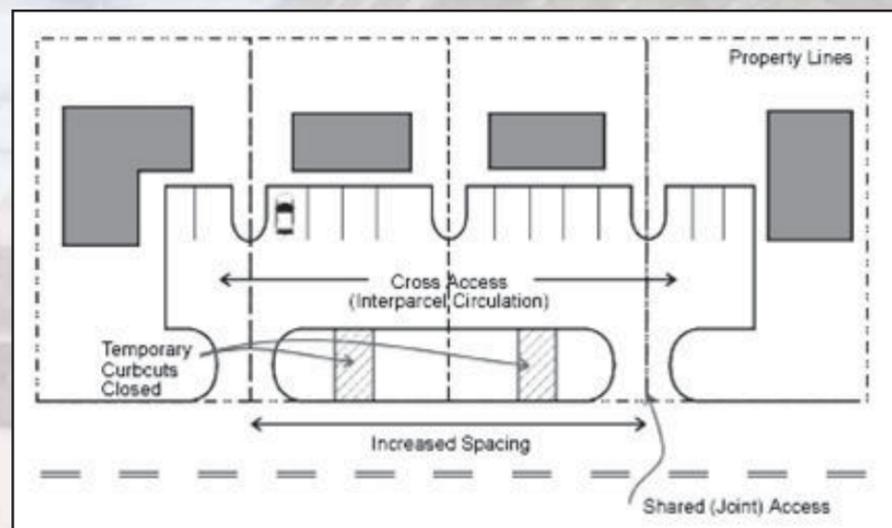
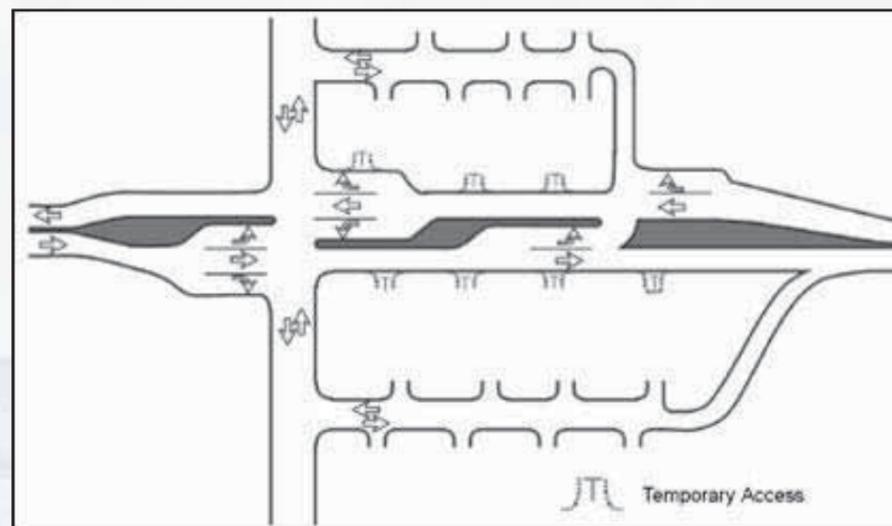
## 5. IMPLEMENTATION

Chapter Four makes recommendations for growth and development within the US 72 corridor. Obviously, these recommendations will not occur on their own, but rather will require some measure of implementation. There are several actions that can be taken by the MPO, ALDOT and local jurisdictions to help bring the concept into reality.

### Zoning and Subdivision Regulations

Land development regulations are a prescriptive and enforceable tool that can be implemented by local governments along the corridor. Zoning regulations, which have been adopted in Cherokee, Muscle Shoals and Tusculum, can prescribe specific land uses as well as many of the access management concepts described in Chapter Four.

Unfortunately, much of the corridor lies within Colbert County, which has no adopted zoning regulations. The County, however, does use subdivision regulations.



Subdivision regulations, combined with a required major street plan, can be used to implement access management standards.

A set of model zoning and subdivision regulations that support access management is included in the appendix.

### Urban Services

A policy tool that local jurisdictions have at their disposal is the provision of urban services, including water, sewer and utility services. By making policy decisions that limit the provision of urban services to within focus areas on US 72, the jurisdictions are effectively channeling growth to within these locations.

### Alabama Department of Transportation

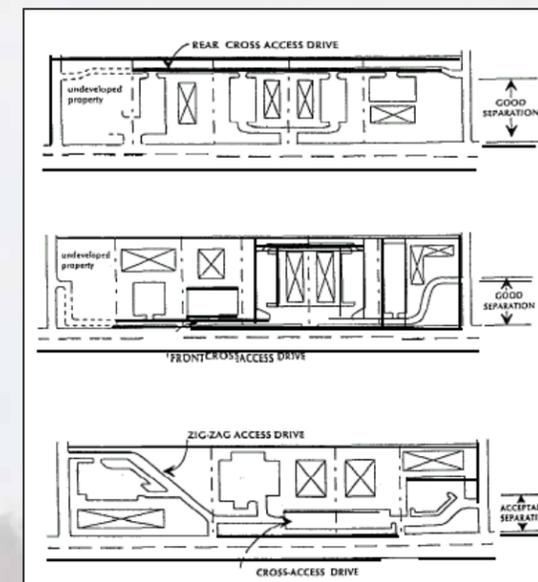
The Alabama Department of Transportation (ALDOT) has ultimate authority over many decisions relating to access on US 72 – driveways, median openings, signals, etc. While formal adoption is not necessarily required, ALDOT should support the recommendations of this study by taking the guidance provided here into consideration when coordinating access to US 72.

### Planning and Programming for Major Streets

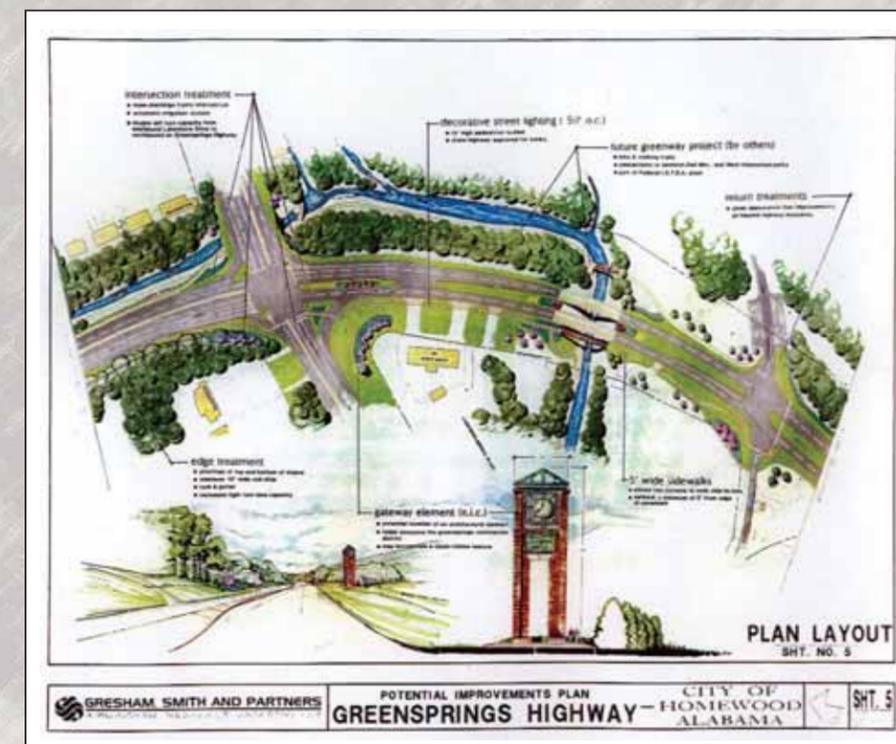
Chapter Four described the need to build major east-west streets parallel to US 72 that provide connectivity in the Woodmont/US 43/SR 133 major activity center. These projects should be planned and programmed within the MPO process as well as the processes of affected local jurisdictions. This begins with planning and preliminary designing and then progressing into right-of-way (ROW) acquisition and construction. A feasibility study and subsequent preliminary design is recommended for initiation as soon as possible so that the necessary ROW can be reserved.

### Master Plans

Local jurisdictions should implement a master planning process to tie all of the above elements together. Among other things, master plans can establish an overall vision, identify where growth is to take place, how and where access is to be provided, set forth the provision of urban services and establish an identity for each focus area. A separate master plan should be adopted for each focus area that also includes adjacent transition areas and rural segments.



Model subdivision regulations that support access management.



Example of a master plan.



## 6. SUMMARY

The US 72 corridor is a vitally important component of Colbert County and Northwest Alabama's economy. The high-speed, high mobility corridor offers the fastest east-west travel times in the region and very little congestion or delay. The rolling hills and agricultural fields are slowly giving way to growth and development. If left unchecked, this growth could threaten the very high-speed function that makes US 72 so critical to the economy.

The US 72 Corridor Study engages stakeholders and the public on land use and transportation choices for the corridor in terms of the issues that matter the most to them. Findings suggest that, while stakeholders and other members of the community would like as much access to the corridor as possible, they understand and acknowledge the impacts of continuous development and unrestricted access on mobility and safety.

The resulting vision and plan for US 72 provides a balance between access and mobility by channeling a majority of growth into seven distinct 'centers' or 'focus areas.' These focus areas emphasize place over mobility and provide good coordinated access to land uses and activities. Outside of these focus areas, the land remains mostly rural, access is limited and motor vehicles move at high rates of speed.

There are a number of tools to implement the recommended corridor plan, including zoning and subdivision regulations, strategic placement of urban services and other policy decisions. All of these elements can be tied together by a series of master plans for the corridor. Ultimately, it will take a coordinated and unified effort by all agencies with stake in the future of US 72 – Cherokee, Muscle Shoals, Tusculumbia, Colbert County, the Shoals MPO, ALDOT and others – to make the vision a reality.



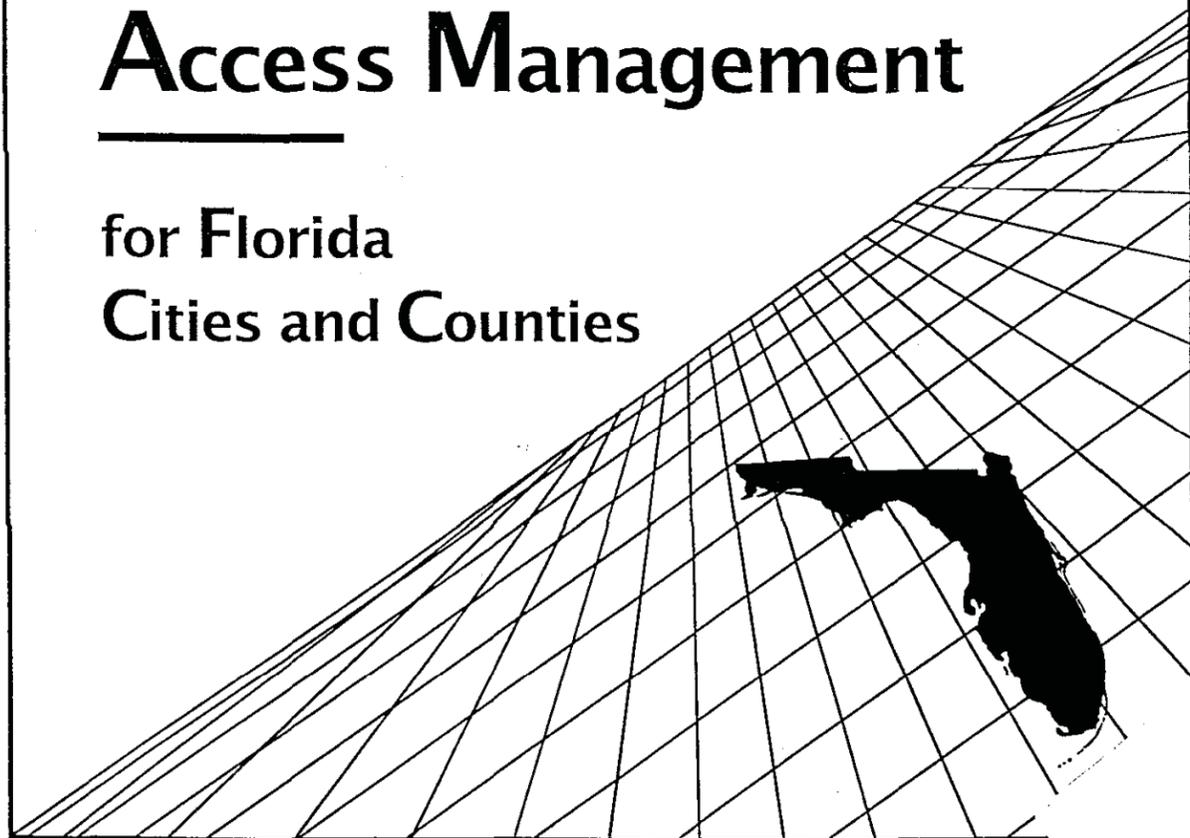
# Appendix







# Model Land Development & Subdivision Regulations That Support Access Management for Florida Cities and Counties



## Land Development and Subdivision Regulations that Support Access Management

### Overview

*Effective local access management requires planning as well as regulatory solutions. Communities should establish a policy framework that supports access management in the local comprehensive plan, prepare corridor or access management plans for specific problem areas, and encourage good site planning techniques. Land development and subdivision regulations should be amended accordingly and communities may also consider a separate access management ordinance. Access management programs should address commercial development along thoroughfares, as well as flag lots, residential strips, and other issues related to the division and subdivision of land. Comprehensive and subarea plans provide the rationale for access management programs and can serve as the legal basis for public policy decisions.*

Communities are increasingly concerned about the effects of development on service costs, community character, and overall quality of life. Yet conventional regulatory practice has played a role in perpetuating land development problems. Nowhere is this more apparent than the cycle of functional obsolescence created by strip commercial development along major arterials. The practice of strip zoning major corridors for commercial use is widespread. The primary reasons are accessibility and the expedience of rezoning highway frontage for commercial use as additional land is needed. Extension of utilities along highway rights-of-way promotes this linear land use pattern, and commercial businesses favor corridor locations because of the ready supply of customers.

Yet as development intensifies, the growing number of curb cuts and turning movements conflict with the intended function of arterials—to move people and goods safely, quickly, and efficiently. Unlike urban downtowns or activity centers, commercial strips are rarely designed for pedestrians or transit. Commercial corridors, residential areas, and office parks are frequently sealed off from each other with walls, ditches, loading docks and a host of other barriers—including the heavily traveled arterials that serve them.

Poorly coordinated access systems force more trips onto the arterial, traffic conflicts multiply, and congestion increases. As the level of service declines, additional lanes, controlled medians, and other expensive retrofitting measures are needed to maintain the capacity of the corridor for regional traffic. Businesses also suffer as accessibility deteriorates. Heavy traffic, difficult left turns, and poor sight clearance at corners deter customers. Businesses may relocate to areas where accessibility is less impaired, vacancies increase, and property values decline. Eventually the corridor is transformed into an

unattractive and confusing jumble of signs, curb cuts, utility lines, and asphalt.

These are not inevitable results of development and growth. Rather, they relate to the lack of adequate land division and access controls and problems inherent in current planning and regulatory practice. This report examines the role of the comprehensive plan in developing an access management program, aspects of current regulatory practice that contribute to access problems, and regulatory techniques that support access management principles.

### The Comprehensive Plan

The local comprehensive plan is the policy and decision making guide for future development and capital improvements in the municipality. It analyzes development trends; identifies key planning issues; provides the policy framework; and specifies strategies for carrying out the plan. Purposes of the plan are to:

- promote orderly and efficient development;
- protect property values;
- preserve community character, natural resources, and the environment;
- promote economic development; and
- increase public awareness of the forces of community change.

Local comprehensive plans should establish how the community will balance mobility with access, identify the desired access management approach, and designate corridors that will receive special treatment. This may be supplemented through functional plans, such as an access management or thoroughfare plan, or through subarea plans, such as an interchange or corridor plan.

These plans evaluate long term trends; provide data on traffic accidents and related considerations; and establish the relationship between access management and other community objectives, such as congestion management and transportation level of service. By establishing the relationship between regulatory strategies and public health, safety, and welfare, these plans can serve as the legal basis for access controls.

The comprehensive planning process is an opportunity to increase community awareness of the forces of change and determine a strategic course of action. What level of growth can the community expect? What are the future land use and capital improvement needs? And what type of land development patterns do citizens prefer? Public opinion surveys, town meetings, and visioning workshops may be used to identify citizen concerns and build political support for regulatory change. Citizen dissatisfaction with commercial strips, for example, can be translated into policies for joint access, shared parking, and sign regulation.

When evaluating future land use needs, communities should account for vacancies and surplus land already available for that use (Chapin and Kaiser, 1985). Many communities set aside far more land than required to accommodate reasonable estimates of growth, thereby encouraging scattered development patterns and strip development. It is not uncommon for communities to strip zone the majority of their highway frontage for commercial use. Additional highway frontage should not be planned or rezoned for commercial use where vacant or surplus commercial space is already available. This encourages reuse of existing commercial sites, increases property values in those areas, and is a long term economic development strategy.

The City of Orlando has incorporated these planning and access management principles throughout its comprehensive plan. Orlando's planning and regulatory framework includes mixed-use corridors, rather than commercial strips, and mandatory mixed use with transit access in activity centers. The City limited the supply of commercial areas to encourage reuse, designated cross access corridors with joint access requirements, and adopted a comprehensive access classification and driveway spacing program modelled after Florida Department of Transportation standards. The City also has strong policies and standards relating to bicycle and pedestrian access, including standards for pedestrian streets.

**Subdivision Regulations**

Subdivision regulations help ensure: proper street layout in relation to existing or planned roadways;

adequate space for emergency access and utilities; adequate water, drainage, and sanitary sewer facilities; and appropriate site design. 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 subdivision review process should address a variety of issues, including:

- 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?
- Is access properly placed in relation to sight distance, driveway spacing, and other related considerations?
- Do units front on residential access streets rather than major roadways?
- Does the project avoid areas unsuitable for development?
- Does the pedestrian path system link buildings with parking areas, entrances to the development, open space, and recreational and other community facilities?
- Have utilities been properly placed? (Listokin and Walker, 1989)

State subdivision statutes grant local governments authority to regulate subdivision of land and establish minimum requirements for subdividing and platting. New Jersey's statutory framework is among the most stringent, defining subdivision as the division of land into two or more parcels and provides exceptions only in special circumstances (i.e., a new street will not be required and the lot will be 5 acres or more, but only if the planning official determines it will be used for agricultural purposes). The New Jersey legislature recently took an unprecedented step in strengthening its subdivision requirements. The New Jersey Site Improvement Standards Act of 1993 provides for updating technical provisions of the State's model subdivision and site plan ordinance (1987) and adoption of the ordinance by the state. The requirements will automatically repeal and replace all local subdivision and site plan provisions. The new regulations will also consist of standardized application forms and administrative procedures, and should be completed by 1995.

Yet many subdivision statutes exempt division of land into larger parcels or creation of a small number of lots from review and conformance with subdivision

standards. Michigan has one of the more lenient statutes—exempting creation of parcels larger than 10 acres from local review and allowing successive redivision into four more parcels of 10 acres or less after a ten year period.

**Florida's Subdivision Statute**

Florida's Plat Act, Chapter 177, F.S. provides local governments in Florida with the authority to regulate the subdivision of land and establishes minimum regulatory requirements. Chapter 177, F.S. defines subdivision as the division or platting of real property into three or more lots or parcels and includes resubdivision or establishment of streets or alleys. Under these requirements, division of land into two lots or parcels is exempt from review.

Although some state subdivision statutes preclude more restrictive requirements at the local level, Chapter 177 establishes minimum requirements "and does not exclude additional provisions or regulations by local ordinance, laws or regulations." (Section 177.011, F.S.) In turn, state growth management requirements mandate local adoption of subdivision regulations and the Florida Model Land Development Code provides a model framework for local subdivision regulation that goes beyond statutory requirements to encourage local review of minor subdivision activity (see Lot Split Requirements).

The practice of allowing unregulated division of land produces results that are contrary to access management and other important public goals. Lots may be created that are unbuildable because they lack sufficient width or depth to meet lot dimension or setback requirements, are in a wetland or floodplain, or have inadequate access to public roads. Buyers may be unaware that the lot has been divided in a manner that is inconsistent with state or local regulations until they are denied a building or driveway permit. At that point the community is often compelled to issue a variance due to the risk of a regulatory takings suit. A streamlined review process for smaller subdivisions and lot splits helps assure that new lots are buildable under the regulatory framework and access is appropriate, without placing an unnecessary review burden on the property owner.

**Lot Split Requirements**

Lot split regulations provide for local review of divisions of land that would otherwise be exempted from subdivision review. Types of lots that pose special access concerns are flag lots, through lots, and corner lots. A review process for lot splits is intended to prevent

creation of unbuildable lots, excessive flag lots, or other land division patterns that can lead to access problems. It further prevents creation of lots with inadequate or inappropriate access to a public road.

Florida's Model Land Development Code establishes a process for reviewing lot splits, called minor replats. Minor replat is defined as:

“The subdivision of a single lot or parcel of land into two (2) lots or parcels, or the subdivision of a parcel into two or more lots solely for the purpose of increasing the area of two or more adjacent lots or parcels of land, where there are no roadways, drainage, or other required improvements, and where the resultant lots comply with the standards of this Code.”

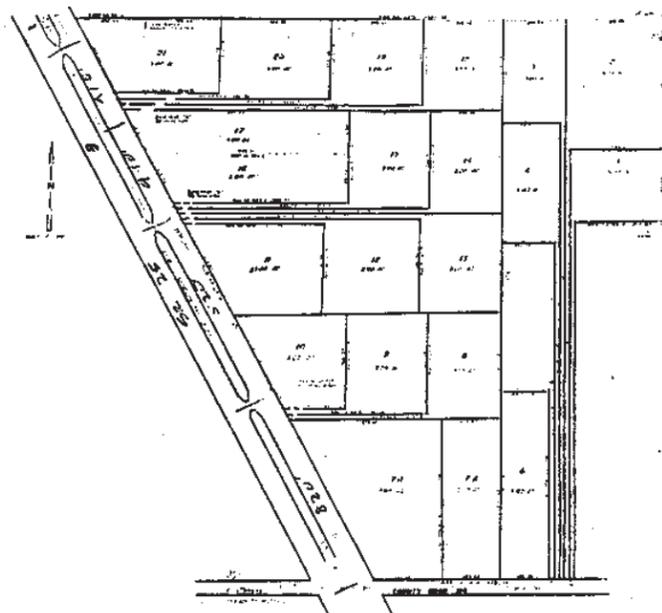
The Florida Model Land Development Code provides for review by the local Planning Department (and any other local departments); requires information regarding water or sewer service; requires a scaled drawing of the intended division and any principal or accessory structures by a registered surveyor; provides for recording the replat in the official county records; and requires conformance with the following standards:

1. Each proposed lot must conform to the requirements of this Code.
2. Each lot shall abut a public or private street (except as hereinafter provided) for the required minimum lot width for the zoning district/category where the lots are located.
3. If any lots abuts a street right-of-way that does not conform to the design specification provided in this Code, the owner may be required to dedicate one-half the right-of-way width necessary to meet the minimum design requirements.

Once a Minor Replat has been approved, the Code restricts further division unless a development plan (or plat) is prepared and submitted for review. Local regulations should also require proof of lot split approval by the planning commission or zoning administrator before a building permit may be issued.

Residences scattered along state and county roads can be more damaging to the regional transportation network than commercial strips because they may occupy hundreds of miles of highway frontage. Over time such development patterns landlock interior land, school buses must make longer trips, emergency services must cover a wider area, and the cost of extending utilities becomes

Figure 1: Flag Lots on a State Highway



This area in northern Florida was divided into 3 acre lots to avoid subdivision review. The resulting flag lot "plat" creates long term access problems on a state highway and county road. Problems such as this can be prevented with flag lot restrictions and a review process for minor subdivisions and lot splits.

prohibitive. As the number of driveways increase, the highway is gradually transformed into a high speed version of a local road. The safety implications are obvious, as vehicles travelling 55 mph are mixed with residents entering and exiting their driveway.

Yet this development pattern is virtually prescribed by the combination of conventional zoning and unregulated land division. Despite authority to monitor creation of new lots, many communities continue to exempt lot splits. Sarasota County, Florida, for example, goes beyond the exemptions prescribed in statute to exempt lots of 5 acres or larger from review or division of land into two parcels. The division of agricultural land into 5 acre parcels effectively converts it for residential use. Over time the land is subdivided, creating residential strips along rural roadways rather than shared access subdivisions.

Lot split review provides an opportunity to discourage residential stripping of rural highways. Yet flexible zoning can be even more effective in achieving access management and resource management objectives. An innovative approach is the combination of subdivision review with site planning and cluster zoning techniques, proposed by rural landscape planner Randall Arendt. Arendt recommends the following access standard for small rural subdivisions:

"Subdivisions with frontage on state-numbered highways 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 (Yaro, Arendt, et al. 1990).

In the absence of flexible zoning, a sliding scale or quarter/quarter zoning approach to land division in rural areas is preferable. The former might permit division of one two acre lot per 10 acre parcel, and the latter may permit one nonfarm residential lot per 40 acres of farmland (Misseldine and Wyckoff, 1987).

*See Section 18 of the Model Regulations for shared access standards and Section 20 for lot split requirements.*

**Flag Lots**

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. They are useful as a land division technique in areas where natural features or land division patterns create access problems, but flag lots proliferate in some areas where interior lots should instead be served by a private road. Landowners may stack flag lots when

dividing a parcel to provide interior lots with direct access to a state or county road, thereby avoiding the expense of providing a public or private road. The narrow frontages afford inadequate spacing between driveways and increase safety hazards from vehicles turning on and off the high speed roadway (See Figure 1).

Local land development or subdivision regulations should discourage creation of flag lots, except in unique circumstances. Exceptions could be provided where a site has unique physical constraints, such as wetlands or other natural features, that prevent access via a local street or where frontage requirements create access problems. Moskowitz and Lindbloom (1993) suggest the following flag lot standards:

- a minimum lot area (often at least twice the area allowed in that zone, not including the access right-of-way);
- minimum front, side, and rear yard requirements for primary lot;
- a minimum of 20 feet and maximum of 50 feet for the access right-of-way;
- not more than one flag lot per private right-of-way; and
- a minimum separation distance of at least the minimum frontage requirement of that zoning district. [Note: Some communities also restrict the length of the access pole.]

The City of Orlando, Florida, provides for flag lots when deemed necessary to achieve creative planning, to eliminate access to collector or thoroughfare streets, preservation of natural amenities or important historical or archaeological values...but only in residential developments approved in accordance with [site plan review requirements] and provided the following conditions are satisfied:

- no flag lot shall abut more than one other flag lot, nor shall flag lots be double stacked across a common street;
- in no instances shall flag lots constitute more than 10% of the total number of building sites in a given development, or 3 lots (whichever is more);
- the lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area;
- flag lots shall not be permitted whenever their effect would be to increase the number of building sites taking driveway access to a Collector or arterial Street; and
- no flag driveway shall be longer than 150 feet [Section 60.128].

Access requirements in Hillsborough County, Florida's Land Development Code require all lots to have access to a public street through a portion of the lot, through an approved private street, or through commonly owned property [Section 2.5.9.10]. If through commonly owned property and serving more than one lot, the access must be at least fifty feet wide. Additional flag lot standards are provided for rural or semi-rural areas. These allow a single parcel to have a minimum twenty foot access provided it is separated from any other such access by at least the minimum lot width for the district and the access pole is not longer than 800 feet. If an easement access is required, it is subject to a minimum width of 20 feet and can serve no more than one parcel.

*See Section 16 of the Model Regulations for flag lot standards.*

**Private Road Ordinances**

Private roads offer an alternative means of access to small subdivisions in rural areas and to lots that are not subject to subdivision review. In the absence of provisions for private roads, 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. 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. Most communities require a minimum 66 foot right-of-way. Many rural areas do not require paving if the roadway conforms to gravel road specifications, whereas others require paving after the number of dwelling units served exceeds a certain number. Some ordinances provide a sliding scale approach, allowing gravel roads of about 12 feet to 18 feet wide for 2-4 parcels and requiring county road specifications for larger developments (Bloom, 1990).

See Section 21 of the Model Regulations for private road standards.

### Single Access Subdivisions

Linear subdivisions served by a single access drive 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. Listokin and Walker (1989) recommend that when a subdivision on a single access rural road exceeds 20 lots (or 20 dwelling units), it should have at least two access points. The maximum number of dwelling units permitted for residential access streets would be about 50 per loop. A minimum turning radius that accommodates emergency vehicles should be required for cul-de-sacs.

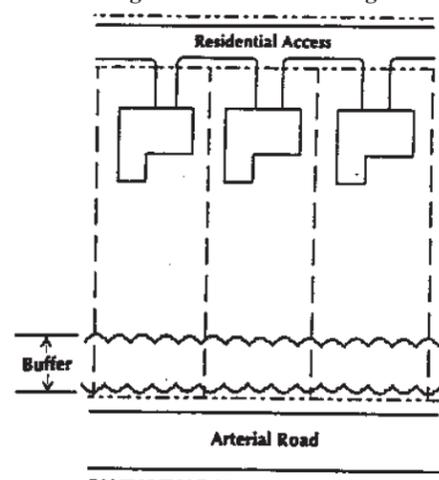
See Section 18(3) of the Model Regulations related to single access subdivisions.

### Lot Frontage and Dimensional Requirements

Through lots, also known as double frontage lots, are lots with frontage on two streets. Through lots should be required to obtain access on the street with the lower functional classification. When a residential subdivision is proposed that would abut an arterial, it should be designed to provide through lots along the arterial with access from a local road. These requirements are known as reverse frontage (Figure 2). In either case, the community could require that access rights to the arterial or collector be dedicated to the local government and this restriction recorded with the deed.

Sarasota County, Florida provides that when a new subdivision is created, lots abutting an arterial are prohibited from having direct access to that arterial. Instead, access to these lots must be from an interior local street or frontage street and access rights to the arterial must be dedicated to the County and run with the land (Sarasota County Land Development Regulations, Section B3.3(j)).

Figure 2: Reverse Frontage



Minimum lot frontage requirements are tied to zoning requirements for a district and set the minimum lot width or frontage on a public road. Minimum lot frontage standards should be higher on arterials and collectors to allow for greater spacing between commercial or residential driveways. The frontage requirement will vary depending upon the minimum lot size in that zoning district and other dimensional requirements, such as the width-to-depth ratio. Although driveway spacing standards may be used to limit residential driveways along rural highways, land division controls and higher minimum lot frontage requirements can be more effective in controlling residential strips.

Minimum lot frontage and maximum lot width-to-depth ratios prevent the creation of long and narrow or irregularly shaped lots. Width-to-depth ratios may be included in the local land development code or subdivision regulations. Rural areas may adopt a maximum width-to-depth ratio of 1:4, meaning that parcels with 100 feet of frontage may not be longer than 400 feet. Urban or suburban areas may use maximum ratios of 1:2.5 or 1:3. Width-to-depth ratios should be set higher in coastal areas to account for erosion (Williams, McCauley, Wyckoff, 1990).

See Section 15 of the Model Regulations for reverse frontage requirements; Section 14(1) for lot frontage requirements; and Section 17 for width-to-depth ratios.

### Driveway Spacing Requirements

Spacing standards limit the number of driveways on a roadway by mandating a minimum separation distance between driveways. These standards help reduce the potential for collisions as travellers enter or exit the

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roadway, encourage sharing of access for smaller parcels, and can improve community character by discouraging haphazard placement of driveways along corridors. Driveway spacing at intersections and corners should provide adequate sight distance and response times and permit adequate stacking space.

Driveway spacing standards should be tied to the state DOT access classification and driveway permitting standards for the state highway system. Driveway spacing standards on other roadways may be tied to the posted speed limit or functional classification of the roadway, with the minimum distance between driveways greater as speed limits increase. Some communities also provide variable spacing depending upon the land use intensity of the site served and that of adjacent sites.

See Sections 5 and 6 of the Model Regulations for recommended driveway spacing standards.

### Joint Access

Joint access requirements provide for a unified on-site circulation plan and adequate driveway spacing along developing commercial corridors. Orlando, Florida has a comprehensive program for minimizing curb cuts through joint access and cross access requirements. Joint use driveways and cross access easements must be established wherever feasible and the building site must incorporate a unified access and circulation system. Orlando's cross access standards require:

- A continuous linear travel corridor extending the entire length of each block it serves, or at least 1,000 feet of linear frontage along the thoroughfare, and having a design speed of 10 mph;
- Sufficient width to accommodate two-way travel aisles designed to accommodate automobiles, service vehicles and loading vehicles in accordance with design requirements;
- Stub-outs and other design features that make it visually obvious that the abutting properties may be tied in to provide cross-access;
- Linkage to other cross-access corridors in the area.

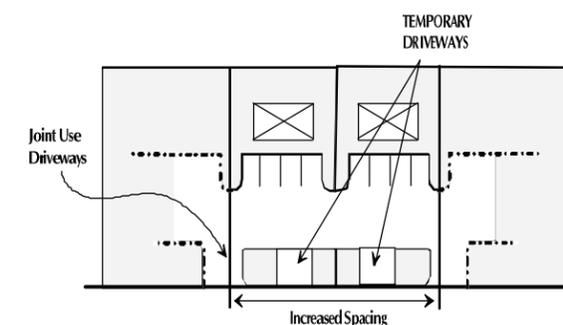
All plats, site plans, and other development must meet these standards on designated thoroughfares and property owners must record an easement with the deed

allowing cross access to and from other properties in that affected area. The property owner must also enter an agreement to dedicate remaining access rights along the thoroughfare to the City and enter an agreement to be recorded with the deed that pre-existing driveways will be closed and eliminated after construction of the joint-use driveway. Cross-access corridors are indicated on the zoning map by dashed or dotted lines and distinguish those portions of the corridor where easements have been recorded.

Standards are included for coordinated or joint parking design and joint maintenance agreements must also be recorded with the deed. These standards are applied to phased development in the same ownership and leasing situations. Where abutting properties are in different ownership, cooperation is encouraged but not required. Only the building site under consideration is subject to the requirements, which are recorded as a Binding Lot Agreement prior to issuing a building permit. As abutting properties are developed or initiate retrofitting requirements then they must abide by the standards (see Retrofitting).

If properties are unable to meet driveway spacing requirements of the Access Management Classification System, the Public Works Director may waive the requirements and provide for less restrictive spacing (see Figure 3). The waiver is based on the condition that joint use driveways, cross access easements, and a unified parking and circulation plan must be established wherever feasible. Where unified access and circulation is not practical, the City may provide a variance.

Figure 3: Joint Access



See Section 7 of the Model Regulations for joint and cross access requirements.

### Retrofitting Nonconforming Properties

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Land development regulations are not retroactive. Existing properties that do not meet land development requirements must be designated as nonconforming—a process commonly known as grandfathering. Nonconformities may relate to land use or dimensional requirements, as in a nonconforming lot of record. Nonconforming properties may continue in the same manner as they existed before land development regulations were adopted. These requirements protect the substantial investment of property owners and recognize the expense of bringing those properties into conformance.

Yet the negative impacts of nonconforming properties may be substantial. Nonconforming properties may pose significant safety hazards, increase traffic congestion, reduce property values, degrade the environment, or undermine community character. To address the public interest in these matters, land development regulations include conditions or circumstances where nonconforming access features may be brought into conformance. Such conditions may include:

- when new driveway permits are requested;
- an increase in land use intensity;
- substantial enlargements or improvements;
- significant change in trip generation; and
- as changes to roadway design allow.

Opportunities to bring nonconforming features into compliance typically occur after a change of ownership when the costs of required improvements may be amortized in the business loan or mortgage.

*See Section 13 of the Model Regulations for retrofitting requirements.*

**Limiting New Driveways Along Major Roads**

An effective method of managing curb cuts in newly emerging commercial corridors is to restrict the permitted number of future driveways to one driveway per existing lot or parcel. This may be accomplished as follows:

1. Identify and map the emerging commercial corridor.
2. Verify the boundaries of all existing lots.
3. Assign one driveway to each mapped parcel.

The assigned driveway would be permitted by right effective upon adoption of the ordinance and map. Parcels with larger frontages could be permitted more than one driveway and additional driveways could be permitted by special use permit. Under this approach,

future division and subdivision of parcels could occur, but each newly created lot would obtain access via the connection permitted by the ordinance. Because of this constraint, property owners would be obliged to share driveways, use service drives, cross access, and even rear access drives in some instances to maintain appropriate access. Limitations on new driveways may be established using a corridor overlay approach.

*See Section 14 of the Model Regulations for corridor overlay standards based on this technique.*

**Outparcel Requirements**

Outparcels are lots on the perimeter of a larger parcel that abut a roadway. Outparcel regulations are adopted for commercial corridors to foster coordinated on-site circulation systems that serve outparcels as well as interior development, thereby reducing the need for driveways on an arterial. Outparcel regulations may include standards governing: the number of outparcels; minimum lot frontage; access; unified parking and circulation; landscaping and pedestrian amenities; building height, coverage, and setback requirements; and signage.

The City of Pembroke Pines, Florida limits the number of outparcels to one per ten acres of site area, with a minimum frontage requirement of 500 lineal feet per outparcel. Standards also call for a minimum of 300 lineal feet of open space between outparcels. Roadways separating adjacent parcels may be included with open space in meeting this requirement. The ordinance prohibits more than one building per outparcel. Each parcel must provide all required parking on site and conform to all landscaping and setback requirements of that zoning district. Access requirements are as follows:

"Access to the outparcel shall be as direct as possible avoiding excessive movement across parking aisles and queuing across surrounding parking and driving aisles. All access to the outparcel must be internalized utilizing the main access drive of the principal retail center... Drive-in facilities shall be provided on the outparcel site exclusively. In no instance shall the circulation and access of the principal commercial facility and its parking and service be impaired."

In addition, covenants imposed by the Planning and Zoning Board and Architectural Review Board must be added to the deed if title to the outparcel is transferred after the site plan is approved. The seller must notify the buyer, who is bound by the restrictions.

purpose and administration of the new standards. It is essential that the regulations be applied consistently—especially when opportunities arise for retrofitting nonconforming features. Variance requests should be judiciously evaluated according to specified review procedures and discretionary standards to avoid inconsistency.

*See Section 23 of the Model Regulations for procedures on coordinating access review with the Florida Department of Transportation on the State Highway System.*

**Conclusion**

Access management addresses a broad array of quality of life issues fundamental to promoting livable, prospering communities. Land division and access controls:

- foster well designed circulation systems that improve the safety and character of commercial corridors;
- discourage subdivision practices that destroy the rural character of the landscape or essential natural resources;
- advance economic development goals by promoting more efficient use of land and transportation systems; and
- help control public service costs and the substantial public investment in infrastructure and services.

Effective local access management requires both planning and regulatory solutions. Communities should establish a policy framework that supports access management in the local comprehensive plan, prepare corridor or access management plans for specific problem areas, and encourage good site planning techniques. Zoning and subdivision regulations should be amended accordingly and communities could consider a separate access management ordinance. Comprehensive and subarea plans provide the rationale for access management programs and can serve as the legal basis for public policy decisions.

Because land division and access controls are politically charged, planning officials are advised to develop strategies for diffusing opposition before advancing recommendations. Be aware of the practical concerns of those most affected by proposed amendments and devise strategies for ameliorating hardship. Town meetings, attitude surveys, and other techniques should be used to educate stakeholders and generate political support.

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**Model Land Development and Subdivision Regulations That Support Access Management**

Section 1.	Intent and Purpose .....	2-2
Section 2.	Applicability .....	2-2
Section 3.	Conformance with Plans, Regulations, and Statutes .....	2-2
Section 4.	Definitions .....	2-3
Section 5.	Access Management Classification System and Standards .....	2-9
Section 6.	Corner Clearance .....	2-12
Section 7.	Joint and Cross Access .....	2-13
Section 8.	Interchange Areas .....	2-16
Section 9.	Access Connection and Driveway Design .....	2-17
Section 10.	Requirements for Outparcels and Phased Development Plans .....	2-20
Section 11.	Emergency Access .....	2-21
Section 12.	Transit Access .....	2-21
Section 13.	Nonconforming Access Features .....	2-22
Section 14.	Corridor Access Management Overlay .....	2-23
Section 15.	Reverse Frontage .....	2-27
Section 16.	Flag Lot Standards .....	2-28
Section 17.	Lot Width-to-Depth Ratios .....	2-29
Section 18.	Shared Access .....	2-30
Section 19.	Connectivity .....	2-31
Section 20.	Minor Subdivisions .....	2-31
Section 21.	Private Roads .....	2-33
Section 22.	Regulatory Flexibility .....	2-37
Section 23.	Site Plan Review Procedures .....	2-37
Section 24.	Variance Standards .....	2-40

*The following model ordinance language is provided for adoption into the local land development code. Local governments should obtain professional planning and legal assistance when adapting this model language to fit local needs. Although a regulatory program is essential, it is further recommended that local governments prepare subarea plans for high priority corridors that are experiencing development pressure.*

### **Section 1. Intent and Purpose**

The intent of this ordinance is to provide and manage access to land development, while preserving the regional flow of traffic in terms of safety, capacity, and speed. Major thoroughfares, including highways and other arterials, serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If access systems are not properly designed, these thoroughfares will be unable to accommodate the access needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property, with the right of the citizens of the *(city/county)* and the State of Florida to safe and efficient travel.

To achieve this policy intent, state and local thoroughfares have been categorized by function and classified for access purposes based upon their level of importance, with highest priority on the Florida Intrastate Highway System and secondary priority on the primary network of regional arterials. Regulations have been applied to these thoroughfares for the purpose of reducing traffic accidents, personal injury, and property damage attributable to poorly designed access systems, and to thereby improve the safety and operation of the roadway network. This will protect the substantial public investment in the existing transportation system and reduce the need for expensive remedial measures. These regulations also further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

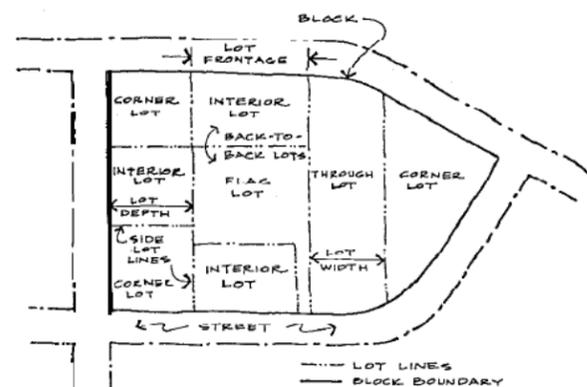
### **Section 2. Applicability**

This ordinance shall apply to all arterials and selected collectors within *(city/county)*, as identified in Table 1, and to all properties that abut these roadways. The access classification system and standards of the Florida Department of Transportation shall apply to all roadways on the State Highway System.

### **Section 3. Conformance with Plans, Regulations, and Statutes**

This ordinance is adopted to implement *(cite specific policies)* of the *(city/county)* as set forth in the *(name local comprehensive plan)*. In addition, this ordinance conforms with *(cite specific policies)* of the Metropolitan Planning Organization (MPO) as specified in the *(name of long range transportation plan)*, and the planning policies of the Florida Department of Transportation set forth in the Florida Transportation Plan. The ordinance also conforms with the access classification system and standards of the Florida Department of Transportation, the access management requirements of the Florida Intrastate Highway System Program, and policy and planning directives of the federal Intermodal Surface Transportation Efficiency Act of 1991.

**Figure 3: Types of Lots**



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**Lot, Corner** - Any lot having at least two (2) contiguous sides abutting upon one or more streets, provided that the interior angle at the intersection of such two sides is less than one hundred thirty-five (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 frontyard 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 one hundred and fifty (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.

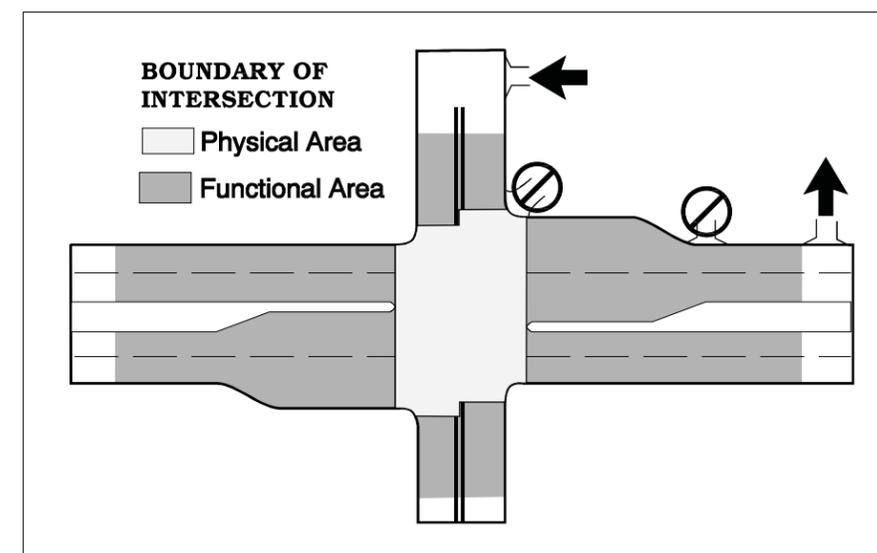
**Lot, Nonconforming** - A lot that does not meet the dimensional requirements of the district in which it is located and that existed before these requirements became effective.

**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.

**Functional Area (Intersection)** - That area beyond the physical intersection of two controlled access facilities that comprises decision and maneuver distance, plus any required vehicle storage length, and is protected through corner clearance standards and driveway connection spacing standards (see Figure 2).

**Figure 2: 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.

**Green Book, The Florida (Manual of Uniform Minimum Standard for Design, Construction, and Maintenance)** - A manual produced by the Florida Department of Transportation which provides for uniform standards and criteria for transportation facilities for both state and local roads.

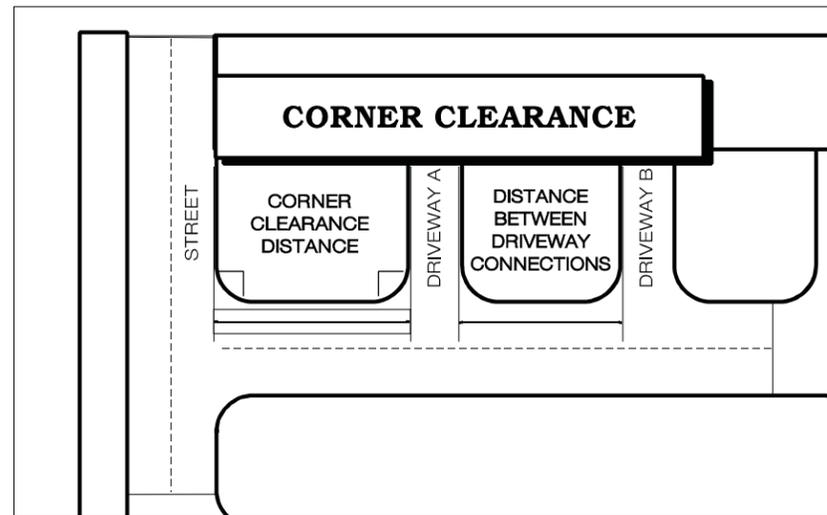
**Intrastate Highway System** - (see Florida Intrastate Highway System)

**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.



**Figure 1: Corner Clearance and Connection Spacing**



**Corridor Overlay Zone** - Special requirements added onto existing land development requirements along designated portions of a public thoroughfare.

**Cross Access** - A service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system. (see Figure 4)

**Deed** - A legal document conveying ownership of real property.

**Directional Median Opening** - An opening in a restrictive median which 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.

**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.

**Florida Intrastate Highway System** - The specially designated statewide system of limited access and controlled access facilities, as designated by FDOT and adopted by the legislature, that allows for high-speed and high-volume traffic movement within the state.

**Frontage 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. (see also Service Roads)

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

*Commentary: The link between regulations and public policy has undergone intense legal scrutiny in recent years. To establish this link, local governments should clearly identify the intent and purpose of the regulatory program, and specify any plans, state and federal regulations, or statutes that will be carried out through the regulatory standards. It is also important to cite specific planning policies that are being advanced through these regulations. Local governments in designated transportation management areas may also cite access management as a congestion management measure in accordance with the federal Intermodal Surface Transportation Efficiency Act of 1991. Communities that do not lie within the planning area boundaries of a Metropolitan Planning Organization (MPO) would simply leave out the reference to MPOs in this section. Demonstrating conformance with state and federal law, and with the local comprehensive plan, is important in strengthening the legal basis for any local regulatory program.*

**Section 4. Definitions**

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

**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 process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.

**Access Management Plan (Corridor)** - A plan illustrating the design of access for lots on a highway segment or an interchange area that is developed jointly by the state, the metropolitan planning organization, and the affected jurisdiction(s).

**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.

**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)

**Example**  
**Table 1: Access Classification of State and County Roadways**

Jurisdiction	Segment	Access Class
<b>State Roads:</b>		
SR 400 (I-4)	County Line to County Line	1
SR 500 (US 192-441)	Kissimmee CL to St. Cloud CL	2
SR 530 (US 192)	World Dr. to I-4	1
SR 535 (Vineland Rd.)	US 192 to County Line	2
<b>County Roads:</b>		
Bermuda Avenue	Emmett St. to Vine St.	7
Dart Blvd.	I-4 to Florida's Turnpike	2
Hoagland Blvd.	Zaheed Ave. to Carroll St.	5
Neptune Rd.	Stroupe Rd. to 13th St.	6

*Note: The information in this table was adapted from a draft access management ordinance and is provided as an example of a table format.*

**Commentary:** *These access classifications reflect those of the Florida Department of Transportation for the State Highway System and run from the most restrictive (class 1) to the least restrictive (class 7). Access classifications are assigned to roadway segments based upon the current condition of the roadway and any planned improvements. Access Class 2 segments usually have access restrictions supported by local ordinances and agreements with FDOT and Classes 2- 4 are generally intended for roadways without extensive development or small subdivided frontages. Classes 5- 7 are intended for roadways that have or are planned to have moderate to extensive development. Access classes also vary according to posted speed limit and whether the roadway has or is planned to have a restrictive or non-restrictive median.*

*Local governments may apply the FDOT access management classification system and standards to thoroughfares under local jurisdiction by adopting these access classifications into their code, as shown in this model ordinance language. This allows you to coordinate with the access classification adopted by FDOT for state highways, and to assign access classifications to thoroughfares under local jurisdiction, as well. An alternative is to adopt the state access classification system and standards for state highways only by reference, as in this example from Bay County: "The separation between access points on state-maintained roads shall be in accordance with Florida Department of Transportation (FDOT) rules, Chapter 14-96 and Chapter 14-97." Collectors and arterials under local jurisdiction that are not assigned an access classification would be required to meet connection spacing standards based upon posted speed limit, as shown in (3) below.*

**Section 5. Access Management Classification System and Standards**

- The following access classifications have been assigned to major thoroughfares under state and local jurisdiction as provided in Table 1 in accordance with Chapter 14-97, Administrative Rules of the Department of Transportation, and the requirements of this Code. These access classes are defined as follows:

**Access Class 1** - Limited Access Highways, designed for high-speed, high volume traffic movements. Access is permitted only via interchanges.

**Access Class 2** - Highly controlled access facilities distinguished by their ability to carry high speed, high volume traffic over long distances in a safe and efficient manner. These highways are distinguished by a system of existing or planned service roads, a highly controlled limited number of connections, median openings and infrequent traffic signals.

**Access Class 3** - These facilities are controlled access facilities where direct access to abutting land will be controlled to maximize the through movement of traffic. This class will be used where existing land use and roadway sections have not been built out to the maximum land use or roadway capacity or where the probability of significant land use change in the near future is high. These highways are distinguished by existing or planned restrictive medians and maximum distance between signals and driveway connections. Local land use planning, zoning and subdivision regulations should be such to support the restrictive spacings of this designation.

**Access Class 4** - These facilities are controlled access highways where direct access to abutting land will be controlled to maximize the through movement of traffic. This class will be used where existing land use and roadway sections have not been built out to the maximum land use or roadway capacity or where the probability of significant land use change in the near future is high. These highways are distinguished by existing or planned non-restrictive median treatments.

**Access Class 5** - This class will be used where existing land use and roadway sections have been built out to a greater extent than those roadway segments classified as Access Classes 3 and 4 and where the probability of a major land use change is not as high as those roadway segments classified Access Classes 3 and 4. These highways will be distinguished by existing or planned restrictive medians.

**Access Class 6** - This class will be used where existing land use and roadway sections have been built out to a greater extent than those roadway segments classified as Access Classes 3 and 4, and where the probability of a major land use change is not as high as those roadway segments classified Access Classes 3 and 4. These highways will be distinguished by existing or planned non-restrictive medians or centers.

**Access Class 7** - This class shall only be used in urbanized areas where existing land use and roadway sections are built out and where significant land use changes or roadway widening will be limited. This class shall be assigned only to roadway segments where there is little intended purpose to provide high speed travel. Access needs, though generally high in those roadway segments, will not compromise the public health, welfare or safety. Exceptions to standards in this class will be considered if the applicant's design changes substantially reduce the number of connections compared to existing conditions. These highways can have either restrictive or non-restrictive medians.

**Significant Change in Trip Generation** - A change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding 10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under local jurisdiction; or exceeding 25 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under state jurisdiction, as defined in 335.18, F.S.

*Commentary: In 1992, the legislature amended the State Highway System Access Management Act to reduce the definition of "substantial change" from a 10% threshold to 25%, as shown above. This diminished the ability of the State to require properties with nonconforming access to the State Highway System to mitigate their nonconformity. However, local governments may adopt requirements that are more restrictive than State standards for roadways under local jurisdiction. The 10% threshold is recommended for non-state thoroughfares (see also, Nonconforming Access Features).*

**Standard Index (Roadway and Traffic Design Standards)** - A Florida Department of Transportation document with detailed standards for the construction of connections.

**State Highway System (SHS)** - The network of limited access and controlled access highways that have been functionally classified and are under the jurisdiction of the State of Florida.

**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. The platting of land into lots, building sites, blocks, open space, public areas, or any other division of land;
- b. Establishment or dedication of a road, highway, street or alley through a tract of land, by the owner thereof, regardless of area;
- c. 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);
- d. The platting of the boundaries of a previously unplatted parcel or parcels.

**Substantial Enlargements or Improvements** - A 10% increase in existing square footage or 50% increase in assessed valuation of the structure.

*Commentary: This standard is typical of many standards used to address nonconforming situations. Check these standards related to nonconforming situations against those of your code to assure consistency.*

**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.

**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 (MUTCD)** - A Federal document adopted by the Florida Department of Transportation that provides standards for traffic control devices. Florida Administrative Rule 14-110 establishes the MUTCD to be Florida's Standard for traffic control devices.

**Minor Subdivision** - A subdivision of land into not more than two (2) 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 or requirements of the Administrative Rule 14-97 of the Florida Department of Transportation.

**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.

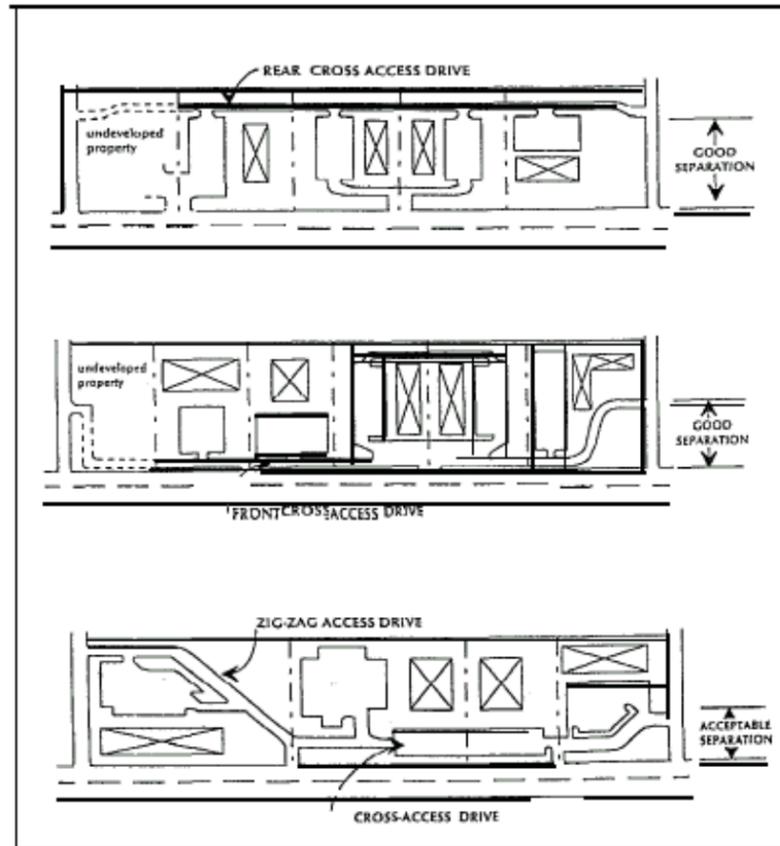
**Reasonable Access:** The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the thoroughfare, as consistent with the purpose and intent of this code and any applicable plans and policies of the (city/county).

**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 the controlled access facility.

Figure 4: Examples of Cross Access Corridor Design



Source: City of Orlando

This illustration shows that sufficient separation is needed between side street access to the property and the major road.

2-14

b) The (*permitting department*) 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.

3. 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 connections (i.e. right in/out, right in only, or right out only) may be required.
4. In addition to the required minimum lot size, all corner lots shall be of adequate size to provide for required frontyard setbacks and corner clearance on street frontage.

#### Section 7. Joint and Cross Access

1. Adjacent commercial or office properties classified as major traffic generators (i.e. shopping plazas, office parks), shall provide a cross access drive and pedestrian access to allow circulation between sites.

*Commentary:* Adjacent shopping centers or office parks are often not connected by a service drive and sidewalk. As a result, customers who wish to shop in both centers, or visit both sites, must exit the parking lot of one, travel a short distance on a major thoroughfare, and then access the next site. A cross access drive reduces traffic on the major thoroughfare and reduces safety hazards. This in turn, can have positive business benefits by providing easy access to one site from another.

2. A system of joint use driveways and cross access easements as shown in Figure 4 shall be established wherever feasible along (*name affected corridors, including FIHS, or refer to a list*) and the building site shall incorporate the following:
  - a) A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards.
  - b) A design speed of 10 mph and sufficient width to accommodate 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) A unified access and circulation system plan that includes coordinated or shared parking areas is encouraged wherever feasible.

2-13

4. Driveway spacing shall be measured from the closest edge of the pavement to the next closest edge of the pavement (see Definition section and Figure 1). 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 thoroughfare plan or five year transportation plan of the metropolitan planning organization.
5. The (permitting department) may reduce the connection spacing requirements in situations where they prove impractical, but in no case shall the permitted spacing be less than 80% of the applicable standard, except as provided in Section 24.
6. If the connection spacing of this code cannot be achieved, then a system of joint use driveways and cross access easements may be required in accordance with Section 7.
7. Variation from these standards shall be permitted at the discretion of the Planning Commission where the effect would be to enhance the safety or operation of the roadway. Examples might include a pair of one-way driveways in lieu of a two-way driveway, or alignment of median openings with existing access connections. Applicants may be required to submit a study prepared by a registered engineer to assist the (city/county) in determining whether the proposed change would exceed roadway safety or operational benefits of the prescribed standard.

**Commentary:** Driveway spacing standards limit the number of driveways on a roadway by mandating a minimum separation distance between driveways. This reduces the potential for collisions as travellers enter or exit the roadway and encourages sharing of access, where appropriate. Driveway spacing at intersections and corners should provide adequate sight distance and response times and permit adequate stacking space. Driveway spacing on nonclassified arterials and collectors may be tied to posted speed limit, as shown here, with the minimum distance between driveways greater as speed limits increase. The method used to regulate driveway spacing does, however, vary widely across local governments. Some jurisdictions tie driveway spacing to functional classification rather than speed limit, and others provide variable spacing depending upon the land use intensity of the site served and that of adjacent sites. The standards above fall within the recommended range and are compatible with connection spacing standards in Table 2.

**Section 6. Corner Clearance**

1. Corner clearance for connections shall meet or exceed the minimum connection spacing requirements for that roadway.
2. New connections shall not be permitted within the functional area of an intersection or interchange as defined by the connection spacing standards of this code, unless:
  - a) No other reasonable access to the property is available, and

2. All connections on facility segments that have been assigned an access classification shall meet or exceed the minimum connection spacing requirements of that access classification, as specified in Table 2. [Note: These standards are consistent with those of the Florida Department of Transportation, Chapter 14-97, Administrative Rules. If the rules are amended at a future date then these standards should be amended accordingly.]

**Table 2: Access Classification System & Standards**

Functional Class	Access Class	Medians**	Connection Spacing (feet)		Median Opening Spacing		Signal Spacing
			>45 mph	≤45 mph	Directional	Full	
Arterials	2	Restrictive w/ Service Roads	1320	660	1320	2640	2640
	3	Restrictive	660	440	1320	2640	2640
	4	Non-Restrictive	660	440			2640
Collectors	5	Restrictive	440	245	660	2640/1320	2640/1320
	6	Non-Restrictive	440	245			1320
Arterials, Collectors, Residential Collectors	7	Both Median Types	125		330	660	1320

\* For roads with posted speed limits ≥ 45mph.  
 \*\* A "Restrictive" median physically prevents vehicle crossing. A "Non-Restrictive" median allows turns across any point.

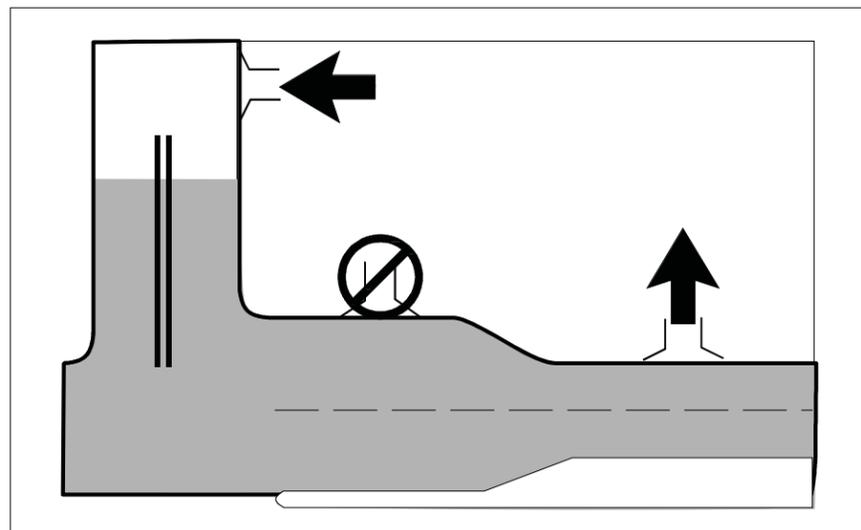
3. Separation between access connections on all collectors and arterials under local jurisdiction that have not been assigned an access classification shall be based upon the posted speed limit in accordance with Table 3:

**Table 3: Driveway Spacing for Nonclassified Roadways**

Posted Speed Limit (MPH)	Driveway Spacing (Feet)
≤ 35	125
36-45	245
> 45	440*

\*Ideally any road having a speed limit over 45 mph should be given an access management classification.

**Figure 6: Driveway Location**



**Table 4: Suggested Access Connection Design From FDOT Standard Index\***

Trips/Day	1-20		21-600		601-4000	
Trips/Hour	or 1-5		or 6-60		or 61-400	
	URBAN SECTION	RURAL SECTION	URBAN SECTION	RURAL SECTION	URBAN SECTION	RURAL SECTION
<b>Connection Width(2-way)</b>	12' min 24' max	12' min 24' max	24' min 36' max	24' min 36' max	24' min 36' max	24' min 36' max
<b>Flare (Drop Curb)</b>	10' min	N/A	10' min	N/A	N/A	N/A
<b>Returns (Radius)</b>	N/A	15' min 25' std 50' max	small radii may be used	25' min 50' std 75' max	25' min 50' std 75' max	25' min 50' std (or 3 curves)
<b>Angle of Drive</b>			60'-90'	60'-90'	60'-90'	60'-90'
<b>Divisional Island</b>			4'-22' wide	4'-22' wide	4'-22' wide	4'-22' wide

Source: Florida Department of Transportation Standard Index, Roadway and Traffic Design Standards. 1992.

\* Note: These standards are not intended for major access connections carrying over 4000 vehicles per day.

- The minimum distance to the first median opening shall be at least 1320 feet as measured from the end of the taper of the egress ramp.

*Commentary:* New highway interchanges can have substantial impacts on land development patterns around the interchange area. In turn, 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. An access management plan would identify the appropriate access system around the interchange area, in accordance with a desired land development plan. Such a plan would also incorporate minimum spacing requirements for new interchanges required by the Florida Department of Transportation. These standards are provided above for incorporation into the local code.

**Section 9. Access Connection and Driveway Design**

- Driveway grades shall conform to the requirements of FDOT Standard Index, Roadways and Traffic Design Standard Indices, latest edition.
- Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view.
- Construction of driveways along acceleration or deceleration lanes and tapers is discouraged due to the potential for vehicular weaving conflicts (see Figure 6).
- Driveways with more than one entry and one exit lane shall incorporate channelization features to separate the entry and exit sides of the driveway. Double yellow lines may be considered instead of medians where truck off-tracking is a problem.
- Driveways across from median openings shall be consolidated wherever feasible to coordinate access at the median opening.
- Driveway width and flair shall be adequate to serve the volume of traffic and provide for rapid movement of vehicles off of the major thoroughfare, but standards shall not be so excessive as to pose safety hazards for pedestrians, bicycles, or other vehicles. (*Suggested standards appear in Table 4*).

5. The (*permitting department*) may reduce required separation distance of access points where they prove impractical, provided all of the following requirements are met:
  - a) Joint access driveways and cross access easements are provided wherever feasible in accordance with this section.
  - b) The site plan incorporates a unified access and circulation system in accordance with this section.
  - c) The property owner shall enter a written agreement with the (*city/county*), recorded with the deed, that pre-existing connections on the site will be closed and eliminated after construction of each side of the joint use driveway.

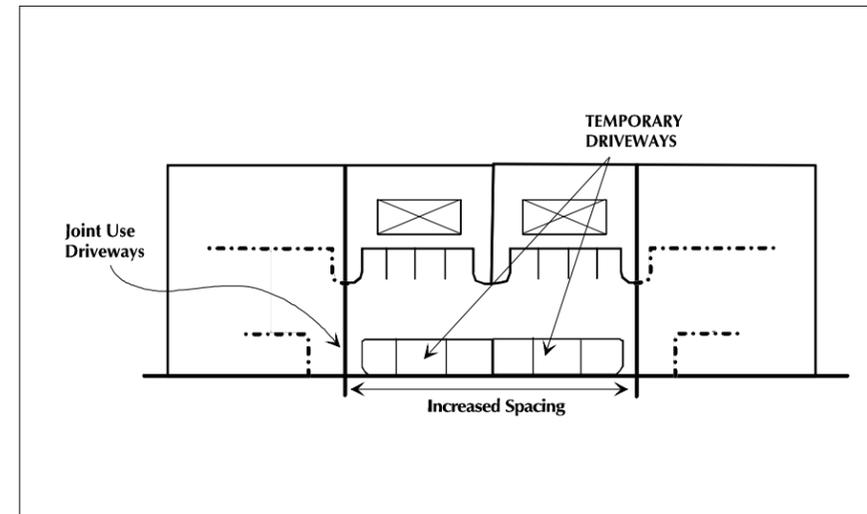
6. The (*permitting department*) may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make development of a unified or shared access and circulation system impractical.

**Commentary:** This model provides that where properties are unable to meet driveway spacing requirements, then the planning or public works official may provide for less restrictive spacing, based on the conditions that joint use driveways and cross access easements must be established wherever feasible. A variance is provided only where joint and cross access is not practical. Variances and other remedial actions such as those described above are necessary to prevent unusual hardship on property owners and other situations that could incur a regulatory taking. (Note: Variances and special conditions, like standards for nonconforming features, must be consistently and rigorously applied.) These standards are also applied to phased development in the same ownership and leasing situations. Where abutting properties are in different ownership, cooperation is encouraged but not required. But the building site under consideration is subject to the requirements, which are recorded as a Binding Agreement prior to issuing a building permit. Abutting properties will be brought into compliance as they are developed or initiate retrofitting requirements, as provided in Section 13. In the meantime, the property owner will be permitted a temporary curb cut and driveway that will be closed upon development of the joint use driveway.

**Section 8. Interchange Areas**

1. New interchanges or significant modification of an existing interchange will be subject to special access management requirements to protect the safety and operational efficiency of the limited access facility and the interchange area, pursuant to the preparation and adoption of an access management plan. The plan shall address current and future connections and median openings within 1/4 mile of an interchange area (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.
2. The distance to the first connection shall be at least 660 feet where the posted speed limit is greater than 45 mph or 440 feet where the posted speed limit is 45 mph or less. This distance shall be measured from the end of the taper for that quadrant of the interchange.

**Figure 5: Joint and Cross Access**



Source: City of Orlando.

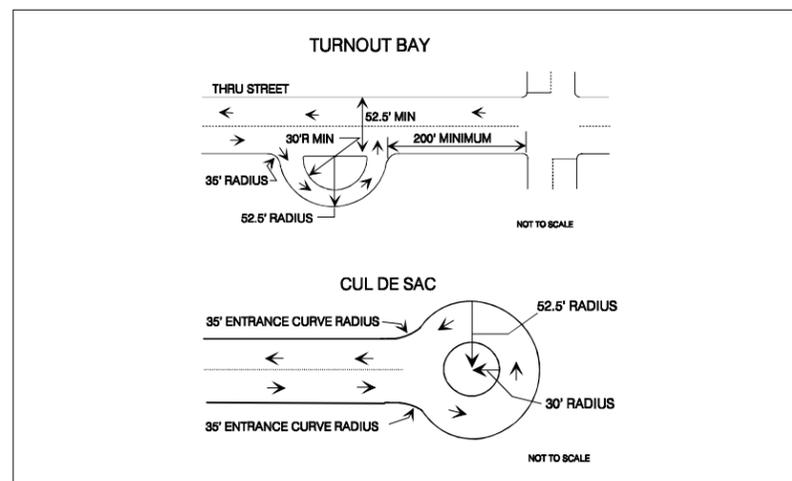
3. Shared parking areas shall be permitted a reduction in required parking spaces if peak demand periods for proposed land uses do not occur at the same time periods.

**Commentary:** For example, a bank and a movie theater need parking for their patrons at two distinctly different times.

4. Pursuant to this section, property owners shall:
  - a) Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;
  - b) Record an agreement with the deed that remaining access rights along the thoroughfare will be dedicated to the (*city/county*) and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;
  - c) Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

**Commentary:** See Appendix I for a sample cross access agreement from the City of Orlando. These agreements must be prepared with the assistance of an attorney. The joint access provisions above were adapted from the City of Orlando Code of Ordinances, Land Development Code, Chapter 61, Roadway Design and Access Management. These provisions should be mandatory for local segments of the Florida Intrastate Highway System and all other major thoroughfares zoned for intensive commercial or office development. Another option is that used by the City of Orlando, who ties joint access requirements to specific zoning districts.

Figure 8: Transit Bus Turning Radii



Source: Maryland Department of Transportation, Mass Transit Administration. Access by Design: Transit's Role in Land Development, A Developer's Manual. September 1988.

**Commentary:** The bus turnaround standards in Figure 8 are provided for transit access along major commercial and office corridors to assure safe and convenient transit access. Bus turnarounds are also useful in circumstances where circulation via the internal street system of a development would be impractical based on cost, design constraints, or the need to maintain timely service. These bus turnarounds are based upon the turning radius of a standard 40 foot bus.

### Section 13. Nonconforming Access Features

1. Permitted access connections in place as of (*date of adoption*) that do not conform with the standards herein shall be designated as nonconforming features and shall be brought into compliance with applicable standards under the following conditions:
  - a) When new access connection permits are requested;
  - b) Substantial enlargements or improvements;
  - c) Significant change in trip generation; or
  - d) As roadway improvements allow.

2-22

**Commentary:** The Florida Department of Transportation in its administrative rule on Access Management Standards (14-97.003(1)(g)) has attempted to manage the proliferation of individual access connection requests by separate properties under the same ownership. Essentially, this section states that adjacent properties under single ownership will be treated as one property unless the applicant can show the Department that the two properties should have separate access due to safety concerns (for example, a concrete plant next to a child care center). Marketing of the two properties is not a valid reason to have them treated as separate properties. The rule also states that leasehold interests in existence before February 12, 1991 (the effective date of Rule 14-97) may be considered separate properties.

### Section 11. Emergency Access

1. 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 so as to provide safe and convenient access for emergency vehicles.

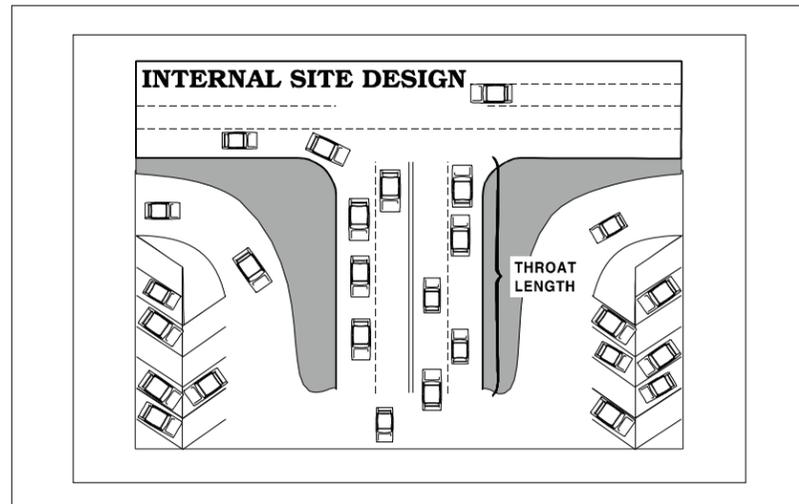
### Section 12. Transit Access

1. In commercial or office zoning districts where transit service is available or is planned to be available within five years, provisions shall be made for adequate transit access, in the form of turn around loops or turnout bays. At a minimum, in the case of a loop or cul-de-sac, entrance curves shall have a 35 foot radius, and the internal circle shall have an inside radius of 30 feet and an outside radius of 52.5 feet. In the case of turnout bays, the curve radius shall be 35', the distance from the roadside edge to the inside edge of the the outside radius shall be 52.5 feet (see Figure 8).

2-21



**Figure 7: Driveway Throat Length**



**Section 10. Requirements for Outparcels and Phased Development Plans**

1. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall not be considered separate properties in relation to the access standards of this code. 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. All necessary easements, agreements, and stipulations required under Section 7 shall be met. This shall also apply to phased development plans. 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. All access to the outparcel must be internalized using the shared circulation system of the principle development or retail center. Access to outparcels shall be designed to avoid excessive movement across parking aisles and queuing across surrounding parking and driving aisles.
3. The number of outparcels shall not exceed one per ten acres of site area, with a minimum lineal frontage of 300 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: The Florida Department of Transportation requires local governments to adhere to certain minimum design standards in the design and location of access connections or other traffic control features. These standards are contained in three separate but related technical documents: the Standard Index (Roadway and Traffic Design Standards); the "Florida Green Book" (Manual of Uniform Minimum Standard for Design, Construction, and Maintenance); and the MUTCD (Manual of Uniform Traffic Control Devices). The standards shown in Table 4 were adapted from the latest edition of the Standard Index.*

4. The length of driveways or "Throat Length" (see Figure 7) shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation. General standards appear in Table 5 but these requirements will vary according to the projected volume of the individual driveway. These measures generally are acceptable for the principle access to a property and are not intended for minor driveways. Variation from these shall be permitted for good cause upon approval of the (city/county Traffic Engineer or Public Works Official).

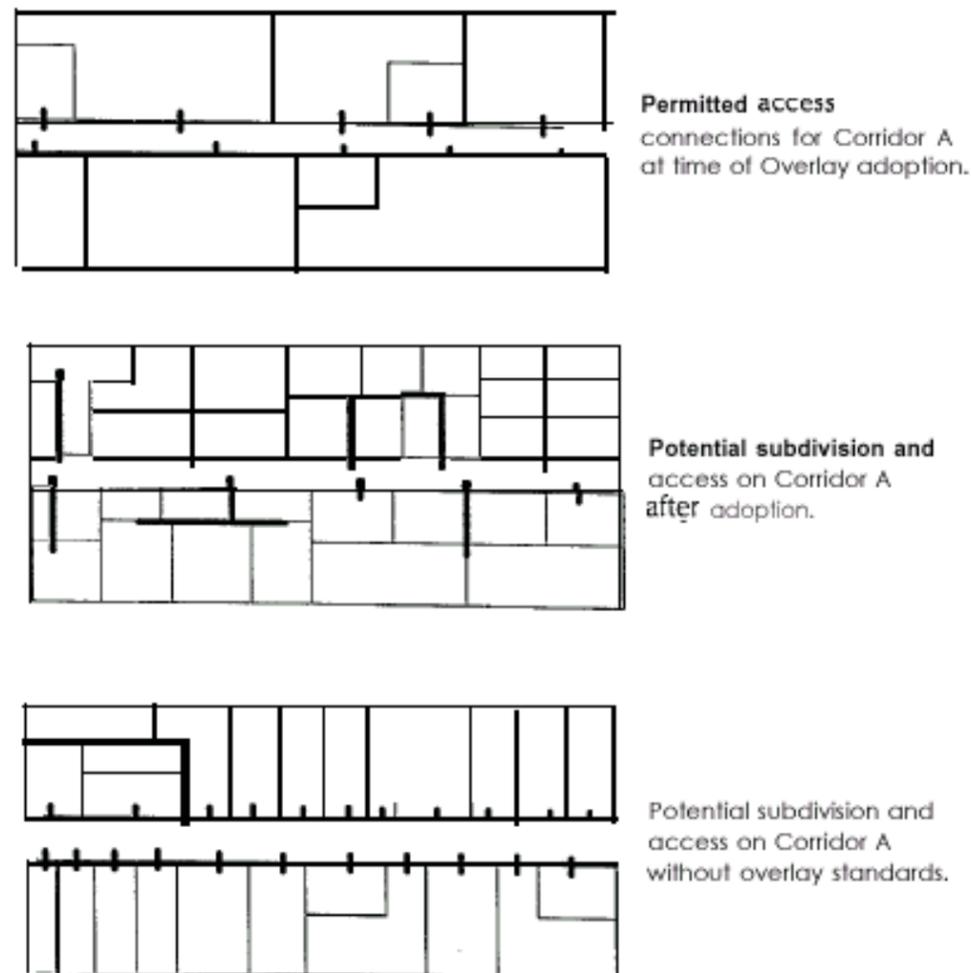
**Table 5: Generally Adequate Driveway Throat Lengths**

Shopping Centers > 200,000 GLA	200'
Smaller Developments ≤ 200,000 GLA	75'-95'
Unsignalized driveways	40'-60'

Source: Vergil G. Stover.

*Commentary: The throat lengths in Table 5 are provided to assure adequate stacking space within driveways for general land use intensities. This helps prevent vehicles from stacking into the thoroughfare as they attempt to access the site. High traffic generators, such as large shopping plazas, need much greater throat length than smaller developments or those with unsignalized driveways. The guidelines here for larger developments refer to the primary access drive. Lesser throat lengths may be permitted for secondary access drives serving large developments.*

**Figure 9: Corridor Access Management Overlay**



Local governments are also encouraged to apply design guidelines that enhance community character, including standards for pedestrian access and landscaping. Section 14(2)(d) above is one potential standard for improving the visual quality of commercial corridors through landscaping and setbacks. The setback between the right-of-way and the parking area or structure should at a minimum be 10 feet. Some communities require as much as 50 feet. The appropriate standard will vary according to local preferences and existing right-of-way. If the existing right-of-way is very small, for example, then the buffer should be increased and vice versa. Some communities are also promoting side and rear parking, or shared parking areas, to reduce the appearance of asphalt from the street and provide for a more pleasing site design.

c) 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.

d) No parking or structure other than signs shall be permitted within (10-50) feet of the roadway right-of-way. The (10-50) foot buffer shall be landscaped with plants suitable to the soil and in a manner that provides adequate sight visibility for vehicles exiting the site. Property owners shall be permitted to landscape the right-of-way, pursuant to an approved landscaping plan.

e) Permitted connections shall be identified on a map that shall be adopted by reference and that portion of a corridor affected by these overlay requirements shall be delineated on the (city/county) zoning map with hatch marks.

**Commentary:** The regulations in Section 14(2) are intended for corridors that are planned for commercial or 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 approach focuses, rather than disperses, development along corridors while maintaining regional mobility through access management. The Section 14(2) 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 access connections permitted at the time of overlay adoption.

This overlay approach allows for continued subdivision and development of land while stimulating joint access, local roads, and other alternatives to direct thoroughfare access in the site design process (see Figure 9). These permitted connections must be designated on a map and adopted with the overlay requirements. For flexibility, additional driveways may be permitted for large parcels that meet or exceed the minimum access spacing standards for that thoroughfare, or where safety would be increased. 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 under joint access requirements.

**Section 14. Corridor Access Management Overlay**

1. The minimum lot frontage for all parcels with frontage on (name affected segments of thoroughfares here or refer to a list) shall not be less than the minimum connection spacing standards of that thoroughfare, except as otherwise provided in this Section. Flag lots shall not be permitted direct access to the thoroughfare and interior parcels shall be required to obtain access via a public or private access road in accordance with the requirements of this Code.

*Commentary: Overlay zones are an effective method for managing access along commercial corridors. The technique is used to add a special set of requirements to those of an existing zoning district or districts. Section 14(1) is for those major thoroughfares or portions of major thoroughfares under state or local jurisdiction that are not already extensively subdivided and are not planned for commercial or intensive development in the near future. This approach requires that any lot fronting designated thoroughfares (usually those with an assigned access classification) have a minimum lot frontage that meets or exceeds the minimum connection spacing standard for those thoroughfares. This may be as high as 660 feet on Access Class 3 thoroughfares with a speed limit greater than 45 mph, or as low as 245 feet for Access Class 6 thoroughfares with a speed limit less than 45 mph. Existing lots with less frontage would continue as nonconforming lots. Section 14(1) standards impose large minimum lot frontage requirements to coordinate with desired connection spacing. Such requirements could disperse development and should not be applied in areas intended for intensive development. They are designed for rural and semi-rural stretches of the state (or county) highway system.*

2. The following requirements shall apply to segments of designated thoroughfares that are planned for commercial or intensive development. 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) driveway/connection per parcel as of right on said public thoroughfare(s). When subsequently subdivided, either as metes and bounds parcels or as a recorded plat, parcels designated 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 drives, and other reasonable means of ingress and egress in accordance with the requirements of this Code. The following standards shall also apply:

a) Parcels with large frontages may be permitted additional driveways at the time of adoption of these requirements provided they are consistent with the applicable driveway spacing standards.

b) Existing parcels with frontage less than the minimum connection spacing for that corridor may not be permitted a direct connection to the thoroughfare under this Section where the Planning Commission determines alternative reasonable access is available to the site. [Note: The Planning Commission could allow for a temporary driveway as provided in Section 7 with the stipulation that joint and cross access be established as adjacent properties develop.]

*Commentary: Nonconforming access features may continue in the same manner after adoption of land development regulations--a process known as "grandfathering." This protects the substantial investment of property owners and recognizes the expense of bringing those properties into conformance. Yet the negative impacts of nonconforming properties may be substantial, depending upon the degree of nonconformity. Nonconforming properties may pose safety hazards, increase traffic congestion, reduce property values, degrade the environment, and undermine community character. To address the public interest in these matters, land development regulations include conditions or circumstances where nonconforming features must be brought into conformance. Opportunities to bring nonconforming features into compliance typically occur after a change of ownership when the costs of required improvements may be amortized in the business loan or mortgage, thereby minimizing financial hardship. It is essential that these standards be consistently and rigorously 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.*

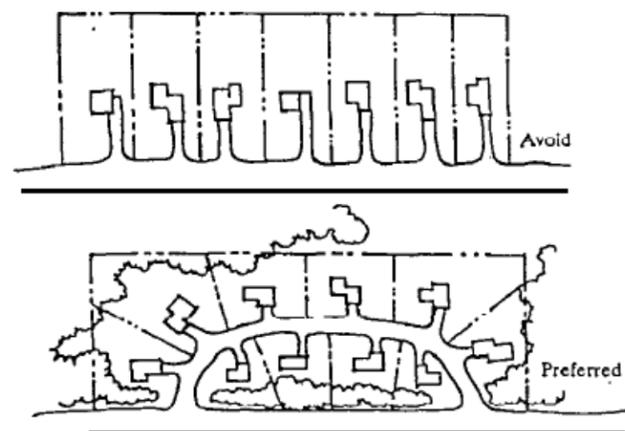
2. If the principal activity on a property with nonconforming access features is discontinued for a consecutive period of (180 or 365) days, or discontinued for any period of time without a present intention of resuming that activity, then that property must thereafter be brought into conformity with 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 (180 or 365) day period begins on the effective date of this code.

*Commentary: The Access Management Act (335.182(3)(b) F.S.) defines in law that any property that expands its tripmaking potential by 25% and at least 100 trips per day needs to be evaluated as a possible new permit. However, this definition does not provide guidance on when a property that has been out of service for a long period of time should be required to undergo reevaluation and obtain a new permit. The Florida Department of Transportation is currently trying to further clarify when a vacant or abandoned property must obtain a new permit due to a Significant Change in property use. What is being proposed for the new Administrative Rule 14-96 (Access Permit Procedures) is a definition that requires a new permit if the intended use of property is stopped for one year. Local governments may choose to do the same for consistency or be more restrictive and provide only a 180 day grace period.*

## Section 18. Shared 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 12).
2. Direct access to individual one and two family dwellings shall be prohibited on the Florida Intrastate Highway System.
3. Subdivisions on a single residential access street ending in a cul-de-sac shall not exceed 25 lots or dwelling units, and the cul-de-sac shall have a minimum cartway radius of 30 feet.

Figure 12: Shared Access on Major Thoroughfares



Reprinted with permission from the The Tug Hill Commission. Cheryl S. Doble and George M. McCulloch. *Community Design Guidelines Manual*. New York: The New York State Tug Hill Commission, January 1991.

*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. Listokin and Walker (1989) recommend that when a subdivision on a single access residential access street exceeds 25 lots (or 25 dwelling units), it*

*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 abuses. Flag lots proliferate in some areas where property owners use the technique to avoid plat review and further subdivide land. The result is a subdivision that lacks adequate access and creates long term problems for the community and those who purchase the lots. Where the narrow frontages abut a thoroughfare, they afford inadequate spacing between driveways and increase safety hazards from vehicles turning on and off the high speed roadway. Because flag lots often violate driveway spacing standards on the state highway system, they also create problems for the buyer who later attempts to build on the property and obtain a driveway permit. Under these standards existing flag lots would be nonconforming and allowed to continue. In areas where flag lots proliferate on a state or county thoroughfare, property owners should be contacted and strongly encouraged to consolidate access with adjacent properties--especially in the case of abutting flag lots.*

## Section 17. Lot Width-to-Depth Ratios

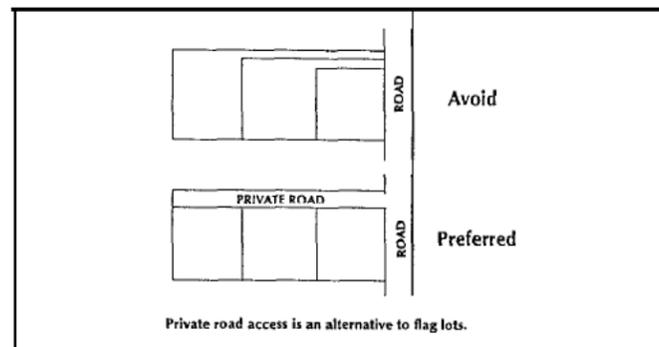
1. To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed 3 times its width (or 4 times its width in rural areas). The permitted depth shall be higher in coastal areas subject to erosion.

*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. Note: 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. Width-to-depth ratios could be set as high as 1:7 in coastal areas that have a high risk of erosion and somewhat deeper lots may be permitted along arterials to provide for berms or buffer yards in reverse frontage situations.*

**Section 16. Flag Lot Standards**

1. **Flag lots shall not be permitted when their effect would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other major thoroughfares.**
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 20 feet and maximum width of 50 feet.**
  - c) **In no instance shall flag lots constitute more than 10% 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.**

**Figure 11: Flag Lots and Alternative Access**

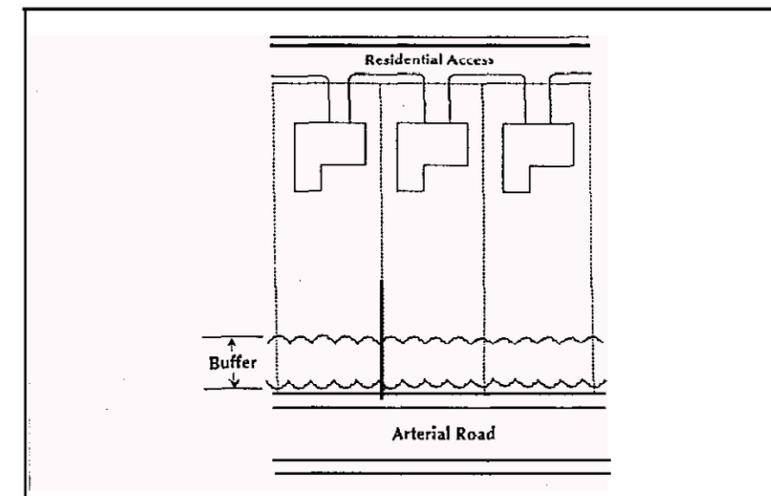


Source: K. Williams, T. McCauley, and M. Wyckoff. Land Division and Access Controls. Michigan Society of Planning Officials, Lansing: Planning and Zoning Center Inc., April 1990.

**Section 15. 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 (see Figure 10). 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.

**Figure 10: Reverse Frontage**



*Commentary: If your community lacks any standards governing reverse frontage, it is essential that such standards be adopted. These standards are currently applied by many communities and are highly effective in preventing safety hazards caused by direct residential access to high speed roadways.*

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 twenty miles an hour.

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*).

h) A second access connection to a public road shall be required for private roads greater than 2000 feet in length.

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 twelve 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 (3%) 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: This section provides a sliding scale approach, allowing gravel roads of about 12 feet to 18 feet wide for 2-4 parcels and requiring higher design specifications for larger developments. The standards are intended to provide flexibility and to preserve the character of rural areas. Communities considering*

a) The (*approving official*) 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 official*) shall approve the Minor Subdivision by signing the application form.

c) Upon approval of the Minor Subdivision, the (*approving official*) 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 for minor subdivisions are adapted from Florida's Model Land Development Code and provided here to emphasize the importance of adequate land division controls in access management. They 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 governments 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 governments 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 21. 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 sixty-six feet in width, except as otherwise provided in Section 21 (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.

c) The minimum distance between private road outlets on a single side of a public road shall be 660 feet, or less where provided by access classification and standards for state roads and local thoroughfares.

**Section 20. 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) \_\_\_ ( ) 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 Florida. 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

*should have at least two access points. A minimum turning radius that accommodates emergency vehicles should be required for cul-de-sacs.*

*The above provisions for shared access are intended to prevent a proliferation of driveways on the state highway system--a common problem in some semi-rural and rural areas. Provisions for shared access also promote land development patterns that are more compatible with the rural character of the landscape. The shared access standard in Section 18(12) was taken from the landmark guidebook Dealing with Change in the Connecticut River Valley, and can be used together with conservation easements and clustering provisions to preserve natural resources. (see Yaro, Arendt, et al., Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development. Amherst: Lincoln Institute of Land Policy, 1988.)*

**Section 19. Connectivity**

1. The street system of a proposed subdivision shall be designed to coordinate with existing, proposed, and planned streets outside of the subdivision as provided in this Section.

2. Wherever a proposed 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 be provided with temporary turn-around or cul-de-sacs unless specifically exempted by the Public Works Director, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land.

3. Collector streets shall intersect with collector or arterial streets at safe and convenient locations.

4. Subcollector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation, but such connections shall not be permitted where the effect would be to encourage the use of such streets by substantial through traffic.

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

b) Does the road network follow the natural topography and preserve natural features of the site as much as possible? Have alignments been planned so that grading requirements are minimized?

c) 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 arterials?

d) Do units front on residential access streets rather than major roadways?

e) Is automobile movement within the site provided without having to use the peripheral road network?

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

g) 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?

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

*Commentary: The subdivision and site plan review process provides local governments 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. Developers will be far 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 in Section 23(2) was adapted from David Listokin and Carole Walker. The Subdivision and Site Plan Handbook. New Brunswick, NJ: Center for Urban Policy Research, Rutgers University. 1989.*

3. The (city/county) reserves the right to require traffic and safety analysis where safety is an issue or where significant problems already exist.
4. After 30 days from filing the application, applicants must be notified by the (permitting department) if any additional information is needed to complete the application.
5. Upon review of the access application, the (permitting department) may approve the access application, approve with conditions, or deny the application. This must be done within 90 days of receiving the complete application.

2-38

*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 22. Regulatory Flexibility

1. The Planning Commission may permit departure from dimensional lot, yard, and bulk requirements of the zoning district where a subdivision or other development plan is proposed to encourage creativity in site design, protect natural resources, and advance the access objectives of this Code. Such regulatory modifications under this section are not subject to variance approval by the Board of Adjustment.

## Section 23. 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) Location of access point(s) on both sides of the road where applicable;
  - b) Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property;
  - c) Number and direction of lanes to be constructed on the driveway plus striping plans;
  - d) All planned transportation features (such as auxiliary lanes, signals, etc.);
  - e) Trip generation data or appropriate traffic studies;
  - f) Parking and internal circulation plans;
  - g) Plat map showing property lines, right-of-way, and ownership of abutting properties; and
  - h) A detailed description of any requested variance and the reason the 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?

2-37



and egress by any other owners or persons needing to access properties with frontage on that road.

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 Director of Public Works 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.
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: These private road standards were adapted from sample regulations prepared for the Grand Traverse Bay Region (Planning & Zoning Center, Inc., Lansing, Michigan, September 1992). 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.*

*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) Public Works Official 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 25% 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

**MODEL CORRIDOR AGREEMENT FOR THE FLORIDA  
INTRASTATE HIGHWAY SYSTEM**

This Corridor Agreement, hereinafter called the Agreement, is made and entered into this \_\_\_\_ day of \_\_\_\_ 19\_\_ by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, an agency of the State of Florida, hereinafter called the "Department", AND \_\_\_\_\_ a body corporate and a political subdivision of the State of Florida, its successors and assigns, hereinafter referred to as the ("CITY" or "COUNTY").

WHEREAS, the Florida Intrastate Highway System, hereinafter called the "FIHS", is the statewide system of limited access and controlled access facilities that allow for high-speed, high-volume traffic movement within the State that has been designated by the Department and adopted by the Legislature;

WHEREAS, the State Highway System has been classified for access purposes, with highest priority given to preserving mobility on the FIHS.

WHEREAS, the FIHS program requires strict access management standards for all portions of the FIHS and requires all segments to be brought into compliance with system criteria and standards within a 20 year period;

WHEREAS, the FIHS Plan emphasizes the need for coordination between the Department and local governments on managing access to those portions of the FIHS that are not limited access facilities;

WHEREAS, the FIHS Plan calls for the Department to enter agreements with local governments for coordinating land use planning and regulation with state access standards for controlled access facilities;

WHEREAS, managing access to land development enhances mobility by preserving the regional flow of traffic in terms of safety, capacity, and speed and enhances development patterns.

WHEREAS, access management balances the right of reasonable access to private property, with the right of the citizens of the ("CITY" or "COUNTY") and the State of Florida to safe and efficient travel.

WHEREAS, the functional integrity of the FIHS relies on local land development and subdivision regulations that support state access standards for controlled access facilities;

WHEREAS, land development and subdivision regulations that support access management can be applied to the FIHS to achieve the following state and local objectives.:

**Section 24. Variance Standards**

1. The granting of the variation 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 should be incorporated to this process. 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.*

## Part 3: Model Corridor Agreement for the Florida Intrastate Highway System

6. Any application that involves access to the State Highway System shall be reviewed by the Florida Department of Transportation for conformance with state access management standards. Where the applicant requires access to the State Highway System, and a zoning change, or subdivision or site plan review is also required, development review shall be coordinated with the Florida Department of Transportation, as follows:
- a) An access management/site plan review committee that includes representatives of FDOT traffic operations, access permitting, and the local government shall review the application. The committee shall inform the developer what information will be required for access review. Information required of the applicant may vary depending upon the size and timing of the development, but shall at a minimum meet the requirements of this section.
  - b) Upon review of the application, the access management review committee shall advise the *(permitting department)* whether to approve the access application, approve with conditions, or deny the 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 10 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.
9. All applicants whose application is approved, or approved with conditions, have thirty days to accept the permit. Applicants whose permits are rejected or approved with conditions have 60 days to appeal.

*Commentary: Effective coordination with the Florida Department of Transportation, the local traffic engineer, transportation planner, and/or public works official is essential to ensure conformance with land division and access requirements. One method of improving coordination is to establish the building permit as the lead permit during development review. In this way, property owners would be required to submit the necessary permits or certificates of approval from regulatory agencies involved in development review before issuing a building permit. This should include a notice of intent to approve the proposed access connection from the Florida Department of Transportation where the state highway system is involved to assure conformance with the State Highway System Access Management Act and administrative rules. The above review process would be incorporated into the community's overall subdivision and site plan review process. A conceptual review, before submission of the preliminary site plan or plat, is highly recommended. Communities should also set fees and develop the necessary forms to carry out the provisions of this code.*

Section 3. Conditions of the Use of the Cross Access Easement Agreement. The use of two cross access easements to be granted to the CITY and held in escrow pursuant to Section 2 hereof is subject to the following terms and conditions:

(1) *The* Owner of (*adjacent property #1*) shall equally share with OWNER in the maintenance and repair of the cross access easement area as designated in the attached (*Exhibit #*);

(2) The Owner of (*adjacent property #2*) shall equally share with OWNER in the maintenance and repair of the cross access easement area to be designated by CITY and OWNER;

(3) *The Owners* of (*both adjacent properties*) to receive such cross access agree to pay the cost of two (2) signs placed on their respective parcels at each side of the pavement of the easement area and the common boundary line of their respective parcel with Parcel A (facing those parcels) which signs shall state that the parking in Parcel A is limited to the guests of the OWNER and the vehicles of unauthorized persons (guests, licensees, invitees, patrons, etc. of the other parcel) shall be towed away at the vehicle owner's expense;

(4) *The owners* of (*both adjacent properties*) agree to install and maintain on the common boundary line with Parcel A, or other location agreed to by the parties (a) a speed bump and stop sign within the cross access easement leading into (*adjacent property #1*), (b) a speed bump and stop sign within the cross access easement leading into (*adjacent property #2*), and (c) one speed bump each on (*both adjacent properties*).

(5) The use of the cross access easements shall also be subject to (a) a weight limit on the vehicles which utilize the cross access easement (to be established or modified by the CITY's transportation engineer from time to time), (b) a limit on the number of daily trips of no more than 1,000 trips, and (c) a limit on the time of access.

(6) The Owners of (*both adjacent properties*) shall pay the cost of installation of said gates and any other improvements to the cross access easement beyond what has been previously constructed by the OWNER:

(7) Tractor trailer vehicles shall not use the cross access easement for access to or from (*both adjacent properties*).

(8) Buses seating 30 passengers or more may use the cross access easements so long as the buses stack or queue on (*both adjacent properties*) and not in the cross access easement areas;

(9) The Owners of (*both adjacent properties*) shall not use the cross access easement in any manner such as to result in congestion within the cross access easements or the blocking of the cross access easement or driving aisles of Parcel A; and

(10) The cross access easements shall be subject to the joinder and consent of the lender(s) Of the OWNER and *the* Owners of (*both adjacent properties*).

Section 4. Delegation to CITY Transportation Engineer. The parties agree that the CITY transportation engineer has the power and authority to adjust the conditions set forth in Subsection 3(5) hereof in order to preserve the integrity, character, safety of the (*type of land use on OWNER's property*).

Section 5. Covenant Running with the Land. All rights and obligations arising or described hereunder are intended to be appurtenances and covenants running with the title of the OWNER's property and shall be binding upon and inure to the benefit of the parties and their respective successors in title.

Section 6. Dedication. Nothing contained herein shall constitute any rights in the general public.

Section 7. Captions, Number and Gender. The captions and headings are for convenience only and are not intended to be used in construing any provision of this easement. The singular and plural shall each include the other were appropriate, or if any genders shall include other genders when the contract so permits.

Section 8. Governing Law and Venue. The laws of the State of Florida shall govern this agreement. Any legal action instituted herein shall be brought in Orange County, Florida.

Section 9. Modification or Termination. The terms and provisions of this Agreement may be modified, supplemented or terminated only by a written instrument executed by the OWNER and CITY, their successors or assigns.

## APPENDIX 1: SAMPLE CROSS ACCESS AGREEMENT

*Background: The following is an example of a cross access agreement from the City of Orlando. It is provided as an example only. Local governments should consult their attorney for advice in preparing these agreements.*

THIS AGREEMENT is made and entered into on this (*date*) by (*owner's name*), a corporation authorized to transact business in the State of Florida ("OWNER") and the City of Orlando, a municipal corporation organized under the laws of the State of Florida "CITY".

### RECITALS

1. OWNER owns certain real property ("Parcel A") located (*legal description of property*).
2. As a part of its land use approvals from the CITY, the OWNER has been requested by CITY to provide cross access to adjacent properties to (*location of abutting properties*), subject to the terms and conditions set forth below.
3. The CITY has a health, safety and welfare interest in providing for the cross access easement.
4. The OWNER acknowledges the CITY's health, safety and welfare interest and agrees to provide said cross access subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the obligations contained herein, and in good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the OWNER and the CITY hereby agree as follows:

Section 1. Recitals. The recitals are acknowledged by both parties and incorporated herein and have been relied upon by both parties in the execution of this Agreement.

Section 2. Grant of Easement in Escrow. Subject to the terms set forth in this agreement, the OWNER hereby grants a cross access easement to the CITY to be held in escrow for the benefit of the owner of that parcel located (*location of abutting property #1*). The cross access easement is described in (*Exhibit #*) attached to and incorporated in this Agreement. Said cross access easement shall be freely assignable to said Owner; provided, however, that the CITY shall not assign said easement until the Owner of (*abutting property #1*) applies for or is issued any of the following land development approvals as defined in the City Code.

- (1) conditional use permit;
- (2) rezoning;
- (3) master plan approval;
- (4) plat approval;
- (5) variance;
- (6) building permit for a substantial enlargement or substantial improvement;
- (7) building permit which generates automobile traffic trips in excess of current improvements;
- (8) driveway permit; or
- (9) paving and/or drainage permit.

Likewise, the OWNER hereby grants a cross access easement to the CITY to be held in escrow for the benefit Of the *owner* of that parcel located (*location of abutting property #2*). This cross access easement area shall be of a size similar to that of the one granted for use by the Owner of (*adjacent property #1*) and said location shall be later determined by the CITY and OWNER. Said cross access easement shall be freely assignable to said Owner. Notwithstanding anything to the contrary contained herein, however, the CITY shall not assign a cross access easement to either Owner unless the land use proposed for that Owner's parcel is consistent and compatible with the land use on the OWNER's property.

## Appendix 1: Sample Cross Access Agreement

a) reduce traffic accidents, personal injury, and property damage attributable to poorly designed access systems;

b) protect the substantial public investment in the existing transportation system and reduce the need for expensive remedial measures;

c) further the orderly layout and use of land; and

d) promote well-designed road and access systems that help protect community character and conserve natural resources.

NOW, THEREFORE, in consideration of the mutual terms and conditions, promised and covenants hereinafter set forth, the Department and the ("CITY" or "COUNTY") agree as follows:

1. Attached hereto and made a part of this Agreement is Exhibit A which denotes those portions of the FIHS affected by this agreements, hereinafter called the "Designated Corridors";
2. On behalf of the Department, the ("CITY" or "COUNTY") agrees to implement the following protective planning and regulatory measures within *(specify time frame)*, in accordance with the terms and conditions of this Agreement as provided in Attachment 1. *[list all regulatory measures including corridor overlay standards to be applied in Attachment 1]*
3. The responsibilities of each party for the development of an access management plan to manage current and future access to the "Designated Corridors" are specified in Attachment 2; *[include this stipulation only where all affected parties agree to prepare an access management plan.]*
4. This Agreement is made in accordance with the Florida Intrastate Highway System program, Section 338.001, Florida Statutes; the State Highway System Access Management Act, Chapter 335.18, Florida Statutes, as amended; Chapter 14-96 and 14-97, Rules of the Department of Transportation; and policy and planning directives of the federal Intermodal Surface Transportation Efficiency Act of 1991.
5. This Agreement shall become effective upon execution by all parties hereto and filing with the Clerk of the Circuit Court in each county where the parties to this agreement are located.

*To be signed and approved by authorized agents of each party*

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Section 10. Recording. This Agreement shall be recorded by the OWNER at its sole expense in the public records of Orange County, Florida.

Section 11. Joinder and Consent. The OWNER hereby agrees to obtain the Joinder and Consent to this Agreement from any superior interest, right, title, lien, encumbrance to Parcel A. The Joinder and Consent shall subordinate the particular interest to this Agreement.

Section 12. Obligation of the CITY. The CITY agrees that it will condition the issuance of any of the permits listed in Section 2, above, to the Owner of parcel adjacent to Parcel A upon the condition that said owner enter into the Cross Access Easement Agreement.

Section 13. No Easement Rights or Other Rights. Notwithstanding anything to the contrary herein, *(both adjacent properties)* shall have no rights to, on, in or over the Easement Area until the Cross Access Easement Agreement is agreed upon between the parties, executed by the appropriate entities and recorded in the public records of Orange County, Florida.

Section 14. Severability. If any term, provision, clause, sentence or other portion of this Agreement shall become or be determined to be illegal, null or void for any reason, or shall be held by any court of competent jurisdiction to be so, the remaining portions thereof shall remain in full force and effect.

Section 15. Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes any previous discussions, understandings, and agreements.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first stated above.