

**Town of Boone
Town Council/Planning Commission Special Public Hearing
6:00 PM, March 16, 2026
Town Council Chambers
1500 Blowing Rock Rd.**

I. Call to Order of Town Council and Planning Commission

II. Moment of Silence

III. Approval of Meeting Minutes

1. January 5, 2026, Special Public Hearing/Planning Commission Meeting Minutes
2. January 26, 2026, Public Hearing/Planning Commission Meeting Minutes

IV. PUBLIC HEARING

1. Case A25-0892/A25-0893 Greer Watauga, LLC - Joint Annexation & Conditional District Zoning Map Amendment

V. Other Matters

VI. Adjournment of Town Council

PLANNING COMMISSION MEETING

VII. Discussion and Recommendation of Case(s) Presented at the Public Hearing

VIII. Other Matters

1. Discussion of May Public Hearing/Planning Commission Meeting Date

IX. Adjournment

**TOWN COUNCIL AND PLANNING COMMISSION
SPECIAL PUBLIC HEARING AND PLANNING COMMISSION MEETING MINUTES
MONDAY, JANUARY 5, 2026, 6:00 PM
1500 BLOWING ROCK ROAD AND WEBEX**

COUNCIL MEMBERS PRESENT: Mayor Dalton George, Mayor Pro Tem Todd Carter, Eric Plaag, Virginia Roseman, and Adrian Tait

PLANNING COMMISSION MEMBERS PRESENT: Chair Frank Veno, Vice-Chair Anne Pruitt, Garrett Kight (via WebEx), Declan King, Michael Mileski (via WebEx), and Frida Paz-Miranda

PLANNING STAFF PRESENT: Jane Shook-Director of Planning & Inspections, Brandon Wise-Deputy Director of Planning & Inspections, Amy Snider-Commercial Zoning Administrator, and Brenda Henson-Board Clerk

OTHER TOWN STAFF OR REPRESENTATIVES PRESENT: Todd Moody-Public Works Director, Justin Stines-Public Works Deputy Director, and Allison Meade-Town Attorney

Call to Order

Mayor George called the Town Council to order at 6:04 p.m. Chair Veno called the Planning Commission to order at the same time. The meeting was held at the Town Council Chambers, located at 1500 Blowing Rock Road, Boone, as well as via WebEx.

Moment of Silence

A moment of silence was observed.

Approval of Meeting Minutes

Council Member Plaag moved to approve the November 24, 2025, Public Hearing minutes as written. Council Member Roseman seconded the motion.

Vote: Aye – 4
Nay – 0

The motion passed.

Commission Member Paz-Miranda moved to approve the November 24, 2025, Public Hearing and Planning Commission meeting minutes as written. Vice-Chair Pruitt seconded the motion.

Vote: Aye – 6
Nay – 0

The motion passed.

PUBLIC HEARING

Case A25-0790 RK Investors, LLC – Conditional District Zoning Map Amendment

Appalachian Greenway, LLC, has submitted a Conditional District Zoning Map Amendment application requesting to rezone 736 Greenway Road from M1 Manufacturing and R1 Single-Family Residential to Conditional District R3 Multiple-Family Residential District which a site-specific development plan for Use 1.13 Multi-Family Dwelling (> 100 bedrooms) with the following accessory uses: A-8 & A-9 ATMs, A-15 Residential Garden, A-16 Satellite receiving antenna less than 1 meter in diameter, A-20 swimming pool, spa and hot tubs, A-22 vehicular gate, A-28 Accessory Solar Energy System, and A-29 Electric-Vehicle

Charging Station. This application also includes a request to deviate from certain ordinance standards. In conjunction with this application, the property owner, International Resistive Company Inc., has requested annexation of the portion of the property currently outside corporate limits.

Amy Snider, Commercial Zoning Administrator, noted the continuation of this case from the November 24, 2025, Public Hearing. She stated that several revisions to the request were submitted on December 22, 2025, and were outlined in the meeting packet. An additional revision was submitted on December 31, 2025, showing the breakdown of the \$250,000 the applicant committed to construct a greenway. Ms. Snider stated that this revision was received too late to be included in the meeting packet.

Tom Brasse with RK Investors listed some of the requested changes as follows:

- Widen parking deck, use brick veneer, and include motorcycle and bicycle parking
- Buildings five through twelve will be three stories
- Buildings one, three, and four will be five stories
- Building two next to Watauga Opportunities will be four stories
- Balconies have been added to the market-rate buildings (7-12)
- Courtyards have been added to ground-floor units in market-rate buildings
- There will be 54 one-bedroom units, 100 two-bedroom units, six three-bedroom units, and 150 four-bedroom units for a total of 310 units/872 bedrooms
- Instead of three dumpsters, they will provide one dumpster that will be emptied three times per week
- Visitor parking spaces will be provided
- The project will be phased so buildings can be occupied as they are completed
- 50% of the development will be masonry (brick) with no vinyl siding, likely vinyl windows

Steve Hart with Hart Hickman, an environmental consulting firm, noted that his firm had worked on over 200 Brownfields sites. He stated that over 250 areas on the IRC site had been sampled, and he believed the site could be safely developed with the proper engineering controls, soil management plan, and vapor mitigation control. Mr. Hart noted that air and soil testing would be completed prior to occupancy of the buildings, with ongoing monitoring of the vapor mitigation system. He added that the State performed periodic inspections of the site. Mr. Hart stated he had a conversation with Dr. Callahan regarding concerns about arsenic and that, based on historical data, arsenic levels were low and appeared to be at naturally occurring levels. Mr. Hart also noted that a large amount of soil had been removed from the site over the years.

Council Member Plaag asked whether the applicant would be willing to disclose to renters that this was a Brownfields site, much like landlords must do for properties in the floodplain. Mr. Hart replied that notification to renters was required under the Brownfields agreement. Council Member Plaag asked how long renters would be notified. Mr. Hart replied that a Brownfields ran with the property, so renters should be notified in perpetuity. Council Member Plaag asked if this notification would be part of the lease. Mr. Hart replied that it would. Mr. Hart noted that there were several other properties in town that were Brownfields sites, such as The Standard and Rivers Walk.

Council Member Tait asked what type of remediation there would be for this site. Mr. Hart explained that most of the soil contamination had already been addressed, and he did not expect more soil remediation. However, if any soil contamination was found, they would have to notify DEQ and remove it from the site. He noted that there was still some groundwater contamination to address. Council Member Tait asked if there would be a division of responsibility for the soil and groundwater. Mr. Hart replied that IRC would continue to be responsible for groundwater remediation. Council Member Plaag asked what would

happen if IRC dissolved. Mr. Hart stated that the new property owner would become the responsible party.

Council Member Roseman stated that the Town was previously told that the site was unsafe for habitation. Mr. Hart reiterated that most of the contaminants had been removed. He stated that the pavement would act as a cap for the soil and would limit groundwater penetration. He added that there would be an environmental management plan and periodic inspections. Council Member Roseman asked whether any contaminated soil that might be located would be replaced with two feet of fresh soil. Mr. Hart stated that contaminated soil would have to be replaced to whatever depth the contamination reached.

Council Member Plaag asked about the off-gassing of methane. Mr. Hart responded that some methane was detected in the off-gas in one or two low-lying areas, noting there would be a methane mitigation system in place. Council Member Plaag asked if it was correct that Town Council heard this site was unsafe. Todd Moody, Director of Public Works, confirmed that it was what the Council was told. Mr. Hart stated that he had reviewed 30 years of data on the site and did not find it unsafe. Council Member Carter added that IRC had been remediating the site since the 90s. Mr. Hart added that IRC entered an agreement in 2016 to continue remediation into the future. Council Member Roseman asked if the methane off-gassing would be unsafe. Mr. Hart replied that the levels would be low and directed away from occupied space.

Chair Veno asked if the current concrete slab would be removed and, if so, what happened to the soil underneath. Mr. Hart stated that the slab would be removed and the soil would stay on the site unless contaminants were found. He added that there was groundwater contamination that went off-site, but did not go as far as Winkler's Creek. Mr. Hart stated there were two wells near Winkler's Creek, called sentinel wells, that were regularly monitored. Allison Meade, Town Attorney, asked if it was correct that if the groundwater contamination reached the sentinel wells, it would have to be mitigated. Mr. Hart replied that was correct.

Commission Member King asked if the environmental management plan could be publicly visible. Mr. Hart replied that everything they submitted to the State was public record and could be accessed via the NCDEQ online portal.

Commission Member Plaag referred to a site plan containing a lot of scary red dots, and asked if those dots represented bad contamination. Mr. Hart explained that the dots depicted areas of soil sampling, and the different colors noted different dates of sampling.

Brandon Wise, Deputy Director of Planning & Inspections, noted that links to the Brownfield program were found on packet page 18.

Vice-Chair Pruitt asked if the development would be connected to town water and sewer. Mr. Hart stated that it would and had to be as part of the Brownfields agreement.

Commission Member Paz-Miranda asked how the workers and the community would be protected when the ground was broken for construction. Mr. Hart replied that there would be organic vapor monitoring and dust monitoring.

Council Member Roseman asked about the pressure weight of the buildings to the groundwater. Mr. Brasse replied that the building would be on pilings, so there would be very little building pressure on the soil.

Elise Smith with Landworks Design addressed the greenway. She stated that they planned to rehab the existing sidewalk, provide ADA ramps, install a mostly five-foot sidewalk from Ivy Drive to Wilson Drive,

install two crosswalks at the Boone Mall intersection, perform signal improvements at Wilson Drive, and construct a pedestrian bridge at Winkler's Creek. If easements were acquired, they would be dedicated to the Town. Ms. Smith stated that if they were unsuccessful in completing all of the improvements by the issuance of final COs, any unspent portion of the earmarked \$250,000 would be donated to the Town. Council Member Tait asked what would happen if \$250,000 was not enough to complete the greenway. Russell Ranson with RK Investors replied that they would work diligently to complete as many of the improvements as possible.

Council Member Plaag suggested the possibility of installing a sidewalk towards Walmart instead of going toward Winkler's Creek. Mr. Ranson stated that they could look at the feasibility of installing a sidewalk to Walmart. However, he felt that residents would benefit from having the pedestrian bridge. Commission Member Plaag stated that there were already pieces of sidewalk in place going toward Walmart. Mr. Ranson replied that there were two or three properties that would have to provide right-of-way to install the sidewalk. Ms. Meade added that easement acquisition would be a limiting issue. Mr. Ranson stated that he would commit the \$250,000 and research what could be done in both directions. Mr. Moody added that the Town could install the sidewalk to Walmart, but noted that acquiring easements was time-consuming.

Mr. Ranson stated that there would be 15 affordable units, offered at 80% AMI to preferred employers, such as the Town of Boone, Watauga County, Watauga County Schools, and 501(C)(3)'s for ten years. Council Member Tait asked Mr. Ranson if he would be willing to offer 24 affordable units. He replied that he would not.

Council Member Roseman stated that the one-bedroom unit for \$1,500 was more than her mortgage on her six-bedroom house.

Council Member Carter stated that increasing housing stock was helpful. He added that he would like to see 24 affordable units, but was okay with 15. He felt that the rental rates were about as good as they could be.

Mayor George asked about the possibility of having 32 affordable units for five years instead of 15 units for 10 years. Mr. Ranson replied that his knee-jerk reaction would be that he liked that idea less because it did not seem as easily financed. Council Member Plaag stated that he liked the 10-year option better because the rent increase was only 3% per year. He also noted that he appreciated the commitment to 50% masonry. Mr. Ranson noted that the masonry would be brick.

Commission Member Plaag asked if the phasing could be balanced so that some market-rate buildings were occupiable at the same time the student housing units were completed. Mr. Ranson replied that they hoped to have all of the buildings completed within six months of each other. Ms. Meade suggested that some assurance might be needed that the market-rate housing was built at the same rate as the student housing to ensure that not only student housing was being offered at the beginning.

Mr. Wise stated that the final CO would start the 5-year clock for tax exemption under the Brownfield agreement.

Council Member Roseman asked if units could be reserved in advance. Mr. Ranson replied that they could, and they planned to give hard-hat tours.

Mayor George called a break in the public hearing from 7:45 pm until 7:51 pm.

Commission Member Kight suggested offering 16 affordable units. He mentioned the sidewalk on Deck Hill and asked if that could be eliminated in favor of more affordable units. Mr. Ranson replied that the Town required the sidewalk.

Mayor George asked about traffic concerns. Mr. Ranson stated that anytime there was additional development, there was additional traffic. He felt that the new traffic signal would be a positive.

Mayor George invited public comment.

Marilyn Hall stated she had lived on Ivey Drive for 45 years. She expressed concern with water and flooding, traffic on Greenway Road, and the possibility that Ivy Drive would become a cut-through. She noted that the housing problem was not new to Boone. Ms. Hall stated that there were already so many student housing developments in Boone and that there might be a better location for this development.

Audrey Hartley, a retired educator and native, presented Council members with a letter regarding her concerns with the development. She stated that their house on Greenway Road was now occupied by their granddaughter, and it had been affected by several hurricanes. Ms. Hartley noted that there was a need for low-income housing in Boone. She felt that this development would erode the neighborhood. Ms. Hartley expressed concern about traffic and soil contamination. She stated she was opposed to the development.

Michael Maybee, President and CEO of Watauga Opportunities, stated that he was concerned with traffic. He felt that the new traffic light might help some. Mr. Maybee thanked RK Investors for being transparent throughout the process. He stated that Watauga Opportunities had been looking at ways to help with the traffic by possibly creating another loading dock where large semi-trucks could make deliveries to their facility. Mr. Maybee stated that the site had been a vacant eyesore for years. While he was unsure if this was the right development for the site, he noted that the site would at least be cleaned up. Mr. Maybee added that he preferred to have the sidewalk to the Winkler's Creek Bridge.

Neil Hartley expressed concern about stormwater retention. He explained that he had spent a lot of money on his home at 815 Greenway Road and did not want to have more stormwater runoff caused by increased impervious surface. Mr. Hartley noted that traffic in this area was difficult and asked that the project be denied.

David Peeler of 256 Rogers Drive expressed concern about the addition of 600 more cars on a 2-lane, 20 mph road.

Council Member Plaag asked Mr. Wise to address stormwater run-off. Mr. Wise stated that, based on the plans, it appeared there would be a reduction in impervious surface. If impervious surface increased, detention requirements would have to be met by demonstrating that the development would not add water at a rate higher than the current runoff.

Council Member Roseman stated that Greenway Road was heavily used. She asked whether there were future plans for widening the road. Mr. Moody replied that there were no plans for the expansion of Greenway Road. Council Member Carter added that there were plans for a multi-modal path along Greenway Road.

Council Member Plaag stated that the intersection of Winkler's Creek Road and Blowing Rock Road was a major concern, and he would like to see that as a right-in, right-out only. He asked about the location of the new traffic light. Mr. Ranson replied that AppalCART wanted the traffic light to be closer to Watauga Opportunities because it would function better for bus traffic at that location. Mr. Maybee added that the location of the light would provide more safety, noting that AppalCART did not want to enter the development and go to the bus shelter station because it would add four minutes to their route. Mr. Moody clarified that the location of the traffic light was a collaborative effort between AppalCART, the Town, and the developer.

Vice-Chair Pruitt noted that there would not be a straight access from the development to Ivy Drive. Council Member Plaag suggested that Town Council could consider, as a separate item, the possibility of creating a right-in, right-out at Ivy Drive.

Ms. Meade referred to the balconies and courtyards, noting that the Board of Adjustment had historically opposed them because they could create congregation areas for students. Council Member Roseman noted that the balconies and courtyards were for the market-rate housing, and she felt it was important to give people a sense of belonging. Council Member Plaag agreed with Council Member Roseman. However, if removing the balconies could increase the number of affordable units, he would be in favor of that.

Council Member Roseman stated that this was a Brownfield site that could be used, and the applicant was willing to listen to and try to accommodate their suggestions. She added that there would be less runoff and less soil disturbance. Council Member Roseman expressed confidence in most of the development, other than traffic.

With nothing further, Mayor George closed the public hearing for this case at 8:48 pm.

Adjournment of Town Council

Mayor George adjourned the Town Council at 8:48 pm.

Dalton George, Mayor

Brenda Henson, Board Clerk

Frank Venio, Planning Commission Chair

PLANNING COMMISSION MEETING

Chair Venio called a break in the meeting from 8:48 pm until 8:56 pm.

Discussion and Recommendation on Case(s) Heard at the Public Hearing

Case A25-0790 RK Investors, LLC – Conditional District Zoning Map Amendment

Appalachian Greenway, LLC, has submitted a Conditional District Zoning Map Amendment application requesting to rezone 736 Greenway Road from M1 Manufacturing and R1 Single-Family Residential to Conditional District R3 Multiple-Family Residential District which a site-specific development plan for Use 1.13 Multi-Family Dwelling (> 100 bedrooms) with the following accessory uses: A-8 & A-9 ATMs, A-15 Residential Garden, A-16 Satellite receiving antenna less than 1 meter in diameter, A-20 swimming pool, spa and hot tubs, A-22 vehicular gate, A-28 Accessory Solar Energy System, and A-29 Electric-Vehicle Charging Station. This application also includes a request to deviate from certain ordinance standards. In conjunction with this application, the property owner, International Resistive Company Inc., has requested annexation of the portion of the property currently outside corporate limits.

Discussion ensued regarding the Brownfields. Vice-Chair Pruitt felt that the engineer's presentation was very thorough, and they were doing their due diligence.

Chair Veno stated that he placed a lot of stock in public comments, but he had to rely on the engineer's comments regarding the Brownfields. Vice-Chair Pruitt added that she did not know there were other Brownfields properties in town.

Commission Member King stated that it did not seem like the development would create more risks related to contamination.

Commission Member Paz-Miranda urged that all of the tenants be made aware of the contamination and the efforts to mitigate it. She asked that this information be easily accessible to the public.

Commission Member Mileski stated that there was really no way for the applicant to plan for every possible issue until construction began. He noted that the State had agreed that the site was safe for construction.

Commission Member Kight asked if a list of other Brownfields sites in town could be published on the Town's website with links to monitoring data. Ms. Shook replied that she could try to find a place on the website for those links.

Discussion then moved to the greenway. Vice-Chair Pruitt stated that she appreciated the willingness of the applicant to try to make something happen. She added that having the greenway go toward campus would be the most helpful, given the increase in the number of cars on Greenway Road.

Commission Member Paz-Miranda stated that she lived on Greenway Road and would be appreciative of any sidewalk in any direction.

Commission Member King was agreeable with a sidewalk or greenway in either direction.

Chair Veno agreed, adding that it was difficult to bike anywhere in Boone.

Commission Member Mileski asked if the \$250,000 would cover the cost of the greenway expansion. Vice-Chair Pruitt replied that she understood the applicant would build as far as the \$250,000 would go. She noted that the applicant had agreed to investigate the installation of a sidewalk to Walmart versus to the Winkler's Creek Bridge.

Mr. Moody stated that, from the Public Works perspective, going towards Winkler's Creek would be more beneficial for the town.

Ms. Shook stated that the condition related to the greenway would need to be crafted by Mr. Moody and the Town attorney before presentation to the Town Council.

There was discussion regarding traffic. Chair Veno noted that there were a lot of negative comments from the public about traffic. He stated that he tried to read the transportation impact analysis but found it difficult to understand. Chair Veno added that traffic was endemic to all of Boone and was nothing new. He stated that Greenway Road could not be widened. He also suggested that the Town Council consider looking at the entrance to Ivy Drive for a possible right-in, right-out. Vice-Chair Pruitt agreed, noting that it should be a separate issue from this request.

Commission Member Paz-Miranda felt that the bus stop and the greenway commitment would offer alternatives to vehicular traffic.

Affordability was discussed. Commission Member Paz-Miranda stated that she would always be supportive of affordable housing, but was unhappy that she herself could not afford the rent at the proposed development. Vice-Chair Pruitt replied that one positive was that there would be more beds in Boone, which might free up units in other developments.

Commission Member Kight noted that the applicant proposed to provide the minimum amount of attainable housing while asking the Town to compromise on development standards such as building height and increasing stories. He suggested that the 10-year commitment not be activated until completion of the entire project, instead of beginning in 2026 as noted in the staff report. Commission Member Kight added that there were at least three years of development before the tax value would be readjusted, and the Town started seeing benefits. Mr. Ranson indicated he would be agreeable to that change.

Chair Venio asked if the Planning Commission needed to vote on the annexation request. Ms. Shook explained that if the Planning Commission recommended approval of the Conditional District Zoning Map Amendment, it would be implied that they were also in agreement with the annexation.

Commission members then discussed stormwater. Chair Venio stated he was comfortable with Mr. Wise's explanation of the stormwater. He noted that he understood the resident's fear after Hurricane Helene.

Commission Member Paz-Miranda expressed some concern with flooding, but felt the plan looked good.

Commission Member King suggested that the proposed development might improve stormwater in the area.

Chair Venio stated he was in favor of the balconies on the market-rate buildings. Commission Member Paz-Miranda agreed that she was in favor of the balconies, unless they could be removed to obtain 16 attainable units instead of 15.

Chair Venio asked if students would be allowed to live in the market-rate units. Vice-Chair Pruitt replied that she did not think students could be excluded from renting the units.

Vice-Chair Pruitt noted the planting strip shown in the rendering on packet page 141 and asked if that planting strip could be installed instead of having the sidewalk right next to the road. She stated that it would make the pedestrians feel safer. Mr. Ranson agreed to install the planting strip and maintain it along their property.

Commission Member Kight asked if the sidewalk along Deck Hill had to be installed. Mr. Wise replied that the sidewalk was required by the UDO, but it was possible that a fee-in-lieu could be paid, which would go into the sidewalk fund.

Commission Member Kight stated that information in the meeting packet indicated that if the attainable units were not leased within 90 days, they could be rented at market value. He asked whether there was any protection or guarantee that those units would go back into the attainable pool at the end of the leases. He also asked if the 15 attainable units would be marked units within the market-rate buildings. Mr. Ranson replied that the 15 attainable units were discounted and there should be no problem filling them. However, he wanted to provide a stopgap measure in case it did happen. He added that if a unit sat vacant for three months, he would be out \$6,000 for a three-bedroom unit, so he would be trying to rent those units. Mr. Ranson stated that if one of the units got rented by a market-rate person, he could not make them move out until their lease was up. Once the lease ended, the unit would go back into the attainable housing pool. He added that the 15 attainable units would be leased on a first-come, first-served basis.

Commission Member Kight asked whether some of the units could not be pre-booked to allow renters who were not on the typical student schedule an opportunity to lease. Mr. Ranson replied that the more supply there was, the more adaptable landlords could be, noting that the market dictated the flexibility of lease options.

Vote 1

Commission Member Paz-Miranda made a motion that the proposed amendment to the Town's zoning map is consistent with the Town's current comprehensive plan and any other adopted plan(s) of the Town that are applicable because of the following from Boone Next:

Planning Principle 1: Prioritize thoughtfully designed development of underutilized land within the town's existing built-upon areas over development of undeveloped land on the town's outer limits.

Planning Principle 4: Encourage development and connections that better balance the needs of pedestrians, drivers, cyclists, and transit users.

Planning Principle 7: Support the town's established neighborhoods and new residential developments through neighborhood-level engagement and planning.

Planning Principle 10: Encourage appropriate development to meet the town's urgent need for housing or other specific community needs by means of density bonuses or other mechanisms.

Goals & Policies

Policy 1.2.5: Use Appropriate Transitions Between Different Scales and Intensities: Use appropriate transitions between different building uses and intensities by stepping down building heights and scale from areas allowing taller buildings to primarily residential neighborhoods.

Policy 1.6.1: Support Income-Restricted Housing: Support permanently affordable housing for low- and middle-income residents geographically located throughout the town. Prioritize permanent affordability, particularly for those at or below 60 percent of the area median income, through community land trusts, nonprofit ownership and management, the Housing Authority, town ownership, and restricted deeds and covenants. Consider programs that fund home improvements for low income homeowners in exchange for right of first refusal to purchase homes for affordable housing partners.

Policy 1.6.3: Diversity Boone's Housing Options: Promote a variety of housing types as well as housing tenure options around Boone. While the town should continue to build single-family, townhome, and multifamily building, explore other types of well-designed and contextually compatible housing, such as quadplexes and small-scale multiplexes. The town can use creative tools, like zoning "opt-in" districts, to ensure additional densities come with public benefits like income-restricted units. Also, support alternative housing tenure options like the community land trust model and cooperative housing. Unless Boone's rugged terrain precludes it, consider the use of pre-approved blueprints to reduce construction costs while ensuring high quality building designs and materials.

Policy 2.3.3: Develop a Comprehensive Transit Stop & Amenity Program: Consider both the cost of some of Boone's transit stops are currently minimal, often consisting of little more than a sign. To improve the experience and accessibility of public transit, the Town should collaborate with AppalCART to develop a comprehensive Transit Stop and Amenity Program. This program would outline the types of amenities that should be included at transit stops across Boone, such as bus shelters, bike racks, seating, and lighting. It would also identify requirements for developer participations, which could be added to the Town's Unified Development Ordinance (UDO) or Roadway & Sidewalk Program Handbook to ensure these amenities are integrated into new developments.

Policy 5.3.1: Protect Ecologically-Valuable Areas: Protect floodplains, steep hillsides, wetlands, and other ecologically valuable areas and corridors from development.

The motion was seconded by Commission Member King.

Vote: Aye – 6
Nay – 0

The motion passed.

Vote 2

Commission Member King made a motion, seconded by Vice-Chair Pruitt, that the Planning Commission recommends approval of Ordinance #A25-0790 within Exhibit A and approval is reasonable and in the public interest because this development revitalizes a Brownfield site and adds desperately needed housing stock to Boone. The recommendation is subject to the following conditions agreed upon by the applicant:

1. Where there is a conflict between the application information and the plans (dated received on November 13, 2025), the plans shall control. Insignificant deviations may be permitted to comply with the requirements of the UDO.
2. Any commitments and representations concerning the proposed development made by the applicant to her representatives at the public hearing shall also become a condition of the permit, and a basis for a stop work order and/or permit revocation if violated.
3. The applicant shall submit the necessary applications, plans, details and specifications which meet the requirement of the Town Code, UDO, Building Code and any other applicable codes for review and approval necessary to issue Zoning and Building Permits.
4. The planting strip between the street and the sidewalk on the development's side of the street shall be installed and maintained by the applicant.
5. The Petitioner commits that up to six buildings on the Site will contain conventional one-, two-, and three-bedroom apartments and not rent by the bedroom (student-style housing).
6. The Petitioner commits to install a traffic signal at the western Greenway Dr access point, if allowed by the Town. The western access shall include left turn lanes both into the site (westbound) and into the site across the street (eastbound). The site's entrance to Ivy Dr shall be constructed as a right-in/right-out condition.
7. Attainable Units: A covenant, in a form approved by the Town, shall be filed and recorded in the property's chain of title by the property owner in the Watauga County Register of Deeds prior to the completion of the construction of the multifamily apartment community on the land that is the subject to rezoning (the "Project"). The covenant shall provide the following terms:
 - a. The owner shall set aside fifteen (15) of the multifamily apartment units ("Attainable Units") at the Project to be available for lease only by Preferred Employer Tenants at the Preferred Employer Rate.
 - b. "Preferred Employer" includes Town of Boone, Watauga County, Watauga County Schools, a 501(c)(3) organization headquartered in and serving Watauga County, or any similar organization agreed upon by the property owner and the Town Manager.
 - c. A "Preferred Employer Tenant" is a person who, at the time the person applies to lease an Attainable Unit, is employed by a Preferred Employer with an annual household income that does not exceed 120% of the area median family income for Watauga County, as published annually by the United States Department of Housing and Urban Development ("HUD").
 - d. The "Preferred Employer Rate" for a one-year lease is \$1,500 per month for a one-bedroom unit, \$1,900 per month for a two-bedroom unit, and \$2,200 per month for a three-bedroom unit, which rate shall increase annually by 3%.

- e. The Attainable Units will be contained exclusively within the six buildings identified as Building Nos. 7-12 in the Project site plan and will be comparable in square footage and external appearance to the other units in those buildings. The specific units to be leased by Preferred Employer Tenants at Preferred Employer Rates is to be determined by tenant preference among units available for lease within Building Nos. 7 -12 at that time.
 - f. Nothing herein or the covenant shall require the owner to lease any unit to any person who does not meet the tenant applicant requirements adopted by the owner for the Project (except any income-based standard), including the satisfactory completion of a criminal background check and credit check.
 - g. In the event the owner uses good faith effort to lease an Attainable Unit for a period of ninety (90) consecutive days and the Attainable Unit remains vacant at the conclusion of that 90-day period, then the owner may then lease such Attainable Unit to anyone at the market rate.
 - h. Upon request by the Town Manager, the owner annually shall provide the Town rental records that are sufficient to demonstrate its compliance with the restrictions imposed by the covenant.
 - i. The covenant shall automatically expire, terminate, and be of no further force or effect after ten (10) years from the date on which it is recorded. The 10-year time commitment for the 15 attainable units within buildings 7-12 for preferred employer tenants will start when the last certificate of occupancy for the development is issued.
8. Greenway Commitment: The applicant is committed to helping facilitate the Town's plan to construct a 5' public walkway (4' min. width where obstacles occur), spanning from the Project entrance at Ivy Dr to the Wilson Dr at Winkler's Creek Rd intersection (the "Greenway Section") as part of the Town's Cross Boone Connector initiative. The applicant commits to spending up to \$250,000 towards the design, right-of-way acquisition, and construction of the Greenway Section, with the Town paying any remaining amounts needed to complete the Greenway Section. Upon the applicant paying \$250,000 towards the design, right-of-way acquisition, and construction of the Greenway Section, it shall have no further obligations with regard to the Greenway Section.
9. Architectural Masonry: The Petitioner commits to providing a minimum of 50% masonry brick veneer on all residential buildings on the site (excluding window area from calculation).
10. Visitor Parking: The Petitioner commits to a minimum of 20 marked visitor parking spaces distributed throughout the site. This number includes a minimum of 5 short-term (15 minute) parking spaces. Permitting for visitor spots shall be managed through the leasing office.
11. Ground Floor Courtyards: The Petitioner commits to providing ground-floor courtyards where feasible, as generally depicted on the Site Plan.
12. Site Amenities: In addition to indoor amenities, the Site shall include, but not be limited to, at least four (4) of the following outdoor amenities for residents: Boulderling Station, Outdoor kitchen/grill area, Covered outdoor seating (w/ possible fire pit), Hammock Garden, Whirlpool Spa, Cornhole court, Swimming Pool, Pickleball

Vote: Aye – 6
Nay – 0

The motion passed.

Other Matters

There were no other matters discussed.

Adjournment of Planning Commission

Commission Member King made a motion to adjourn the meeting at 10:08 pm. Vice-Chair Pruitt seconded the motion.

Vote: Aye – 6
Nay – 0

The motion passed.

Frank Veno, Planning Commission Chair

Brenda Henson, Board Clerk

DRAFT

**TOWN COUNCIL AND PLANNING COMMISSION
PUBLIC HEARING AND PLANNING COMMISSION MEETING MINUTES
MONDAY, JANUARY 26, 2026, 6:00 PM
1500 BLOWING ROCK ROAD**

COUNCIL MEMBERS PRESENT: Mayor Dalton George

PLANNING COMMISSION MEMBERS PRESENT: Frank Veno-Chair

PLANNING STAFF PRESENT: Brandon Wise-Deputy Director of Planning & Inspections

OTHER TOWN STAFF OR REPRESENTATIVES PRESENT:

Call to Order

Mayor George called the Town Council to order at 5:45 p.m. Chair Veno called the Planning Commission to order at the same time. The meeting was held in Town Council Chambers at 1500 Blowing Rock Road, Boone.

Mayor George announced that, due to inclement weather, all cases scheduled for today's meeting will be tabled to the Public Hearing/Planning Commission meeting on Monday, February 23, 2026, at 6:00 pm in Town Council Chambers at 1500 Blowing Rock Road, Boone.

Adjournment

Mayor George adjourned the meeting at 5:50 pm.

Dalton George, Mayor

Brandon Wise, Deputy Director

Frank Veno, Planning Commission Chair

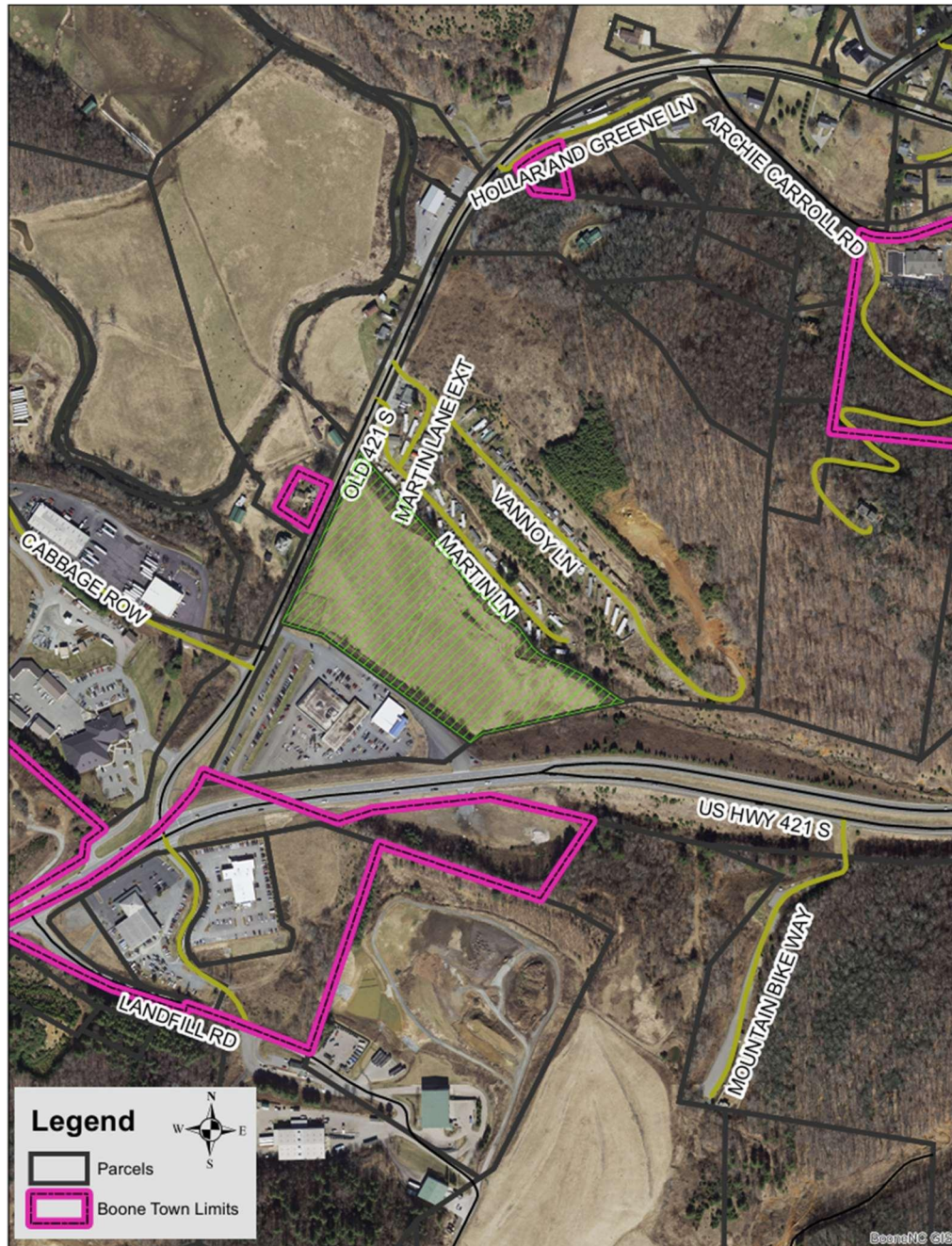


Staff Report – Updated March 16, 2025

January 26, 2026

Case A25-0892 & A25-0893, Greer Watauga, LLC – Voluntary Contiguous Annexation & Conditional District Zoning Map Amendment Application

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Request

In conjunction with a voluntary annexation request, the Church of Jesus Christ of Latter-day Saints has submitted a Conditional District Zoning Map Amendment application to zone property located between US Hwy 421 S and Old 421 S (Watauga County PIN: 2921-30-9963-000) to Conditional District B3 General Business with a site-specific development plan for Use 8.03 Religious Assembly, Category 3 with a Corridor District overlay. The property is outlined in green on the map above.

Parcel Information

Parcel Specifics

Property Owner	Greer Watauga, LLC
Address	TBD Old 421 S
Watauga County PIN(s)	2921-30-9963-000
Use	Vacant
Use Definition	Currently undeveloped land
Size	13.26 acres
Access	Old 421 S
Steep or Very Steep Slope	Yes, on the south side by US Highway 421

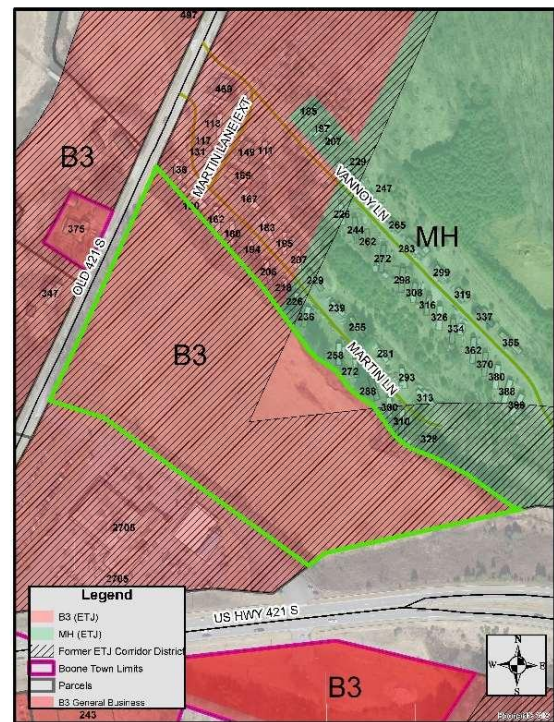
Former ETJ Zoning

On January 10, 2017, the Town of Boone lost its authority to exercise extraterritorial jurisdiction (ETJ). Prior to this date, the subject property was located within the ETJ and had a B3 General Business with Corridor District overlay zoning designation as shown on the map to the right.

The applicant is requesting consideration of the same zoning classifications within this Conditional District request.

Overlay Districts

- ☒ Corridor
- ☐ Historic District or Landmark
- ☐ Special Flood Hazard Area
- ☐ Watershed Protection
- ☐ Viewshed Protection



Requested Zoning

District Descriptions	Conditional District B3 General Business District The B3 General Business District is primarily intended to accommodate a wide range of office, restaurant, retail, service, and multi-family residential uses in a mixed-use environment. The regulations for this district are intended to create
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a comfortable, healthy, safe, aesthetically pleasing, and pleasant environment for all appropriate uses.

Corridor District Overlay

The corridor districts are established overlay district intended to protect the main thoroughfares through Town.

US Hwy 421 East: Beginning at the intersection with US Hwy 321 (Hardin Street) and extending east along the centerline of US Hwy 421 to the farthest extent of the Town's planning jurisdiction. This Corridor District includes both the old two-lane portion of US Hwy 421 and the new four lane portion of US Hwy 421 located in the Town's extraterritorial jurisdiction.

Existing Site Characteristics

The 13.26-acre site is composed of a single parcel, currently undeveloped. The site is mostly flat, with a 30-50% slope line along the southern border adjacent to the current Chevrolet dealership and along the right-of-way for US Hwy 421 S. There is an existing cemetery on the western portion adjacent to Old 421 S. The site has borders along Old 421 S and US Hwy 421 S. The site is surrounded by residential and commercial uses. See below for supporting photos.

Photo 1



Photo 2



Photo 3



Photo 4



Zoning and Use of Adjacent Properties

	District	Use
North	Not Zoned	Mobile Home Park
East	Not Zoned; B3 General Business with Corridor District Overlay	DOT Right-of-Way (US Hwy 421 S), Vacant
South	Adjacent parcel Not Zoned; B3 General Business with Corridor District Overlay	Southwest: Commercial, auto dealer South/Southeast: Government Facility
West	B3 General Business with Corridor District Overlay (annexed parcel)	Single-Family Dwellings, Agriculture land

North:



East:



South:



West:



Zoning Analysis

Use Compliance:

Per UDO Article 34 Definitions, Religious Assembly, Category 3 is a building or land used for recurring religious services, including worship services, religious study and similar activities, with seating capacity greater than 500 or activities and uses not permitted for Religious Assembly, Categories 1 or 2. This use is permissible in the B3 General Business District subject to a Conditional District Zoning Map Amendment.

Ordinance Compliance

Compliance with the Town of Boone Unified Development Ordinance (UDO) has been reviewed by Town staff. Any elements of the site plan that do not meet UDO requirements are identified below, along with corresponding staff comments. Items that meet ordinance standards but are noted due to unusual conditions, clarifications, or specific staff requests are also included in this section.

Landscape Standards, Article 31

Staff Note: The proposed landscape plan is compliant with the Town ordinance, however, in order to help the Town of Boone meet its tree canopy goals the Staff requests Council and the applicant consider planting 3 large deciduous trees in the open area located on the NW side of the property (along Old 421S) as well as 3 large deciduous and 3 small deciduous trees be planted in the open area located on the SE side of the property (along US HWY 421S). The Site Plan is included as Exhibit 2.

Building Height

The R3 zoning district allows a maximum building height of 3 stories, or 45 feet, for the primary structure and 4 stories, or 56 feet, for secondary height. Per UDO 14.03.07(F): Belfries, chimneys, church spires, cupolas, domes and similar structural appendages not intended or used as places of storage or occupancy are not included in calculating the height of a structure for the purposes of applying the district height.

Per UDO Subsection 14.03.07(F)(7):

7. The features listed above are exempt from the height limitations subject to the following requirements:

- a. Not more than one-third (1/3) of the total roof area may be consumed by such features.
- b. The features must be set back from the edge of the roof at primary and secondary facades a minimum of one foot for every foot which such features extend above the roof surface to which they are attached.

Staff Note: The proposed building is one story and meets ordinance standards. The steeple is 66' 4" tall and extends above the roof surface by 39' 7". Per UDO Subsection 14.03.07(F)(7) the steeple would need to be set back from the facade by 39' 7", therefore the steeple is not compliant with the required ordinances. The elevations are included as Exhibit 3.

Traffic Impact Analysis

Per UDO Subsection 14.04.02(C): In addition to the information included in Appendix A, certain developments may by, virtue of size, location or configuration of access points to the public road system, be required to have a traffic impact analysis performed. In those instances, where a traffic impact analysis is required by the Administrator, the study must be completed and submitted in order for the application to be considered complete.

Staff Note: Initial determination by staff did not trigger the requirement for a TIA. Following the neighborhood meeting, the applicant chose to pursue obtaining a study which was unable to be completed in time for the original Public Hearing. Since that meeting was tabled due to weather, the TIA has been completed and the results have been included in the revised packet, there are no comments available from Public Works at this time. The report has been included as Exhibit 6.

3/16/2026: Upon review of the TIA, NC DOT has requested a right-turn lane northbound with a 75 foot storage turning into the church to help manage anticipated growth along Old 421 S.

Town Service Analysis

Department	Annexation	Conditional District
Fire	The Fire Department had no comments on annexation.	The Fire Department noted that the FDC should be moved to be building mounted and not freestanding, that there needs to be an additional fire hydrant in the first island upon entering the parking area from the road, and that the 2 side drives currently exceed the allowed 150-foot dead end for fire apparatus access roads. Applicant will be required to meet section 503.2.5 of the NC Fire Code.
Police	The Police Department can provide services to this annexation.	NA
Public Works - Services	The Public Works Department, Services Division had no comments on annexation.	Compliance shall be required during zoning compliance if approved.
Public Works - Utilities	See Below.	Public Works noted that the sanitary sewer main will need to be extended to the corner of the property next to Old 421 S, there cannot be private fire hydrants so the water main will have to be dedicated to the town with an easement, and that the fire hydrant has to have a six-inch service.

Which utilities are being requested? Water ☐ Sewer ☐ Both ☒ Neither ☐
Services Available: Water ☐ Sewer ☐ Both ☒

Per Town Code §50.290, Is this request part of a hardship connection? Yes ☐ No ☒

If yes, please provide details: N/A

Are any utilities already provided to the requested annexation? Yes ☐ No ☒

If yes which utilities? Water ☐ Sewer ☐

Is this a connection or an extension? Connection ☒ Extension ☐

Comments: Public Works can provide water and sewer if annexed.

Procedural Analysis

This request involves two legally distinct but procedurally coordinated actions: annexation and zoning. The process ensures that both actions are considered holistically in light of Boone Next. The process will continue as scheduled unless delayed.

Date	Step	Guidance
January 14, 2026	Initial Council Consideration	- Council reviews the annexation petition and zoning request together - Staff presents initial report - Council is asked to indicate willingness to entertain the annexation request before proceeding with full process
January 28, 2026	Annexation & Zoning Public Hearing	A public hearing before the Council and the Planning Commission was tabled to the February 23, 2026 meeting due to inclement weather.
February 23, 2026	Annexation & Zoning Public Hearing	- A public hearing before the Council and the Planning Commission is held on zoning. - A public hearing before the Council is held on the annexation. - The Planning Commission provides a required zoning recommendation and an optional annexation recommendation.
March 25, 2026	Final Council Decisions	- Council votes on zoning first. - If zoning is approved, and the applicant wishes to proceed, Council votes on the annexation.

Annexation

Petition Requirements

Pursuant to N.C.G.S. § 160A-31, the Town of Boone, may annex by ordinance any area contiguous to its boundaries upon presentation to the Town Council an annexation petition signed by the owners of all the real property located within such area. An area shall be deemed "contiguous" if, at the time the petition is submitted, such area either abuts directly on the municipal boundary or is separated from the municipal boundary by the width of a street or street right-of-way, a creek or river, or the right-of-way of a railroad or other public service corporation, lands owned by the municipality or some other political subdivision, or lands owned by the State of North Carolina. A connecting corridor consisting solely of a street or street right-of-way may not be used to establish contiguity.

Process Requirements

Upon receipt of the annexation petition, the Town Council shall cause the Town Clerk to investigate the sufficiency thereof and to certify the result of the investigation. Upon receipt of the certification, the Town Council shall fix a date for a public hearing on the question of annexation, and shall cause notice of the annexation public hearing to be published once in a newspaper having general circulation in the municipality at least 10 days prior to the date of the annexation public hearing.

After the public hearing, Town Council shall then determine whether the petition meets the requirements of N.C.G.S. § 160A-31. Upon a finding that the petition meets the requirements of this section, the governing board shall have authority to pass an annexation ordinance, effective immediately or on the June 30 after the date of the passage of the ordinance or the June 30 of the following year after the date of passage of the ordinance.

Real and personal property in the newly annexed territory on the January 1 immediately preceding the beginning of the fiscal year in which the annexation becomes effective is subject to municipal taxes as provided in G.S. 160A-58.10. If the effective date of annexation falls between June 1 and June 30, and the effective date of the privilege license tax ordinance of the annexing municipality is June 1, then businesses in the area to be annexed shall be liable for taxes imposed in such ordinance from and after the effective date of annexation.

Conditional District

Pursuant to UDO Subsection 9.09.01 (A), the CD process is established to provide tailored regulations to address specific circumstances or development goals. This process permits the application of additional conditions to proposed developments to ensure compatibility with neighboring uses and alignment with adopted plans or other development goals of the town, while also allowing deviations from existing standards where such serves the town's development goals. By incorporating tailored standards, the CD process offers a degree of flexibility not always achievable through a general use zoning map amendment. Specific procedural steps are mandated and applications must include more detailed information than might otherwise be required.

See below for details on the applicant's compliance with the Conditional District procedural requirement for a neighborhood meeting as set forth in UDO Section 9.09:

9.09.02 Procedural Requirements

- A. **Pre-Application Meeting(s) Required:** The first step in the conditional district process is a required pre-application meeting with the Planning and Inspections Department to review any preliminary plans and to ensure that the applicant understands the conditional district process and the details required to apply. Additional meetings may be necessary based upon the complexity of the proposed development or if the proposed development changes.

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Staff Note: The applicants had a pre-application meeting with Planning & Inspections staff on November 6, 2025.

- B. Neighborhood Meeting Required:** Subsequent to the required pre-application meeting, and prior to the submittal of the CD zoning map amendment application, the applicant shall hold at a minimum, at least one neighborhood meeting. The purpose of the neighborhood meeting is to give the applicant an opportunity to present the proposed development to the neighbors and any other attendees, gather feedback, document concerns, and if feasible, work toward reasonable mitigation of any issues.
1. A meeting notice must be mailed to property owners within 300 feet of the development at least 25 days prior to the meeting in accordance with Subsection 1.13.02 herein. The notice shall contain a summary of the proposed development, the applicant's phone number, email address, date, time, and location of the meeting. A copy of the notice shall be electronically provided to the Planning Department (planning@townofboone.net), who in return shall post the notice on the Planning and Inspection's webpage under "Neighborhood Protection Notices".
 2. The meeting must be held at an accessible and convenient location and time in light of available options. Upon coordination through the Planning Department, the meeting may be held at Town Council Chambers if that location is available.
 3. At the meeting, the petitioner, at a minimum, shall present all the following information:
 - a. Contact information of the parties involved in the ownership, design, and development of the property;
 - b. The location of the property and general information on the current conditions of the site;
 - c. Proposed use(s) and site development;
 - d. Any preliminary plans or renderings,
 4. Subsequent to the neighborhood meeting, the applicant shall provide, as part of their application, the Administrator with accurate meeting minutes which includes a list of all attendees and details the meeting including any and all concerns expressed by attendees and likewise any and all commitments made by the petitioner. This information shall be included in the board packet along with the applicant's other application materials.
 5. The applicant has six (6) months from the date of the neighborhood meeting to submit a complete application. Failure to file a complete application within this time frame will require the applicant to have to start the process over.

Staff Note: A neighborhood meeting was held on December 5, 2025 in compliance with ordinance requirements. The minutes, attendance information, and presentation detail is included in the packet as Exhibit 4.

- C. Application Submittal:** Pursuant to Subsection 9.09.02(B)(5), applicants must submit a complete application within six (6) months of their last neighborhood meeting. Each application is required to provide, to the satisfaction of the Administrator, sufficient details relevant to the development proposal. Each application shall comply with the requirements set forth in Section 9.02 herein. In addition to these requirements, applicants for a CD shall provide a detailed written project narrative that includes at a minimum clearly labeled sections addressing the following:
- a. Proposed Allowable Uses:** Clearly list all proposed principal, accessory, and temporary uses:
 - a. That are permitted within the general use zoning district serving as the basis for the CD and identified in the tables of uses as either a “CD” or “S”.
 - b. Any proposed use that is not currently allowable in the general use zoning district serving as the basis for the CD. The addition of the use requires a written narrative justifying its inclusion and demonstrating how it aligns with the proposed development, surrounding land uses, and adopted plans.
 - b. Deviation from Ordinance Standards:** Clearly and accurately list any requested deviations from any Ordinance standard. Explicitly describe the applicable standard and the extent to which is being modified.
 - c. Mitigation of Impacts:** For properties within 300 feet of any residentially zoned area, clearly outline how the development is designed to effectively mitigate potential impacts. Address the following, at a minimum: noise, lighting, traffic, environmental concerns, and any other potential adverse effects based on site characteristics.
 - d. Conditions:** Clearly indicate whether the applicant is voluntarily offering any conditions (e.g., limitations of activities or operations) as part of the initial application.
 - e. Affidavit:** Attach a signed affidavit, acknowledging:
 - i. All zoning conditions are voluntarily proposed based solely on the applicant’s independent judgment; and
 - ii. The applicant is not relying on any statements from Town staff, Council, or Planning Commission members regarding zoning conditions; and
 - iii. Other interested parties in the rezoning process may rely on the validity of the proposed development proposal including any agreed upon conditions; and
 - iv. All future property owners will be bound by the proposed development approval, including any agreed upon conditions and any commitments or representations made by the applicant.

Staff Note: The applicant requested a deviation of UDO Subsection 14.03.07(F)(7) for their steeple. No mitigations or voluntary conditions have been submitted. The applicant's affidavit is included as Exhibit 5.

Conformity to Adopted Plans

Boone Next: Our Town, Our Future

Community Vision	Land Use and Development Vision
We will be a prosperous, livable, people-oriented mountain community modeling resilient growth that promotes and protects our natural resources with diverse housing options and dynamic economic opportunities. We will celebrate and build upon our community's historic foundation to leave a sustainable and equitable town for future generations.	Grounded in its historic character, Boone will be a distinct pedestrian-oriented town that is affordable, livable, human-scale, and connected through a network of walkable, mixed-use corridors and activity centers.

Planning Principles: The Boone Next Planning Principles are intended, as a collective, to provide a core vision to guide planning, zoning, and development decisions. These principles should be carefully considered with respect to all zoning map amendments, ordinance text amendments, and other development decisions as well as other town planning and policy initiatives.

Planning Principle 1

Prioritize thoughtfully designed development of underutilized land within the town's existing built-upon areas over development of undeveloped land on the town's outer limits.

It is preferable to accommodate growth in locations within the existing town limits that are appropriate for, can support, and would be enhanced by, new development. Infill and redevelopment will occur in a strategic manner that considers community needs like provision of and access to goods, services, transit, and quality public space.

Planning Principle 2

Emphasize quality design to create an attractive, inspiring public and private realm-architecture, streetscape, corridors, gateways, and edges-that is uniquely Boone.

Public areas (streetscapes, sidewalks, parks, plazas, etc.) and private areas (building facades, landscaping, parking facilities, etc.) will be planned, arranged, and designed with quality materials to celebrate a sense of place and character by balancing function, appearance, and affordability, while fostering creativity, innovation, and human-scale design that is true to Boone.

Planning Principle 3

Encourage compact, human-scale development that integrates a vertical mix of uses (residential, commercial, office, institutional, civic, etc.) and connects with existing developed areas.

Places will be created with multiple uses in proximity to each other, perhaps on the same site and/or in the same structure. Close attention will be given to the compatibility of those uses and their surroundings. Uses will be arranged in a manner that maximizes pedestrian activity and create "communities within our community."

Growth Management Tiers Map: The Growth Management Tiers Map is a policy tool intended to help Boone manage the growth of its corporate limits. The map identifies areas inside and outside the corporate limits that are likely to face development pressures, and it identifies those areas that

are most appropriate for the town to consider serving by means of annexation within the next 10 to 15 years. The Growth Management Tiers Map is supplemented by and should be applied in concert with the Future Land Use Map, where applicable. The overall purposes of the map are to:

- Promote better interjurisdictional and long-range planning between and among the town, Watauga County, and utility providers.
- Encourage long-term fiscally and environmentally sustainable growth by carefully managing the extension of taxpayer-funded town services
- Encourage infill development
- Inform developers, landowners, farmers, and residents with respect to the town's priorities and approach to the growth of its corporate limits
- Provide policy guidance to town decision-makers regarding annexations, town service provision, fees and incentives, and locations for capital improvements

This property is located within the **Undesignated Secondary Growth Area**.

Undesignated Secondary Growth Area is land where provision of services would be part of annexation decisions made by town officials. Additional care should be taken to analyze whether the requested type of proposed land uses are consistent with the town's goals and policies.

Utility Service and Annexation Criteria

Criteria 1: Does the requested annexation align with the Comprehensive Plan?

Is the annexation consistent with the Comprehensive Plan, specifically the Town of Boone Growth Management Tiers Map and Future Land Use Map?

Criteria 2: Is the requested annexation consistent with logical town boundaries?

Would annexation contribute to logical town boundaries and service areas and/or elimination of unincorporated islands within the town's corporate limits?

Criteria 3: Are other public services and utilities available?

If annexed, can the property be adequately supported by current or future town services, including but not limited to public safety and public utilities. Can the property be serviced by other utility providers (electric, phone, internet, etc.)?

Criteria 4: Does the request demonstrate community benefits?

Does the requested annexation result in fiscal and/or other community benefits that outweigh costs?

Criteria 5: Is the request consistent with interjurisdictional agreements?

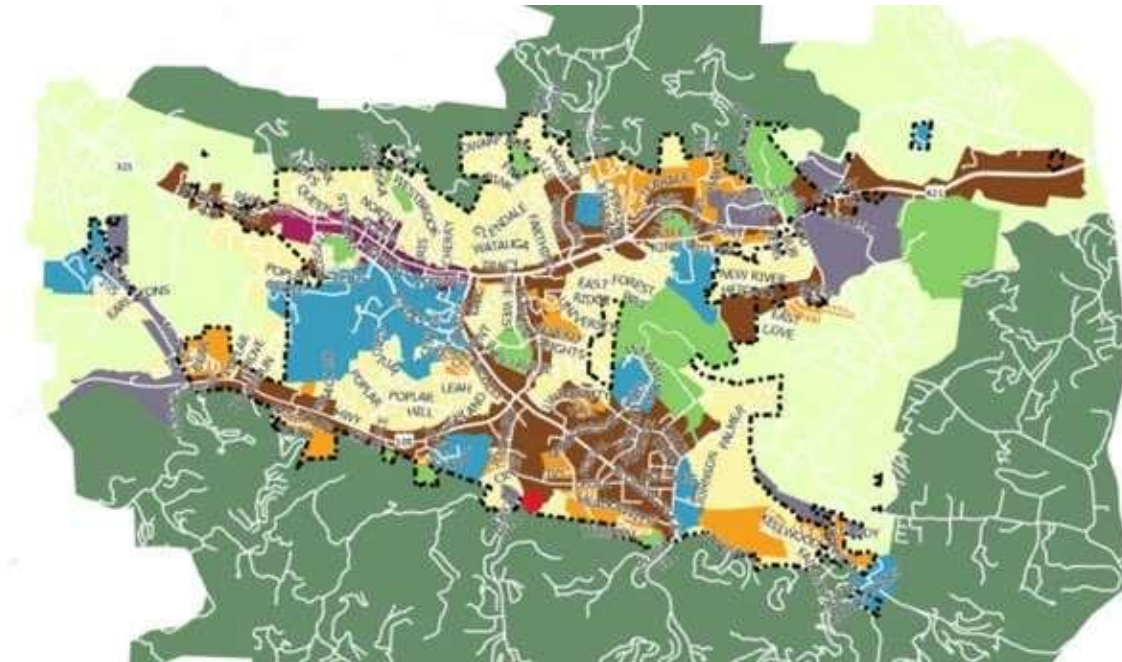
Is the requested annexation consistent with any applicable interjurisdictional agreements?

Future Land Use Map

The Future Land Use Map is a critical tool intended to give shape to and help implement Boone's vision for the next 15-20 years. The map and associated land use types provide a framework for development and other land use-related decisions, including decisions on public infrastructure and transportation.

In legislative decision-making cases, Council and the Planning Commission will review Boone Next and the Future Land Use Map to ensure that the request:

- is consistent with the goals and policies set forth in this plan; and
- is consistent with the land use type as shown on the Future Land Use Map;
- and if not ensure that the requested change of zoning will not negatively impact the intent of the mapped land use type; and
- is supported by existing or planned infrastructure.



The property, approximate location represented by the red dot above, included in the request is mapped in the **Walkable Mixed-Use** land use type. Please see below for more details on this land use type.

Description	Walkable Mixed-Use areas are envisioned as places that should evolve from existing auto-oriented patterns into green, walkable, mixed-use corridors and destinations. New street and alley grids may be established, fostering a more urban environment while maintaining a commitment to well-designed, green, and visually-engaging building patterns. Buildings in these areas are oriented toward the street and generally up to four stories in height; in some cases, on appropriately sized and located lots, they may
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	reach up to six stories. Parking and drive aisles in the front are minimized and the majority of parking placed to the sides and rear. Ground floors should feature ample transparent windows and doors. Ground floors should create an inviting atmosphere for pedestrians by, for example, incorporating features like generous transparent windows and inviting entryways. Where appropriate, wider sidewalks and street trees enhance the pedestrian experience and promote a sense of place. The overall vision behind the Walkable Mixed-Use Land Use Type is to foster vibrant, self-sufficient communities where everything is just a short stroll away – a true realization of the “15-minute city” or “city within a city” concept. Here, residents enjoy access to local businesses, services, and amenities that cater to their daily lives, while commercial spaces thrive on the support of a connected residential environment.
Objectives	- Eliminate curb cuts on arterials through rear access parking and new alley construction and dedication - Evaluate opportunities for neighborhood scale- businesses that enhance neighborhoods with accessible resources such as cafes, small grocers/bodegas, and childcare facilities - Mixed-use buildings provide a variation in layout and size for ground floor non-residential uses - Encourage and facilitate public spaces like plazas, playgrounds, and other public amenities
Primary Uses	- Vertical mixed-use with ground floor commercial and upper story residential and/or appropriate commercial uses; or a mix of single-use commercial and/or residential buildings within a single development - Multi-family - Limited light industrial/manufacturing uses with minimal external impacts.

Goals & Policies

Goal 1.1 A SUSTAINABLE BUILT PATTERN

Boone’s interwoven natural and built environments will promote social, environmental, and fiscal sustainability while aiming to reduce auto-dependence and the roots of traffic congestion. The town will be a leader of green building design and climate responsibility.

Policy 1.1.1 Use the Future Land Use Map

Use the Future Land Use Map to guide development, growth, and conservation decisions. Additionally, use the Focus Area Plans for more detailed policy direction within each of those areas.

Policy 1.1.2: Use Best Design Practices in New Development

All new growth should move Boone toward creating a network of “communities within a community” - a polycentric pattern of walkable, human-scale activity centers located within short distances of residents across the town. This pattern is key to supporting sustainability by aiming to reduce vehicle trips and their associated emissions, improving human health by supporting

active utilitarian modes of transportation, and guiding growth away from natural areas. Where feasible, new growth should establish short blocks and connected rights-of-way, prominent civic spaces, stream daylighting and protected natural resources, front-facing buildings with transparent and welcoming first floors and public spaces, a diversity of housing types, income-restricted housing units, neighborhood-serving and context-sensitive nonresidential uses, rear parking and alleys, front porches (residential), and safe multimodal transportation infrastructure design.

Goal 1.2 DEVELOPMENT TRUE TO BOONE’S VISION

Boone’s development and redevelopment will enhance the best of the town’s existing built environment and reinforce the vision set forth in this plan.

Goal 1.4 A NETWORK OF OPEN SPACE & GREEN CORRIDORS

Boone will build on its reputation as a green and outdoor city, creating and protecting an integrated network of green corridors, parks, and open spaces as well as meaningful rural and agricultural uses.

Policy 1.4.3: Support Rural and Urban Farmland

Protect and support active farmland, both urban and rural, recognizing the economic, environmental, and social importance of farmland protection and local foods production.

Goal 1.5 INTENTIONAL GROWTH MANAGEMENT

Boone will manage growth thoughtfully and intentionally within its borders and at its edges to enhance the town’s livability and meet the needs of a growing community.

Policy 1.5.1: Manage Growth to Balance Protection of Community Character and Natural Areas While Directing Desired Growth to Identified Centers

The town will manage growth in a manner that balances the protection of community character and natural lands while accommodating future population. Change in the community will be carefully managed to protect critical natural lands, provide a variety of housing options for a diversity of households, support economic development, support fiscal balance, ensure adequate public safety services, and utilize growth patterns that support regional and local transit services. Lands within the town’s current corporate limits are priorities for infill and redevelopment. New development areas contiguous with the town and in identified activity centers should be secondary priorities for development and ahead of areas outside centers.

Policy 1.5.2: Guide Utility Service Extensions and Annexations Using the Utility Service and Annexation Criteria

Use the Utility Service and Annexation Criteria of this chapter to evaluate applications for annexation of lands into the town and extension of public utilities to new areas. These criteria serve as the primary guide for making annexation and utility extension decisions. The criteria provide a framework for ensuring decisions are made consistently and in accordance with the Comprehensive Plan. They are complemented by the Growth Management Tiers Map.

Policy 1.5.3: Guide Growth Using the Growth Management Tiers Map

The Growth Management Tiers Map serves as a guide for development and investment decisions. The map’s purpose is to ensure Boone accommodates growth consistent with the Boone Next Planning Principles, intentionally directs growth to desired areas, manages the pace of development, and aims for fiscal balance. This map is intended to be used when considering

zoning and development approvals, utility service extensions, annexations, incentives, and capital investments. This map should be used in coordination with the Utility Service and Annexation Criteria. The Growth Management Tiers Map will be updated from time to time to reflect changing planning conditions.

Goal 3.3 A RENOWNED TOURISM DESTINATION

Boone will continue to be a tourism destination with its access to the Appalachian Mountains, the beauty of its natural surroundings, and its outstanding shopping, food, entertainment, and cultural offerings. Tourism infrastructure will have the added effect of contributing directly to the quality of life of local residents.

Goal 4.3 INTERJURISDICTIONAL AND INSTITUTIONAL COLLABORATION

Residents within and surrounding Boone will benefit from collaborative interjurisdictional planning and coordination that maximizes limited resources.

Policy 4.3.2: Coordinate on Service Extensions and Annexations

Use the Utility Service and Annexation Criteria and the Growth Management Tiers to guide service extensions and annexations. Continue interjurisdictional coordination in order to determine future service extensions and annexations.

Goal 4.4 LONG-TERM FISCAL BALANCE

Long-term fiscal balance will be achieved through land use and growth decisions that are informed by long-term fiscal impacts of development.

Policy 4.4.2: Proactively Manage Growth and Development

Anticipate and guide future growth and development using the planning principles, frameworks, and maps in this Comprehensive Plan to ensure that new development can be supported by town infrastructure and services while protecting open space.

Policy 4.4.3: Promote Smart Growth

Ensure new growth and development is fiscally balanced in the long run while directing more growth to areas with existing services and infrastructure. Some types of developments and land uses are necessary to the social needs of the town and do not necessarily directly improve the town's fiscal balance, such as recreation and cultural facilities or affordable housing. Encourage compact development that can be more efficiently served, especially as indicated on the Future Land Use Map.

Goal 5.2 SUSTAINABLE BUILDINGS, OPERATIONS, AND INFRASTRUCTURE

Boone will seek sustainable practices in buildings, operations, and infrastructure of town government and across the community.

Policy 5.2.2: Manage Growth on Boone's Edges

Intentionally manage outward growth to balance protecting community character and natural areas while directing desired growth to identified centers. Use the Utility Service and Annexation Criteria and the Growth Management Tiers Map to manage growth.

Planning Commission Action Required

Per NCGS 160D-604(b), subsequent to initial adoption of a zoning regulation, all proposed amendments to the zoning regulation or zoning map shall be submitted to the Planning Commission for review and comment. If no written report is received from the Planning Commission within 30 days of referral of the amendment to that board, the Town Council may act on the amendment without the Planning Commission report. The Town Council is not bound by the recommendations, if any, of the Planning Commission. Per NCGS 160D-604(d), when conducting a review of proposed zoning text or map, the Planning Commission shall advise and comment on whether the proposed action is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable. The Planning Commission shall provide a written recommendation to the governing board that addresses plan consistency and other matters as deemed appropriate by the Planning Commission, but a comment by the Planning Commission that a proposed amendment is inconsistent with the comprehensive plan shall not preclude consideration or approval of the proposed amendment by the governing board.

Vote 1: The proposed amendment to the Town's zoning map ☐is OR ☐is not consistent with the Town's current comprehensive plan and any other adopted plan(s) of the Town that are applicable because:

Note 1

Note 1: describe elements of controlling land use plans and how the plan is or is not consistent.

Vote 2: The Planning Commission recommends ☐approval OR ☐denial of Ordinance #A25-0892 within Exhibit A and ☐approval OR ☐denial is reasonable and in the public interest because:

Note 2

Note 2: briefly explain why, factors may include the benefits and detriments to the landowners, the neighbors, and the surrounding community; why the action taken is in the public interest; and any changed conditions warranting the amendment.

Exhibit A: Ordinance #A25-0892

ORDINANCE #A25-0892

AN ORDINANCE TO REZONE PROPERTY WITHIN THE TOWN OF BOONE

WHEREAS, pursuant to N.C. Gen. Stat. §160D-601, the Town may amend its zoning map after giving proper public notice and holding a public hearing; and

WHEREAS, the Planning Commission and Town Council has received the request to amend the Official Zoning Map of the Town of Boone, North Carolina to zone the property below as presented:

Address: TBD Old 421 S

Watauga County PINs: 2921-30-9963-000

Property Owner: Greer Watauga, LLC

Zoning: Conditional District B3 General Business with Corridor District Overlay with a site-specific development plan for Use 8.03 Religious Assembly, Category 3

WHEREAS, the Boone Town Council held a duly-noticed public hearing on March 16, 2026 with respect to this rezoning request; and

WHEREAS, the Boone Town Council has taken into full consideration any information offered at the public hearing; and

WHEREAS, this Town Council has reviewed the written recommendations of the Town of Boone Planning Commission; and

NOW, THEREFORE, BE IT RESOLVED as follows:

SECTION 1. The Boone Town Council hereby approves and adopts the modifications to the Town Zoning Map as set forth herein.

SECTION 2. All provisions of any Town ordinance in conflict with this ordinance are hereby repealed to the extent of such conflict.

SECTION 3. This Ordinance shall be effective immediately upon its adoption by Town Council.

Adopted this day March 25, 2026.

The Honorable Dalton George, Mayor

Attest:

Nicole Harmon-Church, Town Clerk

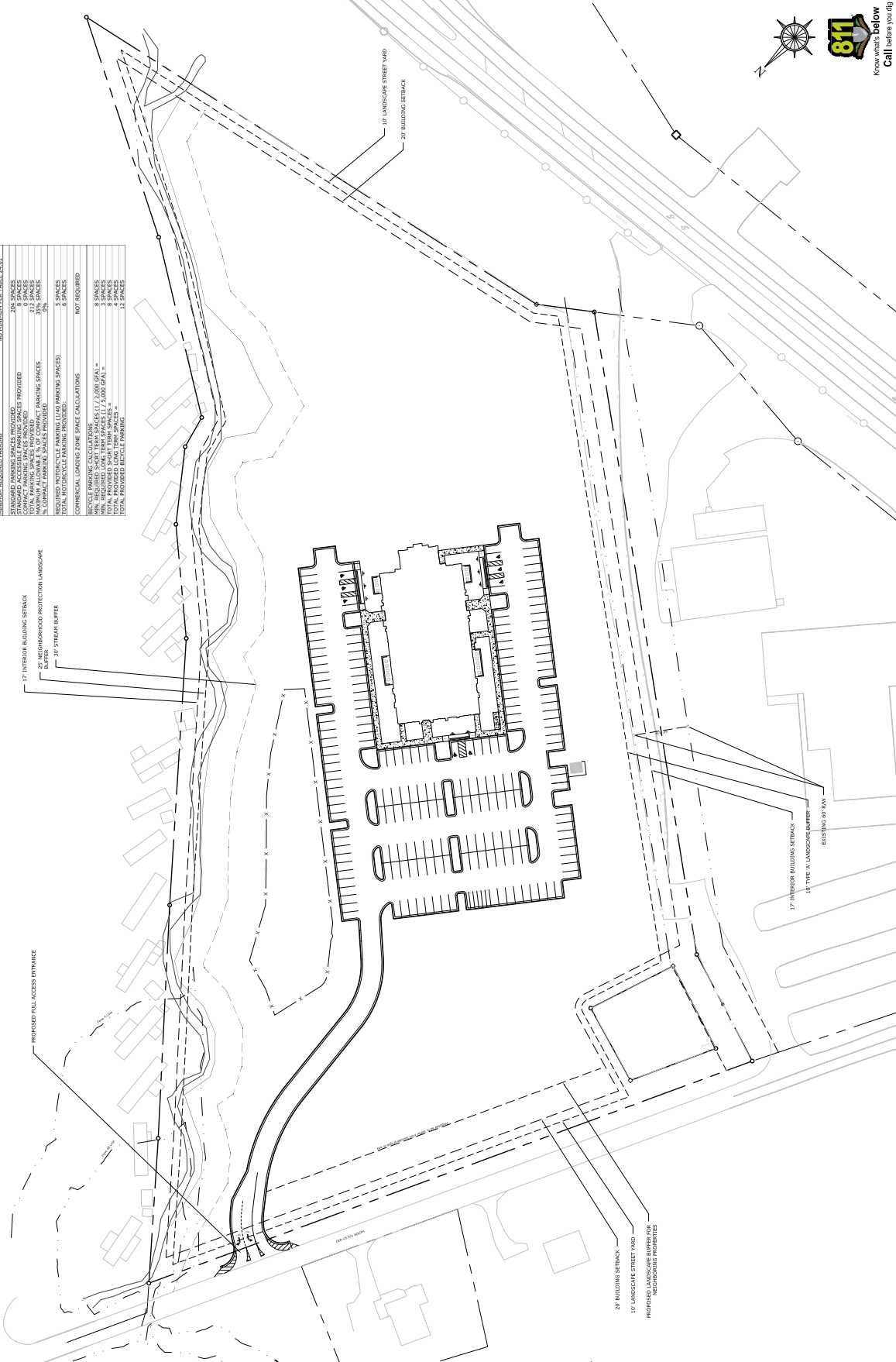
B-3

Zone	Acres	Ratio	Min LSR	Min Req'd Area (sf)
Zone B-3	13.063	0.270		152,637
		Proposed Impervious LSR:		4,665
		Proposed Pervious LSR:		484,218
		% Impervious LSR (Max. 33.33%):		1.0%
		Total Proposed LSR:		488,883

CON

PARCEL ID	2921-30-0963-000
PROPOSED ZONING	R-3
PROPOSED USE	8.03 RELIGIOUS ASSEMBLY, CAT. 3
PROPOSED SF OF ANY ARE	0
PROPERTY WITHIN A WATERSHED?	NO
PROPERTY WITHIN THE VENEISHED PROTECTION DISTRICT?	NO
PROPOSED GROSS FLOOR AREA (GFA) IN SF	16,370
PROPOSED # OF SANCTUARY SEATS	594

9

[illegible]

Now what's **below**
Call before you dig

OVERALL SITE PLAN &
LUI CALCULATIONS

SHEET NUMBER: C-10

SCALE: 1" = 50'

A horizontal scale bar with alternating black and white segments. The segments are labeled 0, 25, 50, and 100. Below the bar is the text 'SCALE IN FEET'.

SCALE IN FEET

FILE NUMBER: 120-001

[illegible]

PROJECT MANAGER:	JEG
DRAWING BY:	JEG
JURISDICTION:	WATAUGA COUNTY
DATE:	12/08/25
SHEET TITLE:	

[illegible]

NOT FOR CONSTRUCTION
PRELIMINARY



VALOR
ENGINEERING

215 Boone Heights Drive, Ste. 107
Boone, NC 28607
828-262-9807
www.valorengineering.com

DEVELOPER: The Church of Jesus Christ of Latter-Day Saints

PROJECT: Boone Meeting House
A Commercial Development

ADDRESS: TBD Old US 421 South
Boone, NC

- [illegible]

PROJECT

Boone Meeting House

A Commercial Development

ADDRESS:

TBD Old US 421 South
Boone, NC

ENGINEER

The Church of
Jesus Christ of
Latter-Day
Saints

CONTACT:

MR. MIKE McEOD

ENGINEER

**VALOR**
ENGINEERING

213 Boone Heights Drive, Ste. 107
Boone, NC 28607
828-262-9807
www.valor-engineering.com

SEAL

NOT FOR CONSTRUCTION

REVISIONS	DATE

PROJECT MANAGER:	JES
DRAWING BY:	JES
JURISDICTION:	WATAUGA COUNTY
DATE:	12/08/25
SHEET TITLE:	

GRADING PLAN

SHEET NUMBER:

C-2.0

SCALE:

30' 15' 0' 30' 60'

1" = 30'

SCALE IN FEET

FILE NUMBER:

120-001

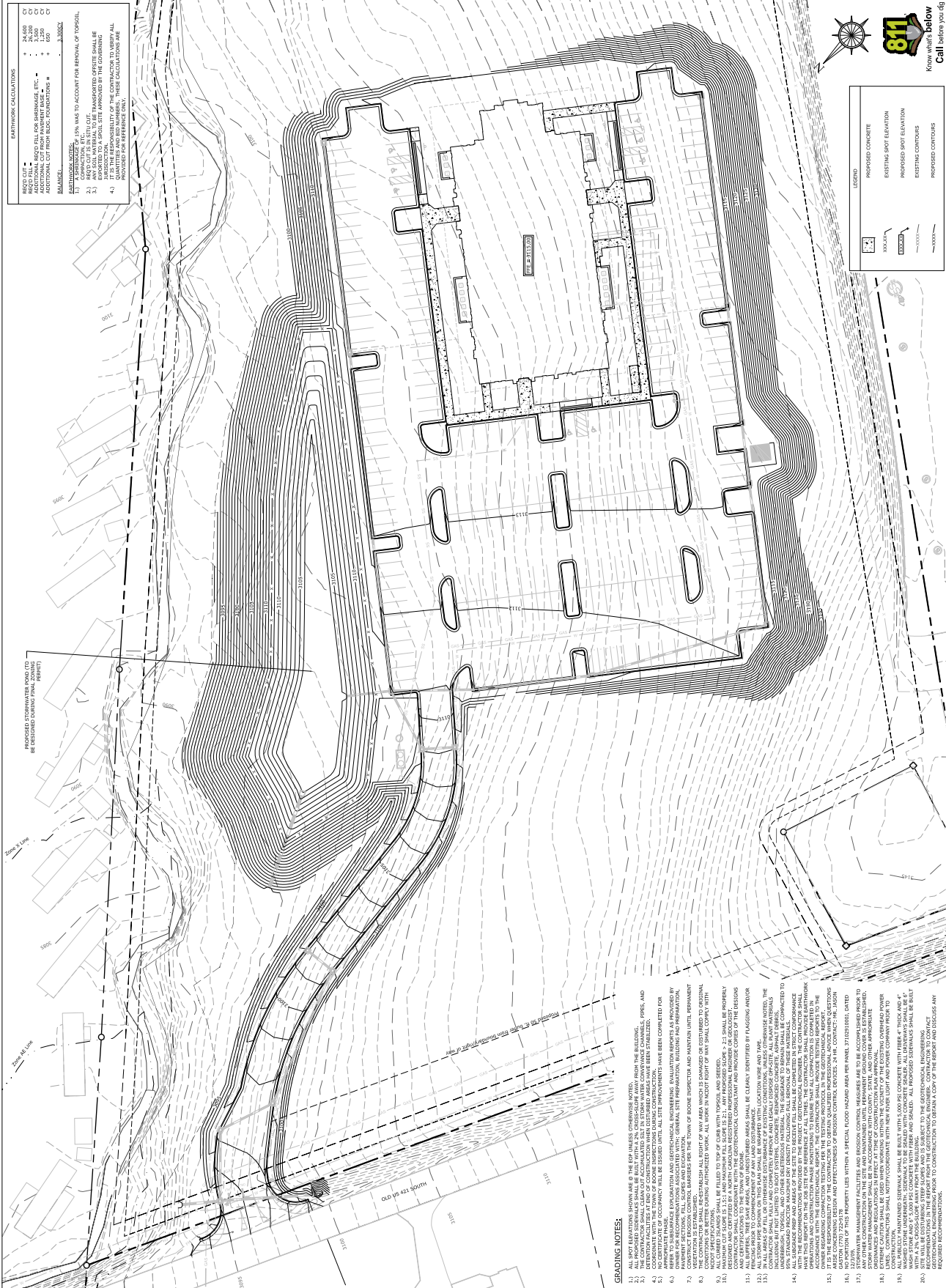
EARTHWORK CALCULATIONS

1520 CUT = 24,480
ADDITIONAL 1520 FILL FOR SHRINKAGE, ETC. = 7,500
TOTAL 1520 FILL = 31,980
ADDITIONAL CUT FROM BASE FOUNDATIONS = 1,300
TOTAL = 33,280

MANUEL

EARTHWORK NOTES:

1) THIS WAS TO ACCOUNT FOR REMOVAL OF TOPSOIL, CORROSION, ETC. NOT TRANSPORTED OFFSITE SHALL BE ANY SOIL MATERIAL TO BE TRANSPORTED OFFSITE BY THE SUBSIDIARY. SOIL CUTS OF 1520 FILL BY THE SUBSIDIARY. QUANTITIES AND ROAD NUMBERS. THESE CALCULATIONS ARE PROVIDED FOR THE CLIENT'S INFORMATION.



LEGEND

 PROPOSED CONCRETE

 EXISTING SPOT ELEVATION

 PROPOSED SPOT ELEVATION

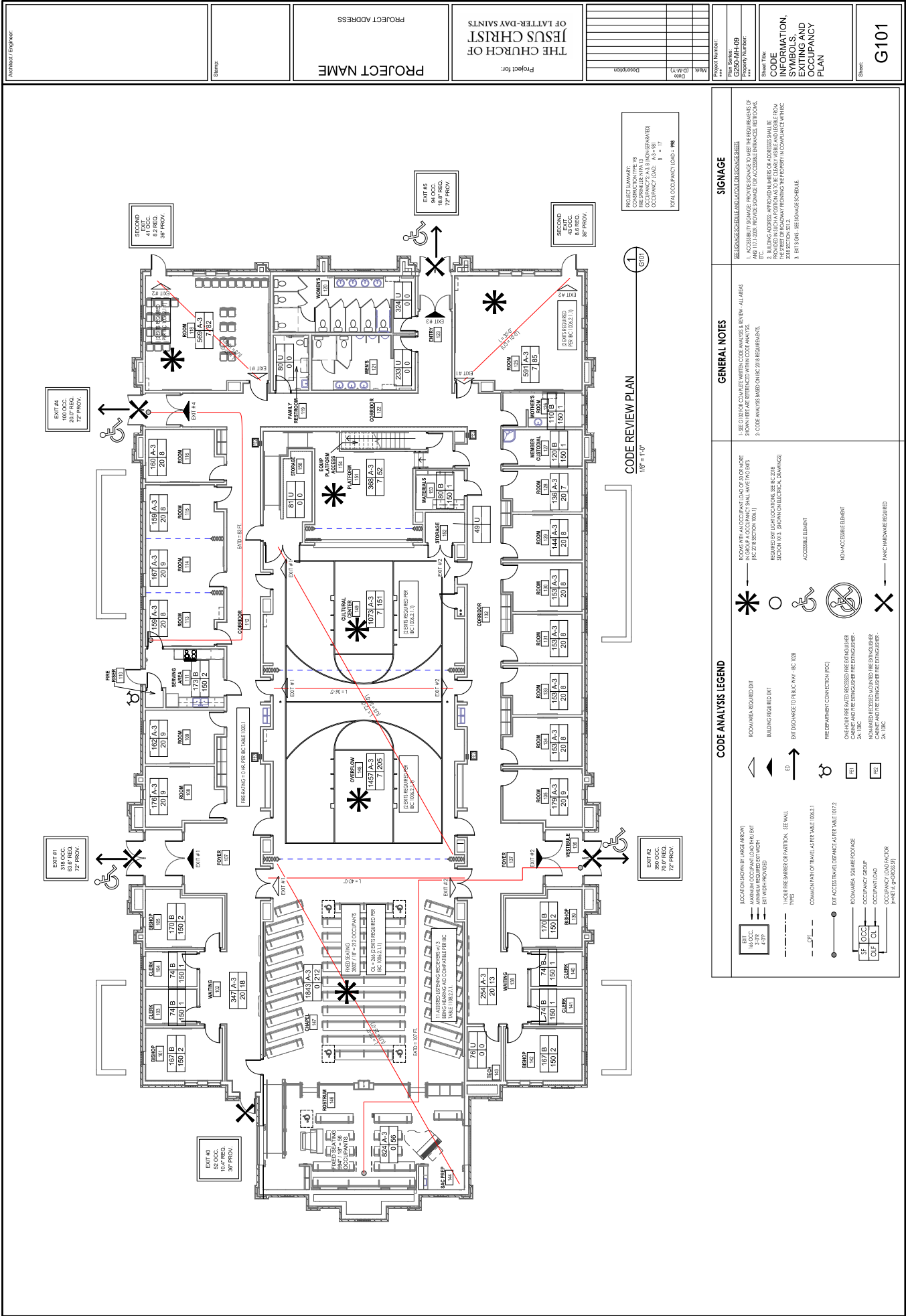
 EXISTING CONTOURS

 PROPOSED CONTOURS

GRADING NOTES:

- 1) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 2) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 3) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 4) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 5) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 6) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
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- 15) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 16) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 17) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 18) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 19) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 20) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 21) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 22) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 23) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 24) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 25) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 26) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.
- 27) ALL SPOT ELEVATIONS SHALL BE THE EXISTING CONTOUR ELEVATION FROM THE BUILDING.</

- FIRE MARSHAL NOTES:**
1. ALL FIRE HYDRANTS SHALL BE FITTED WITH HYDRANT MARKERS FOR INCLEMENT WEATHER LOCATION (3/8" - 60" BARCO PRODUCTS OR EQUIVALENT).
 2. ALL STREET NUMBERS SHALL BE 6" MIN HEIGHT AND A COLOR CONTRASTING THE BUILDING FINISH.
 3. SEPARATE 911 NUMBERS WILL BE REQUIRED FOR EACH BUILDING.
 4. LANDSCAPING MUST NOT BLOCK OR OBSCURE ANY FIRE PROTECTION FEATURES.





Scale - 1" = 40ft

GENERAL NOTES - EXTERIORS

1. Readings shown are based on a total LLF of 0.97 as indicated in the luminaire schedule at 0.0' (0.0m) AFG (at grade). Data references the extrapolated schedule at 0.0' (0.0m) AFG in a 25c ambient based on 10,000 hrs. of LED testing (per IESNA LM-80-08 and projected per IESNA TM-21-11).

4. Grid spacing is 10' x 10' on center.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
BASE GRID	+	0.5 fc	3.6 fc	0.0 fc	N/A	N/A
PARKING LOT	✗	1.4 fc	3.6 fc	0.2 fc	18.0:1	7.0:1

Schedule									
Label	Symbol	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power	Distribution
F20-1		8	Lithonia Lighting	RSX1 LED P3 40K R5	RSX Area Fixture Size 1 P3 Lumen Package 4000K CCT Type RS Distribution	14396	0.97	109.44	TYPE VS. BUG RATING: B4 - U0 - G2
					RSX Area Fixture Size 1 P2 Lumen Package 4000K CCT Type RS Distribution	10106	0.97	145.9	TYPE VS. BUG RATING: B4 - U0 - G3
F20-2		3	Lithonia Lighting	RSX1 LED P3 40K R5	RSX Area Fixture Size 1 P2 Lumen Package 4000K CCT Type RS Distribution	10106	0.97	145.9	TYPE VS. BUG RATING: B4 - U0 - G3

DISCLAIMER: This application design is not a professional engineering drawing, and the design, including the calculations, may have been used to perform one or more calculations. Photometric/radiometric data is typically obtained from manufacturers' data sheets and is based on measurements taken at specific distances and angles in areas where a source is in close proximity to a particular surface or point. The results of such calculations are approximate and may differ from actual measurements. Radiant power quantities may differ from predicted quantities. As a result of the computational approximations, the physical space provided by Acuity Branded Lighting is incomplete, and performance may differ from performance calculated using laboratory measurements as the basis for calculation. The lighting system may not provide the same level of lighting effectiveness for use in a particular application. In no event will Acuity Branded Lighting be responsible for any damages, claims, or liabilities arising out of the use of this application.

Exhibit 3

**AFFIDAVIT OF CONDUCTING A NEIGHBORHOOD MEETING, SIGN-IN
SHEET AND MEETING MINUTES**

THE AFFIANT, having been first duly sworn now deposes and says:

1. That I am Tyler R. Moffatt, and I am over the age of 18 years and competent to make this Affidavit and that I have personal knowledge of the facts set out in this Affidavit.

2. That I am a counsel for The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole ("Applicant").

3. That Applicant intends to submit a Conditional District Zoning Map Amendment Application and a Voluntary Annexation Petition to the Town of Boone.

4. The Applicant conducted a Neighborhood Meeting in accordance with Town of Boone Unified Development Ordinance ("UDO") Section 9.09.02 ("Neighborhood Meeting").

5. That Applicant caused notices of the Neighborhood Meeting to be mailed to property owners within 300' of the proposed development at least 25 days prior to the meeting in accordance with UDO Subsection 1.13.02, and to the Town of Boone Planning & Inspection Department.

6. The Neighborhood Meeting was conducted in-person on December 5, 2025, at 4:00 P.M. to 5:00 P.M. at 833 State Farm Road, Boone, NC 28607.

7. True and accurate copies of the Neighborhood Meeting notice and copies of the mailings of said notices are attached hereto as Exhibit 1 and are hereby expressly incorporated into this Affidavit as if the contents thereof were expressly set forth herein in this Affidavit.

8. A true and accurate copy of the Neighborhood Meeting Minutes are attached hereto as Exhibit 2 and is hereby expressly incorporated into this Affidavit as if the contents thereof were expressly set forth herein in this Affidavit.

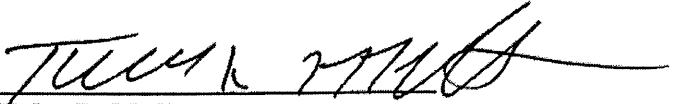
9. A true and accurate copy of the Neighborhood Meeting sign-in sheet is attached hereto as Exhibit 3 and is hereby expressly incorporated into this Affidavit as if the contents thereof were expressly set forth herein in this Affidavit.

10. A true and accurate copy of the Neighborhood Meeting Presentation is attached hereto as Exhibit 4 and is hereby expressly incorporated into this Affidavit as if the contents thereof were expressly set forth herein in this Affidavit.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK, SIGNATURE PAGE
TO FOLLOW]

I declare under penalty of perjury that the foregoing is true and correct. This the 8th day of December, 2025.

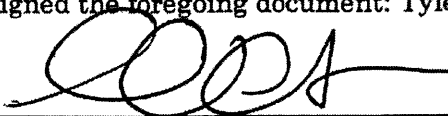
FURTHER THE AFFIANT SAYETH NOT.


Tyler R. Moffatt

State of North Carolina
County of Watauga

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she signed the foregoing document: Tyler R. Moffatt.

Date: 12-8-2025


Notary Public

My commission expires: 9-21-2030

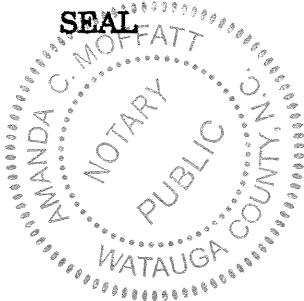


EXHIBIT 1

November 6, 2025

Re: Neighborhood Meeting; Old U.S. Hwy 421 Conditional District Rezoning Request

Dear Sir or Madame,

You are invited to attend a public information meeting on December 5, 2025 to discuss the proposed rezoning of a parcel of property located on Old U.S. Hwy 421, and being Watauga County Tax Parcel ID # 2921309963000, as shown on the attached map ("Property"). You are getting this notice because you are within the 300' notification boundary for the proposed development.

This meeting will be held at Moffatt & Moffatt, PLLC, 833 State Farm Road, Boone, NC 28607, from 4:00 – 5:00 p.m.

The applicant and developer for the rezoning is The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole.

The purpose of the neighborhood meeting is to give the applicant an opportunity to present the proposed development to the neighbors and any other attendees, gather feedback, document concerns, and if feasible, work toward reasonable mitigation of any issues.

The Property is currently not located within the Town of Boone limits, and the applicant is seeking to annex the Property into the Town of Boone and to zone the Property to a B3-CZ designation to allow for development of a church meetinghouse.

If you have questions or are unable to attend the meeting, please reach out to us. Our contact information is below.

We look forward to speaking with you on December 5, 2025.

Thank you,

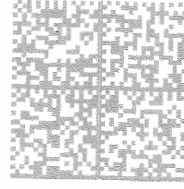
Jacob Ordyna
Project Manager
The Church of Jesus Christ of
Latter-Day Saints
817-602-1883
ordynajr@churchofjesuschrist.org

Matthew R. Cummings
Area Real Estate Manager
The Church of Jesus Christ of Latter-
Day Saints
801-240-2906
cummingsmr@churchofjesuschrist.org

MOFFATT & MOFFATT, PLLC

833 STATE FARM RD.
BOONE, NC 28607

2921311599000
WILLIAMSON, JERRY W
AND PAMELA P
375 OLD 421 SOUTH
BOONE, NC 28607



quadrant

FIRST-CLASS MAIL
IMI

\$000.74⁹

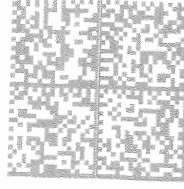
11/06/2025 ZIP 28607
044K33206780

US POSTAGE

MOFFATT & MOFFATT, PLLC

833 STATE FARM RD.
BOONE, NC 28607

2921202861000
BLUE RIDGE ELECTRIC
MEMBERSHIP
P O BOX 112
LENOIR, NC 28645



quadrant

FIRST-CLASS MAIL
IMI

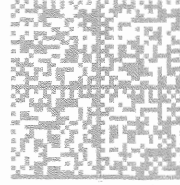
\$000.74⁰

11/06/2025 ZIP 28607
044K33206780

US POSTAGE

MOFFATT & MOFFATT, PLLC
833 STATE FARM RD.
BOONE, NC 28607

2921303866000
BROWN OF BOONE III LLC
230 HARDIN RD
BOONE, NC 28607



quadrant
FIRST-CLASS MAIL
IMI
\$000.74⁰
11/06/2025 ZIP 28607
044K33206780

US POSTAGE

MOFFATT & MOFFATT, PLLC

833 STATE FARM RD.
BOONE, NC 28607

2931213998000
NORTH CAROLINA DEPARTMENT
OF TRANSPORTAT
P O BOX 250
NORTH WILKESBORO, NC
28659-0250



quadrant

FIRST-CLASS MAIL
IMI

\$000.74⁰

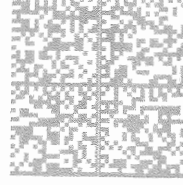
11/06/2025 ZIP 28607
044K33206780

US POSTAGE

MOFFATT & MOFFATT, PLLC

833 STATE FARM RD.
BOONE, NC 28607

2921412709000
NORTHWESTERN EQUITY
MANAGEMENT, LLC
139 FLORENCE LN
BOONE, NC 28607



US POSTAGE

quadrant

FIRST-CLASS MAIL

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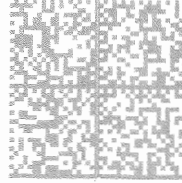
\$000.74

11/06/2025 ZIP 28607
044K33206780

MOFFATT & MOFFATT, PLLC

• 833 STATE FARM RD.
BOONE, NC 28607

2921400400000
GUNTHER, LLC
199 JEFFERSON RD STE A
BOONE, NC 28607



quadrant

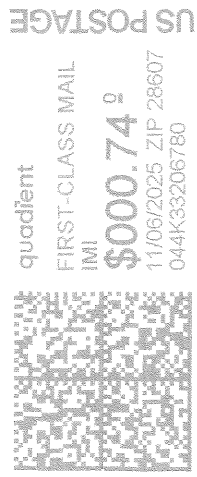
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11/06/2025 ZIP 28607
044K33206780

US POSTAGE

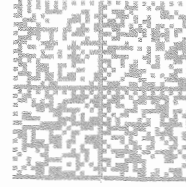
MC 833 STATE FARM RD.
BOONE, NC 28607



2921324119000
SPG PROPERTY LLC
355 INDUSTRIAL PARK DR
BOONE, NC 28607

MOFFAIT & MOFFAIT, PLLC
833 STATE FARM RD.
BOONE, NC 28607

US POSTAGE

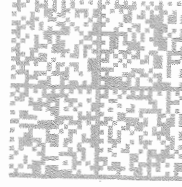


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FIRST-CLASS MAIL
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\$000.74⁹
11/06/2025 ZIP 28607
044K33206780

2921229561000;
2921309963000; 2921310349000
GREER WATAUGA, LLC
9613 ROCK CREEK RD
RALEIGH, NC 28613

MOFFATT & MOFFATT, PLLC
833 STATE FARM RD.
BOONE, NC 28607

2921211659000
HG WATAUGA LLC
PO BOX 3500
BOONE, NC 28607



quadrant
FIRST-CLASS MAIL
IMI
\$000.74⁰⁰
11/06/2025 ZIP 28607
044K33206780

US POSTAGE

EXHIBIT 2

NEIGHBORHOOD MEETING MINUTES

Meeting Details

- **Date:** December 5, 2025
- **Time:** 4:00 P.M.
- **Location:** 833 State Farm Road, Boone, NC 28607
- **Minute Taker:** Tyler R. Moffatt

Attendance

- **Present:**
 - Michael R. McLeod – Applicant's architect
 - Tyler R. Moffatt – Applicant's counsel
 - Pam Williamson – owner 375 Old US Hwy 421, Boone, NC 28607
 - Jerry Williamson – owner 375 Old US Hwy 421, Boone, NC 28607
 - Alison Neely – member of Greer Watauga, LLC, the subject property owner
 - John Neely – husband of Alison Neely
 - James Milner – Applicant's real estate broker

Agenda

1. Introduction by Tyler R. Moffatt
2. Presentation by Michael R. McLeod
3. Discussion
4. Adjournment

Meeting Minutes

Tyler R. Moffatt:

Thank you all for being here. My name is Tyler Moffatt. I'm the attorney for the applicant, the prospective purchaser of the property.

I'm specifically representing them in aiding them going through the annexation and zoning process in order to get the property into the town of Boone. And when you annex property, you also have to designate a zoning designation. So that's what my role in this particular process is.

The purpose of this meeting here, for those who don't know, the town of Boone requires when you're going through a rezoning process, you have to notify certain property owners within a proximity of the property that's being rezoned and give them the opportunity to attend what's called a neighborhood meeting, which is an informational meeting where the applicant or their representatives, particularly the planning professionals, in this case Mr. McLeod, the architect, will go through the preliminary plans for the property, what their intentions are, and I'll show you a preliminary site plan and some other documents, and allow you all to ask questions. And to the extent we possibly can, answer those questions for you to clarify anything that you may want to know about the application. So that's the purpose of this meeting.

If you have any questions for me, I probably can't answer them because I don't know anything about the design and so forth. I'm just here to figure out the logistics of the annexation and the zoning portion. I'll turn it over to Mr. McLeod, Mike McLeod, who is the architect for the project.

Michael R. McLeod:

Thank you all. Well, thank you all for being here today. It's good to meet you.

So this is a pretty piece of property, and this is the building that the church proposes to build on it. It'll be brick veneer, shingle roof. It's a metal clad steeple.

Come in. My apologies. I think he wants you to sign in there too.

And as I was mentioning before, this building is designed for three potential congregations. They may not even have that many initially when they first start meeting there. But I know they probably have at least two, and that's why we need this size building.

And each of the congregations is about 250 people. That's why it's called the 250 meeting house. And generally on Sundays, if there are, let's say there's two congregations meeting, they will overlap their schedule a little bit.

So one group will come in, and the next group will come in. The following hour. And then the next hour, the first group leaves, and then the second group will leave.

So it's not a ton of cars. It's kind of broken up. So anyway.

So why don't we go to the next slide. So that's the property. Of course, you're all familiar with it.

And okay, let's go to the next.

Pam Williamson:

So the property is facing the new Highway 421?

Jerry Williamson:

It's that green.

It's the green, right?

Michael R. McLeod:

Yeah. Yeah. So this area right here, that's the property.

And we will have our driveway entrance onto the old 421.

Pam Williamson:

Do you know where?

Michael R. McLeod:

Yeah, I've got a plan. I'll show you in just a second.

This is just a survey, and it shows the cemetery plot, shows the steep bank down from the new Highway 421, and then that's the old 421. And here's a stream along that side.

Jerry Williamson:

And the entrance is next to the stream.

Michael R. McLeod:

Yes. So we put this entrance as far up on the sheet to the north as we can, because we want to leave this buffer here in front to kind of protect, you know, homeowners. I don't know which of you may be over here.

Pam Williamson:

We're those two houses.

Michael R. McLeod:

Okay. So this buffer we're preserving in front, and we're bringing our driveway.

Jerry Williamson:

There's already a gate and a lane there.

Pam Williamson:

Is that where y'all's gate is?

Michael R. McLeod:

Now, one thing we have to do, we're in the process of doing this, we have a surveyor to lay out the driveway according to where our civil engineer says it needs to go. He has to have a certain distance from the top bank of the stream, and then the DOT has to look at this driveway to make sure they've got enough vision distance each way.

I don't know what, I don't think there's going to be any problem there, but that's something they have to approve. DOT has to approve that driveway.

Pam Williamson:

Why can't you go out on the other direction?

Michael R. McLeod:

Up here?

Pam Williamson:

Yeah.

Michael R. McLeod:

It's so steep. It's tremendous, straight up the bank. There's no way we could get up there.

Pam Williamson:

There's no way to connect with the new Highway 421 south.

Michael R. McLeod:

Go back up, go back up. These are individual, these are one-foot contours, and these are one-foot contours.

They're so close together. So we're coming down, 3200, 3100. There's light, let's see.

3130, 3200, so there's like 70 or 80 feet there that you'd have to go up to get out to the highway.

Pam Williamson:

Well, if you're talking about 750 vehicles, I mean, we live on that road. That road is hard to come out on as it is now.

Michael R. McLeod:

Well, we'll have, let's see, 214 parking spaces. So that's all you'll have in the parking lot, max. If they were completely full, 214.

Pam Williamson:

But you would have people coming and then going.

Michael R. McLeod:

Right.

Pam Williamson:

So that's still a matter of up to 750 people per day, per.

Michael R. McLeod:

Yeah, sort of spread out over the day.

Pam Williamson:

I mean, that's a lot of cars on that old 421.

Michael R. McLeod:

And keep in mind, every person doesn't have a car.

Usually, you might have two, three, four people in a car. So it's less than that number. But yeah, it's like a church congregation letting out and the folks come out and drive away.

Pam Williamson:

Might consider a traffic impact analysis. I mean, that road is already stressed.

Jerry Williamson:

People travel on it too fast is the main thing.

Pam Williamson:

And they go really fast.

Jerry Williamson:

Coming out of town, they're just.

Pam Williamson:

You're going on down from there is better than being the other way.

But you're still, I mean, you're looking at a problem there with traffic, in my opinion.

Michael R. McLeod:

Well, let's go to this next slide then, back to the site plan.

So this is the building. This is the parking lot, sort of out in the center. 214 parking spaces.

And like I said, our effort was to get it as far up here as we possibly could on the property.

Jerry Williamson:

It's going to be a lot of grading, right, to get that far back on that property.

Michael R. McLeod:

Yes.

OK, let's go to the next slide. It's the same thing, just with sort of the background image on it.

Pam Williamson:

So the buffer zone there, if you go back, your buffer zone is basically where the trees already are?

Michael R. McLeod:

Yes.

Pam Williamson:

So you're leaving those trees?

Michael R. McLeod:

Yes.

Jerry Williamson:

In the fence line. They're mainly in the fence line.

Michael R. McLeod:

OK, so this is the floor plan of the building, just if you're interested. That's the chapel. This is what we call a cultural hall.

It's actually, they have folding partitions, and they'll have teaching spaces in here, but you can also open it up for like a banquet, or you can see by the markings, it can be used for youth basketball. There's a platform stage. These are classrooms, larger classrooms here.

And these are the bishop's offices up here. So you've got Bishop, Clerk, Bishop, Clerk, Bishop, Clerk.

Pam Williamson:

I'm sorry, can you go back one more time? How far is it basically from the back of your building where the parking is to the old 421?

Michael R. McLeod:

OK, so this is 191, so almost 200 feet there.

So the back of the building, 200, 400, let's say 550, depending on where you measure to.

Pam Williamson:

Or about 250 from the back of your park, from there.

Michael R. McLeod:

That's 200, yeah, from this corner, let's say 200, yeah, 250.

Jerry Williamson:

Don't you mean from the front of the parking lot, not the back of the building?

Pam Williamson:

Well, I'm looking at where we're sitting, and we're going to be looking at the back of the building. OK, so what are you planning on in that 250 feet or whatever?

Michael R. McLeod:

Oh, it'll be landscaped around the building. Typically, we have nice landscaping trees all around the building.

A lot of this area will just be grass. We'll have some planting up around the entrance, but most of this will just be so we can maintain it and mow it. It'll be grass and natural.

If there are trees, our survey will pick up existing trees that we'll leave. We're not intending to cut any that don't need to be removed.

Pam Williamson:

Is that the minimum buffer requirement by the town?

Michael R. McLeod:

No, this was a specifically agreed upon buffer with the neighbors, with you all, I assume, that the sellers provided to us.

It was sort of agreed upon. The city does require a buffer around the whole building, all the sides.

Pam Williamson:

But not the rest of the area.

Michael R. McLeod:

This in particular, the 50 feet, that's a special sale requirement.

Pam Williamson:

Is that what buffers under the trees are?

Jerry Williamson:

Is that Vannoy Cemetery, do you know if it's an active cemetery at all?

Michael R. McLeod:

Well, there's graves and headstones there.

Jerry Williamson:

I know, but has there been a burial there in the last decade? I just wonder, what's their access to that cemetery? Is it from the Mack Brown driveway?

Alison Neely:

From the right of way. Yes, they'll have access to their cemetery.

Michael R. McLeod:

What I understand is there is a shared access along here from both these properties.

Jerry Williamson:

Oh, I see.

Michael R. McLeod:

And that's the access that would be used for the cemetery.

Pam Williamson:

Well, if you've got shared access there, why can't you come out another way into that road that leads into New 421?

Michael R. McLeod:

We drew a plan like that, and this owner wasn't interested in doing that.

Where we shared the same entrance with him, they were not interested in doing that.

Alison Neely:

So the car dealership was against it?

Michael R. McLeod:

Yeah.

Alison Neely:

Is it, but it's owned by joint property, correct?

Michael R. McLeod:

There is a easement.

Let's see, let's go back to the survey, maybe. So that shows it all the way up, whoops, now backs it down. Let's see if I can see it.

All right, see this 60-foot right-of-way, 60-foot RW right there? All right, it's like this wide, and I don't know who designated this, but it's from here all the way down to here. Well, it's super steep drop-off on one side, so it's not really practical to use as a access up here at this end, but down this end, that is the access for the cemetery. And if the church wanted to insist, I don't know that they could object to us doing a drive here, but we did take it to the owners to see if they would be happy or agreeable to let us do that, and they said, no, we're not interested in that.

So the church decided we can live with one entrance. Now, if we came in here, then we got to make a traverse down the hill and get down there, so it's still a problem for us, whereas this entrance up here is more gentle and follows the slope and works better for the church. Okay, let's go forward.

We can come back to any of these. So this is one that was built in Holly Springs. It's a little fuzzy, I guess, because it's a small picture, but that's the front, the side, and then, let's see, I think I have another.

That's the front. I didn't show you the back, but the back is similar, except it doesn't have a steeple, so the back is attractive as well as the front. And this was right after the building was built, so the landscaping is not very mature, but all these are landscape beds.

Of course, now the plant material is high and grown, but that's kind of the landscaping that you'll get. These are elevations of the building.

Pam Williamson:

How tall is it, not counting the steeple?

Michael R. McLeod:

The top of this roof is 26 feet 9 inches above the ground, and this is just a section through the building.

That's a typical interior of the chapel, and this shows the foot candle level of the planned parking lot lighting. So all this area out here is showing zeros, so we've got zero foot candles out in this area. So we don't really have any light spilling off the property.

Everything we have is lighting the building and the parking lot. I think the next slide shows...

Pam Williamson:

You know the Town has lighting that can't interfere with the night sky. They have...

Michael R. McLeod:

Right.

We actually, we're providing this lighting, and it has to comply with the town's requirements, and also...

Pam Williamson:

So y'all have already looked at that.

Michael R. McLeod:

So you can see by this little illustration, that's the area that received the light around the building, and it quickly drops off beyond. So any specific questions you have beyond that?

Pam Williamson:

Well, I'm always one to speak up.

I think it's great that you want to put a church there. I really do. I've got zero problem with that on any level.

I do have a problem with going out on old 421. I think you need to go back and take a look at that. Do a traffic impact analysis or something before you go into that.

They're not going to be able to widen that road anytime soon, if ever. Probably never. I'm on the town's board of adjustments.

We have to look at this all the time. You always have to look at the potential, and then you have to look at the time of day and figure out what the traffic is. But you've got a couple of problems here.

It is good that you went, in my opinion... And I'm with these guys, okay? I mean, we're neighbors. We, like them, are very interested in protecting our two properties across the street for several reasons. One is they're historic in the town.

They're historic properties. They're in the North Carolina Landmarks Division, and we want to protect them at all costs. And part of that, we go in and out of that driveway all the time.

And it can be tough, especially taking a left turn, which is what your people going out are going to be doing, is trying to get left back up to that main road.

Michael R. McLeod:

One thing good about a church, the traffic is on Sunday. It's not during a weekday when you have normal business traffic.

So usually that helps with the traffic situation.

Pam Williamson:

So it's not even open during the week?

Michael R. McLeod:

During the week, here's what they'll have. In the afternoon, two afternoons during the week, from, let's say, 6 to 7.30, they'll have an activity, like a youth activity at the church.

They might play basketball. They might do something else. And you'll have about, at most, if they had 30 people there for that activity, that would be considered a good night.

You know what I mean? It's not a lot of people. You might have a funeral occasionally. That could be in the middle of the week, but that's unusual.

And you'll have seminary there. And that's, each morning, you'll have, and I would estimate, again, about 30, max 40, that I could think of, would come to an early morning seminary. It usually occurs from 7 to 8, or sometimes it's 6.45 to 7.45 in the morning.

They have a scripture study before they go to school. Sometimes they do that at people's houses, when people are very spread out and it's too far to drive in to the church. They'll do it at a local person's house, then go to school.

But that's an activity that could happen. And that would happen every morning during school hours.

Alison Neely:

So there won't be, I'm sorry.

I'm sorry, go ahead. So there won't be any, you know, the access road is between the two properties. It's not owned by the dealership.

Right. And, you know, the property has right-of-way to use that. So there won't be any ingress and egress, so that if, let's say there was, let's say for some reason there was an accident on Road 421 and it got blocked, they won't be able to go out through the access? There's not going to be any in and out over there?

Michael R. McLeod:

No, because it's straight up.

Alison Neely:

But if you grade it, it's not, you know, but... The dealership uses it all the time.

Michael R. McLeod:

Right, but if you stay in the parking lot of the dealership, there's a bank that goes straight down into this property that we're talking about. It's a drop-off.

Alison Neely:

I've driven it. I know where it is.

Pam Williamson:

And they, everything drops off here.

It drops off here, it goes up here.

Michael R. McLeod:

I mean, you can deal with it, you know. I mean, and like I said, we showed a driveway there.

Let's open those up.

Pam Williamson:

Wait a minute, let me orient where we are.

James Milner:

This is you Pam.

Alison Neely:

And you are.

James Milner:

I'm James Milner.

Alison Neely:

Oh, okay, okay.

I did not, you didn't, yeah, you didn't introduce yourself.

James Milner:

I apologize for my tardiness.

So what he's saying is all of this is steep coming through here. Um, this is actually DOT right-of-way.

Couldn't do anything in here even if they wanted to. Um, the church did look at a, like he said, he did look. I just want to affirm what he said, which is the church did look at a plan to have a driveway back to the 60-foot right-of-way and improve this driveway, which Pam, you would agree, is a safe, safer intersection in order to make a left, right?

Pam Williamson:

That's the driveway that comes out of the back.

James Milner:

Yeah, this is the driveway that comes out of the back.

Pam Williamson:

Oh, yeah, I know where that is. That's by the driveway.

James Milner:

Um, we sat down with Kent Brown, who owns this, and he said, uh, you know, it wasn't, it wasn't open for discussion. So, in good faith, we, we did, um, do our, the church did their part to try and find a solution to move in and out of this site safely. Can't control another human being if another human being...

Pam Williamson:

Oh, I'm a hard one to control, too.

Alison Neely:

So... But he doesn't own that.

Michael R. McLeod:

Well, it's, it's a, uh, shared access, right?

James Milner:

Yeah, this is, this is...

Pam Williamson:

Shared with whom?

James Milner:

Well, between the, this is just a right-of-way.

Michael R. McLeod:

It's not a road.

James Milner:

You know, the, the, the boundary line is, is legal property. It's, it's, you know, they, they own every, um, everything, you know, from this solid black line left and, and, um, Allison and Dave own everything to, to the right. Um, so, so I just, like I said, they, they worked really hard and spent time and money and effort and energy to, to have that, but, um, it would require some improvements of basically widening this in, or this driveway cut down here and, you know, um, Kent said that he, he wouldn't, he wasn't willing to, to entertain that and move forward.

Alison Neely:

Who is he, Kent?

James Milner:

Kent Brown, who's...

Jerry Williamson:

It's Mack Brown's son.

James Milner:

The buffer was, was, yes, is a, is a part of the, um, so what it is, uh, in excess of what is required, but was part of the negotiation between the property owner and the church to increase this buffer that no development would occur to, to try and create more, um, buffer away and, and then where the church is actually sited is trying to be positioned far enough away to, to continue to give you all, um, you know, peace and quiet enjoyment.

Pam Williamson:

Yeah, I'm just telling you, you got a problem on the traffic.

Let me just ask, there's no way to get back out onto the new 421. There's no way to get an access on it.

James Milner:

Because of this topography.

Michael R. McLeod:

And, and they just, DOT wouldn't allow us to get up there on that road at that point. That's...

Pam Williamson:

Up here, you mean?

James Milner:

Up here, is what you're saying.

Michael R. McLeod:

So our, this shared access doesn't cover right there at their driveway.

We would have to somehow get onto the road here, go through there, the DOT property, and our civil engineer says, that's not going to happen. They're not going to let you do that.

Pam Williamson:

You have to talk to DOT.

James Milner:

Well, like he said, uh, the, this still requires a, uh, a driveway permit, right, with NCDOT. So, so DOT has to sign off.

Pam Williamson:

Is that a two, is that a two lane to a car? A place for car in and out?

James Milner:

Yeah.

So, again, you, you know better than anyone, Pam, that we can set all this up, you know, from, from the civil side, but it still has to go through, um, you know, certain procedures and, and people, um, that, that get the opportunity for feedback and, um...

Pam Williamson:

Oh, yeah.

James Milner:

And, and certainly open to, um, you know, making sure that, that, that, that you, you all get the information and resources that you need, but, you know, really can't, um, again, trying to set this up in, in the best manner possible, given the, the challenges, um, that, that are apparent.

Pam Williamson:

Well...

James Milner:

I, I, I'm not disagreeing with you that this end...

Pam Williamson:

Is a real problem.

James Milner:

Is, is, is, um, I'm not going to call it a problem. I, I, yeah, it's a concern. Um, but you, we all know that you don't, making a left in Boone anywhere is already tough.

It doesn't matter if it's this site or any other site.

Pam Williamson:

I know. Okay.

James Milner:

I don't make a left anywhere.

Pam Williamson:

I don't make a left anywhere either.

Alison Neely:

I would hope that maybe the church would join us in trying to reduce the speed on that road, because I had, she's had it done once and they, they...

Pam Williamson:

And then they moved it back up and left it like three days.

Alison Neely:

I got it done once and they moved it right back up. And I guess I'm assuming because people are complaining, but, um, you know, it is...

Pam Williamson:

And we understand that Boone, you know, is headed this way. We get that.

Um, and it's not just a selfish thing that we own the homes and we both put time and money into this, but, but I'm just telling you, I've lived there long enough to know this is a serious problem. And you got reducing the speed. I don't know if it'll slow them down or not.

I mean, sometimes it does and sometimes it doesn't. But, um...

James Milner:

We're also trying to be cognizant of, you know, we, we spent a lot of time, you know, on where the cut would...

Pam Williamson:

Did you know I was going to be a problem? Is that what you're saying?

James Milner:

Um, we've spent a lot of time, you know, um, making sure the cut is positioned in a place where that when car... You know, I, I think the, the church would say, including this gentleman, you know, we could put a cut anywhere here, but what we were trying to avoid was a car coming out to the road and, and shining lights into the, the home.

Pam Williamson:

Well, not only that, but it would be even worse if it was over here because you can't see above the hill.

I mean, that's, that's out completely.

James Milner:

So again, utilizing the existing, um, gate, you know, every, everyone on our side of the table feels, you know, that, um, it's the path of least resistance given the constraints of the site and, and not coming directly. Um, I, I agree with you that a set, that a cut in this section wouldn't, would not be ideal.

Pam Williamson:

Well, I, everything you've presented so far, and I mean, I haven't really studied all that before you go in front of a town or all, I will look at everything that's explained, but the only two things I would like to see is as much beefed up buffer here as possible, not just the town's minimum.

James Milner:

Well, this is an excess of the town's minimum. Yeah.

50 feet right now.

Pam Williamson:

I couldn't tell, but yeah, 50 feet already. I don't remember for this type of, uh, use, you know, what the minimum is, but, but, um, those trees are really key there to stay.

They probably need to be cleaned up.

Jerry Williamson:

Yeah.

Pam Williamson:

So they need to be cleaned up, but they, but they're really essential, I think, for both of our properties.

And, um.

Jerry Williamson:

Some of those cherries are not in great shape and cherries are bad to blow down as we know.

Pam Williamson:

But, um, but I'll be looking at that more closely when I see what goes into the packet there.

Um, I'm really concerned about that. I wish you would at least go back and try one more time to talk to an architect or somebody about another way to get, uh, I don't know. I know what you said about Kent.

That's Kent, right? Okay. But, but there, it just makes total sense to go out this way. I, I know you're saying there's a lot of grading there, but, um, other than that, it makes sense traffic-wise to get there instead of on here.

Because it is going to be problematic.

Michael R. McLeod:

Tyler said we were talking about the driveway. I wonder if we could go to our civil engineer's site plan that he just sent us earlier today.

Uh, there you go. Okay, and can we zoom into the entrance over there to the left? All right, so that's what he is.

Alison Neely:

That's down near the gate.

Pam Williamson:

Is that where the gate is?

Alison Neely:

Yes, it's, it's close. I think there's, um, there's a requirement because there's a creek there that they had, they had to take that in some, and I don't, I can't remember some environmental impact kind of thing to the creek and just move it up a little bit, but it's, it's close as you can get to that. So, yeah, it's close to the bank.

Pam Williamson:

What is that third lane in the bottom?

Michael R. McLeod:

That's, you got one lane to come in, people making a right.

Pam Williamson:

Oh, I'm sorry. Okay, right.

Alison Neely:

And the number of cars, 214, is much less than I was thinking. It's a whole lot less than we have.

Pam Williamson:

It won't be that though.

It won't be that. I mean, I guarantee it.

Michael R. McLeod:

Well, it's no, the parking lot's not any bigger than that.

Pam Williamson:

Well, I mean, that's why traffic impact analysis is always a good thing to look at, and, and I know they cost money to do, but, um, the board, and I, and I would suspect that the town is going to ask for one too, by the way. Most of the time they do. Not if somebody's building a home on a road, but for any larger building or anything, they usually require a traffic impact analysis. And those up here are always a nightmare because nope, nobody owns a right of way. Nobody owns a, You know, but, uh, uh, our road, for instance, old 421. The state doesn't own any of the right of way. Hmm. On either side of the road.

Alison Neely:

I'm going to call about that sign they put up my yard.

Pam Williamson:

And, um, and then there are other places, you know, but anyway, that's three lanes. That's pretty significant. I mean, I have trouble visualizing stuff sometimes, but. Um-hum. That's a.

Michael R. McLeod:

But at least this way, you see, if someone's trying to turn in, they wouldn't be blocked by somebody trying to.

Pam Williamson:

Right. I understand that.

Michael R. McLeod:

They could be, come on in and get out of the traffic flow and that type of thing.

Pam Williamson:

Where, where would that, show me where that would be on here. I, I know it would be here.

Michael R. McLeod:

Yeah, let's go to this one.

Pam Williamson:

Oh, OK.

Michael R. McLeod:

Here it is. That's just a more detailed, you know.

Pam Williamson:

Right, OK.

Michael R. McLeod:

Drawing of it, but that's where it would occur.

Pam Williamson:

OK.

Now, they're going to come out. Where is your road over here that helps him get the cattle in?

So right there is that it? That, that's gonna be an issue too. She's right. Gotta get, gotta get the speed limit down for one thing. I mean, they've got cattle all the way back there that, used to move in and out. I don't know, I haven't seen him move.

Alison Neely:

No, he, he used to, um, wean calves up there.

Pam Williamson:

Right.

Alison Neely:

But now he just cuts hay.

Pam Williamson:

Oh, OK. So. OK. What is this freestanding sign here?

Michael R. McLeod:

The church would like to put a sign there that's, uh, it's brick. It's about this wide, about this tall off the ground, and it's a, uh, a marble sign that says incised letters. It says Church of Jesus Christ of Latter-day Saints.

Alison Neely:

And that's all, and it's, it looks like they're putting a sign on the other side of the, of the entrance from our, not, not. Right. Not on our side.

Michael R. McLeod:

Trying to stay out of the buffer, you keep everything on their side. On the.

Pam Williamson:

Oh, right, yeah.

Alison Neely:

Um, I guess left if you're facing it.

Michael R. McLeod:

Um-hum.

Pam Williamson:

If you do any additional bluffing there, it would kind of be nice if it was an evergreen. No. Something or another. Arborvitae, something like that might be nice. Um, Anyway, uh, those are my, my only concerns, like I said, are, are, um, you got a problem with that road, that's just a problem. And I'd appreciate it if you go back one more time. I mean, I know you

can't go back to Kent. I know Kent's like that. OK? I mean, you're not going to get anywhere with him. But, you know, maybe DOT.

Jerry Williamson:

It's a shame too, because that, that really doesn't.

Pam Williamson:

That is the only thing that makes sense.

Jerry Williamson:

Down there at the, the, the, the Vannoy cemetery to have that

James Milner:

If you guys can help with that conversation, by all means. I, I'm, I'm here to, I'm here to, to work collaboratively, uh, as a group.

Pam Williamson:

I understand that.

James Milner:

That, um, can't do everything, uh, can't go out and break people's arms. But. But I, I am, um, here in spirit to, to make sure that everything that you guys want and need within reason. Um, can be met so that, you know, um. So that we can move the church can move forward, um, so yes, certainly it you still have that um sightline that I knew I didn't bring it with me um let me, let me see, do you have it, do you have, uh, internet access. Thank you so much, Tyler.

Pam Williamson:

And I'm not here to make it hard for you. I'm just, Here to make sure that it'll work for all of us.

James Milner:

Um, hold on just a second. And, and if I pull this up, I, I don't want it to be a representation that this definitively would happen. I just, for, for, if it's OK with you.

Michael R. McLeod:

Um-hum.

James Milner:

Can I, um.

Michael R. McLeod:

Yeah.

James Milner:

Pull, pull it up and, and show what we at least took to Kent to say, Kent, this is, um, what the church would like to do. Hold on just a second. Let me.

Pam Williamson:

There's no way, uh, there's no way they're going to put a stop light there, I can tell you that. They won't do a stop light.

Alison Neely:

No.

John Neely:

The, the church is across the street from us, they hire a police officer to stop traffic, let the cars that get out real quick and then.

Pam Williamson:

That's, yeah, but they've got a lot of other activities going on too, though.

Alison Neely:

That's what our church across, we, down in Raleigh, we have a, a church across from the entrance of our, And they hire off duty police officers, um, you know, they have, they have a much larger congregation than, than this to traffic control on Sunday and Christmas and Easter and things like that.

James Milner:

Pam, this is, what we had sat down with Kent to talk about how where the parking lot would, um, tie into this new driveway and then come back towards

Pam Williamson:

is this is this Kent over here

James Milner:

yeah this is um would tie, uh, back towards the 60 ft driveway and and we, you know, the, um, we were trying to stay within the right of way but ultimately. This new driveway and expansion of the old is his property. And so, to make improvements on his property requires his permission that isn't granted by the rights of the right of way. Does that make sense?

Pam Williamson:

Yeah. It's a right of way and what I understand that.

Alison Neely:

When you, when you first said that, I didn't understand that you were going to have to do something

Michael R. McLeod:

and the DOT won't allow us to have two drives separate from each other, they're that close together, to combine them.

James Milner:

So, so, just showing you that, to affirm that, yes, we did, that, that's what we sat down, um, with Kent at his house, went over with him.

Pam Williamson:

If you were going to try to get there some other way, like here, there's no way to get there because of this?

James Milner:

There's no way to get there, Pam, because the. Unfortunately, the terrain, The topography, this is so steep. This is on steep. This is on every red line here represents 5 ft. We're, we're going up an embankment that is close to 80+ feet.

Pam Williamson:

80 ft

James Milner:

and then we would have to get DOTs, um, it, it, it just is, it's. Um, uneconomical to have all the amount of grading and switchbacks that. Right. It, it'd look horrible, to be quite honest with you.

Pam Williamson:

Yeah, that's the one that makes your, that's the one that makes the most sense.

Michael R. McLeod:

And you'd be coming in right where the road begins to be divided and there's a lot of, Problem with that. If you're trying to do this, you're back at the same thing, you, you're dealing with somebody else's driveway, so you can't use that.

Pam Williamson:

This cemetery is on your property?

Pam Williamson:

It's not going to be part of the, um, conveyance. So, so, um, the seller retains this portion and what actually gets conveyed is this net. So we go around, um, the cemetery. Does that make sense?

Pam Williamson:

Um-hum.

James Milner:

But I, I asked the church if they have done a, a TIA, and certainly this gentleman here is gonna talk to them about the concerns of a TIA of joining in, um, collaboration with you to talk to DOT. I, I mean, they're already gonna be having a conversation with DOT about the actual driveway permit,

Pam Williamson:

Right

James Milner:

which has to be approved, um. So in, in doing so can have that conversation about, hey, um. Let's reduce the speed back down on the, on this road.

Pam Williamson:

And you need to reduce it, uh, if I were you, I'd try to get it. Not just reduced right there, but maybe down beyond where some of that development's already taking place.

James Milner:

Like, closer to a.

Pam Williamson:

There's a gym, you know. There's coffee shop.

James Milner:

Yeah.

Alison Neely:

Well, now there's apartments down there too.

Pam Williamson:

And apartments down there too. So, go on down a little bit because.

James Milner:

Yeah.

Pam Williamson:

The other problem that you have is when you're going out of here, like we said, left, the problem is that, one of the problems is they move so fast coming down, Off of here and they move really fast cause there's a hill. Yeah. And Between our two places. You can't see them coming. Hm.

Alison Neely:

Well, and they come out, they come out of this dealership flying.

Pam Williamson:

Right.

Pam Williamson:

They fly through there.

Alison Neely:

They take a right and just gun it.

Jerry Williamson:

I don't often take a left out of the house now anyway. I go up to the top.

Pam Williamson:

I try not to.

Jerry Williamson:

It's just not worth trying to. To outrun somebody if you, if you make a mistake.

Pam Williamson:

But that, but that's the kind of road we're talking about. Um-hum. Is one where you have to outrun somebody who's coming from the other way.

James Milner:

But, but, Pam, would you also concur that, um, or conclude that, You know, the, the church and the amount of people, you know, for that, that one day a week with, with limited activities, um, during the week is, is less of an impact of, of what could happen on this site.

Pam Williamson:

Do you not think I'm totally aware of that?

James Milner:

OK. So, I mean let's,

Pam Williamson:

do you not understand that? I just try to get things right from the very.

James Milner:

Yes.

Pam Williamson:

Beginning. I. And this is going to get worse and worse. That and I worry about it for everybody, not just me. I mean, I've gotten pretty good at gunning it unlike you. I, I, I've got it where I can gun it out of there hard and fast. But the other problem that comes in is when you're trying to turn into your own home out here and you can't get into your own house or out. So, um, uh, it would just be, you know, I, I really do believe where there's a will there's a way, but sometimes there isn't. But I, if, if you could take another look at that, and I do think Alison's right. I mean, you just gotta get that speed limit lowered down and it needs to, that needs to happen anyway. It's back up now.

Alison Neely:

I know they, they, they, they. I think, and this has been several years ago, I was told that not enough people were complaining. That you were complaining and I was complaining, but everybody else wanted to be 45. And I said, well, of course, because there's not that, there's not that many people that live it. And it impacts us, but they, they, they just.

James Milner:

But the other thing, Pam, and this is where you could help, is that, you know, town council is approving a lot of, Uh, various annexations within East Boone, within old US Highway 421, and getting their support as a municipality to say, join, as you guys are making extensions of water and sewer, you need to join us as a neighborhood to petition DOT to reduce this down, because as, as you're giving extensions of water and sewer, there's going to be more people, more traffic, and this is not an area where. Want people driving 45 plus miles an hour.

Pam Williamson:

Well, that's.

Jerry Williamson:

The presence of a church ought to help that argument too.

Pam Williamson:

Well, there'll be a hearing on this, I'm sure, uh, ultimately in front of the council. I know they've changed some things up. Yeah. By the way, they're also changing, I don't know if they've changed it yet, but they're going to start doing, um, TIAs, traffic in house. So, you might ask if that's available. Yeah. Um, because that saves a lot of money. And. And, and they may not be doing that yet, but they're going to ask you for one anyway. I'm going to tell you that right now on that road. OK. They're not going to let anybody get away going down the road. OK. Well, like I said, the, the, the church looks beautiful. It really does. Um, I, I'm glad that you're seeking annexation on the property because it'll have to follow stricter regulations than it would if it was county.

Jerry Williamson:

Water line's already there, right?

James Milner:

Yeah.

Pam Williamson:

And, um, and so, uh. Uh, you know, that's why I was asking about the night sky. That's really great because that, there's another thing. Uh, over here somewhere is a, uh, you might not know about this either, Alison. There's a, what do you call those things that the energy and internet come off of big powers, right?

James Milner:

You're talking about the Bremco substation.

Pam Williamson:

It's not Bremco. I, I don't think unless it's changed. Wait a minute, make sure I'm oriented right. Uh, actually it would be. The subs. They had to come out because our two houses, and that's another thing that I don't know if you have to look at or not, but they came out, these two homes, And the property there, which is mostly owned by these guys, not us, but the property is in a landmarks division in Raleigh called the Greer Historic Farm. And they have certain requirements too, that you need to double check. When they were going to build this thing over there, which we couldn't even see, I don't know, they had to come out and stand out in the driveways. And make sure that you couldn't see that thing from our house. Uh, they ended up compromising my.

Jerry Williamson:

Aren't you talking about the cell tower?

Pam Williamson:

They had to paint it the color of the sky, OK? I mean, but you might want to check, Because they've got a set of things too that, I, I don't even know the extent of them. I haven't even ever looked at them. That's the only thing I know about, but they have certain things too.

Jerry Williamson:

There's a cell tower that they came in. It said, can, can it be seen from our property? That was what that was.

Pam Williamson:

Yeah, it couldn't be seen from our property. Hm. I doubt they have any concerns at all about a church, but they're, I don't know what might be down there that you want to Take a look at.

John Neely:

Um that's interesting. Uh, you, uh, down at our house, you can't swing a stick without seeing, hitting 8 cell towers and they're all over everywhere.

Pam Williamson:

Well, I know. I'm just saying we didn't even, I didn't even know there was afraid of anything going on until there were all these men out in the, the driveway one day and I said, what are you all doing? They said, The, the state won't let us put the cell tower two miles away.

Alison Neely:

I had no idea. Who was, do you know who, who that is? Who did that?

Pam Williamson:

It was the state. It was somebody from the state. It was years ago. Well. And there was a cell tower and they made them paint it, which I couldn't even see it even before.

Alison Neely:

Was it over there on the, past the park? Is that where the cell tower is?

Pam Williamson:

It's all the way up here. It's OK. OK. OK. Yeah, it's all the way up over here. It was a long way from the house. OK.

Jerry Williamson:

It's, it is close to Rocky Knob up in that OK.

Pam Williamson:

I am probably going to bring to the public hearing anyway copies of the, the, the, Listing with the um but I don't know about the it it there may not be any regulations at all but you might wanna double check because they jumped on that um. But like I said, the, the only thing I would, this is great. I believe in exceeding the boundaries that are required. I, I would also, if I spoke at a public hearing, which you do, I probably will, I'd recommend that be Arborvitae if possible, or, or something that would be an evergreen, um, I don't, I don't really have any issues other than that, that, that road. That's the only thing.

James Milner:

I'm I mean, worried about that. So, just so you know, it, it'd be trees.

Pam Williamson:

Yeah.

James Milner:

That. And then, and then.

Pam Williamson:

Yeah, the more you can give me, the better, OK? OK.

Um and then I want hydrangeas. And then after that, I want, let's see what, uh, Viburnum. And then after that, just let me go over there and take care of it and you all pay for it. How about that?

Alison Neely:

Um now, they're the experts when it comes to, to, to native plants.

Pam Williamson:

We know, we know, and they want, they make you use native anyway.

Jerry Williamson:

Um it wouldn't hurt my feelings if you cut those trees that are.

Pam Williamson:

It would hurt my feelings.

Jerry Williamson:

Uh, uh, that are existing in the tree line because they're, they're really not in great shape and, and have a line of evergreens there.

James Milner:

I mean, the, the way that we

Pam Williamson:

I don't think they can.

James Milner:

The way that I understood the buffer to be negotiated is that we weren't going to touch anything. I,

Jerry Williamson:

I understand. I understand. I understand.

James Milner:

So, um, you know.

Jerry Williamson:

They're losing limbs is.

Pam Williamson:

Where is your water coming in?

James Milner:

The, The water line runs along the road, so as with any development, um, the, the developers required, um, from where, wherever they tap to bring it, um. You know, from, from the existing connection up to the building. But the line runs.

Pam Williamson:

Well we know the road. Well we've got, we're on tap water. Are you all on tap water?

Alison Neely:

Um-hum.

Pam Williamson:

It's somewhere over there, right? We're not on septic, though. Are you all on septic?

Alison Neely:

Um-hum.

Pam Williamson:

How'd you get on septic? Well, uh, the reason I was even asking about it is they're obviously getting septic down there, but when I called to try to get on.

Jerry Williamson:

You mean the sewer.

Pam Williamson:

To get all of y'all's property and out of there. Cause our septic, we don't even own our septic. It's over here somewhere. But the, but when I called about it, they told me, that was a couple of years ago, that I couldn't get septic.

James Milner:

It is Pam, it's my understanding that the, um, and you correct me if I'm wrong, but the, the water and sewer lines, they run all the way up the top there all the way down on this side

of old US Highway 421. That's why you're seeing, um, all of that annexation pop up on this side of the road because that's where they

Pam Williamson:

tell me I couldn't get septic.

Jerry Williamson:

It's called Sewer.

James Milner:

Uh, I would call, not today, but, uh, on Monday, uh, call your, your other BFF, uh, which is Todd Moody, and and just, um, see. If you can get extend your property is. By my understanding, is, is incorporated into the town's city limits. Therefore, you should be given an extension of both water and sewer.

Pam Williamson:

Um well, they got mad because there were three big, three big maples out there that were original to the property. And they came out one day and said we want to run gas and water along.

Jerry Williamson:

No, just gas, it was a gas.

Pam Williamson:

And, and I said, well, that'll, that'll be fine, but not too bad and steak and show me where you're going. And they took down all three of those. Um-hum. Historic trees. There's only one left now that, but anyway, so that, the gas actually goes here.

James Milner:

And it goes here and then goes here and then we have the gas, um, Infrastructure pieces down in this corner. All right, for it to be respectful of, um, everyone's time, I, and I'm in no way, shape, no way, shape or form trying to stop the discussion, but, um, I think our marching orders are, you know, the, um, TIA um. Having that conversation with the NCDOT on the driveway permit, um, and then talking to the church about, um, an, uh, evergreen buffer, uh, along this 50 ft buffer, um. Is there anything else that you want me to put on the short list?

Pam Williamson:

I think you ought to take one more stab at talking with.

James Milner:

At talking with Kent.

Pam Williamson:

OK. Well, or, or finding out, I mean I mean, would you be OK if we did a driveway and came out on this side of the cemetery? That's the alternative to. That would be even harder for to see him coming, wouldn't it? Here's where that hill goes.

James Milner:

Yeah. So, again, we're, we're trying not to, to have the least amount of impact here. Um, and, and trust me, we, it, they've had like six reiteration of driveway designs, you know, coming this way, coming this way, um, You know, uh, but like he said in the presentation, what has ultimately been concluded is here at the gate, based on this buffer from the stream, um, coming up and, and sweeping.

Jerry Williamson:

It makes the most sense to put it there. It does.

Pam Williamson:

Well, yeah, I'm not necessarily,

Jerry Williamson:

I'm not discounting the concern about traffic. I'm just saying that that is the most logical.

Pam Williamson:

Well, I mean, it's a problem.

Jerry Williamson:

It probably is.

Pam Williamson:

And I was just trying to think, there's no way to make people not go, Left, is there? Because if you, if you had to go right, where would you have to go to get back up on the main road?

James Milner:

Go back up to Food Lion and JSA. All the way Food Line.

Pam Williamson:

Um well, I would mention the DOT. Say, oh, you can't get, you can't get there. You got no way to get there. Other than over here. There's no way to get there. There just isn't.

James Milner:

And they don't want us, uh, you, you think people are flying down on this road? Try, try taking that traffic and putting it out on this road. I, I hear you loud and clear.

Pam Williamson:

You knew that was going to be a problem before you came in here, didn't you?

James Milner:

And it also. Didn't know until recently just how large the congregation was, but. I would again reiterate that, um. That Group of you know, the, the church is a group of people is doing everything in their power to be a good neighbor. And and I think that's, that's really what, um, yes, they're, they're going to be people coming and going, and, and everyone here at this table and in this community wants them to be able to leave, come in and leave safely and efficiently. But, but my point is, is that let's let DOT, I, I, I hear you loud and clear on the TIA. We know what the rules are with the town as it relates to TIAs, um, but, but let's get this in front of DOT and get their feedback.

Pam Williamson:

Is there any way to put a sign there that would maybe. Warn people, you know, before they go out, like yield to oncoming traffic or something like that from anybody trying to get out of there

James Milner:

I think again that goes back to DOT. Yeah. You know, and, and having the conversation with DOT of how do we install this driveway so that it is, um, safe for everyone in this, in this specific neighborhood community. Um, is that signage up here? Is it, um. Uh, a flashing light. I, I don't know. I'm not in NCDOT.

Pam Williamson:

Right. Right. well, they'll want to know how many cars you're thinking about coming in and out. So, so, I think that's the biggest issue or the only real issue I see.

James Milner: OK. OK. All right. Very good. Anything else? Thank you for. Thank you very much

Prepared by: Tyler R. Moffatt
Date: December 7, 2025

EXHIBIT 3

NEIGHBORHOOD MEETING ATTENDANCE SHEET

Meeting Address:	833 State Farm Road, Boone, NC 28607
Date of Meeting:	December 5, 2025
Time of Meeting:	4:00 P.M.
Property Owner(s):	Greer Watauga, LLC
Applicant:	The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole

	Attendee Names
1.	Alison & John Neely
2.	JERRY WILLIAMSON
3.	PAM WILLIAMSON
4.	James Milner
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	

EXHIBIT 4

THE CHURCH OF JESUS CHRIST OF LATTER-DAY



Granger 250 Meetinghouse

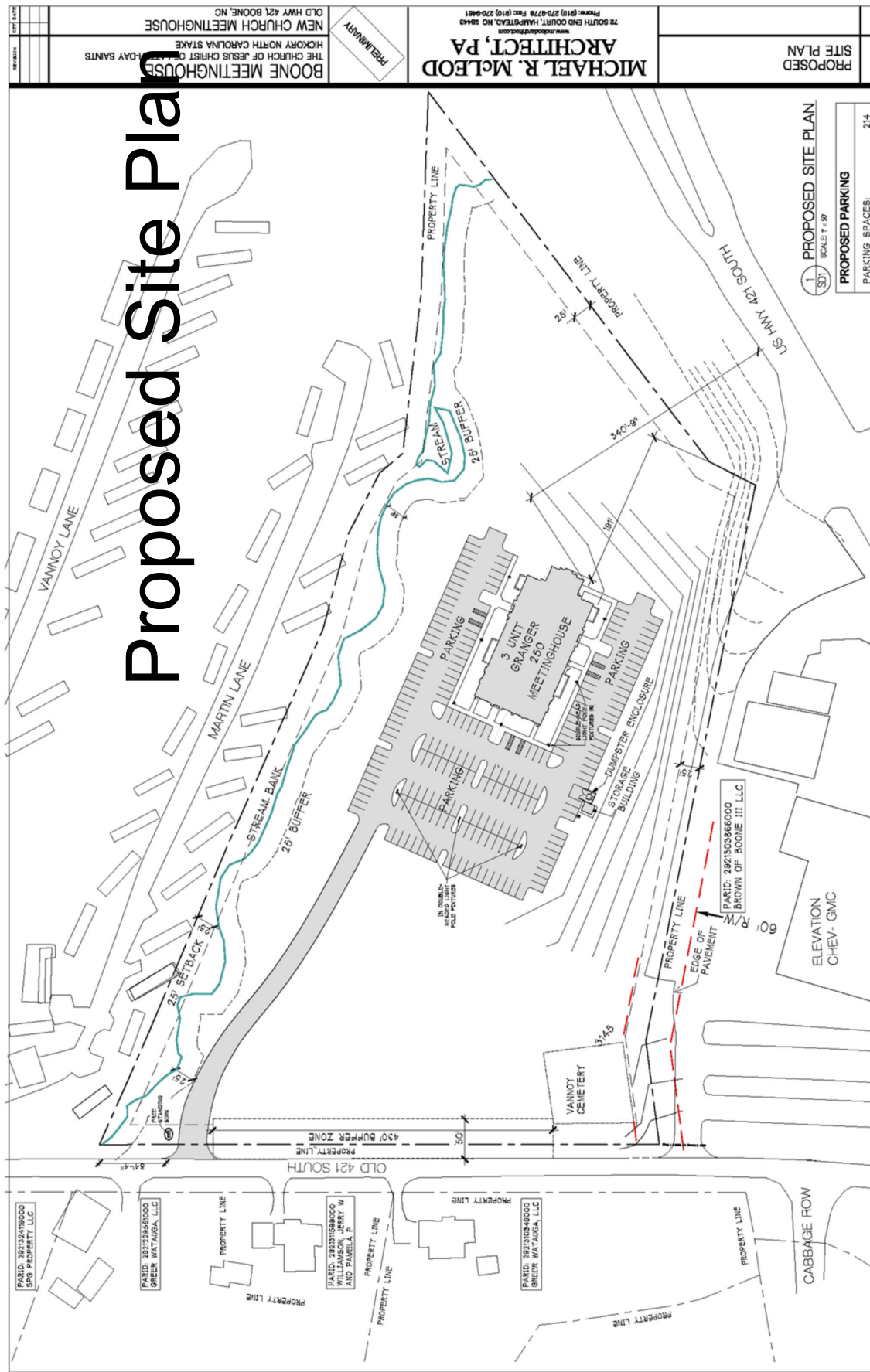


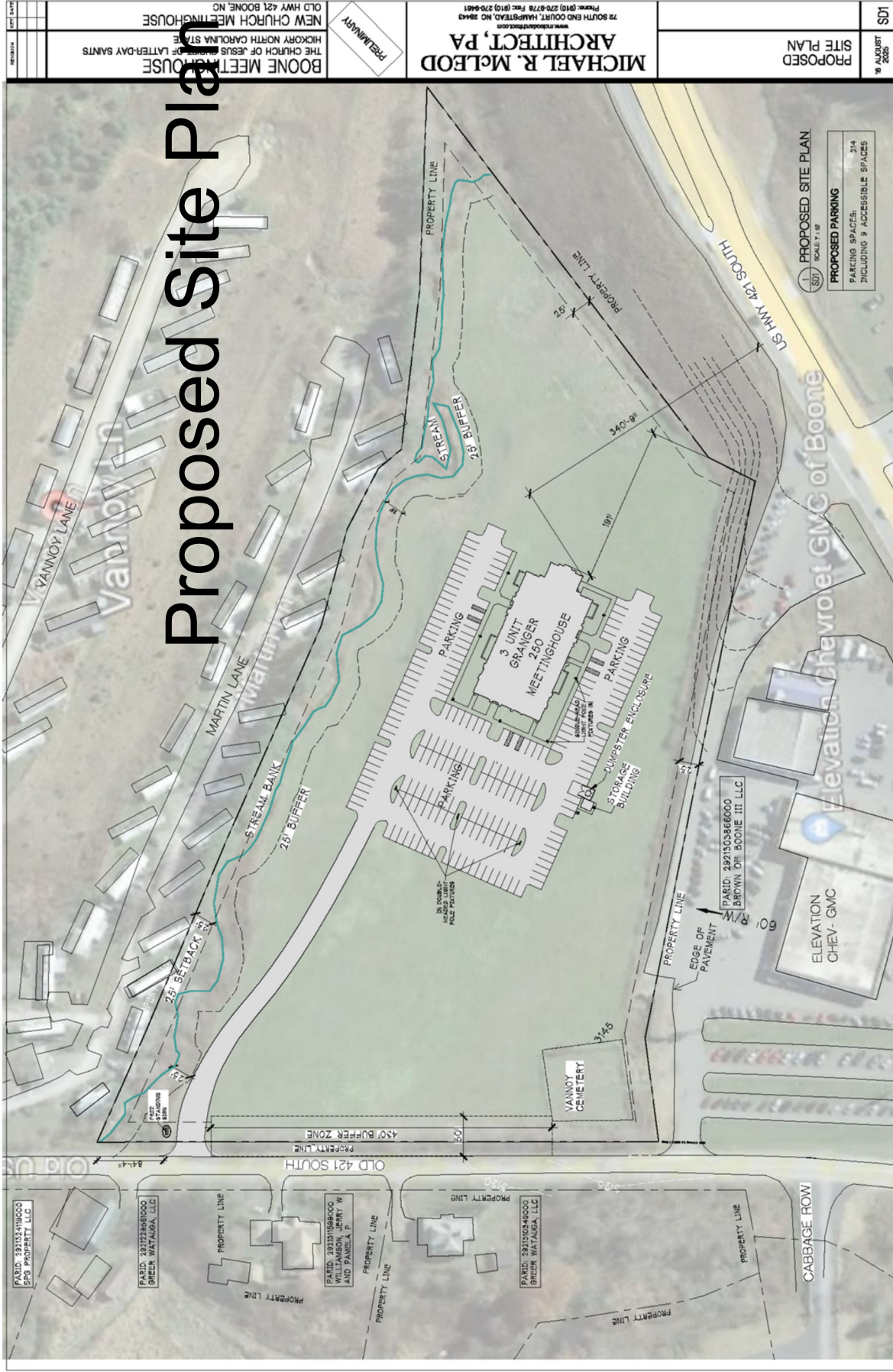
SEE GRANGER 250 MEETING PLANS

September 5, 2025

3

Google Earth View of Site





Architect / Engineer



PROJECT SUMMARY:
CONSTRUCTION TYPE: V8
FIRE SPRINKLER: NFPA 13
OCCUPANCY TYPE: A-3 (NON-SEPARATE)
OCCUPANCY LOAD: A-3 = 90;
B = 17
TOTAL OCCUPANCY LOAD = 106

Description	Cash-Dr	Ref

PROJECT NAME	PROJECT ADDRESS

Project for:
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

349

Architect / Engineer

G101 104

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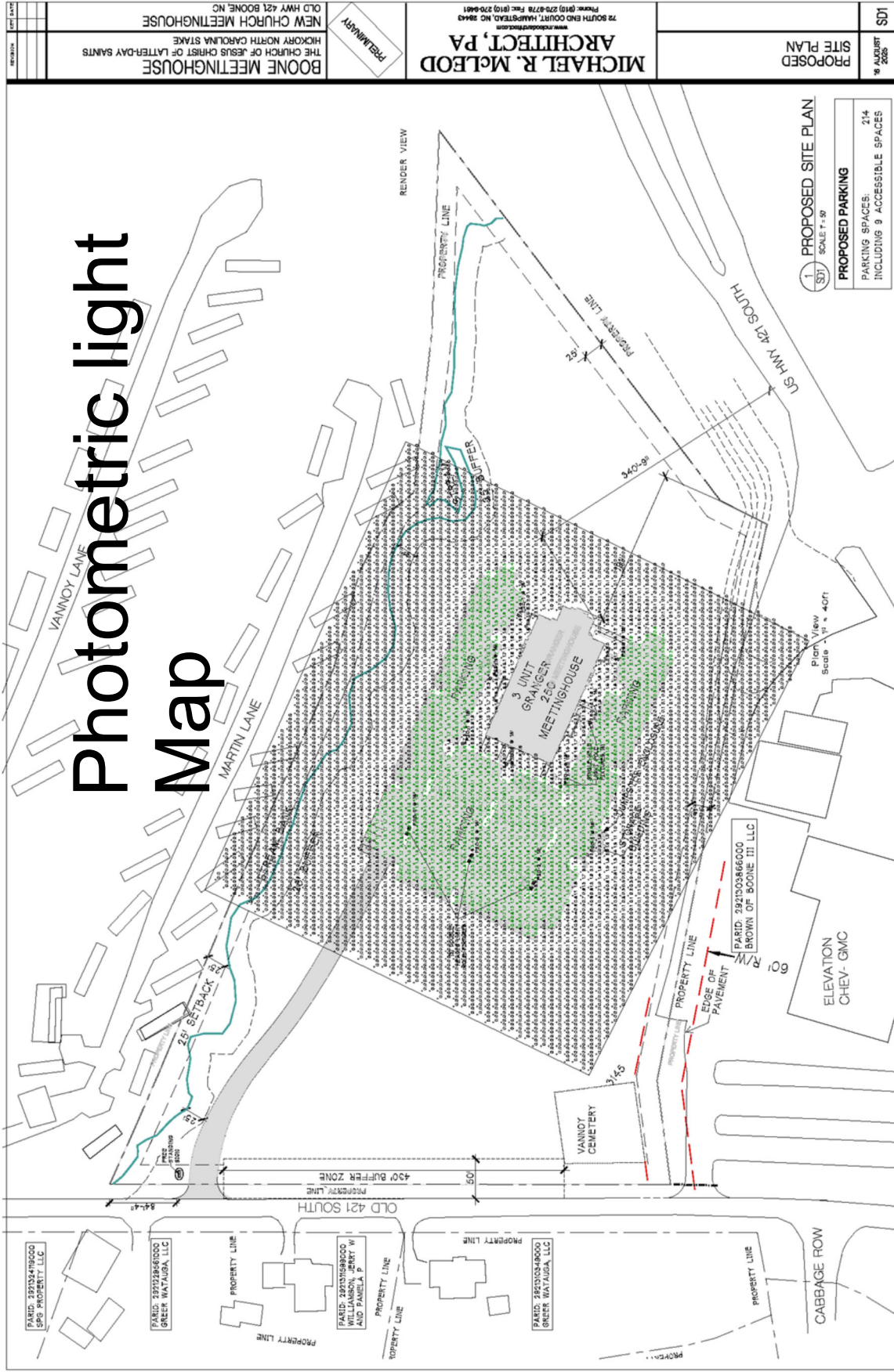
Aerial View - Side

Aerial View - Front

Building Elevations

Interior View - Chapel

Photometric light Map



1	PROPOSED SITE PLAN
SD1	SCALE 1" = 50'
PROPOSED PARKING	214
PARKING SPACES, INCLUDING 9 ACCESSIBLE SPACES	

MICHAEL R. McLEOD
ARCHITECT, PA
72 SOUTH END COURT, HARTSTADT, NC 28440
Phone: (818) 278-8778 Fax: (818) 278-8811
www.michaelrclod.com

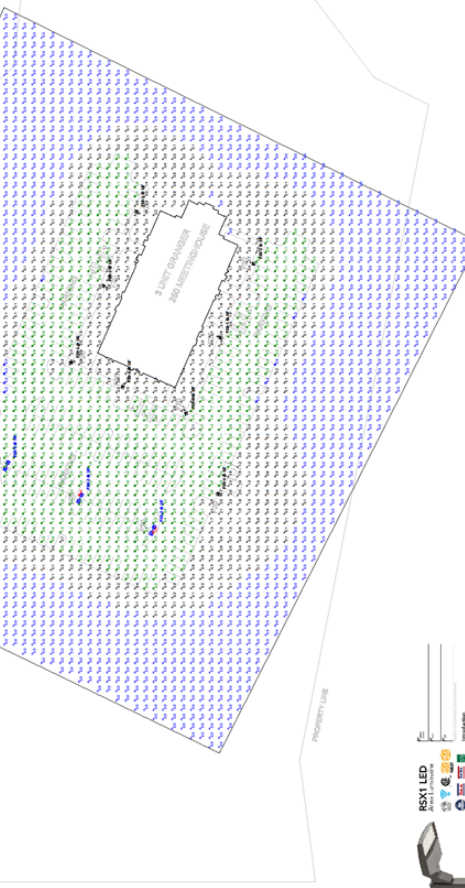
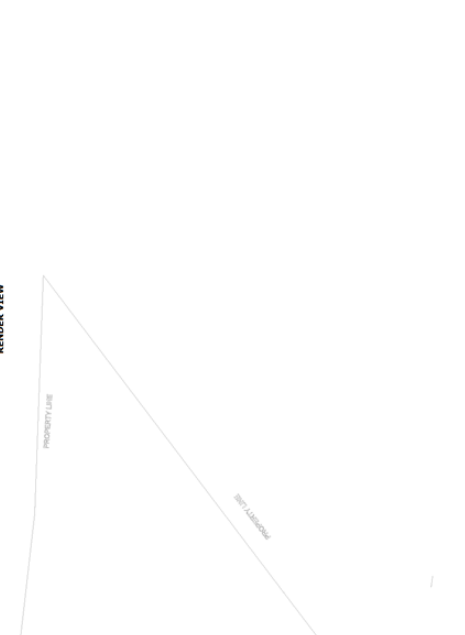
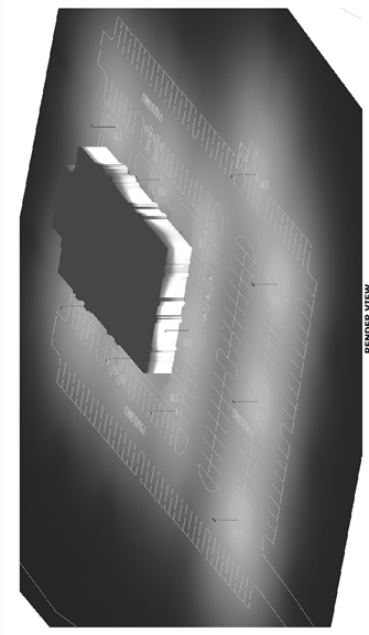
BOONE MEETINGHOUSE
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
HICKORY NORTH CAROLINA STAKE
NEW CHURCH MEETINGHOUSE
OLD HWY 421 BOONE, NC

PRELIMINARY

Photometric Analysis



Boone Church of Jesus Christ of Latter-day Saints



GENERAL NOTES - CONTINUED

1. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
2. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
3. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
4. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
5. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
6. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
7. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
8. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
9. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.
10. All lighting fixtures shall be installed in accordance with the manufacturer's instructions.

Statistics		Description		Quantity		Unit		Value		Description	
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min					
BASE GRID	+	0.5 fc	3.6 fc	0.0 fc	N/A	N/A					
PARKING LOT	+	1.4 fc	3.6 fc	0.2 fc	18.0:1	7.0:1					

Item	Qty	Unit	Description	Value	Unit	Description
RSX1 LED	8	Fixture	RSX1 LED P9 40K KS	14396	0.97	109.44
RSX1 LED	3	Fixture	RSX1 LED P9 40K KS	10196	0.97	145.9

THE CHURCH OF JESUS CHRIST OF LATTER-DAY



Granger 250 Meetinghouse



SEE GRANGER 250 MEETING PLANS

September 5, 2025

3

STATE OF NORTH CAROLINA

COUNTY OF WATAUGA

AFFIDAVIT OF MATTHEW CUMMINGS

THE AFFIANTS, having been first duly sworn now depose and say:

1. That I am Matthew Cummings, and I am over the age of 18 years old, I am competent to make this Affidavit and I have personal knowledge of the facts set forth in this Affidavit.

2. That I am an authorized agent for The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole ("Applicant").

3. That Applicant submitted a Conditional District Zoning Map Amendment Application to the Town of Boone.

4. This affidavit is submitted pursuant to Town of Boone Unified Development Ordinance ("UDO") Section 9.09.02(C)(5), for the purpose of the Applicant acknowledging the following:

- a. all zoning conditions are voluntarily proposed based solely on the Applicant's independent judgment; and
- b. the Applicant is not relying on any statements from Town staff, Council, or Planning Commission members regarding zoning conditions; and
- c. other interested parties in the rezoning process may rely on the validity of the proposed development proposal including any agreed upon conditions; and
- d. all future property owners will be bound by the proposed development approval, including any agreed upon conditions and any commitments or representations made by the Applicant; and
- e. the Applicant is requesting a deviation of the standards in the Town of Boone UDO Subsection 14.03.07(F)(7) for the height of the steeple shown in the elevations submitted with the Application.

I declare under penalty of perjury that the foregoing is true and correct. This the 16 day of January, 2026.

FURTHER THE AFFIANT SAYETH NOT.

[SIGNATURE/ACKNOWLEDGMENT ON FOLLOWING PAGE]

Matthew R. Cummings
Name: Matthew Cummings

STATE OF Utah

COUNTY OF Salt Lake

I, Tami Marchant, a Notary Public, do hereby certify that Matthew Cummings, personally appeared before me and voluntarily acknowledged and signed the foregoing instrument.

Witness my hand and official seal, this 16 day of January, 2026.

[Signature]
Signature of Notary Public

(Affix Notary Seal)

Notary Public: 735648

My Commission Expires: February 16, 2028



January 22, 2026



TRANSPORTATION IMPACT ANALYSIS

Boone Church Development

Project # 250065

Prepared For: McLeod Architecture

226



Transportation Impact Analysis

Boone Church Development Boone, NC

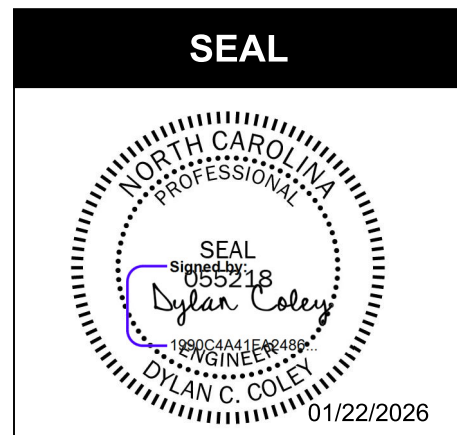
Prepared for
McLeod Architecture

January 22, 2026

Graphics by: Clayton Cole

Reviewed by: Dionne C. Brown, PE

Analysis and
Sealed by: Dylan Coley, PE



This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of, or improper reliance on, this document by others without written authorization and adaptation by DAVENPORT shall be without liability to DAVENPORT and shall be a violation of the agreement between DAVENPORT and the client.

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EXECUTIVE SUMMARY

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access¹. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

DAVENPORT was retained to determine the potential traffic impact of this development and to identify transportation improvements that may be required to accommodate the new development traffic.

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the North Carolina Department of Transportation (NCDOT), the Town of Boone, and Watauga County. This site has a Sunday trip generation potential of 515 daily trips with 170 trips in the peak hour, and a weekday potential of 124 daily trips with 5 trips in the AM peak hour.

In conclusion, this study has determined the potential traffic impact of this development and determined that no improvements are necessary to mitigate future traffic. The proposed site is not expected to have a detrimental effect on transportation capacity and mobility in the study area. The site access recommendations summarized in Figure A and in Table A should be constructed to comply with applicable NCDOT *Policy on Street and Driveway Access to North Carolina Highways* standards.

Table A – Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
US 421 and Old US 421	No improvements are recommended
Old US 421 and Site Access	- Install the site access with one ingress lane and two egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage - Design the site access in accordance with applicable NCDOT standards

¹ Per the North Carolina Department of Transportation, driveways on “Partial Control of Access” roadways “...are normally defined as a maximum of one connection per parcel” and connections “...may be restricted or prohibited if alternate access is available through other adjacent public facilities.” Given the proposed connection to Old US 421, a second connection to US 421 is not feasible.

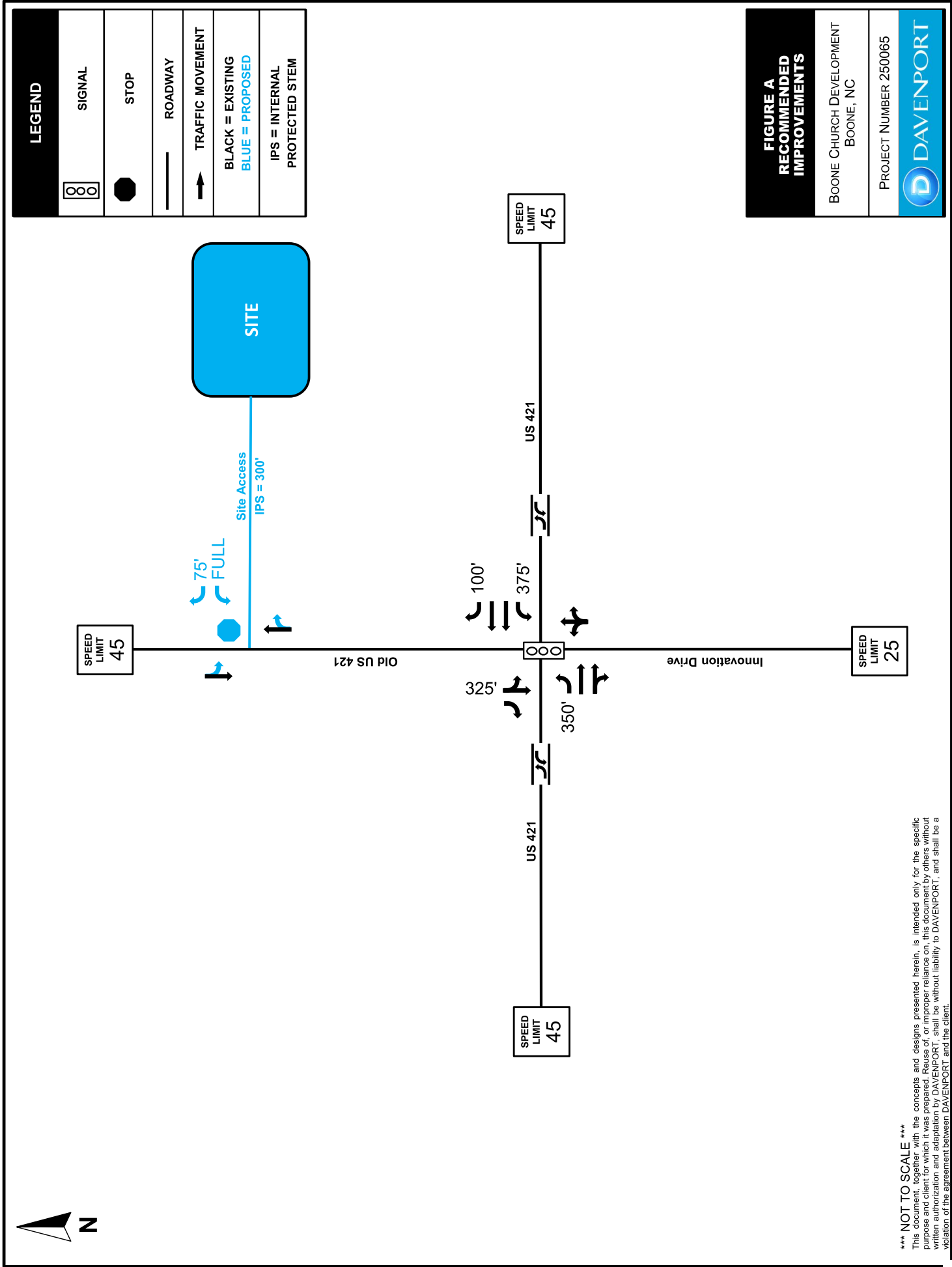




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1.0 Introduction

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

A conceptual site plan is shown in Figure 1, and a site location map and a vicinity map are provided in Figures 2A and 2B, respectively.

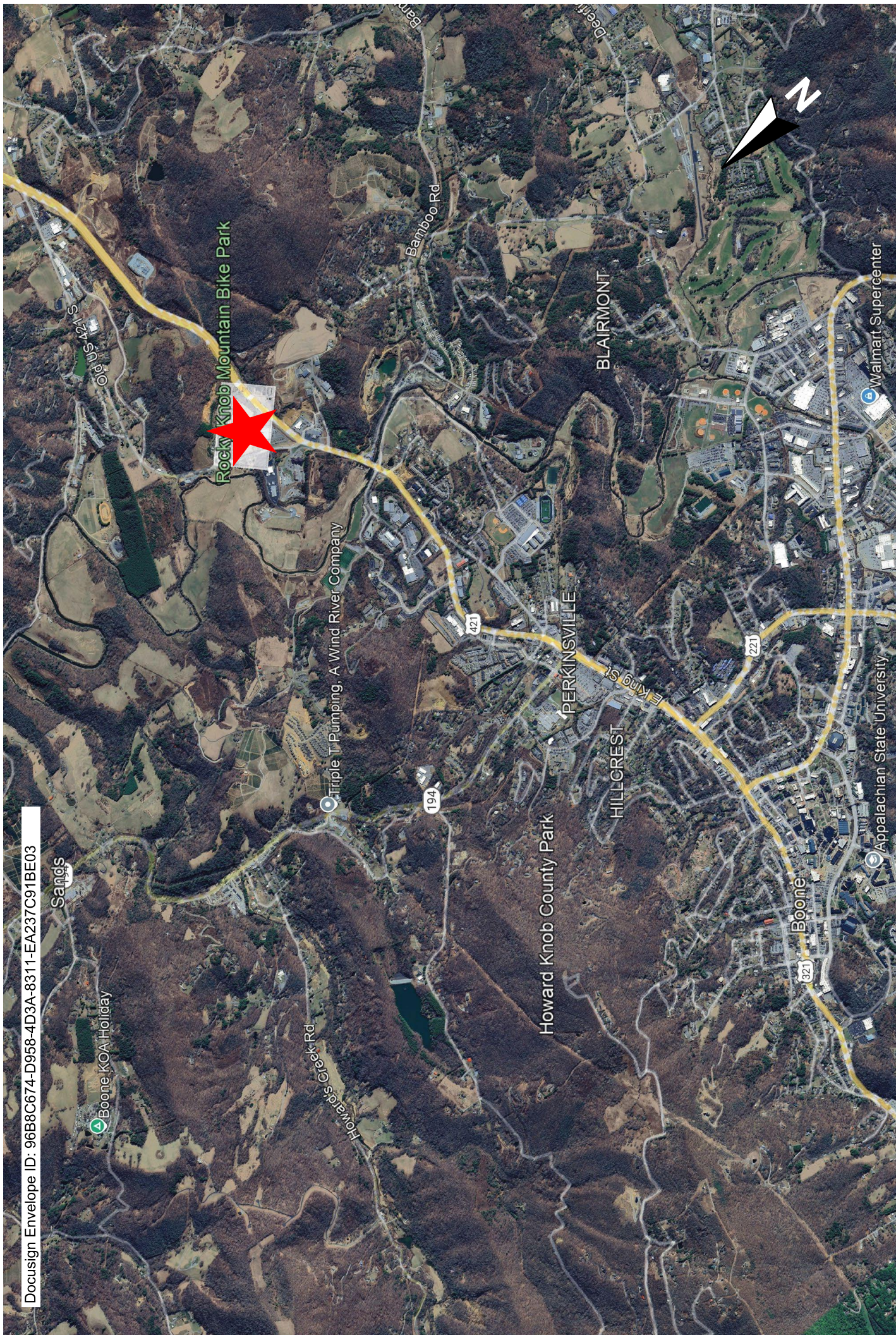
DAVENPORT was retained to determine the potential traffic impact of this development and to identify transportation improvements that may be required to accommodate the new development traffic. The following intersections are included in the study:

- US 421 and Old US 421/Innovation Drive (signalized)
- Old US 421 and Site Access (unsignalized)

These intersections were analyzed during the Sunday peak and weekday AM peak hours for the following conditions:

- 2026 Existing Conditions
- 2027 Future No Build Conditions
- 2027 Future Build Conditions
- 2027 Future Build Conditions + Improvements

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the Town of Boone, Watauga County, and North Carolina Department of Transportation (NCDOT). It was conducted according to the standards and best practices of the transportation engineering profession.







2.0 Existing Conditions

2.1 Inventory

Table 2.1 presents a summary of the study area roadway conditions. Figure 3 shows the existing lane geometry.

Table 2.1 - Street Inventory						
Facility Name	Route #	AADT (vpd)	Typical Cross Section	Lane Width	Speed Limit (MPH)	Maintained By
Old US 421	SR 1416	3,600 ¹	2-lane undivided	10 feet	45	NCDOT
US 421	US 221-421	27,000 ²	5-lane TWLTL divided	12 feet	45	NCDOT
Innovation Drive	n/a	Not reported	2-lane undivided	9 feet	25	Town of Boone
¹ Based on NCDOT traffic counts taken in 2022						
² Based on NCDOT traffic counts taken in 2023						

2.2 Existing Traffic Volumes

Turning movement counts for this project were collected by Marr Traffic Data Collection when local public schools were in session. Table 2.2 contains the location, dates, and times these counts were conducted. Additionally, a minimum of four vehicles per hour were assigned to all movements, per NCDOT Congestion Management standards. The existing Sunday peak and weekday AM peak hour volumes are shown in Figure 4. Traffic count data are provided in the Appendix.

Table 2.2 - Traffic Volume Data		
Count Location	Date Taken	Hours
US 421 at Old US 421 (signalized)	Sunday, January 11, 2026 Tuesday, January 13, 2026	6 AM - 7 PM 7-9 AM

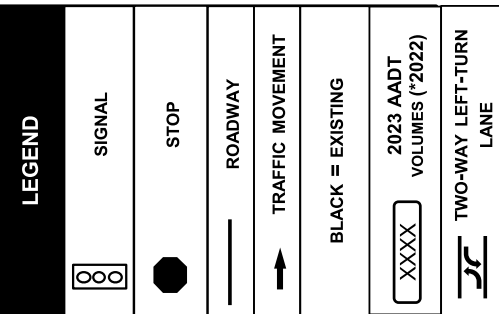


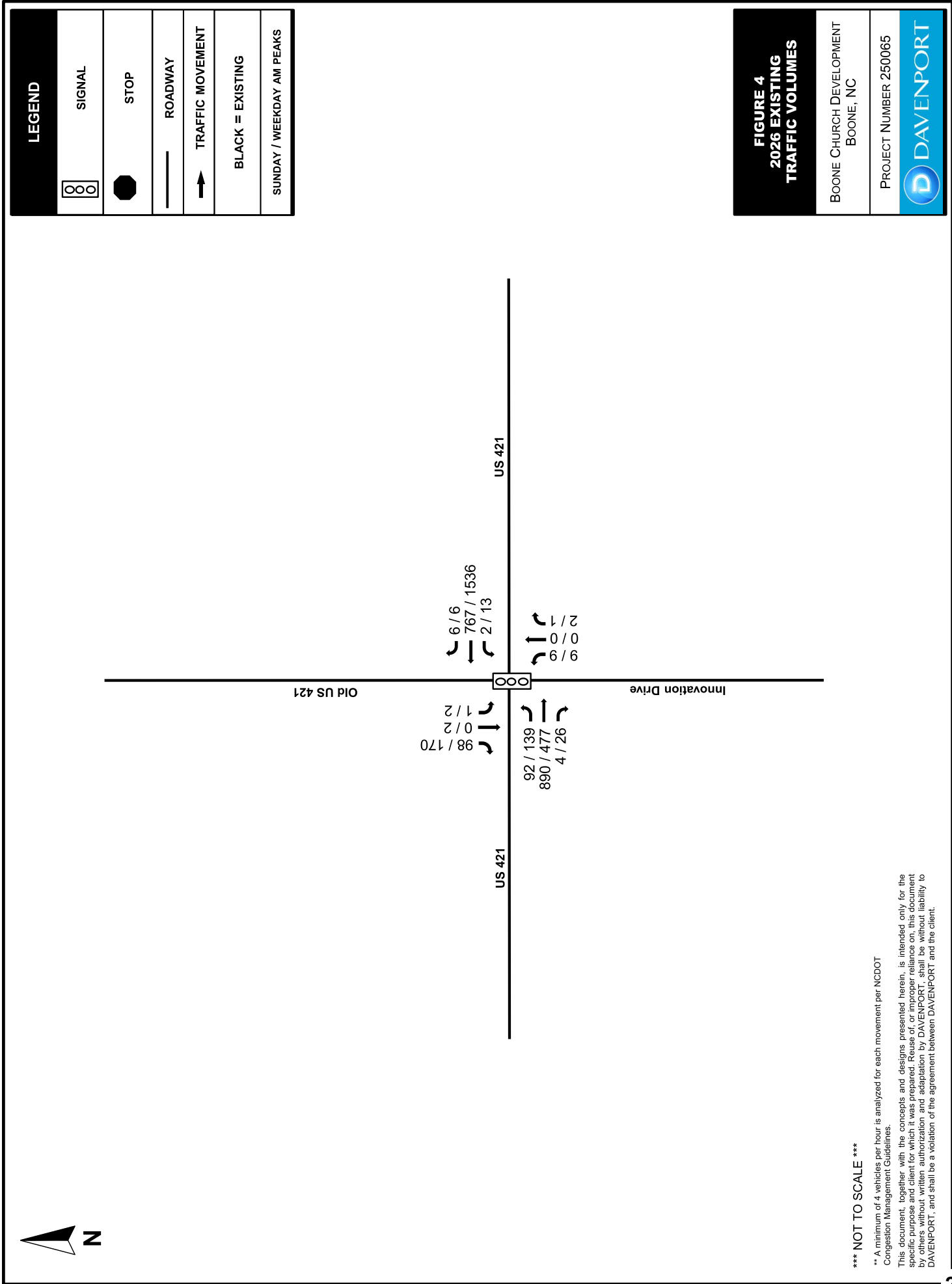
FIGURE 3 EXISTING LANE GEOMETRY

BOONE CHURCH DEVELOPMENT
BOONE, NC

PROJECT NUMBER 250065



*** NOT TO SCALE ***





3.0 Approved Development and Committed Improvements

3.1 *Approved Developments*

Approved developments are projects that have been authorized in the area but are not yet constructed. Per the approved scoping document, there are no approved developments to consider for this study site.

3.2 *Committed Improvements*

Committed improvements are projects planned by NCDOT, Watauga County, or the Town of Boone, or that are associated with a prior approved development(s) in the area but are not yet constructed. Per the approved scoping document, there are no committed improvements to be included in this study.

4.0 Methodology

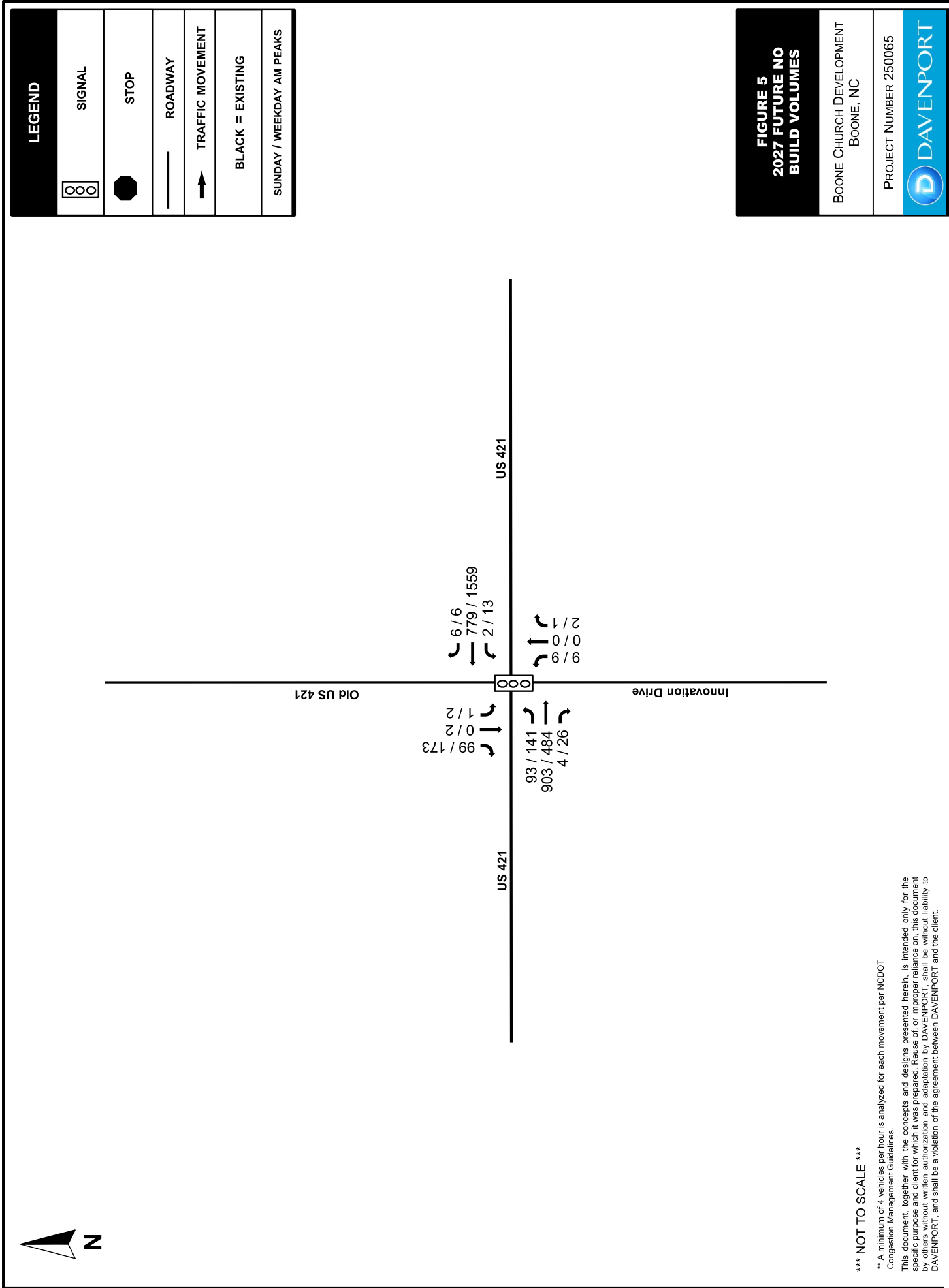
4.1 *Baseline Assumptions and Standards*

In general, the analysis for this project was conducted utilizing commonly accepted NCDOT standards. Free-run signal timings were used for the analysis, as coordinated system timings were not readily available. Table 4.1 contains a summary of the baseline assumptions.

Table 4.1 - Assumptions	
Annual Growth Rate	1.5%
Analysis Software	Synchro/SimTraffic
Lane Widths	12 feet
Peak Hour Factor	0.90
Truck Percentage	2%

4.2 *Future No Build Volumes*

The 2027 Future No Build traffic volumes were computed by applying a one-and-a-half percent (1.5%) compounded annual growth rate to the 2026 Existing traffic volumes. Figure 5 shows 2027 Future No Build traffic volumes for the Sunday peak and weekday AM peak.





4.3 Trip Generation

The proposed development will contain a 16,370 square-foot church. The trip generation potential of this site was projected based on the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* and guidance from NCDOT Congestion Management on the selection of appropriate variables. Table 4.2 presents the results.

Table 4.2 - ITE 11th Edition Trip Generation										
ITE Land Use and Code	Size	Data Source	Sunday Daily	Sunday Peak Hour			Weekday Daily	Weekday AM Peak Hour		
			Total	Enter	Exit	Total	Total	Enter	Exit	Total
Church, 560	16.37 kSF	*-Rate	515	81	89	170	124	3	2	5
Total Trips			515	81	89	170	124	3	2	5

**Adjacent street data is the preferred NCDOT method. ITE 11 does not provide adjacent data for Sunday. Adjacent used for Weekday, Generator for Sunday*

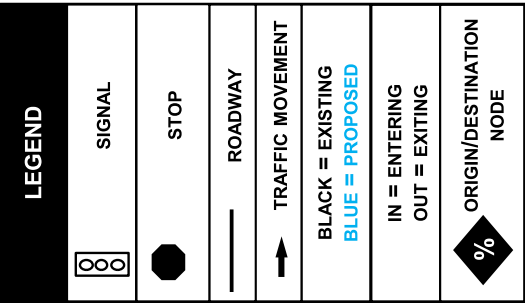
4.4 Trip Distribution and Assignment

Site trips for this proposed development were distributed based on the existing traffic patterns and engineering judgment. The trip distribution model is shown in Figure 6. The directional distribution for site trips is:

- 65% to/from the west via US 421
- 20% to/from the east via US 421
- 15% to/from the north via Old US 421

4.5 Future Build Volumes

Site trip volumes were added to the future no build volumes to compute the 2027 Future Build volumes. Site trips are shown in Figure 7 and Future Build volumes are shown in Figure 8.



BOONE CHURCH DEVELOPMENT
BOONE, NC



DAVENPORT

This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of, or improper reliance on, this document by others without written authorization and adaptation by DAVENPORT, shall be without liability to DAVENPORT, and shall be a violation of the agreement between DAVENPORT and the client.







5.0 Capacity Analysis

5.1 Level of Service Evaluation Criteria

The Transportation Research Board's *Highway Capacity Manual* (HCM) utilizes the term "level of service" (LOS) to measure how traffic operates in intersections and on roadway segments. There are six levels of service ranging from A to F as shown in Table 5.1. Level of service "A" represents low-volume traffic operations and level of service "F" represents high-volume, oversaturated traffic operations. Synchro traffic modeling software is used to determine the LOS and delay for study intersections. Synchro analysis worksheet reports are provided in the Appendix.

Table 5.1 – Highway Capacity Manual			
Levels of Service and Control Delay Criteria			
Signalized Intersection		Unsignalized Intersection	
Level of Service	Control Delay Per vehicle (seconds)	Level of Service	Delay Range (seconds)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

5.2 Queueing Evaluation

A queueing analysis was performed using Synchro and SimTraffic simulation, based on a minimum 10-minute seeding, a 60-minute recording period, and 10 runs. The maximum SimTraffic queues and 95th-percentile Synchro queues are provided, along with the turn lane lengths. Synchro and SimTraffic queue reports are provided in the Appendix.

5.3 Level of Service and Queueing Results

The results of the capacity and queue analyses are discussed by intersection in the following paragraphs. The LOS, delay, and queue results are summarized in Tables 5.2 and 5.3.



US 421 and Old US 421/Innovation Drive (signalized)

Under Existing conditions, the signalized intersection operates at LOS A during the Sunday peak hour and LOS B during the weekday AM peak hour. Under Future No Build and Future Build conditions, it operates at LOS B during the Sunday peak and LOS C during the weekday AM peak. Expected queues are contained by the available storage under all conditions. No improvements are recommended.

Table 5.2 - US 421 and Old US 421/Innovation Drive

Scenario	Overall	Level of Service per Movement & by Approach (delay in seconds/vehicle)							
		Eastbound		Westbound		Northbound		Southbound	
Sunday Peak Hour									
2026 Existing	A (6.6)	L	TR	L	T	R	LTR	LT	R
		A (3.7)	A (2.7)	A (8.8)	A (8.8)	A (3.3)	C (28.3)	C (28.3)	C (23.0)
		A (2.8)		A (8.8)				C (23.4)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	39	178	7	221	6	30	18	70
	Max Queue (ft)	69	109	18	168	5	48	29	102
2027 Future No Build	B (10.8)	L	TR	L	T	R	LTR	LT	R
		C (33.8)	A (4.7)	B (13.5)	B (13.2)	A (6.7)	D (36.1)	D (35.7)	C (20.6)
		A (7.4)		B (13.1)				C (21.6)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	106	179	7	250	7	31	18	71
	Max Queue (ft)	108	134	20	164	6	50	31	112
2027 Future Build	B (13.7)	L	TR	L	T	R	LTR	LT	R
		D (35.7)	A (5.3)	B (16.5)	B (17.0)	A (8.3)	D (40.5)	D (40.7)	C (20.2)
		A (9.5)		B (16.7)				C (22.7)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	158	186	8	283	18	33	41	105
	Max Queue (ft)	155	130	24	192	29	50	58	145


Table 5.2 (cont.) - US 421 and Old US 421/Innovation Drive

Scenario	Overall	Level of Service per Movement & by Approach (delay in seconds/vehicle)							
		Eastbound		Westbound		Northbound		Southbound	
Weekday AM Peak Hour									
2026 Existing	B (16.8)	L	TR	L	T	R	LTR	LT	R
		C (23.4)	A (2.4)	A (9.8)	B (15.3)	A (5.3)	E (64.3)	E (64.9)	E (62.1)
		A (6.9)		B (15.2)		E (62.2)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	137	84	15	725	7	48	28	238
	Max Queue (ft)	149	75	25	339	30	51	30	232
2027 Future No Build	C (21.0)	L	TR	L	T	R	LTR	LT	R
		E (62.6)	A (2.7)	B (10.7)	B (18.2)	A (6.0)	E (69.1)	E (69.3)	E (60.6)
		B (15.7)		B (18.1)		E (60.9)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	#269	85	15	744	7	49	29	247
	Max Queue (ft)	201	73	29	302	46	49	34	220
2027 Future Build	C (21.0)	L	TR	L	T	R	LTR	LT	R
		E (62.7)	A (2.7)	B (10.8)	B (18.3)	A (5.9)	E (69.2)	E (69.4)	E (60.6)
		B (15.8)		B (18.1)		E (61.0)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	#274	85	15	744	7	49	29	248
	Max Queue (ft)	201	74	23	349	105	60	37	236

Notes: # 95th percentile volumes exceeds capacity; queue may be longer.



Old US 421 and Site Access (unsignalized)

The worst (westbound) approach operates at LOS B during both the Sunday peak and weekday AM peak periods. The need for left- and right-turn lanes was reviewed based on the turn lane nomograph in the NCDOT *Policy on Street and Driveway Access to North Carolina Highways*. Based on projected Sunday peak hour volumes, the nomograph advises the construction of a northbound right-turn lane with 75 feet of storage. Old US 421 had a 2022 average annual daily traffic (AADT) of 3,600 vehicles per day. The threshold above which turn lanes can be required on NCDOT roadways is 4,000 vehicles per day (vpd). While growth since 2022 may yield a current AADT greater than 4,000 vpd, NCDOT AADT data is based on weekday traffic volumes. The turning movement counts described in Section 2 indicate that the Sunday traffic volumes are significantly less than weekday volumes, likely below 4,000 vpd. The Synchro and SimTraffic analyses indicate that the intersection operates with an adequate LOS and minimal queuing without any turn lane in place. No turn lane improvements are recommended on Old US 421. It is recommended that the site access be designed with one ingress lane and two stop-controlled egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage. The site access should be designed in accordance with applicable NCDOT standards.

Table 5.3 - Old US 421 and Site Access					
Scenario	Worst Approach	Level of Service per Movement & by Approach (delay in seconds/vehicle)			
		Westbound		Northbound	Southbound
Sunday Peak Hour					
2027 Future Build	B (10.6) WB Approach	L	R	TR	LT
		B (10.9)	A (9.1)	A (0.0)	A (7.6)
		B (10.6)			
	Available Storage (ft)	FULL	75	FULL	FULL
	95th% Queue (ft)	10	0	0	0
	Max Queue (ft)	65	19	2	41
Weekday AM Peak Hour					
2027 Future Build	B (10.0) WB Approach	L	R	TR	LT
		B (10.8)	A (9.1)	A (0.0)	A (7.6)
		B (10.0)			
	Available Storage (ft)	FULL	75	FULL	FULL
	95th% Queue (ft)	0	0	0	0
	Max Queue (ft)	20	13	0	13



6.0 Sight Distance

A review of sight distance requirements at the Site Access was performed based on AASHTO and NCDOT standards. Old US 421 has a posted speed limit of 45 miles per hour (mph). A design speed of 5 mph over the speed limit was used for the sight distance review. The site access should be designed to comply with the sight distance requirements summarized in Table 6.1.

Table 6.1 – Sight Distance Review								
Location	Intersecting Street	Width of Crossing	Speed Limit (mph)	Design Speed (mph)	AASHTO Required ISD (feet)		NCDOT Required ISD (feet)^	
					Left Turn	Right Turn	Left Turn	Right Turn
Site Access	Old US 421	2 lanes	45	50	555	480	500	500
^Per Section 7B of the NCDOT <i>Driveway Manual</i> that indicates ISD for a crossing maneuver.								

7.0 Internal Protected Stem

The NCDOT *Policy on Street and Driveway Access to North Carolina Highways*, or the Driveway Manual, states that the length of the internal protected stem (IPS) will be determined from the maximum vehicle storage required as measured from the right-of-way line to the nearest conflict point with a minimum recommendation of 100 feet. For the purposes of this report, the IPS is estimated from the edge of right-of-way as shown in the preliminary conceptual site plan. Table 7.1 summarizes the maximum storage recorded in the analysis as compared to the estimated IPS.

Table 7.1 – Queue Lengths on Site Driveways					
Site Drive	Estimated IPS (feet)	95 th -ile Queue (feet)		Maximum Queue (feet)	
		Sunday Peak	Weekday AM	Sunday Peak	Weekday AM
Site Access	300	10	0	65	20



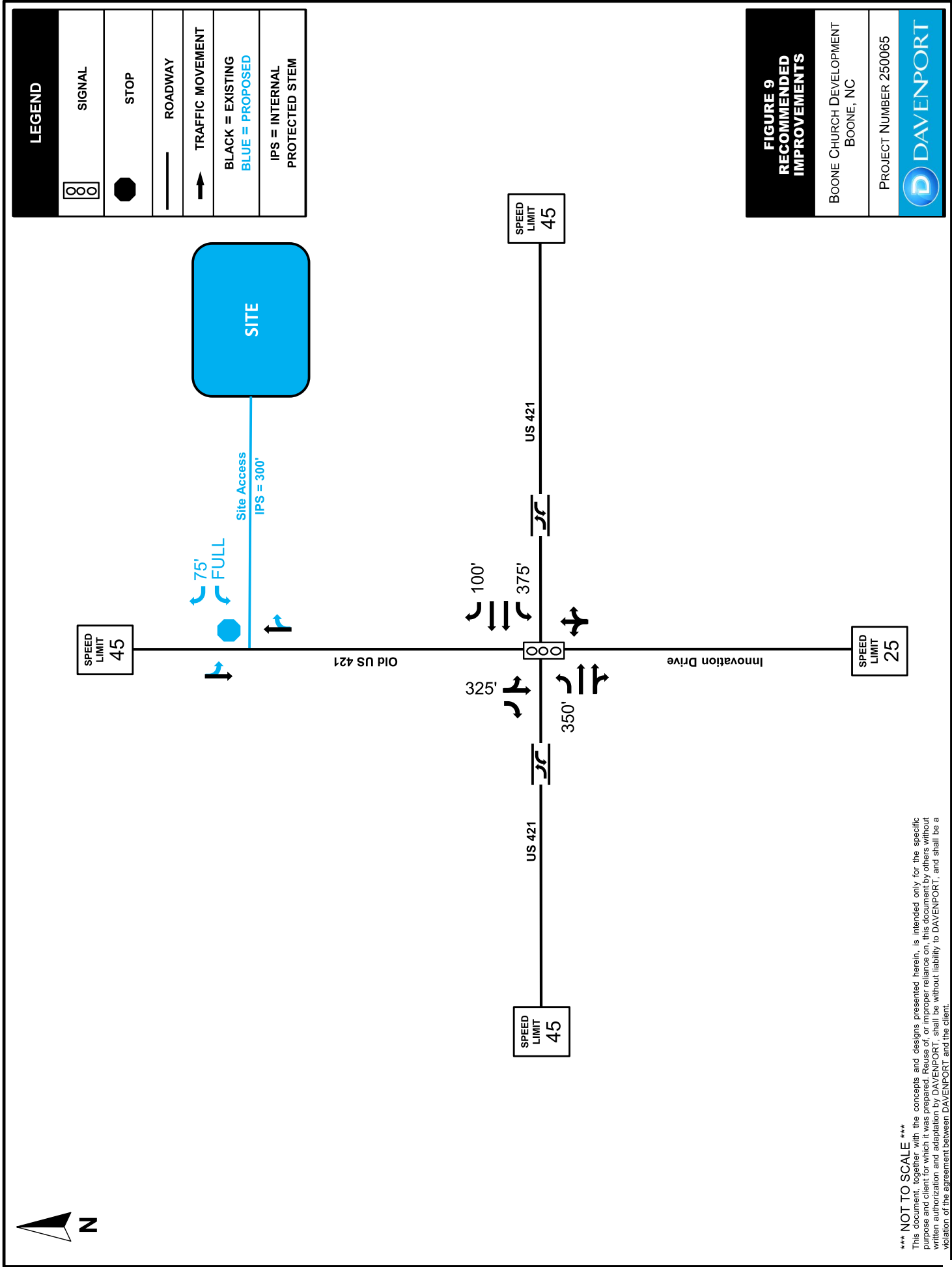
8.0 Summary and Conclusion

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the North Carolina Department of Transportation (NCDOT), the Town of Boone, and Watauga County. This site has a Sunday trip generation potential of 515 daily trips with 170 trips in the peak hour, and a weekday potential of 124 daily trips with 5 trips in the AM peak hour.

In conclusion, this study has determined the potential traffic impact of this development. The anticipated transportation impact of the proposed development can be accommodated. The site access recommendations summarized in Figure 9 and in Table 8.1 should be constructed to comply with applicable NCDOT *Policy on Street and Driveway Access to North Carolina Highways* standards.

Table 8.1 – Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
US 421 and Old US 421	No improvements are recommended
Old US 421 and Site Access	- Install the site access with one ingress lane and two egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage - Design the site access in accordance with applicable NCDOT standards

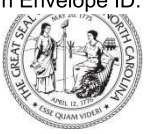




Appendix



Approved Scoping Documents



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



TIA Need
Screening



TIA
Scoping



TIA
Submittal

A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: Boone Church Development **Previous Name:** If Applicable _____
Location: Parcel ID #2921-30-9963-000 **County:** Watauga **Municipality:** Boone
Project Description: 16,370 SF Church located on Old US 421 between US 421 and Martin Lane

Project Contact: Applicant
 Company Name McLeod Architecture
 Contact Person Mike McLeod
 Phone Number 910-270-9778
 Email mike@mcleodarchitectpa.com
 Mailing Address 72 South End Court, Hamstead, NC 28443

TIA Consultant
DAVENPORT
Dylan Coley, PE
919-874-5772
dcoley@davenportworld.com
4600 Marriot Drive, Suite 350
Raleigh, NC 27612

Site Plan Prepared By: Valor Engineering
 See site plan/vicinity map requirements on page 2.
Parcel Size: 13.26 Acre(s)

Site Plan Date: 12/05/2025
Anticipated Build-Out Year: 2027

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
560	Church	16.37	kSF	515	Generator	81	89	170				ITE Rate
Total		16.37		515		81	89	170				

Refer to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#) for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: Sunday peak hour of generator value used, ITE does not have adjacent values reported.

- ☐ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.
- ☐ The estimated site trips meet the municipal TIA trip threshold of _____
- ☐ This project is located in a known [STIP](#) and/ or local CIP project # _____
- ☐ This project includes a rezoning request.
- ☐ The proposed site access is located within 1,000 feet of an interchange.
- ☐ The Applicant requests for a new or modified control-of-access break.
- ☐ The Applicant requests for a new or modified median break.

 Applicant's Signature

 Mike McLeod
 Print Name

 Date



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: Boone Church Development **Project Reference Number:** _____

- ☐ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.
- ☐ **A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

- ☐ **A TIA is NOT required.** This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division _____ District _____ on _____.

NCDOT District Representative's Signature
Email concurrence may be used in lieu of the signature.

Print Name



NCDOT TIA Scoping Checklist



Project Name: Boone Church Development

TIA Scoping Date: 12/11/25

☐ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.

Refer to NCDOT's [Policy on Street and Driveway Access to North Carolina Highways](#) pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Old US 421 S	Conventional Full-Mvmt	2-Way Stop	1400	North	US 421
Access B						
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1			Please Select	Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐

Proposed K-12 School Site

☐ NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.

☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).



NCDOT TIA Scoping Checklist



☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
560	Church	16.37	kSF	515	Generator	81	89	170				ITE Rate
Unadjusted Site Trips				515		81	89	170				
Internal Capture Trips (Attach Calculation Sheets)												Please Select
Internal Capture % of Unadjusted Site Trips				%		%			%			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
		Please Select		%		%			%			Please Select
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

Sunday peak hour of generator value used, ITE does not have adjacent values reported.

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												



NCDOT TIA Scoping Checklist



☒ Trip Distribution

- ☒ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- ☐ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- ☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- ☐ Inter-Development Trips (if 'internal' trips cross public streets)
- ☐ Pass-By Trips
- ☐ Diverted Trips
- ☐ Each Analysis Period

☐ Mode Split

- ☐ Provide Data Source and Justification

Mode Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

- ☐ Weekday AM Peak _____
- ☐ Weekday PM Peak _____
- ☐ Weekday Midday Peak _____
- ☐ Weekday PM School Peak _____
- ☒ Weekend Sunday Peak Peak hour as identified in collected traffic counts
- ☐ Other _____



NCDOT TIA Scoping Checklist



☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under “Site Plan and Access” on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	US 421	Old US 421	Signal	Require New Counts			
#2	Old US 421 S	Site Access	2-Way Stop				Proposed
#3							
#4							
#5							
#6							
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101			Please Select	Please Select		Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

- ☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.
- ☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:
 intersections numbered: _____
 and access points numbered: _____
- ☐ Traffic Forecast Data for TIP: _____
- ☒ Roadway/Intersection Configuration & Traffic Control
- ☒ Traffic Signal Phasing & Timing Data
- ☐ Crash Data: _____ Period: _____
- ☐ Other: _____



NCDOT TIA Scoping Checklist



☒ Future Year Conditions

☒ Project Build-Out Year: 2027

☒ Future Analysis Year(s): 2027

☐ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description		Year Complete
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements

☒ Annual Growth Factor: 2.5 %

Justification/Data Source: from historical AADT data, see attached excel sheet

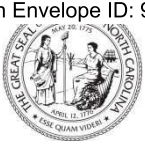
☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

None assumed, advise otherwise

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #



NCDOT TIA Scoping Checklist



☒ Study Method

The traffic analysis shall follow the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:
- ☐ 5. TIP Design Year Analysis _____
- ☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- ☐ Signal Warrant Analysis for accesses/intersections _____
- ☐ Multi-Modal Level of Service Analysis
- ☐ School Loading Zone Traffic Simulation
- ☐ Phasing Analysis (scope separately as needed)
- ☐ Safety/Crash Analysis
- ☐ Control-of-Access Modification Justification
- ☐ Median Break / Modification Justification
- ☐ Other _____

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☐ Div. Traffic Engr ☐ Regional Traffic Engr ☐ Congestion Management ☐ Other _____

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required		Please Select	
Draft TIA Report	Required			
Final Sealed TIA Report	Required			

☐ **Additional Comments** (municipal TIA requirements, approved variations from NCDOT guidelines)



NCDOT TIA Scoping Checklist



Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire ____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

_____	Mike McLeod	_____
Signature	Print Name	Date

TIA CONSULTANT

_____	Dylan Coley	_____
Signature	Print Name	Date

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____	_____	_____
Signature	Print Name	Date

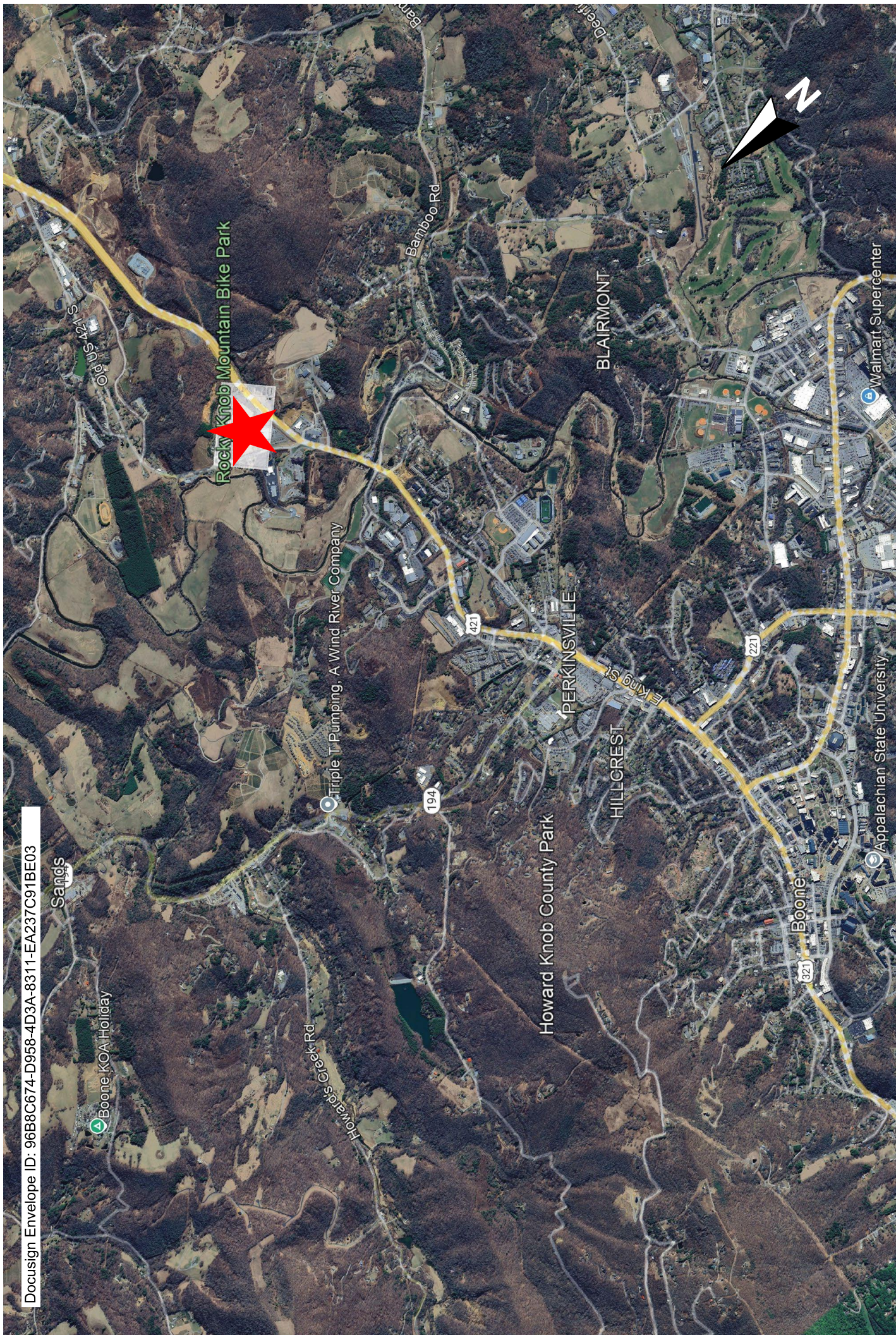
Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division ____ District ____ on _____.

_____	_____
Signature	Print Name

Email concurrence may be used in lieu of the signature.



DAVENPORT

FIGURE 2A
SITE LOCATION MAP



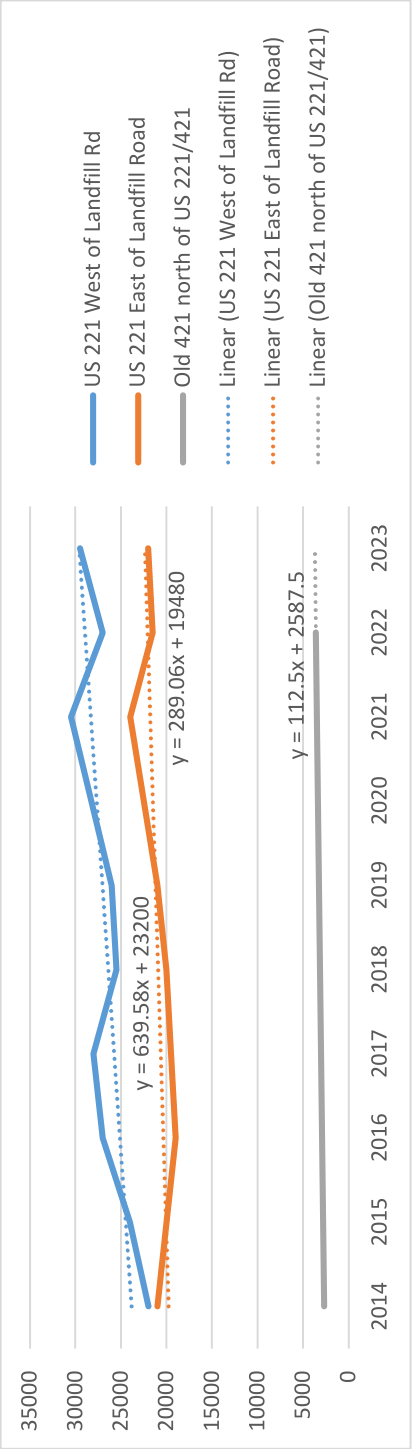
SITE INDICATOR



FIGURE 2B
VICINITY MAP

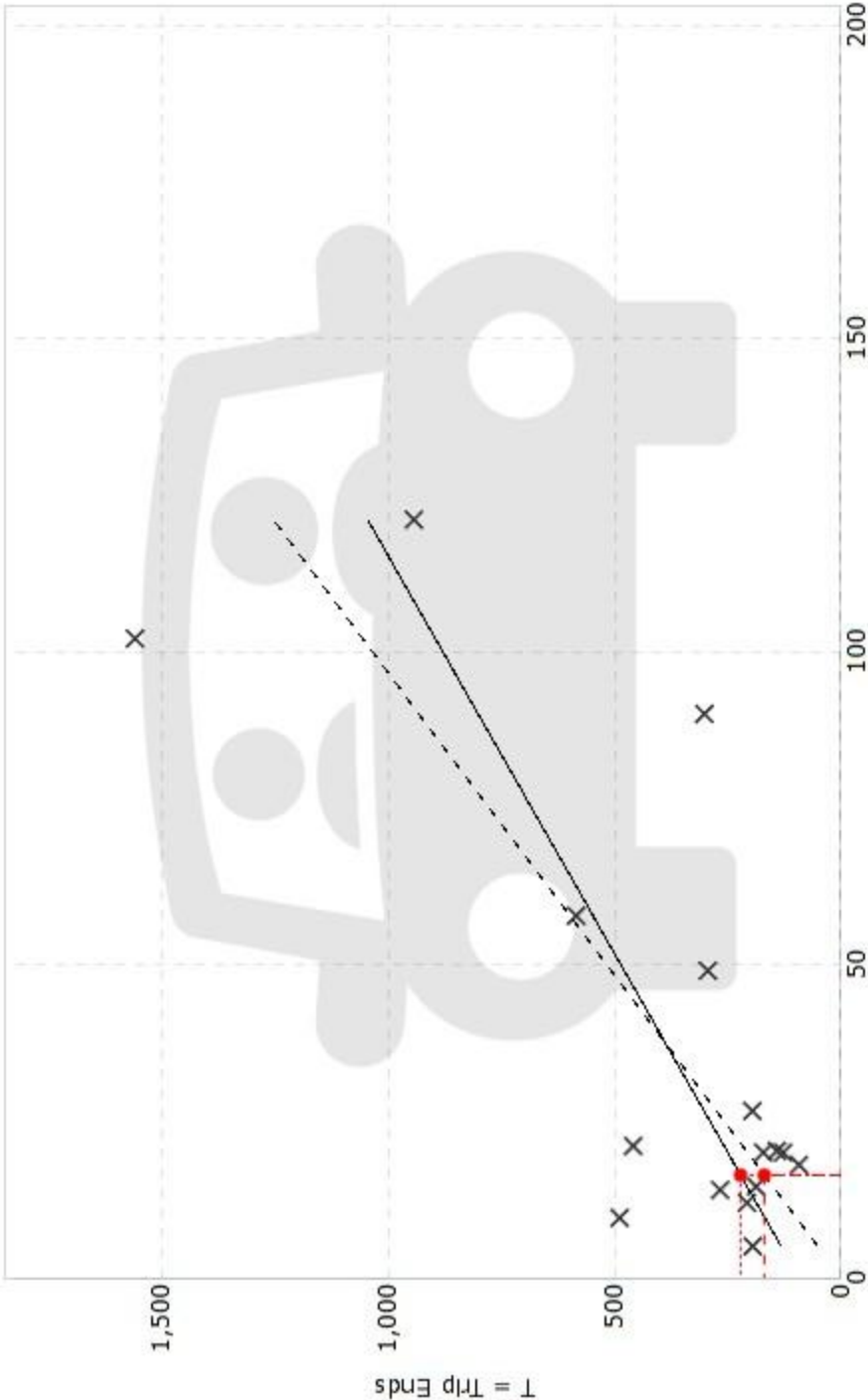
SITE INDICATOR
STUDY INTERSECTION

	US 221 West of Landfill Rd	US 221 East of Landfill Road	Old 421 north of US 221/421
	NCDOT AADT Volumes by Location		
2014	22000	21000	2700
2015	24000		
2016	27000	19000	
2017	28000		
2018	25500	20000	
2019	26000	21000	
2020			
2021	30500	24000	
2022	27000	21500	3600
2023	29500	22000	
Slope	639.58	289.06	112.50
Percent Slope	2.17	1.31	3.13
	AVERAGE		2.2%





Data Plot and Equation



X = 1000 Sq. Ft. GFA

Reset Zoom

Restore

X Study Site

— Fitted Curve

- - - Average Rate

DATA STATISTICS

Land Use:

Church (560) [Click for Description and Data Plots](#)

Independent Variable:

1000 Sq. Ft. GFA

Time Period:

Sunday

Peak Hour of Generator

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

16

Avg. 1000 Sq. Ft. GFA:

38

Average Rate:

10.36

Range of Rates:

3.36 - 51.31

Standard Deviation:

7.83

Fitted Curve Equation:

$T = 7.87(X) + 93.13$

R²:

0.56

Directional Distribution:

48% entering, 52% exiting

Calculated Trip Ends:

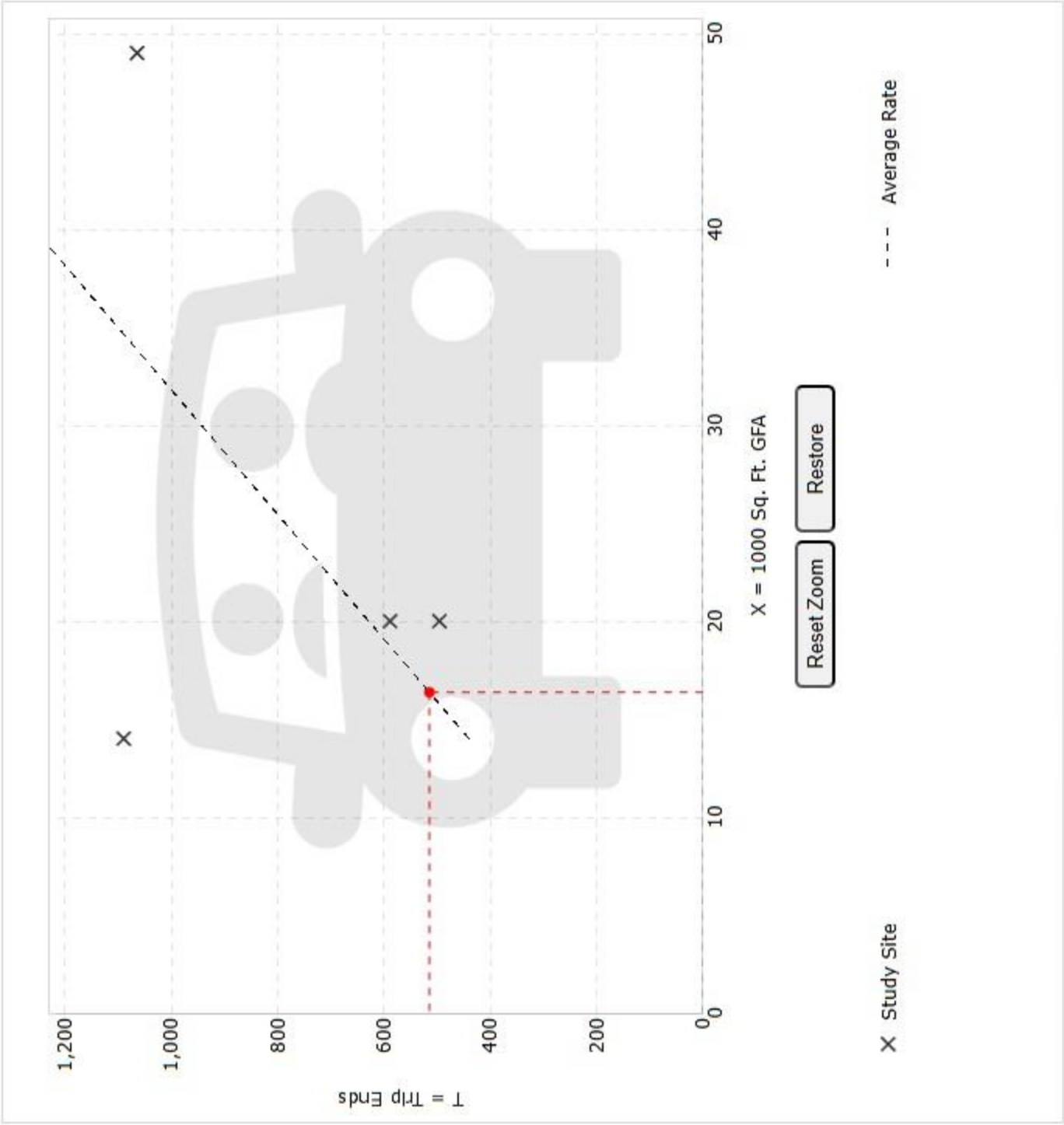
Average Rate: 170 (Total), 81 (Entry), 89 (Exit)

Fitted Curve: 222 (Total), 107 (Entry), 115 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Data Plot and Equation

Caution – Small Sample Size



DATA STATISTICS

Land Use:	Church (560) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Sunday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	4
Avg. 1000 Sq. Ft. GFA:	26
Average Rate:	31.46
Range of Rates:	21.73 - 77.86
Standard Deviation:	21.51
Fitted Curve Equation:	Not Given
R ² :	****
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 515 (Total), 258 (Entry), 257 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Boone Church Development

TIA SCOPING REVIEW

BULLET LIST OF CONGESTION MGMT. COMMENTS AND CONCERNS (SC-2025-243)

December 18, 2025

The Congestion Management Section (CMS) has performed a review of the scoping document for the proposed Boone Church Development prepared by Valor Engineering (received December 11, 2025). According to the document, the proposed development is to be located north of US 421 and east of SR 1416 (Old US 421). The scoping document states that the full build-out of the development is to be constructed by 2027 and is to consist of institutional land use and generates 515 daily trips. Based on our review, we have the following comments at this time:

Trip Generation

- The Trip Generation appears reasonable; however, weekday AM peak hour should be considered along with Sunday AM peak period.

Trip Distribution and Growth Rate

- Origin/destination distribution points appear reasonable; however, please ensure to provide trip distribution movements for entering and exiting during AM peak hours with TIA submittal. See Trip Generation comments.
- Growth rate of 2.5 percent appears high, consider using a rate of 1.5 percent.

Study Intersections

- Study intersections appear reasonable.

Site Plan and Proposed Driveways

- Site plan appears reasonable and appears to match with the trip generation.
- Please ensure that the proposed driveway(s) are in accordance with the NCDOT Driveway Manual and Internal Protected Stem lengths are provided with the TIA.

NOTE: This list should not be considered all-inclusive. Further review may identify additional areas of concern.



Capacity Analysis Synchro Worksheets



Existing Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	890	4	4	767	6	9	4	4	4	4	98
Future Volume (vph)	92	890	4	4	767	6	9	4	4	4	4	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.265			0.289								
Satd. Flow (perm)	491	3518	0	541	3557	1591	0	1753	0	0	1835	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	102	989	4	4	852	7	10	4	4	4	4	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	993	0	4	852	7	0	18	0	0	8	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

Exist Sunday Peak 3:15 pm 12/11/2025 Exist Sunday Peak

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	42.8	52.8		33.2	33.2	52.8		9.6			9.6	10.8
Actuated g/C Ratio	0.75	0.92		0.58	0.58	0.92		0.17			0.17	0.19
v/c Ratio	0.18	0.31		0.01	0.41	0.00		0.06			0.03	0.37
Control Delay	3.7	2.7		8.8	8.8	3.3		28.3			28.3	23.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	3.7	2.7		8.8	8.8	3.3		28.3			28.3	23.0
LOS	A	A		A	A	A		C			C	C
Approach Delay		2.8			8.8			28.3			23.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	0	0		0	53	0		5			2	31
Queue Length 95th (ft)	39	178		7	221	6		30			18	70
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	888	3518		541	3557	1493		327			513	614
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.11	0.28		0.01	0.24	0.00		0.06			0.02	0.18

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 57.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 6.6

Intersection LOS: A

Intersection Capacity Utilization 54.8%

ICU Level of Service A

Analysis Period (min) 15

Exist Sunday Peak 3:15 pm 12/11/2025 Exist Sunday Peak

Synchro 11 Report

Page 2

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421



Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	477	26	13	1536	6	9	4	4	4	4	170
Future Volume (vph)	139	477	26	13	1536	6	9	4	4	4	4	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.070			0.442				0.823			0.813	
Satd. Flow (perm)	130	3493	0	827	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1739			1748			1410			1825	
Travel Time (s)		26.3			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	154	530	29	14	1707	7	10	4	4	4	4	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	559	0	14	1707	7	0	18	0	0	8	189
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

Exist Weekday AM 3:15 pm 12/11/2025 Exist Weekday AM

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effct Green (s)	93.6	102.9		77.6	77.6	92.7		9.8			9.7	18.7
Actuated g/C Ratio	0.83	0.91		0.69	0.69	0.82		0.09			0.09	0.17
v/c Ratio	0.46	0.18		0.02	0.70	0.01		0.14			0.06	0.73
Control Delay	23.4	2.4		9.8	15.3	5.3		64.3			64.9	62.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	23.4	2.4		9.8	15.3	5.3		64.3			64.9	62.1
LOS	C	A		A	B	A		E			E	E
Approach Delay		6.9			15.2			64.3			62.2	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	18	0		2	203	0		10			5	114
Queue Length 95th (ft)	137	84		15	725	7		48			28	238
Internal Link Dist (ft)		1659			1668			1330			1745	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	422	3398		751	3229	1395		137			213	334
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.36	0.16		0.02	0.53	0.01		0.13			0.04	0.57
Intersection Summary												
Area Type: Other												
Cycle Length: 180												
Actuated Cycle Length: 113												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 16.8 Intersection LOS: B												
Intersection Capacity Utilization 71.3% ICU Level of Service C												
Analysis Period (min) 15												

Exist Weekday AM 3:15 pm 12/11/2025 Exist Weekday AM

Synchro 11 Report
Page 2

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2				 Ø3		 Ø4	
145 s				20 s		15 s	
 Ø5		 Ø6					
25 s		120 s					



Future No Build Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	903	4	4	779	6	9	4	4	4	4	99
Future Volume (vph)	93	903	4	4	779	6	9	4	4	4	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.285				0.823			0.818	
Satd. Flow (perm)	1761	3518	0	534	3557	1591	0	1442	0	0	1501	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	1003	4	4	866	7	10	4	4	4	4	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	1007	0	4	866	7	0	18	0	0	8	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FNB Sunday Peak 3:15 pm 12/11/2025 FNB Sunday Peak

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	11.4	56.5		35.4	35.4	53.8		10.0			10.0	14.0
Actuated g/C Ratio	0.17	0.86		0.54	0.54	0.82		0.15			0.15	0.21
v/c Ratio	0.34	0.33		0.01	0.45	0.01		0.08			0.04	0.33
Control Delay	33.8	4.7		13.5	13.2	6.7		36.1			35.7	20.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	33.8	4.7		13.5	13.2	6.7		36.1			35.7	20.6
LOS	C	A		B	B	A		D			D	C
Approach Delay		7.4			13.1			36.1			21.6	
Approach LOS		A			B			D			C	
Queue Length 50th (ft)	31	0		0	60	0		5			2	33
Queue Length 95th (ft)	106	179		7	250	7		31			18	71
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	590	3518		534	3557	1372		241			377	584
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.17	0.29		0.01	0.24	0.01		0.07			0.02	0.19

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 66

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 10.8

Intersection LOS: B

Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2			 Ø3			 Ø4		
145 s			20 s			15 s		
 Ø5		 Ø6						
25 s		120 s						

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	484	26	13	1559	6	9	4	4	4	4	173
Future Volume (vph)	141	484	26	13	1559	6	9	4	4	4	4	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.439				0.823			0.813	
Satd. Flow (perm)	1761	3493	0	822	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	157	538	29	14	1732	7	10	4	4	4	4	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	567	0	14	1732	7	0	18	0	0	8	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FNB Weekday AM 3:15 pm 12/11/2025 FNB Weekday AM

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	18.4	103.9		76.9	76.9	92.4		10.2			10.0	21.1
Actuated g/C Ratio	0.16	0.88		0.65	0.65	0.79		0.09			0.09	0.18
v/c Ratio	0.57	0.18		0.03	0.75	0.01		0.15			0.06	0.69
Control Delay	62.6	2.7		10.7	18.2	6.0		69.1			69.3	60.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	62.6	2.7		10.7	18.2	6.0		69.1			69.3	60.6
LOS	E	A		B	B	A		E			E	E
Approach Delay		15.7			18.1			69.1			60.9	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	118	32		4	458	1		14			6	150
Queue Length 95th (ft)	#269	85		15	744	7		49			29	247
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	333	3353		724	3134	1340		136			211	331
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.47	0.17		0.02	0.55	0.01		0.13			0.04	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 117.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.0

Intersection LOS: C

Intersection Capacity Utilization 72.1%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Queue shown is maximum after two cycles.

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421





Future Build Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	903	4	4	779	22	9	4	4	19	4	157
Future Volume (vph)	146	903	4	4	779	22	9	4	4	19	4	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.960	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1761	1560
Flt Permitted	0.950			0.285				0.814			0.657	
Satd. Flow (perm)	1761	3518	0	534	3557	1591	0	1427	0	0	1205	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1489	
Travel Time (s)		26.4			26.5			38.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	162	1003	4	4	866	24	10	4	4	21	4	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	1007	0	4	866	24	0	18	0	0	25	174
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FB Sunday Peak 3:15 pm 12/11/2025 FB Sunday Peak

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effct Green (s)	14.9	59.3		35.7	35.7	51.5		10.1			10.3	20.5
Actuated g/C Ratio	0.20	0.81		0.49	0.49	0.70		0.14			0.14	0.28
v/c Ratio	0.45	0.35		0.02	0.50	0.02		0.09			0.15	0.40
Control Delay	35.7	5.3		16.5	17.0	8.3		40.5			40.7	20.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	35.7	5.3		16.5	17.0	8.3		40.5			40.7	20.2
LOS	D	A		B	B	A		D			D	C
Approach Delay		9.5			16.7			40.5			22.7	
Approach LOS		A			B			D			C	
Queue Length 50th (ft)	68	67		1	138	3		8			11	55
Queue Length 95th (ft)	158	186		8	283	18		33			41	105
Internal Link Dist (ft)		1660			1668			1330			1409	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	539	3518		534	3557	1258		218			276	597
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.30	0.29		0.01	0.24	0.02		0.08			0.09	0.29
Intersection Summary												
Area Type: Other												
Cycle Length: 180												
Actuated Cycle Length: 73.1												
Natural Cycle: 65												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.50												
Intersection Signal Delay: 13.7 Intersection LOS: B												
Intersection Capacity Utilization 55.2% ICU Level of Service B												
Analysis Period (min) 15												

FB Sunday Peak 3:15 pm 12/11/2025 FB Sunday Peak

Synchro 11 Report
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Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2			 Ø3			 Ø4		
145 s			20 s			15 s		
 Ø5		 Ø6						
25 s		120 s						

Lanes, Volumes, Timings

200: Old US 421 & Site Access

01/16/2026

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	76	13	99	69	12	100
Future Volume (vph)	76	13	99	69	12	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Storage Length (ft)	0	75		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.944			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	1758	0	0	1826
Flt Permitted	0.950					0.995
Satd. Flow (perm)	1770	1583	1758	0	0	1826
Link Speed (mph)	25		45			45
Link Distance (ft)	1202		1489			1034
Travel Time (s)	32.8		22.6			15.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	84	14	110	77	13	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	14	187	0	0	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.02	1.02
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 26.2%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC

200: Old US 421 & Site Access

01/16/2026

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	13	99	69	12	100
Future Vol, veh/h	76	13	99	69	12	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	14	110	77	13	111
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	286	149	0	0	187	0
Stage 1	149	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	704	898	-	-	1387	-
Stage 1	879	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	697	898	-	-	1387	-
Mov Cap-2 Maneuver	697	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.6	0	0.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 697 898	1387	-		
HCM Lane V/C Ratio	-	- 0.121 0.016	0.01	-		
HCM Control Delay (s)	-	- 10.9 9.1	7.6	0		
HCM Lane LOS	-	- B A	A	A		
HCM 95th %tile Q(veh)	-	- 0.4 0	0	-		

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	484	26	13	1559	7	9	4	4	4	4	174
Future Volume (vph)	143	484	26	13	1559	7	9	4	4	4	4	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.439				0.823			0.813	
Satd. Flow (perm)	1761	3493	0	822	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1489	
Travel Time (s)		26.4			26.5			38.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	159	538	29	14	1732	8	10	4	4	4	4	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	567	0	14	1732	8	0	18	0	0	8	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FB Weekday AM 3:15 pm 12/11/2025 FB Weekday AM

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	18.5	104.1		77.0	77.0	92.5		10.1			10.0	21.2
Actuated g/C Ratio	0.16	0.88		0.65	0.65	0.79		0.09			0.08	0.18
v/c Ratio	0.58	0.18		0.03	0.75	0.01		0.15			0.06	0.69
Control Delay	62.7	2.7		10.8	18.3	5.9		69.2			69.4	60.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	62.7	2.7		10.8	18.3	5.9		69.2			69.4	60.6
LOS	E	A		B	B	A		E			E	E
Approach Delay		15.8			18.1			69.2			61.0	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	120	32		4	463	1		14			6	151
Queue Length 95th (ft)	#274	85		15	744	7		49			29	248
Internal Link Dist (ft)		1660			1668			1330			1409	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	332	3353		724	3132	1339		135			211	330
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.48	0.17		0.02	0.55	0.01		0.13			0.04	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 117.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.0

Intersection LOS: C

Intersection Capacity Utilization 72.2%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Queue shown is maximum after two cycles.

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421



Lanes, Volumes, Timings

200: Old US 421 & Site Access

01/16/2026

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	147	4	4	177
Future Volume (vph)	4	4	147	4	4	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Storage Length (ft)	0	75		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.997			
Flt Protected	0.950					0.999
Satd. Flow (prot)	1770	1583	1857	0	0	1833
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1583	1857	0	0	1833
Link Speed (mph)	25		45			45
Link Distance (ft)	1202		1489			1034
Travel Time (s)	32.8		22.6			15.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	4	163	4	4	197
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	4	167	0	0	201
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.02	1.02
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 22.5%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC

200: Old US 421 & Site Access

01/16/2026

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	4	147	4	4	177
Future Vol, veh/h	4	4	147	4	4	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	163	4	4	197
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	370	165	0	0	167	0
Stage 1	165	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	630	879	-	-	1411	-
Stage 1	864	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	879	-	-	1411	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 628 879 1411	-	-		
HCM Lane V/C Ratio	-	- 0.007 0.005 0.003	-	-		
HCM Control Delay (s)	-	- 10.8 9.1 7.6	0			
HCM Lane LOS	-	- B A A	A			
HCM 95th %tile Q(veh)	-	- 0 0 0	0			



Queueing Analysis SimTraffic Worksheets

Queuing and Blocking Report
Exist Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	69	109	78	18	168	149	5	48	29	102
Average Queue (ft)	26	27	17	2	71	42	0	12	5	38
95th Queue (ft)	55	81	57	10	130	105	2	38	20	85
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
Exist Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	149	75	69	25	339	336	30	51	30	232
Average Queue (ft)	61	17	11	4	174	154	1	16	6	105
95th Queue (ft)	118	53	42	18	295	289	21	42	22	199
Link Distance (ft)		1706	1706		1693	1693		1340		1764
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				0
Queuing Penalty (veh)					0	1				0

Network Summary

Network wide Queuing Penalty: 1

Queuing and Blocking Report
FNB Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	108	134	113	20	164	158	6	50	31	112
Average Queue (ft)	44	31	21	2	72	45	0	14	6	39
95th Queue (ft)	89	89	69	11	133	110	2	39	21	87
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
FNB Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	201	73	57	29	302	300	46	49	34	220
Average Queue (ft)	89	16	9	4	167	143	2	15	6	106
95th Queue (ft)	165	51	34	19	278	272	29	41	23	192
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				0
Queuing Penalty (veh)					0	1				0

Network Summary

Network wide Queuing Penalty: 1

Queuing and Blocking Report

FB Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	155	130	126	24	192	169	29	50	58	145
Average Queue (ft)	74	39	30	2	95	61	3	13	18	67
95th Queue (ft)	132	96	84	12	159	137	15	40	45	121
Link Distance (ft)		1710	1710		1694	1694		1340		1373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						2				
Queuing Penalty (veh)						0				

Intersection: 200: Old US 421 & Site Access

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	65	19	2	41
Average Queue (ft)	24	4	0	3
95th Queue (ft)	48	15	3	20
Link Distance (ft)	1148		1373	1005
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report

FB Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	201	74	66	23	348	349	105	60	37	236
Average Queue (ft)	94	14	10	5	179	158	6	17	7	114
95th Queue (ft)	169	51	39	19	297	289	58	48	26	202
Link Distance (ft)		1710	1710		1694	1694		1340		1373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				
Queuing Penalty (veh)					0	1				

Intersection: 200: Old US 421 & Site Access

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	20	13	13
Average Queue (ft)	2	1	1
95th Queue (ft)	13	8	8
Link Distance (ft)	1148		1005
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		75	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1



Turning Movement Counts

Boone, NC

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100

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ALL VEHICLE

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Boone, NC

Weather
Fair
29°F
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North

Name	Northbound					Southbound					Eastbound					Westbound										
	Time (min)					Time (min)					Time (min)					Time (min)										
	Left	Thru	Right	Left	Right	U-Left	App	Left	Thru	Right	U-Left	App	Left	Thru	Right	U-Left	App	Left	Thru	Right	U-Left	App	Left	Thru	Right	
0645-0655	1	1	2	1	1	0	1	0	1	1	0	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1
0655-0659	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0659-0703	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0703-0707	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0707-0711	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0711-0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715-0719	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0719-0723	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0723-0727	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0727-0731	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0731-0735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0735-0739	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0739-0743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0743-0747	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0747-0751	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0751-0800	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
0800-0804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0804-0808	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0808-0812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0812-0816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0816-0820	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0820-0824	0	0																								

Passenger Vehicles (1-3)

TIME	Northbound				Southbound				Eastbound				Westbound			
	04-42-15				04-42-15				04-42-15				04-42-15			
	Lane 1	Lane 2	Lane 3	Lane 4	Lane 1	Lane 2	Lane 3	Lane 4	Lane 1	Lane 2	Lane 3	Lane 4	Lane 1	Lane 2	Lane 3	Lane 4
0600-0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630-0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645-0650	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0650-0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700-0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715-0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730-0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745-0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800-0815	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0
0815-0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830-0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845-0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900-0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915-0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930-0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945-1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000-1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015-1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030-1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045-1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100-1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115-1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130-1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145-1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200-1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215-1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230-1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245-1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300-1315	0	0	0													

Passenger Vehicles (1-3)

Time	US-42										US-42+renewal										US-42+10min									
	US-42										US-42+renewal										US-42+10min									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1155-1159	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1159-1200	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200-1215	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215-1245	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245-1300	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300-1315	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315-1330	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330-1345	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345-1350	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1350-1400	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400-1415	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415-1430	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430-1445	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445-1500	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500-1515	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515-1530	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530-1545	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545-1600	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600-1615	2	0	0	0																										

Passenger Vehicles (1-3)

[illegible]

Boone, NC

Date
Sunday, January 11, 2026

for Detailed Weather

Large Data Trucks, W.

0600 - 0900 (internal session 1) [01-11-2026]

Large and flexible

1100 - 1300 (internal session 2) [01-11-2026]

Single Unit Trucks (4-7)

1540 - 1900 (internal session 3) [01-11-2026]

Single Unit Trucks (4-3)

Boone, NC

Weather
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Bicycles

[illegible]

Bicycles

[illegible]

Bicyclins

[illegible]

Boone, NC

Weather
Fair
29°F
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ARTICLES

0600 - 0900 (internal session 1) [01-11-2026]
All Tracks (A-131)

114

1100 - 1300 (internal session 2) [01-11-2026]

All Trucks

1500 - 1900 (internal session 3) [01-11-2026]
411 Youker, G.A. 121

ALL TISSUE

Time	Northbound					Southbound					Eastbound					Westbound					Int. Time
	Left	Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00-16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15-16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30-16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45-17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00-17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15-17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30-17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:45-18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:00-18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:15-18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:30-18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:45-19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19:00-19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19:15-19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19:30-19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19:45-20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20:00-20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20:15-20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20:30-20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20:45-21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21:00-21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21:15-21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21:30-21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21:45-22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22:00-22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22:15-22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22:30-22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22:45-23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23:00-23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23:15-23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23:30-23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23:45-00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
00:00-00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
00:15-00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
00:30-00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
00:45-01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01:00-01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01:15-01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01:30-01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
01:45-02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:00-02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:15-02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:30-02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45-03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:00-03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:15-03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:30-03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0							

Boone, NC

Weather
Fair
29°F
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0600 - 1900 (Sunday 13h Session) (01-11-2026)
Radford College0600 - 0900 (Internal session 1) (01-11-2026)

1100 - 1300 (Internal session 2) (01-11-2026)

1500 - 1900 (Internal session 3) (01-11-2026)

	Northbound				Southbound				Eastbound				Westbound					
	Interchange Dr				Off US-421 S				US-421 (Ramp)				US-421 (East)					
	App	EB	WB		App	EB	WB		App	EB	SB		App	EB	SB		App	Int
	Total	Lg	Sh		Total	Lg	Sh		Total	Lg	Sh		Total	Lg	Sh		Total	Total
1500 - 1515	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1515 - 1530	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1530 - 1545	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1545 - 1600	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1600 - 1615	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1615 - 1630	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1630 - 1645	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1645 - 1700	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1700 - 1715	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1715 - 1730	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1730 - 1745	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1745 - 1800	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1800 - 1815	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1815 - 1830	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1830 - 1845	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1845 - 1900	0	0	0		0	0	0		0	0	0		0	0	0		0	0
1900 - 1915	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Grand Total	0	0	0		0	0	0		0	0	0		0	0	0		0	0
Agreement %	0.00	0.00			0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	
Interference %	0.00	0.00			0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	

Boone, NC



APPLY

Volume

322

All vehicles

All Vehicles	Northbound						Southbound						Eastbound						Westbound						Int Total	
Time	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total						
	2	0	1	-	0	3	1	2	44	-	0	47	22	116	8	-	0	146	1	410	0	-	0	411	607	
	0730 - 0745	2	0	1	-	0	3	1	2	44	-	0	47	22	116	8	-	0	146	1	410	0	-	0	411	607
	0745 - 0800	4	0	0	-	0	4	0	0	45	-	0	45	43	122	5	-	0	170	4	422	2	-	0	428	647
0800 - 0815	0	0	0	-	0	0	0	0	37	-	0	37	49	120	8	-	0	177	4	376	1	-	0	381	595	
0815 - 0830	3	0	0	-	0	3	1	0	44	-	0	45	25	119	5	-	0	149	4	328	3	-	0	335	532	
Total	9	0	1	0	0	10	2	2	170	0	0	174	139	477	26	0	0	642	13	1536	6	0	0	1555	2381	
Approach %	90.00	0.00	10.00	0.00	0.00	-	1.15	1.15	97.70	0.00	0.00	-	21.65	74.30	4.05	0.00	0.00	-	0.84	98.78	0.39	0.00	0.00	-	-	
PHF	0.56	0.00	0.25	0.00	0.00	0.63	0.50	0.25	0.94	0.00	0.00	0.93	0.71	0.98	0.81	0.00	0.00	0.91	0.81	0.91	0.50	0.00	0.00	0.91	0.92	

Passenger Vehicles (1-3)

Passenger Vehicles (1-5)	Northbound						Southbound					Eastbound					Westbound					Int Total			
	Innovation Dr						Old US 421 S					US-421 (West)					US-421 (East)								
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total					
Time	2	0	1	-	0	3	1	2	44	-	0	47	22	111	8	-	0	141	1	402	0	-	0	403	594
0730 - 0745	2	0	0	-	0	2	0	0	45	-	0	45	42	115	5	-	0	162	4	405	2	-	0	411	620
0745 - 0800	0	0	0	-	0	0	0	0	36	-	0	36	48	114	8	-	0	170	4	363	1	-	0	368	574
0800 - 0815	3	0	0	-	0	3	1	0	43	-	0	44	24	112	5	-	0	141	4	314	2	-	0	320	508
0815 - 0830																									
Total	7	0	1	0	0	8	2	2	168	0	0	172	136	452	26	0	0	614	13	1484	5	0	0	1502	2296
Approach %	87.50	0.00	12.50	0.00	0.00	-	1.16	1.16	97.67	0.00	0.00	-	22.15	73.62	4.23	0.00	0.00	-	0.87	98.80	0.33	0.00	0.00	-	-
PHF	0.58	0.00	0.25	0.00	0.00	0.67	0.50	0.25	0.93	0.00	0.00	0.91	0.71	0.98	0.81	0.00	0.00	0.90	0.81	0.92	0.63	0.00	0.00	0.91	0.93

Single Unit Trucks (4-7)

Single Unit Trucks (477)		Northbound						Southbound						Eastbound						Westbound						Int Total
		Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
		Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
Time		0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	5	0	-	0	5	7
0730 - 0745		2	0	0	-	0	2	0	0	0	-	0	0	1	6	0	-	0	7	0	14	0	-	0	14	23
0745 - 0800		0	0	0	-	0	0	0	0	0	-	0	0	1	6	0	-	0	7	0	11	0	-	0	11	18
0800 - 0815		0	0	0	-	0	0	0	0	0	-	0	0	1	6	0	-	0	7	0	10	0	-	0	10	15
0815 - 0830		0	0	0	-	0	0	0	0	1	-	0	1	1	3	0	-	0	4	0	10	0	-	0	10	15
Total		2	0	0	0	0	2	0	0	1	0	0	1	3	17	0	0	0	20	0	40	0	0	0	40	63
Approach %		100.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	15.00	85.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	-
PHF		0.25	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.75	0.71	0.00	0.00	0.00	0.71	0.00	0.71	0.00	0.00	0.00	0.71	0.68	

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	3	0	-	0	3	0	3	0	-	0	3	6
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
0800 - 0815	0	0	0	-	0	0	0	0	1	-	0	1	0	0	0	-	0	0	0	2	0	-	0	2	3
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	0	4	0	4	1	-	0	5	9
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	0	8	0	12	1	0	0	13	22
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	92.31	7.69	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.75	0.25	0.00	0.00	0.65	0.61

Bicycles

Time	Northbound						Southbound					Eastbound					Westbound					Int Total			
	Innovation Dr						Old US 421 S					US-421 (West)					US-421 (East)								
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15			U-Turn 1.16	App Total
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Classified Turn Movement Count || All vehicles

Boone, NC



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Site 1

Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)



Date

Tuesday, January 13, 2026

Weather

Fair
41°F



Lat/Long

36.223083°, -81.635177°

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0700 - 0900 (Weekday 2h Session) (01-13-2026)

All vehicles

TIME	Northbound			Southbound			Eastbound			Westbound		
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)		
	Left	Thru	Right	U-Turn	App	Total	Left	Thru	Right	U-Turn	App	Total
0700 - 0715	1	0	0	0	1	1	0	0	0	0	0	0
0715 - 0730	3	0	0	0	3	3	0	0	0	0	0	0
0730 - 0745	2	0	1	0	3	3	1	2	44	0	0	0
0745 - 0800	4	0	0	0	4	4	0	0	45	0	0	0
Hourly Total	10	0	1	0	11	11	1	2	152	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	37	0	0	0
0815 - 0830	3	0	0	0	3	3	1	0	44	0	0	0
0830 - 0845	3	0	3	0	6	6	0	1	39	0	0	0
0845 - 0900	5	0	1	0	6	6	0	0	40	0	0	0
Hourly Total	11	0	4	0	15	15	1	1	160	0	0	0
Grand Total	21	0	5	0	26	26	2	3	312	0	0	0
Approach %	80.77	0.00	19.23	0.00	-	-	0.63	0.95	98.42	0.00	-	-
Intersection %	0.49	0.00	0.12	0.00	0.61	0.61	0.05	0.07	7.30	0.00	64.94	64.94
Heavy Vehicle %	10	-	0	-	8	8	0	0	2	-	4	4
PHF	0.56	0.00	0.25	0.00	0.63	0.63	0.50	0.25	0.94	0.00	0.91	0.91
Peak Hour Total	9	0	1	0	10	10	2	2	170	0	1555	1555
Peak Hour HV %	22	0	0	0	20	20	0	0	1	0	3	3

Classified Turn Movement Count || Passenger Vehicles (1-3)

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Innovation Dr				Old US 421 S			US-421 (West)				US-421 (East)									
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9		Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14
0700 - 0715	1	0	0	0	1	0	0	0	0	25	12	92	0	0	104	0	229	3	0	232	362
0715 - 0730	3	0	0	0	3	0	0	0	0	37	24	99	0	0	123	1	314	4	0	319	482
0730 - 0745	2	0	1	0	3	1	2	44	0	47	22	111	8	0	141	1	402	0	0	403	594
0745 - 0800	2	0	0	0	2	0	0	0	0	45	42	115	5	0	162	4	405	2	0	411	620
Hourly Total	8	0	1	0	9	1	2	151	0	154	100	417	13	0	530	6	1350	9	0	1365	2058
0800 - 0815	0	0	0	0	0	0	0	0	0	36	48	114	8	0	170	4	363	1	0	368	574
0815 - 0830	3	0	0	0	3	1	0	0	0	44	24	112	5	0	141	4	314	2	0	320	508
0830 - 0845	3	0	3	0	6	0	1	38	0	39	22	95	7	0	124	3	313	3	0	319	488
0845 - 0900	5	0	1	0	6	0	0	0	0	39	24	98	6	1	129	4	295	0	0	299	473
Hourly Total	11	0	4	0	15	1	1	156	0	158	118	419	26	1	564	15	1285	6	0	1306	2043
Grand Total	19	0	5	0	24	2	3	307	0	312	218	836	39	1	1094	21	2635	15	0	2671	4101
Approach %	79.17	0.00	20.83	0.00	-	0.64	0.96	98.40	0.00	-	19.93	76.42	3.56	0.09	-	0.79	98.65	0.56	0.00	-	
Intersection %	0.46	0.00	0.12	0.00	0.59	0.05	0.07	7.49	0.00	7.61	5.32	20.39	0.95	0.02	26.68	0.51	64.25	0.37	0.00	65.13	

Classified Turn Movement Count || Single Unit Trucks (4-7)



Boone, NC

Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Innovation Dr				U-Turn			Old US 421 S			U-Turn		US-421 (West)				U-Turn		US-421 (East)		
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6		Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10		Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14
0700 - 0715	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	10	0	0	10	13
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	6	0	0	7	9
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
0745 - 0800	2	0	0	0	0	2	0	0	0	0	1	6	0	0	7	0	14	0	0	14	23
Hourly Total	2	0	0	0	0	2	0	1	0	1	1	12	0	0	13	1	35	0	0	36	52
0800 - 0815	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	0	11	0	0	11	18
0815 - 0830	0	0	0	0	0	0	0	1	0	1	1	3	0	0	4	0	10	0	0	10	15
0830 - 0845	0	0	0	0	0	0	0	1	0	1	2	12	0	0	14	0	7	0	0	7	22
0845 - 0900	0	0	0	0	0	0	0	1	0	1	1	6	0	0	7	0	14	0	0	14	22
Hourly Total	0	0	0	0	0	0	0	3	0	3	5	27	0	0	32	0	42	0	0	42	77
Grand Total	2	0	0	0	0	2	0	4	0	4	6	39	0	0	45	1	77	0	0	78	129
Approach %	100.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	13.33	86.67	0.00	0.00	-	1.28	98.72	0.00	0.00	-	
Intersection %	1.55	0.00	0.00	0.00	1.55	0.00	0.00	3.10	0.00	3.10	4.65	30.23	0.00	0.00	34.88	0.78	59.69	0.00	0.00	60.47	

Classified Turn Movement Count || Combination Trucks (8-13)

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Innovation Dr					Old US 421 S					US-421 (West)					US-421 (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	7
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	12	0	0	12	20
0800 - 0815	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	1	0	5	9
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	9
Hourly Total	0	0	0	0	0	0	0	0	0	1	0	9	0	0	9	0	15	1	0	16	26
Grand Total	0	0	0	0	0	0	0	0	0	1	0	17	0	0	17	0	27	1	0	28	46
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	96.43	3.57	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	0.00	2.17	0.00	36.96	0.00	0.00	36.96	0.00	58.70	2.17	0.00	60.87	

Classified Turn Movement Count || Bicycles

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Bicycles

	Northbound					Southbound					Eastbound					Westbound								
	Innovation Dr				U-Turn			Old US 421 S			U-Turn			US-421 (West)				US-421 (East)				U-Turn		
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6		Right 1.7	U-Turn 1.8		App Total	Left 1.9	Thru 1.10		Right 1.11	U-Turn 1.12	App Total		Left 1.13	Thru 1.14	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00		0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-			
Intersection %	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

Classified Turn Movement Count || All Trucks (4-13)

Boone, NC



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Site 1

Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)



Date

Tuesday, January 13, 2026

Weather

Fair
41°F



Lat/Long

36.223083°, -81.635177°

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0700 - 0900 (Weekday 2h Session) (01-13-2026)

All Trucks (4-13)

	Northbound				Southbound				Eastbound				Westbound				Int								
	Innovation Dr				Old US 421 S				US-421 (West)				US-421 (East)												
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	Total
0700 - 0715	0	0	0		0	0	0	0	1		0	1	0	3	0		0	3	0	12	0		0	12	16
0715 - 0730	0	0	0		0	0	0	0	0		0	0	0	5	0		0	5	1	10	0		0	11	16
0730 - 0745	0	0	0		0	0	0	0	0		0	0	0	5	0		0	5	0	8	0		0	8	13
0745 - 0800	2	0	0		0	2	0	0	0		0	0	1	7	0		0	8	0	17	0		0	17	27
Hourly Total	2	0	0		0	2	0	0	1		0	1	1	20	0		0	21	1	47	0		0	48	72
0800 - 0815	0	0	0		0	0	0	0	1		0	1	1	6	0		0	7	0	13	0		0	13	21
0815 - 0830	0	0	0		0	0	0	0	1		0	1	1	7	0		0	8	0	14	1		0	15	24
0830 - 0845	0	0	0		0	0	0	0	1		0	1	2	16	0		0	18	0	8	0		0	8	27
0845 - 0900	0	0	0		0	0	0	0	1		0	1	1	7	0		0	8	0	22	0		0	22	31
Hourly Total	0	0	0		0	0	0	0	4		0	4	5	36	0		0	41	0	57	1		0	58	103
Grand Total	2	0	0		0	2	0	0	5		0	5	6	56	0		0	62	1	104	1		0	106	175
Approach %	100.00	0.00	0.00		0.00	-	0.00	0.00	100.00		0.00	-	9.68	90.32	0.00		0.00	-	0.94	98.11	0.94		0.00	-	
Intersection %	1.14	0.00	0.00		0.00	1.14	0.00	0.00	2.86		0.00	2.86	3.43	32.00	0.00		0.00	35.43	0.57	59.43	0.57		0.00	60.57	

Crosswalk Counts || Pedestrians

Boone, NC



Marr Traffic
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Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)				
TIME	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Crosswalk Counts || Bicycles

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Bicycles

TIME	Northbound			Southbound			Eastbound			Westbound			Int Total
	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Crosswalk Counts || Motorized Vehicles

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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Weather
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Motorized Vehicles

	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)				
TIME	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

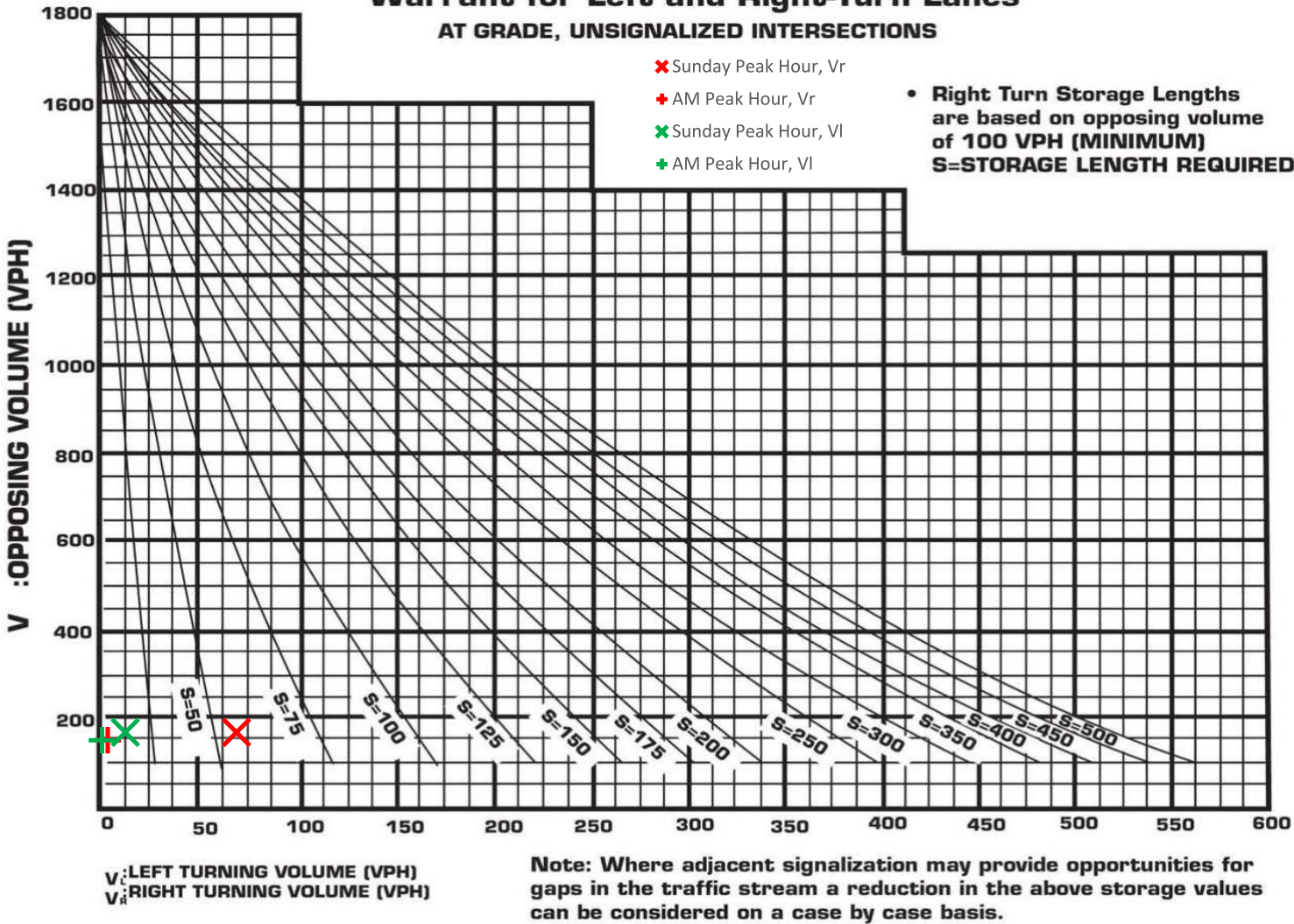
Start Date: 1/13/2026													
Time	US-421 (West) Eastbound			US-421 (East) Westbound			Innovation Dr Northbound			Old US 421 S Southbound			Total
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	12	95	0	0	241	3	1	0	0	0	0	26	378
07:15 AM - 07:30 AM	24	104	0	2	324	4	3	0	0	0	0	37	498
07:30 AM - 07:45 AM	22	116	8	1	410	0	2	0	1	1	2	44	607
07:45 AM - 08:00 AM	43	122	5	4	422	2	4	0	0	0	0	45	647
08:00 AM - 08:15 AM	49	120	8	4	376	1	0	0	0	0	0	37	595
08:15 AM - 08:30 AM	25	119	5	4	328	3	3	0	0	1	0	44	532
08:30 AM - 08:45 AM	24	111	7	3	321	3	3	0	3	0	1	39	515
08:45 AM - 09:00 AM	25	105	6	4	317	0	5	0	1	0	0	40	503
09:00 AM - 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM - 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM - 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM - 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM - 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM - 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM - 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM - 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM - 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM - 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM - 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
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11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



Supporting Documentation

Peak Hour	Volumes		Peak Hour	Volumes	
	Opposing	Lefts		Opposing	Rights
Sunday	168	12	Sunday	168	69
AM	150	0	AM	150	3

Warrant for Left and Right-Turn Lanes
AT GRADE, UNSIGNALIZED INTERSECTIONS



TURN LANE WARRANT SUMMARY

OLD US 421 AT SITE ACCESS

PHASING DIAGRAM

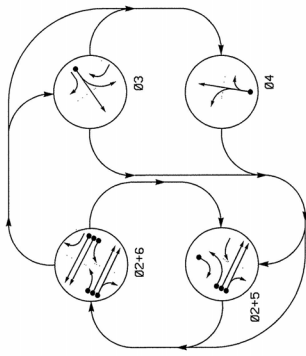


TABLE OF OPERATION		PHASE			
SIGNAL FACE		0 0	0 0	0 0	0 0
		0 2 + 5	0 2 + 6	0 3 + 4	0 4 + 5
21, 22		G	G	R	Y
31		R	R	G	R
32		R	R	G	R
41		R	R	G	R
42		R	R	G	R
51		Y	R	R	R
61		G	R	R	R
62		R	G	R	Y
63		R	G	R	Y

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL		TO	
		←	→
F	←	1	2
R	→	←	→
O	→	F	F
	←	F	F
	→	F	F
	←	F	F
	→	F	F

F = Flashing Yellow Arrow

2070L LOOP & DETECTOR INSTALLATION	INDUCTIVE LOOPS			DETECTOR PROGRAMMING				SYSTEM CABLE	NEN CABLE	Y
	LOOP SIZE	DISTANCE (FT)	URNS	NEN LOOP	CALIBRATION	PULL TIME REQD.	STRETCH TIME			
	2A	6X6	300	5	2	Y	Y			Y
	2B	6X6	300	5	2	Y	Y			Y
	3A	6X60	0	2-4-2	3	Y	Y			Y
	4A	6X60	0	2-4-2	4	Y	Y			Y
	4B	6X6	0	4	Y	Y				Y
	5A	6X60	0	2-4-2	5	Y	Y			Y
	5B	6X60	0	2-4-2	2	Y	Y			Y
	6A/526	6X6	300	4	5	Y	Y			Y
	6B/527	6X6	300	4	6	Y	Y			Y
	6C	6X60	0	2-4-2	6	Y	Y			Y

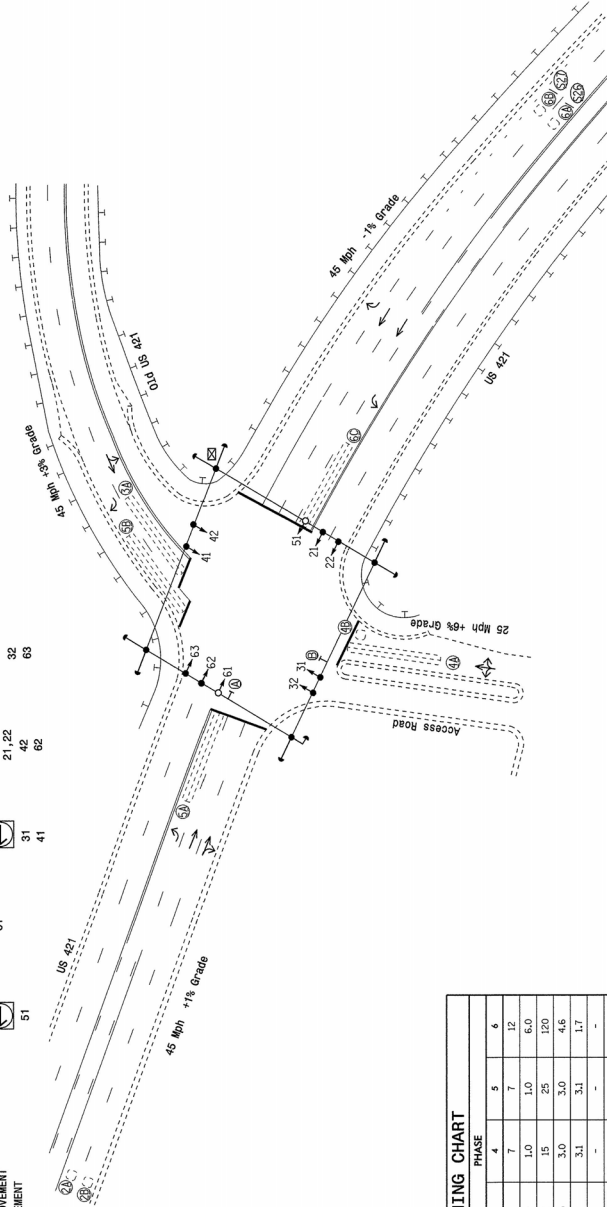
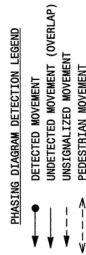
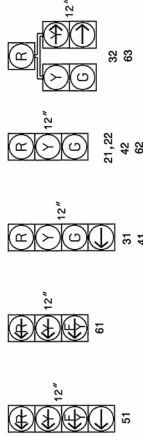
4 Phase
Fully Actual
US 421 (King Street) Clo

NOTES

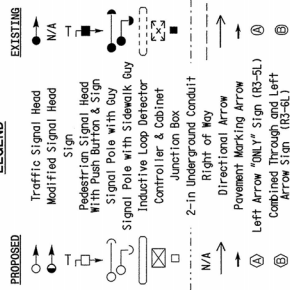
1. Refer to Drawings "N007" Standard
Refer to Drawings "N007" dated July
2006 and "Standard
Specifications for Roads and
Structures" dated July 2006.
2. Do not program signal for late
night flashing operation by
unless otherwise directed by
the Engineer.
3. Phase 5 may be lagged.
4. Reposition existing signal
heads 21 and 22.
5. Set all detector units to
presence mode.
6. Locate new cabinet so as not
to obstruct sight distance of
vehicles turning right on red.
7. Movement markings are existing.
8. Maximum flow shown in Timing
Diagram for structure
operation only. Coordinated
signal system timing values
supersede timing values.
9. Closed loop system data:
Controller Asset #: 1302.

SIGNAL FACE I.D.

All Heads L.E.D.



LEGEND

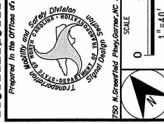


20701 TIMING CHART

FEATURE	PHASE					
	2	3	4	5	6	
Min Green 1 *	12	7	7	7	12	
Extension 1 *	6.0	1.0	1.0	1.0	6.0	
Min Green 1 *	120	20	15	25	120	
Yellow Clearance	4.6	4.3	3.0	3.0	4.6	
Red Clearance	1.7	1.5	3.1	3.1	1.7	
Work 1 *	-	-	-	-	-	
Don't Walk 1	-	-	-	-	-	
Second Per Advection *	1.5	-	-	-	1.5	
Max Variable Initial *	34	-	-	-	34	
Time Before Reduction *	50	-	-	-	20	
Time To Redown *	40	-	-	-	40	
Minimum Gap	3.0	-	-	-	3.0	
Min Recall	MIN RECALL	-	-	-	MIN RECALL	
Recall Mode	Recall Mode	-	-	-	3.0	
Vehicle Call Memory	Vehicle Call Memory	-	-	-	YELLOW	
Dead Entry	-	-	-	-	-	
Source: www.fhwa.gov	ON	ON	ON	ON	ON	

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade



US 421

at

Old US 421/Access Road

Division 11

Watuga County

Near Deep Gap

PLAN DATE: May 2009

REVIEWED BY:

PREPARED BY: B. E. MYON

REVIEWED BY:

REVISING

INIT.

DATE

January 22, 2026



TRANSPORTATION IMPACT ANALYSIS

Boone Church Development

Project # 250065

Prepared For: McLeod Architecture

226



Transportation Impact Analysis

Boone Church Development Boone, NC

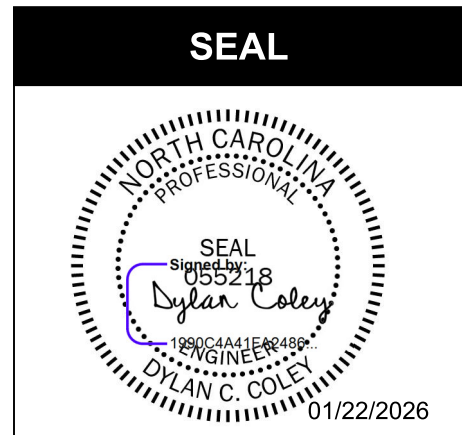
Prepared for
McLeod Architecture

January 22, 2026

Graphics by: Clayton Cole

Reviewed by: Dionne C. Brown, PE

Analysis and
Sealed by: Dylan Coley, PE



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EXECUTIVE SUMMARY

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access¹. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

DAVENPORT was retained to determine the potential traffic impact of this development and to identify transportation improvements that may be required to accommodate the new development traffic.

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the North Carolina Department of Transportation (NCDOT), the Town of Boone, and Watauga County. This site has a Sunday trip generation potential of 515 daily trips with 170 trips in the peak hour, and a weekday potential of 124 daily trips with 5 trips in the AM peak hour.

In conclusion, this study has determined the potential traffic impact of this development and determined that no improvements are necessary to mitigate future traffic. The proposed site is not expected to have a detrimental effect on transportation capacity and mobility in the study area. The site access recommendations summarized in Figure A and in Table A should be constructed to comply with applicable NCDOT *Policy on Street and Driveway Access to North Carolina Highways* standards.

Table A – Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
US 421 and Old US 421	No improvements are recommended
Old US 421 and Site Access	- Install the site access with one ingress lane and two egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage - Design the site access in accordance with applicable NCDOT standards

¹ Per the North Carolina Department of Transportation, driveways on “Partial Control of Access” roadways “...are normally defined as a maximum of one connection per parcel” and connections “...may be restricted or prohibited if alternate access is available through other adjacent public facilities.” Given the proposed connection to Old US 421, a second connection to US 421 is not feasible.

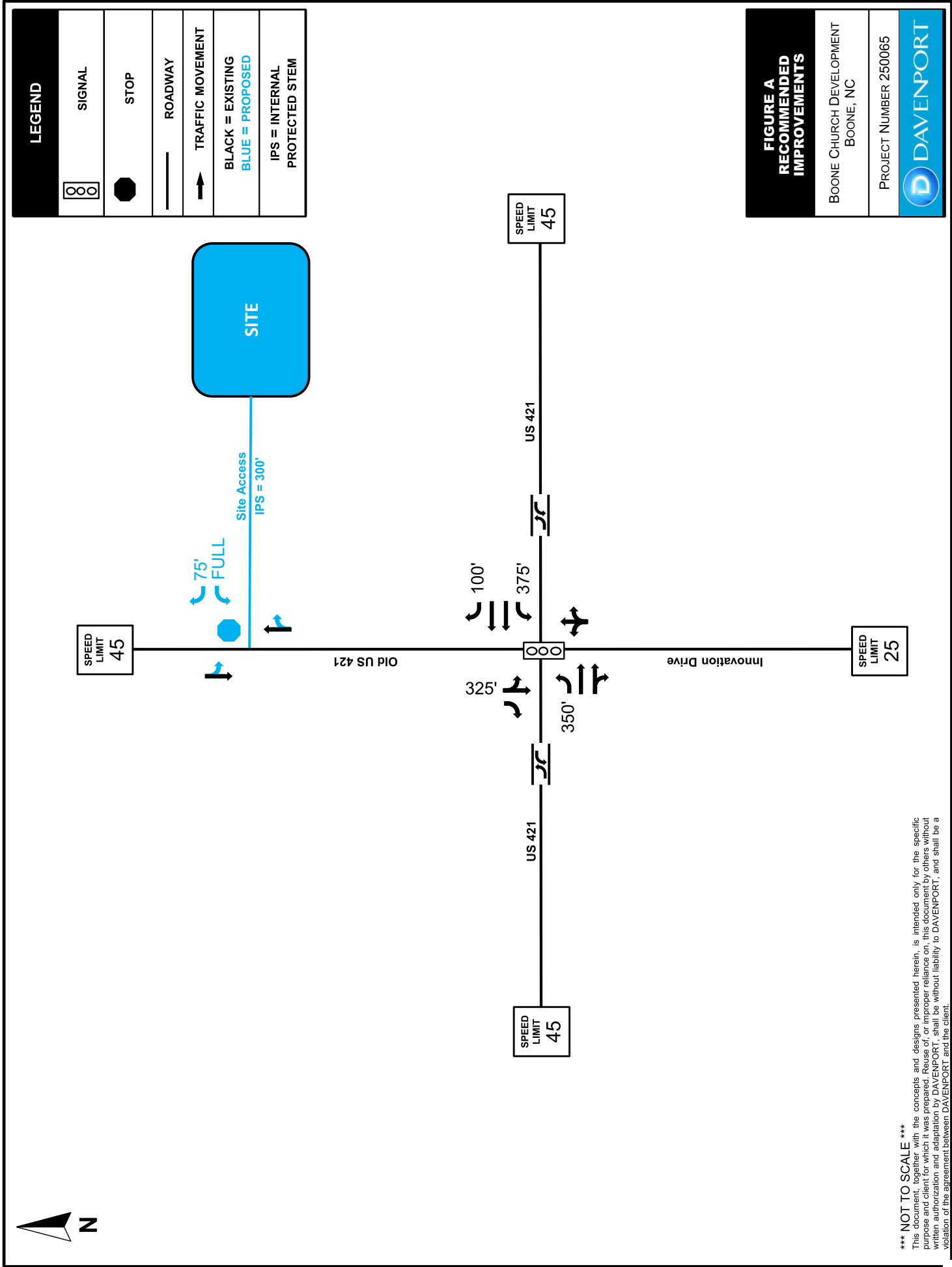




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1.0 Introduction

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

A conceptual site plan is shown in Figure 1, and a site location map and a vicinity map are provided in Figures 2A and 2B, respectively.

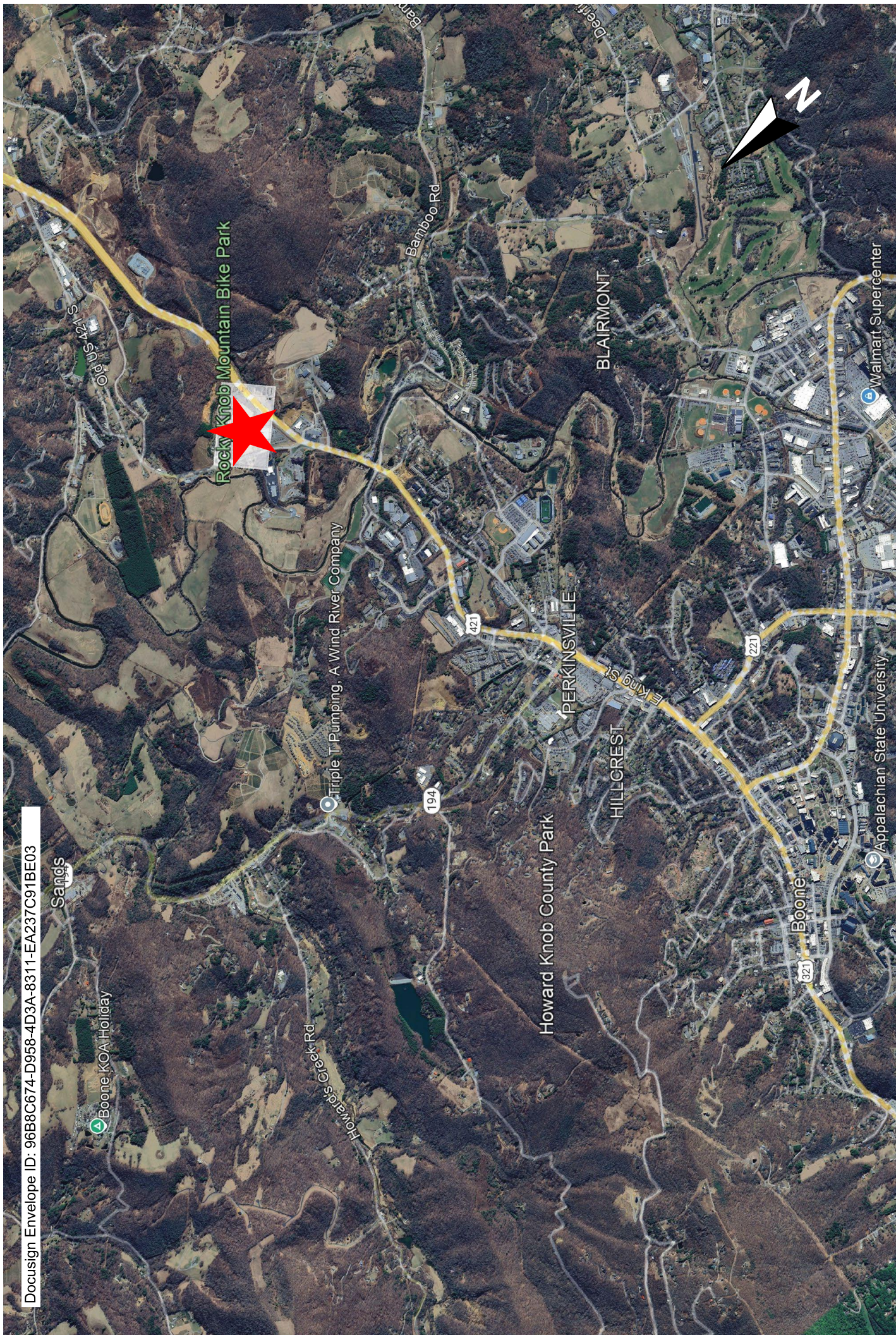
DAVENPORT was retained to determine the potential traffic impact of this development and to identify transportation improvements that may be required to accommodate the new development traffic. The following intersections are included in the study:

- US 421 and Old US 421/Innovation Drive (signalized)
- Old US 421 and Site Access (unsignalized)

These intersections were analyzed during the Sunday peak and weekday AM peak hours for the following conditions:

- 2026 Existing Conditions
- 2027 Future No Build Conditions
- 2027 Future Build Conditions
- 2027 Future Build Conditions + Improvements

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the Town of Boone, Watauga County, and North Carolina Department of Transportation (NCDOT). It was conducted according to the standards and best practices of the transportation engineering profession.







2.0 Existing Conditions

2.1 Inventory

Table 2.1 presents a summary of the study area roadway conditions. Figure 3 shows the existing lane geometry.

Table 2.1 - Street Inventory						
Facility Name	Route #	AADT (vpd)	Typical Cross Section	Lane Width	Speed Limit (MPH)	Maintained By
Old US 421	SR 1416	3,600 ¹	2-lane undivided	10 feet	45	NCDOT
US 421	US 221-421	27,000 ²	5-lane TWLTL divided	12 feet	45	NCDOT
Innovation Drive	n/a	Not reported	2-lane undivided	9 feet	25	Town of Boone
¹ Based on NCDOT traffic counts taken in 2022						
² Based on NCDOT traffic counts taken in 2023						

2.2 Existing Traffic Volumes

Turning movement counts for this project were collected by Marr Traffic Data Collection when local public schools were in session. Table 2.2 contains the location, dates, and times these counts were conducted. Additionally, a minimum of four vehicles per hour were assigned to all movements, per NCDOT Congestion Management standards. The existing Sunday peak and weekday AM peak hour volumes are shown in Figure 4. Traffic count data are provided in the Appendix.

Table 2.2 - Traffic Volume Data		
Count Location	Date Taken	Hours
US 421 at Old US 421 (signalized)	Sunday, January 11, 2026 Tuesday, January 13, 2026	6 AM - 7 PM 7-9 AM

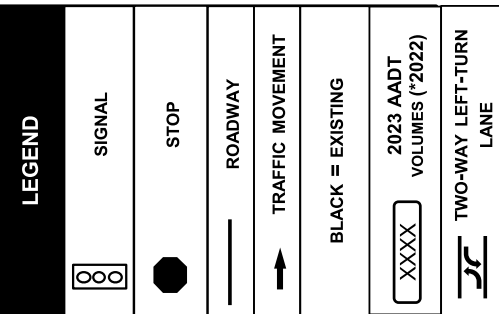


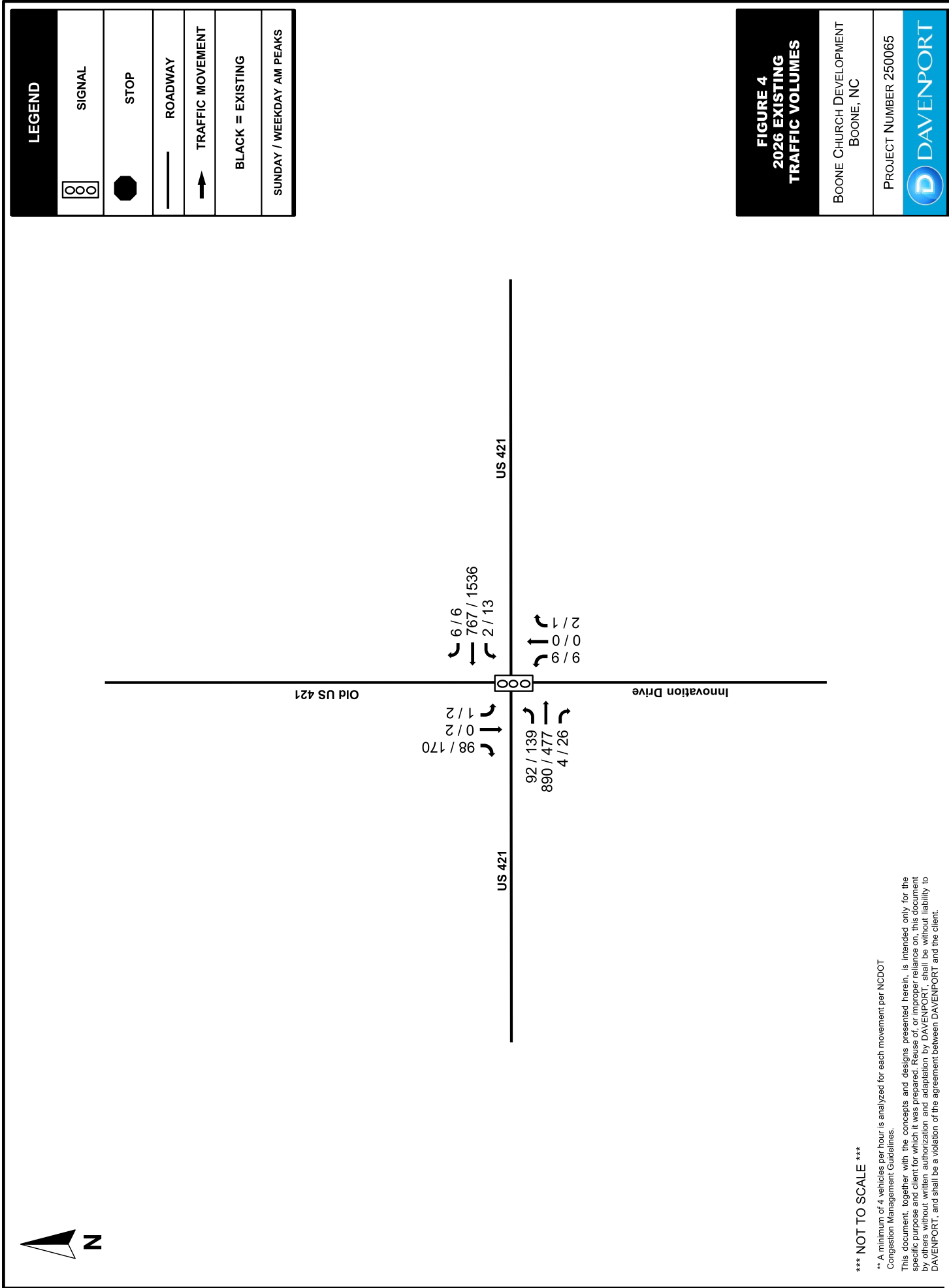
FIGURE 3 EXISTING LANE GEOMETRY

BOONE CHURCH DEVELOPMENT
BOONE, NC

PROJECT NUMBER 250065



*** NOT TO SCALE ***





3.0 Approved Development and Committed Improvements

3.1 *Approved Developments*

Approved developments are projects that have been authorized in the area but are not yet constructed. Per the approved scoping document, there are no approved developments to consider for this study site.

3.2 *Committed Improvements*

Committed improvements are projects planned by NCDOT, Watauga County, or the Town of Boone, or that are associated with a prior approved development(s) in the area but are not yet constructed. Per the approved scoping document, there are no committed improvements to be included in this study.

4.0 Methodology

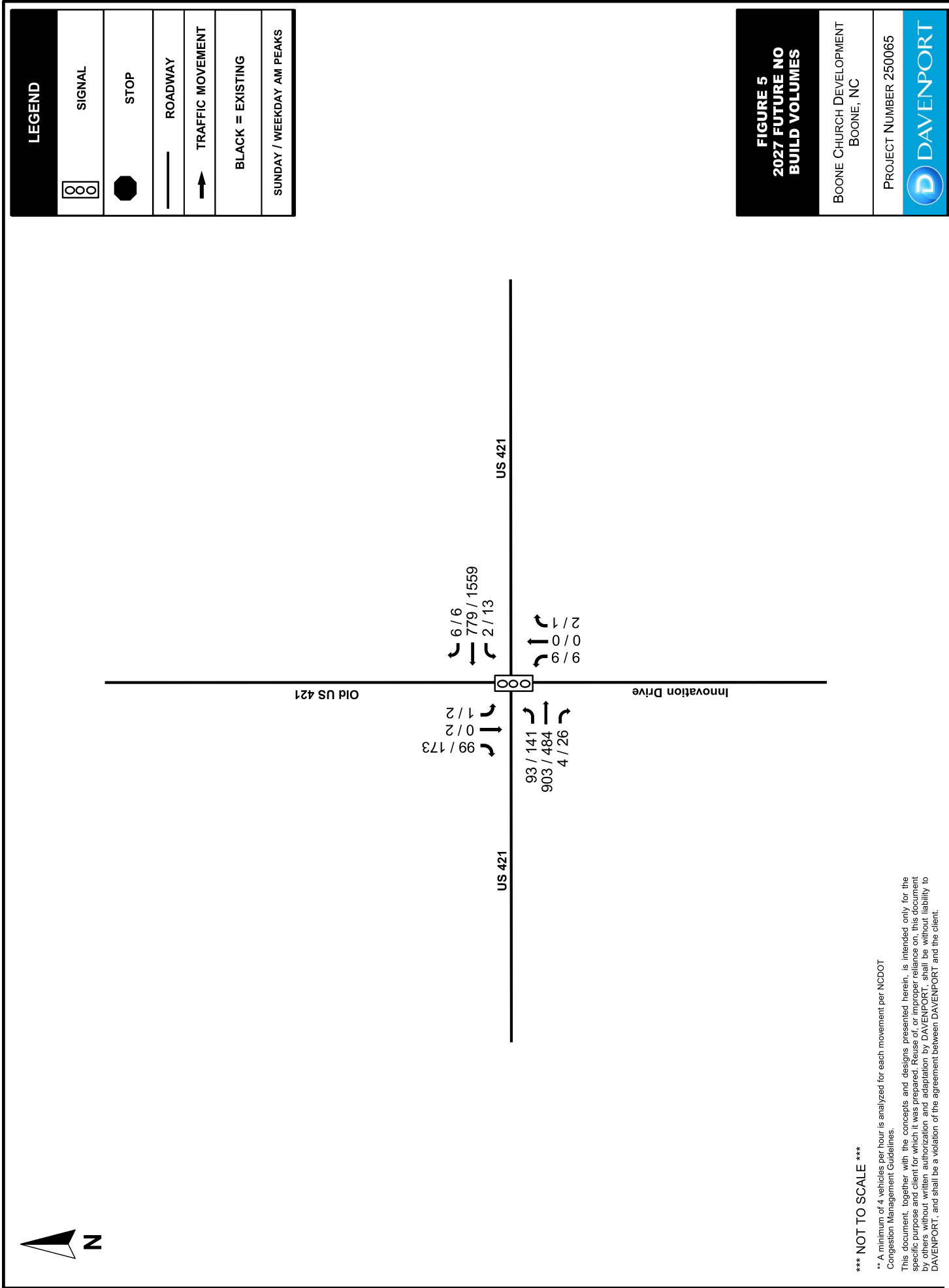
4.1 *Baseline Assumptions and Standards*

In general, the analysis for this project was conducted utilizing commonly accepted NCDOT standards. Free-run signal timings were used for the analysis, as coordinated system timings were not readily available. Table 4.1 contains a summary of the baseline assumptions.

Table 4.1 - Assumptions	
Annual Growth Rate	1.5%
Analysis Software	Synchro/SimTraffic
Lane Widths	12 feet
Peak Hour Factor	0.90
Truck Percentage	2%

4.2 *Future No Build Volumes*

The 2027 Future No Build traffic volumes were computed by applying a one-and-a-half percent (1.5%) compounded annual growth rate to the 2026 Existing traffic volumes. Figure 5 shows 2027 Future No Build traffic volumes for the Sunday peak and weekday AM peak.





4.3 Trip Generation

The proposed development will contain a 16,370 square-foot church. The trip generation potential of this site was projected based on the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* and guidance from NCDOT Congestion Management on the selection of appropriate variables. Table 4.2 presents the results.

Table 4.2 - ITE 11th Edition Trip Generation										
ITE Land Use and Code	Size	Data Source	Sunday Daily	Sunday Peak Hour			Weekday Daily	Weekday AM Peak Hour		
			Total	Enter	Exit	Total	Total	Enter	Exit	Total
Church, 560	16.37 kSF	*-Rate	515	81	89	170	124	3	2	5
Total Trips			515	81	89	170	124	3	2	5

**Adjacent street data is the preferred NCDOT method. ITE 11 does not provide adjacent data for Sunday. Adjacent used for Weekday, Generator for Sunday*

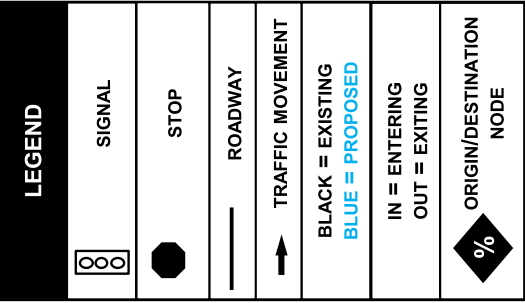
4.4 Trip Distribution and Assignment

Site trips for this proposed development were distributed based on the existing traffic patterns and engineering judgment. The trip distribution model is shown in Figure 6. The directional distribution for site trips is:

- 65% to/from the west via US 421
- 20% to/from the east via US 421
- 15% to/from the north via Old US 421

4.5 Future Build Volumes

Site trip volumes were added to the future no build volumes to compute the 2027 Future Build volumes. Site trips are shown in Figure 7 and Future Build volumes are shown in Figure 8.



DAVENPORT

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5.0 Capacity Analysis

5.1 Level of Service Evaluation Criteria

The Transportation Research Board's *Highway Capacity Manual* (HCM) utilizes the term "level of service" (LOS) to measure how traffic operates in intersections and on roadway segments. There are six levels of service ranging from A to F as shown in Table 5.1. Level of service "A" represents low-volume traffic operations and level of service "F" represents high-volume, oversaturated traffic operations. Synchro traffic modeling software is used to determine the LOS and delay for study intersections. Synchro analysis worksheet reports are provided in the Appendix.

Table 5.1 – Highway Capacity Manual			
Levels of Service and Control Delay Criteria			
Signalized Intersection		Unsignalized Intersection	
Level of Service	Control Delay Per vehicle (seconds)	Level of Service	Delay Range (seconds)
A	≤ 10	A	≤ 10
B	> 10 and ≤ 20	B	> 10 and ≤ 15
C	> 20 and ≤ 35	C	> 15 and ≤ 25
D	> 35 and ≤ 55	D	> 25 and ≤ 35
E	> 55 and ≤ 80	E	> 35 and ≤ 50
F	> 80	F	> 50

5.2 Queueing Evaluation

A queueing analysis was performed using Synchro and SimTraffic simulation, based on a minimum 10-minute seeding, a 60-minute recording period, and 10 runs. The maximum SimTraffic queues and 95th-percentile Synchro queues are provided, along with the turn lane lengths. Synchro and SimTraffic queue reports are provided in the Appendix.

5.3 Level of Service and Queueing Results

The results of the capacity and queue analyses are discussed by intersection in the following paragraphs. The LOS, delay, and queue results are summarized in Tables 5.2 and 5.3.



US 421 and Old US 421/Innovation Drive (signalized)

Under Existing conditions, the signalized intersection operates at LOS A during the Sunday peak hour and LOS B during the weekday AM peak hour. Under Future No Build and Future Build conditions, it operates at LOS B during the Sunday peak and LOS C during the weekday AM peak. Expected queues are contained by the available storage under all conditions. No improvements are recommended.

Table 5.2 - US 421 and Old US 421/Innovation Drive

Scenario	Overall	Level of Service per Movement & by Approach (delay in seconds/vehicle)							
		Eastbound		Westbound		Northbound		Southbound	
Sunday Peak Hour									
2026 Existing	A (6.6)	L	TR	L	T	R	LTR	LT	R
		A (3.7)	A (2.7)	A (8.8)	A (8.8)	A (3.3)	C (28.3)	C (28.3)	C (23.0)
		A (2.8)		A (8.8)				C (23.4)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	39	178	7	221	6	30	18	70
	Max Queue (ft)	69	109	18	168	5	48	29	102
2027 Future No Build	B (10.8)	L	TR	L	T	R	LTR	LT	R
		C (33.8)	A (4.7)	B (13.5)	B (13.2)	A (6.7)	D (36.1)	D (35.7)	C (20.6)
		A (7.4)		B (13.1)				C (21.6)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	106	179	7	250	7	31	18	71
	Max Queue (ft)	108	134	20	164	6	50	31	112
2027 Future Build	B (13.7)	L	TR	L	T	R	LTR	LT	R
		D (35.7)	A (5.3)	B (16.5)	B (17.0)	A (8.3)	D (40.5)	D (40.7)	C (20.2)
		A (9.5)		B (16.7)				C (22.7)	
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	158	186	8	283	18	33	41	105
	Max Queue (ft)	155	130	24	192	29	50	58	145


Table 5.2 (cont.) - US 421 and Old US 421/Innovation Drive

Scenario	Overall	Level of Service per Movement & by Approach (delay in seconds/vehicle)							
		Eastbound		Westbound		Northbound		Southbound	
Weekday AM Peak Hour									
2026 Existing	B (16.8)	L	TR	L	T	R	LTR	LT	R
		C (23.4)	A (2.4)	A (9.8)	B (15.3)	A (5.3)	E (64.3)	E (64.9)	E (62.1)
		A (6.9)		B (15.2)		E (62.2)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	137	84	15	725	7	48	28	238
	Max Queue (ft)	149	75	25	339	30	51	30	232
2027 Future No Build	C (21.0)	L	TR	L	T	R	LTR	LT	R
		E (62.6)	A (2.7)	B (10.7)	B (18.2)	A (6.0)	E (69.1)	E (69.3)	E (60.6)
		B (15.7)		B (18.1)		E (60.9)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	#269	85	15	744	7	49	29	247
	Max Queue (ft)	201	73	29	302	46	49	34	220
2027 Future Build	C (21.0)	L	TR	L	T	R	LTR	LT	R
		E (62.7)	A (2.7)	B (10.8)	B (18.3)	A (5.9)	E (69.2)	E (69.4)	E (60.6)
		B (15.8)		B (18.1)		E (61.0)			
	Available Storage (ft)	350	FULL	375	FULL	100	FULL	325	FULL
	95th% Queue (ft)	#274	85	15	744	7	49	29	248
	Max Queue (ft)	201	74	23	349	105	60	37	236

Notes: # 95th percentile volumes exceeds capacity; queue may be longer.



Old US 421 and Site Access (unsignalized)

The worst (westbound) approach operates at LOS B during both the Sunday peak and weekday AM peak periods. The need for left- and right-turn lanes was reviewed based on the turn lane nomograph in the NCDOT *Policy on Street and Driveway Access to North Carolina Highways*. Based on projected Sunday peak hour volumes, the nomograph advises the construction of a northbound right-turn lane with 75 feet of storage. Old US 421 had a 2022 average annual daily traffic (AADT) of 3,600 vehicles per day. The threshold above which turn lanes can be required on NCDOT roadways is 4,000 vehicles per day (vpd). While growth since 2022 may yield a current AADT greater than 4,000 vpd, NCDOT AADT data is based on weekday traffic volumes. The turning movement counts described in Section 2 indicate that the Sunday traffic volumes are significantly less than weekday volumes, likely below 4,000 vpd. The Synchro and SimTraffic analyses indicate that the intersection operates with an adequate LOS and minimal queuing without any turn lane in place. No turn lane improvements are recommended on Old US 421. It is recommended that the site access be designed with one ingress lane and two stop-controlled egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage. The site access should be designed in accordance with applicable NCDOT standards.

Table 5.3 - Old US 421 and Site Access					
Scenario	Worst Approach	Level of Service per Movement & by Approach (delay in seconds/vehicle)			
		Westbound		Northbound	Southbound
Sunday Peak Hour					
2027 Future Build	B (10.6) WB Approach	L	R	TR	LT
		B (10.9)	A (9.1)	A (0.0)	A (7.6)
		B (10.6)			
	Available Storage (ft)	FULL	75	FULL	FULL
	95th% Queue (ft)	10	0	0	0
	Max Queue (ft)	65	19	2	41
Weekday AM Peak Hour					
2027 Future Build	B (10.0) WB Approach	L	R	TR	LT
		B (10.8)	A (9.1)	A (0.0)	A (7.6)
		B (10.0)			
	Available Storage (ft)	FULL	75	FULL	FULL
	95th% Queue (ft)	0	0	0	0
	Max Queue (ft)	20	13	0	13



6.0 Sight Distance

A review of sight distance requirements at the Site Access was performed based on AASHTO and NCDOT standards. Old US 421 has a posted speed limit of 45 miles per hour (mph). A design speed of 5 mph over the speed limit was used for the sight distance review. The site access should be designed to comply with the sight distance requirements summarized in Table 6.1.

Table 6.1 – Sight Distance Review								
Location	Intersecting Street	Width of Crossing	Speed Limit (mph)	Design Speed (mph)	AASHTO Required ISD (feet)		NCDOT Required ISD (feet)^	
					Left Turn	Right Turn	Left Turn	Right Turn
Site Access	Old US 421	2 lanes	45	50	555	480	500	500
^Per Section 7B of the NCDOT <i>Driveway Manual</i> that indicates ISD for a crossing maneuver.								

7.0 Internal Protected Stem

The NCDOT *Policy on Street and Driveway Access to North Carolina Highways*, or the Driveway Manual, states that the length of the internal protected stem (IPS) will be determined from the maximum vehicle storage required as measured from the right-of-way line to the nearest conflict point with a minimum recommendation of 100 feet. For the purposes of this report, the IPS is estimated from the edge of right-of-way as shown in the preliminary conceptual site plan. Table 7.1 summarizes the maximum storage recorded in the analysis as compared to the estimated IPS.

Table 7.1 – Queue Lengths on Site Driveways					
Site Drive	Estimated IPS (feet)	95 th -ile Queue (feet)		Maximum Queue (feet)	
		Sunday Peak	Weekday AM	Sunday Peak	Weekday AM
Site Access	300	10	0	65	20



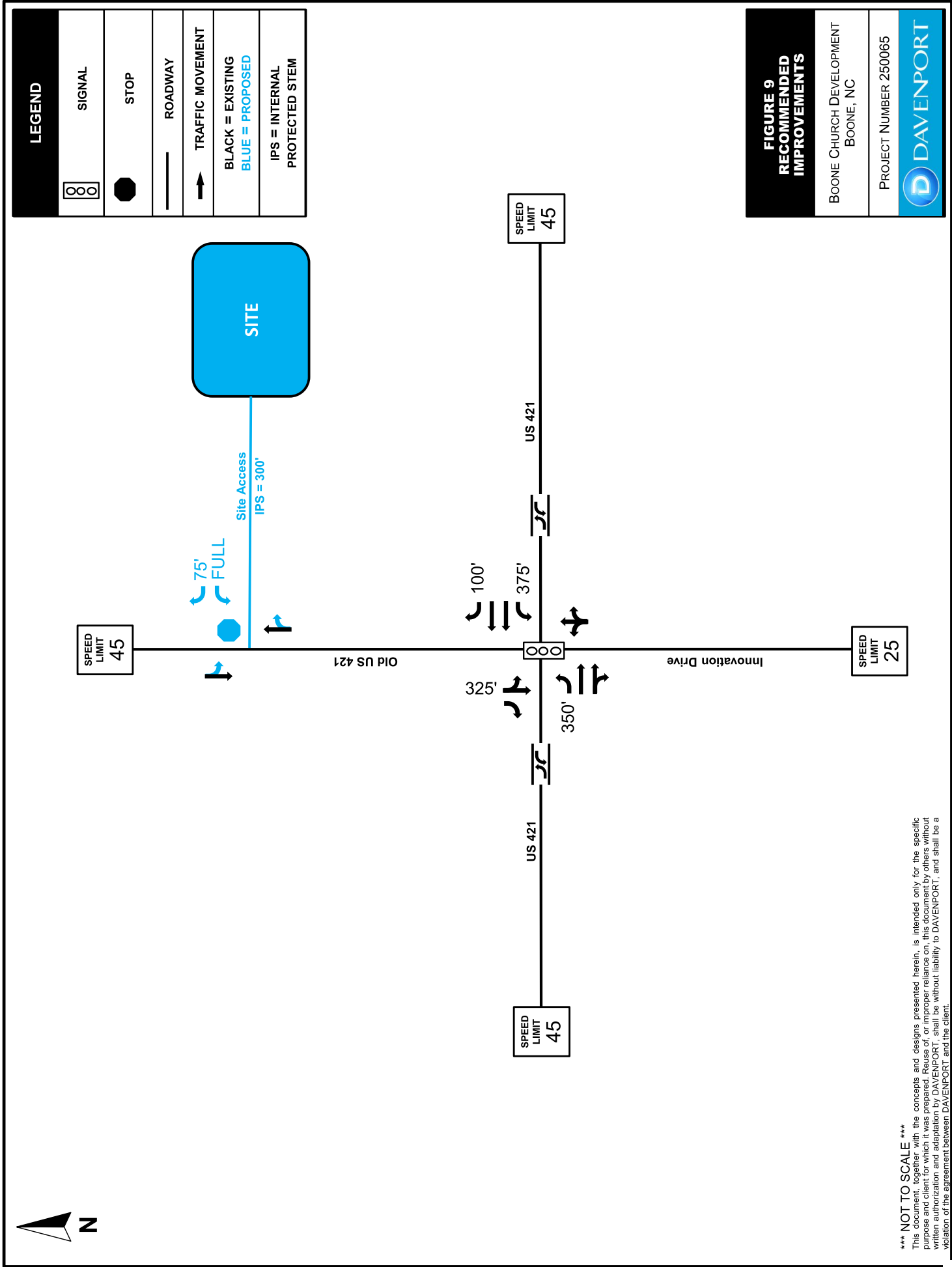
8.0 Summary and Conclusion

The Boone Church proposed development is located on Old US 421 between US 421 and Martin Lane in Boone, North Carolina. It will consist of a 16,370 square-foot church building. One full movement access point is proposed on Old US 421; no direct access is proposed to US 421, as US 421 is a roadway facility with partial control of access. The expected build-out year for this development is 2027. Information regarding the property was provided by McLeod Architecture.

The Transportation Impact Analysis (TIA) was performed based on the scope agreed upon with the North Carolina Department of Transportation (NCDOT), the Town of Boone, and Watauga County. This site has a Sunday trip generation potential of 515 daily trips with 170 trips in the peak hour, and a weekday potential of 124 daily trips with 5 trips in the AM peak hour.

In conclusion, this study has determined the potential traffic impact of this development. The anticipated transportation impact of the proposed development can be accommodated. The site access recommendations summarized in Figure 9 and in Table 8.1 should be constructed to comply with applicable NCDOT *Policy on Street and Driveway Access to North Carolina Highways* standards.

Table 8.1 – Recommended Improvements	
INTERSECTION	RECOMMENDATIONS
US 421 and Old US 421	No improvements are recommended
Old US 421 and Site Access	- Install the site access with one ingress lane and two egress lanes – a full left-turn lane and a right-turn lane with 75 feet of storage - Design the site access in accordance with applicable NCDOT standards





Appendix



Approved Scoping Documents



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: Boone Church Development **Previous Name:** If Applicable

Location: Parcel ID #2921-30-9963-000 **County:** Watauga **Municipality:** Boone

Project Description: 16,370 SF Church located on Old US 421 between US 421 and Martin Lane

Project Contact:	Applicant
Company Name	McLeod Architeture
Contact Person	Mike McLeod
Phone Number	910-270-9778
Email	mike@mcleodarchitecpa.com
Mailing Address	72 South End Court, Hamstead, NC 28443

TIA Consultant
DAVENPORT
Dylan Coley, PE
919-874-5772
dcoley@davenportworld.com
4600 Marriot Drive, Suite 350
Raleigh, NC 27612

Site Plan Prepared By: Valor Engineering

See site plan/vicinity map requirements on page 2.

Parcel Size: 13.26 Acre(s)

Site Plan Date: 12/05/2025

Anticipated Build-Out Year: 2027

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
560	Church	16.37	kSF	515	Generator	81	89	170				ITE Rate
Total		16.37		515		81	89	170				

Refer to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#) for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: Sunday peak hour of generator value used, ITE does not have adjacent values reported.

- ☐ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.
- ☐ The estimated site trips meet the municipal TIA trip threshold of _____
- ☐ This project is located in a known [STIP](#) and/ or local CIP project # _____
- ☐ This project includes a rezoning request.
- ☐ The proposed site access is located within 1,000 feet of an interchange.
- ☐ The Applicant requests for a new or modified control-of-access break.
- ☐ The Applicant requests for a new or modified median break.

Applicant's Signature _____ Mike McLeod _____ Date _____



NCDOT Traffic Impact Analysis Need Screening / Scoping Request



Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: Boone Church Development **Project Reference Number:** _____

- ☐ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.
- ☐ **A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

- ☐ **A TIA is NOT required.** This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division _____ District _____ on _____.

NCDOT District Representative's Signature
Email concurrence may be used in lieu of the signature.

Print Name



NCDOT TIA Scoping Checklist



Project Name: Boone Church Development

TIA Scoping Date: 12/11/25

☐ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.

Refer to NCDOT's [Policy on Street and Driveway Access to North Carolina Highways](#) pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Old US 421 S	Conventional Full-Mvmt	2-Way Stop	1400	North	US 421
Access B						
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						
Existing Access	Existing Intersection of		Access Modification	Proposed Interconnectivity (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1			Please Select	Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐

Proposed K-12 School Site

☐ NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.

☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).



NCDOT TIA Scoping Checklist



☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
560	Church	16.37	kSF	515	Generator	81	89	170				ITE Rate
Unadjusted Site Trips				515		81	89	170				
Internal Capture Trips (Attach Calculation Sheets)												Please Select
Internal Capture % of Unadjusted Site Trips				%		%			%			
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
		Please Select		%		%			%			Please Select
				%		%			%			
				%		%			%			
				%		%			%			
				%		%			%			
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

Sunday peak hour of generator value used, ITE does not have adjacent values reported.

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												



NCDOT TIA Scoping Checklist



☒ Trip Distribution

- ☒ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- ☐ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- ☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- ☐ Inter-Development Trips (if 'internal' trips cross public streets)
- ☐ Pass-By Trips
- ☐ Diverted Trips
- ☐ Each Analysis Period

☐ Mode Split

- ☐ Provide Data Source and Justification

Mode Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

- ☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ Analysis Peak Periods:

- ☐ Weekday AM Peak _____
- ☐ Weekday PM Peak _____
- ☐ Weekday Midday Peak _____
- ☐ Weekday PM School Peak _____
- ☒ Weekend Sunday Peak Peak hour as identified in collected traffic counts
- ☐ Other _____



NCDOT TIA Scoping Checklist



☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under “Site Plan and Access” on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	US 421	Old US 421	Signal	Require New Counts			
#2	Old US 421 S	Site Access	2-Way Stop				Proposed
#3							
#4							
#5							
#6							
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101			Please Select	Please Select		Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

- ☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.
- ☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:
 intersections numbered: _____
 and access points numbered: _____
- ☐ Traffic Forecast Data for TIP: _____
- ☒ Roadway/Intersection Configuration & Traffic Control
- ☒ Traffic Signal Phasing & Timing Data
- ☐ Crash Data: _____ Period: _____
- ☐ Other: _____



NCDOT TIA Scoping Checklist



☒ Future Year Conditions

☒ Project Build-Out Year: 2027

☒ Future Analysis Year(s): 2027

☐ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description		Year Complete
Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements

☒ Annual Growth Factor: 2.5 %

Justification/Data Source: from historical AADT data, see attached excel sheet

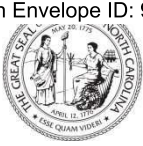
☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

None assumed, advise otherwise

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #



NCDOT TIA Scoping Checklist



☒ Study Method

The traffic analysis shall follow the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:
- ☐ 5. TIP Design Year Analysis _____
- ☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- ☐ Signal Warrant Analysis for accesses/intersections _____
- ☐ Multi-Modal Level of Service Analysis
- ☐ School Loading Zone Traffic Simulation
- ☐ Phasing Analysis (scope separately as needed)
- ☐ Safety/Crash Analysis
- ☐ Control-of-Access Modification Justification
- ☐ Median Break / Modification Justification
- ☐ Other _____

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☐ Div. Traffic Engr ☐ Regional Traffic Engr ☐ Congestion Management ☐ Other _____

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required		Please Select	
Draft TIA Report	Required			
Final Sealed TIA Report	Required			

☐ **Additional Comments** (municipal TIA requirements, approved variations from NCDOT guidelines)



NCDOT TIA Scoping Checklist



Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire ____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

_____	Mike McLeod	_____
Signature	Print Name	Date

TIA CONSULTANT

_____	Dylan Coley	_____
Signature	Print Name	Date

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____	_____	_____
Signature	Print Name	Date

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division ____ District ____ on _____.

_____	_____
Signature	Print Name

Email concurrence may be used in lieu of the signature.

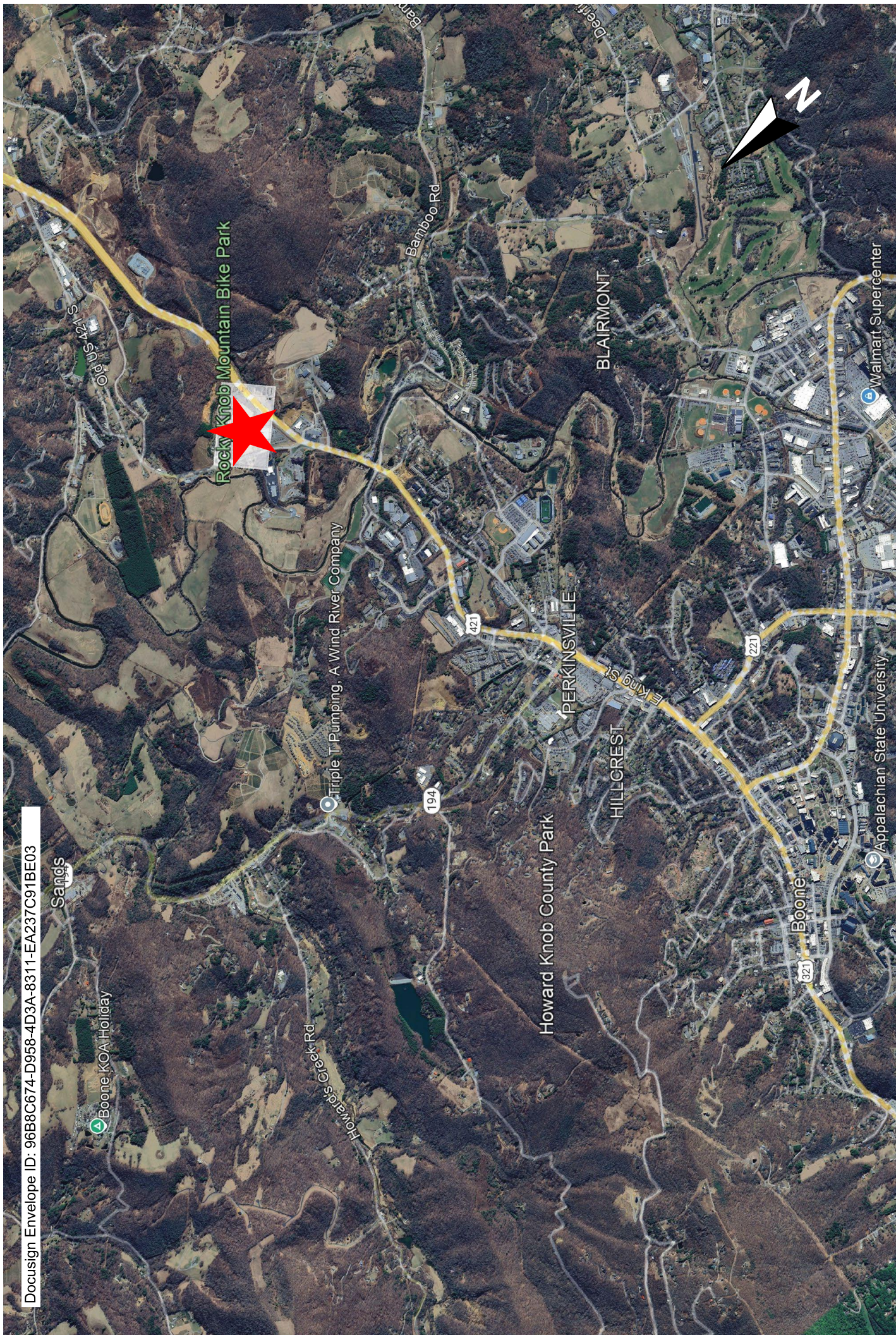
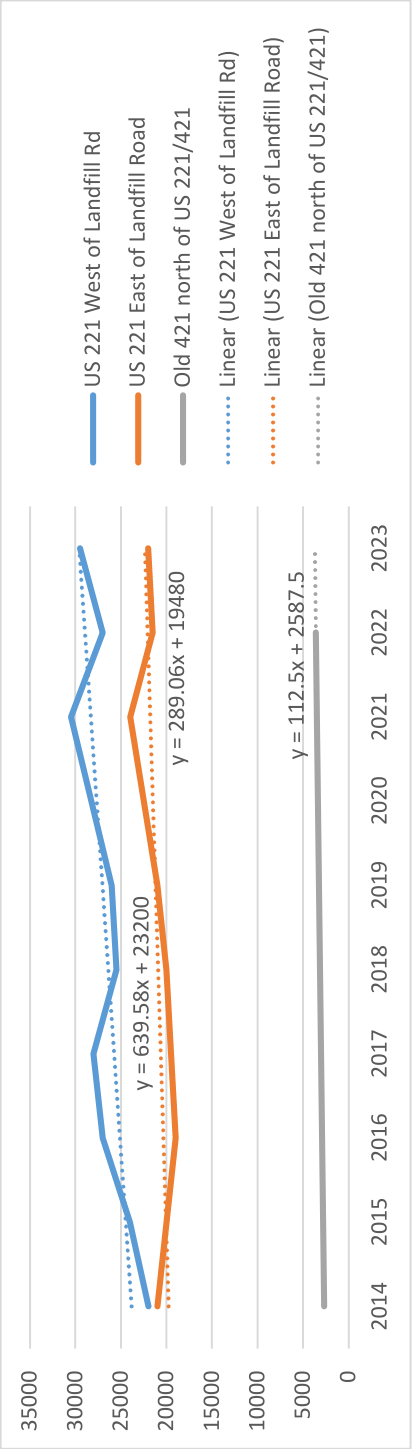




FIGURE 2B
VICINITY MAP

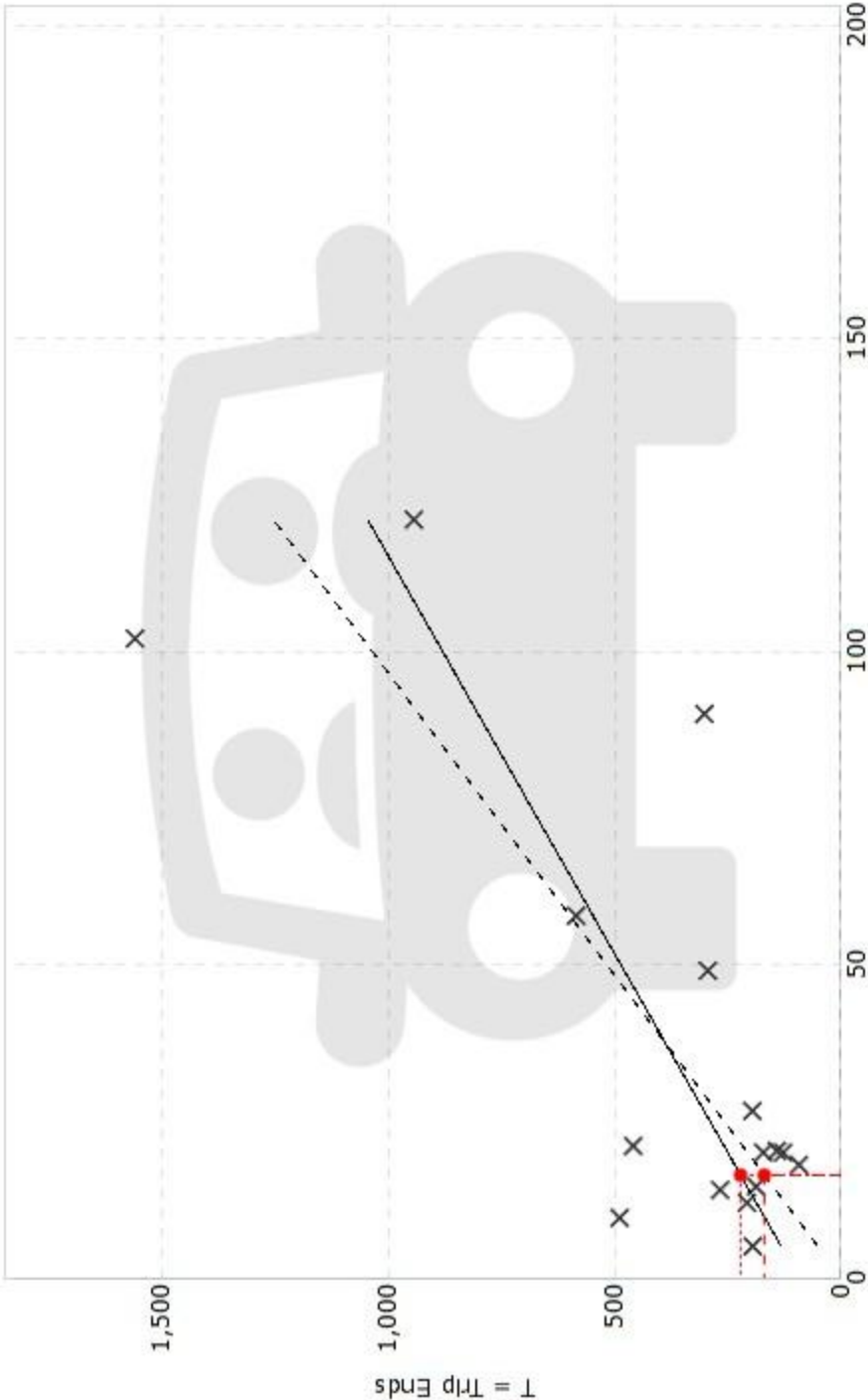
SITE INDICATOR
STUDY INTERSECTION

	US 221 West of Landfill Rd	US 221 East of Landfill Road	Old 421 north of US 221/421
	NCDOT AADT Volumes by Location		
2014	22000	21000	2700
2015	24000		
2016	27000	19000	
2017	28000		
2018	25500	20000	
2019	26000	21000	
2020			
2021	30500	24000	
2022	27000	21500	3600
2023	29500	22000	
Slope	639.58	289.06	112.50
Percent Slope	2.17	1.31	3.13
AVERAGE			2.2%





Data Plot and Equation



Reset Zoom

Restore

DATA STATISTICS

Land Use:

Church (560) [Click for Description and Data Plots](#)

Independent Variable:

1000 Sq. Ft. GFA

Time Period:

Sunday

Peak Hour of Generator

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

16

Avg. 1000 Sq. Ft. GFA:

38

Average Rate:

10.36

Range of Rates:

3.36 - 51.31

Standard Deviation:

7.83

Fitted Curve Equation:

$T = 7.87(X) + 93.13$

R²:

0.56

Directional Distribution:

48% entering, 52% exiting

Calculated Trip Ends:

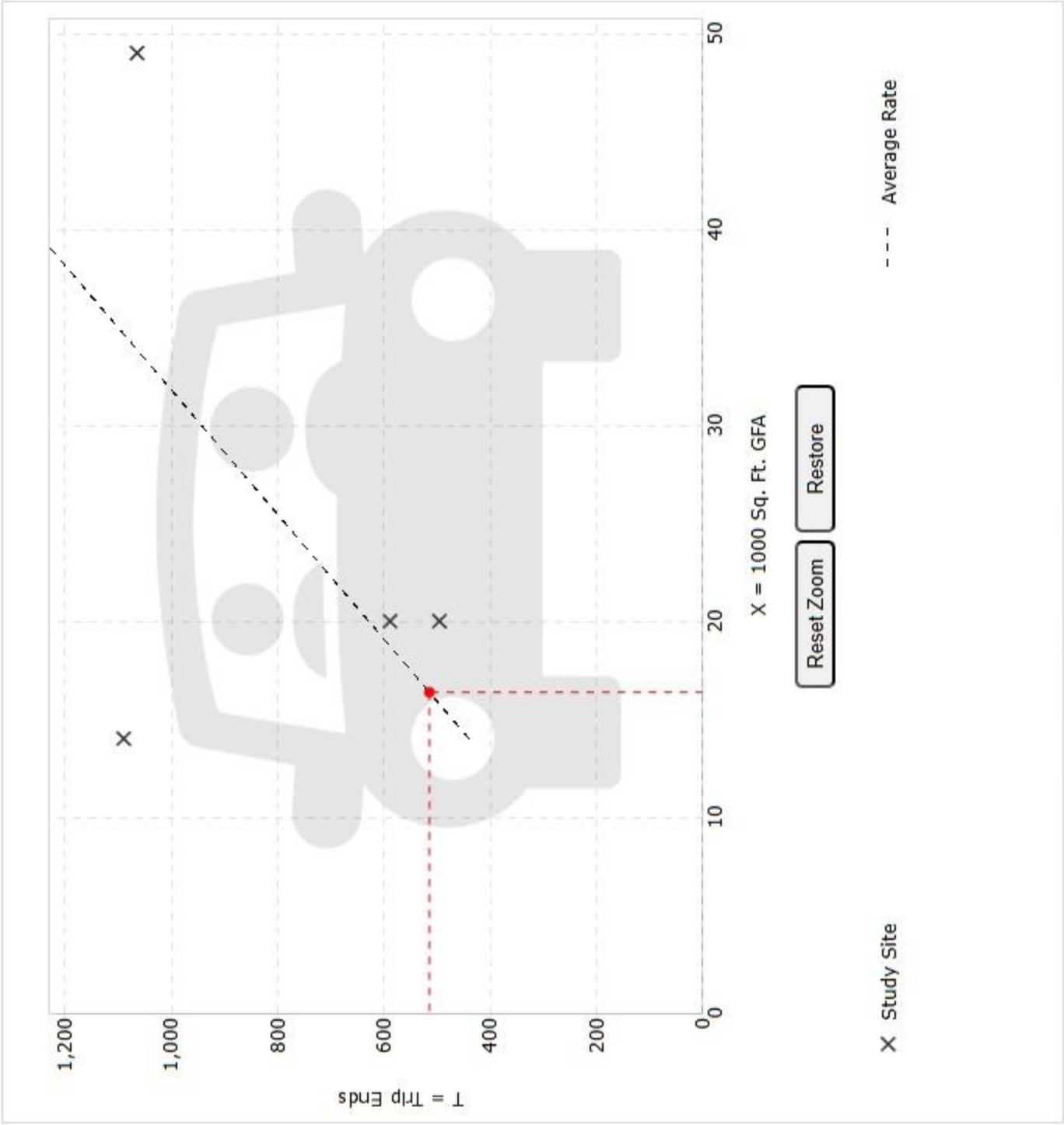
Average Rate: 170 (Total), 81 (Entry), 89 (Exit)

Fitted Curve: 222 (Total), 107 (Entry), 115 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Data Plot and Equation

Caution – Small Sample Size



DATA STATISTICS

Land Use:	Church (560) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Sunday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	4
Avg. 1000 Sq. Ft. GFA:	26
Average Rate:	31.46
Range of Rates:	21.73 - 77.86
Standard Deviation:	21.51
Fitted Curve Equation:	Not Given
R ² :	****
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 515 (Total), 258 (Entry), 257 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Boone Church Development

TIA SCOPING REVIEW

BULLET LIST OF CONGESTION MGMT. COMMENTS AND CONCERNS (SC-2025-243)

December 18, 2025

The Congestion Management Section (CMS) has performed a review of the scoping document for the proposed Boone Church Development prepared by Valor Engineering (received December 11, 2025). According to the document, the proposed development is to be located north of US 421 and east of SR 1416 (Old US 421). The scoping document states that the full build-out of the development is to be constructed by 2027 and is to consist of institutional land use and generates 515 daily trips. Based on our review, we have the following comments at this time:

Trip Generation

- The Trip Generation appears reasonable; however, weekday AM peak hour should be considered along with Sunday AM peak period.

Trip Distribution and Growth Rate

- Origin/destination distribution points appear reasonable; however, please ensure to provide trip distribution movements for entering and exiting during AM peak hours with TIA submittal. See Trip Generation comments.
- Growth rate of 2.5 percent appears high, consider using a rate of 1.5 percent.

Study Intersections

- Study intersections appear reasonable.

Site Plan and Proposed Driveways

- Site plan appears reasonable and appears to match with the trip generation.
- Please ensure that the proposed driveway(s) are in accordance with the NCDOT Driveway Manual and Internal Protected Stem lengths are provided with the TIA.

NOTE: This list should not be considered all-inclusive. Further review may identify additional areas of concern.



Capacity Analysis Synchro Worksheets



Existing Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	890	4	4	767	6	9	4	4	4	4	98
Future Volume (vph)	92	890	4	4	767	6	9	4	4	4	4	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.265			0.289								
Satd. Flow (perm)	491	3518	0	541	3557	1591	0	1753	0	0	1835	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	102	989	4	4	852	7	10	4	4	4	4	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	993	0	4	852	7	0	18	0	0	8	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

Exist Sunday Peak 3:15 pm 12/11/2025 Exist Sunday Peak

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	42.8	52.8		33.2	33.2	52.8		9.6			9.6	10.8
Actuated g/C Ratio	0.75	0.92		0.58	0.58	0.92		0.17			0.17	0.19
v/c Ratio	0.18	0.31		0.01	0.41	0.00		0.06			0.03	0.37
Control Delay	3.7	2.7		8.8	8.8	3.3		28.3			28.3	23.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	3.7	2.7		8.8	8.8	3.3		28.3			28.3	23.0
LOS	A	A		A	A	A		C			C	C
Approach Delay		2.8			8.8			28.3			23.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	0	0		0	53	0		5			2	31
Queue Length 95th (ft)	39	178		7	221	6		30			18	70
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	888	3518		541	3557	1493		327			513	614
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.11	0.28		0.01	0.24	0.00		0.06			0.02	0.18

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 57.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 6.6

Intersection LOS: A

Intersection Capacity Utilization 54.8%

ICU Level of Service A

Analysis Period (min) 15

Exist Sunday Peak 3:15 pm 12/11/2025 Exist Sunday Peak

Synchro 11 Report

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Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2				 Ø3		 Ø4	
145 s				20 s		15 s	
 Ø5		 Ø6					
25 s		120 s					

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	477	26	13	1536	6	9	4	4	4	4	170
Future Volume (vph)	139	477	26	13	1536	6	9	4	4	4	4	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.070			0.442				0.823			0.813	
Satd. Flow (perm)	130	3493	0	827	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1739			1748			1410			1825	
Travel Time (s)		26.3			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	154	530	29	14	1707	7	10	4	4	4	4	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	559	0	14	1707	7	0	18	0	0	8	189
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	D.P+P	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

Exist Weekday AM 3:15 pm 12/11/2025 Exist Weekday AM

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effct Green (s)	93.6	102.9		77.6	77.6	92.7		9.8			9.7	18.7
Actuated g/C Ratio	0.83	0.91		0.69	0.69	0.82		0.09			0.09	0.17
v/c Ratio	0.46	0.18		0.02	0.70	0.01		0.14			0.06	0.73
Control Delay	23.4	2.4		9.8	15.3	5.3		64.3			64.9	62.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	23.4	2.4		9.8	15.3	5.3		64.3			64.9	62.1
LOS	C	A		A	B	A		E			E	E
Approach Delay		6.9			15.2			64.3			62.2	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	18	0		2	203	0		10			5	114
Queue Length 95th (ft)	137	84		15	725	7		48			28	238
Internal Link Dist (ft)		1659			1668			1330			1745	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	422	3398		751	3229	1395		137			213	334
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.36	0.16		0.02	0.53	0.01		0.13			0.04	0.57
Intersection Summary												
Area Type: Other												
Cycle Length: 180												
Actuated Cycle Length: 113												
Natural Cycle: 90												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 16.8 Intersection LOS: B												
Intersection Capacity Utilization 71.3% ICU Level of Service C												
Analysis Period (min) 15												

Exist Weekday AM 3:15 pm 12/11/2025 Exist Weekday AM

Synchro 11 Report
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Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

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Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421





Future No Build Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	903	4	4	779	6	9	4	4	4	4	99
Future Volume (vph)	93	903	4	4	779	6	9	4	4	4	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.285				0.823			0.818	
Satd. Flow (perm)	1761	3518	0	534	3557	1591	0	1442	0	0	1501	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	1003	4	4	866	7	10	4	4	4	4	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	1007	0	4	866	7	0	18	0	0	8	110
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FNB Sunday Peak 3:15 pm 12/11/2025 FNB Sunday Peak

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effct Green (s)	11.4	56.5		35.4	35.4	53.8		10.0			10.0	14.0
Actuated g/C Ratio	0.17	0.86		0.54	0.54	0.82		0.15			0.15	0.21
v/c Ratio	0.34	0.33		0.01	0.45	0.01		0.08			0.04	0.33
Control Delay	33.8	4.7		13.5	13.2	6.7		36.1			35.7	20.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	33.8	4.7		13.5	13.2	6.7		36.1			35.7	20.6
LOS	C	A		B	B	A		D			D	C
Approach Delay		7.4			13.1			36.1			21.6	
Approach LOS		A			B			D			C	
Queue Length 50th (ft)	31	0		0	60	0		5			2	33
Queue Length 95th (ft)	106	179		7	250	7		31			18	71
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	590	3518		534	3557	1372		241			377	584
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.17	0.29		0.01	0.24	0.01		0.07			0.02	0.19
Intersection Summary												
Area Type: Other												
Cycle Length: 180												
Actuated Cycle Length: 66												
Natural Cycle: 65												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.45												
Intersection Signal Delay: 10.8 Intersection LOS: B												
Intersection Capacity Utilization 55.2% ICU Level of Service B												
Analysis Period (min) 15												

FNB Sunday Peak 3:15 pm 12/11/2025 FNB Sunday Peak

Synchro 11 Report
Page 2

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2				 Ø3		 Ø4	
145 s				20 s		15 s	
 Ø5		 Ø6					
25 s		120 s					

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	484	26	13	1559	6	9	4	4	4	4	173
Future Volume (vph)	141	484	26	13	1559	6	9	4	4	4	4	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.439				0.823			0.813	
Satd. Flow (perm)	1761	3493	0	822	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1826	
Travel Time (s)		26.4			26.5			38.5			27.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	157	538	29	14	1732	7	10	4	4	4	4	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	567	0	14	1732	7	0	18	0	0	8	192
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FNB Weekday AM 3:15 pm 12/11/2025 FNB Weekday AM

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	18.4	103.9		76.9	76.9	92.4		10.2			10.0	21.1
Actuated g/C Ratio	0.16	0.88		0.65	0.65	0.79		0.09			0.09	0.18
v/c Ratio	0.57	0.18		0.03	0.75	0.01		0.15			0.06	0.69
Control Delay	62.6	2.7		10.7	18.2	6.0		69.1			69.3	60.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	62.6	2.7		10.7	18.2	6.0		69.1			69.3	60.6
LOS	E	A		B	B	A		E			E	E
Approach Delay		15.7			18.1			69.1			60.9	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	118	32		4	458	1		14			6	150
Queue Length 95th (ft)	#269	85		15	744	7		49			29	247
Internal Link Dist (ft)		1660			1668			1330			1746	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	333	3353		724	3134	1340		136			211	331
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.47	0.17		0.02	0.55	0.01		0.13			0.04	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 117.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.0

Intersection LOS: C

Intersection Capacity Utilization 72.1%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Queue shown is maximum after two cycles.

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421





Future Build Conditions

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	903	4	4	779	22	9	4	4	19	4	157
Future Volume (vph)	146	903	4	4	779	22	9	4	4	19	4	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.960	
Satd. Flow (prot)	1761	3518	0	1778	3557	1591	0	1705	0	0	1761	1560
Flt Permitted	0.950			0.285				0.814			0.657	
Satd. Flow (perm)	1761	3518	0	534	3557	1591	0	1427	0	0	1205	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1489	
Travel Time (s)		26.4			26.5			38.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	162	1003	4	4	866	24	10	4	4	21	4	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	1007	0	4	866	24	0	18	0	0	25	174
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FB Sunday Peak 3:15 pm 12/11/2025 FB Sunday Peak

Synchro 11 Report

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Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	14.9	59.3		35.7	35.7	51.5		10.1			10.3	20.5
Actuated g/C Ratio	0.20	0.81		0.49	0.49	0.70		0.14			0.14	0.28
v/c Ratio	0.45	0.35		0.02	0.50	0.02		0.09			0.15	0.40
Control Delay	35.7	5.3		16.5	17.0	8.3		40.5			40.7	20.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	35.7	5.3		16.5	17.0	8.3		40.5			40.7	20.2
LOS	D	A		B	B	A		D			D	C
Approach Delay		9.5			16.7			40.5			22.7	
Approach LOS		A			B			D			C	
Queue Length 50th (ft)	68	67		1	138	3		8			11	55
Queue Length 95th (ft)	158	186		8	283	18		33			41	105
Internal Link Dist (ft)		1660			1668			1330			1409	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	539	3518		534	3557	1258		218			276	597
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.30	0.29		0.01	0.24	0.02		0.08			0.09	0.29

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 73.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 13.7

Intersection LOS: B

Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421

 Ø2				 Ø3		 Ø4	
145 s				20 s		15 s	
 Ø5		 Ø6					
25 s		120 s					

Lanes, Volumes, Timings

200: Old US 421 & Site Access

01/16/2026

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	76	13	99	69	12	100
Future Volume (vph)	76	13	99	69	12	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Storage Length (ft)	0	75		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.944			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	1758	0	0	1826
Flt Permitted	0.950					0.995
Satd. Flow (perm)	1770	1583	1758	0	0	1826
Link Speed (mph)	25		45			45
Link Distance (ft)	1202		1489			1034
Travel Time (s)	32.8		22.6			15.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	84	14	110	77	13	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	14	187	0	0	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.02	1.02
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 26.2%				ICU Level of Service A		
Analysis Period (min) 15						

HCM 6th TWSC

200: Old US 421 & Site Access

01/16/2026

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	76	13	99	69	12	100
Future Vol, veh/h	76	13	99	69	12	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	14	110	77	13	111
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	286	149	0	0	187	0
Stage 1	149	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	704	898	-	-	1387	-
Stage 1	879	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	697	898	-	-	1387	-
Mov Cap-2 Maneuver	697	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.6	0	0.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 697 898	1387	-		
HCM Lane V/C Ratio	-	- 0.121 0.016	0.01	-		
HCM Control Delay (s)	-	- 10.9 9.1	7.6	0		
HCM Lane LOS	-	- B A	A	A		
HCM 95th %tile Q(veh)	-	- 0.4 0	0	-		

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	484	26	13	1559	7	9	4	4	4	4	174
Future Volume (vph)	143	484	26	13	1559	7	9	4	4	4	4	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			6%			3%	
Storage Length (ft)	350		0	375		100	0		0	325		0
Storage Lanes	1		0	1		1	0		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.970				0.850
Flt Protected	0.950			0.950				0.973			0.976	
Satd. Flow (prot)	1761	3493	0	1778	3557	1591	0	1705	0	0	1791	1560
Flt Permitted	0.950			0.439				0.823			0.813	
Satd. Flow (perm)	1761	3493	0	822	3557	1591	0	1442	0	0	1492	1560
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1740			1748			1410			1489	
Travel Time (s)		26.4			26.5			38.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	159	538	29	14	1732	8	10	4	4	4	4	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	567	0	14	1732	8	0	18	0	0	8	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.04	1.04	1.04	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA	custom	Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6	3		4			3	5

FB Weekday AM 3:15 pm 12/11/2025 FB Weekday AM

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases				6		6	4			3		3
Detector Phase	5	2		6	6	3	4	4		3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	14.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	14.0
Total Split (s)	25.0	145.0		120.0	120.0	20.0	15.0	15.0		20.0	20.0	25.0
Total Split (%)	13.9%	80.6%		66.7%	66.7%	11.1%	8.3%	8.3%		11.1%	11.1%	13.9%
Maximum Green (s)	18.0	138.0		113.0	113.0	13.0	8.0	8.0		13.0	13.0	18.0
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag	Lead	Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	6.0		6.0	6.0	1.0	1.0	1.0		1.0	1.0	1.0
Minimum Gap (s)	0.2	3.0		3.0	3.0	0.2	0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	20.0		20.0	20.0	0.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	40.0		40.0	40.0	0.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	Min		Min	Min	None	None	None		None	None	None
Act Effect Green (s)	18.5	104.1		77.0	77.0	92.5		10.1			10.0	21.2
Actuated g/C Ratio	0.16	0.88		0.65	0.65	0.79		0.09			0.08	0.18
v/c Ratio	0.58	0.18		0.03	0.75	0.01		0.15			0.06	0.69
Control Delay	62.7	2.7		10.8	18.3	5.9		69.2			69.4	60.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	62.7	2.7		10.8	18.3	5.9		69.2			69.4	60.6
LOS	E	A		B	B	A		E			E	E
Approach Delay		15.8			18.1			69.2			61.0	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	120	32		4	463	1		14			6	151
Queue Length 95th (ft)	#274	85		15	744	7		49			29	248
Internal Link Dist (ft)		1660			1668			1330			1409	
Turn Bay Length (ft)	350			375		100						
Base Capacity (vph)	332	3353		724	3132	1339		135			211	330
Starvation Cap Reductn	0	0		0	0	0		0			0	0
Spillback Cap Reductn	0	0		0	0	0		0			0	0
Storage Cap Reductn	0	0		0	0	0		0			0	0
Reduced v/c Ratio	0.48	0.17		0.02	0.55	0.01		0.13			0.04	0.58

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 117.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 21.0

Intersection LOS: C

Intersection Capacity Utilization 72.2%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Lanes, Volumes, Timings
100: Innovation Drive/Old US 421 & US Highway 421

01/16/2026

Queue shown is maximum after two cycles.

Splits and Phases: 100: Innovation Drive/Old US 421 & US Highway 421



Lanes, Volumes, Timings

200: Old US 421 & Site Access

01/16/2026

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	4	147	4	4	177
Future Volume (vph)	4	4	147	4	4	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Storage Length (ft)	0	75		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.997			
Flt Protected	0.950					0.999
Satd. Flow (prot)	1770	1583	1857	0	0	1833
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1583	1857	0	0	1833
Link Speed (mph)	25		45			45
Link Distance (ft)	1202		1489			1034
Travel Time (s)	32.8		22.6			15.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	4	163	4	4	197
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	4	167	0	0	201
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.02	1.02
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 22.5%			ICU Level of Service A			
Analysis Period (min) 15						

HCM 6th TWSC

200: Old US 421 & Site Access

01/16/2026

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	4	147	4	4	177
Future Vol, veh/h	4	4	147	4	4	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	75	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	3
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	163	4	4	197
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	370	165	0	0	167	0
Stage 1	165	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	630	879	-	-	1411	-
Stage 1	864	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	879	-	-	1411	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 628 879 1411	-	-		
HCM Lane V/C Ratio	-	- 0.007 0.005 0.003	-	-		
HCM Control Delay (s)	-	- 10.8 9.1 7.6	0			
HCM Lane LOS	-	- B A A	A			
HCM 95th %tile Q(veh)	-	- 0 0 0	0			



Queueing Analysis SimTraffic Worksheets

Queuing and Blocking Report
Exist Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	69	109	78	18	168	149	5	48	29	102
Average Queue (ft)	26	27	17	2	71	42	0	12	5	38
95th Queue (ft)	55	81	57	10	130	105	2	38	20	85
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
Exist Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	149	75	69	25	339	336	30	51	30	232
Average Queue (ft)	61	17	11	4	174	154	1	16	6	105
95th Queue (ft)	118	53	42	18	295	289	21	42	22	199
Link Distance (ft)		1706	1706		1693	1693		1340		1764
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				0
Queuing Penalty (veh)					0	1				0

Network Summary

Network wide Queuing Penalty: 1

Queuing and Blocking Report
FNB Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	108	134	113	20	164	158	6	50	31	112
Average Queue (ft)	44	31	21	2	72	45	0	14	6	39
95th Queue (ft)	89	89	69	11	133	110	2	39	21	87
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report
FNB Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	201	73	57	29	302	300	46	49	34	220
Average Queue (ft)	89	16	9	4	167	143	2	15	6	106
95th Queue (ft)	165	51	34	19	278	272	29	41	23	192
Link Distance (ft)		1707	1707		1693	1693		1340		1765
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				0
Queuing Penalty (veh)					0	1				0

Network Summary

Network wide Queuing Penalty: 1

Queuing and Blocking Report

FB Sunday Peak

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	155	130	126	24	192	169	29	50	58	145
Average Queue (ft)	74	39	30	2	95	61	3	13	18	67
95th Queue (ft)	132	96	84	12	159	137	15	40	45	121
Link Distance (ft)		1710	1710		1694	1694		1340		1373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)						2				
Queuing Penalty (veh)						0				

Intersection: 200: Old US 421 & Site Access

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	65	19	2	41
Average Queue (ft)	24	4	0	3
95th Queue (ft)	48	15	3	20
Link Distance (ft)	1148		1373	1005
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Network Summary

Network wide Queuing Penalty: 0

Queuing and Blocking Report

FB Weekday AM

01/16/2026

Intersection: 100: Innovation Drive/Old US 421 & US Highway 421

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LT	R
Maximum Queue (ft)	201	74	66	23	348	349	105	60	37	236
Average Queue (ft)	94	14	10	5	179	158	6	17	7	114
95th Queue (ft)	169	51	39	19	297	289	58	48	26	202
Link Distance (ft)		1710	1710		1694	1694		1340		1373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	350			375			100		325	
Storage Blk Time (%)					0	10				
Queuing Penalty (veh)					0	1				

Intersection: 200: Old US 421 & Site Access

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	20	13	13
Average Queue (ft)	2	1	1
95th Queue (ft)	13	8	8
Link Distance (ft)	1148		1005
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		75	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1



Turning Movement Counts

All vehicles

Time	Northbound							Southbound							Eastbound							Westbound							Int Total
	Innovation Dr							Old US 421 S							US-421 (West)							US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total		Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total		Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1245 - 1300	4	0	0	-	0	4		0	0	25	-	0	25		31	241	3	-	0	275		0	190	2	-	0	192		496
1300 - 1315	2	0	1	-	0	3		1	0	29	-	0	30		23	209	0	-	0	232		1	223	3	-	0	227		492
1315 - 1330	3	0	1	-	0	4		0	0	28	-	0	28		16	206	0	-	0	222		0	178	1	-	0	179		433
1330 - 1345	0	0	0	-	0	0		0	0	16	-	0	16		22	234	1	-	0	257		1	176	0	-	0	177		450
Total	9	0	2	0	0	11		1	0	98	0	0	99		92	890	4	0	0	986		2	767	6	0	0	775		1871
Approach %	81.82	0.00	18.18	0.00	0.00	-		1.01	0.00	98.99	0.00	0.00	-		9.33	90.26	0.41	0.00	0.00	-		0.26	98.97	0.77	0.00	0.00	-		
PHF	0.56	0.00	0.50	0.00	0.00	0.69		0.25	0.00	0.84	0.00	0.00	0.83		0.74	0.92	0.33	0.00	0.00	0.90		0.50	0.86	0.50	0.00	0.00	0.85		0.94

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1245 - 1300	4	0	0	-	0	4	0	0	25	-	0	25	31	240	3	-	0	274	0	189	2	-	0	191	494
1300 - 1315	2	0	1	-	0	3	1	0	29	-	0	30	22	208	0	-	0	230	1	223	3	-	0	227	490
1315 - 1330	3	0	1	-	0	4	0	0	28	-	0	28	16	203	0	-	0	219	0	176	1	-	0	177	428
1330 - 1345	0	0	0	-	0	0	0	0	16	-	0	16	22	233	1	-	0	256	1	173	0	-	0	174	446
Total	9	0	2	0	0	11	1	0	98	0	0	99	91	884	4	0	0	979	2	761	6	0	0	769	1858
Approach %	81.82	0.00	18.18	0.00	0.00	-	1.01	0.00	98.99	0.00	0.00	-	9.30	90.30	0.41	0.00	0.00	-	0.26	98.96	0.78	0.00	0.00	-	
PHF	0.56	0.00	0.50	0.00	0.00	0.69	0.25	0.00	0.84	0.00	0.00	0.83	0.73	0.92	0.33	0.00	0.00	0.89	0.50	0.85	0.50	0.00	0.00	0.85	0.94

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	0	-	0	1	0	1	0	-	0	1	2
1300 - 1315	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	0	1	0	0	0	-	0	0	1	
1315 - 1330	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	1	0	-	0	1	2	
1330 - 1345	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	2	0	-	0	2	3	
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	4	0	4	0	0	0	4	8	
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	25.00	75.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-		
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.75	0.00	0.00	0.00	1.00	0.00	0.50	0.00	0.00	0.00	0.50	0.67	

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0
1300 - 1315	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	1
1315 - 1330	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	1	0	-	0	1	3
1330 - 1345	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	-	0	1	1	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	2	0	0	0	2	5
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.38	0.00	0.50	0.00	0.00	0.00	0.50	0.42

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1300 - 1315	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1315 - 1330	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1330 - 1345	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-		
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

All vehicles

Time	Northbound							Southbound							Eastbound							Westbound							Int Total
	Innovation Dr							Old US 421 S							US-421 (West)							US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total		Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total		Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
0800 - 0815	1	0	0	-	0	1		0	1	15	-	0	16		6	42	1	-	0	49		0	57	0	-	0	57		
0815 - 0830	1	0	0	-	0	1		0	0	11	-	0	11		5	45	0	-	0	50		0	97	0	-	0	97		
0830 - 0845	0	0	0	-	0	0		0	0	11	-	0	11		3	40	0	-	0	43		0	114	0	-	0	114		
0845 - 0900	2	0	0	-	0	2		0	0	13	-	0	13		7	58	1	-	0	66		0	118	0	-	0	118		
Total	4	0	0	0	0	4		0	1	50	0	0	51		21	185	2	0	0	208		0	386	0	0	0	386		
Approach %	100.00	0.00	0.00	0.00	0.00	-		0.00	1.96	98.04	0.00	0.00	-		10.10	88.94	0.96	0.00	0.00	-		0.00	100.00	0.00	0.00	0.00	-		
PHF	0.50	0.00	0.00	0.00	0.00	0.50		0.00	0.25	0.83	0.00	0.00	0.80		0.75	0.80	0.50	0.00	0.00	0.79		0.00	0.82	0.00	0.00	0.00	0.82		

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0800 - 0815	1	0	0	-	0	1	0	1	15	-	0	16	6	42	1	-	0	49	0	57	0	-	0	57	123
0815 - 0830	1	0	0	-	0	1	0	0	11	-	0	11	5	45	0	-	0	50	0	96	0	-	0	96	158
0830 - 0845	0	0	0	-	0	0	0	0	11	-	0	11	3	39	0	-	0	42	0	114	0	-	0	114	167
0845 - 0900	2	0	0	-	0	2	0	0	13	-	0	13	7	58	1	-	0	66	0	116	0	-	0	116	197
Total	4	0	0	0	0	4	0	1	50	0	0	51	21	184	2	0	0	207	0	383	0	0	0	383	645
Approach %	100.00	0.00	0.00	0.00	0.00	-	0.00	1.96	98.04	0.00	0.00	-	10.14	88.89	0.97	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.50	0.00	0.00	0.00	0.00	0.50	0.00	0.25	0.83	0.00	0.00	0.80	0.75	0.79	0.50	0.00	0.00	0.78	0.00	0.83	0.00	0.00	0.00	0.83	0.82

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	1	0	-	0	1	1
0830 - 0845	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	0	-	0	0	1
0845 - 0900	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	2	0	0	-	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0	0	0	3	4	
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.38	0.00	0.00	0.00	0.38	0.50	

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0830 - 0845	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0845 - 0900	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0830 - 0845	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0845 - 0900	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-		
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

All vehicles

Time	Northbound							Southbound							Eastbound							Westbound							Int Total
	Innovation Dr							Old US 421 S							US-421 (West)							US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total		Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total		Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1200 - 1215	2	0	0	-	0	2		0	0	17	-	0	17		22	189	2	-	0	213		0	162	1	-	0	163		395
1215 - 1230	0	0	0	-	0	0		1	0	35	-	0	36		18	196	1	-	0	215		0	163	2	-	0	165		416
1230 - 1245	1	0	1	-	0	2		1	0	15	-	0	16		28	178	3	-	0	209		0	187	3	-	0	190		417
1245 - 1300	4	0	0	-	0	4		0	0	25	-	0	25		31	241	3	-	0	275		0	190	2	-	0	192		496
Total	7	0	1	0	0	8		2	0	92	0	0	94		99	804	9	0	0	912		0	702	8	0	0	710		1724
Approach %	87.50	0.00	12.50	0.00	0.00	-		2.13	0.00	97.87	0.00	0.00	-		10.86	88.16	0.99	0.00	0.00	-		0.00	98.87	1.13	0.00	0.00	-		
PHF	0.44	0.00	0.25	0.00	0.00	0.50		0.50	0.00	0.66	0.00	0.00	0.65		0.80	0.83	0.75	0.00	0.00	0.83		0.00	0.92	0.67	0.00	0.00	0.92		0.87

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1200 - 1215	2	0	0	-	0	2	0	0	17	-	0	17	22	189	2	-	0	213	0	161	1	-	0	162	394
1215 - 1230	0	0	0	-	0	0	1	0	35	-	0	36	18	192	1	-	0	211	0	162	2	-	0	164	411
1230 - 1245	1	0	1	-	0	2	1	0	15	-	0	16	28	178	3	-	0	209	0	184	3	-	0	187	414
1245 - 1300	4	0	0	-	0	4	0	0	25	-	0	25	31	240	3	-	0	274	0	189	2	-	0	191	494
Total	7	0	1	0	0	8	2	0	92	0	0	94	99	799	9	0	0	907	0	696	8	0	0	704	1713
Approach %	87.50	0.00	12.50	0.00	0.00	-	2.13	0.00	97.87	0.00	0.00	-	10.92	88.09	0.99	0.00	0.00	-	0.00	98.86	1.14	0.00	0.00	-	
PHF	0.44	0.00	0.25	0.00	0.00	0.50	0.50	0.00	0.66	0.00	0.00	0.65	0.80	0.83	0.75	0.00	0.00	0.83	0.00	0.92	0.67	0.00	0.00	0.92	0.87

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1200 - 1215	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	0	-	0	1
1215 - 1230	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	1	0	-	0	1	
1230 - 1245	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	1	0	-	0	1	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	5	0	0	0	5	
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.63	0.00	0.00	0.00	0.63	

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1200 - 1215	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
1215 - 1230	0	0	0	-	0	0	0	0	0	-	0	0	0	3	0	-	0	3	0	0	0	-	0	0	3
1230 - 1245	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	1
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	1	0	0	0	1	4
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.25	0.33

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1200 - 1215	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1215 - 1230	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1230 - 1245	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1245 - 1300	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-		
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

All vehicles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1600 - 1615	2	0	1	-	0	3	0	0	14	-	0	14	24	168	1	-	0	193	0	244	0	-	0	244	454
1615 - 1630	1	0	0	-	0	1	1	0	23	-	0	24	15	191	1	-	0	207	0	220	0	-	0	220	452
1630 - 1645	3	0	1	-	0	4	1	0	27	-	0	28	21	165	3	-	0	189	1	185	1	-	0	187	408
1645 - 1700	0	0	0	-	0	0	0	0	21	-	0	21	15	184	0	-	0	199	0	170	1	-	0	171	391
Total	6	0	2	0	0	8	2	0	85	0	0	87	75	708	5	0	0	788	1	819	2	0	0	822	1705
Approach %	75.00	0.00	25.00	0.00	0.00	-	2.30	0.00	97.70	0.00	0.00	-	9.52	89.85	0.63	0.00	0.00	-	0.12	99.64	0.24	0.00	0.00	-	-
PHF	0.50	0.00	0.50	0.00	0.00	0.50	0.50	0.00	0.79	0.00	0.00	0.78	0.78	0.93	0.42	0.00	0.00	0.95	0.25	0.84	0.50	0.00	0.00	0.84	0.94

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1600 - 1615	2	0	1	-	0	3	0	0	14	-	0	14	24	166	1	-	0	191	0	242	0	-	0	242	450
1615 - 1630	1	0	0	-	0	1	1	0	23	-	0	24	15	188	1	-	0	204	0	219	0	-	0	219	448
1630 - 1645	3	0	1	-	0	4	1	0	27	-	0	28	19	163	3	-	0	185	1	185	1	-	0	187	404
1645 - 1700	0	0	0	-	0	0	0	0	21	-	0	21	15	182	0	-	0	197	0	169	1	-	0	170	388
Total	6	0	2	0	0	8	2	0	85	0	0	87	73	699	5	0	0	777	1	815	2	0	0	818	1690
Approach %	75.00	0.00	25.00	0.00	0.00	-	2.30	0.00	97.70	0.00	0.00	-	9.40	89.96	0.64	0.00	0.00	-	0.12	99.63	0.24	0.00	0.00	-	-
PHF	0.50	0.00	0.50	0.00	0.00	0.50	0.50	0.00	0.79	0.00	0.00	0.78	0.76	0.93	0.42	0.00	0.00	0.95	0.25	0.84	0.50	0.00	0.00	0.85	0.94

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	2
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	1	0	-	0	1	3
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	2	2	0	-	0	4	0	0	0	-	0	0	4
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	0	7	0	3	0	0	0	3	10
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	28.57	71.43	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.63	0.00	0.00	0.00	0.44	0.00	0.38	0.00	0.00	0.00	0.38	0.63

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	0	0	-	0	0	2
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	0	0	-	0	0	1
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	1	0	-	0	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	1	0	0	0	1	5
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.25	0.00	0.00	0.00	0.25	0.63

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
1600 - 1615	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1615 - 1630	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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6800 - P900 (Internal serial ID B01-11-2026)																				
All vehicles																				
Time	Northbound							Eastbound							Southbound					
	On-ramp I-95							Off-ramp I-95							I-475/I-95					
	U-Turn	Avg	Left	Thru	Right	U-Turn	Avg	U-Turn	Avg	Left	Thru	Right	U-Turn	Avg	Left	Thru	Right	U-Turn	Avg	
TOTAL	1	1.0	1	1	1	1	1.0	1	1.0	1	1	1	1	1.0	1	1	1	1	1.0	
0600-0630	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0630-0645	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0645-0650	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0650-0700	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	2	2.0	0	0	0	2	2.0	0	0.0	2	2	2	2	2.0	0	0	0	0	0.0	
0700-0715	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0715-0730	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0730-0745	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0745-0800	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0800-0815	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0815-0830	1	1.0	0	0	0	1	1.0	0	0.0	1	1	1	1	1.0	0	0	0	0	0.0	
0830-0845	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0845-0900	2	2.0	0	0	0	2	2.0	0	0.0	2	2	2	2	2.0	0	0	0	0	0.0	
Hourly Total	3	3.0	0	0	0	3	3.0	0	0.0	3	3	3	3	3.0	0	0	0	0	0.0	
0900-0915	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0915-0930	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0930-0945	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
0945-1000	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1000-1015	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1015-1030	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1030-1045	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1045-1100	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1100-1115	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1115-1130	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1130-1145	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1145-1200	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1200-1215	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1215-1230	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1230-1245	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1245-1300	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1300-1315	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1315-1330	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1330-1345	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1345-1400	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1400-1415	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1415-1430	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1430-1445	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1445-1500	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1500-1515	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1515-1530	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1530-1545	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1545-1600	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1600-1615	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1615-1630	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1630-1645	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1645-1700	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1700-1715	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1715-1730	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1730-1745	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1745-1800	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1800-1815	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1815-1830	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1830-1845	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1845-1900	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1900-1915	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1915-1930	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1930-1945	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
1945-2000	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2000-2015	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2015-2030	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2030-2045	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2045-2100	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2100-2115	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2115-2130	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2130-2145	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2145-2200	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2200-2215	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2215-2230	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2230-2245	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
2245-2300	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	
Hourly Total	0	0.0	0	0	0	0	0.0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	

ALL VEHICLE

1500 - Internal Serial ID (01-01-2020)																			
All vehicles																			
Northbound										Southbound									
Intersection 1										Intersection 2									
I-475 NB/MS										I-475 SB/MS									
Left	Thru	Right	U-Turn	Age	Left	Thru	Right	U-Turn	Age	Left	Thru	Right	U-Turn	Age	Left	Thru	Right	U-Turn	Age
1000	1	1	0	0	1	1	1	0	0	1	1	1	0	0	1	1	1	0	0
1005	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1010	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1015	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1020	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1025	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1030	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1035	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1040	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1045	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1050	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1055	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1060	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1065	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1070	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1075	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1080	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1085	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1090	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1095	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1100	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1105	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1110	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1115	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1120	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1125	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1130	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1135	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1140	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1145	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1150	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1155	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1160	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1165	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1170	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1175	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1180	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1185	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1190	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1195	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1200	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1205	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1210	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1215	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1220	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1225	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1230	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1235	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1240	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1245	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1250	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1255	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1260	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1265	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1270	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1275	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1280	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1285	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1290	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1295	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1300	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1305	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1310	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1315	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1320	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1325	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1330	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1335	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1340	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1345	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1350	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1355	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1360	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1365	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1370	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1375	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1380	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1385	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1390	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1395	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1400	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1405	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1410	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1415	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1420	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1425	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1430	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1435	151	2	0	0	0	2	0	1	13	0	20	3	126	0	0	137	0	181	1
1440	151	2	0	0	0	2	0	1											

Boone, NC

Weather
Fair
29°F
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0600 - 1900 (Sunday 11h Session) [01-11-2024]
 (Incorporates 10h before 11h)

1500 - 1000 (inter-peak) 3-11-2020																											
Passenger Vehicles (1-3)																											
TIME	Northbound										Southbound										Left Turn						
	Approach					Intersection					Approach					Intersection					Left Turn		Right Turn				
	Lt	Thru	Right	App	Vol	Lt	Thru	Right	App	Vol	Lt	Thru	Right	App	Vol	Lt	Thru	Right	App	Vol	Lt	Thru	Right	App	Vol		
1500-1515	2	0	0	0	0	0	2	0	0	1	17	0	18	18	127	0	0	105	0	183	1	0	0	0	0	184	0
1515-1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530-1545	1	0	0	0	0	0	0	0	0	0	0	0	23	17	172	0	0	0	183	0	192	1	0	0	0	193	0
1545-1559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	5	0	0	0	0	0	0	0	0	0	17	0	20	66	75	0	0	782	0	229	2	0	0	0	789	0	184
1600-1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615-1630	1	0	0	0	0	0	0	0	0	0	0	0	24	15	166	1	0	0	204	0	219	5	0	0	0	223	0
1630-1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	0	0	0	0	0	0	0	0	0	24	15	166	1	0	0	204	0	219	5	0	0	0	223	0
1700-1715	2	0	0	0	0	0	2	0	0	0	13	0	13	23	178	3	0	0	206	0	165	1	0	0	0	166	0
1715-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730-1745	0	0	0	0	0	0	0	0	0	0	0	0	24	13	114	7	0	0	147	0	161	2	0	0	0	163	0
1745-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	6	0	0	0	0	0	2	0	0	0	26	0	37	76	662	3	0	0	711	0	656	2	0	0	0	658	0
1800-1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815-1830	0	0	0	0	0	0	0	0	0	0	0	0	13	23	153	0	0	0	133	0	114	0	0	0	0	114	0
1830-1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845-1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	13	23	153	0	0	0	133	0	114	0	0	0	0	114	0
Grand Total					18	0	0	0	0	0	22	0	38	281	2882	11	0	0	2786	0	2252	9	0	0	0	2261	0
Departure %					61.62	0.00	0.00	0.00	0.00	0.00	2.21	0.04	57.93	0.00	0.01	89.81	0.18	0.00	0.04	99.21	0.01	62.31	0.00	0.00	0.00	62.31	0.00
Arrival %					11.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	87.77	0.01	89.81	0.18	0.00	0.00	0.04	99.21	0.01	62.31	0.00	0.00	0.00	62.31	0.00

Boone, NC

Date
Sunday, January 11, 2026

for Detailed Weather

Large Data Trucks Will

0600 - 0900 (internal session 1) [01-11-2026]

Large and medium-sized

1100 - 1300 (internal session 2) [01-11-2026]

Single Unit Trucks 14-2

1540 - 1900 (internal session 3) [01-11-2026]

Single Unit Trucks (4-3)

[illegible]

Boone, NC

Date
Sunday, January 12, 2020

Lat/Long
35.223083°, -81.635177°
[Click to open map & view](#)

Weather
Fair
29°F
[Click here for Detailed Weather](#)

Continuation Table 4 of 2

[illegible]

Combination Trucks 4-1

[illegible]

Classified Turn Movement Count || Bicycles



Site 1

Intersection Dr
041 US-421 S
US-421 (West)
US-421 (East)

Date

Sunday, January 11, 2020

Weather

14F
29F
Click here for Detailed Weather

0600 - 1000 (Sunday 13h Session) (01-11-2020)

TIME	Northbound				Southbound				Eastbound				Westbound				HT
	Intersection Dr				041 US-421 S				US-421 (West)				US-421 (East)				
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
0600-0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615-0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630-0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645-0659	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700-0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715-0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730-0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745-0759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800-0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815-0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830-0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845-0859	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900-0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915-0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930-0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945-1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000-1015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1015-1030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1030-1045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1045-1059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100-1115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1115-1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1130-1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1145-1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200-1215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1215-1230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1230-1245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1245-1259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300-1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1315-1330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1330-1345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1345-1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400-1415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1415-1430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1430-1445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1445-1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500-1515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515-1530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1530-1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545-1559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600-1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615-1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630-1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700-1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715-1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730-1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800-1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815-1830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830-1845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845-1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspctch %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0600 - 0900 (Internal session 11 (01-11-2020))

TIME	Northbound								Southbound								Westbound							
	Intersection Dr								041 US-421 S								US-421 (West)							
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn
0600-0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0615-0630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0630-0645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0645-0659	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700-0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715-0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730-0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745-0759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800-0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815-0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830-0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845-0859	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900-0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0915-0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930-0945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0945-1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aspctch %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Boone, NC

Weather
Fair
29°F
[Click here for Detailed Weather](#)

ARTICLES

0600 - 0900 (internal session 1) [01-11-2026][illegible]1100 - 1300 (internal session 2) [01-11-2026][illegible]1540 - 1900 (internal session 3) [01-11-2026]

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[illegible]

Boone, NC

Weather
Fair
29°F
[Click here for Detailed Weather](#)

0600 - 1900 (Sunday 13h Session) (01-11-2026)
Radcliffe House0600 - 0900 (Internal session 1) (01-11-2026)

1100 - 1300 (Internal session 2) (01-11-2026)

1500 - 1900 (Internal session 3) (01-11-2026)

[illegible]

Boone, NC

Weather
Fair
29°F
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[illegible]0600 - 0900 (Internal session 1) (01-11-2026)

1100 - 1300 (Internal session 2) (01-11-2026)

Bicycles

1500 - 1900 (Internal session 3) (01-11-2026)

Bicycles

[illegible]

Crosswalk Counts || Motorized Vehicles



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Sunday, January 11, 2020
Lat/Long
36.239891, -81.855177
[Click here for Map](#)

Weather
74°F
29%
[Click here for Detailed Weather](#)



0600 - 1800 (Sunday 13h Session) (01-11-2020)

	Northbound		Southbound		Eastbound		Westbound	
	Innovation Dr		Old US 421 S		US-421 (West)		US-421 (East)	
Time	EB	WB	App	EB	WB	App	WB	SB
	1a	1b	Total	1c	1d	Total	1e	1f
0600-0615	0	0	0	0	0	0	0	0
0615-0630	0	0	0	0	0	0	0	0
0630-0645	0	0	0	0	0	0	0	0
0645-0700	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0700-0715	0	0	0	0	0	0	0	0
0715-0730	0	0	0	0	0	0	0	0
0730-0745	0	0	0	0	0	0	0	0
0745-0800	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0800-0815	0	0	0	0	0	0	0	0
0815-0830	0	0	0	0	0	0	0	0
0830-0845	0	0	0	0	0	0	0	0
0845-0900	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0900-0915	0	0	0	0	0	0	0	0
0915-0930	0	0	0	0	0	0	0	0
0930-0945	0	0	0	0	0	0	0	0
0945-1000	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1000-1015	0	0	0	0	0	0	0	0
1015-1030	0	0	0	0	0	0	0	0
1030-1045	0	0	0	0	0	0	0	0
1045-1100	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1100-1115	0	0	0	0	0	0	0	0
1115-1130	0	0	0	0	0	0	0	0
1130-1145	0	0	0	0	0	0	0	0
1145-1200	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1200-1215	0	0	0	0	0	0	0	0
1215-1230	0	0	0	0	0	0	0	0
1230-1245	0	0	0	0	0	0	0	0
1245-1300	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1300-1315	0	0	0	0	0	0	0	0
1315-1330	0	0	0	0	0	0	0	0
1330-1345	0	0	0	0	0	0	0	0
1345-1400	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1400-1415	0	0	0	0	0	0	0	0
1415-1430	0	0	0	0	0	0	0	0
1430-1445	0	0	0	0	0	0	0	0
1445-1500	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1500-1515	0	0	0	0	0	0	0	0
1515-1530	0	0	0	0	0	0	0	0
1530-1545	0	0	0	0	0	0	0	0
1545-1600	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1600-1615	0	0	0	0	0	0	0	0
1615-1630	0	0	0	0	0	0	0	0
1630-1645	0	0	0	0	0	0	0	0
1645-1700	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1700-1715	0	0	0	0	0	0	0	0
1715-1730	0	0	0	0	0	0	0	0
1730-1745	0	0	0	0	0	0	0	0
1745-1800	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1800-1815	0	0	0	0	0	0	0	0
1815-1830	0	0	0	0	0	0	0	0
1830-1845	0	0	0	0	0	0	0	0
1845-1900	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0900 - 0900 (Internal session 1) (01-11-2020)

Motorized Vehicles

	Northbound		Southbound		Eastbound		Westbound	
	Innovation Dr		Old US 421 S		US-421 (West)		US-421 (East)	
Time	EB	WB	App	EB	WB	App	WB	SB
	1a	1b	Total	1c	1d	Total	1e	1f
0900-0915	0	0	0	0	0	0	0	0
0915-0930	0	0	0	0	0	0	0	0
0930-0945	0	0	0	0	0	0	0	0
0945-0960	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0960-0975	0	0	0	0	0	0	0	0
0975-0990	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
0990-1005	0	0	0	0	0	0	0	0
1005-1020	0	0	0	0	0	0	0	0
1020-1035	0	0	0	0	0	0	0	0
1035-1050	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1050-1065	0	0	0	0	0	0	0	0
1065-1080	0	0	0	0	0	0	0	0
1080-1095	0	0	0	0	0	0	0	0
1095-1110	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1110-1125	0	0	0	0	0	0	0	0
1125-1140	0	0	0	0	0	0	0	0
1140-1155	0	0	0	0	0	0	0	0
1155-1200	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1200-1215	0	0	0	0	0	0	0	0
1215-1230	0	0	0	0	0	0	0	0
1230-1245	0	0	0	0	0	0	0	0
1245-1260	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1260-1275	0	0	0	0	0	0	0	0
1275-1290	0	0	0	0	0	0	0	0
1290-1305	0	0	0	0	0	0	0	0
1305-1320	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1320-1335	0	0	0	0	0	0	0	0
1335-1350	0	0	0	0	0	0	0	0
1350-1365	0	0	0	0	0	0	0	0
1365-1380	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1380-1395	0	0	0	0	0	0	0	0
1395-1410	0	0	0	0	0	0	0	0
1410-1425	0	0	0	0	0	0	0	0
1425-1440	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1440-1455	0	0	0	0	0	0	0	0
1455-1470	0	0	0	0	0	0	0	0
1470-1485	0	0	0	0	0	0	0	0
1485-1500	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1500-1515	0	0	0	0	0	0	0	0
1515-1530	0	0	0	0	0	0	0	0
1530-1545	0	0	0	0	0	0	0	0
1545-1560	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1560-1575	0	0	0	0	0	0	0	0
1575-1590	0	0	0	0	0	0	0	0
1590-1605	0	0	0	0	0	0	0	0
1605-1620	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1620-1635	0	0	0	0	0	0	0	0
1635-1650	0	0	0	0	0	0	0	0
1650-1665	0	0	0	0	0	0	0	0
1665-1680	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1680-1695	0	0	0	0	0	0	0	0
1695-1710	0	0	0	0	0	0	0	0
1710-1725	0	0	0	0	0	0	0	0
1725-1740	0	0	0	0	0	0	0	0
1740-1755	0	0	0	0	0	0	0	0
1755-1770	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
1770-1785	0	0	0	0	0	0	0	0
1785-1800	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1300 - 1300 (Internal session 2) (01-11-2020)

Motorized Vehicles

	Northbound			Southbound			Eastbound			Westbound			Int
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)			
	EB	WB	App	EB	WB	App	EB	WB	App	EB	WB	App	
Time	1a	1b	Total	1c	1d	Total	1e	1f	Total	1g	1h	Total	1i
1300-1315	0	0	0	0	0	0	0	0	0	0	0	0	0
1315-1330	0	0	0	0	0	0	0	0	0	0	0	0	0
1330-1345	0	0	0	0	0	0	0	0	0	0	0	0	0
1345-1360	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1360-1375	0	0	0	0	0	0	0	0	0	0	0	0	0
1375-1390	0	0	0	0	0	0	0	0	0	0	0	0	0
1390-1405	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1405-1420	0	0	0	0	0	0	0	0	0	0	0	0	0
1420-1435	0	0	0	0	0	0	0	0	0	0	0	0	0
1435-1450	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach N %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interpretation %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Start Date: 1/11/2026	US-421 (West) Eastbound			US-421 (East) Westbound			Innovation Dr Northbound			Old US 421 S Southbound			Total
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	1	12	0	0	21	0	2	0	0	0	0	0	36
06:15 AM - 06:30 AM	0	9	0	0	19	0	0	0	0	0	0	2	30
06:30 AM - 06:45 AM	1	12	0	0	25	0	0	0	0	0	0	1	39
06:45 AM - 07:00 AM	1	21	0	0	28	0	0	0	0	0	0	4	54
07:00 AM - 07:15 AM	1	21	0	0	22	0	0	0	0	0	0	3	47
07:15 AM - 07:30 AM	2	25	0	0	38	0	0	0	0	0	0	3	68
07:30 AM - 07:45 AM	3	31	0	0	55	0	0	0	0	0	0	6	95
07:45 AM - 08:00 AM	10	23	0	0	68	2	0	0	0	0	0	5	108
08:00 AM - 08:15 AM	6	42	1	0	57	0	1	0	0	0	1	15	123
08:15 AM - 08:30 AM	5	45	0	0	97	0	1	0	0	0	0	11	159
08:30 AM - 08:45 AM	3	40	0	0	114	0	0	0	0	0	0	11	168
08:45 AM - 09:00 AM	7	58	1	0	118	0	2	0	0	0	0	13	199
09:00 AM - 09:15 AM	8	87	1	0	94	0	1	0	0	0	0	14	205
09:15 AM - 09:30 AM	15	102	1	0	114	0	0	0	0	0	0	17	249
09:30 AM - 09:45 AM	15	119	1	0	132	0	1	0	0	0	0	16	284
09:45 AM - 10:00 AM	15	139	1	0	138	0	0	0	0	1	0	17	311
10:00 AM - 10:15 AM	16	160	2	1	120	2	3	1	0	0	0	21	326
10:15 AM - 10:30 AM	16	179	0	0	150	0	1	0	0	1	0	18	365
10:30 AM - 10:45 AM	15	201	0	1	156	1	0	0	0	1	0	16	391
10:45 AM - 11:00 AM	13	163	1	0	139	0	1	1	0	0	0	14	332
11:00 AM - 11:15 AM	19	172	1	0	132	0	1	0	0	0	0	15	340
11:15 AM - 11:30 AM	6	188	0	2	150	1	2	0	0	1	1	9	360
11:30 AM - 11:45 AM	19	160	3	0	154	1	1	0	1	0	0	18	357
11:45 AM - 12:00 PM	18	176	2	0	150	1	0	0	0	0	0	24	371
12:00 PM - 12:15 PM	22	189	2	0	162	1	2	0	0	0	0	17	395
12:15 PM - 12:30 PM	18	196	1	0	163	2	0	0	0	1	0	35	416
12:30 PM - 12:45 PM	28	178	3	0	187	3	1	0	1	1	0	15	417
12:45 PM - 01:00 PM	31	241	3	0	190	2	4	0	0	0	0	25	496
01:00 PM - 01:15 PM	23	209	0	1	223	3	2	0	1	1	0	29	492
01:15 PM - 01:30 PM	16	206	0	0	178	1	3	0	1	0	0	28	433
01:30 PM - 01:45 PM	22	234	1	1	176	0	0	0	0	0	0	16	450
01:45 PM - 02:00 PM	24	208	2	0	179	1	2	0	2	0	0	13	431
02:00 PM - 02:15 PM	27	189	1	1	197	1	2	0	1	1	0	13	433
02:15 PM - 02:30 PM	27	203	3	0	215	1	1	0	1	0	0	15	466
02:30 PM - 02:45 PM	18	181	1	1	164	0	2	1	0	2	0	22	392
02:45 PM - 03:00 PM	20	193	0	0	188	2	2	0	1	2	1	23	432
03:00 PM - 03:15 PM	19	178	0	0	183	1	2	0	0	0	1	19	403
03:15 PM - 03:30 PM	12	188	1	0	184	1	2	0	0	0	0	16	404
03:30 PM - 03:45 PM	17	173	0	0	194	1	1	0	0	0	0	21	407
03:45 PM - 04:00 PM	19	179	0	0	148	0	0	0	1	0	0	15	362
04:00 PM - 04:15 PM	24	168	1	0	244	0	2	0	1	0	0	14	454
04:15 PM - 04:30 PM	15	191	1	0	220	0	1	0	0	1	0	23	452
04:30 PM - 04:45 PM	21	165	3	1	185	1	3	0	1	1	0	27	408
04:45 PM - 05:00 PM	15	184	0	0	170	1	0	0	0	0	0	21	391
05:00 PM - 05:15 PM	24	178	3	0	170	1	2	0	0	0	0	13	391
05:15 PM - 05:30 PM	19	181	0	0	182	1	2	0	0	1	0	28	414
05:30 PM - 05:45 PM	13	138	0	0	183	0	0	0	0	2	0	22	358
05:45 PM - 06:00 PM	21	140	2	0	168	0	2	0	1	0	0	22	356
06:00 PM - 06:15 PM	25	133	0	0	157	0	0	0	0	0	0	15	330
06:15 PM - 06:30 PM	23	131	0	0	127	0	0	0	0	1	0	11	293
06:30 PM - 06:45 PM	8	98	0	0	135	0	1	0	0	0	0	16	258
06:45 PM - 07:00 PM	12	93	0	0	119	0	0	0	0	0	0	10	234
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

All vehicles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0730 - 0745	2	0	1	-	0	3	1	2	44	-	0	47	22	116	8	-	0	146	1	410	0	-	0	411	607
0745 - 0800	4	0	0	-	0	4	0	0	45	-	0	45	43	122	5	-	0	170	4	422	2	-	0	428	647
0800 - 0815	0	0	0	-	0	0	0	0	37	-	0	37	49	120	8	-	0	177	4	376	1	-	0	381	595
0815 - 0830	3	0	0	-	0	3	1	0	44	-	0	45	25	119	5	-	0	149	4	328	3	-	0	335	532
Total	9	0	1	0	0	10	2	2	170	0	0	174	139	477	26	0	0	642	13	1536	6	0	0	1555	2381
Approach %	90.00	0.00	10.00	0.00	0.00	-	1.15	1.15	97.70	0.00	0.00	-	21.65	74.30	4.05	0.00	0.00	-	0.84	98.78	0.39	0.00	0.00	-	-
PHF	0.56	0.00	0.25	0.00	0.00	0.63	0.50	0.25	0.94	0.00	0.00	0.93	0.71	0.98	0.81	0.00	0.00	0.91	0.81	0.91	0.50	0.00	0.00	0.91	0.92

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0730 - 0745	2	0	1	-	0	3	1	2	44	-	0	47	22	111	8	-	0	141	1	402	0	-	0	403	594
0745 - 0800	2	0	0	-	0	2	0	0	45	-	0	45	42	115	5	-	0	162	4	405	2	-	0	411	620
0800 - 0815	0	0	0	-	0	0	0	0	36	-	0	36	48	114	8	-	0	170	4	363	1	-	0	368	574
0815 - 0830	3	0	0	-	0	3	1	0	43	-	0	44	24	112	5	-	0	141	4	314	2	-	0	320	508
Total	7	0	1	0	0	8	2	2	168	0	0	172	136	452	26	0	0	614	13	1484	5	0	0	1502	2296
Approach %	87.50	0.00	12.50	0.00	0.00	-	1.16	1.16	97.67	0.00	0.00	-	22.15	73.62	4.23	0.00	0.00	-	0.87	98.80	0.33	0.00	0.00	-	-
PHF	0.58	0.00	0.25	0.00	0.00	0.67	0.50	0.25	0.93	0.00	0.00	0.91	0.71	0.98	0.81	0.00	0.00	0.90	0.81	0.92	0.63	0.00	0.00	0.91	0.93

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	0	2	0	5	0	-	0	5	7
0745 - 0800	2	0	0	-	0	2	0	0	0	-	0	0	1	6	0	-	0	7	0	14	0	-	0	14	23
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	1	6	0	-	0	7	0	11	0	-	0	11	18
0815 - 0830	0	0	0	-	0	0	0	0	1	-	0	1	1	3	0	-	0	4	0	10	0	-	0	10	15
Total	2	0	0	0	0	2	0	0	1	0	0	1	3	17	0	0	0	20	0	40	0	0	0	40	63
Approach %	100.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	15.00	85.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	-
PHF	0.25	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.25	0.75	0.71	0.00	0.00	0.00	0.71	0.00	0.71	0.00	0.00	0.00	0.71	0.68

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)						
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	3	0	-	0	3	0	3	0	-	0	3	6
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	0	1	0	3	0	-	0	3	4
0800 - 0815	0	0	0	-	0	0	0	0	1	-	0	1	0	0	0	-	0	0	0	2	0	-	0	2	3
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	4	0	-	0	4	0	4	1	-	0	5	9
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	0	8	0	12	1	0	0	13	22
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	92.31	7.69	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.75	0.25	0.00	0.00	0.65	0.61

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total	
	Innovation Dr						Old US 421 S						US-421 (West)						US-421 (East)							
	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total		
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Classified Turn Movement Count || All vehicles



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Boone, NC

Site 1

Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)



Date

Tuesday, January 13, 2026

Weather

Fair
41°F



Lat/Long

36.223083°, -81.635177°

[Click here for Map](#)

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0700 - 0900 (Weekday 2h Session) (01-13-2026)

All vehicles

TIME	Northbound			Southbound			Eastbound			Westbound		
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)		
	Left	Thru	Right	U-Turn	App	Total	Left	Thru	Right	U-Turn	App	Total
0700 - 0715	1	0	0	0	1	1	0	0	0	0	0	0
0715 - 0730	3	0	0	0	3	3	0	0	0	0	0	0
0730 - 0745	2	0	1	0	3	3	1	2	44	0	0	0
0745 - 0800	4	0	0	0	4	4	0	0	45	0	0	0
Hourly Total	10	0	1	0	11	11	1	2	152	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	37	0	0	0
0815 - 0830	3	0	0	0	3	3	1	0	44	0	0	0
0830 - 0845	3	0	3	0	6	6	0	1	39	0	0	0
0845 - 0900	5	0	1	0	6	6	0	0	40	0	0	0
Hourly Total	11	0	4	0	15	15	1	1	160	0	0	0
Grand Total	21	0	5	0	26	26	2	3	312	0	0	0
Approach %	80.77	0.00	19.23	0.00	-	-	0.63	0.95	98.42	0.00	-	-
Intersection %	0.49	0.00	0.12	0.00	0.61	0.61	0.05	0.07	7.30	0.00	64.94	64.94
Heavy Vehicle %	10	-	0	-	8	8	0	0	2	-	4	4
PHF	0.56	0.00	0.25	0.00	0.63	0.63	0.50	0.25	0.94	0.00	0.91	0.91
Peak Hour Total	9	0	1	0	10	10	2	2	170	0	1555	1555
Peak Hour HV %	22	0	0	0	20	20	0	0	1	0	3	3

Classified Turn Movement Count || Passenger Vehicles (1-3)

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					
	Innovation Dr				Old US 421 S			US-421 (West)				US-421 (East)									
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9		Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14
0700 - 0715	1	0	0	0	1	0	0	0	0	25	12	92	0	0	104	0	229	3	0	232	362
0715 - 0730	3	0	0	0	3	0	0	0	0	37	24	99	0	0	123	1	314	4	0	319	482
0730 - 0745	2	0	1	0	3	1	2	44	0	47	22	111	8	0	141	1	402	0	0	403	594
0745 - 0800	2	0	0	0	2	0	0	0	0	45	42	115	5	0	162	4	405	2	0	411	620
Hourly Total	8	0	1	0	9	1	2	151	0	154	100	417	13	0	530	6	1350	9	0	1365	2058
0800 - 0815	0	0	0	0	0	0	0	0	0	36	48	114	8	0	170	4	363	1	0	368	574
0815 - 0830	3	0	0	0	3	1	0	0	0	44	24	112	5	0	141	4	314	2	0	320	508
0830 - 0845	3	0	3	0	6	0	1	38	0	39	22	95	7	0	124	3	313	3	0	319	488
0845 - 0900	5	0	1	0	6	0	0	0	0	39	24	98	6	1	129	4	295	0	0	299	473
Hourly Total	11	0	4	0	15	1	1	156	0	158	118	419	26	1	564	15	1285	6	0	1306	2043
Grand Total	19	0	5	0	24	2	3	307	0	312	218	836	39	1	1094	21	2635	15	0	2671	4101
Approach %	79.17	0.00	20.83	0.00	-	0.64	0.96	98.40	0.00	-	19.93	76.42	3.56	0.09	-	0.79	98.65	0.56	0.00	-	
Intersection %	0.46	0.00	0.12	0.00	0.59	0.05	0.07	7.49	0.00	7.61	5.32	20.39	0.95	0.02	26.68	0.51	64.25	0.37	0.00	65.13	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Single Unit Trucks (4-7)

	Northbound					Southbound					Eastbound					Westbound					
	Innovation Dr				U-Turn			Old US 421 S			U-Turn			US-421 (West)				US-421 (East)			
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total		Left 1.5	Thru 1.6		Right 1.7	U-Turn 1.8		App Total	Left 1.9	Thru 1.10		Right 1.11	U-Turn 1.12	App Total	Left 1.13
0700 - 0715	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	10	0	0	10	13
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	6	0	0	7	9
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	0	0	5	7
0745 - 0800	2	0	0	0	0	2	0	0	0	0	1	6	0	0	7	0	14	0	0	14	23
Hourly Total	2	0	0	0	0	2	0	1	0	1	1	12	0	0	13	1	35	0	0	36	52
0800 - 0815	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	0	11	0	0	11	18
0815 - 0830	0	0	0	0	0	0	0	1	0	1	1	3	0	0	4	0	10	0	0	10	15
0830 - 0845	0	0	0	0	0	0	0	1	0	1	2	12	0	0	14	0	7	0	0	7	22
0845 - 0900	0	0	0	0	0	0	0	1	0	1	1	6	0	0	7	0	14	0	0	14	22
Hourly Total	0	0	0	0	0	0	0	3	0	3	5	27	0	0	32	0	42	0	0	42	77
Grand Total	2	0	0	0	0	2	0	4	0	4	6	39	0	0	45	1	77	0	0	78	129
Approach %	100.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	13.33	86.67	0.00	0.00	-	1.28	98.72	0.00	0.00	-	
Intersection %	1.55	0.00	0.00	0.00	1.55	0.00	0.00	3.10	0.00	3.10	4.65	30.23	0.00	0.00	34.88	0.78	59.69	0.00	0.00	60.47	

Classified Turn Movement Count || Combination Trucks (8-13)



Boone, NC

Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Innovation Dr					Old US 421 S					US-421 (West)					US-421 (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	7
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	12	0	0	12	20
0800 - 0815	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	1	0	5	9
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	9
Hourly Total	0	0	0	0	0	0	0	0	0	1	0	9	0	0	9	0	15	1	0	16	26
Grand Total	0	0	0	0	0	0	0	0	0	1	0	17	0	0	17	0	27	1	0	28	46
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	96.43	3.57	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	0.00	2.17	0.00	36.96	0.00	0.00	36.96	0.00	58.70	2.17	0.00	60.87	

Classified Turn Movement Count || Bicycles

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
[Click here for Map](#)

Weather
Fair
41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Bicycles

TIME	Northbound					Southbound					Eastbound					Westbound									
	Innovation Dr				U-Turn 1.4	App Total	Old US 421 S				U-Turn 1.8	App Total	US-421 (West)				U-Turn 1.12	App Total	US-421 (East)				U-Turn 1.16	App Total	Int Total
	Left 1.1	Thru 1.2	Right 1.3				Left 1.5	Thru 1.6	Right 1.7				Left 1.9	Thru 1.10	Right 1.11				Left 1.13	Thru 1.14	Right 1.15				
0700 - 0715	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00		0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-			
Intersection %	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Classified Turn Movement Count || All Trucks (4-13)

Boone, NC

Site 1

Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)



Date

Tuesday, January 13, 2026

Lat/Long

36.223083°, -81.635177°

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Weather

Fair
41°F

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0700 - 0900 (Weekday 2h Session) (01-13-2026)

All Trucks (4-13)

	Northbound				Southbound				Eastbound				Westbound				Int								
	Innovation Dr				Old US 421 S				US-421 (West)				US-421 (East)												
TIME	Left 1.1	Thru 1.2	Right 1.3		U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7		U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11		U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15		U-Turn 1.16	App Total	Total
0700 - 0715	0	0	0		0	0	0	0	1		0	1	0	3	0		0	3	0	12	0		0	12	16
0715 - 0730	0	0	0		0	0	0	0	0		0	0	0	5	0		0	5	1	10	0		0	11	16
0730 - 0745	0	0	0		0	0	0	0	0		0	0	0	5	0		0	5	0	8	0		0	8	13
0745 - 0800	2	0	0		0	2	0	0	0		0	0	1	7	0		0	8	0	17	0		0	17	27
Hourly Total	2	0	0		0	2	0	0	1		0	1	1	20	0		0	21	1	47	0		0	48	72
0800 - 0815	0	0	0		0	0	0	0	1		0	1	1	6	0		0	7	0	13	0		0	13	21
0815 - 0830	0	0	0		0	0	0	0	1		0	1	1	7	0		0	8	0	14	1		0	15	24
0830 - 0845	0	0	0		0	0	0	0	1		0	1	2	16	0		0	18	0	8	0		0	8	27
0845 - 0900	0	0	0		0	0	0	0	1		0	1	1	7	0		0	8	0	22	0		0	22	31
Hourly Total	0	0	0		0	0	0	0	4		0	4	5	36	0		0	41	0	57	1		0	58	103
Grand Total	2	0	0		0	2	0	0	5		0	5	6	56	0		0	62	1	104	1		0	106	175
Approach %	100.00	0.00	0.00		0.00	-	0.00	0.00	100.00		0.00	-	9.68	90.32	0.00		0.00	-	0.94	98.11	0.94		0.00	-	
Intersection %	1.14	0.00	0.00		0.00	1.14	0.00	0.00	2.86		0.00	2.86	3.43	32.00	0.00		0.00	35.43	0.57	59.43	0.57		0.00	60.57	

Crosswalk Counts || Pedestrians

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Pedestrians

	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)				
TIME	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0		
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0		
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0		
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0		
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0		
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0		
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0		
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0		
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Crosswalk Counts || Bicycles

Boone, NC



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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Fair
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Bicycles

	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Innovation Dr			Old US 421 S			US-421 (West)			US-421 (East)				
TIME	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Crosswalk Counts || Motorized Vehicles

Boone, NC



Marr Traffic
DATA COLLECTION

www.marrtraffic.com



Site 1
Innovation Dr
Old US 421 S
US-421 (West)
US-421 (East)

Date
Tuesday, January 13, 2026

Lat/Long
36.223083°, -81.635177°
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41°F
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0700 - 0900 (Weekday 2h Session) (01-13-2026)
Motorized Vehicles

TIME	Northbound			Southbound			Eastbound			Westbound			Int Total
	EB 1a	WB 1b	App Total	EB 1c	WB 1d	App Total	NB 1e	SB 1f	App Total	NB 1g	SB 1h	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

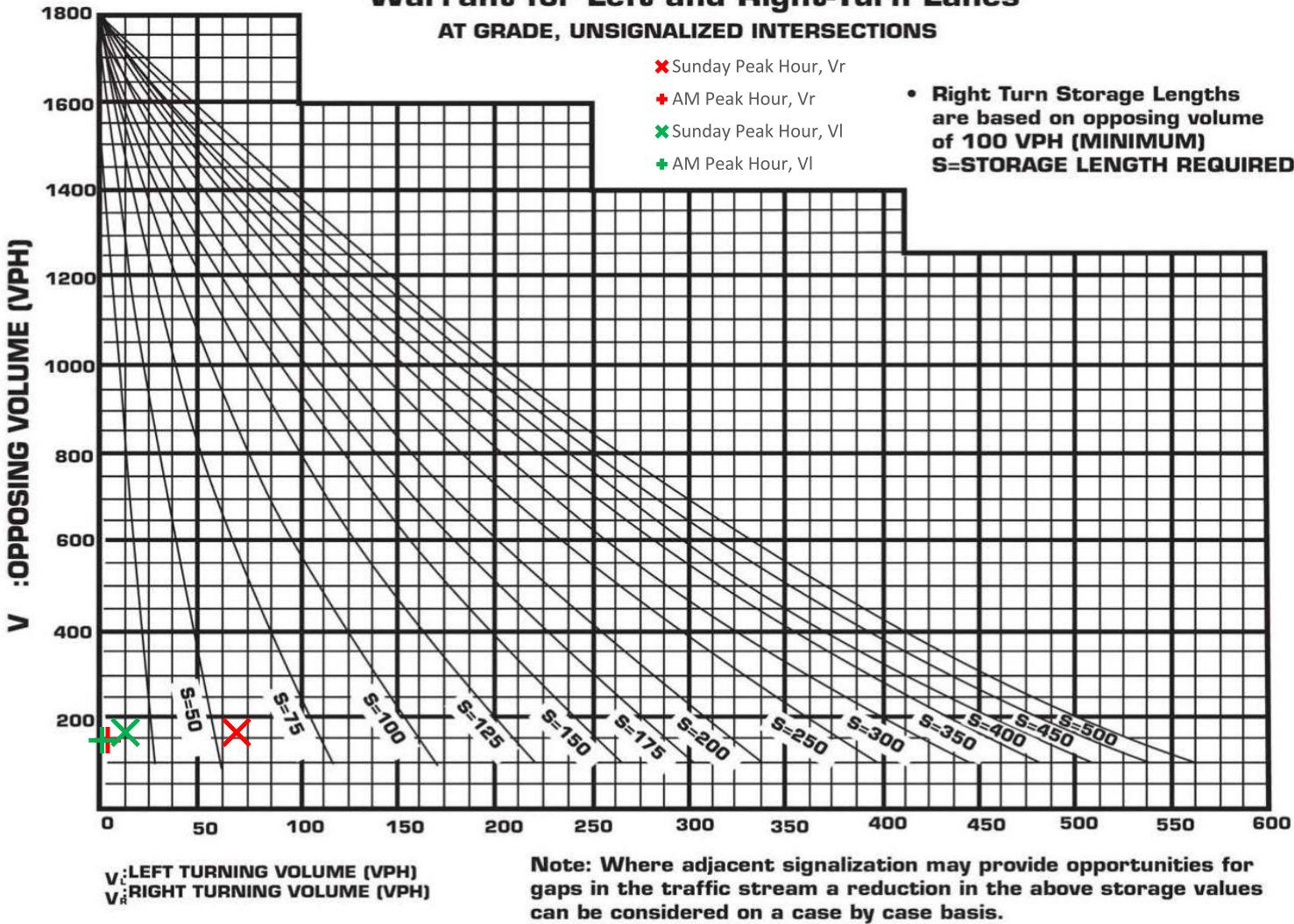
Start Date: 1/13/2026	US-421 (West) Eastbound			US-421 (East) Westbound			Innovation Dr Northbound			Old US 421 S Southbound			Total
Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	12	95	0	0	241	3	1	0	0	0	0	26	378
07:15 AM - 07:30 AM	24	104	0	2	324	4	3	0	0	0	0	37	498
07:30 AM - 07:45 AM	22	116	8	1	410	0	2	0	1	1	2	44	607
07:45 AM - 08:00 AM	43	122	5	4	422	2	4	0	0	0	0	45	647
08:00 AM - 08:15 AM	49	120	8	4	376	1	0	0	0	0	0	37	595
08:15 AM - 08:30 AM	25	119	5	4	328	3	3	0	0	1	0	44	532
08:30 AM - 08:45 AM	24	111	7	3	321	3	3	0	3	0	1	39	515
08:45 AM - 09:00 AM	25	105	6	4	317	0	5	0	1	0	0	40	503
09:00 AM - 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM - 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM - 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM - 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM - 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM - 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM - 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM - 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM - 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM - 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM - 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



Supporting Documentation

Peak Hour	Volumes		Peak Hour	Volumes	
	Opposing	Lefts		Opposing	Rights
Sunday	168	12	Sunday	168	69
AM	150	0	AM	150	3

Warrant for Left and Right-Turn Lanes
AT GRADE, UNSIGNALIZED INTERSECTIONS



TURN LANE WARRANT SUMMARY

OLD US 421 AT SITE ACCESS

PHASING DIAGRAM

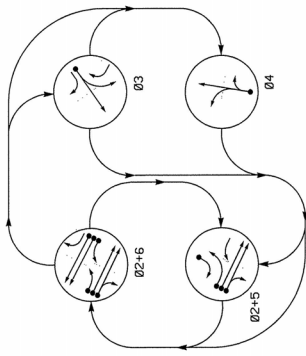


TABLE OF OPERATION		PHASE			
SIGNAL FACE		0 0	0 0	0 0	0 0
		0 2 + 5	0 2 + 6	0 3 + 4	0 4 + 5
21, 22		G	G	R	Y
31		R	R	G	R
32		R	R	G	R
41		R	R	R	G
42		R	R	R	G
51		Y	Y	R	R
61		Y	Y	R	R
62		R	G	R	Y
63		R	G	R	Y

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL		TO			
		←	↘	→	↙
F	←	1	2	1	2
R	↘	←	↘	↘	↘
O	→	↙	↙	↙	↙
M	↙	↙	↙	↙	↙

↘ = Flashing Yellow Arrow

2070L LOOP & DETECTOR INSTALLATION	INDUCTIVE LOOPS			DETECTOR PROGRAMMING				SYSTEM CABLE	NEN CABLE	Y
	LOOP SIZE	DISTANCE (FT)	TURNS	NEN LOOP	CALIBRATION	PULL TIME REQD.	STRETCH TIME			
	2A	6X6	300	5	2	Y	Y			Y
	2B	6X6	300	5	2	Y	Y			Y
	3A	6X60	0	2-4-2	3	Y	Y			Y
	4A	6X60	0	2-4-2	4	Y	Y			Y
	4B	6X6	0	4	Y	Y				Y
	5A	6X60	0	2-4-2	5	Y	Y			Y
	5B	6X60	0	2-4-2	2	Y	Y			Y
	6A/526	6X6	300	4	5	Y	Y			Y
	6B/527	6X6	300	4	6	Y	Y			Y
	6C	6X60	0	2-4-2	6	Y	Y			Y

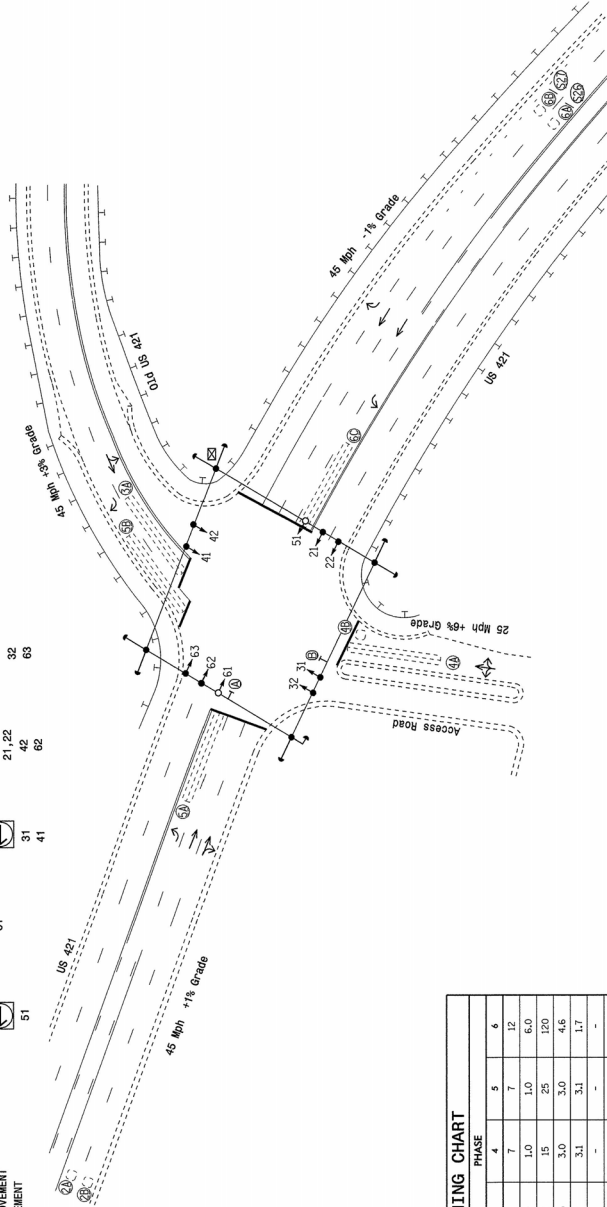
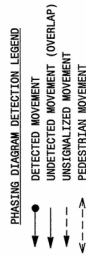
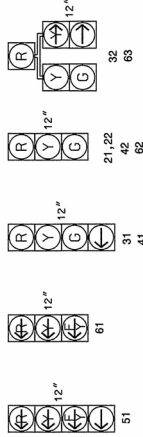
4 Phase
Fully Actual
US 421 (King Street) Clo

NOTES

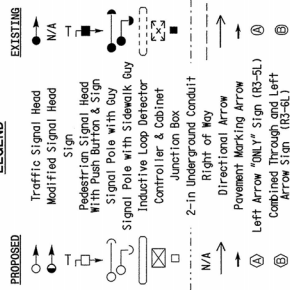
1. Refer to Drawings "N007" Standard
Refer to Drawings "N007" dated July
2006 and "Standard
Specifications for Roads and
Structures" dated July 2006.
2. Do not program signal for late
night flashing operation by
unless otherwise directed by
the Engineer.
3. Phase 5 may be lagged.
4. Reposition existing signal
heads 21 and 22.
5. Set all detector units to
presence mode.
6. Locate new cabinet so as not
to obstruct sight distance of
vehicles turning right on red.
7. Movement markings are existing.
8. Maximum flow shown in Timing
Diagram for structure
operation only. Coordinated
signal system timing values
supersede timing values.
9. Closed loop system data:
Controller Asset #: 1302.

SIGNAL FACE I.D.

All Heads L.E.D.



LEGEND

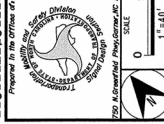


20701 TIMING CHART

FEATURE	PHASE					
	2	3	4	5	6	7
Min Green 1 *	12	7	4	5	6	12
Extension 1 *	6.0	1.0	1.0	1.0	6.0	6.0
Min Green 1 *	120	20	15	25	120	120
Yellow Clearance	4.6	4.3	3.0	3.0	4.6	4.6
Red Clearance	1.7	1.5	3.1	3.1	1.7	1.7
Work 1 *	-	-	-	-	-	-
Don't Walk 1	-	-	-	-	-	-
Second Per Advection *	1.5	-	-	-	1.5	-
Max Variable Initial *	34	-	-	-	34	-
Time Before Reduction *	50	-	-	-	20	-
Time To Redown *	40	-	-	-	40	-
Minimum Gap	3.0	-	-	-	3.0	-
Min Recall	MIN RECALL	-	-	-	MIN RECALL	-
Recall Mode	Recall Mode	-	-	-	Recall Mode	-
Vehicle Call Memory	Vehicle Call Memory	-	-	-	YELLOW	-
Dead Entry	-	-	-	-	-	-
Source: www.fhwa.gov	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade



US 421		at		Old US 421/Access Road	
Division 11		Watuga County		Near Deep Gap	
PLAN DATE:	May 2009	REVISED BY:			
PREPARED BY:	B. E. MYON	REVISED BY:			
REVIEWS		INIT.	DATE		