



## Memo

To: Joshua Langen, AICP – Senior Planner, Town of Kannapolis

From: Greg Welsh, PE – Senior Project Manager, Burton Engineering

Re: **Rezoning Traffic Information for Proposed Kannapolis Logistics Park**

Date: October 18, 2016 (Revised per Staff Comments)

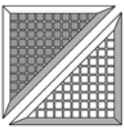
The following information is being provided for the rezoning case for the proposed Kannapolis Logistics Park Project. The provided information follows the requirements set out in the City of Kannapolis Development Ordinance (Appendix B, Section B.11).

1. Site Description – The development site is located on the north side of Davidson Highway (NC Highway 73) approximately 1,500 feet west of Kannapolis Parkway in the City of Kannapolis, Cabarrus County, North Carolina. The site is partially bounded to the north by Macedonia Church Road and Barr Road. Davidson Highway is a 2-lane undivided roadway with a speed limit of 55 miles per hour. Macedonia Church Road and Barr Road are also 2-lane undivided roadways, both having a speed limit of 45 miles per hour. This project includes a proposed realignment of Macedonia Church Road west of Barr Road.

The main entrance to the site will be off Davidson Highway. The drive entrance will align with the proposed signalized intersection currently being studied for a mixed used development located in the southwest quadrant of Davidson Highway/Kannapolis Parkway intersection. Additional unsignalized access points will be located on Davidson Highway west of the main entrance and two entrances off of Macedonia Church Road. A conceptual site plan is attached for reference.

The proposed development consists of a 1,210,000 square foot warehouse / distribution facility with approximately 180 available dock positions, approximately 650 trailer parking spaces, and approximately 950 employee parking spaces. For the purpose of this analysis, the office component of the project is assumed to be minimum (10,000 SF) which is typical for distribution facilities of this nature. This project is consistent with the City's Future Land Use Plan for the area and with other recent projects in the vicinity having direct access to Kannapolis Parkway and/or Davidson Highway.

2. Study Area – At the conclusion of the rezoning phase and during the design phase of the project, Burton Engineering anticipates including the following intersections in the Traffic Impact Study:
  - Davidson Highway and Kannapolis Parkway
  - Macedonia Church Road and Kannapolis Parkway



- Trinity Church Road and Kannapolis Parkway
- Southbound ramp of I-85 and Kannapolis Parkway

3. Existing Traffic Conditions – For the purpose of the rezoning application, the existing traffic volumes for Davidson Highway (NC Highway 73) were obtained from the Comprehensive Transportation Plan (CTP) for Cabarrus-Rowan County which states: *The present cross section of NC 73 along this corridor is a two-lane rural cross section. According to the traffic analysis done using the Metrolina Regional Model (MRM09v1) several sections of the existing alignment are projected to be near or over capacity by 2035, especially during peak commuting hours. The volumes range from 10,100 vehicles per day to 17,800 vehicles per day in 2010. The volumes range from 20,800 vehicles per day to 36,800 vehicles per day in 2035. The current capacity of the facility ranges from 12,200 vpd to 14,600 vpd. Improvements to this section of road are recommended in the 2035 CRMPO LRTP. The recommended improvement is to widen NC 73 to a four lane boulevard.* (Refer to Local ID No. CABA0046-H and CABA0049-H).

Existing traffic volumes and capacities for Kannapolis Parkway, Macedonia Church Road, and Barr Road were obtained from the NCDOT's 2014 AADF Traffic Volume. The 2014 average daily traffic volume for Kannapolis Parkway just north of Trinity Church Road was 14,000. Kannapolis Parkway is a four-lane divided facility with a capacity of approximately 40,000 vehicles per day. The 2014 average daily traffic volume for Macedonia Church Road and Barr Road were 2,500 VPD and 1,900 VPD, respectively. Macedonia Church Road from Kannapolis Parkway to Barr Road has a capacity of approximately 14,600 vpd. West of Barr Road, it's capacity drops to approximately 9,900 vpd. Barr Road's current capacity ranges between 9,000 vpd and 12,400 vpd.

The Davidson Highway / Kannapolis Parkway intersection and Macedonia Church Road / Kannapolis Parkway intersection are both signalized. Burton Engineering anticipates that as part of the design phase of this project, the timing of these signalized intersections will be evaluated.

4. Horizon Year and Background Traffic Growth – The proposed project is contemplated as a single-phased project but the possibility exists that the developer could split the building in multiple phases. For the purpose of this analysis, it is assumed that the project will be built as one phase. Further discussions between the developer, City Planning, and the NCDOT will occur during the design phase to better understand the timing of this project relative to other public and private road improvement projects.

Trip Generation, Trip Reduction, and Trip Distribution – The following table (Table 1) summarizes the estimated average weekday trips for the proposed industrial development:

Description/ITE Code	Units	Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
			Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
Warehousing 150	KSF <sup>2</sup>	1200.0	4,272	360	384	284	76	0	96	288	0
General Office 710	KSF <sup>2</sup>	10.0	110	16	15	14	2	0	3	12	0
<b>TOTAL NEW TRIPS</b>			<b>4,382</b>	<b>376</b>	<b>399</b>	<b>298</b>	<b>77</b>	<b>0</b>	<b>99</b>	<b>300</b>	<b>0</b>

Table 1 – Trip Generation Table for Kannapolis Logistics Park

Note: Traffic distributions will be provided to the City of Kannapolis and the NCDOT to review and approve during the scoping process for the Traffic Impact Study.



5. Traffic Assignment – Study area intersection traffic volumes for the no-build and build out scenarios will be calculated and illustrated in figures in the Traffic Impact Study.
6. Impact Analysis – The impact of the proposed development on the study area intersections will be identified in the Traffic Impact Study.
7. Mitigation / Alternatives – The Traffic Impact Study will identify alternatives for achieving the traffic service standards listed in Article 14 of the City of Kannapolis UDO and in addition shall:
  - Identify right-of-way abandonment and right-of-way dedication required for realignment of Macedonia Church Road and proposed and/or future widening of Davidson Highway to implement mitigation strategies.
  - Identify suggested phasing of improvements where needed to maintain compliance with traffic services standards; and
  - Identify the anticipated costs of recommended improvements.

On October 13, 2016 a preliminary scoping meeting was held with members of the City's Planning Staff, the City's Engineer, and the NCDOT District Field Services Engineer. In this meeting, the NCDOT shared the following preliminary comments, all of which have either been accounted for as part of the Rezoning Application or will be addressed during the design phase:

1. Only 1 access will be allowed on NC 73. Location shown on plan as future signal aligning w/ development on the south side of NC 73 is acceptable; however, careful coordination with that developer is critical. Full movement signalized intersection cannot be guaranteed with NC 73 improvement project as the future cross section of NC 73 is a Superstreet design.  
**Response: Acknowledged. Revised rezoning plan now shows one driveway on NC 73. The petitioner understands that a signal warrant analysis will be required as part of the Traffic Impact Study.**
2. Verify CTP r/w reservation requirement for NC 73. I believe that dimension is 60'; however, the plan makes reference to 50' and 55' from centerline.  
**Response: Revised rezoning plan now correctly states the dimension as being measured from the center of NC 73 right-of-way**
3. The minimum internal protected stem for a signalized location is 250'; however, that dimension can be increased depending upon the projected traffic volumes and site layout.  
**Response: Acknowledge.**
4. The access point on Macedonia Church Road will not be allowed given the proximity to the intersection of Barr Road. Additional access will have to be taken from Barr Road  
**Response: The access point on Macedonia Church Road was re-worked on the revised rezoning plan. The petitioner acknowledges that all access locations will require prior approval from the City and/or the NCDOT. This requirement will be met as part of final design and construction plan approval.**
5. Coordination between the City of Kannapolis Engineering and Planning staff, my office and NCDOT's Planning Engineer, Stuart Basham, is vital in order to preserve the intent of the NC 73 Corridor



Study. The developer will be responsible to demonstrate that no negative impact to the progression of traffic on NC 73 (as current 2 lane or future superstreet) will occur.

**Response: Acknowledged. This aspect of the project will be fully addressed as part of the Traffic Impact Analysis.**

6. Truck turning templates will need to be shown on the site plan for the entrance on NC 73 and Macedonia Church Road and Barr Road.

**Response: Acknowledged. Truck turning templates will be shown on the final site plan for review and approval by the NCDOT and the City of Kannapolis.**

7. The developer is responsible for analyzing the pavement structure of Macedonia Church Road and Barr Road and is responsible for any/all improvements necessary to accommodate the traffic generated by the proposed development.

**Response: Acknowledged.**

8. Per discussion with Marc Morgan, eliminate Davidson Highway (NC 73) and Odell School Road as an intersection to be studied for the TIA.

**Response: This intersection has been eliminated from the study area as contemplated previously in this memorandum.**

9. Add the southbound ramp of I-85 and Kannapolis Parkway as an intersection to be studied for the TIA.

**Response: The southbound ramp of I-85 and Kannapolis Parkway has been added to the study area in this memorandum.**

Overall, our findings indicate that the proposed project is consistent with the City's Future Land Use Plan for the area. Furthermore, it can be shown that area roads have excess capacity or can be widened to provide the capacity necessary to support the proposed project. Specific improvements that will be constructed by the developer to mitigate the additional traffic will be addressed in the Traffic Impact Study.

Please feel free to contact me if you have any questions regarding this traffic information.

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