

Rezoning Transportation Analysis

Petition Number: 2017-054

General Location Identifier: 0703101, 07903102, 07903103 to 07903106

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Revision Log:

Date	Description
03-27-2017	First Review
04-24-2017	Second Review
05-31-2017	Third Review

General Review Information

The site is bounded by Statesville Ave (major thoroughfare), Graham St (major thoroughfare), and Woodward Ave (major collector). The site is within the Route 4 corridor.
Applied innovation corridor

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

To be provided prior to public hearing.

Trip Generation

Scenario	Land Use	Intensity	Trip Generation (vehicle trips/day)	Source
Existing Use	Light Industrial	1,300,000 sf	9,600	Traffic Study
Entitlement with Current Zoning	Light Industrial	850,000 sf	16,100	Traffic Study
	Office	360,000 sf		
	Retail	90,000 sf		
Proposed Zoning	Light Industrial	65,000 sf	32,800	Traffic Study
	Office	1,500,000 sf		
	Retail	280,000 sf		
	Apartments	1,500 dwellings		

Outstanding Issues

1. The proposed zoning district setback is measured from back of existing or proposed future curbline. The future back of curb along the site's street frontage is measured as described below*:

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- a. Statesville Ave. — ~~47.0' as measured from Statesville's existing western back of curb~~ (will be revised if road diet is not approved).
 - b. Woodard Ave. — existing curb is in the future location which is the collector typical cross section. If on-street parking is desired it must be recessed from this curblane dimension. Why ~~is revised site plan~~ the revised site plan is is calling for existing back of ~~curb—on curb on~~ site frontage to be moved 3' toward centerline?
 - c. Graham St. — 30.5' as measured from Graham's St.'s existing centerline, to accommodate two travel lanes and 11' buried bike lane.
 - d. Sylvania Ave. — ~~new public street back of curb to back of curb dimension — 35' to accommodate two travel lanes and 5' bike lanes. If on-street parking is desired it must be recessed from this curblane dimension.~~ Southern back of curb should be inside the site's southern property line, outside or inside of right of way?
 - e. Internal existing reuse and redevelopment streets — cross section and curblines to be determined as petitioner provides information
* Midblock dimensions noted. The final location of the future back of curb may be revised upon review of the TIS.
2. A Traffic Impact Study (TIS) is needed for the complete review of this petition. The TIS scope has been approved and CDOT is awaiting the submittal of the report and supporting analysis files. The TIS is anticipated to provide information to help CDOT determine:
- a. Potential offsite mitigation measures
 - b. Turning lanes into and from major site accesses
 - c. Curblane for four (4) public streets surrounding the site
 - d. Form, density, right of way/easement needs of proposed internal street network
 - e. Consideration for Statesville road diet
 - f. Timing and configuration of 24th/Woodard realignment
 - g. Locations of new signalized intersections on Graham
3. The petitioner should meet with CDOT to discuss the roadway design for the existing and proposed public streets that border this site.
- a. Realignment of 24th Street/Woodard Ave. intersection to reduce skew
 - b. Existing bridge on Woodward is close (6-10 years) to the end of its service life
 - c. Sylvania cross section
 - d. Statesville road diet limits
 - e. Pedestrian crossings on Graham, Statesville, Woodward, and Sylvania
 - f. Rail trail concept
 - g. Planting strip and sidewalk dimensions
4. The petitioner should meet with CDOT and Planning to identify a denser internal street network in the redevelopment areas (Sheet RZ-02) and identify internal street cross sections that conform to City standard U-series.
5. The petitioner should revise the site plan to depict and add a note to provide the following cross sections. CDOT can work with the petitioner to reduce dimensions when needed at pinch points.
- a. Statesville — ~~8' planting strips and 6'-8' sidewalks along the Statesville street frontage (Sheet RZ-03).~~
 - b. Graham - 16' planting strips (to accommodate an 8' buried buffered bike lane) ~~and 6'-8' sidewalks along the Graham street frontage (Sheet RZ-04).~~
 - c. New Camp — provide 8' minimum width for pedestrian area directly behind straight curb (i.e. not buffered by parking or planting area) (Sheets RZ-05 and -06)
 - d. Provide cross section(s) for pedestrian/bicycle route (orange) path through site.
 - e. Clarify form of the north-south Connection "D" to Woodward through the site. **New:** What is its typical section and identify the trigger when Connection "D" is realigned to connect to Edison St.

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- f. ~~Include Sylvania cross section. CDOT's minimum expectation for the midblock cross section is two travel lanes, on-street bike lanes, curb and gutter, 8' planting strip and 6' sidewalk. Southern back of curb and right-of-way should be inside site's southern property line; widening and right-of-way needs to be asymmetric to the north (i.e. southern property line is Sylvania's southern right-of-way line).~~
6. ~~the petitioner should revise the site plan to depict and add a note to provide pedestrian/bike connection across Woodard Ave. that aligns with a proposed 10' multi-use path along the western property line of parcel no. 07904204 (see RZ petition 2017-003).~~
7. The petitioner should revise the site plan to better distinguish between activated "woonerf" facilities versus simple alley loading areas. **New:** The site plan needs to be revised to label and call out the specific proposed woonerf cross section for each of the seven (7) woonerf streets identified on Sheet RZ-07).
8. The petitioner should revise the site plan to add a note specifying dedication and fee simple conveyance of all rights-of-way and/or sidewalk utility easements to the City before the site's first building certificate of occupancy is issued. CDOT requests right of way set at 2' behind back of sidewalk.
9. The petitioner should revise the site plan to add a note specifying all transportation improvements will be approved and constructed before the site's first building certificate of occupancy is issued **or phased per the site's development plan.**
10. In addition to curblines and cross section comments above and in response to separate offsite street package dated 3/10/17, the petitioner should revise the concept and update site plan and notes as follows:
 - a. Graham
 - i. Install a new traffic signal including pedestrian signalization and signal interconnect cable on Graham at Sylvania, Keswick and/or Camp (Access "c") when warranted by NCDOT/CDOT.
 - ii. Provide traffic signal modifications, including pedestrian signalization, signal interconnect cable and all accessible ramps at the existing "offset" signals at Graham/24th/Woodard.
 - iii. Add commitment to signalized pedestrian crossing location(s) on Graham.
 - ~~iv. Remove Woodward/24th intersection realignment.~~
 - ~~v. Left turn lane storage and new signalization along Graham (Sylvania, New Camp, Woodward/24th) will be determined by TIS~~
 - b. Statesville
 - i. Remove Statesville northbound right turn lane at Woodard.
 - ii. ~~Extend Statesville Ave.'s existing road diet from Woodard Ave. to south of Sylvania Ave. to provide 3' travel lanes and 5' bike lanes with intermittent raised median landscaped islands (some providing pedestrian refuge areas). Final median locations and configurations will be determined during permitting when uses are better understood.~~
 - iii. City will review request to accommodate ultimate signal pole location for SE quadrant of Statesville/Woodard intersection; however this action will not delay installation of the warranted/funded signal for this coordination. The petitioner needs to provide a detail scaled concept drawings at this location for CDOT's review.
 - c. Sylvania
 - i. ~~Back of curb sidewalk is undesirable and should be avoided in design to intersections.~~
 - ii. ~~Off-street cycle path is an undesirable facility between Statesville and Graham~~
 - d. Unless otherwise noted, standard 8' planting strip and 6' sidewalk is expected. CDOT can work with the petitioner to reduce dimensions when needed at pinch points.

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* The revised/additional transportation recommendations may be included upon review of the TIS and determination of traffic mitigations needed for the site.

11. The petitioner needs to revise the site plan and add conditional note to state: Before development areas "C/D" redevelops the petitioner will work with CDOT/NCDOT to evaluate different 24th/Woodard at Graham realignment alternatives. This evaluation study needs to be funded by the petitioner to determine a mutually preferred 24th/Woodard realignment, which may require necessary right-of-way within these development areas.
12. **New:** The petitioner needs to revise the site plan and conditional notes to comment to designing and implementing the full-street's cross sections (as shown on Sheet RRZ-07) for the following proposed network streets with "public access" easements. These streets need to be implemented across the entire site at the time building occupancy occurs adjacent to the site which requires street connectivity to access Statesville, Sylvania, Graham or Woodard. Also once the proposed railroad crossings are approved for construction by Norfolk Southern Railway the below streets with RR crossings need to be implemented to provide connectivity to the site's surrounding public streets (*i.e. no partial street construction*).
 - a. Camp End connecting Statesville to Graham
 - b. Sylvania Ave. (public street) connecting Statesville to Graham
 - c. N/S woonerf street connecting Camp to Woodard (permanent alignment to connect to Edison St. when Development Area "C" redevelops)
 - d. N/S woonerf street connecting Camp to Sylvania (proposed street closest to Statesville, when Development Area "E or G" redevelops)
13. **New:** The petitioner needs to revise the site plan and conditional notes to remove all reference to CIP commitments. The site plan and TIS need to reflect what transportation mitigation improvements are recommended and mutually agreed upon with the City. Once the traffic mitigation improvements are mutually agreed upon with the Petitioner and City, CDOT/EPM will determine which transportation improvements are candidates for CIP funding. CDOT requests a simple spread sheet including all "off-site" traffic mitigation improvements with the following column headings:
 - a. Study intersection #
 - b. Description of proposed mitigation improvements
 - c. Right-of-way needs (Y or N, if Y provide sf)
 - d. Estimated implementation costs including: design, r/w, utility, and construction costs
 - e. Mitigation phasing and/or implementation trigger
 - f. CIP Candidate (left blank to be completed by City staff)
14. **New:** The petitioner needs to revised the site plan and its conditional notes to verify and document the site's most intense trip generation is posted correctly for the site's Phase 3 build-out based upon the four proposed land use conversion alternatives as specified on sheet RZ-N1.
15. **New:** The petitioner needs to revised the site plan and add a conditional notes to verify and document the trigger for implementing the proposed multi-modal pathway through the site as depicted in orange dots on RZ-02. Both CDOT and Planning believe this pathway is extremely important and needs to be implemented as early as possible. If it is partially implemented by development phase identify each implementation trigger for each phase.
16. **New:** The petitioner needs to revised the site plan to remove the following proposed access driveways:
 - a. Proposed site access near Graham/Woodard signalized intersection
 - b. Proposed site access across from Graham/24th signalized intersection
 - c. Proposed site access across north of Statesville/Camp intersection
 - d. Proposed site access across near Woodard/Edison St. (this will be the location for the future woofer (Connection "D") to Woodard.

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45-17. **New:** CDOT's review comments associated with the Camp End North TIS, submitted May 1, 2017 are as follows:

- a. CDOT and NCDOT do not support new traffic signals proposed at Sylvania Ave. and New Camp St. due to preferred traffic signal spacing for signal coordination. Also the projected traffic volumes identified at Sylvania Ave. do not warrant signalization.
- b. All site access driveways (+/- 14 driveways) need to be configured with one (1) receiving lane, one left turn lane storage lane with a minimum 150' storage length, with appropriate bay taper lengths, and one thru/right turn lane. All site driveways must properly align with existing far side streets and/or driveways to avoid off-set intersections. All site driveways accessing the site's surrounding public streets need to determine and identify each driveway's stem (i.e. throat) length. This information needs to be posted in the revised TIS.
- c. The proposed site access "B" (study intersection #16) appears to have two access driveways side by side. Please remove the proposed driveway just north of Camp Ave. from RZ-02. The Camp street connection to Statesville should have a minimum stem length of 200'.
- d. The intersections of Graham/Statesville and Graham/Dalton need to be properly coded in Synchro as "group-controlled" and re-analyzed (see 2017 PM Build Phase 3 realign+sigs+corridors scenario). Also check other Synchro model runs for this this coding error). Making this coding revision will force these two closely spaced intersections to be modeled as one controller to avoid coordination issues. Also this same Synchro PM run is calling for phase 1 to be modeled as a lagging left turn movement (running after phase 2 in the sequence). This phasing plan will not work because it would create a "yellow-trap" for the SBLT Graham at Dalton, which is unacceptable. If this phasing is being proposed adding a SBLT on Graham at Dalton and adding a SBLT ~~FYA - would~~FYA would fix this issue. This would also provide the flexibility to lead-lag the left turns by traffic signal pattern at this location.
- e. The projected high NB Statesville left turn volumes and its associated queue lengths are spilling into the downstream intersection at Graham and Music Factory intersection causing unsatisfactory traffic conditions. CDOT believes the two intersections of Graham/Statesville and Graham/Dalton with its existing lane configuration (intersection geometry) is not adequate to process the projected traffic volumes at this critical intersection. Excessive queuing at this location is causing both upstream and downstream unacceptable queues. A creative transportation solution needs to be explored and analyzed where these two streets are funnel into one street (intersections 8 and 9).
- f. Background traffic volumes did not include the approved Music Factory development; however Music Factory traffic mitigation requirements were assumed to be in place by others (Petition 2015-062), expect for a an EBLT lane converted to a right turn lane at study intersection 7). The petitioner should revise the site plan and add conditional note(s) to state: All assumed traffic mitigation by pervious approved rezoning petitions and included in the TIS need to be also ATCO's responsibility to design and implement if not already in place (i.e. whichever developer gets there first is responsible).
- g. The TIS needs to be revised to include Music Factory's project traffic volumes so that an accurate detail queuing analysis using SimTraffic back of queues can be conducted its results posted into a table at all study intersections.
- h. Revise the TIS to include the traffic mitigation recommendation concept drawing as recommended in the 2015 Music Factory TIS (i.e. Figure 7 - between study intersections 6 and 7).
- i. Revise the TIS to identify all right-of-way needs, including approximate square footage in a table format at all locations where is it either the petitioner's or others responsibility.
- j. The Synchro runs for existing AM/PM traffic conditions need to be revised to only code one (1) NB Statesville Ave. thru lane (currently coded as two lanes) feeding into the existing one NB lane at Woodard Ave.

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- k. CDOT generally supports the proposed Statesville Rd. diet between Woodard Ave. to Sylvania Ave. Please verify that the proposed 5' wide bike lanes and off-set left turns can fit into the existing pavement width and curblines remain as is. Provide typical street section at Statesville and Oaklawn.
- l. Revise the TIS to provide a scaled concept drawing showing proposed NB/SB Graham left turns storage and bay taper lengths at study intersections # 12 and 13 (off-set intersections)

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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.

1. 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.
2. 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.
3. 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.
4. All proposed commercial driveway connections to a future public street will require a driveway permit to be submitted to CDOT for review and approval.
5. Any fence or wall constructed along or adjacent to any sidewalk or street right-of-way requires a certificate issued by CDOT.
6. 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.