

Rezoning Transportation Analysis

Petition Number: 2016-128

General Location Identifier: 03304109;03304123;03304122;03304119;03304120
03304117;03304111;03320114;03304110

From: **Kelsie Anderson, PE**

Kelsie.Anderson@charlottenc.gov

704-432-5492

Staff Reviewer: **Rick Grochoske, PE**

rgrochoske@charlottenc.gov

704-432-1556

CDOT's review of this rezoning petition is intended to ensure consistency with the Transportation Action Plan (TAP) which seeks to ensure that the City's transportation network supports current and future land uses and includes streets that provide safe and comfortable mobility for motorists, pedestrians, bicyclists, and transit users.

This document is primarily for communication to Planning Department staff as part of the overall City staff analysis of the rezoning petition and includes an overall summary of the case from a transportation perspective, information on trip generation, and resolved or outstanding site plan concerns. Additional advisory information about the driveway permit process is provided for information only.

Based on our review of the petition, we offer the following information for your consideration.

Transportation Summary

The site is bordered by I-485 and two major thoroughfares. The current site plan improves the public street network by providing a system of internal public and private streets with connectivity to the existing street network. The pedestrian and bicycle network is also enhanced by this petition which commits to a multiuse path and bike lane facilities along Mount Holly Huntersville Road. CDOT continues to have outstanding issues related to scope and phasing of significant offsite improvements, form of internal street network, right of way dedication, and scope of pedestrian improvements.

General Description

The site is bordered by I-485 and two (2) major thoroughfares: Brookshire Hwy. (NC 16) and Mt. Holly-Huntersville Rd.

The site is located within a Center outside Route 4.

The site was previously rezoned (#2008-031, including Zoning Administrative Amendments) as a 100-acre suburban commercial/residential development. The proposed zoning adds corporate office use and increases the total development to 125 acres.

A Traffic Impact Study (TIS) was conducted in 2006 and identified major off-site transportation mitigation improvements that were included in the 2008 rezoning. An updated 2016 TIS has identified mitigations for Phase 1. Both NCDOT and CDOT are reviewing a Phase 2 & 3 TIS submitted in September 2016 and a supplemental analysis submitted on October 4, 2016. Coordination among the petitioner, NCDOT, and CDOT is still in progress to determine the scope and phasing of significant offsite improvements needed to mitigate the anticipated trip generated by the proposed site plan. These improvements include complete reconfiguration of the intersection of Mount Holly Huntersville and Brookshire Highway, an additional through lane on eastbound Mount Holly Huntersville from Chastain Parc to Brookshire Highway, a new signal at Mount Holly Huntersville and Overlook, and a traffic calming monitoring and implementation approach to address community concerns about a required street connection.

Trip Generation

Scenario	Land Use	Intensity	Trip Generation (vehicle trips/day)	Source
Existing Use	Vacant	N/A	0	Virtual Charlotte
Entitlement with	Mini-Storage	127k sf	23,356	RZ 2008-031

Rezoning Transportation Analysis

Petition Number: 2016-128

*General Location Identifier: 03304109;03304123;03304122;03304119;03304120
03304117;03304111;03320114;03304110*

Current Zoning	Apartments Townhomes Office Retail	500 dwellings 265 dwellings 129k sf 402.5k sf		
Proposed Zoning	Mini-Storage Apartments Townhomes Hotel Theater (Retail) Office Retail Gas Station Bank Restaurant Fast Food	127k sf 500 dwellings 93 dwellings 200 rooms 60k sf 365k sf 188k sf 14 fueling pumps 4k sf 39.9k sf 8.1k sf	41,590	<i>TIA Scoping</i>
	Mini-Storage Apartments Townhomes Hotel Office Retail Gas Station Bank Restaurant Fast Food	127k sf 264 dwellings 93 dwellings 200 rooms 650k sf 188k sf 14 fueling pumps 4k sf 39.9k sf 8.1k sf	37,177	<i>Supplemental TIS</i>

Curbline

The proposed zoning district has a setback measured from an existing or proposed future curbline.

- The future curblines on Mt. Holly-Huntersville and Brookshire will be determined by TIS results.
- The future curbline for all internal public and/or network required streets will be set using the cross sections defined by the City’s Standards for Urban Street Design applied through the Subdivision Ordinance

Resolved Issues

1. Below are some initial thoughts about potential mitigation measures:
 - a. CDOT does not support westbound triple left turns from MMH Rd. onto inbound Brookshire Hwy. The petitioner should evaluate and recommend alternative capacity treatments at this intersection that maximizes traffic flow on Brookshire Blvd., such as a continuous flow intersection (CFI), a superstreet design or the future conversion to grade separation.
 - b. Access “B” at MHH Rd. /Public Street 1 should be limited to a westbound directional left-over, providing lefts in/rights-in/rights-outs.
2. The petitioner should revise the site plan to show Street 7 as public streets.

Rezoning Transportation Analysis

Petition Number: 2016-128

General Location Identifier: 03304109;03304123;03304122;03304119;03304120
03304117;03304111;03320114;03304110

3. The petitioner should revise the site plan to improve the walkability and interconnectivity among land uses.
 - a. Encourage walkability by moving office closer to retail uses or vice versa.
4. The petitioner should consider traffic calming design features along public street 7.
5. The petitioner should revise the site plan to improve the walkability and interconnectivity among land uses.
 - a. Site's internal sidewalk and/or MUPs need to connect frequently to MHH Rd. and the paralleling Brookshire Hwy's proposed MUPs.

Outstanding Issues

1. The 2016 TIS is currently under review by NCDOT and CDOT. The petitioner submitted a supplemental analysis on October 4, 2016. Additional transportation comments may be forthcoming once the agencies have completed the review of the most recently submitted TIS and Technical Addendum.
 - a. CDOT will require the Brookshire Hwy. /MHH Rd. intersection improvements to accommodate "protected" pedestrian/bike movements through the intersection, including necessary pedestrian refuge areas and connections to existing sidewalks, location as determined during permitting, as needed to optimize signal timing and pedestrian safety.
 - b. The petitioner shall implement two (2) westbound MHH Rd. thru travel lanes from Chastain Parc Dr. to Brookshire Hwy. before Development Phase 2's first building's CO is issued. Remove conditional note 4 III b
 - c. Public Street 2's connection to Chastain Parc Dr. and Chastain Parc Dr speed humps should be approved and in place before the site's first building certificate of occupancy is issued.
 - d. The petitioner should be advised that a *Developer Traffic Signal Agreement* with CDOT is required and he will be responsible for all traffic and pedestrian signal costs to implement proposed new traffic signals and modifications to existing signals.
 - e. The petitioner should revise the site plan note 4. II. b (upon completion of the TIS) specifying all transportation improvements will be constructed and approved before the site's first building certificate of occupancy is issued or phased per the site's development plan.
 - f. CDOT preliminary TIS comments have been submitted to the petitioner on September 28, 2016.
2. The petitioner should revise the site plan to show street 6 as "public" street. Public Streets 6 and 7 should be constructed to local office/commercial wide street section standards (CLDSM U-05), including right of way dedication.
3. The petitioner should revise the site plan to show on-street parallel parking on all internal public streets except within 70' of intersecting street.
10/12/16 Update: Reverse angle parking, not head-in, on public street 6 is acceptable to CDOT if the petitioner also includes a second southbound lane on the public street 6 segment between streets 5 and 7 (matching NB configuration).
4. The petitioner should revise the conditional note 4 II c to the following: "The petitioner shall monitor public street 2 for implementation of traffic calming measures as identified and justified by *CDOT's Traffic Calming Policies*. Monitoring, approval, and installation of traffic calming measures, if needed will be determined by CDOT throughout permitting and build-out. The petitioner will be required to perform final monitoring and traffic calming measure installation, if needed, within two (2) years after the development's last CO is issued." Additionally, the petitioner should revise the site plan to indicate "potential traffic calming location" on street 2 instead of specific speed table locations as traffic calming measures may be revised during permitting.

Rezoning Transportation Analysis

Petition Number: 2016-128

General Location Identifier: 03304109;03304123;03304122;03304119;03304120
03304117;03304111;03320114;03304110

CDOT requests a meeting prior to permitting submittal to discuss traffic calming. There are several alternatives that can be evaluated before implementation. CDOT does not support a one-way “choker” alternative at this time.

5. The petitioner should revise the site plan to include conditional notes related to improving the walkability and interconnectivity among land uses as follows.
 - a. Provide 12’ multi-use paths (MUP) along both (north and south) sides of MHH Rd. and Brookshire Hwy. (instead of in-street bike lanes) through the limits of any/all transportation improvements, including safe connections to existing facilities or at gaps in the bicycle/pedestrian network.
10/12/16 Update: The MUP paralleling Brookshire Hwy. does not need to be in or adjacent to NCDOT’s right-of-way. The requested Brookshire Hwy. MUP path needs to be located on the east side of Duke’s transmission line easement and adjacent to development parcels A and D.
 - b. An MUP is recommended to connect the proposed residential use to Chastain Parc subdivision along the site’s southern property line.
10/12/16 Update: Extend sidewalk connection from street 3 to connect to the southern terminus of Chastain Park
 - c. Revise note ~~5f~~ **4 III f** to commit to 8’ planting strips and 6’ sidewalks along all the site’s internal private streets. 8’ hardscape with tree grates may be considered for planting strip.
 - d. Petitioner should be advised CDOT multi-use paths are 12’ wide minimum. 10’ wide as indicated in note 5f is considered a wide sidewalk and would be acceptable to CDOT as described.
 - e. Consider additional connection(s) between Development Area D (residential) and Development Area B/D (theater/retail/storage).
 - f. Internal street midblock crossing locations will be determined by CDOT during permitting.
6. The petitioner should revise the site plan to remove (i) and (ii) from note 4. III. g. specifying dedication and fee simple conveyance of all proposed rights-of-way (i.e. all transportation mitigation phases) before the site’s first building certificate of occupancy is issued. Brookshire Hwy. and MHH Rd. future right-of-way needs along the site’s frontages will be defined in the approved Riverbend TIS to accommodate the ultimate street cross sections and intersection improvements along each roadway. CDOT requests dedication from street’s centerline through 2’ behind sidewalk and as needed for all offsite transportation improvements.
7. The petitioner should revise the site plan to remove the proposed first driveway on street 5, east of street 6 (serving the proposed fueling station).
8. The petitioner should revise the site plan to add a condition note to prohibit construction traffic to enter site from Chastain Parc connection during all phases of development.
9. The petitioner should revise the site plan to add a note specifying dedication and fee simple conveyance of all rights of way to the City before the site’s first building certificate of occupancy is issued or phased per the site’s development plan.
10. The petitioner should revise the site plan to add a note specifying all transportation improvements and access will be constructed and approved before the site’s first building certificate of occupancy is issued or phased per the site’s development plan.

Advisory Information

The following are requirements of the developer that must be satisfied prior to driveway permit approval. We recommend that the petitioner reflect these on the rezoning plan as-appropriate.

Rezoning Transportation Analysis

Petition Number: 2016-128

*General Location Identifier: 03304109;03304123;03304122;03304119;03304120
03304117;03304111;03320114;03304110*

1. The setback for this district is measured from the back of the existing or future curblines as determined by CDOT and Planning during the permitting process.
2. According to the City of Charlotte's Driveway Regulations, CDOT has the authority to regulate/approve all private street/driveway and public street connections to the right-of-way of a street under the regulatory jurisdiction of the City of Charlotte.
3. Adequate sight triangles must be reserved at the existing/proposed street entrance(s). Two 35' x 35' sight triangles (and two 10' x 70' sight triangles on North Carolina Department of Transportation on NCDOT maintained streets) are required for the entrance(s) to meet requirements. All proposed trees, berms, walls, fences, and/or identification signs must not interfere with sight distance at the entrance(s). Such items should be identified on the site plan.
4. The proposed driveway connection(s) to public streets will require a driveway permit(s) to be submitted to CDOT (and the North Carolina Department of Transportation on NCDOT maintained streets) for review and approval. The exact driveway location(s) and type/width of the driveway(s) will be determined by CDOT during the driveway permit process. The locations of the driveway(s) shown on the site plan are subject to change in order to align with driveway(s) on the opposite side of the street and comply with City Driveway Regulations and the City Tree Ordinance.
5. All proposed commercial driveway connections to a future public street will require a driveway permit to be submitted to CDOT for review and approval.
6. Any fence or wall constructed along or adjacent to any sidewalk or street right-of-way requires a certificate issued by CDOT.
7. A Right-of-Way Encroachment Agreement is required for the installation of any non-standard item(s) (irrigation systems, decorative concrete pavement, brick pavers, etc.) within a proposed/existing City maintained street right-of-way by a private individual, group, business, or homeowner's/business association. An encroachment agreement must be approved by CDOT prior to the construction/installation of the non-standard item(s). Contact CDOT for additional information concerning cost, submittal, and liability insurance coverage requirements.

Revision Log

Date	Description	By
08-31-2016	First Review	RHG
10-12-2016	Second Review	RHG