SIX FORKS ROAD CORRIDOR STUDY

Briefing Book Draft
September 18, 2012
Objective:
The overall objective of the Six Forks Road Kick-off Workshop is to develop a clear vision for the character of the roadway and adjacent land uses into the future. The information gathered in preparation for and during the workshop will provide a framework of data, observations and community input that will be used to generate momentum toward a fully funded corridor study to occur in 2013.

Outcome:
The outcome of the workshop is intended to provide a clearly documented vision for the corridor and summary report that will be used to generate donations and potential grants to fund a more detailed study.

Draft Vision, Preliminary Themes and Issues

Draft Vision Statement:
Six Forks Road is the Main Street of Midtown Raleigh – an urban destination where smart city living meets traditional community with its walkable 24/7 center at North Hills and the surrounding area of long established neighborhoods, thriving businesses, schools, churches, parks and gathering places.

Our vision is to create a corridor that defines a sense of place unique to Midtown with enhanced fluidity of movement for residents, workers, and visitors among transportation modes of all types, including cars, bikes, pedestrians, and future transit options. Safety and accessibility are paramount in designing a distinctive streetscape with unifying features and green space that make it both an attractive urban thoroughfare and an irresistible gathering place.

Themes:
- Neighborhood Character
- Public Realm/Streetscape
- Building Form and Height
- Multimodal Transit Infrastructure
- Roadway Capacity and Sections
- Land Use/Future Land Use and Zoning

Preliminary list of issues:
- Vegetation (lack of street trees in some locations and overgrown vegetation that inhibits movement and sightlines)
- Road sections (variation in existing street section exacerbates vehicular movement)
- Sidewalks and multiuse paths (Existing sidewalks are too narrow and close to the road, is there a potential for multi-use paths?)
- Lighting (vehicular and pedestrian is inconsistent along the corridor)
- Additional modes of transit (potential for demo project)
- Traffic lights and timing
- Crosswalk locations and timing (timing of existing crosswalks is not sufficient for pedestrians)
- Wayfinding for vehicular travelers (need for vehicular wayfinding to help congestions and indecision)
- Lack of sidewalk connectivity from adjacent neighborhoods
- Lack of pedestrian and bike facilities on I-440 Bridge and through interchange

Scope of Work:

1. Baseline Data Report (Briefing Handbook)
   Staff will prepare a report that contains background information on the study area. This book will not include a detailed inventory and analysis, which will be completed in later phases of work, but will include base maps and general information about the corridor and the overall project area.

   Contents:
   a. Study Area
   b. Maps (zoning, land use, aerials, thoroughfare, etc.)
   c. Existing Conditions Photo Inventory
   d. Draft Vision Statement
   e. Preliminary summary of themes and issues

2. Visioning Workshop
   A public workshop will be scheduled, preferably for a venue in or near the proposed study area, to brainstorm ideas and develop a guiding vision for the corridor study. Participants will have been invited to review the scope and baseline data report in advance, and copies will be available at the meeting. A brief presentation of the scope and existing conditions will be followed by a facilitated discussion to address the issues, opportunities and vision for the study area.

   Typical Workshop Agenda:
   a. Opening remarks and agenda
   b. Manage expectations: Public and Private Sector responsibilities
   c. Presentation highlighting issues
   d. Goal of design workshop
   e. Virtual walking tour
   f. Break groups (with facilitators)
      - Develop summary of issues, opportunities and ideas
      - Communicate issues, opportunities and ideas on maps
      - Identify quick fixes, if any
   g. Team report out
   h. Wrap-up
   i. Discuss next steps

3. Vision Document
   The outcome of the workshop will be compiled into a summary report that will contain: a list of study priorities, a refined study area limits and a vision statement that will describe the future opportunity of the area and guide the project through future phases of work.
The proposed Six Forks Road Study Area is defined by a specific boundary outlined in red. The study area runs from the intersection of Six Forks Road and Ramblewood Drive north to the intersection of Six Forks Road and Sandy Forks Road and is one property to a block deep to the east and west. A wider area around the intersection of Millbrook Road encompasses additional commercial and multi-family uses along Millbrook Road.
The study area is largely comprised of buildings and surface parking, leading to a high percentage of surface land coverage. Please note, updated information for the North Hills East development at the northeast corner of the I-440 and Six Forks Road intersection is not reflected on this map.
The topography in the study area is defined by a high point of 450 feet, associated with the Six Forks Road and Sandy Forks Road intersection, and falls approximately 170 feet to the southern edge of the study area boundary near the I-440 interchange. Six Forks Road is generally located along a ridge-line with topography sloping down to the creek beds to the east and west.
The existing land use is predominantly a mix of office and institutional uses along the corridor, with some retail uses near the Millbrook Road intersection and the North Hills and North Hills East developments at I-440. Single-family residential dominates the surrounding adjacent areas.
Three public entities control property within the study area. The City of Raleigh operates a fire station located at the intersection of Six Forks Road and Rowan Street. It also operates a water tower property north of Loft Lane. Wake County Public Schools operates Carroll Middle School and Green Elementary School. The State of North Carolina has an office property on the east side of the corridor, across Six Forks Road from the water tower.
Six Forks Road Corridor Study

Zoning

The study area is characterized by a number of different base zoning districts, as is reflected in the corresponding variety of land uses. There is a significant amount of land zoned as Office and Institutional districts. Shopping Center zoning covers the North Hills development as well as retail uses in the vicinity of the Millbrook Road intersection. Zoning Overlays consist of Special Highway Overlay Districts adjacent to I-440 and a Planned Development District for the North Hills East development. Residential-4 zoning makes up single-family residential and church uses along the corridor, as well serving as the dominant zoning for adjacent single-family neighborhoods.
This chart summarizes the allowable uses and characteristics of zoning districts in the study area. Because most of the land in the study area is not covered by a zoning overlay district, the setbacks, density, and parking requirements are generally suburban in nature.

### Summary of Zoning Districts in Study Area

<table>
<thead>
<tr>
<th>Zoning District</th>
<th>Density (units per acre)</th>
<th>Setbacks (feet)</th>
<th>Height (feet)</th>
<th>Free Standing Sign</th>
<th>F.A.R. (Floor Area Ratio)</th>
<th>Residential</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential-4</td>
<td>4 (Multi-family allowed w/ a Cluster Unit Development, min. 20 acres)</td>
<td>Front Yard- 30, Side Yard- 10, Corner Lot- 20, Rear Yard- 30</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Tract ID Sign</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Residential-6</td>
<td>6 (s/f and m/f)</td>
<td>Front Yard- 20, Side Yard- 5 (aggregate 15), Corner Lot- 20, Rear Yard- 20</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Tract ID Sign</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Residential-10</td>
<td>10 (s/f and m/f)</td>
<td>Front Yard- 20, Side Yard- 5 (aggregate 15), Corner Lot- 20, Rear Yard- 20</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Tract ID Sign</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Residential-20</td>
<td>20 (s/f and m/f)</td>
<td>Front Yard- 20, Side Yard- 5 (aggregate 15), Corner Lot- 20, Rear Yard- 20</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Tract ID Sign</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Residential-30</td>
<td>30 (s/f and m/f)</td>
<td>Front Yard- 20, Side Yard- 5, Corner Lot- 20, Rear Yard- 20</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Tract ID Sign</td>
<td>N/A</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Conservation Management</td>
<td>No density allowed, (can be transferred to adjacent property under same ownership)</td>
<td>Front Yard- 50 p.y., Side Yard- 100 p.y., Corner Lot- 50 p.y., Rear Yard- 50 p.y.</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>No Ground Signs</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Office and Institution-3</td>
<td>0</td>
<td>Front Yard- 30/50, Side Yard- 10/50, Corner Lot- 30/50, Rear Yard- 30/50</td>
<td>25</td>
<td>Low Profile Sign</td>
<td>0.33, building lot coverage of 20%-1 story, 15%-2 story</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Office and Institution-1</td>
<td>15 (25 wPC Approval) (s/f and m/f)</td>
<td>Front Yard- 30, Side Yard- 5, Corner Lot- 5, Rear Yard- 20</td>
<td>40 (increase of 1 foot per 1 foot added in setback width)</td>
<td>Low Profile Sign</td>
<td>0.75, building lot coverage of 25%</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Office and Institution-2</td>
<td>15 (40 wPC Approval) (s/f and m/f)</td>
<td>Front Yard- 30, Side Yard- 5, Corner Lot- 5, Rear Yard- 20 (Can be decreased with PC &amp; CC Approval)</td>
<td>50 (Unlimited with PC&amp;CC Approval)</td>
<td>Low Profile Sign</td>
<td>1.0, building lot coverage of 30%</td>
<td>Y</td>
<td></td>
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<tr>
<td>Shopping Center</td>
<td>15 (30 wPC Approval) (s/f and m/f)</td>
<td>Front Yard- 15, Side Yard- 0, Corner Lot- 15, Rear Yard- 0</td>
<td>50 (increase of 1 foot per 1 foot added in setback width)</td>
<td>High Profile Sign</td>
<td>No maximum specified</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Thoroughfare</td>
<td>20 (40 wPC Approval) (s/f and m/f)</td>
<td>Front Yard- 50/90, Side Yard- 0 if an interior lot, 20 feet if peripheral lot, Corner Lot- Same formula as front yard setback., Rear Yard- 0 feet if interior lot, 20 if a peripheral lot, 50 foot protective yard if abutting a thoroughfare when treescape is doubled.</td>
<td>50 (increase of 1 foot per 2 feet added in setback width)</td>
<td>High Profile Sign</td>
<td>No maximum specified</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

***Uses shown per zoning district are typical but not limited to, please look at use chart in code for exact use break down and applicable approving body
p.y. = Protective Yard
s/f = single family detached dwellings
m/f = multifamily and group housing
Low Profile Sign: max height = 3.5 feet, max size = 70 sq. ft.
Medium Profile Sign: max height = 10 feet, max size = 100 sq. ft. OR max height = 15 feet, max size = 75 sq. ft.
High Profile Sign: max height = 15 sq. ft., max size = 100 sq. ft.
South of I-440 Six Forks Road is classified as a major thoroughfare on the City’s Thoroughfare Plan. To the north it is a secondary arterial. Average annual daily traffic numbers fall between 29,000 and 40,000 along the corridor. More information on thoroughfare classifications can be found on the following page.
Table T-1 Summary of Thoroughfare System Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Typical Two-Way Volumes</th>
<th>Typical Section</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Arterial</td>
<td>40,000 Vehicles per Day (VPD) and above</td>
<td>At least three lanes in each direction, with medians and limitations or restrictions on driveway access</td>
<td>I-40, I-440, US 1 (Capital Blvd.), US 70 (Glenwood Ave.), US 401 (Louisburg Rd.)</td>
</tr>
<tr>
<td>Secondary Arterial</td>
<td>25,000 – 45,000 VPD</td>
<td>Three lanes in each direction, with medians or a center turn lane and limitations on driveway access</td>
<td>NC 50 (Creedmoor Rd.), Wake Forest Rd., Falls of Neuse Rd., Hammond Rd., Brier Creek Pkwy.</td>
</tr>
<tr>
<td>Major Thoroughfare</td>
<td>15,000 – 35,000 VPD</td>
<td>Two lanes in each direction, with medians or a center turn lane and limitations on driveway access</td>
<td>Millbrook Rd., Lynn Rd., Hillsborough St., Blue Ridge Rd., Leesville Rd., Martin Luther King Jr. Bd.</td>
</tr>
<tr>
<td>Minor Thoroughfare</td>
<td>8,000 – 20,000 VPD</td>
<td>At least one lane in each direction, with medians or a center turn lane</td>
<td>Clark Avenue, Ray Rd., Newton Rd., Lassiter Mill Rd., St. Marys St., Tarboro Rd.</td>
</tr>
<tr>
<td>Collector Street</td>
<td>2,000 – 8,000 VPD</td>
<td>One lane in each direction</td>
<td>Method Rd., Athens Dr., Marvino Ln., Harps Mill Rd., Falls River Ave., Old Poole Rd.</td>
</tr>
</tbody>
</table>
Vehicular crashes along Six Forks Road for the past three years are depicted on this map, both in terms of number of crashes and severity. The most crashes (165) occurred at I-440 while the highest severity index (3.47) was recorded at the intersection of Northbrook Road.
The proposed study area is well served by bus, as Six Forks Road is a prominent north-south route for Capital Area Transit (CAT). The study area is served by Routes 8, 8C, 23C, 24C, 25C, and 29C. Six Forks Road has been designated as a Premium Transit Corridor in the CAT 2040 Transit Development Plan, with proposed headways of 30 minutes or less.
There are several signed bicycle routes either intersecting the study area or located in close proximity. These include Recreation Loop Route #2 and Cross Town Routes #7, #9, and #12.
The proposed bicycle network represented on this map reflects the bicycle facilities recommended in the City's Bicycle Transportation Plan, which envisions various treatments for several area streets. Bicycle facility types are described on the following page.
**RECOMMENDED FACILITY TYPES**

A variety of bicycle facilities are recommended due to 1) the range of skill and comfort levels involved in bicycling, and 2) the range of conditions for bicycling on different roadway environments. These recommendations are at a planning level only and will require further analysis before implementation.

Raleigh’s bicycle route network is made up seven core types of bicycle facilities. Descriptions and standards for each type are described in Chapter 4: Bicycle Facility Standards. The images and descriptions below are provided for a quick reference when viewing the Bicycle Facility Network Atlas (pages 4-15 through 4-19).

Note: Bicycle lanes are the preferred type of on-road bicycle facility as determined by the Bicycle Plan Steering Committee and supported by the public input into this process. It was judged that bicycle lanes create clearly designated separated spaces that would encourage more bicycling among all user groups.

**Bicycle Lane**

See pages 7-12 to 7-18 for details.

A bicycle lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential and exclusive use of bicyclists. Bicycle lanes are always located on both sides of the road (except one-way streets), and carry bicyclists in the same direction as adjacent motor vehicle traffic. The minimum width for a bicycle lane is four feet; five- and six-foot bike lanes are typical for vehicle traffic. The minimum width for a bicycle lane, with no other changes needed to the roadway or existing roadway striping.

**Shared Lane Marking (“Sharrow”)**

See page 7-11 for details.

It is recommended that bicycle shared lane markings (or ‘sharrows’) be approached incrementally as a new facility treatment. Shared lane markings are used on roadways where dedicated bicycle lanes are desirable but are not possible due to physical or other constraints. Placed in a linear pattern along a corridor (typically every 100-250 feet), shared lane markings make motorists more aware of the potential presence of cyclists, direct cyclists to ride in the proper direction, and remind cyclists to ride further from parked cars to avoid ‘dooring’ collisions.

**Wide Outside Lanes**

See pages 7-8 and 7-10 for details.

A wide outside lane refers to the through lane closest to the curb or gutter of a roadway. The American Association of State Highway and Transportation Officials (AASHTO) uses a standard lane width of at least four feet. Ideally, a wide outside lane should be include in the construction of new roadways and/or the upgrade of existing roadways, especially where there is a need to more safely accommodate bicyclists.

**Paved Shoulders**

See page 7-17 for details.

Paved shoulders are the part of a roadway which is contiguous and on the same level as the regularly traveled portion of the roadway. There is no minimum width for paved shoulders, however, a minimum width of at least four feet is preferred. Ideally, paved shoulders should be included in the construction of new roadways and/or the upgrade of existing roadways, especially where there is a need to more safely accommodate bicyclists.

**Signed Bicycle Routes**

See pages 4-11 and 7-10 for details.

This designation refers to the City of Raleigh’s original signed bicycle routes. Rather than a specific bicycle facility type, these routes contain combinations of facilities, if any. This Plan recommends discarding the current system (the reasoning behind this recommendation is outlined on page 4-11). In the future, signed bicycle routes may emerge from the newly developed bicycle facility network for the City that have greater function, utility, and safety.

**Multi-Use Paths/Greenways**

See pages 7-32 to 7-34 for details.

Multi-use paths are completely separated from motorized vehicular traffic and are constructed in their own corridor, often within an open-space area. Multi-use paths include bicycle paths, rail-trail or other facilities built for bicycle and pedestrian traffic. The term ‘greenway’ is used only for those multi-use paths and sidewalks that are indicated on the Capital Area Greenway map and included in the City’s Comprehensive Plan.

**Sidepaths**

See page 7-18 for details.

Multi-use paths located within the roadway corridor right-of-way, or adjacent to roads, are called ‘sidepaths’. Sidepaths are most appropriate in corridors with few driveways and intersections. Bicycle routes where side paths are recommended should also have adequate on-road bicycle facilities (such as paved shoulders or bicycle lanes) wherever possible.

**Network Map Sub-Category Definitions**

As indicated in the legend of the Bicycle Facility Network Map, some facilities are broken down into sub-categories for method of development.

- **Bicycle Lane - Road Diet**: Road diets typically involve reducing the number of travel lanes (from a four-lane road to a two-lane road with center turn lane, for example) allowing adequate space for bicycle lanes. Road diets also have traffic calming benefits.
- **Bicycle Lane - Stripe**: Refers to projects that require only the striping of a bicycle lane, with no other changes needed to the roadway or existing roadway striping.
- **Bicycle Lane - Remove**: Refers to projects that require restriping travel lanes (often to a more narrow width) allowing adequate space for bicycle lanes. Narrowing the widths of travel lanes has been demonstrated to have no affect on overall roadway capacity (for more on this topic, refer to the following pages: 4-6).
- **Bicycle Lane - New Construction**: Refers to projects that require adding additional pavement width to the roadway to allow adequate space for bicycle lanes. These were determined based on future roadway reconstruction schedules and/or lack of opportunity with the current roadway environment.

Other facilities also have sub categories shown on the maps, indicating whether they are existing, planned, or proposed. These are defined as follows:

- **Proposed**: Bicycle facilities labeled as proposed are recommendations that came out of the Bicycle Plan planning process.
- **Planned**: Bicycle facilities labeled as planned already appear in previously adopted City of Raleigh plans.
- **Existing**: Bicycle facilities labeled as existing are already constructed and in use.

**Background Analysis**

- **Chapter 4: Bicycle Facility Network**

**Bicycle Transportation Plan**

- **Network Map Sub-Category Definitions**

**Bicycle Facility Network**

- **Chapter 4: Bicycle Facility Network**

- **Network Map Sub-Category Definitions**
This map shows the various infrastructure for pedestrian circulation, including sidewalks, crosswalks, and greenways. Within the study area Six Forks Road is bounded on both sides by sidewalk and several intersections contain designated crosswalks. Sidewalk access to adjacent residential areas remains problematic though, especially for neighborhoods to the east, south of Millbrook Road.
This map indicates both the location of street trees in public rights-of-way and the limits of tree cover on parcels in the area. As shown on the map, Six Forks Road lacks a consistent tree planting pattern.
Location of street lights in public rights-of-way are shown on this map, which was developed from a right-of-way inventory completed in 2006. A handful of gaps can be seen along Six Forks and Millbrook Roads.
No City parkland is located within the proposed study area, though four parks are located in close proximity. An existing greenway, Snelling Branch Trail terminates in Optimist Park to the north. Land is being dedicated for a future greenway north of St. Albans Drive and the North Hills East development.
The proposed study area can be identified by five different character areas. The following pages provide a brief description accompanied by a photo inventory of each area.
Area: Ramblewood/Beltline
This area contains a mix of residential densities with established single-family neighborhoods and higher-density condominiums and apartments under construction.
Area: North Hills Mixed Use
The area directly north of the beltline on both sides of the street is characterized by the mixed-use North Hills and North Hills East developments.
Area: Office and Institutional Core
This section of the corridor contains a mix of suburban style office complexes, large-scale churches, Carroll Middle School, and a high-rise senior apartment. There is also a mix of orientation of buildings to the street, with some buildings close to the street with parking behind and vice-versa.
Area:
Residential Fronting
Several single-family neighborhoods are accessed from this section of Six Forks Road. There are also numerous residential lots with direct frontage on the corridor. Some of these lots are zoned for future office uses, while most still function as residences.
Area:
Six Forks/Millbrook Intersection
The intersection of a secondary arterial (Six Forks Road) and a major thoroughfare (Millbrook Road) contains the next retail uses north of North Hills, including fast food retail on the west side of Six Forks across from Windell Drive, the Colony Shopping Center, and a gas station/convenience store at the southeast quadrant of the intersection. Office uses and multi-family residential development lay behind the properties at the intersection. A predominant pattern of office uses picks back up north of the Six Forks/Millbrook intersection.
Low Density Residential
(1-6 units per acre)
This category encompasses most of Raleigh’s single family detached residential neighborhoods, corresponding roughly to the R-2, R-4, and R-6 zoning districts (but excluding parks within these districts). It also identifies vacant or agricultural lands—in the city and in the county—where single family residential use is planned over the next 20 years. Clustered housing, duplexes, and other housing types would be consistent with this designation as long as an overall gross density not exceeding 6 units per acre was maintained. As defined in the zoning regulations, manufactured home parks could also be appropriate in this land use category.

Moderate Density Residential
(6-14 units per acre)
This category applies to some of the city’s older single family residential neighborhoods, along with newer small lot single family subdivisions and patio home developments. Other housing types would be consistent with this designation as long as an overall gross density not exceeding 14 units per acre was maintained. Gross density in these areas would be 6 to 14 units per acre. The SPR-30 (Special Residential -30) zoning district could also be appropriate in this land use category. Other corresponding zoning districts are R-6 and R-10.

Office Residential-Mixed Use
This category is applied primarily to frontage lots along thoroughfares where low density residential uses are no longer appropriate, as well as office parks and developments suitable for a more mixed-use development pattern. Although housing would be allowed in all cases, there could be greater incentives for “vertical mixed use” or higher density housing (up to about 40 units per acre) where these zones adjoin future transit stations, or are on traditional “walking” streets. Retail not ancillary to employment and/or residential uses is discouraged so that retail can be more appropriately clustered and concentrated in retail and mixed-use centers at major intersections and planned transit stations. The Office and Institutional zones provide the closest match with the proposed use pattern, although higher-impact uses such as hotels and hospitals are not contemplated or recommended in this land use category.

Neighborhood Mixed Use
This category applies to neighborhood shopping centers and pedestrian-oriented retail districts. The service area of these districts is generally about a one mile radius or less. Typical uses would include corner stores or convenience stores, restaurants, bakeries, supermarkets (other than superstores/centers), drug stores, dry cleaners, video stores, small professional offices, retail banking, and similar uses that support the neighborhood. While this is primarily a commercial category, mixed-use projects with upper story housing are also supported by this designation. Most of the areas mapped with this designation are currently zoned NB (Neighborhood Business) or SC (Shopping Center). Where residential development complements commercial uses, it would generally be in the Moderate to Medium density range (less than 28 units per acre).

Multiple zoning districts could be developed for this category in the future, recognizing that some of the designated areas are established neighborhood “main streets” and others are suburban auto-oriented shopping plazas or strip centers. Although housing would be allowed in all cases, there could be greater incentives for “vertical mixed use” or higher density housing (up to about 40 units per acre) where these zones adjoin future transit stations, or are on traditional “walking” streets.

Regional Mixed Use
This category applies to the Triangle Town Center area, the Brier Creek area, and the North Hills/Midtown and Crabtree Centers. The intent is to identify the major retail and service hubs that draw customers from across the city. These areas may include high-density housing, office development, hotels, and region-serving retail uses such as department stores and specialty stores. The areas with this designation are currently zoned O&I-2, SC, and TD.

Office/Research and Development
This category identifies major employment centers where housing is not considered an appropriate future land use. Principal uses are office parks, free-standing office buildings or corporate headquarters, banks, research and development uses, hotels, and ancillary service businesses and retail uses that support the office economy. This category can also apply in appropriate locations to office-industrial hybrids such as light fabrication and assembly ancillary to an R&D use, flex parks, and office-distribution combinations. Most of these areas are currently zoned O&I-1, O&I-2, O&I-3, or Thoroughtfare District (TD).

Public Facilities
This category identifies large publicly owned non-park properties, including public schools, city facilities (such as libraries, fire stations, public works yards, etc.), stadiums, state government facilities, the fairgrounds, and federal government facilities (postal distribution centers, etc.). Such sites are identified on the Future Land Use Map if they cover more than about two acres.

Institutional
This category identifies land and facilities occupied by colleges and universities, large private schools, hospitals and medical complexes, religious organizations, and similar institutions. Smaller institutional uses such as churches are generally not mapped unless they are sites that are more than two acres in size. Institutional properties may be public or private.

Public Parks and Green Space
This category applies to permanent open space intended for recreational or resource conservation uses. Included are neighborhood, community, and regional parks and greenways. Greenways include both existing greenway property as well as potential greenway corridors designated in the Comprehensive Plan and subject to regulation under the City code. Also included are publicly owned lands that are managed for watershed protection, resource conservation, hazard prevention, and the protection of important visual resources. Land with this designation is intended to remain in open space in perpetuity. Where potential greenway corridors are mapped (typically as buffers to streams identified in the City’s Greenway Master Plan), greenway dedication will be subject to the City’s code requirements during the subdivision and site planning process, but shall not be a part of the rezoning process unless voluntarily offered.
The 2030 Comprehensive Plan's Growth Framework Map designates Six Forks Road, as well as Millbrook Road and St. Albans Drive as Multi-Modal Corridors while Lynn Road/Spring Forest Road is a Parkway Corridor and Lassiter Mill Road north of I-440 is an Urban Corridor. There are two City Growth Centers identified along the corridor, the Midtown Growth Center at Six Forks Road and I-440 and the Mixed Use Community Center at the intersection of Six Forks and Millbrook Roads.

Sec. 3.1.1. District Intent Statements

A. Residential Mixed Use (RX-)
   1. RX- is a mixed residential district intended to provide for a variety of residential building types and housing options at densities in excess of 12 dwelling units per acre.
   2. RX- can serve as a land use transition between heavy industrial areas and residential neighborhoods.
   3. RX- allows limited retail and service-related options subject to use standards that limit the size and scale to the ground floor corner unit of an apartment building.

B. Office Park (OX-)
   1. OP- is intended to preserve and provide land for office and employment uses.
   2. OP- can also serve as a land use transition between other mixed use districts and residential neighborhoods.

C. Office Mixed Use (OX-)
   1. OX- is intended to provide for a variety of office and employment uses while allowing for limited retail and service-related options. Limited retail and service-related options are allowed subject to use standards that restrict the size and scale of each use.
   2. OX- is not intended to provide for areas exclusively dominated by office or employment uses but provide for developments that balance employment and housing options with access to commercial services and goods.
   3. OX- can serve as a land use transition between other mixed use districts and residential neighborhoods.

D. Neighborhood Mixed Use (NX-)
   1. NX- is intended to provide for a variety of residential, retail, and commercial uses within walking distance of residential neighborhoods.
   2. To limit the overall scale, NX- has a maximum lot size of 10 acres. Maximum height limits should be compatible with adjacent residential development.

E. Commercial Mixed Use (CX-)
   1. CX- is intended to provide for a variety of retail, service and commercial uses.
   2. While CX- accommodates commercial uses, the inclusion of residential and employment uses are strongly encouraged in order to promote live-work and mixed use opportunities.

F. Downtown Mixed Use (DX-)
   1. DX- is intended to provide for intense mixed use development of the City’s urban core.

G. Industrial Mixed Use (IX-)
   1. IX- is intended to provide for a variety of light industrial and manufacturing uses while allowing for retail, service and commercial activity and limited housing opportunities. To help ensure that land is reserved for manufacturing employment, residential uses are limited to the upper stories of mixed use buildings.
   2. IX- is not intended to provide for areas exclusively dominated by light industrial or manufacturing but provide for developments that incorporate commercial uses with housing, retail and service-related activity.
   3. IX- can serve as a land use transition between heavy industrial areas and mixed use districts.

Sec. 3.1.2. District Components

A. Each mixed use district is comprised of one or more of the following components:
   1. Use and Base Dimensions (RX-, OP-, OX-, NX-, CX-, DX-, IX-)
   2. Height (-3, -4, -5, -7, -12, -20, -40); and
   3. Frontage (-PK, -DE, -PL, -GR, -UL, -UG, -SH).

B. A variety of mixed use districts can be constructed by applying different height and frontage configurations as shown in the table below.

C. Each mixed use district must include a height designation. A frontage is optional unless it has already been applied to property and designated on the Official Zoning Map.

D. Neighborhood transitions apply when adjacent to a residential district (see Article 3.3).

Use & Base Dimensions

<table>
<thead>
<tr>
<th>Use &amp; Base Dimensions</th>
<th>Height</th>
<th>Frontage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX - Residential Mixed Use</td>
<td>OP = Office Park</td>
<td>DX = Downtown Mixed Use</td>
</tr>
<tr>
<td>3 - 2 stories max</td>
<td>6 - 5 stories max</td>
<td>7 - 7 stories max</td>
</tr>
<tr>
<td>10 - 30 stories max</td>
<td>40 - 40 stories max</td>
<td>40 - 40 stories max</td>
</tr>
</tbody>
</table>

The City of Raleigh is currently undergoing a revision to its development code. The Unified Development Ordinance (UDO), currently under review by City Council, will result in an ordinance that specifies a zoning district, height, and frontage for properties. Excerpts from the current UDO draft are included on this and the following page. Districts, heights, and frontages will need to be determined for properties within the study area, to guide the City-wide re-mapping process associated with the UDO.
Article 3.3. Height Requirements

Sec. 3.3.1. Applicability
A. Each mixed use district must include one of the following height designations. The designation establishes the maximum height in stories and feet for each mixed use district. For example, CS/7 has a maximum height limit of seven stories or 90 feet.

- 3 stories / 50 feet max
- 4 stories / 62 feet max
- 5 stories / 75 feet max
- 7 stories / 90 feet max
- 12 stories / 150 feet max
- 20 stories / 250 feet max
- 40 stories / 500 feet max

B. The height requirements apply to apartments, general buildings, mixed use buildings and civic buildings. Maximum heights for detached house, attached house and townhouse are set forth in Article 3.2.

C. The minimum height requirements apply only to the urban frontages. The urban frontages include the following: Green, Urban Limited, Urban General and Shopfront. Civic buildings are exempt from the minimum height requirements.

Sec. 3.3.2. Building Height Standards

Article 3.4. Frontage Requirements

Sec. 3.4.1. Purpose and Intent
Frontages link a desired development pattern with specific form requirements that mandate the type of development desired along the street edge. Frontages place additional limitations beyond the base dimensional standards. Where there is a conflict between the base dimensional standards and the frontage requirements, the frontage requirements control.

A. Parkway (-PK)
The PW Frontage is intended to provide a heavily landscaped buffer between the roadway and adjacent development to ensure a continuous green corridor along the street edge.

B. Detached (-DE)
The DE Frontage is intended for areas adjacent to roadways transitioning from residential to commercial. Accommodates neighborhood-scaled, low intensity commercial uses while maintaining the residential character of the street.

C. Parking Limited (-PL)
The PL Frontage is intended for areas where access to buildings by automobile is desired but where some level of walkability is maintained. Permits a maximum of two bays of on-site parking with a single drive aisle between the building and the street.

D. Green (-GR)
The GR Frontage is intended for areas where it is desirable to locate buildings close to the street, but where parking between the building and street is not permitted. Requires a landscaped area between the building and the street.

E. Urban Limited (-UL)
The UL Frontage is intended for areas where parking between the building and street is not allowed. Buildings abut the street and sidewalk but to balance the needs of both the pedestrian and automobile greater spacing is allowed along the street wall.

F. Urban General (-UG)
The UG Frontage is also intended for areas where parking between the building and street is not allowed. Buildings abut the street and sidewalk but the UG frontage has a higher street wall requirement than the UL Frontage.

G. Shopfront (-SH)
The SH Frontage is intended for areas where the highest level of walkability is desired. The SH Frontage is intended to create a “main street” type of environment, therefore, mixed use buildings are the primary building type allowed.

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