

## Memorandum

**To:** David Wilwerding, AICP **Date:** 6/22/2018

**From:** Mark Perington, PE, PTOE *MAP*

**CC:**

**RE:** Birchwood Court Extension to NW 54<sup>th</sup> Avenue  
City of Johnston  
S&A Project No.: 116.0848.01

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Per City request, Snyder & Associates, Inc. has completed a traffic engineering review of the potential alignment of a new Birchwood Ct extension from Birchwood Crossing office park on the south, northward towards NW 54<sup>th</sup> Ave. The current proposed alignment curves further east through the Wright Property to an intersection point approximately midway between the current Foxboro Road intersection to the west, and the Lew Clarkson Park/Timber Ridge Elementary Driveway intersection to the east. Analysis and other considerations in this review also refer back to traffic data, analysis, and stakeholder group issues in the *Traffic Study, Southwest Area Road and Traffic Working Group, Birchwood Crossing Area* prepared for the City of Johnston by Snyder & Associates on March 24, 2017. An overlay of the concept alignment for Birchwood Court as provided by the developer is shown on the attached aerial exhibit.

In simplest terms, this roadway alignment seems to meet the basic objectives identified by the City:

- Serve new development south of NW 54<sup>th</sup> Ave with a public street
- Provide a secondary access point to Birchwood Crossing Office Park/Commercial Area
- Provide public street connectivity for future land use redevelopment
- Provide potential additional access for Timber Ridge Elementary

With respect to the traffic planning/operation considerations associated with this new “offset” alignment east of existing Foxboro Rd intersection the following items are considered.

1. Creates an offset intersection between Foxboro Rd (300 feet east) and Lew Clarkson/Timber Ridge (380 feet west) intersections. Would be shortest intersection to intersection spacing located along NW 54<sup>th</sup> Ave west to 86<sup>th</sup> St, however no less than series of four offsets on NW 72<sup>nd</sup> Street to the southeast between the Winter Park / Timber Ridge driveways on west and N Valley Dr, / Deerview Dr residential street intersections to the east. So not inconsistent with nature of roadway and driver expectation.

2. Given land use of single family residential, and the back access to Birchwood Crossing Office Park, might have a WB peak inbound left turn volume of 20-30 vehicles. With opposition low on NW 54<sup>th</sup> Ave and adequate gaps only minor left turn vehicle queueing required on NW 54<sup>th</sup> for a WB left on to Birchwood Ct. Maybe 1-2 cars at most. That could be accommodated within the current median area just west of EB left turn lane in to Lew Clarkson. At peak times with Lew Clarkson Park activities, longer queues EB for left turn may conflict with any WB traffic trying to enter in to Birchwood Ct, but that would be rather negligible.
3. Given traffic volumes and function of NW 54<sup>th</sup> Avenue, Foxboro Rd, Lew Clarkson/Timber Ridge, and potential Birchwood Court these offsets can be considered acceptable. During typical weekday peak times the intersection also is within the reduced school zone 25 mph speed limit.
4. Should consider and work with developer to move centerline of Birchwood Ct west 50 feet. A back to back left turn lane on NW 54<sup>th</sup> Ave is not required between Birchwood Ct and Foxboro Rd to the north, but would improve the spacing for back to back left turn lane with Lew Clarkson/Timber Ridge intersection. This relocation and back to back turn lane layout is shown on the attached exhibit inset, and the goal would be to start the southwest curb return for new Birchwood Ct extension just east of a current storm intake structure on NW 54<sup>th</sup> Ave.
5. Offset (or tee) intersections with reduced conflict points, will defray any need for future signalization of a four approach intersection created with alignment to existing Foxboro Rd.
6. Assume this would still allow the additional west access point for Timber Ridge just to south of Wright property. Consider this vs. re-evaluation with a school traffic circulation plan for north side of Timber Ridge. There is some potential to create additional storage capacity for parents dropping off or picking up. New neighborhood area would need to be accepting of any typical school traffic or parking with special events at school.
7. Does introduce a new street crossing for school students walking along south side of NW 54<sup>th</sup> Ave, but a minor conflict, and new development, regrading of drainage area creates opportunity for enhanced sidewalk of greater width and further buffer away from NW 54<sup>th</sup> Ave. Still opportunity for enhanced sidewalk with development along NW 54<sup>th</sup> Ave north side as well. No new demands that create capacity issues that precludes the potential for lane narrowing and reduction on NW 54<sup>th</sup> Ave between Foxboro and Lew Clarkson/Timber Ridge driveway.

Overall we conclude from a traffic perspective this offset alignment of new Birchwood Ct still meets many of the objectives of the City; does not appear to cause any other long term traffic operation issues; and seems to also address “through” traffic concerns for Foxboro Rd alignment raised during the Southwest Area Road and Traffic Working Group meetings.

