Alcove Road Corridor Small Area Plan

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EXECUTIVE SUMMARY

Study Area

The Alcove Road Corridor Small Area Plan study area covers approximately 405 acres on the Alcove Road corridor from the northwest quadrant of Exit 31 at Langtree Road to the southwest quadrant of Exit 33 at Williamson Road. The 1.9 mile long Alcove Road corridor parallels Interstate 77 immediately to the west and functions as a minor thoroughfare link between Williamson Road and Langtree Road and provides access from the adjacent local streets to these facilities.

Accessibility to the adjacent interchanges will become the catalyst for anticipated growth along the Alcove Road corridor, particularly on the larger undeveloped tracts north of Templeton Road. This emerging development must be effectively managed to ensure an acceptable level of service on Alcove Road and that such anticipated development occurs at a scale and intensity relative to its proximity to established residential development.

The Comprehensive Land Use Plan designates a majority of the study area as Employment Center Office and Corridor Mixed Use. The adopted zoning for a majority of the study area is Corridor Mixed-Use District, Residential-2 District, and Village Center, Conditional District. Existing uses include low density residential uses throughout the western perimeter of the study area along Lake Norman, commercial uses along the southern and northern ends of the study area, and one institutional use located in the middle of the corridor. Approximately 56 acres, comprising Tract A of the proposed Langtree at the Lake development, is within the southernmost portion of the planning boundary and approximately 99 acres elsewhere in the study area are zoned Corridor Mixed Use District. Although undeveloped, the property is entitled to certain land use provisions under its current zoning.

Planning Process

The purpose of any small area plan is to establish policy criteria for evaluating development requests and regulatory decisions in conjunction with The Town of Mooresville Comprehensive Land Use Plan, Comprehensive Transportation Plan, and the Town of Mooresville Zoning Ordinance. While the Town of Mooresville’s adopted comprehensive land use and transportation plans provide long-range, general policy guidance, the Alcove Road Corridor Small Area Plan provides land use policy that is more fine-grained and site-specific in detail.

The process to develop Alcove Road Corridor Small Area Plan took approximately three months. The steps involved include study area inventory, analysis and processing of information pertaining to a variety of planning elements, the facilitation of a series of public focus group meetings, and plan preparation based on this collective information and input. Research and public participation were the keys to the planning process.

The guiding principles used in formulating the Alcove Road Corridor Small Area Plan are as follows:
General Guiding Principles

- Provide planning policy for future growth and development along the corridor.
- Provide specific guidance that is consistent with adopted plans.
- Involve affected stakeholders and include Iredell County staff in the planning process.
- Provide implementation strategies, including general principles and policy framework.
- Build upon guiding principles and recommendations of the Comprehensive Transportation Plan (CTP) and Comprehensive Land Use Plan (CLUP).

Specific Guiding Principles

- Emphasize design and urban form of future development.
- Emphasize policy recommendations that will work to reasonably balance projected corridor growth relative to the proximity to established residential development.
- Promote an interconnected transportation system, particularly the proposed Fairview Flyover.
- Promote enhancing accessibility to the interchanges that anchor each end of the corridor while enhancing corridor mobility and promote improved safety at identified areas of concern.
- Identify specific accommodations for bicycle/pedestrian users.

A collaborative, open planning process was an integral component of the study’s development period. Two workshops and individual focus group member interviews were held to discuss detailed information regarding the of existing and proposed utility and transportation infrastructure, existing planning policies and zoning regulations in place within the study area that will serve to shape and direct anticipated corridor development.

A focus group workshop was held on November 20, 2014, to present a draft of the final plan document to the public prior to recommending the plan’s adoption. The Planning Board and the Town Board of Commissioners received the Small Area Plan at a Joint Board Workshop on December 11, 2014.

Land Use

With the construction of Exit 31 at Langtree Road, the Alcove Road corridor became anchored by two interchanges at the southern and northern terminus points. The lack of municipal sanitary sewer infrastructure and the inherent difficulty in providing municipal services has physically constrained commercial development in the immediate vicinity of the Exit 33 Williamson Road and US 21 interchange, resulting in an existing development pattern consisting of small-scale retail uses that generally serve the surrounding residential communities.
Professional office and supporting service uses along with small-scale, community-oriented retail uses should be encouraged as predominant nonresidential uses. Such uses might include community-oriented services such as a pharmacy, grocery, daycare, restaurant, banking services, dry cleaners, medical office, etc. These uses should be located on the corridor north of Templeton Road and as part of the Activity Centers identified in the Comprehensive Land Use Plan and located at Williamson and Langtree Road intersections in the immediate vicinity of Exits 31 and 33.

Large-scale, highway-oriented “big box” development is more appropriately located along NC 150 corridor via the US 21 and Williamson Road corridors. This major east-west thoroughfare connects Mooresville and the Lake Norman area to a five-county region. Highway or interstate oriented businesses, with the exception of hospitality and employment center uses in the immediate vicinity of the interchanges, should be prohibited along the corridor. Other automotive-dependent, highway oriented uses such as free standing restaurants with drive-through uses and automotive sales and services, should be prohibited from the Alcove Road corridor, but is more appropriately located on the Williamson Road and US 21 corridor north of the study area where similar uses currently exist.

Land Use Recommendations are as follows:

- **LU-1** Utilize the Alcove Road Corridor small area plan to encourage the development of uses that transition in both scale and use intensity from established residential uses. This is particularly appropriate for any undeveloped parcels anywhere in the study area where infrastructure and services exist, or can easily be provided.

- **LU-2** Strengthen designated activity centers, particularly at Langtree Road and Williamson Road in close proximity to the interchanges.

- **LU-3** Ensure a land use pattern and form of development that avoids the appearance of “strip commercial”.

**Natural Resources, Open Spaces**

Unified development is important because the clustering of building allows a strong relationship between built spaces and can provide an interconnected open space system between multiple development sites.

Natural Resources, Open Space Recommendations are as follows:

- **REC-1** Utilize a regional/shared BMP approach where open space can be utilized as a passive recreational amenity.

- **REC-2** Develop proposed linear public space in all new development that is easily accessible to the public.
**Emergency Service Delivery**

The Mooresville Fire–Rescue Department seeks to establish a consistent response time of less than five minutes for all emergency calls within the Town’s Corporate Limits. This has been the locational standard used for determining the locations of most recent three fire stations constructed by the Town of Mooresville. As annexation occurs and properties are developed along the Alcove Road corridor, the Department’s ability to deliver this desired response time and level of service consistently will be challenged. An additional station is necessary to provide the same consistent level of service that other incorporated areas and municipal residents receive.

Emergency Service Delivery Recommendations are as follows:

**FIRE-1** Identify a targeted station location area that upon construction will enhance emergency call response times to the corridor.

**Utility Service Delivery**

While municipal water is available along the corridor, the sanitary sewer system has been driven by development and extended incrementally due to topography and expense. There are private utility companies that serve portions the corridor and vicinity; however, there is minimal service capacity in the private wastewater system and alternate service options are unavailable. As a result, there are sections of the corridor that are adjacent to, but do not have immediate access to municipal sewer service.

Multiple individual extensions is costly and inefficient in this area, and there are engineering constraints associated with forced main extensions under I-77, which have historically been cost prohibitive. The inherent difficulty in providing municipal services has physically inhibited commercial development in the immediate vicinity of the interchanges.

**Transportation**

The existing Alcove Road is within the study area of the *Town of Mooresville Comprehensive Transportation Plan* (CTP) and is classified as a “Minor Thoroughfare–Existing”. The facility is a 1.9 mile, 45-mile per hour, two-lane road located immediately west and paralleling I-77. There are no existing shoulders or sidewalks along the corridor. The facility is a secondary road owned and maintained by the NCDOT. Alcove Road is not access controlled and there are existing local street and driveway connections along the corridor.

The CTP identifies one capital improvement project within the Alcove Road corridor – a proposed grade separation across I-77 from Fairview Road to Alcove Road in the
vicinity of Templeton Road. This project is currently referred to as the Fairview Flyover project (R-4757). NCDOT has completed an initial feasibility study and identified four feasible alternatives that provide the desired east-west connectivity and improve the operations at the Williamson Road interchange (Exit 33). The following preferred features are important to maintain the Alcove Corridor transportation facilities and land uses as envisioned by the Town’s planning documents, including this plan:

- Maintaining interchange ramps at the existing interchange location
- Minimizing level of service impacts to existing local street intersections
- Providing adequate or improved access and operations to I-77 at Williamson Road. In particular, the Williamson/Alcove/I-77 SB off-ramp intersection which operates below LOS D in both the AM and PM peaks
- Providing full access movement at the intersection of Fairview and US 21 to improve circulation.
- Correcting geometric conditions associated with the “turn” of Williamson Road into US 21 on the east side of I-77 at the existing interchange
- Providing adequate facilities to maintain the “minor-thoroughfare” character and quality of Alcove Road south of the Fairview Road connection
- Sensitivity to the access needs associated with development plans in compliance with the comprehensive land use plan in the undeveloped parcels along the corridor

The remaining road and intersection facilities are operating within NCDOT and Town established thresholds and the land use assumptions made during the CTP development are still valid. Therefore, overall facility type, as defined in the CTP, is anticipated to accommodate the anticipated vehicle volumes along the corridor through the planning horizon.

However, future operational improvements to the facility may be identified in site-specific transportation impact analysis to maintain the adequate levels of service along the corridor. Strategies to maintain the level of service include:

- Installing dedicated turn lanes to maintain through movement level of service and control access point frequency
- Accommodating multi-modal (bicycle, pedestrian, and transit) recommendations in the CTP and NCDOT Complete Streets policy to reduce vehicle trips on Alcove Road
- Extending the local street network between existing and new development and encouraging cross-connectivity between developments to improve route choices for all users and reduce short trips on Alcove Road
- Implementing traffic calming measures to discourage I-77 bypass movement between Exits 31 and 33
Transportation Recommendations are as follows:

**TRANS-1** Maintain the character of the facility as a minor thoroughfare south of the Fairview Flyover.

**TRANS-2** Accelerate transportation system improvements identified in the CTP.

**TRANS-3** Encourage multi-modal connectivity across existing and new developments.

**TRAN-4:** Consider the following cross section

![Cross Section Diagram]

**Recommendation**

The Town of Mooresville Development Services Department recommends that the Town of Mooresville Board of Commissioners adopt this plan and related recommendations.
ORGANIZATION OF THIS REPORT

CHAPTER 1: INTRODUCTION provides a background of this effort along with guiding principles of the small area plan.

CHAPTER 2: LAND USE RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES detail specific recommendations and implementation strategies for the Alcove Road Corridor Small Area Plan.

CHAPTER 3: TRANSPORTATION STRATEGIES outlines existing conditions, planned projects, and evaluation of development impacts regarding transportation for the study area using the Town of Mooresville Comprehensive Transportation Plan and focus group interview responses as key references.

MAPS are provided as a reference and accompany recommendations and implementation strategies in Chapter 2 and Chapter 3 and in the appendices.

APPENDICES found at the end of the report include supporting documentation. This additional documentation includes materials used to develop the plan and formulate recommendations.
CHAPTER 1. INTRODUCTION

1.1 Introduction
The Town of Mooresville is a Lake Norman community, located approximately 30 miles north of Charlotte in southern Iredell County, in the southwestern piedmont of North Carolina and near rapidly growing areas of northern Mecklenburg County. Much of this growth is due to accessibility to Interstate I-77, an expanding employment base, area schools and the region’s high quality of life. From 2000 to 2010, the Town of Mooresville’s population increased 73% from 18,823 to 32,711.

The study area for the Alcove Road Corridor Small Area Plan covers approximately 405 acres on the Alcove Road corridor from the northwest quadrant of Exit 31 at Langtree Road to Williamson Road at the southwest quadrant of Exit 33. The majority of the site study boundary for the plan is within the Town of Mooresville Zoning jurisdiction or Extra Territorial Zoning Jurisdiction (ETJ). Of this total, approximately 99 acres are zoned Corridor Mixed Use District and is entitled to development under the provisions of this zoning district. Approximately 56 acres comprising Tract A of the proposed Langtree at the Lake development is also within the southernmost portion of the planning boundary. Although undeveloped, the property is entitled to certain land use provisions under its current zoning. The Alcove Road Corridor study area is comprised of a mix of land uses. Low density residential uses are located throughout the western perimeter of the study area along Lake Norman. Commercial uses are found along the southern and northern ends of the study area and there is one institutional use located on the corridor.

Shown on Figure 3, Page M-3, the Comprehensive Land Use Plan designates a majority of the study area as Employment Center Office and Corridor Mixed Use. Shown on Figure 4, Page, M-4, Existing Zoning, the adopted zoning for a majority of the study area is Corridor Mixed-Use District, Residential-2 District, and Village Center, Conditional District. While most of the study area is within the Town of Mooresville jurisdiction or Extra Territorial Jurisdiction (ETJ), certain areas are located within Iredell County’s jurisdiction and generally zoned Rural Agriculture (RA).

1.2 Focus Group & Public Participation
A collaborative, open planning process was an integral component of the study’s development period. In the case of this plan, the public contributed through focus group member interviews, and focus group meetings open to the public. The focus group for the Alcove Road Corridor Small Area Plan consisted of thirteen stakeholders, two Iredell County staff, and several elected officials. The focus group was comprised of property owners on the corridor and vicinity and residents in the vicinity of the study area. Their insight into the study area’s strengths and weaknesses, both perceived and evident, was instrumental to the development of the Plan. The two initial workshops conducted prior to individual focus group member interviews were intended to provide the participants with detailed information regarding the disposition of existing and proposed utility and transportation infrastructure, planning policies, zoning regulations, and zoning
districts within the study area that will serve to shape and direct anticipated corridor development.

A focus group workshop was held on November 20, 2014, to present a draft of the final plan document to the public prior to recommending the plan’s adoption. The Planning Board and the Town Board of Commissioners received the Small Area Plan at a Joint Board Workshop on December 11, 2014.

1.3 Planning Process
The process to develop the *Alcove Road Corridor Small Area Plan* took approximately three months. The steps involved included the inventory, analysis, and synthesis of information from a variety of planning documents; and meeting with Town of Mooresville representatives and focus group members involved in the planning process. The following reports and maps were utilized during the planning process:

- *South Iredell Demographic and Employment Forecast* (2012)

1.4 General and Specific Guiding Principles
The Town of Mooresville undertook the *Alcove Road Corridor Small Area Plan* in order to effectively plan in advance of future anticipated growth along the corridor. The guiding principles used in formulating the Alcove Road Corridor Small Area Plan are found below:

**General Guiding Principles**

- Provide planning policy for future growth and development along the corridor.
- Provide specific guidance that is consistent with adopted plans.
- Involve affected stakeholders and include Iredell County staff in the planning process.
- Provide implementation strategies, including general principles and policy framework.
- Build upon guiding principles and recommendations of the *Comprehensive Transportation Plan* (CTP) and *Comprehensive Land Use Plan* (CLUP).
Specific Guiding Principles

- Emphasize design and urban form of future development.
- Emphasize policy recommendations that will work to reasonably balance projected corridor growth relative to the proximity to established residential development.
- Promote an interconnected transportation system, particularly the proposed Fairview Flyover.
- Promote enhancing accessibility to the interchanges that anchor each end of the corridor while enhancing corridor mobility and promote improved safety at identified areas of concern.
- Identify specific accommodations for bicycle/pedestrian users.
CHAPTER 2. LAND USE RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

2.1 General
The Town of Mooresville shall adopt and incorporate by reference the Alcove Road Corridor Small Area Plan into the currently adopted Comprehensive Land use Plan as referenced in Chapter 1, Sec. 1.2 of the Comprehensive Land use Plan.

The Alcove Road Small Area Plan approached land use with knowledge of existing uses, vacant land, and market potential. A number of existing uses were found in the study area at the time of plan preparations. The Plan recognizes these areas and provides for new uses that are complementary. The Alcove Road Corridor Small Area Plan Study Boundary is shown on Figure 5, page M-5.

2.2 Existing Conditions
Much of the study area is undeveloped. Existing residential uses include low density single family detached residential units, most of which are located immediately west of the study area. Residential composition west of the study area are due to the historical lack of utilities throughout most of the study area and vicinity. In parts of the study which are served by private utilities, there exist small-scale office uses and commercial uses that generally serve the surrounding communities. An existing institutional use is located on Foundation Court which is served by municipal utilities.

2.3 Land Use Index
The following land use classifications are supported by the Mooresville Comprehensive Land Use Plan and are incorporated by reference below:

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>NR</td>
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<td>PC</td>
<td>Peninsula Conservation</td>
</tr>
<tr>
<td>RC</td>
<td>Regional Activity Center</td>
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<tr>
<td>CMU</td>
<td>Corridor Mixed Use</td>
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<tr>
<td>EC-O</td>
<td>Employment Center Office</td>
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<tr>
<td>EC-F</td>
<td>Employment Center Flex/Light Industrial</td>
</tr>
<tr>
<td>VC</td>
<td>Village Center</td>
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<tr>
<td>NC</td>
<td>Neighborhood Center</td>
</tr>
<tr>
<td>BC</td>
<td>Business Center</td>
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</tbody>
</table>

2.4 Land Use & Urban Design
The Mooresville Comprehensive Land Use Plan places emphasis on defining the form, function, scale of development in addition to the mix of land uses and the location of these uses. This emphasis is also found in the Mooresville Zoning Ordinance which
prescribes strong urban design principles. Design opportunities are summarized as follows:

- Coordinate with future widening and infrastructure improvements to the corridor.
- Provide mobility choices.
- Allow a mix land uses to occur along the corridor, with this mix occurring both vertically and horizontally at a prescribed height and use transition.
- Define the corridor setback treatment.
- Protect existing natural features.
- Avoid the appearance of “strip commercial” such as the exiting pattern found along Hwy 150.
- Preserve community character though appropriately scaled use transitions.

Anticipated future transportation infrastructure improvements, such as the proposed Fairview Flyover Project (R-4857), and zoning development entitlement positions the corridor to support a variety of land uses permitted under established zoning districts at the southern and northern ends of the corridor. If development within the study area is not proactively managed, it may present significant impacts to land uses in adjacent areas along this corridor. For these reasons, impacts to existing transportation infrastructure should be anticipated and mitigated during development. Further, the physical form of these undeveloped properties along the corridor should be planned comprehensively.

With the construction of Exit 31 at Langtree Road, the Alcove Road corridor became anchored by two interchanges at the southern and northern terminus points. The lack of municipal sanitary sewer infrastructure and the inherent difficulty in providing municipal services has physically constrained commercial development in the immediate vicinity of the Exit 33 Williamson Road and US 21 interchange, resulting in an existing development pattern consisting of small-scale retail uses that generally serve the surrounding residential communities.

Professional office and supporting service uses along with small-scale, community-oriented retail uses should be encouraged as predominant nonresidential uses. Such uses might include community-oriented services such as a pharmacy, grocery, day care, restaurant, banking services, dry cleaners, medical office, etc. These uses should be located on the corridor north of Templeton Road and as part of the Activity Centers identified in the Comprehensive Land Use Plan and located at Williamson and Langtree Road intersections in the immediate vicinity of Exits 31 and 33. Existing residential uses south of Edgeway and Perrin Drives could transition to support nonresidential uses over time as is in keeping with the recommendations and strategies of the Plan.

Large-scale, highway-oriented “big box” development is easily accessible along the NC 150 corridor via the US 21 and Williamson Road corridors. Such uses are more appropriately located along this major east-west thoroughfare that connects Mooresville and the Lake Norman area to a five-county region. Highway or interstate oriented
businesses, with the exception of hospitality and employment center uses in the immediate vicinity of the interchanges, should be prohibited along the corridor. More specifically, such destination-oriented, single-use buildings exceeding 60,000 square feet, with the exception of office, employment, or medical-office uses should be prohibited. Other automotive-dependent, highway oriented uses such as free standing restaurants with drive-through uses and automotive sales and services, should be prohibited from the Alcove Road corridor, but is more appropriately located on the Williamson Road and US 21 corridor north of the study area where similar uses currently exist. As utility services become available along the corridor, single family detached and single-family attached uses will likely develop. Such uses generate fewer impacts to the transportation network and generate fewer students when compared to the same amount of conventional single family detached. The proximity of the corridor to I-77, employment, and services also position the corridor in support of these uses.

**LAND USE RECOMMENDATIONS**

*LU-1 Utilize the Alcove Road Corridor Small Area Plan to encourage the development of uses that transition in both scale and use intensity from established residential uses. This is particularly appropriate for any undeveloped parcels anywhere in the study area where infrastructure and services exist, or can easily be provided.*

**Strategy 1:** Encourage single family residential development and attached (ex: townhome) residential in appropriate locations designated on the plan as an effective use transition from the established existing single-family residential pattern of development.

**Strategy 2:** Support rezoning requests for office and employment center development consistent with the plan.

**Strategy 3:** “Vertically mix” retail below office uses.

**Strategy 4:** Create an overlay district for the corridor.

Draft the *Alcove Road Corridor Overlay District* to supplement the standards of the underlying zoning to achieve the development pattern intended by the plan. The overlay district is intended to manage height and use placement and transition along the corridor. Utilize height and scale restrictions as an effective strategy to transition uses. Limit scale of buildings adjacent to existing neighborhoods to be consistent with established building heights and setbacks. Maximum building height of 2 stories should be required adjacent to established residential uses as a direct transition from the existing single family residential development pattern immediately west of the corridor. Building heights may increase east to the corridor. Establish a twenty-five foot open space adjacent to the existing right-of-way for Alcove Road to facilitate grade-separated pedestrian/bicycle path along the corridor. The overlay district should permit the transition of existing residential uses fronting the corridor south of Edgeway and Perrin Drives to support nonresidential uses over time.
Strategy 5: Utilize passive open space as an effective buffer and transition from the established residential uses.

Strategy 6: Utilize landscape buffers where appropriate to minimize the impact of noise, light and traffic.

LU-2 Strengthen designated activity centers, particularly at Langtree Road and Williamson Road in close proximity to the interchanges.

Strategy 1: Direct hospitality, commercial, retail uses supporting surrounding employment center use, and employment uses toward Activity Centers in proximity to the interchanges 31 and 33.

Strategy 2: Direct attached residential uses to the activity centers in immediate proximity to Exits 31 and 33.

Strategy 3: Retail uses outside of designated activity centers should support surrounding residential communities.

Strategy 4: Larger, destination oriented retail uses should be prohibited on the corridor.

Strategy 5: Large tracts or multiple tracts should be master planned to create a unified development plan.

LU-3 Ensure a land use pattern and form of development that avoids the appearance of “strip commercial”.

Strategy 1: Discourage land uses that are inconsistent with the small area plan.

Strategy 2: Encourage a development form on larger parcels that orients uses/buildings, toward streets and internal driveways designed to resemble streets, with pedestrian routes and parks internal to the site. Give priority to pedestrian connectivity and accessibility to buildings. Discourage single site, freestanding uses that are oriented to automobile users.

2.5 Natural Resources, Open Spaces
Unified development is important because the clustering of building allows a strong relationship between built spaces and can provide an interconnected open space system between multiple development sites.

NATURAL RESOURCES, OPEN SPACES RECOMMENDATIONS
REC-1 Utilize a regional/shared BMP approach where open space can be utilized as a passive recreational amenity.

REC-2 Develop proposed linear public space in all new development that is easily accessible to the public.
Strategy 1: Develop linear passive recreation parks or greenway trails to connect both existing and proposed developments. If possible such amenities should provide passive access to Lake Norman.

Strategy 2: Develop proposed linear parks to connect directly to corridor frontage to give park land a prominent identity along the corridor.

Strategy 3: Provide small public urban plazas in all mixed use development.

Strategy 4: Develop open space within proposed office, commercial and residential developments.

REC-3 Protect existing natural features through the establishment of additional parks and open space.

Strategy 1: Identify the natural features worthy of protection, such as stream buffers, mature tree stands, wetlands and other environmental features.

2.6 Emergency Service Delivery
The Mooresville Fire–Rescue Department seeks to establish a consistent response time of less than five minutes for all emergency calls within the Town’s Corporate Limits. As annexation occurs and properties are developed along the Alcove Road corridor, the Department’s ability to deliver this desired response time and level of service consistently will be challenged. As an area develops, the potential and actual emergency call load increases depending on the population and actual use. Currently, station(s) that serves the area of Langtree and Alcove roads have a five to seven minute response time.

An additional station that is necessary to provide the same consistent level of service that other incorporated areas and municipal residents receive. This policy or methodology for locating fire station sites to maintain an emergency response time of less than five minutes to a prescribed service area has been the locational standard used for determining the locations of last 3 fire stations constructed by the Town of Mooresville.

Emergency Service Delivery Recommendations
FIRE-1 Identify a targeted station location area that upon construction will enhance emergency call response times to the corridor.

Strategy 1: Acquire a station site for development.

Strategy 2: Construct a station at the optimal location so that emergency service delivery response times to the corridor are not compromised.

2.7 Utility Service Delivery
With the construction of Exit 31 at Langtree Road, the Alcove Road corridor became anchored by two interchanges at the northern and southern terminus points. Municipal water is available along the corridor; however, sanitary sewer has been extended
incrementally due to topography, expense, and development. The inherent difficulty in providing municipal services has physically inhibited commercial development in the immediate vicinity of the interchange at the northwest and southwest quadrants, resulting in the existing commercial development pattern of small-scale retail uses that generally serve the surrounding residential communities.

As a result, there are sections of the corridor that are adjacent to, but do not have immediate access to municipal sewer service. For instance, the area shaded in yellow on Figure 2, Utilities, Page M-2 has available sewer via gravity flow based on construction of a pump station at the Langtree Charter Academy, which is located at a lower topographical elevation. Municipal sewer service delivery to the area shaded in red is also challenging; however, with construction of the Langtree at the Lake development, municipal sewer is within proximity and any extensions of the system could be incorporated into individual projects. The area shaded in green faces the greatest obstacles to cost-effective sewer extension. Multiple individual extensions is costly and inefficient in this area, and there are engineering constraints associated with forced main extensions under I-77, which have historically been cost prohibitive.

There are private utility companies that serve portions the corridor and vicinity; however there is minimal service capacity in the private wastewater system so alternate service options are unavailable. As utility services become available along the corridor, medium density single family, single-family attached, uses will likely develop. Such uses generate fewer impacts to the transportation network and generate fewer students when compared to the same amount of conventional single family detached. The proximity of the corridor to I-77, employment, and services also position the corridor in support of these uses.
CHAPTER 3. TRANSPORTATION

3.1 Overview
The comprehensive transportation and land use planning process evaluates the functionality of the entire transportation system, including highway, bicycle, pedestrian, transit, and freight considerations, along with impacts to the natural and built environment, and provides recommendations for overall facility type and network connectivity. The transportation system recommendations of the Mooresville CTP study area were evaluated in conjunction with the development intensities and land use patterns recommended in the Town’s Comprehensive Land Use Plan. The North Carolina Department of Transportation (NCDOT), Iredell County, the regional planning organization, the Citizens’ Advisory Committee, area residents, and business owners all contributed to the final CTP that has been adopted by the Mooresville Town Board of Commissioners in 2007 and the North Carolina Board of Transportation in 2008 and incorporated into the 2009 Iredell County 2030 Horizon Plan. The Town was part of the Lake Norman Rural Planning Organization during the original CTP development. The CTP was updated in 2013 when the Town moved into the Charlotte Regional Transportation Planning Organization jurisdiction.

Alcove Road is within the study area of the Town of Mooresville Comprehensive Transportation Plan (CTP). The existing conditions, planned projects, and evaluation of development impacts upon transportation infrastructure are described for the study area using the Mooresville Comprehensive Transportation Plan (CTP) as the foundation and building a more detailed plan incorporating input from the focus group interview responses.

3.2 Existing Conditions
The existing Alcove Road is a 1.9 mile, 45-mile per hour, two-lane road located immediately west and paralleling I-77. There are no existing shoulders or sidewalks along the corridor. Alcove Road begins at a roundabout intersection with Langtree Road and ends at a signalized intersection with Williamson Road. The facility is a secondary road owned and maintained by the NCDOT. Alcove Road is not access controlled and there are existing local street and driveway connections along the corridor.

The CTP classifies Alcove Road as a “Minor Thoroughfare—Existing” linking to two “boulevard-needs improvement” facilities, Williamson Road and Langtree Road. All other connections to Alcove Road are classified as local streets. Some of the key characteristics of a minor thoroughfare facility are:

- Functional purpose – balance mobility and access
- Cross Section – one lane in each direction; ultimately three lanes or less; no median
- Access Management – continuous left turn lane; use of shared driveways for internal outparcel access; cross-connectivity between adjacent properties
The average annual daily traffic (AADT) on Alcove Road is between 3,100 and 4,300 vehicles per day. Per NCDOT planning guidance, this type of facility can accommodate an AADT of 12,000. With the exception of the northbound Alcove Road and southbound I-77 off-ramp at Williamson, the movements at the terminal intersections operate at an acceptable level of service during peak periods, per NCDOT service thresholds. Background growth assumptions of 3% per year indicate that the level of service (LOS) at the Williamson Road intersection will deteriorate if no improvements are made to the existing condition.

During individual focus group interviews as part of the corridor planning process, the participants raised concerns about the safety and congestion of the existing Alcove Road corridor, in particular, expressing concerns regarding increased egress delay on Alcove Road from the local street connections. These delays were attributed to southbound I-77 traffic using Alcove Road to bypass congestion between the Williamson Road (Exit 33) and the Langtree Road (Exit 31) interchanges and to recent institutional development on Alcove Road on Foundation Court. Participants also indicated that speed limits on Alcove Road are too high for the existing facility and a sight distance issue exists from eastbound Templeton Road. NCDOT has not flagged these corridor safety concerns in their routine review of the State transportation system.

During the individual focus group member interviews, the participants were asked what transportation improvements they would recommend to improve the existing facility. Most participants suggested widening Alcove Road to a three lane cross section. More local street connectivity and improvements at Williamson Road and Templeton Road intersections were also commonly suggested.

3.3 Planned Transportation Projects
The purpose of the Comprehensive Transportation Plan (CTP) is to guide and assist the North Carolina Department of Transportation (NCDOT) and the Town of Mooresville in prioritizing transportation improvement projects within the transportation system serving Mooresville and southern Iredell County through the 2030 horizon. The implementation schedule for individual recommendations is largely dependent upon the growth experienced on each corridor and available funding.

The CTP identifies one capital improvement project within the Alcove Road corridor – a proposed grade separation across I-77 from Fairview Road to Alcove Road in the vicinity of Templeton Road. This project is currently referred to as the Fairview Flyover project (R-4757). This project was initiated as a result of the Mount Mourne Small Area Plan Study to improve east-west connectivity in the area. NCDOT has completed an initial feasibility study and identified four feasible alternatives (see Appendix E) that provide the desired east-west connectivity and improve the operations at the Williamson Road interchange (Exit 33).

During the individual focus group member interviews, the participants were asked to review the four feasible alternatives NCDOT has identified for the proposed flyover and describe the alternative that best fit their preferred corridor vision. Alternative 1 – Fairview Bridge received the most positive feedback. Participants cited the simplicity of
the concept and its smallest impact potential to the corridor and adjacent properties as key reasons for their preference of Alternative 1. Alternative 10A – Exit 33 Modification was identified as another acceptable alternative. Some of the participants with development interests along the corridor were more positive about the alternatives that expanded the Williamson Road (Exit 33) interchange – Alternatives 2 and 9B – but these were, generally, unpopular alternatives among the participants because of the interchange expansion and potential motorist confusion of Interstate access point locations. Additionally, a few participants responded that a “No-Build” alternative was preferred.

The preferred alternative selected by NCDOT will accomplish the east-west connectivity and Exit 33 operations improvements as identified in the initial feasibility study. The features and impacts of the feasible alternatives may be revised upon further study and design. Rather than identifying a specific preferred alternative, this plan uses the information provided in the initial feasibility study to identify the following preferred features that are important to maintain the Alcove Corridor transportation facilities and land uses as envisioned by the Town’s planning documents, including this plan:

- Maintaining interchange ramps at the existing interchange location
- Minimizing level of service impacts to existing local street intersections
- Providing adequate or improved access and operations to I-77 at Williamson Road. In particular, the Williamson/Alcove/I-77 SB off-ramp intersection which operates below LOS D in both the AM and PM peaks
- Providing full access movement at the intersection of Fairview and US 21 to improve circulation
- Correcting geometric conditions associated with the “turn” of Williamson Road into US 21 on the east side of I-77 at the existing interchange
- Providing adequate facilities to maintain the “minor-thoroughfare” character and quality of Alcove Road south of the Fairview Road connection
- Sensitivity to the access needs associated with development plans in compliance with the comprehensive land use plan in the undeveloped parcels along the corridor

3.4 Multi-model Needs
Creating great places and maintaining quality of life requires a diverse approach to transportation planning. This includes a more robust transportation system that provides opportunities for functional and recreational non-motorized trips. Existing large scale transportation facilities, such as I-77, can act as barriers to this type of mobility.

CTP recommendations include an on-road bicycle facility on Alcove Road and sidewalk on Templeton Road from Alcove Road to the Templeton Bay subdivision. During the individual focus group member interviews, the participants were asked about the importance and feasibility of bicycle and pedestrian facilities along Alcove Road. The majority of participants supported sidewalk facilities and walking trails along the Alcove
Road corridor but many participants communicated hesitation about bicycle facilities along the corridor, citing safety concerns. Several participants suggested a grade-separated, off-road bicycle facility.

Consideration should also be made for the future transit station anticipated in the southeast quadrant of the Langtree Road/NC 115 intersection. While the commuter rail line associated with this transit station is not certain, this corridor study area is within the proximity to support transit-oriented development which would also support CTP recommendations for a town-wide bus system.

### 3.5 Connectivity

The presence of Lake Norman in immediate proximity to the Alcove Road corridor area causes geographic barriers to street connectivity in some locations and limitations to the capacity and functionality of Alcove Road as a stand-alone transportation facility. As development occurs, adding strategic local street connections west of and parallel to Alcove Road will provide more mobility options for all modes along the corridor.

The benefits of an interconnected street system include:

- Reduced travel times without travel speed increases
- Increased access opportunities for emergency response vehicles
- Keeps local trips on local streets
- More opportunities for non-vehicular connections

### 3.6 Streetscape Planting

Streetscape planting can create a visual separation that provides a more comfortable experience for users of non-motorized facilities adjacent to vehicle facilities. In some cases, streetscape planting can also provide a visual narrowing of vehicle facilities that calms traffic.

Thoughtful implementation of landscaping that capitalizes on the natural setting of the area and does not compromise safe sight distances can make non-motorized facilities more feasible within the limited space of the corridor.

### 3.7 Development Transportation Impact

The CTP models the demand on the transportation system based on the comprehensive land use plan and determines the overall type of facility that is required for each link on the transportation system.

Once a detailed development plan with the size, type, and mix of development is submitted to the Town of Mooresville, the actual amount of traffic generated by the site is calculated and a site-specific transportation impact analysis (TIA) is performed. The results of the TIA help local decision makers evaluate whether a development is appropriate for a site and identify mitigation measures that are necessary to maintain the integrity of the transportation system.
If the development is approved, the developer will be required to implement mitigation measures to alleviate the incremental impacts of the new development traffic and to accommodate planned improvements on the transportation system envisioned by the CTP and other planning documents adopted by the Town.

Typical requirements can include right-of-way reservation for larger capital improvement projects, construction of portions of future facilities, and/or intersection improvements (e.g. turn lanes, deceleration lanes, and signal timing adjustments) to alleviate transportation system impacts caused by the development plan. Required mitigation measures cannot correct existing geometric or operational deficiencies in the transportation system that are not caused by the developer’s plan.

**TRANSPORTATION RECOMMENDATIONS**

*TRANS-1  Maintain the character of the facility as a minor thoroughfare south of the Fairview Flyover.*

The road and intersection facilities are operating within NCDOT and Town established thresholds and the land use assumptions made during the CTP development are still valid. The overall facility type, as defined in the CTP, accommodates the anticipated vehicle volumes along the corridor through the planning horizon.

Operational improvements should be implemented as identified in site-specific TIAs to maintain adequate levels of service at the Alcove Road terminal intersections. Additionally, some developments will require dedicated turn lanes with sufficient storage capacity to accommodate increased turning movements at intermediate points along the corridor. These turn lane lengths should be used to control and concentrate development access points along the corridor to avoid a continuous three-lane section. As needed, and with limited implementation to preserve safety, new intersections for collector roads accommodating an expanded local street network and/or median left turn lane receiving areas may be allowed from local streets onto Alcove Road. Care should be taken to avoid conflicting left turn movements within the same median area on Alcove Road.

Intersection and streetscape treatments to calm traffic and discourage I-77 cut-through can be studied as needed. The posted speed limit on the corridor; however, is controlled by the geometry of the facilities.

**Strategy 1:** Allow development mitigation measures to shape the road cross section beyond the existing two-lane section.

**Strategy 2:** Encourage connectivity and shared access points within and across developments.

**Strategy 3:** Extend the existing street network to provide more route options within the corridor and reduce short trips on Alcove Road.

**Strategy 4:** Implement traffic calming measures along the corridor and at new and existing intersections to discourage southbound I-77 bypass movement.
between Williamson Road (Exit 33) and Langtree Road (Exit 31) and maintain character and level of service of the facility.

**TRANS-2  Accelerate transportation system improvements identified in the CTP.**

Existing operational and network deficiencies have been identified in the CTP and are being pursued for implementation by NCDOT as the owner of these facilities. The Town’s advocacy for these projects will be helpful in achieving timely implementation.

**Strategy 1:** Provide local input on Fairview Flyover feasible alternatives and incorporate preferred alternative into CTP.

**Strategy 2:** Provide timely data to achieve appropriate prioritization for improvements identified on Williamson Road and Langtree Road.

**Strategy 3:** Identify funding sources for capital improvement projects.

**TRANS-3  Encourage multi-modal connectivity across existing and new developments.**

**Strategy 1:** Use Town planning documents and ordinances along with NCDOT Complete Streets policy to implement bicycle and pedestrian facilities.

**Strategy 2:** Require pedestrian facilities along development frontage. Fill in gaps between developments as needed and as funding is available.

**Strategy 3:** Require streetscape separation between adjacent vehicle and non-motorized facilities.

**Strategy 4:** Encourage off-road bicycle or multi-use paths that can be incorporated into regional non-motorized transportation plans (e.g. Lake Norman Bicycle Route and Carolina Thread Trail).

**Strategy 5:** Consider accommodation of planned transit facilities when implementing transportation improvements or development plans.

**TRAN-4:  Consider the following cross section**
Figure 1  Study Area Boundary

Alcove Road Corridor

Mooresville, North Carolina
Figure 2  Utilities
Figure 3  Comprehensive Land Use Plan
Figure 4   Existing Zoning

[Map of Mooresville, North Carolina showing existing zoning with a scale of 1 in = 2,000 feet]
Figure 5  Alcove Road Corridor Small Area Plan

Alcove Road Corridor Small Area Plan

Mooresville, North Carolina
APPENDIX A - LIST OF ACRONYMS AND TERMINOLOGY

**Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ETJ</td>
<td>Extra Territorial Jurisdiction</td>
</tr>
<tr>
<td>NCDOT</td>
<td>North Carolina Department of Transportation</td>
</tr>
<tr>
<td>CLUP</td>
<td>Comprehensive Land Use Plan</td>
</tr>
<tr>
<td>CTP</td>
<td>Comprehensive Transportation Plan</td>
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<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
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<tr>
<td>TIP</td>
<td>Transportation Improvement Plan</td>
</tr>
<tr>
<td>NCDENR</td>
<td>North Carolina Department of Environment and Natural Resources</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>MUTCD</td>
<td>Manual of Uniform Traffic Control Devices</td>
</tr>
<tr>
<td>AADT</td>
<td>Average Annual Daily Traffic</td>
</tr>
<tr>
<td>VPD</td>
<td>Vehicles per Day</td>
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<tr>
<td>LOS</td>
<td>Levels of Service</td>
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<tr>
<td>LU-</td>
<td>Land Use</td>
</tr>
<tr>
<td>FIRE-</td>
<td>Emergency Services</td>
</tr>
<tr>
<td>REC-</td>
<td>Natural Resources, Open Space</td>
</tr>
<tr>
<td>TRANS-</td>
<td>Transportation</td>
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</tbody>
</table>

**Terminology**

To better understand this report, it is necessary to understand the terminology by which it is written. Although the following terms have been expanded upon further in the entirety of this report, each has been briefly summarized for the reader’s comprehension:

**Community Facilities:** Any services or systems that are available for public use on a daily basis in order for citizens to meet their daily needs.

**Specific Guiding Principles:** Statements that accompany general principles that are more specific and achievable compared to general principles.

**Level of Service (LOS):** According to the Highway Capacity manual, level of service (LOS) is a measure used to describe the operation conditions that drivers experience in a traffic stream. Level of service is designated by letter, similar to
grades in school, with A representing the best conditions and F the worst. LOS A is generally free flow with few delays, while LOS F constitutes highly congested, stop and go conditions. LOS D or better is generally considered acceptable. At LOS D, the roadway is busy, but traffic is still flowing at a reasonable speed.

**Public Realm:** Areas that are not privatized but accessible to all, including public right of way parks, civic sites and open spaces.

**Recommendation:** Very specific, measurable statements that are intended to achieve goals and objectives of the plan.

**Strategies:** Rules or courses of action that indicate how the guiding principles and objectives of the plan should be realized.

**Stakeholders:** A variety of land owners, developers, agency representatives, and others from the community who were able to enhance the research by providing an additional layer of information regarding local issues and opportunities.

**MUTCD:** *The Manual on Uniform Traffic Control Devices*, defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets and highways. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), part 655, Subpart F.

**Industrial/flex:** Buildings that are comprised of a mix of office and industrial, but are at least 50% office.

**Professional Office:** For-lease office space that contains multiple tenants within one building (also known as multi-tenant office space).

**Corporate Office:** Single-tenant office space that is typically owned by the user.

**Neighborhood Retail:** Retail centers that cater to the convenience needs of nearby neighborhoods.

**Regional Retail:** Retail centers that have the widest geographic appeal, and range in size from 300,000 to over 1,000,000 million square feet.
APPENDIX B - FOCUS GROUP MEMBER INTERVIEWS

General
Staff conducted individual interviews in three sessions from Monday, October 20 to Wednesday, October 23, 2014. A total of 11 focus group members were interviewed during the three sessions. Interviews were further broken down as follows:

- 5 Property owners with development interests on the corridor
- 6 Residential property owners on the Templeton peninsula
- 1 Elected Official

1. What qualities of life attributes are found in the area?
   - Lake Norman lifestyle, quality of life (8)
   - Quietness (2)
   - Weather (1)
   - Accessibility (6)
   - Access to Lake Norman (2)
   - Less traffic and congestion (1)
   - Proximity to Town amenities (hospital, groceries, library, schools, retail) (4)
   - Proximity to Charlotte (1)
   - Proximity to employment (1)
   - Convenient access to I-77 (1)
   - Small town character (2)
   - Wildlife (1)

2. If you are a property owner along the corridor, what plans do you envision for your property? How do you realistically envision development occurring along the Alcove Road corridor?
   - “High-end” Retail (2)
   - Mixed-use on the corridor (4)
   - Single large, retail use (2)
   - High density residential on the corridor (1)
   - Employment uses, Employment Center, Office development (6)
   - Hospitality use (2)
   - Height restrictions (3-4 stories) (2)
   - Maintain existing residential pattern west of the corridor (1)
• I-77 noise will impact residential development (1)
• Retail uses serving surrounding residential communities (5)
• No large-scale, destination-oriented retail (4)
• No educational or institutional uses (2)
• Low density residential uses only (2)

3. With the inevitable development of the Alcove Road corridor given how properties can develop based on their existing zoning, what steps should be taken to maintain and enhance the character of the area? Define the physical form of development along the corridor and how development should be managed?
   • Carefully, well planned (6)
   • Campus setting (2)
   • Gateway (1)
   • Consistency (2)
   • Retain residential character off the corridor (3)
   • Visually attractive, aesthetic overlay (1)
   • Buildings as noise buffers (1)
   • Locate more intense development directly on the corridor (1)
   • Less intense development off the corridor (1)
   • Height restrictions (2)
   • Zoning Overlay (2)
   • Address transportation issues (1)

4. What are the transportation issues as you see them?
   • Noise (3)
   • Pollution and fumes (1)
   • I-77 Congestion (4)
   • Corridor as a bypass for interstate congestion (4)
   • None (no real problems) or low traffic volume or low congestion (1)
   • Ingress/egress increasingly more difficult (4)
   • Congestion from school at peaks (3)
   • Corridor speed limits too high (3)
   • Sight distance at Alcove and Templeton Road intersection unsafe (3)
• Interchange congestion (1)

5. What specific transportation improvements do you recommend along the corridor to enhance mobility? How have you seen these recommendations work in other locations?
   • Construct a traffic Circle at Templeton and Alcove Road intersection (3)
   • Signalize intersection of Templeton and Alcove Roads (1)
   • Improve Catalina Drive and Alcove Road Intersection (1)
   • Construct four-lane bridge set for Williamson Road (1)
   • Create outlet for Templeton Road via Edgeway Drive (1)
   • Widen Alcove Road to 3 lanes (6)
   • Develop dedicated turning lanes at intersections (2)
   • Do not widen Alcove Road (1)
   • Improve miss-aligned lanes at Williamson and Alcove Road intersection (1)
   • Increase mobility options around congested areas (1)
   • Street connectivity north of Templeton Road (1)
   • Clear visual cues for pedestrians (1)
   • Examples-Griffith Street, Davidson; East Boulevard, Charlotte (1)

6. Of the four feasible alternatives for the Fairview flyover; which one did you prefer? Why?
   • Alternative 1
     o Received “yes” votes (7)
     o Delivers connectivity and can be added to incrementally as needed (1)
     o Least impacting to properties along the corridor (objectionable) (2)
     o Simplest design (3)
     o Brings westbound traffic from Fairview Road to Templeton Road intersection (1)
     o Does not address other vicinity transportation issues Catalina or US 21 curve (1)
     o Second Choice Alt. 10A (3)
   • Alternative 2
     o Received “yes” vote (1)
     o “No” vote (2)
     o Second choice after Alt. 9B (1)
**Alternative 9B**
- Received “yes” vote (2)
- Additional ramps preferred to enhance access and maximize development potential (1)
- Second choice to Alternative 2 (1)

**Alternative 10A**
- Received “yes” vote (2)
- Doesn’t create a new interchange (1)
- Williamson and Fairview Roads align directly without turning (1)
- Divides a large tract of developable land (1)
- Discourages use of Alcove Road to Bypass I-77 (1)
- Good traffic movement (1)
- Uses existing ramps at Exits 31 and 33 (1)
- Addresses issues at Catalina Drive (1)
- Removes curve at US 21 (1)
- Alt 1 second choice (2)

**Other Responses**
- No distinct preference other that the alternative that is least confusing and provides greatest mobility option (2)
- No build (1)
- Preferred Alternatives 1 and 10B because they did not create a new interchange (1)
- Zoning moratorium until alternative selection is finalized (1)

7. **Should bicycle/pedestrian attributes be considered in the future alignment of Alcove Road?**

- Supported sidewalks (9)
- Walking trails (2)
- Supported bicycle improvements (4)
- Did not support addition of bicycle lanes (Alcove Road not considered safe) (3)
- Grade separated bicycle facility (1)
- Implement Brawley School Road facilities on Langtree peninsula (1)
8. Is the provision of public open space in the area an important consideration for the Small Area Plan? If so, how should open space be located on the corridor?

- Use watershed regulations to create open space (4)
- Create open space within development (Walking trails) (4)
- No open space (2)
- Waterfront Park (Similar to Jetton Park, Cornelius, NC) (3)
- Open space along lake (boardwalks) (2)
- Conservation Open Space (1)
- Vegetated/natural buffers (6)
- Lake access (3)
- No lake access (would generate additional traffic) (1)
- No active recreation (ball fields) (1)

9. If the existing low-density, residential pattern of development immediately west of the corridor along Lake Norman is to be preserved, how would you like to see land uses transition along the corridor to buffer established residential uses?

- Physical buffer for separation (2)
- Height limitations and transitions (2)
- Transition land uses with most intense uses directly along the corridor (1)
- Office as a transitional use (1)
APPENDIX C - AREA-WIDE DEMOGRAPHICS, HOUSING AND ECONOMIC PROJECTIONS

In 2012, the Mooresville-South Iredell Chamber of Commerce (MSICC) engaged Warren and Associates to update the MSICC’s Economic Development Plan. The report provided demographic, housing, and commercial real estate market analysis in support of an updated Economic Development Plan. The report analyzed population and household trends and provided a five year forecast for residential, office, and retail demand found in the 28115 and 28117 Zip Codes for southern Iredell County.

Zip Code 28117 contains approximately 28,800 acres and extends west from the I-77 to Lake Norman. The study area is located within the 28117 Zip Code Mooresville’s two largest employers, Lowe’s Home Improvements corporate headquarters and Lake Norman Regional Medical Center are both located within the 28117 Zip Code and are located immediately east of the Alcove Road corridor off Fairview Road. Population growth within the Zip Code increased dramatic rate of 85.02% from 2000 to 2001 to surpass the 29115 Zip Code in total population.

The report forecast housing delivery trends for the 28117 Zip Code for the 2011-2016 increment. For the period, 65% of the new home construction is anticipated to be detached single-family residential and will reflect a growing national trend demand for rental and the aging baby-boomer cohort seeking to downsize from the traditional single family home. Approximately 10% of the demand forecast will be for for-sale attached residential units, with rental attached residential units comprising 25% of the new housing growth for the period.

The study also forecast new office development for the same period. The 28117 Zip code currently has approximately 2.6 million square feet of office space, with 48.3 percent of this total located on the Lowe’s corporate campus. Medical Office comprises another 23.5%, most of which is concentrated near the Lake Norman Regional Medical Center. The average vacancy rate for the study period is 10.6% Employment Center uses are projected in the southern vicinity of the corridor off Langtree Road. Projected demand for 191,000 square feet of office space for the period can easily be accommodated within this proposed employment center. Demand for additional retail within the 28115 Zip Code is expected to be absorbed during the period within commercial development currently approved. The corridor is served by the existing Watermark Shopping Center on Williamson Road and located at the northern terminus of the corridor and by Langtree at the Lake at the southern end. Proposed retail development within these two centers is estimated at 260,000 square feet which exceeds the projected retail demand of 224,139 for both Zip Codes.
APPENDIX D - ALCOVE ROAD CORRIDOR EXISTING CONDITION

Alcove Road Corridor (Google Street View, from Langtree Road north to Williamson Road Intersection)
Alcove Road Corridor (Williamson Road South to Langtree Road)

Williamson Road Intersection

Commercial Use at Catalina Drive

Office Use at Catalina Drive

Templeton Road Intersection

Commercial Use

Office Use at Foundation Court
Institutional Use on Foundation Court

Alcove Road at Wade’s Way

Langtree at the Lake (Tract B)
APPENDIX E - R-4757 FAIRVIEW FLYOVER FEASIBLE ALTERNATIVES
Study Objectives
The Fairview Flyover in conjunction with other area improvements like the East-West Connector are envisioned to make more efficient use of the transportation network, working to disperse the peak-hour demand across a greater transportation network. The result is a balanced approach that offers sufficient peak-hour capacity while simultaneously offering opportunities for accessibility and continued economic growth.

Prior to the North Carolina Department of Transportation's 2014 evaluation of the alternatives of any proposed project at the I-77 and Fairview Road crossing, stakeholder groups came to a general consensus regarding the goals and objectives for the study, including:

- Improving interstate traffic operations and safety,
- Enhancing east-west mobility,
- Facilitating intuitive way-finding (driver expectations),
- Providing access to major trip generators and community facilities,
- Contributing to area economic vitality,
- And addressing predicted peak-hour congestion in the area.

Interstate Traffic Operations and Safety
Well planned development patterns for the Corridor and vicinity must be coupled with a the enhancement of a more comprehensive roadway network to produce a safe and efficient system that reduces delay and congestion and processes traffic in the most efficient way possible. The Study provides major consideration to promoting greater equilibrium between the two existing interchanges along I-77 (Exits 31 and 33) and providing more efficient and intuitive east-west connectivity.

East-West Connectivity
The initially proposed concept for Fairview Flyover incorporated a desire to improve east-west connectivity within the existing roadway network impeded by the physical barrier created by interstate 77. Bridging this separation will improve the accessibility from housing to employment as well as enhance access to future commuter rail service.

Way-finding
Stakeholders agreed that the alternatives considered for connectivity should meet the minimum way-finding requirements of the North Carolina Department of Transportation and the Federal Highway Administration. Scenarios studied were both functional as well as intuitive was an important consideration of area stakeholders to reduce driver confusion.

Access to Major Trip Generators and Community Facilities
The presence of large trip generators such as the Lowe’s Corporate Campus and the Lake Norman Regional Medical Center require solutions that respond to their existing and future travel demands. Efforts should be made to ensure that access to these facilities is both efficient and intuitive. Access management will be an important component allowing the orderly movement of traffic in and around these facilities. Also, as the area continues to grow, the proposed improvements should allow for expansion and balancing of the transportation network.
Feasible Alternative 1 - Fairview Bridge

Alcove and Templeton Realignment
FEASIBLE ALTERNATIVE 2 – TWO INTERCHANGES

Williamson-Fairview Connector, Two Interchanges, No mixing of Ramps
FEASIBLE ALTERNATIVE 9B – SPLIT INTERCHANGE

Ramps connected, Fairview-Templeton Connector, Alcove Realignment
FEASIBLE ALTERNATIVE 10A – EXIT 33 MODIFICATION

Williamson and Alcove Realignments, Improved US 21 Connection