

US-74 Corridor Revitalization Study

CORRIDOR REVITALIZATION PLAN

Stallings

Indian Trail

Monroe

Union County

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CORRIDOR REVITALIZATION PLAN INTRODUCTION

OVERVIEW

The Framework Plan for the US-74 corridor reflected the ideas of four different jurisdictions and their residents to not only create a unified vision for the entire corridor, but also create a distinct identity for each jurisdiction. All four jurisdictions have a strong desire to transform this corridor into a thriving economic engine for the entire county and also present it as the front door of their communities. The Framework Plan provided the overall structure for orchestrating various components of the entire corridor – transportation, land use, market assessment and aesthetics. It also identified areas for preservation and protection. It provided a solid foundation to build a stronger plan for the entire corridor.

However, the corridor plan was not complete with the Framework Plan. The details of some of the components were not complete and have been worked out in more depth in the following Chapters. Further refinement of transportation improvements has been addressed. These include key intersection improvements, transit options, access management techniques and other alternative modes, such as bicycle and pedestrian amenities.

Details of various land uses suggested on the framework plan have also been further refined, including detailed definition, density, intensity and forms of various development types along with images and illustrations. These land use typologies are used to communicate the details of various land uses.

Aesthetic improvements, such as landscaping enhancements, monumentation, signage and wayfinding are suggested for various transportation zones. In addition to roadway aesthetics, examples of intersection enhancements and gateway treatments are discussed.

Finally, market assessment and future projections of various uses has been taken into consideration to further refine the locations of various land uses.

To realize the vision set for the entire corridor and achieve the stated goals, the plan must be actionable. In Chapter 12, various action items are discussed that further clarify how this corridor can function and operate in the future.

Various recommendations and implementation ideas are identified to bring many concepts discussed in this Corridor Revitalization Plan Report to fruition. Implementation of the Corridor Revitalization Plan, in accordance with the recommendations and strategies in the following Chapters, is critical to realizing the vision.

These Chapters do just that. They not only identify implementation strategies, but also identify means to achieve the end goals. Ideas regarding funding, regulatory change, collaboration among different jurisdictions and with different agencies – NCDOT, CRTPO and NCTA – have been articulated in greater detail.

Chapter 4: ROADWAY TYPOLOGIES

A series of road typologies has been developed as part of the US-74 Corridor Revitalization Plan. The purpose of these typologies is to allow a variety of road designs to fit the varying land use and environmental contexts along the corridor, and on related streets, while allowing US-74 to function as a continuous travel route. The typologies provide a range from two travel lanes to six travel lanes, in order to meet the anticipated traffic volumes in different locations throughout the corridor.

As part of the corridor access management strategy, all of the US-74 typologies have medians, to help control the locations of:

- Left turns from abutting properties onto US-74,
- Left turns from US-74 to cross streets, and
- Allowable U-turns at desirable locations.

Provision for pedestrians and bicycles is incorporated into all of the road typologies. Street trees are located between the roadway and sidewalks wherever possible, to provide a safe and attractive pedestrian environment while still meeting NCDOT guidelines.

The typologies are the ideally desirable roadway type. They should be followed by the County and municipalities in reviewing development plans to assure that adequate right-of-way is preserved for the eventual full development of the roadway. They should be used by NCDOT as the desirable configuration of the roadway to achieve the access management efficiency of roadway operations, and to be compatible with the intended land uses which will emerge in the corridor. In some circumstances roadway improvements might be constructed as part of a private development, and should follow the typologies as well. There will undoubtedly be situations where topography, environmental

constraints, existing development or right-of-way availability will constrain the ability to realize the full typology. Investigation of the corridor indicated that each typology could be adapted to the locations for which it was proposed. Wherever possible, for situations where existing development or environmental conditions are narrower than the full proposed right-of-way width, the space between the curb and the right-of-way line is generous to allow the roadway designer to fit the typology to the location and situation for which it is proposed.



6-Lane Suburban Boulevard

Fig. 4.1 ►
6-Lane Suburban
Boulevard Cross-Section

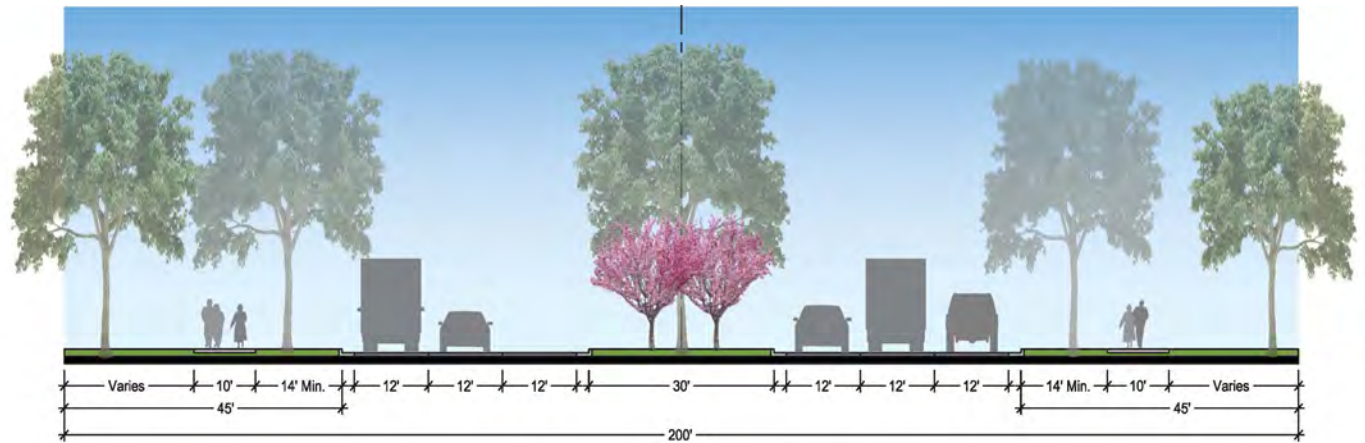
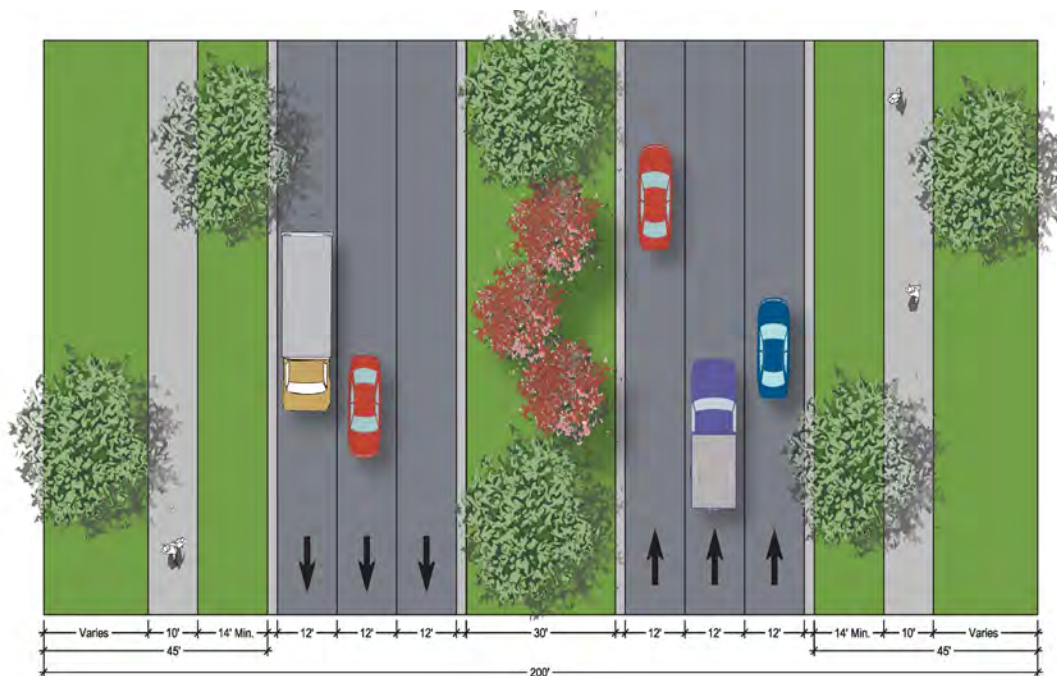


Fig. 4.2 ►
6-Lane Suburban
Boulevard Plan



Location

The six-lane suburban boulevard typology is intended for existing US-74 alignments, and is shown in Fig. 4.1 and Fig. 4.2.

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium to high density commercial development.

Location

This typology will be appropriate for existing alignment situations with existing residential or commercial development.

Speed Limit

This typology is intended to be posted for 45 - 55 mph speed limits.

Traffic Levels

The 6-Lane Suburban Boulevard, with the US-74 Corridor access management strategy, should accommodate up to 50 - 60,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks outside the curb line. Reduction of the right-of-way generally would be undesirable, since the planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods. The right-of-way should be reduced only when essential to fit into a constrained existing development or environmental situation.

Left-turn traffic volumes in some instances could require two left-turn lanes in the median. In those circumstances, the median would

need to be correspondingly wider. Ideally, the right-of-way should be correspondingly wider, as well.

Pedestrians and Bicycles

Pedestrians and bicycles are to be accommodated with 10 ft. wide multi-use paths in the right-of-way separate from the roadway as shown. Trees are to be provided on both sides of the walk for pedestrian comfort and safety.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at a bus pullout within the right-of-way, but it would be preferable for busses to be accommodated at an off-street bus transit center. Local jurisdictions should require developments to include space to accommodate bus transit centers in the areas indicated on the segment plans.

If a local jurisdiction desires to maintain a long-range potential for fixed guideway transit where this typology is used, the median could be widened to a width that would accommodate the guideway plus left-turn lanes in the median, or as a replacement of the multi-use path on one side of the road.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the travel lanes, and a mountable curb provided at the median.

Chapter 4:
ROADWAY TYPOLOGIES

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs and/or groundcovers in addition to grass. The landscape should be designed to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided on each side of the multi-use path for pedestrian comfort and safety. Spacing of trees should generally be at 25 to 30 feet on center, depending on tree species used.

Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as required by local landscape ordinances.

Utilities and Signage

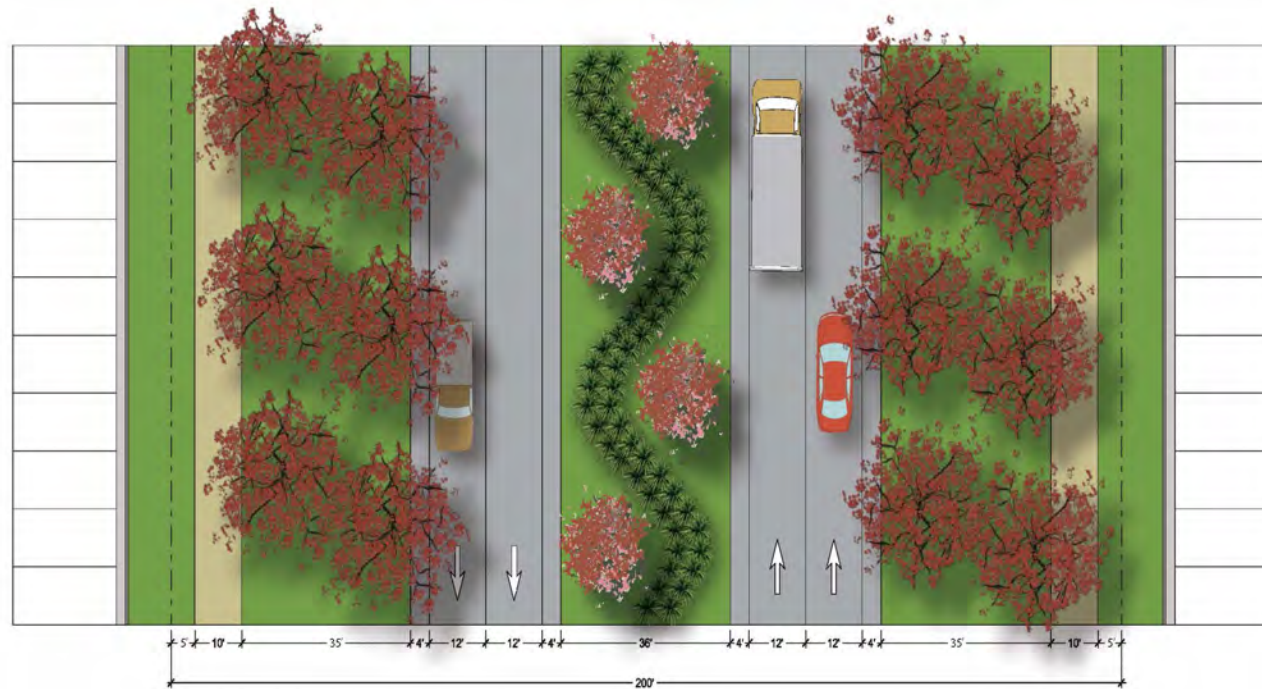
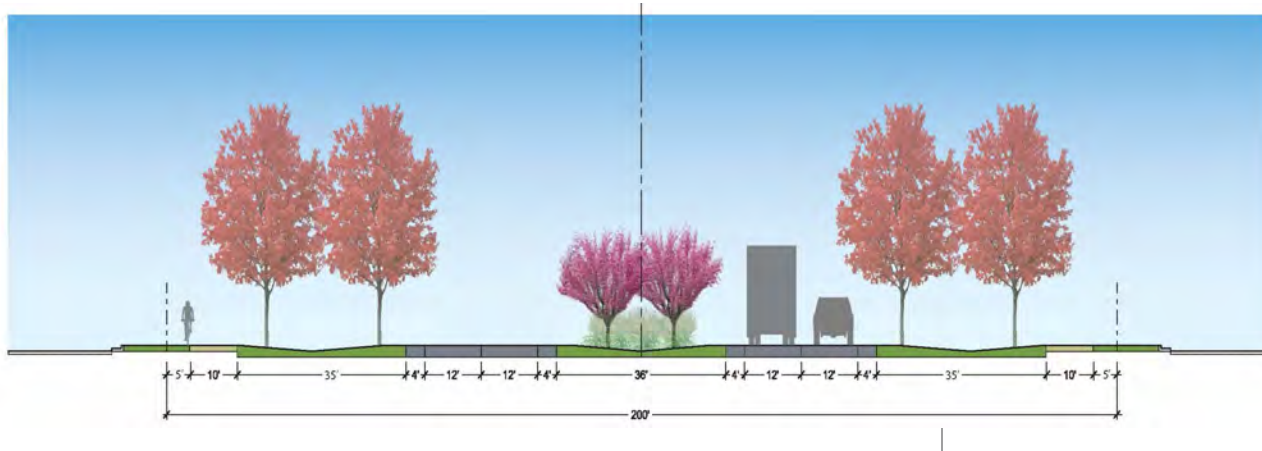
Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

A comparable road is US-521, Johnston Road in Charlotte (Fig. 4.3).



▲ Fig. 4.3 US-521, Johnston Road, Charlotte, NC



4-Lane Rural Boulevard

◀ Fig. 4.4
4-Lane Rural Boulevard
Cross-Section

◀ Fig. 4.5
4-Lane Rural Boulevard Plan

Chapter 4: ROADWAY TYPOLOGIES

Location

The four-lane rural boulevard typology is intended for use along existing US-74 alignments where the existing right-of-way is between 150 feet and 200 feet, and is shown in Figs 4.4 and 4.5.

Context

This typology will be appropriate for existing alignment situations with no existing development, and where any anticipated new development will be limited to new residential subdivisions which will not have driveways directly onto US-74.

Speed Limit

This typology is intended to be posted for 45 mph to 55 mph speed limits.

Traffic Levels

The 4-Lane Rural Boulevard, with the US-74 Corridor access management strategy, should accommodate up to 40,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary, depending on topography and drainage requirements. The right-of-way indicated exists throughout portions of Indian Trail and Monroe.

Pedestrians and Bicycles

Pedestrians and bicycles are accommodated with a 10 ft. wide multi-use path within the right-of-way in this typology. The paved hike-and-bike trail should be separated as far as possible from the outside travel lane for safety reasons. As an option, local jurisdictions could require that portions of the hike-and-bike trail be provided in new development adjacent to the roadway, if a trail is appropriate for the development. In

those circumstances, the trail should connect to the trail in the right-of-way, and need not be provided in those sections where continuity of the trail system is provided outside of the right-of-way.

Transit

Any transit service on this typology would be bus service for the foreseeable future. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way or at an express bus stop outside of the right-of-way.

Drainage

Drainage for this typology would be surface drainage in swales beside the roadway and in the median. The dimensions for drainage swales will depend on topography and will be determined in the Preliminary Engineering/Environmental phase.

Shoulders and/or Curbs

This typology should have minimum 4 ft. shoulders. AASHTO and NCDOT design criteria will determine the actual shoulder width when the roadway is being designed.

Median Landscape

Landscape should be provided in the median, consisting of ornamental trees, shrubs and/or groundcovers in addition to grass. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction. NCDOT's Guidelines for Planting within the Highway Right-of-Way requires that ornamental trees should be 20 ft. from the edge of the nearest travel lane for this speed.

Landscape in the Right-of-Way

Because of the width of the existing right-of-way, an ample amount of room for street trees is available. Trees should be between the roadway and the hike/bike trail for pedestrian safety and comfort. A double row of street trees on each side is recommended for shade, cooling and aesthetic quality. NCDOT's Guidelines for Planting within the Highway Right-of-Way requires that large trees that will have a caliper width greater than 4" at maturity should be 30 ft. from the edge of the nearest travel lane for this speed.

Utilities

Utilities are preferred to be either underground, or placed within a natural landscape buffer area outside the right-of-way so that they are not visible from the roadway.

Comparable Roads

A comparable road in the region is Brookshire Boulevard in Charlotte (Fig. 4.6).



▲ Fig. 4.6 Brookshire Boulevard, Charlotte, North Carolina

4- to 6-Lane Multiway Boulevard with Service Main Street (On-Street Parking)

Fig. 4.7 ►
4- to 6-Lane Multiway
Boulevard with
Service Main Street
(On-Street Parking)
Cross-Section

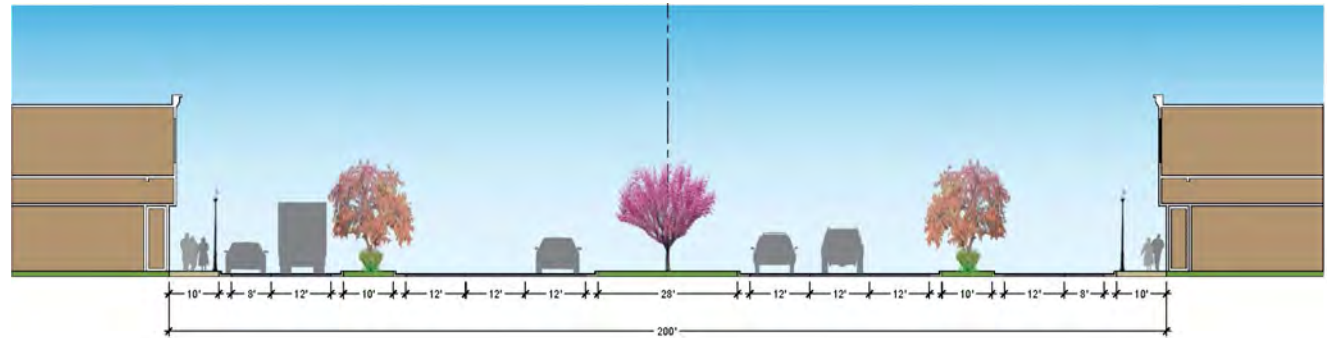
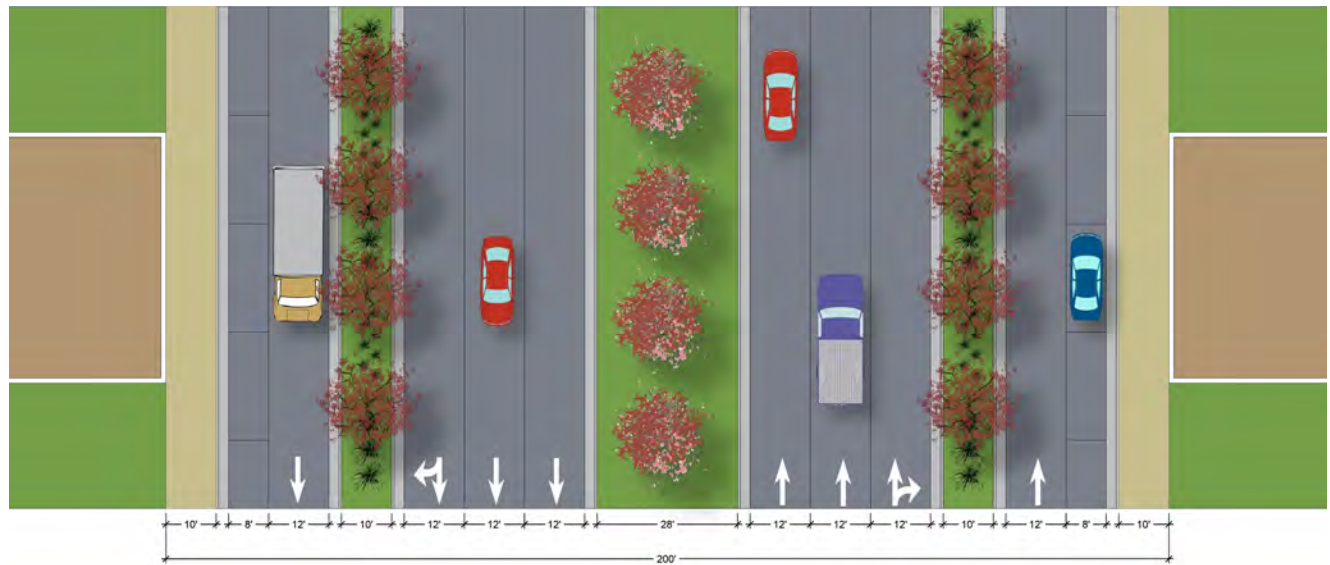


Fig. 4.8 ►
4- to 6-Lane Multiway
Boulevard with Service
Main Street (On-Street
Parking) Plan



Location

The 4- to 6-Lane Multiway Boulevard with Service Main Street and On-Street Parking is intended for commercial areas of US-74 where separation of through traffic and local business access traffic is desirable, as shown in Figs. 4.7 and 4.8.

Context

The intent of this typology is to provide a village or urban scale road that is compatible with higher density mixed use and commercial development, with a strong pedestrian emphasis.

The character of development where this typology is used is anticipated to resemble small town or small urban village or town center main streets. Generally, further planning for this typology will be required, due to the need for coordination with landowners, businesses, neighborhoods and connecting streets.

Speed Limit

The main lanes in this typology are intended to be posted for 35 mph speed limits, to be compatible with crossing traffic and to allow pedestrian crossing at designated crosswalks. The “service main street” speed limits are intended to be posted for 15 mph speed limits to be compatible with the anticipated pedestrian orientation of the context.

Traffic Levels

The 4- to 6-Lane Multiway Boulevard with Service Main Street with On-Street Parking is intended to serve streets where it is desirable to reduce business driveways directly onto US-74 main lanes, to provide consolidation of business access, and to reduce conflicts between US-74 through traffic and local business traffic. The main lanes should accommodate up to 40,000 AADT.

On-street parking would be appropriate and expected for this typology on the service main street, but would be inappropriate on the through lanes. On-street parking could be parallel or angle parking, depending on the space available between the main lanes and the existing or planned building.

Right-of-Way

Right-of-way width for this typology in existing development will be largely dictated by the space available between existing US-74 travel lanes and the face of existing buildings. The right-of-way indicated for this typology is considered the ideal for new development. Right-of-way width could be reduced by using 11 ft. travel lanes, reducing the indicated median widths, or a combination.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the existing and/or planned businesses as shown, between the business and the parking lane. Bicycles can operate safely in mixed traffic on the service main streets because of the low speed limit.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used could be accommodated at an off-street bus transit center. If bus stops are provided along the street, they should be at corner bulb-outs.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Chapter 4:
ROADWAY TYPOLOGIES

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the main lanes and on both sides of the service main street, and a mountable curb provided at the main lanes median.

Median Landscape

The main lanes median should have mountable curbs. Paved pedestrian refuge areas should be provided in the median at pedestrian crosswalks. Landscape should be provided in the main lanes median, consisting of shrubs and/or groundcovers. Some trees would be compatible with the typology, but there should be an emphasis on maintaining visual connections for pedestrians across the street. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the median between the main lanes and the service main street should be dense shrubs to form a hedge that prevents pedestrians from crossing into the main lanes except at designated crosswalks. Ornamental fencing would be appropriate until the planting grows into a dense hedge.

Landscape Outside the Right-of-Way

Landscape outside the right-of-way at existing or new development would be at the discretion of the property and/or business owner, consistent with local landscape ordinances.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

Comparable roads include El Camino Real in Downtown Milbrae, California (Figs. 4.9 and 4.10), and the Multiway Boulevard in Downtown Bothell, Washington (Fig. 4.11, currently under construction) as well as portions of Tyrone Boulevard in St. Petersburg, Florida (Figs. 4.12 and 4.13).



▲ Fig. 4.9 El Camino Real, Milbrae, California



▲ Fig. 4.10 El Camino Real, Milbrae, California



▲ Fig. 4.11 Multiway Boulevard, Bothell, Washington



▲ Fig. 4.12 Tyrone Boulevard, St. Petersburg, Florida



▲ Fig. 4.13 Tyrone Boulevard, St. Petersburg, Florida

4- to 6-Lane Multiway Boulevard with Service Street (No On-Street Parking)

Fig. 4.14 ▶
4- to 6-Lane Multiway
Boulevard with
Service Street (No
On-Street Parking)
Cross-Section

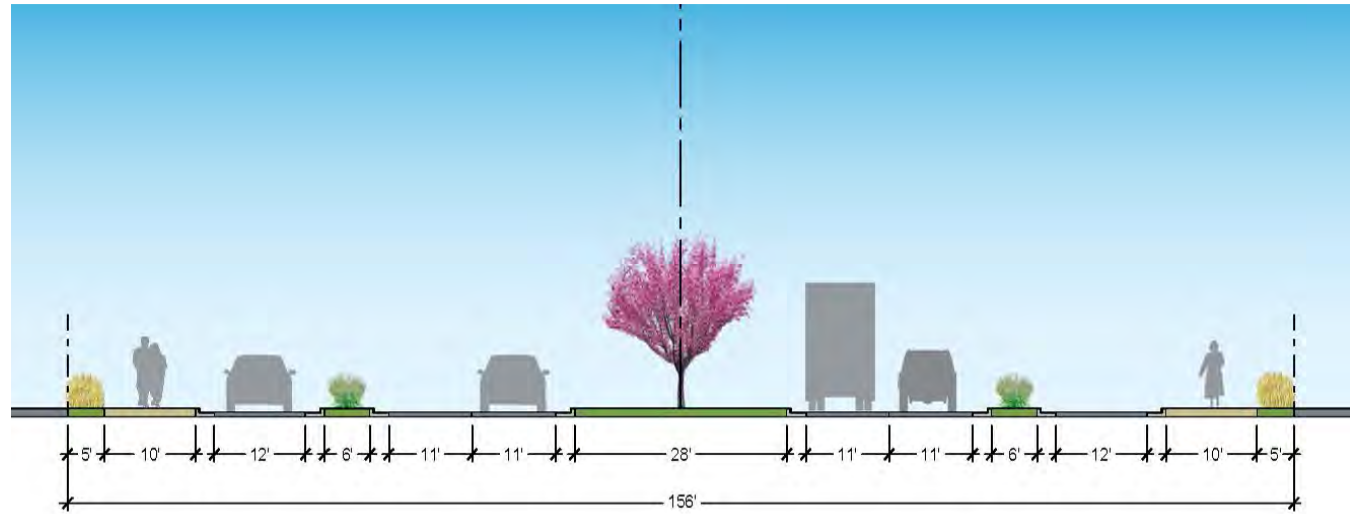
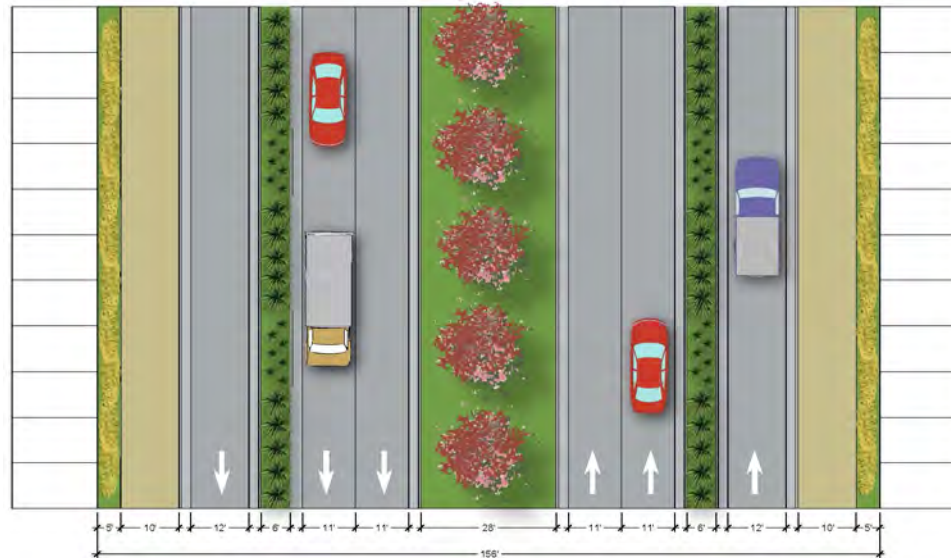


Fig. 4.15 ▶
4- to 6-Lane Multiway
Boulevard with Service
Street (No On-Street
Parking) Plan



Location

The 4- to 6-Lane Multiway Boulevard with Service Main Street but without On-Street Parking (Figs. 4.14 and 4.15) is intended for commercial areas of US-74 where separation of through traffic and local business access traffic is desirable, and where access from the service main street is directly into business parking lots.

The two typologies could be combined on the same section of US-74, but each typology should be consistent on one side of a full block.

The characteristics of the 4- to 6-Lane Multiway Boulevard with Service Main Street, but without On-Street Parking, are identical to the 4- to 6-Lane Multiway Boulevard with Service Main Street with On-Street Parking, except for traffic levels.

Traffic Levels

The 4- to 6-Lane Multiway Boulevard with Service Main Street, but without On-Street Parking, is intended to serve streets where it is desirable to reduce business driveways directly onto US-74 main lanes, to provide consolidation of business access, and to reduce conflicts between US-74 through traffic and local business traffic. The main lanes should accommodate up to 40,000 AADT.

On-street parking would be inappropriate and unnecessary on the service main streets, since the parking would be in separate lots of the businesses, accessed by driveways from the service main street.

Comparable Roads

A comparable road is Tyrone Boulevard in St. Petersburg, Florida (Figs. 4.16 and 4.17).



▲ Fig. 4.16 Tyrone Boulevard, St. Petersburg, Florida



▲ Fig. 4.17 Tyrone Boulevard, St. Petersburg, Florida

2-Lane Suburban Boulevard

Fig. 4.18 ►
2-Lane Suburban
Boulevard Cross-Section

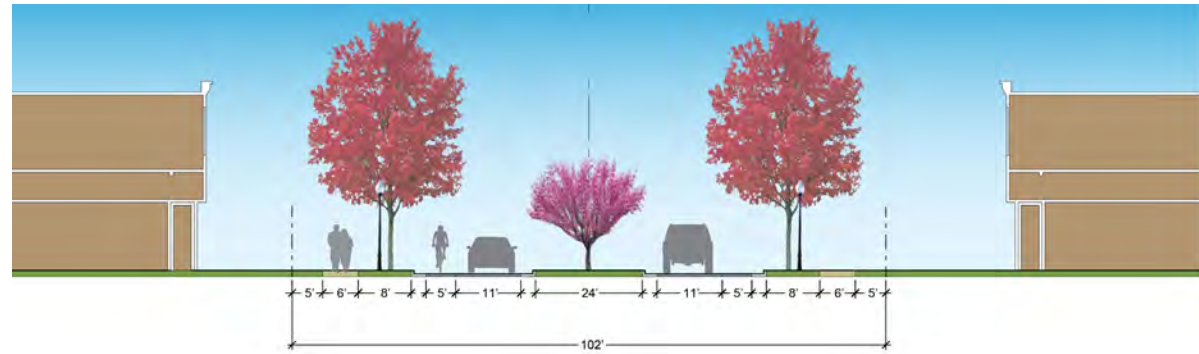
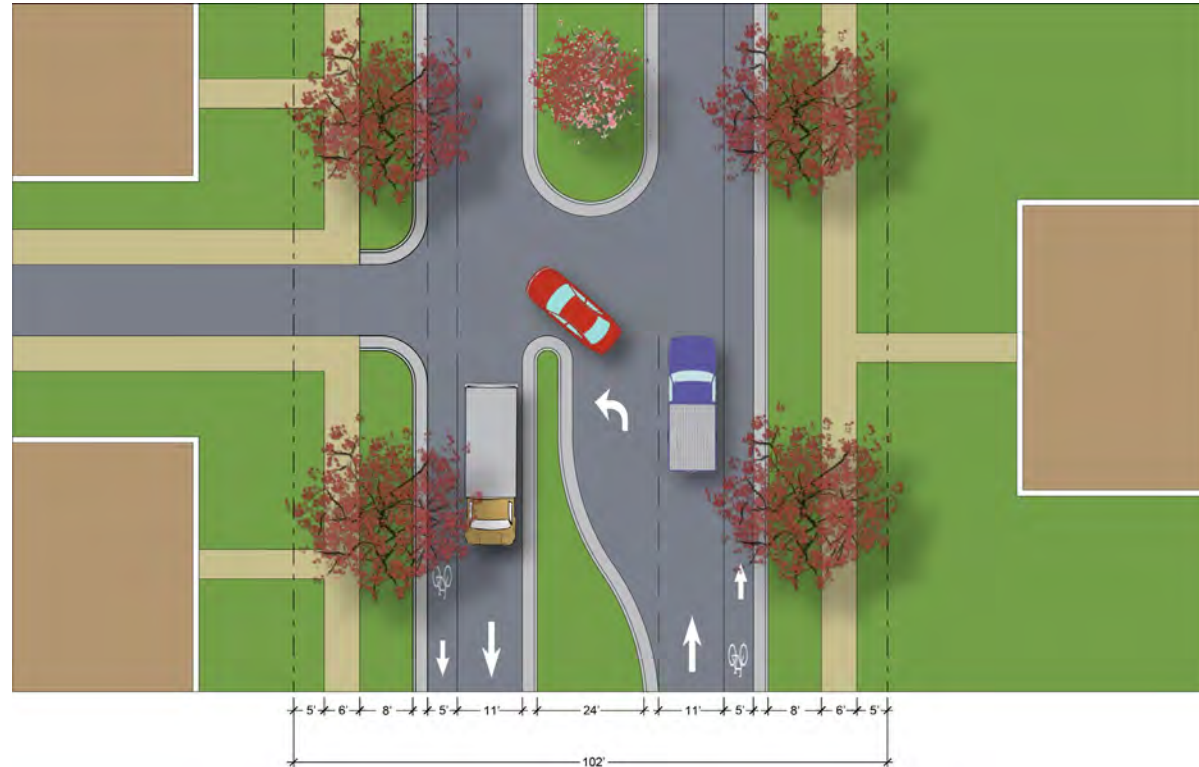


Fig. 4.19 ►
2-Lane Suburban
Boulevard Plan



Location

The 2-Lane Suburban Boulevard typology (Figs. 4.18 and 4.19) is intended for use along alignments that are not on US-74 itself, but are part of the network strategy to relieve pressure on US-74 mainline traffic. It might also be appropriate on some cross streets that provide access to the Monroe Bypass.

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium density residential and commercial development. This typology will be appropriate for new or existing alignment situations with existing residential or small commercial development, or for new alignment sections.

Speed Limit

This typology is intended to be posted for 35 mph speed limits.

Traffic Levels

The 2-Lane Suburban Boulevard, with the US-74 Corridor access management strategy, should accommodate up to 15 - 20,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks outside the curb line. If trees are outside the sidewalk rather than between the cars and sidewalk, the right-of-way could be reduced to 85'-0". The planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods. The median, travel lane and bicycle lane widths should not be reduced, as they are necessary for effective operation of the roadway. The right-of-way should be reduced only when essential to fit into a constrained existing development situation.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks as shown. Trees are preferred to be provided between the curb line and the sidewalk for pedestrian comfort and safety.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The combination of the bicycle lane and travel lane are essential minimum widths, to allow for vehicles to pass in emergency or incident management situations, and to provide room for allowable U-turns, though an inset curb line at the median break would provide additional U-turn space.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way. The bus pullouts should be provided at median breaks to provide additional space for U-turns.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs and/or groundcovers in addition to grass. The landscape should be designed

Chapter 4: ROADWAY TYPOLOGIES

to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction. NCDOT's Guidelines for Planting within the Highway Right-of-Way requires that ornamental trees should be 5 ft. from the edge of the nearest travel lane for this speed.

Landscape in the Right-of-Way

Shade trees should be provided between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the "visual friction" they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used. An alternating pattern of trees on either side of the sidewalk would also be appropriate. NCDOT's Guidelines for Planting within the Highway Right-of-Way requires that large trees that will have a caliper width greater than 4" at maturity should be 10 ft. from the edge of the nearest travel lane for this speed.

Landscape Outside the Right-of-Way

At commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as required by landscape ordinances, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road.

Utilities and Signage

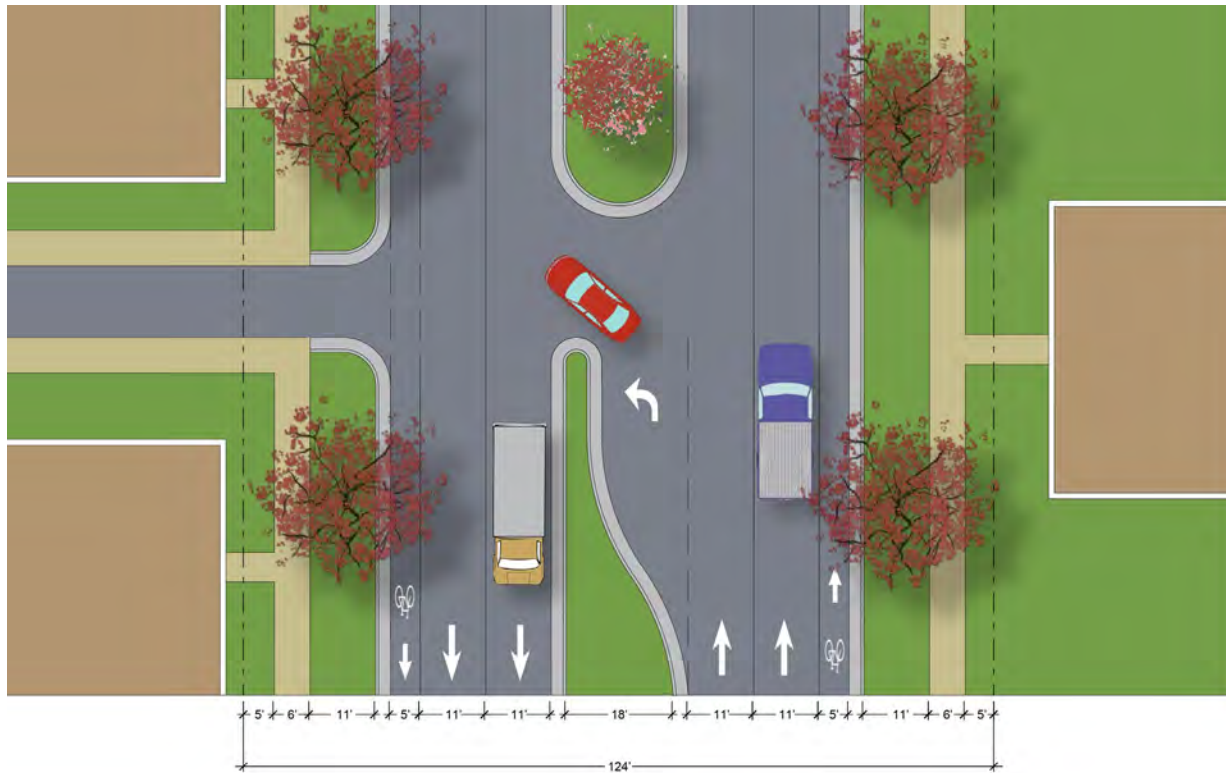
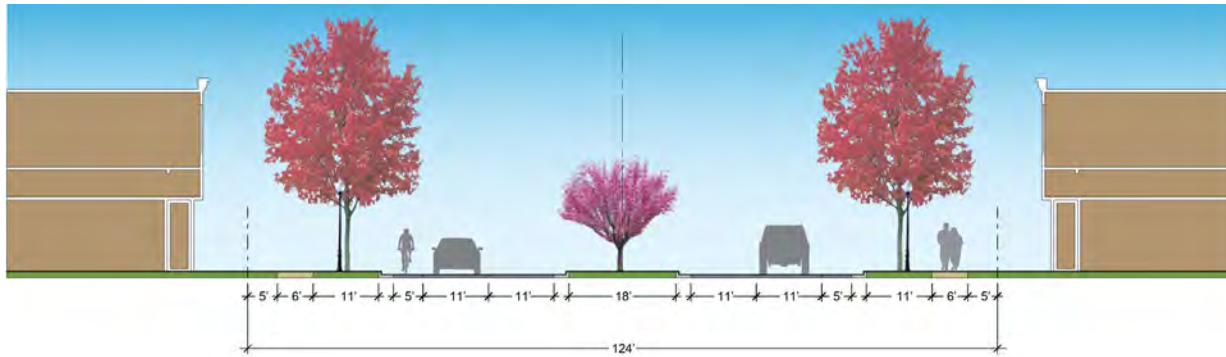
Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

Colony Road in south Charlotte exemplifies this road typology (Fig. 4.20).



▲ Fig. 4.20 Colony Road, South Charlotte, Charlotte, North Carolina



4-Lane Suburban Boulevard

◀ Fig. 4.21
4-Lane Suburban
Boulevard Cross-Section

◀ Fig. 4.22
4-Lane Suburban
Boulevard Plan

Chapter 4: ROADWAY TYPOLOGIES

Location

The 4-Lane Suburban Boulevard typology is intended for some portions of US-74, as well as for some other corridor streets that are part of the US-74 Parallel Road Network (Figs. 4.21 and 4.22).

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly medium to high density residential and commercial development. This typology will be appropriate for new or existing alignment situations with existing residential or commercial development, or for new alignment sections.

Speed Limit

This typology is intended to be posted for 35 mph to 45 mph speed limits.

Traffic Levels

The 4-Lane Suburban Boulevard should accommodate up to 40,000 AADT.

Right-of-Way

The right-of-way indicated for this typology could vary somewhat by reducing the area provided for landscape and sidewalks outside the curb line. If trees are outside the sidewalk rather than between the curb and sidewalk, the right-of-way could be reduced to 115'-0". The planted area inside the right-of-way and the sidewalks are intended to provide a compatibility with the adjacent neighborhoods and non-residential development. The right-of-way should be reduced only when essential to fit into a constrained existing development or environmental situation.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks adjacent to the roadway as shown. Trees are to be provided between the curb line and the sidewalk for pedestrian comfort and safety.

Bicycle lanes are to be provided adjacent to the travel lane as shown. The bicycle lanes will help the road function efficiently, as they will provide additional turning room for buses and trucks.

Transit

Transit service on this typology is anticipated to be bus service. Any stops through sections of the corridor in which this typology is used should be accommodated at a bus pullout within the right-of-way. The bus pullouts should be provided at median breaks to provide additional space for U-turns.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes, and a mountable curb provided at the median.

Median Landscape

The median should have mountable curbs. Landscape should be provided in the median, consisting of ornamental trees, shrubs and/or groundcovers in addition to grass. The landscape should be designed to be compatible with the character of existing and/or planned development in the area. The extent of landscape in the median, as well as responsibility for design and maintenance, is to be determined jointly between NCDOT and the local jurisdiction.

Landscape in the Right-of-Way

Shade trees should be provided between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 feet on center, depending on tree species used. NCDOT’s Guidelines for Planting within the Highway Right-of-Way requires that large trees that will have a caliper width greater than 4” at maturity should be 15 ft. from the edge of the nearest travel lane for this speed.

Landscape Outside the Right-of-Way

At existing commercial development or other uses with parking between the right-of-way and buildings, a landscape screen should be provided as required by landscape ordinances, with shrubs to screen the view of parking pavement and the lower part of cars from view from the road. For new development that would have parking between the right-of-way and buildings, the local jurisdiction should require a landscape screen to be provided as part of the development.

Utilities and Signage

Utilities should be either underground, or placed behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Comparable Roads

Colony Road in the Morrocroft area of Charlotte exemplifies this road typology (Fig. 4.23).



▲ Fig. 4.23 Colony Road, Morrocroft, Charlotte, North Carolina

2-Lane Local Street

Fig. 4.24 ►
2-Lane Local Street
Cross-Section

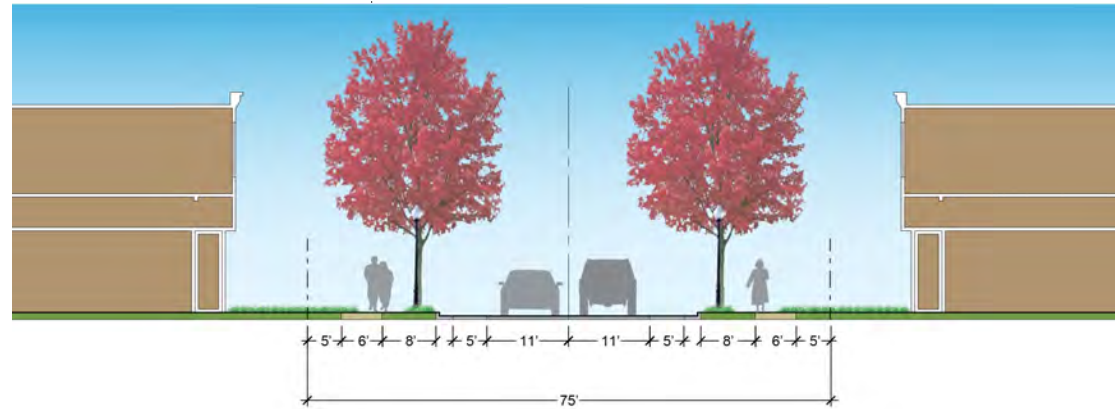
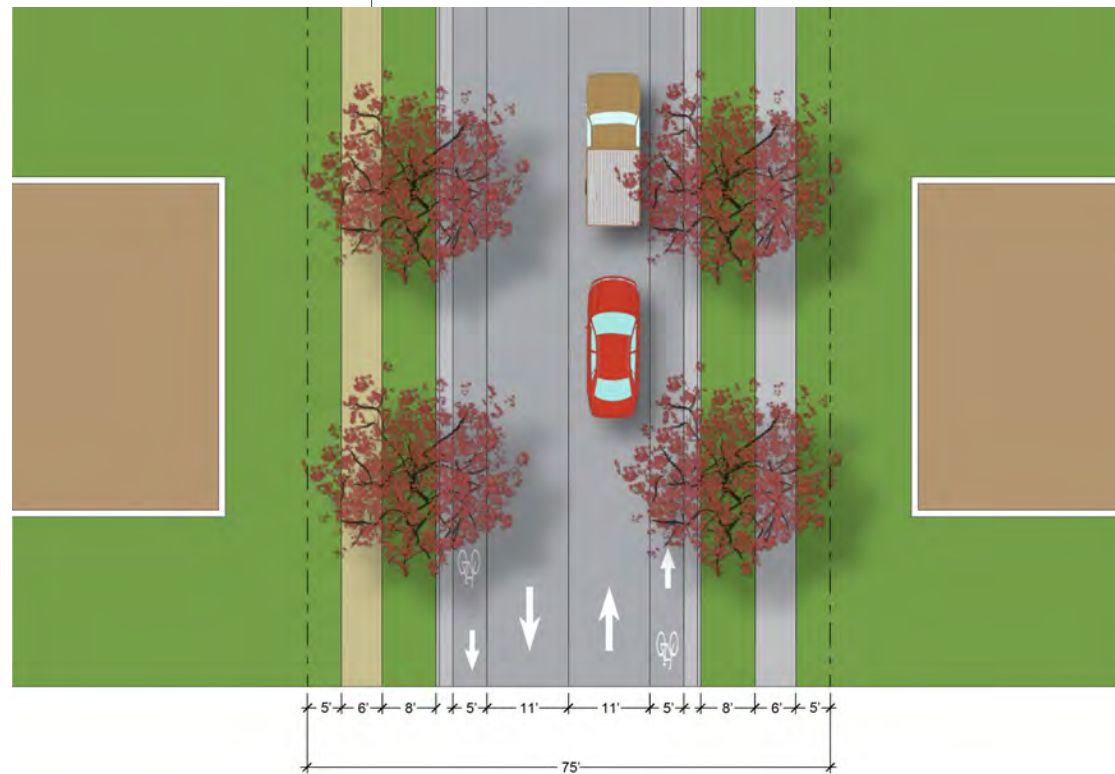


Fig. 4.25 ►
2-Lane Local Street
Plan



Location

The 2-Lane Local Street typology is intended for lower traffic volume existing cross streets and for other lower traffic volume corridor streets that are part of the US-74 Parallel Road Network (Figs. 4.24 and 4.25).

Context

The intent of this typology is to provide a suburban scale road that is compatible with predominantly low to medium density residential and commercial development. This typology will be appropriate for new or existing alignment situations with existing residential or commercial development, or for new alignment sections.

Speed Limit

This typology is intended to be posted for 25 mph to 35 mph speed limits.

Traffic Levels

The 2-Lane Local Street should accommodate up to 10,000 AADT.

Right-of-Way

The right-of-way indicated is a minimum to accommodate 11 ft. travel lanes, bicycle lanes on both sides of the street, an 8 ft. planting strip and 6 ft. sidewalks. The right-of-way could change by smaller travel lanes, or by eliminating or enlarging any of the elements.

Pedestrians and Bicycles

Pedestrians are to be accommodated with sidewalks as shown. Trees are desirable between the curb line and the sidewalk for pedestrian comfort and safety. Bicycle lanes are desirable adjacent to the travel lane as shown, when right-of-way is available.

Transit

Any transit on the 2-Lane Local Street would be local bus service. No special accommodation for busses is anticipated.

Drainage

Drainage for this typology would be curb and gutter with underground storm drains.

Shoulders and/or Curbs

Curb and gutter would be provided on the outside of the bicycle lanes.

Landscape in the Right-of-Way

Shade trees are desirable between the curb line and the sidewalk for pedestrian comfort and safety, and for encouraging slower traffic speeds on the roadway due to the “visual friction” they would create. Spacing of trees should generally be at 25 to 30 feet on center, depending on tree species used. NCDOT’s Guidelines for Planting within the Highway Right-of-Way requires that large trees that will have a caliper width greater than 4” at maturity should be 10 ft. from the edge of the nearest travel lane for this speed.

Utilities and Signage

Utilities would be desirable either underground, or placed behind adjacent buildings so that they are not visible from the roadway. Building or development identity signage should be lower level monument signs to be visible below the tree canopy.

Chapter 4:
ROADWAY TYPOLOGIES

Comparable Roads

There are many comparable roads throughout Union County and the Charlotte metropolitan area. Cherokee Road in Charlotte's Myers Park (Fig. 4.26) is an excellent example, because of the sidewalks on both sides of the street, the grass verge between the road and the sidewalk, and the street trees, though it does not have bicycle lanes. Fig. 4.27 shows a 2-Lane Local Street in Lacey, Washington with this configuration.



▲ Fig. 4.26 Cherokee Road, Charlotte, North Carolina



▲ Fig. 4.27 2-Lane Local Street, Lacey, Washington

Chapter 5: INTERSECTION TYPOLOGIES

ROUNDBABOUTS

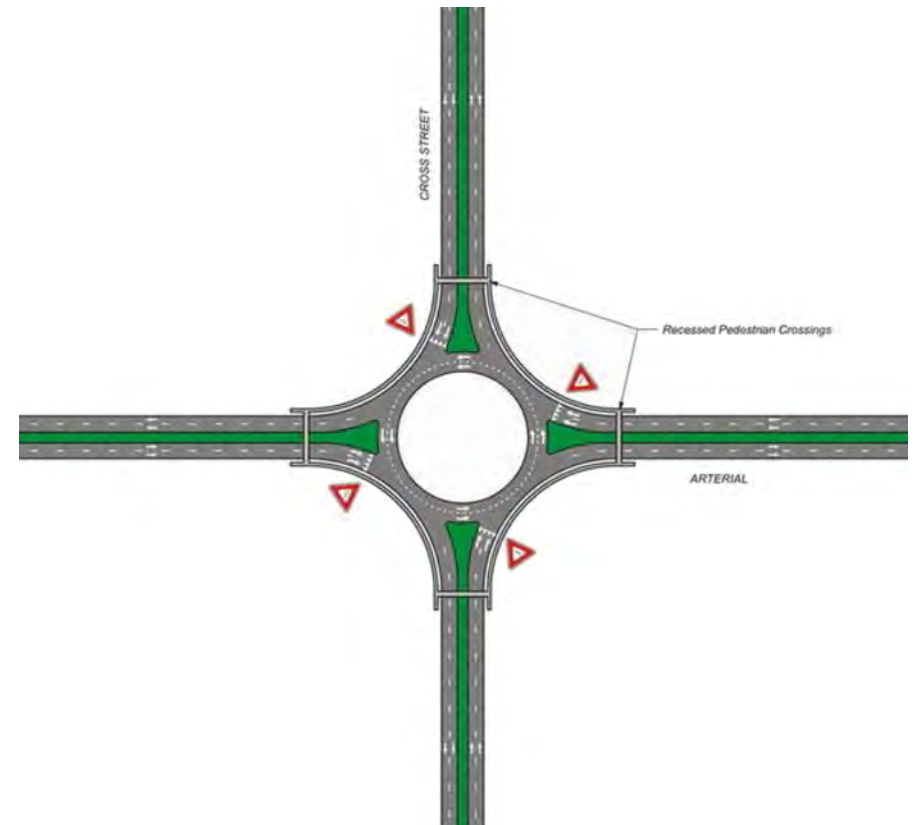
Roundabouts have two primary traffic advantages. They reduce overall delay because they eliminate traffic signals, and all traffic can move through the intersection with no or minimal stops. They reduce the number of potential conflict points for accidents, and accidents that do occur tend to be less severe because they are more likely to be side to side rather than head on or direct side hits. An additional benefit is that they eliminate left turn conflicts.

Single lane roundabouts can handle roughly 400 to 1,600 vehicles per hour, depending on traffic volumes and speeds, while two lane roundabouts have an approximate capacity of 500 to 3,000 vehicles per hour, depending on traffic volumes and speeds.

A single lane roundabout will have an overall diameter of approximately 100 to 150 feet, while a two lane roundabout (Fig. 5.1) requires approximately 150 to 230 feet, again depending on traffic volumes and speeds.

Source: FHWA

Pedestrian crossings can be provided in advance of the entrance to the roundabout, as can be seen in Fig. 5.2. Single-lane roundabouts have become more used by NCDOT in recent years, as can be seen in Fig. 5.3.



▲ Fig. 5.1 2-Lane Roundabout

Chapter 5:
INTERSECTION TYPOLOGIES



▲ Fig. 5.2 Griffith Street 2-Lane Roundabout, Davidson, NC



▲ Fig. 5.3 I-485 Moores Chapel Road Exit Single-Lane Roundabouts, Charlotte, NC

SUPERSTREET

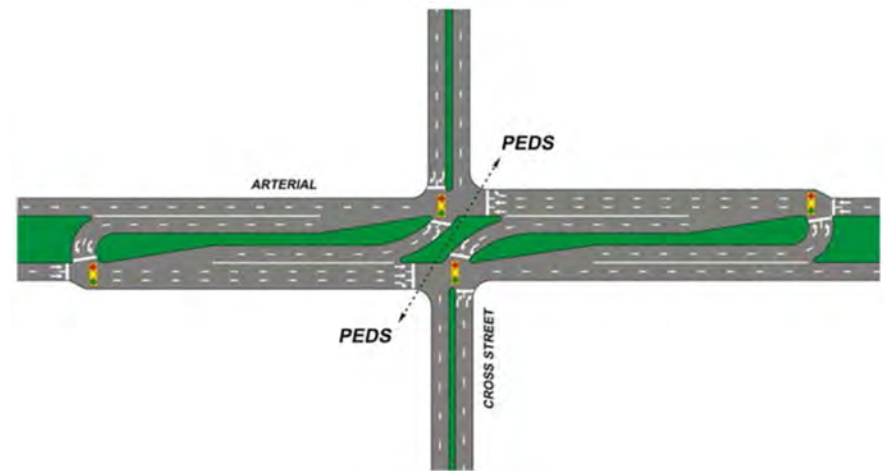
The Superstreet concept (Figs. 5.7 and 5.8) refers to a reconfiguration of a traditional intersection. Simply put, it is a method to safely and efficiently manage high traffic volumes at intersections with multiple approaches along a divided highway. The primary Superstreet concept functions by redirecting through and left turning traffic from the side street approach to turn right, proceed to the nearby U-turn and then return to its original course. At first, this may seem to be a complex solution to a very simple objective – to cross the intersection or to make a left turn. However, when designed correctly, a superstreet is actually one simple and safe solution to the problems caused by congestion.

The minor cross-street traffic is prohibited from going straight through or left at a divided highway intersection. Minor cross street traffic must turn right, but can then access a U-turn to proceed in the desired direction. Figures 5. 5 and 5.6 show these movement patterns in diagrammatic format.

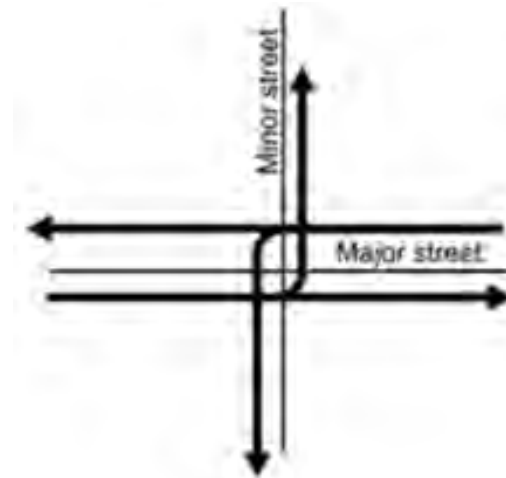
Source: NCDOT

Superstreets can be considered for implementation when high major street through traffic suffers due to moderate to low cross street traffic. They can accommodate any volume of left turn movements from the major street, and low to medium left turn volumes from the minor street. It is NOT a good choice when the additional necessary right-of-way of approximately 30 ft. along the major street is not easily available or when right-of-way acquisition costs would be excessive.

Diagonal pedestrian crossings can be provided across the median in the center of the intersection, as can be seen in fig. 5.4.



▲ Fig. 5.4 Superstreet Intersection



▲ Fig. 5.5 Superstreet Major Street Movements



▲ Fig. 5.6 Superstreet Minor Street Movements



▲ Fig. 5.7 Superstreet Intersection



▲ Fig. 5.8 Superstreet Intersection

MEDIAN U-TURN – “MICHIGAN LEFT” (Figs. 5.9 and 5.10)

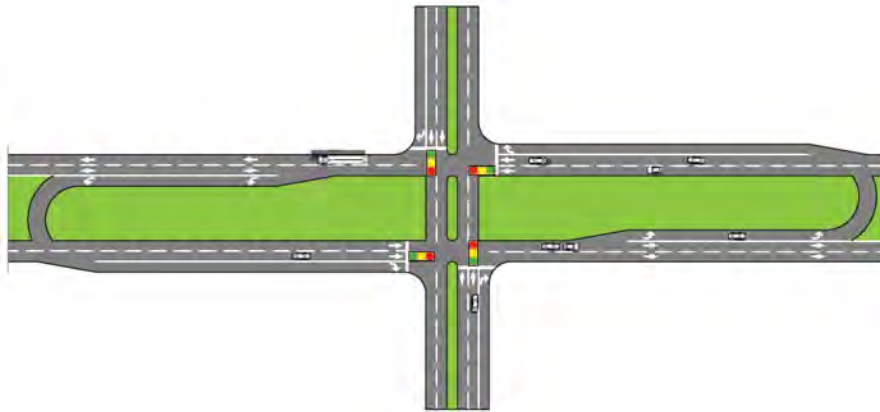
Where a Michigan Left (Fig. 5.13) is in place, left turns at the intersection are not allowed. Instead, to turn left, you must drive straight or turn right, then make a U-turn at a median crossover, guided by sign like the one at right (Figs. 5.11 and 5.12).

Research and experience have shown that the Michigan Left relieves congestion, increasing safety by reducing the number and severity of crashes.

They provide 20 to 50 percent greater capacity than direct left-turns. They reduce average delays to left-turning vehicles and through-traffic.

Source: Michigan DOT

Implementation can be considered when there are high through volumes with moderate to low left turn volumes from both the major street and the minor street, and approximately 30 ft. of additional right-of-way is available on the major street.



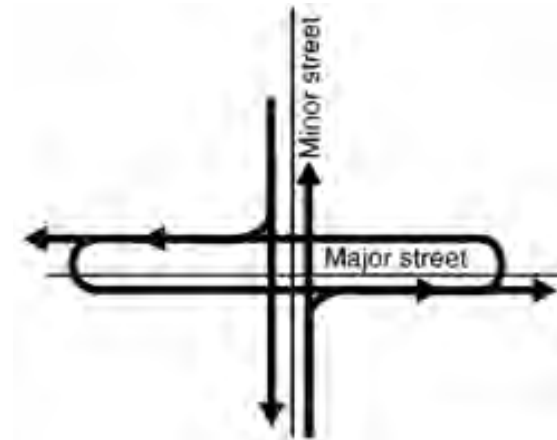
▲ Fig. 5.9 Michigan Left Intersection



▲ Fig. 5.11 Michigan Left Major Street Movements



▲ Fig. 5.10 Michigan Left Intersection in a Constrained Right-of-Way



▲ Fig. 5.12 Michigan Left Minor Street Movements



▲ Fig. 5.13 Michigan Left Intersection in a Corridor in Michigan

Source: FHWA

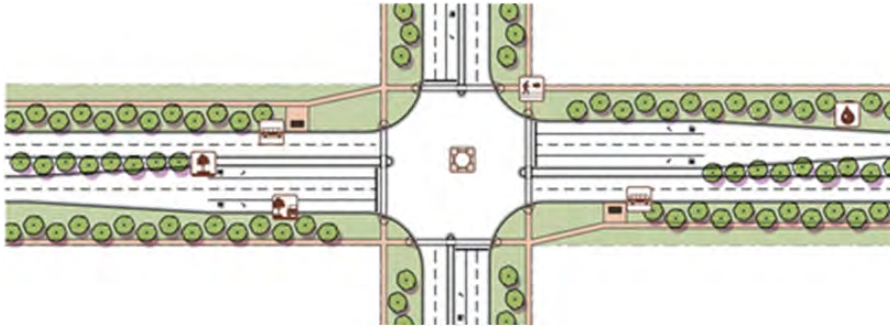
SIGNALIZED INTERSECTIONS

Existing signalized intersections in the corridor generally perform well for capacity and turning movements. Those that do not are recommended for change to another typology in Chapter 3 - US-74 Typologies Application. Recent coordination of signal timing throughout the Monroe portion of the corridor has improved traffic flow and travel times. Coordinated signal timing is very important to continue in the future. Reduction of posted speed limits is recommended with a number of the roadway typologies, and those speed limits should be coordinated with appropriate signal timing.

Improvement of pedestrian movement at signalized intersections should:

- » Provide fully accessible sidewalks that adhere to American with Disabilities Act (ADA) standards, while improving pedestrian visibility to automobiles with adequately marked and tactile crosswalks,
- » Reduce conflict points with pedestrian refuge islands at medians,
- » Provide bus shelters at ideal stop locations, with widened sidewalks and boarding platforms, and
- » Improve visibility through adequate sight distance in street and landscape design and provide lighting that enable pedestrians and automobiles to perceive oncoming conflicts.

Figures 5.14 and 5.15 show examples of signalized intersections with pedestrian crossings.



▲ Fig. 5.14 Major Arterials Signalized Intersection



▲ Fig. 5.15 Collector Signalized Intersection

Chapter 6: US-74 TYPOLOGIES APPLICATION

The US-74 roadway and intersection typologies can be combined to create a corridor that serves local traffic needs, if coordinated with the access management strategies, the parallel roadways described in Chapter 7, and the land uses planned by the municipalities or projected as part of this plan. Recommended roadway, intersections and access management strategies are described in this chapter for each segment and subsegment of the US-74 Corridor from the Union County line at Stallings to the Monroe City Limits at the eastern end of the corridor.

STALLINGS – UNION COUNTY LINE TO CHESTNUT PARKWAY



▲ Fig. 6.1 Stallings Typologies Application

All of US-74 through Stallings will be reconstructed as part of the Monroe Bypass project (Fig. 6.1). The Bypass will be a limited access toll road from I-485 in Matthews, following the existing US-74 alignment to a point approximately at Beltway Boulevard, where it will turn to the southeast.

An eastbound exit ramp approximately in front of Scott Clark Toyota will provide access to the new McKee Road. Between McKee Road and Stallings Road, a three-lane service road will be built. The current design-build plans allow for access right-in/right-out access along the frontage roads only between McKee Road and Stallings Road. It is proposed that a Multiway Boulevard be provided between McKee Road and Stallings Road for access to these properties, rather than right-in/right-out access.

East of Stallings Road, the service road becomes a two-lane access ramp/flyover, providing access to the eastbound toll road lanes as well as to eastbound US-74, which will be rebuilt as a divided arterial with three eastbound and two westbound lanes to Indian Trail Road.

The westbound lanes from Indian Trail Road will become a flyover ramp providing access to the westbound toll road lanes as well as to a two-lane service road approximately at the extension of Cupped Oak Drive. The westbound service road will be two lanes to Stallings Road. Between Stallings Road and McKee Road, it will be three lanes, ending at McKee Road. The current design-build plans allow for right-in/right-out access along the frontage roads only between McKee Road and Stallings Road.

Cupped Oak Drive will be extended toward the toll road as a two-lane street, and will make a westbound turn to a connection with Stallings Road approximately 600 feet east of the westbound service road.

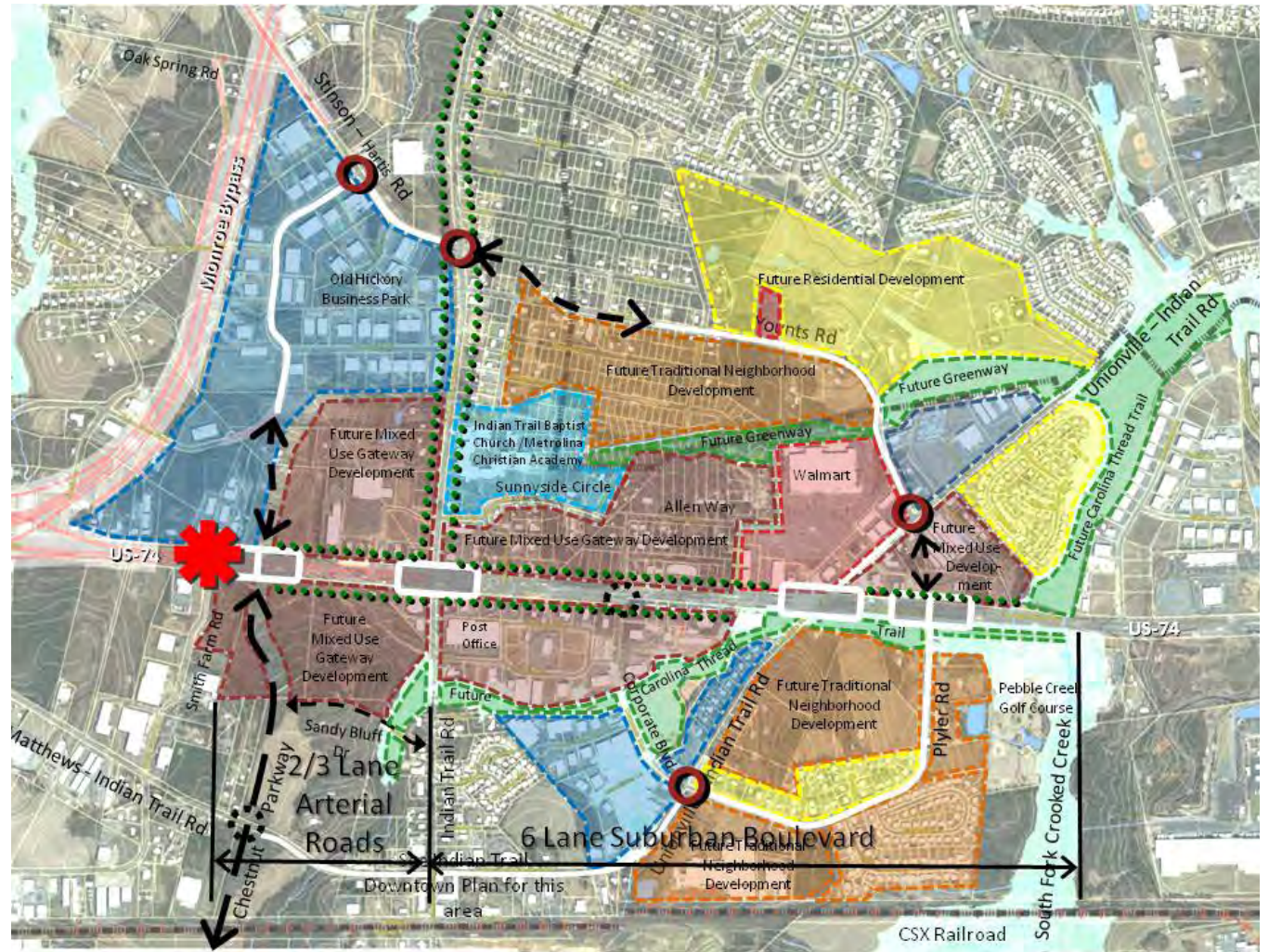
Stallings Road will be reconstructed as a four-lane divided arterial approximately 600 feet east and west of the service roads, passing under the toll road. McKee Road will be constructed to a connection with Stevens Mill Road.

INDIAN TRAIL - CHESTNUT PARKWAY TO CROOKED CREEK

Legend

-  Superstreet intersection
-  Michigan Left intersection
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Modified connection to local roads and streets
-  New arterial roads
-  New connecting roads
-  Roundabout
-  Underpass

See Chapter 11 for Land Use and Aesthetics Legend



▲ Fig. 6.2 Chestnut Parkway to Crooked Creek Typologies Application

Stallings to Indian Trail Road (Fig. 6.2)

Roadway

The portion of US-74 in Indian Trail from Stallings to Indian Trail Road will be rebuilt as part of the Monroe Bypass project as a divided arterial with three westbound and two eastbound lanes.

Intersections

No intersection is planned as part of the Monroe Bypass project for the new Chestnut Parkway. The first phase of three phases of Chestnut Parkway is currently under construction. NCDOT is considering the conversion of the US-74/Indian Trail Road intersection into a Superstreet Intersection, along with the Unionville-Indian Trail Road, Faith Church Road and Wesley Chapel-Stouts/Sardis Church Road intersections.

It is recommended that the new intersection of Chestnut Parkway with US-74 be constructed as a Michigan Left intersection in coordination with the Indian Trail Road superstreet as shown in Figure 6.3, and that it provide for through traffic to pass directly across US-74 through a coordinated traffic signal. This connection is important for supporting the revitalization of the district bounded by Chestnut Parkway, Stinson-Hartis Road, Younts Road and Matthews-Indian Trail Road, as shown in Figure 6.4.



▲ Fig. 6.3 Coordinated Superstreet and Michigan Left intersections at Chestnut Parkway and Indian Trail Road

Chapter 6:
US-74 TYPOLOGIES APPLICATION



▲ Fig. 6.4 Future District Revitalization Area Bounded by Chestnut Parkway, Stinson Hartis Road, Younts Road and Matthews-Indian Trail Road

Access Management

Left-turn only median breaks will be provided for access into the shopping center at the northeast corner of Indian Trail-Fairview Road and US-74, and those will also provide access into the potential development property adjacent to the planned Chestnut Parkway.

It is recommended that the three existing driveways on the east side of the road be closed and the parking lots be consolidated. There is also enough right-of-way to continue the provision of sidewalks consistent with the 6-Lane Suburban Boulevard typology and with the Town of Indian Trail’s Comprehensive Master Plan (part of which already exist).

Indian Trail Road to Crooked Creek (Fig. 6.2)

Roadway

US-74 in this section, which is projected to have 60,000 Average Annual Daily Traffic by 2035, is proposed as a 6-Lane Suburban Boulevard typology. This is consistent with the Town of Indian Trail Comprehensive Master Plan roadway typologies. The Town of Indian Trail has been implementing the sidewalks for this typology as new development occurs.

Intersections

The Indian Trail Road, Unionville-Indian Trail Road, Faith Church Road and Wesley Chapel-Stouts/Sardis Church Road intersections with US-74 are currently being considered by NCDOT for conversion to Superstreet Intersections.

The intersection of Plyler Road and US-74 has the potential to complete the Chestnut Parkway/Stinson-Hartis Road/Younts Road/Matthews-Indian Trail Road loop, which would help to stimulate redevelopment of this district in keeping with the Town of Indian Trail’s Economic

Development Plan. It is recommended that the Unionville-Indian Trail Road Superstreet Intersection be designed to allow for a future direct connection across US-74 from Plyler Road to a new link with Younts Road, as shown in Figure 6.4. Figure 6.5 suggests one way this might be accomplished.

Access Management

Between Indian Trail Road and Unionville-Indian Trail Road, consolidation of driveways between Indian Trail Road and Corporate Boulevard is recommended to minimize curb cuts along US-74. An alternate access street – Post Office Street – already exists for additional access to these properties. Potential for a parallel street exists on the east side, linking Indian Trail Fairview Road to the Walmart shopping center. Anticipated future redevelopment of the properties on the east side of US-74 will provide the opportunity to eliminate the existing driveways.



▲ Fig. 6.5 Coordinated Superstreet and Michigan Left intersections at Unionville-Indian Trail Road and Plyler Road

Crooked Creek to Laurel Creek (Fig. 6.6)

Roadway

This section, which is anticipated to have 41,500 AADT by 2035, is proposed as a 6-Lane Suburban Boulevard. This is consistent with the Town of Indian Trail Comprehensive Master Plan roadway typologies. The Town of Indian Trail has been implementing the sidewalks for this typology as new development occurs.

Intersections

The Faith Church Road and Wesley Chapel-Stouts/Sardis Church Road intersections with US-74, along with Indian Trail Road and Unionville-Indian Trail Road, are currently being considered by NCDOT for conversion to Superstreet Intersections.

The Sun Valley Place road that provides access to the Sun Valley Industrial Park will remain as a right-in/right-out intersection. There is an existing unsignalized intersection at Helmsville Road that will remain. There is an existing T intersection at Gray Fox Road that will eventually become a new signalized intersection when the land on the west side of US-74 eventually develops as an anticipated mixed use development. The existing left-turn median break at Dale Jarrett Boulevard will remain.

Access Management

Between Crooked Creek and Faith Church Road, there will be a left-turn access median break for access to the Indian Trail Industrial Park and a future mixed use development on the west side of US-74. This development and the Harris Teeter Distribution Center will have access from the planned Faith Church Road extension. Access to the office park at the northeast corner of US-74 and Faith Church Road will

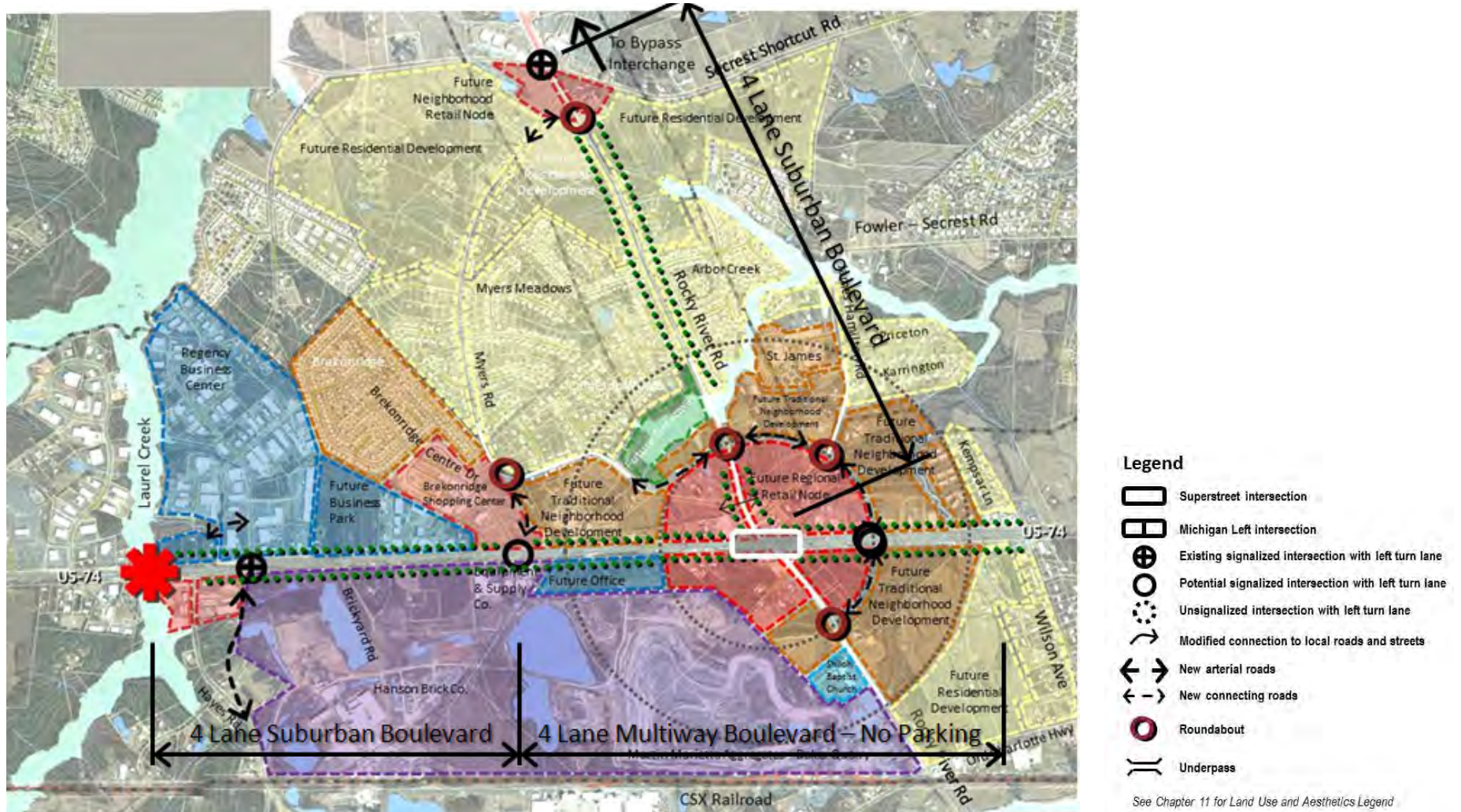
remain right-in/right-out only. This development also has access from Faith Church Road.

Between Faith Church Road and Wesley Chapel-Stouts/Sardis Church Road, the existing Union Town Center access will remain right-in/right-out only from US-74. This development also has access from Faith Church Road. Southern Market Place currently has three right-in/right-out driveways. This property is anticipated to eventually redevelop, at which time the driveways should be consolidated into a single access point. The Lowes store has existing right-in/right-out access that will remain, and the gas station/convenience store has two driveways that will remain. Both of these have access from Wesley Chapel-Stouts Road and have interconnecting drives. A number of small properties on the east side of US-74 have individual driveways. These are anticipated to eventually redevelop, possibly as part of Sun Valley Industrial Park, at which time the access points should be limited to one or two right-in/right-out drives as well as connections to Sun Valley Place. The west side of US-74 in this section is anticipated to develop as a mixed use development. Access should be planned in conjunction with that development when it occurs to minimize conflicts with US-74 traffic.

On the east side of US-74, development is relatively new and has been developed with right-in/right-out driveways which will remain. The vacant property at the northeast corner of US-74 and Helmsville Road is anticipated to eventually develop as industrial or business property, possibly in conjunction with the Indian Trail Industrial Park. When that occurs, access directly onto US-74 should be minimized, with more access provided from Helmsville Road. The Dale Jarrett Ford and Kia dealerships have relatively new right-in/right-out driveways as well

as access from Dale Jarrett Boulevard and Gray Fox Road. These will remain. Three smaller car dealerships and repair shops east of Gray Fox Road currently have two separate right-in/right-out driveways. Consolidation of these drives and access from Gray Fox Road would be desirable.

MONROE – LAUREL CREEK TO WILSON AVENUE



▲ Fig. 6.7 Laurel Creek to Wilson Avenue Typologies Application

Laurel Creek to Brekonridge Centre Drive (Fig. 6.7)

Roadway

This section, which is anticipated to have 41,500 AADT by 2035, is proposed as a 4-Lane Suburban Boulevard.

Intersections

It is proposed to realign Hayes Road on the west side of US-74 to connect to an existing signalized intersection at Chambers Drive. The existing Hayes Road intersection at US-74 would become right-in/right-out only.

There is an existing unsignalized median break with left-turn lanes at Brickyard Road. This break would remain and provide access to anticipated new business park development on the east side of US-74, but is proposed to become a left-turn-only median break intersection.

A new signalized intersection is anticipated at Brekonridge Centre Drive, which will also serve a realigned Myers Road.

Access Management

Properties along Executive Point Drive are accessed by the right-in/right-out street onto US-74, and that will remain the same. It is proposed that the Better Dog Kennel & Boarding property all be accessed by a single existing right-in/right-out drive and that two additional driveways be eliminated. Two smaller properties to the east of Executive Point Drive are anticipated to be eventually replaced by a new business park development, which should have planned access as part of its development.

On the west side of US-74, the businesses across from Brekonridge Centre Drive are proposed to all be accessed by the proposed new

signalized intersection at Brekonridge Centre Drive, and the existing median break with left-turn lanes to be replaced. There is a service road into the Martin Marietta Aggregated – Baker Quarry, which is generally gated and closed, and will remain. The properties adjacent to Hayes Road currently have consolidated driveways, and it is proposed that they be accessed from Hayes Road only, with the two existing driveways onto US-74 being closed.

Brekonridge Centre Drive to Wilson Avenue/Kempsar Lane (Fig. 6.7)

This section, centered on the Rocky River Road intersection with US-74, is described in the City of Monroe Land Use Plan as a future Regional Retail Node with adjacent Traditional Neighborhood Development. For that vision to be realized, a small area plan or a master plan by a developer will be necessary, including a detailed traffic analysis. The following descriptions are generalized, and meant to inform more detailed planning of the area and guiding the long term development of the US-74 Corridor.

Roadway

The regional retail node and traditional neighborhood developments will need access from US-74, but should not have multiple driveways directly onto US-74. The 4-Lane Multiway Boulevard Without Parking roadway typology should allow this. The Multiway Boulevard portion of the typology could be constructed as part of the development(s). US-74 at this location is projected to have 41,500 AADT in 2035, but the size of the regional retail node could affect that projection. Because this will be a rather urban district, the design speed for US-74 should probably be 35 mph in this section.

Rocky River Road is projected to have approximately 13,500 AADT in 2035. While a 2-Lane Local Street or 2-Lane Suburban Boulevard would accommodate that level, the section of Rocky River Road through the regional retail node and traditional neighborhood development will probably need to be a 4-Lane Suburban Boulevard. The detailed planning for the district will help determine this.

Intersections

The US-74/Rocky River Road intersection is currently being considered by NCDOT for conversion to a Superstreet Intersection. Any connections across US-74 in the regional retail node area similar to what is shown in the Framework Plan would need to be new signalized intersections.

The existing T intersection median break with left-turn lanes at Woodbrook Lane will remain until the area redevelops. Since this street only serves a multifamily development, it might be incorporated into the Multiway Boulevard serving the future traditional neighborhood development.

The existing directional intersection with left turns only into Kempsar Lane and Wilson Avenue will remain.

Access Management

It is presumed that all existing direct driveway connections to US-74 in this area would be eliminated as part of the area's development planning. Properties with direct driveway connections would either have access from the Multiway Boulevard or would be redeveloped.

MONROE – WILSON AVENUE TO WILLIAMS ROAD

Legend

-  Superstreet intersection
-  Michigan Left intersection
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Modified connection to local roads and streets
-  New arterial roads
-  New connecting roads
-  Roundabout
-  Underpass

See Chapter 11 for Land Use and Aesthetics Legend



▲ Fig. 6.8 Wilson Avenue to Williams Road Typologies Application

Wilson Avenue/Kempsar Lane to John Moore Road/ Fowler Secrest Road (Fig. 6.8)

Roadway

Future traffic in this section is projected to be 67,500 AADT by 2035. However, most of that projection is based on the many retail centers and businesses east of Fowler Secrest Road. The section between Wilson Avenue/Kempsar Lane and Fowler Secrest Road is currently mostly undeveloped land. This offers the opportunity to apply aggressive access management techniques for new development. With that approach, this section could be a 4-Lane Suburban Boulevard or a 4-Lane Multiway Boulevard if the future development justifies the additional access street. The recommendation is that it be a 4-Lane Suburban Boulevard.

Intersections

The John Moore Road/Fowler Secrest Road intersection is an existing signalized intersection that will remain. As the area develops further, pedestrian crosswalks should be added. The Secrest Price Road intersection is a right-in/right-out T intersection that will remain. No additional intersections should be added.

Access Management

Land on the east side of US-74 is undeveloped. When it is developed, it should be a planned development incorporating aggressive access management techniques, possibly including a Multiway Boulevard. Land on the west side between US-74 and Ridgewood Avenue is mostly undeveloped. When it is developed, it should be planned with consolidated interconnecting driveways that minimize direct driveway access to US-74. The four existing businesses should be incorporated into the interconnecting driveways.

John Moore Road/Fowler Secrest Road to Carroll Street/ Rolling Hills Drive (Fig. 6.8)

Roadway

Future traffic in this section is projected to be 67,500 AADT by 2035. However, most of the property along US-74 has been developed with good access management. Applying additional management techniques to the other existing properties may allow a 4-Lane Suburban Boulevard to accommodate the projected traffic.

Intersections

The John Moore Road/Fowler Secrest Road intersection is an existing signalized intersection which will remain. If the area develops further, pedestrian crosswalks should be added.

The Timber Lane Drive intersection is an existing unsignalized median break with left-turn lanes to Timber Lane Drive. It is proposed that this median break be closed and that the Timber Lane intersection would become right-in/right-out only.

Bovender Road and Bonanza Road are existing right-in/right-out T intersections that will remain.

The intersection of Wellness Boulevard and the main entrance to the Poplin Place shopping center is an existing signalized intersection that will remain. If sidewalks are added to US-74 in this section, pedestrian crosswalks should be added here.

There is an existing left-turn-only directional intersection at Windmere Drive and the eastern entrance to the Poplin Place shopping center that will remain.

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The Carroll Street/Rolling Hills Drive intersection is an existing signalized intersection that will remain. If sidewalks are added to US-74 in this section, pedestrian crosswalks should be added here.

Access Management

The six existing businesses on the west side of US-74, between John Moore Road and Timber Lane Drive, all have separate driveways onto US-74. These driveways should be interconnected, with access from John Moore and Timber Drive.

Poplin Place has three right-in/right-out access drives and a signalized intersection. These will all remain.

On the east side of US-74, the Bob Mayberry Hyundai car dealership has two right-in/right-out driveways onto US-74 which will remain, and also has access from Fowler Secret Road. An undeveloped parcel of land east of the Mayberry dealership should have access only from Bovender Road when it develops.

The Department of Motor Vehicles driver license office on Bovender Road is accessed only from Bovender Road. That should remain.

The Hendricks Cadillac car dealership has one right-in/right-out access driveway onto US-74 that will remain, and also has access from Bonanza Road.

All access to the medical office complex is from a signalized intersection to Wellness Boulevard that will remain.

One business between Windmere Drive and Rolling Hills Drive has a circular driveway with two access points directly to US-74. It would be preferable for all access to this property to be from Windmere Drive. The gas station/convenience store at the corner of US-74 and Rolling

Hills Drive has two driveways directly onto US-74 and another to Rolling Hills Drive. It would be preferable for the easternmost drive connection to US-74 be closed.

Carroll Street/Rolling Hills Drive to Williams Road (Fig. 6.8)

Roadway

Future traffic in this section is projected to be 67,500 AADT by 2035. In order to avoid the need for six traffic lanes, an aggressive access management approach will be required. If that is successful, this section can be a 4-Lane Suburban Boulevard.

Intersections

There are existing signalized intersections at Carroll Street/Rolling Hills Drive and at Roland Drive/ Round Table Road. These will remain. If sidewalks are added to US-74, pedestrian crosswalks should be added at these intersections.

Rolling Hills residents on the east side of the golf course cannot make eastbound turns onto US-74. This could be improved with a short street connection between Rolling Hills Drive and Round Table Road, giving them access to US-74 through the signalized intersection at Roland Drive/Round Table Road.

There is a median break with left-turn lanes which can remain, located between a creek and the Griffin Buick car dealership.

The intersection at Williams Road and the entrance to Walmart is an existing signalized intersection that will remain. It is discussed further in the following section: Williams Road to Dickerson Boulevard.

Access Management

On the west side of US-74 between Carroll Street and Roland Drive, there are numerous small businesses, residences and churches, all of which have their own driveways with direct connections to US-74. As many as possible of these should have interconnected driveways to reduce conflicts with US-74 traffic. Between Roland Drive and Williams Road, several of the properties already have interconnected driveways and share two driveway connections to US-74. It appears that the other six properties could easily be added to this connection, reducing the current seven driveways to two or three.

This section will also be helped by implementation of the parallel street network between Poplin Place and Williams Road, which is described in more detail in the following chapter.

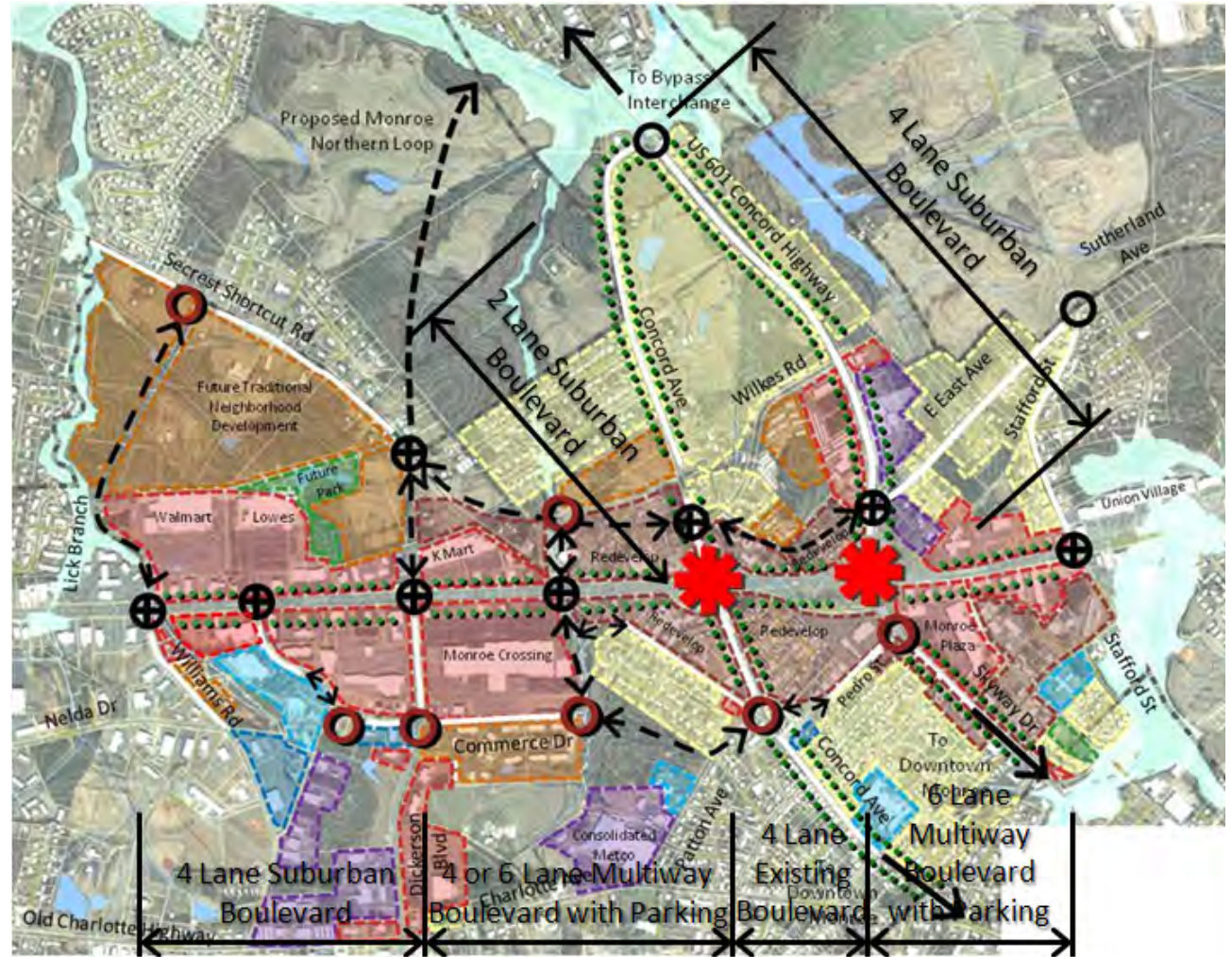
The east side of US-74 between Rolling Hills Drive and Round Table Road has fewer driveways directly on to US-74. Five of these serve single-family residences and would not be easily interconnected, though that would be desirable. One serves a small office complex, which also has access from Round Table Road. It would be desirable to close the complex's drive connection to US-74. East of Round Table Road, it appears that five of the six business properties could easily have interconnected parking, reducing the number of driveways directly on to US-74 from seven to two. The Griffin Buick car dealership is separated from these properties by a creek. The dealership has access from the Walmart entrance drive plus two driveways onto US-74 which can remain.

MONROE - WILLIAMS ROAD TO STAFFORD STREET

Legend

-  Superstreet intersection
-  Michigan Left intersection
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Modified connection to local roads and streets
-  New arterial roads
-  New connecting roads
-  Roundabout
-  Underpass

See Chapter 11 for Land Use and Aesthetics Legend



▲ Fig. 6.9 Williams Road to Stafford Street Typologies Application

Williams Road to Dickerson Boulevard (Fig. 6.9)

Roadway

This section of US-74 is projected to have 67,500 AADT by 2035. Its intersections also have the highest current crash rates of any stretch of US-74 in Union County. If the parallel road network, as described in the following chapter, is implemented, a 4-Lane Multiway Boulevard with Parking could be adequate in this section. If not, a 6-Lane Multiway Boulevard with Parking would be necessary. Because of the density of retail and restaurant activity in this section, a 35 mph speed limit is recommended.

Intersections

There are three existing signalized intersections at Williams Road, Hanover Drive and Dickerson Boulevard, all of which would remain. When the Multiway Boulevard is implemented, pedestrian crosswalks should be added, with plantings or ornamental fences to prevent pedestrians from crossing in between the intersections. There is a median break with a left-turn lane to a shopping area on the west side of US-74, which would be closed with the implementation of the Multiway Boulevard.

Access Management

The Multiway Boulevard would provide access to all the existing businesses on the west side of US-74. Between the creek and Hanover Drive, this could eliminate three existing driveways, with one driveway from US-74 and one connection to Hanover Drive. Between Hanover Drive and the entrance to the Union Square shopping center, it would eliminate primarily the two driveways at the vacant car dealership, and possibly the smaller entrance to the Union Square shopping center.

On the east side of US-74, the internal drive in the Walmart/Lowes' shopping center, behind the stores and restaurants that front onto US-74, could be extended to connect the parking lots of the individual business properties between the extension of Hanover Drive and the extension of Dickerson Boulevard, eliminating most of the existing seven driveways.

There does not appear to be any serious physical limitations on making these connections and Multiway Boulevards.

Dickerson Boulevard to Concord Avenue (Fig. 6.9)

Roadway

Future traffic in this section is projected to be 67,500 AADT by 2035. A 6-Lane Multiway Boulevard is proposed. The additional lane will not be necessary on the west side of US-74.

Intersections

The intersection of Dickerson Boulevard and US-74 is an existing signalized intersection that will remain. When sidewalks are added to US-74, pedestrian crosswalks should be added. Dickerson Boulevard is planned to be extended to the east as part of the Northern Loop proposed by CRTPO Union County Comprehensive Transportation Plan, which will modify this intersection on the east side of US-74.

There is an existing signalized intersection at Secrest Shortcut Road and the easternmost entrance to the Monroe Crossing shopping center. This signalized intersection will remain, but will be modified when Secrest Shortcut Road is realigned as proposed in the following chapter on Creating a Parallel Road Network (Fig. 6.11).

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US-74 TYPOLOGIES APPLICATION

The existing right-in/right-out Secret Shortcut Road intersection on the west side of US-74 will be closed, also as proposed in the following chapter on Creating a Parallel Road Network. Traffic that currently uses Secret Shortcut Road will be able to use the Concord Avenue exit from US-74 for access to Benton Heights and downtown Monroe.

The Concord Avenue bridge over US-74 is old and in need of replacement. When it is rebuilt, it should include aesthetic design to create a gateway to downtown Monroe, as described in the Urban Design and Aesthetics chapter. The existing on- and off-ramps between US-74 and Concord Avenue will remain.

Access Management

On the east side of US-74, access to the shopping center and the four pad site businesses fronting on US-74 between Dickerson Boulevard and Secret Shortcut Road would be from the Multiway Boulevard driving lane, and the six existing driveways onto US-74 would be closed. The Multiway Boulevard driving lane would connect to the extended Dickerson Boulevard and the connecting street between US-74 and the realigned Secret Shortcut Road. The lane could be between the existing pad site buildings and US-74, as shown in the Roadway Typologies, or behind them, as shown in Figure 6.10.

Between the new Secret Shortcut connecting street and the Concord Avenue bridge on the east side of US-74, the 11 driveways need to be consolidated and the number of direct driveways onto US-74 reduced to two or three. The gas station/convenience store nearest to Secret Shortcut road will be able to be accessed from the new connecting street.

On the west side of US-74, between Dickerson Boulevard and the new Secret Shortcut connecting street, Monroe Crossing has only two right-in/right-out entrance drives, for which no change is needed. Between the new Secret Shortcut connecting street and Concord Avenue, the Secret Shortcut Road connection to US-74 will be closed as described in the Creating a Parallel Road Network chapter. The eight driveways should be consolidated with connected parking lots and reduced to two or three driveways (Fig. 6.11).



▲ Fig. 6.10 Dickerson Boulevard to Secret Shortcut New Connecting Street Sketch



▲ Fig. 6.11 Secret Shortcut New Connecting Street to Concord Avenue Sketch

Concord Avenue to Skyway Drive/US-601 (Fig. 6.9)

Roadway

This short section between the two overpass bridges is projected to carry 67,500 AADT traffic. It is currently six lanes wide, which can remain. Because the road is in between two grade-separated interchanges, pedestrian sidewalks or crossings would not be appropriate.

Intersections

The only two intersections are the Concord Avenue and Skyway Drive/US-60 interchanges, which will remain. Both bridges, however, are old and need to be replaced. When they are rebuilt, they should include aesthetic design to create a gateway to downtown Monroe, as described in the Urban Design and Aesthetics chapter.

Access Management

There is only one property with direct driveway access onto US-74 in this section. While it appears to be a relatively new and sound structure, it would be better for access management on US-74 if it were eventually removed.

Skyway Drive/US-601 to Stafford Street (Fig. 6.9)

Roadway

This section is projected to carry 67,500 AADT by 2035. It has the highest unsignalized side street and driveway density of any segment of US-74 in Union County. There are more than 60 properties with direct driveway access onto US-74. A 6-Lane Multiway Boulevard with Parking is recommended.

Intersections

Skyway Drive is an existing grade separated interchange which will remain.

Miller Street is an existing right-in/right-out intersection to the west, which will remain.

There is an existing unsignalized median break with left-turn lanes to businesses on both sides of US-74. This median break will remain and will provide access to the Multiway Boulevard.

Stafford Street/Stafford Street Extension is an existing signalized intersection which will remain. When the Multiway Boulevard is implemented, pedestrian crosswalks should be added, and plantings or ornamental fences added to the Multiway Boulevard median to prevent pedestrians from crossing between intersections.

Access Management

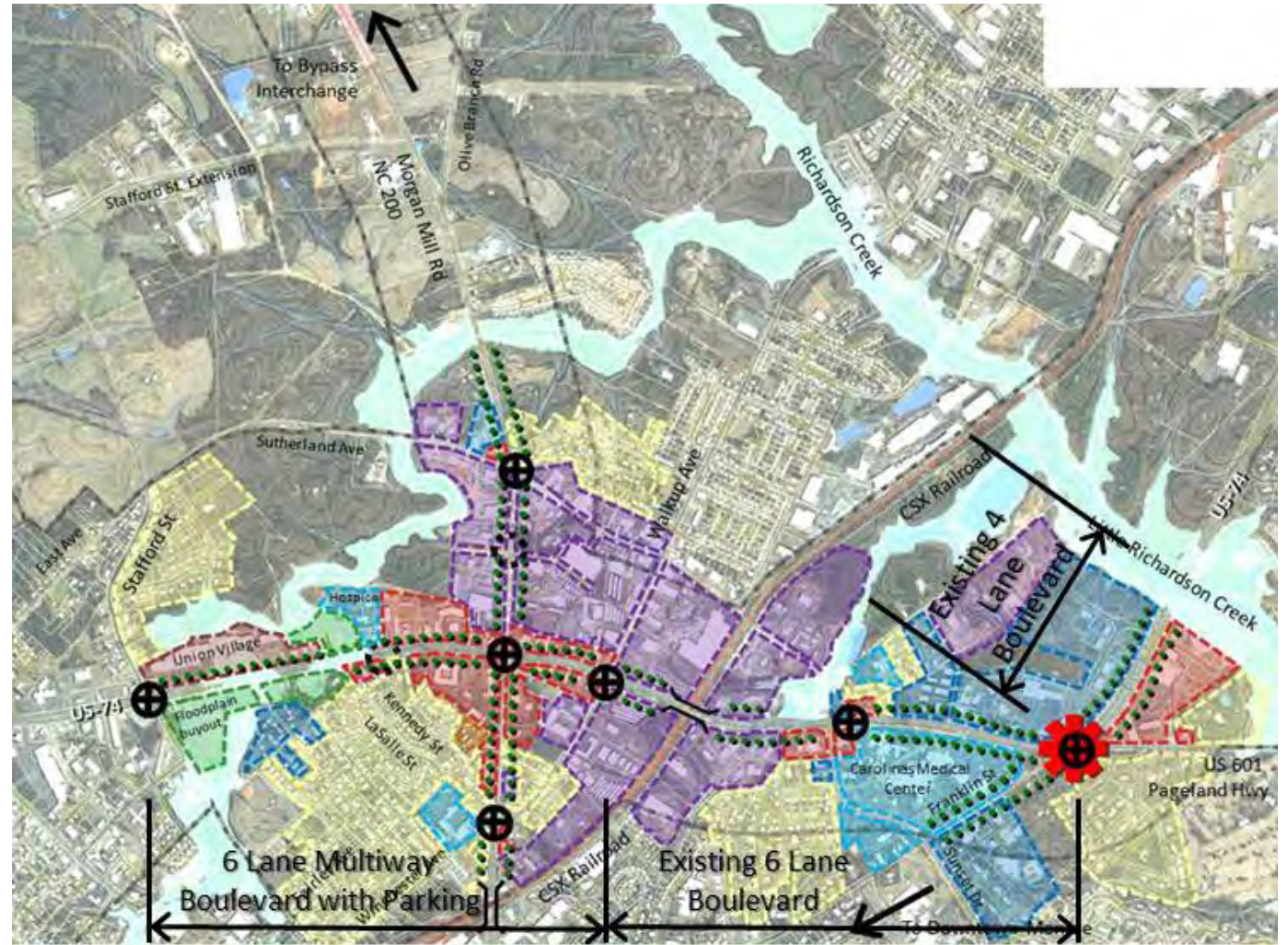
The Multiway Boulevard should be planned and designed to provide access to all properties on both sides of US-74 in this section, closing as many driveways as possible.

MONROE –STAFFORD STREET TO RICHARDSON CREEK

Legend

-  Superstreet intersection
-  Michigan Left intersection
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Modified connection to local roads and streets
-  New arterial roads
-  New connecting roads
-  Roundabout
-  Underpass

See Chapter 11 for Land Use and Aesthetics Legend



▲ Fig. 6.12 Stafford Street to Richardson Creek Typologies Application

Stafford Street to Walkup Avenue (Fig. 6.12)

Roadway

This section is projected to carry 67,500 AADT by 2035. It has the highest unsignalized side street and driveway density of any segment of US-74 in Union County. There are more than 60 properties with direct driveway access onto US-74. A 6-Lane Multiway Boulevard with Parking is recommended.

Intersections

Boyle Street is an existing signalized intersection to Boyle Street on the west and to a shopping center on the east side of US-74. This intersection will remain. When the Multiway Boulevard is implemented, pedestrian crosswalks should be added, and plantings or ornamental fences added to the Multiway Boulevard median to prevent pedestrians from crossing between intersections.

LaSalle Street is an existing unsignalized right-in/right-out intersection to the west which will remain. LaSalle Street is a residential street that can provide access to the Multiway Boulevard.

Kennedy Street is an existing unsignalized median break with left-turn lanes to Kennedy on the west side of US-74 and businesses on the east side. This median break will remain and can provide access to the Multiway Boulevard on both sides of US-74.

Between Kennedy Street and Morgan Mill Road is an unsignalized median break with left-turn lanes to businesses on both sides of US-74. This median break will remain and can provide access to the Multiway Boulevard on both sides of US-74.

Morgan Mill Road is an existing signalized intersection that will remain. When the Multiway Boulevard is implemented, pedestrian crosswalks should be added, and plantings or ornamental fences added to the Multiway Boulevard median to prevent pedestrians from crossing between intersections.

Lynn Street is an existing right-in/right-out intersection to the east. Lynn Street is a short street that connects to Walkup Avenue. This intersection can be closed, with Lynn Street connecting to the Multiway Boulevard.

Purser Avenue is an existing parallel street with secondary access to businesses on west side of US-74 between Morgan Mill Road and Walkup Avenue, and is a good complement to the Multiway Boulevard.

Walkup Avenue is an existing signalized intersection that will remain. When the Multiway Boulevard is implemented, pedestrian crosswalks should be added, and plantings or ornamental fences added to the Multiway Boulevard median to prevent pedestrians from crossing between intersections.

Access Management

On the west side of US-74, there are 11 driveways between Morgan Mill Road and Walkup Avenue. On the east side, there are 13 driveways. Purser Avenue provides a secondary access for the properties on the east side, and there is a secondary access from Walkup Avenue on the east side. Fig. 6.13 shows a diagram of how driveway consolidation and use of secondary access can reduce the number of driveways to approximately three on the west side and four on the east. Fig. 6.14 shows an example of successful driveway consolidation in Duncanville, Texas, providing improved pedestrian connections as well.

Chapter 6:
US-74 TYPOLOGIES APPLICATION



▲ Fig. 6.13 Morgan Mill Road to Walkup Avenue Driveway Consolidation Diagram



▲ Fig. 6.14 Driveway Consolidation Example, Main Street, Duncanville, Texas

Walkup Avenue to US-601 Pageland Highway/Campus Park Drive (Fig. 6.12)

Roadway

The projected 2035 traffic in this section is indicated as 67,500 in the Monroe Bypass Environmental Impact Statement, but may not be this high east of Walkup Avenue. The existing US-74 is a six-lane divided arterial that can remain. There are existing sidewalks along portions of both sides of US-74, which should continue to be extended as properties develop or redevelop.

Intersections

Sutherland Avenue is an existing signalized intersection that will remain. With the implementation of the Parallel Street network on the east side of US-74 through Monroe, the Sutherland Street intersection could become a desirable alternate for traffic headed south to US-601 during the beach season, and may need to be expanded to provide dual left-turn lanes from Sutherland to eastbound US-74.

Fincher Street is an existing right-in/right-out intersection on the west side of US-74 which will remain. Vann Street is an existing right-in/right-out intersection on the east side of US-74 which will remain. Dove Street/Venus Street is an existing signalized intersection that is also the main entrance to the Carolinas Medical Center on the east side of US-74. This will remain.

Franklin Street is an existing signalized intersection to the west that also provides an entrance to the medical office complex on the east side. This intersection will remain.

The US-74 intersection with US-601/Campus Park Drive is an existing signalized intersection. It was rated as a level of service C intersection

for the 2007 AM peak, but is projected to be a level of service F by 2035 for the AM peak. This is likely based on an AADT of 67,500, which is probably high for this section of US-74. While the intersection is currently operating satisfactorily, it can be confusing to drivers unfamiliar with the area because US-74 makes a curve to the east, and the turn to US-601 has a very large turning radius, making it appear that US-601 is actually the continuation of US-74. Improved signage and perhaps the addition of a traffic island as a visual cue could help clarify the intersection.

Access Management

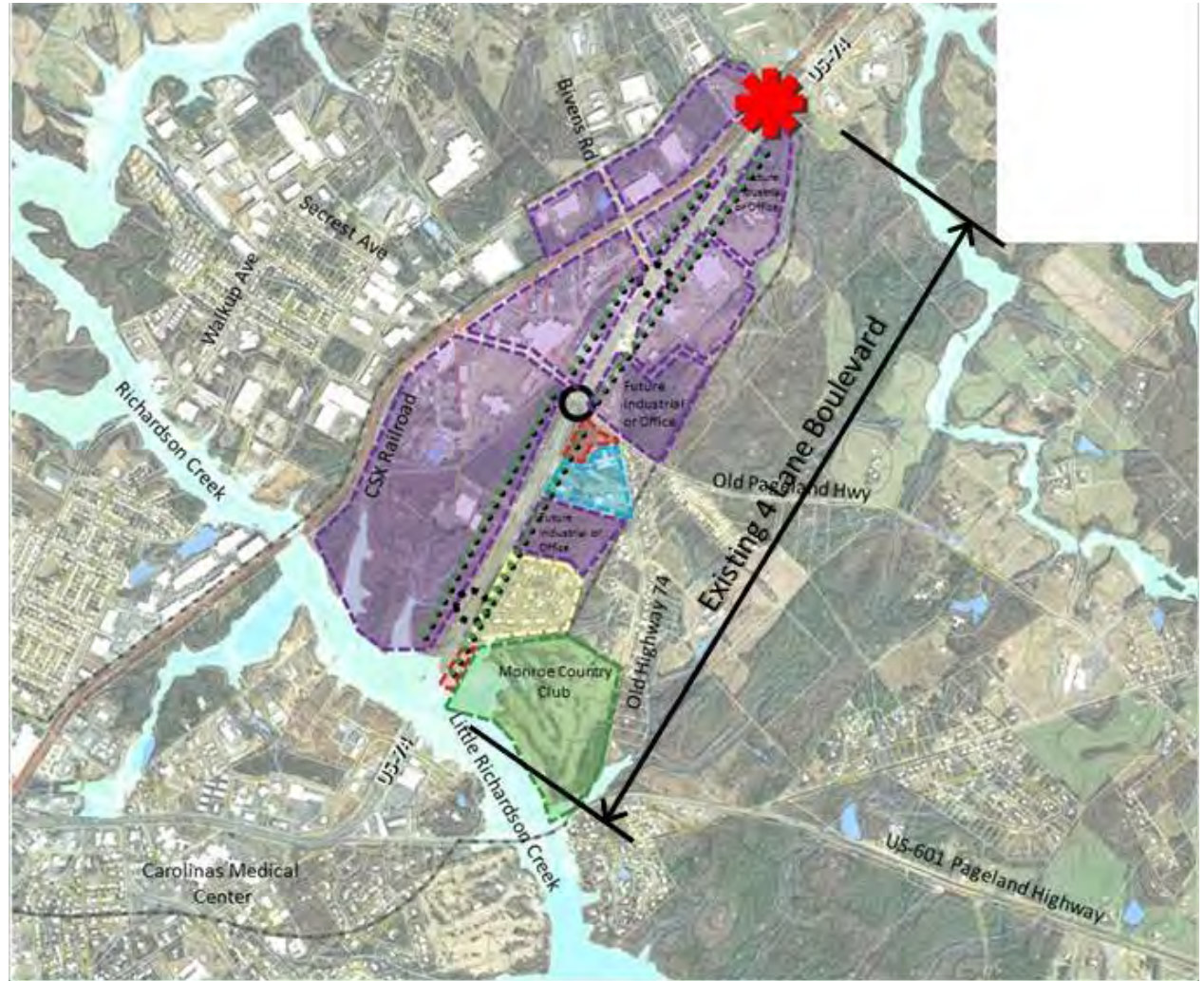
This section of US-74 has been planned and developed with good access management. The unsignalized side street and driveway density per 1,000 feet is one of the best in the corridor. No modification is necessary for existing properties. Any future development should observe the same standard as the existing.

MONROE - RICHARDSON CREEK TO MONROE CITY LIMITS

Legend

-  Superstreet intersection
-  Michigan Left intersection
-  Existing signalized intersection with left turn lane
-  Potential signalized intersection with left turn lane
-  Unsignalized intersection with left turn lane
-  Modified connection to local roads and streets
-  New arterial roads
-  New connecting roads
-  Roundabout
-  Underpass

See Chapter 11 for Land Use and Aesthetics Legend



▲ Fig. 6.15 Richardson Creek to Monroe City Limits Typologies Application

US-601 Pageland Highway to Monroe City Limits (Fig. 6.15)

Roadway

The existing US-74 through this section is a four-lane divided arterial. Projected 2035 traffic is 35,100 AADT. No change to the roadway is necessary. This is a primarily industrial section with few or no pedestrian traffic generators, so sidewalks would be unnecessary.

Intersections

There is a directional left-turn-only intersection about 600 feet east of the US-601 Pageland Highway intersection with US-74 that serves the restaurant/shopping/hotel complex at the intersection on the south side, and provides a U-turn opportunity with no access to the property on the north side of US-74. This intersection will remain.

There is an unsignalized directional left-turn-only intersection at Comfort Lane/Charles Huntley Lane that will remain.

There is an unsignalized left-turn-only intersection at Kintyre Drive on the south side of US-74 that provides a U-turn opportunity with no current access to the property on the north side. Future industrial development in this area could have access from this intersection.

There is an unsignalized left-turn-only intersection at Acme Drive on the north side of US-74 that provides access to the industrial park. It provides a U-turn opportunity with no current access to the property on the south side. Future industrial development in this area could have access from this intersection.

The intersection of South Secrest Avenue is an existing signalized intersection with free-flow right-turn lanes that will remain.

There is an existing unsignalized intersection at Old US 74 on the south side that also provides an entrance to the industrial park on the north side. This intersection will remain.

South Bivens Road is an existing unsignalized intersection that will remain.

Access Management

All access driveways onto US-74 in this section are well spaced. The properties tend to be large parcels with predominantly industrial or civic uses. No further access management strategy is required.

Chapter 7: CREATING A PARALLEL ROAD NETWORK

Even with the construction of the Monroe Bypass to divert through traffic from US-74, there will continue to be a mix of through and local traffic on US-74. Twenty-year traffic forecasts indicate a return to high traffic volumes - 61,500 at Indian Trail and 67,000 at Monroe's commercial area. Local traffic now uses back streets to access US-74 commercial where they are available. At public workshops, several US-74 major commercial properties, such as Monroe Crossing, indicated that secondary access would be desirable and beneficial for their business. Fortunately, a basic skeleton already exists for connecting streets both east and west of US-74 in Monroe, Indian Trail and Stallings to create a parallel road network. The purpose of this network is to move much of the local shopping traffic off of US-74 and avoid the many conflicts that now exist. It will also provide improved access to US-74 current and future businesses, and help to stimulate redevelopment where desired by the municipalities.

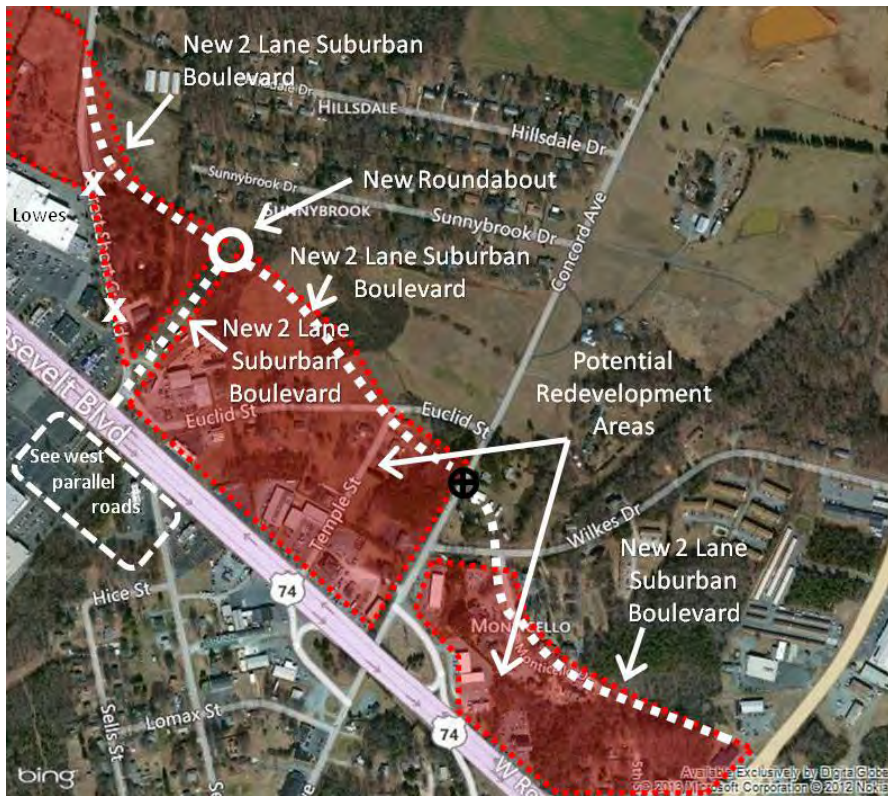
Following are the US-74 Corridor Revitalization Study recommendations for creating a parallel road network in each of the three municipalities.

MONROE EAST OF US-74

Secret Shortcut Road to Monticello Drive (Fig. 7.1)

A new 2-Lane Suburban Boulevard would be built from Secret Shortcut Road, beginning just north of Lowe's and running across Euclid Street on vacant land to Concord Ave. The 2-Lane Suburban Boulevard would continue east through a potential redevelopment area to connect with Monticello Drive. A new 2-Lane Suburban Boulevard would link Secret Shortcut to US-74, from a new roundabout on Secret Shortcut to US-74 at the existing Secret Shortcut traffic signal. Secret Shortcut on the east side of Lowe's would be closed. Euclid Street would be closed at or near Temple Street. The intersection at Concord Avenue could be signalized. In its initial phase, the realigned Secret Shortcut Road would terminate at Concord Avenue until the area around Monticello Drive becomes feasible for redevelopment, at which time the continuation of Secret Shortcut Road could be constructed as part of the redevelopment.

Chapter 7:
CREATING A PARALLEL ROAD NETWORK



▲ Fig. 7.1 Secret Shortcut to Monticello Drive Parallel Road

Monticello Drive to Stafford Street (Fig. 7.2)

When the area along US-74 between Concord Avenue and US-601 Concord Highway redevelops, the realigned Secret Shortcut Road could be extended as part of the redevelopment to connect to the existing E. East Avenue. The intersection of this portion of Secret Shortcut, US-601 and E. East Avenue would have to be reconfigured as part of the replacement of the US-601 bridge over US-74. The existing

E. East Avenue would form the continuation of the parallel road to Stafford Street.

A traffic signal might be required at Stafford Street if projected traffic volumes meet UMTCD warrants. N. Sutherland Avenue east of Stafford Street would remain as a two-lane road.



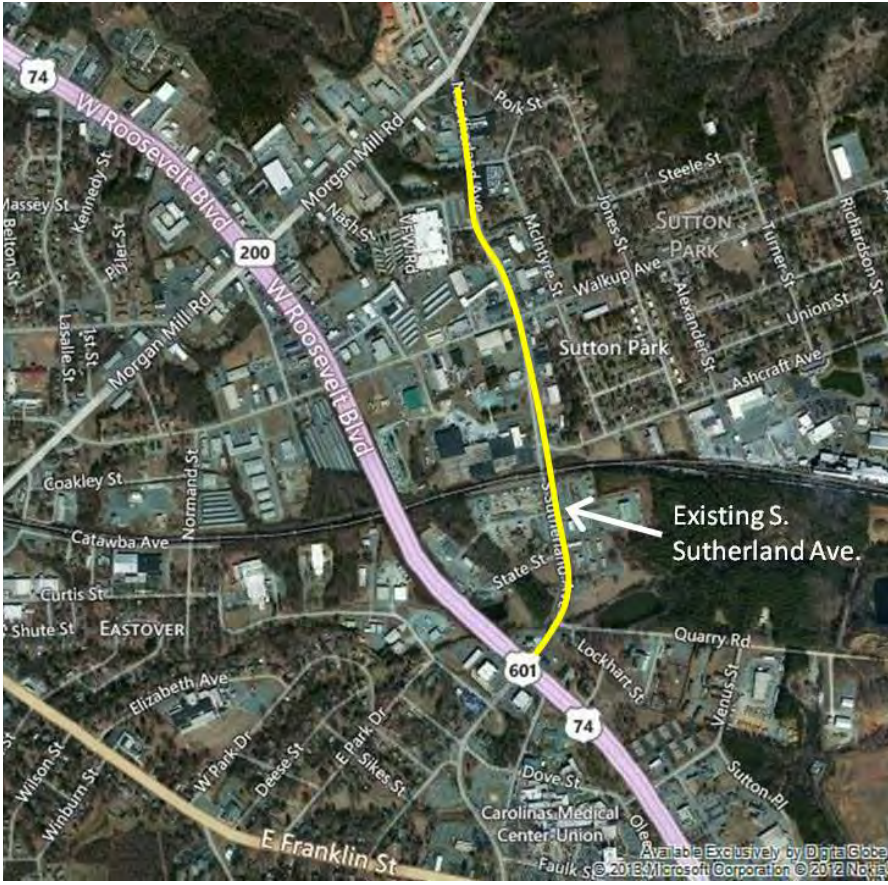
▲ Fig. 7.2 Monticello Drive to Sutherland Avenue Parallel Road

Stafford Street to Morgan Mill Road (Figs. 7.3 and 7.4)

The existing two-lane N. Sutherland Avenue and S. Sutherland Avenue would form this leg of the parallel road network east of US-74 in Monroe. As future growth occurs in this area, it would be good to reserve enough right-of-way for the eventual widening of N. Sutherland Avenue to a 2-Lane Suburban Boulevard.



▲ Fig. 7.3 Sutherland Avenue from Wilkes Drive to Morgan Mill Road Parallel Road



▲ Fig. 7.4 Sutherland Avenue from Morgan Mill Road to US-74 Parallel Road

Chapter 7:
CREATING A PARALLEL ROAD NETWORK

The existing two-lane S. Sutherland Avenue would form this leg of the parallel road network east of US-74 in Monroe. Existing development along S. Sutherland Avenue would make any future widening of the street very difficult. The intersection with US-74 near Carolinas Medical Center Union would be the easternmost point of the parallel road network in Monroe.

MONROE WEST OF US-74

Hanover Drive to Dickerson Boulevard (Fig. 7.5)

The existing Hanover Drive would connect from US-74 to Commerce Street at Williams Road. The intersection with Williams Road extension could be a roundabout. From the roundabout, a new 2-Lane Local Street on vacant land would connect to Commerce Drive just north of the existing commercial buildings. All existing buildings could remain.

Dickerson Boulevard to Patton Avenue (Fig. 7.6)

Commerce Street behind Monroe Crossing would be upgraded to a 2-Lane Local Street, with a roundabout at the southwestern corner of the Monroe Crossing property. From the roundabout, a new 2-Lane Local Street would be built across currently vacant land (that is scheduled to be acquired by Union County) to a connection to Patton Avenue at Sells Street. Patton Avenue west of Sells Street would be realigned to form a “T” intersection with the new 2-Lane Local Street. One or two single-family residences at the corner of Patton Avenue and Sells Street might have to be acquired to build the new 2-Lane Local Street.

On the southeast side of Monroe Crossing, a new 2-Lane Local Street would be built from the roundabout to the existing traffic signal at US-74 and Monroe Crossing. Part of this new street would be on the same

alignment as a portion of the Monroe Crossing circulation system that is fairly heavily used as a local shortcut between Secret Shortcut Road and US-74. The existing connection between Monroe Crossing and Secret Shortcut Road would be upgraded to a 2-Lane Local Street. The section of Secret Shortcut Road between the Monroe Crossing and US-74 would be closed, with traffic moved to the nearby Concord Avenue exit that leads toward Downtown Monroe. All existing buildings would remain.



▲ Fig. 7.5 Hanover Drive to Dickerson Boulevard Parallel Road



▲ Fig. 7.6 Dickerson Boulevard to Patton Avenue Parallel Road

Patton Avenue to Skyway Drive (Fig. 7.7)

The City of Monroe plans to undertake a Small Area Plan for this area in 2013. All of these recommendations should be considered in more detail as part of that plan.

A new roundabout is proposed for the junction of Patton Avenue, Secret Shortcut Road, Concord Avenue and Kerr Street. Patton Avenue would be connected to the roundabout from the new 2-Lane Local

Street. A new street connection would be made from the roundabout to Pedro Street. Pedro Street would be upgraded to Skyway Drive. It is assumed that the Patton Avenue connection and the Pedro Street new connection and upgrades would be 2-Lane Local Streets, but this should be considered further in Monroe's Small Area Plan.

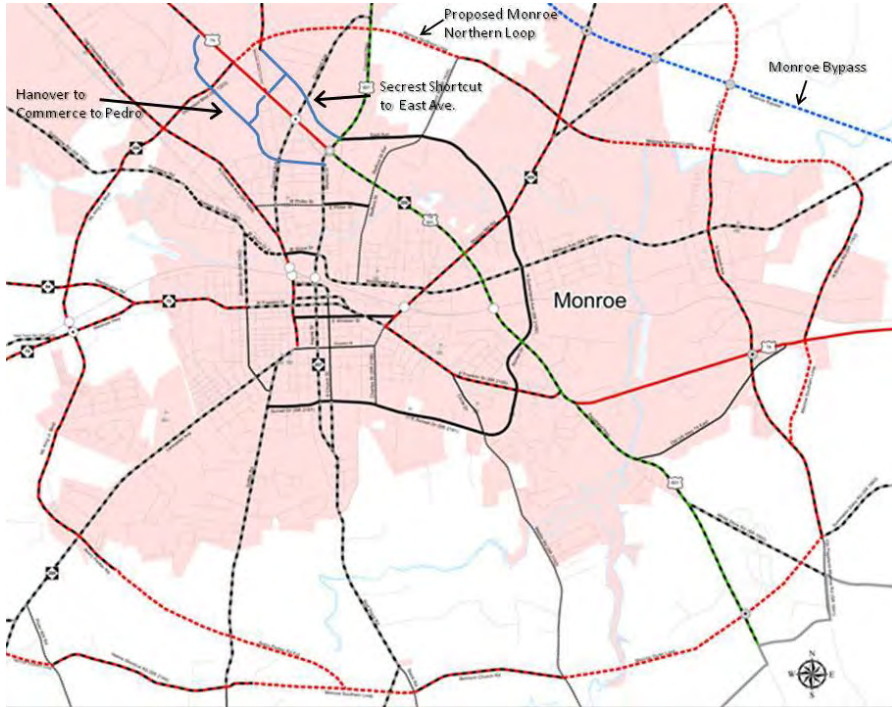
At Pedro Street and Skyway Drive, where there is an existing traffic signal, a new entrance would be made to Monroe Plaza. The existing on-ramp to US-74 would be reconfigured as part of the anticipated interchange reconstruction.



▲ Fig. 7.7 Patton Avenue to Skyway Drive Parallel Road

EFFECT OF MONROE PARALLEL ROADS

Monroe's Long Range Transportation Plan includes a proposed Northern Loop that would form part of an outer loop around the city (Fig. 7.8). The Northern Loop would be an extension of Dickerson Boulevard across US-74 to the northeast. The Transportation Plan also includes a partial inner loop that includes E. East Avenue, N. Sutherland Avenue and S. Sutherland to US-74 and beyond.



▲ Fig. 7.8 Monroe Parallel Roads with Proposed Northern Loop

The proposed parallel road network, possibly including a connection from Hanover Drive to Williams Road, would work in conjunction with the Northern Loop and the inner loop to form a grid network around the central commercial district of US-74 in Monroe, as can be seen in Fig. 7.9. This network would help to improve traffic access to existing business on US-74 without the need of using US-74 itself, and would also provide improved access to the district to help stimulate economic revitalization of the area and redevelopment of vacant and underutilized properties. This would create the potential for a regional commercial district in the central part of Monroe while improving traffic flow and safety on US-74.

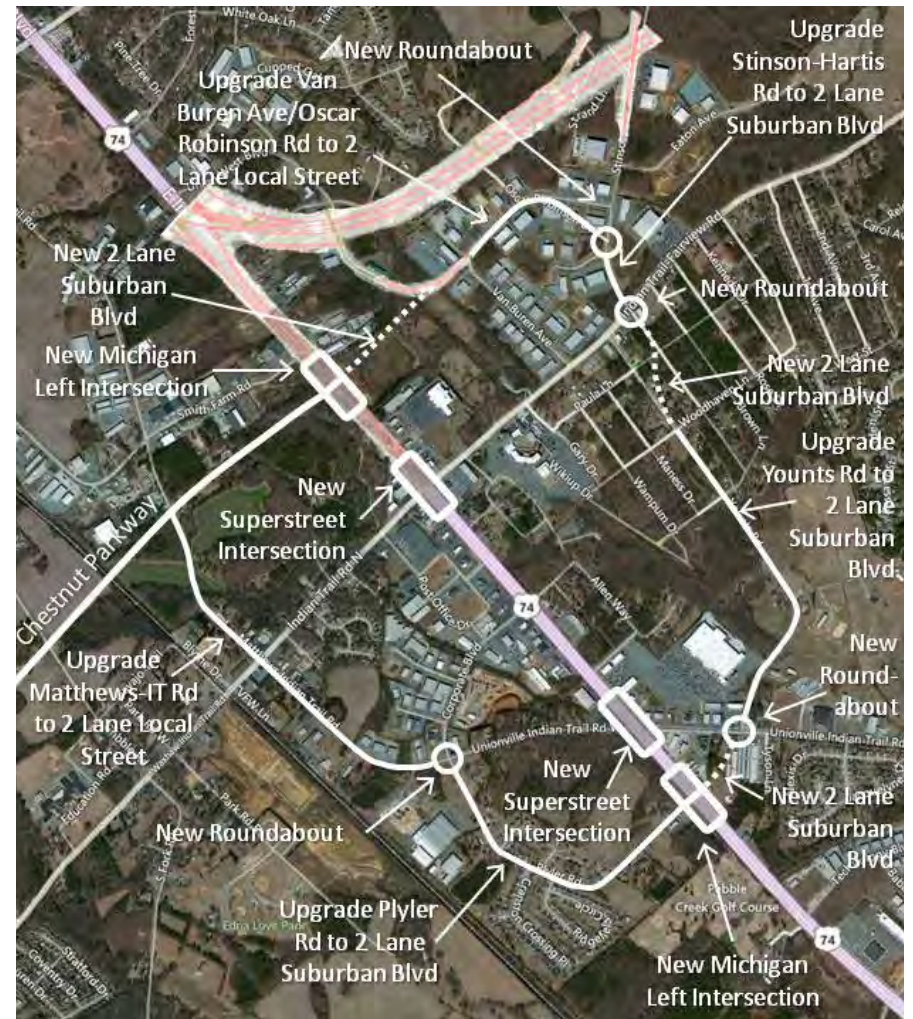


▲ Fig. 7.9 Monroe Parallel Roads Network

INDIAN TRAIL (Fig. 7.10)

The parallel road network in Indian Trail would be interconnected across both sides of US-74 to help overcome the barrier effect that US-74 currently has on the town, as well as to improve local circulation with less need to use US-74.

The Town has begun construction of the new Chestnut Parkway west of Indian Trail Road. This new road should extend across US-74, through a Michigan Left Superstreet Intersection. A new 2-Lane Suburban Boulevard would connect across vacant land to the existing Van Buren Avenue in Old Hickory Business Park. A portion of Van Buren Avenue and Oscar Robinson Road would be upgraded to a 2-Lane Local Street. From the intersection of Oscar Robinson Road and Stinson-Hartis Road, Stinson-Hartis Road would be upgraded to a 2-Lane Suburban Boulevard. A new 2-Lane Suburban Boulevard would connect to Younts Road at the intersection of Younts and Woodhaven Lane. Younts Road would be upgraded to a 2-Lane Suburban Boulevard from that point to its intersection with Unionville Indian Trail Road. That intersection would be a roundabout. From the Younts Road/Unionville Indian Trail Road intersection, a new 2-Lane Suburban Boulevard to connect to a Michigan Left Superstreet Intersection at US-74 and Plyler Road. Plyler Road would be upgraded to a 2-Lane Local Street to a new roundabout at Unionville Indian Trail Road. From the roundabout, Matthews Indian Trail Road through downtown Indian Trail would be upgraded to a 2-Lane Local Street to the new Chestnut Parkway. Property and possibly some single-family residences would have to be acquired to make the connection from Indian Trail Fairview Road to Younts Road. Property and two small buildings would have to be acquired to make the connection from Unionville Indian Trail Road to US-74 at Plyler Road.



▲ Fig. 7.10 Indian Trail Parallel Road Network

Chapter 7:
CREATING A PARALLEL ROAD NETWORK

NCDOT is studying the possibility of constructing Superstreet Intersections at four roads in Indian Trail — Indian Trail Fairview Road, Unionville-Indian Trail Road, Faith Church Road and Wesley Chapel-Stouts/Sardis Church Road. To maintain continuity across US-74 and further alleviate the barrier effect of US-74 on the town, it is recommended that the US-74/New Chestnut Parkway and new Plyler Road/US-74 intersections would become Michigan Left Intersections, as described in Chapter (what chapter?). These connections are important for supporting the revitalization of the district bounded by Chestnut Parkway, Younts Road and Matthews-Indian Trail Road, as shown in Figure 7.10. These connections are described further in Chapter 6.

STALLINGS (FIG. 7.11)

West of US-74 and the new Monroe Bypass, which will be on the current alignment of US-74, a parallel road already exists in Stallings: Matthews-Indian Trail Road. This road will provide a second means of access to the potential redevelopment parcel which will be bounded by the planned McKee Road Extension, the Monroe Bypass and Stallings Road, and the second potential redevelopment parcel which will be bounded by Stallings Road, the Monroe Bypass and Smith Farm Road. Matthews-Indian Trail Road would be upgraded to a 2-Lane Local Street between the new Chestnut Connector and Central Piedmont Community College.

West of the Monroe Bypass, a new 2-Lane Local Street can connect through an anticipated mixed use redevelopment parcel from Stallings Road to the new McKee Road Extension, where it joins Stevens Mill Road. This street would begin at the realigned Union West Boulevard

that will be built as part of the Monroe Bypass project to Stevens Mill Road at the McKee Road Extension. From that point, Stevens Mill Road would be upgraded to a 2-Lane Local Street. Since most of this portion of Stevens Mill Road is in Matthews, some arrangement for that town’s participation in the project would be necessary.

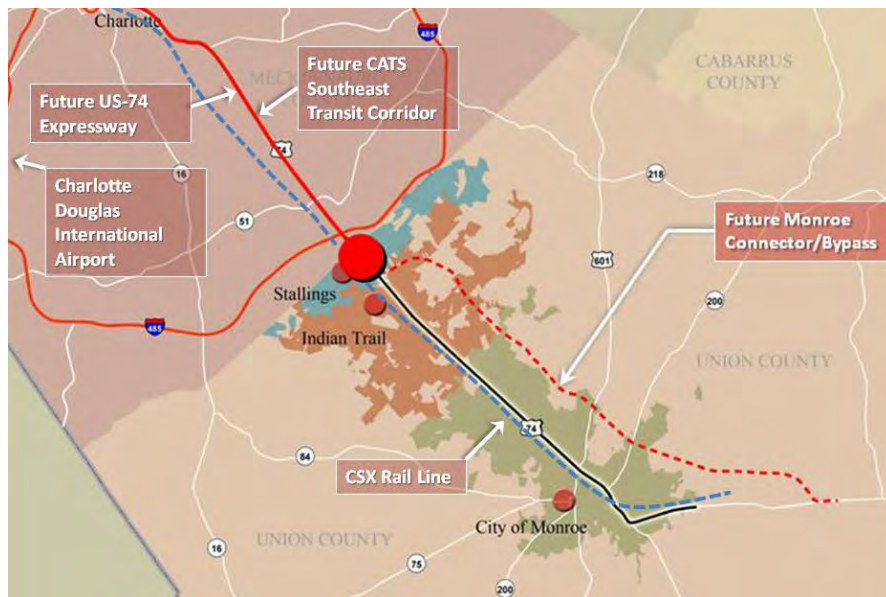
The McKee Road Extension between Matthews-Indian Trail Road and Stevens Mill Road will be built as part of the Monroe Bypass project.



▲ Fig. 7.11 Stallings Parallel Roads

EFFECT OF STALLINGS PARALLEL ROADS

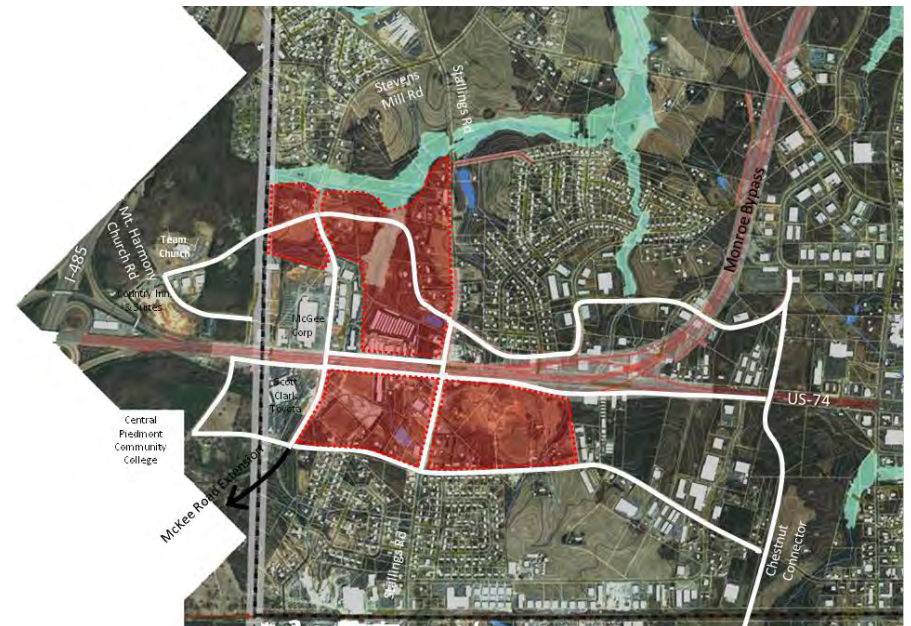
Stallings is located just south of I-485, at the border between Union County and Mecklenburg County, as shown in Fig. 7.12. I-485 is the regional interstate beltway around Charlotte and Mecklenburg County. Charlotte Douglas International Airport is approximately 28 miles and 34 minutes from Stallings via I-485. US-74 in Mecklenburg County is being upgraded by NCDOT to a limited access expressway from Charlotte Center City to I-485. Charlotte Area Transit System (CATS) has adopted a system plan for rapid transit in the US-74 corridor, for either light rail or bus rapid transit. The Monroe Bypass will be a limited access extension of US-74 from I-485 to US-74 in eastern Union



▲ Fig. 7.12 Stallings Regional Location at I-485 and the Monroe Bypass

County, with continuation to the Port of Wilmington. The CSX rail line network connects Charlotte to the Ports of Wilmington, Charleston and Savannah through Stallings. This network of regional and interstate access places Stallings' location at I-485 and the Monroe Bypass in excellent position for significant economic development.

The proposed parallel road network in Stallings will interface with the Monroe Bypass frontage roads and connections to local streets. As shown in Fig. 7.13, this will create substantial redevelopment and development opportunities in this strategic location.



▲ Fig. 7.13 Stallings Parallel Road Network

Chapter 8: TRANSIT

Transit considerations for long-haul or inter-county service in the Stallings/Indian Trail/Monroe corridor have three potential corridors for exploration. For fixed guideway service, the caveat is that the service would have to have a route or alignment available for continuation to high employment concentrations, such as Charlotte's Center City. Consequently, any long-haul transit service in the Union County portion of the US-74 Corridor is dependent on the type and timing of transit service in the Mecklenburg County portion of the US-74 Corridor. While CATS' adopted system plan has a stated preference for bus rapid transit, there is still considerable discussion about other alternatives, such as light rail.

The following discussions on transit in the three corridors are based on the assumption that they would be an extension of transit service from Mecklenburg County.

In each of the three corridors, several different types of transit modes have been considered:

- » Commuter Rail - similar to traditional passenger rail, serving longer commuting trips within the region on its own tracks or tracks shared with freight rail or Amtrak service (Fig. 8.1).



▲ Fig. 8.1 Orlando SunRail Commuter Rail

Chapter 8:
TRANSIT

- » Light Rail (LRT) – smaller electrified vehicles operating as one- to three-car trains on their own tracks, separated from vehicular traffic, but sometimes crossing local streets; one light rail vehicle typically has a passenger capacity that is as much as six times greater than a bus (Fig. 8.2).



▲ Fig. 8.2 Charlotte LYNX Light Rail

- » Bus Rapid Transit (BRT) – larger buses, similar to light rail in appearance and comfort, that can operate either in their own fixed guideway or on streets mixed with vehicular traffic, which gives them more flexibility than light rail (Fig. 8.3).
- » Express Bus – traditional bus vehicles or coach type buses that



▲ Fig. 8.3 Bombardier Bus Rapid Transit Vehicle

operate on streets mixed with vehicular traffic or sometimes in exclusive lanes or high occupancy vehicle lanes (Fig. 8.4). CATS currently operates two express services per day in the US-74 corridor.



▲ Fig. 8.4 CATS Express Bus in a Separate Guideway

- » Local Bus – local bus service can be traditional bus or on-call bus services using smaller vehicles (Figs. 8.5 and 8.6). There currently is no local bus service operating in the US-74 corridor.



▲ Fig. 8.5 CATS Hybrid-Electric Local Bus



▲ Fig. 8.6 CATS Demand-Responsive Transit Vehicle

Chapter 8: TRANSIT

US-74 Corridor

For operation in or adjacent to the US-74 right-of-way, there are three potential transit modes that might come into consideration in the future:

Light Rail Transit (LRT)

The benefit of LRT is that it usually operates in an exclusive fixed guideway, resulting in faster travel time and more reliable service. It has a high passenger capacity because of the ability to add cars. LRT, with supporting market conditions, can be a forceful stimulant for economic development.

The disadvantages in the US-74 Corridor would be that stations would have to be on one side of the road, making it challenging to access the station. That would inconvenience passengers, and limit transit-oriented development (TOD) opportunities. While there are portions of the corridor in which the right-of-way width might accommodate a light rail guideway, the overall fluctuation in the right-of-way width may make it challenging to create a dedicated fixed right-of-way for the entire length from the County line to Monroe. Additionally, the cost to implement and operate LRT is higher than BRT or Express Bus.

Bus Rapid Transit (BRT)

BRT can operate in exclusive lanes when they can be made available, resulting in faster travel time and more reliable service, but it also has the flexibility to travel in mixed traffic and directly serve customers. The vehicles have fairly high passenger capacity. BRT is less expensive to implement than LRT. It can stimulate economic development.

Disadvantages are that the cost to implement and operate BRT is higher than Express Bus. Its passenger capacity is not as great as LRT.

In many cities, it has proven difficult to create TOD opportunities because there is less assurance that the service will always remain in the same corridor. Another disadvantage of BRT is that it often has a social perception of being less attractive than LRT.

Express Bus

Express bus service would be the least expensive of all modes in the US-74 corridor, since it can operate in mixed traffic on existing roads. Express bus sometimes operates in a separate fixed guideway, such as has been built on a portion of US-74 Independence Boulevard in Charlotte, but that increases the cost considerably.

The disadvantages of express bus service are that the passenger capacity is less than BRT and LRT, it is less likely to stimulate economic development than BRT or LRT, and has the lowest TOD potential.

CSX Corridor

Commuter rail service could operate on the existing CSX tracks through Stallings, Indian Trail and Monroe, with sidings at stations, providing peak-hour service in one direction only. LRT would have to operate adjacent to the CSX tracks in order to have the necessary dual tracks and not conflict with CSX freight traffic. BRT would also need a separate guideway. Any of these would require agreements with CSX to operate within their right-of-way and/or share their tracks. CSX has indicated to CATS that they would be unwilling to provide those agreements because this is a very active freight line with active CSX customers on both sides of the CSX right-of-way.

Old Monroe Road/Old Charlotte Road Corridor

Light Rail Transit

LRT in this corridor would be close to the residential commuter base. It could offer great TOD opportunity and be a significant force for placemaking. However, LRT would require significant right-of-way acquisition to operate in a fixed right-of-way. Traffic impact on cross-streets due to the need for traffic signal pre-emption, on an already highly congested roadway, would also be substantial.

Bus Rapid Transit

BRT would also be close to the residential commuter base and, generally, be less expensive to implement than LRT. BRT is most effective when it operates in exclusive lanes, resulting in faster travel time and more reliable service. In the Old Monroe Road/Old Charlotte Highway corridor, this would require significant right-of-way acquisition, but possibility not as much as LRT. It also has flexibility to travel in mixed traffic and directly serve customers, but significant delay in service could occur.

Express Bus

Express bus would be the least expensive of all modes, and could operate in mixed traffic when this roadway is widened to four lanes. It is close to the residential commuter base, and could offer an alternative to or a supplement to express bus service in the US-74 corridor. Express bus service is less likely to stimulate economic development than BRT or LRT.

Chapter 9: LAND USE TYPOLOGIES

OVERALL APPROACH

Land use and transportation are intimately linked. All the people and goods moving on the country's transportation infrastructure start from somewhere and are going somewhere. Those "somewheres" represent land uses, whether residential, retail, industrial, recreational or any other use. Land uses are the origins and the destinations that feed the transportation network. Conversely, transportation is the linkage that enables people and goods to move from one land use to another.

This connection influences corridor planning in several ways:

- » Anticipation of traffic levels
- » Vehicle miles traveled (VMT)
- » Appropriate design speeds
- » Functional interface (access management)
- » Visual interface (view of the road, view from the road)

In the US-74 corridor, the local governments have responsibility and authority for land use planning and zoning controls, either at the municipal or county levels. NCDOT has responsibility for US-74 and nearly all of the intersecting arterials and collectors. For the corridor to function successfully for mobility and to support the County and municipalities' goals for economic development it is essential that both land use and transportation be addressed through a completely integrated process.

Anticipating Traffic Levels

Even with sophisticated traffic forecasting models, the future is not always what it seems to be. According to the U.S. Census Bureau, the population of the country is anticipated to grow by at least 100 million people by mid-century. That 33 percent increase implies that some parts of the nation will experience explosive growth, and that predictions of future travel demand on roadways will be challenging. Communities planning for growth should be able to provide build out as well as 20-year population capacity data to transportation planners, allowing them to anticipate traffic levels and recommend both mobility and capacity to serve the community well into the future. The implications for both transportation and land use are great. Transportation planning can address overall system mobility, not just roadway capacity. Mass transit proposals can project long-term effectiveness and cost. Future growth patterns can be adjusted to efficiently utilize a transportation system that can actually be funded and built.

The Institute of Traffic Engineers estimates that each household, on a national average, generates about 10 trips per day. Vehicle Miles Traveled (VMT) grows at an even greater rate than Average Annual Daily Traffic (AADT). For example, one research study found that during the 1990s, North Carolina's VMT increased at a rate 2.5 times greater than its population growth, as well as to provide a safe environment for pedestrians, bicycles and vehicles.

This additional pressure on roadways can be managed to an extent by land use planning strategies. Research has shown that compact growth patterns result in shorter vehicle trips, with a small percentage of trips being converted to pedestrian and bicycle travel—all contributing to less VMT and less pressure to build more roads.

Chapter 9: LAND USE TYPOLOGIES

Appropriate Design Speeds

Since roads generally pass through a variety of land uses, a constant design speed is not always appropriate. Design speeds in these situations should be evaluated to achieve an acceptable balance between serving through traffic and responding appropriately to adjacent land use.

Functional Interface

The interface between roads and land use affects all manner of modes and functions — vehicular and bicycle use of the road, pedestrian movement along and across the road, and the viability of the land use entities along the road. Appropriate access management helps facilitate the coordinated operations of both roadways and their adjoining land uses, and can help increase capacity and safety of roadways. When access management is considered in conjunction with medians and landscape strips between the road and sidewalks, it also provides opportunities for planting and other streetscape treatments that enhance stormwater management, air quality, temperature moderation, shade for health and the aesthetic environment.

Noise Interface

Land use planning can prevent or minimize noise impacts on residences or other noise-sensitive land uses. Providing buffers between roadways and noise-sensitive land uses avoids the need for the expense of noise barriers, and can avoid or minimize complaints from neighborhoods regarding traffic noise. Buffers might consist of intervening land uses that are not noise-sensitive, landforms or berms, or vegetative buffers.

Visual Interface

Roads and land use are also inextricably linked in the realm of aesthetics and visual quality. Often expressed as the “view from the road” and “view of the road,” planning for roads that are aesthetically compatible with their settings can result in higher overall environmental quality. Thoughtful placement of land use or civic design elements can enhance the view from the road. Aesthetic enhancement of the road through landscape and streetscape elements, including retaining existing vegetation, can result in an enhanced view of the road. Neither of these approaches needs to be expensive.

Integrating land use and transportation requires coordination beyond the planning and design phase. Local governments must have a long-term commitment to their land use plans so that transportation systems continue to serve them well. Communities must also make an ongoing commitment to maintaining landscape or streetscape enhancements and to maintaining access management strategies. The US-74 Corridor implementation strategies will include the potential of memoranda of understanding, intergovernmental agreements, or public-private partnerships to ensure that both the land use and the Corridor transportation systems succeed in the long term.

US-74 Approach

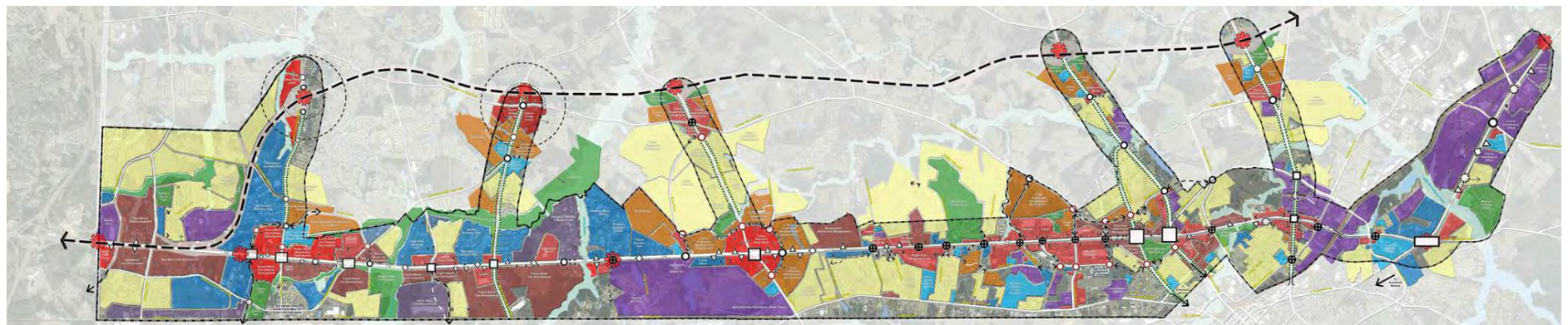
A great deal of the existing land use along the US-74 Corridor is retail, with business parks and industrial uses also prominent. Retail uses cause land use/transportation conflict more than any other use, so much of the strategy for the Corridor is to reorganize land uses over the long term to help alleviate much of the conflict.

This strategy emphasizes reorganizing Corridor retail from its current predominantly linear pattern to more of a nodal structure. The application of the Land Use Typologies identifies crossroads locations for clustered retail uses, and identifies a potential hierarchy of retail venues — Regional, Neighborhood and Local. Restructuring the retail strip development should help to allow investments and re-investments by property owners, developers and communities, resulting in a mutually beneficial relationship.

Hierarchy of Centers

Regional centers are proposed in Stallings at the new Monroe Bypass exit, in Indian Trail between the new Chestnut Parkway and Unionville-Indian Trail Road, in Monroe at Rocky River Road, and in Monroe between Hanover Drive and Concord Avenue. Neighborhood centers are proposed at three of the new exits from the Monroe Bypass — Indian Trail-Fairview Road, Unionville-Indian Trail Road

and Rocky River Road. Local centers are proposed in Indian Trail at Faith Church Road, and in Monroe at Poplin Place and between Skyway Drive and Stafford Street. These centers are described further in the US-74 Application of Typologies chapter. Figure 9.1 shows a proposed generalized land use map of the US-74 corridor.



▲ Fig. 9.1 Generalized Land Use Map of the US-74 Corridor

CENTERS

Regional Center

A regional center, also sometimes referred to as a gateway center or town center, is typically a gathering place or focal point of the community and can be bigger in scale than a neighborhood mixed-use center. A successful regional center helps define a unique role and identity for a community within the larger regional context. It is more than a place to do convenience shopping. The form, layout and design of a main street/town mixed-use center places more emphasis on pedestrian amenities, such as sidewalks, pedestrian lighting, plazas, pocket parks and entertainment.

Buildings are typically located closer to the street with parking either on-street or behind the building. Also, regional centers provide amenities for bicyclists, pedestrians and transit that are incorporated into the streetscape. The mix of uses could include arts and entertainment, office space, retail, food services, business service uses, parks, libraries and places of worship. The geography of this place type is scalable.

Some excellent examples of regional centers in the Charlotte metropolitan area are Birkdale Village in Huntersville (Fig. 9.2 and 9.3) and Promenade on Providence in south Charlotte (Figs. 9.4, 9.5 and 9.6).

Residential Density	12 - 20 du/ac
FAR	0.75 - 1.5
Site Efficiency Factor	1.0
Percent Distribution of Uses	
% Residential acreage	20%
% Retail acreage	35%
% Office acreage	40%
% Institutional acreage	5%

Examples: Birkdale Village, Huntersville, NC; Promenade on Providence, Charlotte, NC

Note: The density and distribution of uses are suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.2 Birkdale Village, Huntersville, NC



▲ Fig. 9.3 Birkdale Village Aerial Photograph



▲ Fig. 9.4 Promenade on Providence, Charlotte, NC



▲ Fig. 9.5 Promenade on Providence Entertainment



▲ Fig. 9.6 Promenade on Providence Aerial Photograph

Chapter 9:
LAND USE TYPOLOGIES

Neighborhood Center

Neighborhood centers, sometimes also referred to as a village center or mixed-use center, is a distinct place that could be a part of any community that contains a planned mix of uses that meets the daily needs of area residents. The physical form, layout and design emphasize pedestrian amenities, such as sidewalks, plazas and neighborhood green, as well as pedestrian scaled architecture and urban design. The mixed use center is compact in scale and could include convenience retail, food services, business service uses, parks and public uses. Pedestrian linkages to surrounding residential uses are vital for it to function as a true Pedestrian-Oriented Mixed Use Center. The geography of this place type is scalable.

Residential Density	8 - 12 du/ac
FAR	1.75
Site Efficiency Factor	0.85
Percent Distribution of Uses	
% Residential acreage	20%
% Retail acreage	40%
% Office acreage	30%
% Institutional acreage	10%
Examples: Baxter Village Center, Fort Mill, SC (Figs. 9.7 and 9.8); Phillips Place, Charlotte, NC (Figs. 9.9 and 9.10)	

Note: The density and distribution of uses are suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



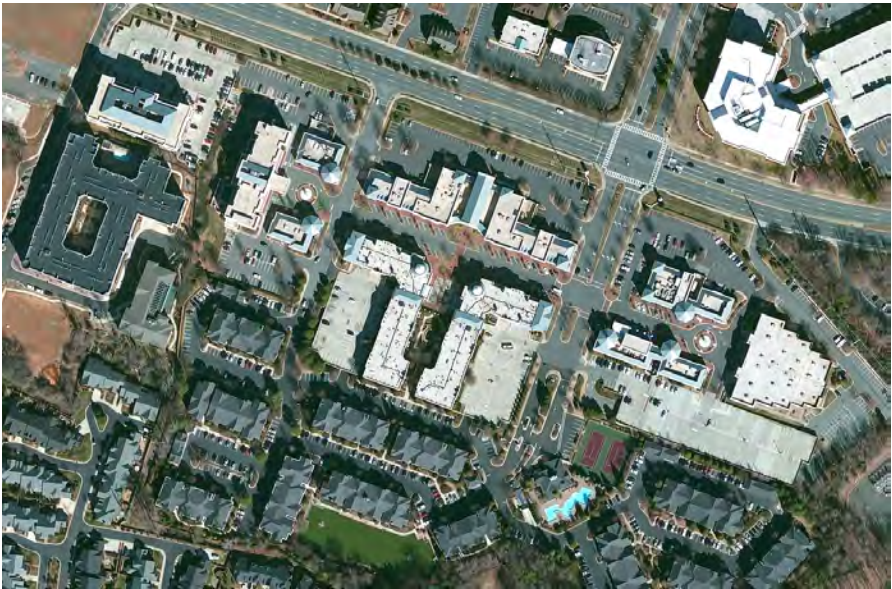
▲ Fig. 9.7 Baxter Village, Fort Mill, SC



▲ Fig. 9.8 Baxter Village Aerial Photograph



▲ Fig. 9.9 Phillips Place, Charlotte, NC



▲ Fig. 9.10 Phillips Place Aerial Photograph

Chapter 9:
LAND USE TYPOLOGIES

Local Retail Centers

Traditional retail along US-74 has been more “strip commercial” development that is primarily accessible by automobile. This type of development is traditionally set back from the road and has little or no pedestrian or bicycle connectivity. Newer retail development is occurring that is more pedestrian-friendly with access from surrounding residential areas. While much of the retail development in the US-74 Corridor consists of established business that are unlikely to change, the US-74 strategy proposed to encourage the emergence of more retail into local retail centers through driveway consolidation and Multiway Boulevards.

Residential Density	8 - 12 du/ac
FAR	0.25 - 0.5
Site Efficiency Factor	0.60
Percent Distribution of Uses	
% Residential acreage	5%
% Retail acreage	75%
% Office acreage	15%
% Institutional acreage	5%

Examples: Poplin Place, Monroe, NC (Fig. 9.12); Rosedale Shopping Center, Huntersville, NC (Fig. 9.11)

Note: The density and distribution of uses are suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.11 Rosedale Shopping Center, Huntersville, NC



▲ Fig. 9.12 Poplin Place, Monroe, NC

BUSINESS/EMPLOYMENT, INDUSTRIAL AND CIVIC/ INSTITUTIONAL

Business / Employment

Employment centers are developments on a large tract of land that are typically designed, planned and constructed on an integrated and coordinated basis. They primarily contain a number of separate businesses and offices with accessory and supporting uses, and common open space. They preferably should have access to commercial centers and recreational opportunities for employee support.

Residential Density	NA
FAR	0.30
Site Efficiency Factor	0.70
Percent Distribution of Uses	
% Industrial acreage	15%
% Office acreage	65%
% Retail acreage	15%
% Institutional acreage	5%

Examples: Old Hickory Business Park, Indian Trail, NC (Fig. 9.13); Presbyterian Medical Center, Monroe, NC (Fig. 9.14); Ballantyne Business Park, Charlotte, NC (Fig. 9.15)

Note: The density and distribution of uses are suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.13 Old Hickory Business Park, Indian Trail, NC



▲ Fig. 9.14 Presbyterian Medical Plaza, Monroe, NC



▲ Fig. 9.15 Ballantyne Business Park, Charlotte, NC

Industrial

Industrial parks or industrial areas are portions of a city or town that are designated land uses characterized by production, manufacturing, distribution or fabrication activities. These areas typically have large amounts of truck and trailer traffic, and some have access to rail freight transport. Some industrial developments also have noise and pollution that should be carefully considered in location criteria. These developments typically require large tracks of land with convenient access to railroads and major thoroughfares. It is highly desirable for these uses to have large buffers to minimize impacts to adjacent properties.

Residential Density	NA
FAR	0.25
Site Efficiency Factor	0.70
Percent Distribution of Uses	
% Industrial acreage	75%
% Office acreage	20%
% Retail acreage	5%
% Institutional acreage	0%

Examples: Wilburn Auto Body, Monroe, NC (Fig. 9.16); Hanson Brick Company, Indian Trail NC (Fig. 9.17); L.B. Davis Industries, Monroe, NC (Fig. 9.18)

Note: The density and distribution of uses are suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.16 Wilburn Auto Body, Monroe, NC



▲ Fig. 9.17 Hanson Brick Co., Indian Trail, NC



▲ Fig. 9.18 L. B. Davis Industries, Monroe, NC

Chapter 9:
LAND USE TYPOLOGIES

Civic and Institutional

Civic/institutional are nonprofit or quasi-public use, such as a religious institution, library, public or private school, hospital or government-operated structure or land used for public purpose. These uses could be integrated with other uses such as residential neighborhoods, regional centers or neighborhood centers to create a desirable community.

Residential Density	NA
FAR	0.30
Site Efficiency Factor	0.70
Percent Distribution of Uses	NA

Examples: Indian Trail Presbyterian Church, Indian Trail NC (Fig. 9.19); Poplin Elementary School, Indian Trail, NC (Fig. 9.20); Sun Valley High School, Indian Trail, NC (Fig. 9.21); Carolinas Medical Center Union, Monroe, NC (Fig. 9.22)

Note: The density of uses is suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig 9.19 Indian Trail Presbyterian Church, Indian Trail, NC



▲ Fig. 9.20 Poplin Elementary School, Indian Trail, NC



▲ Fig. 9.21 Sun Valley High School, Indian Trail, NC



▲ Fig. 9.22 Carolinas Medical Center Union, Monroe, NC

RESIDENTIAL

Single-Family Residential

These are low- to medium-density residential developments that typically surround a downtown area or other more intense, urban areas of the city. Single-family residential uses are primarily comprised of single-family detached houses or attached town houses. Access to institutional use such as religious institutions and schools, parks and recreational amenities, and neighborhood retail are important location considerations.

Residential Density	0.5 - 5 du/ac
FAR	NA
Site Efficiency Factor	0.30
Percent Distribution of Uses	
% Residential acreage	100%
% Retail acreage	0%
% Office acreage	0%
% Institutional acreage	0%

Examples: Bonterra, Indian Trail, NC (Figs. 9.23 and 9.24); Brandon Oaks, Indian Trail, NC (Fig. 9.25)

Note: The density of uses is suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.23 Bonterra, Indian Trail, NC



▲ Fig. 9.24 Bonterra, Indian Trail, NC

High-Density Residential

High-density residential refers to single-family detached subdivisions of seven units per acre and more. It can also refer to a variety of attached housing types, including townhouses, condominiums or rental apartments. High-density residential uses tend to be located closer to town centers or mixed uses, and provide a buffer between single-family uses. Quality architectural design and amenities as well as access to parks and recreational amenities and commercial centers are important location considerations.



▲ Fig. 9.25 Brandon Oaks, Indian Trail, NC

Residential Density	7 - 18 du/ac
FAR	0.50 - 0.75
Site Efficiency Factor	0.80
Percent Distribution of Uses	
% Residential acreage	85%
% Retail acreage	5%
% Office acreage	5%
% Institutional acreage	5%

Example: First Ward, Charlotte, NC (Figs. 9.26 and 9.27); Coventry Commons, Mint Hill, NC (Fig. 9.28)

Note: The density of uses is suggested and could vary depending on the location and individual characteristics of the actual development or situation. The site efficiency factor reflects the amount of land on the site that can actually be used for development.



▲ Fig. 9.26 First Ward, Charlotte, NC



▲ Fig. 9.27 First Ward, Charlotte, NC

PARKS, RECREATION AND OPEN SPACE

Parks & Recreation

Recreation/open space is land that is open for public use for recreational activity (Figs. 9.29 and 9.32). This land can be used for active or passive recreation. Active recreation includes ball fields, basketball courts, tennis, etc. (Fig. 9.30). Passive recreation could include walking, jogging, hiking, picnicking, etc. (Fig. 9.31).

Recreation/open space can also include land that is protected or preserved for environmental reasons, such as the protection of endangered species or water quality.

Parks, recreation and open space can be a potential catalyst for attracting residential and commercial development.



▲ Fig. 9.28 Coventry Commons, Mint Hill, NC



▲ Fig. 9.29 Park Shelter



▲ Fig. 9.30 Edna Love Park, Indian Trail, NC



▲ Fig. 9.31 Greenway Trail



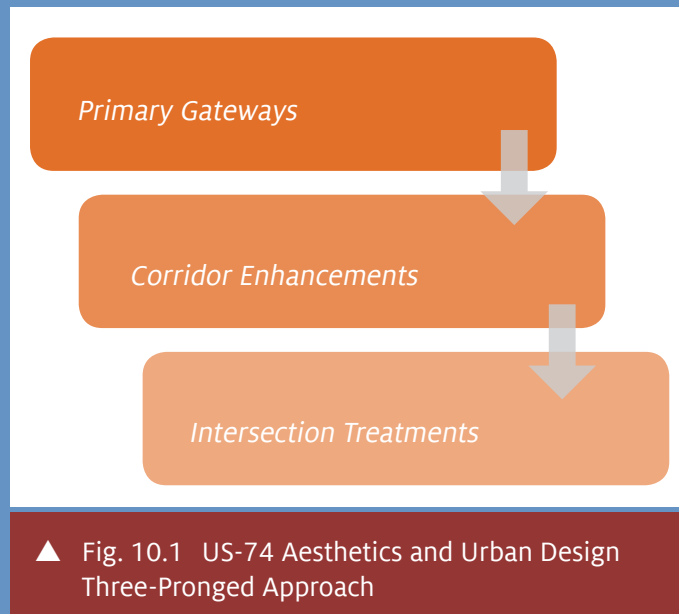
▲ Fig. 9.32 Stallings Park Playground, Stallings, NC

Chapter 10: AESTHETICS AND URBAN DESIGN

AESTHETICS AND URBAN DESIGN STRATEGY

The US-74 Corridor Aesthetics and Urban Design Strategy is based on a three-pronged approach to improvements primarily within the public right-of-way (Fig. 10.1):

- » Emphasis on notable gateways into the corridor and each of its communities,
- » Aesthetic enhancement of the linear corridor stretches of US-74, and
- » Aesthetic treatments of major intersections.



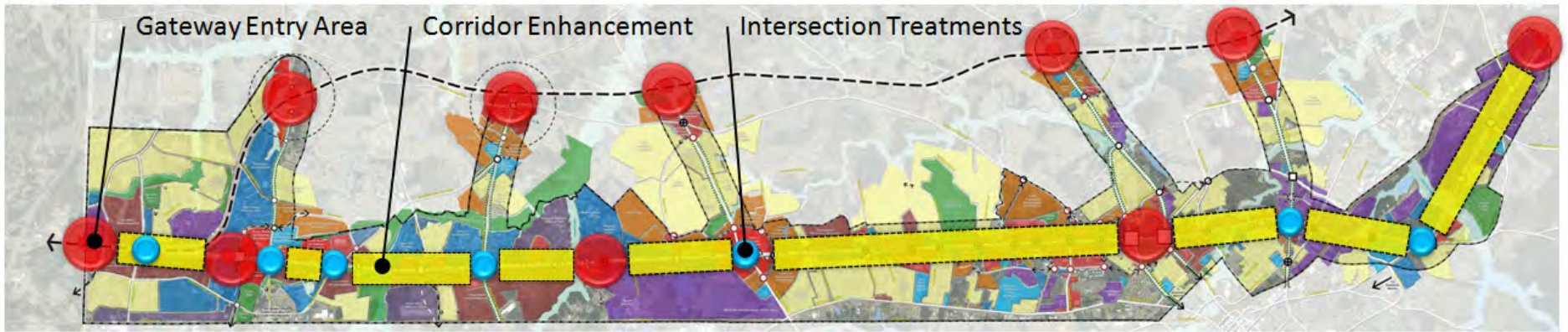
Gateway entry areas are proposed along US-74 at the Stallings exits/entrances to the Monroe Bypass at the new Chestnut Parkway intersection at the border between Indian Trail and Stallings; the boundary between Indian Trail and Monroe; the Skyway Drive (US-601) and Concord Avenue bridges in Monroe; and the Monroe city limits at the eastern end of the corridor. Gateway entry areas are also proposed at each of the following exits/entrances to the Monroe Bypass — Indian Trail-Fairview Road in Indian Trail; Unionville-Indian Trail Road in Indian Trail; Rocky River Road in Monroe; US-601 Concord Highway in Monroe; and Morgan Mill Road in Monroe.

Corridor enhancements on US-74 are proposed at all of the stretches between gateway entry areas and major intersections.

Major intersection aesthetic treatments are proposed at:

- » Stallings Road in Stallings;
- » Indian Trail-Fairview Road, Unionville-Indian Trail Road, and Wesley Chapel-Stouts/Sardis Church Road in Indian Trail; and
- » Rocky River Road, Morgan Mill Road, and US-601/Pageland Highway in Monroe.

The overall Aesthetics and Urban Design Strategy for the US-74 Corridor is shown in Figure 10.2.



▲ Fig. 10.2 Aesthetics and Urban Design Strategy

GATEWAY TREATMENTS

Gateway treatments can be integrated into the US-74 right-of-way as part of roadway or intersection improvements, or can be implemented outside the right-of-way at any time, as long as they are unlikely to be disturbed by future roadway construction. They can be as simple or elaborate as the local community desires. In any event, there are several principles that should be considered when designing a community gateway.

Gateway monuments should clearly identify the jurisdiction/area that motorists are entering into. Supplemental landscaping should complement the structure, but not reduce the visibility of the sign/structure. Gateway elements should be properly illuminated for visibility at night (Fig. 10.3 and 10.4).



▲ Fig. 10.3 Gateway Monument Example



▲ Fig. 10.4 Gateway Illuminated for Visibility at Night

The median along US-74 can be enhanced with ornamental grasses and other low-level landscaping to supplement the gateway elements. Banners can allow the municipalities to celebrate their history and annual events (Figs. 10.5 and 10.6).

Monroe Bypass Aesthetics Design Guide

The North Carolina Turnpike Authority (NCTA) and NCDOT have proposed an excellent Aesthetic Design Guide for the Monroe Bypass. Implementation of this design guide will provide very notable gateways at the Bypass exits and at Stallings Road (Figs. 10.7, 10.8, 10.9 and 10.10).



▲ Fig. 10.5 Median with Ornamental Grasses and Groundcovers



▲ Fig. 10.6 Banners and Ornamental Plantings



▲ Fig. 10.7 Monroe Bypass Bridge over Stallings Road



▲ Fig. 10.8 Local Road Bridge over Monroe Bypass

Chapter 10:
AESTHETICS AND URBAN DESIGN



▲ Fig. 10.9 Local Road Bridge over Monroe Bypass



▲ Fig. 10.10 Intermediate Monroe Bypass Bridge over Local Road

Bridge Enhancements

The Concord Avenue and Skyway Drive bridges over US-74 in Monroe are old, in poor condition and will need replacement soon. These two roads are major gateways into downtown Monroe and adjacent Monroe neighborhoods. Aesthetic design can either be an integral part of the bridge itself, as shown in Fig. 10.11 from Washington, DC, or can be physically separate from the bridge structure, as in Fig. 10.12 from Kansas City. In either approach, they should be designed to fit the local context in Monroe, and should include pedestrian, bicycle and lighting facilities.



▲ Fig. 10.11 Bow Arch Bridge with Sidewalks and Bicycle Lanes



▲ Fig. 10.12 77th Street Bridge, Bruce R. Watkins Drive, Kansas City, MO

CORRIDOR ENHANCEMENTS

Corridor enhancements along the US-74 are linear in nature. Pedestrian and bicycle accommodations are an integral part of the US-74 roadway typologies. While the enhancements should be adapted to each community, and even to various segments of the corridor within each community, a degree of consistency in aesthetic themes is important to create a meaningful visual impact (Figs. 10.13 and 10.14). This effect can be created through three basic elements:

- » Improving corridor aesthetics with canopy trees and ornamental landscaping;
- » Improving street/pedestrian lighting with decorative street lighting near major intersections, and
- » Improving local signage ordinances to reduce visual clutter.

Signage, Public Art, Street Furniture

Signage, public art and street furnishings all can be used to create distinctive corridor aesthetic. They can:

- » Orient pedestrians and motorists,
- » Create a pedestrian environment that encourage people to use other modes, and
- » Create a sense of community through the corridor.

Way finding signage identifies routes, commercial districts, transit facilities, historic sites, recreation and other points of interest.



▲ Fig. 10.13 Wayfinding Signage Integrated with Street Lighting



▲ Fig. 10.14 Banners Integrated with Street Lighting

Chapter 10:
AESTHETICS AND URBAN DESIGN

Public art and plazas can be installed in the public right-of-way, as well as in private developments (Figs. 10.15 and 10.16). Art installations should be cohesive in design with the community identity and not detract from gateways and wayfinding signage. Plazas should be located where they can be readily accessed and utilized for passive activity and/or community events.



▲ Fig. 10.15 Public Art – Steel Railing, Camelback Road, Phoenix, AZ.
Barbara Grygutis



▲ Fig. 10.16 Public Art – Carven Limestone Fountain, Houston, Texas.
Brad Goldberg.

Street furniture elements can incorporate identity logos or motifs into site furnishings, such as benches, trash receptacles, street lights and bus stops within the public right-of-way. Street furnishings should provide a coherent palette that can be readily incorporated throughout the corridor (Fig. 10.17).



▲ Fig. 10.17 Examples of Street Furnishings

Landscaping

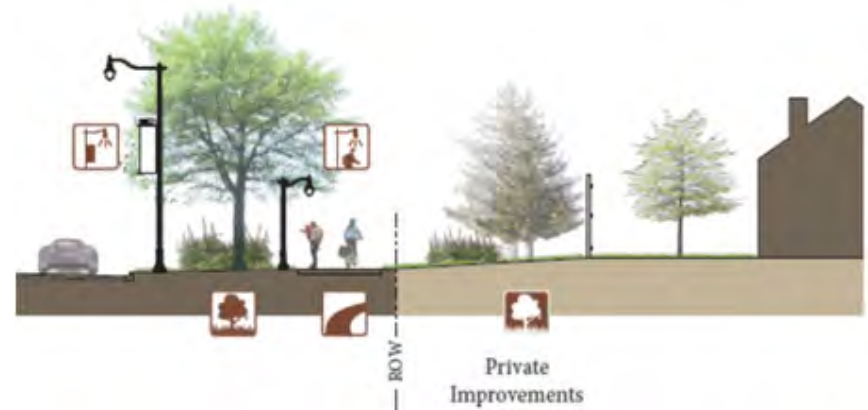
Landscaping provides an essential relief to the pavement and featureless environment of roadway environments. It has potential environmental benefits, such as shade, oxygen regeneration and bioremediation of stormwater runoff, and also provides significant aesthetic qualities, such as:

- » Sense of scale,
- » An enjoyable and comfortable pedestrian environment, and
- » Low impact development with minimum impact to the natural environment.

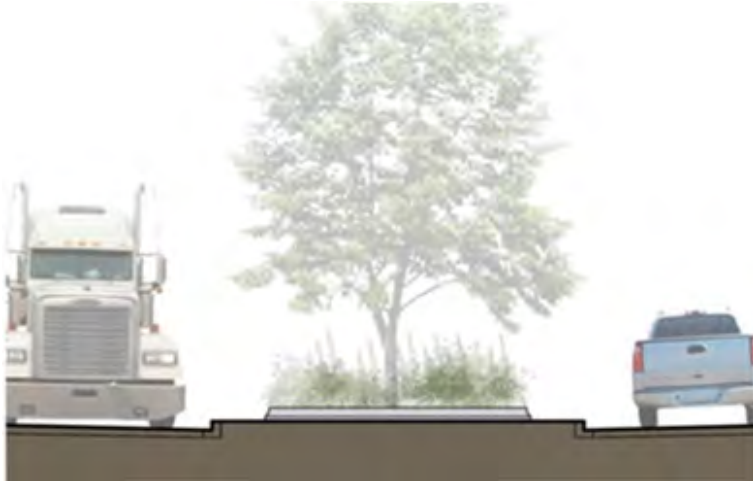
Landscaping can also integrate well with signage, public art and street furniture, as shown in Figures 10.18, 10.19, 10.20, 10.21 and 10.22.



▲ Fig. 10.18 Enhanced Corridor with Canopy Trees



▲ Fig. 10.19 Coordinate Roadway Landscape with Adjacent Properties



▲ Fig. 10.20 Where Space Permits, Supplement Median Trees with Low Plantings



▲ Fig. 10.21 Streetscape with Planted Bioswale



▲ Fig. 10.22 Example of Landscape Creating a Sense of Scale in a 200 ft. Right-of-Way

INTERSECTION TREATMENTS

Major intersections are important landmarks within the corridor, and should have aesthetic and urban design enhancements for driver and passenger orientation for encouragement of private property enhancements by owners, as well as pedestrian safety and comfort. The US-74 Corridor recommendations for major intersection treatments are:

- » Provide vehicular wayfinding signage at all major intersections,
- » Improve aesthetics of intersection with landscaping, lighting and ornamental landscaping,
- » Enhance street signage to make more visible to motorists and supplement with key identifying plaque, and
- » Enhance pedestrian accessibility.

The medians at major intersections should be enhanced with low level shrubs, ornamental grasses, groundcovers and perennial flowers. The corners of intersections can be defined with ornamental trees, such as crape myrtles. Enhanced crosswalks with special pavement markings, such as colorized stamped asphalt or high visibility crosswalks will improve pedestrian visibility and safety. In coordination with the crosswalks, provide pedestrian refuges or similar protection across US-74 and pedestrian countdown timers.

Intersection safety and function can be improved by relocating existing street signage so that it is more visible to motorists. In the long term, it is recommended that traffic signals be improved with mast arms at major intersections. Corridor identification plaques can be incorporated into mast arms or street signage.

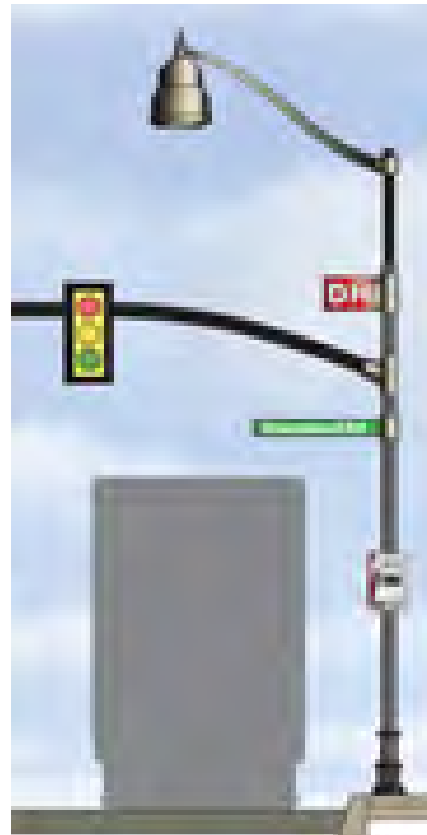
Examples of intersection treatments and elements are shown in Figs. 10.23, 10.24, 10.25 and 10.26.



▲ Fig. 10.23 Intersection Enhancement Plan



▲ Fig. 10.24 Mast Arm Identity Plaque



▲ Fig. 10.25 Traffic Signal Mast Arm with Street Signage



▲ Fig. 10.26 Example of Pedestrian Refuge Island

VEGETATION

Vegetation adds great benefits to the roadway environment. It is extremely important that maintenance agreements and responsibilities be in place before a planting program is undertaken. NCDOT has developed Guidelines for Planting within Highway Right-of-Way that addresses safety and placement issues, and should be used in conjunction with the roadway typologies for US-74 plantings. The Guidelines also provide a palette of plant materials that are appropriate, and should be consulted, for US-74 Corridor plant materials. Professional landscape architectural and/or horticultural advice is strongly recommended for selecting appropriate plant materials. Examples of appropriate vegetation are shown in Figs. 10.27, 10.28, 10.29, 10.30 and 10.31.



▲ Fig. 10.27 Examples of Canopy Trees



▲ Fig. 10.28 Examples of Ornamental Trees



▲ Fig. 10.30 Examples of Ornamental Grasses



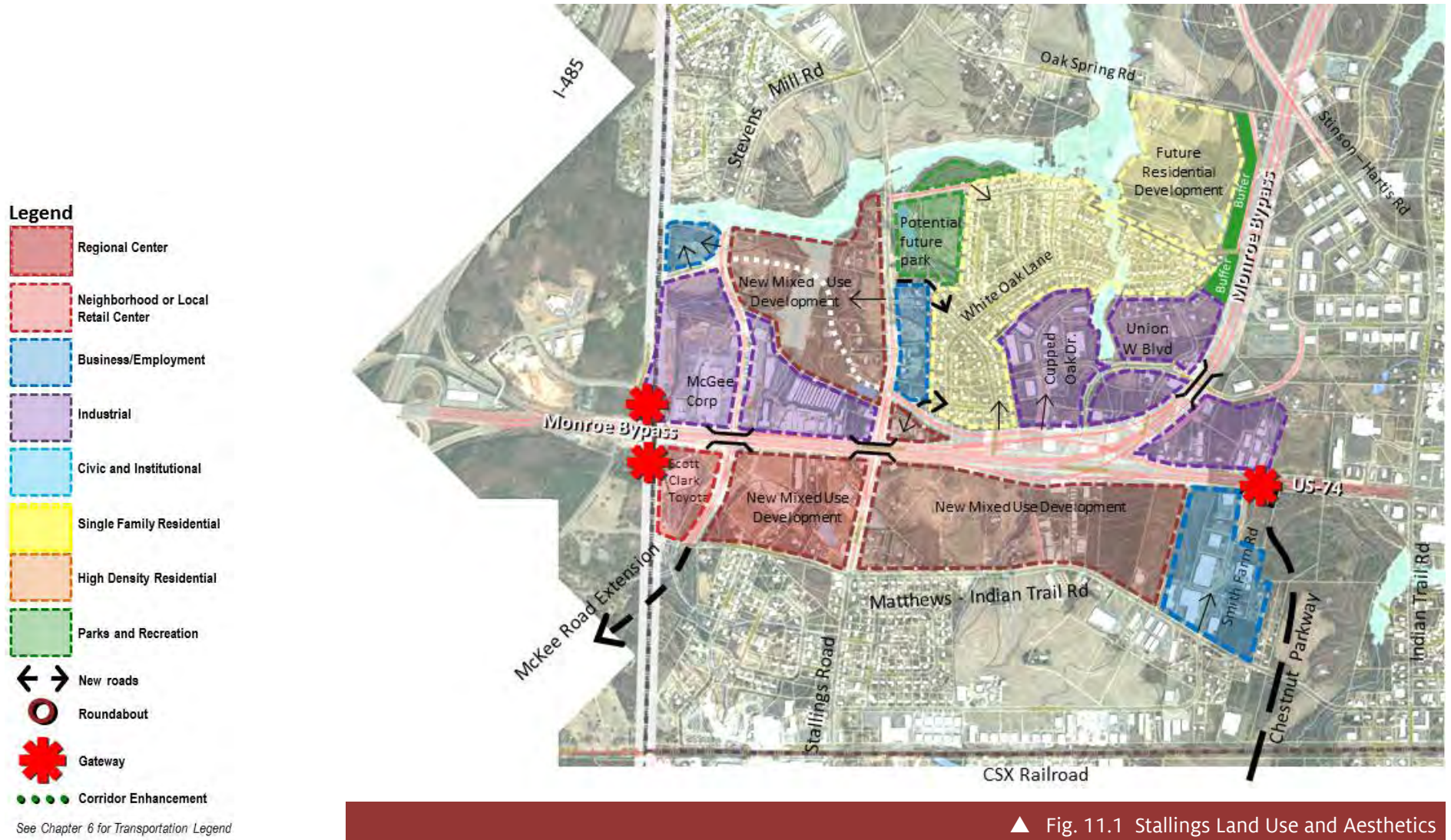
▲ Fig. 10.29 Examples of Shrubs



▲ Fig. 10.31 Examples of Groundcovers

Chapter 11: LAND USE AND AESTHETICS APPLICATION

The land use typologies for the US-74 Corridor are drawn primarily from the land use plans of the three municipalities — Stallings, Indian Trail and Monroe. New recommendations to adapt to the construction of the Monroe Bypass and the US-74 Corridor plan have been made when the municipalities' currently adopted plans do not reflect those coming changes. Aesthetics opportunities have been recommended to help create a corridor that is attractive for residents and that aids in economic development aspirations of the County and the municipalities. The application of land use typologies and the aesthetics and urban design strategy are described in this chapter for each segment and sub-segment of the US-74 Corridor from the Union County line at Stallings to the Monroe City Limits at the eastern end of the corridor.



▲ Fig. 11.1 Stallings Land Use and Aesthetics

Union County Line to Stallings Road (Fig. 11.1)

This sub-segment of the Corridor is predominantly suburban in character. The future anticipated or desired character is to be more urban.

The current land use is mostly Commercial/Retail and Industrial, with some single-family residential.

The future desired land use will be Mixed Use destination oriented uses, such as retail/commercial, light industrial, office, hotel and high-density residential along the US-74/Monroe Bypass Connector, with the potential for more vertical mixed use. Land uses will be oriented toward local streets, such as McKee Road Extension and Stallings Road. There will be single-family residential along Stallings Road, White Oak Lane and Stevens Mill Road with potential greenway and park development.

Landscaping and pedestrian lighting will be needed for the local road underpasses at Stallings Road and McKee Road Extension under the Monroe Bypass. A Gateway element should be located near Commerce Drive to create a sense of arrival into Stallings and Union County. This gateway element could be a joint effort between Stallings and Union County. Coordination with NCTA will be required on urban design and aesthetic improvements for underpasses, to enhance their distinctive aesthetic design guidelines with additional frontage road landscaping (Figs. 11.2 and 11.3).



▲ Fig. 11.2 Monroe Bypass at Stallings Road



▲ Fig. 11.3 Example of Supplemental Landscaping on Freeway Frontage Road

Stallings Road to Smith Farm Road (Fig. 11.1)

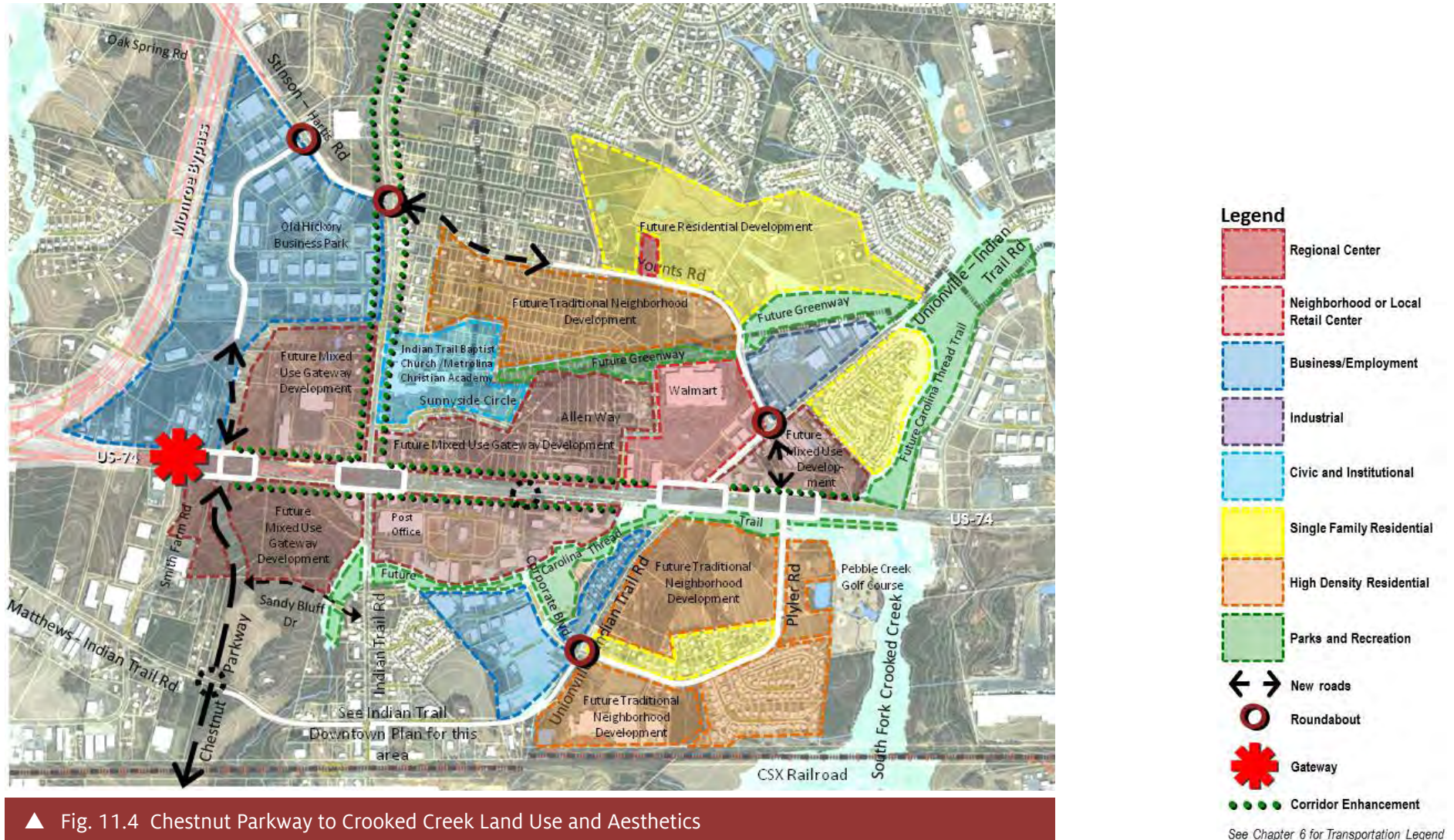
This sub-segment is predominantly suburban in character and is expected to remain suburban.

Current land use is commercial and industrial along US-74 with some single family residential on the north side of US-74.

Future land uses are anticipated to be Mixed Use destination oriented uses, such as retail/commercial, light industrial, business/office, hotel and high-density residential along US-74/Monroe Bypass. Land uses will be oriented toward local streets, including Matthews-Indian Trail Road, Stallings Road and Smith Farm Road. There is the potential for single-family residential along Stallings Road with potential greenway and park development east of Stallings Road on the north side of US-74.

Landscaping and pedestrian lighting will be necessary for the Stallings Road underpass of the Monroe Bypass. The new intersection of Chestnut Parkway with US-74 will be a community gateway for both Stallings and Indian Trail. Each community should have a distinct identity at this gateway, but the designs should be carefully coordinated. Coordination with NCTA will be required on urban design and aesthetic improvements affecting the Bypass (Figs. 11.2 and 11.3).

INDIAN TRAIL - CHESTNUT PARKWAY TO CROOKED CREEK



▲ Fig. 11.4 Chestnut Parkway to Crooked Creek Land Use and Aesthetics

Chapter 11:
LAND USE AND AESTHETICS APPLICATION

Smith Farm Road to Indian Trail Road (Fig. 11.4)

This segment of Indian Trail is currently suburban in character. With the Town's plan for future development, it is anticipated to become more urban.

Current land use is predominantly retail along US-74 at Indian Trail Road with Business/Office along the west side of Smith Farm Road. There is some residential on the east side of US-74. Future development is anticipated to be mixed use walkable residential, retail and office development, along with office/employment uses with supporting retail. This is expected to become a Town Center type of development. Land uses will be oriented toward local streets, including Chestnut Parkway and the potential extension of Chestnut Parkway to Indian Trail-Fairview Road.

Street trees, lighting, wayfinding signage and street furnishings on US-74 will create a boulevard road typology. Ornamental trees and ground cover in the median near intersections will help reinforce the Indian Trail identity. A gateway element at Chestnut Parkway/US-74 and Indian Trail-Fairview Road/Monroe Bypass Connector will create a sense of arrival into Indian Trail, and can celebrate the history of the Town and its family-oriented lifestyle. The new intersection of Chestnut Parkway with US-74 will be a community gateway for both Stallings and Indian Trail. Each community should have a distinct identity at this gateway, but the designs should be carefully coordinated.

Indian Trail Road to Crooked Creek (Fig. 11.4)

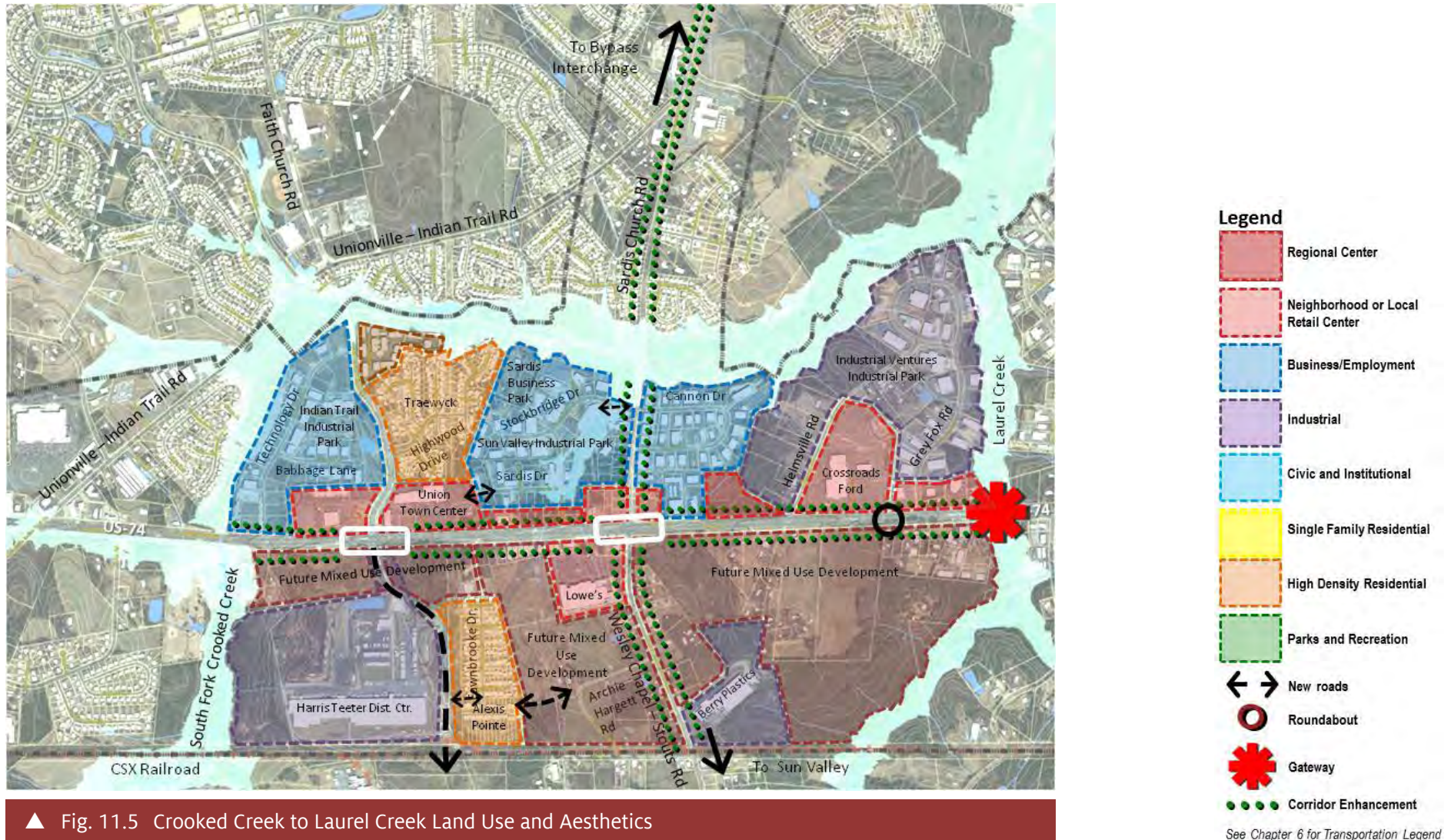
This segment of Indian Trail is currently suburban in character. With the Town's plan for future development, it is anticipated to become more urban.

Existing land use is currently retail along US-74 with Institutional and Business/Office along Unionville-Indian Trail Road and Indian Trail-Fairview Road. There is single-family residential along Plyler Road. Pebble Creek Golf Course borders the eastern edge of this segment

In the future, Town Center development is anticipated near the Indian Trail Road and Unionville-Indian Trail Road intersections, including traditional neighborhood development with high-density residential, retail, business/employment and greenway connectivity along the South Fork of Crooked Creek. The Carolina Thread Trail will connect Crooked Creek to a new park on Chestnut Parkway.

Pedestrian lighting with banners at Indian Trail Road and the future Chestnut Parkway intersections will emphasize corridor aesthetics. Ornamental landscaping at Indian Trail Road and Chestnut Parkway intersection with street trees will also reinforce the corridor aesthetic. There should be wayfinding signage for destinations, such as Crossing Paths Park, downtown Indian Trail and other significant Indian Trail destinations. Building form and orientation should be toward the street to create pedestrian friendly environment with parking behind the buildings.

INDIAN TRAIL - CROOKED CREEK TO LAUREL CREEK



▲ Fig. 11.5 Crooked Creek to Laurel Creek Land Use and Aesthetics

Chapter 11:

LAND USE AND AESTHETICS APPLICATION

Crooked Creek to Wesley Chapel-Stouts Road (Fig. 11.5)

The current setting character is suburban/industrial. Future mixed-use development on the west side of US-74 will change this setting to more suburban.

Current land use in this segment is Commercial/Retail, Business Park, Industrial and Single-Family Residential. Future land use will include Mixed-Use, Business/Employment and Greenway Recreation along US-74. There will be single-family residential along Sardis Church Road and high-density residential with Town Center development at Sardis Church Road/Monroe Bypass Connector interchange.

Pedestrian lighting with banners at Unionville-Indian Trail Road, ornamental landscaping at Unionville-Indian Trail Road and Wesley Chapel-Stouts Road intersections and street trees along US-74 will reinforce the linear corridor aesthetic. There should be wayfinding directional signage for destinations such as the movie theatre, Sun Valley High School, etc. Building form and orientation for future mixed use development on the west side of US-74 should be toward the street to create pedestrian-friendly environment with parking behind the buildings.

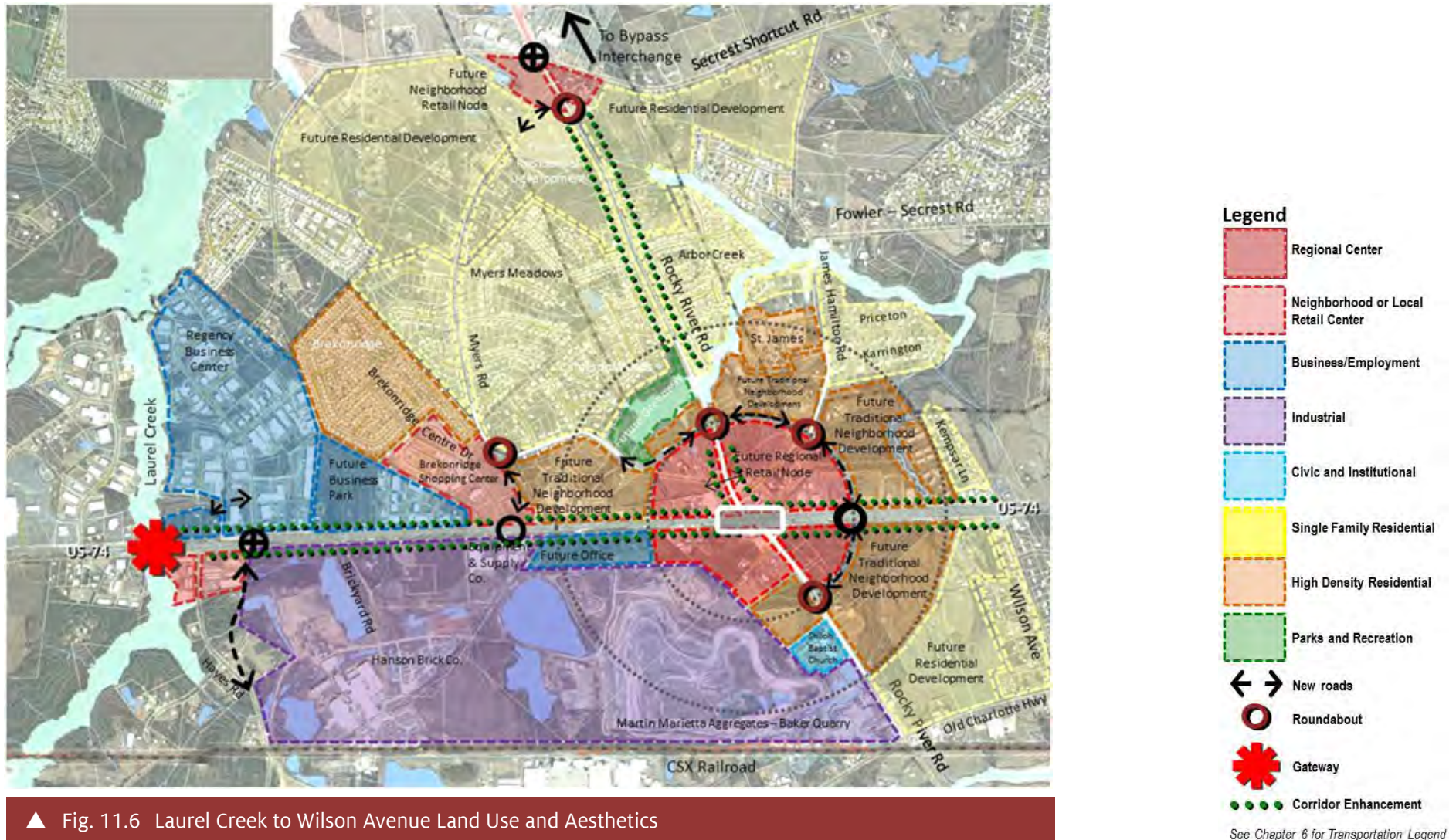
Wesley Chapel-Stouts Road to Laurel Creek (Fig. 11.5)

The current setting is industrial. Future mixed-use development on the west side of US-74 will change the setting to suburban.

Current land use is Industrial and Business/Employment on the east side of US-74 and vacant on the west side. Future land use will remain Industrial and Business/Employment on the east side, with potential for substantial Mixed-Use Development on the west side of US-74.

Pedestrian lighting with banners at Unionville-Indian Trail Road, ornamental landscaping at Unionville-Indian Trail Road and Wesley Chapel-Stouts Road intersections and street trees along US-74 will reinforce the linear corridor aesthetic. Building form and orientation for future mixed use development on the west side of US-74 should be toward the street to create pedestrian-friendly environment with parking behind the buildings. Laurel Creek's greenway open space offers an excellent location for an Indian Trail community gateway, enhancing the greenway with monumentation and identity signage. Since this will also be a community gateway for Monroe, each community should have a distinct identity at this gateway, but the designs should be carefully coordinated.

MONROE: LAUREL CREEK TO WILSON AVENUE



▲ Fig. 11.6 Laurel Creek to Wilson Avenue Land Use and Aesthetics

Laurel Creek to Wilson Avenue (Fig. 11.6)

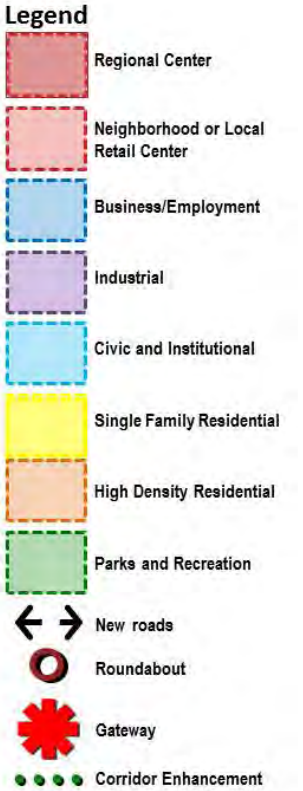
The current setting is predominantly industrial. Though the Corridor appears rural in this area of US-74, suburban development surrounds the corridor. The future setting will be more suburban, with the node at Rocky River Road being urban.

Current land use is predominantly Business and Industrial. The future land use will be Business/Employment and Industrial with Regional Center Development at the Rocky River Road intersection. There are anticipated to be more single-family residential uses on the north side of US-74 with high-density Traditional Neighborhood Development around the Town Center area. The City's Land Use Plan identifies future neighborhood retail and high-density Traditional Neighborhood Development at the future Rocky River interchange with the Bypass.

Building form and orientation for a future regional retail node development and Traditional Neighborhood Development at Rocky River Road should be toward the street to create pedestrian friendly environment with parking behind the buildings.

Gateway elements near the Rocky River Road interchange with the Bypass and Chamber Drive on US-74 can create a sense of arrival into the City of Monroe. Laurel Creek's greenway open space offers an excellent location for a Monroe community gateway, enhancing the greenway with monumentation and identity signage. Since this will also be a community gateway for Indian Trail, each community should have a distinct identity at this gateway, but the designs should be carefully coordinated. There should be pedestrian lighting and banners along with ornamental landscaping at Rocky River Road. A Corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology.

MONROE: WILSON AVENUE TO WILLIAMS ROAD



See Chapter 6 for Transportation Legend

▲ Fig. 11.7 Wilson Avenue to Williams Road Land Use and Aesthetics

Chapter 11:
LAND USE AND AESTHETICS APPLICATION

Wilson Avenue to Fowler-Secret Road (Fig. 11.7)

The current setting for this subsegment is suburban/rural. With the anticipated future development, it will become suburban.

Current land use is predominantly Retail/Commercial with some undeveloped/underutilized parcels. Extensive single-family residential developments are just off of US-74 on the west side.

Future land use is anticipated to be mixed-use development on the east side of US-74 with neighborhood supportive uses, and additional small office development on the west.

A corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology. Building form and orientation for the future mixed use development should be toward the street to create pedestrian-friendly environment with parking behind the buildings.

Fowler-Secret Road to Rolling Hills Drive (Fig. 11.7)

The current suburban setting will remain suburban.

Current land use is Retail/Commercial with Single-Family Residential north and south of US-74, focused on Poplin Place Shopping Center and the Presbyterian medical office complex. Rolling Hills Country Club is a significant recreation open space.

Future land use will include retail infill development near Poplin Place Shopping Center with some mixed use, business/employment and light industrial uses along the corridor.

Aesthetic improvements should include pedestrian lighting at intersections and a corridor landscape enhancement on US-74 with

street trees to create a boulevard road typology. The landscaping at Poplin Place Shopping Center and the Presbyterian medical office complex is of a high quality that fits well with the intended Boulevard Road typology.

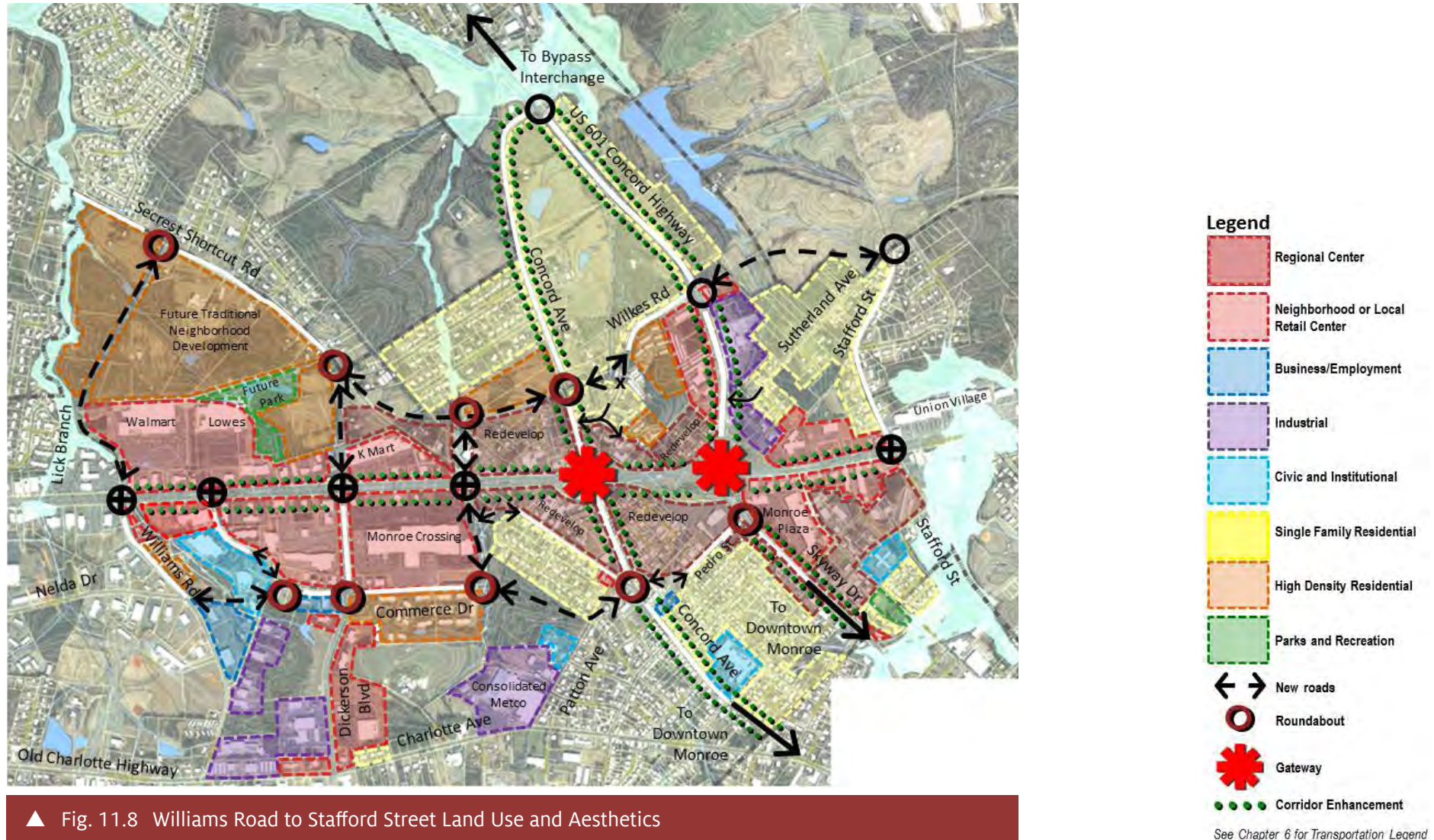
Rolling Hills Drive to Williams Road (Fig. 11.7)

The current suburban setting will remain suburban.

Current land use is a mix of Retail/Commercial, Business/Employment, Institutional, Light Industrial and Single-Family Residential with some High-Density Residential. No significant change in land use is anticipated.

Aesthetic improvements should include pedestrian lighting at intersections and a corridor landscape enhancement on US-74 with street trees to create a Boulevard Road typology.

MONROE: WILLIAMS ROAD TO STAFFORD STREET



▲ Fig. 11.8 Williams Road to Stafford Street Land Use and Aesthetics

Chapter 11:
LAND USE AND AESTHETICS APPLICATION

Williams Road to Dickerson Boulevard (Fig. 11.8)

The current suburban setting will evolve to urban with anticipated street modifications and new redevelopment.

The current Retail/Commercial land use is anticipated to remain. Currently, vacant properties are anticipated to redevelop as retail or mixed use. Traditional Neighborhood Development and a possible future park could occur east of the Walmart/Lowe's center with the proposed new street connections.

Corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology. Pedestrian, lighting, street furnishings and street sign enhancements should occur at the Williams Road, Hanover Drive and Dickerson Boulevard intersections. Wayfinding signage at Dickerson Boulevard should provide direction to downtown Monroe.

Dickerson Boulevard to US-601 (Skyway Drive/Concord Highway) (Fig. 11.8)

The current setting is suburban. With anticipated street modifications and redevelopment plans, it will change to urban gateway.

Current land uses are Retail/Commercial and Industrial. In the future, the Monroe Crossing and K-Mart shopping centers will remain, but could expand because of the enhanced access. The area between the proposed new connection between a realigned Secrest Shortcut Road and Commerce Drive is currently under consideration for a redevelopment plan by the City of Monroe. Future land uses could include Retail, Traditional Neighborhood Development, Recreation, Mixed Use along US-74 with Single-Family Residential

focused between Concord Avenue and US-601 Concord Highway. Neighborhood retail with Traditional Neighborhood Development and Gateway/Open Space is anticipated near the US-601/Monroe Bypass interchange.

A corridor landscape enhancement with street trees should be developed along US-74 through this segment to create a boulevard roadway typology. Street trees and street furnishings along Concord Avenue and US-601 Concord Highway/Skyway Drive will emphasize the streets' function as gateways into downtown Monroe. Building form and orientation for the future redevelopment areas should be toward the street to create pedestrian friendly environment with parking behind the buildings.

The redesigned intersection at the new Secrest Shortcut connector should have pedestrian crossings with lighting, banners and street furnishings.

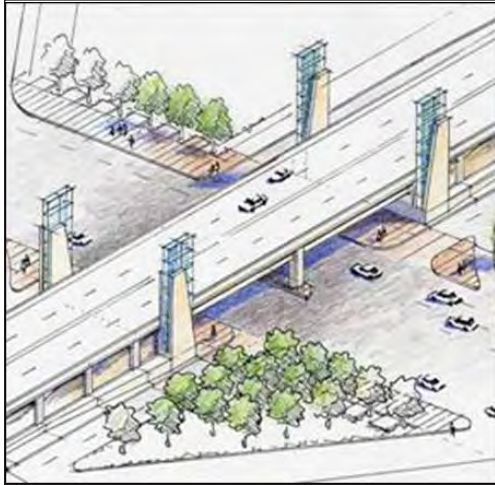
When the bridges at Concord Avenue and US-601 over US-74 are rebuilt, they should have a high aesthetic design quality, as well as pedestrian and bicycle accommodation and directional signage to create a sense of arrival into the City of Monroe and emphasize that these interchanges are gateways into downtown Monroe (Figs. 11.9 and 11.10).

US-601 (Concord Highway) to Stafford Street (Fig. 11.8)

The current suburban setting will remain suburban.

Current land uses consist of Retail/Commercial, Industrial and Single-Family Residential. Future land uses will remain the same.

A corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology.

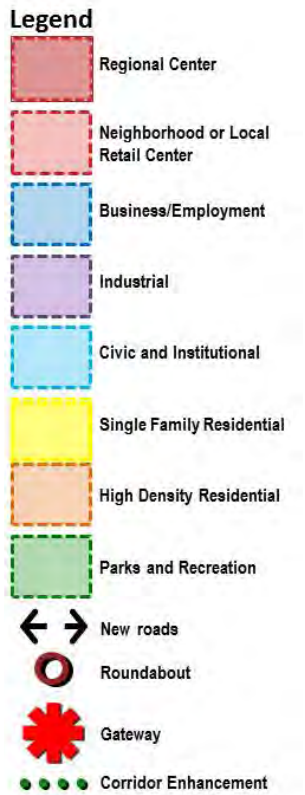


▲ Fig. 11.9 Example of a Major Arterial Interchange with High Aesthetic Design Quality

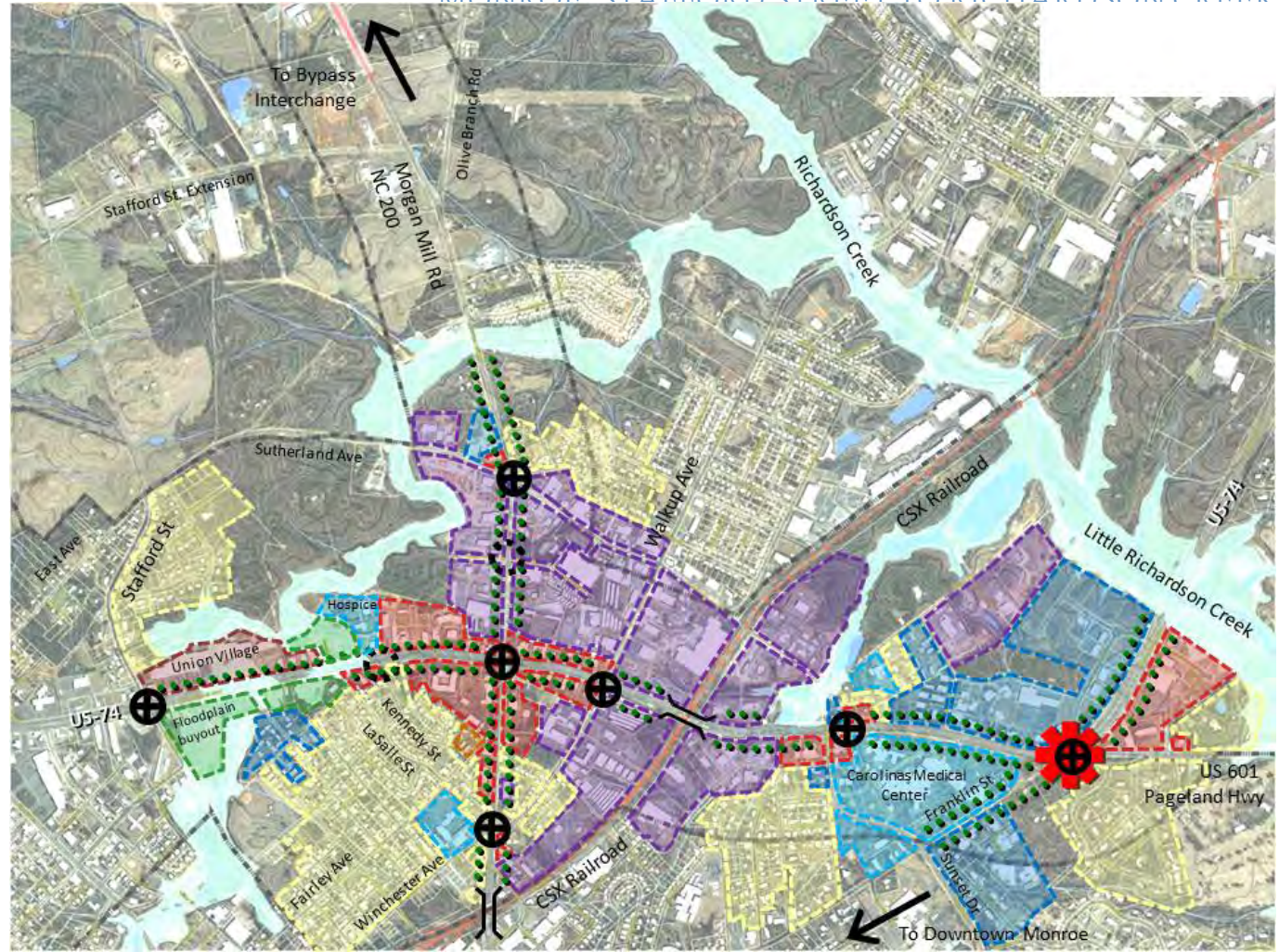


▲ Fig. 11.10 Street-Level View of Example of Major Arterial Interchange with High Aesthetic Design Quality

MONROE: STAFFORD STREET TO RICHARDSON CREEK



See Chapter 6 for Transportation Legend



▲ Fig. 11.11 Stafford Street to Richardson Creek Land Use and Aesthetics

Stafford Street to Walkup Avenue (Fig. 11.11)

The current suburban setting will remain suburban.

Current land uses consist of Retail/Commercial, Industrial, Institutional and Single-Family Residential. Future land uses will remain the same. A number of properties between Stafford Street and Kennedy Street appear to be in the flood plan, and a flood plain buyout program should be considered.

Neighborhood Retail, Traditional Neighborhood Development, Institutional and Single-Family Residential land uses are anticipated along Morgan Mill Road toward the Monroe Bypass.

Pedestrian crossings with lighting and banners should be installed at the Morgan Mill Road and Walkup Avenue intersections. Ornamental landscaping at Morgan Mill Road intersection and a corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology. Street trees and street furnishings along Morgan Mill Road will help emphasize it as a gateway route to downtown Monroe.

Walkup Avenue to Sutherland Avenue (Fig. 11.11)

The current industrial setting will remain industrial.

The current land uses will remain Industrial, which does not front on US-74, with some Retail/Commercial supportive uses fronting on US-74.

A corridor landscape enhancement with street trees along US-74 will create a boulevard road typology.

Sutherland Avenue to Richardson Creek (Fig. 11.11)

The current suburban setting will remain suburban.

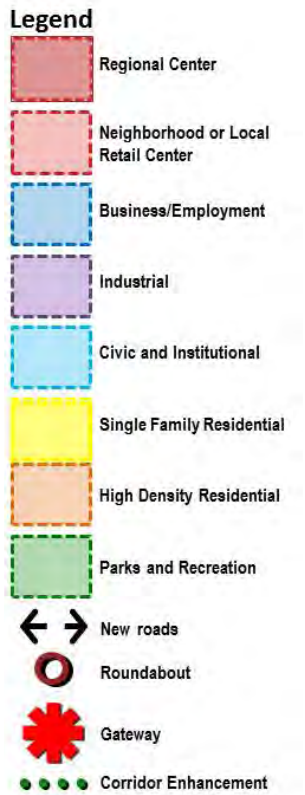
The current Retail/Commercial, Medical and Business/Employment uses are expected to remain. Carolinas Medical Center – Union is the dominant land use in this segment.

The US-74/US-601 Pageland Highway intersection should have monumentation, ornamental landscaping and streetscape furnishings to emphasize it as a gateway into the City of Monroe. Directional signage will help clarify the intersection for drivers, and should include wayfinding signage for downtown Monroe.

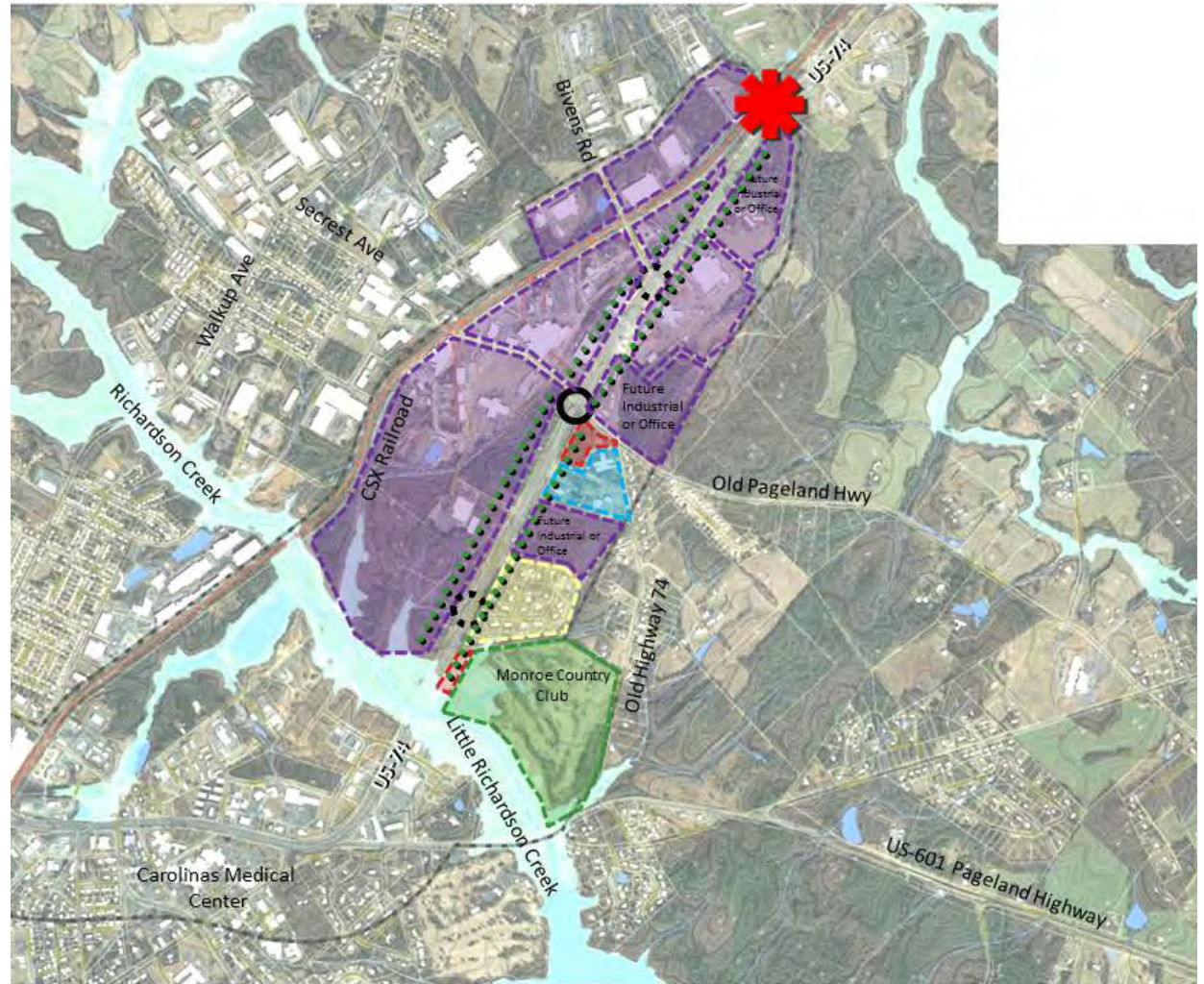
A corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology.

Street trees and street furnishings along Franklin Street will help emphasize it as a gateway route to downtown Monroe.

MONROE: RICHARDSON CREEK TO MONROE CITY LIMITS



See Chapter 6 for Transportation Legend



▲ Fig. 11.12 Richardson Creek to Monroe City Limits Land Use and Aesthetics

Richardson Creek to Monroe City Limits (Fig. 11.2)

The current suburban/rural setting will become more suburban with future development along US-74.

Current land uses include some Retail/Commercial, Industrial, some Single-Family Residential, Recreation (Monroe Country Club) and Institutional, with considerable vacant land along US-74. Future development of the vacant land is anticipated to be primarily industrial with supportive Office/Business and Retail/Commercial.

A corridor landscape enhancement with street trees along US-74 will create a Boulevard Road typology. Gateway elements should be installed at US-74 and the Monroe city limits to emphasize the entrance to the City.

Chapter 12: IMPLEMENTATION

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The key to implementation of the roadway improvements is having each of the US-74 Corridor recommended projects on the Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) list.

The TIP identifies the transportation projects and strategies that CRTPO and NCDOT plan to undertake over the next seven years. All projects receiving federal funding must be in the TIP. The TIP is the region's way of allocating its limited transportation resources among the various capital and operating needs of the area, based on a clear set of short-term transportation priorities.

The TIP:

- » Is updated at least every two years;
- » Is realistic in terms of available funding and is not just a “wish list” of projects. This concept is known as fiscal constraint;
- » Conforms with the State Implementation Plan (SIP) for air quality (MUMPO is classified as nonattainment for ozone);
- » Is approved by CRTPO and the governor; and
- » Is incorporated directly, without change, into North Carolina's State Transportation Improvement Program (STIP).

MUMPO's Adopted 2012 – 2018 Transportation Improvement Program includes the US 74 Monroe Bypass. No projects along US-74 in the study area, nor on the arterials connecting to the Monroe Bypass are included.

There are two steps that will be necessary to have the US-74 Corridor projects added to the TIP List:

1. **NCDOT Feasibility Study.** The anticipated approach for the US-74 Corridor would be to request the North Carolina Department of Transportation to accept The US-74 Corridor Revitalization Plan as the feasibility study for the Corridor. Preferably, the full US-74 Corridor from the Union/Mecklenburg County Line to the Monroe eastern City Limits would be a single feasibility study, because of the integrated nature of all of the segments, including the parallel roads and connections to the Monroe Bypass, in addition to US-74 itself. The NCDOT would need to prepare a right-of-way and probable cost estimate to complete the feasibility study.
2. **Add US-74 to the CRTPO TIP.** It is recommended that one of the first actions be to initiate negotiations with CRTPO for inclusion on its Long-Range Transportation Plan (LRTP). While it can be a difficult process, it will be very important for CRTPO to include US-74 as a high priority regional project...or even possibly a statewide project. Once US-74 has been added to the TIP, it follows the prescribed process for funding, planning design, right-of-way acquisition and construction.

JURISDICTION RESPONSIBILITIES

The local municipalities will be responsible for implementing the land use and aesthetics portions of the US-74 Corridor Revitalization Plan.

The kind of commitments that will be needed include:

- » Maintain land use plans that are the basis for the Corridor Revitalization Plan, or make changes with the concurrence of the Coordinating Committee that the changes would not have an adverse effect on the rest of the corridor,
- » Coordination with abutting jurisdictions to participate in the Coordinating Committee,
- » Incorporation of the US-74 Corridor Revitalization Plan into local comprehensive plans,
- » Maintain or adopt development policies that will maintain the right-of-way necessary for the appropriate road typology and access management strategy,
- » Require that developments follow the Corridor access guidelines as part of the land use and zoning approval process, and
- » Require as part of the land use and zoning approval process that some road improvements be funded and built as part of the developments, as indicated in the typologies application.

The local jurisdictions will likely be requested to take responsibility for implementing some aspects of the roadway projects. This could place responsibility on local jurisdictions for some of the following:

- » Require some pedestrian sidewalks as part of development approvals
- » Possibly pay for landscape and aesthetic elements
- » Possibly pay for sidewalks
- » Possibly some right-of-way acquisition
- » Possible maintenance of landscape and aesthetic elements in the right-of-way

POTENTIAL FUNDING SOURCES

In addition to potential TIP funding, there are numerous other potential sources of funding that will have to be explored by the County, the municipalities and NCDOT to fully implement the US-74 Corridor Revitalization Plan. A few potential sources of funding include:

Congestion Management for Air Quality (CMAQ): The CMAQ program provides funding for transportation projects and programs that help meet the requirements of the Clean Air Act. Eligible activities include transit improvements, travel demand management strategies, traffic flow improvements, public fleet conversions to cleaner fuels, projects to improve incident and emergency response or improve mobility, expanded authority for transit operations, and support for installation of facilities serving electric or natural gas fueled vehicles.

National Highway Safety Administration State and Community Highway Safety Grant Program: Highway Safety Funds are used to support state and community programs to reduce deaths and injuries on the highways. In each state, funds are administered by the Governor’s Representative for Highway Safety. Pedestrian safety has been identified as a National Priority Area and is, therefore, eligible for Section 402 funds. Section 402 funds can be used for a variety of safety initiatives, including conducting data analyses, developing safety education programs and conducting community-wide pedestrian safety campaigns. Since the 402 Program is jointly administered by NHTSA and FHWA, Highway Safety Funds can also be used for some limited safety-related engineering projects.

Walkable Communities: The US Department of Housing and Urban Development (HUD) offers funding opportunities to help communities realize their own visions for building more livable, walkable and environmentally sustainable regions; the US Department of Transportation (DOT) offers funding opportunities to support more livable walkable communities; and the US Environmental Protection Agency (EPA) offers grants to support activities that improve the quality of development and protect human health and the environment.

Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance - Property Acquisition (Buyouts): Since 1993, participating communities have purchased more than 20,000 properties as to prevent future damages from flooding. Buyouts are strictly voluntary.

National Endowment for the Arts Grants for Arts Projects: Art Works grants refer to three things — the works of art themselves, the ways art works on audiences and the fact that art is work for the artists

and arts professionals who make up the field. Our Town grants allows organizations to apply for creative placemaking projects that contribute to the livability of communities and place the arts at their core.

National Tree Trust: Through its Community Tree Planting grant, the National Tree Trust provides free tree seedlings to schools and community groups to plant on public property.

Local Road Bonds: Local road bonds may be able to be used for some improvements in the US-74 Corridor. In 2011, Indian Trail passed a town referendum for \$7 million in street bonds. If other corridor jurisdictions follow suit, there could be opportunities for coordinated corridor improvements.

Local Road Taxes: Some communities have approved special taxes dedicated to road and street improvements. York County, South Carolina initiated the “Pennies for Progress” county sales tax program in 1997 to improve roads throughout the county. The third Capital Sales and Use Tax Program was passed by the voters by 82% in 2011. It is currently estimated that this program could produce approximately \$161 million to fund additional roadway capacity and safety improvements throughout the County. In North Carolina, this would require state legislative approval. If the municipalities and county begin a dialog on this, it could possibly benefit corridor implementation and legislative approval.

Developer Contributions: Developer contributions are payments or in-kind works, facilities or services provided by developers towards the supply of infrastructure required to meet the future needs of a particular community, of which the development forms part.

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Business Improvement Districts: G.S. Ch. 160A, Art. 23 (Municipal Service District Act), implements Section 2(4) of Article 5 of the North Carolina Constitution, which authorizes a local government to define special areas (districts) in order to assess additional ad valorem property taxes on properties located within the districts to fund projects and services in the districts. Specifically, the Municipal Service District Act allows North Carolina municipalities to establish special taxing districts to fund, among a handful of other services or functions, downtown revitalization projects. (Note that counties have similar authority to establish special taxing districts to fund certain services or functions, but that authority does not include downtown revitalization projects.) When a city establishes a special taxing district for the purpose of financing downtown revitalization projects, it is commonly referred to as a Business Improvement District or BID.

Private Maintenance of Public Rights-of-Way Landscape: The City of Charlotte Right-of-way Maintenance section maintains medians constructed and planted by the City outside the I-277 loop. Homeowners' Associations, businesses, developers and others maintain the rest. The City of Monroe currently maintains landscaping in the US-74 median. It could be beneficial for the participating jurisdictions to implement a local program within the corridor.

Other methods for funding transportation projects are discussed in Alternative Funding Strategies for Improving Transportation Facilities: A Review of Public Private Partnerships and Regulatory Methods, prepared for NCDOT by the Center for Urban Transportation Research at University of South Florida in 2006 — <http://www.cutr.usf.edu/pdf/Fairshare%20Report.pdf> and in the North Carolina Statewide Transportation Plan: Financial Plan and Investment Strategies, Prepared in August, 2012.

Small Area Plans: Several locations within the US-74 Corridor have suggested improvements to both land use and transportation. While these have been carefully considered as part of the overall Corridor Study, they would benefit from a more rigorous Small Area Plan, which could involve property owners, business owners, residents and interested citizens, and could examine this study's recommendations in greater detail.

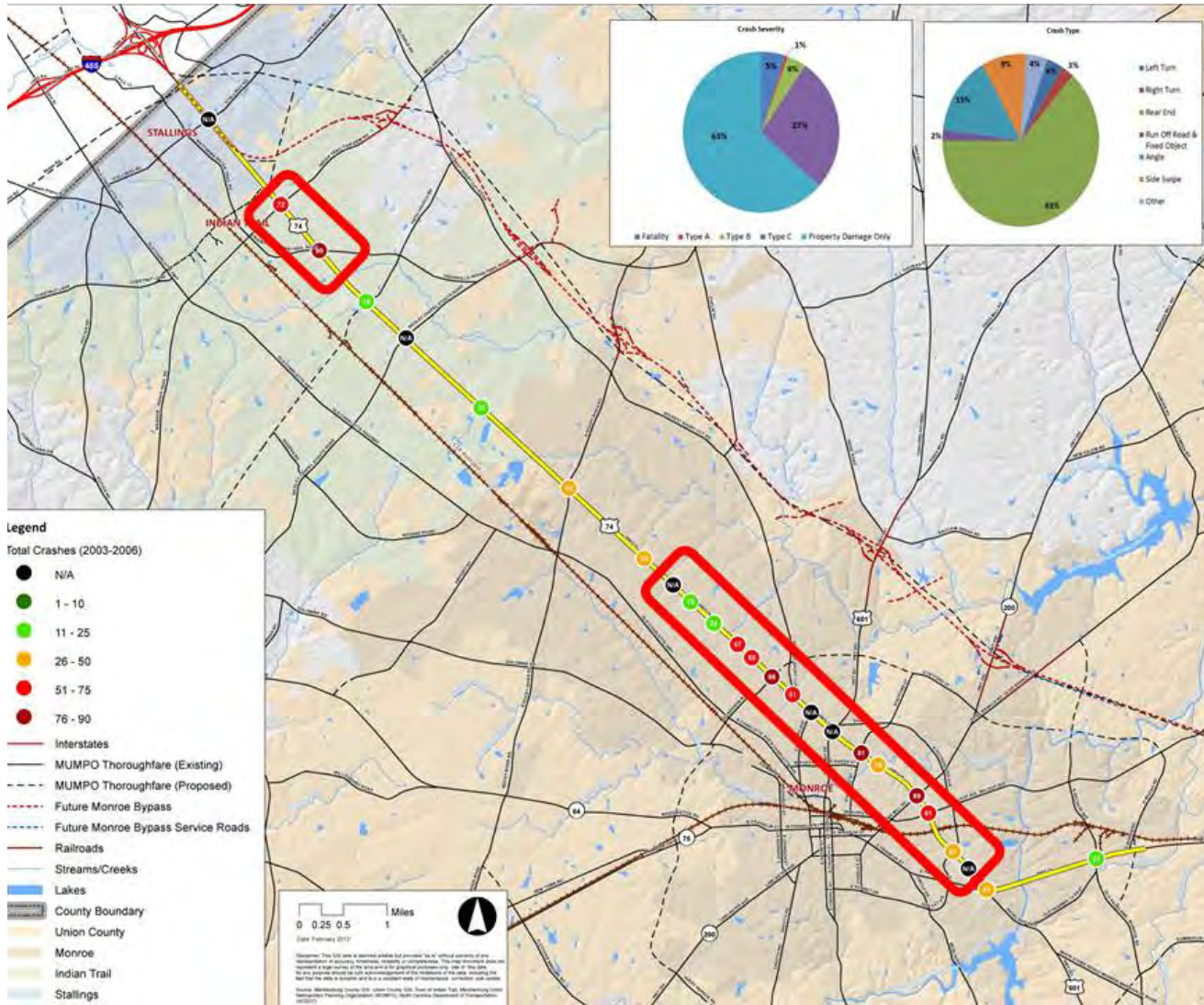
PRIORITIES

Implementation of the US-74 Corridor Revitalization Plan is anticipated to occur over at least a 20-year period. To realize the vision of the Plan, the following priorities are recommended:

0- to 5-Year Priorities

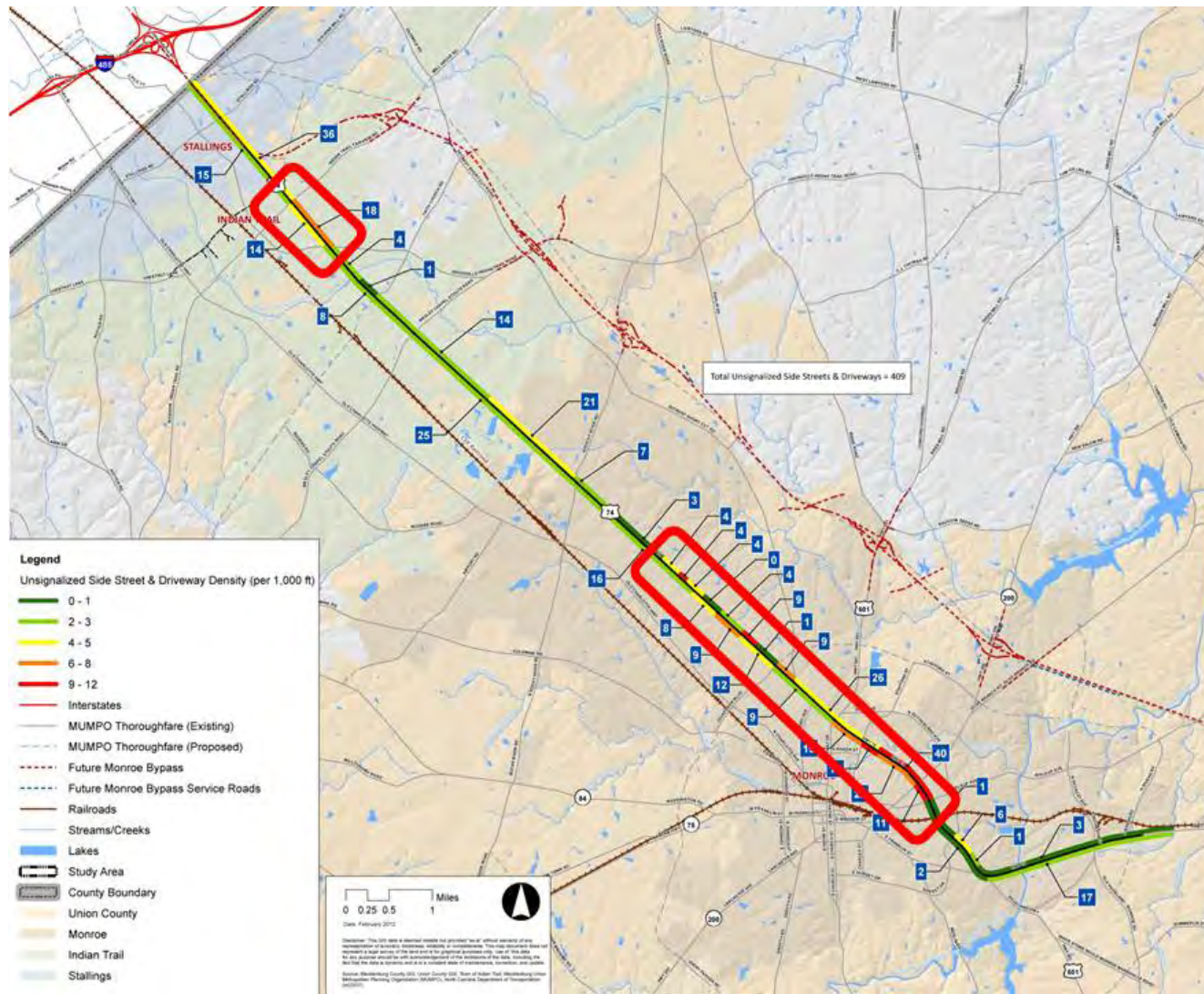
The highest priority areas should be those that affect safety and mobility that are directly affected by construction of the Monroe Bypass, and where major new development is anticipated. Those are:

Highest accident areas. Fig. 12.1 shows the signalized intersections of US-74 that had the highest crash rates according to the most recent available data. Those are in Monroe between Wilson Avenue and US-601 Pageland Highway. The Indian Trail Road and Unionville-Indian Trail Road intersections also had high crash rates.



▲ Fig. 12.1 US-74 High Crash Rate Areas

Most driveway cuts. The frequency of driveway cuts onto US-74 contributes to accident rates. The areas of US-74 with the most unsignalized side street and driveways are shown in Fig. 12.2, and are located in Monroe between Wilson Avenue and Walkup Avenue, and in Indian Trail between Indian Trail Road and Unionville-Indian Trail Road.



▲ Fig. 12.2 US-74 High Unsignalized Side Street and Driveway Densities

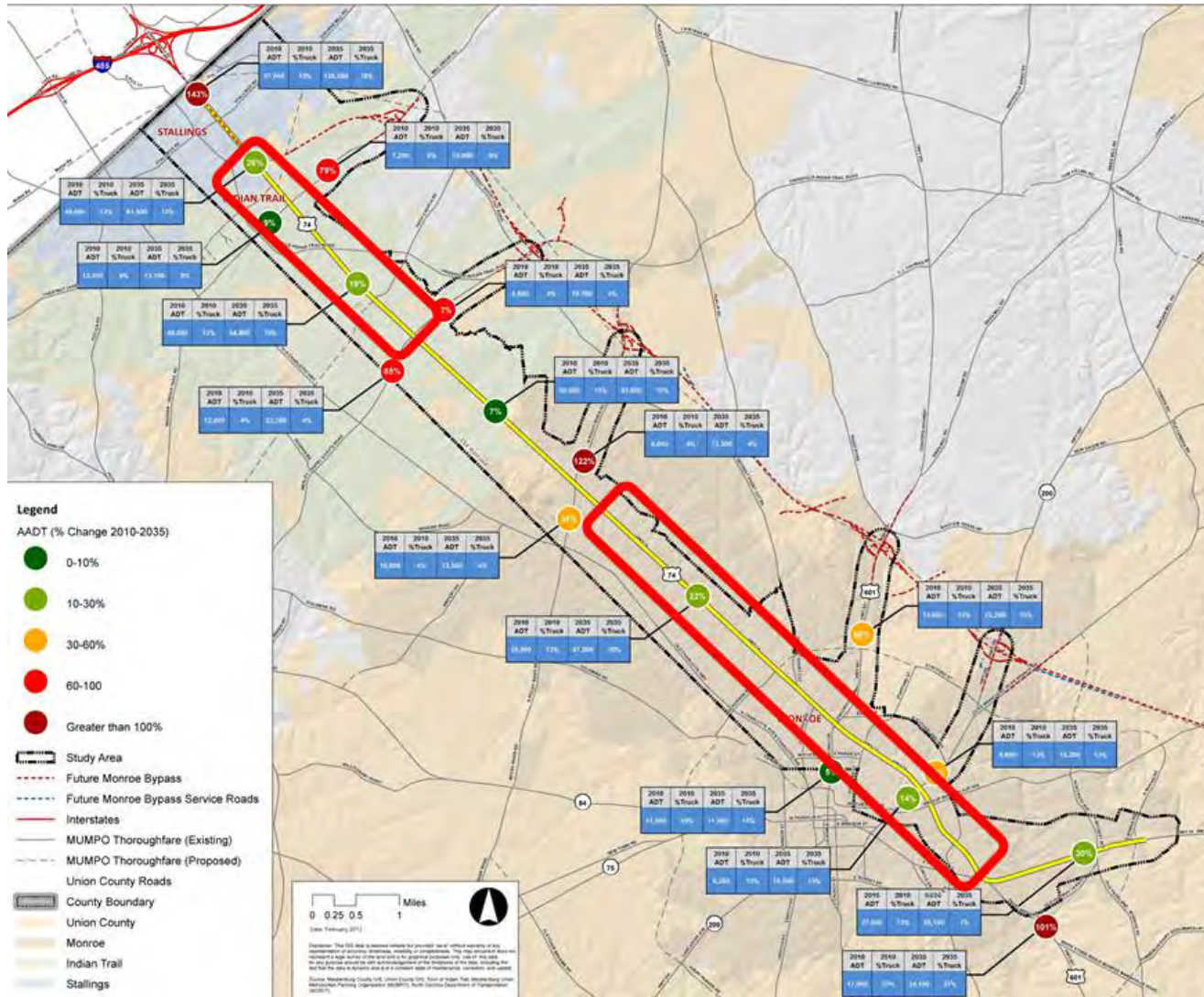
Affected by Monroe Bypass construction. The area most affected by construction of the Monroe Bypass will be Stallings, where all of US-74 will be reconstructed as part of the toll road, as will Stallings Road, the McKee Road Extension and many of the connecting streets. The Bypass construction will also have a significant change to US-74 in Indian Trail between Stallings and Indian Trail Road. All of the connecting arterials and cross streets along the Bypass route will be affected, but are planned to be modified as part of the Bypass project.

Imminent development. Areas where major new development or redevelopment that will notably affect the Corridor plan is planned to occur within the next five years also should have high priority. Example of projects in this category are the intersection of the new Chestnut Parkway with US-74 in Indian Trail and a new mixed-use development at that intersection, and a planned mixed-use development at the intersection of US-74 and Faith Church Road in Indian Trail along with a possible first phase of the Faith Church Road Extension.

5- to 10-Year Priorities

The next highest priority areas should be those where traffic will continue to increase, even after construction of the Monroe Bypass, and where the municipalities have places a high priority for new development or redevelopment.

Highest projected AADT. Future increases in traffic are reflected in projected AADT. The areas with the highest projected future traffic are in Indian Trail between Chestnut Parkway and Wesley Chapel-Stouts Road, and in Monroe between Rocky River Road and US-601 Pageland Highway, as shown in Fig. 12.3.



▲ Fig. 12.3 US-74 High Projected Future Traffic Volumes

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Local priority for development/redevelopment. Indian Trail's highest priority for development and redevelopment is their "Pathways to Progress" plan, which puts a priority for development and redevelopment at the revitalization area bounded by Chestnut Parkway, Stinson-Hartis Road, Younts Road, Plyler Road and Matthews-Indian Trail Road. Indian Trail also is targeting the area around the intersection of the Monroe Bypass and Indian Trail-Fairview Road, possibly in collaboration with other municipalities.

10- to 20-Year Priorities

Priority areas beyond the first 10 years of corridor revitalization will be determined by conditions along US-74, economic development pressures and regional development as a whole. Setting priorities for this timeframe should be an ongoing process, but some priority areas could be the following.

Projected development/redevelopment. The land use plans of all three municipalities include ambitious development along the corridor. The economic climate and development market will influence which of these come to fruition within this timeframe, as will local policies and priorities. US-74 improvements consistent with the Plan should be undertaken as these occur.

Resolve ongoing traffic congestion and safety issues. On any roadway with the traffic volumes which US-74 is projected to carry, and with the amount of non-residential development anticipated, there are bound to be congestion and safety issues which will not have been addressed in the initial ten years. Resolution of these issues should be a priority in the second decade of the US-74 Corridor Revitalization.

Transit planning. Interest was expressed in transit service during preparation of the US-74 Corridor Revitalization Plan. Union County does not currently have a transit system, and the only service in the corridor is two daily express busses. The second decade of the Corridor Revitalization would be a good time to begin planning a transit system for the Corridor, if it has not been undertaken earlier. Planning for fixed guideway service, such as light rail or bus rapid transit, might be undertaken in this time frame as well, especially if CATS' plans for its Southeast Corridor have solidified.

COLLABORATION

Following completion and approval of the US-74 Corridor Revitalization Plan, ongoing collaboration between the County, the City of Monroe, the Town of Indian Trail and the Town of Stallings will enhance the ability to implement the Plan. A unified voice in pursuing funding for improvements will strengthen the Corridor's chances of receiving funding priority, particularly with the State's new emphasis on statewide, regional and local projects. Coordination will also be important to assure that improvements or developments undertaken in one community are compatible with the functionality of the overall corridor, maintaining the Corridor goals for all of the municipalities.

A possible method for maintaining ongoing collaboration would be through the Union County Planners Roundtable.

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