



Diagnostic Report

for revisions to the Unified Development Code of the Town of Troutman, North Carolina

September 23, 2015





This report and plan was prepared for the TOWN OF TROUTMAN, NC - 2015

ELECTED OFFICIALS

Mayor Elbert Richardson
Council Member Teross Young
Council Member Paul Henkel
Council Member Judy Jablonski
Council Member Betty Jean Troutman
Council Member Sally Williams

PARTICIPATING TOWN STAFF

Ann Bailie (Town Manager)
Erika Martin (Planning Director)

CONSULTANT

Stantec Consulting Services, Inc.
The Urban Places Group
2127 Ayrsley Town Boulevard
Suite 300
Charlotte, NC 28273
www.stantec.com
704.329.0900 Phone
704.329.0905 Fax

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INTRODUCTION

GOAL: Ensure that Troutman’s development regulations implement the vision for the future of Town as described by its residents and adopted plans.

1.1 PURPOSE OF THIS REPORT

The Town of Troutman retained Stantec’s Urban Places Group to analyze its existing Unified Development Ordinance (UDO). The purpose of this analysis is to compile a professional critique of the current regulatory system in place for the Town of Troutman and recommend comprehensive changes to both the process and the standards. This report is informed principally through a detailed analysis of the existing plans and regulations for the community, as well as, specific commentary from town staff and community stakeholders. This report focuses only on those regulations and requirements that are within the purview of the Town of Troutman, with specific emphasis on those development requirements that we believe require change. Though it is understood and acknowledged that other outside agencies have a role to play in the development process as well; such as, Iredell County and various state agencies, it not possible to affect change in those organizations in the same manner as with the Town. Therefore, our recommendations are primarily confined to town policies, regulations, and processes.

The recommendations contained in this report are intended to offer decision points for changes within the regulatory framework of the existing ordinance. These recommendations will present town officials with a road map for changes to the UDO that will clarify the development regulations, provide a more straightforward development review process and ensure consistency with the vision embodied in the town’s adopted plans. For some issues, this report offers specific guidance, while for others, the decision between potential regulatory approaches are more nuanced and complex and will require further input and feedback. Specific recommendations and decision points are called out as “Action Items” throughout the report.

The Town of Troutman has reached a turning point in it’s future. It has remained as a small town for many decades, but it has begun to feel development pressure from its neighbors to the north, Statesville, and the south, Mooresville. Because of its location in the greater Charlotte metropolitan area, now is the time is for Troutman to revise how their policies shape development in their community. The first step is to develop a vision formed by town residents and stakeholders and embraced by the city staff and elected officials, that will help drive the future identity of the town.

Troutman recently completed a comprehensive future land use plan that examines population, housing, income, education, employment, transportation and infrastructure, community resources, parks and recreation, public safety, current land development policies, and environment and land suitability. This community consensus reached in writing this document serves as a vision for the community and a vision for the revisions of the UDO.

1.2 HISTORY OF UNIFIED DEVELOPMENT ORDINANCE (UDO)

The UDO for the Town of Troutman was adopted in 2006. It consists of zoning and subdivision regulations that include land use, dimensional requirements, density, and physical design. Prior to any development being approved, it must be shown to meet all standards within the UDO.

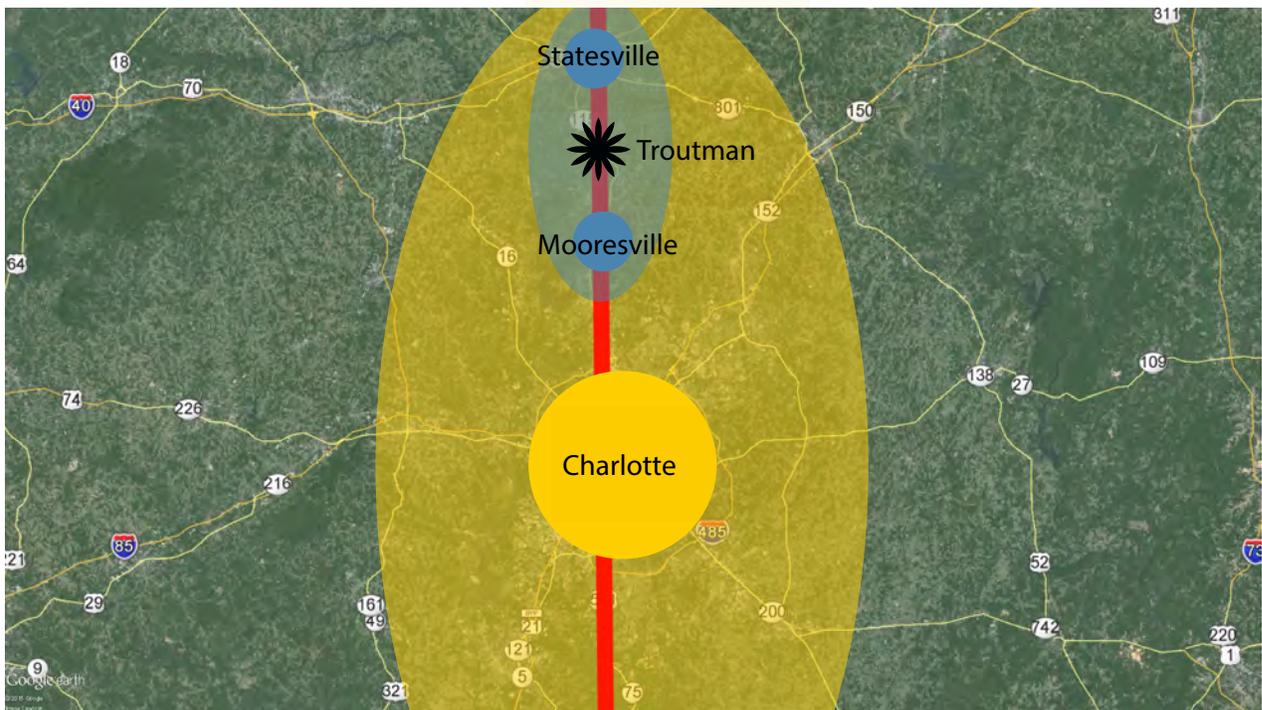
Currently Troutman has four residential districts, two mixed-use districts, two commercial districts, two industrial districts, and one manufactured home district.

Since the document's completion, it has gone through many amendments, causing it to become an ineffective document in ensuring quality and consistent development in Troutman. The latest major amendment to the document in 2014 allows drive-thru uses by right in the Highway Business District, previously only allowed with a special use permit.

1.3 BASIC PRINCIPLES OF CODE WRITING

Although this report offers specific recommendations uniquely tailored to Troutman's regulatory context, we recognize that there are some basic principles for good technical writing as it relates to the drafting of any development ordinance. As the town proceeds with the revision of its Unified Development Ordinance we believe that the following should be addressed:

1. User-friendliness is in the eye of the beholder. Nearly everyone will have different ideas about how the ordinance should be arranged. However, agreement is needed on the conventions for arranging the ordinance up-front, in order to avoid problems with cross-referencing later.



Troutman's location within the Charlotte metropolitan area, it's proximity between two of the larger growing towns north of Charlotte: Statesville and Mooresville, and it's connection to Interstate I-77 all put the town in the path of growth.

2. Arrange the ordinance logically by topic. The following principles should be followed:
 - » Similar subjects should be arranged together by article or chapter — e.g., procedures, improvement standards, nonconformities — rather than scattered throughout the ordinance.
 - » The more interesting and/or commonly used parts of the ordinance should be placed at the front (e.g., uses and development standards), with administrative provisions and definitions at the rear of the ordinance. This allows laypersons as well as administrative officials to quickly find the most important and frequently used information.
 - » While it is not interesting reading, technical information (e.g., application submittal requirements) is needed in order to provide effective standards and guidance for applicants and permitting officials. Technical matters should be relegated to standalone documents or appendices at the rear of the ordinance. They should be incorporated as independent documents that do not require a legislative process to change so that staff can adjust the requirements as necessary to suit their development review procedures.
3. Provide references (and links for online versions) in a consistent manner (e.g., italics) to:
 - » Any defined word in the ordinance;
 - » Other related provisions in the ordinance or elsewhere in the Municipal Code;
 - » Relevant adopted policies or interpretations outside the ordinance; and
 - » Appropriate sections of other adopted plans.
4. Eliminate provisions that have outlived their usefulness. Standards are frequently carried forward from previous ordinances and amendments. The desire to condense or to eliminate code provisions in an attempt to make a code more readable can offend neighborhood or business constituencies that championed those provisions. However, the ordinance cannot be all things to all people or interest groups. And, the ordinance cannot be held to a reasonable length if it attempts to address every conceivable undesirable situation. Instead, reasonable choices must be made to implement the town's planning policies while respecting the rights of landowners, businesses and neighborhood groups. These choices should establish clear parameters that reflect the town's planning policies, rather than providing a comprehensive list of forbidden situations.
5. As much as is possible, regulations should be prescriptive (specifying what is expected), rather than proscriptive (specifying what is prohibited).
6. Remove standards that are unnecessary, outdated, or not worth the cost of administration. This not only reduces volume, but it also reduces budget and staffing needs. However, it must be recognized that the town might face complaints about areas or issues that it chooses not to regulate.
7. Regulate from the "general" to the "specific."
8. Consolidate long sections of narrative and repetitive lists of standards into tables. For example, older ordinances typically create long "laundry lists" of uses and dimensional regulations within each set of district regulations. The alternative to that approach is consolidated tables of permitted uses by district and/or dimensional standards by district. This communicates use allowances and information like setbacks and height regulations much more clearly. It also allows readers to compare standards across districts.
9. Assure that the ordinance is consistent with the overall format of the Code of Ordinances, so that there are not two "versions" of the ordinance.
10. Match fonts and styles to be consistent with the hierarchy of the ordinance, reflecting the relative importance of each heading or provision.
11. Make chapter and section titles descriptive.
12. Provide purpose and applicability statements for

each ordinance chapter/section as needed.

13. Use graphics to illustrate the text language. Photo-editing technology can use local examples to illustrate how a design standard works or what a particular use looks like. Participants in this process can help by taking pictures and emailing them to staff. While graphics add to the length of the ordinance, they can replace text in some circumstances. Graphics should only be used however to provide clarity and/or illustrate specific regulatory intent. Images used just for the sake of making the ordinance more attractive often do more harm than good by creating confusion.
14. When utilizing mathematical expressions in the document, display the actual equation as opposed to the long, descriptive version of the mathematical expression containing only words.
15. Provide headers and footers to indicate the document title, page numbers, chapter name and number, section name and number, and the most current adoption date.
16. Provide references to dates of revisions within each chapter or section, as appropriate.
17. Use portrait format, rather than landscape. Do not mix the two, unless there is a clear benefit to keeping a table to a single page.
18. Publish the document for easy dissemination to the public using the following media in order of priority:
 - » Internet/World Wide Web (.pdf or html with hyperlinks)
 - » Print
19. Avoid jargon! Use clear language and avoid ambiguity.
20. Use consistent terms (“multifamily” not “apartments”; “unit” not “dwelling” etc.);
21. Use consistent punctuation throughout
22. Remove and avoid “legalese” and use common language when possible.
23. Use the present verb tense; “shall” and “must” are mandatory, “should” and “may” are permissive;
24. “And” means all words apply, “or” may apply singularly or in combination, and “either” applies singularly but not in combination; and
25. Singular is preferable to plural.
26. Be gender-neutral, using “person” or “applicant.”
27. When in doubt, SIMPLIFY!



DOCUMENT REVIEW & STAKEHOLDER OUTREACH 2

Image Credit: Troutmannc.gov

GOAL: With the input of community stakeholders and in coordination with existing policies, revise Troutman's Unified Development Ordinance to be more user-friendly and effective in delivering high-quality development.

2.1 DOCUMENT REVIEW

The majority of the analysis in this Diagnostic Report relates to the function, organization and administration of the UDO. However, there are a number of other plans that work in conjunction with the UDO to guide development within in the town. As an initial step in this process, Stantec reviewed a number of these key companion documents that have been developed, adopted, and/or implemented by the Town of Troutman. Our analysis and conclusions regarding the manner in which these companion documents will affect the UDO update are summarized in this section.

Troutman Town and Country Plan (2002)

Like this UDO, the Troutman Town and Country Plan was adopted in 2002 to preserve the small town character of Troutman and protect its facilities and resources. The plan seeks to build on the character of the town by growing incrementally as natural extensions to the town borders, and providing municipal services in an orderly and efficient manner. The focus on growth was balanced with the preservation of unique open spaces and historic character.

The plan includes demographics and existing analysis, future development projections and patterns, and design recommendations for streets, open space protection, building design and downtown development. These General Development Provisions focused on the following goals:

- Enhance the existing amenities
- Provide for the existing residents
- Maintain it as a place to raise children
- Construct areas for recreation
- Beautify the public spaces
- Nurture a community that is clean and safe
- Diversify the tax base

The main tenants of the plan, focused on the Town’s goals and principles of smart growth were:

- The Town should expand adjacent to its borders and discourage “leap frog” development in the ETJ; and
- New neighborhoods are encouraged to be mixed use and provide a variety of housing opportunities to meet the needs of a changing population; and
- All new development should be scaled to the pedestrian and designed as high-quality, long-term additions to the community; and
- The transportation network must support both the automobile as well as the pedestrian and the bicyclist; and
- Open space should be protected using a combination of regulatory and market-driven tools.

The recommendations of the General Development Provisions are supportive of revisions to the UDO centered on smart growth policies; such as, requiring local street connections, designing buildings to the street to support the pedestrian scale, and encouraging mixed-use in the downtown.

-
- ▶ **Action Item:** Use the Troutman Town and Country Plan as a guide for future revisions to the UDO.
-

The Town of Troutman Pedestrian Plan (2008)

The Troutman Pedestrian Plan was adopted in 2008 with the intention of creating a more pedestrian-friendly environment in wake of and in preparation of future growth. The community established a vision to guide the strategies of this plan that consisted of four elements: 1) Safe pedestrian environment; 2) Desirable destination points that are connected; 3) Outdoor exercise opportunities abound; 4) A healthy economic environment. This plan then set forth with a guiding principles, a scope, a method, and process before listing its recommendations:

1. Form a stakeholder-based Pedestrian Needs Committee (PNC); and

2. Coordinate with NCDOT on the Comprehensive Transportation Plan (CTP) to address Town planning goals; and
3. Develop and adopt a Comprehensive Land Use Plan; and
4. Work with Iredell County on areas outside of Troutman’s ETJ; and
5. Adopt the Lake Normal Bike Route; and
6. Enact ordinance changes.

This plan clearly explains the benefits of a pedestrian lifestyle, and examines current conditions to identify the challenges of implementing a more pedestrian-friendly built environment.

This plan should be used as a tool in the revision of the UDO, especially when establishing standards relating to connectivity, pedestrian facilities, and open space and recreation opportunities. The Table provided on page 39, specifically calls out ordinance modification that would positively impact pedestrian facility implementation or utilization.

-
- ▶ **Action Item:** Reference the Recommended Ordinance Modification Table when revising the UDO.
-

Comprehensive Transportation Plan (2009)

The Comprehensive Transportation Plan was adopted in 2009, and prepared by the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT). The report documents its findings through a series of recommendations for major improvements, and also includes cross-section recommendations, cost estimates for recommended improvements, and environmental features found in improvement areas.

The recommendations that most effect the intent of a UDO update are:

- US 21/NC 115 (TIP Project # R-2522): It is recommended that Main Street be widened to a four-lane divided facility with partial control access. In conjunction, Eastway Drive should be improved to boulevard standards and function as a one-way pair with US 21 from the beginning

TROUTMAN PEDESTRIAN PLAN

~ Recommended Ordinance Modifications ~

Issues affecting walkability	Current UDO Regulations	Concern With Current Regulations	Revision Recommended
<p>1. Mixed Land Uses</p>	<p>Sections 3.2 - 3.12 defines Troutman's Zoning Districts. Out of the eleven described, three districts permit a mix of residential and commercial uses: the Neighborhood Center (N-C) District, the Planned Unit Development (PUD) district, and the Central Business (C-B) District, which permits residential use within a mixed-use building.</p>	<p>The segregation of land uses does not encourage a pedestrian-friendly environment. The physical distance between uses presents fewer opportunities for pedestrians to walk from one use to another (i.e. "being able to walk to the corner store.") Such an arrangement more often encourages or necessitates the use of a car. All too often, such scenarios lend themselves to "strip commercial" development along major highways, which are geared for the motorist as opposed to the pedestrian.</p>	<p>Re-examine the table of permitted uses contained in Section 3. Simple changes that could be made include:</p> <ol style="list-style-type: none"> 1.) Permit more residential uses by special requirement in more of the non-residential zones. 2.) Permit more non-residential uses by special requirement in more of the residential zones. 3.) Replace zone-by-use with a form-based zoning code.
<p>2. Street connectivity</p>	<p>Section 8.8.4 strongly promotes connectivity but recognizes that topographic conditions can make road building impractical in some locations. However, the UDO does not specify what topographic conditions constitute an impractical hardship, nor does it specify who decides the issue on a case-by-case basis.</p>	<p>The Town and its ETJ is laced with a tight network of stream valleys, any one of which may be considered an impractical encumbrance to development. With no site-specific criteria provided in the Ordinance, the Town has no basis on which to require developers will likely opt not to build expensive road connections that cross stream valleys, sacrificing the connectivity that the Town desires, or they may sue the Town if the Town, on an indiscriminate basis, requires them to build the road as a condition for subdivision approval.</p>	<ol style="list-style-type: none"> 1.) Mandate that new subdivisions have at least one stub to adjoining properties. This would require either a connection to an existing street or providing a stub for an adjoining (future) development to hook into the subdivision. 2.) Limit the use of cul-de-sacs to promote internal connectivity within the subdivision. This could be accomplished by a) Limiting the percentage of streets within a subdivision that can be cul-de-sacs; b) Institute a connectivity ratio for all subdivisions which uses an established mathematical standard for street connections both within the subdivision and connections to other streets and properties at the subdivision periphery. 3.) Require pedestrian trails where street connections are considered impractical.
<p>3. Cul-de-sac street length</p>	<p>Section 8.8.4 C. states that permanent dead end streets should not exceed one-thousand (1000) feet in length unless necessitated by topography or property accessibility.</p>	<p>As cul-de-sacs lengths increase, properties accessible from only one direction become more isolated and difficult to reach, and vehicular traffic on the cul-de-sac increases. The UDO does not specify what degree of slope in topography necessitates the continuation of a cul-de-sac past the 1000 foot limit, nor does it specify who decides the issue on a case-by-case basis.</p>	<ol style="list-style-type: none"> 1.) Develop topography and accessibility criteria (such as maximum slopes, width of floodplain to cross, etc.) by which to set objective standards that necessitate exceeding normal cul-de-sac length limits. 2.) Amend Section 8.8.4 C. to limit cul-de-sac lengths to 300 feet. This length allows at least 10 Single-Family R-S lots to front on a cul-de-sac.
<p>4. Block length</p>	<p>Section 8.8.5 C. States that uninterrupted streets (or segments thereof) shall be no greater than 1,000 feet in length, except as considered necessary to secure efficient use of land.</p>	<ol style="list-style-type: none"> 1. Long block lengths allow for cars to travel at fast speeds and hinder pedestrian accessibility. 2. Long blocks present pedestrians with fewer route alternatives. 	<p>Amend Section 8.8.5 C. to allow blocks in new development to be no greater than 800 feet in length.</p>

Issues affecting walkability	Current UDO Regulations	Concern With Current Regulations	Revision Recommended
<p>5. Crosswalks</p>	<p>Section 8.8.5 B. states that where deemed necessary by the TRC and/or Town Board, a pedestrian crosswalk may be required to provide convenient public access to a public area such as a park or school, to a water area, or to areas such as shopping centers, religious or transportation facilities.</p>	<p>The UDO does not recognize an overall plan for crosswalk locations that takes into account street crossing locations that may not be adjacent to primary destinations, but are critical to primary pedestrian travel routes, such as greenways. The UDO also does not put forth design standards for crosswalks, such as guidelines for warning signage, signalization or adequate striping.</p>	<p>1.) Amend Section 8.8.5 B. to require crosswalks along principal streets within subdivisions (unless the block length is short enough (less than 500 feet) that a crosswalk would not be required. 2.) In order to meet the intent of the Conditional Use process Section 9.10.3 A., namely "that the use will not materially endanger the public health and safety if located where proposed and developed according to plan – require that all conditional uses that generate substantial amount of pedestrian traffic (i.e., schools, library, etc.) be required to install crosswalks on major streets that abut such facilities. 3.) Include a reference in Section 8.8.5 B. to the Troutman Pedestrian Plan for the location of additional strategic crosswalks required. 4.) Provide design standards for crosswalks in Section B.4.4</p>
<p>6. Sidewalk locations, condition, connections</p>	<p>Section 8.9 provides minimal guidelines for sidewalks and their required locations in new development. Locations of sidewalks are required solely upon the basis of the street type right-of-way in which the sidewalk is to be constructed, as defined by the "Thoroughfare Plan" (CTP).</p>	<p>The UDO makes no reference to any additional plan or policy that takes into account destinations, or current or future land use issues. No comprehensive plan is referenced to guide sidewalk-related decisions. Furthermore, all sidewalks should meet all applicable ADA standards.</p>	<p>1.) Include a reference in Section 8.9. to the Troutman Pedestrian Plan for the location of additional strategic sidewalks required in non-subdivision developments. 2.) Provide design standards for sidewalks in Section B.4.4.</p>
<p>7. Greenways, Trails & Open Space</p>	<p>Section 6.2 describes various categories of open space including greenways. The description emphasizes that greenways serve as ways of connecting destination points, such as schools, parks, etc. Section 6.1 limits the applicability of open space requirements to new developments with greater than 10 residential dwelling units with lots of less than one acre.</p>	<p>The UDO makes no reference to any additional plan or policy that takes into account destinations, current or future land use issues, or transportation or recreation master plans. The Town has no mechanism in place to secure right-of-way for off-road pedestrian corridors or destination points within municipal or ETJ limits, or to connect to destinations just outside of those. The UDO also does not put forth design standards for greenways.</p>	<p>1.) Include a reference in Section 6.2. F. to the Troutman Pedestrian Plan for the location of additional strategic sidewalks required in non-subdivision developments. 2.) Amend Section 6.2 to require the dedication of open space to secure land for greenway (and other open space) development or usage. NCGS 160A-372 gives NC municipalities the authority to require this as part of a subdivision development. These areas should be open to the general public and fall under municipal responsibility for construction, maintenance, security and liability. 3.) Provide design standards for greenways in Section B.4.4.</p>
<p>8. Street Trees</p>	<p>Section B.7 provides tree planting guidelines and requires that trees shall be planted in new developments as required in Chapter 7 of the UDO and includes that tree spacing shall be adjusted to avoid obstacles and keep roads sight triangles clear. Chapter 7 provides an approved plant list, buffer requirements, and general information about planting, but no specific information about street tree placement.</p>	<p>With no specific guidelines for tree spacing, the Town has no consistent standard for requiring street trees per length of street.</p>	<p>Amend Section 7.2 to add a "TYPE E Landscaping (Street Trees)" classification. Require that large maturing trees be spaced at no more than 50' apart, and small maturing trees at no more than 35' apart. Consider further development of the Tree Ordinance during the revision process.</p>

Issues affecting walkability	Current UDO Regulations	Concern With Current Regulations	Revision Recommended
9. Building Setbacks	Chapter 3 sets the required minimum setbacks of the Town's various zoning districts. Section 5.2 states that setbacks shall be compatible with those of adjacent buildings. The UDO describes no maximum setbacks. New buildings may, therefore, be located at great distances from the street, particularly when adjacent ones are as well.	With no regulations to establish maximum setbacks (or "build-to" lines), retailers can create very deep front yards. Such strip-development arrangement deteriorates street definition, making pedestrian use uncomfortable. It may also require pedestrians to navigate long distances through parked cars (and moving ones!) in parking lots, where front-yard parking is permitted.	Amend Section 3.9 to establish "build-to" lines of maximum front yard setbacks in the C-B zone.
10. Off-street Parking Requirements	Section 8.2.1 provides a table of 12 land uses with the minimum number of parking spaces required for each use. The minimum number is based solely upon building use classification irrespective of zoning districts. The Ordinance sets no limit on maximum number of parking spaces allowed.	Requiring off-street parking strictly by use, irrespective of urban vs. suburban location, inadvertently conflicts with the pedestrian nature of a "downtown." Urban areas should be designed to facilitate the movement of persons by foot, as well as by car. Pedestrian-friendly zoning ordinances either waive or significantly limit the amount of off-street parking required in a downtown setting, or give credit for on-street spaces.	<ol style="list-style-type: none"> 1.) Amend Section 3.9 to reduce the requirements for off-street parking for all uses in the C-B district. 2.) Reclassify additional zones as exempt from providing additional parking spaces for enlargement, alteration or expansion: Zone M-1, M-2, G-B. 3.) Grant Zoning Administrator greater power to grant exemptions from additional parking requirements.

The Troutman Pedestrian Plan Recommended Ordinance Modifications. This table provides suggestions for revising the UDO to make the town more pedestrian friendly and more walkable.

of South Eastway Drive to its merge with North Eastway Drive.

- **Wagner Street (SR 1303):** It is recommended that Wagner Street be improved to boulevard standards from the town limits to US 21/ NC 115 and realigned to three lanes on a new location at the intersection of US 21/NC 115 to accommodate the project traffic volumes and the anticipated growth along the roadway. This facility will be widened from a two-lane to a four-lane divided facility linking US 21/NC 115 and the proposed Troutman Bypass.
- **Perry Road Extension:** it is recommended to extend Perry Road to Murdock Road to provide access to a proposed major residential development and to provide an alternate north-south route to alleviate congestion on US 21/ NC115.
- **Troutman Southwest Bypass:** It is recommended to provide a direct continuous route from Old

Mountain Road to the southern portion of US 21/NC115. The bypass is comprised on existing portions of Troutman Road, Talley Street, Autumn Leaf Road, and Barkdale Road, which in the future will be improved to NCDOT standards.

While some of these recommendations are detrimental and extremely destructive to the historic character of downtown Troutman, others will actually improve transportation in the town in a way that will preserve the small-town character of Main Street.

Widening Main Street and Wagner Street with limited access will destroy any opportunity for creating a more walkable and mixed-use downtown Troutman. The Town must work closely with NCDOT to ensure this does not occur. Strategies like extending Perry Road and creating a bypass connecting residential development to I-77 are strategies that will improve connectivity in the town, very much in line with suggested revisions to the UDO. These alternate

routes will provide capacity for future US 21 traffic and allow Main Street to retain its current form and character. These projects should be made a priority with NCDOT.

- ▶ **Action Item:** Work with NCDOT to preserve the current form and character of Main Street/US 21.
- ▶ **Action Item:** Work with NCDOT to make building alternative routes to US 21 a priority.

Lake Normal Regional Bicycle Plan (2010)

The Lake Normal Regional Bicycle Plan was completed in partnership with four counties and five towns in the Lake Normal area. The first comprehensive bicycle plan of its type in North Carolina, this plan offers a well-connected route for cyclists around the lake. Written by the Centralina Council of Governments (CCOG) in close partnership with the transportation staff of the counties and towns, this plan was adopted by NCDOT and supported by a Task Force to ensure its implementation over time.

The Bicycle Plan proposes an initial route and an ultimate route. The background, methodology, current conditions, a detailed description (project location, existing condition, proposed improvement, length, funding, and priority) of the routes, and an implementation plan are presented in this document.

The section of the bicycle route that goes through the Troutman Loop is part of the Initial Route and has three segments deemed as a medium and high priority. Paved shoulders and bicycle lanes on Highway 21 were called out as the proposed facilities with resurfacing and future development as funding sources. While the Richardson Greenway is not listed as a component of the Initial Route it will remain a instrumental part of

multi-modal activity in Troutman.

The plan describes the Troutman Loop as “featuring opportunities to access mountain bike trails in Lake Norman State Park, visit a working vineyard, or stop in at destinations in the Town of Troutman. This 11.5-mile circuit follows East Monbo Road, Old Mountain Road, Main Street (US 21) and Eastway Drive through downtown Troutman, Wagner Street, and then State Park Road and St. Johns Road through the State Park. During times when the State Park is closed, the Troutman Loop provides an alternate way to continue on the Route through Iredell County.”

- ▶ **Action Item:** Define development strategies, including the preservation of right-of-way and funding, along the Troutman Loop.

2020 Comprehensive Parks and Recreation Plan (2011)

The 2020 Comprehensive Parks and Recreation Plan was completed simultaneously with the design of Troutman’s first park. The plan provides an inventory of town, school, and church facilities; as well as, those at Lake Norman State Park, the Troutman Youth Athletic Association, and the Barium YMCA. Collecting the community’s input on the ESC Park, and the facilities they’d like to see in the Town led to goals and objectives for the future of parks and recreation in Troutman. These included:

1. Make safety a top priority for parks, trails, and recreation areas.
2. Reinforce the sidewalk network throughout Town.
3. Widen existing thoroughfares to accommodate bicycle use.



The five plans reviewed in this report that have determined the previous planning discussion influencing the current UDO

4. Preserve waters, open space, and natural areas.
5. Insure that parks, trails, and recreational facilities are accessible to all members of the community.
6. Provide opportunities that create access to Lake Norman and other bodies of water.
7. Provide broad community based recreational programs to meet the needs of all age groups and abilities.
8. Create a greenway (trail) network.
9. Develop interesting/innovative park sites, trails, and programs.
10. Operate efficiently and effectively; financial stability
11. Provide a means for social interaction and gathering.

► **Action Item:** Reference the 2020 Comprehensive Parks and Recreation Plan in future revisions to the UDO.

The Town of Troutman 2035 Comprehensive Land Use Plan (2015)

This plan was adopted in 2015 under the direction of a Land Use Plan Committee and town staff. It serves as a “proactive guide for managing future physical growth and development over the next 15-20 years.” The plan examines the quality of life of citizens, as well as, the natural attributes and historic areas of the town. It also offers guidelines on development types, services, and infrastructure.

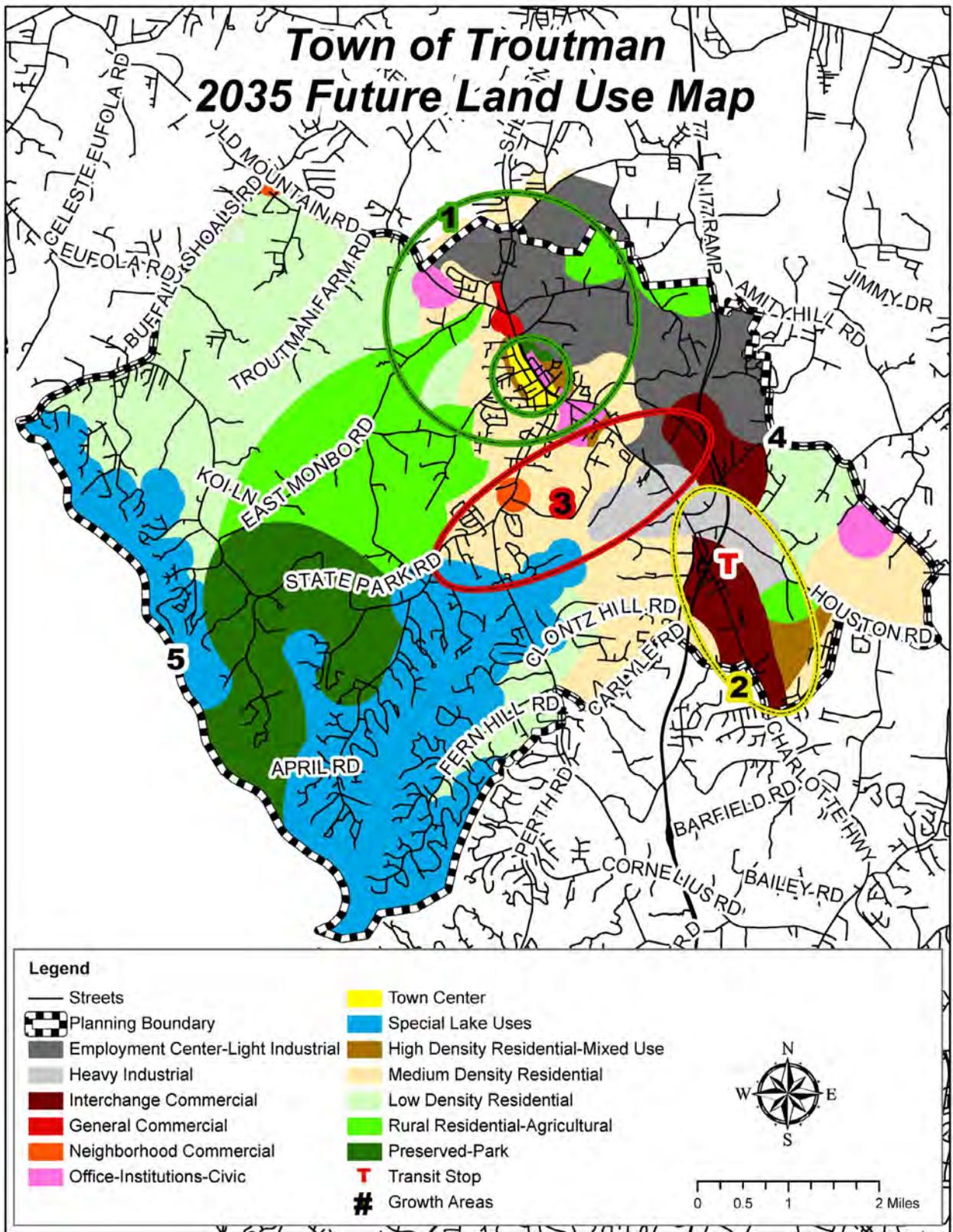
To guide this document, the Land Use Planning Committee worked with the community to establish

a vision for the Town of Troutman. Community meetings, student workshops, and drop-in sessions were held to determine the primary issues that faced Troutman over the following two decades. From these issues, growth strategies were developed based on the following nine goals:

1. Preserve and promote the town’s natural resources, landscapes, and agricultural areas.
2. Encourage commercial development that benefits the economy of Troutman, provides job opportunities, and is attractive and convenient.
3. Ensure that water and sewer services are delivered in a safe, efficient and effective manner that benefits the residents of Troutman and that future capacity is available for recruitment of new business and industry.
4. Provide a healthy environment for a diverse mix of industry, business uses, and other employers that builds upon the area’s economy and strengthens the community.
5. Provide a healthy environment for a diverse mix of retail, service, office, institutional, residential, dining, entertainment, and other compatible uses that builds upon downtown Troutman.
6. Promote and enhance Troutman’s parks and recreational areas as contributors to the area’s key quality of life.
7. Maintain and enhance communication and project coordination between Troutman, Iredell County, adjacent municipalities, and the region.
8. Ensure a safe transportation system by maximizing the capacity of existing roadways, planning

“Over the next ten to twenty years, we envision Troutman will be a unique small town destination of choice where families live, work, and play in a healthy environment. Our residents will have a high quality of life that includes a thriving downtown, great schools, a variety of transportation options, an efficient water and sewer system, a variety of well-crafted housing options, and access to recreational opportunities including Lake Norman. Troutman will strive to be the best small town by focusing growth in key areas and preserving its rural heritage in the ever-growing Charlotte region.”

– 2035 Vision Statement



The Future Land Use Map from the Town of Troutman 2035 Comprehensive Land Use Plan. The map shows the desired location for certain uses and prioritized growth areas over the next 20 years.

for efficient connectivity of future corridors, and accommodating alternative modes of transportation; such as, bicyclists, pedestrians, and transit users.

9. Preserve, enhance, and create satisfying living environments that generate and maintain strong neighborhoods.

The plan also calls out the four primary growth areas in Troutman. They are prioritized with the understanding that land uses may vary based on trends and known opportunities. They are as follows:

1. Downtown/Barium Springs
2. Exit 42/Future Transit Stop
3. Hwy 21/State Park Gateway
4. Eastern Limits
5. Western Limits

The Town of Troutman 2035 Comprehensive Land Use Plan is extremely relevant to the revision of the UDO as it will act as a partner of how and where future development should occur. Any revisions to the UDO should be guided by the agreed-upon vision, meet the goals and objectives of the Land Use Plan, and implement the strategies.

► **Action Item:** Use the Vision for 2035 as the guiding document for the revision of the UDO.

► **Action Item:** Ensure that the implementation of the UDO revision fulfills the goals, objectives and strategies set forth by the 2035 Comprehensive Land Use Plan.

2.2 STAKEHOLDER INTERVIEWS

On May 5 - 6, 2015, the members of the Stantec team interviewed a range of town staff and appointed citizen board members who administer and enforce the UDO on a daily basis, including the town council, Planning and Zoning Board, Board of Adjustment, and Design Review Board. Members of these groups were chosen to share their experience using the current UDO as a tool to enforce development regulations and explain how effective the document was in achieving desired

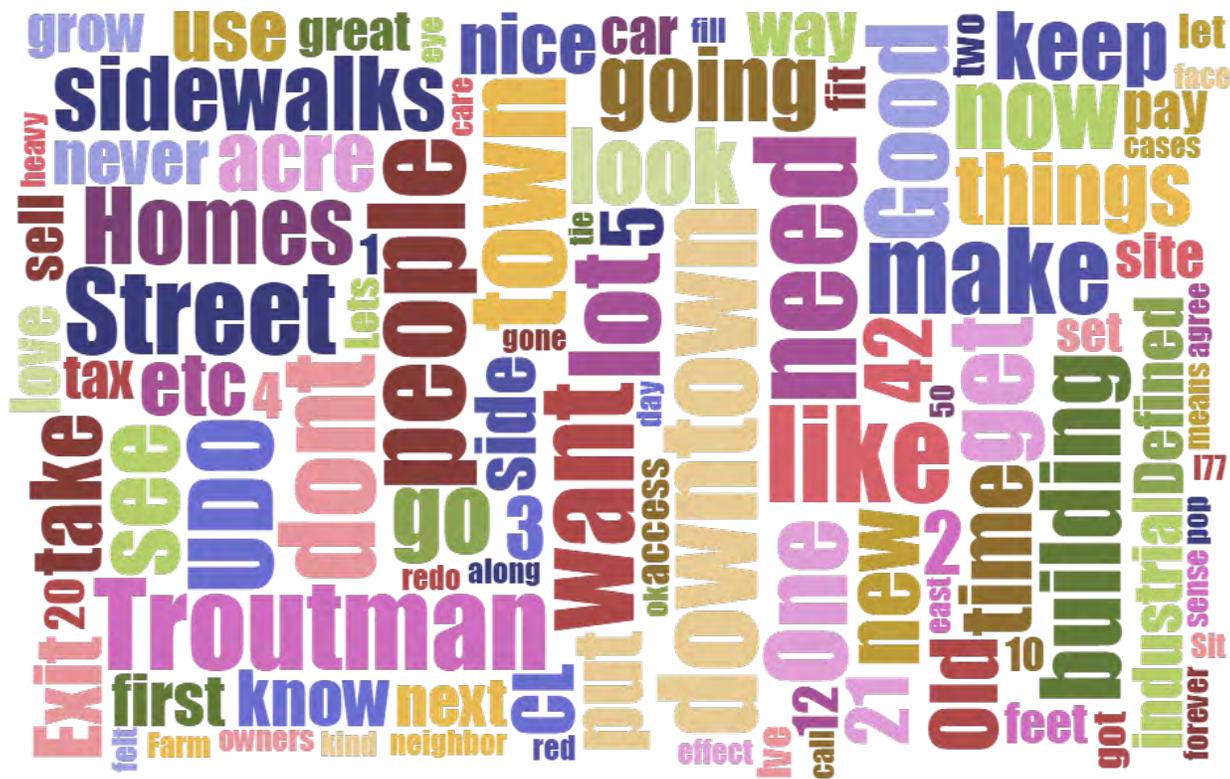
development within the community.

Example questions asked during the stakeholder interviews and the workshops were:

- What are the most important elements that we need to protect in the community going forward?
- What is the vision for Troutman's growth?
- What do you think of the process and administration of the code?

The most important themes identified in this process with the community were:

- **Maintain Troutman's Character:** The consensus is that Troutman is unique in its small town identity and culture.
- **Provide Just Enough Control:** Provide enough control to ensure high quality development, but not too much where the UDO becomes onerous for developers.
- **Predictability:** Understanding is needed for the general public, elected official, and Town staff, exactly what type of development the UDO will yield and how it will implement Troutman's vision.
- **Enhance Downtown:** Expand the walkable core of downtown through rehabilitation of existing buildings, future development, and the construction of pedestrian facilities.
- **The Richardson Greenway:** The Richardson Greenway is a very important element to the identity of the Town. The activity that it has brought to downtown has transformed Troutman's identity for the better.
- **Housing Diversity:** Currently there are very few multi-family units in Town. This is a challenge for maintaining affordability and for those who prefer to live without a larger yard and home, especially the aging population who would like to remain in their hometown.
- **Save the Trees:** A stronger and more-enforceable tree preservation policy is needed to ensure that neighborhoods retain their natural character.



This “word cloud” illustrates general perceptions of development in Troutman. Notes compiled from the stakeholder interviews were used create the graphic. The size of each work in the cloud indicates how frequently that word was used in responses to each question and gives a simple visual representation of the most significant issues and examples raised by a broad cross-section of stakeholders in the Troutman community.

- **Process & Administration:** An improved approval and amendment process for projects that come before the town is of benefit to both the town and the applicant.

These concerns are represented in the word cloud graphic on the previous page that shows which words were used most in the stakeholder interviews.

2.3 DOCUMENT ORGANIZATION

One of the keys to a successful development ordinance is its ability to convey information in a manner that is logical, easy to find, and specifically related to desired development outcomes. Layout is an important element. More important still is a logical hierarchy to the document that provides the necessary order and prioritization for development regulations. Ideally, this hierarchy includes an explanation of the intent of various development regulations included in the ordinance and a clustering of similar information so

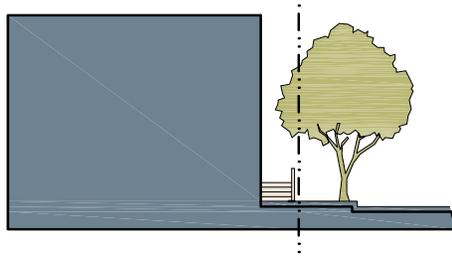
that the end-user can easily find all information related to a specific topic area.

The user-friendliness or readability of a UDO is often perceived to be a function of the document’s length. The town’s current development regulations document is over 300 pages long, including the Uniform Construction Standards Manual and project specific PUD requirements (both of which should be in an appendix). With these removed the UDO is closer to 230 pages long, which is more concise than other development codes for similar municipalities around the state.

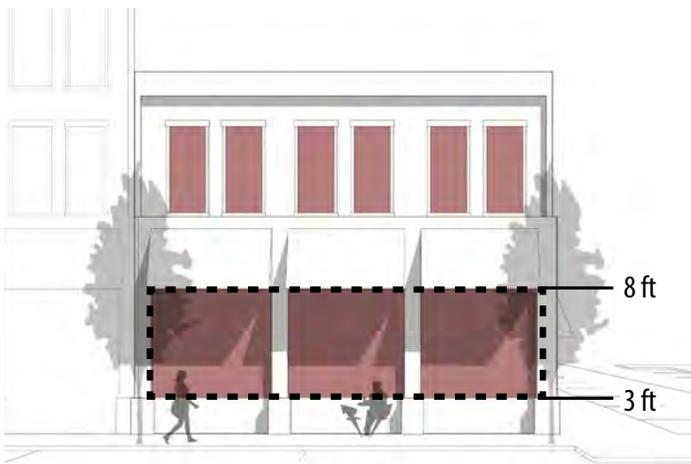
Eliminating redundant and unnecessary language will be a key objective of updating the UDO, but reducing the length should not be the primary goal in and of itself. The UDO must be equipped with the details needed to answer the day-to-day questions that arise in administration and enforcement of the ordinance. The ordinance must be a robust legal document because of its legal authority to approve, deny, or attach

Frontage Type

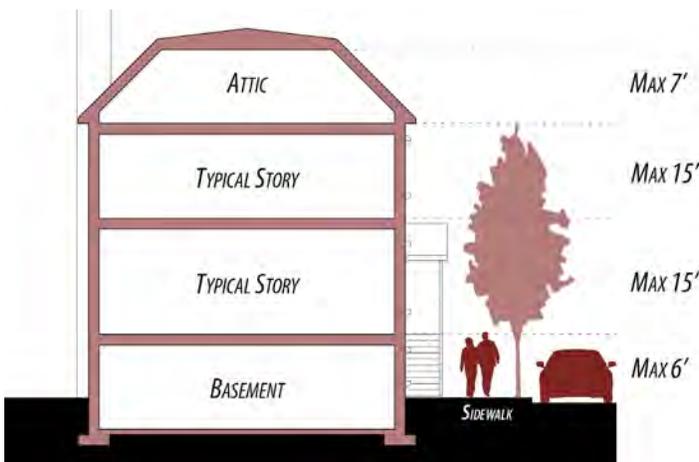
Examples of graphics from other UDO projects that may be appropriate to adapt for use in Troutman.



Transparency



Height



conditions to development. Simply put, development expectations that are not included in the ordinance are not enforceable.

The UDO should be more user-friendly and accessible by applying logical organization and good technical writing principles. In fact, the page layout, format, and organization of a code document has just as much, if not more, to do with the user-friendliness of a document as its overall length.

Regulatory Hierarchy

One issue with the readability of Troutman’s current development regulations is the lack of a clear regulatory hierarchy. Intuitively, the most important information in a UDO should be the easiest to find. In the current Troutman UDO, the chapters do not follow a consistent pattern, with zoning districts and dimensional regulations broken up by administration. It’s not that the administrative details are unimportant, but all of those chapters should be placed at the end of the code. Additionally, some sections of the chapters are in the wrong location in the document, leading to confusion.

The structure of the UDO should follow a logical hierarchy and prioritization. Important and often used sections such as districts, uses and dimensions, and design standards, should be prominently located at the beginning of the document and easy to find. More mundane sections such as definitions, enforcement, and administration can be placed toward the end of the document. The annotated outline in Appendix B of this report provides a more substantial summary of the proposed table of contents for the UDO.

- **Action Item:** Reorganize the ordinance to consolidate the most important and frequently used information at the front.

Numbering System

Even a thoughtfully organized code document like Troutman’s can seem inaccessible and difficult to follow if the numbering system it uses to reference each code section is inconsistent. This is the case in a few instances in Troutman’s UDO, mostly with inconsistent bulleting and spacing.

TYPICAL FORMAT FOR A "READABLE" CODE

a PROMINENT CHAPTER & SECTION REFERENCE

b PROMINENT SECTION HEADER

c MARGINS & INDENTS FOR READABILITY

d BOLD REGULATION DESCRIPTION FOR EASE IN LOCATING

e USE OF TABLES TO CONDENSE NARRATIVE

f CONSISTENT NUMBERING & IDENTIFICATION

g GRAPHICS & ILLUSTRATIONS

h DOCUMENT TITLE

i REVISION OR ADOPTION DATE

j PAGE NUMBER

a GENERAL PROVISIONS FOR ALL DISTRICTS
4.5 ACCESSORY USES AND STRUCTURES 4

b **4.5 ACCESSORY USES AND STRUCTURES**

The purpose of this section is to establish standards for accessory uses and structures in the City of Wilson's land use jurisdiction. Except as provided elsewhere in this chapter, it shall be unlawful for any person to erect, construct, enlarge, move or replace any accessory use or structure without first obtaining a Certificate of Zoning Compliance from the Administrator.

c **4.5.1 GENERAL**

- A.** Accessory uses and structures may only be used for purposes permitted in the district in which they are located.
- B. Not for Dwelling Purposes:** Accessory structures shall not be used for dwelling purposes except as approved Accessory **d** Dwelling Units (see Section 3.2.1).
- C. Building Permits May Be Required:** Depending on the size of the structure and the incorporation of various improvements (e.g., electrical, plumbing), a building permit may also be required.

e **4.5.2 LOCATION, MAXIMUM NUMBER AND MAXIMUM AREA**

Standards	Single-Family/Two-Family Lots – 2 Acres or Less	All Other Uses and Lots Larger than 2 Acres
1. Permitted Location	Side/rear yard only	Permitted in all yards – may not be closer than 30 ft to right-of-way
2. Maximum Number Permitted	2	No maximum

f **4.5.3 INTERPRETATION OF DIMENSIONAL STANDARDS**

A. Yard Requirements

- 1. General:** A building, structure or lot shall not be developed, used or occupied unless it meets the minimum yard requirements for the district, and any applicable overlay district, in which it is located.
- 2. Calculating Yards:** The minimum yard is the area defined by measuring perpendicularly from, and along the entire boundary of, the lot line (property line) to the building line as shown in the diagram below:

g

B. Irregular Lot Setbacks

- 1. General:** The location of required front, side and rear yards (or setbacks) on irregularly shaped lots shall be determined by the Administrator. The determination will be based on the intent and purpose of this ordinance to achieve an appropriate spacing and location of buildings and buildings on

h UNIFIED DEVELOPMENT ORDINANCE

i Adoption Draft – 11.06.12

j 4-3

The graphic on this page represents the use of contemporary page layout and design elements to improve readability and usability. Modern page layout programs, such as Adobe InDesign, can radically improve document layout, text flow, graphic placement, and navigation for easy publishing to the web.

-
- ▶ **Action Item:** Ensure all parts of the UDO are formatted and labeled with a Chapter-Section-Subsection-Paragraph-Number format.
-

Definitions

Definitions are a foundational element of any regulatory document. Any inconsistency or lack of clarity within definitions obscures the regulatory intent of the ordinance. Staff and boards rely upon an understanding of the code's regulatory intent to administer the ordinance, and developers rely upon it to apply the ordinance to their work. Clear definitions are critical to ensure different people interpret an ordinance in the same manner. Moving definitions as they relate to floodplains with all the other definitions in the appendix will create a standardized language for the ordinance.

-
- ▶ **Action Item:** Ensure clarity in definition meaning.
-
- ▶ **Action Item:** Consolidate definitions to one location.
-

2.4 PAGE LAYOUT & OVERALL FORMAT

Once a intuitive regulatory hierarchy and numbering system is in place, the page layout and format of the ordinance should be revised so that the specific standards are communicated more effectively. A monotonous text layout immediately discourages the user, and ultimately, impedes the effectiveness of the document. Troutman's UDO suffers from lack of visual clarity. The intended hierarchy of the code language is obscured by the absence of effective indents, margins, and paragraph spacing.

The graphic on the following page illustrates the use of contemporary page layout and design elements to improve readability and usability of code documents. Improving the "visual readability" of the document will help the UDO to be more accessible and user-friendly to a wide variety of audiences.

-
- ▶ **Action Item:** Create a standard layout for the UDO that utilizes contemporary best practices for publishing, is easy to navigate and is accessible to a variety of other users.
-

2.5 USE OF TABLES & GRAPHICS

Lengthy sections of uninterrupted text are hallmarks of typical zoning codes. Unfortunately, Troutman's UDO fits this description. The UDO could be more effectively communicated in consolidated tables and/or concise illustrations. The UDO does a more effective job than most at reducing text to bulleted lists and tables that communicate regulations at a glance.

Similarly the use of graphics can be a quick and effective way to clarify specific regulations. When used properly, tables and graphics are able to communicate information without eliminating the regulatory details needed to support desirable development outcomes and answer day-to day questions that arise in the enforcement of the ordinance. Using graphics to illustrate code standards also provides the simultaneous benefits of a clearer explanation of regulatory intent and an example of the application of regulations to a typical context. This will help create a greater emphasis on form-based regulations, which require effective illustrations to explain design expectations.

-
- ▶ **Action Item:** Condense long portions of ordinance narrative into tables and charts that are easier to read and understand.
-
- ▶ **Action Item:** Use graphics to clarify specific regulatory language and intent.
-

2.6 ONGOING CODE MAINTENANCE & ACCESSIBILITY

Code Maintenance

Codes are never static documents. They are amended as necessary to reflect the expectations of the community and changes in the way we live and travel through our neighborhoods. As such, it is important that the revised UDO is prepared in a manner that accommodates ongoing changes without a significant overhaul of the code format. In stakeholder interviews, one of the biggest complaints with the performance of the current UDO is it's constant need to be updated or amended. Members of elected boards were having to commonly vote on amendments they didn't have the time to understand completely. Sometimes after a revision was made, it would take a few months to

approve, and then need to be updated again. With a revised UDO the need for amendments should be minimized.

There are several strategies that will allow Troutman to keep pace with any ongoing amendments and seamlessly integrate new language and graphics into the body of the code.

First and foremost, the town should consider utilizing advanced document editing software, like Adobe InDesign, to manage the UDO. Adobe InDesign is generally considered to be the industry standard for document layout and editing because it offers far more advanced and attractive document layout options.

Also, the use of “flowing” text and graphics in the revised UDO will allow new material to be added without the reorganization of entire sections of the code. When new material is added, flowing text boxes automatically move context across columns and/or across pages as necessary. Tables, charts and graphics can be anchored within flowing text boxes so that they are automatically realigned as well.

Finally, the incorporation of master pages and text styles will ensure that any new pages or code section appear on a layout that is preformatted to be consistent with the rest of the document. This allows the addition of significant amounts of material without requiring manual formatting of new pages.

Simple training on basic document editing techniques will ensure that any staff member unfamiliar with flowing text, master pages, text styles, etc., develops the capacity to incorporate ongoing amendments in a relatively short amount of time.

-
- ▶ **Action Item:** Develop a template with “flowing” text and graphics, master pages, and text styles that allows town staff to seamlessly integrate ongoing amendments.
-

Accessibility

The use of Adobe InDesign will also allow the town to publish the updated UDO in an interactive PDF format. PDF documents are a universal standard that can be viewed electronically on almost any computer, mobile device, and operating platform. They are self-indexing, in that they allow readers to search for specific terms throughout the document; they

are easily navigable, by supporting quick bookmark functions to different sections within the code; and they are interactive, by providing the ability to link to web resources or companion ordinances that exist outside the document. This will dramatically improve the accessibility and usability of the ordinance by allowing readers to search for any topic or term within the document and instantly link to other regulatory documents, policies, guidelines, specifications or other resources that may inform a development application.

-
- ▶ **Action Item:** Improve online access to information by creating searchable, interactive PDFs with linked resources.
-



GOAL: Ensure Troutman’s development review process is clear and consistent, processes applications efficiently, and functions in accordance with current State statutes.

3.1 PREDICTABILITY

A primary goal of any development ordinance should be to establish standards and processes that lead to predictable development outcomes. When the administration of local development ordinances offers predictability,

- Neighbors are reassured because they have a clear expectation of what changes to expect in their growing community; and
- Developers are encouraged to invest because they have clear pathways to approval and an easier time estimating costs; and
- The municipality is bolstered by consistent, high-quality investments in its built environment.

Based on our stakeholder interviews, there appears to be some perception that the development review process is unpredictable and difficult for developers and business owners to navigate. Most of that perception seems to be based upon the manner in which the UDO communicates the various processes, as opposed to the requirements and administration of the processes themselves. Constant updates and amendments and their administration make the code appear unpredictable to developers. However, it should be noted that, in comparison to its peer communities in the region, Troutman has a relatively short time line to permit issuance.

In general, the town’s staff, appointed boards, and Town Council seem to be doing a fine job administering the town’s development review process as its currently written. As development pressure continues to increase however, the demands upon that process will increase as well. In order to manage greater development activity, the UDO needs to offer a better enumeration of the expectations for development at the outset, both in terms of necessary approvals and the general process of development review.

Ultimately, the best way to ensure that development is predictable and responsive to public concerns, is to make sure that the regulations of the UDO meet the specific intent of the 2035 Comprehensive Land Use Plan. The Comprehensive Land Use Plan was informed by a public involvement process, and the UDO should be prepared

EXISTING DEVELOPMENT ROLES & RESPONSIBILITIES TABLE

Permit /Review Process <i>(Code of Ordinances Reference)</i>	Reviewer	Decision-Maker	Public Hearing	Appeal	Process Type
Amendment, Map (Rezoning)	Planning Director, Planning & Zoning Board	Town Council	Yes	Board of Adjustment	Legislative
Certificate of Compliance	Engineer, Technical Review Committee	Planning Director	No	Board of Adjustment	Administrative
Certificate of Occupancy	<i>Currently Reviewed and Issued by Iredell County</i>				
Design, Standard Building	Engineer	Planning Director, Design Review Board	No	Board of Adjustment	Administrative
Design, Alternative Building	Planning Director, Engineer, Technical Review Committee, Planning and Zoning Board	Design Review Board	No	Board of Adjustment	Quasi-judicial
Development Agreement	Planning Director, Engineer, Technical Review Committee, Planning and Zoning Board	Town Council	Yes	Board of Adjustment	Quasi-judicial
Engineering Documents	Planning Director	Engineer	No	Board of Adjustment	Administrative
Plan, Concept	Planning Director, Engineer, Technical Review Committee, Planning and Zoning Board	Town Council*, Board of Adjustment**	Yes		Quasi-judicial
Plan, Comprehensive Sign	Planning Director	Town Council	No	Board of Adjustment	Quasi-judicial
Plan, Improvement	<i>Approved by the Town Manager</i>		No	Board of Adjustment	Administrative
Plan, Site	Planning Director, Engineer	Technical Review Committee	No	Board of Adjustment	Quasi-judicial
Plan, Sketch	Planning Director (Optional Review for Others)		No	N/A	Administrative
Permit, Building	<i>Currently Reviewed and Issued by Iredell County</i>				
Permit, Floodplain	N/A	Planning Director	No	Board of Adjustment	Administrative
Permit, Home Occupation	N/A	Planning Director	No	Board of Adjustment	Administrative
Permit, Sign	N/A	Planning Director	No	Board of Adjustment	Administrative
Permit, Soil and Erosion	<i>Currently Reviewed and Issued by Iredell County</i>				
Permit, Special Use	Planning Staff	Board of Adjustment	Yes		Quasi-judicial
Permit, Temporary Use	N/A	Planning Staff	No	Board of Adjustment	Administrative
Permit, Zoning	N/A	Planning Staff	No	Board of Adjustment	Administrative
Special Exception	Planning Staff	Town Council	Yes	Board of Adjustment	Legislative
Special Intensity Allocation	Planning Staff	Town Council	No	Board of Adjustment	Legislative
Subdivision, Exception Plat	N/A	Planning Staff	No	Board of Adjustment	Quasi-judicial
Subdivision, Final Plat	Planning Staff, Engineer	Technical Review Committee	No	Board of Adjustment	Administrative
Subdivision, Major Preliminary	Planning Staff, Engineer, Technical Review Committee, Planning and Zoning Board	Town Council	No	Board of Adjustment	Quasi-judicial
Subdivision, Minor	Planning Director, Engineer	Technical Review Committee	No	Board of Adjustment	Administrative
Variance, Floodplain	Planning Director	Board of Adjustment	Yes		Quasi-judicial
Variance, Watershed	Planning Director	Board of Adjustment	Yes		Quasi-judicial
Variance, Other	Planning Director	Board of Adjustment	Yes		Quasi-judicial
Vested Rights	Planning Director, Engineer, Technical Review Committee	Town Council	Yes	Board of Adjustment	Legislative

* Town Board shall make a decision on development concepts submitted as part of a Conditional Zoning District or Development Agreement.

** Board of Adjustment shall make a decision on a development concept submitted as part of a Special Use Permit.

as the regulatory extension of that document. Developments that clearly support the goals and policies of the Comprehensive Land Use Plan should not be required to navigate unnecessary red tape. Such development should be permitted through administrative, by-right approvals to the extent possible.

3.2 ROLES & RESPONSIBILITIES

At present there are seven permitting agencies/boards/commissions for the Town of Troutman. These include the following:

- Town Council (Elected, 5 members and Mayor)
- Planning and Zoning Board (Appointed, 7 members, 2 alternates. 4 members live inside the town limits and 3 members live in the ETJ. Alternates include 1 Town member and 1 ETJ member.)
- Board of Adjustment (Appointed, 5 members and 2 alternates. 3 members who live inside the town limits and 2 members who live in the ETJ. Alternates include 1 Town member and 1 ETJ member.)
- Design Review Board (Appointed, 7 members and 2 alternates. 5 members who live or own businesses within the town's zoning jurisdiction, 1 town staff member, and 1 Troutman Business Council member.)
- Technical Review Committee (Town Staff)
- Town Engineering (Town Staff)
- Town Planning Department (Town Staff)

These agencies/boards/commissions administer a myriad of various permits and processes. The table above is summary of the current development permits available/necessary in the Town of Troutman.

Administrator Nomenclature

There is a variety of references to specific position titles or departments throughout the existing ordinances that include “planning staff”, “planning director”, “engineer”, “town engineer”, “zoning administrator”, etc. Some terms are mentioned in the text, but not on the development review table. Sometimes acronyms are

used and sometimes they are not.

We recommend using a standard generic title across the entire ordinance such as “Administrator.” The Administrator can be set as the Town Manager or his/her designee as the Town Manager is a title given by the Town Charter. This permits the fluid assignment and reassignment of Administrator responsibilities on an as-needed basis and is not affected by inner-organizational changes.

-
- ▶ **Action Item:** Standardize administrator responsibilities and nomenclature throughout the ordinance.
-

Administrative, Quasi-Judicial or Legislative Review

Like many small towns, the Town Council in Troutman has historically maintained a strong presence within the town's development review process. The board members rightly recognize that they have been elected to lead and that, especially in small towns, leadership means weighing in on development issues.

In the case of quasi-judicial hearings however, weighing in on development issues can present some unique challenges for elected bodies. The rigid quasi-judicial process, with its requirements for relevant testimony and narrow findings of fact, can seem awkward and overly rigid to elected boards. Elected boards are usually more comfortable with open discussions of the public interest, and, in some cases, have strayed from the procedural requirements of quasi-judicial hearings to carry out these processes in a more loose, legislative fashion.

Senate Bill 44, adopted by the General Assembly in their 2009 session may help to provide some clarity on these issues. First and foremost, it established that site plan and subdivision processes that are reviewed in a discretionary manner by appointed or elected boards are declared to be quasi-judicial processes de facto. The new legislation goes on further to define all procedures that involve site plans are quasi-judicial in nature if...

“...the ordinance authorizes a decision-making board to approve or deny the site plan based not only upon whether the application complies with specific requirements set forth in the ordinance, but also whether the application complies with one or more generally stated standards

RECOMMENDED DEVELOPMENT ROLES & RESPONSIBILITIES TABLE

Permit /Review Process	Process Type	Reviewing Entity	Public Notice	Decision-Making Authority	Appeals	Approval Period
ADMINISTRATIVE & USE PERMITS						
Development Permit (Signs, zoning, etc.)	Administrative	Administrator	None	Administrator	Planning & Zoning Board	12 months
Temporary Use Permit	Administrative	Administrator	None	Administrator	Planning & Zoning Board	Varies by use
Special Use Permit	Quasi-Judicial	Administrator, Planning & Zoning Board	Public Hearing	Town Council, <i>OR</i> Planning and Zoning Board	Iredell County Superior Court	Varies by use
Administrative Modifications	Administrative	Administrator	None	Administrator	Planning & Zoning Board	n/a
ENVIRONMENTAL PROTECTION						
Watershed Development	Administrative	Administrator	Reviews conducted concurrently with applicable subdivision or site plan process			
Floodplain Development	Administrative	Administrator				
SITE PLANS						
Minor Site Plan	Administrative	Administrator	None	Administrator	Planning & Zoning Board	2 years
Major Site Plan	Quasi-Judicial	Administrator	Public Hearing	Town Council	Iredell County Superior Court	2 years
SUBDIVISIONS						
Minor Subdivision	Administrative	Administrator	None	Administrator	Planning & Zoning Board	60 days to record
Major Subdivision - Preliminary Plat	Quasi-Judicial	Administrator	Public Hearing	Town Council	Iredell County Superior Court	2 Years
Major Subdivision - Final Plat	Administrative	Administrator	None	Administrator	Planning & Zoning Board	60 days to record
APPEALS & VARIANCES						
Appeal of Administrative Decision	Quasi-Judicial	Planning & Zoning Board	Public Hearing	Planning & Zoning Board	Iredell County Superior Court	n/a
Variance	Quasi-Judicial	Planning & Zoning Board	Public Hearing	Planning & Zoning Board, NCEMC*	Iredell County Superior Court	Varies
AMENDMENTS & LEGISLATIVE APPROVALS						
Amendments (Map & Text)	Legislative	Planning & Zoning Board	Public Hearing	Town Council	Iredell County Superior Court	n/a
Conditional District (including PUD)	Legislative	Planning & Zoning Board	Public Hearing	Town Council	Iredell County Superior Court	May be rescinded after 2 years
Vested Rights	Legislative	Planning & Zoning Board	Public Hearing	Town Council	Iredell County Superior Court	2 years

* Review and approval by North Carolina Environmental Management Commission (NCEMC) required for Major Watershed Variances only

requiring a discretionary decision on the findings of fact to be made by the decision-making board.”

Compliance with this statute does not imply a significant change for the Town Council. It simply means that the board members must formalize their procedures for the acceptance and review of evidence and the delivery of decisions based on formal findings of fact. These findings of fact should be guided by basic buildings and site design principles established in the new UDO. It also means the board members must be vigilant to avoid ex parte communication (conversations outside the formal hearing) regarding such applications. This suggests the town’s current method of decision maker for Special Exception, Special Intensity Allocation, Concept Plan, and Major Preliminary Subdivisions should be amended.

This also suggests that some development processes involving subdivisions/site plans should be amended. In accordance with State statutes, it is a generally recognized best practice that a single board should conduct the review and approval of discretionary subdivision and site plan applications as part of the same hearing. In some processes are reviewed by the Planning Board, Technical Review Committee, and Planning Director before the application is decided by the Town Council.

-
- ▶ **Action Item:** Establish appropriate procedures to guide the Town Council when it acts in a quasi-judicial capacity within the development review process.
-

Planning and Zoning Board/Board of Adjustment

Troutman’s Planning and Zoning Board functions as a purely advisory board with the preliminary role to review development applications before the Town Council. The Planning and Zoning Board seems to be functioning without any real problems, although there is certainly an opportunity to grant the Planning and Zoning Board approval authority over a limited number of applications. For example, the town may consider allowing the Planning and Zoning Board to review and approve Special Use Permit applications independent of a larger subdivision or site plan review. The small change has the potential to reduce the number of development processes that end up with the

Town Council, without sacrificing the board members’ control of major development applications.

Alternatively, the Planning and Zoning Board and the Design Review Board should be consolidated. In Troutman, the Design Review Board appears to be the least utilized board in the development process. Though it is only newly established, it has heard few, if any, applications. Given a low frequency of meetings, a number of similarly-sized communities have moved to consolidate the Planning and Zoning Board and the Design Review Board and their associated training requirements. Mechanically, the two boards could still exist as separate boards with identical membership and meeting times.

In order for the two boards to operate as intended, the majority of the members should have specific expertise in fields such as architecture, landscape architecture, urban planning, etc. The more boards that are necessary, the greater the challenge becomes to find the necessary members with the unique combination of time and expertise to serve on such boards. In cases where specific design review is required and there are not members of the board to adequately review plans, Troutman should rely on a consultant-on-call contract with local architects or planners to ensure the highest quality of development.

-
- ▶ **Action Item:** Consider granting the Planning and Zoning Board approval authority over Special Use Permit applications independent of subdivision/site plan approvals.
-

- ▶ **Action Item:** Consider combining the Planning and Zoning Board and the Board of Adjustment.
-

- ▶ **Action Item:** Consider combining the Planning and Zoning Board and the Design Review Board.
-

3.3 STREAMLINE THE PROCESS

Consolidate the Process & Administration Section

While Chapter 9: Development Review Process in the current UDO outlines most processes and administration requirements, there are other occasions throughout the UDO where other procedures are documented. The UDO needs to be revised so that all

procedures are consolidated into the same chapter.

Additionally, there are some sections of Chapter 9 that are misplaced. Sections like “9.11: Subdivision Provisions”, and “Special Exceptions for Relief from Hardships” need to be folded into other process sections. Also, while the organization of the chapter in itself is sufficient, some of the terms used to identify a process is not consistent with what is used on the Development Review Matrix. (e.g. “Preliminary Plat Review Process (Major Subdivisions) versus “Subdivision: Major Preliminary”) While you can identify the process after reading the description, the terms should be identical for clarity and usability of the document.

Additionally, there is no consistency in the manner that the various development review processes are established. A consolidated Process and Administration chapter will allow for a much more clear and concise communication of the town’s various development review procedures.

-
- ▶ **Action Item:** Consolidate all procedural requirements into the Process and Administration chapter.

 - ▶ **Action Item:** Ensure section names correspond with names in the Development Review Matrix.

 - ▶ **Action Item:** Utilize a consistent hierarchy to establish the town’s various development review procedures.
-

Development Review Flowchart

In addition to the table of development roles and responsibilities recommended in Section 3.1 of this report, a simple flowchart of the typical development review process would help to clarify expectations for users of the ordinance. The current UDO does not include any flowcharts or other graphics to illustrate how the required permits/approvals relate to each other and when they are intended to occur. The flowchart on the opposite page offers a basic example of a graphic that helps provide clarity for the entire development review process. Such a flowchart should include references to the procedural regulations that correspond to each step. This could also be a useful tool to illustrate how development approvals are

coordinated with building permits, certificates of occupancy, and other review processes managed by Iredell County.

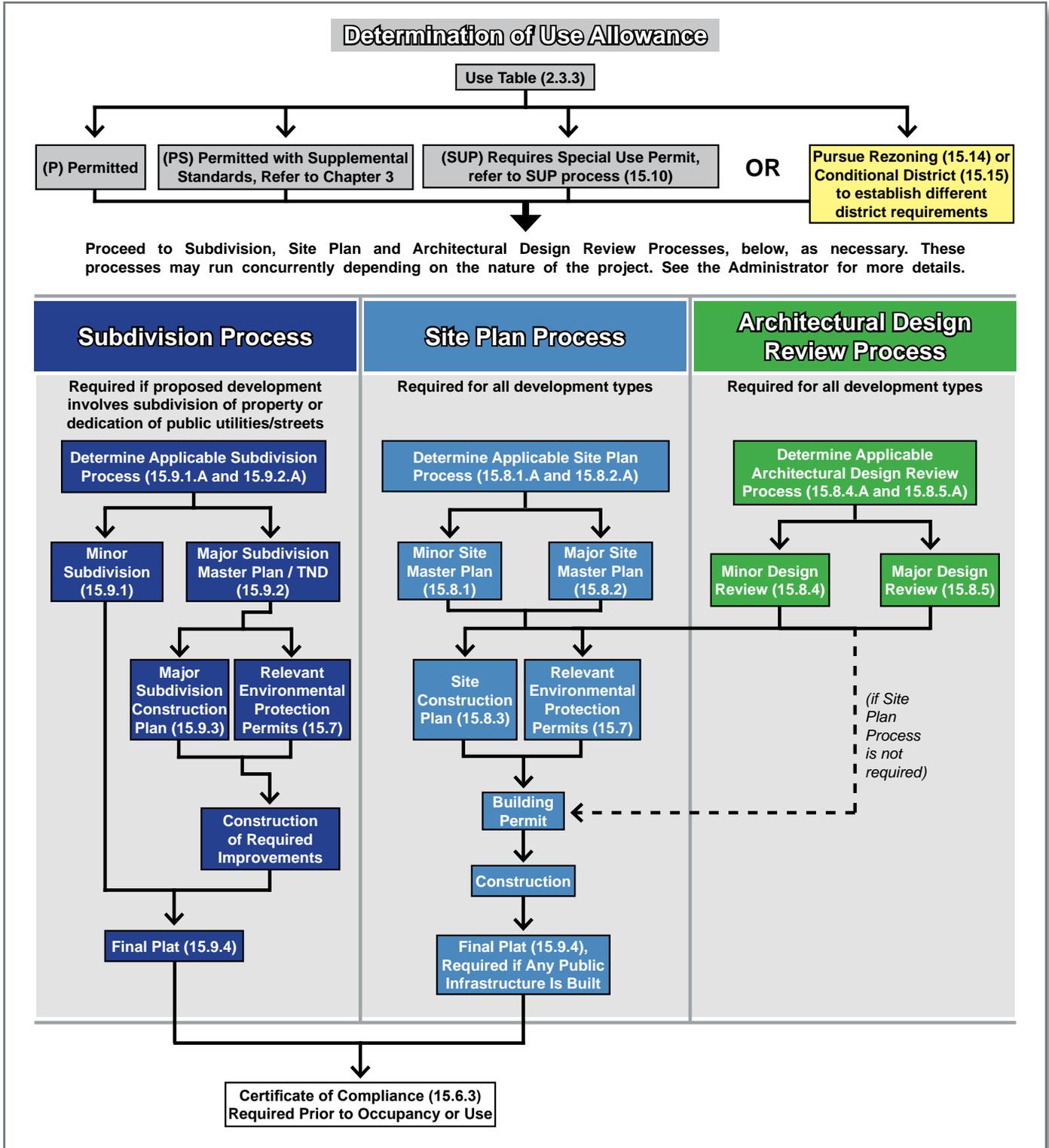
-
- ▶ **Action Item:** Utilize a flowchart(s) to illustrate the town’s typical development review process as it relates to different types of applications and approvals from outside entities.
-

3.4 PLAN SUBMITTAL REQUIREMENTS

Troutman’s current UDO includes several sections that detail specific application requirements. By and large, these requirements are appropriately tailored to the necessary level of detail for each permit/review process, although they should be consolidated in a single location. Furthermore, the current UDO is not clear on what is specifically required in the review process or who to contact for additional information, such as submittal checklists.

The most appropriate place for detailed submittal requirements is within straightforward checklists that are maintained independently of the UDO. Keeping development submittal requirements separate from the UDO will give town staff the flexibility to change the requirements fluidly in response to changes in technology, the availability of data and the manner in which the town conducts its reviews. Otherwise any change, no matter how trivial, requires legislative approval as a text amendment. Instead, a summary of the basic application materials should be included in the UDO, while the detailed checklists could be maintained independently by the Administrator.

-
- ▶ **Action Item:** Keep plan submittal requirements as a standalone appendix to the UDO that may be edited without legislative approval.
-



The graphic on this page is a “Typical Development Review Process Chart” prepared for the Town of Wake Forest, NC. It is used to illustrate the process that most projects in Wake Forest are expected to follow. While the flowchart isn’t inclusive of all the application/approval processes that may be required in every instance, it provides a clear starting point for applicants, illustrating how required approvals relate to each other and what prerequisite approvals are necessary for most permit types.



DISTRICTS & USES

4

Image Credit: Google Earth Pro

GOAL: Eliminate unnecessary complexity within the current UDO, calibrate Troutman's zoning districts to a range of desired development conditions, and encourage a diversity of uses.

4.1 ZONING DISTRICTS

Zoning in North Carolina involves the division of land uses and dimensional standards by district. Because most zoning ordinances have their origin in a model ordinance promulgated by the NC Division of Community Assistance or the US Department of Housing and Urban Development (or its predecessor agencies) there are always a number of similarities between the construction of districts and their hierarchy.

While the categories are not explicitly defined, Troutman is divided into 4 basic district categories - Residential, Mixed-Use, Commercial, and Industrial. Troutman's 11 districts are well-consolidated and avoid redundancy.

Existing Districts:

RP (Rural Preservation District) – The RP district accommodates very low density residential development and agricultural uses and to protect natural vistas and landscape features that define rural areas.

RS (Suburban Residential District) – The RS district is established as a district in which the principal use of land is for low density, single-family residences along with their customary accessory uses.

RT (Town Residential District) – The RT district is intended for existing neighborhoods within the core of Troutman. It is established as a district in which the principal use of land is for medium density, single-family residences along with their customary accessory uses. It is expected that all dwellings will have access to public or community water and sewer facilities, or have reasonable expectation of such facilities in the near future.

RM (Mixed Residential District) – The RM district is intended primarily for the location of single-family, two-family, and multi-family dwellings along with their customary accessory uses so as to establish areas where development patterns are somewhat denser than surrounding areas. Any RM development shall have access to public or community water and sewer.

RMH (Manufactured Home Park District) – The RMH district provides for the proper location and planning of attractive manufactured home park developments. Development standards and requirements are included. For the purpose of occupancy, all manufactured homes, mobile homes, and trailers, other than in the RP district shall be located within a manufactured home park within the R-MH district.

OI (Office and Institutional District) – The OI district accommodates a variety of office uses, related low intensity retail uses, and some higher density multi-family uses. In addition, this district can create areas to serve as transitional buffers between residential districts and commercial districts as the number and type of retail uses permitted is limited. The primary purpose of this district is to accommodate existing and new office and institutional areas.

NC (Neighborhood Center District) – The N-C district is intended primarily for local centers designed to serve relatively small trading areas in developed or developing portions of Troutman. Incentive is given to encourage mixed use development. As a result, the list of commercial establishments allowed in this district is more limited than in other districts. The standards for these areas are designed to promote vibrant mixed-use development and to serve surrounding residential areas. All N-C districts shall be a minimum of three (3) acres and a maximum of 50 acres.

CB (Central Business District) – The C-B district is established as the centrally located trade and commercial service area of Troutman. The regulations of this district are designed to encourage community trade and commercial service; as well as, to permit a concentrated development while maintaining a balanced relationship between the intensity of land uses and the capacity of utilities and streets.

HB (Highway Business District) – The HB district is established to provide a wide array of primarily retail and service uses to a large trading area for persons residing in and/or traveling through the Troutman area. Such uses shall be located and designed in such a manner so as to promote aesthetics, ensure the safe and efficient movement of traffic, and to not unduly burden adjoining thoroughfares. Given the large traffic volumes generated by uses located in such a district, any area so zoned shall have access onto an arterial or

collector thoroughfare.

IL (Light Industrial District) – The IL district is established to accommodate light industrial uses that are compatible with adjoining uses. In addition, the district provides for office parks, limited retail, and limited service uses that serve industrial uses. Such uses within this district should not be inherently obnoxious to urban areas because of noise, odors, dust, smoke, light or uses of dangerous materials.

IH (Heavy Industrial District) – The IH district is designed primarily for certain commercial and general industrial land uses, including manufacturing, processing, and assembling of goods, product distribution facilities, and a broad variety of specialized commercial and industrial operations. Certain industrial uses which could potentially have a significant effect on the environment or public utilities, significantly increase traffic volumes, or otherwise significantly impact adjoining properties require a Special Use Permit as noted in the permitted uses table.

Chapter 3 of the UDO establishes the specific categories and requirements by district. Each district allows certain uses. In general, each district includes the following standard provisions:

- Permitted Uses
- Special Uses
- Prohibited Uses
- Dimensional Requirements

Additionally, each district includes requirements found in many locations throughout the UDO. In general, each district includes the following requirements by reference:

- Building Design (Chapter 5)
- Open Space (Chapter 6)
- Landscaping and Buffering (Chapter 7)
- Off-street parking and loading requirements (Chapter 8)
- Sign requirements (Chapter 11)

Conditional and Overlay Districts

In addition to the 11 basic zoning districts, there are 2 other districts: Conditional Zoning Districts and Overlay Zoning Districts.

A Conditional District (CZ) is available for uses that, because of their potential impacts, can't be predetermined by general district regulations. These are flexible but also impose additional controls to ensure quality development. This is appropriate only for a firm development plan, and not speculative zoning. Each base zoning district may be designated a Conditional Zoning District and only allow the uses permitted in that district. A Planned Unit Development (PUD) and a Conservation Cluster (CC) are both Conditional Districts. Currently, requirements for approved Conditional Districts include: Colonial Crossing, Falls Cove at Streamwood, and Sutter's Mill, which are in the main zoning districts chapter. These should be moved to an appendix to avoid confusion and provide clarity of the document.

An Overlay Zoning District works in conjunction with the base zoning district to impose additional requirements on certain properties within one or more underlying general or special use districts. Some overlay districts just impose additional requirements and others change more general district requirements, either by not allowing some uses or allowing additional density if certain standards are complied with, for example. Currently in Troutman, the Overlay Districts include the Watershed Overlay District and the Flood Damage Prevention Overlay District.

Currently, there is no historic overlay district in Troutman. Creating additional requirements for the downtown core and the historic Mill Village should be considered. Those two areas of town have the majority of the pedestrian-scaled building forms that give Troutman its "small town" character. They also provide smaller sized retail and residential spaces appropriate for small-scale economic development and affordable housing, respectively. Protecting them from demolition in future development is instrumental in retaining the character that is cherished by Troutman residents.

While the current UDO provides 3 districts that provide for mixed-use: Office and Institutional (OI), Neighborhood Center (NC), and Central Business

District (CB), the majority of the Town and ETJ is zoned Suburban Residential (RS), which does not allow any retail opportunities aside from farmers markets. Very little of the Town is zoned for mixed-use. While it is a positive that they exist and regulations are put in place to allow mixed-use, these districts' limited use demonstrates the need for more walkable places in future development.

- ▶ **Action Item:** Organize use districts into four categories for clarity: residential, mixed-use, retail, and industrial.
- ▶ **Action Item:** Consider moving requirements for approved PUD/CDs to an appendix.
- ▶ **Action Item:** Expand zoning districts that allow mixed-use.
- ▶ **Action Item:** Consider establishing a Downtown/Mill Village district with additional requirements.

4.2 PERMITTED USES

The Troutman UDO identifies 98 separate use types and is consolidated into three pages. Compared to other Codes of Ordinances, this is very concise. However, many of these uses are permitted by Special Use, which requires a hearing by the Board of Adjustment. Most of these can be expected within the district, and therefore allowed by Administrator review. The UDO should broaden the authority granted to the Administrator to review and address unexpected uses in accordance with the most similar use identified in the use table. This will be helpful in unnecessarily extending the approval process, especially in mixed-use districts where development should be encouraged.

In order to predict all the uses that might be applicable in the UDO, definitions are broad. While the majority of listed uses are defined in the Definitions Appendix, they do not have qualifying characteristics, providing at most a general description. The UDO could utilize more form-based regulations to clarify expectations for development and avoid the problematic administration of use-based codes. This last recommendation is discussed at greater length later in this chapter.

▶ **Action Item:** Consider allowing more uses by right in mixed-use districts.

▶ **Action Item:** Consider making as many uses permitted by right or by additional requirements to streamline approval process.

▶ **Action Item:** Revise Chapter 4: Additional Requirements for clarity and conflict.

4.3 ARRANGEMENT OF USES

Mixed-Use Development

The arrangement of uses within a community determines how well neighborhoods and towns are able to accommodate household needs. Towns with ordinances that spread out different uses within separated development pods force their citizens to drive to accomplish daily tasks. Towns with ordinances that allow an active mix of uses provide their citizens with a variety of choices for accomplishing daily tasks.

The practice of separating land uses is based on the notion that different use types are inherently incompatible and should be spread apart using large setbacks and single-use development areas. This is a dated assumption, based upon the noxious and unhealthy effects of industries in the late 20th century (the time when the conventional zoning approach was developed). Commercial uses today are much different than that time. It is perfectly appropriate, and in fact increasingly desirable, among housing consumers, for residential uses to be integrated with stores, businesses, schools, churches, offices, etc. (See next page).

Additionally, mixed-use zoning has the simultaneous benefit of allowing property owners and developers more flexibility to respond to market conditions. In places where a wide variety of uses are allowed, it is much easier to convert an office building, for example, to apartments and retail. This encourages greater redevelopment and reinvestment options instead of encouraging vacant buildings to remain that way. As a general rule of thumb, the closer together elements are within the built environment, the more attention

should be made to making sure those things work well together. So allowing a fine-grained mix of uses within Troutman should be accompanied by supplemental use standards and site/building design regulations that mitigate any potential negative impacts and ensure consistency and compatibility.

Because elements of the built environment are closer together in mixed-use development they are also more walkable. In fact, in a typical market, an additional one point increase in a Walk Score (a formula that measures walkability), was associated with between a \$500 and \$3,000 increase in home values.

The Town of Troutman 2035 Comprehensive Land Use Plan sets a vision for the downtown that is aligned with this latter, mixed-use approach. One of the goals is “provide a healthy environment for a mix of retail, service, office, institutional, residential, dining, entertainment, and other compatible uses that builds upon Downtown Troutman.” While the current vision of mixed-use in Troutman is defined in the Land Use Plan as just for the Downtown and Exit 42 area, the UDO’s mixed-use districts has the capacity to promote them in other areas of the Town if they are utilized more consistently.

▶ **Action Item:** Remove unnecessary use restrictions to allow a vibrant mix of uses in more areas of town.

▶ **Action Item:** Zone more areas currently designated as single-family and low density as preservation to encourage more density in desired areas, such as downtown.

▶ **Action Item:** Adopt supplemental use standards and building/site design regulations that mitigate potential impacts and ensure compatibility among different uses in mixed-use neighborhoods.

Setbacks

The current minimum setbacks established in the Troutman UDO are not supportive of a walkable built environment. Setbacks for mixed-use and multifamily are all 25 feet or greater, except for the Central Business District, which is 15 feet. As a result, there is almost no opportunity for developers who seek to

WHAT IS MIXED-USE DEVELOPMENT?

Mixed-use development is simply development that accommodates a variety of uses within a close, walkable proximity. When this is accomplished within a single building, it is referred to as “vertical mixed-use.” When it is accomplished through multiple buildings within a compact development area, it is referred to as “horizontal mixed-use.” According to the Urban Land Institute¹ mixed-use development is characterized by:

- Three or more significant revenue-producing, mutually supporting uses clustered together in order to maximize development potential and buildable land area;
- Significant physical and functional integration of project components (and thus a relatively close-knit and intensive use of land), including uninterrupted pedestrian connections; and
- Development in conformance with a coherent plan, which frequently stipulates the type and scale of uses, permitted densities, and related items.

1 Schwanke, Dean et al. (2003). “Mixed-Use Development Handbook, Second Edition.” Urban Land Institute.

WHY MIXED-USE DEVELOPMENT?

Increasingly, people prefer to live in mixed-use communities with a range of housing options, stores and businesses within walking distance. A recent survey² conducted by the National Association of Realtors reveals this trend:

- 42% of people said there are too little shops or restaurants within an easy walk of their house.
- 48% of people would prefer to live in something other than a detached single family home on a large lot (e.g., small lot detached home, townhome, or apartment).
- 58% of people would prefer to live in an urban or suburban mixed-use communities over mostly residential communities.
- 60% of people would prefer to live in a neighborhood with a mix of houses, stores, and businesses that are easy to walk to, while only 35% prefer a neighborhood with houses only that requires driving to stores and businesses.

2 National Association of Realtors and American Strategies. (October 2013). “National Community Preference Survey.”



Examples of vertical mixed-use development: Birkdale Village in Huntersville, NC (left) historic Downtown Mooresville (middle; Image Source- Town of Mooresville) and Mooney’s Corner in Davidson, NC (right).

A diversity of uses located within a close, walkable proximity creates neighborhoods that are more active, vibrant, and responsive to household needs. People prefer to live in mixed-use communities.

create more walkable, intimate streets with narrow setbacks.

This limited approach to setbacks undermines the town’s Land Use Plan Transportation objective of “enhancing the Town’s street appearance and functionality; especially along major thoroughfares.” Included as a strategy in this objective is to “review and revise as necessary, the Town’s development regulations and policies regarding streetscapes (street widths, street trees, landscaping, sidewalks, medians, signage, building placement, architecture, underground utilities, lighting, parking locations, speed limits, stormwater runoff, etc.” Extensive setbacks weaken the pedestrian environment by removing social activity and aesthetic appeal from the streetscape. Instead, pedestrian-friendly streetscapes utilize shallow front setbacks to create a feeling of enclosure and proximity to human activity that people desire for interest and a sense of security.

Large front yard setbacks also threaten the value and usability of the private realm. The front yard is the least used portion of a typical single family lot. Mandating large front setbacks results in less private space in the rear of lots, where it’s actually used. In addition, broad setbacks limit flexibility for building and site layouts. In fact, deep front yard setbacks and shallow rear yards all but ensure the complete grading of an individual lot, particularly for subdivisions with lots smaller than 1/4 acres in size, and result in less tree preservation on private properties.

In commercial districts, the combination of expansive front yard setbacks and inflated minimum parking requirements results in large parking lots along the

street and environments that are totally unsuited for pedestrian use.

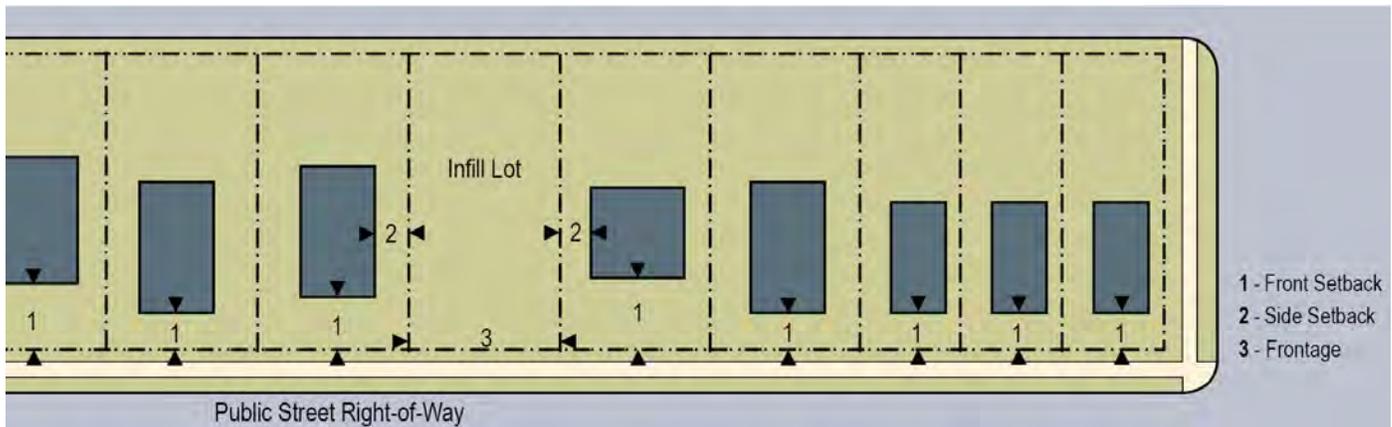
Finally, the rigid standards of the current UDO do not permit any flexibility for infill lots in older neighborhoods. So often the regulatory focus of land development regulations is on new subdivisions in greenfield locations, without appropriate consideration given to encouraging and regulating infill development and redevelopment. By allowing flexibility in setbacks and lot size, the revised UDO can remove some obstacles from redevelopment projects. One of the more common techniques for accomplishing this is to allow the front setback for infill lots to deviate up to 10 feet from the average front setback on the same side of the block.

- ▶ Reduce front and side setbacks in all districts, particularly in those intended to support a pedestrian-oriented character.
- ▶ Allow flexibility in determining setbacks for infill lots.

4.4 RESIDENTIAL DISTRICTS

The Town of Troutman currently uses 5 predominately residential base districts which includes the Rural Preservation District (RP) and the Manufactured Home Park District (RMH). Districts are segregated largely based on the availability of utilities, density, and existing development. The majority of zoned residential in Troutman is Suburban Residential with a substantial amount of Town Residential.

One of the largest concerns voiced during the



Example of creating flexible setback standards for infill lots from the Town of Waynesville Land Development Standards (2010)

Stakeholder’s interviews was the ability of the community to “age in place.” With very little multifamily housing existing in Troutman, single-family houses with yards are the only option. This is becoming challenging as individuals age. The only option for them currently is to leave their community. The current emphasis on single-family detached lots is not reflective of the changing demographics in North Carolina and around the country. Household sizes are shrinking, homeownership rates are dropping, and the number of non-traditional households (two parents with children) continues to decrease.

In order to encourage a diverse community and market for housing, the Town Residential (RT) and Mixed Residential District (RM) should expand to allow for more differing housing types to support changing trends. This is stated in two strategies for Residential Development in the Land Use Plan:

- Strategy 1: Review and revise; as necessary, the Town’s development regulations regarding residential development to allow flexibility for a variety of well-crafted housing types and compatible uses.
- Strategy 4: Encourage a broad range of housing types and price levels that respect the value and character of the area while strengthening, maintaining, and protecting a diversity of ages, races, and incomes essential to an authentic community.

UDO regulations are essential to make sure this

variety of housing types is developed in a way that will encourage walkability and the town’s historic residential character. Each neighborhood as its developed should offer a number of different housing types within a 1/4 mile, walkable area. This includes smaller lot sizes and setbacks. This will ensure the social sustainability of town over time and avoid the segregation of communities based on age or other demographics characteristics.

► **Action Item:** Convert current lot-sized based districts to density-based districts.

► **Action Item:** Expand residential districts that allow a diversity of housing types.

4.5 COMMERCIAL & MIXED-USE DISTRICTS

The Town of Troutman currently uses 4 commercial or mixed-use districts including: Office and Institutional District (OI), Neighborhood Center District (NC), Central Business District (CB), and the Highway Business District (HB). Commercial uses vary in these districts, with low-intensity retail in the Office and Institutional District, limited neighborhood retail uses in the Neighborhood Center District, and large, national chain retailers in the Highway Business District. These are supported by the allowed uses in each district as opposed to physical requirements that regulate building form and site design. The only district in addition to the Highway Business District that encourages full commercial uses is the Downtown District.



Examples of diverse housing types: Carriage House, Small Multiplex, Townhouses, Bungalow Court, Fourplex, Duplex (left to right). Images courtesy of Missing Middle Housing Types.

Because the majority of housing is not permitted in these areas and is farther than 1/4 mile walking distance to allowed commercial uses, development that is oriented exclusively by automobile is encouraged. This ensures that Troutman will be auto-dependent with the continued development of single-family neighborhoods. The town should consider higher residential densities adjacent to predominately commercial districts to encourage walkability and accessibility to essential retail uses.

- ▶ **Action Item:** Minimize setbacks in mixed-use and commercial districts to encourage walkability.
- ▶ **Action Item:** Encourage higher densities of residential development adjacent to commercial uses.

Big Box Development

Large-format national retailers, commonly referred to as “big box stores,” require special consideration within development ordinances. Big box stores can provide a lucrative source of sales tax dollars to the local community making them attractive, at least in economic terms. The problem is most big box stores provide this economic value without contributing any aesthetic, social or cultural value to the neighborhoods they are located in. Typical big box stores are located within buildings characterized by large blank walls. They fragment traditional urban structure; they are

surrounded on all sides by acres of parking lots and loading areas; they degrade the environment; and they are typically abandoned within 20 to 30 years after construction. In this format, big box stores are a hostile neighbor. They detract from the character of the public realm, cater only to automobile circulation, and do not contribute a lasting value to the community.

Perhaps the best answer to these problems is simply to make large-format retailers play by the same rules of good urban design as everybody else. The places that have had the most success accommodating big box uses are these that have required large-format retailers to blend into a more typical neighborhood structure within the context of pedestrian-oriented neighborhoods. The Rosedale Commons development in Huntersville, NC (see image below) provides an ideal example of a big box store that accomplishes this. The development accommodates two large-format grocers within the structure of a typical neighborhood street grid. The site is designed with parking on the interior of blocks to better define the streetscape environment. The buildings are detailed to create an effective transitions to the residential uses adjacent to the development.

Design regulations that require this type of site layout and architectural detail should be incorporated into Troutman’s revised UDO. Big box stores should be required to break up their massing with appropriate architectural detailing. Retail, apartment and/or townhome liner buildings should be incorporated into



The Rosedale Commons development in Huntersville, NC illustrates several techniques that can be used to soften the impact of big box stores, including the use of perimeter buildings to screen parking areas and building frontages that are detailed to emphasize the pedestrian.

a mixed-use site plan, wherever possible, to screen the big box store (see image below.) Customer entrances and outdoor dining should face an appropriately-detailed streetscape with a generous sidewalk and planting strip. Finally, parking areas should be located behind the building(s) in order to continue a consistent pedestrian-oriented streetscape.

► **Action Item:** Establish standards to mitigate the impacts of large-format retailers.

4.6 INDUSTRIAL DISTRICTS

The Town of Troutman uses 2 industrial districts: Light Industrial District (IL) and the Heavy Industrial District (IH). Light Industrial is compatible with other uses and is most appropriate for office parks and similar development. Heavy Industrial is reserved for activities; such as, manufacturing, processing, production, and distribution. These could have a significant effect on the surrounding environment, including utilities and traffic. The vast majority of all industrial zoned lands is heavy industrial, located in the north of town on Murdock Road.

When considering industrial development, the most important element is the perimeter of the site. Especially because the primary industrial area is so large, the interaction between these districts and the rest of the community is a significant consideration. What happens within these districts is far less important in terms of impact on the public realm. Unless noxious fumes, heavy truck traffic, or excessive

noise are expected (which can easily be mitigated by using a clear set of standards), most industrial development can make a very good neighbor.

The introduction of a third Industrial district, “Neighborhood Industrial” would be appropriate for Troutman. Uses in this district would not cause increased truck traffic or any other changes in the outdoor environment. All activity would occur indoors. This area would be most appropriate for artisan or craft work, for example. It is important that uses within the Neighborhood Industrial area are modest enough so they fit within a smaller, mixed-use, walkable area. A square footage maximum could be established. Large storage areas, for example, would be more appropriate in Light Industrial. The Light Industrial areas adjacent to Main Street should be considered for a Neighborhood District as it is compatible with other businesses and mixed-uses.

However, it is important that the Light Industrial and Heavy Industrial areas remain single-use. This is because large multi-family developers and regional retailers will often look for industrial-zoned land as it has the least regulation. The net result is the loss of good properties for economic development simply because of a lack of permissiveness in other areas of such development. The prevalence of industrially-zoned land adjacent to the historic downtown is a good example of cheap, easily accessible land that may be coveted by large developers in the future. Although the parts of the community currently zoned industrial are not currently under development pressure, Troutman

This big box development at the intersection of Highway 21 and I-77 Exit 42 in Troutman lacks the site and building design elements necessary to contribute social, cultural, or aesthetic value to the public realm.



Image Source : Google Earth Pro

RURAL-URBAN TRANSECT



The Transect is a scaleable organizing tool that establishes a proper balance between urban and rural development.

should ensure industrial-zoned lands are preserved.

The introduction of this third industrial district would fulfill the Land Use Plan’s goal for industrial development, which is to “provide a healthy environment for a diverse mix of industry, business uses, and other employers that builds upon the area’s economy and strengthens the community.”

- ▶ **Action Item:** Consider creating a third industrial district, “Neighborhood Industrial”, that encourages small-scale mixed-use.
- ▶ **Action Item:** Preserve Light and Heavy Industrial districts as single-use.

4.7 A NEW APPROACH TO ZONING

The best way to address the issues of unnecessary complexity in the district and use standards, while simultaneously adopting better regulations for the design of streets and neighborhoods, is to take a new approach to zoning within certain parts of Troutman.

As mentioned earlier, Troutman’s current land development regulations are based upon decades old model language that was derived from a zoning model

developed in the early 20th century. This conventional zoning approach is based almost entirely on separation of land use and has been widely criticized by urban planners over the past several decades.

An alternative model to this approach uses form-based districts that focus primarily on the design of the streets and neighborhoods and the role of individual buildings in shaping the public realm. This approach, known as Form-Based Zoning, is concerned primarily with how different places look and feel. It is focused on ensuring a logical gradation of urbanism in a community, from rural areas to town centers, through the use of an organizing structure called the “Rural-Urban Transect.”

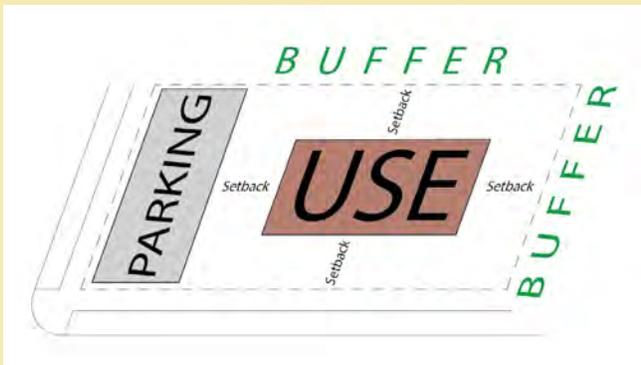
The Rural-Urban Transect, or just “Transect” for short, is simply a diagram that illustrates a continuum of development intensity and prescribing different building and site design requirements to districts depending on upon their location within that continuum (see diagram, above.) In simple terms, it orders design regulations so that we know that dense neighborhoods and taller buildings are more appropriate in town centers than rural areas.

This model of land development is based on precepts

CONVENTIONAL ZONING VS. FORM-BASED ZONING

Conventional Zoning

Conventional zoning approaches, like Troutman’s existing Zoning Code, focus primarily on the regulation of different use types within a municipality. Such codes are based on the dated assumption that different use types are incompatible and should be spread apart using large setbacks and single-use development areas. This creates sprawling cities and towns that require an automobile to get from place to place. As a result, conventional codes typically prescribe very high parking ratios and result in inefficient infrastructure networks. Over the past several decades, the conventional zoning model has proven unsustainable because of the wasteful development patterns it creates, the fiscal burden it implies, and the erosion of civic life it has caused in cities and towns across the country.



Typical Development Outcomes - Conventional Zoning



Form-Based Zoning

A form-based zoning approach focuses primarily on the design of the streets and neighborhoods and the role of individual buildings in shaping the public realm. This model is mostly concerned with the way that zoning districts look and feel. Because of this, form-based codes are more permissive in terms of use restrictions and parking requirements, but more restrictive in terms of building, frontage, and site design requirements. Over the past several decades, form-based zoning models have emerged as the best way to support vibrant, walkable, mixed-use neighborhoods and centers that emphasize the pedestrian over the automobile.



Typical Development Outcomes - Form-Based Zoning



WHAT IS A HYBRID ZONING APPROACH?

A hybrid zoning approach seeks to balance the conventional zoning model and the form-based zoning model by applying form-based zoning districts in some areas while maintaining conventional zoning districts in others. Areas that are auto-oriented and not expected to change significantly over the long-term, like single-family residential subdivisions on the far edge of town, are maintained under conventional zoning districts. This avoids the creation of needless nonconformities in areas that are unlikely to change.

Existing pedestrian-oriented areas like downtown Troutman, and areas that are expected to experience significant growth, are assigned form-based zoning districts. These districts include detailed provisions for the design of neighborhoods, density, height, street design, parks requirements, mix of uses, building design, parking, and other aspects of the human environment. This ensures that new development and redevelopment support more walkable and vibrant streets and neighborhoods.

Hybrid zoning models tend to be an ideal way to introduce form-based regulatory concepts within the context of a town-wide zoning update. Hybrid codes provide municipalities with form-based tools to apply on an as-needed basis, without encouraging major changes to existing suburban neighborhoods that may be reluctant to embrace a greater mix of uses. For this reason, a hybrid zoning approach tends to be the most politically feasible and non-threatening method for establishing form-based districts within developed areas. This report recommends the use of a hybrid zoning approach in the Troutman UDO, with both conventional and form-based districts.

of human settlements that have worked successfully for thousands of years. In fact, the Transect has a historical basis in the growth of Troutman as a small railroad town with a mixed-use main street and pedestrian-oriented neighborhoods. Back then, the concept of context-based land development was common sense.

Perhaps the most striking feature of the Transect as a form-based organizing tool is what it lacks. The Transect does not prescribe rigid use restrictions, relying instead on design regulations to ensure that the form of development is appropriate for its place within the community. This is the essence of form-based zoning, and it is an approach that should be applied to certain areas of Troutman because it is the most effective way to implement the vision of the Troutman Future Land Use Plan.

The best way to introduce form-based zoning districts within Troutman is through a hybrid zoning approach that maintains conventional districts in some areas and applies form-based districts in others (See Hybrid Zoning). Many cities and towns across the state have used this hybrid approach with much success.

Introducing form-based districts will also provide a framework for dealing with the large tracts of developable land around Troutman. Currently, the

majority of development pressure is single-family housing developments. Without establishing clear expectations for a range of development types, greenfield development has the potential to become sprawling single-use subdivisions.

Instead, the UDO should offer an alternative model that allows subdivisions over a certain size to establish a by-right differentiation of zones in order to create a mixed-use neighborhood center as a focal point of new large subdivisions. For example, the Town of Wake Forest, NC applies a by-right overlay district to any development site of 100 acres or more. That overlay district requires large subdivisions to allocate land area (by percentage) to sub-districts with varying development intensities in order to create neighborhoods with identifiable centers. Troutman should consider adopting this model.

► **Action Item:** Consider implementing the Rural-Urban Transect as the fundamental organizing tool for certain areas of Troutman.

► **Action Item:** Consider calibrating parts of the ordinance using a Transect-based zoning classification system.



BUILDING & SITE DESIGN

5

GOAL: Preserve the small-town character of Troutman by implementing design standards that promote a high-quality pedestrian environment and the creation of places with lasting value.

5.1 PRESERVING SMALL-TOWN CHARACTER

While regional trends point to increasing growth pressure in Troutman, a larger population base does not have to mean losing the small-town character that defines Troutman. The town's small core of walkable retail, a historic neighborhood, brick and wood architecture, and farmland are a few of the key elements that should be preserved as the town prepares to accommodate significant new development. Throughout stakeholder interviews, the most desired element expressed to retain was the small-town character.

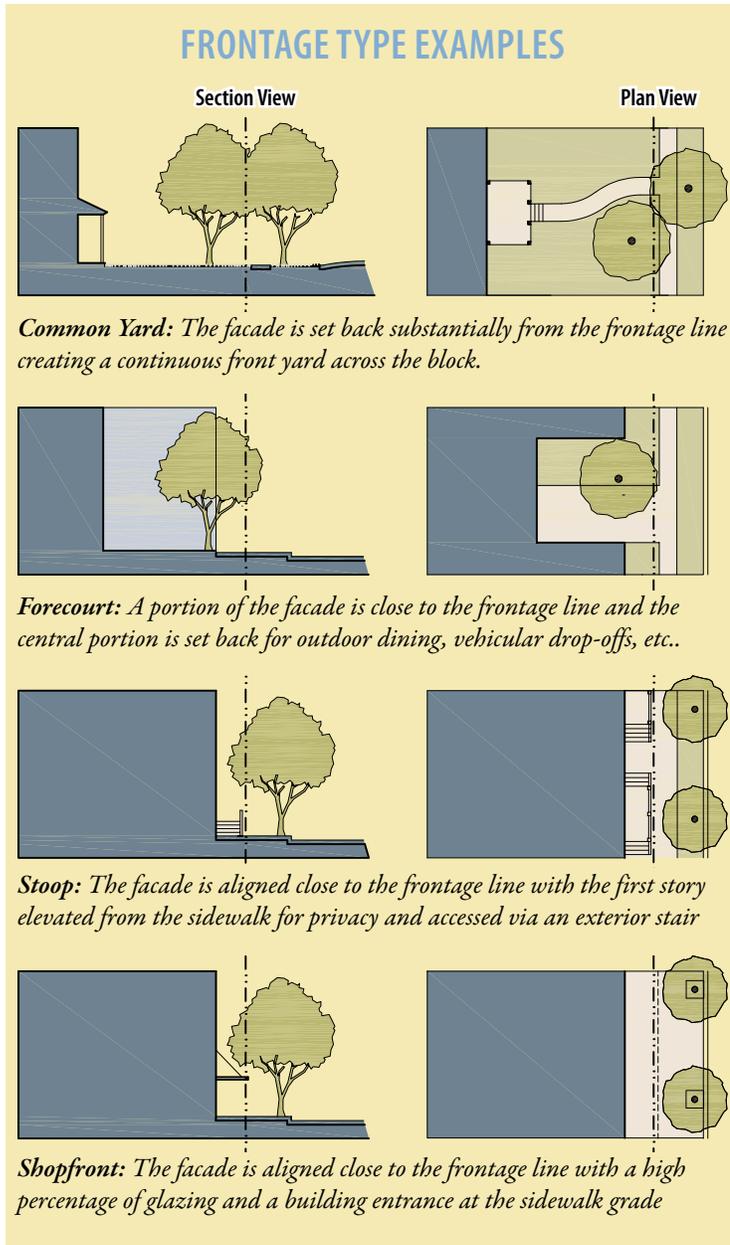
Large housing developments with cheap materials and architecture can detract from the town's charm and make it feel like every other suburban locale in the country. The best way for the town to prevent further proliferation of out-of-character suburban development is to set clear expectations for the design of new development. As discussed in the previous chapter, form-based districts are the first tool for creating small-town walkable neighborhoods. Building and site design standards add the next layer of expectations.

Good urban design is about the appropriate arrangement and detailing of buildings, streets, and public spaces to create places for people. Standards that specify building alignment, frontage types, materials usage, parking location, landscaping, park types, signage and lighting, among others establish the collective expectations for development that builds on the success of Troutman's small-town character. Standards that will create a more consistent streetscape for Main Street and throughout Downtown was a constant concern throughout stakeholder interviews. In many cases, simple, low-cost design improvements will allow new buildings to meet such design standards.

Further, in order to preserve the small-town character of existing neighborhoods, like downtown and the mill village, specific standards for infill development and redevelopment should ensure that new projects fit into the existing context by reflecting the character of nearby buildings and blocks.

- ▶ **Action Item:** Include subdivision, building, and site design requirements (e.g., parking location, frontage type, materials restrictions, street design, etc.) that reinforce the small-town character of Troutman.

5.2 BUILDING DESIGN & FRONTAGE TYPES



The current UDO provides architectural guidance in two locations: Chapter 5: Building Design Requirements, and Chapter 3: Zoning Districts in Section 3.4.5: Design Requirements. These chapters define the design for residential, commercial and mixed-use, civic, and industrial buildings. Examples of these include, materials and color, the pitch of roofs, garage loading, facades, entrances, etc. These guidelines have made an important first step to assuring that private development contributes to an attractive public streetscape. However, document usability would be approved by locating all building design regulations in one location.

The next step is to provide more detailed and refined guidance for building frontages that form the backdrop of walkable neighborhoods and mixed use centers (see Frontage Type Examples, left). Frontage requirements establish the manner in which buildings engage the public realm. They are intended to ensure that this critical interface between public and private space is detailed appropriately. For example, minimum transparency requirements for display windows in shop fronts, raised stoops at main entrances for residences to maintain privacy, and facade articulation requirements that prevent blank walls. Without these standards, increased development and density becomes congestion, instead of urban, walkable areas.

While the current Building Design Standards do address some elements of frontage for some building types, especially for multifamily, commercial, and mixed-use buildings, they do not address frontage comprehensively. More detailed and more enforceable regulations are required to ensure the maintenance of Troutman’s small-town character.

As noted in Chapter 3, the administration of design standards should be handled by staff as much as possible in order to create a fast, predictable review process. This means that building design requirements should be written as standards that can be clearly interpreted administratively rather than more subjective design guidelines that require a quasi-judicial process for enforcement.



Downtown Troutman embodies small-town character with historic building form that frames its small, but quality Main Street.

► **Action Item:** Use frontage types and design standards to ensure buildings support a high-quality pedestrian environment.

► **Action Item:** To the extent possible, ensure that building and site design standards are clear and objective so they can be enforced consistently.

5.3 BUILDING HEIGHT

Building height is the key consideration in the appropriate massing and scale of a building. Currently, most of the zoning districts have a maximum height of 50 feet, except for the Central Business District, which allows taller structures through Conditional Zoning. As the zoning districts are currently designated, the town’s tallest buildings could be scattered throughout Troutman - on either side of the Exit 42 interchange, in downtown, or along Highway 21. To create cohesive neighborhoods and districts within town, height limits should be modulated in conjunction with density, market expectations, and streetscape designs.

The Land Use Plan identifies two areas for more dense development: Downtown and the Exit 42 interchange. Denser development in Downtown is appropriate to build upon the walkable character of the town with residential options within a 1/4 mile radius. Focusing density at the interchange will act as a gateway to the town and possibly differentiate it from other interchanges along the I-77 corridor.

The town should also reconsider its methodology of measuring height maximums. Regulating height by feet can lead to uniform and monotonous districts as developers seek to maximize their built volume within rigid height maximums. Alternatively, regulating by stories, with minimum floor-to-ceiling heights, allows for more flexibility and variety in the built environment. For example, the first floor of a commercial building should have a floor-to-ceiling height of at least 12 feet, while a second or third story can be 9 or more feet. As a result, different three story buildings, would vary in height, depending on their design and intended use.

Typically, the limiting factor in height maximums is the ability to provide adequate fire protection. Any revision to the height maximums established in the Zoning Code must take the capabilities of the local fire district into consideration.

► **Action Item:** Modulate height to create cohesive districts and neighborhoods with the greatest heights focused around the Exit 42 interchange and Downtown.

► **Action Item:** Regulate height by stories instead of feet.

5.4 SIGNS

The signs section (Chapter 11) of the UDO contains 8 permitted sign types. While this is a reasonable number of types, the requirements for each are very long and appear in different places (e.g., General Provisions and Requiring Permit). Consolidating these dimensional requirements into one table with illustrations will simplify adherence to and administration of sign requirements.

► **Action Item:** Consolidate the existing sign types, and clarify them with illustrations.

5.5 LIGHTING

Policy 8.7 in Chapter 8: Parking and Infrastructure outlines requirements for outdoor lighting for individual sites, street lighting provisions, decorative lighting, individual residential lighting, lighting in annexation areas, and removal of street lighting. The regulations pertain mostly to process of approval and installation. There are very little design regulations aside from the standard wood pole and wattage.



Standard and decorative lighting downtown

Provisions for spacing and location to best serve the pedestrian is listed as the responsibility of the municipal services program under policy 8.7.2: Street Lighting Provisions. It is not clear in the current UDO if these requirements pertain to subdivisions. Therefore, Street Lighting Provisions for public streets (8.72) should be a separate policy, and not located under Section 8.7. There should also be a policy that includes spacing and specifications for subdivisions. Lighting in these two instances has a different approval process and funding source than private lighting.

One of the ways to brand an identity for Troutman is to establish a consistent public realm design. An important part of that is street lighting. The town has made an admirable effort to install decorative lighting along the Richardson Greenway, communicating its importance to Troutman. This lighting should be continued in the Downtown area along parts of Main Street and Wagner Street as part of a comprehensive streetscape improvement.

- ▶ **Action Item:** Separate policy 8.7.2: Street Lighting Provisions.
- ▶ **Action Item:** Provide better guidance for street lighting in subdivisions.
- ▶ **Action Item:** List the location of lighting specifications for reference.



Requiring high parking space minimums leads to large empty parking lots and creates a disincentive for redevelopment.

5.6 PARKING

Number of Parking Spaces

While the current UDO generally requires an appropriate amount of off-street parking in most cases, the commercial (office & retail) ratios are too high (3.5 spaces per 1000 square feet.) At the most 2-3 spaces per 1000 square feet to support a walkable community.

While parking lots are necessary for most businesses to accommodate their customers, they do not provide a public benefit. On the contrary, large empty parking lots detract from streetscapes by interrupting continuous building frontages. They also contribute excessive runoff to the stormwater system, increasing public maintenance costs. Instead of requiring commercial and multifamily residential minimums for mixed-use development, it should be exempt from parking minimums. This will encourage the most desired development type supportive of a walkable downtown and neighborhoods.

Reducing or eliminating parking minimums alleviates the detrimental effects of parking on the public realm. It also allows business owners more site design flexibility to provide parking that meets their individual needs. In new development, this reduces the amount of dead space devoted to parking. In redevelopment situations, reduced parking minimums unlock overbuilt parking areas for new development. This adds substantial value and tax base to the community in locations where infrastructure is already in place to serve it.

Troutman's UDO addresses the reduction of parking minimums for the joint use of parking (Section 8.3: Shared Parking and Parking Connectivity) , but does not establish an easily enforceable policy for how to calculate such a reduction. Establishing a by-right formula for sharing with adjacent uses, and with on-street parking would simplify the process and clarify expectations.

It may also be appropriate in some situations to establish parking maximums. This is especially applicable in districts intended for compact, walkable development where overly large parking areas would

be particularly detrimental to the desired development outcomes.

- ▶ **Action Item:** Reduce off-street parking requirements for commercial uses, clarify shared parking allowances and establish maximums where appropriate.
- ▶ **Action Item:** Revise the parking requirements table to include differences in uses where appropriate.

Parking Location

Troutman’s current UDO strives to preserve its small-town character through requiring parking areas to the side of and behind buildings, and ensuring parking areas don’t extend beyond the frontage of the building. This will be particularly important in improving the pedestrian qualities of Downtown. However, it clearly exempts this standard for major commercial subdivisions. This policy should be revised to include all development, including large retailers with large parking requirements. These regulations should at least apply for the buildings in the development adjacent to the street. Large commercial retailers in their suburban form, are the most detrimental the walkable built environment.

Currently, on-street parking is prohibited for nonresidential development, which is very concerning. As discussed in the next chapter, on-street parking is a very important part of creating a pedestrian-oriented “Complete Street,” and should be permitted in all parts of the town where possible. It will not only protect the pedestrian, making them feel safer and more welcome, it will alleviate areas from surface parking lots that are void of activity and provide parking adjacent to local businesses. Additionally, allowing on-street parking on private residential streets without requiring an additional 8 feet dedicated for the use should be allowed. This condition is known as a “Neighborhood Yield Street,” which creates a safer environment for pedestrians and street activity. Where on-street parking is located, it should count towards parking minimums.

- ▶ **Action Item:** Require that parking is located behind or next to multifamily, commercial and mixed-use buildings in all areas.



These examples illustrate the importance of parking location. The picture above shows a typical suburban drug store with parking in the front, dominating the streetscape. The two images below show how parking can be located on the street and behind the building, creating an urban atmosphere. This character is more compatible with Troutman’s traditional architecture and creates a more attractive streetscape environment. (Image Credits: NeoHouston, LAStreetsBlog, Rick Gellar)



- ▶ **Action Item:** Increase design standards for garages so that they do not dominate single-family home facades.
- ▶ **Action Item:** Allow and encourage on-street parking for all uses.

Bicycle Parking

Currently, the UDO only requires bicycle parking for developments with 50 or more parking spaces. In continuing to enhance the pedestrian environment and walkability of Troutman, especially downtown, it is important to provide more bicycle facilities. Fine-grain, infill development will often require less than 50 car parking spaces. This is the type of development most likely in downtown, where the town would want to encourage increased bicycle usage; especially in close proximity to the Richardson Greenway. Additionally, allowing bicycle parking to offset car parking minimums can encourage development where in areas where it is desired most.

- ▶ **Action Item:** Require bicycle parking for developments with less than 50 car parking spaces.
- ▶ **Action Item:** Allow parking offsets for bicycle parking spaces in Downtown and surrounding neighborhoods.

5.7 LANDSCAPING

Planting and Tree Preservation

The current UDO requires yard tree plantings for every residential subdivision, except the Rural Preservation District. The number of trees required is based on the area of the lot. While the total number of trees planted on the property is reasonable for a single-family home, the requirement to plant at least 2 in the front yard can be problematic for more dense, walkable neighborhoods. In some cases, small single-family houses might only have a 5 foot setback from the street, which is not enough room to warrant trees in addition to those provided in the public right-of-way.

Additionally, for multifamily development, such as townhouses with lots less than 10,000 square feet, no trees on a lot is appropriate. In that case, it should be exempt from the yard tree requirements. Additionally, these regulations are only for subdivisions. These do not apply to infill residential lots in established neighborhoods. Because of this, redevelopment could threaten existing tree canopy.

Tree preservation requirements found in Section 6.5: Tree Preservation and Environmental Protection, do not provide any enforceable regulations. The language explains the intent of the policy well, but is not prescriptive. Buildable site area descriptions bases tree preservation solely on slope and states that “Prime Buildable” land “offers the least opportunity for the preservation of existing tree canopy, forest stands, or significant vegetation.” This regulation supports clear cutting land, which is very detrimental to the existing character of the town.

Additionally, the plant material list (7.3.1: Approved Plant List) does not need to be a legislated document. This list should be maintained outside the UDO to allow staff to make changes as necessary.

- ▶ **Action Item:** Do not require tree plantings on single-family lots less than 5,000 square feet.
- ▶ **Action Item:** Do not require tree plantings on single-family lots less than 10,000 square feet in the front yard.
- ▶ **Action Item:** Revise tree planting and tree preservation requirements to be more enforceable
- ▶ **Action Item:** Do not allow clear-cutting of land for any single-family residential development.
- ▶ **Action Item:** Set apart the plant material list as a standalone appendix to the UDO.
- ▶ **Action Item:** Move the tree preservation section to the landscaping section.

Street Trees

Another consideration for tree coverage is the provision of street trees, which is perhaps more important to the public realm and walkability than trees planted in private yards. Street trees protect and buffer the pedestrian sidewalk from the vehicular roadway, while also adorning and shading the sidewalk, making the pedestrian experience more enjoyable.

Section 7.2.4. Type D Landscaping (Street Trees) defines the location, number required, and composition for trees along any public or private street. The policy requires trees on both sides of every street in an 8 foot planting strip. It does not specify where this planting strip should be located (e.g. between the sidewalk and the street), but it does specify the spacing required around mature and ornamental trees. While existing vegetation can be used to satisfy this regulation, it should act in the same capacity as a street tree, and not simply exist in the front yard of a lot.

The current UDO does a sufficient job in providing guidance of street trees, but could be improved by calibrating the location, spacing, and specimens to street sections. If in the future, public realm standards are developed around a street framework and corresponding sections, street trees could be used as a tool to create identifiable districts that contribute to the unique identity of Troutman.

- ▶ **Action Item:** Specify where planting strips should be located if a sidewalk is not also required on the same side of the street.
- ▶ **Action Item:** Calibrate street tree planting requirements to street sections.

Buffering/Screening

Like most other development standards, tree protection and planting strategies should be tailored to the context/district in which they occur. For example, utilizing front yards as a tree protection strategy in commercial areas is not often a viable technique, because of its impact on the built environment. In order to be successful, retail needs visibility (regardless of whether it is auto-oriented or pedestrian-oriented), and expansive front yards are contrary to this. Furthermore, studies have proven time and time again

that a continuous line of active facades and storefront is the most crucial element for encouraging pedestrian activity.

The current standards require a 10 foot landscape area between all principal buildings and public rights-of-way in multifamily residential, mixed-use and civic uses, and a 15 foot landscape area for all commercial areas. There are also buffers required for parking areas. While these requirements do provide beneficial greening to new development, they also increase the distances between land uses and restrict the ability to create connected, walkable neighborhoods.

Buffers have their place, especially when it comes to separating heavy industrial and other potentially noxious uses from homes. As such, the buffer provisions of the current UDO should be maintained



Image source: Estateley

The Troutman house above has preserved mature trees, and has a very different character than the picture below, which has been built on clear cut land (Hawks Landing)



Image source: Terraviva Realty

in some limited instances, such as the screening of utilities. However, context-based building and site design standards are a much more precise way to deal with land use compatibility.

The current requirements for screening of utilities and mechanical equipment, while adequately written, can be improved with a specific listing of materials and preferred methods within certain districts. Additionally, the UDO should state that mechanical equipment should be located to the side or behind buildings, not adjacent to public right-of-way.

Additionally, while the landscape buffers/screens required at the edges of parking lots are sufficient in screening cars from the right-of-way and providing a green canopy upon maturity, it is important to include height restriction for walls and landscaped buffers. Buffers taller than 4 feet can provide unsafe places for pedestrians, especially in inactive places like parking lots.

Finally, the entire Landscaping section could benefit drastically from graphics and illustrations that explain the difference between buffering/screening options and other nuances in requirements.

- ▶ **Action Item:** Consider implementing a more comprehensive tree protection standard that is keyed to the context/zoning district.
- ▶ **Action Item:** Use building and site design regulations, as opposed to landscape buffer requirements, to ensure development compatibility.
- ▶ **Action Item:** Ensure utilities are accommodated without compromising the function and appeal of public spaces.
- ▶ **Action Item:** Ensure that landscaping requirements do not create unsafe conditions in the public realm.
- ▶ **Action Item:** Include diagrams and illustrations to better explain the landscaping requirements.

5.8 OPEN SPACE & PARKS

Parks play a vital role to many different people, young and old, active and inactive, but the effectiveness of parks is largely dependent upon their design and position within the community and greater region. Thoughtful design and broad accessibility are crucial components of successful park areas for both the qualitative impact of user experience and the quantitative effect of leveraging higher municipal revenues.

The current UDO provides regulations for the dedication of open space with new development in two ways: active space and conservation. It lists the 10 acceptable types of open space: playground, square, plaza, park, green, greenway, greenbelt, conservation preserve, man-made bioretention areas or wetlands, and recreation facility, and their minimum size requirement.

The UDO minimum open space dedication requirement provided in Section 6.4 is appropriate except for 4 districts. 20% in Town Residential (RT) and 30% in Mixed Residential (RM) is significantly too high for these development types. While it is important to provide open space in residential neighborhoods, these districts are to provide a more walkable, pedestrian-oriented environment, which this requirement may negatively affect by spreading the development out. Additionally, 10% open space requirement for the Neighborhood Center District (NC) and the Central Business District (CB) is unnecessary. Development in these districts should be compact, and mostly composed of smaller lots.

The town should also consider allowing payment in lieu of open space dedication. If this tool were used in conjunction with the current lower threshold for requiring open space dedication (10 or more units), the town could create a new source of funding for parks and recreation space. This would also ensure that smaller infill development contributed to the creation of parks for additional residents without placing the burden of providing park space on-site.

For developments with lots less than one acre, the current UDO does an effective job at making sure open space is accessible to the community by requiring that it be within 1,000 feet of all residents and physically connected to the right-of-way.

Additionally, the UDO could benefit from illustrating the types of open space encouraged through diagrams like those shown to the right.

- ▶ **Action Item:** Revise the open space dedication minimums to be more conducive to walkability in appropriate districts.
- ▶ **Action Item:** Allow payments in lieu of open space dedication.
- ▶ **Action Item:** Consider implementing open space requirements for neighborhoods with lots greater than an acre.

5.9 NONCONFORMITIES

Redevelopment and reinvestment in the existing built environment is the most fiscally and environmentally sustainable way to accommodate new growth. With the adoption of a new UDO, there will be a need to manage non-conforming buildings and sites. In some cases, expecting full compliance with all new requirements may be financially unfeasible and could deter redevelopment.

Generally, the recommendations in this report would not result in nonconformities in downtown and other older neighborhoods. The most prevalent non-conformity issues are likely to arise in the case of significant redevelopment of auto-oriented retail. While portions of some single-family subdivisions - especially those with prominent front garages and large setbacks - may become technically nonconforming, the threshold for bringing these into compliance should be set fairly high so that individual homeowners in newer subdivisions are not required to meet new compliance standards.

The town should focus on ensuring that the continuation of nonconformities is managed to the extent practical without discouraging targeted investment by:

- Prioritizing compliance of public realm elements;
- Seeing to apply different expectation of compliance in different districts; and
- Reducing certain standards to encourage redevelopment

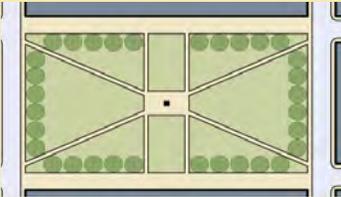
PARK & OPEN SPACE TYPE EXAMPLES



Park/Greenway: Natural preserve consisting of paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed.



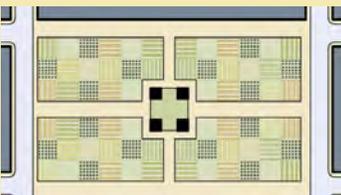
Green: An open lawn available for unstructured recreation that is spatially defined by landscaping rather than building frontages.



Square: An open civic space that is spatially defined by building frontages.



Playground: An open space designed and equipped for the recreation of children - may be included within parks and greens.



Community Garden: A grouping of garden plots available for small-scale cultivation, generally to residents of multi-family dwelling types.

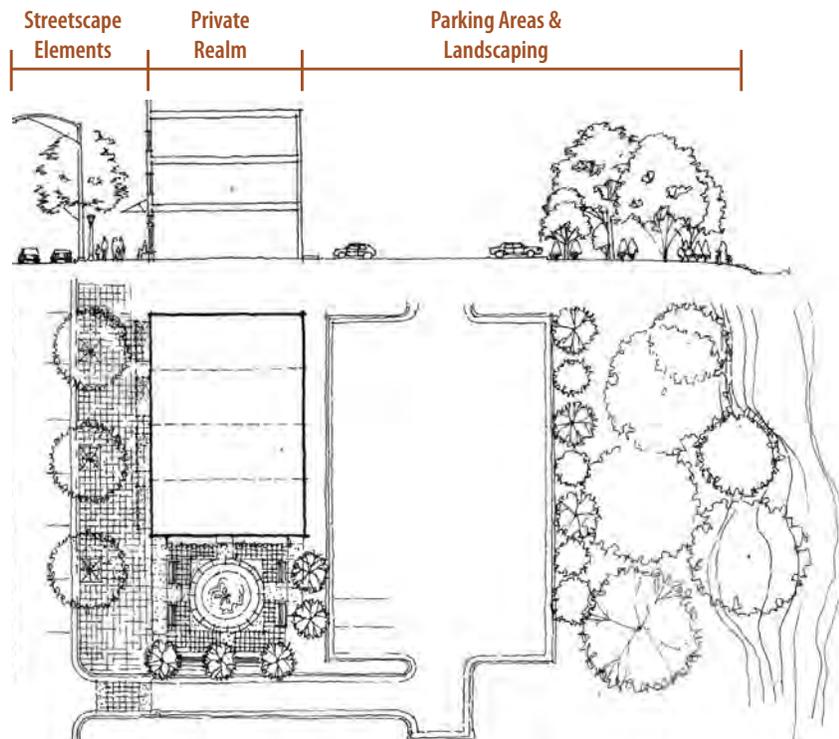


Example of walking trail in Troutman. (Image Credit: Troutmann.gov)

An appropriate method for accomplishing this is to provide a table that evaluates the relative priorities of bringing certain structures into compliance. Signs, for example, could be the first element to be brought into compliance. This could be followed by the installation of landscaping in parking lots and street frontage areas. In general, the elements of compliance should focus on the public realm first (e.g., freestanding signs, landscaping, sidewalks) and the private realm last (e.g., building design, use).

- ▶ **Action Item:** Create a redevelopment compliance table for nonconformities that prioritizes compliance of features outside the private realm.

The expectations for compliance of existing buildings and uses should be based on the scale and nature of the specific redevelopment proposal. Streetscape elements such as signage, lighting, and street trees should be the first priority for compliance, followed by parking areas and landscaping, and finally by private realm considerations such as the building and use.





GOAL: Ensure that Troutman’s streets and infrastructure are environmentally sensitive and provide a safe and pleasant experience for all users.

6.1 CONTEXT-SENSITIVE STREET DESIGN

The building blocks for all American communities are their streets. Streets comprise the greatest amount of public space in our communities, and historically, streets were active spaces used to accommodate a diversity of functions. Streets were spaces for commerce, gathering, recreation, dining, celebration, worship, protest, education, and travel. Streets were spaces that American communities used for the daily exchange of goods and ideas - spaces where people would choose to stroll, linger, and socialize with neighbors.

In the more recent past however, many of our streets have been constructed to serve a single purpose, the movement of cars as quickly and efficiently as possible through a corridor. Portions of Highway 21 in Troutman provide an unfortunate example of this type of road - a road with minimal sidewalks, a number of curb cuts, no street trees, no fronting buildings, and no other characteristics that would encourage people to gather and stroll. As a result, our streets no longer accommodate the multitude of users and functions they once did, nor do they provide the same degree of economic value. And in fact, in many instances these streets don’t even do a good job accomplishing the one purpose they are intended to serve, as evidenced by the many traffic-choked highways in the Lake Norman area.

The statistics on this issue of walkability speak loudly. Pedestrians comprise 1 in every 10 deaths by automobile in the U.S.¹ The Charlotte metropolitan areas is considered one of the ten most dangerous urban areas for walking in the U.S. based on injuries and deaths.² Furthermore, cardiovascular and pulmonary diseases are among the leading causes of death in the U.S.,³ and more than 29% of North Carolinians are considered obese.⁴ Roughly 57% of Americans would like to spend less time in the car, but 73% feel they have no choice but to drive as much as they do.⁵

1 Transportation for America. (2011). “Dangerous by Design”
2 Transportation for America. (2014). “Dangerous by Design”
3 Center for Disease Control and Prevention. (2011) <http://www.cdc.gov/nchs/FASTATS/lcod.html>
4 Center for Disease Control and Prevention. (2011) <http://www.cdc.gov/obesity/data/adult.html>
5 National Complete Streets Coalition - Smart Growth for America. (2013)

The common denominator of all of these issues is the lack of streets that provide a safe and pleasant experience for pedestrians and bicyclists. Streets are the largest public investment in any community, and it is a mistake to use that investment to create streets that serve cars exclusively. Instead, street infrastructure should strive to serve all roadway users - pedestrians, cyclists, motorists, transit users, and fronting property owners. This is referred to as a Complete Streets approach. (See opposite page.)

The current UDO calls for all streets to be in conformance with the Comprehensive Transportation Plan (CTP), which classifies its streets based on functional classification (e.g., Local Collector, Arterial, Thoroughfare). The design of these streets is based on moving various traffic volumes as efficiently as possible. The desired character of a street and the relationship with surrounding land uses are, at best, a secondary consideration.

Streets not impacted by the CTP are classified by the UDO as thoroughfare streets, urban residential streets, commercial and industrial streets, and private rural preservation streets. While there are descriptions for each of these, no street design sections or specifications are defined for each type. This leaves the intent for each street completely open to interpretation in its execution.

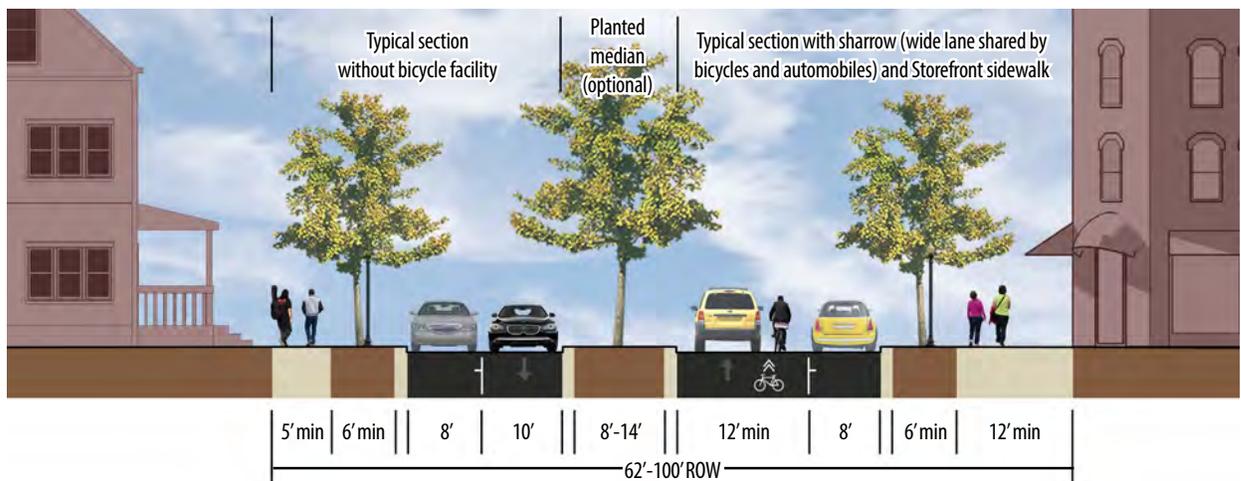
Furthermore, it is crucial that the CTP be revised to incorporate context-sensitive street design. Highway 21 is one of the primary streets and part of the main intersection of town. It runs adjacent to the Richardson Greenway and is a key factor in the present and future identity of Troutman. It will be critical that the town work with NCDOT to ensure that future

changes to Highway 21 along Main Street be context-sensitive and become safer and more functional for pedestrians. This is particularly important since the Comprehensive Transportation Plan (CTP), is not conducive to preserving Main Street as it is today. The potential widening of Highway 21 could threaten the Richardson Greenway and the greenway system, which is one of the iconic characteristics of Downtown Troutman.

In contrast to functional classification and the CTP, the Complete Streets approach focuses first on creating streets that accommodate all users within the desired development context. The UDO should adopt this approach by establishing street type requirements that focus on the development context of proposed streets. Instead of “Arterial” or “Thoroughfare”, more descriptive street types such as “Urban Boulevard” and “Residential Lane” should be defined and illustrated in the code. (See example below.) NCDOT recently adopted a Complete Streets policy and design guide that reflects this movement within the state. The revised UDO offers an ideal opportunity to implement a parallel local policy.

Once a clear set of street types has been effectively defined and illustrated, the UDO should establish where and how the street type regulations will be implemented. There are two primary techniques that can be used to apply the street types to their ideal context within the town. The first is a simple applicability table denoting which street types may be used in each zoning district. A slightly more nuanced approach utilizes a Street Regulating Plan to assign desired street types on a block-by-block basis. Street Regulating Plans function in the same manner as

Illustration of an Avenue street type with associated dimensional requirements



WHAT ARE COMPLETE STREETS?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users – whether on foot, in a car, on a bike or riding a bus. People of all ages and abilities are able to safely move along and across these streets, regardless of how they are traveling. **Complete Streets** make it easy to walk to shops, and bicycle to work. They allow traffic to move efficiently, buses to run on time, and people to walk safely to and from transit stations, shops, offices, churches, and homes.



COMPLETE STREETS CONTRIBUTE MANY BENEFITS TO THE SURROUNDING COMMUNITY.

- > Wide, attractive sidewalks and well-defined bike routes, where appropriate to community context, encourage healthy and active lifestyles among residents of all ages.
- > Complete Streets can provide children with opportunities to reach nearby destinations in a safe and supportive environment.
- > A variety of transportation options allow everyone – particularly people with disabilities and older adults – to get out and stay connected to the community.
- > Multi-modal transportation networks help communities provide alternatives to sitting in traffic.
- > A better integration of land use and transportation through a Complete Streets process creates an attractive combination of buildings – houses, offices, shops – and street designs.
- > Designing a street with pedestrians in mind – sidewalks, raised medians, better bus stop placement, traffic-calming measures, and treatments for travelers with disabilities – may reduce pedestrian risk by as much as 28%.
- > Complete Streets help reduce carbon emissions and are an important part of a climate change mitigation strategy.

Complete Streets are designed and operated to enable safe access for all users - whether on foot, in a car, on a bike, or riding a bus.

Adapted from www.smartgrowth.org and the Complete Streets Coalition

typical zoning maps, except that standards are applied to specific sections of streets instead of parcels of land.

Both of these techniques, which are supported by a transportation strategy in the Land Use Plan, “review and revise the Town’s development regulations and policies regarding street classification and design,” will allow the town to establish an appropriate degree of context sensitivity in street design. In redevelopment projects, development along existing substandard streets would be required to contribute to the improvement of those streets in accordance with the standards set out in the revised UDO. As such, this also provides an ideal way to address the lack of sidewalks in Troutman’s existing neighborhoods.

Included in these two methods of street design, will be pedestrian facilities. As explained on the previous page (see Complete Streets), providing sidewalks and designing streets with pedestrians in mind may reduce pedestrian safety risk by 28%. To encourage walkability, providing the facilities first, followed by other strategies is key. Therefore, sidewalks should be provided on both sides of the street with a minimum width of 5 feet (single-use residential) and 8-15 feet (all retail, commercial, mixed-use, civic, etc.) This should apply to all development except for industrial and agricultural.

- ▶ **Action Item:** Revise the CTP to incorporate context-sensitive street design.
- ▶ **Action Item:** Establish street design requirements that prioritize the desired character of the streetscape environment over the functional classification of the street.
- ▶ **Action Item:** Using the NCDOT Complete Streets guide as a reference, create street type illustrations that identify the critical street elements needed to accommodate all users.
- ▶ **Action Item:** Determine where each street type will be permitted or expected according to different zoning districts and/or a Street Regulating Plan.
- ▶ **Action Item:** Require sidewalks on both sides of every street except for low density (e.g., 0.5 - 1 unit/acre) housing-only neighborhoods, and in developments where adopted pedestrian/ bicycle plans offer other acceptable alternatives (e.g., trail systems).

-
- ▶ **Action Item:** Consider creating a 6 foot minimum planting strip and a 5 foot minimum sidewalk policy. Require wider sidewalks on multi-use paths, mixed-use and commercial areas to accommodate higher pedestrian volumes, bicycle traffic and exterior uses like outdoor seating.
-

6.2 CONNECTIVITY

At a larger scale, the function of Troutman’s growing network of streets will depend largely upon its degree of connectivity. The benefits of a robust and well-connected street network are well-documented (see inset on next page). Until the past 60 years or so, most development in the United States was organized along a connected network of streets supporting a mix of land uses within a convenient, walkable proximity. The Land Use Plan calls for maximizing the functionality of the existing roadway system by “planning for additional key connector streets and additional transportation corridors that support existing or proposed land uses.” While Downtown and its surrounding neighborhoods don’t have a defined grid network, they do have the highest degree of connectivity in Troutman. The loose grid that does exist should be reinforced and enhanced through infill development and redevelopment.

Unfortunately, the convention of more recent suburban developments like Falls Cove and Sutter’s Mill, is to offer very few means of access to isolated subdivisions, thereby forcing traffic onto a few high-speed arterial roads. This induces greater traffic congestion and deteriorates the character of the urban environment. (See Connectivity and Congestion). While suburban housing development in parts of Troutman have varying degrees in inner-connectivity most have one connection to the greater street network.

Despite recent development, the current UDO has regulations for “Connectivity and Cul-de-sacs,” “Blocks,” and “Connection to Streets.” While they are well-intentioned, they are written with unenforceable language. The UDO calls for stubbing streets for future connections to adjacent development, and not using cul-de-sacs as a way to avoid connection with other streets. In addition to using more enforceable language a few of the requirements can be tweaked.

The current maximum dead-end streets length of 1,000 feet should be revised to 250-400 feet and be calibrated based on context. Uninterrupted streets with a current maximum of 1,000 feet, should be revised to 600-800 feet to ensure a greater degree of walkability. In cases where larger blocks must exist, permit mid-block pedestrian and bicycle mid-block crossings.

A more effective method to ensure connectivity would be to introduce a minimum index requirement. This measures the density of street networks, and are typically calculated as the number of roadway links (segments between intersections) divided by the number of roadway nodes (intersections and dead-ends). (See examples on following page)

A higher level of connectivity index means that travelers have increased route choices and mobility. Elsewhere in the Charlotte Metropolitan Area, the *Mecklenburg County Quality of Life Dashboard*⁶ suggests that a score of 1.4 is the minimum needed to support a walkable community.

The revised UDO should establish requirements for greater connectivity through the use of techniques like smaller blocks, a connectivity index, connected driveways, street stubs to future development areas, and by allowing cul-de-sacs in only a few scenarios. These regulations must be enforceable. This will ensure that as Troutman continues to grow it will develop using a coherent network of Complete Streets that dissipates traffic, offers choices among a variety of travel routes and options, and provides for the needs of pedestrians, cyclists, and drivers alike.

► **Action Item:** Establish connectivity standards, for both new subdivisions and redevelopment, that extend Troutman’s downtown grid pattern and support improved mobility.

► **Action Item:** Establish a maximum block length of 600-800 feet depending on density of development and/or the zoning district.

► **Action Item:** Require pedestrian/bicycle connections through blocks longer than 800 feet (as necessitated by topography) between neighborhoods and across streams.

► **Action Item:** Require at least two connections per neighborhood. More may be necessary for larger neighborhoods.

► **Action Item:** Require stubs to adjacent property except where environmental or land use constraints are present.

► **Action Item:** Require a sign at the end of all stub streets that notifies the public of the eventual connection of the stub to a future street.

BENEFITS OF CONNECTED STREETS

- Fine-grained street networks connect multiple places and people via multiple modes of travel, ultimately allowing places to become successful centers of economic development.
- Networks comprised of frequent narrow streets, as opposed to a few large streets, move cars more efficiently, create a better environment for pedestrians, improve safety, and support better public health.
- Well-connected street networks are more resilient to disruptions, like downed trees or traffic accidents, because they provide multiple alternative routes.
- Less traffic concentration leads to narrower streets which slows traffic, permits shorter pedestrian crossing distances at intersections, and reduces accidents.
- Connected streets improve emergency response times by providing multiple direct routes.
- Encouraging biking and walking improves public health and reduces the risk of many health issues.
- The character and appearance of well-connected, walkable streets increases the desirability and value of adjacent properties.

Adapted from Congress for the New Urbanism, “Sustainable Street Network Principles” and “Benefits of Connected Streets” 2012.

6 Mecklenburg County and University of North Carolina at Charlotte. (2013). <http://maps.co.mecklenburg.nc.us/qoldashboard/>

CONNECTIVITY AND CONGESTION

Traditional patterns of development, like Downtown Troutman's historic grid offer multiple route options and greater overall capacity than conventional suburban patterns of development, like the Falls Cove subdivision, which has only one means of access and forces all traffic onto Perth Road.



Images by Walter Kulash



Images by Walter Kulash



Image by Google Earth

Downtown
Typical Block Length: 500 feet
Intersections with Arterial Roads: 18



Image by Google Earth

Meadow Glen
Typical Block Length: 850 feet
Intersections with Arterial Roads: 1

6.3 GREENWAYS

Perhaps more than any other element that contributes to the Troutman's identity is the Richardson Greenway that runs through downtown along Main Street. Once an abandoned rail corridor with litter and pollution, it is now an active greenway for cyclists and pedestrians. With a strong desire to become a more walkable community, the Richardson Greenway has been an enormous first step. It is extremely important that this facility be preserved and enhanced with connections to adjacent neighborhoods.

The Troutman Pedestrian Plan, the 2020 Parks and Recreation Plan, the Lake Norman Bicycle Route, the Comprehensive Transportation Plan, and the Carolina Thread Trail Master Plan for Iredell County Communities all provide sources for greenway facilities. The current UDO could be clarified with the inclusion of a map that acts as an official guide for future development in Troutman and the ETJ.

The UDO sets a good foundation for pedestrian connectivity by requiring connections between development and existing/planned greenway facilities as well as continuing facilities to the property line.

However, while the construction of planned greenways is required by new development, this does not apply to low-impact development (e.g., subdivisions with lots greater than one acre of in a nature preserve.) Without this requirement there will be eventual gaps in the system and an unnecessary financial burden placed on the town to complete it.

► **Action Item:** Require the construction of all greenway segments through new development regardless of density.

► **Action Item:** Include planned greenway facilities on the official zoning map.

6.4 ENVIRONMENTAL PROTECTION REGULATIONS

The effect of development and human activity on the quality of rivers, streams, and lakes in the Charlotte metropolitan region is well documented. Pollution is a serious threat to all water resources in the region

and is an issue of importance to Troutman because of its location within the Lake Norman Watershed Protection Areas.

One of the largest contributors to water pollution is non-point source pollution. Non-point source pollution is the process of stormwater runoff carrying pollutant particles from a variety of locations including construction sites, parking lots and rooftops into streams, rivers, and lakes. Factors that affect stormwater runoff and non-point source pollution are generally development-related. With an increase in development, there is an increase in the amount of impervious surface area - those areas such as pavement of roofing which do not allow for filtration of stormwater. These impervious surfaces cause stormwater to drain more directly into streams and rivers, creating problems with peak flow volumes, stream bank erosion, and flooding and allowing unfiltered stormwater (which would have been filtered out through the natural landscape) to be transported into water resources increasing overall levels of pollution.

In response to these effects, governments at all levels have created various stormwater and watershed protection regulations throughout the country. These regulations have far-reaching impacts on the manner in which development is accommodated in every city and town across the country. The most effective regulations are those which are appropriately tailored to specific development contexts, encouraging dense development in certain areas while limiting the amount of impervious surface area in others, as appropriate.

Unfortunately, in the case of Troutman, the town uses North Carolina state regulations for stormwater management and watershed protection, which because of their need to be general, reflect a one-size-fits-all approach. As a result, in certain situations these regulations are at odds with the compact walkable development outcomes. As such, it may be appropriate to exempt specific locations from impervious surface ratios and density limits to achieve the desired development outcomes. It may also be appropriate to exempt infill lots in some areas from nutrient removal and runoff volume requirements. Imposing these requirements often discourages redevelopment of small sites because it requires highly-engineered solutions

that are expensive to administer on a small scale.

While it is not possible or desirable to exempt all development in dense urban areas from stormwater management and watershed protection standards, there are a variety of creative solutions that allow for more flexibility in the administration and enforcement of such standards without compromising water quality goals. Techniques such as low-impact development standards, context sensitive BMPs (best management practices), payments-in-lieu of pervious surface, and impervious surface averaging have been used in other North Carolina communities with success.

There is the possibility to create an impervious surface bank that would allow the flexibility to exempt development from the State’s impervious surface standards in more urban areas. The state already permits impervious surface averaging between two parcels to accomplish similar objectives. Theoretically, an impervious surface bank is just an extension of this policy, allowing more dense walkable development in some areas while requiring more preservation and pervious surfaces in other areas, according to the desired development outcomes across the entire town.

The primary goal should be to establish stormwater management and watershed protection standards that apply a variety of context-sensitive solutions. Specific emphasis should be given to accommodating compact, walkable development in those areas of town that are

best equipped to support it, as identified in the Land Use Plan. Such solutions should be careful not to undermine the intent of the existing regulations, but to apply them in a more holistic manner that preserves water quality across the entirety of the town.

► **Action Item:** Modify stormwater regulations to apply a palette of context-sensitive standards.

► **Action Item:** Exempt a portion of infill development from post-development stormwater standards according to the lot size and location.

► **Action Item:** Consider creating an impervious surface bank to permit more flexibility for compacting walkable development, especially in infill situations.

AMENDING THE ENVIRONMENTAL PROTECTION REGULATIONS

Stormwater management and watershed protection standards are crucial to maintaining the quality of surface waters but should be practical and tailored to different development contexts. The shortcomings of Troutman’s environmental protection regulations (i.e., Floodplain, Stormwater, Erosion Control, and Watershed Protection) offer a particularly troubling challenge because most of these standards are beyond the town’s control. As such, it is important to note that any significant changes to these standards would require a lengthy process of collaboration with various County and State agencies to ensure compliance and compatibility. Consequently, the town should consider engaging these agencies in a separate process after the UDO rewrite is complete.



COMMUNITY GOALS AND DENSITY REGULATIONS

When establishing density regulations for zoning districts it is important for a community to understand what goal(s) it is trying to accomplish with that district. In terms of serving the long-term best interests of the community and its residents, density regulations should typically seek to serve one of two primary goals:

- A preservation goal or
- A walkable development goal.

If the district is intended to be a low-density agrarian/preservation district, densities should generally be restricted to **less than 0.2 dua** (or 1 dwelling unit per 5 acres). If the district is intended to be a walkable development district (either for residential neighborhoods, mixed-use main streets, or anything in between) the density should generally be limited to **more than 6.0 dua**.

There are a wide variety of other characteristics necessary to successfully accomplish either a preservation goal or a walkable development goal, but generally speaking, development densities that fall between 0.2 and 6.0 dua impede the pursuit of either of these goals. Instead, such densities usually result in suburban sprawl, a development pattern that has been widely recognized as environmentally destructive, fiscally irresponsible (in terms of the amount of infrastructure required to serve it), and extremely limited in terms of viable mobility options.

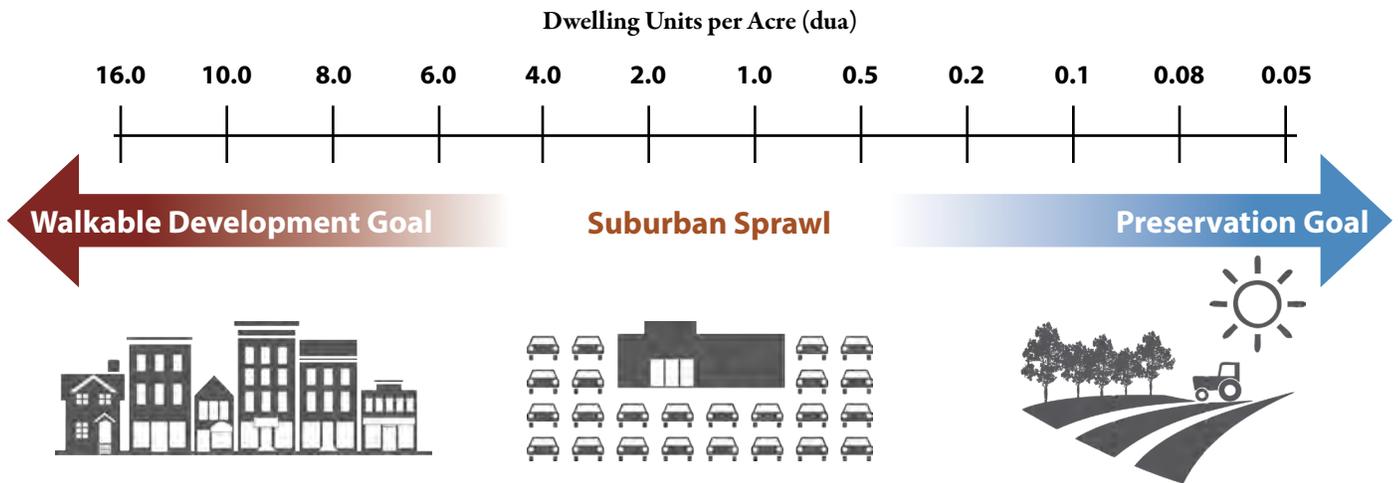


Image Source: Josh Martin

Image Source: Ralph Preston



400 North Eastway Drive
Troutman, NC 28166
704-528-7600
www.troutmanncc.gov