Planning Commission Meeting
AGENDA
Wednesday, February 14, 2024, 7:00 PM

Regular Session 7:00PM Community Room, Salem Civic Center, 1001 Roanoke Boulevard:

WORK SESSION

A. **Work Session cancelled**

REGULAR SESSION

1. Call to Order

A. **Pledge of Allegiance**

2. Consent Agenda

A. **Minutes of the December meeting**

Consider acceptance of the minutes from the December 13, 2023, work session and regular meeting. (Continued from the January 10, 2024, meeting.)

B. **Minutes of the January meeting**

Consider acceptance of the minutes from the January 10, 2024, work session and regular meeting.

C. **Minutes of the January meeting**

Consider acceptance of the minutes from the January 29, 2024, special work session.

3. New Business

A. **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of Virginia Baptist Children's Home (dba HopeTree Family Services), property owner, for rezoning the properties located at 1000 block Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10) from RSF Residential Single Family to PUD Planned Unit District. (Continued from the January 10, 2024, meeting.)

4. Adjournment

City Council meeting, March 11, 2024, 6:30 p.m.
Council Chambers, City Hall, 114 North Broad Street

Planning Commission Meeting
MINUTES
Wednesday, December 13, 2023, 7:00 PM

Work Session 6:00PM Council Chambers Conference Room, City Hall, 114 North Broad Street:

WORK SESSION

1. Call to Order

A work session of the Planning Commission of the City of Salem, Virginia, was held in Council Chambers Conference Room, City Hall, 114 North Broad Street, Salem, Virginia, at 6:00 p.m. on December 13, 2023; there being the members of said Commission, to wit: Vicki G. Daulton, Chair; Denise P. King, Vice Chair, Reid Garst, Neil L. Conner, and Jackson Beamer; together with Mary Ellen Wines, Planning & Zoning Administrator; Charles E. Van Allman, Jr., Director of Community Development; Maxwell S. Dillon, Planner; and Jim Guynn, City Attorney; and the following business was transacted: Chair Daulton called the meeting to order at 6:03 p.m. and reported that this date, place and time had been set for the Commission to hold a work session.

2. New Business

A. **Discussion of items on the December agenda**

1. 68 St. John Road
2. 2105-2121 Apperson Drive

A discussion was held regarding the items on the December agenda.

B. **Introduction of items on the January 2024 agenda**

1. 1236 West Main Street
2. 301 Carey Avenue
3. 416 Electric Road
4. 860 Mount Vernon Lane

Items for the January 2024 agenda were introduced, and a discussion was held.

3. Adjournment

Chair Daulton inquired if there were any other items for discussion and hearing none, adjourned the work session at 6:53 p.m.

REGULAR SESSION

1. Call to Order

A regular meeting of the Planning Commission of the City of Salem, Virginia, was held after due and proper notice in the Council Chambers, City Hall, 114 North Broad Street, Salem, Virginia, at 7:07 p.m., on December 13, 2023. Notice of such hearing was published in the November 2 and 9, 2023, issues of the "Salem Times Register," a newspaper published and having general circulation in the City of Salem. All adjacent property owners were notified via the U. S. Postal Service.

The Commission, constituting a legal quorum, presided together with Jim Guynn, City Attorney; Mary Ellen Wines, Planning & Zoning Administrator; Maxwell S. Dillon, City Planner; and Charles E. Van Allman, Jr., Director of Community Development, and the following business was transacted:

A. **Pledge of Allegiance**

2. Consent Agenda

Denise King motioned appointment of Mary Ellen Wines, Zoning and Planning Administrator, secretary pro tem. Jackson Beamer seconded the motion.

Ayes: Beamer, Conner, Daulton, Garst, King

A. **Minutes**
Consider acceptance of the minutes from the November 15, 2023, work session and regular meeting.

Jackson Beamer motioned approve minutes as amended. Neil Conner seconded the motion.

Ayes: Beamer, Conner, Daulton, Garst, King

3. New Business

A. **Amendment to the Zoning Ordinance**
Hold public hearing to consider the request of E2ST John, LLC, property owner, for rezoning the property located at 68 St. John Road (Tax Map # 155-2-2.1) from HBD Highway Business District to HM Heavy Manufacturing District.

Staff noted the following:

The subject property consists of a 0.932-acre tract of land which currently sits within the HBD Highway Business District designation. To provide a bit of history, this parcel is a portion of the original St. John Place Commerce Center, designed to be a flexible industrial development. It is one of two remaining vacant parcels along Electric Road, on the southside of St. John Road. Formerly zoned HM Heavy Manufacturing, this request seeks to return it to the HM Heavy Manufacturing classification. This parcel is currently vacant.

The applicant plans to develop this parcel in a similar nature to the flexible commercial lease space which is currently being constructed at 105 St. John Road. As depicted on the concept plan, the proposed development will be accessed via St. John Road. This will include a 9,900 square foot building with a 20' x 20' loading dock. There will be 19 parking spaces included. Access will be off St. John Road using a shared private access drive.

The Future Land Use Map (FLUM) identifies this area as industrial which is consistent with the proposed utilization of the property.

Barney Horrell, Brush Mountain Engineering, 3553 Carvins Cove Road, Salem, appeared before the Commission on behalf of the property owner. He stated that the rezoning request is consistent with what has been on the opposite side of St. John Road that Helm Building is building. The proposed structure will be a 90x110 metal building. Access will be off of a private, existing, shared access road.

A discussion was held regarding the private access road, address of the building, etc.

No other person(s) appeared before the Commission.

Neil Conner motioned to approve the request of E2ST John, LLC, property owner, for rezoning the property located at 68 St. John Road (Tax Map #144-2-2.1) from HBD Highway Business District to HM Heavy Manufacturing District. Denise King seconded the motion.

Ayes: Beamer, Conner, Daulton, Garst, King

B. **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of Poindexter SW Florida, LLC, property owner, for rezoning the property located at 2105–2121 Apperson Drive (Tax Map # 281-1-2.2) from BCD Business Commerce District to HBD Highway Business District.

Staff noted the following:

The subject property consists of a 1.473-acre tract of land which currently sits within the BCD Business Commerce District designation. To provide a bit of history, this parcel is a portion of the original 19-acre shopping center property that was that was purchased by Lewis-Gale. This property was rezoned from the commercial district B-3 to the current BCD Business Commerce District to accommodate their needs.

This property is currently partially occupied by various commercial tenants or otherwise vacant. In order to allow additional commercial uses such as restaurant and retail sales the property must be rezoned to a commercial district. Therefore, the petitioners are requesting the property be rezoned to HBD, Highway Business District.

The Future Land Use Map (FLUM) identifies this area as commercial which is consistent with the proposed utilization of the property.

Ben Crew of Balzer and Associates, 1208 Corporate Circle, Roanoke, VA, representing the property owners, appeared before the Commission and noted that the property owners are also

present at the meeting. He stated that the applicants purchased the property July of this year and plan to continue the positive momentum within that center by increasing the quality of the tenants in the space. During the process of trying to acquire new tenants, it was realized that in the unique BCD district that retail and restaurants are not allowed--you can build a hotel, but you cannot have retail space or a sub shop. The property is within the shopping center and is bordered by HBD on two sides, BCD on one side, which is the childcare facility, and LM on the other side, which is the zoning for Layman Candy Company. He stated that the owners have met with staff previously due to prospective tenants not being able to obtain a business license due to zoning restrictions, which is the reason for the rezoning request.

Vice Chair King stated that three units are vacant, and as a property owner, you want the spaces rented. She also stated that when she stopped by the property, the existing tenants are excited about the potential for additional tenants to increase traffic.

Chair Daulton inquired if renovations are planned.

Mr. Crew stated that miscellaneous renovations such as roof items and painting, but nothing additional is planned at this time.

A discussion was held regarding parking, easements, etc.

No other person(s) appeared related to the request.

Neil Conner motioned to approve request of Poindexter SW Florida, LLC, property owner, for rezoning the property located at 2105-2121 Apperson Drive (Tax Map # 281-1-2.2) from BCD Business Commerce District to HBD Highway Business District. Jackson Beamer seconded the motion.

Ayes: Beamer, Conner, Daulton, Garst, King

4. Adjournment

On motion by Member Beamer, seconded by Vice Chair, the meeting was adjourned at 7:21 pm.

Planning Commission Meeting
MINUTES

Wednesday, January 10, 2024, 7:00 PM

Work Session 6:00PM Regular Session 7:00PM Community Room, Salem Civic Center, 1001 Roanoke Boulevard:

WORK SESSION

1. Call to Order

A work session of the Planning Commission of the City of Salem, Virginia, was held in the Community Room, Salem Civic Center, 1001 Roanoke Boulevard, Salem, Virginia, at 6:00 p.m. on January 10, 2024; there being the members of said Commission, to wit: Vicki G. Daulton, Chair; Dee King, Vice Chair; Reid Garst, Neil L. Conner, and Jackson Beamer; together with Christopher J. Dorsey, City Manager; H. Robert Light, Assistant City Manager; Mary Ellen Wines, Planning & Zoning Administrator; Charles E. Van Allman, Jr., Director of Community Development; Maxwell S. Dillon, Planner; and Jim Guynn, City Attorney; and the following business was transacted: Chair Daulton called the meeting to order at 6:00 p.m. and reported that this date, place and time had been set for the Commission to hold a work session

2. New Business

A. **Discussion of items on the January agenda**

1. 1236 West Main Street rezoning from HBD to CBD
2. 301 Carey Avenue SEP two-family dwelling
3. 416 Electric Road rezoning from HBD to HM
4. 860 Mount Vernon Lane rezoning from RSF to PUD

A discussion was held regarding the items on the January agenda.

3. Adjournment

Chair Daulton inquired if there were any other items for discussion and hearing none, adjourned the work session at 6:55 p.m.

REGULAR SESSION

1. Call to Order

A regular meeting of the Planning Commission of the City of Salem, Virginia, was held after due and proper notice in the Community Room, Salem Civic Center, 1001 Roanoke Boulevard, Salem, Virginia, at 7:00 p.m., on January 10, 2024. Notice of such hearing was published in the December 28, 2023, and January 4, 2024, issues of the "Salem Times Register," a newspaper published and having general circulation in the City of Salem. All adjacent property owners were notified via the U. S. Postal Service.

The Commission, constituting a legal quorum, presided together with Christopher J. Dorsey, City Manager; H. Robert Light, Assistant City Manager; Jim Guynn, City Attorney; Mary Ellen Wines, Planning & Zoning Administrator; Maxwell S. Dillon, City Planner; and Charles E. Van Allman, Jr., Director of Community Development, and the following business was transacted:

A. **Pledge of Allegiance**

2. Election of Officers

On motion by Dee King, seconded by Jackson Beamer, and duly carried Vicki Daulton was appointed Chair of the Commission. Roll call vote: all – aye.

On motion by Reid Garst, seconded by Neil Conner, and duly carried Dee King was appointed Vice Chair of the Commission. Roll call vote: all – aye.

On motion by Neil Conner, seconded by Dee King, and duly carried Christopher J. Dorsey was appointed Executive Secretary of the Commission. Roll call vote: all – aye.

On motion by Neil Conner, seconded by Jackson Beamer, and duly carried H. Robert Light was appointed Deputy Executive Secretary of the Commission. Roll call vote: all – aye.

On motion by Jackson Beamer, seconded by Dee King, and duly carried Chris Dadak and Charles E. Van Allman, Jr., were appointed designated agents of the Commission. Roll call vote: all – aye.

3. Consent Agenda

A. **Minutes**

Consider acceptance of the minutes from the December 13, 2023, work session and regular meeting.

On motion by Vice Chair King, seconded by Member Conner, and duly carried the minutes were continued until the February 14, 2024, meeting. Roll call vote: all – aye.

4. New Business

On motion by Member Beamer, seconded by Member Conner, and duly carried, Item 4 was moved to Item 1. Roll call vote: - all aye.

D. **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of Virginia Baptist Children's Home (dba HopeTree Family Services), property owner, for rezoning the properties located at 1000 block Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10) from RSF Residential Single Family to PUD Planned Unit District. Petitioners have requested a continuance until the February 14, 2024, meeting.

Jon Morris, President and CEO of HopeTree Family Services, appeared before the Commission and requested a continuance of the request until the February 14, 2024, meeting.

On motion by Member Garst, seconded by Member Conner, and duly carried, the request of Virginia Baptist Children's Home (dba HopeTree Family Services), property owner, for rezoning the properties located at 1000 block Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10) from RSF Residential Single Family to PUD Planned Unit District was continued until the February 14, 2024, meeting. Roll call vote: all – aye.

A. **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of T J Real Properties, LLC, property owner, for rezoning the property located at 1236 West Main Street, (Tax Map # 141-1-4) from HBD Highway Business District to CBD Community Business District.

Staff noted the following:

The subject property (1236 West Main Street) consists of a 0.348-acre tract of land which currently sits within the HBD Highway Business District designation. The applicant is requesting to rezone the property from HBD Highway Business District to CBD Community Business District in order to complement the existing commercial use with a residential unit on the second floor of the structure.

Damaged by a fire in 2023, the structure which currently houses a nail salon on its bottom floor (TJ Nails & Spa) also possessed an upper-level unit that was not permitted for residential living. Because the applicant desires to allow employees of the downstairs commercial operation to live on-site in the upstairs unit, a rezoning from HBD Highway Business

District to CBD Community Business District to allow for mixed use is required.

Section 106-602.13. of the City of Salem Zoning Ordinance defines "Mixed use" as "a single building or parcel wherein multiple uses such as residential and commercial share space."

The Future Land Use Map (FLUM) identifies this area as commercial.

Hoa Nguyen, 1236 West Main Street, Salem, property owner, appeared before the Commission and stated that there are three rooms upstairs that they would like to rent the space to someone.

Member Garst questioned if it would be one apartment.

Mr. Nguyen stated that it would be one apartment with three rooms.

Chair Daulton questioned if there would be three people renting and asked if there was a kitchen upstairs.

Mr. Nguyen stated that three people could rent. There was not a kitchen upstairs, but there is a kitchen area downstairs the renters can use.

Chair Daulton questioned if employees would be renting the rooms.

Mr. Nguyen stated that he was not sure who would be renting the space.

A discussion was held regarding parking spaces, and access to the lower-level kitchen. It was noted that there is an internal staircase that allows access between the upstairs units and the downstairs kitchen. It was also noted that the owner will need to go to the Building Official for the firewall to be placed between the living space and business.

No other person(s) appeared related to the request.

On motion by Member Reid, seconded by Member Jackson and duly carried, the request T J Real Properties, LLC, property owner, for rezoning the property located at 1236 West Main Street, (Tax Map # 141-1-4) from HBD Highway Business District to CBD Community Business District was approved. The roll call vote: all – aye.

B. **Special Exception Permit**

Hold public hearing to consider the request of Helm Building Enterprises, LTD, property owner, for the issuance of a Special Exception Permit to allow a two-family dwelling on the property located at 301 Carey Avenue, (Tax Map # 74-2-6.1).

Staff noted the following:

The subject property (301 Carey Avenue) consists of a 0.363acre tract of land which currently sits within the RSF Residential Single-Family designation. The applicant is seeking a Special Exception Permit to allow a two-family dwelling on the property.

Currently vacant, the subject property is situated in a neighborhood of primarily single-family homes; however, there is a mix of uses in the surrounding area bounded by Carey and Brand Avenue, along with several multi-family units along Hale Avenue. If approved, the applicant intends to build an approximately 2,500 square foot (~56x44) two family dwelling (side-by-side) comprised of board and batten siding on the exterior. The proposed site plan satisfies the RSF Residential Single Family setback regulations.

The Future Land Use Map (FLUM) identifies this area as residential, still consistent with the proposed utilization of the property should the Special Exception Permit be granted.

Teddy Dyer, 357 Penguin Lane, property owner, appeared before the Commission and stated that he plans to build a one-story, decorated two-family dwelling on the parcel. He feels that it would fit well in the neighborhood and would be a buffer between single-family and a commercial property next door. There are also other apartments within two blocks of the property, other two-family dwellings within a couple blocks, as well as the former Elizabeth Arden building and VDOT within a block of the property; therefore, he does not feel that a single-family dwelling is the only use of the property.

Vice Chair King questioned if the drawings/plans submitted are what he is proposing the dwelling to look like and if the plans could be a condition of approval.

Mr. Dyer confirmed.

Member Garst questioned if there any use on the second floor.

Mr. Dyer stated that there was not a second floor--it was a “dead” gable. He stated that there would be firewall down the middle, a decorative front, nice sides. The elevations were submitted with the plans to show that he does not plan to build a “rinky dink” shed on the property.

Member Conner questioned what the projected rent would be on the units.

Mr. Dyer stated that he does not have a projected rent at this time. He stated that there is a need for rental property in Salem—each unit would have three bedrooms and he does not plan to rent to college students.

Phillip Beland, 312 Carey Avenue, appeared before the Commission and stated that he lives diagonally across the street from the property. He questioned the requirements necessary for the property to be built on and gave a background on his property. He discussed site distance requirements,

speeding issues, and addressed his concerns regarding the safety of children playing. He stated that just below the side of the road the property is to build on is flooded from surface water runoff for most of the summer every summer. He stated that there are no provisions for surface water runoff, and the proposed development will compound the current issues. He stated that the street has been in place since the 1700s with very few improvements. He further stated that Carey Avenue is a very narrow street and has not been widened—more often than not, vehicles will have to pull over to let an oncoming vehicle pass. Carey Avenue is not a very accessible street.

Member Reid questioned if Mr. Beland's concerns were primarily traffic and stormwater issues.

Mr. Beland confirmed, as well as who will rent the property.

Chair Daulton stated that a single-family residence can be built on the property by-right.

Mr. Beland questioned the subdivision of the property.

Charles E. Van Allman, Jr., Director of Community Development addressed the issue of why it is a lot-- the standards Mr. Beland spoke of are today's requirements and were not necessarily required 10 years or 15 years ago. Carey Avenue is an old road and so is the land along the road. If there is a lot by record that is zoned Residential Single Family and if the City does not allow you to build when it is allowed by-right by zoning, that is a taking of property.

Mr. Beland stated that the parcel just became an individual lot last year. The parcel was originally part of the lot located at 311 Carey Avenue—the Price residence. He stated that the original parcel was subdivided, and 301 Carey Avenue was created.

Chair Daulton stated that the lot was sold as a lot and the buyer has a right by law in the State of Virginia if it is zoned, in this case Residential Single Family, to build a single-family house by right.

Mr. Van Allman noted that the lot meets the zoning requirements. The 10-mph limit Mr. Beland spoke about is not a law, it is a "rule of thumb" and is not an absolute. He further noted that the city works with developers for the safety and betterment of residents.

Member Conner noted that the Commission will only be voting on the use of the property, and that other requirements will be dealt with through the site plan process. He asked Mr. Beland if he had concerns other than the traffic and stormwater specific to this proposal.

Mr. Beland stated that he is concerned with who will be renting the property. There is a single-family residence currently being rented to college students that cause issues in the neighborhood.

Chair Daulton stated that the concerns Mr. Beland has are police matters and other issues. She asked that he speak with the Zoning Administrator or other members of the Community Development in an attempt to address the issues.

Dennis Dessureau, 108 Carey Avenue, appeared before the Commission and requested that the Commission listen to the concerns. He stated that there are a lot of issues on Carey Avenue—50-foot trailers use Carey Avenue to service the businesses that are not located on Carey Avenue. There are young children who live on the street, and he has concerns about the safety of the children due to speeding, partying, etc. He also stated that there are stormwater issues, and that the water pressure is depleting over time. He further stated that is a busy corner where the proposed dwelling is to be built. He asked that the Commission have compassion and understanding for the current residents on the street. He presented the Commission with a petition signed by the residents of Carey Avenue.

Member Garst asked the Director of Community Development if the water runoff would be less if a single-family dwelling was built on the parcel.

Mr. Van Allman, stated that it is based on square footage and if the builder wanted to construct a single-family home the same square-footage as the proposed two-family dwelling, it would be the same either way.

Member Beamer questioned how long Mr. Dessureau has lived on Carey Avenue.

Mr. Dessureau stated that he has lived there since 2014.

Member Conner questioned if Mr. Beland was met with the same resistance when he developed his lot in 2017.

Mr. Dessureau stated that no, he was not.

Member Conner stated that the issues being brought up are not what the Commission can address with the decision the Commission is being asked to make. He stated that the issues need to be addressed in a different venue.

Chair Daulton noted that the Planning Commission is a recommending body only, and that City Council ultimately makes the decision. She asked that the residents address the concerns being raised with the Community Development Department.

Mr. Van Allman stated that he is aware of the storm water issues on Carey Avenue.

Kenneth Griggs, 145 Carey Avenue, appeared before the Commission and stated that he lives where all the water come to. His backyard is over halfway flooded right now from all of the runoff. He stated that he has argued with

the city multiple times and has been told that nothing can be done. He has lived there since 1993 and he is tired of the standing water—his grandchildren cannot even go outside. He showed the Commission photos of the standing water currently in his backyard.

Mr. Dyer reappeared before the Commission and stated that he would not have to appear before the Commission to build a single-family dwelling and there would not be any checks and balances other than the building department. He further stated that he lives in Salem, he grew up in Salem, he graduated from Salem High School, he played football, he gives back for the community. He cares about the community and is a part of the community and asked that the current residents trust him when he tells them that they will not find anyone nicer who will care about the neighborhood and will make sure there will not be college students living in the proposed development. He further noted that he realizes this is a place to vent, but it is also a place where he lets the residents know that he will try to the right thing, he will follow the rules, he builds in Salem already—he owns multiple properties in Salem, his business is in Salem, and he can be found at Helm Building. There is no reason that he ever wants to come into a community and disrupt it.

Fawn Robbins, 311 Carey Avenue, appeared before the Commission and stated that she lives right next to the proposed development. She requested to see the plan for what will be build.

Chelsea Dyer, 357 Penguin Lane, appeared before the Commission and stated that the total square footage will be between 2600 and 2800 square feet—two 1300 to 1400 square feet per unit. She noted that the building plan meets all the required setbacks with room to spare. The structure will be single level, not a two-story dwelling, which will suit senior living or a family. She reiterated that she does not anticipate renting to anyone that will be a problem.

Ms. Robbins stated that she struggles with college students and the ramifications of having them live in the neighborhood.

Mrs. Dyer reappeared before the Commission and stated that the issues being brought up are issues with existing residents and are not related to the proposed development of the property. The issues need to be addressed with the police department or another department of the city as building or not building on the property will not fix the behaviors of current residents, tractor trailers on the street, etc. She stated that building or not building on the property also will not cause any of the issues. She stated that she understands the neighbors' concerns and will try to be a good neighbor, but the concerns being raised are not related to what the Commission will recommend.

Member Conner stated that one thing the Commission cannot do is preclude someone from legal activity because someone else not related to them is doing something illegal. The Commission has to look at the request and

assume the petition will act legally. The Commission is only considering the use of the property. Behind that is the hope is that the development does not "go south" and cause harm or detriment to the community. He realizes that there are issues on Carey Avenue, but the Commission cannot use that there is a "party house" as a reason to deny development of a parcel.

Tim Skime, 130 Carey Avenue, appeared before the Commission and stated he is concerned about the potential development having an adverse effect on property values.

Member Conner stated that in his opinion, the presence of the two-family dwelling will increase neighboring property values. He further stated that he realizes the neighbors' concerns but feels there is a need for denser housing and feels this is the best use of the property.

Greg Linkous, 300 Carey Avenue, appeared before the Commission and stated that he has lived there for 10 years and is not in favor of a multi-family dwelling primarily due to the prospect of devaluation of neighboring homes. He does not feel that renters will not value and take care of the property and feels that renters devalue the surrounding single-family owned properties.

Phillip Beland reappeared before the Commission and stated that some of the neighbors were interested in purchasing the property.

Phil Hall, 937 Harrison Avenue, appeared before the Commission and stated that he is absolutely against a multi-family development of the property.

No other persons(s) appeared related to the request.

On motion by Member Conner, seconded by Member Beamer and duly carried, the request of Helm Building Enterprises, LTD, property owner, for the issuance of a Special Exception Permit to allow a two-family dwelling on the property located at 301 Carey Avenue, (Tax Map # 74-2-6.1) was approved. The roll call vote: Conner – aye, Beamer – aye, Garst – nay, King – aye, Daulton – aye.

C. **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of Helm Building Enterprises, LTD, property owner, for rezoning the property located at 416 Electric Road (Tax Map # 150-3-1) from HBD Highway Business District to HM Heavy Manufacturing District.

The subject property (416 Electric Road) consists of a 4.001acre tract of land which currently sits within the HBD Highway Business District designation. To provide a bit of history, this large parcel was formerly zoned HM Heavy Manufacturing, and at that time, it encompassed the parcels now recognized as 71 St. John Road and 105 St. John Road. A 2007 subdivision resulted in the

formation of 71 St. John (retaining its HM Heavy Manufacturing designation), and a subsequent rezoning adjusted 416 Electric Road (which included the yet to be formed 105 St. John Road) from HM Heavy Manufacturing to HBD Highway Business District in anticipation of future commercial development. Since then, the St. John Place Commerce Center has developed in an industrial nature, and correspondingly, this request seeks to return 416 Electric Road to the HM Heavy Manufacturing classification. This parcel is currently vacant, but a grading plan has been submitted to prepare it for future development.

While there is no concrete site plan for the future development of the property, the uses specified in the HM Heavy Manufacturing District are consistent with existing development in the adjacent St. John Place Commerce Center. Although some of the site sits within the floodplain, any future development will be elevated above the 100-year floodplain to meet the necessary requirements.

The Future Land Use Map (FLUM) identifies this area as industrial which is consistent with the proposed future utilization of the property

Barney Horrell, Brushy Mountain Engineering, appeared before the Commission on behalf of the property owner. He complimented the city for maintaining its GIS information. He stated that this is the vacant parcel across from the fire department on Electric Road. It is currently an undeveloped, overgrown hayfield previously used by General Electric that leads down to the soccer fields maintained by the Sabres Soccer Club. He stated that there is currently not a concrete plan for the future development of the property—he has done concept plans on the best way to develop the property. Long-term he feels the development will be similar to the current developments being done on neighboring properties. He further stated that a bond was approved at the previous City Council meeting to do site work on the lot. In anticipation of future development, the request is to rezone the property from HBD to HM, which is consistent with the other two buildings currently being built, as well as the properties going toward the former GE property and the GE property. He thinks there is only one more lot currently zoned HBD and he anticipates being before the Commission requesting that parcel to be rezoned to HM as well.

Vice Chair King asked if the “tail” of the property has plans for future development given its narrow feature.

Mr. Horrell stated that this is a “remanent” property that extends all the way to Lynchburg Turnpike and gets very narrow at that point. In his concept plans, the growth will likely be from the current buildings being constructed toward Lynchburg Turnpike.

Ted Dyer, Helm Building, 1491 Southside Drive, property owner, appeared before the Commission and stated that he will build something like what has been constructed on the corner. He plans to dress up the area and bring new businesses to the area. He announced that Sunbelt Flooring will be moving into

the corner lot—a five-year lease with up to 15-years has been signed. He is looking at another medical center to go into the second building. He is trying to grow jobs and hopes to build five to six new buildings constructed for new businesses in Salem.

Mr. Van Allman noted that Mr. Dyer and Mr. Horrell have already acquired a common plan of development for the development, and he thanked them for doing the right thing. He further noted that the state required stormwater requirements are being met.

No other person(s) appeared related to the request.

On motion made by Member Beamer, seconded by Vice Chair King, and duly carried the request of Helm Building Enterprises, LTD, property owner, for rezoning the property located at 416 Electric Road (Tax Map # 150-3-1) from HBD Highway Business District to HM Heavy Manufacturing District was approved. The roll call vote: all – aye.

5. Adjournment

On motion by Member Conner, seconded by Vice Chair, the meeting was adjourned at 8:41 pm.

Planning Commission Meeting
MINUTES
Monday, January 29, 2024, 3:45 PM

Closed Work Session ONLY 3:45 p.m. City Manager's Conference Room, City Hall, 114 North Broad Street, Salem, Virginia 24153

WORK SESSION

1. Call to Order

A closed work session of the Planning Commission of the City of Salem, Virginia, was held in Council Chambers Conference Room, City Hall, 114 North Broad Street, Salem, Virginia, at 3:45 p.m. on January 29, 2024; there being the members of said Commission, to wit: Vicki G. Daulton, Chair; Denise P. King, Vice Chair; Reid Garst, Neil L. Conner, and Jackson Beamer; together with Mary Ellen Wines, Planning & Zoning Administrator; Charles E. Van Allman, Jr., Director of Community Development; Maxwell S. Dillon, Planner; and Jim Guynn, City Attorney; and the following business was transacted: Chair Daulton called the meeting to order at 3:47 p.m. and reported that this date, place and time had been set for the Commission to hold a closed session.

2. New Business

A. **Closed Session**

Hold a closed session in accordance with the provisions of Section 2.2-3711A(8) of the 1950 Code of Virginia, as amended, for consultation with legal counsel.

Member Beamer moved and Member Garst seconded to convene in closed session pursuant to Section 2.2-3711 A(8) of the Code of Virginia, 1950 as amended to date, for the purpose of consultation with legal counsel at 3:48 p.m. Roll call vote: all - aye.

Member Beamer moved and Member Conner seconded that in accordance with Section 2.2-3711 A(8) of the Code of Virginia, 1950 as amended to date, this Board hereby certifies that in Closed Session only items lawfully exempted from open meeting requirements under the Virginia Freedom of Information Act and only such items identified in the motion by which the Closed Session was convened were heard, discussed, or considered by the Board at 5:12 p.m. Roll call vote: all - aye.

3. Adjournment

Chair Daulton inquired if there were any other items for discussion and hearing none,
adjourned the work session at 5:18 p.m.

AT A REGULAR MEETING OF THE PLANNING COMMISSION OF THE CITY OF SALEM, VIRGINIA held in the Community Room, Salem, Civic Center, 1001 Roanoke Boulevard, Salem, VA 24153

AGENDA ITEM: **Amendment to the Zoning Ordinance**

Hold public hearing to consider the request of Virginia Baptist Children's Home (dba HopeTree Family Services), property owner, for rezoning the properties located at 1000 block Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10) from RSF Residential Single Family to PUD Planned Unit District.

SUBMITTED BY: Mary Ellen Wines, Planning & Zoning Administrator

SITE CHARACTERISTICS:

Zoning: RSF Residential Single Family
Land Use Plan Designation: Residential
Existing Use: Civic
Proposed Use: PUD Planned Unit District

BACKGROUND INFORMATION:

The subject property is commonly known as "HopeTree", formerly as the "Baptist Home" and consists of seven parcels land of approximately 62.318 acres. It is bounded by the Stonegate & Emerald Hills subdivisions and North Broad Street on the west, East Carrollton Avenue on the south, Red Lane on the east, and Interstate 81 to the north. The property is currently, and will continue, to be the home of HopeTree Family Services. These services include clinical services such as equine assisted psychotherapy, therapeutic foster care, the HopeTree Academy, therapeutic group homes, and developmental disability homes.

This request is to rezone the property in order for it to be developed as a planned unit district that will contain the existing HopeTree services, a significant number of residential building types (not to exceed 340 units), and mixed use structures that will contain commercial uses. Approximately 40% of the site will be preserved or used as public or private open space areas including a proposed lawn area near the center of the site. As a planned unit district is extremely flexible by design, the exact building types and locations have not been determined.

The applicant is proposing access adjustments to the property. According to the proposal, the existing main entrance from Mount Vernon Lane and East Carrolton will remain. The northern entrance on Red Lane will be moved in line with the intersection to the North Oaks Subdivision. The second existing entrance from Red Lane will remain and four additional entrances from Red Lane will be added. Two additional entrances will be constructed on East Carrollton Avenue along with the opening and extension of North Broad Street. All roads within the PUD will be privately owned.

Several potential areas for stormwater management are identified throughout the plan. As a PUD is designed to be flexible in nature, the exact size and location of the SWM areas have not been determined. As a light imprint development, stormwater facilities are often small in nature and dispersed throughout the development. The actual number of facilities and their design will depend on engineering and regulatory requirements and will be reviewed and approved through the site plan review process.

PROFFERED CONDITIONS:

The Planned Unit District master plan (labeled PUD Rezoning Application in attached documentation) will constitute the required conditional zoning proffers. All other documentation included throughout the application process is supportive in nature.

INDEPENDENT ANALYSIS OF TRAFFIC DATA SUBMITTED BY THE APPLICANT:

The City hired Mattern & Craig, an independent, licensed professional engineer to review the traffic data that was submitted with the request for accuracy and to obtain a third party opinion.

In summary, Mattern & Craig found the need for an expansion of the study area in regard to the intersections examined (not just Red Lane/East Carrolton Ave and East Carrolton Ave/North Broad St) and data points collected. Additionally, there needs to be justification for the trip generation reduction (currently as assumption of 25%); otherwise, standardized metrics (provided by the Institute of Transportation Engineers or VDOT) should be utilized.

Mattern & Craig's analysis can be found in the supporting documents of this staff report.

Balzer and Associates has responded to Mattern & Craig's independent analysis, and correspondingly updated its Traffic Impact Study. Those materials can be found in the supporting documents of this staff report.

COMMENTS RECEIVED FROM CITY DEPARTMENTS:

The proposed development was submitted to all city departments for comment and review. Below is the response of each department:

COMMUNITY DEVELOPMENT, Engineering Division

If approved, the project will have to comply with all applicable local and state stormwater regulations and requirements, including over-detention.

An independent analysis of the submitted traffic data was performed by Mattern & Craig, Professional Engineers. For more details, please see the Traffic Section above.

COMMUNITY DEVELOPMENT, Planning & Zoning Division

The intent of the Planned Unit District (PUD) is to encourage maximum flexibility in the design and development of land. PUD developments facilitate the adequate and economical provision of streets, utilities and other improvements, and allow for the management of the natural and scenic qualities of vacant land that is proposed for development. The PUD district allows a variety of housing options, as well as commercial, civic and office use types of a number and scale sufficient to serve the needs of the PUD residents.

Although the proposal offers a delightful light imprint development focused on walkability, open space, amenities, and a sense of community, the submitted documents do not ensure that type of development. There are no guarantees for single-family detached homes nor are there guarantees for small scale commercial that is mainly supported by the residents of the PUD. City Council is to approve the maximum gross density of the development in addition to the maximum area devoted to non-residential uses. Although these areas are located in the plan, these maximum numbers have not been determined.

The proposed allowable use list needs to be reduced to uses more appropriate to the location and the proximity to downtown. The City has spent a tremendous amount of time and money to create a unique downtown district that we need to protect and promote.

Finally, conflicting information exists throughout the document(s) that need clarification.

Economic Development

HopeTree's proposed development appears to be a very creative "outside the box" development, unique to the Roanoke Region. The overall development has the potential for becoming a well-known planned development well outside the Roanoke Valley.

Historically, economic development only engages in commercial and industrial land use development. The proposed HopeTree development is a unique master planned community largely consisting of residential development. However, in the interest of economic development, the plan incorporates several initiatives related to Economic Development's strategic plan and incorporates a small portion of proposed commercial uses. Proposed commercial uses are predominantly associated with the adaptive reuse of older HopeTree buildings.

Related to Economic Development's strategic plan, the HopeTree development supports several objectives, including:

1. Opportunities to diversify the housing options in the City of Salem
    a. Support existing efforts in retention and attraction of talent
2. Opportunities to expand quality of life amenities to local residents
    a. Pedestrian walking paths, preserving open green space and recreation for the public
    b. Increase beatification efforts in building design and city corridors
        i. Reference of Wiley Court & pocket parks are positive
3. Business attraction & entrepreneurial support
    a. Enhanced adaptive reuse of older buildings can boost efforts to attract eclectic businesses with potential to be retail/hospitality destinations

Further time for review of proposed uses/zoning and what is a good fit for such a unique development and the larger neighborhood will be needed. For example, "automobile repair services, minor" would not be a good use for the neighborhood as well as "personal storage", "warehousing & distribution". In addition, further time for review of the traffic study and evaluation of other off-site improvements to mediate traffic flow will be needed.

ELECTRIC

Electric loading - The proposed development would not adversely affect the power in that area. We have adequate feeds available for the new load.

Easement/Pre-Construction – This development will require extensive easements and phase planning prior to construction. The existing power on site will need to be replaced/intercepted as Salem Electric will be bringing the existing power up to its code. Well in advance to construction, materials and equipment will need to be decided upon in coordination with the developer and ordered to ensure that they will be available at the time of construction.

Construction – The proposed development will require all new power feeds into the site. Coordinating the existing power with the new facilities will require extensive electrical work and planning to ensure that outages will be manageable and new electric services will be available to the proposed phases of construction.

POLICE

Along the same lines of the Police Department's response to the Simms Farm development, we would anticipate a slight increase in Calls for Police Services which is expected from any development of this nature. We are not in a position to dispute the facts presented in the Traffic Study which details the increase of vehicular traffic in the adjacent neighborhoods. At this time, there is no immediate concern regarding quality of life issues such as homelessness.

SCHOOLS

Thank you for the opportunity to provide input on this matter. Ultimately, please know that the School Board and School Administration trust the City Council and City Administrators to make good decisions that benefit all Salem residents.

From the perspective of the Salem City School Division, new development is likely to increase enrollment. Since 2017, the Salem City School Division has experienced a significant decline in enrollment, negatively affecting state funding (approximately 300 students in grades K-12). Increased enrollment will provide additional revenue from the state on a per−pupil basis for annual instructional costs. Additionally, enrollment increases generally happen over time, which permits staffing and program delivery to adapt and adjust incrementally.

Outside of annual instructional programming, the other consideration is the capacity of school facilities. The proposed development is in what is currently the West Salem Elementary Attendance Zone. West Salem Elementary School has a facility capacity of approximately 450 students and is currently operating below capacity with approximately 400 students, some of whom are nonresident students or in-division transfer students. So, there is capacity for increased enrollment at West Salem. ALMS and SHS also have ample space to address increases in enrollment in grades 6-12.

If additional enrollment results in the need to adjust attendance zones, changes will be phased in over time by permitting current students in affected neighborhoods to continue attending the neighborhood's traditional school while new students are transported to the newly assigned school.
In large or rural districts, the redundant transportation required to phase in changes would be a more significant challenge than it will be here in Salem. While there would be a modest increase in transportation costs during implementation, it would be a small price to pay to mitigate the impact of changing attendance zones on families.

STREET DEPARTMENT

All roads in this PUD will be privately owned; therefore, the City will not have any maintenance cost. All maintenance, snow removal, asphalt patching, and etc. would be the responsibility of the owner.

When it comes to trash, we feel we can service those new residential units initially with current staffing levels and keep the collection day the same as it currently is, until the PUD is fully built out. There will be a slight increase in fuel and maintenance. Once it is completed, we would need to re-evaluate to see if we need to increase staff to handle the total number of residential units there. There is the possibility of increased staff and salary along with fuel and maintenance costs once the PUD is completed.

We will provide a garbage tote to each new residential unit; I'm only counting one tote for each of the units. The traffic study mentions 340 residential units (115 single family detached, 140 single family attached, 85 multi-family units). The current cost of a new tote is about $75 each including shipping, which is going to cost $25,500.00. Garbage totes last approximately ten years. I'm estimating the residential units might dispose of 150lbs of garbage per week, which equals 26 tons a week. We currently pay $55.00 a ton, equals

$1,430.00 a week or $5,700.00 a month or $74,400.00 a year for disposal. We would also provide curbside bulk collection. Being they will be new residential units this is a difficult one to estimate; I would estimate $6,000.00 in tipping fees for bulk. In round numbers, the impact to garbage collection will be approximately $80K annually.

WATER DEPARTMENT

We still have a concern about how the water metering will be handled since the complex is currently served by a master meter. Likely, some of the existing HopeTree buildings will have to be separately metered.

OPTIONS:

1. Table the consideration of the recommendation until the March Planning Commission meeting.
2. Recommend approval of the request.
3. Recommend denial of the request.

SALEM VA
COMMUNITY DEVELOPMENT

City of Salem
Rezoning Application

Pre-application Meeting (optional)

- Meetings with the Community Development Staff are recommended prior to submittal of a rezoning application. Please bring a plat to the meeting with a sketch of your proposal.

Application Submittal

- The application deadline is the first of the month for inclusion on the following month's agenda. If the first falls on a weekend or holiday, the application deadline will be the following business day.
- When submitting an application be sure to include the following: a complete application, plat of the subject property, legal description that includes metes and bounds, and supplementary information to support the request (such as conceptual plans and building elevations). Please note: incomplete applications will not be accepted and will be returned to the applicant.
- The application fee is due at time of submittal. (See Page 4)
- PLEASE NOTE: As per 106-520(C) of the City of Salem Zoning Ordinance no application shall be accepted for a lot or parcel that does not comply with the minimum lot area, width, or frontage requirements of the requested zoning district. A variance from the Board of Zoning Appeals must be obtained prior to the submission of a rezoning application.

Application Distribution for City Review

- Complete applications may be routed to City departments for review.

Staff/Applicant Meeting

- The staff may contact the applicant to schedule a meeting to discuss comments provided by reviewing agencies, to request additional information or plan revisions, and to negotiate proffers.

Planning Commission

- Revised conceptual plans and draft proffers must be submitted prior to the Planning Commission meeting. Proffers and conceptual plans may be revised in accordance with Staff's recommendations, and revisions incorporating the staff's recommendations must be submitted prior to the Planning Commission meeting.
- A staff report and recommendation is included in the Planning Commission packet. The packet is distributed approximately 1 week prior to the Planning Commission meeting.
- The Planning Commission meets on the 1st Wednesday after the 1st City Council meeting of the month.
- Following a public hearing on the rezoning case, the Planning Commission may recommend approval, approval with revisions to the proffers, denial, or deferral of the application.

City Council

- Signed and notarized final proffers must be submitted prior to the City Council meeting.
- A staff report containing the recommendation of the Planning Commission and Staff is sent to the City Council prior to the meeting.
- The City Council typically hears rezoning cases on the 4th Monday of every month. Cases are usually heard by Council at the meeting following the Planning Commission meeting.
- Following a public hearing on the case, the City Council may vote to approve, approve with proffered conditions, deny, defer the application to another meeting, or remand the application back to the Planning Commission for further consideration.

ATTACHMENTS - For ALL REQUESTS you must submit the following electronically:

a. **A fully completed signed application.**

b. **Acknowledgement of Application Fee Payment Procedure** (Page 4)

c. **Signed Proffer Statement if applicable** (Pages 6 & 7)

d. **A plat of the subject property,** which accurately reflects the current property boundaries, is drawn to scale, and shows existing structures. (Typically, available from the City Clerk's Office.)

e. **Responses to questions on Page 5**

f. **Historic Impact Information** (if any)

g. **For applications requiring plans,** please submit electronically only. No hard copies will be accepted.

h. **Check here** if the conceptual plan will serve as the preliminary plat. ☐

NOTE: Elevations will be required with new development.

TO THE APPLICANT:

It is the policy of the City of Salem City Council, the City of Salem Planning Commission, and City of Salem Board of Zoning Appeals to require a property to be posted when a zoning action is being considered. Such a posting notifies the general public of an impending action and the location being considered.

It is incumbent on you, the applicant, to ensure the sign is in the proper location and remains there until an action has taken place. Consequently, the procedure for posting is as follows:

1. The Community Development Staff will post the sign on your property.
2. You should check the location of the sign to make certain it is in the right place on your property. If it is not, notify the Community Development Office as soon as possible.
3. You should check periodically to ensure the safety of the sign. If it is stolen or otherwise harmed, notify the Community Development Office as soon as possible.

In submitting this rezoning application, you hereby grant permission to the agents and employees of the City of Salem to enter the referenced property for the purposes of processing and reviewing the above application.

Should you have any questions regarding this policy, please contact a member of Community Development.

City of Salem Community Development Application

Request for REZONING or CONDITIONAL REZONING

Case #: _____

APPLICANT INFORMATION

Owner: Virginia Baptist Children's Home (dba HopeTree Family Services)
Contact Name: Jon Morris, President & CEO of HopeTree Family Services
Address: 860 Mount Vernon Lane

Telephone No. (540) 389-5468
Fax No. _____
Email Address jonm@hopetreefs.org

Applicant/Contract Purchaser: Same as owner
Contact Name: _____
Address: _____

Telephone No. _____
Fax No. _____
Email Address _____

PARCEL INFORMATION

For multiple parcels, please attach a page ☐

(Tax ID #'s) 41-1-1, 41-1-2, 41-1-3, 41-1-4
41-1-5, 41-1-6, portion of 44-3-10
Deed Book 210003146 Page _____
Subdivision _____
Location Description (Street Address, if applicable)
860 Mount Vernon Lane

Total Area (acres/square feet) 62.318 acres
Current Zoning RSF
Requested Zoning PUD
Requested Use Mixed-Use
Current Use Institutional

☐ Conditional Zoning Request: See Attached Proffer sheets

SIGNATURE OF OWNER ■ CONTRACT PURCHASER ☐ *(attach contract)* ☐

As owner or authorized agent of this property, I hereby certify that this application is complete and accurate to the best of my knowledge, and I hereby grant permission to the agents and employees of the City of Salem to enter the property for the purposes of processing and reviewing this request.

Signature _____ Date 11/30/23
Print Name Jon Morris
Signature _____ Date _____
Print Name _____

QUESTIONS/ LETTERS/ SHOULD BE FORWARDED TO THE FOLLOWING**:

Name Jon Morris
Address: HopeTree Family Services
860 Mount Vernon Lane
Salem, VA 24153

Telephone No. (540) 389-5468
Fax No. _____
Email Address jonm@hopetreefs.org

**It is the responsibility of the contact person to provide copies of all correspondence to other interested parties to the application.

ACKNOWLEDGEMENT OF APPLICATION FEE PAYMENT PROCEDURE

Application fees must be submitted at the time of submittal. I hereby acknowledge that this application is not complete until the payment for all applicable fees has been received by the City of Salem Community Development Department. I acknowledge that I am responsible for ensuring that such fees are received by the City of Salem. I further acknowledge that any application fee submitted after the deadline shall result in the application being considered filed for the next month's meetings.

Signature of applicant/authorized agent _____ Date: _____

Print Name: Jon Morris, President & CEO

Signature of applicant/authorized agent _____ Date: 11/30/23

Print Name: Jon Morris

If you would like your correspondence emailed and/or faxed, please make selections, and provide the information below:

☐Email _____ ☐Fax: _____

FEES:

All application fees must be paid at the time of submittal. Please make checks payable to the City of Salem:

Rezoning application fee **$1,000**

FOR STAFF USE ONLY

Staff Reviewer: _____ Application Complete? ☐ YES ☐ NO

Date: _____

PLEASE RESPOND FOR ALL REZONING APPLICATIONS:

1. What is the Future Land Use Designation for the subject property? Residential
2. Describe in detail the proposed use of the property. See attached narrative.
3. List any sensitive environmental or unique features on the property. Are there any high voltage transmission lines, public utility lines, or others? See attached narrative.
4. Is the subject property located within the Floodplain District? ☐ YES ■ NO If yes, describe the proposed measures for meeting the standards of the Floodplain Ordinance.
5. Is the subject property listed as a historic structure or located within a historic district? ☐ YES ■ NO
   If yes, describe the proposed measures for meeting the standards of the Department of Historic Resources.
6. Have you provided a conceptual plan of the proposed development, including general lot configurations and road locations? Are the proposed lot sizes compatible with existing parcel sizes in the area? Conceptual Master Plan is provided within the P.U.D. guidelines illustrating the general layout of streets, development areas, etc. and the P.U.D. document sets forth development requirements.

PLEASE RESPOND FOR COMMERCIAL REZONING APPLICATIONS

1. What provisions will be made to ensure safe and adequate access to the subject property? See attached narrative.
2. How will the traffic impact of this development be addressed? See attached narrative and traffic study.
3. Describe why the proposed use is desirable and appropriate for the area. What measure will be taken to assure that the proposed use will not have a negative impact on the surrounding vicinity? See attached narrative.
4. What type of signage is proposed for the site? Signage to be determined and will be developed in accordance with City Code.
5. Have architectural/building elevations been submitted with this application? See P.U.D. document.

REZONING NARRATIVE

As outlined in the PUD document, the vision for this property is to allow for the development of a fully integrated, mixed-use, pedestrian-oriented neighborhood woven into the existing HopeTree campus of buildings and surrounding open space, while being sensitive to, and providing meaningful connections to, the surrounding neighborhoods in the community.

On behalf of HopeTree Family Services (HopeTree), we are providing the narrative below as supplemental information to support the rezoning application and Planned Unit District (PUD) document with associated zoning information and guidelines for the development. This request is to rezone a portion of existing Tax Parcel 44-3-10 from RSF-Residential Single Family, to PUD-Planned Unit District for a proposed mixed-use neighborhood to be developed on the property.

Project Narrative

The portion of the property that is proposed to be rezoned is approximately 62.318 acres along Red Lane and East Carrollton Avenue. The parcel is owned, operated, and occupied by HopeTree Family Services. HopeTree Family Services offers a wide range of ministries for at-risk children and youth and their families. These services include Treatment Foster Care, the HopeTree Academy secondary educational program, and Therapeutic Group Home. HopeTree also serves the needs of adults with intellectual disabilities and their families through their Developmental Disabilities Ministry. HopeTree Family Services is supported by the Virginia Baptist Children's Home & Family Services Foundation and is a mission partner of the Virginia Baptist Mission Board.

Over the last several decades, the use of this property has changed significantly, mainly due to a changing regulatory environment surrounding the specific types of services that have occupied the Salem campus. At its peak, when HopeTree was an orphanage, the campus was home to more than 400 youth ranging in age from 5 to 18. New regulations have discouraged the type of large-scale group home that existed on this campus in the past and have moved instead toward smaller-scale facilities that are integrated with the surrounding communities in which they are located. Because of limits from licensing bodies, the HopeTree campus is now limited to housing no more than 16 youth residents ages 13 to 17. In the past, youth would live on the campus for years until they turned 18. Today, youth residents typically stay no more than 6 months before being moved to another setting or back to their home.

Care for youth and adults is moving away from a congregate, campus-style setting. Today, most services are offered in the communities in which they already live. As a result, HopeTree no longer has a need for the large amount of property that exists at this site; however, there is a strong desire to stay true to HopeTree's roots and maintain a presence in this location.

The HopeTree Board of Directors has been discussing options for the Salem campus since 2007. Several recommendations have been considered over the years, including selling the Salem campus property and moving elsewhere, or selling a portion of property along the Red Lane frontage for development. The proposed rezoning request is a result of HopeTree's desire to "do more" with the property and to create something that will benefit HopeTree, the City of Salem, and its residents for years to come.

The proposed PUD rezoning and associated development will allow HopeTree to remain on the property where they have so much history, while integrating HopeTree's services with the proposed development, which is in keeping with the intent of the new regulations. HopeTree is currently teamed with a residential home builder (Stateson Homes) and commercial builder (Snyder & Associates), who are providing construction expertise on the project.

Existing Conditions

Existing improvements on the site include approximately 20 buildings of varying condition, drive aisles and parking areas, pool, tennis and basketball courts, two existing baseball fields near Red Lane, picnic shelter, above-ground stormwater management facility, and other miscellaneous improvements. The existing improvements have served various purposes for HopeTree over the years and many of them are under utilized or no longer utilized at all.

Many of the buildings are centered around the core area in the center of the site. Six of these buildings are currently vacant and will not be used again by HopeTree and were previously planned to be demolished. The proposed development envisions preserving as many of these structures as possible and converting them to residential or commercial uses that the entire community can benefit from. Utilizing the existing structures will preserve the unique character of the campus and allow this existing infrastructure to be re-purposed for the intended new uses.

Existing topography is rolling with a ridge through the middle of the site running north to south that contains much of the existing development. There is an existing pond and two existing creeks on the property. One creek is on the west side to the south of the pond and the other creek is located in the southeast corner of the site. These features are anticipated to remain and have been incorporated into the Master Plan. There is a wooded area near the pond and creek along the western side of the property and this vegetation will be preserved to the extent practical.

The property has frontage on the public rights-of-way of Red Lane, East Carrollton Avenue, North Broad Street, and Mount Vernon Avenue. This property is designated for residential use on the City of Salem Future Land Use Map dated June 11, 2012. The property is surrounded by Interstate 81 to the north and existing residential development on other sides.

Community Vision

The intent of this project is to preserve the HopeTree campus and buildings to the extent practical (including the buildings that were previously planned to be demolished) and provide new and infill development, where appropriate. Guiding principles of the project are to create a new community that minimizes traffic congestion, suburban sprawl, site grading, infrastructure costs, and preserves natural features and amenities. The plan for the HopeTree project is based on neighborhood design and development conventions which were widely used in the United States up until the 1940s and were based on the principles outlined throughout the PUD document.

A design charette was held in October 2022 to solicit input from, and engage with, adjacent property owners, City staff, elected City officials, and other stakeholders for the project. While engaging with the community during the development of the Master Plan, it was noted that the existing neighborhood lacks pedestrian amenities such as sidewalks or trails. Residents currently walk along Red Lane and the speed of traffic along this road was also cited as a major concern. It is the intent of the project to reduce vehicle trips and encourage pedestrian activity by limiting the width of vehicular drives, providing on-street parking where possible, and providing a network of sidewalks and trails throughout the property. In addition to these design principles, the project also proposes to install on-street parking along the frontage of Red Lane, which will slow traffic and provide additional parking opportunities, and to install a new sidewalk along the frontage of Red Lane to provide safe pedestrian accommodations for the surrounding community.

Density

The City of Salem has very limited land resources remaining to be developed and it is paramount to utilize these remaining land resources to their true potential. The proposed PUD plan allows for the HopeTree property to be developed to its potential while also being sensitive to the existing community and its residents. These are guiding principles of this PUD plan.

The density of the development will be limited by what is allowed in the PUD document. The total number of residential units shall not exceed 340. Residential uses will make up the majority of the development with the proposed commercial uses and existing HopeTree institutional uses being integrated into the overall development. The commercial uses within the development will be determined based on what this community can support but is anticipated to consist of smaller users that are integrated into the neighborhood at an appropriate scale and in thoughtful locations.

Approximately 40% of the property will be preserved either in a natural state or as public or private open space areas. This includes the large area on the west side of the site that contains the existing pond, creek, and natural vegetation. Several interior open space areas will be provided as well, including the proposed lawn area near the center of the site.

Development Guidelines

The development of the property will be governed by the PUD document. Lot development regulations, architectural standards, etc. are provided within the document and will be enforceable throughout the development. Allowable uses are outlined in the Use Table that is provided within the PUD document.

Roads

Roads and drive aisles internal to the development will be private. On-street parking will be a preferred parking solution for the development and will be utilized where practical. All proposed roads will be paved, and we will work with the appropriate City staff to ensure that sufficient access for emergency and trash collection vehicles is provided. A network of sidewalks will be provided throughout the development to encourage pedestrian activity and connectivity, as this is a central theme of the project.

On-street parking and new sidewalk will be provided on Red Lane along the frontage of the property. The intent of these improvements is to slow traffic along this section of Red Lane, provide additional public parking opportunities, and to provide a dedicated pedestrian accommodation where one does not exist now. This section of Red Lane has a significant amount of pedestrian activity, and these improvements will serve existing and new residents.

Access

There are existing vehicular access points on Red Lane (2 locations) and East Carrollton Avenue (1 location). Additional access points are proposed along Red Lane, East Carrollton Avenue, and at the end of North Broad Street. One of the central themes within this development is to provide multiple access points to increase connectivity within the existing street grid pattern and to allow vehicular trips to be distributed to the existing road network more efficiently.

As requested by the City, a Traffic Study has been prepared by Balzer and Associates, Inc., dated December 1, 2023, that analyzes the development and impacts to two existing intersections (Red Lane/East Carrollton Avenue and East Carrollton Avenue/North Broad Street) that are adjacent to the project. In addition to this, turn lane warrants have been analyzed. Traffic counts were conducted at the existing intersections to serve as the basis for the study. As outlined in the Traffic Study, the surrounding road network is sufficient to handle traffic from the proposed development and impacts to delay and level of service are minimal. The development does not meet any turn lane warrants at any of the proposed access points. Sight distance requirements will be required to be met with the final development plans.

Utilities

This project will be served by public water and sewer. As discussed with the City of Salem Water and Sewer Department, sufficient capacity exists within the existing public water and sewer systems to serve the proposed development.

Public water and sewer will be extended through the property to serve the existing and proposed buildings and replace the existing private utility systems that are currently in place. New public water mains are anticipated to provide additional interconnectivity and redundancy in the system, which will improve service to the property and the surrounding area.

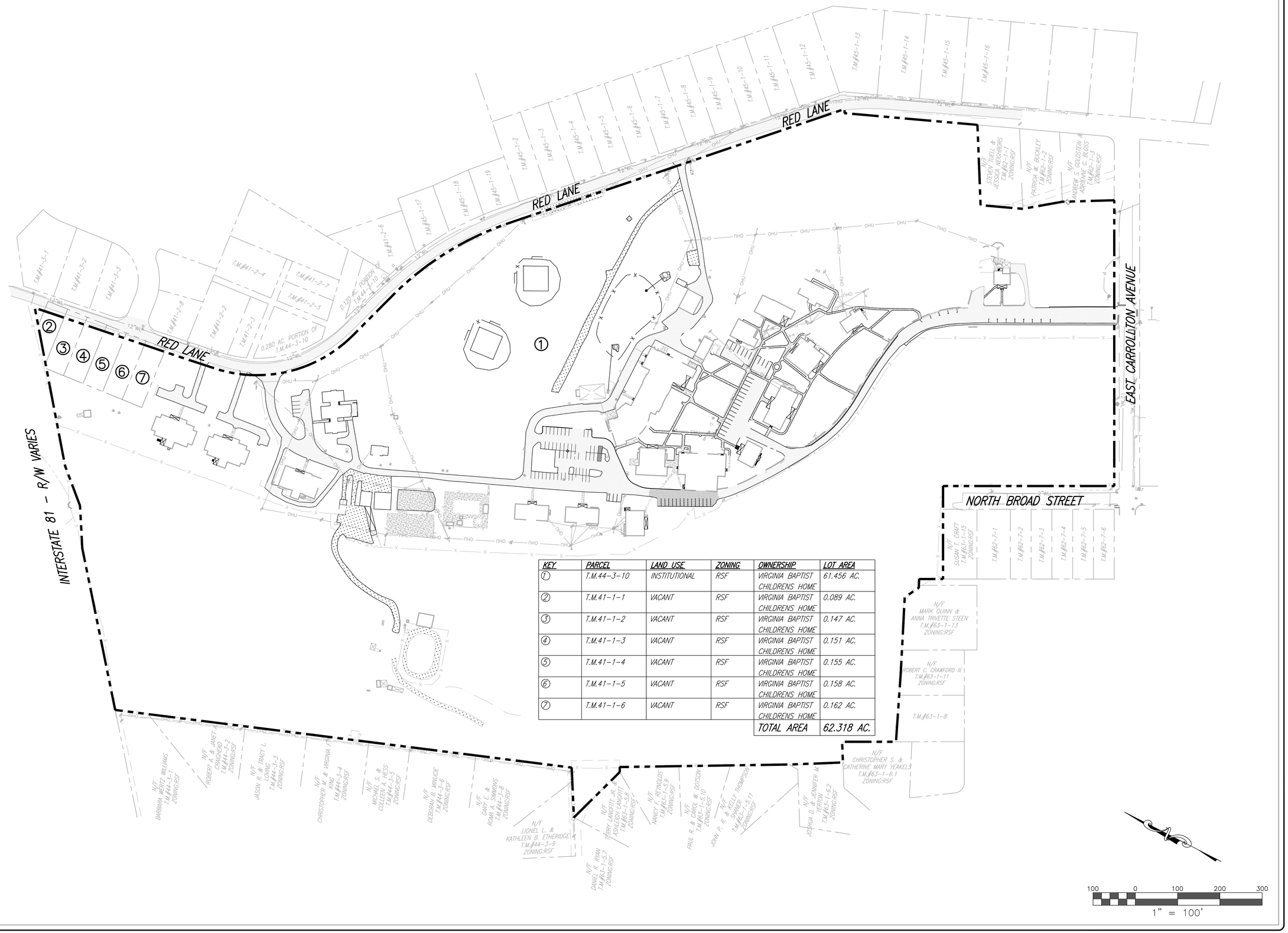
Comprehensive Development Plan

This project is in conformance with many of the Goals and Objectives defined in the City of Salem's current Comprehensive Plan. The development pattern for this project is sensitive to the existing surrounding neighborhoods by centering the most intense uses near the core of the property furthest from the existing residential houses. The least intense residential uses are located around the perimeter of the property, closest to the existing roadways and existing residential homes. The variety of housing types acknowledges and addresses the need for new housing and varying types of housing in the City of Salem. The intent of the project is to maximize the development potential of the most developable portions of the property and to preserve the most environmentally sensitive areas of the property. The preservation of open space, development of pedestrian amenities, and extensive landscaping will all enhance the neighborhood and directly address the goals of improving the beauty and appearance of the City of Salem and Preserving and Enhancing Open Space on Private properties.

Summary

The proposed development regulations and Master Plan are fully outlined in the HopeTree PUD document, attached to this application. It is the intent that this be the official document that will guide the development of this property.

HopeTree has repeatedly stated that its three main goals for the project are "to honor the history of HopeTree on this campus, to position HopeTree for the future, and to make our community proud." We are extremely excited to submit this application for rezoning. This project provides an excellent opportunity for the City of Salem to gain a new mixed-use community that will serve existing and future residents of Salem. The HopeTree project will provide many different housing types, while being sensitive to the surrounding residential neighborhoods, preserving important natural features, and providing services and amenities that will benefit the entire community.



KEY	PARCEL	LAND USE	ZONING	OWNERSHIP	LOT AREA
①	T.M.44-3-10	INSTITUTIONAL	RSF	VIRGINIA BAPTIST CHILDRENS HOME	61.456 AC.
②	T.M.41-1-1	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.089 AC.
③	T.M.41-1-2	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.147 AC.
④	T.M.41-1-3	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.151 AC.
⑤	T.M.41-1-4	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.155 AC.
⑥	T.M.41-1-5	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.158 AC.
⑦	T.M.41-1-6	VACANT	RSF	VIRGINIA BAPTIST CHILDRENS HOME	0.162 AC.
				TOTAL AREA	62.318 AC.

BALZER & ASSOCIATES
PLANNERS / ARCHITECTS
ENGINEERS / SURVEYORS
Roanoke / Richmond
New River Valley
Shenandoah Valley
www.balzer.cc
1208 Corporate Circle
Roanoke, VA 24018
540.772.9580

HOPETREE PLANNED USE DISTRICT

PROPERTY EXHIBIT

CITY OF SALEM, VIRGINIA
MOUNT VERNON AVENUE

DRAWN BY	AAB
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	12/1/2023
SCALE	1" = 100'
REVISIONS	

EX-A

PROJECT NO. 04220029.00

J:\220\04\04220029.00 HOPETREE MASTERPLAN\CIVIL\dwg\04220029.00 Civil Base 6.29.2023.dwg PLOTTED: 12/1/2023 9:07:43 AM

HOPETREE

SALEM, VIRGINIA

PUD REZONING APPLICATION

CITY OF SALEM VIRGINIA

PUD APPLICATION

PLANNING OBJECTIVES

Per the Salem Zoning Application Sec. 106-228.4.

Application process:To initiate an amendment, the applicant shall complete a rezoning application. This information shall be accompanied by graphic and written information, which shall constitute a preliminary master plan. All information submitted shall be of sufficient clarity and scale to clearly and accurately identify the location, nature, and character of the proposed district. At a minimum this information shall include:

1.A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.

2.Existing zoning, land use and ownership of each parcel proposed for the district.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

4.A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

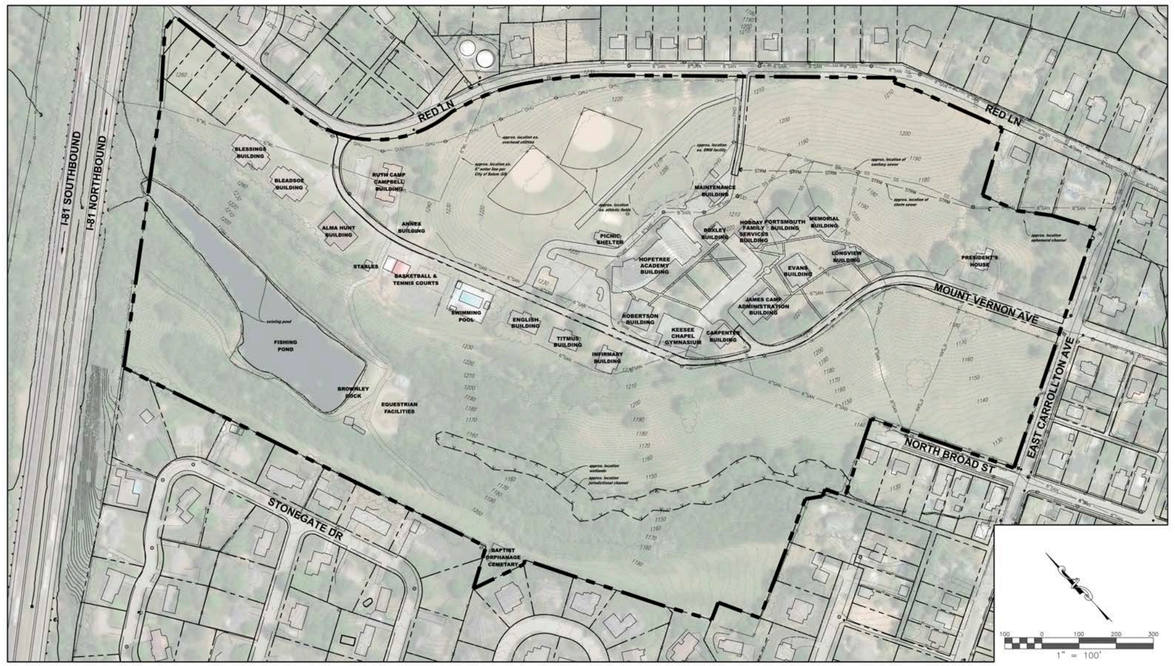
6.A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.

7.A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.

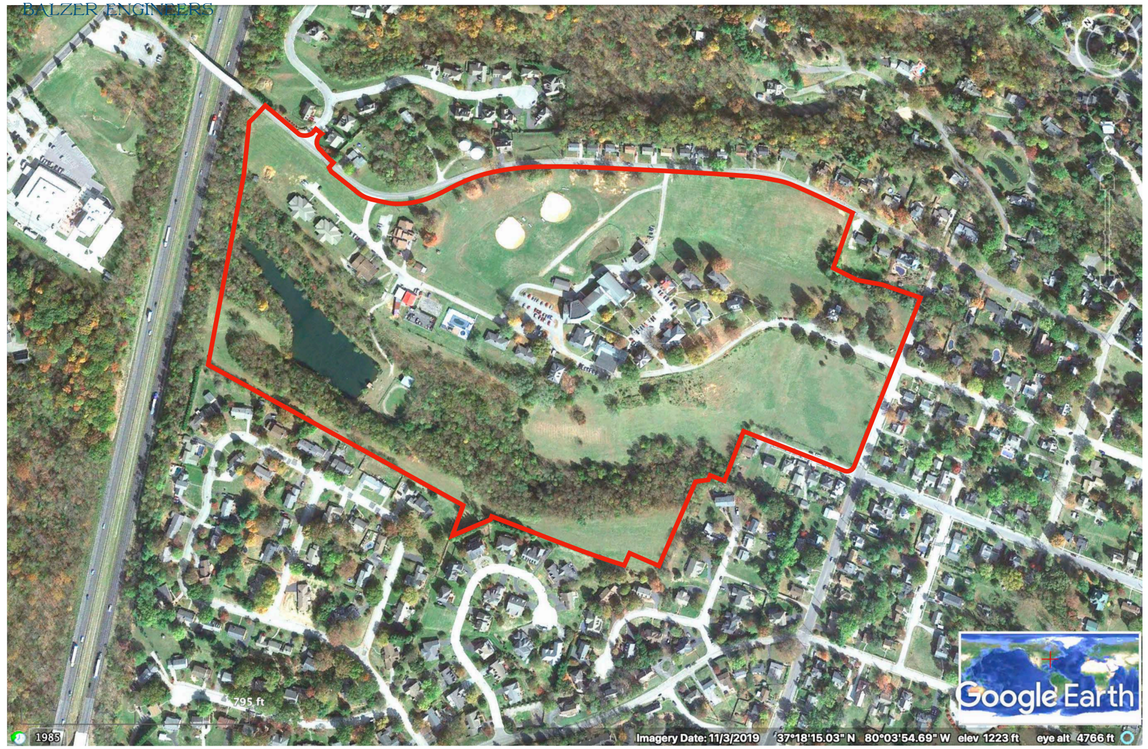
8.An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

10.A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreational areas, and non-residential uses should be included.



EXISTING SITE PLAN



EXISTING AERIAL PHOTOGRAPH OF SITE

SITE & ZONING SUMMARY:

SITE ADDRESS:	860 MOUNT VERNON LN SALEM, VA 24153
OWNER:	VIRGINIA BAPTIST CHILDREN'S HOME
OWNER ADDRESS:	860 MOUNT VERNON LN SALEM, VA 24153
TAX MAP NUMBERS:	44–3–10
EXISTING LOT SIZE:	62.318 AC.
EXISTING ZONING:	RSF – RESIDENTIAL SINGLE FAMILY

ZONING REQUIREMENTS:

MINIMUM LOT AREA:	9,000 SF
MINIMUM LOT FRONTAGE:	75'
SETBACKS:	
FRONT:	25' IF RIGHT–OF–WAY IS 50' PR GREATER 50' FROM CENTERLINE IF RIGHT–OF–WAY IS LESS THAN 50' IN WIDTH
SIDE:	10% OF LOT WIDTH, NOT REQUIRED TO EXCEED 25'
REAR:	25'
MAXIMUM HEIGHT:	45'
MAXIMUM BUILDING SIZE:	NONE

CONCEPT PLAN NOTE:

1. THIS PLAN IS FOR CONCEPTUAL PLANNING PURPOSES AND HAS BEEN PREPARED USING COMPILED INFORMATION. A CURRENT FIELD SURVEY HAS NOT BEEN PERFORMED TO VERIFY ALL EXISTING CONDITIONS ON–SITE.

2. AERIAL IMAGERY SOURCED FROM GOOGLE EARTH, DATED NOVEMBER, 2019

1.A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.

2.Existing zoning, land use and ownership of each parcel proposed for the district.

EXISTING SITE DESCRIPTION

Existing Development

The site is currently developed with a network of private driveways and several existing buildings on the property. The center core of the site is located on top of a ridge and consists of many of the existing buildings, as well as supporting parking areas and other improvements. Some of the existing buildings are currently being utilized by HopeTree, while others are vacant. There are also two recreational fields located near Red Lane to the north of the center core.

The existing site has road frontage on East Carrollton Avenue, Red Lane, and North Broad Street. There is an existing private access drive (Mount Vernon Lane) from East Carrollton Avenue that accesses through the site and provides access to the center core before continuing through the site and back to Red Lane. A separate private access drive (Printers Lane) from Red Lane provides access to the recreational fields, as well as providing an additional connection to Mount Vernon Lane to the north of the center core. In addition to these private roads, there are also adult homes located at the north end of the property with driveways that access directly from Red Lane.

Existing Topography

There is an existing ridge bisecting the property from north to south. The east side of the property slopes from this ridge and from Red Lane to an existing drainage swale and storm sewer system. There is an existing stormwater management detention pond located near the center core of the property that was constructed with a previous development project.

Existing Natural Features/Floodplain

There is an existing pond located on the property in the northwest corner adjacent to Interstate 81. The pond discharges to an existing creek to the south that conveys stormwater from north to south toward the existing residential area at the end of North Broad Street. There is also an existing creek located at the southeast corner of the property that begins at the end of the existing storm sewer system that conveys water through the HopeTree property. This creek conveys runoff to an existing culvert under East Carrollton Avenue.

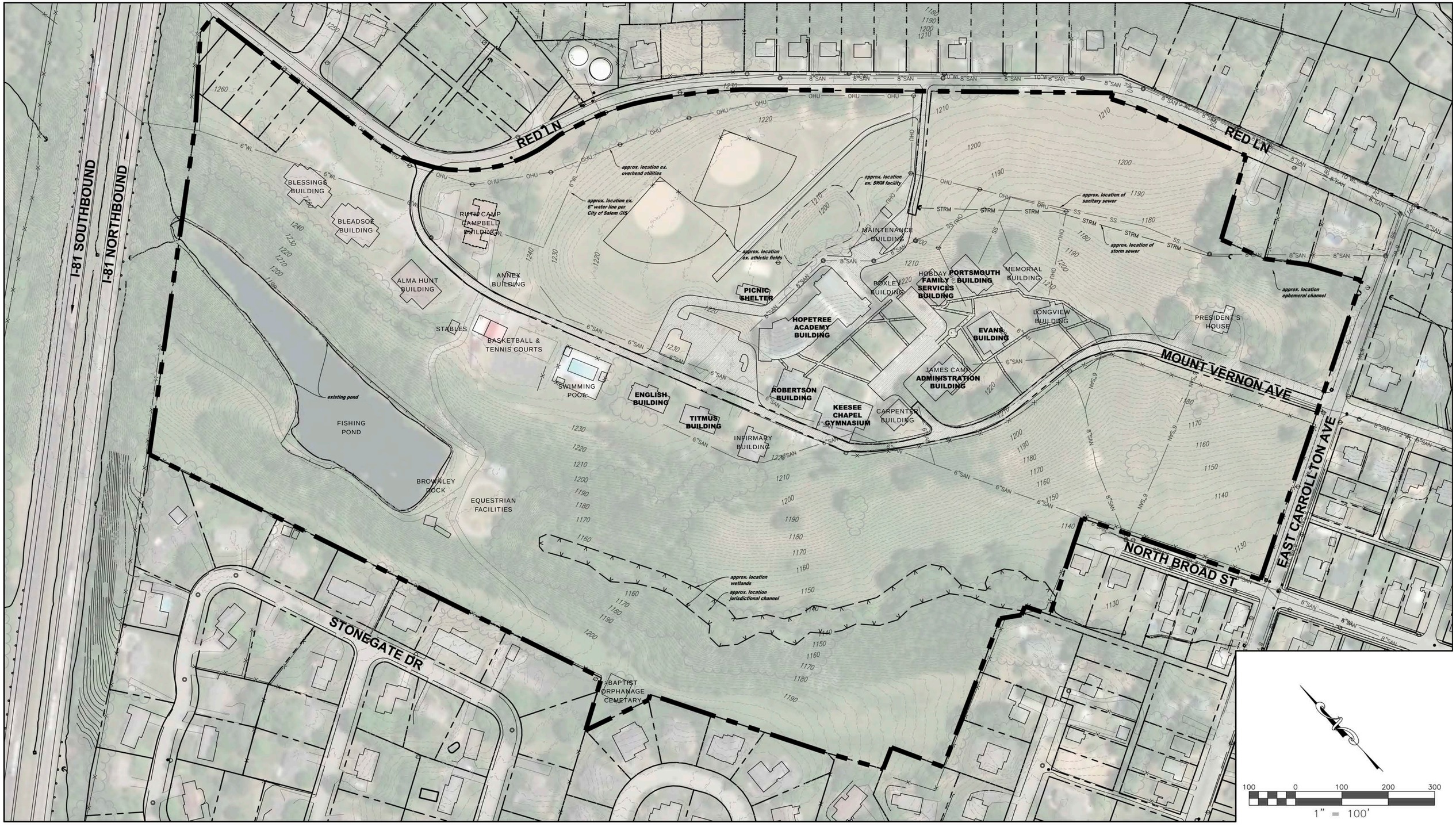
The property is not located within a FEMA-defined floodplain.

Existing Vegetation

Much of the property that is not developed with buildings or pavement/hardscape is covered with a mix of managed turf and pasture. There is a large wooded area on the west side of the property around the pond and existing creek. There is a variation of other trees that are located throughout the property, with many of these being in the southeast corner of the site or along Red Lane.

BALZER AND ASSOCIATES

4.A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.



BALZER ENGINEERS

EXISTING SITE PLAN

Draft 9.25.22

EXISTING SITE PLAN AERIAL

ILLUSTRATIVE MASTER PLAN WITH AERIAL

CITY OF SALEM VIRGINIA

PUD APPLICATION

HOPETREE Master Planned TND Traditional Neighborhood Development

PLANNING OBJECTIVES

Per the Salem Zoning Application Sec. 106-228.4. - Application process:
" 3. A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site."

The purpose of the Hopetree master plan is to allow for the development of fully integrated, mixed-use pedestrian oriented neighborhood woven into the existing Hopetree campus of buildings and surrounding open space while connecting to the surrounding neighborhoods where feasible.

The intent is to preserve the Hopetree campus and buildings and for new and infill development to minimize traffic congestion, suburban sprawl, site grading, infrastructure costs, and environmental degradation. The provisions of the Hopetree neighborhood are based on urban design and development conventions which were widely used in the United States since its founding until the 1940's and were based on the following principles:

A. All neighborhoods have identifiable centers and edges.

B. The center of the neighborhood is easily accessed by non-vehicular means from lots on the edges (i.e. approximately one-quarter-mile from center to edge, or a five-minute walk).

C. Uses and housing types are mixed and in close proximity to one another.

D. Street networks are interconnected and blocks are small.

E. Civic buildings are given prominent sites throughout the neighborhood.

THE HOPETREE MASTER PLAN INCLUDES THE FOLLOWING DESIGN FEATURES:

A. Neighborhood form.

1. Dwellings at the edge of the neighborhood are roughly a five-minute walk or less to the center of the neighborhood.

2. A great variety of housing types and price ranges is included in the neighborhood, with the highest density of housing located towards the center of the neighborhood.

3. Within the neighborhood a mix of land uses is arranged to serve the needs of the residents in a convenient walking environment: open space/recreational areas, civic buildings, low and high density residential, retail/commercial, business/workplace, institutional, educational, and parking.

4. The area of the overall master plan includes the existing core campus with the surrounding open areas divided into blocks, streets, lots, greenways, and open space.

5. Similar land uses generally front across each street. Dissimilar land uses generally abut at rear lot lines. Corner lots which front on streets of dissimilar use generally observe the setback established on each fronting street.

6. Along existing streets, new buildings are compatible with the general spacing of structures, building mass and scale, and street frontage relationships of existing buildings.

7. The appearance of the neighborhood blends in with existing surrounding neighborhoods and feature the use of similar materials in construction.

B. Lots and buildings:

1. New lots share a frontage line with a street or public space; lots fronting on a public space shall have access to a rear alley.

2. Consistent build-to lines are established along all streets and public space frontages.

3. All buildings, except accessory structures, have their main entrance opening on a street or public space.

4. No structure exceeds 3 stories in height in the Edge zone, and 4 stories in the General and Center zones. Height of buildings shall be measured per the Salem code.

C. Streets, alleys and pathways:

1. Designs permit comfortable use of the street by motorists, pedestrians and bicyclists. Pavement widths, design speeds, and number of motor travel lanes are minimized to enhance safety for motorists and non-motorists alike. The specific design of each street considers the building types which front on the street and the relationship of the street to the overall town street network. An extensive system of connected pathways is woven through the core campus extending to the perimeter.

2. A combination of perimeter public streets and internal private streets provide access to all tracts and lots

3. Streets and alleys connect where feasible at other streets within the neighborhood and connect to existing and projected streets outside the development. Cul-de-sac and dead-end streets are discouraged and should only occur where absolutely necessary due to natural conditions.

4. Block faces do not have a length greater than 500 feet without dedicated alleys or pathways providing through access.

5. To prevent the build-up of vehicular speed, disperse traffic flow, and create a sense of visual enclosure, long uninterrupted segments of straight streets are avoided.

6. A continuous network of rear alleys is provided for the majority of lots.

7. Existing and proposed utilities are underground and run along alleys wherever possible as well as some streets and greenways.

8. Streets are organized according to a hierarchy based on function, size, capacity and design speed. Streets and rights-of-ways are therefore expected to differ in dimension. The proposed hierarchy of streets is indicated on the submitted master plan and each street type is separately detailed in the master plan.

9. Every street, except alleys, has a sidewalk on at least one side that is at least five feet wide. In commercial areas, sidewalks shall be at least ten feet wide.

D. Parking:

1. On-street parking is provided on all streets where feasible. Occasional on-street parking may be accommodated without additional pavement width. For streets which serve workplace and storefront buildings, on-street parking is required and should be marked as such. On-street parking is parallel to the street unless the street lends itself to other parking layouts.

2. Parking lots are generally located at the rear or at the side of buildings and screened from public rights-of-way and adjoining properties by land forms or evergreen vegetation so as to provide a barrier that will be at least three feet high and provide a 75 percent visual barrier within two years from building completion.

3. To the extent practicable, adjacent parking lots are interconnected.

4. Small and strategically placed parking areas are also provided.

5. Parking areas are paved as required and all parking areas and traffic lanes shall be clearly marked.

6. The number, width and location of curb cuts is such as to minimize traffic hazards, inconvenience and congestion.

7. Off-street parking and loading requirements as outlined in the city's parking regulations may be used as guidance but there are no minimum parking standards.

8. The master plan provides adequate parking and off-street loading areas for different areas of the development, based on the uses allowed and the density of development.

9. In addition to landscaping provided for screening above, trees are planted around the perimeter and interior of parking lots to provide shade.

E. Landscaping:

1. Trees are planted within right-of-ways parallel to the street along all streets except alleys.

2. Tree spacing is determined by species type selected from the City list of approved trees. Large maturing trees are generally planted a minimum of 30 feet and a maximum of 50 feet on center. Small and medium maturing trees are planted a minimum of ten feet and a maximum of 30 feet on center.

3. Large maturing trees are generally planted along residential streets and along the street frontages and perimeter areas of parks, squares, greenbelts and civic structures.

4. Small maturing trees are generally planted along non-residential streets, interior portions of parks, squares, greenbelts and civic lots. Storefronts are not obstructed by the planting pattern.

5. The natural features of the landscape are incorporated into the landscaping plan.

6. All plantings are with native or appropriate species (refer to the City list).

7. Buffer requirements for property located on the perimeter of the neighborhood has setbacks and buffers that are consistent with the setbacks and buffers of the adjoining zoning district, including provisions for accessory buildings, but are a minimum of 10 feet.

F. Sidewalks and Greenways:

1. Sidewalks or greenway easements are proposed in locations shown on the master plan or proposed to connect to pedestrian facilities shown on the master plan.

2. Existing sidewalks at the time of development or re-development in each phase are improved, repaired, or replaced as necessary.

G. Uses

Maximum permitted densities and total number of dwelling units shall be established during the master plan review process.

Permitted uses shall be based on the general category of use that has been established for a lot or group of lots as shown in the Use Table.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

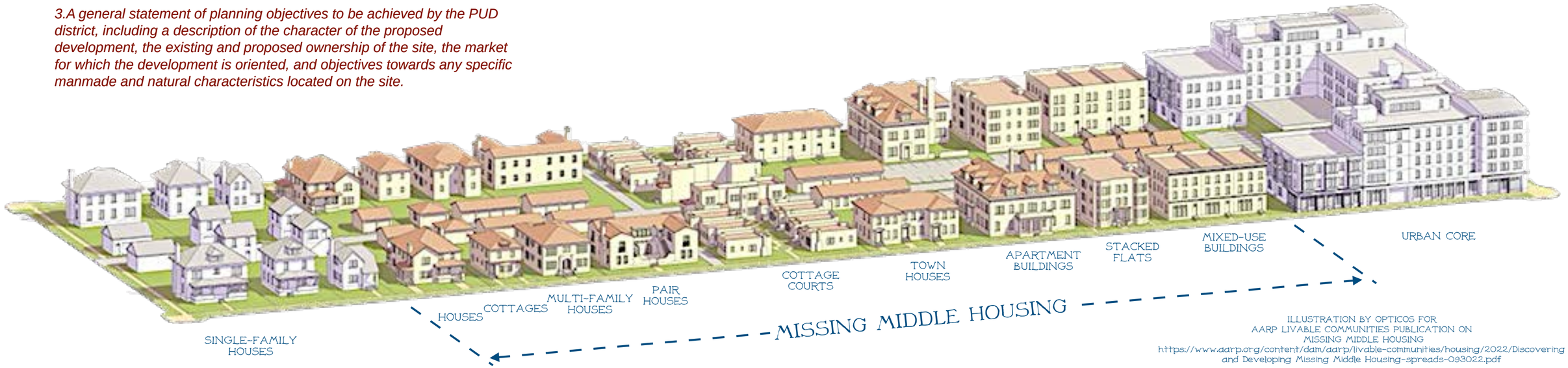


ILLUSTRATION BY OPTICOS FOR
AARP LIVABLE COMMUNITIES PUBLICATION ON
MISSING MIDDLE HOUSING
https://www.aarp.org/content/dam/aarp/livable-communities/housing/2022/Discovering and Developing Missing Middle Housing-spreads-093022.pdf

LESS URBAN ← — — — — — — — — — — TRANSECT ZONE DESCRIPTIONS — — — — — — — — — — → MORE URBAN

EXISTING NEIGHBORHOODS

The existing surrounding neighborhoods consist of primarily traditional single family homes. Home occupations and accessory buildings are evident. Setbacks and landscaping are generally front lawns and vary in character. General surrounding neighborhood houses front on streets facing similar scale homes on the opposite side. Some blocks include rear lanes, while others use front loaded driveways. Existing streets include curbs, planting strips, both with and without sidewalks. Most neighborhoods are arranged with traditional size blocks. In the case of homes immediately around Hopetree, the homes generally face the campus open space in the form of recreation fields, lawn, pasture, or natural vegetation. There are no sidewalks along Red Lane and sidewalks only on one side of one block for North Broad Street and Carrollton Avenue.

General Character
A mix of houses immediately around Hopetree include larger estate houses, smaller single-family houses. Nearby neighborhoods include a range of larger estate houses, smaller single-family houses, multi-family estates, cottages, duplexes, townhouses, stacked flats, multi-family houses, multi-family buildings, and mixed-use buildings. Nearby Wiley Court is a famous example of a pocket court.

Building Placement
Shallow to medium front and side yard setbacks. Outbuilding and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, landscaped front yards

Typical Building
One to two-story, with some three story

Types of Civic Space:
Neighborhood streetscapes with on-street parking, walks, street trees, and linear green fingers with pathways.

T-3 NEIGHBORHOOD EDGE

T-3 The Neighborhood Edge Zone consists of residential scale urban fabric similar to existing neighborhoods and serves as a buffer and transition to higher internal zones that have more residential and other mixed use. Home occupations and accessory buildings are allowed. Setbacks and landscaping are also similar and may vary some. These houses front on existing streets facing similar scale existing homes on the opposite side. Streets include curbs, planting strips, and will include new sidewalks with on-street parking on the Hopetree side arranged with traditional size blocks including connected streets, rear lanes, and greenways.

General Character
A mix of houses with a range of neighborhood density building types including larger estate houses, smaller single-family houses, multi-family estates, cottages, pair houses, townhouses in a variety of configurations, tree houses on steep slopes, and cottage courts.

Building Placement
Shallow to medium front and side yard setbacks. Outbuilding and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, landscaped front yards

Typical Building
One to two-story, with some three story

Types of Civic Space:
Neighborhood streetscapes with on-street parking, walks, street trees, and linear green fingers with pathways.

T-4 NEIGHBORHOOD GENERAL

T-4 The Neighborhood General Zone consists of higher-density scale urban fabric with predominantely attached residential. Mixed-use is permitted and serves as a transition from neighborhood edge to the neighborhood center with the historic campus core. Home occupation and accessory buildings are allowed. Setbacks and landscaping are also similar and may vary some. These houses front on new streets, and greenways. Streets vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of houses with a range of medium to high density building types including a range of single-family urban houses, multi-family estates, cottages, townhouses in a variety of configurations, tree houses on steep slopes, cottage courts, stacked flats, loft houses, mews houses, multi-family houses, and multi-family buildings.

Building Placement
Shallow front and side yard setbacks. Accessory building and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

T-5 NEIGHBORHOOD CENTER

T-5 The Neighborhood Center Zone consists of higher-density scale urban fabric with predominantely attached residential and mixed-use building including infill in the historic campus core. These buildings front on squares, campus greens, plazas, parking courts, streets, and greenways. Street are limited in the core and vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of buildings with a range of medium to high density building types including townhouses in a variety of configurations, tree houses on steep slopes, stacked flats, loft houses, mews houses, multi-family estates, multi-family buildings, and mixed-use buildings.

Building Placement
No setbacks are required for buildings in the general campus parcel. Parking is accessed from on-street parking, rear lanes, in nearby perimeter areas adjacent to the core campus including the parking allee, and in small parking courts that also serve as civic gather space.

Frontage Type
Stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

HISTORIC EXISTING CAMPUS CORE

The historic campus consists of a range of institutional buildings originally serving the orphanage as well as newer school buildings, a chapel, dormitories, and other related uses. Each historic building is to be retained where feasible for on going institutional uses, commercial, residential and mixed-use with additional infill mixed-use buildings, building additions, and spaces. These buildings front on squares, campus greens, plazas, parking courts, streets, and greenways. Streets are limited in the core and vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of buildings with a range of medium to high density building types including townhouses in a variety of configurations, tree houses on steep slopes, stacked flats, loft houses, mews houses, multi-family houses, multi-family buildings, and mixed-use buildings.

Building Placement
Minimum or no setback are required. Parking is accessed from on-street parking, rear lanes, in nearby perimeter areas adjacent to the core campus including the parking allee, and in small parking courts that also serve as civic gathering space.

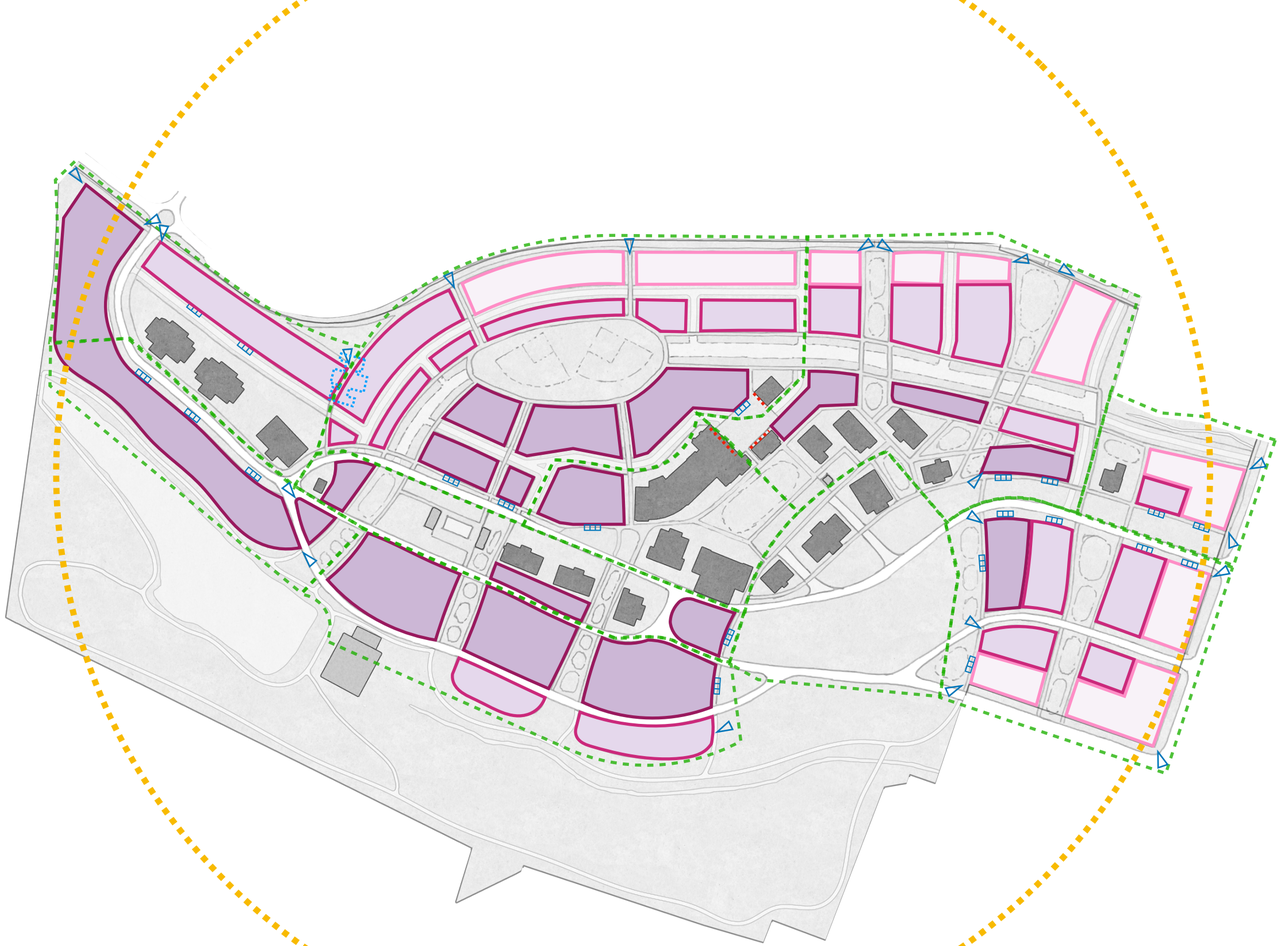
Frontage Type
Stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

GENERAL NOTES:

- Building Types generally provide parking from rear alleys and lanes screened from frontages on lots.
- On-street parking shall be provided along all streets where pratical.
- Each Block Group includes a minimum of three (3) building types.
- Each Block Group shall have 20% minimum of each of the building types used.
- A minimum of six (6) building types shall be used for the overall project.
- A maximum of five (5) of the same building types are allowed in a row.
- Commercial, Mixed-Use, & Live-Works are allowed in T-4 and T-5. See Uses Table.
- Land may be subdivided into seperate ownership.



TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

T3
T4
T5

- E - E - ESTATE
- H - H - HOUSE / ADU
- C - C - COTTAGE / ADU
- PH - PH - PAIR HOUSE / ADU
- T - T - TOWNHOUSE / ADU
- PC - PC - POCKET / COTTAGE COURT
- TH-PU - TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3THE - 3-TOWNHOUSE ESTATE
- SF - SF - STACKED FLAT
- LH - LH - LOFT HOUSE
- MH - MH- MEWS HOUSE
- TR - TR - TREE HOUSE
- AH - AH - MULTI-FAMILY HOUSE
- AB - AB - MULTI-FAMILY BUILDING
- MXB - MXB - MIXED-USE BUILDING
- CV - CV - CIVIC BUILDING SITE

TRANSECT ZONES
w/ FRONTAGE LINES

- T5 - T5 - NEIGHBORHOOD CENTER
- T4 - T4 - NEIGHBORHOOD GENERAL
- T3 - T3 - NEIGHBORHOOD EDGE
- OPEN SPACE / NATURAL

STRUCTURE TO BE REMOVED

CIVIC SPACE RESERVES

- HISTORIC CORE BUILDINGS
- CIVIC BUILDINGS
- STREETS AND PARKING

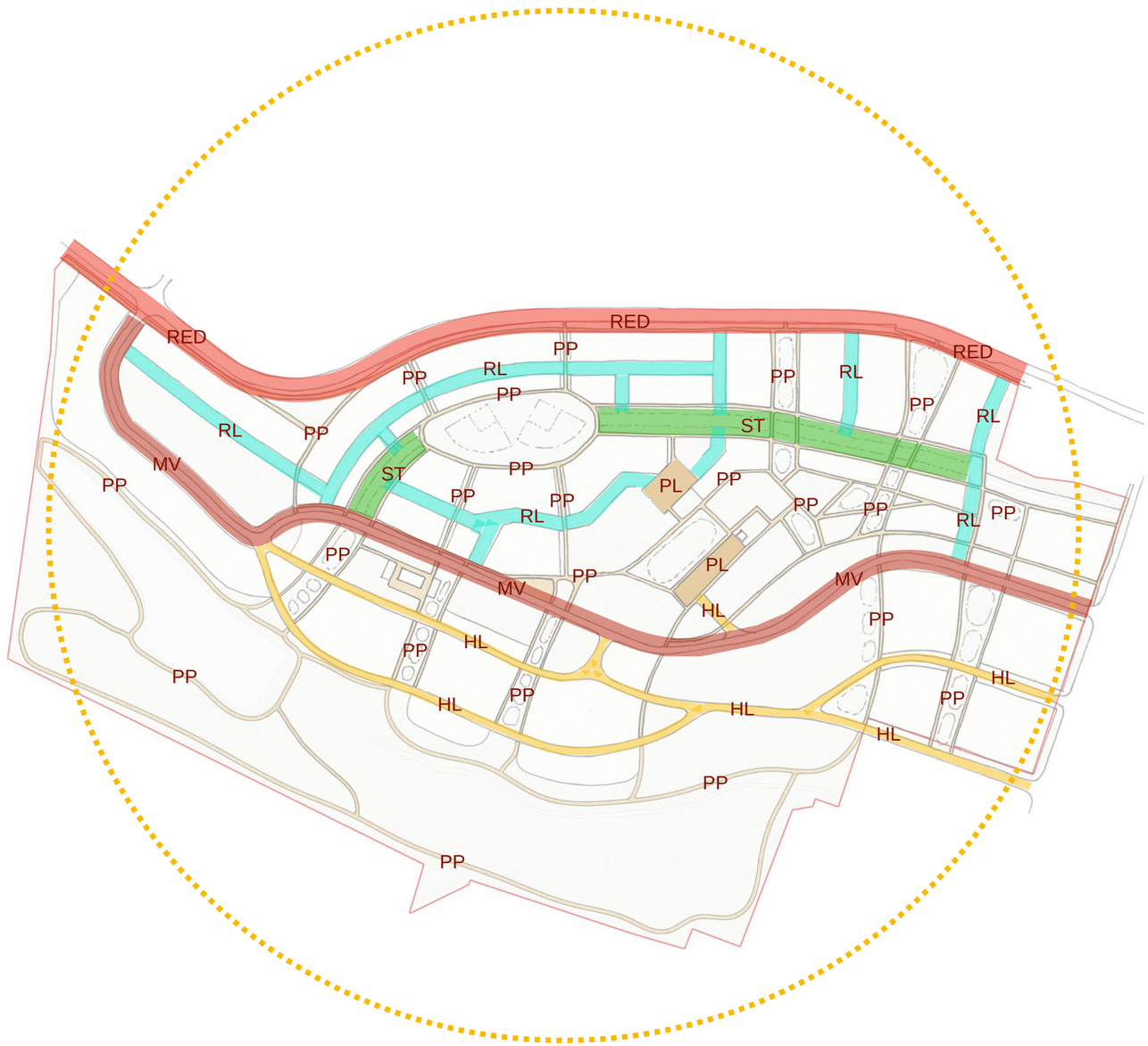
REQUIREMENTS & DETAILS

- BLOCK GROUP
- RECOMMENDED GALLERY
- RECOMMENDED SHOPFRONT
- VISTA POINTS
- PEDESTRIAN SHED - 5 MINUTE WALK RADIUS

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

0 200 400 600
1" = 200'

LAND USE PLAN



The Purpose of Streets designed within Hopetree is to create a network with managed motor vehicle driver speeds that are compatible with safe, comfortable walking and bicycle mobility. Target Speeds are 20 miles per hour. Lane widths of 10 feet maximum and street trees planted between certain parking spaces and between the curb and sidewalk help manage driver speeds via lateral views and provide shade for travelers in summer months. Wet utilities are typically placed in the front of buildings and dry utilities are in the rear. Solid waste is collected in the rear lanes enhancing walkability in front.

HOPETREE THOROUGHFARE TYPES

The first number is the estimated pavement width and second is the estimated R.O.W. width but dimensions may vary as the design is engineered in more detail.

PARK ALLEE'
ST 20-64

PLAZA
PL VARIES

REAR LANE
RL 14-30

PEDESTRIAN PATH*
PP 5/10

HILLSIDE LANE
HL 20-20

MOUNT VERNON AVENUE IMPROVEMENTS*
MV 36-60

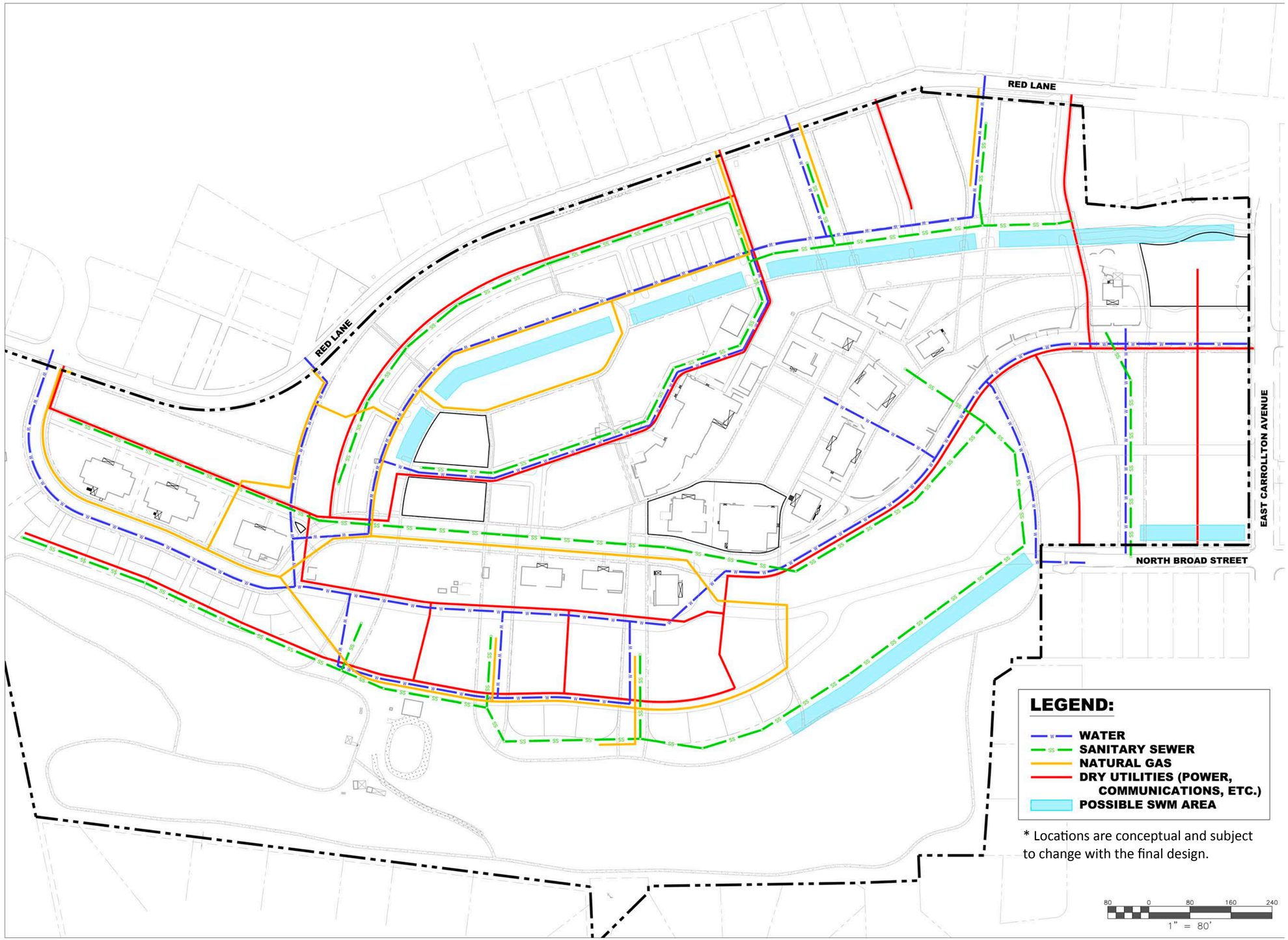
RED LANE IMPROVEMENTS*
RED - 28-60

* On existing thoroughfares dimensions and details may vary based on existing conditions and site constraints.

6.A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.

200 0 200 400 600
1" = 200'

CIRCULATION PLAN



7.A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.

8. An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.

OPEN SPACE PLAN

SHOWING PARKS, GREENWAYS, GREEN FINGERS, TREE CANOPY, TREE PLANTINGS, ,WATER FEATURES, & THE QUADRANGLE

TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

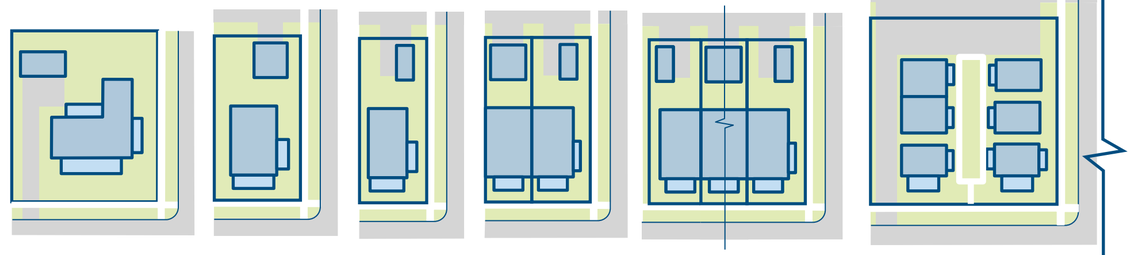
T3
T4
T5

- E - E - ESTATE
- H - H - HOUSE / ADU
- C - C - COTTAGE / ADU
- PH - PH - PAIR HOUSE / ADU
- T - T - TOWNHOUSE / ADU
- PC - PC - POCKET / COTTAGE COURT
- TH-PU - TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3-TOWNHOUSE ESTATE
- SF - SF - STACKED FLAT
- LH - LH - LOFT HOUSE
- MH - MH- MEWS HOUSE
- TR - TR - TREE HOUSE
- AH - AH - MULTI-FAMILY HOUSE
- AB - AB - MULTI-FAMILY BUILDING
- MXB - MXB - MIXED-USE BUILDING
- CV - CV - CIVIC BUILDING SITE

OPEN SPACE / PARK

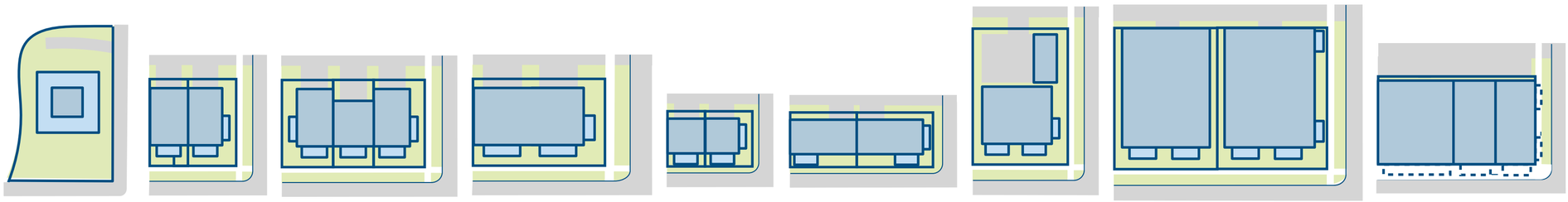
T1 – NATURAL

E ESTATE
H HOUSE
C COTTAGE
PH PAIR HOUSE
T TOWNHOUSE
PC POCKET COURT



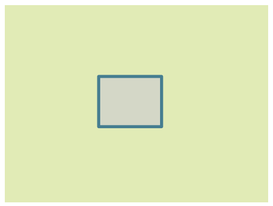
T3 – EDGE NEIGHBORHOOD
T4 – GENERAL NEIGHBORHOOD
T5 – CENTER NEIGHBORHOOD

TR TREE HOUSE
TH-PU TOWNHOUSE PARK-UNDER
3THE 3-TOWNHOUSE ESTATE
SF STACKED FLAT
LH LOFT HOUSE
MH MEWS HOUSE
AH MULIT-FAMILY HOUSE
AB MULTI-FAMILY BUILDING
MXB SHOP FRONT / MIXED-USE



T3 – EDGE NEIGHBORHOOD
T4 – GENERAL NEIGHBORHOOD
T5 – CENTER NEIGHBORHOOD

CV
CIVIC



CIVIC

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

HOUSING & BUILDING TYPES BY TRANSECT ZONES

TOWNHOUSE

NAME OF BUILDING TYPES

TOWNHOUSE

DESCRIPTION

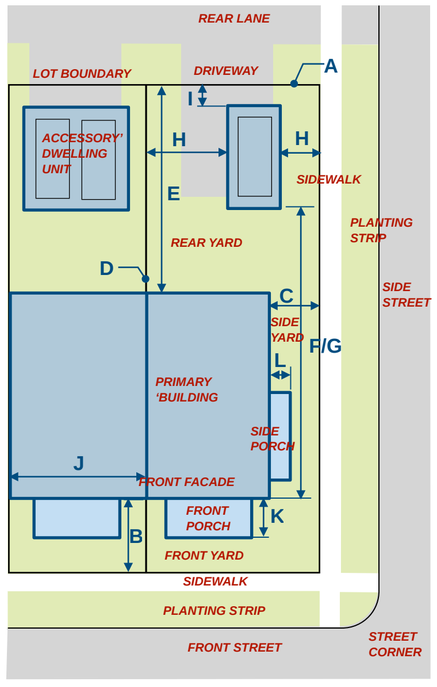
A Townhouse is a single-family residence that shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Townhouses, garages and/or parking is provided from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the Strolling District are permitted to have ground floor mixed-use.

LOT DIMENSIONS

Lot width x depth	16’ min. x 80’ min. (A)

DIMENSIONAL STANDARDS KEYED TO THE GRAPHIC PLAN

Setbacks	
Front	10’ min. (B)
Front Corner	10’ min. (C)
Side	0’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align. (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	100 %’ max. (J)
Building Front Encroachments	5’ max.(K)
Building Side Encroachments	4’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.



SAMPLE STANDARDS TEMPLATE KEY

FORM-BASED GRAPHIC PLAN

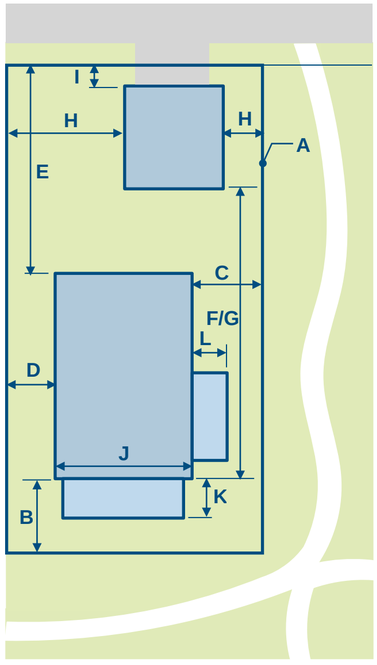
GREENWAY OPTION

GREENWAY OPTION — AVAILABLE OF ALL TYPES

A Greenway Option is for reference. Instead of fronting a street, the primary facade faces a public greenway connected to walks and trails while garages and/or parking is generally provided from a rear lane frontage. For each Type the Standards are the same.

EXAMPLE of the HOUSE TYPE SHOWING the GREENWAY OPTION

Lot width x depth	50’ min. x 100’ min. (A)
Setbacks	
Front	20’ min. (B)
Front Corner	15’ min. (C)
Side	8’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	5’ min. (H)
Accessory Buildings Rear	5’ min. (I)
Building Frontage at Setback	30’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	8’ max. (L)
Height	
Principle Building	Varied Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

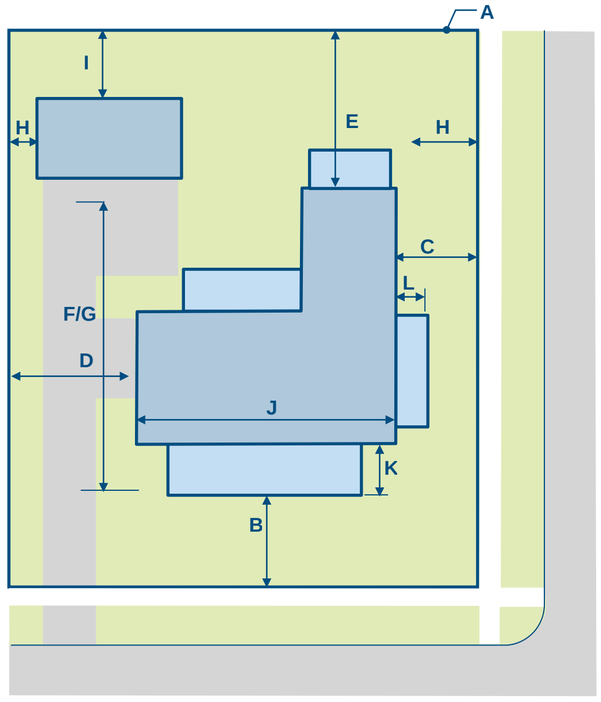


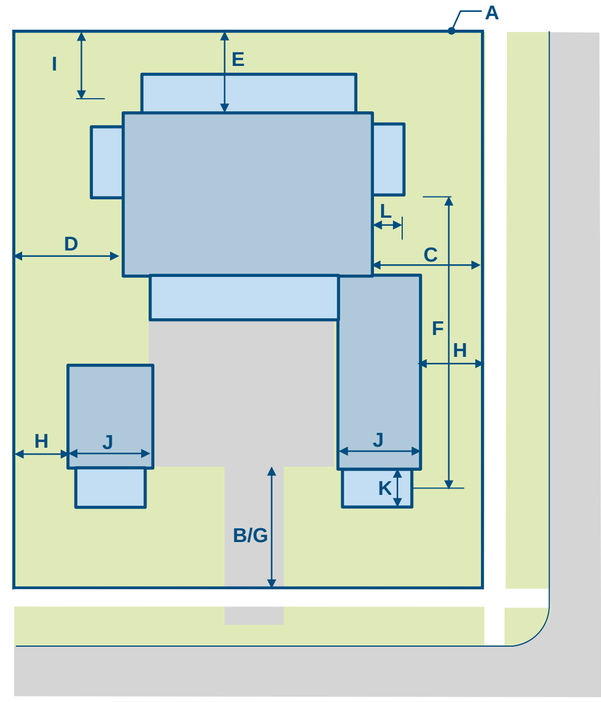
ESTATE

ESTATE

An Estate is a large single-family dwelling on a large lot of more suburban character, often shared by one or more ancillary buildings. The primary facade faces a street or public greenway where a porch and entry are prominent. Garages and/or parking is generally provided from the street frontage and is set back from the primary facade, side-loaded, or set forward side-loaded. Garage forward doors are not permitted to face the street.

Lot width x depth	80’ min. x 100’ min. (A)
Setbacks	
Front	25’ min. (B)
Front Corner	20’ min. (C)
Side	20’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	25’ min. (G)
Accessory Buildings Side	10’ min. (H)
Accessory Buildings Rear	6’ min. (I)
Building Frontage at Setback	60 % max. (J)
Building Front Encroachments	15’ max.(K)
Building Side Encroachments	12’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.





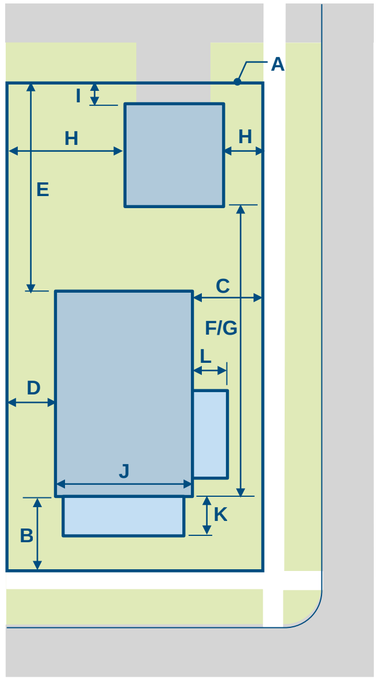
BUILDING TYPE STANDARDS

HOUSE

HOUSE

A House Type is a single-family residence on its own lot. For House 2 the primary facade faces a public street or a greenway where a porch and entry are prominent. Garages and/or parking is generally provided from a rear lane or from the street frontage set back from the primary façade.

Lot width x depth	50’ min. x 100’ min. (A)
Setbacks	
Front	20’ min. (B)
Front Corner	15’ min. (C)
Side	8’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	6’ min. (H)
Accessory Buildings Rear	6’ min. (I)
Building Frontage at Setback	30’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	8’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

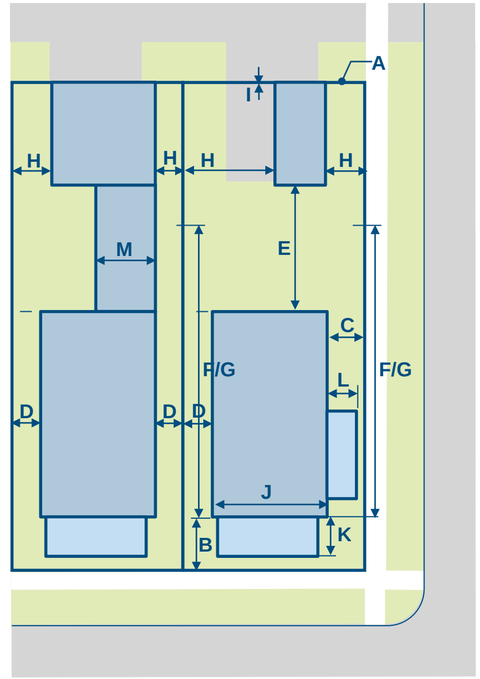


COTTAGE

COTTAGE

A Cottage is a smaller single-family residence on its own lot. For Cottages garages and/or parking is required to be provided from a rear lane while the primary house front faces a public street or greenway.

Lot width x depth	30’ min. x 65’ min. (A)
Setbacks	
Front	12’ min. (B)
Front Corner	8’ min. (C)
Side	5’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	40’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	20’ min. (J)
Building Front Encroachments	10’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.0 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.0 Stories max.



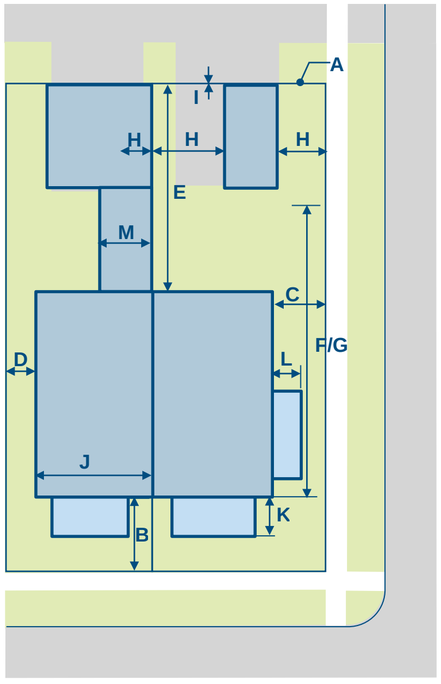
BUILDING TYPE STANDARDS

PAIR HOUSE

PAIR HOUSE

A Pair House is a single-family residence that shares a party wall with one other of the same type, each on their own lot. Garages, ADUs and/or parking is provided from the rear lane while the primary front faces a street or public greenway.

Lot width x depth	24’ min. x 65’ min. (A)
Setbacks	
Front	15’ min. (B)
Front Corner	10’ min. (C)
Side	6’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	35’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	20’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2 Stories max.

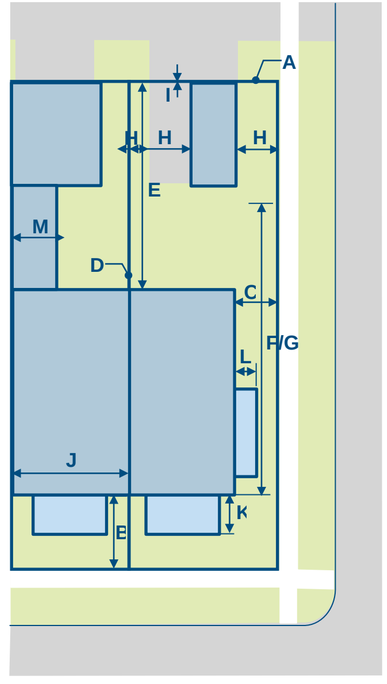


TOWNHOUSE

TOWNHOUSE

A Townhouse is a single-family residence that shares a party wall with another of the same type, with a minimum of three units in a row, and occupies the full frontage line on its own lot. For Townhouses, garages, ADUs, and/or parking is provided from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	16’ min. x 80’ min. (A)
Setbacks	
Front	10’ min. (B)
Front Corner	8’ min. (C)
Side	0’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	35’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align. (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	100 %’ max. (J)
Building Front Encroachments	8’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.5 Stories max.
First Floor Above Sidewalk Grade	1.5’ min.
Outbuilding	2.5 Stories max.

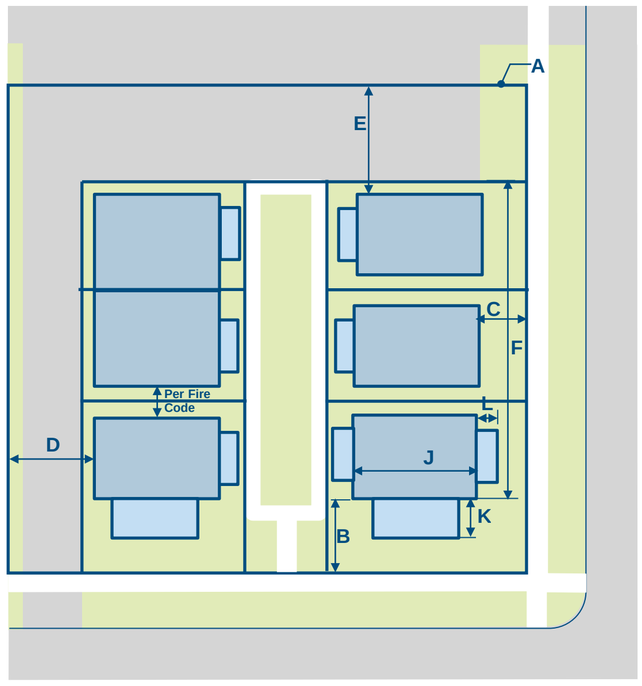


POCKET COURT

POCKET COURT

A Pocket Court are permitted with up to 8 units. Pocket Courts permit units that do not front a public vehicular right-of-way, Attached and detached houses can be grouped in pedestrian courts facing a mews, small common, green or garden, shared through an owners' association. A pocket court is often, but not always, arranged in a U-shape. The units are separated from the common area only by a sidewalk, path or other non-vehicular way. Parking is from rear lanes or alleys in attached or detached garages or open parking in a central location.

Lot width x depth (may rotate)	60' min. x 90' min. (A)
Setbacks	
Front	5' min. (B)
Front Corner	10' min. (C)
Side	5' min. (D)
Rear	20' min. (E)
Parking and Waste from Front Façade	20' min. (F)
Building Frontage at Setback	80 % max. (J)
Building Front Encroachments	5' max. (K)
Building Side Encroachments	5' max. (L)
Height	
Principle Building	2.5 Stories max.
First Floor Above Grade	1.5' min.

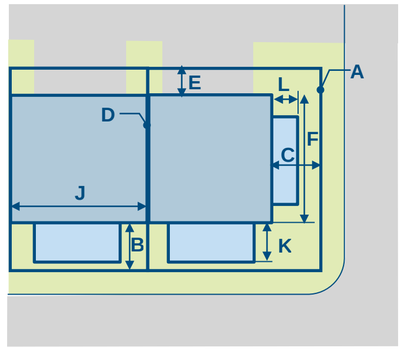


LOFT

LOFT

A Loft is a single-family residence that is detached or shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Loft types, garages, and/or parking is provided adjacent or under the townhouse from the rear lane frontages while the primary townhouse front faces a lane, street, or public greenway. Lofts in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	20' min. x 30' min. (A)	
Setbacks		
Front	0' min.	(B)
Front Corner	0' min.	(C)
Side	0' min.	(D)
Rear	0' min.	(E)
Parking and Waste from Front Façade	20' min.	(F)
Building Frontage at Setback	90 %' max.	(J)
Building Front Encroachments	8' max.	(K)
Building Side Encroachments	6' max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5' min.	
Outbuilding	2.5 Stories max.	

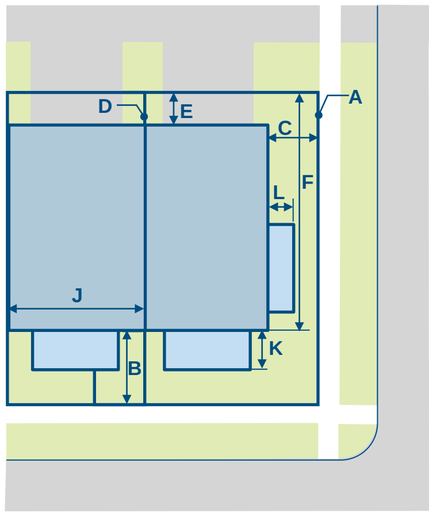


TOWNHOUSE PARK-UNDER

TOWNHOUSE PARK-UNDER

A Townhouse is a single-family residence that shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Townhouse Park-Under types, garages, and/or parking is provided under the townhouse from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	20’ min. x 50’ min. (A)
Setbacks	
Front	10’ min. (B)
Front Corner	8’ min. (C)
Side	0’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	30’ min. (F)
Building Frontage at Setback	100 %’ max. (J)
Building Front Encroachments	8’ max.(K)
Building Side Encroachments	6’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

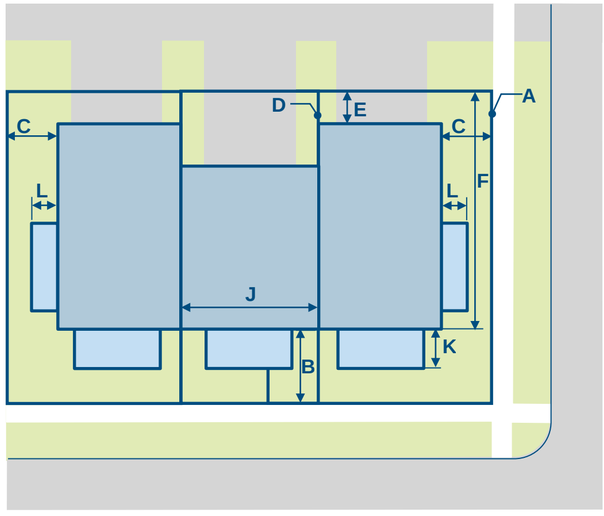


3-TOWNHOUSE ESTATE

3-TOWNHOUSE ESTATE

A 3-Townhouse Estate is a single-family residence that shares a party wall with two other of the same type with the building and architectural massing of a large house or estate. and occupies the full frontage line on its own lot. For 3-Townhouse Estate types, garages, and/or parking is provided under the townhouse from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	24’ min. x 50’ min.	(A)
Setbacks		
Front	10’ min.	(B)
Front Corner	8’ min.	(C)
Side	0’ min.	(D)
Rear	30’ min.	(E)
Parking and Waste from Front Façade	30’ min.	(F)
Building Frontage at Setback	100 %’ max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	

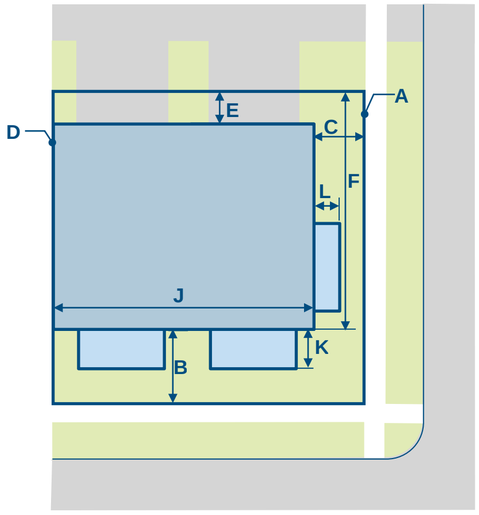


STACKED-FLAT

STACKED-FLAT

A Stacked-Flat is a single floor or town house residence that is stacked vertically with one above the other and occupies the full frontage line on a shared lot lot. For Staked-Flat types, garages, and/or parking is provided under or behind the building accessed from the rear lane frontages while the front faces a street or public greenway. Stacked-Flats in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	60’ min. x 50’ min.	(A)
Setbacks		
Front	10’ min.	(B)
Front Corner	8’ min.	(C)
Side	0’ min.	(D)
Rear	30’ min.	(E)
Parking and Waste from Front Façade	30’ min.	(F)
Building Frontage at Setback	80 % max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	1.5’ min.	

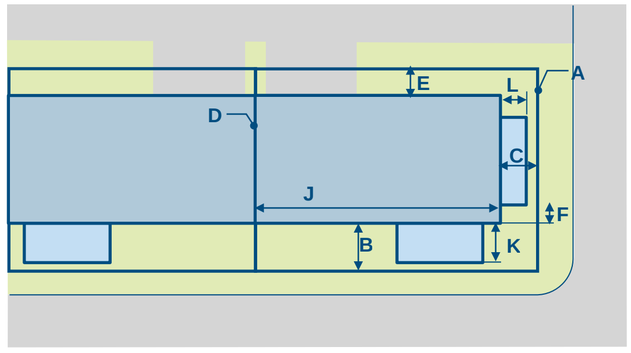


MEWS HOUSE

MEWS HOUSE

A Mews House is a single-family residence that is detached or shares a party wall with another of the same type and occupies the full frontage line on its own lot. Mews House types are generally wide and shallow. For Mews House types, garages, and/or parking is provided adjacent from the rear lane frontages screened from the frontage while the primary townhouse front faces a lane, street, or public greenway. Mews Houses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	50’ min. x 30’ min.	(A)
Setbacks		
Front	5’ min.	(B)
Front Corner	5’ min.	(C)
Side	5’ min.	(D)
Rear	5’ min.	(E)
Parking and Waste from Front Façade	Screened	(F)
Building Frontage at Setback	90 % max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	

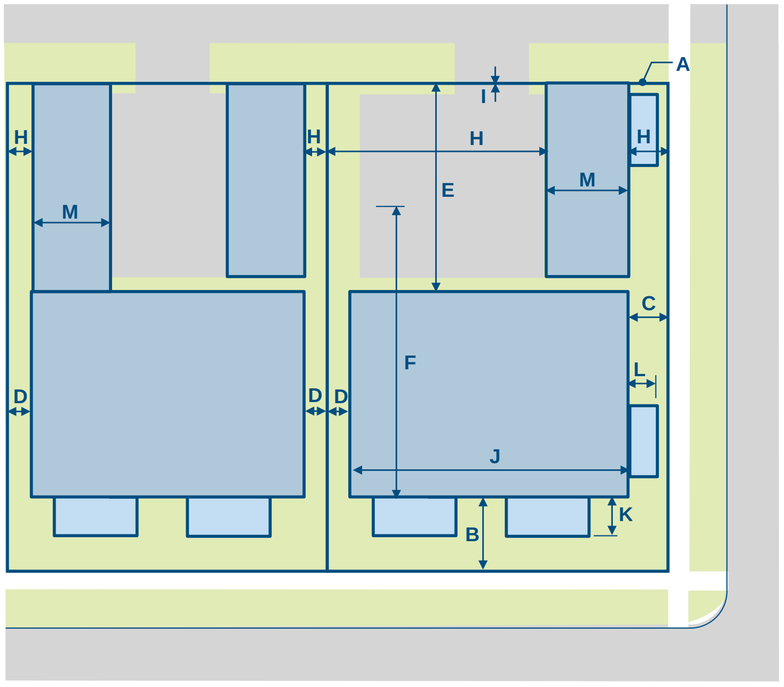


MULTI-FAMILY HOUSE

MULTI-FAMILY HOUSE

A Multi-Family House is a multi-family residence with up to 8 units that is similar in scale, massing, and character with a large single-family house and intended to be compatible in form and adjacency. For Multi-Family Houses, garages, ADUs and/or parking is provided from the street and lane frontages while the primary front faces a street or public greenway. Multi-Family Houses in the T-5 Neighborhood Center Strolling District are required or permitted to have ground floor mixed-use and galleries.

Lot width x depth	72’ min. x 100’ min. (A)
Setbacks	
Front	12’ min. (B)
Front Corner	6’ min. (C)
Side	8’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	45’ min. (F)
Accessory Buildings from Front	60’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	90 % max. (J)
Building Front Encroachments	10’ max. (K)
Building Side Encroachments	6’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

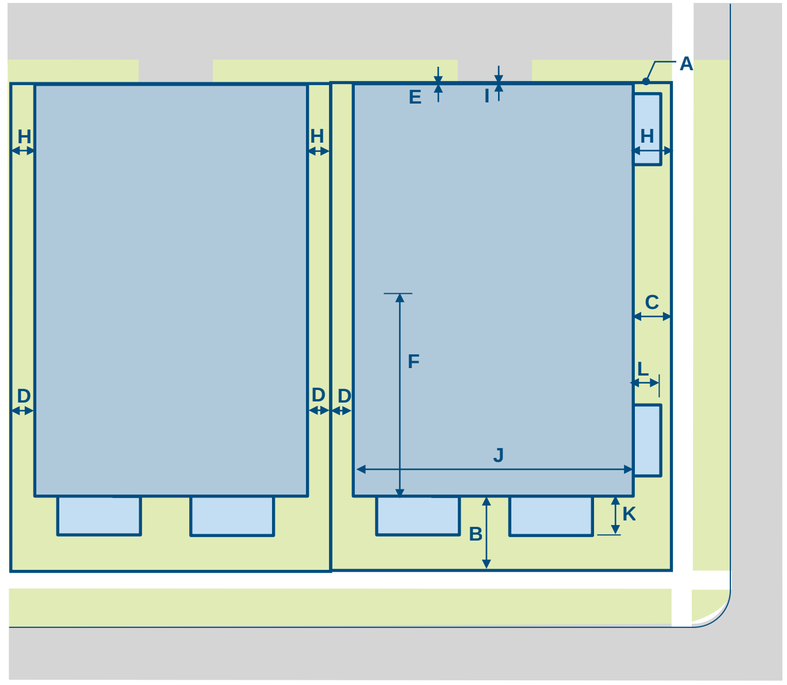


MULTI-FAMILY BUILDING

MULTI-FAMILY BUILDING

A Multi-Family House is a multi-family residence with up to 16 units that is similar in scale, massing, and character with the frontage of a Multi-Family Building and intended to be compatible in form and adjacency. For Multi-Family Buildings, garages, ADUs and/or parking is provided in a rear common parking area and/or park-under garages screened from the street while the primary front faces a street or public greenway. Multi-Family Buildings in the T-5 Neighborhood Center are required or permitted to have ground floor mixed-use and galleries.

Lot width x depth	72’ min. x 60’ min. (A)
Setbacks	
Front	6’ min. (B)
Front Corner	6’ min. (C)
Side	6’ min. (D)
Rear	0’ min. (E)
Parking and Waste from Front Façade	45’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	90 % max. (J)
Building Front Encroachments	10’ max. (K)
Building Side Encroachments	6’ max. (L)
Height	
Principle Building	4 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

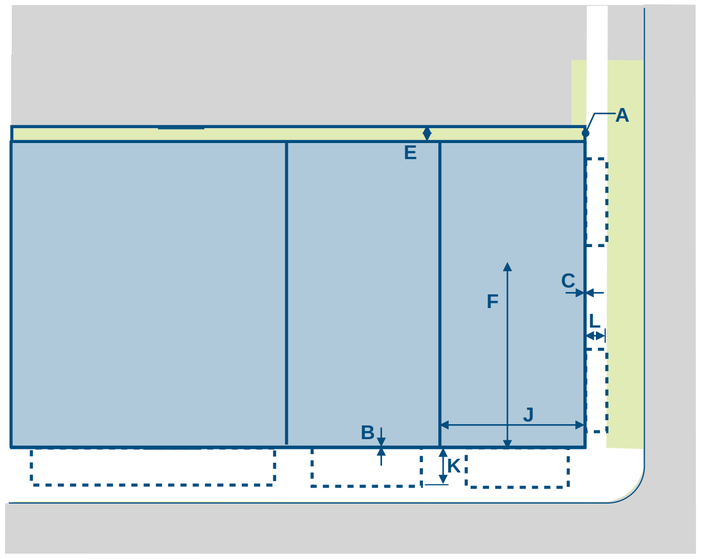


SHOPFRONT / MIXED-USE

SHOPFRONT / MIXED USE

Shopfront and Mixed-Use Buildings are small to medium size size traditional building types typically following the platting patterns of the historic main street. Ground level uses typically include retail shops, restaurants and cafes, and commercial. Upper level uses typically include residential and/or commercial uses. Ground level facades are detailed with inviting storefronts with abundant windows and canopies, balconies, and/or awnings above. Parking is provided on-street and in shared screened parking areas or park-under accessed from a rear alley while the primary front faces the street or public green space. Refer to the Regulating Plan for required and permitted retail and galleries.

Lot width x depth	12’ min. x 40’ min.	(A)
Setbacks		
Front	0’ min.	(B)
Front Corner	0’ min.	(C)
Side	0’ min.	(D)
Rear	0’ min.	(E)
Parking and Waste from Front Façade	20’ min.	(F)
Building Frontage at Setback	80 % min.	(J)
Building Front Encroachments Above 1st Level	15’ max.	(K)
Building Side Encroachments Above 1st Level	8’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	0’ min.	

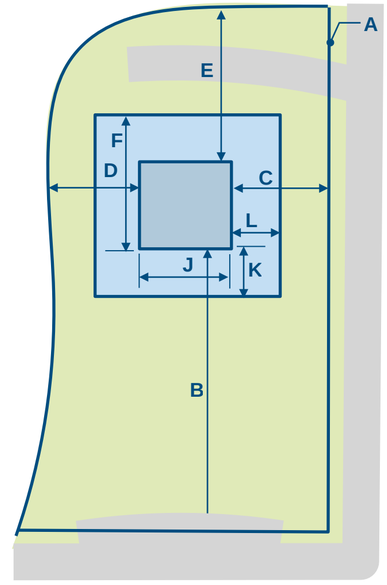


TREEHOUSE

TREEHOUSE

A Treehouse Type is a single-family dwelling on a large lot in the neighborhood edge. The small footprint is vertical in proportion and typically includes substantially deep cantilevered porches and balconies. Parking is generally provided along the street frontage or by driveways set back from the frontage.

Lot width x depth & max footprint	50’ min. x 50’ min. 576 sq. ft. max. building footprint	(A)
Setbacks		
Front	5’ min.	(B)
Front Corner	12’ min.	(C)
Side	12’ min.	(D)
Rear	5’ min.	(E)
Parking and Waste from Front Façade	20’ min.	(F)
Accessory Buildings from Front	N/A	(G)
Accessory Buildings Side	N/A	(H)
Accessory Buildings Rear	N/A	(I)
Building Frontage at Setback	40 % max.	(J)
Building Front Encroachments	15’ max.	(K)
Building Side & Rear Encroachments	12’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	N/A	



ACCESSORY BUILDING

ACCESSORY BUILDING

- Accessory Structures are permitted in districts with residential uses. In all cases, garages and storage buildings should be located behind or set back from the principal dwelling. When the housing type does not include a garage, a storage building is required.

- Garages: Garages should be located behind the principal dwelling. Construction of garages for houses should be optional; however, when homeowners elect to forego or delay garage construction, a storage building is required.

- Accessory Dwelling Unit: A secondary dwelling unit associated with a principal residence on a single lot is permitted. ADUs shall be a maximum of 50% of the square footage of the primary building footprint. An accessory unit is typically located over the detached garage of a townhouse or detached house. Refer to each Building Type for specific standards.

- See the Use Table for “accessory apartment” when attached to the principal residence.

WALLS

Walls shall be in stone, brick, stucco, wood clapboard, board and batten, fiber cement, or vinyl, or polymeric.

Walls shall show no more than two materials above the foundation.

Materials shall change along a horizontal line, with the heavier material below the lighter.

Siding shall be of integral color, painted or stained.

Arches and Piers shall be brick, stone, or stucco.

Posts shall be pressure treated, wood, or protective wrapped with vinyl or PVC.

Foundations shall be enclosed with horizontal wood boards, wood louvers, stucco over block, stamped poured concrete, stone, or brick.

Trim shall be high grade lumber, pre-painted metal, polymeric, vinyl, or fiber cement board, and shall be 3.5 inches to 6 inches in width at corners and around corners.

Wood, if visible, shall be painted or stained with an opaque stain, except walking surfaces, which may be left natural.

Stucco shall be cement with smooth sand or pebble finish.

OPENINGS

Doors shall provide a clear width of not less than 32". Exterior doors shall have a maximum nominal width of 36" for single doors. If double doors are used, one leaf shall provide a minimum 32" clearance. Local compliance for fire egress and ADA standards takes precedent.

Doors shall be side-hinged swinging type (no sliders) at frontages.

Doors shall be painted.

Windows shall be made of wood, extruded aluminum, vinyl, or hollow steel frame and glazed with clear glass.

Windows shall be with a vertical or square proportion,

Storm Windows and Screens, shall cover the entire window area.

Panes shall be of square or vertical proportion.

Shutters shall be operable w/ shutter dogs, sized, and shaped to meet the associated openings.

ELEMENTS

Porches and Colonnades are generally covered and shall have their columns, and posts.

Porches shall have square or vertically proportioned intercolumniation. Porches may encroach into the setbacks.

Railings shall be made of metal, wood, or composite.

Railings shall have horizontal top and bottom rails centered on the balusters. The openings between balusters shall not exceed 4 inches. Bottom rails shall be raised above the level of the floor.

Equipment including HVAC and utility meters shall be screened and located away from the primary entries.

Vista Points where shown on the Land Use Plan are prominent locations including corners, deflections, and at the axial conclusion of a thoroughfare or public space. A building located at a Vista Point designated on a Regulating Plan is required to be designed in response to this location.

Galleries shall be aligned close to the frontage line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk.

SUSTAINABILITY GUIDELINES

Sites should be disturbed as little as possible during construction. Natural drainage patterns shall be kept wherever feasible. Excavated soil shall be used for required contour line modifications and onsite backfill.

Materials should be locally sourced where feasible.

Use of Recycled Materials is encouraged.

Building Shape is recommended to be rectangular to allow breezes inside, cross-ventilation, and provide natural cooling.

Landscaping should encourage deciduous trees next to buildings to provide them with shade in summer and solar heating in winter.

Building Shading should be used selectively to minimize unwanted solar heat gain in the summer and maximize heat gains in the winter.

Cross ventilation is recommended to be provided through narrow floor plans with large, operable windows, porches and breezes.

Paints are recommended to have Low-VOC emissions.

Stormwater Management for guidance on stormwater management and the application of tools for paving, channeling, storage, and filtration including maintenance and costs refer to the; Light Imprint Handbook; Integrating Sustainability and Community Design.

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

ROOFS

Roofs shall be clad in galvanized metal, fiberglass/asphalt shingles, or slate.

Roof Penetrations, including vent stacks, shall be placed on the rear slope of the roof where feasible. Roof penetrations shall be finished to match the color of the roof.

Mechanical equipment including solar panels shall be screened and located away from frontages.

Roof Slope shall be between 6:12 and 12:12. Porch Slope shall be a minimum of 3:12.

Gutters, Downspouts, and Projecting Drainpipes shall be made of galvanized metal, copper, or painted aluminum in white or same color as building.

Flashing shall be galvanized/pre-painted metal or copper.

Eaves shall be continuous.

Eaves shall be either exposed with custom cut rafter tails, partially exposed with square-cut rafter tails, or closed soffits and on the front facade shall project 12 to 36 inches from the exterior wall sheathing to the outer edge of gutter.

Rafter Tails shall not exceed 6 inches in depth at the tip.

HEIGHT

Height of buildings shall be measured per the Salem code.

For residential dwellings the ground floor shall be a minimum of 18" above the back of curb measured at the front corners.

SIGNAGE

A Master Signage Plan and Sign Standards may be submitted prior to specific site plan submissions.

General to all zones:

a. There shall be no signage permitted additional to that specified in this section. Temporary signage for builders is excluded.

Edge zone

a. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox.

General zone

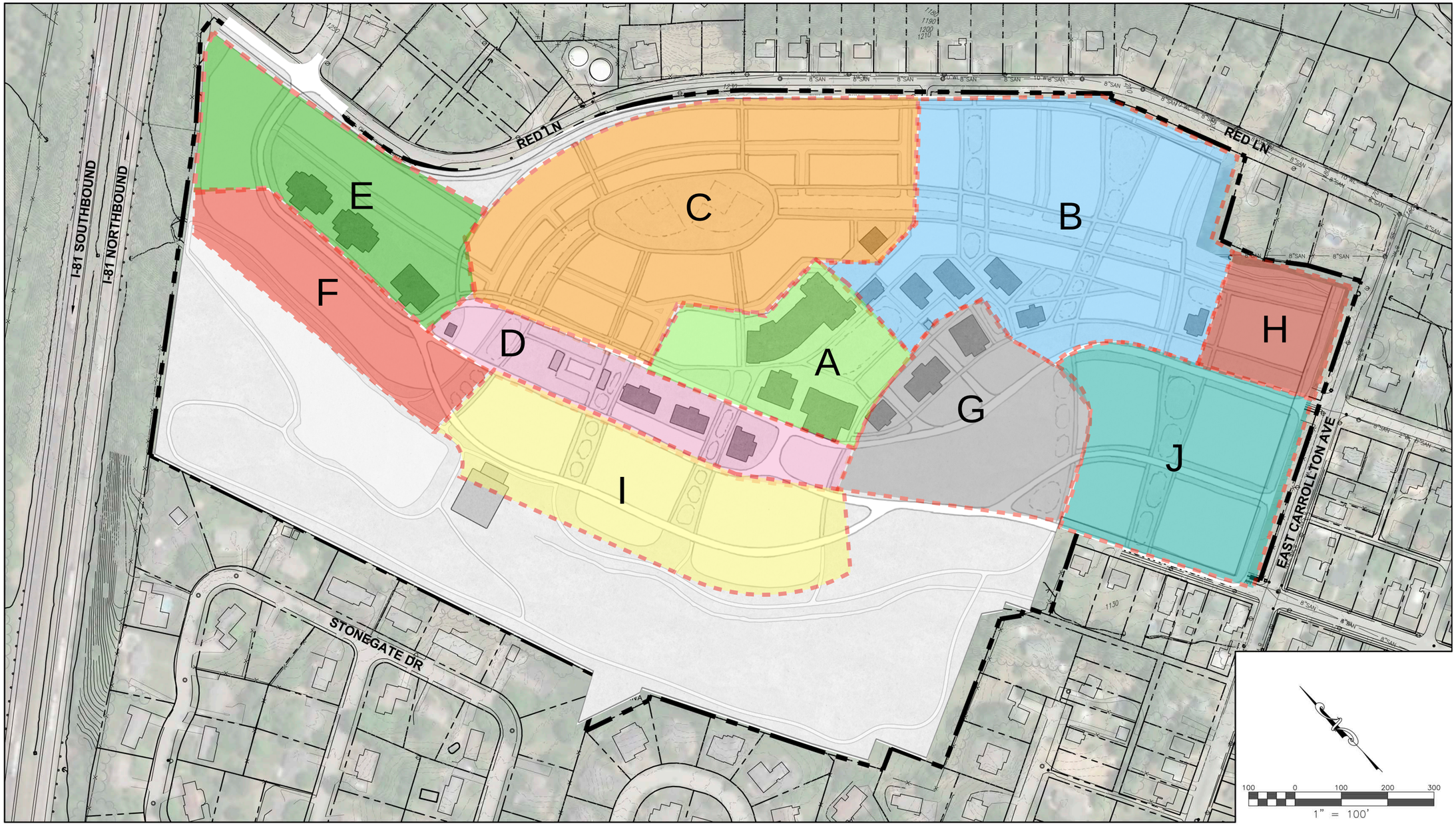
a. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit.

b. One blade sign for each business may be permanently installed perpendicular to the Facade within the front setback. Such a sign shall not exceed a total of 4 square feet and shall clear 8 feet above the Sidewalk.

Center zone

a. Blade signs, not to exceed 6 square ft. for each separate business entrance, may be attached to and should be perpendicular to the Facade, and shall clear 8 feet above the Sidewalk.

b. A single external permanent sign band may be applied to the Facade of each building, providing that such sign not exceed 3 feet in height by any length.



10. A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreation areas, and non-residential uses should be included.

PHASING PLAN

The City of Salem Zoning Ordinance - Hopetree Uses & Definitions

Agriculture

Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Agriculture						√*	The use of land for the production of food and fiber, including farming, dairying, pasturage, agriculture, horticulture, viticulture, and animal and poultry husbandry. A garden accessory to a residence shall not be considered agriculture. The keeping of a cow, pig, sheep, goat, chicken or similar animal shall constitute agriculture regardless of the size of the animal and regardless of the purpose for which it is kept. *Equine Assisted Psychotherapy
Agritourism	√	√		√	√	√	Any activity carried out on a farm or ranch that allows members of the general public, for recreational, entertainment, or educational purposes, to view or enjoy rural activities, including farming, wineries, ranching, historical, cultural, harvest-your-own activities, or natural activities and attractions.
Farm stand	√	√		√	√	√	An establishment for the seasonal retail sale of agricultural goods and merchandise primarily produced by the operator on the site, or on nearby property. Agricultural goods produced on other properties owned or leased by the operator may also be allowed provided a majority of the produce comes from land surrounding the wayside stand. This use type shall include agricultural products picked by the consumer.
Forestry operations							The use of land for the raising and harvesting of timber, pulp woods and other forestry products for commercial purposes, including the temporary operation of a sawmill and/or chipper to process the timber cut from that parcel or contiguous parcels. Excluded from this definition shall be the cutting of timber associated with land development approved by the City of Salem, which shall be considered accessory to the development of the property.
Stable	√	√		√	√	√	The boarding, keeping, breeding, pasturing or raising of horses, ponies, mules, donkeys or llamas by the owner or occupant of the property and/or their paying or non-paying guests. Included in this definition are riding academies.

Residential

Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Accessory apartment	√*	√*	√*	√*	√*		A second dwelling unit within a detached single family dwelling which is clearly incidental and subordinate to the main dwelling unit. *Detached Accessory Dwellings are also permitted - see specific Building Types.
Family day care home	√	√		√	√		A single family dwelling in which more than five but less than ten individuals, are received for care, protection and guidance during only part of a 24 hour day. Individuals related by blood, legal adoption or marriage to the person who maintains the home shall not be counted towards this total. The care of five or less individuals for portions of a day shall be considered a home occupation.
Home occupation	√	√	√	√	√		An accessory use of a dwelling unit for gainful employment involving the production, provision, or sale of goods and/or services.
Manufactured home							A structure, transportable in one or more sections, which in the traveling mode is eight body feet or more in width or 40 body feet or more in length, or, when erected on site, is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation. A manufactured home shall contain one dwelling unit. Some manufactured homes are also referred to as mobile homes.
Manufactured home, accessory							A manufactured home that is subordinate to a single family dwelling on a single lot and meets the additional criteria contained in this chapter.
Manufactured home, emergency							A manufactured home used temporarily for the period of reconstruction or replacement of an uninhabitable dwelling lost or destroyed by fire, flood, or other act of nature, or used temporarily as housing relief to victims of a federally declared disaster in accordance with the provisions of this chapter.
Manufactured home subdivision							A ten acre or larger community of manufactured home dwellings with lots that are subdivided for individual ownership.
Manufactured home park							A ten acre or larger tract of land intended to accommodate a manufactured home community of multiple spaces for lease or condominium ownership. A manufactured home park is also referred to as a mobile home park.
Multi-family dwelling	√	√		√	√		A building or portion thereof which contains three or more dwelling units for permanent occupancy, regardless of the method of ownership. Included in the use type would be garden apartments, low and high rise apartments, apartments for elderly housing and condominiums.
Residential human care facility	√	√		√	√		A building (1) used as a group home where not more than eight mentally ill, mentally retarded or other developmentally disabled persons, not related by blood or marriage, reside, with one or more resident counselors or other staff persons and for which the Virginia Department of Behavioral Health and Developmental Services is the licensing authority, pursuant to Virginia Code § 15.2-2291, or (2) used as a group home where not more than eight aged, infirm or disabled persons, not related by blood or marriage, reside with one or more resident counselors or other staff persons and for which the Department of Social Services is the licensing authority, pursuant to § Virginia Code § 15.2-2291(B). Excluded from this definition are drug or alcohol rehabilitation centers, half-way houses and similar uses. *Adult Group Homes for individuals with Intellectual and Developmental Disabilities

Single family dwelling detached	√		√	√	√		A site built or modular building designed for or used exclusively as one dwelling unit for permanent occupancy. A single family dwelling which is surrounded by open space or yards on all sides, is located on its own individual lot, and which is not attached to any other dwelling by any means.
Single family dwelling attached	√		√	√	√		A site built or modular building designed for or used exclusively as one dwelling unit for permanent occupancy. Two single family dwellings sharing a common wall area, each on its own individual lot.
Temporary family health care structure							A transportable residential structure providing an environment facilitating a caregiver's provision of care for mentally or physically impaired person that (i) is primarily assembled at a location other than its site of installation, (ii) is limited to one occupant who shall be the mentally or physically impaired person, (iii) has no more than 300 gross square feet, (iv) complies with the applicable provisions of the Industrialized Building Safety Law and the Uniform Statewide Building Code, and (v) is not placed on a permanent foundation. For purposes of this definition "caregiver" and "mentally or physically impaired person" are as defined in § 15.2-2292.1 of the Code of Virginia.
Townhouse			√	√	√		A grouping of three or more attached single family dwellings in a row in which each unit has its own front and rear access to the outside, no unit is located over another unit, and each unit is separated from any other unit by one or more common walls.
Two family dwelling	√	√	√	√	√		The use of an individual lot for two dwelling units which share at least one common wall, each occupied by one family.
Civic							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Administrative services	√	√		√	√		Governmental offices providing administrative, clerical or public contact services that deal directly with the citizen. Typical uses include federal, state, county, and city offices.
Assisted care residence	√	√		√	√		An establishment that provides shelter and services which may include meals, housekeeping, and personal care assistance primarily for the elderly. Residents are able to maintain a semi-independent life style, not requiring the more extensive care of a nursing home. Residents will, at a minimum, need assistance with at least one of the following: medication management, meal preparation, housekeeping, money management, or personal hygiene. At least one nurse's aid is typically on duty, with medical staff available when needed.
Camps						√	A use which primarily provides recreational opportunities of an outdoor nature on a daily or overnight basis. Included in this use type would be scout camps, religious camps, children's camps, wilderness camps, and similar uses which are not otherwise specifically described in this chapter.
Cemetery						√*	Land used or dedicated to the burial of the dead, including columbariums, crematoriums, mausoleums, and necessary sales and maintenance facilities. Funeral Services use types shall be included when operated within the boundary of such cemetery. * There is small cemetery located on the edge of our pasture
Clubs	√	√		√	√		A use providing meeting, or social facilities for civic or social clubs, and similar organizations and associations, primarily for use by members and guests. Recreational facilities, unless otherwise specifically cited in this section, may be provided for members and guests as an accessory use. This definition shall not include fraternal or sororal organizations associated with colleges or universities. A Club does not include a building in which members reside.
Community recreation	√	√		√	√		A recreational facility for use solely by the residents and guests of a particular residential development, planned unit development, or residential neighborhood, including indoor and outdoor facilities. These facilities are usually proposed or planned in association with development and are usually located within or adjacent to such development.
Correction facilities							A public or privately operated use providing housing and care for individuals legally confined, designed to isolate those individuals from a surrounding community.
Crisis center	√	√			√		A facility providing temporary protective sanctuary for victims of crime or abuse including emergency housing during crisis intervention for individuals, such as victims of rape, child abuse, or physical beatings.
Cultural services	√	√			√		A library, museum, or similar public or quasi-public use displaying, preserving and exhibiting objects of community and cultural interest in one or more of the arts or sciences.
Educational facilities, college/university	√	√		√	√		An educational institution authorized by the Commonwealth of Virginia to award associate, baccalaureate or higher degrees.
Educational facilities, primary/secondary	√	√		√	√		A public, private or parochial school offering instruction at the elementary, junior and/or senior high school levels in the branches of learning and study required to be taught in the public schools of the Commonwealth of Virginia.
Guidance services	√	√		√	√		A use providing counseling, guidance, recuperative, or similar services for persons requiring rehabilitation assistance or therapy for only part of a 24 hour day. This use type shall not include facilities that dispense and/or administer controlled substances and/or pharmaceutical products for the treatment of drug addiction and substance abuse and/or mental health disorders. Non-medicinal counseling-based treatment of drug addiction and substance abuse and/or mental health disorders may be considered guidance services after review by the administrator. Facilities that do dispense and/or administer controlled substances and/or pharmaceutical products for the treatment of drug addiction and substance abuse and/or mental health disorders shall be considered an Outpatient mental health and substance abuse clinic.
Halfway House							An establishment providing residential accommodations, rehabilitation, counseling, and supervision to persons suffering from alcohol or drug addiction, to persons reentering society after being released from a correctional facility or other institution, or to persons suffering from similar disorders or circumstances.

Life care facility	√	√		√	√		A residential facility primarily for the continuing care of the elderly, providing for transitional housing progressing from independent living in various dwelling units, with or without kitchen facilities, and culminating in nursing home type care where all related uses are located on the same lot. Such facility may include other services integral to the personal and therapeutic care of the residents.
Nursing home	√	√		√	√		A use providing bed care and in-patient services for persons requiring regular medical attention but excluding a facility providing surgical or emergency medical services and excluding a facility providing care for alcoholism, drug addiction, mental disease, or communicable disease. Nursing homes have doctors or licensed nurses on duty.
Park and ride facility							A publicly owned, short-term, parking facility for commuters.
Post office	√	√					Postal services directly available to the consumer operated by the United States Postal Service.
Public assembly	√	√					Facilities owned and operated by a public agency accommodating public assembly for sports, amusement, or entertainment purposes. Typical uses include auditoriums, sports stadiums, convention facilities, fairgrounds, and sales and exhibition facilities.
Public maintenance and service facilities	√	√			√		A public facility supporting maintenance, repair, vehicular or equipment servicing, material storage, and similar activities including street or sewer yards, equipment services centers, and similar uses having characteristics of commercial services or contracting or industrial activities.
Public parks and recreational areas	√	√				√	Publicly-owned and operated parks, picnic areas, playgrounds, indoor or outdoor athletic facilities, greenways and open spaces.
Religious assembly	√	√					A use located in a permanent building and providing regular organized religious worship and related incidental activities, except primary or secondary schools and day care facilities.
Safety services	√	√					Facilities for the conduct of safety and emergency services for the primary benefit of the public, whether publicly or privately owned and operated, including police and fire protection services and emergency medical and ambulance services.
Office							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Financial instutitions	√	√			√*		Provision of financial and banking services to consumers or clients. Walk-in and drive-in services to consumers are generally provided on site. Typical uses include banks, savings and loan associations, savings banks, credit unions, lending establishments and free-standing automatic teller machines. • Walk-In Only
General office	√	√			√		Use of a site for business, professional, or administrative offices, excluding medical offices/clinic. Typical uses include real estate, insurance, management, travel, computer software or information systems research and development, or other business offices; organization and association offices; or law, architectural, engineering, accounting or other professional offices. Retail sales do not comprise more than an accessory aspect of the primary activity of a General Office.
Medical Office/clinic	√	√			√	√	A facility used for human health care of the body, such as medical, dental, therapeutic, chiropractic or similar consultation, diagnosis, and treatment by one or more practitioners licensed by the Commonwealth of Virginia. Medical offices/clinics provide outpatient care on a routine basis, and may offer minor surgical care, but do not provide overnight care or serve as a base for an ambulance service.
Outpatient mental health and sustance abuse clinic	√	√			√		An establishment which provides outpatient services primarily related to the diagnosis and treatment of mental health disorders, alcohol, or other drug or substance abuse disorders. Services include the dispensing and administering of controlled substances and pharmaceutical products by professional medical practitioners licensed by the Commonwealth of Virginia.
Laboratories	√	√			√		Establishments primarily engaged in performing research or testing activities into technological matters. Typical uses include engineering and environmental laboratories, medical, optical, dental and forensic laboratories, x-ray services, and pharmaceutical laboratories only involved in research and development. Excluded are any laboratories which mass produce one or more products directly for the consumer market.
Commercial							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Adult business							Any adult bookstore, adult video store, adult model studio, adult motel, adult movie theater, adult nightclub, adult store, business providing adult entertainment, or any other establishment that regularly exploits an interest in matters relating to specified sexual activities or specified anatomical areas or regularly features live entertainment intended for the sexual stimulation or titillation of patrons, and as such terms are defined in Chapter 58 of this Code.
Agricultural services	√	√					An establishment primarily engaged in providing services specifically for the agricultural community which is not directly associated with a farm operation. Included in this use type would be servicing of agricultural equipment, independent equipment operators, and other related agricultural services.
Antique shops	√	√			√		A place offering primarily antiques for sale. An antique for the purposes of this chapter shall be a work of art, piece of furniture, decorative object, or the like, of or belonging to the past, at least 30 years old.

Assembly hall	√	√			√		A building, designed and used primarily for the meeting or assembly of a large group of people for a common purpose. Typical uses include meeting halls, union halls, bingo parlors, and catering or banquet facilities.
Athletic instruction services	√	√			√		Establishments primarily engaged in providing indoor instruction and training in athletic sports that require high ceiling heights for the activity. Typical uses include gymnastics academies, baseball and softball training centers, tennis centers and golf centers.
Automobile dealership, new							The use of any building, land area or other premise for the display of new and used automobiles, trucks, vans, or motorcycles for sale or rent, including any warranty repair work and other major and minor repair service conducted as an accessory use.
Automobile dealership, used							Any lot or establishment where three or more used motor vehicles, including automobiles, trucks, and motorcycles are displayed at one time for sale.
Automobile repair services, major							Repair of construction equipment, commercial trucks, agricultural implements and similar heavy equipment, including automobiles, where major engine and transmission repairs are conducted. This includes minor automobile repairs in conjunction with major automobile repairs. Typical uses include automobile and truck repair garages, transmission shops, radiator shops, body and fender shops, equipment service centers, machine shops and other similar uses where major repair activities are conducted.
Automobile repair services, minor	√	√					Repair of automobiles, noncommercial trucks, motorcycles, motor homes, recreational vehicles, or boats, including the sale, installation, and servicing of equipment and parts. Typical uses include tire sales and installation, wheel and brake shops, oil and lubrication services and similar repair and service activities where minor repairs and routine maintenance are conducted.
Automobile rental/leasing	√	√			√		Rental of automobiles and light trucks and vans, includ-ing incidental parking and servicing of vehicles for rent or lease. Typical uses include auto rental agencies and taxicab dispatch areas.
Automobile parts/supply, retail							Retail sales of automobile parts and accessories. Typical uses include automobile parts and supply stores which offer new and factory rebuilt parts and accessories, and include establishments which offer minor automobile repair services.
Business support services	√	√			√		Establishments or places of business engaged in the sale, rental or repair of office equipment, supplies and materials, or the provision of services used by office, professional and service establishments. Typical uses include office equipment and supply firms, small business machine repair shops, convenience printing and copying establishments, as well as temporary labor services.
Business or trade schools	√	√			√		A use providing education or training in business, commerce, language, or other similar activity or occupational pursuit, and not otherwise defined as an educational facility, either primary and secondary, or college and university.
Campgrounds							Facilities providing camping or parking areas and incidental services for travelers in recreational vehicles and/or tents.
Car wash							Washing and cleaning of vehicles. Typical uses include automatic conveyor machines and self-service car washes.
Commercial indoor amusement	√	√			√		Establishments which provide multiple coin operated amusement or entertainment devices or machines as other than an incidental use of the premises. Such devices would include pinball machines, video games, and other games of skill or scoring, and would include pool and/or billiard tables, whether or not they are coin operated. Typical uses include game rooms, billiard and pool halls, and video arcades.
Commercial indoor entertainment	√	√			√		Predominantly spectator uses conducted within an enclosed building. Typical uses include motion picture theaters, and concert or music halls.
Commercial indoor sports and recreation	√	√			√		Predominantly non-instructional participant-based uses conducted within an enclosed building. Typical uses include bowling alleys, ice and roller skating rinks, indoor racquetball, swimming, and/or tennis facilities.
Commercial outdoor entertainment							Predominantly spectator uses conducted in open or partially enclosed or screened facilities. Typical uses include sports arenas, motor vehicle or animal racing facilities, and outdoor amusement parks.
Commercial outdoor sports and recreation	√	√				√	Predominantly participant uses conducted in open or partially enclosed or screened facilities. Typical uses include driving ranges, miniature golf, swimming pools, tennis courts, outdoor racquetball courts, motorized cart and motorcycle tracks, and motorized model airplane flying facilities.
Communications services	√	√			√		Establishments primarily engaged in the provision of broadcasting and other information relay services accomplished through the use of electronic and telephonic mechanisms. Excluded from this use type are facilities classified as Utility Services - Major or Towers. Typical uses include television studios, telecommunication service centers, telegraph service offices or film and sound recording facilities.
Construction sales and services							Establishments or places of business primarily engaged in retail or wholesale sale, from the premises, of materials used in the construction of buildings or other structures, but specifically excluding automobile or equipment supplies otherwise classified herein. Typical uses include building material stores and home supply establishments.
Consumer repair services	√	√			√		Establishments primarily engaged in the provision of repair services to individuals and households, rather than businesses, but excluding automotive and equipment repair use types. Typical uses include appliance repair shops, shoe repair, watch or jewelry repair shops, or repair of musical instruments.
Convenience store	√	√			√		Establishments primarily engaged in the provision of frequently or recurrently needed goods for household consumption, such as prepackaged food and beverages, and limited household supplies and hardware. Convenience stores shall not include fuel pumps or the selling of fuel for motor vehicles. Typical uses include neighborhood markets and country stores.
Dance hall	√	√			√		Establishments in which more than ten percent of the total floor area is designed or used as a dance floor, or where an admission fee is directly collected, or some other form of compensation is obtained for dancing.
Day care center	√	√		√	√		Any facility operated for the purpose of providing care, protection and guidance to ten or more individuals during only part of a 24 hour day. This term includes nursery schools, preschools, day care centers for individuals, and other similar uses but excludes public and private educational facilities or any facility offering care to individuals for a full 24 hour period.

Equipment sales and rental							Establishments primarily engaged in the sale or rental of tools, trucks, tractors, construction equipment, agricultural implements, and similar industrial equipment, and the rental of mobile homes. Included in this use type is the incidental storage, maintenance, and servicing of such equipment.
Flea market	√	√				√	Businesses engaged in the outdoor sale of used or new items, involving regular or periodic display of merchandise for sale.
Funeral services							Establishments engaged in undertaking services such as preparing the dead for burial, and arranging and managing funerals. Typical uses include mortuaries and crematories.
Garden center	√	√			√	√	Establishments or places of business primarily engaged in retail or wholesale (bulk) sale, from the premises, of trees, shrubs, seeds, fertilizers, pesticides, plants and plant materials primarily for agricultural, residential and commercial consumers. Such establishments typically sell products purchased from others, but may sell some material which they grow themselves. Typical uses include nurseries, plant stores and lawn and garden centers.
Gasoline station							Any place of business with fuel pumps and gasoline storage tanks which provides fuels and oil for motor vehicles.
Golf course							A tract of land for playing golf, improved with tees, greens, fairways, hazards, and which may include clubhouses and shelters. Included would be executive or par 3 golf courses. Specifically excluded would be independent driving ranges and any miniature golf course.
Homestay inn	√	√		√	√		A dwelling in which not more than five bedrooms are provided for overnight guests for compensation, on a daily or weekly basis, with or without meals. The owner or the owner's agent shall reside on the same parcel occupied by the homestay inn. A homestay inn may also be known as a bed and breakfast.
Hospital	√	√					A facility providing medical, psychiatric, or surgical service for sick or injured persons primarily on an in-patient basis and including ancillary facilities for outpatient and emergency treatment diagnostic services, training, research, administration, and services to patients, employees, or visitors.
Hotel/motel/motor lodge	√	√			√		A building or group of attached or detached buildings containing lodging units intended primarily for rental or lease to transients by the day, week or month. Such uses generally provide additional services such as daily maid service, restaurants, meeting rooms and/or recreation facilities.
Kennel, commercial							The boarding, breeding, raising, grooming or training of dogs, cats, or other household pets of any age not owned by the owner or occupant of the premises, and/or for commercial gain.
Laundry	√	√			√		Establishments primarily engaged in the provision of laundering, cleaning or dyeing services other than those classified as Personal Services. Typical uses include bulk laundry and cleaning plants, diaper services, or linen supply services.
Manufactured home sales							Establishments primarily engaged in the display, retail sale, rental, and minor repair of new and used manufactured homes, parts, and equipment.
Massage parlor							Establishments having a fixed place of business where any person other than a massage therapist, as licensed by the Virginia Board of Nursing, administers or gives any kind or character of massage, manipulation of the body or other similar procedure. Massage therapy as licensed by the Virginia Board of Nursing shall be considered a personal service. This definition shall not be construed to include a hospital, nursing home, medical clinic, or the office of a duly licensed physician, surgeon, physical therapist, chiropractor, osteopath, or a barber shop or beauty salon in which massages are administered only to the scalp, the face, the neck, or the shoulders, or an exercise club where massage is performed by a person of the same sex as the subject of the massage.
Microbrewery	√	√			√		An establishment engaged in the production of beer with a significant commercial component, such as a restaurant or retail store.
Microdistillery	√	√			√		An establishment engaged in the production of spirits with a significant commercial component, such as a restaurant or retail store.
Owner's agent	√	√		√	√		A person who manages a homestay inn and whose primary residence and domicile shall be on the same parcel as the homestay inn.
Personal storage	√	√			√		A building designed to provide rental storage space in cubicles where each cubicle has a maximum floor area of 400 square feet. Each cubicle shall be enclosed by walls and ceiling and have a separate entrance for the loading and unloading of stored goods.
Pawn shop							A use engaged in the loaning of money on the security of property pledged in the keeping of the pawnbroker and the incidental sale of such property.
Personal improvement services	√	√			√		Establishments primarily engaged in the provision of informational, instructional, personal improvements and similar services. Typical uses include driving schools, health or physical fitness centers (excluding athletic instruction services), reducing salons, dance studios, handicraft and hobby instruction.
Personal services	√	√			√		Establishments or places of business engaged in the provision of frequently or recurrently needed services of a personal nature. Typical uses include beauty and barber shops; grooming of pets; seamstresses, tailors, or shoe repairs; florists; and Laundromats and dry cleaning stations serving individuals and households.
Recreationsal vehicle sales and service							Retail sales of recreational vehicles and boats, including service and storage of vehicles and parts and related accessories.
Restaurant*	√*	√*			√*		An establishment engaged in the preparation and sale of food and beverages. Service to customers may be by counter or table service, or by take-out or delivery. * Walk-In Only.
Retail Sales	√	√			√		Sale or rental with incidental service of commonly used goods and merchandise for personal or household use but excludes those classified more specifically by these use type classifications.
Short-term lender							Establishments primarily engaged in short-term lending such as payday loans, car title loans, and refund anticipation loans.

Studio, fine arts	√	√		√	√		A building, or portion thereof, used as a place of work by a sculptor, artist, or photographer.
Truck stop							An establishment containing a mixture of uses which cater to the traveling public and in particular motor freight operators. A truck stop might include such uses as fuel pumps, restaurants, overnight accommodations, retail sales related to the motor freight industry, and similar uses.
Veterinary hospital/clinic	√	√			√		Any establishment rendering surgical and medical treatment of animals. Boarding of animals shall only be conducted indoors, on a short term basis, and shall only be incidental to such hospital/clinic use, unless also authorized and approved as a commercial kennel.
Industrial							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Asphalt plant							An establishment engaged in manufacturing or mixing of paving materials derived from asphaltic mixtures or tar.
Brewery	√	√			√		An establishment primarily engaged in the production of beer for distribution.
Construction yards							Establishments housing facilities of businesses primarily engaged in construction activities, including outside storage of materials and equipment. Typical uses are building contractor's yards.
Custom manufacturing	√	√		√	√		Establishments primarily engaged in the on-site production of goods by hand manufacturing, within enclosed structures, involving the use of hand tools, or the use of mechanical equipment commonly associated with residential or commercial uses.
Distillery	√	√			√		An establishment primarily engaged in the production of spirits for distribution.
Industry, type I	√	√			√		Establishments engaged in the processing, manufacturing, compounding, assembly, packaging, treatment or fabrication of materials and products, from processed or previously manufactured materials. Type I Industry is capable of operation in such a manner as to control the external effects of the manufacturing process, such as smoke, noise, soot, dirt, vibration, odor, etc. A machine shop is included in this category. Also included is the manufacturing of apparel, electrical appliances, electronic equipment, camera and photographic equipment, ceramic products, cosmetics and toiletries, business machines, food, paper products (but not the manufacture of paper from pulpwood), musical instruments, medical appliances, tools or hardware, plastic products (but not the processing of raw materials), pharmaceuticals or optical goods, bicycles, and any other product of a similar nature or requiring similar production characteristics.
Industry, type II							Enterprises in which goods are generally mass produced from raw materials on a large scale through use of an assembly line or similar process, usually for sale to wholesalers or other industrial or manufacturing uses. Included in this use type are industries involved in processing and/or refining raw materials such as chemicals, rubber, wood or wood pulp, forging, casting, melting, refining, extruding, rolling, drawing, and/or alloying ferrous metals, and the production of large durable goods such as automobiles, manufactured homes, or other motor vehicles.
Industry, type III							An establishment which has the potential to be dangerous or extremely obnoxious. Included are those in which explosives are stored, petroleum is refined, natural and liquid gas and other petroleum derivatives are stored and/or distributed in bulk, radioactive materials are compounded, pesticides and certain acids are manufactured, and hazardous waste is treated or stored as the establishment's principal activity.
Landfill, construction debris							The use of land for the legal disposal of construction and demolition wastes consisting of lumber, wire, sheet rock, broken brick, shingles, glass, pipes, concrete, and metals and plastic associated with construction and wastes from land clearing operations consisting of stumps, wood, brush, and leaves.
Landfill, rubble							The use of land for the legal disposal of only inert waste. Inert waste is physically, chemically and biologically stable from further degradation and considered to be non-reactive, and includes rubble, concrete, broken bricks, and block.
Landfill, sanitary							The use of land for the legal disposal of municipal solid waste derived from households, business and institutional establishments, including garbage, trash, and rubbish, and from industrial establishments, other than hazardous wastes as described by the Virginia Hazardous Waste Regulations.
Meat pcking and related industries							The processing of meat products and byproducts directly from live animals or offal from dead animals.
Railroad facilities							Railroad yards, equipment servicing facilities, and terminal facilities.
Recycling centers and stations	√	√			√		A receptacle or facility used for the collection and storage of recyclable materials designed and labeled for citizens to voluntarily take source separated materials for recycling.
Resource extraction							A use involving on-site extraction of surface or subsurface mineral products or natural resources. Typical uses are quarries, borrow pits, sand and gravel operation, mining, and soil mining. Specifically excluded from this use type shall be grading and removal of dirt associated with an approved site plan or subdivision, or excavations associated with, and for the improvement of, a bona fide agricultural use.
Scrap and salvage services							Places of business primarily engaged in the storage, sale, dismantling or other processing of uses or waste materials which are not intended for reuse in their original forms. Typical uses include paper and metal salvage yards, automotive wrecking yards, junk yards, used tire storage yards, or retail and/or wholesale sales of used automobile parts and supplies.
Transfer station							Any storage or collection facility which is operated as a relay point for municipal solid waste which ultimately is to be transferred to a landfill.

Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Transportation terminal							A facility for loading, unloading, and interchange of passengers, baggage, and incidental freight or package express between modes of ground transportation, including bus terminals, railroad stations, and public transit facilities.
Truck terminal							A facility for the receipt, transfer, short term storage, and dispatching of goods transported by truck. Included in the use type would be express and other mail and package distribution facilities, including such facilities operated by the U.S. post office.
Warehousing and distribution	√	√			√		Uses including storage, warehousing and dispatching of goods within enclosed structures, or outdoors. Typical uses include wholesale distributors, storage warehouses, moving/storage firms.
Miscellaneous							
Amateur radio tower	√	√			√		A structure on which an antenna is installed for the purpose of transmitting and receiving amateur radio signals erected and operated by an amateur radio operator licensed by the Federal Communications Commission.
Aviation facilities							Private or public land areas used or intended to be used for the take-off and landing of aircraft. Aviation facilities may include facilities for the operation, service, fueling, repair and/or storage of the aircraft.
Mixed use	√	√		√	√		Mixed use is a single building or parcel wherein multiple uses such as residential and commercial share space.
Outdoor gathering	√	√				√	Any temporary organized gathering expected to attract 500 or more people at one time in open spaces outside an enclosed structure. Included in this use type would be music festivals, church revivals, carnivals and fairs, and similar transient amusement and recreational activities not otherwise listed in this section. Such activities held on publicly owned land shall not be included within this use type.
Parking facility, surface/structure							Use of a site for surface parking or a parking structure unrelated to a specific use which provides one or more parking spaces together with driveways, aisles, turning and maneuvering areas, incorporated landscaped areas, and similar features meeting the requirements established by this chapter. This use type shall not include parking facilities accessory to a permitted principal use.
Shooting range, outdoor							The use of land for archery and the discharging of firearms for the purposes of target practice, skeet and trap shooting, mock war games, or temporary competitions, such as a turkey shoot. Excluded from this use type shall be general hunting, and the unstructured and nonrecurring discharging of firearms on private property with the property owner's permission if in compliance with the Code of the City of Salem.
Tower	√	√					Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas. The term includes but need not be limited to radio and television transmission towers, microwave towers, common-carrier towers, and cellular telephone and wireless communication towers. Tower types include, but are not limited to monopoles, lattice towers, wooden poles, and guyed towers. Excluded from this definition are amateur radio towers, which are otherwise defined.
Utility services, minor	√	√	√	√	√	√	Services which are necessary to support existing and future development within the immediate vicinity and involve only minor structures. Including in this use type are distribution lines and small facilities that are underground or overhead, such as transformers, relay and booster devices, and well, water and sewer pump stations. Also included are all major utility services owned and/or operated by the City of Salem, or any major utility services which were in existence prior to the adoption of this chapter.
Utility services, major							Services of a regional nature which normally entail the construction of new buildings or structures such as generating plants and sources, electrical switching facilities and stations or substations, water towers and tanks, community waste water treatment plants, and similar facilities. Included in this definition are also electric, gas, and other utility transmission lines of a regional nature which are not otherwise reviewed and approved by the Virginia State Corporation Commission.

Sec. 106-228. - Planned Unit district.

Sec. 106-228.1. - Statement of intent.

(A) The intent of the Planned Unit District (PUD) is to encourage maximum flexibility in the design and development of land. PUD developments facilitate the adequate and economical provision of streets, utilities and other improvements, and allow for the management of the natural and scenic qualities of vacant land that is proposed for development. The PUD district allows a variety of housing options, as well as commercial, civic and office use types of a number and scale sufficient to serve the needs of the PUD residents.

(Ord. of 3-14-05(2))

Sec. 106-228.2. - Permitted uses.

(A) Applications for planned unit districts may propose any residential, civic, and/or commercial use type as part of a planned unit district. All land uses proposed shall be shown on the preliminary and final master plans. as required by this chapter.

(B) All use types proposed shall be reviewed by the Commission and Council pursuant to the provisions of this chapter. No use type may be allowed within the planned unit district unless approved by Council as part of the final master plan.

(Ord. of 3-14-05(2))

Sec. 106-228.3. - Development regulations.

(A) Each planned unit development shall be subject to the following development standards.

1. *Maximum gross density: Maximum gross density allowable in the planned unit district shall be established by Council by approval of the final master plan.*
2. *Minimum common open space and/or recreational areas: 15 percent of the gross area of the planned unit district.*
3. *Criteria for all required open space:*
   a. *Minimum countable open space: 5,000 contiguous square feet*
   b. *Minimum horizontal dimension: 50 feet, except that areas with a horizontal distance of not less than 20 feet shall be counted as open space provided such areas contain facilities such as, but not limited to, bikeways, exercise trails, tot lots, gazebos, picnic tables, etc.*
   c. *Common open space shall not include proposed street rights-of-way, open parking areas, or driveways.*
   d. *All common open space and/or recreational areas shall be of an appropriate nature and location to serve the residents of the planned unit district.*
4. *The maximum area devoted to civic, office and commercial use types shall be established by Council by approval of the final master plan.*
   a. *Commercial and office uses types shall be located, and shall be of a scale and location suitable to serve the needs of the residents of the planned unit district convenience.*
   b. *Commercial, office, and civic use types shall be screened and landscaped so as to be compatible with adjoining residences.*

Not Applicable due to existing commercial uses. ★

   c. *Construction of commercial, office and civic use types shall not begin until 20 percent of the residential units of the total planned unit district have been completed.*
5. *Minimum setback requirements shall be specifically established during the review and approval of the preliminary and final master plans. The following guidelines shall be used in establishing the building spacing and setbacks:*
   a. *Building spacing shall provide privacy within each dwelling unit;*
   b. *Building spacing shall ensure that each room has adequate light and air;*
   c. *Areas between buildings used as service yards, storage of trash, or other utilitarian purposes should be designed so as to be compatible with adjoining dwellings;*

Not Applicable due to campus arrangements of multiple buildings. ★

   d. *Building spacing and design shall provide privacy for outdoor activity areas (patios, decks, etc.) associated with individual dwelling units.*
6. *Streets in the planned unit district may be public in accordance with VDOT and city standards or may be private. In reviewing the planned unit development preliminary master plan, the commission may recommend, and the Council may approve, one or more private streets within the proposed district*

(Ord. of 3-14-05(2))

Sec. 106-228.4. - Application process.

(A) Prior to submitting a formal application for review and approval under these provisions, the applicant shall meet with city staff to discuss the requirements of the planned unit district. The purpose of the meeting is to obtain a mutual understanding of the application requirements and process. The applicant is encouraged to submit information on the scope and nature of the proposal to allow staff to become familiar with the proposal in advance of this meeting.

(B) Any application to rezone land to the PUD designation, shall constitute an amendment to the zoning ordinance. The written and graphic information submitted by the applicant as part of the application process shall constitute conditional zoning proffers. Once the Council has approved the final master plan, all accepted proffers shall constitute conditions pursuant to the provisions of this chapter.

(C) To initiate an amendment, the applicant shall complete a rezoning application. This information shall be accompanied by graphic and written information, which shall constitute a preliminary master plan. All information submitted shall be of sufficient clarity and scale to clearly and accurately identify the location, nature, and character of the proposed district. At a minimum this information shall include:

1. *A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.*
2. *Existing zoning, land use and ownership of each parcel proposed for the district.*
3. *A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.*
4. *A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.*
5. *A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.*
6. *A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.*
7. *A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.*
8. *An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.*
9. *Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.*
10. *A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreational areas, and non-residential uses should be included.*

(D) The completed rezoning application and supporting preliminary master plan materials shall be submitted to the planning commission for review and analysis. The commission shall review this information and make a report of its findings to the Council. The commission shall as part of its review hold a public hearing pursuant to § 15.2-2204 of the Code of Virginia, as amended.

(E) The commission shall make a report of its findings to the Council within 90 days of the receipt of the materials, unless the applicant requests, or agrees to an extension of this time frame. The commission's report shall recommend approval, approval with modifications, or disapproval of the preliminary master plan. Failure of the commission to make a report of its findings to the Council within this period shall constitute a commission recommendation of approval.

(F) If the commission recommends denial of the preliminary master plan, or approval with modification, the applicant shall, if requested, have 60 days to make any modifications. If the applicant desires to make any modifications to the preliminary master plan, the council's review and action shall be delayed until such changes are made and submitted for review.

(G) The Council shall review the preliminary master plan, and act to approve or deny the plan within 90 days. Approval of the preliminary master plan shall constitute acceptance of the plan's provisions and concepts as proffers pursuant to the provisions of this chapter. The plan approved by the Council shall constitute the final master plan for the PUD.

(Ord. of 3-14-05(2))

Sec. 106-228.5. - Revisions to final master plan.

(A) Major revisions to the final master plan shall be reviewed and approved following the procedures and requirements for zoning map amendments contained in section 106-520of this chapter. Major revisions include, but are not limited to changes such as:

1. *Any increase in the density of the development;*
2. *Substantial change in circulation or access;*
3. *Substantial change in the mixture of dwelling unit types included in the project;*
4. *Substantial changes in the mixture of land uses or an increase in the amount of land devoted to non-residential purposes;*
5. *Reduction in the approved open space, landscaping or buffering;*
6. *Substantial change in architectural or site design features of the development;*
7. *Any other change that the administrator finds is a major divergence from the approved final master plan*

(B) All other changes in the final master plan shall be considered minor amendments. The administrator, upon receipt of a written request of the owner, may approve such minor amendments.

1. *A request which is disapproved by the administrator shall be considered a major amendment and shall be subject to the approval process outlined above for such amendments.*

Sec. 106-228.6. - Approval of preliminary and final site development plans.

(A) Following the approval of the final master plan, the applicant or its authorized agent, shall be required to submit preliminary and final site plans for approval.

(B) It is the intent of this section that subdivision review under the subdivision regulations be carried out simultaneously with the review of a PUD under this section. The plans required under this section shall be submitted in a form which will satisfy the requirements of the subdivision regulations, as determined by the administrator.

(C) Preliminary and final site plans submitted for review shall in compliance with the final master plan approved by the Council. The city shall review and approve or disapprove any final site plan within 60 days of its submittal.

(D) No PUD shall be approved and no work shall be authorized on construction until all property included in the Final Master Plan is in common ownership.

(Ord. of 3-14-05(2))

Sec. 106-228.6. - Approval of preliminary and final site development plans.

(A) Following the approval of the final master plan, the applicant or its authorized agent, shall be required to submit preliminary and final site plans for approval.

(B) It is the intent of this section that subdivision review under the subdivision regulations be carried out simultaneously with the review of a PUD under this section. The plans required under this section shall be submitted in a form which will satisfy the requirements of the subdivision regulations, as determined by the administrator.

(C) Preliminary and final site plans submitted for review shall in compliance with the final master plan approved by the Council. The city shall review and approve or disapprove any final site plan within 60 days of its submittal.

(D) No PUD shall be approved and no work shall be authorized on construction until all property included in the Final Master Plan is in common ownership.

HOPETREE

SALEM, VIRGINIA

PUD REZONING APPLICATION

BALZER & ASSOCIATES

HOPETREE PLANNED UNIT DEVELOPMENT

Traffic Impact Study

B&A Project #04220029.00
Date: December 1, 2023

Planners | Architects | Engineers | Surveyors
1208 Corporate Circle, Roanoke, VA 24018
www.balzer.cc

TRAFFIC STUDY
FOR

HOPETREE PLANNED UNIT DEVELOPMENT

TAX MAP #: 44-3-10

860 MOUNT VERNON LANE
CITY OF SALEM, VIRGINIA

B&A PROJECT #04220029.00

DATE: December 1, 2023

BALZER
& ASSOCIATES

PLANNERS ARCHITECTS ENGINEERS SURVEYORS

1208 Corporate Circle Roanoke, Virginia 24018 Phone: (540) 772-9580

BALZER
& ASSOCIATES

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1. Introduction

HopeTree Family Services is proposing to rezone 62.318 acres of land located along Red Lane in the City of Salem (see Appendix A for vicinity map). The property is proposed to be rezoned from RSF, Residential Single Family, to PUD, Planned Unit Development. The P.U.D. Land Use Plan, prepared by Civic by Design, is included in Appendix B. The development will have a mix of residential and commercial use types. The maximum number of residential units allowed for this development is 340 and these are assumed to be broken down by type as outlined in the list below. Commercial uses will be determined by market conditions and opportunities available at the time of development. The list below outlines the uses that have been assumed for the purposes of this traffic study.

- 115 Single-Family Detached Dwelling Units
- 140 Single-Family Attached Dwelling Units
- 85 Multi-Family Dwelling Units
- 60 Total Hotel Rooms
- 15,000 s.f. of Total General Office Space
- 7,500 s.f. of Total Restaurant Space

The breakdown of uses above is based on what is considered to be a reasonable and conservative expectation for the development based on the P.U.D. Land Use Plan. The actual breakdown may differ from these assumptions. It is recommended that projected trip generation be tracked as the development progresses for comparison to the traffic study. If the actual development results in significantly more traffic than what has been assumed, then it may be necessary to update this study.

The site is located on the west side of Red Lane with East Carrollton Avenue to the south and Interstate 81 to the north. The property is described as City of Salem Tax Parcel #44-3-10. The development has several proposed existing and proposed entrances on Red Lane, East Carrollton Avenue, and North Broad Street.

As discussed with the City of Salem, the following intersections will be analyzed to determine levels of service with the proposed development:

- Red Lane and East Carrollton Avenue (Unsignalized)
- East Carrollton Avenue and North Broad Street (Unsignalized)

All roads in the direct vicinity of the project are two-lane local roads that provide access between mostly residential areas. A mix of residential building types is present in this area, including single-family, two-family, townhome, and multi-family units. Roanoke College is located approximately 0.25 miles from the site to the southeast. The Main Street and downtown Salem commercial corridor is located approximately 0.7 miles south of the site. There are also two golf courses located in this area, Hanging Rock Golf Course to the north and Salem Municipal Golf Course to the west. Red Lane is utilized as a connection between downtown Salem, Hanging Rock Golf Course, and existing residential developments to the north. The speed limit on all of the local roads in the direct vicinity of the project is 25 mph.

Three scenarios will be considered: Existing Condition 2023, Background Condition 2028, and Buildout Condition 2028 to determine the effects of the background traffic growth and the proposed development on the levels of service at the existing intersections.

Level of service (LOS) for unsignalized intersections is evaluated based on control delay per vehicle and the driver's perception of those conditions. Control delay is the portion of the total delay attributed to the control at the intersection. Table 1 depicts the LOS scale with corresponding control delay per vehicle, with LOS "A" representing the best operating conditions and LOS "F" representing the worst.

Level of Service Criteria for Unsignalized Intersections	
Level Of Service	**Avg. Control Delay (Sec./Veh)**
A	**≤ 10**
B	**> 10 – 15**
C	**> 15 – 25**
D	**> 25 – 35**
E	**> 35 – 50**
F	**≥ 50**

Table 1: LOS Criteria for Unsignalized Intersections (HCM)

The *Synchro 11* software was used for traffic modeling and analysis. This study was undertaken by Balzer and Associates, Inc. to:

- determine the total number of vehicle trips generated by the potential development to be added to the adjacent street network;

- determine the impacts to level of service and queue lengths at the existing intersections as a result of the background traffic growth and from the proposed development;
- determine if any roadway or intersection improvements are warranted as a result of the proposed development;
- and to determine turn lane/taper requirements at the proposed entrances to the site.

2. Analysis of Existing Conditions

The site is currently owned and operated by HopeTree Family Services and has been for many years. Changing regulations over the last several decades have greatly decreased the number of permanent residents that are allowed to be housed at the site at any one time. There are many existing buildings, some of which are still in use by HopeTree, and others that are no longer in use. Among other things, the site includes a school, group homes for children and adults, and offices where staff members work on-site.

Other improvements on-site include access drives and parking areas, pool and athletic courts, two existing baseball fields near Red Lane, and other miscellaneous improvements. There is an existing pond and two existing creeks located on the site as well and these will be preserved to the extent practical.

All intersections in the vicinity of the site are unsignalized. 2021 VDOT traffic count data is available for Red Lane just to the north of the site in Roanoke County, and this data is provided below as general background information.

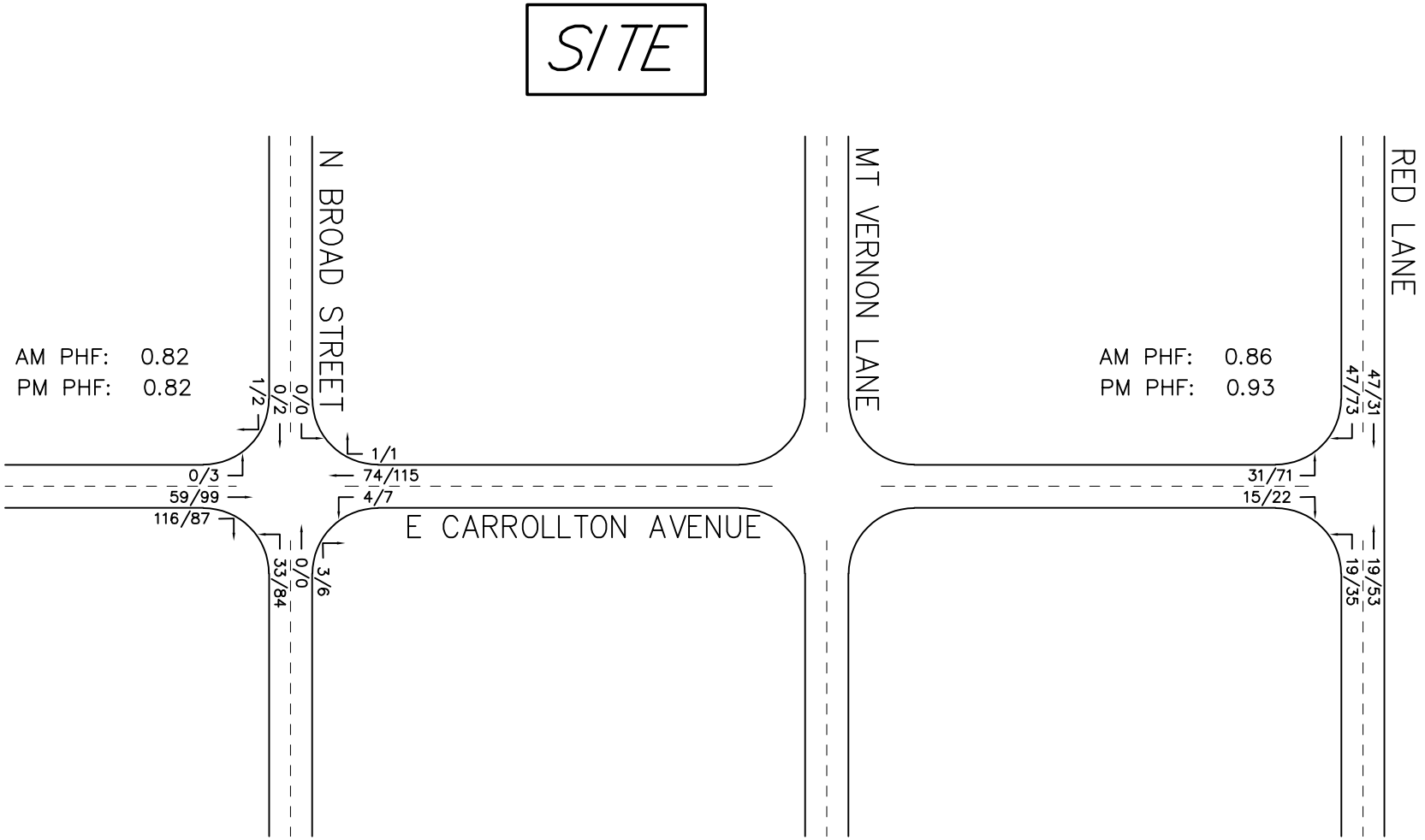
2021 VDOT Traffic Count Data:

Red Lane, Rte. 705 (from Salem/Roanoke County line to North Road)
AADT = 1,100 vpd
Directional Factor = not provided
K Factor = not provided

In addition to the VDOT published traffic count data, manual traffic counts were performed for each of the study intersections. The counts were performed on Tuesday, October 3, 2023 from 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM to capture the AM and PM peak hours. All turning and through movements were counted to facilitate analysis of the intersections. The manual traffic count data is provided in Appendix C. Figure 1 graphically depicts the existing peak hour traffic volumes.

The *Synchro 11* software was used to analyze delay and level of service for existing weekday AM and PM peak hours. The *Synchro 11* results are included in Appendix E.

FIGURE 1: 2023 EXISTING TURNING MOVEMENTS



LEGEND

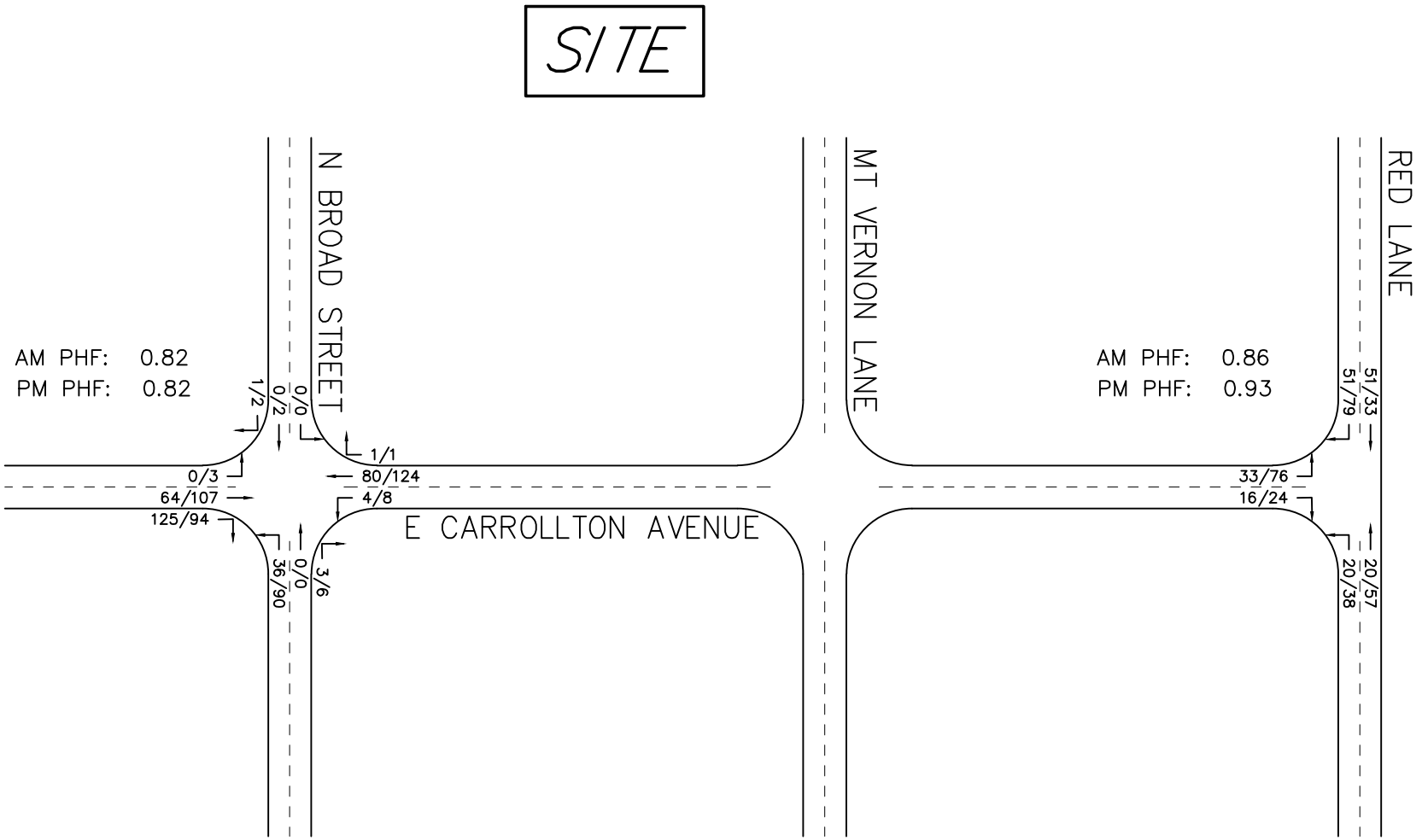
xx/xx: AM/PM Peak Hour Traffic

3. Analysis of Future Conditions Without Development

It is anticipated that the proposed development will be constructed and in use by the year 2028. To analyze the future conditions and obtain the projected background traffic volumes, an annual growth factor was applied to the existing traffic volumes. Based on historical VDOT traffic data, the average growth rate over the last 10 years or so has been approximately 1% on Red Lane and there has actually been a reduction in traffic volume over the last 5 years. To provide a conservative analysis, a 1.5% annual growth rate was applied to bring the existing traffic volumes from the current year of 2023 to the buildout year of 2028. Figure 2 graphically depicts the projected background traffic in the year 2028 with the growth rate applied.

The *Synchro 11* software was used to analyze delay and level of service for background weekday AM and PM peak hours. The *Synchro 11* results are included in Appendix E.

FIGURE 2: 2028 PROJECTED TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

4. Trip Generation

Trip generation for this study was based on the anticipated and assumed uses outlined in the Introduction and information provided by the developer regarding the possible uses of the property. The policies and procedures found in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, were employed to determine the potential site generated traffic volumes for the proposed development for the average weekday and AM and PM peak hours. Trip generation calculations were performed using the equations provided in the ITE manual. Table 2 shows the potential site-generated traffic for this development.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Single-Family Detached Housing	210	115 Dwelling Units	21	64	85	71	42	113	1,147
Single-Family Attached Housing	215	140 Dwelling Units	17	50	67	47	33	80	1,016
Multi-Family Housing (Low-Rise)	220	85 Dwelling Units	12	37	49	36	21	57	620
Hotel	310	60 Rooms	13	10	23	8	9	17	227
General Office	710	15,000 s.f.	29	4	33	6	28	34	223
Sit-Down Restaurants	932	7,500 s.f.	39	33	72	41	27	68	804
		Total	120	166	286	175	137	312	4,114

Table 2: Site-Generated Traffic

Please note that the table above does not include traffic volumes for the HopeTree school or office uses. These specific uses are already taking place on the site and will not be trips that are "added" to the street network. The addition of the other use types on-site may actually reduce some of the existing trips due to the fact that some of the existing trips could be redirected to or from the new facilities that are developed within the site.

The intent of the proposed development is to provide a cohesive, connected, walkable community where pedestrian connectivity is a primary focus and vehicular trips are secondary. Due to the nature of the development and the mix of residential, commercial, institutional, and other uses, a portion of the site-generated trips will be pedestrian trips and/or "internally

captured". Internal capture reductions consider site trips "captured" within a mixed-use development, recognizing that trips from one land use can access another land use within a development without having to access the adjacent street system. It is well-documented that this type of pedestrian-friendly, mixed-use development will result in less traffic to the adjacent street network than what is calculated using traditional trip generation methods. Walkable mixed-use developments have been documented to reduce trip generation by as much as 60% during the peak hours dependent on factors such as location, density, mix of uses, etc. Based on the characteristics and initiatives of this P.U.D. development, a 25% reduction was deemed to be reasonable for this project. Table 3 below shows the potential site-generated traffic for this development with the internal capture reduction applied.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Single-Family Detached Housing	210	115 Dwelling Units	16	48	64	53	32	85	860
Single-Family Attached Housing	215	140 Dwelling Units	13	37	50	35	25	60	762
Multi-Family Housing (Low-Rise)	220	85 Dwelling Units	9	28	37	27	16	43	465
Hotel	310	60 Rooms	10	8	18	6	7	13	170
General Office	710	15,000 s.f.	22	3	25	4	21	25	167
High-Turnover Sit-Down Restaurant	932	7,500 s.f.	29	25	54	31	20	51	603
		Total	99	149	248	156	121	277	3,027

Table 3: Site-Generated Traffic w/ 25% Reduction

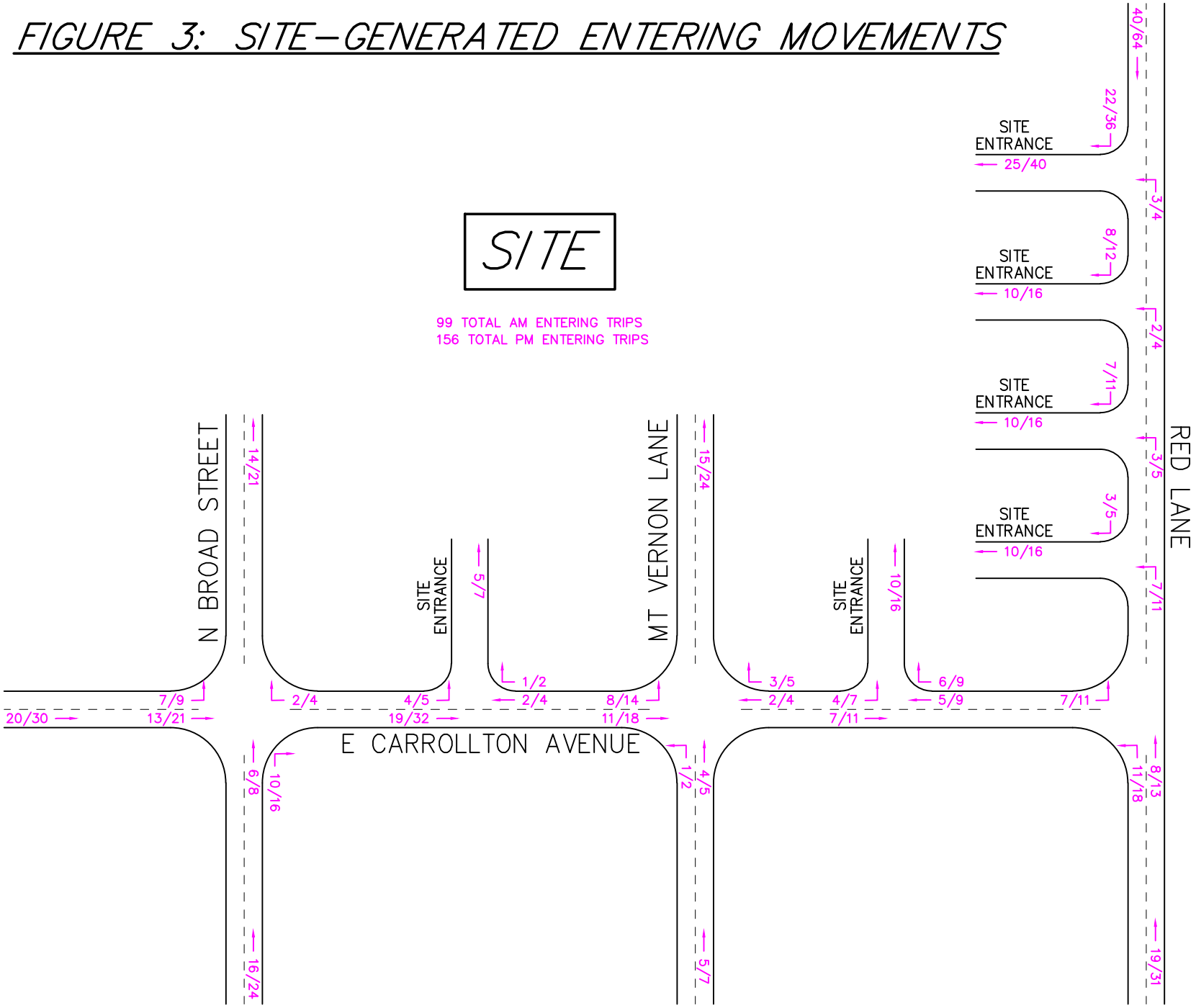
5. Site Traffic Distribution and Assignment

The distribution of potential site generated traffic was completed by applying engineering judgement based on knowledge of the proposed uses, as well as the surrounding area. These assumptions were then applied to the site generated traffic to determine the ingress/egress movements at each entrance and in each direction. Traffic will enter to and exit from the site to the north toward I-81 or to the south or west to go toward downtown Salem. There are several entrances planned for the site in strategic locations to disperse traffic and efficiently distribute vehicles to the adjacent road system in an interconnected grid-type network that is similar to what already exists to the north of Main Street.

This development is proposed to have four access points on Red Lane, three access points on East Carrollton Avenue, and one access point on North Broad Street. The roadway network creates a network of streets within the development with a high level of interconnectivity both internally and externally to the existing streets.

After distribution of trips to the roadway, trips were distributed to each road and intersection based on the assumptions described above. Traffic assignment for traffic entering the development is shown graphically in Figure 3 and for traffic exiting the development is shown graphically in Figure 4.

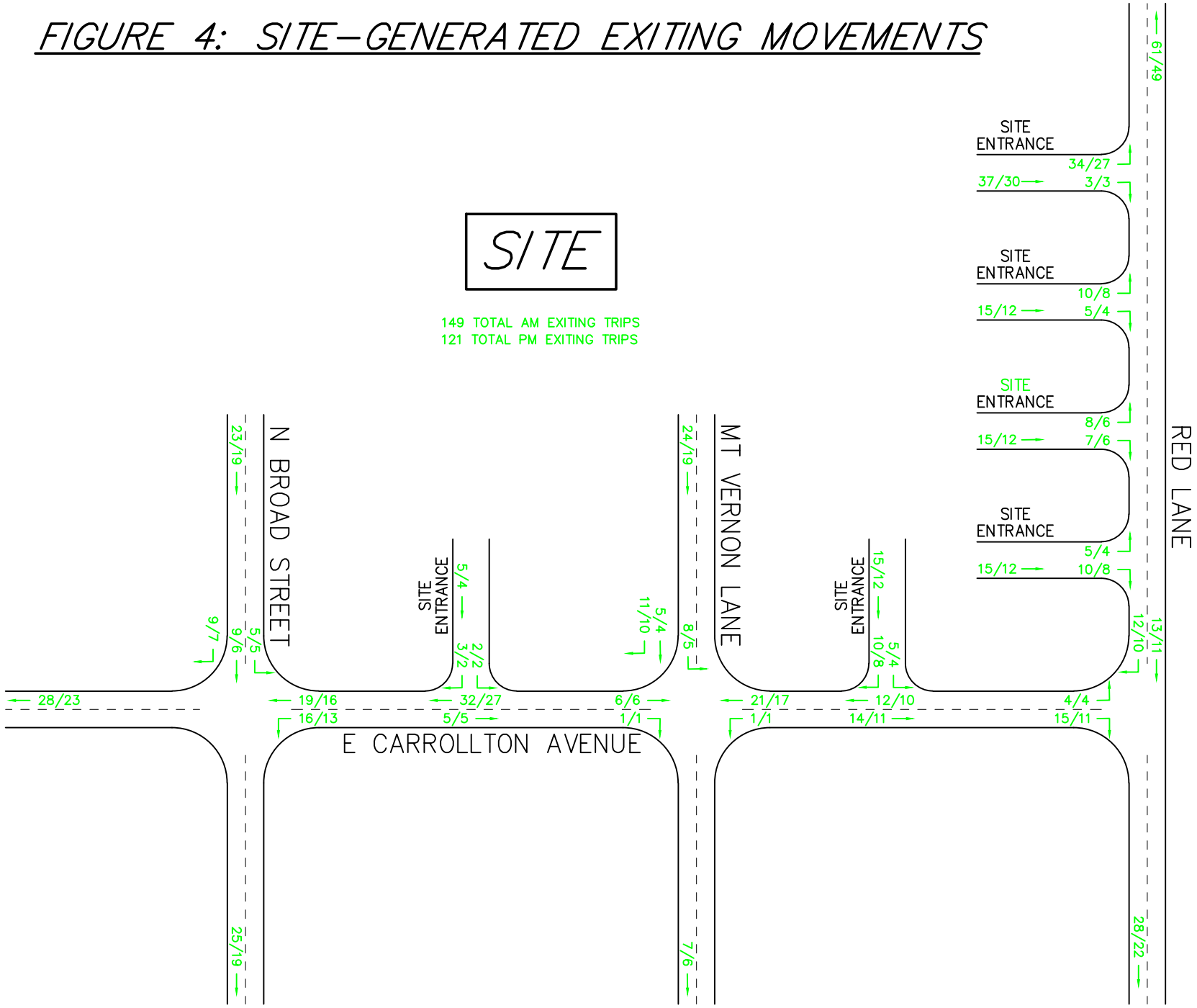
FIGURE 3: SITE-GENERATED ENTERING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

FIGURE 4: SITE-GENERATED EXITING MOVEMENTS



LEGEND

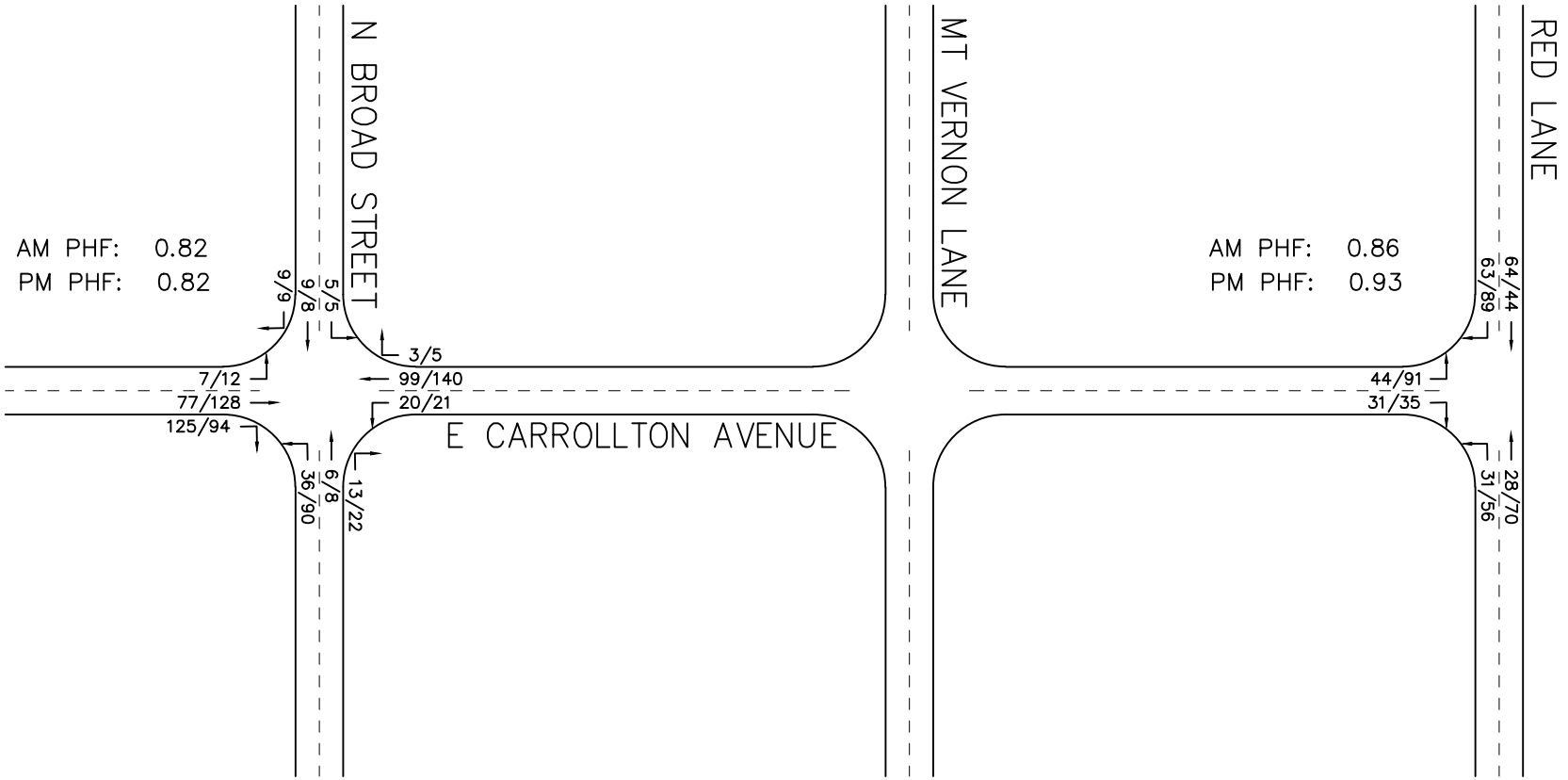
xx/xx: AM/PM Peak Hour Traffic

6. Analysis of Future Conditions With Development

The buildout traffic was calculated by adding the 2028 background traffic (Figure 2) to the site-generated traffic (Figures 3 and 4). The 2028 buildout traffic for each of the study intersections is shown in Figure 5. The intersections were then modeled and evaluated using the *Synchro 11* software. Tables 4 and 5 provide a summary of the levels of service and delays calculated at each intersection for the 2023 Existing, 2028 Background, and 2028 Buildout conditions. The detailed *Synchro 11* reports are included in Appendix E.

As shown in the data, all approaches at the two study intersections will function at the same level of service in the Buildout condition as they do in the Existing and Background conditions, with minimal increases in delay. No further improvements are warranted or recommended as a result of the development traffic.

FIGURE 5: 2028 BUILDOUT TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

Red Lane and East Carrollton Avenue

CONDITION	LANE GROUP	AM PEAK HOUR	PM PEAK HOUR
		LANE LOS (delay)	LANE LOS (delay)
Existing 2023 Condition	NBLT	A (7.4)	A (7.9)
	EBLR	A (7.4)	A (7.9)
	SBTR	A (7.2)	A (7.3)
Background 2028 Condition	NBLT	A (7.5)	A (7.9)
	EBLR	A (7.5)	A (8.0)
	SBTR	A (7.3)	A (7.4)
Buildout 2028 Condition	NBLT	A (7.7)	A (8.4)
	EBLR	A (7.7)	A (8.4)
	SBTR	A (7.6)	A (7.7)

Table 4: Red Lane & East Carrollton Avenue LOS Analysis

North Broad Street and East Carrollton Avenue

CONDITION	LANE GROUP	AM PEAK HOUR	PM PEAK HOUR
		LANE LOS (delay)	LANE LOS (delay)
Existing 2023 Condition	NBLTR	B (10.3)	B (12.1)
	EBL	--	A (7.5)
	WBL	A (7.6)	A (7.7)
	SBLTR	A (8.7)	B (10.3)
Background 2028 Condition	NBLTR	B (10.5)	B (12.6)
	EBL	--	A (7.5)
	WBL	A (7.7)	A (7.7)
	SBLTR	A (8.7)	B (10.5)
Buildout 2028 Condition	NBLTR	B (11.6)	B (14.8)
	EBL	A (7.5)	A (7.6)
	WBL	A (7.8)	A (7.8)
	SBLTR	B (10.9)	B (11.8)

Table 5: North Broad Street & East Carrollton Avenue LOS Analysis

7. Turn Lane Warrants

The analyses to determine turn lane requirements for the new development were completed by following the procedures and methodologies found in the *VDOT Road Design Manual, Volume I, Appendix F*. Turn lane warrants were analyzed based on the highest volumes for each roadway (Red Lane and East Carrollton Avenue) to show that the warrants are not met and will not be met for any of the intersections.

Right-Turn Lane into Site from Red Lane

AM Peak Hour Analysis:

- 22 Vehicles per Hour Turning Right into site from Red Lane
- Approach Volume = 127 + 22 = 149 VPH Red Lane

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

PM Peak Hour Analysis:

- 36 Vehicles per Hour Turning Right into site from Red Lane
- Approach Volume = 133 + 36 = 169 VPH Red Lane

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

Left-Turn Lane into Site from Red Lane

AM Peak Hour Analysis:

- 7 (9.7%) Vehicles per Hour Turning Left into site from Red Lane
  Posted Speed Limit = 25 mph
- Advancing Volume = 72 VPH
- Opposing Volume = 127 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

PM Peak Hour Analysis:

- 11 (6.8%) Vehicles per Hour Turning Left into site from Red Lane
  Posted Speed Limit = 25 mph
- Advancing Volume = 161 VPH
- Opposing Volume = 133 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

Right-Turn Lane into Site from East Carrollton Avenue

AM Peak Hour Analysis:

- 6 Vehicles per Hour Turning Right into site from East Carrollton Avenue
- Approach Volume = 122 VPH East Carrollton Avenue

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

PM Peak Hour Analysis:

- 9 Vehicles per Hour Turning Right into site from East Carrollton Avenue
- Approach Volume = 166 VPH East Carrollton Avenue

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

Left-Turn Lane into Site from East Carrollton Avenue

AM Peak Hour Analysis:

- 8 (8.4%) Vehicles per Hour Turning Left into site from East Carrollton Avenue
  Posted Speed Limit = 25 mph
- Advancing Volume = 95 VPH
- Opposing Volume = 122 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

PM Peak Hour Analysis:

- 14 (9.0%) Vehicles per Hour Turning Left into site from East Carrollton Avenue
  Posted Speed Limit = 25 mph
- Advancing Volume = 155 VPH
- Opposing Volume = 166 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

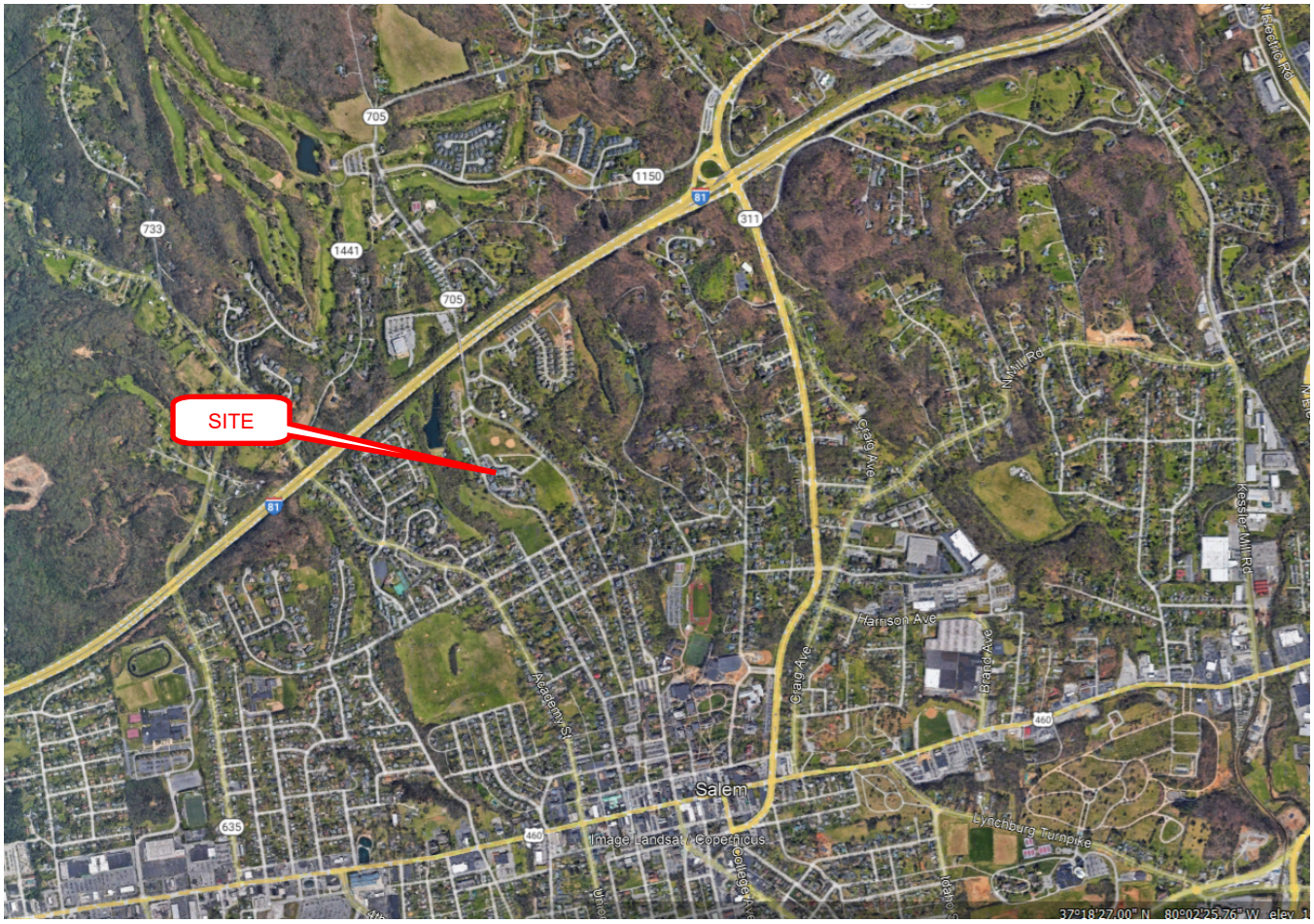
8. Conclusions

Based on the data collected, the assumptions made, and the projected site-generated traffic, the results of the analysis are outlined below.

- The proposed development will generate additional traffic to the existing road network.
- The proposed development results in very minimal increases in delay at the study intersections and all approaches function at the same level of service in the Existing, Background, and Buildout scenarios.
- No turn lanes or tapers are warranted by the proposed development.

Appendix A

Vicinity Map


SITE
705
1150
81
733
1441
705
311
81
Craig Ave
N Mill Rd
Kessler Mill Rd
Harrison Ave
Academy St
Craig Ave
Broadway
460
Salem
635
460
Image Landsat / Copernicus
Lynchburg Turnpike

Appendix B

P.U.D. Master Plan

GENERAL NOTES:

- Building Types generally provide parking from rear alleys and lanes screened from frontages on lots.
- On-street parking shall be provided along all streets where pratical.
- Each Block Group includes a minimum of three (3) building types.
- Each Block Group shall have 20% minimum of each of the building types used.
- A minimum of six (6) building types shall be used for the overall project.
- A maximum of five (5) of the same building types are allowed in a row.
- Commercial, Mixed-Use, & Live-Works are allowed in T-4 and T-5. See Uses Table.
- Land may be subdivided into seperate ownership.

TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

T3
T4
T5

- E - E - ESTATE
- H - H - HOUSE / ADU
- C - C - COTTAGE / ADU
- PH - PH - PAIR HOUSE / ADU
- T - T - TOWNHOUSE / ADU
- PC - PC - POCKET / COTTAGE COURT
- TH-PU - TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3THE - 3-TOWNHOUSE ESTATE
- SF - SF - STACKED FLAT
- LH - LH - LOFT HOUSE
- MH - MH- MEWS HOUSE
- TR - TR - TREE HOUSE
- AH - AH - MULTI-FAMILY HOUSE
- AB - AB - MULTI-FAMILY BUILDING
- MXB - MXB - MIXED-USE BUILDING
- CV - CV - CIVIC BUILDING SITE

TRANSECT ZONES
w/ FRONTAGE LINES

- T5 - T5 - NEIGHBORHOOD CENTER
- T4 - T4 - NEIGHBORHOOD GENERAL
- T3 - T3 - NEIGHBORHOOD EDGE
- OPEN SPACE / NATURAL

STRUCTURE TO BE REMOVED

CIVIC SPACE RESERVES

- HISTORIC CORE BUILDINGS
- CIVIC BUILDINGS
- STREETS AND PARKING

REQUIREMENTS & DETAILS

- BLOCK GROUP
- RECOMMENDED GALLERY
- RECOMMENDED SHOPFRONT
- VISTA POINTS
- PEDESTRIAN SHED - 5 MINUTE WALK RADIUS

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

0 200 400 600
1" = 200'

Appendix C

Existing Traffic Data

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: North Broad Street
and: Carrollton Avenue
Location: Salem, Virginia

Counted by: VCU
Date: October 03, 2023
Weather: Sunny/Warm
Entered by: SN

Tuesday
Star Rating: 4

TIME	TRAFFIC FROM NORTH on: North Broad Street					TRAFFIC FROM SOUTH on: North Broad Street					TRAFFIC FROM EAST on: Carrollton Avenue					TRAFFIC FROM WEST on: Carrollton Avenue					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	1	2	0	0	3	0	0	3	0	3	0	11	2	0	13	20	5	0	0	25	44
7:15 - 7:30	0	0	0	0	0	0	0	8	0	8	0	13	2	0	15	21	10	0	0	31	54
7:30 - 7:45	0	0	0	0	0	1	0	4	0	5	1	18	2	0	21	50	13	0	0	63	89
7:45 - 8:00	0	0	0	0	0	1	0	7	0	8	0	15	2	0	17	32	20	0	0	52	77
8:00 - 8:15	0	0	0	0	0	0	0	13	0	13	0	25	0	0	25	15	18	0	0	33	71
8:15 - 8:30	1	0	0	0	1	1	0	9	0	10	0	16	0	0	16	19	8	0	0	27	54
8:30 - 8:45	0	1	0	0	1	1	0	7	0	8	0	7	0	0	7	25	11	0	0	36	52
8:45 - 9:00	1	0	0	0	1	2	3	5	0	10	0	13	0	0	13	16	9	0	0	25	49
2 Hr Totals	3	3	0	0	6	6	3	56	0	65	1	118	8	0	127	198	94	0	0	292	490
1 Hr Totals																					
7:00 - 8:00	1	2	0	0	3	2	0	22	0	24	1	57	8	0	66	123	48	0	0	171	264
7:15 - 8:15	0	0	0	0	0	2	0	32	0	34	1	71	6	0	78	118	61	0	0	179	291
7:30 - 8:30	1	0	0	0	1	3	0	33	0	36	1	74	4	0	79	116	59	0	0	175	291
7:45 - 8:45	1	1	0	0	2	3	0	36	0	39	0	63	2	0	65	91	57	0	0	148	254
8:00 - 9:00	2	1	0	0	3	4	3	34	0	41	0	61	0	0	61	75	46	0	0	121	226
PEAK HOUR																					
7:30 - 8:30	1	0	0	0	1	3	0	33	0	36	1	74	4	0	79	116	59	0	0	175	291
PM																					
4:00 - 4:15	0	1	0	0	1	2	0	8	0	10	0	24	0	0	24	19	17	0	0	36	71
4:15 - 4:30	1	0	0	0	1	0	0	20	0	20	0	20	1	0	21	18	19	0	0	37	79
4:30 - 4:45	0	0	0	0	0	0	1	12	0	13	0	34	1	0	35	15	20	0	0	35	83
4:45 - 5:00	0	1	0	0	1	0	0	18	0	18	0	28	3	0	31	12	18	1	0	31	81
5:00 - 5:15	1	1	0	0	2	2	0	25	0	27	0	35	0	0	35	19	25	1	0	45	109
5:15 - 5:30	0	0	0	0	0	2	0	23	0	25	0	36	4	0	40	32	26	1	0	59	124
5:30 - 5:45	1	1	0	0	2	0	0	16	0	16	1	20	1	0	22	17	23	0	0	40	80
5:45 - 6:00	0	0	0	0	0	2	0	20	0	22	0	24	2	0	26	19	25	1	0	45	93
2 Hr Totals	3	4	0	0	7	8	1	142	0	151	1	221	12	0	234	151	173	4	0	328	720
1 Hr Totals																					
4:00 - 5:00	1	2	0	0	3	2	1	58	0	61	0	106	5	0	111	64	74	1	0	139	314
4:15 - 5:15	2	2	0	0	4	2	1	75	0	78	0	117	5	0	122	64	82	2	0	148	352
4:30 - 5:30	1	2	0	0	3	4	1	78	0	83	0	133	8	0	141	78	89	3	0	170	397
4:45 - 5:45	2	3	0	0	5	4	0	82	0	86	1	119	8	0	128	80	92	3	0	175	394
5:00 - 6:00	2	2	0	0	4	6	0	84	0	90	1	115	7	0	123	87	99	3	0	189	406
PEAK HOUR																					
5:00 - 6:00	2	2	0	0	4	6	0	84	0	90	1	115	7	0	123	87	99	3	0	189	406

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Red Lane
and: Carrollton Avenue
Location: Salem, Virginia

Counted by: VCU
Date: October 03, 2023
Weather: Sunny/Warm
Entered by: SN

Tuesday
Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Red Lane					TRAFFIC FROM SOUTH on: Red Lane					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Carrollton Avenue					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	12	6	0	0	18	0	3	2	0	5	0	0	0	0	0	3	0	2	0	5	28
7:15 - 7:30	9	7	0	0	16	0	1	4	0	5	0	0	0	0	0	2	0	9	0	11	32
7:30 - 7:45	10	18	0	0	28	0	3	6	0	9	0	0	0	0	0	3	0	8	0	11	48
7:45 - 8:00	13	9	0	0	22	0	4	3	0	7	0	0	0	0	0	6	0	7	0	13	42
8:00 - 8:15	14	9	0	0	23	0	6	6	0	12	0	0	0	0	0	4	0	13	0	17	52
8:15 - 8:30	10	11	0	0	21	0	6	4	0	10	0	0	0	0	0	2	0	3	0	5	36
8:30 - 8:45	5	2	0	0	7	0	8	1	0	9	0	0	0	0	0	3	0	9	0	12	28
8:45 - 9:00	10	3	0	0	13	0	6	2	0	8	0	0	0	0	0	2	0	10	0	12	33
2 Hr Totals	83	65	0	0	148	0	37	28	0	65	0	0	0	0	0	25	0	61	0	86	299
1 Hr Totals																					
7:00 - 8:00	44	40	0	0	84	0	11	15	0	26	0	0	0	0	0	14	0	26	0	40	150
7:15 - 8:15	46	43	0	0	89	0	14	19	0	33	0	0	0	0	0	15	0	37	0	52	174
7:30 - 8:30	47	47	0	0	94	0	19	19	0	38	0	0	0	0	0	15	0	31	0	46	178
7:45 - 8:45	42	31	0	0	73	0	24	14	0	38	0	0	0	0	0	15	0	32	0	47	158
8:00 - 9:00	39	25	0	0	64	0	26	13	0	39	0	0	0	0	0	11	0	35	0	46	149
PEAK HOUR																					
7:30 - 8:30	47	47	0	0	94	0	19	19	0	38	0	0	0	0	0	15	0	31	0	46	178
PM																					
4:00 - 4:15	18	12	0	0	30	0	13	5	0	18	0	0	0	0	0	7	0	13	0	20	68
4:15 - 4:30	16	2	0	0	18	0	9	1	0	10	0	0	0	0	0	5	0	15	0	20	48
4:30 - 4:45	21	7	0	0	28	0	12	7	0	19	0	0	0	0	0	5	0	18	0	23	70
4:45 - 5:00	21	10	0	0	31	0	12	4	0	16	0	0	0	0	0	3	0	15	0	18	65
5:00 - 5:15	12	8	0	0	20	0	17	11	1	29	0	0	0	0	0	7	0	18	0	25	74
5:15 - 5:30	19	6	0	0	25	0	12	13	0	25	0	0	0	0	0	7	0	20	0	27	77
5:30 - 5:45	13	7	0	0	20	0	10	3	0	13	0	0	0	0	0	2	0	14	0	16	49
5:45 - 6:00	19	9	0	0	28	0	7	4	0	11	0	0	0	0	0	7	0	13	0	20	59
2 Hr Totals	139	61	0	0	200	0	92	48	1	141	0	0	0	0	0	43	0	126	0	169	510
1 Hr Totals																					
4:00 - 5:00	76	31	0	0	107	0	46	17	0	63	0	0	0	0	0	20	0	61	0	81	251
4:15 - 5:15	70	27	0	0	97	0	50	23	1	74	0	0	0	0	0	20	0	66	0	86	257
4:30 - 5:30	73	31	0	0	104	0	53	35	1	89	0	0	0	0	0	22	0	71	0	93	286
4:45 - 5:45	65	31	0	0	96	0	51	31	1	83	0	0	0	0	0	19	0	67	0	86	265
5:00 - 6:00	63	30	0	0	93	0	46	31	1	78	0	0	0	0	0	23	0	65	0	88	259
PEAK HOUR																					
4:30 - 5:30	73	31	0	0	104	0	53	35	1	89	0	0	0	0	0	22	0	71	0	93	286

Appendix D

VDOT Turn Lane Worksheets

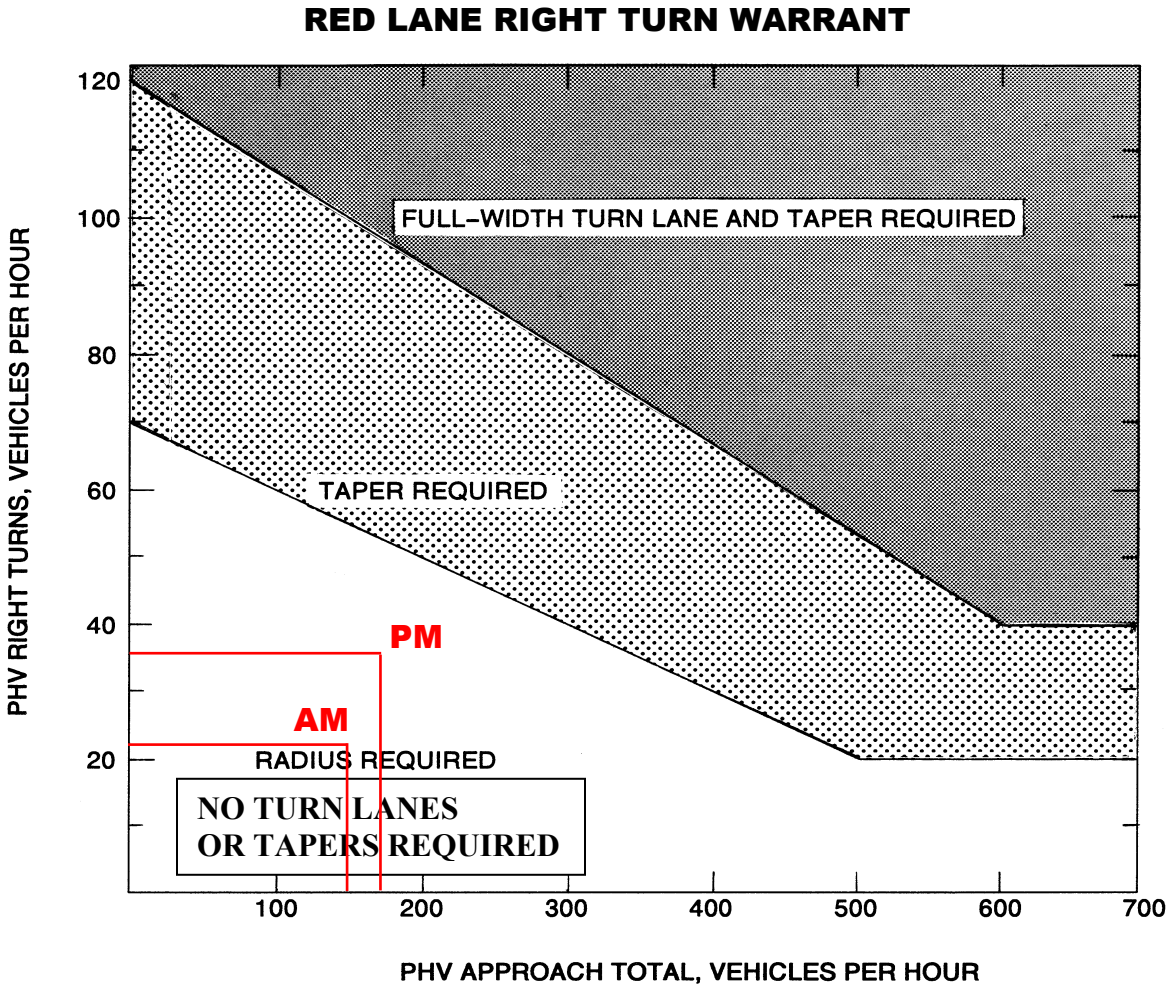


FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.
Adjusted right turns = PHV Right Turns - 20
If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

* Rev. 1/15

RED LANE LEFT TURN WARRANT

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

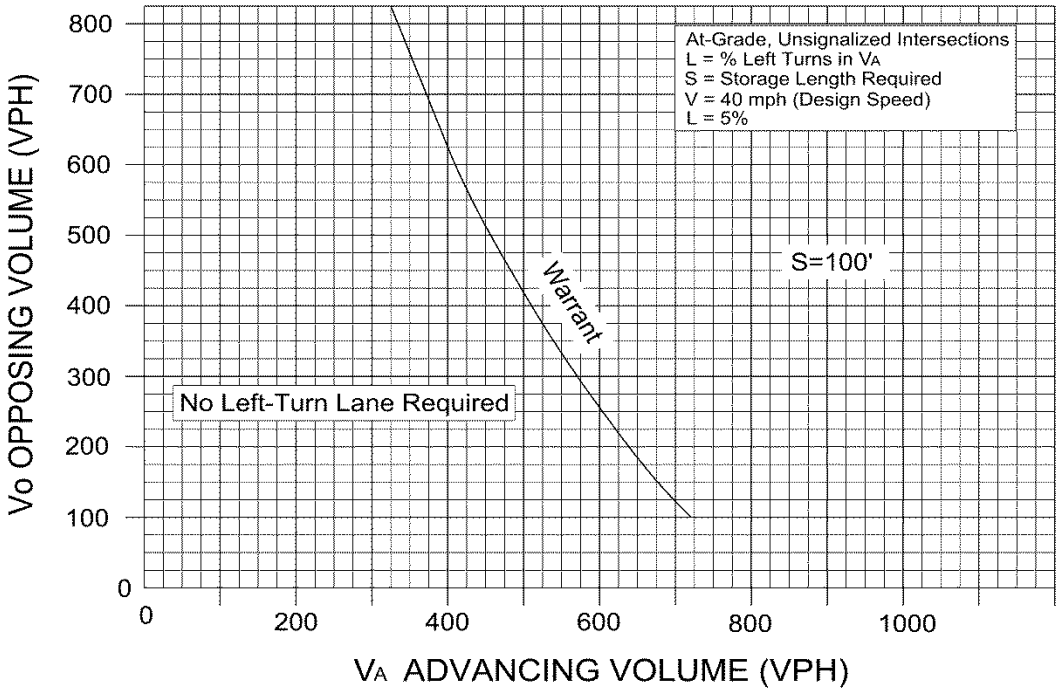


FIGURE 3-4 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

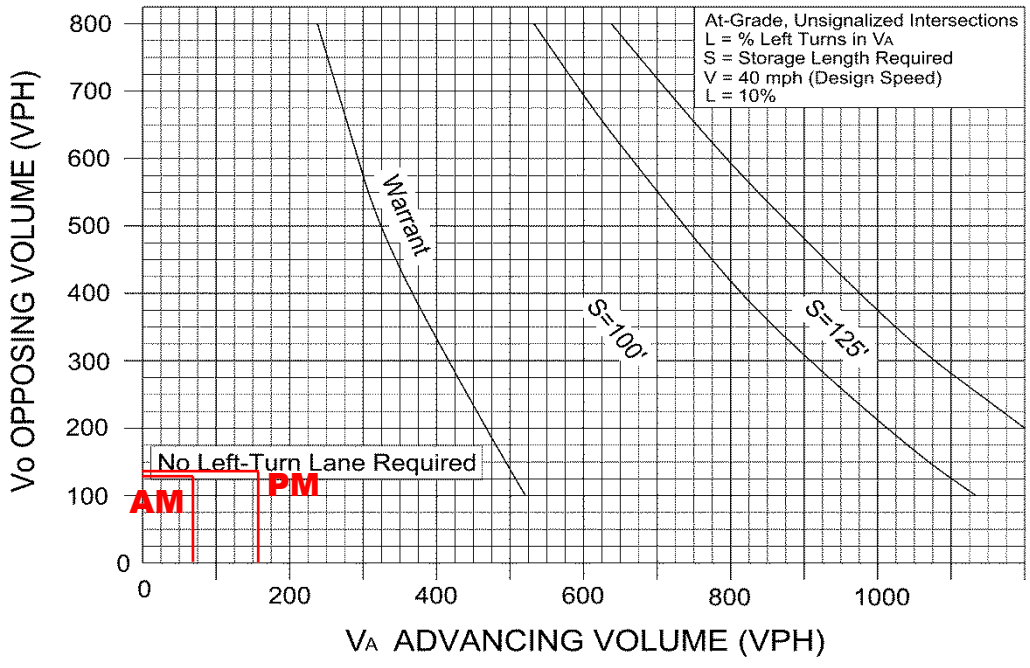


FIGURE 3-5 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

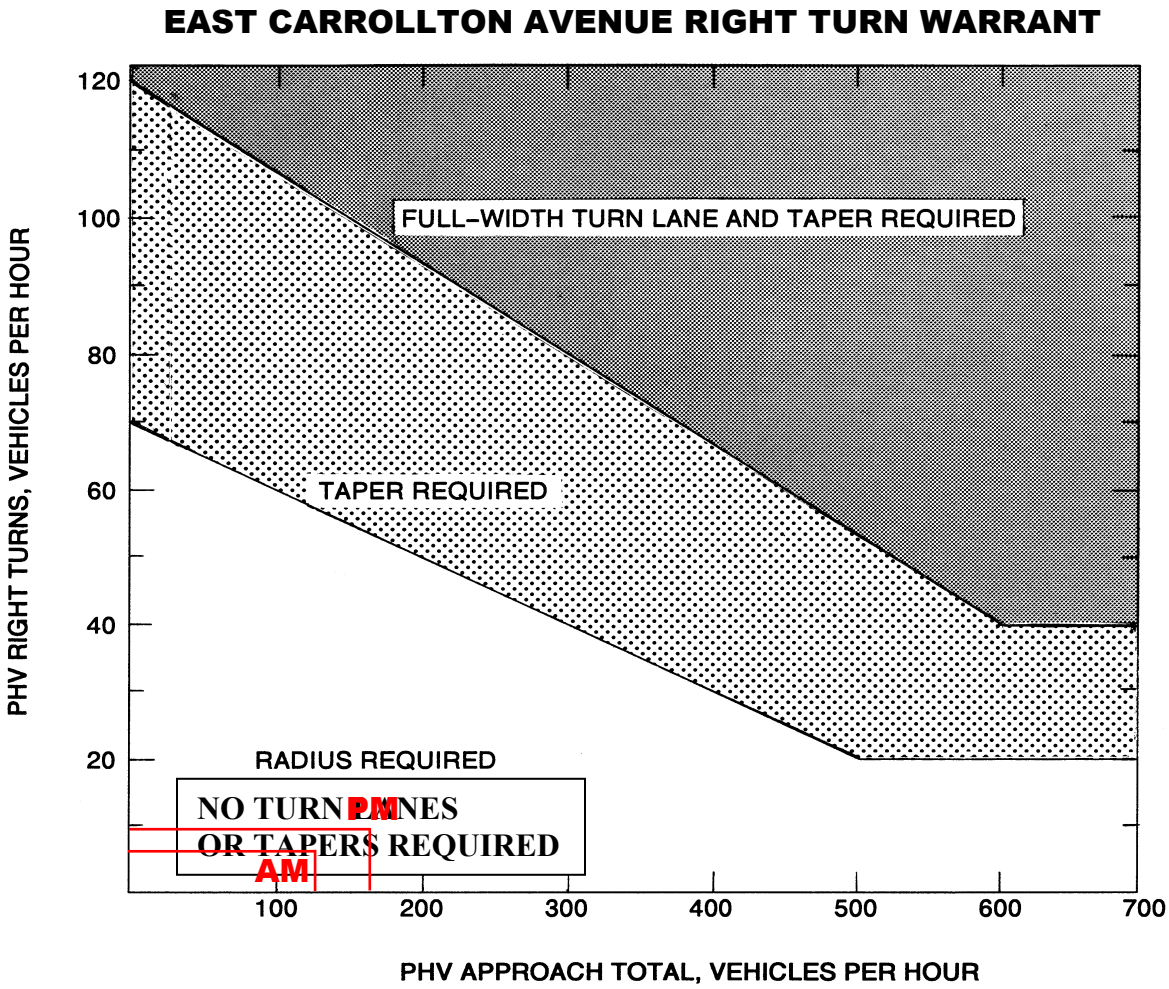


FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.
Adjusted right turns = PHV Right Turns - 20
If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

* Rev. 1/15

EAST CARROLLTON AVENUE LEFT TURN WARRANT

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

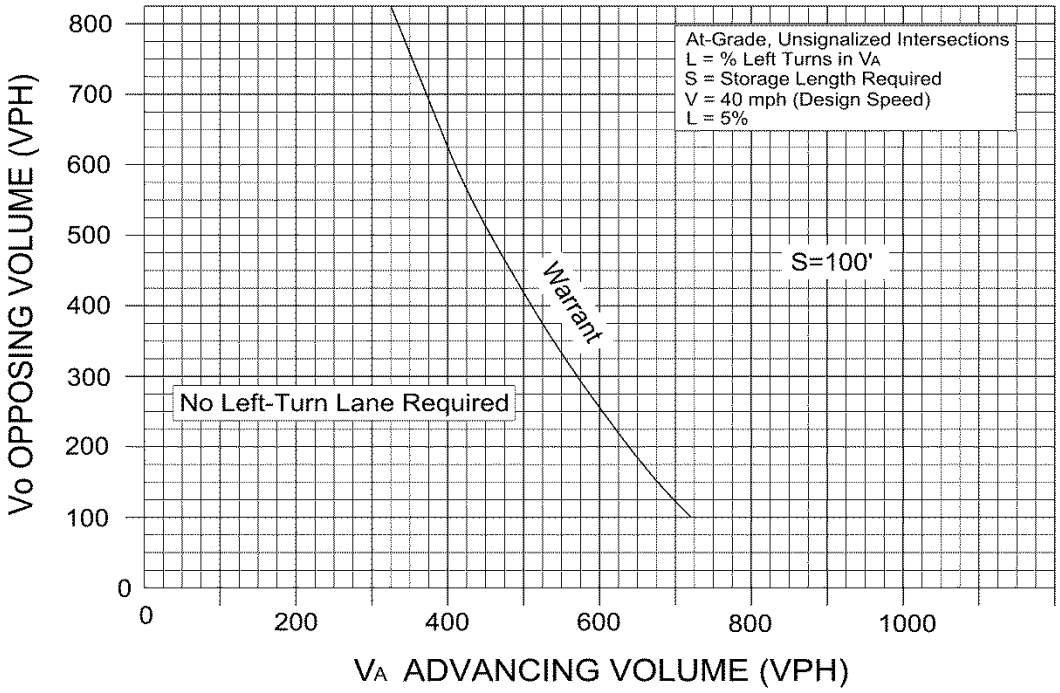


FIGURE 3-4 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

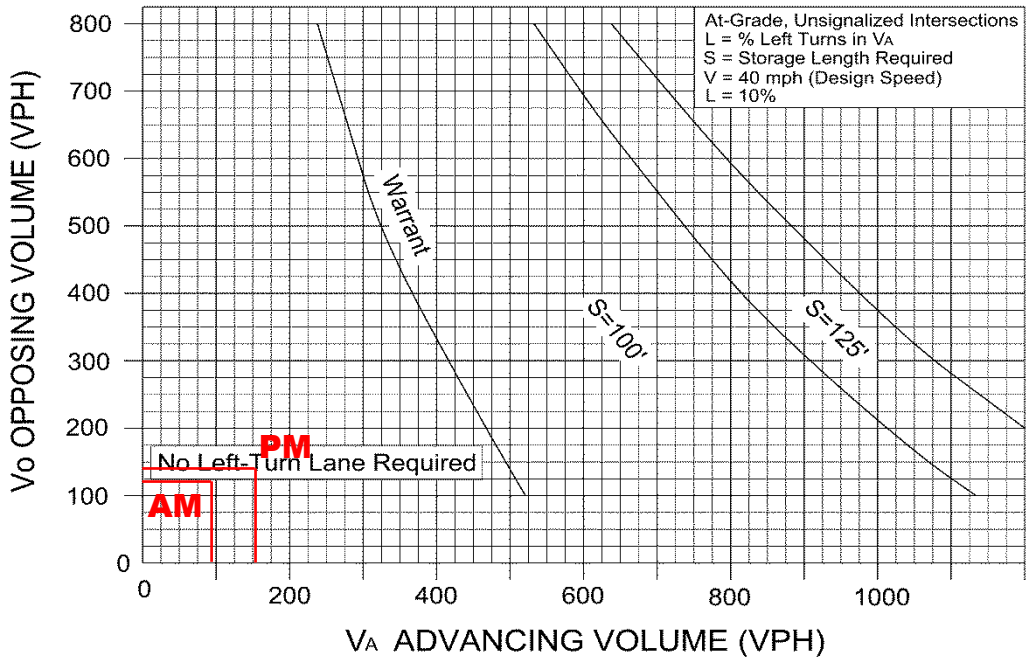


FIGURE 3-5 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

Appendix E

Synchro 11
Intersection Analysis Data

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	15	19	19	47	47
Future Vol, veh/h	31	15	19	19	47	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	17	22	22	55	55
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.4	7.4	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	50%	67%	0%
Vol Thru, %	50%	0%	50%
Vol Right, %	0%	33%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	38	46	94
LT Vol	19	31	0
Through Vol	19	0	47
RT Vol	0	15	47
Lane Flow Rate	44	53	109
Geometry Grp	1	1	1
Degree of Util (X)	0.051	0.061	0.113
Departure Headway (Hd)	4.178	4.102	3.728
Convergence, Y/N	Yes	Yes	Yes
Cap	854	867	959
Service Time	2.218	2.155	1.764
HCM Lane V/C Ratio	0.052	0.061	0.114
HCM Control Delay	7.4	7.4	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	59	116	4	74	1	33	0	1	0	0	1
Future Vol, veh/h	0	59	116	4	74	1	33	0	1	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	72	141	5	90	1	40	0	1	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	213	0	0	244	244	143	244	314	91
Stage 1	-	-	-	-	-	-	143	143	-	101	101	-
Stage 2	-	-	-	-	-	-	101	101	-	143	213	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1517	-	-	1369	-	-	714	661	910	714	605	972
Stage 1	-	-	-	-	-	-	865	782	-	910	815	-
Stage 2	-	-	-	-	-	-	910	815	-	865	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1517	-	-	1369	-	-	711	658	910	711	603	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	711	658	-	711	603	-
Stage 1	-	-	-	-	-	-	865	782	-	910	812	-
Stage 2	-	-	-	-	-	-	905	812	-	864	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	10.3	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	716	1517	-	-	1369	-	-	972
HCM Lane V/C Ratio	0.058	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.3	0	-	-	7.6	0	-	8.7
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	22	36	53	31	73
Future Vol, veh/h	71	22	36	53	31	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	76	24	39	57	33	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.9	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	40%	76%	0%
Vol Thru, %	60%	0%	30%
Vol Right, %	0%	24%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	89	93	104
LT Vol	36	71	0
Through Vol	53	0	31
RT Vol	0	22	73
Lane Flow Rate	96	100	112
Geometry Grp	1	1	1
Degree of Util (X)	0.113	0.118	0.116
Departure Headway (Hd)	4.243	4.264	3.727
Convergence, Y/N	Yes	Yes	Yes
Cap	835	829	946
Service Time	2.316	2.349	1.81
HCM Lane V/C Ratio	0.115	0.121	0.118
HCM Control Delay	7.9	7.9	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.4	0.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	99	87	7	115	1	84	0	6	0	2	2
Future Vol, veh/h	3	99	87	7	115	1	84	0	6	0	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	121	106	9	140	1	102	0	7	0	2	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	227	0	0	343	341	174	345	394	141
Stage 1	-	-	-	-	-	-	182	182	-	159	159	-
Stage 2	-	-	-	-	-	-	161	159	-	186	235	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1455	-	-	1353	-	-	615	584	875	613	546	912
Stage 1	-	-	-	-	-	-	824	753	-	848	770	-
Stage 2	-	-	-	-	-	-	846	770	-	820	714	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1353	-	-	606	578	875	603	541	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	606	578	-	603	541	-
Stage 1	-	-	-	-	-	-	822	751	-	845	765	-
Stage 2	-	-	-	-	-	-	835	765	-	811	712	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	12.1	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	619	1455	-	-	1353	-	-	679
HCM Lane V/C Ratio	0.177	0.003	-	-	0.006	-	-	0.007
HCM Control Delay (s)	12.1	7.5	0	-	7.7	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	16	20	20	51	51
Future Vol, veh/h	33	16	20	20	51	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	19	23	23	59	59
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.5	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	50%	67%	0%
Vol Thru, %	50%	0%	50%
Vol Right, %	0%	33%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	40	49	102
LT Vol	20	33	0
Through Vol	20	0	51
RT Vol	0	16	51
Lane Flow Rate	47	57	119
Geometry Grp	1	1	1
Degree of Util (X)	0.054	0.065	0.123
Departure Headway (Hd)	4.19	4.121	3.735
Convergence, Y/N	Yes	Yes	Yes
Cap	851	862	956
Service Time	2.234	2.18	1.774
HCM Lane V/C Ratio	0.055	0.066	0.124
HCM Control Delay	7.5	7.5	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	64	125	4	80	1	36	0	3	0	0	1
Future Vol, veh/h	0	64	125	4	80	1	36	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	78	152	5	98	1	44	0	4	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	230	0	0	263	263	154	265	339	99
Stage 1	-	-	-	-	-	-	154	154	-	109	109	-
Stage 2	-	-	-	-	-	-	109	109	-	156	230	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1507	-	-	1350	-	-	694	646	897	692	586	962
Stage 1	-	-	-	-	-	-	853	774	-	901	809	-
Stage 2	-	-	-	-	-	-	901	809	-	851	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1507	-	-	1350	-	-	691	643	897	687	584	962
Mov Cap-2 Maneuver	-	-	-	-	-	-	691	643	-	687	584	-
Stage 1	-	-	-	-	-	-	853	774	-	901	806	-
Stage 2	-	-	-	-	-	-	896	806	-	848	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	10.5	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	1507	-	-	1350	-	-	962
HCM Lane V/C Ratio	0.068	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.5	0	-	-	7.7	0	-	8.7
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	76	24	38	57	33	79
Future Vol, veh/h	76	24	38	57	33	79
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	82	26	41	61	35	85
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.9	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	40%	76%	0%
Vol Thru, %	60%	0%	29%
Vol Right, %	0%	24%	71%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	95	100	112
LT Vol	38	76	0
Through Vol	57	0	33
RT Vol	0	24	79
Lane Flow Rate	102	108	120
Geometry Grp	1	1	1
Degree of Util (X)	0.121	0.128	0.125
Departure Headway (Hd)	4.263	4.288	3.744
Convergence, Y/N	Yes	Yes	Yes
Cap	830	824	941
Service Time	2.344	2.378	1.835
HCM Lane V/C Ratio	0.123	0.131	0.128
HCM Control Delay	7.9	8	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.4	0.4

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	107	94	8	124	1	90	0	6	0	2	2
Future Vol, veh/h	3	107	94	8	124	1	90	0	6	0	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	130	115	10	151	1	110	0	7	0	2	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	245	0	0	370	368	188	371	425	152
Stage 1	-	-	-	-	-	-	196	196	-	172	172	-
Stage 2	-	-	-	-	-	-	174	172	-	199	253	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1441	-	-	1333	-	-	590	564	859	589	524	900
Stage 1	-	-	-	-	-	-	810	742	-	835	760	-
Stage 2	-	-	-	-	-	-	833	760	-	807	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1333	-	-	581	558	859	579	518	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	581	558	-	579	518	-
Stage 1	-	-	-	-	-	-	808	740	-	832	754	-
Stage 2	-	-	-	-	-	-	821	754	-	798	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	12.6	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	593	1441	-	-	1333	-	-	658
HCM Lane V/C Ratio	0.197	0.003	-	-	0.007	-	-	0.007
HCM Control Delay (s)	12.6	7.5	0	-	7.7	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	31	31	28	64	63
Future Vol, veh/h	44	31	31	28	64	63
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	51	36	36	33	74	73
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	7.7	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	53%	59%	0%
Vol Thru, %	47%	0%	50%
Vol Right, %	0%	41%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	59	75	127
LT Vol	31	44	0
Through Vol	28	0	64
RT Vol	0	31	63
Lane Flow Rate	69	87	148
Geometry Grp	1	1	1
Degree of Util (X)	0.081	0.1	0.156
Departure Headway (Hd)	4.273	4.138	3.808
Convergence, Y/N	Yes	Yes	Yes
Cap	831	854	932
Service Time	2.339	2.223	1.87
HCM Lane V/C Ratio	0.083	0.102	0.159
HCM Control Delay	7.7	7.7	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.6

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	77	125	20	99	3	36	6	13	5	8	9
Future Vol, veh/h	7	77	125	20	99	3	36	6	13	5	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	94	152	24	121	4	44	7	16	6	10	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	125	0	0	246	0	0	370	361	170	371	435	123
Stage 1	-	-	-	-	-	-	188	188	-	171	171	-
Stage 2	-	-	-	-	-	-	182	173	-	200	264	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1474	-	-	1332	-	-	590	569	879	589	517	933
Stage 1	-	-	-	-	-	-	818	748	-	836	761	-
Stage 2	-	-	-	-	-	-	824	760	-	806	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1332	-	-	563	554	879	561	504	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	563	554	-	561	504	-
Stage 1	-	-	-	-	-	-	812	743	-	830	747	-
Stage 2	-	-	-	-	-	-	788	746	-	778	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.3	11.6	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	614	1474	-	-	1332	-	-	639
HCM Lane V/C Ratio	0.109	0.006	-	-	0.018	-	-	0.042
HCM Control Delay (s)	11.6	7.5	0	-	7.8	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	91	35	56	70	44	89
Future Vol, veh/h	91	35	56	70	44	89
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	38	60	75	47	96
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.4	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	44%	72%	0%
Vol Thru, %	56%	0%	33%
Vol Right, %	0%	28%	67%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	126	126	133
LT Vol	56	91	0
Through Vol	70	0	44
RT Vol	0	35	89
Lane Flow Rate	135	135	143
Geometry Grp	1	1	1
Degree of Util (X)	0.168	0.169	0.158
Departure Headway (Hd)	4.451	4.478	3.967
Convergence, Y/N	Yes	Yes	Yes
Cap	807	803	907
Service Time	2.466	2.496	1.982
HCM Lane V/C Ratio	0.167	0.168	0.158
HCM Control Delay	8.4	8.4	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.6	0.6

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	128	94	21	140	5	90	8	22	5	9	9
Future Vol, veh/h	12	128	94	21	140	5	90	8	22	5	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	156	115	26	171	6	110	10	27	6	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	271	0	0	481	473	214	488	527	174
Stage 1	-	-	-	-	-	-	244	244	-	226	226	-
Stage 2	-	-	-	-	-	-	237	229	-	262	301	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1411	-	-	1304	-	-	499	493	831	493	459	875
Stage 1	-	-	-	-	-	-	764	708	-	781	721	-
Stage 2	-	-	-	-	-	-	771	718	-	747	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1411	-	-	1304	-	-	471	476	831	457	443	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	471	476	-	457	443	-
Stage 1	-	-	-	-	-	-	754	699	-	771	705	-
Stage 2	-	-	-	-	-	-	733	702	-	704	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	14.8	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	1411	-	-	1304	-	-	554
HCM Lane V/C Ratio	0.286	0.01	-	-	0.02	-	-	0.051
HCM Control Delay (s)	14.8	7.6	0	-	7.8	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.2	0	-	-	0.1	-	-	0.2

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Stewart W. Hubbell (Retired)
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Michael S. Agee (Retired)
Steven A. Campbell (Retired)
Randy L. Dodson (Retired)

December 20, 2023

Mr. William Simpson, Jr., PE
Assistant Director/City Engineer
City of Salem
21 S Bruffey Street
Salem, Virginia, 24153
wsimpson@salemva.gov

Re: Traffic Study Review
HopeTree Planned Unit Development
M&C Commission No. 4197-H
GESC Contract No. 2021-018

Dear Mr. Simpson,

The purpose of this letter is to summarize Mattern & Craig's (M&C) findings of an independent review of a traffic impact statement/study (TIS) prepared by Balzar & Associates dated December 1, 2023 for the HopeTree Planned Unit Development project proposed within the boundaries of Salem, Virginia. The scope of the review was to determine general conformance with Virginia Department of Transportation (VDOT) and industry standard practices in the preparation of the subject TIS.

The Institute of Transportation Engineers (ITE) publishes many manuals, books, guidelines and methodologies including (but not limited to) the ***Trip Generation Manual***, the ***Trip Generation Handbook***, and the Traffic Engineering Handbook which all contain information on how traffic impact analyses/studies/statements should be conducted and prepared. The information presented by ITE is considered the "industry standard" in the development of TIS's. VDOT provides traffic impact analysis regulations (24 VAC 30-155) to enhance land planning and development review within the state of Virginia. 24 VAC 30-155-60 contains specific information regarding a VDOT Traffic Impact Study/Statement (VTIS). The ***VDOT Administrative Guidelines for the Traffic Impact Analysis Regulations*** provides guidance on the application of the traffic analysis regulations and is attached to this letter report for reference as Exhibit A. The ***VDOT Checklist for the Evaluation of Submitted Traffic Impact Analyses*** was used to summarize what elements of the TIS were deemed necessary and whether or not the TIS provided those necessary elements. A copy of the completed ***Checklist*** is attached to this letter as Exhibit B. During the review of the HopeTree TIS prepared by Balzer & Associates, M&C referred to their general knowledge of the "ITE industry standard methodology" and the "specific criteria required by VDOT" in determining whether or not the TIS was in general conformance with these industry standard and VDOT practices. A tabulated summary of our Comments is listed below in *italics*. When the comment identifies a concern or deficiency, a Recommended Action is included in **bold** text:

Comment 1: The proposed development is a rezoning of approximately 62 acres of land located along Red Lane in the City of Salem and is proposed as a mixed-use development consisting of single family detached housing, multi-family housing, hotel use, general office use, and retail (restaurant) use. Since the proposed development is a mixed-use development, the study does not qualify as a low volume road submission as defined in the ***VDOT Traffic Impact Analysis Regulations*** *(must be residential only). The "Required Elements of a Traffic Impact Analysis" table as depicted on pages 46 -49 of the* ***Administrative Guidelines*** *(see Exhibit A) was used in determining conformity with VDOT and standard practices. The unadjusted trip generation contained in the TIS prepared by Balzar & Associates identifies 286 site-generated AM peak hours trips and 312 site-generated PM peak hour trips for the proposed development. As such, the "Less than 500" column in the above-referenced table was used to define the necessary elements of the study.*
Recommended Action: None.

Comment 2: Page 1 of the Balzar-prepared TIS identifies the study area intersections (indicated as discussed with the City of Salem) as Red Lane at East Carrollton Avenue and East Carrollton Avenue at North Broad Street.
Recommended Action: Documentation should be provided that shows what conversations were had and what decisions were agreed upon with the City. The defined study area of only two intersections seems insufficient considering the scope of the proposed development, the location of the proposed development, the multiple access points to the development, and the existing transportation infrastructure surrounding the development. At a minimum, along with the two intersections identified above, all existing access points should be included in the study area as well as the intersection of East Carrollton Avenue at Mt. Vernon Lane since this intersection is located in-between the two identified study intersections and serves as an access point to the development. Further intersections for consideration include Mt. Vernon Lane at Red Lane and Printer's Lane at Red Lane. The applicant should provide documentation justifying the limited study area or revise the TIS to include an expanded study area as described above.

Comment 3: Page 3 of the Balzar-prepared TIS indicates that, among other things, the study was undertaken to determine the impacts to level of service and ***queue lengths*** *at the existing intersections. Page 15 of the study includes tabular results of level of service (LOS) and delay (control delay) for the two study intersections but does not include any queue length results.*
Recommended Action: The summarized capacity analyses results should include tabulated results of the Synchro 95th percentile queue as well as the SimTraffic max queue or discussion should be included as to the results of the queue length analyses.

Comment 4: The traffic volumes on Figure 1 (existing peak hour turning movement counts) match the raw turning movement count data included in Appendix C of the Balzar-prepared TIS. The use of a 1.5% growth rate over a period of 5 years (to achieve the background year of 2028) seems reasonable and the traffic volumes on Figure 2 (2028 turning movement counts) appear to be correctly calculated.
Recommended Action: None.

Comment 5: Section 4. Trip Generation of the Balzar-prepared TIS provides information related to the trips expected to be generated by the development as well as information on potential trip reduction due to the mixed-use nature of the development (internal capture) and due to the walkable aspect of the proposed development. The unadjusted trips presented in Table 2: Site Generated Traffic on page 8 of the TIS seem reasonable. The ***ITE Trip Generation Manual*** *and* ***Handbook*** *contains methodology for the application of trip reductions for multi-use developments. In addition, VDOT provides an alternative trip generation methodology for mixed use developments (see page 43 of the*

VDOT Administrative Guidelines for Traffic Impact Analysis Regulations *in Exhibit A attached to this letter report). Page 9 of the Balzar-prepared TIS applies a flat 25% reduction to the trip generated values presented in Table 1. While this may or may not be a reasonable reduction to apply, it is unclear how this 25% number was realized.*

Recommended Action: The TIA should employ the use of either the ITE internal capture trip reduction methodology or the VDOT alternative trip generation methodology to achieve the appropriate trip reduction and document how the reduction numbers are obtained.

Comment 6: Section 5. Site Traffic Distribution and Assignment describes how traffic was distributed to the various existing and proposed access points for the development. Figures 3 and 4 identify 8 different access points which seems excessive for a development of this magnitude.

Recommended Action: The applicant should have discussions with the City of Salem and VDOT regarding the locations of proposed access points to serve the development. If those discussions have already taken place, documentation of those discussions and decisions agreed upon should be provided. While it is true that the multiple access points will "disperse traffic and efficiently distribute vehicles to the adjacent road system" as stated on page 10 of the Balzar-prepared TIS, having multiple access points introduces additional potential conflict points on the existing transportation infrastructure and is counter-productive to modern access management techniques. Generally, proposed access points should be kept to the minimum required to adequately serve the proposed development in an efficient and safe manner. The applicant should consider consolidation of some of the proposed access points or provide documentation as to why this is not feasible.

Comment 7: Section 7. Turn Lane Warrants of the Balzar-prepared TIS contains a summary of the results for analyses of left and right turn lanes at the study intersections. However, analyses were not provided for the left and right turn lanes at the intersection of East Carrollton Avenue at Red Lane (currently a study intersection) or at the intersection of East Carrollton Avenue at Mt. Vernon Lane.

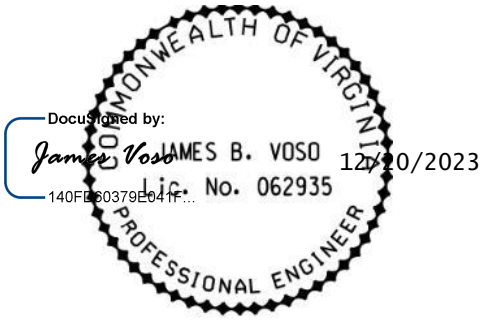
Recommended Action: Additional analyses should be performed at the above-mentioned intersections at a minimum and potentially more intersections if the access points to the development are consolidated and/or if either the City or VDOT expand the study area.

Comment 8: Section 8. Conclusions of the Balzar-prepared TIS concludes that no improvements are recommended to the existing transportation infrastructure as a result of this proposed development.

Recommended Action: Pending the answers provided to the above comments and the further discussions the applicant may need to have with the City and/or VDOT, the Conclusions Section may need to be rewritten to include recommended mitigation improvements.

If any additional information is needed on this subject at this time, please feel free to contact me directly via email at jbvoso@matternandcraig.com or by telephone at 828-254-2201. Thank you for the opportunity to be of assistance to the City of Salem.

Sincerely,
Mattern & Craig



James B. Voso, PE
Traffic Engineer

Attachments

Exhibit A

January 2012

CHAPTER 155
TRAFFIC IMPACT ANALYSIS REGULATIONS

24VAC30-155-10. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Floor area ratio" means the ratio of the total floor area of a building or buildings on a parcel to the size of the parcel where the building or buildings are located.

“Local traffic impact statement” means a traffic impact statement accepted or prepared by a locality pursuant to its land development approval process and whose requirements regarding content are set out in the locality’s ordinances or published policies, if such ordinances or policies have been reviewed and certified by VDOT as requiring acceptable standards of preparation and providing sufficient information to determine the current and future impacts of development proposals.

"Locality" means any local government, pursuant to § 15.2-2223 of the Code of Virginia, that must prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction.

"Network addition" means a group of interconnected street segments and intersections shown in a plan of development that is connected to the state highway system and meets the requirements of the Secondary Street Acceptance Requirements (24VAC30-92).

"Pedestrian facility coverage" means the ratio of: (length of pedestrian facilities, such as sidewalks, foot paths, and multiuse trails, along both sides of a roadway) divided by (length of roadway multiplied by two).

“Receipt” means the date on which a proposal or request for a meeting is first in the possession of VDOT or a locality or an agent thereof, as applicable.

"Redevelopment site" means any existing use that generates traffic and is intended to be developed as a different or denser land use.

"Service level" means a measure of the quality, level or comfort of a service calculated using methodologies approved by VDOT.

"Small area plan" means a plan of development for multiple contiguous properties that guides land use, zoning, transportation, urban design, open space, and capital improvements at a high level of detail within an urban development area or for a transit-oriented development that is at least 1/2 square mile in size unless otherwise approved by VDOT due to proximity to existing moderate to high density developments. A small area plan shall include the following: (i) densities of at least four residential units per acre and at least a floor area ratio of 0.4 or some proportional combination thereof; (ii) mixed-use neighborhoods, including mixed housing types and integration of residential, office, and retail development; (iii) reduction of front and side yard building setbacks; and (iv) pedestrian-friendly road design and connectivity of road and pedestrian networks.

"State-controlled highway" means a highway in Virginia that is part of the interstate, primary, or secondary systems of state highways and that is maintained by the state under the direction and supervision of the Commonwealth Transportation Commissioner. Highways for which localities receive maintenance payments pursuant to §§ 33.1-23.5:1 and 33.1-41.1 of the Code of Virginia and highways maintained by VDOT in accordance with §§ 33.1-31, 33.1-32, 33.1-33, and 33.1-68 of the Code of Virginia are not considered state-controlled highways for the purposes of determining whether a specific land development proposal package must be submitted to meet the requirements of this regulation.

"Traffic impact statement" means the document prepared in accordance with best professional practice and standards that assess the impact of a proposed development on the transportation system and recommends improvements to lessen or negate those impacts.

"Transit-oriented development" means an area of commercial and residential development at moderate to high densities within 1/2 mile of a station for heavy rail, light rail, commuter rail, or bus rapid transit transportation and includes the following: (i) densities of at least four residential units per acre and at least a floor area ratio of 0.4 or some proportional combination thereof; (ii) mixed-use neighborhoods, including mixed housing types and integration of residential, office, and retail development; (iii) reduction of front and side yard building setbacks; and (iv) pedestrian-friendly road design and connectivity of road and pedestrian networks.

"Transportation demand management" means a combination of measures that reduce vehicle trip generation and improve transportation system efficiency by altering demand, including but not limited to the following: expanded transit service, employer-provided transit benefits, bicycle

and pedestrian investments, ridesharing, staggered work hours, telecommuting, and parking management including parking pricing.

"Urban development area" means an area designated on a local comprehensive plan pursuant to § 15.2-2223.1 of the Code of Virginia that includes the following: (i) densities of at least four residential units per acre and at least a floor area ratio of 0.4 or some proportional combination thereof; (ii) mixed-use neighborhoods, including mixed housing types and integration of residential, office, and retail development; (iii) reduction of front and side yard building setbacks; and (iv) pedestrian-friendly road design and connectivity of road and pedestrian networks.

"VDOT" means the Virginia Department of Transportation, the Commissioner of Highways, or a designee.

"VDOT traffic impact statement" means a traffic impact statement prepared pursuant to 24VAC30-155-60.

24VAC30-155-20. Authority.

Section 15.2-2222.1 of the Code of Virginia requires localities to submit comprehensive plans and amendments to comprehensive plans that will substantially affect transportation on state-controlled highways to VDOT in order for the agency to review and provide comments on the impact of the item submitted. This section also requires localities to submit traffic impact statements along with proposed rezonings that will substantially affect transportation on state-controlled highways to VDOT for comment by the agency. Chapter 527 of the 2006 Acts of Assembly directs VDOT to promulgate regulations for the implementation of these requirements.

24VAC30-155-30. Comprehensive plan and comprehensive plan amendment.

A. Plan and amendment submittal. Prior to adoption of any comprehensive plan pursuant to § 15.2-2223 of the Code of Virginia, any part of a comprehensive plan pursuant to § 15.2-2228 of the Code of Virginia, or any amendment to any comprehensive plan as described in § 15.2-2229 of the Code of Virginia, including small area plans, if required by this section of this chapter, the locality shall submit such plan or amendment to VDOT for review and comment, such submission should take place at least 100 days prior to anticipated final action by the locality. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing the transportation plan of the comprehensive plan. The

comprehensive plan or comprehensive plan amendment package shall be submitted to VDOT if it is reasonably anticipated to substantially affect transportation on state controlled highways. Substantially affect, for the purposes of comprehensive plans, includes substantial changes or impacts to the existing transportation network. For the purposes of this section, a substantial impact shall be defined as a change that would allow the generation of 5,000 additional vehicle trips per day on state-controlled highways compared to the existing comprehensive plan, assuming the highest density of permissible use in accordance with the Institute of Transportation Engineers Trip Generation Handbook (see 24VAC30-155-100) or, subject to the approval of VDOT, the regional model as adopted by the local Metropolitan Planning Organization, and substantial change shall include those changes that materially alter future transportation infrastructure, travel patterns, or the ability to improve future transportation facilities on state-controlled highways.

B. Required elements. The submission by the locality to VDOT shall contain sufficient information so that VDOT may evaluate the system of new and expanded transportation facilities, outlined in the transportation plan, that are needed to support the current and planned development of the territory covered by the plan. In order to conduct this evaluation, the package submitted to VDOT shall contain the following items:

1. For a comprehensive plan or a transportation plan, the locality shall provide one paper and one electronic copy of the following:

   a. A cover sheet, containing:

      (1) Contact information for the locality, and

      (2) Summary of major changes made to the comprehensive plan or transportation plan;

   b. The proposed comprehensive plan or transportation plan, and the following elements:

      (1) Inventory – an inventory (written or graphic) of the existing transportation network, which shall include at a minimum all roadways within the Federal Aid system.

      (2) Assumptions – planning assumptions shall be detailed, since these assumptions directly influence the demand placed on the transportation system. Population growth, employment growth, location of critical infrastructure such as water and sewer facilities, among others, are examples of planning assumptions that may be addressed.

(3) Needs assessment – written or graphic evaluation of the transportation system's current and projected performance and conditions. The needs assessment identifies specific deficiencies.

(4) Recommendations – proposed improvements or additions to the transportation infrastructure. Recommendations should be specific so that the need, location and nature of the proposed improvements are clear and understandable. Localities are encouraged to include pedestrian, bicycle, transit, rail and other multimodal recommendations as they deem appropriate. The transportation plan shall include a map showing road and transportation improvements, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated. Recommended improvements shall include cost estimates as available from VDOT.

2. For an amendment to a comprehensive plan or transportation plan, the locality shall provide one paper and one electronic copy of the following:

a. A cover sheet, containing:

(1) Contact information for the locality;

(2) Summary of proposed amendment or amendments to the comprehensive plan or transportation plan; and

(3) Overview of reasoning and purpose for amendments.

b. Application forms and documentation presented to or prepared by the local jurisdiction,

c. Associated maps or narratives that depict and detail the amendment under consideration,

d. Any changes to the planning assumptions associated with the amendment,

e. Local assessment of the potential impacts the amendment may have on the transportation system, and

f. Those elements identified in subdivision 1 b of this subsection that VDOT determines are needed in order to review and comment on impacts to state-controlled highways.

C. Small area plans for urban development areas and transit oriented developments. A locality that develops a small area plan for all or a portion of an urban development area or

transit-oriented development and corresponding amendments to their comprehensive plan, as described in § 15.2-2229 of the Code of Virginia, that will have a substantial affect on the state transportation network pursuant to this section of the regulation, may in lieu of submitting a comprehensive plan amendment package as required under subsection B of this section submit a small area plan package.

The small area plan package submitted by the locality to VDOT shall contain sufficient information and data so that VDOT may determine the location of the area impacted by the small area plan, its size, its impact on state-controlled highways, and the methodology and assumptions used in the analysis of the impact. Submittal of an incomplete small area plan package shall be considered deficient in meeting the submission requirements of § 15.2-2222.1 of the Code of Virginia and shall be returned to the locality and the applicant, if applicable, identifying the deficiencies noted. A small area plan package submitted to VDOT shall contain the following items:

1. A cover sheet containing:

    a. Contact information for locality;

    b. Small area plan location, highways and transit facilities adjacent to site, and parcel number or numbers;

    c. Proposal summary with development names, size, and proposed zoning;

2. A VDOT traffic impact statement prepared in accordance with 24VAC30-155-60; and

3. A plan of development for the area encompassed by the small area plan.

D. Review process. VDOT may pursuant to § 15.2-2222.1 of the Code of Virginia request a meeting with the locality to discuss the plan or amendment. The request must be made within 30 days of receipt of the proposal. VDOT must provide written comments to the locality within 90 days of the receipt of the plan or plan amendment or by such later deadline as may be agreed to by the parties. VDOT will conduct its review and provide official comments to the locality for inclusion in the official public record of the locality. VDOT shall also make such comments available to the public. Nothing in this section shall prohibit a locality from acting on a comprehensive plan or plan amendment if VDOT's comments on the submission have not been received within the timelines in this section.

E. Concurrent consideration. For the purposes of this regulation, when a related comprehensive plan or comprehensive plan amendment and a rezoning proposal that cover the same geographical area are being considered concurrently by a locality, only a rezoning package as required under 24VAC30-155-40 shall be prepared and provided to VDOT for review.

24VAC30-155-40. Rezoning.

A. Proposal submittal. The locality shall submit a package to VDOT within 10 business days of receipt of a complete application for a rezoning proposal if the proposal substantially affects transportation on state-controlled highways. All trip generation calculations used for the purposes of determining if a proposal meets the criteria shall be based upon the rates or equations published in the Institute of Transportation Engineers Trip Generation (see 24VAC30-155-100), and shall not be reduced through internal capture rates. For redevelopment sites, trips currently generated by existing development that will be removed may be deducted from the total site trips that are generated by the proposed land use. However, no submission shall be required under this section if the rezoning proposal consists of no changes in allowable land use. Furthermore, no submission shall be required if the rezoning proposal results in lower maximum daily trip generation and no increase in maximum trip generation for AM Peak Hour of the adjacent street, PM Peak Hour of the adjacent street, and Weekend Peak Hour when compared to the hourly trip generation of land uses allowed by right under the current zoning, excepting governmental uses such as schools and libraries.

For the purposes of this section, a rezoning proposal shall substantially affect transportation on state-controlled highways if it meets or exceeds one or more of the following trip generation criteria:

1. Within a jurisdiction in which VDOT has maintenance responsibility for the secondary highway system, if the proposal generates more than 5,000 vehicle trips per day at the site's connection to a state-controlled highway. For a site that does not have an entrance onto a state-controlled highway, the site's connection is assumed to be wherever the road network that the site connects with attaches to a state-controlled highway. In cases where the site has multiple entrances to highways, volumes on all entrances shall be combined for the purposes of this determination;

2. Within a jurisdiction in which VDOT does not have maintenance responsibility for the local highway system, if the proposal generates more than 5,000 vehicle trips per day and whose nearest property line is within 3,000 feet, measured along public roads or streets, of a connection to a state-controlled highway; or

3. The proposal for residential rezoning generates more than 400 daily vehicle trips on a state-controlled highway and, once the site generated trips are distributed to the receiving highway, the proposal's vehicle trips on the highway exceed the daily traffic volume such highway presently carries. For the purposes of determining whether a proposal must be submitted to VDOT, the traffic carried on the state-controlled highway shall be assumed to be the most recently published amount measured in the last traffic count conducted by VDOT or the locality on that highway. In cases where the site has access to multiple highways, each receiving highway shall be evaluated individually for the purposes of this determination.

B. Required proposal elements. The package submitted by the locality to VDOT shall contain sufficient information and data so that VDOT may determine the location of the rezoning, its size, its affect on state-controlled highways, and methodology and assumptions used in the analysis of the affect. Submittal of an incomplete package shall be considered deficient in meeting the submission requirements of § 15.2-2222.1 of the Code of Virginia and shall be returned to the locality and the applicant, if applicable, identifying the deficiencies noted. A package submitted to VDOT shall consist of one paper copy and one electronic copy and include the following items:

1. A cover sheet containing:

   a. Contact information for locality and developer (or owner) if applicable;

   b. Rezoning location, highways adjacent to site, and parcel number or numbers;

   c. Proposal summary with development name, size, and proposed zoning; and

   d. A statement regarding the proposal's compliance with the comprehensive plan.

2. A local traffic impact statement or, if the local requirements for traffic statements contained in ordinances or policies have not been certified by VDOT, a VDOT traffic impact statement.

3. A concept plan of the proposed development.

C. Rezoning proposals associated with small area plans.

1. A traffic impact statement prepared for a small area plan pursuant to 24VAC30-155-30 C, or initiated for a small area plan at the request of a locality prior to the effective date of that subsection and that study contains substantially the same elements as those of a VDOT traffic impact statement, shall serve as the traffic impact statement required pursuant to this section for any rezoning proposals developed in furtherance of the adopted small area plan and related comprehensive plan amendments provided the following:

a. That the small area plan package is accompanied by a cover letter that includes a statement that the assumptions made in the traffic impact statement prepared for the small area plan remain generally valid.

b. That the following are accurate:

(1) The rezoning proposal is in substantial conformance with the adopted small area plan. A deviation in density must be greater than 10% to be considered no longer in substantial conformance with the adopted small area plan.

(2) The character and volume of the trip generation by the proposed uses are similar to those proposed by the small area plan.

(3) All other assumptions made in the traffic impact statement prepared for the small area plan remain generally valid.

2. In instances where the assumptions made in the traffic impact statement prepared for the small area plan are no longer valid, the traffic impact statement may be updated. If the traffic impact statement is updated, it shall serve as the traffic impact statement required pursuant to this section for any rezoning proposals developed in furtherance of the adopted small area plan and related comprehensive plan amendments.

D. Review process. After formal submission of a rezoning proposal for review, VDOT may, pursuant to § 15.2-2222.1 of the Code of Virginia, request a meeting with the locality and rezoning applicant to discuss potential modifications to the proposal to address any concerns or deficiencies. The request must be made within 45 days of receipt by VDOT of the proposal. VDOT must provide written comments to the locality and the rezoning applicant within 45 days of VDOT's receipt of the proposal if no meeting is scheduled or has been requested or within 120

days of the receipt of the proposal otherwise. VDOT shall not reject or require resubmission, if the package has been prepared in accordance with best professional practice and substantially documents the expected impacts of the proposal. If VDOT determines that the package has not been prepared in accordance with best professional practice, fails to substantially document the expected impacts of the proposal, or if the submission is substantially incomplete, VDOT may request of the applicant, in writing or at the above mentioned meeting, modifications to address concerns. If the concerns are not adequately addressed within 30 days of the transmission of such concerns, VDOT may require resubmission. VDOT shall conduct its review and provide official comments to the locality for inclusion in the official public record. The Department's comments on the proposed rezoning shall be based upon the comprehensive plan, regulations and guidelines of the Department, engineering and design considerations, adopted regional or statewide plans, and short and long term traffic impacts on and off site. VDOT shall also make such comments available to the public. Nothing in this section shall prohibit a locality from acting on a rezoning proposal if VDOT's comments on the submission have not been received within the timelines in this section.

24VAC30-155-50. (Repealed.)

24VAC30-155-60. VDOT traffic impact statement.

A. A VDOT traffic impact statement (VTIS) assesses the impact of a proposed development on the transportation system and recommends improvements to lessen or negate those impacts. It shall (i) identify any traffic issues associated with access from the site to the existing transportation network, (ii) outline solutions to potential problems, (iii) address the sufficiency of the future transportation network, and (iv) present improvements to be incorporated into the proposed development.

If a VTIS is required, data collection shall be by the locality, developer, or owner, as determined by the locality and the locality shall prepare or have the developer or owner prepare the VTIS. If the locality prepares the VTIS it shall provide a copy of the complete VTIS to the applicant when one is provided to VDOT. The completed VTIS shall be submitted to VDOT.

The data and analysis contained in the VTIS shall be organized and presented in a manner acceptable to VDOT and consistent with this regulation.

B. Scope of work meeting.

1. For proposals that generate less than 1,000 vehicle trips per peak hour of the generator representatives of the locality, the applicant, or the locality and the applicant may request a scope of work meeting with VDOT to discuss the required elements of a VTIS for any project and VDOT shall reply to such request within 30 days of its receipt of such a request and provide a date that is no more than 60 days from such receipt, time and location for such a scope of work meeting to both the locality and the applicant, if applicable.

2. For proposals that generate 1,000 or more vehicle trips per peak hour of the generator representatives of the locality and applicant, if applicable, shall hold a scope of work meeting with VDOT to discuss the required elements of a VTIS. Once a locality or applicant has contacted VDOT regarding the scheduling of a scope of work meeting, VDOT shall reply to both the locality and the applicant, if applicable, within 30 days of such contact and provide a date that is no more than 60 days from such contact, time and location for such a meeting.

At a scope of work meeting pursuant to this section, the locality, the applicant and VDOT shall review the elements, methodology and assumptions to be used in the preparation of the VTIS, and identify any other related local requirements adopted pursuant to law. The results of the initial scoping meeting may be adjusted in accordance with sound professional judgment and the requirements of this regulation if agreed upon by VDOT, the locality, and applicant, if applicable.

C. Required elements. The required elements and scope of a VTIS are dependent upon the scale and potential impact of the specific development proposal being addressed by the VTIS as determined by VDOT in its sole discretion.

1. At a minimum, the VTIS shall include the elements shown in the table below. The site generated peak hour trips in the table below shall be based upon the gross vehicle trip generation of the site less internal capture and reductions, if applicable. When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, the VTIS shall estimate multimodal trips. All distances in the table below shall be measured along roads or streets.

Item	Site Generated Peak Hour Trips		
	Less than 500	**500 to 999**	**1,000 or more**
Background information			
List of all nonexistent transportation improvements assumed in the analysis	Required	Required	Required
Map of site location, description of the parcel, general terrain features, and location within the jurisdiction and region.	Required	Required	Required
Description of geographic scope/ limits of study area.	Within 2,000 feet of site and any roadway on which 50 or more of the new peak hour vehicle trips generated by the proposal are distributed – not to exceed one mile	Within 2,000 feet of site and any roadway on which 10% or more of the new vehicle trips generated by the proposal are distributed – not to exceed two miles	To be determined by VDOT in consultation with the locality
Plan at an engineering scale of the existing and proposed site uses.	Required	Required	Required
Description and map or diagram of nearby uses, including parcel zoning.	Required	Required	Required
Description and map or diagram of existing roadways.	Required	Required	Required
Description and map or diagram of programmed improvements to roadways, intersections, and other transportation facilities within the study area.	Required	Required	Required
Analysis of Existing Conditions			
Collected daily and peak hour of the generator traffic volumes, tabulated and presented on diagrams with counts provided in an appendix.	Required	Required	Required
Analyses for intersections and roadways identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group.	Required	Required	Required

When the type of development proposed would indicate significant potential for walking, bike or transit trips either on - or off - site, analyses of pedestrian and bicycle facilities, and bus route or routes and segment or segments, tabulated and presented on diagrams, if facilities or routes exist.	Within 2,000 feet of site	Within 2,000 feet of site	To be determined by VDOT in consultation with the locality
Speed Study	If requested by VDOT	If requested by VDOT	If requested by VDOT
Crash history near site	If requested by VDOT	If requested by VDOT	If requested by VDOT
Sight distance	If requested by VDOT	If requested by VDOT	If requested by VDOT
Analysis of Future Conditions without Development			
Description of and justification for the method and assumptions used to forecast future traffic volumes.	Required	Required	Required
Analyses for intersections and roadways as identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group.	Required	Required	Required
When the type of development proposed would indicate significant potential for walking, bike or transit trips either on - or off - site, analyses of pedestrian and bicycle facilities, and bus route or routes and segment or segments tabulated and presented on diagrams, if facilities or routes exist or are planned.	Within 2,000 feet of site	Within 2,000 feet of site	To be determined by VDOT in consultation with the locality at the scope of work meeting
Trip Generation			
Site trip generation, with tabulated data, broken out by analysis year for multi-phase developments, and including justification for deviations from ITE rates, if appropriate.	Required	Required	Required
Description and justification of internal capture reductions for mixed use developments and pass-by trip reductions, if appropriate, including table of calculations used.	Required	Required	Required

Site Traffic Distribution and Assignment			
Description of methodology used to distribute trips, with supporting data.	Required	Required	Required
Description of the direction of approach for site generated traffic and diagrams showing the traffic assignment to the road network serving the site for the appropriate time periods.	Required	Required	Required
Analysis of Future Conditions With Development			
Forecast daily and peak hour of the generator traffic volumes on the highway network in the study area, site entrances and internal roadways, tabulated and presented on diagrams.	Future background + site generated traffic, at each expected phase and at build - out or six years after start, whichever is later	Future background + site generated traffic, at each expected phase, at build - out, and six years after build - out, which may be extended or reduced by VDOT in consultation with the locality	At a minimum the future background + site generated traffic, at each expected phase, at build - out, and six years after build - out; may be extended by VDOT in consultation with the locality
Analyses for intersections and roadways identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS presented on diagrams for each lane group.	Required	Required	Required
When the type of development proposed would indicate significant potential for walking, bike or transit trips either on - or off - site, analyses of pedestrian and bicycle facilities, and bus route or routes and segment or segments tabulated and presented on diagrams, if facilities or routes exist or are planned.	Within 2,000 feet of site	Within 2,000 feet of site	To be determined by VDOT in consultation with the locality
Recommended Improvements			
Description and diagram of the location, nature, and extent of proposed improvements, with preliminary cost estimates as available from VDOT.	Required	Required	Required

Description of methodology used to calculate the effects of travel demand management (TDM) measures, if proposed, with supporting data.	Required if TDM proposed	Required if TDM proposed	Required if TDM proposed
Analyses for all proposed and modified intersections in the study area under the forecast and site traffic. Delay, and Level of Service (LOS) are tabulated and LOS presented on diagrams for each lane group. For intersections expected to be signalized, MUTCD Signal Warrant analysis or ITE Manual for Traffic Signal Design, as determined by VDOT, presented in tabular form.	Required	Required	Required
When the type of development proposed would indicate significant potential for walking, bike or transit trips either on - or off - site, analyses of pedestrian and bicycle facilities, and bus route or routes and segment or segments tabulated and presented on diagrams, if facilities or routes exist or are planned.	Within 2,000 feet of site	Within 2,000 feet of site	To be determined by VDOT in consultation with the locality
Conclusions			
Clear, concise description of the study findings.	Required	Required	Required

Notwithstanding the geographic scope noted above, the geographic scope of the study noted above may be reduced or enlarged based upon layout of the local transportation network, the geographical size of the development, and the traffic volume on the existing network, as determined by VDOT in consultation with the locality and the applicant, if applicable. Typically, analysis will be conducted for any roadway on which the additional trips generated by the proposal have a materially detrimental impact on traffic conditions. The analysis presented in the VTIS need not include all roadway and roadway segments located within the geographic scope of the study as determined by VDOT.

2. A VTIS for a development proposal that only meets the low volume road submission criterion (24VAC30-155-40 A 1 c and 24VAC30-155-50 A 1 c 3) shall, at a minimum, consist of the following elements, unless otherwise directed by VDOT.

a. All elements contained in the Background Information portion of the above table, except the geographic scope/limits of study area is limited to the highway fronting the proposed development and the closest intersection, in each direction if applicable, of that highway with a highway that has an average daily traffic volume higher than the fronting highway.

b. A roadway safety inventory study of the roadway segment or segments between the site entrance to the nearest intersections with the higher traffic volume highways, to include such elements as, but not limited to, speed limit, existing warning signs, pavement and shoulder type, pavement and shoulder width, intersection sight distances, and safe horizontal curve speeds.

c. Daily and peak hour traffic volumes presented on diagrams, with counts provided in an appendix, for the fronting highway at the site, at the highway's intersections with the higher volume highway, and for the higher volume highways at their intersection with the fronting highway.

d. All relevant elements contained in the Trip Generation portion of the above table.

e. Projected daily and peak hour of the generator traffic volumes assuming build-out of the proposal, presented on diagrams for the receiving highway at the site, at the highway's intersection with the higher volume highways, and for the higher volume highways at their intersections with the receiving highway.

f. Delay and level of service analysis for the intersections of the receiving highway with the higher volume highways.

g. A comparison of the existing geometrics of the fronting highway under proposed build-out traffic conditions with the geometric standards, based upon functional classification and volume, contained in the Road Design Manual (see 24VAC30-155-100).

3. A VTIS for a rezoning proposal may be prepared in accordance with the “Less than 500 Site Generated Peak Hour Trips” category in the table above, regardless of actual projected trip generation, provided that:

a. The rezoning proposal is in conformance with a locality’s adopted comprehensive plan that was reviewed in accordance with 24VAC30-155-30; and

b. The review of the comprehensive plan included the submission to VDOT of a technical evaluation of the traffic impacts for anticipated development based on the future land use policies and map.

D. Methodology and standard assumptions. A VTIS shall be prepared based upon methodology and assumptions noted below or as may be agreed upon by VDOT based upon the results of a scope of work meeting held by VDOT pursuant to this section.

1. Data collection. Preparers shall collect traffic data in accordance with the identified study area. The count data shall include at a minimum, weekday 24-hour counts, and directional turning movement counts during AM and PM peak times of the day. The 24-hour counts shall include vehicle classification counts. With approval of VDOT, data collected by the transportation professional preparer within the last 24 months may be used, likewise for data from the VDOT count program.

The preparer shall monitor traffic operations during data collection to ensure extraneous events such as vehicle crashes or special event traffic do not affect integrity of count data. Preparers collecting data for utilization in traffic impact studies shall normally avoid data collection during the following instances:

a. Holidays or times of the year when the traffic patterns are deemed to be unrepresentative of typical conditions, unless required by VDOT or the locality, or both.

b. Summer months if school or schools in proximity.

c. Fridays and weekends unless required by VDOT or the locality, or both.

d. Other times of the year contingent upon existing adjacent land use activities.

e. During times of inclement weather.

2. Trip generation. Estimates of trip generation by a proposed development shall be prepared using the Institute of Transportation Engineers Trip Generation (see 24VAC30-155-100), unless VDOT agrees to allow the use of alternate trip generation rates based upon alternate published guides or local trip generation studies. VDOT shall at all times after July 1, 2011, have at least one non-ITE trip generation methodology or alternative rate approved for the use in preparation of small area plan traffic impact statements pursuant to 24VAC30-155-30 C that recognizes the benefits of reduced vehicle trip generation and vehicle miles traveled from developments that

meet the criteria for a small area plan pursuant to this regulation. Such alternate methodology or rate can be modified based upon local factors if agreed to at a scoping meeting. Rezoning proposals shall assume the highest vehicle trip generating use allowable under the proposed zoning classification. In determining which trip generation process (equation or rate) may be used, the preparer shall follow the guidance presented in the Trip Generation Handbook – an ITE Proposed Recommended Practice (see 24VAC30-155-100), which is summarized here, except rates may be utilized if the criteria for the use of regression equations are not met. Regression equations to calculate trips as a result of development shall be utilized, provided the following is true:

a. Independent variable falls within range of data; and

b. Either the data plot has at least 20 points; or

c. R^2 is greater than 0.75, equation falls within data cluster in plot and standard deviation greater than 110% of weighted average rate.

If the above criteria are not met, then the preparer can use average trip rates, though if the following do not apply a rate based upon the study of similar local sites should be considered:

d. At least three data points exist;

e. Standard deviation less than 110% of weighted average rate; and

f. Weighted average rate falls within data cluster in plot.

3. Internal capture and pass-by trips.

a. Internal capture rates consider site trips "captured" within a mixed use development, recognizing that trips from one land use can access another land use within a development without having to access the adjacent street system. Mixed use developments include a combination of residential and nonresidential uses or a combination of nonresidential uses only. Internal capture allows reduction of site trips from adjacent intersections and roadways. For traffic impact statements prepared for small area plans pursuant to 24VAC30-155-30 C the internal capture rate or rates may be based on the non-ITE trip generation methodology approved by VDOT. For ITE-based methodologies, unless otherwise approved by VDOT, the following internal capture rates should be used if appropriate:

(1) Residential with a mix of nonresidential components - use the smaller of 15% of residential or 15% nonresidential trips generated.

(2) Residential with office use - use the smaller of 5.0% of residential or 5.0% of office trips generated.

(3) Residential with retail use - for AM peak hour, use the smaller of 5.0% residential or 5.0% retail trips generated; for PM peak hour, use the smaller of 10% residential or 10% retail trips generated; for 24-hour traffic, use the smaller of 15% residential or 15% retail trips generated.

(4) Hotel/motel with office use - use 15% of hotel/motel trips, unless the overall volume of the office traffic is more than the overall volume of hotel/motel traffic use in which case use the smaller of 10% of the hotel/motel traffic or the office traffic.

(5) Multiuse development with more than five million square feet of office and retail - internal capture rate should be determined in consultation with and approval of VDOT.

(6) Office with retail use – use the smaller of 5% office or retail trips generated.

(7) Some combination of the above, if approved by VDOT.

b. Pass-by trip reductions consider site trips drawn from the existing traffic stream on an adjacent street, recognizing that trips drawn to a site would otherwise already traverse the adjacent street regardless of existence of the site. Pass-by trip reductions allow a percentage reduction in the forecast of trips otherwise added to the adjacent street from the proposed development. The reduction applies only to volumes on adjacent streets, not to ingress or egress volumes at entrances serving the proposed site. Unless otherwise approved by VDOT, the pass-by rates utilized shall be those reported in Trip Generation Handbook, Second Edition – an ITE Proposed Recommended Practice (see 24VAC30-155-100). For traffic impact statements prepared for small area plans pursuant to 24VAC30-155-30 C, the pass-by trip reductions may be based on the non-ITE trip generation methodology approved by VDOT.

4. Trip distribution. In the absence of more detailed information, trip distribution shall be in accordance with logical regional travel patterns as suggested by existing highway directional split and intersection movements or population and destination site distribution and shall

recognize the effects of increased street connectivity if such streets meet the requirements of the Secondary Street Acceptance Requirements (see 24VAC30-155-100). If more detailed information is available from trip origin/destination studies, marketing studies, or regional planning models, this may be used to distribute trips upon approval of VDOT.

5. Planning horizon. In general, the analysis years shall be related to (i) the opening date of the proposed development, (ii) build-out of major phases of a multiyear development, (iii) long-range transportation plans, and (iv) other significant transportation network changes. The preparer should establish the planning horizon in consultation with and subject to the acceptance of VDOT.

6. Background traffic growth. Unless directed by VDOT, geometric growth (or compound growth), based upon historical growth rates, shall generally be used for determining future background traffic levels where extensive traffic-count history is available and capacity constraint is not appropriate. This growth rate replicates "natural growth" and is typical for projecting urban growth. Natural growth of traffic can be adjusted consistent with traffic forecasts associated with previously submitted local land development projects within the study area.

7. Future conditions. For the purpose of the VTIS, future conditions shall include background traffic and additional vehicle trips anticipated to be generated by approved but not yet constructed or improved projects.

8. Level of service calculation. Level of service (LOS) analysis for highways shall utilize the techniques described in the Highway Capacity Manual (see 24VAC30-155-100). Neither the intersection capacity utilization method nor the percentile delay method may be used in the traffic impact calculations of delay and level of service. Preparers shall consult with VDOT on which traffic analysis software package is to be used to conduct the LOS calculations. The results shall be tabulated and displayed graphically, with levels of service provided for each lane group for each peak period. All data used in the calculations must be provided along with the results of the capacity analysis. Any assumptions made that deviate from the programmed defaults must be documented and an explanation provided as to why there was a deviation. Electronic files used for the analysis shall be provided to VDOT as a digital submission (e.g. .hcs, .sy6, .inp, .trf files), along with the printed report. If intersections analyzed are in close proximity to each other so that queuing may be a factor, VDOT may require the inclusion of

an analysis with a micro simulation model. Unless actual on-ground conditions dictate otherwise, preparers should use the following defaults when utilizing the Highway Capacity Software (HCS) or other approved programs when evaluating roadway components:

a. Terrain – choose the appropriate terrain type. Most of the state will be level or rolling, but some areas may qualify for consideration as mountainous.

b. Twelve-foot wide lanes.

c. No parking or bus activity unless field conditions include such parking or bus activity or unless the locality has provided VDOT with a written statement of intent for the services to be provided.

d. Peak hour factor by approach – calculate from collected traffic counts (requires at least a peak hour count in 15-minute increments). However, the use of peak hour factors lower than 0.85 shall only be allowed if based upon the average of more than three peak hour counts. For future conditions analysis, unless specific site conditions can be expected to create extreme peak hour factors, default peak hour factors between 0.92 and 1.00 should be used.

e. Heavy vehicle factor – calculate from collected traffic (classification) counts or obtain from VDOT count publications. For future conditions analysis with development traffic, the existing heavy vehicle factor should be adjusted based upon the nature of the traffic being generated by the development.

f. Area type – non-center of business district.

The VTIS shall identify any existing or proposed bicycle and pedestrian accommodation that would be affected by the proposal. For the purposes of this subsection, a bicycle accommodation is defined as on-street bike lanes, paved shoulders of roadways that are not part of the designated traveled way for vehicles, or exclusive and shared off-street bicycle paths.

For the purposes of this subsection, a pedestrian accommodation is defined as sidewalks, intersection treatments and exclusive or shared off-street trails or paths. If significant potential for bicycle or pedestrian trips exists, the VTIS shall include current and future service level analyses at build-out for existing or proposed bicycle and pedestrian accommodations. When the proposal requires or includes improvements or modifications to the roadway, bicycle or pedestrian accommodations, the VTIS shall analyze the impacts of such improvements and

modifications on bicycle and pedestrian accommodations and service levels, and provide recommendations for mitigation of adverse impacts.

The VTIS shall provide analysis for all bus service with routes that have, or will have a station or stop within 2,000 feet of the proposal. The VTIS shall evaluate and discuss potential for increased demand for bus use due to the proposal, addressing whether such increases will result in longer dwell time at stops or increase the need for buses on a route. The quality of service analysis for bus service shall be determined in accordance with the Transit Capacity and Quality of Service Manual (see 24VAC30-155-100). The VTIS shall provide both route and segment quality of service. The VTIS may consider the benefits of dedicated bus lanes for more frequent and rapid service. The VTIS shall provide recommendations for mitigation of adverse impacts where adverse impacts are expected to the quality of service to bus service. If an analysis of pedestrian quality or level of service is required for calculation of the bus quality of service, the preparer shall use a methodology approved by VDOT.

9. Trip reduction, and pedestrian and bicycle accommodations. When a proposal meets the criteria listed below, the preparer of the VTIS may reduce the number of vehicle trips generated by the proposal in the VTIS analysis in accordance with this subsection. Notwithstanding the percentages below, the total number of reductions used by a preparer in accordance with this subsection shall not exceed 500 vehicle trips per peak hour of the generator unless otherwise approved by VDOT. The trip reductions for traffic impact statements prepared for small area plans pursuant to 24VAC30-155-30 C may be based on the non-ITE trip generation methodology approved by VDOT and are not subject to limitations or requirements of this subdivision.

a. Pedestrian accommodations. For the purposes of this subsection, a pedestrian accommodation is defined as a sidewalk, pedestrian path, or multiuse trail. Where a pedestrian service level of A exists, vehicle trips per peak hour of the generator may be reduced by 4.0% for those portions of the development within a 2,000-foot radius of the connections between the proposed development and the adjoining network. Where a pedestrian service level of B exists, vehicle trips per peak hour of the generator may be reduced by 3.0%; where a pedestrian service level of C exists, vehicle trips per peak hour of the generator may be reduced by 1.5% for the portion of the development noted above. These reductions may only be taken if:

(1) Pedestrian facility coverage in a 2,000-foot radius of the connections to the proposed development is on or along at least 80% of the road network;

(2) The pedestrian facilities inside and outside the development provide reasonably direct access to traffic generators; and

(3) There are at least two of the 10 major land use classifications, as defined in ITE Trip Generation (see 24VAC30-155-100), within the 2,000-foot radius.

b. Bicycle accommodations. For the purposes of this subsection, a bicycle accommodation is defined as a street with a design speed of 25 MPH or less that carries 400 vehicles per day or less, on-street bike lanes, a pedestrian accommodation, paved shoulders of roadways that are not part of the designated traveled way for vehicles and are at least two feet wide, or exclusive and shared off-street bicycle paths. Where a bicycle service level of A exists, vehicle trips per day may be reduced by 3.0%. Where a bicycle service level of B exists, vehicle trips per day may be reduced by 2.0%. Where a bicycle service level of C exists, vehicle trips per day may be reduced by 1.0%. These reductions may only be taken if:

(1) Bicycle accommodations within a 2,000-foot radius of the connections to the proposed development exist on or along at least 80% of the road network;

(2) The bicycle accommodations inside and outside the development provide reasonably direct access to traffic generators; and

(3) There are at least two of the 10 major land use classifications as defined in ITE Trip Generation (see 24VAC30-155-100), within the 2,000-foot radius.

10. Modal split and trip reduction. All vehicle trip reductions used in the VTIS pursuant to this subsection are subject to the approval of VDOT.

a. If a proposal is located within 1/2 mile along roadways, pedestrian or bicycle accommodations of a transit station, excluding bus stops and stations, reasonable vehicle trip reductions of vehicle trips generated by the proposal may be made with approval of VDOT. The preparer shall submit documentation to justify any such vehicle trip reductions used with the VTIS. When a proposal is located more than 1/2 mile but less than two miles from a transit stop, excluding bus stops and stations, with bicycle parking accommodations,

additional bicycle modal split reductions may be utilized. The analysis of capacity of the parking accommodations shall be included in the VTIS when such trip reductions are used.

b. If a proposal is located within 1/4 mile along roadways, pedestrian or bicycle accommodations of a bus stop or station where the segment and route service levels are C or higher, reasonable vehicle trip reductions of vehicle trips generated by the proposal may be made with the approval of VDOT. The preparer shall submit documentation to justify any such vehicle trip reductions used with the VTIS.

c. Transit and bus modal split data from similar developments within the geographic scope of the VTIS or one mile of the proposal, whichever is greater, shall be collected if the VTIS vehicle trip reductions are used pursuant to this subsection and similar developments exist within the geographic scope of the VTIS or one mile of the proposal, whichever is greater.

11. Signal warrant analysis. Traffic signal warrant analysis shall be performed in accordance with the procedures set out in the Manual on Uniform Traffic Control Devices (see 24VAC30-155-100) or ITE Manual of Traffic Signal Design as determined by VDOT.

12. Recommended improvements. Recommendations made in the VTIS for improvements to transportation facilities shall be in accordance with the geometric standards contained within the Road Design Manual (see 24VAC30-155-100).

24VAC30-155-70. Departmental analysis.

After concluding its review of a proposed comprehensive plan or transportation plan or plan amendment, or rezoning, VDOT shall provide the locality and applicant, if applicable, with a written report detailing its analysis and when appropriate recommending transportation improvements to mitigate any potential adverse impacts on state-controlled highways. VDOT shall provide recommendations for facilitating other modes of transportation including but not limited to transit, bus, bicycle and pedestrian facilities or accommodations where such facilities or accommodations are planned or exist, or where such facilities have a significant potential for use. In addition, VDOT shall provide the locality and the applicant, if applicable, with preliminary recommendations regarding compliance with other VDOT regulations such as the Secondary Street Acceptance Requirements (see 24VAC30-155-100), the Access Management Regulations: Principal Arterials (see 24VAC30-155-100), and the Access Management Regulations: Minor Arterials, Collectors, and Local Streets (see 24VAC30-155-100).

24VAC30-155-80. Fees.

A. Locality initiated proposals. No fee shall be charged for review of any comprehensive plan, comprehensive plan amendment, or rezoning proposal initiated by a locality or other public agency.

B. Proposals containing a traffic impact statement as described in subdivision C 1 of 24VAC30-155-40. No fee shall be charged for the review of a rezoning submission that properly includes a traffic impact statement submitted under subdivision C 1 of 24VAC30-155-40.

C. All other proposals. Any package submitted to a locality by an applicant that will be subject to VDOT review pursuant to this chapter shall include any required payment in a form payable directly to VDOT.

1. For initial or second review of all comprehensive plans, comprehensive plan amendments, and transportation plans submitted to VDOT for review, not initiated on behalf of the locality, there shall be a fee of $1,000 charged to the applicant. This fee shall be paid upon submission of a plan to VDOT for review.

2. For initial or second review of rezoning proposals accompanied by a traffic impact statement not initiated on behalf of the locality, there shall be a single fee for both reviews determined by the number of adjusted vehicle trips generated per peak hour, as follows:

Submission made due to 24VAC30-155-40 A 3 (Low volume road criterion) -	$250
All other submissions -	$1,000

The fee shall be paid upon submission of a package to VDOT for review.

3. For a third or subsequent submission pursuant to subdivisions 1 or 2 of this subsection, that is requested by VDOT on the basis of the failure of the applicant to address deficiencies previously identified by VDOT, the applicant shall be required to pay an additional fee as though the third or subsequent submission were an initial submission and requiring the fees identified above. An applicant or locality may appeal to the district administrator a determination by VDOT that a submitted package failed to address deficiencies previously identified by VDOT.

24VAC30-155-90. (Repealed.)

24VAC30-155-100. Listing of documents incorporated by reference.

Requests for information pertaining to the availability and cost of any of these publications should be directed to the address indicated below the specific document. Requests for documents available from VDOT may be obtained from VDOT's division and representative indicated; however, VDOT documents may be available over the Internet at www.vdot.virginia.gov.

1. Access Management: Minor Arterials, Collectors, and Local Streets (24VAC30-73)

VDOT
1401 E. Broad Street
Richmond, Virginia 23219

2. Access Management: Principal Arterials (24VAC30-72)

VDOT
1401 E. Broad Street
Richmond, Virginia 23219

3. Highway Capacity Manual, 2010

Transportation Research Board
500 Fifth Street NW
Washington, DC 20001

4. ITE Manual of Traffic Signal Design, 1998

Institute of Transportation Engineers
1099 14th Street NW
Suite 300 West
Washington, DC 20005

5. Manual on Uniform Traffic Control Devices, effective 2003, revised 2004

Federal Highway Administration
Superintendent of Documents
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, Pennsylvania 15250

6. Road Design Manual, 2011

VDOT
1401 E. Broad Street
Richmond, Virginia 23219

7. Secondary Street Acceptance Requirements (24VAC30-92)

Commonwealth Transportation Board
1401 E. Broad Street
Richmond, Virginia 23219

8. Transit Capacity and Quality of Service Manual, 2nd Edition, 2003

Transportation Research Board of the National Academies
Keck Center of the National Academies
Transportation Research Board
500 Fifth Street, NW
Washington, DC 20001

9. Trip Generation, 2008

Institute of Transportation Engineers
1099 14th Street NW
Suite 300 West
Washington, DC 20005

10. Trip Generation Handbook, Second Edition – an ITE Recommended Practice, 2004

Institute of Transportation Engineers
1099 14th Street NW
Suite 300 West
Washington, DC 20005

Exhibit B

Organization of a Traffic Impact Analysis Report

1) Introduction and Summary

a) Purpose of report and study objectives

b) Executive Summary
   i) Site location and study area
   ii) Description of the proposed development
   iii) Principal findings
   iv) Conclusions
   v) Recommendations

2) Background Information: Proposed Development (Site and Nearby)

a) List of all non-existent transportation improvements assumed in the analysis

b) Description of on-site development
   i) Map of site location
   ii) Description of the parcel
   iii) General terrain features
   iv) Location within the jurisdiction and region
   v) Comprehensive Plan recommendations for the subject property
   vi) Current or proposed zoning of the subject property

c) Description of geographic scope and limits of study area *

d) Plan at an engineering scale of the existing and proposed site uses

e) Description and map or diagram of nearby uses, including parcel zoning

f) Description and map or diagram of existing roadways

g) Description and map or diagram of programmed improvements to roadways, intersections, and other transportation facilities within the study area

3) Analysis of Existing Conditions

a) Collected daily and peak hour of the generator traffic volumes, tabulated and presented on diagrams with counts provided in an appendix *

b) Analyses for intersections and roadways identified by VDOT *
   i) Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group

c) When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s), tabulated and presented on diagrams, if facilities or routes exist *

d) Speed Study (if requested by VDOT)

e) Crash history near site (if requested by VDOT)

f) Sight distance (if requested by VDOT)

4) Analysis of Future Conditions Without Development

a) Description of and the justification for the method and assumptions used to forecast future traffic volumes *

b) Analyses for intersections and roadways as identified by VDOT *

i) Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group

c) When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities or routes exist or are planned *

5) Trip Generation

a) Site trip generation, with tabulated data, broken out by analysis year for multi-phase developments, and including justification for deviations from ITE rates, if appropriate

b) Description and justification of internal capture reductions for mixed use developments and pass-by trip reductions, if appropriate, including table of calculations used

6) Site Traffic Distribution and Assignment

a) Description of methodology used to distribute trips, with supporting data

b) Description of the direction of approach for site generated traffic and diagrams showing the traffic assignment to the road network serving the site for the appropriate time periods

7) Analysis of Future Conditions With Development

a) Forecast daily and peak hour of the generator traffic volumes on the highway network in the study area, site entrances and internal roadways, tabulated and presented on diagrams *

b) Analyses for intersections and roadways identified by VDOT *
   i) Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group

c) When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities exist or are planned *

8) Recommended Improvements

a) Description and diagram of the location, nature, and extent of the proposed improvements, with preliminary cost estimates as available from VDOT

b) If travel demand management (TDM) measures are proposed, description of methodology used to calculate the effects of TDM measures with supporting data

c) Analyses for all proposed and modified intersections in the study area under the forecast and site traffic *
   i) Delay and Level of Service (LOS) are tabulated and LOS presented on diagrams for each lane group
   ii) For intersections expected to be signalized, MUTCD Signal Warrant analysis or ITE Manual for Traffic Signal Design, as determined by VDOT, presented in tabular form

d) When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities or routes exist or are planned *

9) Conclusions

a) Clear, concise description of the study findings

* *The level of analysis and information provided depends on site generated peak hour traffic. See page 2 of these forms; 24 VAC 30-155-60.C. Required Elements table..*

VDOT CHECKLIST

EVALUATION of the SUBMITTED TRAFFIC IMPACT ANALYSIS

☑	ITEM PROVIDED OR NOT APPLICABLE (NA)	
	Verify Use of Methodology and Standard Assumptions in Regulations (or Changes Approved at Scope of Work Meeting)	
	Verify any Additions to Required Elements Approved at Scope of Work Meeting	
?	Was a Scope of Work Meeting held with the City and/or VDOT?	
	Introduction and Summary	
☒	Purpose of report and study objectives	
☐	Executive Summary: Site location and study area; description of the proposed development; conclusions; recommendations.	Not Provided
	Background Information	
☐	List of all non-existent transportation improvements assumed in the analysis	Not Applicable
☒	Map of site location, description of the parcel, general terrain features, and location within the jurisdiction and region.	
☒	Comprehensive plan recommendations for the subject property	
☒	Current and proposed zoning of the subject property	
☒	Description of geographic scope / limits of study area.	
☒	Plan at an engineering scale of the existing and proposed site uses.	
☒	Description and map or diagram of nearby uses, including parcel zoning.	
☒	Description and map or diagram of existing roadways.	
☐	Description and map or diagram of programmed improvements to roadways, intersections, and other transportation facilities within the study area.	Not Applicable
	Analysis of Existing Conditions	
☒	Collected daily and peak hour of the generator traffic volumes, tabulated and presented on diagrams with counts provided in an appendix.	
☒	Analyses for intersections and roadways identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group.	

☑	ITEM PROVIDED OR NOT APPLICABLE (NA)	
☐	When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s), tabulated and presented on diagrams, if facilities or routes exist.	Not Provided
☐	Speed Study Not Applicable	
☐	Crash history near site Not Applicable	
☐	Sight distance Not Applicable	
	Analysis of Future Conditions Without Development	
☒	Description of and justification for the method and assumptions used to forecast future traffic volumes.	
☒	Analyses for intersections and roadways as identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS is presented on diagrams for each lane group.	
☐	When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities or routes exist or are planned.	Not Provided
	Trip Generation	
☒	Site trip generation, with tabulated data, broken out by analysis year for multi-phase developments, and including justification for deviations from ITE rates, if appropriate.	
☐	Description and justification of internal capture reductions for mixed use developments and pass-by trip reductions, if appropriate, including table of calculations used.	Not Provided
	Site Traffic Distribution and Assignment	
☒	Description of methodology used to distribute trips, with supporting data.	
☒	Description of the direction of approach for site generated traffic and diagrams showing the traffic assignment to the road network serving the site for the appropriate time periods.	
	Analysis of Future Conditions With Development	
☒	Forecast daily and peak hour of the generator traffic volumes on the highway network in the study area, site entrances and internal roadways, tabulated and presented on diagrams.	
☒	Analyses for intersections and roadways identified by VDOT. Delay and Level of Service (LOS) are tabulated and LOS presented on diagrams for each lane group.	
☐	When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities exist or are planned.	Not Provided

☑	ITEM PROVIDED OR NOT APPLICABLE (NA)	
	Recommended Improvements	
☐	Description and diagram of the location, nature, and extent of proposed improvements, with preliminary cost estimates as available from VDOT. Not Applicable	
☐	Description of methodology used to calculate the effects of travel demand management (TDM) measures, if proposed, with supporting data. Not Applicable	
☒	Analyses for all proposed and modified intersections in the study area under the forecast and site traffic. Delay, and Level of Service (LOS) are tabulated and LOS presented on diagrams for each lane group. For intersections expected to be signalized, MUTCD Signal Warrant analysis or ITE Manual for Traffic Signal Design, as determined by VDOT, presented in tabular form.	
☐	When the type of development proposed would indicate significant potential for walking, bike or transit trips either on- or off-site, analyses of pedestrian and bicycle facilities, and bus route(s) and segment(s) tabulated and presented on diagrams, if facilities or routes exist or are planned.	Not Provided
	Conclusions	
☒	Clear, concise description of the study findings.	

NOTES: ____

_____

SIGNED: _____ DATE: _____

~~VDOT Representative~~

PRINT NAME: _____

~~VDOT Representative~~

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Shenandoah Valley

Envisioning Tomorrow, Designing Today

February 2, 2024

City of Salem, Virginia
Department of Planning
21 South Bruffey Street
Salem, VA 24153
Attn: William Simpson, Jr., PE

RE: HopeTree Planned Unit Development
Response to City of Salem Traffic Study Review
B&A Project # 04220029.00

Dear Mary Ellen,

Please find attached the revised Site Plans for the above referenced project. These plans have been revised in accordance with comments in the review letter prepared by Mattern & Craig, dated December 20, 2023, and provided to us by the City of Salem. Mattern and Craig comments are shown in italics, Mattern and Craig recommended actions are shown in bold italics. Balzer responses are provided in bold below each comment and recommended action.

REVIEW LETTER COMMENTS:

1. *The proposed development is a rezoning of approximately 62 acres of land located along Red Lane in the City of Salem and is proposed as a mixed-use development consisting of single family detached housing, multi-family housing, hotel use, general office use, and retail (restaurant) use. Since the proposed development is a mixed-use development, the study does not qualify as a low volume road submission as defined in the **VDOT Traffic Impact Analysis Regulations** (must be residential only). The "Required Elements of a Traffic Impact Analysis" table as depicted on pages 46-49 of the **Administrative Guidelines** (see Exhibit A) was used in determining conformity with VDOT and standard practices. The unadjusted trip generation contained in the TIS prepared by Balzer & Associates identifies 286 site-generated AM peak hours trips and 312 site-generated PM peak hour trips for the proposed development. As such, the "Less than 500" column in the above-referenced table was used to define the necessary elements of the study.*
   Recommended Action: None.

2. *Page 1 of the Balzer-prepared TIS identifies the study area intersections (indicated as discussed with the City of Salem) as Red Lane at East Carrollton Avenue and East Carrollton Avenue at North Broad Street.*
   Recommended Action: Documentation should be provided that shows what conversations were had and what decisions were agreed upon with the City. The defined area study of only two intersections seems insufficient considering the scope of the proposed development, the location of the proposed development, the multiple access points to the development, and the existing transportation infrastructure surrounding the development. At a minimum, along with the two intersections identified above, all existing access points should be included in the study area as well as the intersection of East Carrollton Avenue at Mt. Vernon Lane since this intersection is located in-between the two identified study intersections and serves as an access point to the development. Further intersections for consideration include Mt. Vernon Lane at Red Lane and Printer's Lane at Red Lane. The applicant should provide documentation justifying the limited study area or revise the TIS to include an expanded study area as described above.

   Response:
   The scope of the traffic study was previously discussed and agreed upon with the City of Salem. The intersection of Mount Vernon Avenue and East Carrollton Avenue was not chosen for analysis simply because it is evident that the volumes at this intersection

would be very similar to the volumes at the two intersections that were being studied and it seemed redundant to include. However, after further discussion with the City of Salem, this intersection has been included in the traffic study to further document that the existing roadway network and intersections will function adequately. As shown in the study, this intersection will function at a level of service 'A' in all scenarios.

Turn lane warrants have been analyzed for the highest volume entrances to show that turn lanes are not warranted for the development. Level of service and queuing along Red Lane will not be affected at any of these entrance points because there is not a stop condition along this roadway.

3. *Page 3 of the Balzer-prepared TIS indicates that, among other things, the study was undertaken to determine the impacts to level of service and* ***queue lengths*** *at the existing intersections. Page 15 of the study includes tabular results of level of service (LOS) and delay (control delay) for the two study intersections but does not include any queue length results.*
Recommended Action: The summarized capacity analyzed results should include tabulated results of the Synchro 95th Percentile queue as well as the SimTraffic max queue or discussion should be included as to the results of the queue length analyses.

Response:
SimTraffic queuing analysis has been included for the study intersections for all scenarios. The Buildout queue lengths are very similar to Existing and Background scenarios for all intersections and no improvements are warranted based on these results.

4. *The traffic volumes on Figure 1 (existing peak hour turning movement counts) match the raw turning movement count data included in Appendix C of the Balzer-prepared TIS. The use of a 1.5% growth rate over a period of 5 years (to achieve the background year of 2028) seems reasonable and the traffic volumes on Figure 2 (2028 turning movement counts) appear to be correctly calculated.*
Recommended Action: None.

5. *Section 4. Trip Generation of the Balzer-prepared TIS provides information related to the trips expected to be generated by the development as well as information on potential trip reduction due to the mixed-use nature of the development (internal capture) and due to the walkable aspect of the proposed development. The unadjusted trips presented in Table 2: Site Generated Traffic on Page 8 of the TIS seem reasonable. The* ***ITE Trip Generation Manual*** *and* ***Handbook*** *contains methodology for the application of trip reductions for multi-use developments. In addition, VDOT provides an alternative trip generation methodology for mixed use developments (see page 43 of the VDOT Administrative Guidelines for Traffic Impact Analysis Regulations in Exhibit A attached to this letter report). Page 9 of the Balzer-prepared TIS applies a flat 25% reduction to the trip generated values presented in Table 1. While this may or may not be a reasonable reduction to apply, it is unclear how this 25% number was realized.*
Recommended Action: The TIA should employ the use of either the ITE internal capture trip reduction methodology or the VDOT alternative trip generation methodology to achieve the appropriate trip reduction and document how the reduction numbers are obtained.

Response:
The ITE and VDOT methodologies both require a high level of detail about proposed uses that is not available at this time. In addition, these methodologies do not adequately account for other qualities of this development that are expected to further reduce

generated trips. These include urban design principles such as close proximity between uses within the development and outside the development, proximity to downtown, and the very nature of the development, which is to prioritize pedestrian connectivity and de-emphasize vehicle trips. Additional information is included in the traffic study regarding research that has been done on other mixed-use developments.

Based on the characteristics of this development, a 25% reduction is considered to be reasonable and has not been revised in the study. However, additional analysis was performed to determine how the results of the study would be affected if the 25% reduction was eliminated. It was determined that eliminating the 25% reduction results in almost no increase in delay/queuing at the study intersections and would not change the results of the study. These results are not included in the study as they are not deemed to be an accurate representation of trip generation for this development, but are summarized here as supplemental information for this review.

6. *Section 5. Site Traffic Distribution and Assignment describes how traffic was distributed to the various existing and proposed access points for the development. Figures 3 and 4 identify 8 different access points which seems excessive for a development of this magnitude.*
Recommended Action: The applicant should have discussions with the City of Salem and VDOT regarding the locations of proposed access points to serve the development. If those discussions have already taken place, documentation of those discussions and decisions agreed upon should be provided. While it is true that the multiple access points will "disperse traffic and efficiently distribute vehicles to the adjacent road system" as stated on Page 10 of the Balzer-prepared TIS, having multiple access points introduces additional potential conflict points on the existing transportation infrastructure and is counter-productive to modern access management techniques. Generally, proposed access points should be kept to the minimum required to adequately serve the proposed development in an efficient and safe manner. The applicant should consider consolidation of some of the proposed access points or provide documentation as to why this is not feasible.

Response:
Additional discussions have occurred with the City of Salem Engineering Department. While it is true that modern access management technique is to consolidate entrances in most instances, this is more applicable to busier corridors with higher traffic volumes and higher speeds. The location of this development along lower volume roads and in proximity to residential areas warrants a different approach. One of the guiding principles of this type of development is to create a 'block' system of roads with multiple routes to each destination and to avoid high volumes of cars entering or exiting at any specific point. To consolidate entrances would run counter to the type of development that this is.

In addition to this, one of the main concerns that we have heard from existing residents in the area is about vehicle speed on Red Lane combined with pedestrians that walk along Red Lane. The design of this development with multiple access points on Red Lane, on-street parking proposed along Red Lane, and new pedestrian improvements adjacent to Red Lane are all designed to lower traffic speeds on Red Lane and improve pedestrian safety.

7. *Section 7. Turn Lane Warrants of the Balzer-prepared TIS contains a summary of the results for analyses of left and right turn lanes at the study intersections. However, analyses were not provided for the left and right turn lanes at the intersection of East Carrollton Avenue at Red Lane (currently a study intersection) or at the intersection of East Carrollton Avenue at Mt. Vernon Lane.*

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Recommended Action: Additional analyses should be performed at the above-mentioned intersections at a minimum and potentially more intersections if the access points to the development are consolidated and/or if either the City or VDOT expand the study area.

Response:
VDOT turn lane warrants are not appropriate for analyzing the need for turn lanes on local, low speed, roadways with other intersection controls already in place. These warrants are generally utilized for new entrances between existing intersections where there are not already stop controls in place. The provided intersection modeling supports the conclusion that the intersections function at an acceptable level of service in both pre-development and post-development conditions and turn lanes are not warranted at any of these approaches.

8. *Section 8. Conclusions of the Balzer-prepared TIS concludes that no improvements are recommended to the existing transportation infrastructure as a result of this proposed development.*
Recommended Action: Pending the answers provided to the above comments and the further discussions the applicant may need to have with the City and/or VDOT, the Conclusions Section may need to be rewritten to include recommended mitigation improvements.

Response:
No revisions to Conclusions as a result of the traffic study revisions.

Please do not hesitate to contact me with any concerns and/or questions.

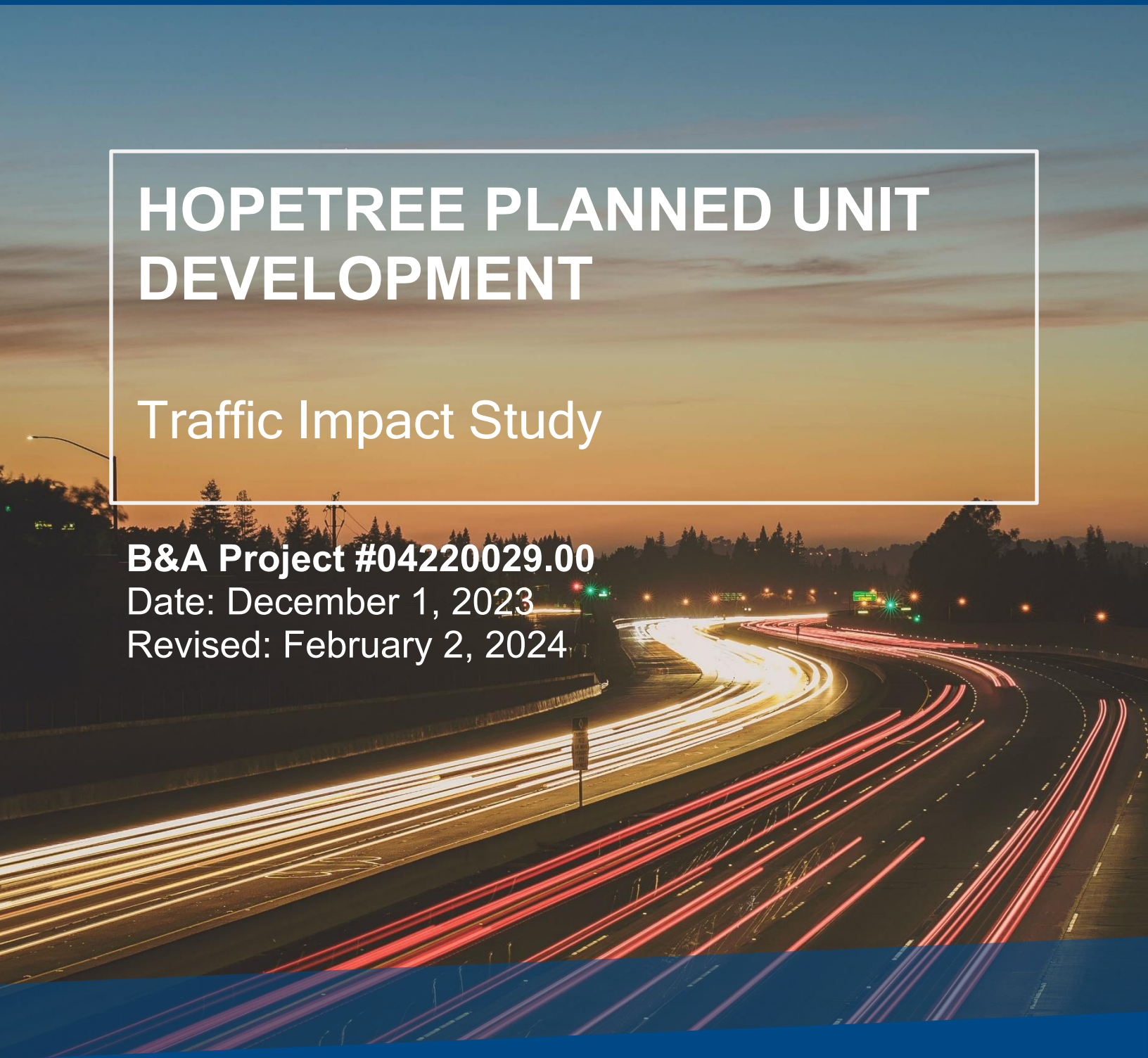
Respectfully Submitted,

BALZER AND ASSOCIATES, INC.

Christopher Burns, P.E.
Associate Vice President

Envisioning Tomorrow, Designing Today

BALZER & ASSOCIATES



HOPETREE PLANNED UNIT DEVELOPMENT

Traffic Impact Study

B&A Project #04220029.00
Date: December 1, 2023
Revised: February 2, 2024

Planners | Architects | Engineers | Surveyors
1208 Corporate Circle, Roanoke, VA 24018
www.balzer.cc

TRAFFIC STUDY
FOR

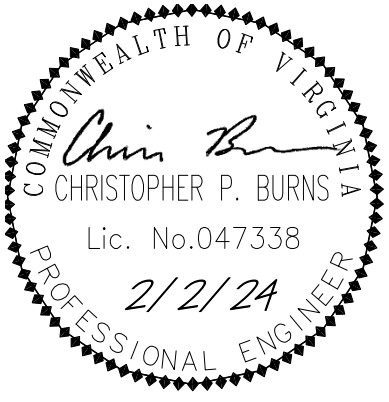
HOPETREE PLANNED UNIT DEVELOPMENT

TAX MAP #: 44-3-10

860 MOUNT VERNON LANE
CITY OF SALEM, VIRGINIA

B&A PROJECT #04220029.00

DATE: December 1, 2023
REVISED: February 2, 2024



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1208 Corporate Circle Roanoke, Virginia 24018 Phone: (540) 772-9580

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& ASSOCIATES

1. Introduction

HopeTree Family Services is proposing to rezone 62.318 acres of land located along Red Lane in the City of Salem (see Appendix A for vicinity map). The property is proposed to be rezoned from RSF, Residential Single Family, to PUD, Planned Unit Development. The P.U.D. Land Use Plan, prepared by Civic by Design, is included in Appendix B. The development will have a mix of residential and commercial use types. The maximum number of residential units allowed for this development is 340 and these are assumed to be broken down by type as outlined in the list below. Residential and commercial uses will be determined by market conditions and opportunities available at the time of development. The list below outlines the uses that have been assumed for the purposes of this traffic study.

- 115 Single-Family Detached Dwelling Units
- 140 Single-Family Attached Dwelling Units
- 85 Multi-Family Dwelling Units
- 60 Total Hotel Rooms
- 15,000 s.f. of Total General Office Space
- 7,500 s.f. of Total Restaurant Space

The breakdown of uses above is based on what is considered to be a reasonable and conservative expectation for the development based on the P.U.D. Land Use Plan. The actual breakdown will differ from these assumptions. It is recommended that projected trip generation be tracked as the development progresses for comparison to the traffic study. If the actual development results in significantly more traffic than what is included in these assumptions, then it may be necessary to update this study.

The site is located on the west side of Red Lane with East Carrollton Avenue to the south and Interstate 81 to the north. The property is described as City of Salem Tax Parcel #44-3-10. The development has several proposed existing and proposed entrances on Red Lane, East Carrollton Avenue, and North Broad Street.

As discussed with the City of Salem, the following intersections will be analyzed to determine levels of service with the proposed development:

- Red Lane and East Carrollton Avenue (Unsignalized)
- East Carrollton Avenue and Mount Vernon Lane (Unsignalized)
- East Carrollton Avenue and North Broad Street (Unsignalized)

All roads in the direct vicinity of the project are two-lane local roads that provide access between mostly residential areas. A mix of residential building types is present in this area, including single-family, two-family, townhome, and multi-family units. Roanoke College is located approximately 0.25 miles from the site to the southeast. The Main Street and downtown Salem commercial corridor is located approximately 0.7 miles south of the site. There are also two golf courses located in this area, Hanging Rock Golf Course to the north and Salem Municipal Golf Course to the west. Red Lane is utilized as a connection between downtown Salem, Hanging Rock Golf Course, and existing residential developments to the north. The speed limit on all of the local roads in the direct vicinity of the project is 25 mph.

Three scenarios will be considered: Existing Condition 2023, Background Condition 2028, and Buildout Condition 2028 to determine the effects of the background traffic growth and the proposed development on the levels of service at the existing intersections.

Level of service (LOS) for unsignalized intersections is evaluated based on control delay per vehicle and the driver's perception of those conditions. Control delay is the portion of the total delay attributed to the control at the intersection. Table 1 depicts the LOS scale with corresponding control delay per vehicle, with LOS "A" representing the best operating conditions and LOS "F" representing the worst.

Level of Service Criteria for Unsignalized Intersections	
Level Of Service	**Avg. Control Delay (Sec./Veh)**
A	**≤ 10**
B	**> 10 – 15**
C	**> 15 – 25**
D	**> 25 – 35**
E	**> 35 – 50**
F	**≥ 50**

Table 1: LOS Criteria for Unsignalized Intersections (HCM)

The *Synchro 11* software was used for traffic modeling and analysis. This study was undertaken by Balzer and Associates, Inc. to:

- determine the total number of vehicle trips generated by the potential development to be added to the adjacent street network;
- determine the impacts to level of service and queue lengths at the existing intersections as a result of the background traffic growth and from the proposed development;
- determine if any roadway or intersection improvements are warranted as a result of the proposed development;
- and to determine turn lane/taper requirements at the proposed entrances to the site.

2. Analysis of Existing Conditions

The site is currently owned and operated by HopeTree Family Services and has been for many years. Changing regulations over the last several decades have greatly decreased the number of permanent residents that are allowed to be housed at the site at any one time. There are many existing buildings, some of which are still in use by HopeTree, and others that are no longer in use. Among other things, the site includes a school, group homes for children and adults, and offices where staff members work on-site.

Other improvements on-site include access drives and parking areas, pool and athletic courts, two existing baseball fields near Red Lane, and other miscellaneous improvements. There is an existing pond and two existing creeks located on the site as well and these will be preserved to the extent practical.

All intersections in the vicinity of the site are unsignalized. 2021 VDOT traffic count data is available for Red Lane just to the north of the site in Roanoke County, and this data is provided below as general background information.

2021 VDOT Traffic Count Data:

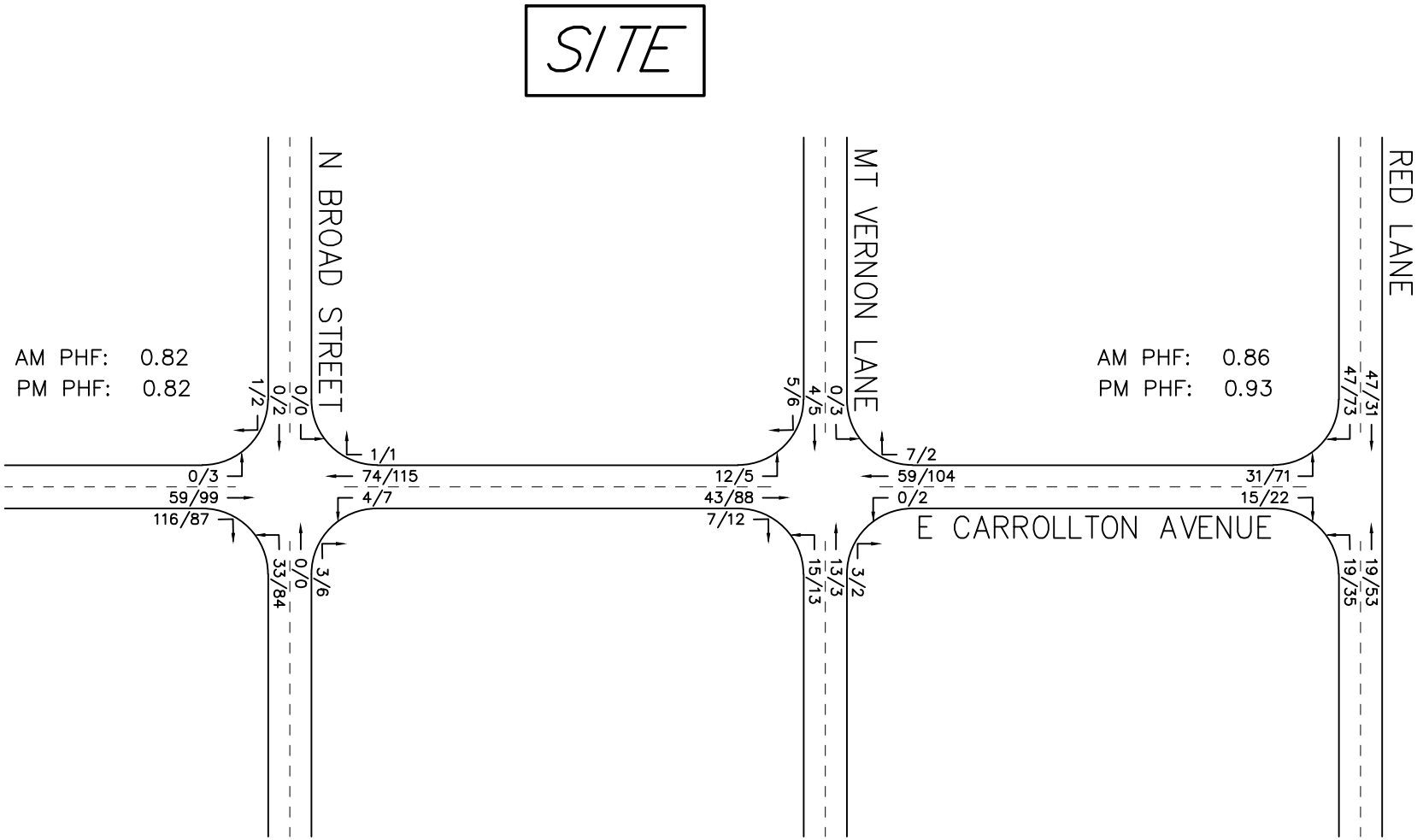
Red Lane, Rte. 705 (from Salem/Roanoke County line to North Road)
AADT = 1,100 vpd
Directional Factor = not provided
K Factor = not provided

In addition to the VDOT published traffic count data, manual traffic counts were performed at two of the study intersections. Counts were performed at the Red Lane/East Carrollton Avenue intersection and the East Carrollton Avenue/North Broad Street intersection on Tuesday, October 3, 2023 from 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM to capture the AM and PM peak hours. All turning and through movements were counted to facilitate analysis of the intersections. The manual traffic count data for these intersections is provided in Appendix C.

After the first review of the traffic study, it was requested by the City of Salem that the intersection of East Carrollton Avenue/Mount Vernon Lane be added to the analysis. Traffic volumes for this intersection were derived from the previous counts that were obtained at the other two intersections. In addition, a site visit was made to observe traffic patterns at this intersection during the peak traffic times to inform the breakdown of turning movements at each approach. Figure 1 graphically depicts the existing peak hour traffic volumes at all intersections.

The *Synchro 11* software was used to analyze delay and level of service for existing weekday AM and PM peak hours. The *Synchro 11* results are included in Appendix E.

FIGURE 1: 2023 EXISTING TURNING MOVEMENTS



LEGEND

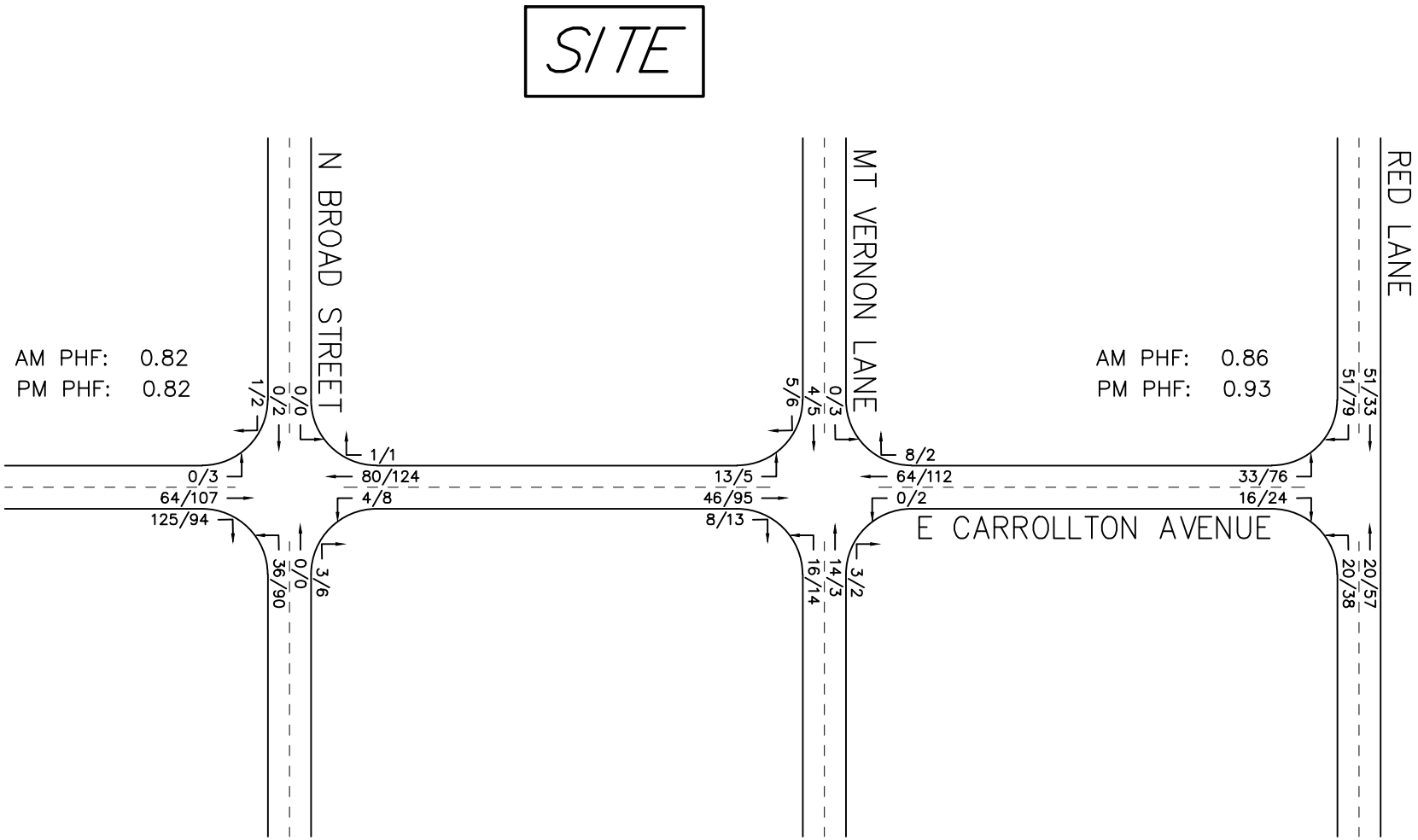
xx/xx: AM/PM Peak Hour Traffic

3. Analysis of Future Conditions Without Development

It is anticipated that the proposed development will be constructed and in use by the year 2028. To analyze the future conditions and obtain the projected background traffic volumes, an annual growth factor was applied to the existing traffic volumes. Based on historical VDOT traffic data, the average growth rate over the last 10 years or so has been approximately 1% on Red Lane and there has actually been a reduction in traffic volume over the last 5 years. To provide a conservative analysis, a 1.5% annual growth rate was applied to bring the existing traffic volumes from the current year of 2023 to the buildout year of 2028. Figure 2 graphically depicts the projected background traffic in the year 2028 with the growth rate applied.

The *Synchro 11* software was used to analyze delay and level of service for background weekday AM and PM peak hours. The *Synchro 11* results are included in Appendix E.

FIGURE 2: 2028 PROJECTED TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

4. Trip Generation

Trip generation for this study was based on the anticipated and assumed uses outlined in the Introduction and information provided by the developer regarding the possible uses of the property. The policies and procedures found in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, were employed to determine the potential site generated traffic volumes for the proposed development for the average weekday and AM and PM peak hours. Trip generation calculations were performed using the equations provided in the ITE manual. Table 2 shows the potential site-generated traffic for this development.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Single-Family Detached Housing	210	115 Dwelling Units	21	64	85	71	42	113	1,147
Single-Family Attached Housing	215	140 Dwelling Units	17	50	67	47	33	80	1,016
Multi-Family Housing (Low-Rise)	220	85 Dwelling Units	12	37	49	36	21	57	620
Hotel	310	60 Rooms	13	10	23	8	9	17	227
General Office	710	15,000 s.f.	29	4	33	6	28	34	223
Sit-Down Restaurants	932	7,500 s.f.	39	33	72	41	27	68	804
		Total	131	198	329	209	160	369	4,037

Table 2: Site-Generated Traffic

Please note that the table above does not include traffic volumes for the HopeTree school or office uses. These specific uses are already taking place on the site and will not be trips that are "added" to the street network. The addition of the other use types on-site may actually reduce some of the existing trips due to the fact that some of the existing trips may be redirected to or from the new facilities that are developed within the site.

The intent of the proposed development is to provide a cohesive, connected, walkable community where pedestrian connectivity is a primary focus and vehicular trips are secondary. Due to the nature of the development and the mix of residential, commercial, institutional, and other uses, a portion of the site-generated trips will be pedestrian trips and/or "internally

captured". Internal capture reductions consider site trips "captured" within a mixed-use development, recognizing that trips from one land use can access another land use within a development without having to access the adjacent street system. It is well-documented that this type of pedestrian-friendly, mixed-use development will result in less traffic to the adjacent street network than what is calculated using traditional trip generation methods.

It should also be noted that ITE and VDOT both have methodologies for estimating trip generation reduction for mixed-use developments. These methodologies require a high level of detail about proposed uses that is not available at this time for this particular development. In addition, these methodologies also do not adequately account for other characteristics of this development that are expected to further reduce traffic. These include urban design principles such as proximity between uses interior and exterior to the development, proximity to Roanoke College and downtown, and the very nature of the development which is to prioritize pedestrian connectivity and walkability and de-emphasize vehicle trips.

Walkable mixed-use developments have been documented to reduce traffic dependent on factors such as location, density, mix of uses, etc. A report by the American Planning Association entitled "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development," indicates that, on average, conventional trip generation methods overestimate trip generation by 49 percent for typical mixed-use developments.

It is acknowledged that this development does not have all of the characteristics that would warrant a 49 percent reduction in traffic. However, it is expected to share many of the same characteristics such as density, diversification of uses, proximity between uses, and walkability. Based on the characteristics and initiatives of this P.U.D. development and utilizing engineering judgement, a 25% reduction was deemed to be reasonable for this project. Table 3 below shows the potential site-generated traffic for this development with the internal capture reduction applied.

			Trip Generation						
Land Use			AM Peak Hour			PM Peak Hour			Weekday
Proposed Development	ITE Code	Independent Variable	Enter	Exit	Total	Enter	Exit	Total	Total
Single-Family Detached Housing	210	115 Dwelling Units	16	48	64	53	32	85	860
Single-Family Attached Housing	215	140 Dwelling Units	13	37	50	35	25	60	762
Multi-Family Housing (Low-Rise)	220	85 Dwelling Units	9	28	37	27	16	43	465
Hotel	310	60 Rooms	10	8	18	6	7	13	170
General Office	710	15,000 s.f.	22	3	25	4	21	25	167
High-Turnover Sit-Down Restaurant	932	7,500 s.f.	29	25	54	31	20	51	603
		Total	99	149	248	156	121	277	3,027

Table 3: Site-Generated Traffic w/ 25% Reduction

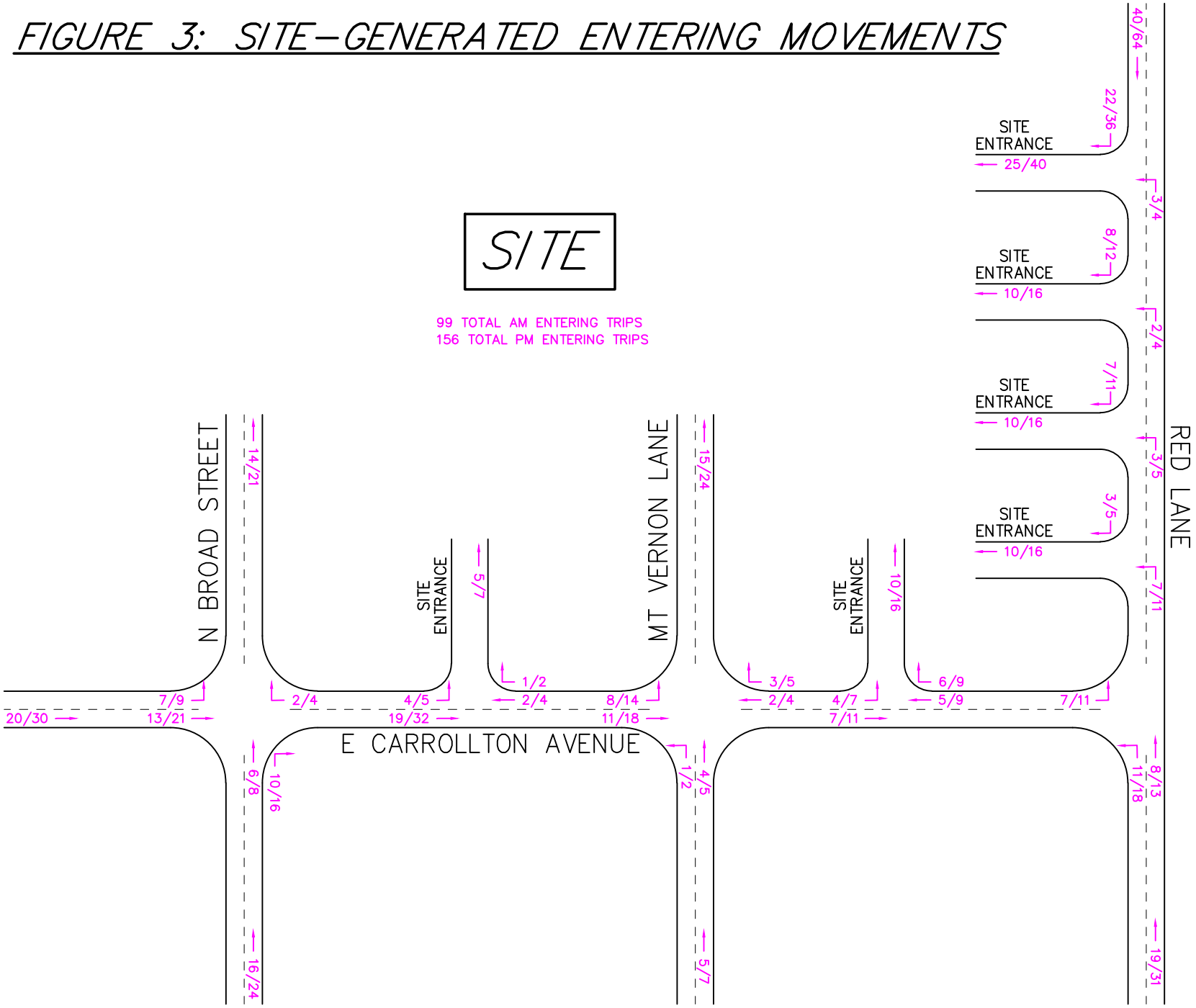
5. Site Traffic Distribution and Assignment

The distribution of potential site generated traffic was completed by applying engineering judgement based on knowledge of the proposed uses, as well as the surrounding area. These assumptions were then applied to the site generated traffic to determine the ingress/egress movements at each entrance and in each direction. Traffic will enter to and exit from the site to the north toward I-81 or to the south or west to go toward downtown Salem. There are several entrances planned for the site in strategic locations to disperse traffic and efficiently distribute vehicles to the adjacent road system in an interconnected grid-type network that is similar to what already exists to the north of Main Street.

This development is proposed to have four access points on Red Lane, three access points on East Carrollton Avenue, and one access point on North Broad Street. The roadway network creates a network of streets within the development with a high level of interconnectivity both internally and externally to the existing streets.

After distribution of trips to the roadway, trips were distributed to each road and intersection based on the assumptions described above. Traffic assignment for traffic entering the development is shown graphically in Figure 3 and for traffic exiting the development is shown graphically in Figure 4.

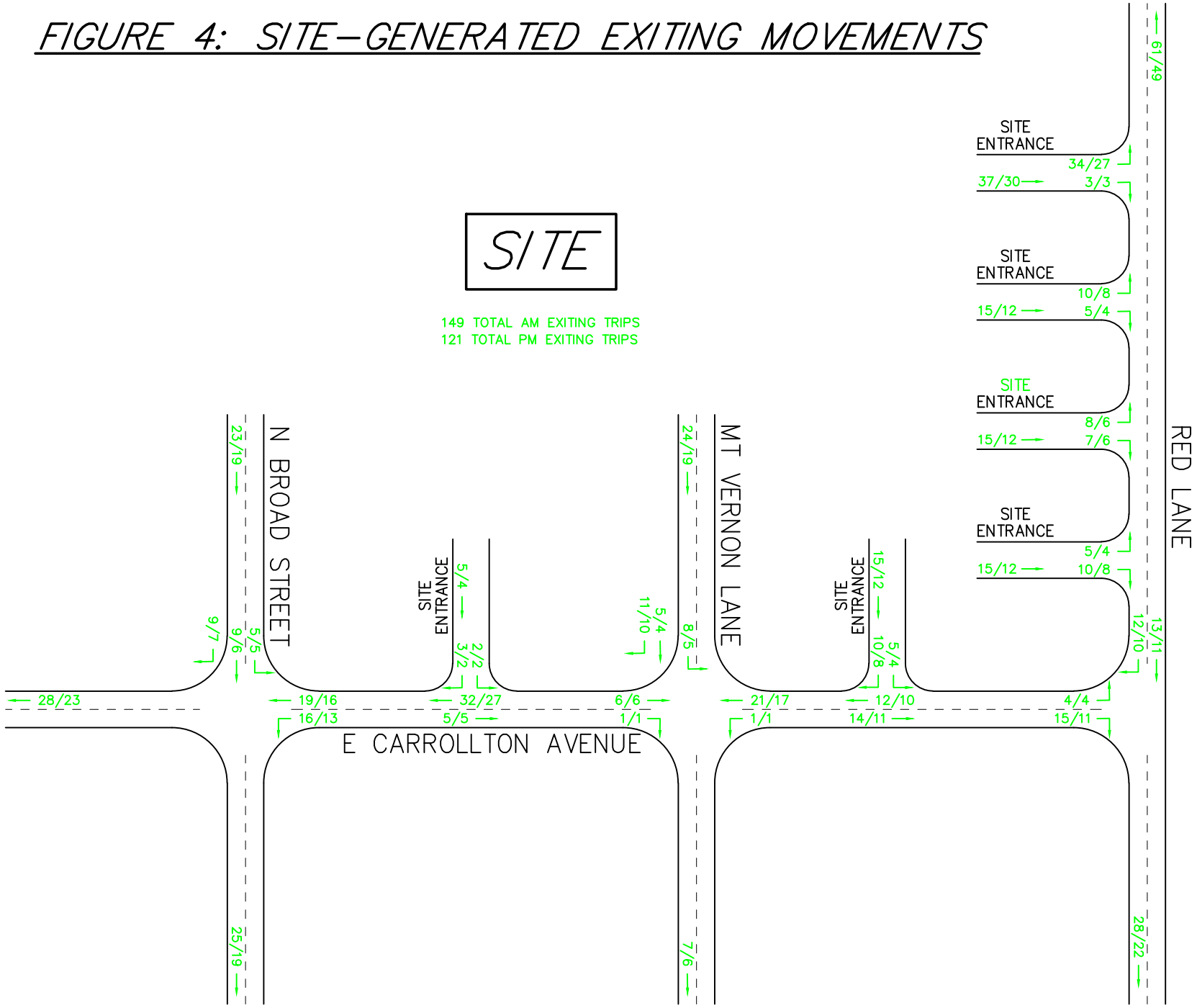
FIGURE 3: SITE-GENERATED ENTERING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

FIGURE 4: SITE-GENERATED EXITING MOVEMENTS



LEGEND

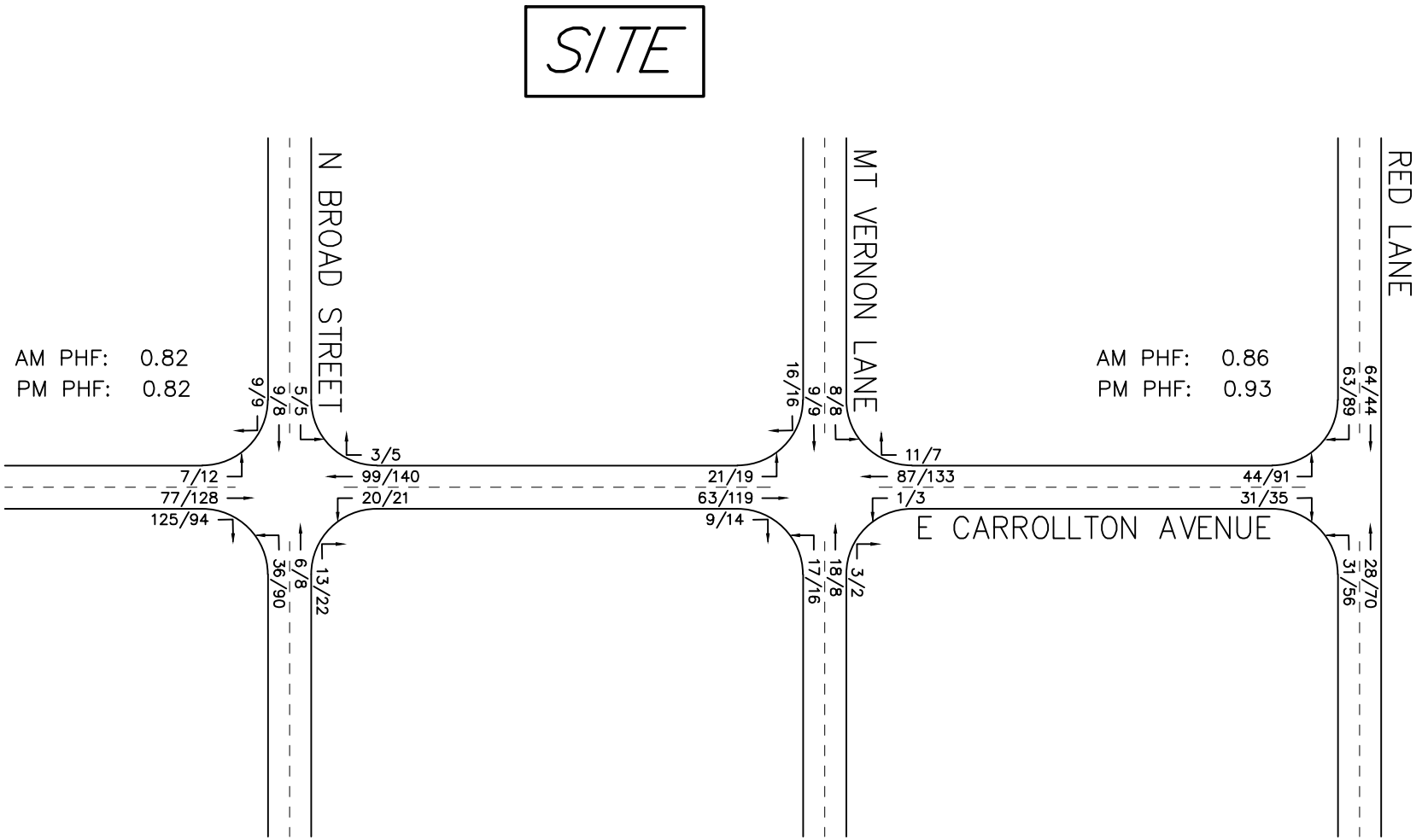
xx/xx: AM/PM Peak Hour Traffic

6. Analysis of Future Conditions With Development

The buildout traffic was calculated by adding the 2028 background traffic (Figure 2) to the site-generated traffic (Figures 3 and 4). The 2028 buildout traffic for each of the study intersections is shown in Figure 5. The intersections were then modeled and evaluated using the *Synchro 11* software. Tables 4 and 5 provide a summary of the levels of service and delays calculated at each intersection for the 2023 Existing, 2028 Background, and 2028 Buildout conditions. The detailed *Synchro 11* reports are included in Appendix E.

As shown in the data, all approaches at the two study intersections will function at the same level of service in the Buildout condition as they do in the Existing and Background conditions, with minimal increases in delay. No further improvements are warranted or recommended as a result of the development traffic.

FIGURE 5: 2028 BUILDOUT TURNING MOVEMENTS



LEGEND

xx/xx: AM/PM Peak Hour Traffic

Red Lane and East Carrollton Avenue

CONDITION	LANE GROUP	AM PEAK HOUR		PM PEAK HOUR	
		LANE LOS (delay)	Max. Queue (ft.)	LANE LOS (delay)	Max. Queue (ft.)
Existing 2023 Condition	NBLT	A (7.4)	40	A (7.9)	52
	EBLR	A (7.4)	31	A (7.9)	39
	SBTR	A (7.2)	52	A (7.3)	55
Background 2028 Condition	NBLT	A (7.5)	47	A (7.9)	53
	EBLR	A (7.5)	37	A (8.0)	48
	SBTR	A (7.3)	55	A (7.4)	55
Buildout 2028 Condition	NBLT	A (7.7)	46	A (8.4)	56
	EBLR	A (7.7)	37	A (8.4)	44
	SBTR	A (7.6)	57	A (7.7)	62

Table 4: Red Lane & East Carrollton Avenue LOS & Queuing Analysis

Mount Vernon Lane and East Carrollton Avenue

CONDITION	LANE GROUP	AM PEAK HOUR		PM PEAK HOUR	
		LANE LOS (delay)	Max. Queue (ft.)	LANE LOS (delay)	Max. Queue (ft.)
Existing 2023 Condition	NBLTR	A (7.5)	34	A (7.7)	34
	EBLTR	A (7.5)	53	A (7.8)	61
	WBLTR	A (7.5)	55	A (7.9)	68
	SBLTR	A (7.0)	31	A (7.4)	34
Background 2028 Condition	NBLTR	A (7.6)	43	A (7.8)	32
	EBLTR	A (7.5)	60	A (7.9)	61
	WBLTR	A (7.5)	52	A (8.0)	70
	SBLTR	A (7.1)	31	A (7.4)	33
Buildout 2028 Condition	NBLTR	A (7.8)	47	A (8.1)	40
	EBLTR	A (7.9)	62	A (8.5)	66
	WBLTR	A (7.9)	62	A (8.4)	61
	SBLTR	A (7.5)	45	A (7.8)	44

Table 5: Mount Vernon Lane & East Carrollton Avenue LOS & Queuing Analysis

North Broad Street and East Carrollton Avenue

CONDITION	LANE GROUP	AM PEAK HOUR		PM PEAK HOUR	
		LANE LOS (delay)	Max. Queue (ft.)	LANE LOS (delay)	Max. Queue (ft.)
Existing 2023 Condition	NBLTR	B (10.3)	49	B (12.1)	64
	EBL	--	2	A (7.5)	11
	WBL	A (7.6)	22	A (7.7)	27
	SBLTR	A (8.7)	18	B (10.3)	28
Background 2028 Condition	NBLTR	B (10.5)	46	B (12.6)	77
	EBL	--	--	A (7.5)	11
	WBL	A (7.7)	15	A (7.7)	23
	SBLTR	A (8.7)	18	B (10.5)	31
Buildout 2028 Condition	NBLTR	B (11.6)	50	B (14.8)	76
	EBL	A (7.5)	12	A (7.6)	41
	WBL	A (7.8)	33	A (7.8)	35
	SBLTR	B (10.9)	34	B (11.8)	47

Table 6: North Broad Street & East Carrollton Avenue LOS & Queuing Analysis

7. Turn Lane Warrants

The analyses to determine turn lane requirements for the new development were completed by following the procedures and methodologies found in the *VDOT Road Design Manual, Volume I, Appendix F*. Turn lane warrants were analyzed based on the highest volumes for each roadway (Red Lane and East Carrollton Avenue) to show that the warrants are not met and will not be met for any of the intersections.

Right-Turn Lane into Site from Red Lane

AM Peak Hour Analysis:

- 22 Vehicles per Hour Turning Right into site from Red Lane
- Approach Volume = 127 + 22 = 149 VPH Red Lane

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

PM Peak Hour Analysis:

- 36 Vehicles per Hour Turning Right into site from Red Lane
- Approach Volume = 133 + 36 = 169 VPH Red Lane

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

Left-Turn Lane into Site from Red Lane

AM Peak Hour Analysis:

- 7 (9.7%) Vehicles per Hour Turning Left into site from Red Lane
  Posted Speed Limit = 25 mph
- Advancing Volume = 72 VPH
- Opposing Volume = 127 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

PM Peak Hour Analysis:

- 11 (6.8%) Vehicles per Hour Turning Left into site from Red Lane
  Posted Speed Limit = 25 mph
- Advancing Volume = 161 VPH
- Opposing Volume = 133 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

Right-Turn Lane into Site from East Carrollton Avenue

AM Peak Hour Analysis:

- 6 Vehicles per Hour Turning Right into site from East Carrollton Avenue
- Approach Volume = 122 VPH East Carrollton Avenue

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

PM Peak Hour Analysis:

- 9 Vehicles per Hour Turning Right into site from East Carrollton Avenue
- Approach Volume = 166 VPH East Carrollton Avenue

-- Right-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
Radius Required (please see Appendix D).

Left-Turn Lane into Site from East Carrollton Avenue

AM Peak Hour Analysis:

- 8 (8.4%) Vehicles per Hour Turning Left into site from East Carrollton Avenue
  Posted Speed Limit = 25 mph
- Advancing Volume = 95 VPH
- Opposing Volume = 122 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

PM Peak Hour Analysis:

- 14 (9.0%) Vehicles per Hour Turning Left into site from East Carrollton Avenue
  Posted Speed Limit = 25 mph
- Advancing Volume = 155 VPH
- Opposing Volume = 166 VPH

-- Left-Turn Lane Requirement, as per *VDOT Road Design Manual, Appendix F*:
None Required (please see Appendix D).

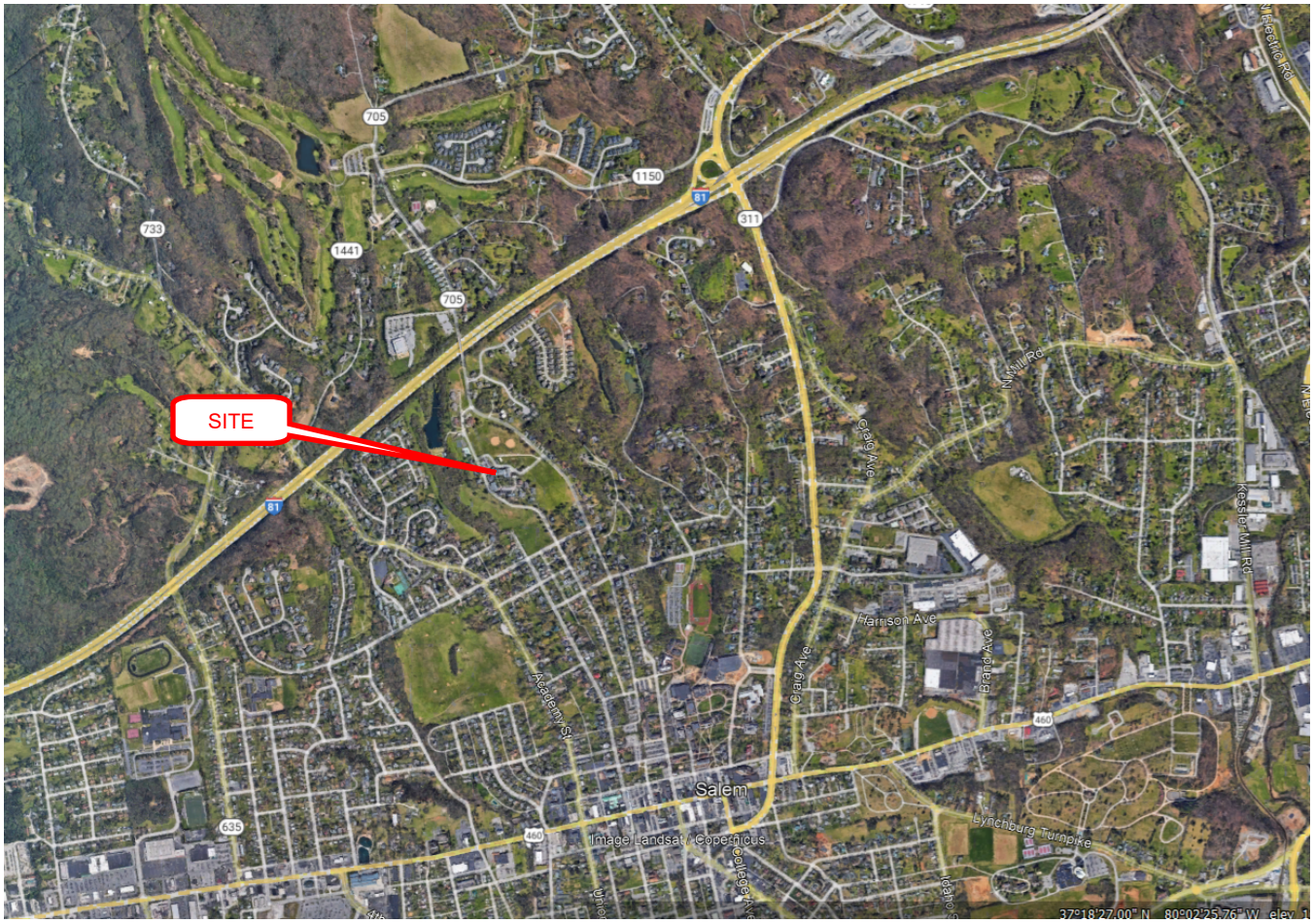
8. Conclusions

Based on the data collected, the assumptions made, and the projected site-generated traffic, the results of the analysis are outlined below.

- The proposed development will generate additional traffic to the existing road network.
- The proposed development results in very minimal increases in delay and queue lengths at the study intersections and all approaches function at the same level of service in the Existing, Background, and Buildout scenarios.
- No turn lanes or tapers are warranted by the proposed development.

Appendix A

Vicinity Map


SITE
705
1150
81
733
1441
705
311
81
Craig Ave
N Mill Rd
Kessler Mill Rd
Harrison Ave
Craig Ave
Academy St
460
Salem
635
460
Image Landsat / Copernicus
Lynchburg Turnpike

Appendix B

P.U.D. Master Plan

GENERAL NOTES:

- Building Types generally provide parking from rear alleys and lanes screened from frontages on lots.
- On-street parking shall be provided along all streets where pratical.
- Each Block Group includes a minimum of three (3) building types.
- Each Block Group shall have 20% minimum of each of the building types used.
- A minimum of six (6) building types shall be used for the overall project.
- A maximum of five (5) of the same building types are allowed in a row.
- Commercial, Mixed-Use, & Live-Works are allowed in T-4 and T-5. See Uses Table.
- Land may be subdivided into seperate ownership.

TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

T3
T4
T5

- E - E - ESTATE
- H - H - HOUSE / ADU
- C - C - COTTAGE / ADU
- PH - PH - PAIR HOUSE / ADU
- T - T - TOWNHOUSE / ADU
- PC - PC - POCKET / COTTAGE COURT
- TH-PU - TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3THE - 3-TOWNHOUSE ESTATE
- SF - SF - STACKED FLAT
- LH - LH - LOFT HOUSE
- MH - MH- MEWS HOUSE
- TR - TR - TREE HOUSE
- AH - AH - MULTI-FAMILY HOUSE
- AB - AB - MULTI-FAMILY BUILDING
- MXB - MXB - MIXED-USE BUILDING
- CV - CV - CIVIC BUILDING SITE

TRANSECT ZONES
w/ FRONTAGE LINES

- T5 - T5 - NEIGHBORHOOD CENTER
- T4 - T4 - NEIGHBORHOOD GENERAL
- T3 - T3 - NEIGHBORHOOD EDGE
- OPEN SPACE / NATURAL

STRUCTURE TO BE REMOVED

CIVIC SPACE RESERVES

- HISTORIC CORE BUILDINGS
- CIVIC BUILDINGS
- STREETS AND PARKING

REQUIREMENTS & DETAILS

- BLOCK GROUP
- RECOMMENDED GALLERY
- RECOMMENDED SHOPFRONT
- VISTA POINTS
- PEDESTRIAN SHED - 5 MINUTE WALK RADIUS

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

0 200 400 600
1" = 200'

Appendix C

Existing Traffic Data

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: North Broad Street
and: Carrollton Avenue
Location: Salem, Virginia

Counted by: VCU
Date: October 03, 2023
Weather: Sunny/Warm
Entered by: SN

Tuesday
Star Rating: 4

TIME	TRAFFIC FROM NORTH on: North Broad Street					TRAFFIC FROM SOUTH on: North Broad Street					TRAFFIC FROM EAST on: Carrollton Avenue					TRAFFIC FROM WEST on: Carrollton Avenue					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	1	2	0	0	3	0	0	3	0	3	0	11	2	0	13	20	5	0	0	25	44
7:15 - 7:30	0	0	0	0	0	0	0	8	0	8	0	13	2	0	15	21	10	0	0	31	54
7:30 - 7:45	0	0	0	0	0	1	0	4	0	5	1	18	2	0	21	50	13	0	0	63	89
7:45 - 8:00	0	0	0	0	0	1	0	7	0	8	0	15	2	0	17	32	20	0	0	52	77
8:00 - 8:15	0	0	0	0	0	0	0	13	0	13	0	25	0	0	25	15	18	0	0	33	71
8:15 - 8:30	1	0	0	0	1	1	0	9	0	10	0	16	0	0	16	19	8	0	0	27	54
8:30 - 8:45	0	1	0	0	1	1	0	7	0	8	0	7	0	0	7	25	11	0	0	36	52
8:45 - 9:00	1	0	0	0	1	2	3	5	0	10	0	13	0	0	13	16	9	0	0	25	49
2 Hr Totals	3	3	0	0	6	6	3	56	0	65	1	118	8	0	127	198	94	0	0	292	490
1 Hr Totals																					
7:00 - 8:00	1	2	0	0	3	2	0	22	0	24	1	57	8	0	66	123	48	0	0	171	264
7:15 - 8:15	0	0	0	0	0	2	0	32	0	34	1	71	6	0	78	118	61	0	0	179	291
7:30 - 8:30	1	0	0	0	1	3	0	33	0	36	1	74	4	0	79	116	59	0	0	175	291
7:45 - 8:45	1	1	0	0	2	3	0	36	0	39	0	63	2	0	65	91	57	0	0	148	254
8:00 - 9:00	2	1	0	0	3	4	3	34	0	41	0	61	0	0	61	75	46	0	0	121	226
PEAK HOUR																					
7:30 - 8:30	1	0	0	0	1	3	0	33	0	36	1	74	4	0	79	116	59	0	0	175	291
PM																					
4:00 - 4:15	0	1	0	0	1	2	0	8	0	10	0	24	0	0	24	19	17	0	0	36	71
4:15 - 4:30	1	0	0	0	1	0	0	20	0	20	0	20	1	0	21	18	19	0	0	37	79
4:30 - 4:45	0	0	0	0	0	0	1	12	0	13	0	34	1	0	35	15	20	0	0	35	83
4:45 - 5:00	0	1	0	0	1	0	0	18	0	18	0	28	3	0	31	12	18	1	0	31	81
5:00 - 5:15	1	1	0	0	2	2	0	25	0	27	0	35	0	0	35	19	25	1	0	45	109
5:15 - 5:30	0	0	0	0	0	2	0	23	0	25	0	36	4	0	40	32	26	1	0	59	124
5:30 - 5:45	1	1	0	0	2	0	0	16	0	16	1	20	1	0	22	17	23	0	0	40	80
5:45 - 6:00	0	0	0	0	0	2	0	20	0	22	0	24	2	0	26	19	25	1	0	45	93
2 Hr Totals	3	4	0	0	7	8	1	142	0	151	1	221	12	0	234	151	173	4	0	328	720
1 Hr Totals																					
4:00 - 5:00	1	2	0	0	3	2	1	58	0	61	0	106	5	0	111	64	74	1	0	139	314
4:15 - 5:15	2	2	0	0	4	2	1	75	0	78	0	117	5	0	122	64	82	2	0	148	352
4:30 - 5:30	1	2	0	0	3	4	1	78	0	83	0	133	8	0	141	78	89	3	0	170	397
4:45 - 5:45	2	3	0	0	5	4	0	82	0	86	1	119	8	0	128	80	92	3	0	175	394
5:00 - 6:00	2	2	0	0	4	6	0	84	0	90	1	115	7	0	123	87	99	3	0	189	406
PEAK HOUR																					
5:00 - 6:00	2	2	0	0	4	6	0	84	0	90	1	115	7	0	123	87	99	3	0	189	406

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Red Lane | Date: October 03, 2023 | Tuesday

and: Carrollton Avenue | Weather: Sunny/Warm

Location: Salem, Virginia | Entered by: SN | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Red Lane					TRAFFIC FROM SOUTH on: Red Lane					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Carrollton Avenue					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	12	6	0	0	18	0	3	2	0	5	0	0	0	0	0	3	0	2	0	5	28
7:15 - 7:30	9	7	0	0	16	0	1	4	0	5	0	0	0	0	0	2	0	9	0	11	32
7:30 - 7:45	10	18	0	0	28	0	3	6	0	9	0	0	0	0	0	3	0	8	0	11	48
7:45 - 8:00	13	9	0	0	22	0	4	3	0	7	0	0	0	0	0	6	0	7	0	13	42
8:00 - 8:15	14	9	0	0	23	0	6	6	0	12	0	0	0	0	0	4	0	13	0	17	52
8:15 - 8:30	10	11	0	0	21	0	6	4	0	10	0	0	0	0	0	2	0	3	0	5	36
8:30 - 8:45	5	2	0	0	7	0	8	1	0	9	0	0	0	0	0	3	0	9	0	12	28
8:45 - 9:00	10	3	0	0	13	0	6	2	0	8	0	0	0	0	0	2	0	10	0	12	33
2 Hr Totals	83	65	0	0	148	0	37	28	0	65	0	0	0	0	0	25	0	61	0	86	299
1 Hr Totals																					
7:00 - 8:00	44	40	0	0	84	0	11	15	0	26	0	0	0	0	0	14	0	26	0	40	150
7:15 - 8:15	46	43	0	0	89	0	14	19	0	33	0	0	0	0	0	15	0	37	0	52	174
7:30 - 8:30	47	47	0	0	94	0	19	19	0	38	0	0	0	0	0	15	0	31	0	46	178
7:45 - 8:45	42	31	0	0	73	0	24	14	0	38	0	0	0	0	0	15	0	32	0	47	158
8:00 - 9:00	39	25	0	0	64	0	26	13	0	39	0	0	0	0	0	11	0	35	0	46	149
PEAK HOUR																					
7:30 - 8:30	47	47	0	0	94	0	19	19	0	38	0	0	0	0	0	15	0	31	0	46	178
PM																					
4:00 - 4:15	18	12	0	0	30	0	13	5	0	18	0	0	0	0	0	7	0	13	0	20	68
4:15 - 4:30	16	2	0	0	18	0	9	1	0	10	0	0	0	0	0	5	0	15	0	20	48
4:30 - 4:45	21	7	0	0	28	0	12	7	0	19	0	0	0	0	0	5	0	18	0	23	70
4:45 - 5:00	21	10	0	0	31	0	12	4	0	16	0	0	0	0	0	3	0	15	0	18	65
5:00 - 5:15	12	8	0	0	20	0	17	11	1	29	0	0	0	0	0	7	0	18	0	25	74
5:15 - 5:30	19	6	0	0	25	0	12	13	0	25	0	0	0	0	0	7	0	20	0	27	77
5:30 - 5:45	13	7	0	0	20	0	10	3	0	13	0	0	0	0	0	2	0	14	0	16	49
5:45 - 6:00	19	9	0	0	28	0	7	4	0	11	0	0	0	0	0	7	0	13	0	20	59
2 Hr Totals	139	61	0	0	200	0	92	48	1	141	0	0	0	0	0	43	0	126	0	169	510
1 Hr Totals																					
4:00 - 5:00	76	31	0	0	107	0	46	17	0	63	0	0	0	0	0	20	0	61	0	81	251
4:15 - 5:15	70	27	0	0	97	0	50	23	1	74	0	0	0	0	0	20	0	66	0	86	257
4:30 - 5:30	73	31	0	0	104	0	53	35	1	89	0	0	0	0	0	22	0	71	0	93	286
4:45 - 5:45	65	31	0	0	96	0	51	31	1	83	0	0	0	0	0	19	0	67	0	86	265
5:00 - 6:00	63	30	0	0	93	0	46	31	1	78	0	0	0	0	0	23	0	65	0	88	259
PEAK HOUR																					
4:30 - 5:30	73	31	0	0	104	0	53	35	1	89	0	0	0	0	0	22	0	71	0	93	286

Appendix D

VDOT Turn Lane Worksheets

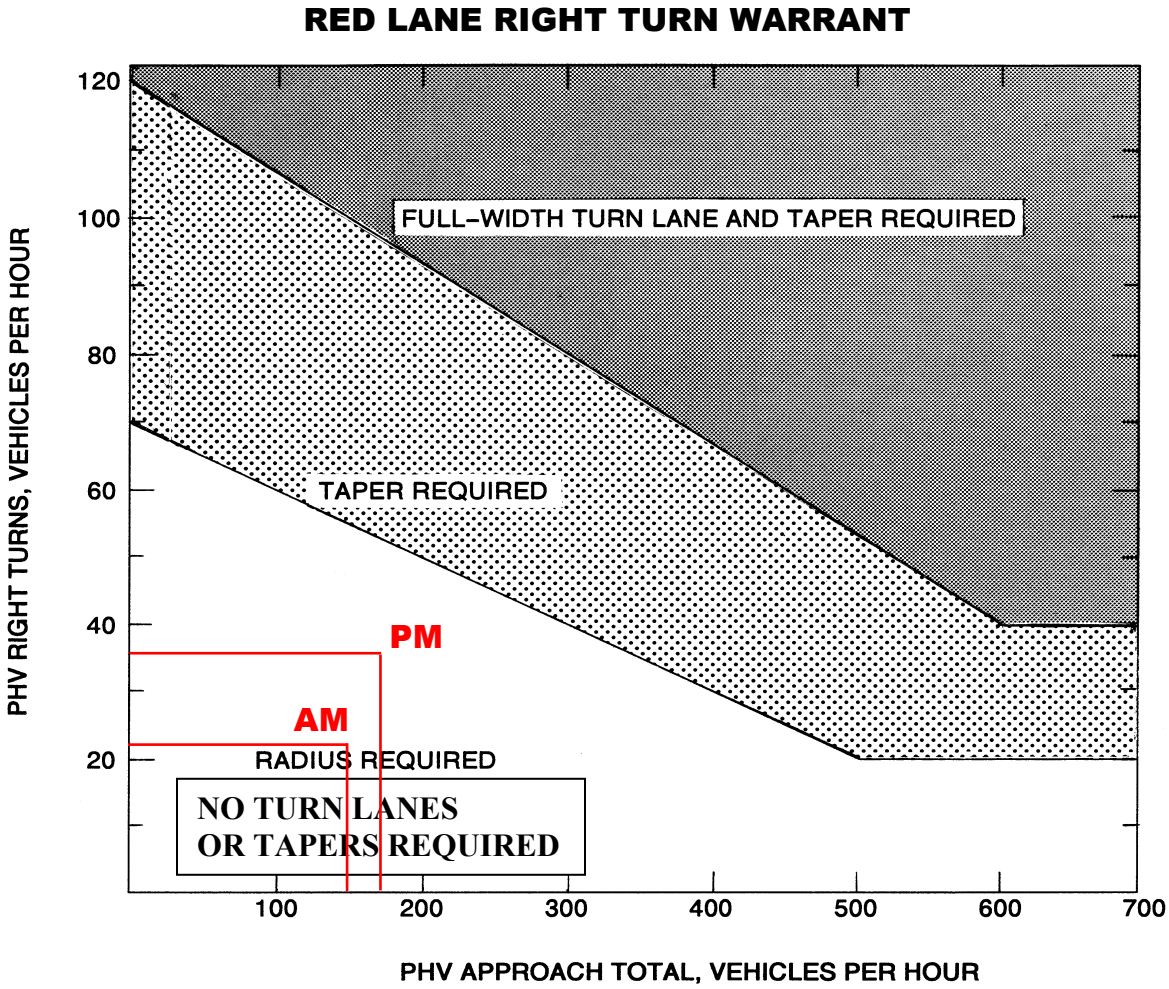


FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.
Adjusted right turns = PHV Right Turns - 20
If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

* Rev. 1/15

RED LANE LEFT TURN WARRANT

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

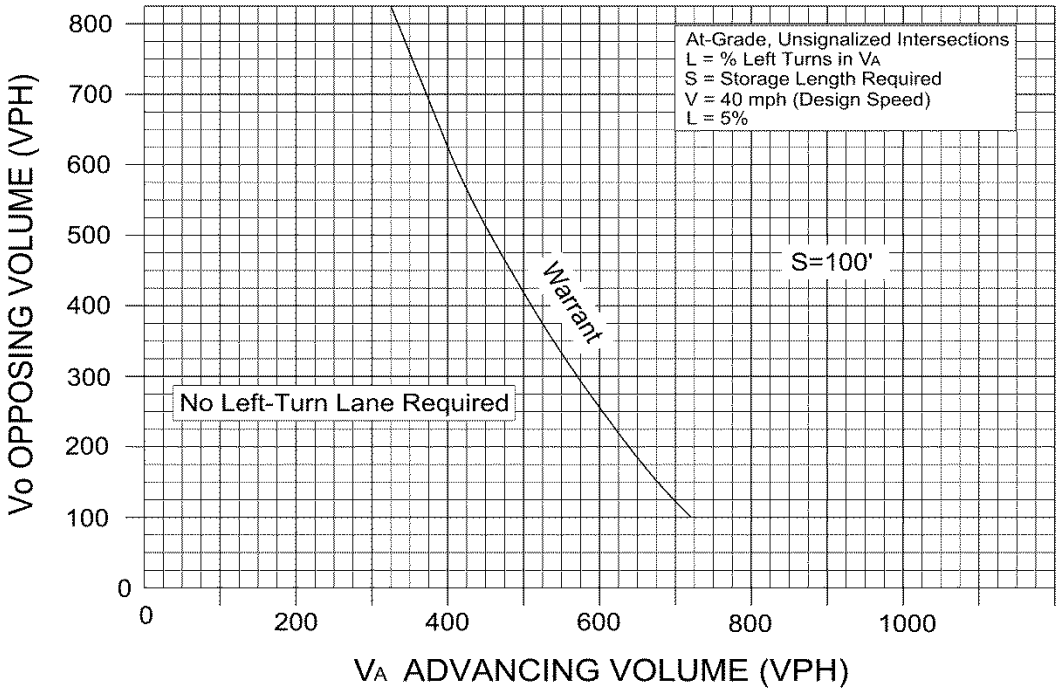


FIGURE 3-4 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

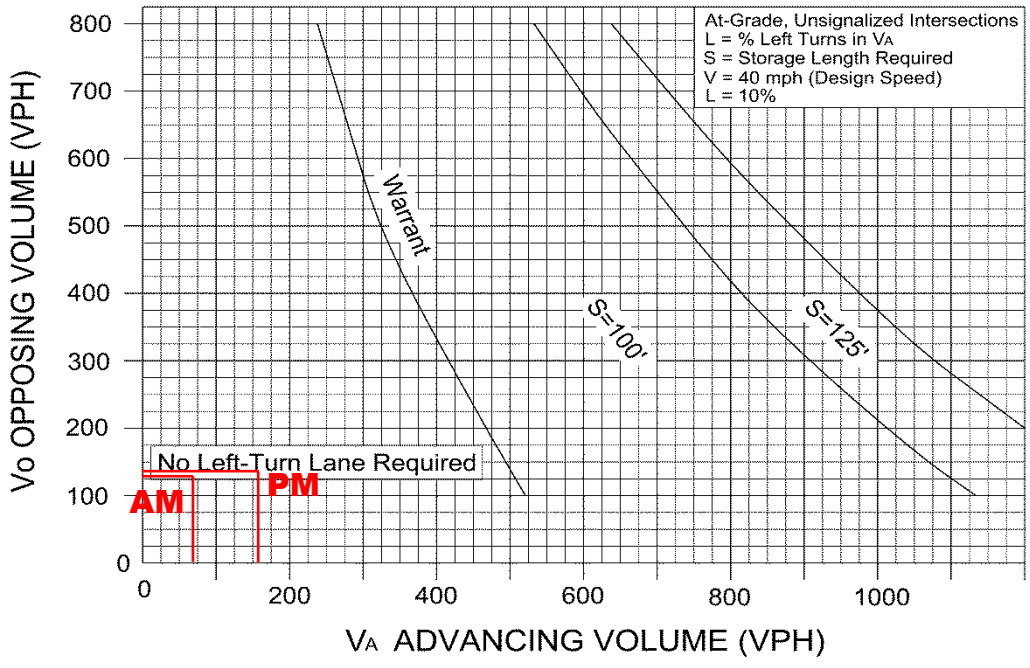


FIGURE 3-5 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

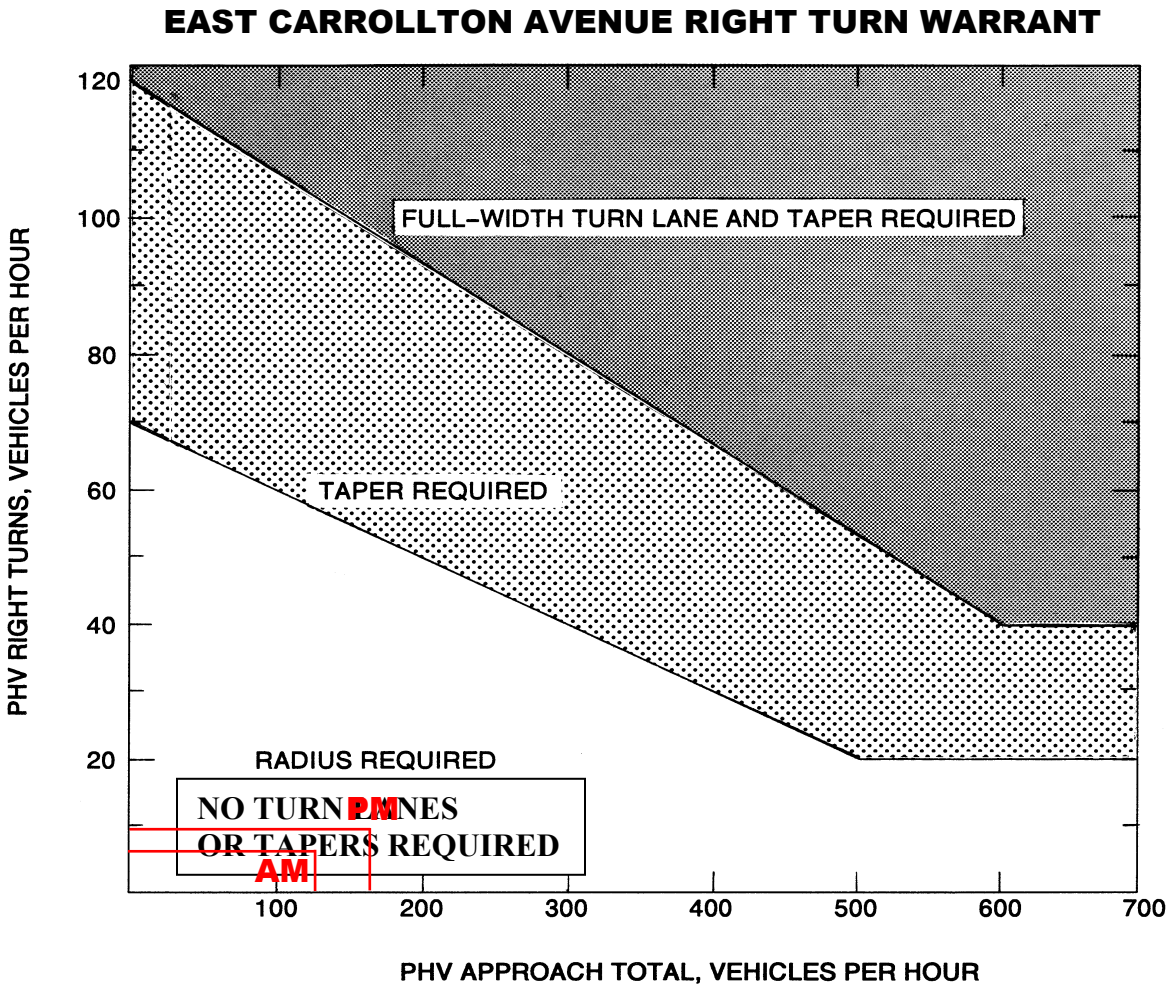


FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.
Adjusted right turns = PHV Right Turns - 20
If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

* Rev. 1/15

EAST CARROLLTON AVENUE LEFT TURN WARRANT

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

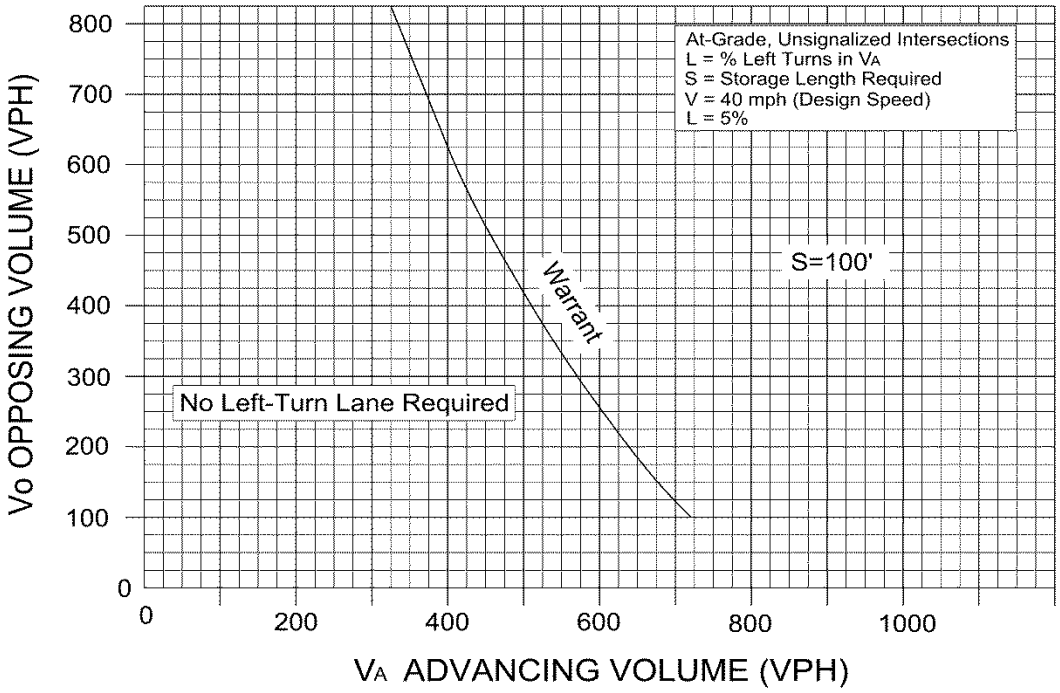


FIGURE 3-4 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

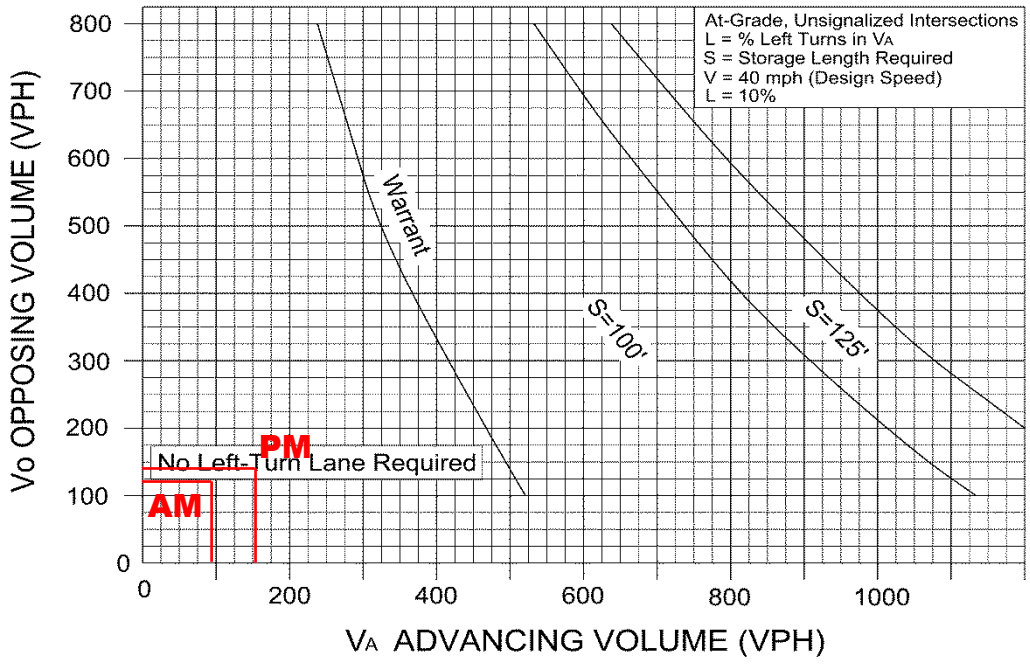


FIGURE 3-5 WARRANT FOR LEFT TURN STORAGE LANES ON TWO LANE HIGHWAY

Appendix E

Synchro 11
Intersection Analysis Data

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	15	19	19	47	47
Future Vol, veh/h	31	15	19	19	47	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	17	22	22	55	55
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.4	7.4	7.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	50%	67%	0%
Vol Thru, %	50%	0%	50%
Vol Right, %	0%	33%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	38	46	94
LT Vol	19	31	0
Through Vol	19	0	47
RT Vol	0	15	47
Lane Flow Rate	44	53	109
Geometry Grp	1	1	1
Degree of Util (X)	0.051	0.061	0.113
Departure Headway (Hd)	4.178	4.102	3.728
Convergence, Y/N	Yes	Yes	Yes
Cap	854	867	959
Service Time	2.218	2.155	1.764
HCM Lane V/C Ratio	0.052	0.061	0.114
HCM Control Delay	7.4	7.4	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	43	7	0	59	7	15	13	3	0	4	5
Future Vol, veh/h	12	43	7	0	59	7	15	13	3	0	4	5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	52	9	0	72	9	18	16	4	0	5	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.5	7.5	7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	48%	19%	0%	0%
Vol Thru, %	42%	69%	89%	44%
Vol Right, %	10%	11%	11%	56%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	62	66	9
LT Vol	15	12	0	0
Through Vol	13	43	59	4
RT Vol	3	7	7	5
Lane Flow Rate	38	76	80	11
Geometry Grp	1	1	1	1
Degree of Util (X)	0.045	0.085	0.09	0.012
Departure Headway (Hd)	4.251	4.052	4.013	3.899
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	834	880	889	905
Service Time	2.322	2.094	2.055	1.979
HCM Lane V/C Ratio	0.046	0.086	0.09	0.012
HCM Control Delay	7.5	7.5	7.5	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	59	116	4	74	1	33	0	1	0	0	1
Future Vol, veh/h	0	59	116	4	74	1	33	0	1	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	72	141	5	90	1	40	0	1	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	91	0	0	213	0	0	244	244	143	244	314	91
Stage 1	-	-	-	-	-	-	143	143	-	101	101	-
Stage 2	-	-	-	-	-	-	101	101	-	143	213	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1517	-	-	1369	-	-	714	661	910	714	605	972
Stage 1	-	-	-	-	-	-	865	782	-	910	815	-
Stage 2	-	-	-	-	-	-	910	815	-	865	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1517	-	-	1369	-	-	711	658	910	711	603	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	711	658	-	711	603	-
Stage 1	-	-	-	-	-	-	865	782	-	910	812	-
Stage 2	-	-	-	-	-	-	905	812	-	864	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	10.3	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	716	1517	-	-	1369	-	-	972
HCM Lane V/C Ratio	0.058	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.3	0	-	-	7.6	0	-	8.7
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	412	419	411	363	368	375	359
Vehs Exited	411	418	405	364	369	380	354
Starting Vehs	2	2	0	3	1	7	2
Ending Vehs	3	3	6	2	0	2	7
Travel Distance (mi)	87	89	85	77	80	79	77
Travel Time (hr)	4.2	4.2	4.0	3.7	3.8	3.8	3.7
Total Delay (hr)	0.8	0.9	0.8	0.7	0.8	0.7	0.7
Total Stops	413	433	403	360	389	365	373
Fuel Used (gal)	3.7	3.8	3.7	3.3	3.4	3.4	3.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	384	396	396	385
Vehs Exited	386	399	399	388
Starting Vehs	8	5	3	0
Ending Vehs	6	2	0	0
Travel Distance (mi)	78	84	83	82
Travel Time (hr)	3.7	4.0	4.0	3.9
Total Delay (hr)	0.7	0.8	0.8	0.8
Total Stops	355	373	399	386
Fuel Used (gal)	3.4	3.6	3.6	3.5

Interval #0 Information Seeding

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	127	125	124	111	113	103	114
Vehs Exited	125	122	119	106	108	106	109
Starting Vehs	2	2	0	3	1	7	2
Ending Vehs	4	5	5	8	6	4	7
Travel Distance (mi)	26	26	24	23	24	21	24
Travel Time (hr)	1.3	1.3	1.1	1.1	1.2	1.0	1.2
Total Delay (hr)	0.3	0.2	0.2	0.2	0.3	0.2	0.2
Total Stops	128	120	106	108	129	99	113
Fuel Used (gal)	1.2	1.1	1.1	1.0	1.0	0.9	1.0

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	102	120	104	114
Vehs Exited	104	119	105	113
Starting Vehs	8	5	3	0
Ending Vehs	6	6	2	3
Travel Distance (mi)	21	25	21	24
Travel Time (hr)	1.0	1.2	1.0	1.1
Total Delay (hr)	0.2	0.2	0.2	0.2
Total Stops	95	110	99	110
Fuel Used (gal)	1.0	1.1	0.9	1.0

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	90	90	85	71	94	99	81
Vehs Exited	89	92	87	74	100	101	86
Starting Vehs	4	5	5	8	6	4	7
Ending Vehs	5	3	3	5	0	2	2
Travel Distance (mi)	19	19	18	15	20	21	18
Travel Time (hr)	0.9	0.9	0.9	0.7	1.0	1.0	0.9
Total Delay (hr)	0.2	0.2	0.2	0.1	0.2	0.2	0.2
Total Stops	93	96	86	66	92	104	88
Fuel Used (gal)	0.8	0.8	0.8	0.6	0.9	0.9	0.8

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	100	99	97	89
Vehs Exited	105	103	97	94
Starting Vehs	6	6	2	3
Ending Vehs	1	2	2	0
Travel Distance (mi)	21	23	21	20
Travel Time (hr)	1.0	1.1	1.0	0.9
Total Delay (hr)	0.2	0.2	0.2	0.2
Total Stops	102	113	100	92
Fuel Used (gal)	0.9	1.0	0.9	0.8

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	119	98	94	96	92	96	81
Vehs Exited	120	95	90	93	86	92	82
Starting Vehs	5	3	3	5	0	2	2
Ending Vehs	4	6	7	8	6	6	1
Travel Distance (mi)	24	21	20	20	19	19	18
Travel Time (hr)	1.2	1.0	0.9	1.0	0.9	0.9	0.8
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	109	109	94	95	93	88	86
Fuel Used (gal)	1.0	0.9	0.9	0.9	0.8	0.8	0.7

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	92	88	100	95
Vehs Exited	88	86	101	93
Starting Vehs	1	2	2	0
Ending Vehs	5	4	1	1
Travel Distance (mi)	17	18	21	20
Travel Time (hr)	0.8	0.9	1.0	0.9
Total Delay (hr)	0.1	0.1	0.2	0.2
Total Stops	71	76	99	92
Fuel Used (gal)	0.8	0.8	0.9	0.8

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	76	106	108	85	69	77	83
Vehs Exited	77	109	109	91	75	81	77
Starting Vehs	4	6	7	8	6	6	1
Ending Vehs	3	3	6	2	0	2	7
Travel Distance (mi)	17	22	23	19	16	17	18
Travel Time (hr)	0.8	1.1	1.1	0.9	0.7	0.8	0.8
Total Delay (hr)	0.2	0.2	0.2	0.2	0.1	0.1	0.2
Total Stops	83	108	117	91	75	74	86
Fuel Used (gal)	0.8	1.0	1.0	0.8	0.7	0.7	0.8

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	90	89	95	86
Vehs Exited	89	91	96	88
Starting Vehs	5	4	1	1
Ending Vehs	6	2	0	0
Travel Distance (mi)	18	17	20	19
Travel Time (hr)	0.9	0.8	1.0	0.9
Total Delay (hr)	0.2	0.1	0.2	0.2
Total Stops	87	74	101	91
Fuel Used (gal)	0.8	0.7	0.9	0.8

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	31	40	52
Average Queue (ft)	25	22	32
95th Queue (ft)	43	46	48
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	2	22	49	18
Average Queue (ft)	0	1	20	1
95th Queue (ft)	0	12	46	11
Link Distance (ft)	292	373	621	370
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	55	34	31
Average Queue (ft)	29	28	20	10
95th Queue (ft)	50	47	44	33
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	22	36	53	31	73
Future Vol, veh/h	71	22	36	53	31	73
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	76	24	39	57	33	78
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.9	7.9	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	40%	76%	0%
Vol Thru, %	60%	0%	30%
Vol Right, %	0%	24%	70%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	89	93	104
LT Vol	36	71	0
Through Vol	53	0	31
RT Vol	0	22	73
Lane Flow Rate	96	100	112
Geometry Grp	1	1	1
Degree of Util (X)	0.113	0.118	0.116
Departure Headway (Hd)	4.243	4.264	3.727
Convergence, Y/N	Yes	Yes	Yes
Cap	835	829	946
Service Time	2.316	2.349	1.81
HCM Lane V/C Ratio	0.115	0.121	0.118
HCM Control Delay	7.9	7.9	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.4	0.4

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	88	12	2	104	2	13	3	2	3	5	6
Future Vol, veh/h	5	88	12	2	104	2	13	3	2	3	5	6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	107	15	2	127	2	16	4	2	4	6	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.9	7.7	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	72%	5%	2%	21%
Vol Thru, %	17%	84%	96%	36%
Vol Right, %	11%	11%	2%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	105	108	14
LT Vol	13	5	2	3
Through Vol	3	88	104	5
RT Vol	2	12	2	6
Lane Flow Rate	22	128	132	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.028	0.144	0.15	0.02
Departure Headway (Hd)	4.593	4.043	4.092	4.307
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	881	871	836
Service Time	2.593	2.097	2.143	2.308
HCM Lane V/C Ratio	0.028	0.145	0.152	0.02
HCM Control Delay	7.7	7.8	7.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.5	0.5	0.1

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	99	87	7	115	1	84	0	6	0	2	2
Future Vol, veh/h	3	99	87	7	115	1	84	0	6	0	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	121	106	9	140	1	102	0	7	0	2	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	227	0	0	343	341	174	345	394	141
Stage 1	-	-	-	-	-	-	182	182	-	159	159	-
Stage 2	-	-	-	-	-	-	161	159	-	186	235	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1455	-	-	1353	-	-	615	584	875	613	546	912
Stage 1	-	-	-	-	-	-	824	753	-	848	770	-
Stage 2	-	-	-	-	-	-	846	770	-	820	714	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1455	-	-	1353	-	-	606	578	875	603	541	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	606	578	-	603	541	-
Stage 1	-	-	-	-	-	-	822	751	-	845	765	-
Stage 2	-	-	-	-	-	-	835	765	-	811	712	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	12.1	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	619	1455	-	-	1353	-	-	679
HCM Lane V/C Ratio	0.177	0.003	-	-	0.006	-	-	0.007
HCM Control Delay (s)	12.1	7.5	0	-	7.7	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:45	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	550	568	518	505	500	529	506
Vehs Exited	551	561	518	507	497	528	502
Starting Vehs	9	3	4	7	4	6	7
Ending Vehs	8	10	4	5	7	7	11
Travel Distance (mi)	122	122	115	114	111	118	113
Travel Time (hr)	6.0	5.9	5.6	5.6	5.5	5.7	5.5
Total Delay (hr)	1.3	1.3	1.2	1.2	1.3	1.2	1.2
Total Stops	658	628	623	629	611	640	604
Fuel Used (gal)	5.3	5.3	5.0	4.9	4.9	5.2	4.8

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	517	535	506	522
Vehs Exited	509	540	509	523
Starting Vehs	4	7	4	2
Ending Vehs	12	2	1	5
Travel Distance (mi)	115	118	111	116
Travel Time (hr)	5.6	5.8	5.4	5.7
Total Delay (hr)	1.2	1.3	1.2	1.2
Total Stops	629	646	590	627
Fuel Used (gal)	5.0	5.2	4.9	5.0

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	136	126	130	95	108	114	113
Vehs Exited	137	123	128	97	110	115	116
Starting Vehs	9	3	4	7	4	6	7
Ending Vehs	8	6	6	5	2	5	4
Travel Distance (mi)	31	26	28	22	24	27	26
Travel Time (hr)	1.5	1.3	1.4	1.1	1.2	1.3	1.2
Total Delay (hr)	0.3	0.3	0.3	0.2	0.3	0.3	0.3
Total Stops	170	132	148	122	128	147	133
Fuel Used (gal)	1.3	1.1	1.2	1.0	1.0	1.1	1.1

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	135	138	111	120
Vehs Exited	134	143	108	120
Starting Vehs	4	7	4	2
Ending Vehs	5	2	7	3
Travel Distance (mi)	29	31	24	27
Travel Time (hr)	1.4	1.5	1.1	1.3
Total Delay (hr)	0.3	0.4	0.2	0.3
Total Stops	159	169	124	142
Fuel Used (gal)	1.3	1.4	1.0	1.2

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	168	150	138	148	158	159	152
Vehs Exited	171	150	138	143	154	163	153
Starting Vehs	8	6	6	5	2	5	4
Ending Vehs	5	6	6	10	6	1	3
Travel Distance (mi)	38	32	30	32	35	35	33
Travel Time (hr)	1.9	1.6	1.5	1.6	1.7	1.7	1.6
Total Delay (hr)	0.4	0.3	0.3	0.4	0.4	0.4	0.4
Total Stops	204	163	159	180	195	190	180
Fuel Used (gal)	1.7	1.4	1.3	1.3	1.6	1.6	1.4

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	144	155	160	152
Vehs Exited	142	150	161	153
Starting Vehs	5	2	7	3
Ending Vehs	7	7	6	2
Travel Distance (mi)	32	33	35	34
Travel Time (hr)	1.6	1.7	1.7	1.7
Total Delay (hr)	0.4	0.4	0.4	0.4
Total Stops	181	180	177	183
Fuel Used (gal)	1.4	1.4	1.6	1.5

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	130	127	115	118	135	137	115
Vehs Exited	131	125	114	124	133	131	111
Starting Vehs	5	6	6	10	6	1	3
Ending Vehs	4	8	7	4	8	7	7
Travel Distance (mi)	28	27	27	27	30	29	25
Travel Time (hr)	1.4	1.3	1.3	1.3	1.5	1.4	1.2
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	148	143	148	153	166	153	136
Fuel Used (gal)	1.2	1.2	1.2	1.2	1.3	1.3	1.0

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	114	104	111	119
Vehs Exited	113	106	114	122
Starting Vehs	7	7	6	2
Ending Vehs	8	5	3	3
Travel Distance (mi)	25	23	25	27
Travel Time (hr)	1.2	1.1	1.2	1.3
Total Delay (hr)	0.3	0.2	0.3	0.3
Total Stops	136	131	138	144
Fuel Used (gal)	1.1	1.0	1.1	1.2

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	116	165	135	144	99	119	126
Vehs Exited	112	163	138	143	100	119	122
Starting Vehs	4	8	7	4	8	7	7
Ending Vehs	8	10	4	5	7	7	11
Travel Distance (mi)	25	37	30	32	22	27	28
Travel Time (hr)	1.2	1.8	1.5	1.5	1.1	1.3	1.4
Total Delay (hr)	0.2	0.4	0.3	0.3	0.3	0.3	0.3
Total Stops	136	190	168	174	122	150	155
Fuel Used (gal)	1.1	1.6	1.3	1.4	1.0	1.2	1.2

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	124	138	124	129
Vehs Exited	120	141	126	129
Starting Vehs	8	5	3	3
Ending Vehs	12	2	1	5
Travel Distance (mi)	28	31	28	29
Travel Time (hr)	1.4	1.5	1.4	1.4
Total Delay (hr)	0.3	0.3	0.3	0.3
Total Stops	153	166	151	157
Fuel Used (gal)	1.2	1.4	1.2	1.3

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	39	52	55
Average Queue (ft)	29	32	33
95th Queue (ft)	41	46	49
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	11	27	64	28
Average Queue (ft)	0	1	34	4
95th Queue (ft)	6	10	56	20
Link Distance (ft)	292	373	621	370
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	68	34	34
Average Queue (ft)	34	34	15	12
95th Queue (ft)	54	50	41	37
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	16	20	20	51	51
Future Vol, veh/h	33	16	20	20	51	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	19	23	23	59	59
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.5	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	50%	67%	0%
Vol Thru, %	50%	0%	50%
Vol Right, %	0%	33%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	40	49	102
LT Vol	20	33	0
Through Vol	20	0	51
RT Vol	0	16	51
Lane Flow Rate	47	57	119
Geometry Grp	1	1	1
Degree of Util (X)	0.054	0.065	0.123
Departure Headway (Hd)	4.19	4.121	3.735
Convergence, Y/N	Yes	Yes	Yes
Cap	851	862	956
Service Time	2.234	2.18	1.774
HCM Lane V/C Ratio	0.055	0.066	0.124
HCM Control Delay	7.5	7.5	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	46	8	0	64	8	16	14	3	0	4	5
Future Vol, veh/h	13	46	8	0	64	8	16	14	3	0	4	5
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	56	10	0	78	10	20	17	4	0	5	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.5	7.6	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	48%	19%	0%	0%
Vol Thru, %	42%	69%	89%	44%
Vol Right, %	9%	12%	11%	56%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	67	72	9
LT Vol	16	13	0	0
Through Vol	14	46	64	4
RT Vol	3	8	8	5
Lane Flow Rate	40	82	88	11
Geometry Grp	1	1	1	1
Degree of Util (X)	0.048	0.092	0.098	0.012
Departure Headway (Hd)	4.278	4.058	4.019	3.924
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	878	887	898
Service Time	2.354	2.103	2.064	2.01
HCM Lane V/C Ratio	0.048	0.093	0.099	0.012
HCM Control Delay	7.6	7.5	7.5	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	64	125	4	80	1	36	0	3	0	0	1
Future Vol, veh/h	0	64	125	4	80	1	36	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	78	152	5	98	1	44	0	4	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	230	0	0	263	263	154	265	339	99
Stage 1	-	-	-	-	-	-	154	154	-	109	109	-
Stage 2	-	-	-	-	-	-	109	109	-	156	230	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1507	-	-	1350	-	-	694	646	897	692	586	962
Stage 1	-	-	-	-	-	-	853	774	-	901	809	-
Stage 2	-	-	-	-	-	-	901	809	-	851	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1507	-	-	1350	-	-	691	643	897	687	584	962
Mov Cap-2 Maneuver	-	-	-	-	-	-	691	643	-	687	584	-
Stage 1	-	-	-	-	-	-	853	774	-	901	806	-
Stage 2	-	-	-	-	-	-	896	806	-	848	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	10.5	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	1507	-	-	1350	-	-	962
HCM Lane V/C Ratio	0.068	-	-	-	0.004	-	-	0.001
HCM Control Delay (s)	10.5	0	-	-	7.7	0	-	8.7
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	430	415	428	404	400	398	440
Vehs Exited	424	409	426	405	397	399	434
Starting Vehs	1	1	0	3	1	5	3
Ending Vehs	7	7	2	2	4	4	9
Travel Distance (mi)	88	87	92	84	85	85	94
Travel Time (hr)	4.2	4.2	4.4	4.0	4.0	4.1	4.6
Total Delay (hr)	0.8	0.8	0.9	0.7	0.8	0.8	0.9
Total Stops	401	422	468	369	406	402	460
Fuel Used (gal)	3.8	3.8	4.0	3.6	3.6	3.7	4.0

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	394	424	426	416
Vehs Exited	395	426	425	415
Starting Vehs	3	5	1	0
Ending Vehs	2	3	2	0
Travel Distance (mi)	83	90	89	88
Travel Time (hr)	4.0	4.3	4.3	4.2
Total Delay (hr)	0.8	0.9	0.9	0.8
Total Stops	396	423	417	418
Fuel Used (gal)	3.6	4.0	3.9	3.8

Interval #0 Information Seeding

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	128	117	133	111	118	120	148
Vehs Exited	126	116	129	109	114	121	145
Starting Vehs	1	1	0	3	1	5	3
Ending Vehs	3	2	4	5	5	4	6
Travel Distance (mi)	26	24	29	23	25	25	31
Travel Time (hr)	1.3	1.2	1.4	1.1	1.2	1.2	1.5
Total Delay (hr)	0.3	0.2	0.3	0.2	0.2	0.2	0.3
Total Stops	119	117	149	94	119	115	139
Fuel Used (gal)	1.1	1.1	1.3	1.0	1.0	1.1	1.4

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	124	130	120	121
Vehs Exited	121	134	112	121
Starting Vehs	3	5	1	0
Ending Vehs	6	1	9	2
Travel Distance (mi)	26	29	24	26
Travel Time (hr)	1.2	1.4	1.1	1.3
Total Delay (hr)	0.3	0.3	0.2	0.3
Total Stops	120	142	109	120
Fuel Used (gal)	1.1	1.3	1.1	1.1

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	107	90	88	83	98	100	94
Vehs Exited	105	88	87	83	101	101	98
Starting Vehs	3	2	4	5	5	4	6
Ending Vehs	5	4	5	5	2	3	2
Travel Distance (mi)	22	18	19	17	21	21	21
Travel Time (hr)	1.0	0.9	0.9	0.8	1.0	1.0	1.0
Total Delay (hr)	0.2	0.2	0.2	0.1	0.2	0.2	0.2
Total Stops	102	87	98	67	106	105	100
Fuel Used (gal)	0.9	0.8	0.8	0.7	0.9	0.9	0.9

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	106	96	99	95
Vehs Exited	111	95	102	95
Starting Vehs	6	1	9	2
Ending Vehs	1	2	6	1
Travel Distance (mi)	24	21	21	21
Travel Time (hr)	1.1	1.0	1.0	1.0
Total Delay (hr)	0.3	0.2	0.2	0.2
Total Stops	123	101	101	99
Fuel Used (gal)	1.0	0.9	0.9	0.9

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	110	100	99	107	92	94	110
Vehs Exited	110	98	96	106	89	90	102
Starting Vehs	5	4	5	5	2	3	2
Ending Vehs	5	6	8	6	5	7	10
Travel Distance (mi)	21	21	22	22	19	20	23
Travel Time (hr)	1.0	1.0	1.0	1.0	0.9	1.0	1.1
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	89	104	110	100	89	101	118
Fuel Used (gal)	0.9	0.9	1.0	0.9	0.8	0.8	0.9

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	79	97	100	99
Vehs Exited	73	97	105	97
Starting Vehs	1	2	6	1
Ending Vehs	7	2	1	3
Travel Distance (mi)	16	20	22	21
Travel Time (hr)	0.8	0.9	1.0	1.0
Total Delay (hr)	0.1	0.2	0.2	0.2
Total Stops	73	89	95	100
Fuel Used (gal)	0.7	0.9	0.9	0.9

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	85	108	108	103	92	84	88
Vehs Exited	83	107	114	107	93	87	89
Starting Vehs	5	6	8	6	5	7	10
Ending Vehs	7	7	2	2	4	4	9
Travel Distance (mi)	19	23	22	22	19	18	19
Travel Time (hr)	0.9	1.1	1.1	1.1	0.9	0.9	0.9
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	91	114	111	108	92	81	103
Fuel Used (gal)	0.8	1.0	0.9	1.0	0.8	0.8	0.8

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	85	101	107	98
Vehs Exited	90	100	106	97
Starting Vehs	7	2	1	3
Ending Vehs	2	3	2	0
Travel Distance (mi)	17	20	23	20
Travel Time (hr)	0.8	0.9	1.1	1.0
Total Delay (hr)	0.2	0.2	0.2	0.2
Total Stops	80	91	112	100
Fuel Used (gal)	0.7	0.9	1.0	0.9

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	37	47	55
Average Queue (ft)	26	22	33
95th Queue (ft)	44	46	48
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	15	46	18
Average Queue (ft)	1	24	1
95th Queue (ft)	11	47	9
Link Distance (ft)	373	621	370
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	52	43	31
Average Queue (ft)	30	28	20	8
95th Queue (ft)	51	48	46	31
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	76	24	38	57	33	79
Future Vol, veh/h	76	24	38	57	33	79
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	82	26	41	61	35	85
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8	7.9	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	40%	76%	0%
Vol Thru, %	60%	0%	29%
Vol Right, %	0%	24%	71%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	95	100	112
LT Vol	38	76	0
Through Vol	57	0	33
RT Vol	0	24	79
Lane Flow Rate	102	108	120
Geometry Grp	1	1	1
Degree of Util (X)	0.121	0.128	0.125
Departure Headway (Hd)	4.263	4.288	3.744
Convergence, Y/N	Yes	Yes	Yes
Cap	830	824	941
Service Time	2.344	2.378	1.835
HCM Lane V/C Ratio	0.123	0.131	0.128
HCM Control Delay	7.9	8	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.4	0.4

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	95	13	2	112	2	14	3	2	3	5	6
Future Vol, veh/h	5	95	13	2	112	2	14	3	2	3	5	6
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	116	16	2	137	2	17	4	2	4	6	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8	7.8	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	74%	4%	2%	21%
Vol Thru, %	16%	84%	97%	36%
Vol Right, %	11%	12%	2%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	113	116	14
LT Vol	14	5	2	3
Through Vol	3	95	112	5
RT Vol	2	13	2	6
Lane Flow Rate	23	138	141	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.03	0.155	0.161	0.021
Departure Headway (Hd)	4.641	4.051	4.101	4.35
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	878	867	828
Service Time	2.642	2.111	2.159	2.351
HCM Lane V/C Ratio	0.03	0.157	0.163	0.021
HCM Control Delay	7.8	7.9	8	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.5	0.6	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	107	94	8	124	1	90	0	6	0	2	2
Future Vol, veh/h	3	107	94	8	124	1	90	0	6	0	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	130	115	10	151	1	110	0	7	0	2	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	245	0	0	370	368	188	371	425	152
Stage 1	-	-	-	-	-	-	196	196	-	172	172	-
Stage 2	-	-	-	-	-	-	174	172	-	199	253	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1441	-	-	1333	-	-	590	564	859	589	524	900
Stage 1	-	-	-	-	-	-	810	742	-	835	760	-
Stage 2	-	-	-	-	-	-	833	760	-	807	701	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1333	-	-	581	558	859	579	518	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	581	558	-	579	518	-
Stage 1	-	-	-	-	-	-	808	740	-	832	754	-
Stage 2	-	-	-	-	-	-	821	754	-	798	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	12.6	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	593	1441	-	-	1333	-	-	658
HCM Lane V/C Ratio	0.197	0.003	-	-	0.007	-	-	0.007
HCM Control Delay (s)	12.6	7.5	0	-	7.7	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:15	4:15	4:15	4:15	4:15	4:15	4:15
End Time	5:30	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	608	572	581	509	564	592	556
Vehs Exited	608	567	579	507	564	593	547
Starting Vehs	9	7	4	8	4	8	6
Ending Vehs	9	12	6	10	4	7	15
Travel Distance (mi)	135	124	129	115	126	132	125
Travel Time (hr)	6.7	6.1	6.3	5.6	6.2	6.5	6.1
Total Delay (hr)	1.5	1.4	1.4	1.3	1.4	1.4	1.4
Total Stops	743	661	699	627	675	707	684
Fuel Used (gal)	5.9	5.3	5.6	5.0	5.5	5.8	5.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	4:15	4:15	4:15	4:15
End Time	5:30	5:30	5:30	5:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	573	574	563	566
Vehs Exited	569	580	562	569
Starting Vehs	4	6	4	3
Ending Vehs	8	0	5	5
Travel Distance (mi)	130	128	125	127
Travel Time (hr)	6.4	6.3	6.1	6.2
Total Delay (hr)	1.4	1.4	1.4	1.4
Total Stops	718	697	672	684
Fuel Used (gal)	5.8	5.6	5.4	5.5

Interval #0 Information Seeding

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	150	125	145	112	120	134	120
Vehs Exited	151	126	144	116	121	138	125
Starting Vehs	9	7	4	8	4	8	6
Ending Vehs	8	6	5	4	3	4	1
Travel Distance (mi)	33	26	32	26	27	32	29
Travel Time (hr)	1.6	1.3	1.5	1.3	1.3	1.6	1.4
Total Delay (hr)	0.4	0.3	0.3	0.3	0.3	0.4	0.3
Total Stops	183	139	171	145	140	181	156
Fuel Used (gal)	1.5	1.1	1.4	1.1	1.2	1.4	1.2

Interval #1 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	143	148	130	132
Vehs Exited	139	152	127	133
Starting Vehs	4	6	4	3
Ending Vehs	8	2	7	2
Travel Distance (mi)	31	34	29	30
Travel Time (hr)	1.5	1.7	1.4	1.5
Total Delay (hr)	0.3	0.4	0.3	0.3
Total Stops	170	191	145	162
Fuel Used (gal)	1.4	1.5	1.3	1.3

Interval #2 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	144	141	134	114	149	143	141
Vehs Exited	145	138	134	110	149	142	140
Starting Vehs	8	6	5	4	3	4	1
Ending Vehs	7	9	5	8	3	5	2
Travel Distance (mi)	33	31	29	24	32	31	31
Travel Time (hr)	1.6	1.5	1.4	1.2	1.6	1.5	1.5
Total Delay (hr)	0.3	0.3	0.3	0.3	0.4	0.3	0.3
Total Stops	178	170	160	132	181	178	168
Fuel Used (gal)	1.4	1.3	1.2	1.1	1.4	1.3	1.4

Interval #2 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	128	124	139	135
Vehs Exited	134	123	139	135
Starting Vehs	8	2	7	2
Ending Vehs	2	3	7	2
Travel Distance (mi)	31	27	31	30
Travel Time (hr)	1.5	1.4	1.5	1.5
Total Delay (hr)	0.4	0.3	0.3	0.3
Total Stops	176	153	166	166
Fuel Used (gal)	1.4	1.2	1.3	1.3

Interval #3 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	146	119	128	126	139	145	128
Vehs Exited	148	120	126	126	129	142	122
Starting Vehs	7	9	5	8	3	5	2
Ending Vehs	5	8	7	8	13	8	8
Travel Distance (mi)	33	25	30	28	32	32	29
Travel Time (hr)	1.6	1.2	1.4	1.4	1.6	1.6	1.4
Total Delay (hr)	0.4	0.3	0.3	0.3	0.4	0.3	0.3
Total Stops	184	134	159	152	172	166	160
Fuel Used (gal)	1.4	1.1	1.3	1.3	1.4	1.4	1.2

Interval #3 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	131	130	124	133
Vehs Exited	124	123	128	131
Starting Vehs	2	3	7	2
Ending Vehs	9	10	3	6
Travel Distance (mi)	30	28	27	29
Travel Time (hr)	1.4	1.4	1.3	1.4
Total Delay (hr)	0.3	0.3	0.3	0.3
Total Stops	162	149	160	159
Fuel Used (gal)	1.3	1.2	1.2	1.3

Interval #4 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	168	187	174	157	156	170	167
Vehs Exited	164	183	175	155	165	171	160
Starting Vehs	5	8	7	8	13	8	8
Ending Vehs	9	12	6	10	4	7	15
Travel Distance (mi)	37	41	39	36	36	37	37
Travel Time (hr)	1.8	2.1	1.9	1.8	1.8	1.8	1.8
Total Delay (hr)	0.4	0.5	0.4	0.4	0.4	0.4	0.4
Total Stops	198	218	209	198	182	182	200
Fuel Used (gal)	1.6	1.8	1.7	1.6	1.6	1.7	1.6

Interval #4 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	171	172	170	168
Vehs Exited	172	182	168	169
Starting Vehs	9	10	3	6
Ending Vehs	8	0	5	5
Travel Distance (mi)	39	39	38	38
Travel Time (hr)	1.9	1.9	1.9	1.9
Total Delay (hr)	0.4	0.4	0.4	0.4
Total Stops	210	204	201	199
Fuel Used (gal)	1.7	1.7	1.6	1.7

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	48	53	55
Average Queue (ft)	30	32	33
95th Queue (ft)	41	49	47
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	11	23	77	31
Average Queue (ft)	0	1	35	4
95th Queue (ft)	6	10	56	20
Link Distance (ft)	292	373	621	370
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	70	32	33
Average Queue (ft)	36	34	14	11
95th Queue (ft)	54	51	39	35
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	31	31	28	64	63
Future Vol, veh/h	44	31	31	28	64	63
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	51	36	36	33	74	73
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	7.7	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	53%	59%	0%
Vol Thru, %	47%	0%	50%
Vol Right, %	0%	41%	50%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	59	75	127
LT Vol	31	44	0
Through Vol	28	0	64
RT Vol	0	31	63
Lane Flow Rate	69	87	148
Geometry Grp	1	1	1
Degree of Util (X)	0.081	0.1	0.156
Departure Headway (Hd)	4.273	4.138	3.808
Convergence, Y/N	Yes	Yes	Yes
Cap	831	854	932
Service Time	2.339	2.223	1.87
HCM Lane V/C Ratio	0.083	0.102	0.159
HCM Control Delay	7.7	7.7	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.3	0.6

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	63	9	1	87	11	17	18	3	8	9	16
Future Vol, veh/h	21	63	9	1	87	11	17	18	3	8	9	16
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	77	11	1	106	13	21	22	4	10	11	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.9	7.8	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	45%	23%	1%	24%
Vol Thru, %	47%	68%	88%	27%
Vol Right, %	8%	10%	11%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	93	99	33
LT Vol	17	21	1	8
Through Vol	18	63	87	9
RT Vol	3	9	11	16
Lane Flow Rate	46	113	121	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.131	0.138	0.048
Departure Headway (Hd)	4.536	4.164	4.107	4.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	794	849	861	846
Service Time	2.538	2.249	2.191	2.261
HCM Lane V/C Ratio	0.058	0.133	0.141	0.047
HCM Control Delay	7.8	7.9	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.5	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	77	125	20	99	3	36	6	13	5	8	9
Future Vol, veh/h	7	77	125	20	99	3	36	6	13	5	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	94	152	24	121	4	44	7	16	6	10	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	125	0	0	246	0	0	370	361	170	371	435	123
Stage 1	-	-	-	-	-	-	188	188	-	171	171	-
Stage 2	-	-	-	-	-	-	182	173	-	200	264	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1474	-	-	1332	-	-	590	569	879	589	517	933
Stage 1	-	-	-	-	-	-	818	748	-	836	761	-
Stage 2	-	-	-	-	-	-	824	760	-	806	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1332	-	-	563	554	879	561	504	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	563	554	-	561	504	-
Stage 1	-	-	-	-	-	-	812	743	-	830	747	-
Stage 2	-	-	-	-	-	-	788	746	-	778	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.3	11.6	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	614	1474	-	-	1332	-	-	639
HCM Lane V/C Ratio	0.109	0.006	-	-	0.018	-	-	0.042
HCM Control Delay (s)	11.6	7.5	0	-	7.8	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.1

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	554	584	531	514	533	592	558
Vehs Exited	553	581	526	516	530	591	560
Starting Vehs	3	0	5	4	3	6	7
Ending Vehs	4	3	10	2	6	7	5
Travel Distance (mi)	118	125	114	108	111	127	119
Travel Time (hr)	5.7	6.1	5.6	5.3	5.4	6.2	5.8
Total Delay (hr)	1.2	1.3	1.2	1.1	1.1	1.4	1.2
Total Stops	580	636	597	522	555	654	599
Fuel Used (gal)	5.2	5.6	5.0	4.7	4.8	5.6	5.1

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:30	8:30	8:30	8:30
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	594	567	537	556
Vehs Exited	595	569	537	556
Starting Vehs	7	6	4	2
Ending Vehs	6	4	4	2
Travel Distance (mi)	127	121	115	119
Travel Time (hr)	6.2	5.9	5.7	5.8
Total Delay (hr)	1.3	1.2	1.2	1.2
Total Stops	637	626	603	600
Fuel Used (gal)	5.5	5.3	5.0	5.2

Interval #0 Information Seeding

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	178	159	187	156	163	161	173
Vehs Exited	175	153	186	153	161	157	173
Starting Vehs	3	0	5	4	3	6	7
Ending Vehs	6	6	6	7	5	10	7
Travel Distance (mi)	37	33	39	31	34	34	37
Travel Time (hr)	1.8	1.6	1.9	1.5	1.7	1.6	1.8
Total Delay (hr)	0.4	0.3	0.4	0.3	0.4	0.4	0.4
Total Stops	180	166	208	144	181	179	176
Fuel Used (gal)	1.6	1.5	1.8	1.4	1.5	1.5	1.6

Interval #1 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	172	177	148	167
Vehs Exited	168	178	147	165
Starting Vehs	7	6	4	2
Ending Vehs	11	5	5	3
Travel Distance (mi)	36	37	31	35
Travel Time (hr)	1.8	1.8	1.5	1.7
Total Delay (hr)	0.4	0.4	0.3	0.4
Total Stops	187	177	160	175
Fuel Used (gal)	1.6	1.6	1.3	1.5

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	121	130	109	110	129	129	132
Vehs Exited	122	130	107	114	131	136	134
Starting Vehs	6	6	6	7	5	10	7
Ending Vehs	5	6	8	3	3	3	5
Travel Distance (mi)	26	28	23	25	27	28	29
Travel Time (hr)	1.3	1.4	1.1	1.2	1.3	1.4	1.4
Total Delay (hr)	0.3	0.3	0.2	0.2	0.3	0.3	0.3
Total Stops	138	147	125	114	126	145	150
Fuel Used (gal)	1.1	1.2	1.0	1.1	1.2	1.3	1.2

Interval #2 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	157	139	122	126
Vehs Exited	159	141	125	129
Starting Vehs	11	5	5	3
Ending Vehs	9	3	2	2
Travel Distance (mi)	34	31	27	28
Travel Time (hr)	1.7	1.5	1.3	1.4
Total Delay (hr)	0.4	0.3	0.3	0.3
Total Stops	176	167	139	143
Fuel Used (gal)	1.5	1.3	1.2	1.2

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	143	139	116	114	123	141	129
Vehs Exited	141	140	117	112	118	138	133
Starting Vehs	5	6	8	3	3	3	5
Ending Vehs	7	5	7	5	8	6	1
Travel Distance (mi)	30	30	27	24	26	30	27
Travel Time (hr)	1.5	1.5	1.3	1.2	1.2	1.5	1.3
Total Delay (hr)	0.3	0.3	0.3	0.2	0.3	0.3	0.3
Total Stops	144	150	138	119	126	161	135
Fuel Used (gal)	1.3	1.4	1.1	1.0	1.1	1.3	1.1

Interval #3 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	133	127	142	130
Vehs Exited	135	124	140	129
Starting Vehs	9	3	2	2
Ending Vehs	7	6	4	1
Travel Distance (mi)	28	27	30	28
Travel Time (hr)	1.4	1.3	1.5	1.4
Total Delay (hr)	0.3	0.3	0.4	0.3
Total Stops	137	148	159	141
Fuel Used (gal)	1.3	1.2	1.3	1.2

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	112	156	119	134	118	161	124
Vehs Exited	115	158	116	137	120	160	120
Starting Vehs	7	5	7	5	8	6	1
Ending Vehs	4	3	10	2	6	7	5
Travel Distance (mi)	24	34	25	28	25	35	26
Travel Time (hr)	1.2	1.7	1.2	1.4	1.2	1.7	1.3
Total Delay (hr)	0.2	0.4	0.3	0.3	0.2	0.4	0.3
Total Stops	118	173	126	145	122	169	138
Fuel Used (gal)	1.1	1.5	1.0	1.2	1.1	1.6	1.1

Interval #4 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	132	124	125	134
Vehs Exited	133	126	125	131
Starting Vehs	7	6	4	1
Ending Vehs	6	4	4	2
Travel Distance (mi)	28	27	27	28
Travel Time (hr)	1.4	1.3	1.3	1.4
Total Delay (hr)	0.3	0.3	0.3	0.3
Total Stops	137	134	145	141
Fuel Used (gal)	1.2	1.2	1.2	1.2

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	37	46	57
Average Queue (ft)	27	27	35
95th Queue (ft)	43	47	52
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	12	33	50	34
Average Queue (ft)	1	4	28	16
95th Queue (ft)	7	22	49	41
Link Distance (ft)	292	373	621	370
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	62	62	47	45
Average Queue (ft)	33	32	22	22
95th Queue (ft)	53	50	46	47
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	91	35	56	70	44	89
Future Vol, veh/h	91	35	56	70	44	89
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	98	38	60	75	47	96
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.4	8.4	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	44%	72%	0%
Vol Thru, %	56%	0%	33%
Vol Right, %	0%	28%	67%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	126	126	133
LT Vol	56	91	0
Through Vol	70	0	44
RT Vol	0	35	89
Lane Flow Rate	135	135	143
Geometry Grp	1	1	1
Degree of Util (X)	0.168	0.169	0.158
Departure Headway (Hd)	4.451	4.478	3.967
Convergence, Y/N	Yes	Yes	Yes
Cap	807	803	907
Service Time	2.466	2.496	1.982
HCM Lane V/C Ratio	0.167	0.168	0.158
HCM Control Delay	8.4	8.4	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	0.6	0.6

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	119	14	3	133	7	16	8	2	8	9	16
Future Vol, veh/h	19	119	14	3	133	7	16	8	2	8	9	16
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	145	17	4	162	9	20	10	2	10	11	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8.4	8.1	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	62%	12%	2%	24%
Vol Thru, %	31%	78%	93%	27%
Vol Right, %	8%	9%	5%	48%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	152	143	33
LT Vol	16	19	3	8
Through Vol	8	119	133	9
RT Vol	2	14	7	16
Lane Flow Rate	32	185	174	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.043	0.22	0.207	0.051
Departure Headway (Hd)	4.848	4.263	4.279	4.519
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	847	842	793
Service Time	2.871	2.268	2.284	2.541
HCM Lane V/C Ratio	0.043	0.218	0.207	0.05
HCM Control Delay	8.1	8.5	8.4	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.8	0.2

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	128	94	21	140	5	90	8	22	5	9	9
Future Vol, veh/h	12	128	94	21	140	5	90	8	22	5	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	15	156	115	26	171	6	110	10	27	6	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	271	0	0	481	473	214	488	527	174
Stage 1	-	-	-	-	-	-	244	244	-	226	226	-
Stage 2	-	-	-	-	-	-	237	229	-	262	301	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1411	-	-	1304	-	-	499	493	831	493	459	875
Stage 1	-	-	-	-	-	-	764	708	-	781	721	-
Stage 2	-	-	-	-	-	-	771	718	-	747	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1411	-	-	1304	-	-	471	476	831	457	443	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	471	476	-	457	443	-
Stage 1	-	-	-	-	-	-	754	699	-	771	705	-
Stage 2	-	-	-	-	-	-	733	702	-	704	660	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	14.8	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	1411	-	-	1304	-	-	554
HCM Lane V/C Ratio	0.286	0.01	-	-	0.02	-	-	0.051
HCM Control Delay (s)	14.8	7.6	0	-	7.8	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.2	0	-	-	0.1	-	-	0.2

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:45	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	757	750	729	730	679	735	724
Vehs Exited	753	749	730	733	680	739	723
Starting Vehs	7	7	7	9	5	10	10
Ending Vehs	11	8	6	6	4	6	11
Travel Distance (mi)	174	167	165	164	152	164	163
Travel Time (hr)	8.8	8.4	8.3	8.2	7.6	8.2	8.2
Total Delay (hr)	2.1	1.9	1.9	1.9	1.7	1.9	1.9
Total Stops	997	941	925	911	852	916	913
Fuel Used (gal)	7.8	7.5	7.3	7.3	6.7	7.3	7.2

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	745	750	693	727
Vehs Exited	738	752	689	730
Starting Vehs	7	10	4	4
Ending Vehs	14	8	8	6
Travel Distance (mi)	162	166	151	163
Travel Time (hr)	8.0	8.3	7.5	8.2
Total Delay (hr)	1.8	1.9	1.7	1.8
Total Stops	911	947	856	918
Fuel Used (gal)	7.2	7.4	6.8	7.2

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.
No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	188	163	175	167	144	149	177
Vehs Exited	187	167	174	168	140	152	177
Starting Vehs	7	7	7	9	5	10	10
Ending Vehs	8	3	8	8	9	7	10
Travel Distance (mi)	42	36	40	39	31	34	40
Travel Time (hr)	2.2	1.8	2.0	1.9	1.5	1.7	2.0
Total Delay (hr)	0.5	0.4	0.5	0.4	0.3	0.4	0.4
Total Stops	245	195	224	218	175	189	218
Fuel Used (gal)	1.9	1.7	1.8	1.7	1.4	1.5	1.8

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	172	194	163	169
Vehs Exited	169	198	156	167
Starting Vehs	7	10	4	4
Ending Vehs	10	6	11	3
Travel Distance (mi)	37	43	35	38
Travel Time (hr)	1.9	2.1	1.7	1.9
Total Delay (hr)	0.4	0.5	0.4	0.4
Total Stops	210	239	188	212
Fuel Used (gal)	1.7	1.9	1.6	1.7

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	228	214	203	212	227	217	214
Vehs Exited	226	211	202	207	230	216	221
Starting Vehs	8	3	8	8	9	7	10
Ending Vehs	10	6	9	13	6	8	3
Travel Distance (mi)	51	47	46	46	51	47	50
Travel Time (hr)	2.7	2.4	2.3	2.3	2.6	2.4	2.6
Total Delay (hr)	0.7	0.6	0.5	0.5	0.7	0.6	0.6
Total Stops	296	261	265	257	291	254	289
Fuel Used (gal)	2.2	2.1	2.0	2.0	2.2	2.1	2.2

Interval #2 Information Recording

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	214	220	198	214
Vehs Exited	219	219	198	215
Starting Vehs	10	6	11	3
Ending Vehs	5	7	11	6
Travel Distance (mi)	47	49	44	48
Travel Time (hr)	2.4	2.5	2.2	2.4
Total Delay (hr)	0.6	0.6	0.5	0.6
Total Stops	277	286	244	270
Fuel Used (gal)	2.1	2.2	1.9	2.1

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	182	177	176	165	151	183	166
Vehs Exited	187	172	172	168	147	183	159
Starting Vehs	10	6	9	13	6	8	3
Ending Vehs	5	11	13	10	10	8	10
Travel Distance (mi)	44	39	40	38	35	40	36
Travel Time (hr)	2.2	1.9	2.0	1.9	1.7	2.0	1.8
Total Delay (hr)	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Total Stops	248	227	217	214	203	231	208
Fuel Used (gal)	2.0	1.8	1.8	1.7	1.5	1.8	1.6

Interval #3 Information Recording

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	162	150	172	167
Vehs Exited	156	149	176	168
Starting Vehs	5	7	11	6
Ending Vehs	11	8	7	6
Travel Distance (mi)	35	33	38	38
Travel Time (hr)	1.7	1.6	1.9	1.9
Total Delay (hr)	0.4	0.4	0.4	0.4
Total Stops	187	189	224	214
Fuel Used (gal)	1.5	1.5	1.7	1.7

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	159	196	175	186	157	186	167
Vehs Exited	153	199	182	190	163	188	166
Starting Vehs	5	11	13	10	10	8	10
Ending Vehs	11	8	6	6	4	6	11
Travel Distance (mi)	37	45	40	41	35	43	36
Travel Time (hr)	1.8	2.3	2.0	2.0	1.7	2.2	1.8
Total Delay (hr)	0.4	0.5	0.5	0.4	0.3	0.5	0.4
Total Stops	208	258	219	222	183	242	198
Fuel Used (gal)	1.6	2.0	1.8	1.9	1.6	2.0	1.6

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	197	186	160	175
Vehs Exited	194	186	159	178
Starting Vehs	11	8	7	6
Ending Vehs	14	8	8	6
Travel Distance (mi)	42	41	34	40
Travel Time (hr)	2.1	2.1	1.7	2.0
Total Delay (hr)	0.5	0.5	0.4	0.4
Total Stops	237	233	200	219
Fuel Used (gal)	1.8	1.9	1.5	1.8

Intersection: 2: Red Ln & Carrollton Ave

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	44	56	62
Average Queue (ft)	31	36	36
95th Queue (ft)	38	53	54
Link Distance (ft)	383	305	460
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Broad St & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	41	35	76	47
Average Queue (ft)	3	5	39	17
95th Queue (ft)	21	24	64	44
Link Distance (ft)	292	373	621	370
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Mt Vernon Ln & Carrollton Ave

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	61	40	44
Average Queue (ft)	38	34	19	21
95th Queue (ft)	58	49	45	45
Link Distance (ft)	373	383	294	364
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

From: McCart, Christina
To: Maxwell S Dillon
Subject: [Ext.] FW: questions re HopeTree
Date: Thursday, January 04, 2024 12:06:34 PM
Attachments: image001.png

Max,

Thanks for answering my questions today. Below is the email I sent (and you can see the address) to the planning commission. I would really appreciate it if you could see that they get it.

Thank you,

Chris

From: McCart, Christina
Sent: Monday, December 18, 2023 7:08 AM
To: planningcommission@salemva.gov
Cc: rturk@salemva.gov; Jim W Wallace <jwallace@salemva.gov>; Hunter Holliday <hholliday@salemva.gov>; bjones@salemva.gov; rfoley@salemva.gov
Subject: questions re HopeTree

Dear Members of the Planning Commission:

I listened with interest to the discussion regarding HopeTree at your last meeting and appreciate your willingness to take questions via email. I've been thoroughly reading traffic reports and have several questions:

1. **In the December report, the whole analysis is done using 4 hours of traffic counts (Oct. 3rd 7:00 am to 9:00 am and 4:00 pm to 6:00 pm). Why are these hours and these dates considered peak? And why aren't standard protocols for traffic studies used? (i.e., use a traffic counter and count for a year, not just 4 hours). Please see link below for standard practice.**
   K factor (traffic engineering) - Wikipedia

2. **Why was the 4 way stop on Carrollton, where Academy crosses it, not included in the analysis?** People leaving HopeTree to go to West Salem Elementary School or SHS or even just heading into West Salem, would go through that intersection, so why was it not included?

It should be noted that several of us in the neighborhood have been doing informal traffic

counts since we learned about HopeTree last summer, giving me a fairly good idea of current numbers, so when I read the December report I was quite surprised. Please refer to Figure 1 and note the Carrollton/N. Broad St intersection. If you combine the traffic from different directions, you see that the peak traffic in the morning is 291 vehicles and the peak traffic in the evening is 406 vehicles. Being a bit surprised by these numbers, I immediately walked up to the 4 way stop (Carrollton/Academy/Wildwood) and counted cars for 10 minutes. (Friday, Dec. 15 2:30 p.m.) The count was 59 for 10 minutes, so extrapolating that to an hour (which given Balzer's high PHF's is appropriate) results in vehicles per hour of 6*59 = 354 VPH. Note that this is significantly higher than the peak am traffic for the Broad St intersection (of 291). So, was their peak count inaccurate, did they not actually use peak hours, did they not use a peak date, or did they not include the busiest intersection? I was pleased to see that Balzer used a nice traffic simulation model to find all kinds of nice looking and intimidating statistics, but remember the GIGO rule of modeling – garbage in, garbage out**. If the whole model is based on only 4 hours of data (which haven't been shown to be peak and which don't include all the affected intersections), how can we have confidence in the output?**

3. **Why was the internal capture rate of HopeTree increased from 20% to 25% between Balzer's August and December reports?** The August report (with 20% internal capture) is based on 256 dwelling units, 60 hotel rooms, a 15,000 square foot office building and a 7500 square foot restaurant. The December report leaves the commercial building the same but adds an additional 84 dwelling units. How does adding 84 living units to a PUD (without additional commercial buildup) keep people in the neighborhood so much more of the time?

4. **The report states "Commercial uses will be determined by market conditions and opportunities available at the time of development."** Does this mean the zoning change being sought will grant unrestricted authority over commercial development? If not, please elaborate.

5. **The report states "It is recommended that projected trip generation be tracked as the development progresses for comparison to the traffic study. If the actual development results in significantly more traffic than what has been assumed, then it may be necessary to update this study."** Does this mean that once construction is underway, and people are moving in and taking advantage of the commercial opportunities, that if the roads aren't sufficient to handle the traffic that someone will revisit a traffic study? What does this mean? Salem will then be responsible for road work throughout North Salem to make it work? (at the expense of several neighborhoods) Please elaborate.

6. **Why is all discussion centered around how much traffic a road can handle rather than the livability of a neighborhood?** Below are a couple of interesting reads.
    a. Numbers Every Traffic Engineer Should Know - Mike on Traffic
    b. http://flpkdr.com/InfoFiles/NeighborhoodStreets.pdf

7. **Finally, why are they not using vehicle traffic counting equipment to get actual traffic counts along Salem Streets?**

Thank you for your willingness to take these questions and get answers for the planning commission before any decisions are made. I have more questions but don't want to detract from the more important ones above, so I will hold them for another time. If you have any questions about my questions, please let me know. For a little background I am sending you my notes from my talks at City Council.

Best,

Chris
316 N. Broad St

Christina D. McCart, PhD
Professor Emerita
Business Admin. & Economics
mobile 540-798-9145
mccart@roanoke.edu

ROANOKE COLLEGE®

PAYMENT DATE
12/01/2023

COLLECTION STATION
Engineering/Inspections

RECEIVED FROM
Hope Tree Family Services

DESCRIPTION

City of Salem
P.O. Box 869
Salem, VA 24153

BATCH NO.
2024-00002961

RECEIPT NO.
2024-00057909

CASHIER
Krystal Graves

PAYMENT CODE	RECEIPT DESCRIPTION	TRANSACTION AMOUNT
CD LAND USE	Land Use Application Fees rezoning - 860 Mount Vernon Lane - Hope Tree	$1,000.00

Total Cash	**$0.00**
Total Check	**$1,000.00**
Total Charge	**$0.00**
Total Wire	**$0.00**
Total Other	**$0.00**
Total Remitted	**$1,000.00**
Change	**$0.00**
Total Received	**$1,000.00**

Total Amount: **$1,000.00**

Customer Copy

LEGAL DESCRIPTION OF PROPERTY TO BE REZONED

Beginning at a point at the intersection of the North line of West Carrollton Avenue and the East line of North Broad Street,
thence along the East line of North Broad Street N 27°07'26" W a distance of 405.00' to a point at the terminus of North Broad Street;
thence S 62°50'44" W a distance of 220.00' to a point;
thence N 27°07'26" W a distance of 56.58' to a point;
thence S 65°21'08" W a distance of 20.97' to a point;
thence N 60°42'55" W a distance of 39.80' to a point;
thence S 65°51'41" W a distance of 177.30' to a point;
thence S 66°49'50" W a distance of 165.36' to a point;
thence N 27°06'48" W a distance of 127.34' to a point;
thence S 60°36'41" W a distance of 49.06' to a point;
thence N 29°18'28" W a distance of 127.22' to a point;
thence N 27°59'13" W a distance of 401.04' to a point;
thence S 61°59'55" W a distance of 12.00' to a point;
thence N 71°49'41" W a distance of 152.51' to a point;
thence N 60°22'31" E a distance of 118.03' to a point;
thence N 19°56'17" W a distance of 1088.42' to a point on the South line of Interstate 81;
thence along the South line of Interstate 81 N 51°21'30" E a distance of 390.06' to a point;
thence N 59°46'44" E a distance of 100.89' to a point;
thence N 42°21'32" E a distance of 100.52' to a point;
thence N 52°01'06" E a distance of 380.85' to a point at the intersection of the South line of Interstate 81 and the West line of Red Lane;
thence along the West line of Red Lane S 08°26'28" E a distance of 365.95' to a point;
thence S 08°55'13" E a distance of 83.12' to a point;
thence with a curve turning to the left with an arc length of 353.82', with a radius of 320.00', with a chord bearing of S 40°35'45" E, with a chord length of 336.07', to a point;
thence S 72°16'18" E a distance of 141.44' to a point;
thence with a non-tangent curve turning to the right with an arc length of 318.24', with a radius of 710.00', with a chord bearing of S 58°42'30" E, with a chord length of 315.58', to a point;
thence S 45°54'08" E a distance of 839.41' to a point ;
thence S 67°53'11" W a distance of 9.99' to a point;
thence S 22°06'49" E a distance of 315.70' to a point;
thence leaving the West line of Red Lane S 60°35'11" W a distance of 190.10' to a point;
thence S 22°06'49" E a distance of 100.00' to a point;
thence S 37°19'34" E a distance of 95.13' to a point;
thence S 28°44'42" E a distance of 122.90' to a point on the North line of West Carrollton Avenue;
thence along the North line of West Carrollton Avenue S 62°51'48" W a distance of 676.02' to a point; which is the point of beginning,
having an area of 2,714,568 square feet, 62.318 acres, being known as part of tax map number 44-3-10 and lying in the City of Salem, Virginia.

AFFADAVIT OF MAILING PURSUANT TO S15.2-2204
CODE OF VIRGINIA

PLANNING COMMISSION **ITEM #**
JANUARY 10, 2024

This is to certify that I mailed letters in reference to the rezoning request of Virginia Baptist Children's Home (dba HopeTree Family Services), property owner for rezoning the properties located at 1000 blk Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10), from RSF Residential Single Family to PUD Planned Unit District, to the following property owners and adjacent property owners on December 22, 2023, in the 2:00 p.m. mail:

Location	Owner Name	Co-Owner Name	Address 1	City, State, Zip
204 BENTWOOD CT	LESTER, MARY FRANCES-LIFE ESTATE		204 BENTWOOD CT	SALEM, VA 24153
206 BENTWOOD CT	HERNDON, PATRICK A	HERNDON, EMILY Z	206 BENTWOOD CT	SALEM, VA 24153
208 BENTWOOD CT	COWLING, RAYMOND J III		208 BENTWOOD CT	SALEM, VA 24153
210 BENTWOOD CT	PEASLEE ROBERT B		210 BENTWOOD CT	SALEM, VA 24153
217 BENTWOOD CT	STADER, WILLIAM B	SECRIST, APRIL L	217 BENTWOOD CT	SALEM, VA 24153
211 BENTWOOD CT	HINRICHS, MARC CHARLES	HINRICHS, SANDRA JO	211 BENTWOOD CT	SALEM, VA 24153
209 BENTWOOD CT	STOVALL STUART W		209 BENTWOOD CT	SALEM, VA 24153
200 BENTWOOD CT	JANOSCHKA, STEPHEN P	JANOSCHKA, MACEL H	200 BENTWOOD CT	SALEM, VA 24153
202 BENTWOOD CT	VALUE HOUSING PARTNERS LLC		5211 S CONCOURSE DR	ROANOKE, VA 24019
1002 RED LN	FELL, LUKE E	BRIMER, ALLYSON R	1002 RED LN	SALEM, VA 24153
1000 RED LN BLK	HOLMES LETHA ELLA EARLY-ESTATE		410 VANDERWALL	PEACHTREE CITY, GA 30269
984 RED LN	LONG REGINALD ALAN		338 WARWICK AVE	SOUTH ORANGE, NJ 07079
900 RED LN BLK	HOLMES LETHA ELLA EARLY-ESTATE		410 VANDERWALL	PEACHTREE CITY, GA 30269
900 RED LN BLK	EDWARDS ALMA HOLMES		410 VANDERWALL	PEACHTREE CITY, GA 30269
102 NORTH OAKS DR	COPLAND, JAMES HENRY	COPLAND, BRENDA SUE	102 NORTH OAKS DR	SALEM, VA 24153
104 NORTH OAKS DR	KENNY, OTIS	KENNY, BARBARA	104 NORTH OAKS DR	SALEM, VA 24153
107 NORTH OAKS DR	OLDE SALEM CONTRACTING INC		PO BOX 2492	SALEM, VA 24153
105 NORTH OAKS DR	OLDE SALEM CONTRACTING INC		PO BOX 2492	SALEM, VA 24153
103 NORTH OAKS DR	SURRATT RICK		103 NORTH OAKS DR	SALEM, VA 24153
108 NORTH OAKS DR	HUTCHISON, KATHERINE GUIDRY	HUTCHISON, RICHARD RYAN	108 NORTH OAKS DR	SALEM, VA 24153
1024 STONEGATE DR	HARRISON, JAMES EDWARD	HARRISON, TRACEY LEA	1024 STONEGATE DR	SALEM, VA 24153
1015 STONEGATE DR	ESTILL LLOYD H		1015 STONEGATE DR	SALEM, VA 24153
1009 STONEGATE DR	SNOW RICHARD M		1009 STONEGATE DR	SALEM, VA 24153
107 BARTLEY DR	BRUSSEAU WESLEY		107 BARTLEY DR	SALEM, VA 24153
108 BARTLEY DR	PERRY, KEVIN J	PERRY, WENDY L	108 BARTLEY DR	SALEM, VA 24153
987 STONEGATE DR	JEAN O WHEELING REVOCABLE DECLARATION OF TRUST		987 STONEGATE DR	SALEM, VA 24153
971 STONEGATE DR	LOWE CARL J		971 STONEGATE DR	SALEM, VA 24153
955 STONEGATE DR	YOUNG, HOLLIE		955 STONEGATE DR	SALEM, VA 24153
1020 STONEGATE DR	WILLIAMS, BARBARA WERTZ		1020 STONEGATE DR	SALEM, VA 24153
1016 STONEGATE DR	CRAIGHEAD ROBERT A		1617 STRAWBERRY MOUNTAIN DRIVE	ROANOKE, VA 24018
1010 STONEGATE DR	LOVING, JASON R	LOVING, TRACY L	1010 STONEGATE DR	SALEM, VA 24153
1006 STONEGATE DR	KING CHRISTOPHER M		1006 STONEGATE DR	SALEM, VA 24153
996 STONEGATE DR	HAAS MICHAEL S		996 STONEGATE DR	SALEM, VA 24153
988 STONEGATE DR	MINUCIE DEBORAH B		1914 OLD MILL DR	SALEM, VA 24153
972 STONEGATE DR	SIMMONS GARY E		972 STONEGATE DR	SALEM, VA 24153
900 STONEGATE DR BLK	ETHERIDGE LIONEL L		956 STONEGATE DR	SALEM, VA 24153
916 RED LN	KUMMER MICHAEL BROWN		916 RED LN	SALEM, VA 24153
910 RED LN	MILBRODT, TERESA	PALMGREN, TRISTAN	910 RED LN	SALEM, VA 24153
904 RED LN	KERR, MITCHELL D		904 RED LN	SALEM, VA 24153
844 RED LN	BRANSON, BOBBY HAROLD		PO BOX 976	SALEM, VA 24153
840 RED LN	BEEDLE ANDREW SCOTT		840 RED LANE	SALEM, VA 24153

834 RED LN	WILLIAMS SAMUEL J		834 RED LN	SALEM, VA 24153
826 RED LN	BELOUS, RICHARD S		826 RED LN	SALEM, VA 24153
958 RED LN	BAILEY, DEITRA D		958 RED LN	SALEM, VA 24153
954 RED LN	VALUE HOUSING PARTNERS LLC		5211 SOUTH CONCOURSE DR	ROANOKE, VA 24019
950 RED LN	VALUE HOUSING PARTNERS LLC		5211 SOUTH CONCOURSE DR	ROANOKE, VA 24019
946 RED LN	TUCK, DONALD S		946 RED LN	SALEM, VA 24153
942 RED LN	PRUSA, FRANK W JR	PRUSA, MELINDA A	942 RED LN	SALEM, VA 24153
936 RED LN	ST PIERRE, ADAM THOMAS	BROWN, KAYLA DANIELLE	936 RED LANE	SALEM, VA 24153
934 RED LN	MARY FRANCES BOWEN IRREVOCABLE TRUST		5406 SNOW OWL DR	ROANOKE, VA 24018-0000
932 RED LN	OWEN JONATHAN C		227 TAYLOR AVE	SALEM, VA 24153
930 RED LN	LOWE, DAVID	LOWE, DEBORAH	106 ROSELAND DR	CHRISTIANSBURG, VA 24073
928 RED LN	SAKALAS, ALEXANDER J		928 RED LN	SALEM, VA 24153
922 RED LN	HUNT, RONALD E		922 RED LN	SALEM, VA 24153
805 HONEYSUCKLE RD	MUSGRAVE DONNA L		805 HONEYSUCKLE RD	SALEM, VA 24153
819 HONEYSUCKLE RD	ENGLAND, ROBERT KENNETH II		819 HONEYSUCKLE RD	SALEM, VA 24153
851 HONEYSUCKLE RD	WALLACE, NATHAN W	WALLACE, JESSICA E	851 HONEYSUCKLE RD	SALEM, VA 24153
900 HONEYSUCKLE RD BLK	THE BLISS PROPERTY TRUST		8960 RIDGEMONT DR	SANDY SPRINGS, GA 30350
821 RED LN	TUELL, STEVEN	NEIGHBORS, JESSICA	821 RED LN	SALEM, VA 24153
803 RED LN	GLASBY, LEON K	GLASBY, DEBORAH R	803 RED LN	SALEM, VA 24153
801 RED LN	GOLDSTEIN ANDREW S		801 RED LN	SALEM, VA 24153
818 RED LN	DEMPSEY, TRACEY L	DEMPSEY, JACOB A	818 RED LN	SALEM, VA 24153
808 RED LN	CHAMBERLAND SETH R		808 RED LN	SALEM, VA 24153
800 RED LN	MCGEEVER, MICHAEL	MCGEEVER, MARGARET	800 RED LANE	SALEM, VA 24153
718 RED LN	MAY ROBERT L		718 RED LN	SALEM, VA 24153-0553
721 RED LN	WOHLFORD, DAVID A	WOHLFORD, WHITNEY S	721 RED LANE	SALEM, VA 24153
702 MOUNT VERNON AVE	PFEIFFER JULIE KRISTINE		702 MT VERNON AVE	SALEM, VA 24153
710 MOUNT VERNON AVE	COX MICHAEL F		710 MT VERNON AVE	SALEM, VA 24153
720 MOUNT VERNON AVE	CARLOS B HART JR REVOCABLE TRUST		720 MT VERNON AVE	SALEM, VA 24153
707 RED LN	TAYLOR, ALLEN WAYNE		707 RED LN	SALEM, VA 24153
721 MOUNT VERNON AVE	MURPHY, KARLA		721 MT VERNON AVE	SALEM, VA 24153
18 E CARROLLTON AVE	PICARD JASON R		18 E CARROLLTON AVE	SALEM, VA 24153
715 MOUNT VERNON AVE	MICHAEL E HALL REVOCABLE DECLARATION OF	SUSAN E HALL REVOCABLE DECLARATION OF TRUST	1383 WALDHEIM RD	SALEM, VA 24153
709 MOUNT VERNON AVE	JOHNSON, RENITA ANNE		709 MT VERNON AVE	SALEM, VA 24153
701 MOUNT VERNON AVE	WHEELING MATTHEW P		701 MT VERNON AVE	SALEM, VA 24153
710 N BROAD ST	HAKKENBERG, MICHAEL	HAKKENBERG, DAWN	710 N BROAD ST	SALEM, VA 24153
706 N BROAD ST	NANCY ELLEN UTZ LIVING TRUST		706 N BROAD ST	SALEM, VA 24153
714 N BROAD ST	COFFMAN, STEPHEN	COFFMAN, BONNIE MOULSE	320 W MAIN ST UNIT 74	SALEM, VA 24153
718 N BROAD ST	SHREEMAN, MADELAINE ROSE		718 N BROAD ST	SALEM, VA 24153
14 E CARROLLTON AVE	HALL ELIZABETH A		1814 BELLEVILLE RD SW	ROANOKE, VA 24015-2708
14 W CARROLLTON AVE	WEEKS, JAMES R JR		5938 VIEWPOINT AVE	SALEM, VA 24153
10 W CARROLLTON AVE	GREGORY MATTHEW H		10 W CARROLLTON AVE	SALEM, VA 24153
717 N BROAD ST	WARRINER, BRYAN K	WARRINER, MARY G	717 N BROAD ST	SALEM, VA 24153
823 N BROAD ST	GRESHAM, JAMES L	GRESHAM, JUDY S	433 DEER RUN CIR	SALEM, VA 24153
819 N BROAD ST	MUSNUG FRED A		819 N BROAD ST	SALEM, VA 24153
815 N BROAD ST	MILLIGAN BRUCE P		815 N BROAD ST	SALEM, VA 24153
809 N BROAD ST	HARRIS, MELVIN LEE		809 N BROAD ST	SALEM, VA 24153

805 N BROAD ST	DUFFY LIVING TRUST		409 STONEWALL CIR	SALEM, VA 24153
801 N BROAD ST	HENRY GEORGE M		801 N BROAD ST	SALEM, VA 24153
956 STONEGATE DR	ETHERIDGE LIONEL L		956 STONEGATE DR	SALEM, VA 24153
29 CORBETT ST	CRAWFORD, ROBERT C III		29 CORBETT ST	SALEM, VA 24153
19 CORBETT ST	STEEN, MARK QUINN	STEEN, ANNA TRIVETTE	19 CORBETT ST	SALEM, VA 24153
901 N BROAD ST	CRAFT, SUSAN T		132 W CARROLLTON AVE	SALEM, VA 24153
944 STONEGATE DR	MARTIN THOMAS J		PO BOX 628	SALEM, VA 24153-0628
927 SADDLE DR	DOTSON PAUL R		927 SADDLE DR	SALEM, VA 24153
929 SADDLE DR	SHANER, JOHN P R		929 SADDLE DR	SALEM, VA 24153
931 SADDLE DR	SMITH, ROBERT C III	SMITH, KRISTEN KAY	931 SADDLE DR	SALEM, VA 24153
932 SADDLE DR	DELAPP VICTOR B		932 SADDLE DR	SALEM, VA 24153
928 SADDLE DR	WILEY, DARLENE C		928 SADDLE DR	SALEM, VA 24153
924 SADDLE DR	VAUGHAN ESTHER S-TRUSTEE OF VAUGHAN LIVING TRUST		924 SADDLE DR	SALEM, VA 24153
920 SADDLE DR	CROWGEY, TERENCE H	CROWGEY, MAEVE N	920 SADDLE DR	SALEM, VA 24153
916 SADDLE DR	DAVID AND RICHIA GREGSTON REVOCABLE TRUST		916 SADDLE DR	SALEM, VA 24153
915 SADDLE DR	ADVANTAGE BUILDERS LLC		1618 CASCADE COURT	SALEM, VA 24153
917 SADDLE DR	BAKER, KEVIN WARREN		917 SADDLE DR	SALEM, VA 24153
921 SADDLE DR	RYAN, DANIEL R		921 SADDLE DR	SALEM, VA 24153
923 SADDLE DR	LANGFITT, TERRY JR	LANGFITT, ASHLEIGH	923 SADDLE DR	SALEM, VA 24153
925 SADDLE DR	REYNOLDS NANCY F		925 SADDLE DR	SALEM, VA 24153
808 SCOTT CIR	CHRISTOPHER, YEAKEL S	MARY, YEAKEL CATHERINE	808 SCOTT CIR	SALEM, VA 24153
836 ACADEMY ST	FLETCHER, KEVIN L	FLETCHER, MELISSA H	836 ACADEMY ST	SALEM, VA 24153
842 ACADEMY ST	WRIGHT, CASEY WALLACE	WRIGHT, AMANDA GURLEY	842 ACADEMY ST	SALEM, VA 24153
810 SCOTT CIR	YERTON JOSHUA D		810 SCOTT CIR	SALEM, VA 24153
812 SCOTT CIR	POLLARD RICHARD H		812 SCOTT CIR	SALEM, VA 24153
814 SCOTT CIR	EDWARDS, GARY	EDWARDS, NANCY	814 SCOTT CIR	SALEM, VA 24153
811 SCOTT CIR	FELDENZER, JOHN A	FELDENZER, KAREN C	811 SCOTT CIRCLE	SALEM, VA 24153
809 SCOTT CIR	EVANS, MICHAEL D	EVANS, LISA DAWN	809 SCOTT CIR	SALEM, VA 24153
806 SCOTT CIR	GETSI MICHAEL N		806 SCOTT CIR	SALEM, VA 24153
20 CORBETT ST BLK	STEEN RICHARD D-TRST ELBERT R STEEN (ESTATE) IRREV		34 CORBETT ST	SALEM, VA 24153
19 W CARROLLTON AVE	HUGHES STEVEN M		19 W CARROLLTON AVE	SALEM, VA 24153
40 CORBETT ST	BARTON, TIMMY D	BARTON, ANITA B	40 CORBETT ST	SALEM, VA 24153
38 CORBETT ST	RIGANTI ROCCO		38 CORBETT ST	SALEM, VA 24153-2629
34 CORBETT ST	STEEN, RICHARD D		34 CORBETT ST	SALEM, VA 24153
30 CORBETT ST	MORRIS, LAURA W		30 CORBETT ST	SALEM, VA 24153
26 CORBETT ST	MONNETT, BRENDA L		26 CORBETT ST	SALEM, VA 24153
22 CORBETT ST	STEEN RICHARD D-TRST ALBERT R STEEN (ESTATE) IRREV		34 CORBETT ST	SALEM, VA 24153
20 CORBETT ST BLK	STEEN RICHARD D-TRST ELBERT R STEEN (ESTATE) IRREV		34 CORBETT ST	SALEM, VA 24153
18 W CARROLLTON AVE	CORBETT, BRIAN J		18 W CARROLLTON AVE	SALEM, VA 24153
711 N BROAD ST	TWO LANE HOLDINGS LLC		409 N BROAD ST	SALEM, VA 24153
707 N BROAD ST	PEDIGO, MARVIN L		1901 MAIN ST SW	ROANOKE, VA 24015-3019
	VDOT		731 HARRISON AVE	SALEM VA 24153
	COUNTY OF ROANOKE		PO BOX 29800	ROANOKE VA 24018

Signed Loretta L Prillaman Date 12/22/2023

City of Salem
Commonwealth of Virginia
The foregoing instrument was acknowledged before me this 22nd day of December, 2023, by
Loretta L. Prillaman

Krystal M. Graves
Notary Public
My commission expires: March, 31, 2027

Krystal M. Graves
Notary Public - ID 228801
Commonwealth of VA
My Commission Exps. 3-31-27

SALEM VA

Zoning Administration Division

December 22, 2023

Mr. Jon Morris
HopeTree Family Services
860 Mount Vernon Lane
Salem, VA 24153

RE: Petition For Zoning Amendment (Rezoning)
1000 block Red Lane and a portion of 860 Mount Vernon Lane
Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6 and a portion of 44-3-10)

To Whom It May Concern:

You and/or your agent shall appear before the Planning Commission on:

Wednesday, January 10, 2024
at 7:00 p.m. in the

Community Room, Salem Civic Center
1001 Roanoke Boulevard

AND

Salem City Council on:

Monday, January 22, 2024
at 6:30 p.m. in the

Community Room, Salem Civic Center
1001 Roanoke Boulevard, Salem, Virginia

for consideration of your request for rezoning the above referenced property.

If you have any questions regarding this matter, please contact our office at (540) 375-3032.

Sincerely,

Mary Ellen H. Wines, CZA CFM
Planning and Zoning Administrator

SALEM VA

IMPORTANT NOTICE OF PUBLIC HEARINGS
PROPOSAL TO CHANGE ZONING

Notice is hereby given that a request has been filed with the City of Salem by the property owner/petitioner of the property described below. The Planning Commission of the City of Salem will consider this request at its meeting listed below and make a recommendation to the City Council. The City Council of the City of Salem will also consider this request, and the recommendation of the Planning Commission at its meeting listed below. City Council will make the final decision in this matter.

Property Owner/Petitioner:
Virginia Baptist Children's Home (dba HopeTree Family Services)

Location of Property:
1000 block Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10)

Purpose of Request:
To rezone the property located at 1000 Block of Red Ln and a portion of 860 Mount Vernon Lane (Tax Map #'s 41-1-1, 41-1-2, 41-1-3, 41-1-4, 41-1-5, 41-1-6, and a portion of 44-3-10) from RSF Residential Single Family to PUD Planned Unit District.

The date, time, and place of the public hearing scheduled by the Planning Commission on this request are as follows:

WEDNESDAY, JANUARY 10, 2024 – 7 P.M.
COMMUNITY ROOM, SALEM CIVIC CENTER
1001 ROANOKE BOULEVARD, SALEM, VIRGINIA

The date, time, and place of the public hearing scheduled by City Council on this request are as follows:

MONDAY, JANUARY 22, 2024 – 6:30PM
COMMUNITY ROOM, SALEM CIVIC CENTER
1001 ROANOKE BOULEVARD, SALEM, VIRGINIA

Additional information on this request may be obtained in the Community Development Department, 21 South Bruffey Street, Salem, Virginia or at (540) 375-3032.

H. Robert Light
Deputy Executive Secretary
Planning Commission

REZONING NARRATIVE

As outlined in the PUD document, the vision for this property is to allow for the development of a fully integrated, mixed-use, pedestrian-oriented neighborhood woven into the existing HopeTree campus of buildings and surrounding open space, while being sensitive to, and providing meaningful connections to, the surrounding neighborhoods in the community.

On behalf of HopeTree Family Services (HopeTree), we are providing the narrative below as supplemental information to support the rezoning application and Planned Unit District (PUD) document with associated zoning information and guidelines for the development. This request is to rezone a portion of existing Tax Parcel 44-3-10 from RSF-Residential Single Family, to PUD-Planned Unit District for a proposed mixed-use neighborhood to be developed on the property. The HopeTree PUD document is the only document that is proffered with this request and all other documents are provided as supplemental information to further explain the request.

Project Narrative

The portion of the property that is proposed to be rezoned is approximately 62.318 acres along Red Lane and East Carrollton Avenue. The parcel is owned, operated, and occupied by HopeTree Family Services. HopeTree Family Services offers a wide range of ministries for at-risk children and youth and their families. These services include Treatment Foster Care, the HopeTree Academy secondary educational program, and Therapeutic Group Home. HopeTree also serves the needs of adults with intellectual disabilities and their families through their Developmental Disabilities Ministry. HopeTree Family Services is supported by the Virginia Baptist Children's Home & Family Services Foundation and is a mission partner of the Virginia Baptist Mission Board.

Over the last several decades, the use of this property has changed significantly, mainly due to a changing regulatory environment surrounding the specific types of services that have occupied the Salem campus. At its peak, when HopeTree was an orphanage, the campus was home to more than 400 youth ranging in age from 5 to 18. New regulations have discouraged the type of large-scale group home that existed on this campus in the past and have moved instead toward smaller-scale facilities that are integrated with the surrounding communities in which they are located. Because of limits from licensing bodies, the HopeTree campus is now limited to housing no more than 16 youth residents ages 13 to 17. In the past, youth would live on the campus for years until they turned 18. Today, youth residents typically stay no more than 6 months before being moved to another setting or back to their home.

Care for youth and adults is moving away from a congregate, campus-style setting. Today, most services are offered in the communities in which they already live. As a result, HopeTree no longer has a need for the large amount of property that exists at this site; however, there is a strong desire to stay true to HopeTree's roots and maintain a presence in this location.

The HopeTree Board of Directors has been discussing options for the Salem campus since 2007. Several recommendations have been considered over the years, including selling the Salem campus property and moving elsewhere, or selling a portion of property along the Red Lane frontage for development. The proposed rezoning request is a result of HopeTree's desire to "do more" with the property and to create something that will benefit HopeTree, the City of Salem, and its residents for years to come.

The proposed PUD rezoning and associated development will allow HopeTree to remain on the property where they have so much history, while integrating HopeTree's services with the proposed development, which is in keeping with the intent of the new regulations. HopeTree is currently teamed with a residential

home builder (Stateson Homes) and commercial builder (Snyder & Associates), who are providing construction expertise on the project.

Existing Conditions

Existing improvements on the site include approximately 20 buildings of varying condition, drive aisles and parking areas, pool, tennis and basketball courts, two existing baseball fields near Red Lane, picnic shelter, above-ground stormwater management facility, and other miscellaneous improvements. The existing improvements have served various purposes for HopeTree over the years and many of them are under utilized or no longer utilized at all.

Many of the buildings are centered around the core area in the center of the site. Six of these buildings (Portsmouth, Memorial, Carpenter, English, the Infirmary, and Ruth Camp Campbell) are currently vacant and will not be used again by HopeTree and were previously planned to be demolished. The proposed development envisions preserving as many of these structures as possible and converting them to residential or commercial uses that the entire community can benefit from. Utilizing the existing structures will preserve the unique character of the campus and allow this existing infrastructure to be re-purposed for the intended new uses.

Existing topography is rolling with a ridge through the middle of the site running north to south that contains much of the existing development. There is an existing pond and two existing creeks on the property. One creek is on the west side to the south of the pond and the other creek is located in the southeast corner of the site. These features are anticipated to remain and have been incorporated into the Master Plan. There is a wooded area near the pond and creek along the western side of the property and this vegetation will be preserved to the extent practical.

The property has frontage on the public rights-of-way of Red Lane, East Carrollton Avenue, North Broad Street, and Mount Vernon Avenue. This property is designated for residential use on the City of Salem Future Land Use Map dated June 11, 2012. The property is surrounded by Interstate 81 to the north and existing residential development on other sides.

Community Vision

The intent of this project is to preserve the HopeTree campus and buildings to the extent practical (including the buildings that were previously planned to be demolished) and provide new and infill development, where appropriate. Guiding principles of the project are to create a new community that minimizes traffic congestion, suburban sprawl, site grading, infrastructure costs, and preserves natural features and amenities. The plan for the HopeTree project is based on neighborhood design and development conventions which were widely used in the United States up until the 1940s and were based on the principles outlined throughout the PUD document.

A design charette was held in October 2022 to solicit input from, and engage with, adjacent property owners, City staff, elected City officials, and other stakeholders for the project. While engaging with the community during the development of the Master Plan, it was noted that the existing neighborhood lacks pedestrian amenities such as sidewalks or trails. Residents currently walk along Red Lane and the speed of traffic along this road was also cited as a major concern. It is the intent of the project to reduce vehicle trips and encourage pedestrian activity by limiting the width of vehicular drives, providing on-street parking where possible, and providing a network of sidewalks and trails throughout the property. In addition to these design principles, the project also proposes to install on-street parking along the frontage of Red Lane, which will slow traffic and provide additional parking opportunities, and to install a new sidewalk along the frontage of Red Lane to provide safe pedestrian accommodations for the surrounding community.

Density

The City of Salem has very limited land resources remaining to be developed and it is paramount to utilize these remaining land resources to their true potential. The proposed PUD plan allows for the HopeTree property to be developed to its potential while also being sensitive to the existing community and its residents. These are guiding principles of this PUD plan.

The density of the development will be limited by what is allowed in the PUD document. The total number of primary residential units shall not exceed 340. Accessory dwelling units will also be allowed but are not expected to be a major component of the project. Residential uses will make up the majority of the development with the proposed commercial uses and existing HopeTree institutional uses being integrated into the overall development. The commercial uses within the development will be determined based on what this community can support but is anticipated to consist of smaller users that are integrated into the neighborhood at an appropriate scale and in thoughtful locations.

Approximately 40% of the property will be preserved either in a natural state or as public or private open space areas. This includes the large area on the west side of the site that contains the existing pond, creek, and natural vegetation. Several interior open space areas will be provided as well, including the proposed lawn area near the center of the site.

Development Guidelines

The development of the property will be governed by the PUD document. Lot development regulations, architectural standards, etc. are provided within the document and will be enforceable throughout the development. Allowable uses are outlined in the Use Table that is provided within the PUD document.

Roads

Roads and drive aisles internal to the development will be private. On-street parking will be a preferred parking solution for the development and will be utilized where practical. All proposed roads will be paved, and we will work with the appropriate City staff to ensure that sufficient access for emergency and trash collection vehicles is provided. A network of sidewalks will be provided throughout the development to encourage pedestrian activity and connectivity, as this is a central theme of the project.

On-street parking and new sidewalk will be provided on Red Lane along the frontage of the property. The intent of these improvements is to slow traffic along this section of Red Lane, provide additional public parking opportunities, and to provide a dedicated pedestrian accommodation where one does not exist now. This section of Red Lane has a significant amount of pedestrian activity, and these improvements will serve existing and new residents.

Access

There are existing vehicular access points on Red Lane (2 locations) and East Carrollton Avenue (1 location). Additional access points are proposed along Red Lane, East Carrollton Avenue, and at the end of North Broad Street. One of the central themes within this development is to provide multiple access points to increase connectivity within the existing street grid pattern and to allow vehicular trips to be distributed to the existing road network more efficiently.

As requested by the City, a Traffic Study has been prepared by Balzer and Associates, Inc. that analyzes the development and impacts to the existing roadway network adjacent to the project. In addition to this, turn lane warrants have been analyzed. The quantities of residential and commercial uses have been assumed in order to study a reasonable and conservative level of traffic that will be generated by this project. The uses assumed in the study intended to be placeholders and are not intended to represent exactly what will be developed on the property. As outlined in the Traffic Study, the surrounding road network is

sufficient to handle traffic from the proposed development and impacts to delay and level of service are minimal. The development does not meet any turn lane warrants at any of the proposed access points. Sight distance requirements will be required to be met with the final development plans.

Utilities

This project will be served by public water and sewer. As discussed with the City of Salem Water and Sewer Department, sufficient capacity exists within the existing public water and sewer systems to serve the proposed development.

Public water and sewer will be extended through the property to serve the existing and proposed buildings and replace the existing private utility systems that are currently in place. New public water mains are anticipated to provide additional interconnectivity and redundancy in the system, which will improve service to the property and the surrounding area.

Comprehensive Development Plan

This project is in conformance with many of the Goals and Objectives defined in the City of Salem's current Comprehensive Plan. The development pattern for this project is sensitive to the existing surrounding neighborhoods by centering the most intense uses near the core of the property furthest from the existing residential houses. The least intense residential uses are located around the perimeter of the property, closest to the existing roadways and existing residential homes. The variety of housing types acknowledges and addresses the need for new housing and varying types of housing in the City of Salem. The intent of the project is to maximize the development potential of the most developable portions of the property and to preserve the most environmentally sensitive areas of the property. The preservation of open space, development of pedestrian amenities, and extensive landscaping will all enhance the neighborhood and directly address the goals of improving the beauty and appearance of the City of Salem and Preserving and Enhancing Open Space on Private properties.

Summary

The proposed development regulations and Master Plan are fully outlined in the HopeTree PUD document, attached to this application. It is the intent that this be the official document that will guide the development of this property.

HopeTree has repeatedly stated that its three main goals for the project are "to honor the history of HopeTree on this campus, to position HopeTree for the future, and to make our community proud." We are extremely excited to submit this application for rezoning. This project provides an excellent opportunity for the City of Salem to gain a new mixed-use community that will serve existing and future residents of Salem. The HopeTree project will provide many different housing types, while being sensitive to the surrounding residential neighborhoods, preserving important natural features, and providing services and amenities that will benefit the entire community.

HOPETREE

SALEM, VIRGINIA

PUD REZONING APPLICATION

CITY OF SALEM VIRGINIA

PUD APPLICATION

PLANNING OBJECTIVES

Per the Salem Zoning Application Sec. 106-228.4.

Application process:To initiate an amendment, the applicant shall complete a rezoning application. This information shall be accompanied by graphic and written information, which shall constitute a preliminary master plan. All information submitted shall be of sufficient clarity and scale to clearly and accurately identify the location, nature, and character of the proposed district. At a minimum this information shall include:

1.A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.

2.Existing zoning, land use and ownership of each parcel proposed for the district.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

4.A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

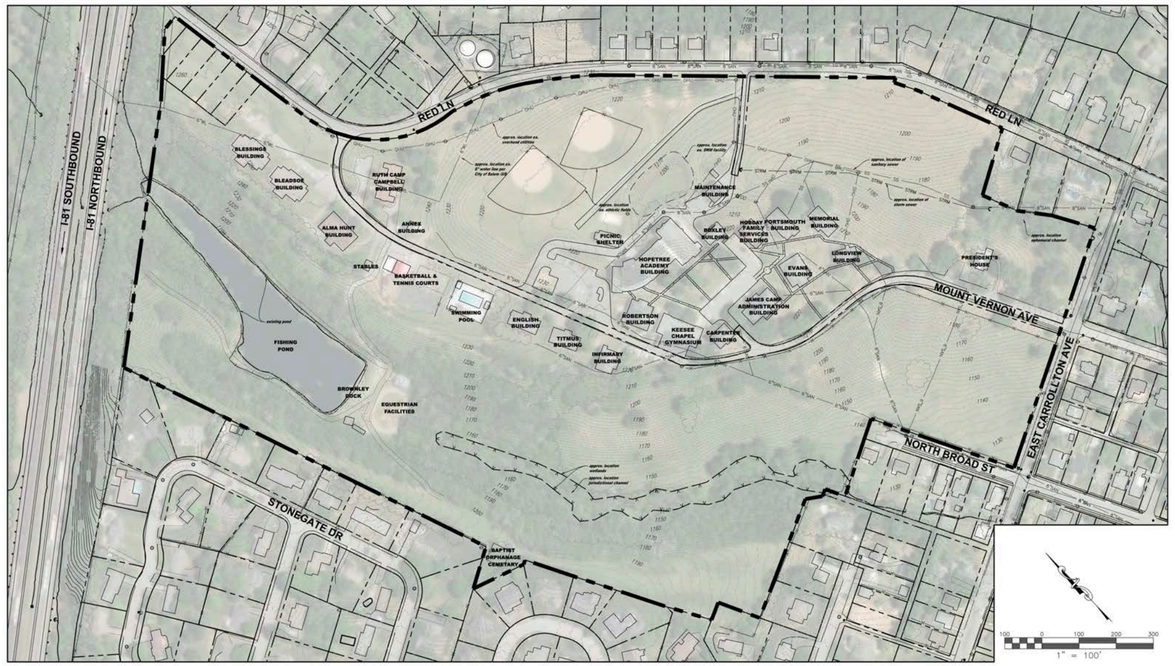
6.A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.

7.A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.

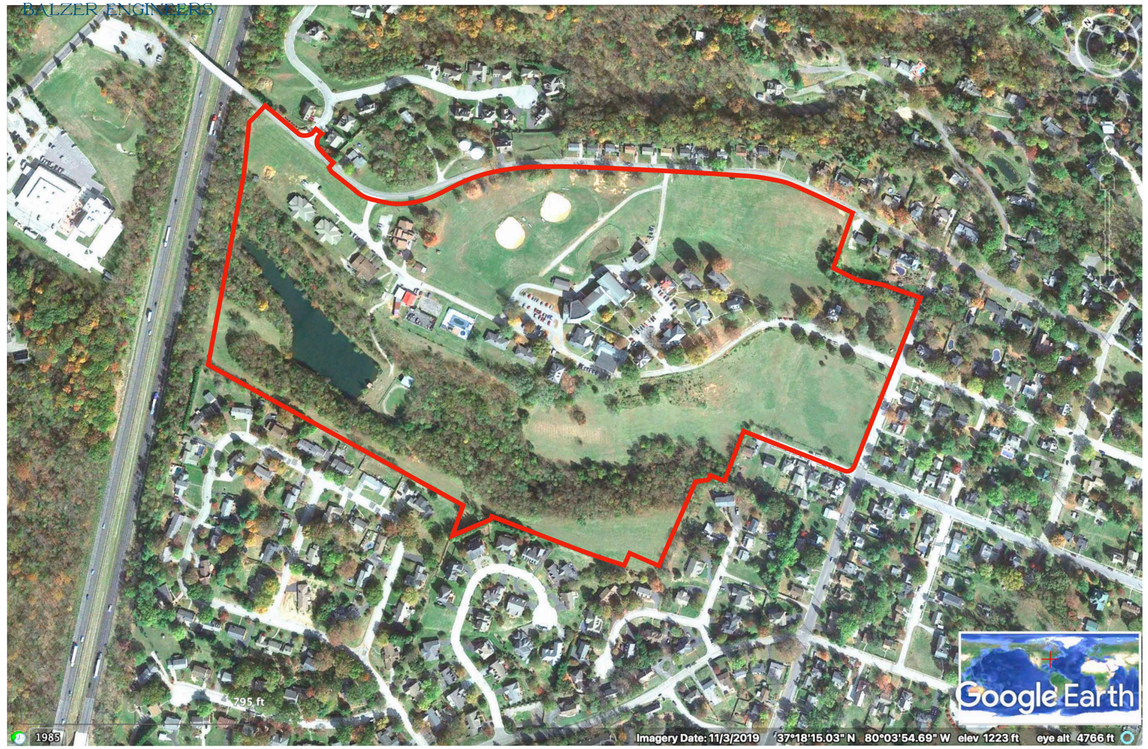
8.An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

10.A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreational areas, and non-residential uses should be included.



EXISTING SITE PLAN



EXISTING AERIAL PHOTOGRAPH OF SITE

SITE & ZONING SUMMARY:

SITE ADDRESS:	860 MOUNT VERNON LN SALEM, VA 24153
OWNER:	VIRGINIA BAPTIST CHILDREN'S HOME
OWNER ADDRESS:	860 MOUNT VERNON LN SALEM, VA 24153
TAX MAP NUMBERS:	44–3–10
EXISTING LOT SIZE:	62.318 AC.
EXISTING ZONING:	RSF – RESIDENTIAL SINGLE FAMILY

ZONING REQUIREMENTS:

MINIMUM LOT AREA:	9,000 SF
MINIMUM LOT FRONTAGE:	75'
SETBACKS:	
FRONT:	25' IF RIGHT–OF–WAY IS 50' PR GREATER 50' FROM CENTERLINE IF RIGHT–OF–WAY IS LESS THAN 50' IN WIDTH
SIDE:	10% OF LOT WIDTH, NOT REQUIRED TO EXCEED 25'
REAR:	25'
MAXIMUM HEIGHT:	45'
MAXIMUM BUILDING SIZE:	NONE

CONCEPT PLAN NOTE:

1. THIS PLAN IS FOR CONCEPTUAL PLANNING PURPOSES AND HAS BEEN PREPARED USING COMPILED INFORMATION. A CURRENT FIELD SURVEY HAS NOT BEEN PERFORMED TO VERIFY ALL EXISTING CONDITIONS ON–SITE.

2. AERIAL IMAGERY SOURCED FROM GOOGLE EARTH, DATED NOVEMBER, 2019

1.A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.

2.Existing zoning, land use and ownership of each parcel proposed for the district.

EXISTING SITE DESCRIPTION

Existing Development

The site is currently developed with a network of private driveways and several existing buildings on the property. The center core of the site is located on top of a ridge and consists of many of the existing buildings, as well as supporting parking areas and other improvements. Some of the existing buildings are currently being utilized by HopeTree, while others are vacant. There are also two recreational fields located near Red Lane to the north of the center core.

The existing site has road frontage on East Carrollton Avenue, Red Lane, and North Broad Street. There is an existing private access drive (Mount Vernon Lane) from East Carrollton Avenue that accesses through the site and provides access to the center core before continuing through the site and back to Red Lane. A separate private access drive (Printers Lane) from Red Lane provides access to the recreational fields, as well as providing an additional connection to Mount Vernon Lane to the north of the center core. In addition to these private roads, there are also adult homes located at the north end of the property with driveways that access directly from Red Lane.

Existing Topography

There is an existing ridge bisecting the property from north to south. The east side of the property slopes from this ridge and from Red Lane to an existing drainage swale and storm sewer system. There is an existing stormwater management detention pond located near the center core of the property that was constructed with a previous development project.

Existing Natural Features/Floodplain

There is an existing pond located on the property in the northwest corner adjacent to Interstate 81. The pond discharges to an existing creek to the south that conveys stormwater from north to south toward the existing residential area at the end of North Broad Street. There is also an existing creek located at the southeast corner of the property that begins at the end of the existing storm sewer system that conveys water through the HopeTree property. This creek conveys runoff to an existing culvert under East Carrollton Avenue.

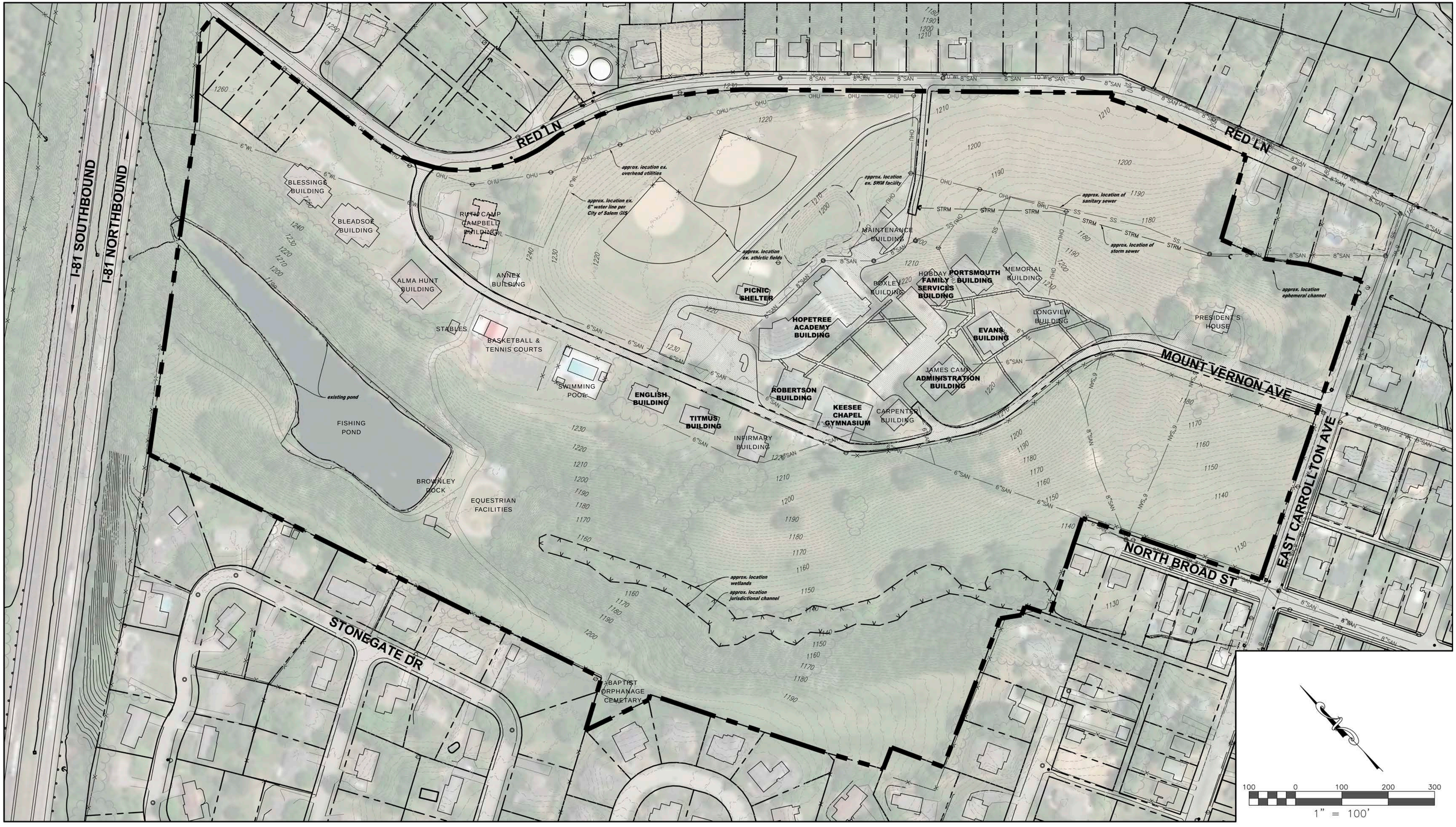
The property is not located within a FEMA-defined floodplain.

Existing Vegetation

Much of the property that is not developed with buildings or pavement/hardscape is covered with a mix of managed turf and pasture. There is a large wooded area on the west side of the property around the pond and existing creek. There is a variation of other trees that are located throughout the property, with many of these being in the southeast corner of the site or along Red Lane.

BALZER AND ASSOCIATES

4.A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.



BALZER ENGINEERS

EXISTING SITE PLAN

Draft 9.25.22

EXISTING SITE PLAN AERIAL

ILLUSTRATIVE MASTER PLAN WITH AERIAL

CITY OF SALEM VIRGINIA

PUD APPLICATION

HOPETREE Master Planned TND Traditional Neighborhood Development

PLANNING OBJECTIVES

Per the Salem Zoning Application Sec. 106-228.4. - Application process:
" 3. A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site."

The purpose of the Hopetree master plan is to allow for the development of fully integrated, mixed-use pedestrian oriented neighborhood woven into the existing Hopetree campus of buildings and surrounding open space while connecting to the surrounding neighborhoods where feasible.

The intent is to preserve the Hopetree campus and buildings and for new and infill development to minimize traffic congestion, suburban sprawl, site grading, infrastructure costs, and environmental degradation. The provisions of the Hopetree neighborhood are based on urban design and development conventions which were widely used in the United States since its founding until the 1940's and were based on the following principles:

A. All neighborhoods have identifiable centers and edges.

B. The center of the neighborhood is easily accessed by non-vehicular means from lots on the edges (i.e. approximately one-quarter-mile from center to edge, or a five-minute walk).

C. Uses and housing types are mixed and in close proximity to one another.

D. Street networks are interconnected and blocks are small.

E. Civic buildings are given prominent sites throughout the neighborhood.

THE HOPETREE MASTER PLAN INCLUDES THE FOLLOWING DESIGN FEATURES:

A. Neighborhood form.

1. Dwellings at the edge of the neighborhood are roughly a five-minute walk or less to the center of the neighborhood.

2. A great variety of housing types and price ranges is included in the neighborhood, with the highest density of housing located towards the center of the neighborhood.

3. Within the neighborhood a mix of land uses is arranged to serve the needs of the residents in a convenient walking environment: open space/recreational areas, civic buildings, low and high density residential, retail/commercial, business/workplace, institutional, educational, and parking.

4. The area of the overall master plan includes the existing core campus with the surrounding open areas divided into blocks, streets, lots, greenways, and open space.

5. Similar land uses generally front across each street. Dissimilar land uses generally abut at rear lot lines. Corner lots which front on streets of dissimilar use generally observe the setback established on each fronting street.

6. Along existing streets, new buildings are compatible with the general spacing of structures, building mass and scale, and street frontage relationships of existing buildings.

7. The appearance of the neighborhood blends in with existing surrounding neighborhoods and feature the use of similar materials in construction.

B. Lots and buildings:

1. New lots share a frontage line with a street or public space; lots fronting on a public space shall have access to a rear alley.

2. Consistent build-to lines are established along all streets and public space frontages.

3. All buildings, except accessory structures, have their main entrance opening on a street or public space.

4. No structure exceeds 3 stories in height in the Edge zone, and 4 stories in the General and Center zones. Height of buildings shall be measured per the Salem code and shall not exceed 45' in any location.

C. Streets, alleys and pathways:

1. Designs permit comfortable use of the street by motorists, pedestrians and bicyclists. Pavement widths, design speeds, and number of motor travel lanes are minimized to enhance safety for motorists and non-motorists alike. The specific design of each street considers the building types which front on the street and the relationship of the street to the overall town street network. An extensive system of connected pathways is woven through the core campus extending to the perimeter.

2. A combination of perimeter public streets and internal private streets provide access to all tracts and lots

3. Streets and alleys connect where feasible at other streets within the neighborhood and connect to existing and projected streets outside the development. Cul-de-sac and dead-end streets are discouraged and should only occur where absolutely necessary due to natural conditions.

4. Block faces do not have a length greater than 500 feet without dedicated alleys or pathways providing through access.

5. To prevent the build-up of vehicular speed, disperse traffic flow, and create a sense of visual enclosure, long uninterrupted segments of straight streets are avoided.

6. A continuous network of rear alleys is provided for the majority of lots.

7. Existing and proposed utilities are underground and run along alleys wherever possible as well as some streets and greenways.

8. Streets are organized according to a hierarchy based on function, size, capacity and design speed. Streets and rights-of-ways are therefore expected to differ in dimension. The proposed hierarchy of streets is indicated on the submitted master plan and each street type is separately detailed in the master plan.

9. Every street, except alleys, has a sidewalk on at least one side that is at least five feet wide. In commercial areas, sidewalks shall be at least ten feet wide.

D. Parking:

1. On-street parking is provided on all streets where feasible. Occasional on-street parking may be accommodated without additional pavement width. For streets which serve workplace and storefront buildings, on-street parking is required and should be marked as such. On-street parking is parallel to the street unless the street lends itself to other parking layouts.

2. Parking lots are generally located at the rear or at the side of buildings and screened from public rights-of-way and adjoining properties by land forms or evergreen vegetation so as to provide a barrier that will be at least three feet high and provide a 75 percent visual barrier within two years from building completion.

3. To the extent practicable, adjacent parking lots are interconnected.

4. Small and strategically placed parking areas are also provided.

5. Parking areas are paved as required and all parking areas and traffic lanes shall be clearly marked.

6. The number, width and location of curb cuts is such as to minimize traffic hazards, inconvenience and congestion.

7. Off-street parking and loading requirements as outlined in the city's parking regulations may be used as guidance but there are no minimum parking standards.

8. The master plan provides adequate parking and off-street loading areas for different areas of the development, based on the uses allowed and the density of development.

9. In addition to landscaping provided for screening above, trees are planted around the perimeter and interior of parking lots to provide shade.

E. Landscaping:

1. Trees are planted within right-of-ways parallel to the street along all streets except alleys.

2. Tree spacing is determined by species type selected from the City list of approved trees. Large maturing trees are generally planted a minimum of 30 feet and a maximum of 50 feet on center. Small and medium maturing trees are planted a minimum of ten feet and a maximum of 30 feet on center.

3. Large maturing trees are generally planted along residential streets and along the street frontages and perimeter areas of parks, squares, greenbelts and civic structures.

4. Small maturing trees are generally planted along non-residential streets, interior portions of parks, squares, greenbelts and civic lots. Storefronts are not obstructed by the planting pattern.

5. The natural features of the landscape are incorporated into the landscaping plan.

6. All plantings are with native or appropriate species (refer to the City list).

7. Buffer requirements for property located on the perimeter of the neighborhood has setbacks and buffers that are consistent with the setbacks and buffers of the adjoining zoning district, including provisions for accessory buildings, but are a minimum of 10 feet.

F. Sidewalks and Greenways:

1. Sidewalks or greenway easements are proposed in locations shown on the master plan or proposed to connect to pedestrian facilities shown on the master plan.

2. Existing sidewalks at the time of development or re-development in each phase are improved, repaired, or replaced as necessary.

G. Uses

Maximum permitted densities and total number of dwelling units shall be established during the master plan review process.

Permitted uses shall be based on the general category of use that has been established for a lot or group of lots as shown in the Use Table.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

3.A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.

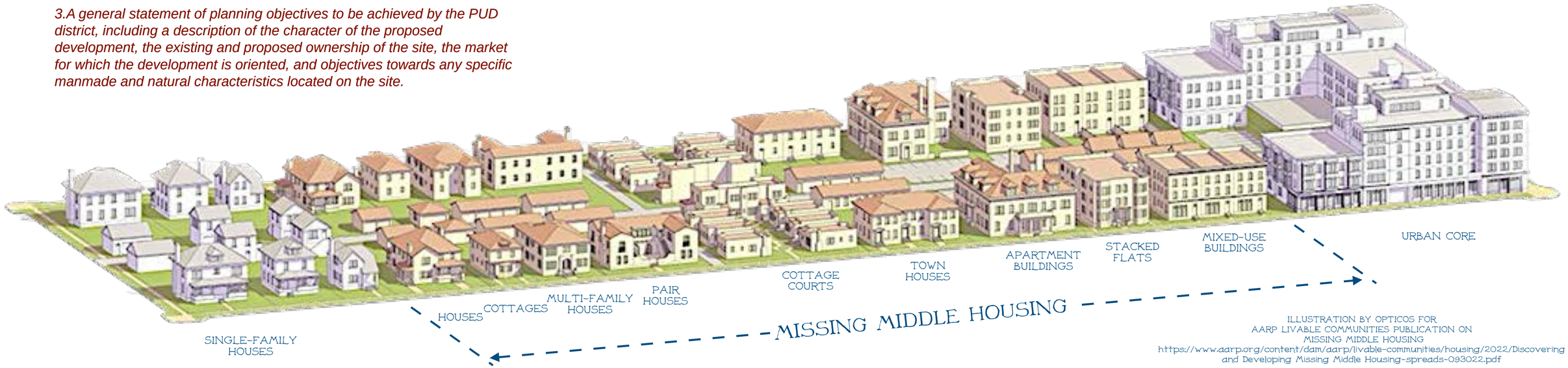


ILLUSTRATION BY OPTICOS FOR
AARP LIVABLE COMMUNITIES PUBLICATION ON
MISSING MIDDLE HOUSING
https://www.aarp.org/content/dam/aarp/livable-communities/housing/2022/Discovering and Developing Missing Middle Housing-spreads-093022.pdf

LESS URBAN ← — — — — — — — — — — TRANSECT ZONE DESCRIPTIONS — — — — — — — — — — → MORE URBAN

EXISTING NEIGHBORHOODS

The existing surrounding neighborhoods consist of primarily traditional single family homes. Home occupations and accessory buildings are evident. Setbacks and landscaping are generally front lawns and vary in character. General surrounding neighborhood houses front on streets facing similar scale homes on the opposite side. Some blocks include rear lanes, while others use front loaded driveways. Existing streets include curbs, planting strips, both with and without sidewalks. Most neighborhoods are arranged with traditional size blocks. In the case of homes immediately around Hopetree, the homes generally face the campus open space in the form of recreation fields, lawn, pasture, or natural vegetation. There are no sidewalks along Red Lane and sidewalks only on one side of one block for North Broad Street and Carrollton Avenue.

General Character
A mix of houses immediately around Hopetree include larger estate houses, smaller single-family houses. Nearby neighborhoods include a range of larger estate houses, smaller single-family houses, multi-family estates, cottages, duplexes, townhouses, stacked flats, multi-family houses, multi-family buildings, and mixed-use buildings. Nearby Wiley Court is a famous example of a pocket court.

Building Placement
Shallow to medium front and side yard setbacks. Outbuilding and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, landscaped front yards

Typical Building
One to two-story, with some three story

Types of Civic Space:
Neighborhood streetscapes with on-street parking, walks, street trees, and linear green fingers with pathways.

T-3 NEIGHBORHOOD EDGE

T-3 The Neighborhood Edge Zone consists of residential scale urban fabric similar to existing neighborhoods and serves as a buffer and transition to higher internal zones that have more residential and other mixed use. Home occupations and accessory buildings are allowed. Setbacks and landscaping are also similar and may vary some. These houses front on existing streets facing similar scale existing homes on the opposite side. Streets include curbs, planting strips, and will include new sidewalks with on-street parking on the Hopetree side arranged with traditional size blocks including connected streets, rear lanes, and greenways.

General Character
A mix of houses with a range of neighborhood density building types including larger estate houses, smaller single-family houses, multi-family estates, cottages, pair houses, stacked flats, townhouses in a variety of configurations, tree houses on steep slopes, and cottage courts.

Building Placement
Shallow to medium front and side yard setbacks. Outbuilding and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, landscaped front yards

Typical Building
One to two-story, with some three story

Types of Civic Space:
Neighborhood streetscapes with on-street parking, walks, street trees, and linear green fingers with pathways.

T-4 NEIGHBORHOOD GENERAL

T-4 The Neighborhood General Zone consists of higher-density scale urban fabric with predominantely attached residential and serves as a transition from neighborhood edge to the neighborhood center with the historic campus core. Home occupation and accessory buildings are allowed. Setbacks and landscaping are also similar and may vary some. These houses front on new streets, and greenways. Streets vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of houses with a range of medium to high density building types including a range of single-family urban houses, multi-family estates, cottages, townhouses in a variety of configurations, tree houses on steep slopes, cottage courts, stacked flats, loft houses, mews houses, multi-family houses, and multi-family buildings.

Building Placement
Shallow front and side yard setbacks. Accessory building and parking are accessed from rear lanes.

Frontage Type
Porches, stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

T-5 NEIGHBORHOOD CENTER

T-5 The Neighborhood Center Zone consists of higher-density scale urban fabric with predominantely attached residential and mixed-use buildings including infill in the historic campus core. These buildings front on squares, campus greens, plazas, parking courts, streets, and greenways. Street are limited in the core and vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of buildings with a range of medium to high density building types including townhouses in a variety of configurations, tree houses on steep slopes, stacked flats, loft houses, mews houses, multi-family estates, multi-family buildings, and mixed-use buildings.

Building Placement
No setbacks are required for buildings in the general campus parcel. Parking is accessed from on-street parking, rear lanes, in nearby perimeter areas adjacent to the core campus including the parking allee, and in small parking courts that also serve as civic gather space.

Frontage Type
Stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

HISTORIC EXISTING CAMPUS CORE

The historic campus consists of a range of institutional buildings originally serving the orphanage as well as newer school buildings, a chapel, dormitories, and other related uses. Each historic building is to be retained where feasible for on going institutional uses, commercial, residential and mixed-use with additional infill mixed-use buildings, building additions, and spaces. These buildings front on squares, campus greens, plazas, parking courts, streets, and greenways. Streets are limited in the core and vary depending on location and may include curbs, planting strips, sidewalks arranged with traditional size blocks including side streets, rear lanes, and greenways.

General Character
A mix of buildings with a range of medium to high density building types including townhouses in a variety of configurations, tree houses on steep slopes, stacked flats, loft houses, mews houses, multi-family houses, multi-family buildings, and mixed-use buildings.

Building Placement
Minimum or no setback are required. Parking is accessed from on-street parking, rear lanes, in nearby perimeter areas adjacent to the core campus including the parking allee, and in small parking courts that also serve as civic gathering space.

Frontage Type
Stoops, terraces, light wells, forecourts, shopfronts, Galleries, and arcades.

Typical Building
Two to four-story

Types of Civic Space:
Urban streetscapes with on-street parking, walks, street trees, courtyards, plazas, terraces, mews, and linear green fingers with pathways.

GENERAL NOTES:

- Building Types generally provide parking from rear alleys and lanes screened from frontages on lots.
- On-street parking shall be provided along all streets where pratical.
- Each Block Group includes a minimum of three (3) building types.
- Each Block Group shall have 20% minimum of each of the building types used.
- A minimum of six (6) building types shall be used for the overall project.
- A maximum of five (5) of the same building types are allowed in a row.
- Commercial, Mixed-Use, & Live-Works are allowed in T-5. See Uses Table.
- Land may be subdivided into seperate ownership.
- These standards do not apply to existing buildings.

TRANSECT ZONES
w/ FRONTAGE LINES

- T5 - NEIGHBORHOOD CENTER
- T4 - NEIGHBORHOOD GENERAL
- T3 - NEIGHBORHOOD EDGE
- OPEN SPACE / NATURAL

STRUCTURE TO BE REMOVED

CIVIC SPACE RESERVES

- HISTORIC CORE BUILDINGS
- CIVIC BUILDINGS
- STREETS AND PARKING

REQUIREMENTS & DETAILS

- BLOCK GROUP
- RECOMMENDED GALLERY
- RECOMMENDED SHOPFRONT
- VISTA POINTS
- PEDESTRIAN SHED - 5 MINUTE WALK RADIUS

TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

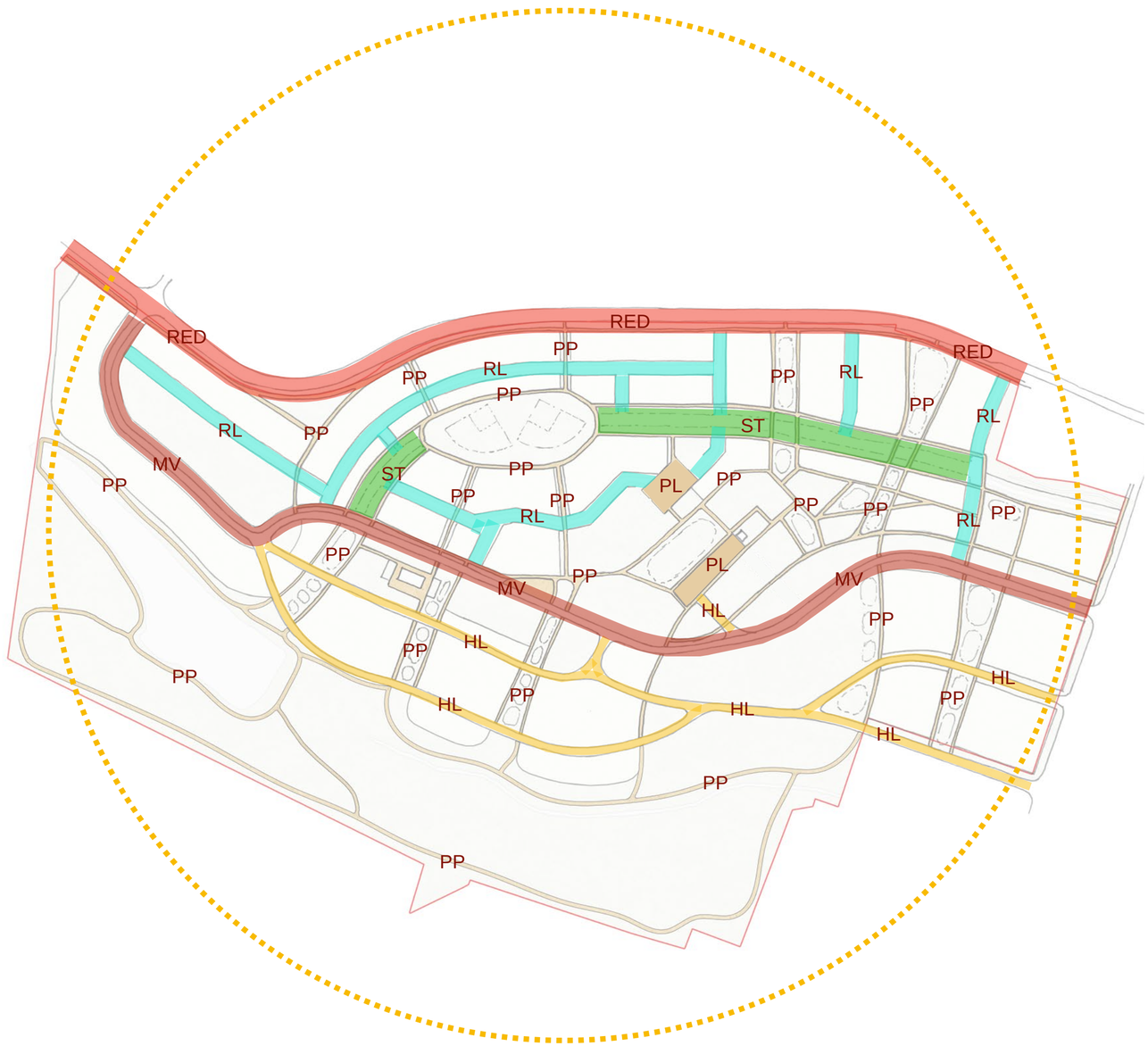
T3 T4 T5

- E - ESTATE
- H - HOUSE / ADU
- C - COTTAGE / ADU
- PH - PAIR HOUSE / ADU
- T - TOWNHOUSE / ADU
- PC - POCKET / COTTAGE COURT
- TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3-TOWNHOUSE ESTATE
- SF - STACKED FLAT
- LH - LOFT HOUSE
- MH - MEWS HOUSE
- TR - TREE HOUSE
- AH - MULTI-FAMILY HOUSE
- AB - MULTI-FAMILY BUILDING
- MXB - MIXED-USE BUILDING
- CV - CIVIC BUILDING SITE

5.A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.

0 200 400 600
1" = 200'

LAND USE PLAN



The Purpose of Streets designed within Hopetree is to create a network with managed motor vehicle driver speeds that are compatible with safe, comfortable walking and bicycle mobility. Target Speeds are 20 miles per hour. Lane widths of 10 feet maximum and street trees planted between certain parking spaces and between the curb and sidewalk help manage driver speeds via lateral views and provide shade for travelers in summer months. Wet utilities are typically placed in the front of buildings and dry utilities are in the rear. Solid waste is collected in the rear lanes enhancing walkability in front.

HOPETREE THOROUGHFARE TYPES

The first number is the estimated pavement width and second is the estimated R.O.W. width but dimensions may vary as the design is engineered in more detail.

PARK ALLEE'
ST 20-64

PLAZA
PL VARIES

REAR LANE
RL 14-30

PEDESTRIAN PATH*
PP 5/10

HILLSIDE LANE
HL 20-20

MOUNT VERNON AVENUE IMPROVEMENTS*
MV 36-60

RED LANE IMPROVEMENTS*
RED - 28-60

* On existing thoroughfares dimensions and details may vary based on existing conditions and site constraints.

6.A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.

200 0 200 400 600
1" = 200'

CIRCULATION PLAN

RED LANE

RED LANE

EAST CARROLLTON AVENUE

NORTH BROAD STREET

LEGEND:

- WATER
- SANITARY SEWER
- NATURAL GAS
- DRY UTILITIES (POWER, COMMUNICATIONS, ETC.)
- POSSIBLE SWM AREA

* Locations are conceptual and subject to change with the final design.

80 0 80 160 240

1" = 80'

7.A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.

8. An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.

OPEN SPACE PLAN

SHOWING PARKS, GREENWAYS, GREEN FINGERS, TREE CANOPY, TREE PLANTINGS, ,WATER FEATURES, & THE QUADRANGLE

TRANSECT ZONES & BUILDING TYPES KEY (SEE SPECIFIC BUILDING TYPES FOR STANDARDS)

T3
T4
T5

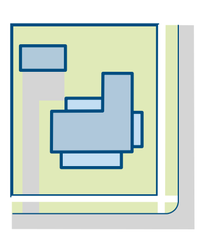
- E - E - ESTATE
- H - H - HOUSE / ADU
- C - C - COTTAGE / ADU
- PH - PH - PAIR HOUSE / ADU
- T - T - TOWNHOUSE / ADU
- PC - PC - POCKET / COTTAGE COURT
- TH-PU - TH-PU - TOWNHOUSE PARK-UNDER
- 3THE - 3-TOWNHOUSE ESTATE
- SF - SF - STACKED FLAT
- LH - LH - LOFT HOUSE
- MH - MH- MEWS HOUSE
- TR - TR - TREE HOUSE
- AH - AH - MULTI-FAMILY HOUSE
- AB - AB - MULTI-FAMILY BUILDING
- MXB - MXB - MIXED-USE BUILDING
- CV - CV - CIVIC BUILDING SITE

Note: These standards do not apply to the existing buildings.

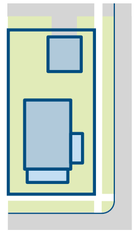
OPEN SPACE / PARK

T1 – NATURAL

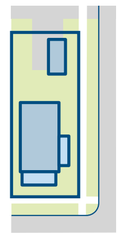
E ESTATE



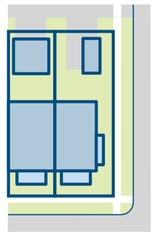
H HOUSE



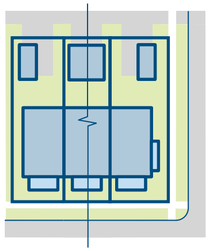
C COTTAGE



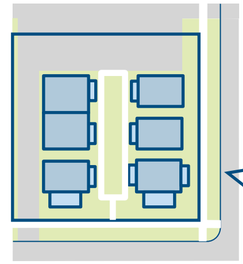
PH PAIR HOUSE



T TOWNHOUSE



PC POCKET COURT

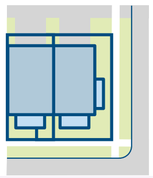


T3 – EDGE NEIGHBORHOOD

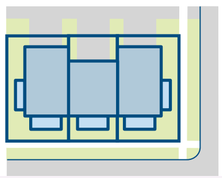
T4 – GENERAL NEIGHBORHOOD

T5 – CENTER NEIGHBORHOOD

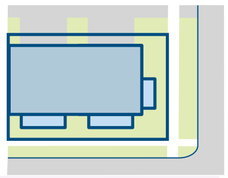
TH-PU TOWNHOUSE PARK-UNDER



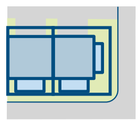
3THE 3-TOWNHOUSE ESTATE



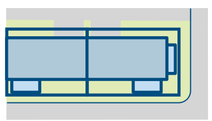
SF STACKED FLAT



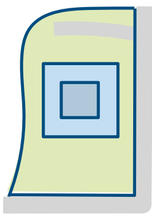
LH LOFT HOUSE



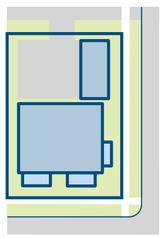
MH MEWS HOUSE



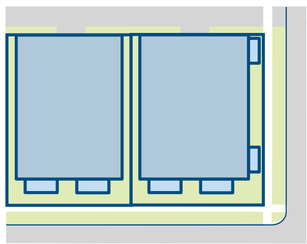
TR TREE HOUSE



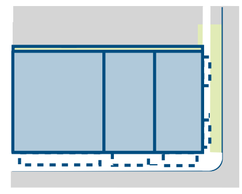
AH MULIT-FAMILY HOUSE



AB MULTI-FAMILY BUILDING



MXB SHOP FRONT / MIXED-USE

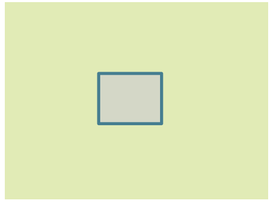


T3 – EDGE NEIGHBORHOOD

T4 – GENERAL NEIGHBORHOOD

T5 – CENTER NEIGHBORHOOD

CV CIVIC



CIVIC

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

HOUSING & BUILDING TYPES BY TRANSECT ZONES

TOWNHOUSE

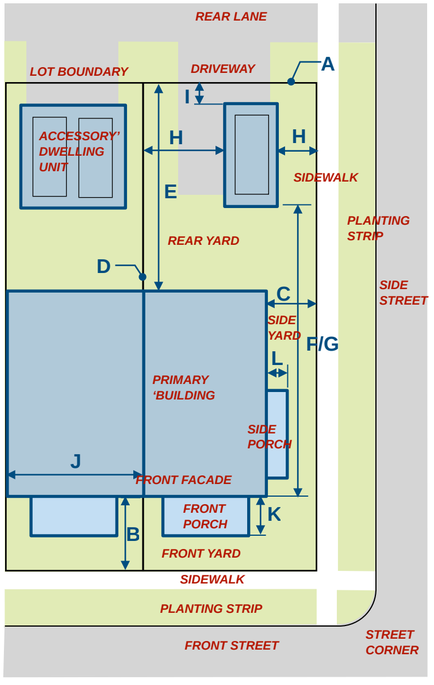
NAME OF BUILDING TYPES

TOWNHOUSE

DESCRIPTION

A Townhouse is a single-family residence that shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Townhouses, garages and/or parking is provided from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	16’ min. x 80’ min. (A)	***LOT DIMENSIONS***
Setbacks		
Front	10’ min. (B)	
Front Corner	10’ min. (C)	
Side	0’ min. (D)	
Rear	20’ min. (E)	
Parking and Waste from Front Façade	20’ min. (F)	
Accessory Buildings from Front	40’ min. (G)	
Accessory Buildings Side	Align. (H)	
Accessory Buildings Rear	0’ min. (I)	***DIMENSIONAL STANDARDS KEYED TO THE GRAPHIC PLAN***
Building Frontage at Setback	100 %’ max. (J)	
Building Front Encroachments	5’ max.(K)	
Building Side Encroachments	4’ max. (L)	
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	



FORM-BASED GRAPHIC PLAN

SAMPLE STANDARDS TEMPLATE KEY

THIS IS A SAMPLE BUILDING TYPES TEMPLATE KEY FOR REFERENCE ONLY AS A GUILD TO THE BUILDING TYPES STANDARDS GRAPHICS INCLUDED IN THIS DOCUMENT. THE TEXT LABELS IN RED IIDENTIFY THE SPECIFIC STANDARDS FEATURED ON THE GRAPHICS FOR EACH TYPE.

NOTE: THESE STANDARDS DO NOT APPLY TO THE EXISTING BUILDINGS.

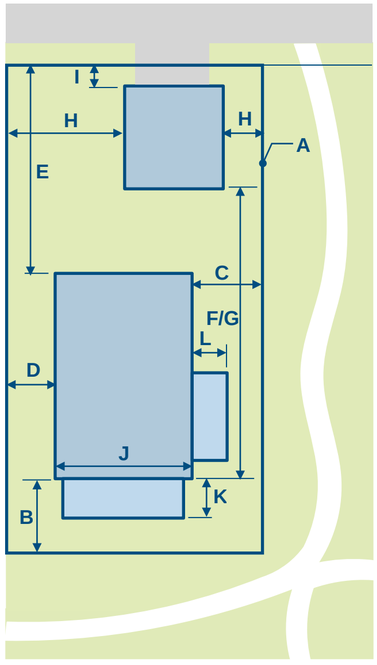
GREENWAY OPTION

GREENWAY OPTION — AVAILABLE OF ALL TYPES

A Greenway Option is for reference. Instead of fronting a street, the primary facade faces a public greenway connected to walks and trails while garages and/or parking is generally provided from a rear lane frontage. For each Type the Standards are the same.

EXAMPLE of the HOUSE TYPE SHOWING the GREENWAY OPTION

Lot width x depth	50’ min. x 100’ min. (A)
Setbacks	
Front	20’ min. (B)
Front Corner	15’ min. (C)
Side	8’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	5’ min. (H)
Accessory Buildings Rear	5’ min. (I)
Building Frontage at Setback	30’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	8’ max. (L)
Height	
Principle Building	Varied Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

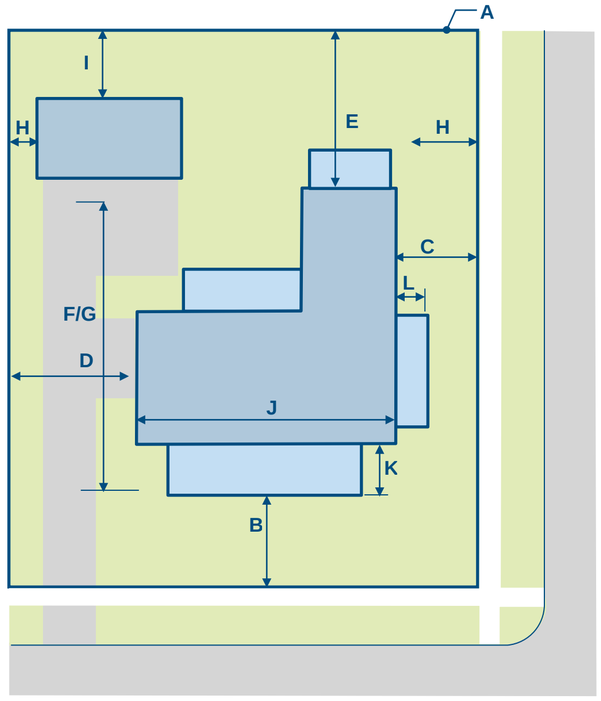


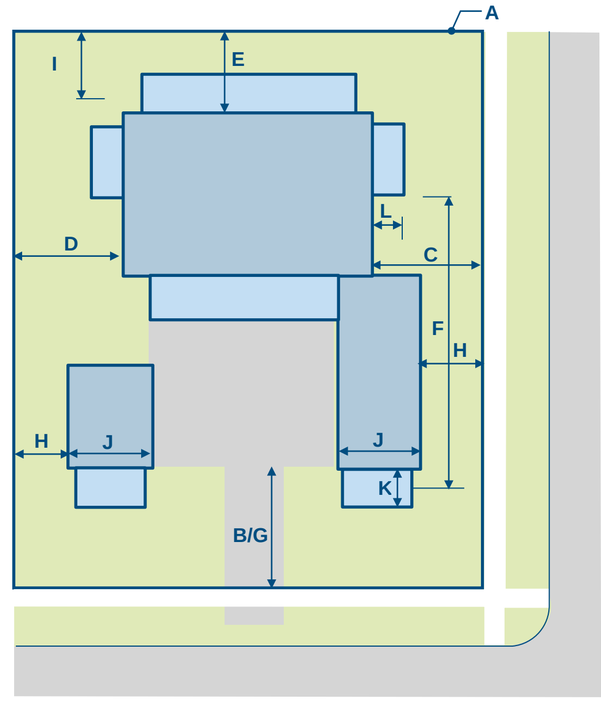
ESTATE

ESTATE

An Estate is a large single-family dwelling on a large lot of more suburban character, often shared by one or more ancillary buildings. The primary facade faces a street or public greenway where a porch and entry are prominent. Garages and/or parking is generally provided from the street frontage and is set back from the primary facade, side-loaded, or set forward side-loaded. Garage forward doors are not permitted to face the street.

Lot width x depth	80’ min. x 100’ min. (A)
Setbacks	
Front	25’ min. (B)
Front Corner	20’ min. (C)
Side	20’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	25’ min. (G)
Accessory Buildings Side	10’ min. (H)
Accessory Buildings Rear	6’ min. (I)
Building Frontage at Setback	60 % max. (J)
Building Front Encroachments	15’ max.(K)
Building Side Encroachments	12’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.





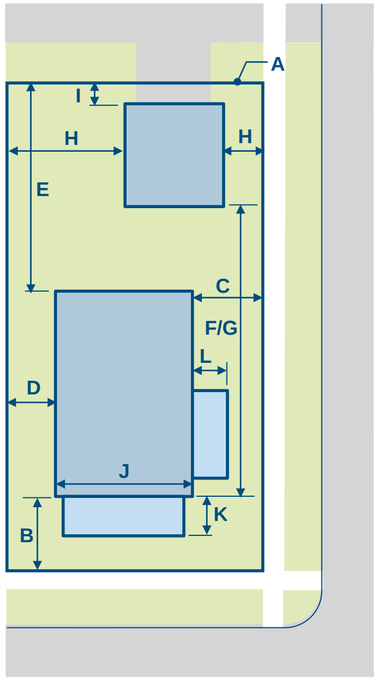
BUILDING TYPE STANDARDS

HOUSE

HOUSE

A House Type is a single-family residence on its own lot. For House the primary facade faces a public street or a greenway where a porch and entry are prominent. Garages and/or parking is generally provided from a rear lane or from the street frontage set back from the primary façade.

Lot width x depth	50’ min. x 100’ min. (A)
Setbacks	
Front	20’ min. (B)
Front Corner	15’ min. (C)
Side	8’ min. (D)
Rear	20’ min. (E)
Parking and Waste from Front Façade	20’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	6’ min. (H)
Accessory Buildings Rear	6’ min. (I)
Building Frontage at Setback	30’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	8’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

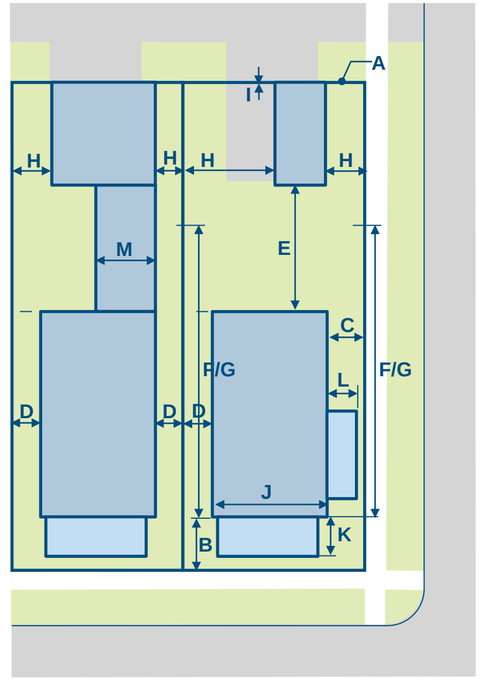


COTTAGE

COTTAGE

A Cottage is a smaller single-family residence on its own lot. For Cottages garages and/or parking is required to be provided from a rear lane while the primary house front faces a public street or greenway.

Lot width x depth	30’ min. x 65’ min. (A)
Setbacks	
Front	12’ min. (B)
Front Corner	8’ min. (C)
Side	5’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	40’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	20’ min. (J)
Building Front Encroachments	10’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.0 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.0 Stories max.

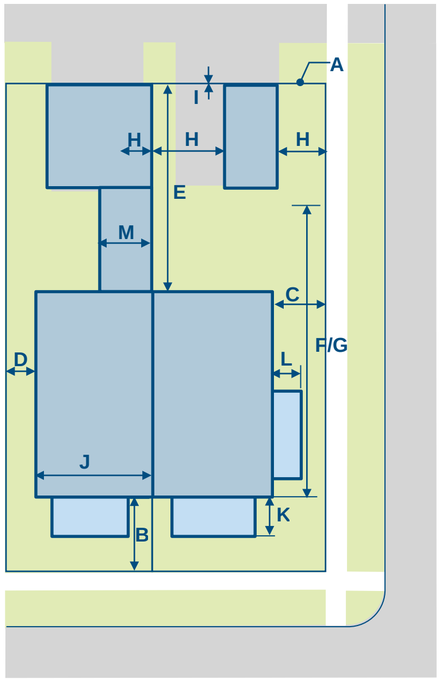


PAIR HOUSE

PAIR HOUSE

A Pair House is a single-family residence that shares a party wall with one other of the same type, each on their own lot. Garages, ADUs and/or parking is provided from the rear lane while the primary front faces a street or public greenway.

Lot width x depth	24’ min. x 65’ min. (A)
Setbacks	
Front	15’ min. (B)
Front Corner	10’ min. (C)
Side	6’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	35’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	20’ min. (J)
Building Front Encroachments	12’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2 Stories max.

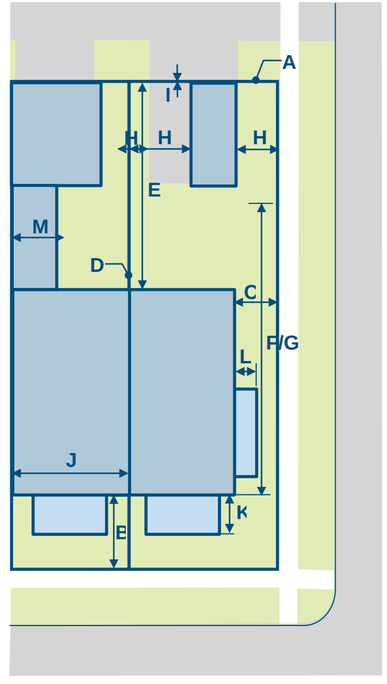


TOWNHOUSE

TOWNHOUSE

A Townhouse is a single-family residence that shares a party wall with another of the same type, with a minimum of three units in a row, and occupies the full frontage line on its own lot. For Townhouses, garages, ADUs, and/or parking is provided from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	16’ min. x 80’ min. (A)
Setbacks	
Front	10’ min. (B)
Front Corner	8’ min. (C)
Side	0’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	35’ min. (F)
Accessory Buildings from Front	40’ min. (G)
Accessory Buildings Side	Align. (H)
Accessory Buildings Rear	0’ min. (I)
Building Frontage at Setback	100 %’ max. (J)
Building Front Encroachments	8’ max.(K)
Building Side Encroachments	6’ max. (L)
Building Back Wing	15’ max. (M)
Height	
Principle Building	3.5 Stories max.
First Floor Above Sidewalk Grade	1.5’ min.
Outbuilding	2.5 Stories max.

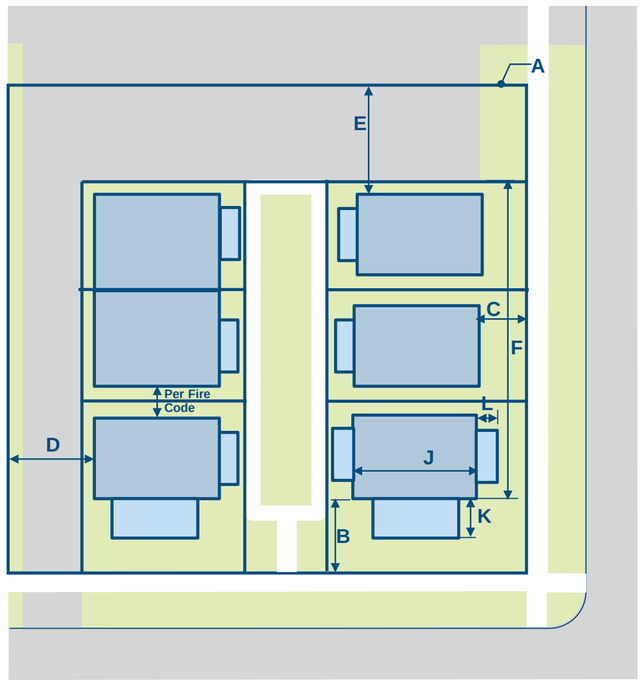


POCKET COURT

POCKET COURT

A Pocket Court is permitted with up to 8 units. Pocket Courts permit units that do not front a public vehicular right-of-way, Attached and detached houses can be grouped in pedestrian courts facing a mews, small common, green or garden, shared through an owners' association. A pocket court is often, but not always, arranged in a U-shape. The units are separated from the common area only by a sidewalk, path or other non-vehicular way. Parking is from rear lanes or alleys in attached or detached garages or open parking in a central location.

Lot width x depth (may rotate)	60' min. x 90' min. (A)
Setbacks	
Front	5' min. (B)
Front Corner	10' min. (C)
Side	5' min. (D)
Rear	20' min. (E)
Parking and Waste from Front Façade	20' min. (F)
Building Frontage at Setback	80 % max. (J)
Building Front Encroachments	5' max. (K)
Building Side Encroachments	5' max. (L)
Height	
Principle Building	2.5 Stories max.
First Floor Above Grade	1.5' min.

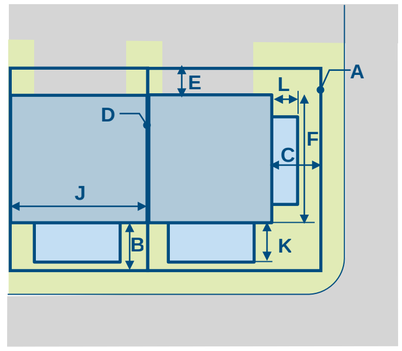


LOFT

LOFT

A Loft is a single-family residence that is detached or shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Loft types, garages, and/or parking is provided adjacent or under the townhouse from the rear lane frontages while the primary townhouse front faces a lane, street, or public greenway. Lofts in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	20' min. x 30' min. (A)	
Setbacks		
Front	0' min.	(B)
Front Corner	0' min.	(C)
Side	0' min.	(D)
Rear	0' min.	(E)
Parking and Waste from Front Façade	20' min.	(F)
Building Frontage at Setback	90 %' max.	(J)
Building Front Encroachments	8' max.	(K)
Building Side Encroachments	6' max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5' min.	
Outbuilding	2.5 Stories max.	

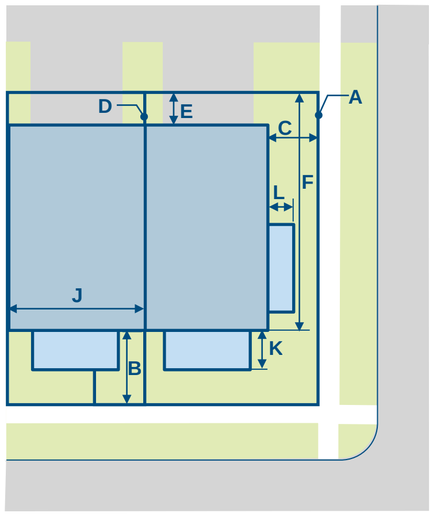


TOWNHOUSE PARK-UNDER

TOWNHOUSE PARK-UNDER

A Townhouse is a single-family residence that shares a party wall with another of the same type and occupies the full frontage line on its own lot. For Townhouse Park-Under types, garages, and/or parking is provided under the townhouse from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	20’ min. x 50’ min. (A)
Setbacks	
Front	10’ min. (B)
Front Corner	8’ min. (C)
Side	0’ min. (D)
Rear	30’ min. (E)
Parking and Waste from Front Façade	30’ min. (F)
Building Frontage at Setback	100 %’ max. (J)
Building Front Encroachments	8’ max.(K)
Building Side Encroachments	6’ max. (L)
Height	
Principle Building	3.5 Stories max.
First Floor Above Grade	1.5’ min.
Outbuilding	2.5 Stories max.

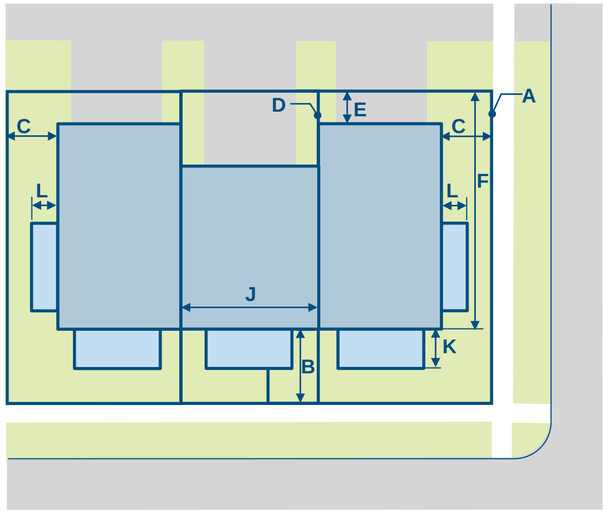


3-TOWNHOUSE ESTATE

3-TOWNHOUSE ESTATE

A 3-Townhouse Estate is a single-family residence that shares a party wall with two other of the same type with the building and architectural massing of a large house or estate. and occupies the full frontage line on its own lot. For 3-Townhouse Estate types, garages, and/or parking is provided under the townhouse from the rear lane frontages while the primary townhouse front faces a street or public greenway. Townhouses in the T-5 Neighborhood Center Strolling District are permitted to have ground floor mixed-use.

Lot width x depth	24’ min. x 50’ min.	(A)
Setbacks		
Front	10’ min.	(B)
Front Corner	8’ min.	(C)
Side	0’ min.	(D)
Rear	30’ min.	(E)
Parking and Waste from Front Façade	30’ min.	(F)
Building Frontage at Setback	100 %’ max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	

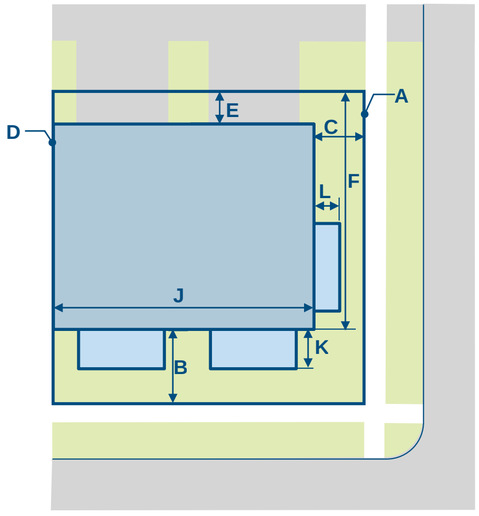


STACKED-FLAT

STACKED-FLAT

A Stacked-Flat is a single floor or town house residence that is stacked vertically with one above the other and occupies the full frontage line on a shared lot lot. For Staked-Flat types, garages, and/or parking is provided under or behind the building accessed from the rear lane frontages while the front faces a street or public greenway. Stacked-Flats in the T-5 Neighborhood Center are permitted to have ground floor mixed-use.

Lot width x depth	60’ min. x 50’ min.	(A)
Setbacks		
Front	10’ min.	(B)
Front Corner	8’ min.	(C)
Side	0’ min.	(D)
Rear	30’ min.	(E)
Parking and Waste from Front Façade	30’ min.	(F)
Building Frontage at Setback	80 % max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	1.5’ min.	

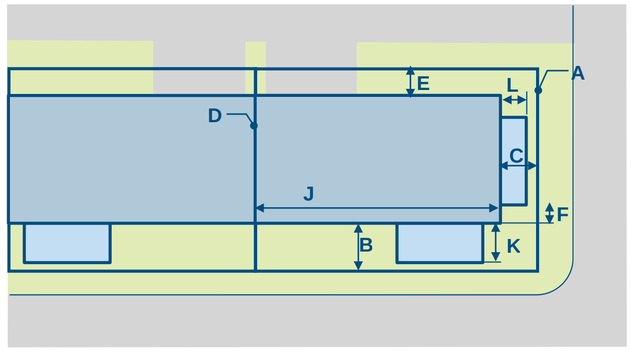


MEWS HOUSE

MEWS HOUSE

A Mews House is a single-family residence that is detached or shares a party wall with another of the same type and occupies the full frontage line on its own lot. Mews House types are generally wide and shallow. For Mews House types, garages, and/or parking is provided adjacent from the rear lane frontages screened from the frontage while the primary townhouse front faces a lane, street, or public greenway. Mews Houses in the T-5 Neighborhood Center are permitted to have ground floor mixed-use.

Lot width x depth	50’ min. x 30’ min.	(A)
Setbacks		
Front	5’ min.	(B)
Front Corner	5’ min.	(C)
Side	5’ min.	(D)
Rear	5’ min.	(E)
Parking and Waste from Front Façade	Screened	(F)
Building Frontage at Setback	90 % max.	(J)
Building Front Encroachments	8’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	

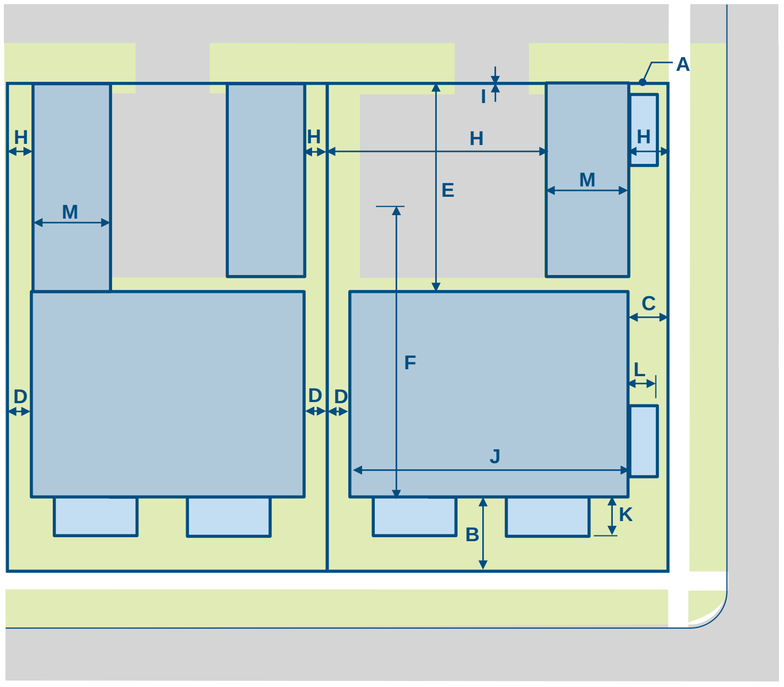


MULTI-FAMILY HOUSE

MULTI-FAMILY HOUSE

A Multi-Family House is a multi-family residence with up to 8 units that is similar in scale, massing, and character with a large single-family house and intended to be compatible in form and adjacency. For Multi-Family Houses, garages, ADUs and/or parking is provided from the street and lane frontages while the primary front faces a street or public greenway. Multi-Family Houses in the T-5 Neighborhood Center are permitted to have ground floor mixed-use.

Lot width x depth	72’ min. x 100’ min.	(A)
Setbacks		
Front	12’ min.	(B)
Front Corner	6’ min.	(C)
Side	8’ min.	(D)
Rear	30’ min.	(E)
Parking and Waste from Front Façade	45’ min.	(F)
Accessory Buildings from Front	60’ min.	(G)
Accessory Buildings Side	Align	(H)
Accessory Buildings Rear	0’ min.	(I)
Building Frontage at Setback	90 % max.	(J)
Building Front Encroachments	10’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	3.5 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	

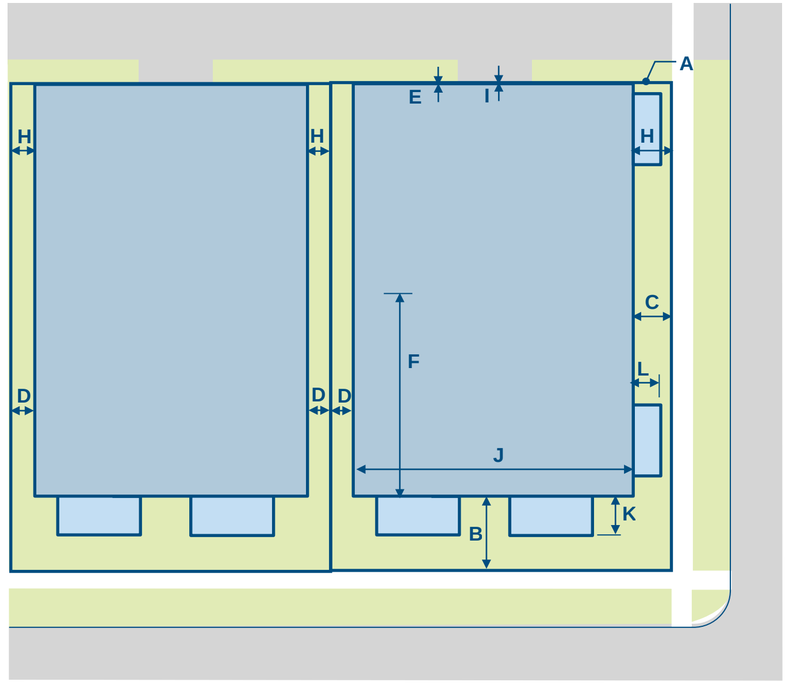


MULTI-FAMILY BUILDING

MULTI-FAMILY BUILDING

A Multi-Family House is a multi-family residence with up to 16 units that is similar in scale, massing, and character with the frontage of a Multi-Family Building and intended to be compatible in form and adjacency. For Multi-Family Buildings, garages, ADUs and/or parking is provided in a rear common parking area and/or park-under garages screened from the street while the primary front faces a street or public greenway. Multi-Family Buildings in the T-5 Neighborhood Center are permitted to have ground floor mixed-use.

Lot width x depth	72’ min. x 60’ min.	(A)
Setbacks		
Front	6’ min.	(B)
Front Corner	6’ min.	(C)
Side	6’ min.	(D)
Rear	0’ min.	(E)
Parking and Waste from Front Façade	45’ min.	(F)
Accessory Buildings from Front	40’ min.	(G)
Accessory Buildings Side	Align	(H)
Accessory Buildings Rear	0’ min.	(I)
Building Frontage at Setback	90 % max.	(J)
Building Front Encroachments	10’ max.	(K)
Building Side Encroachments	6’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	2.5 Stories max.	



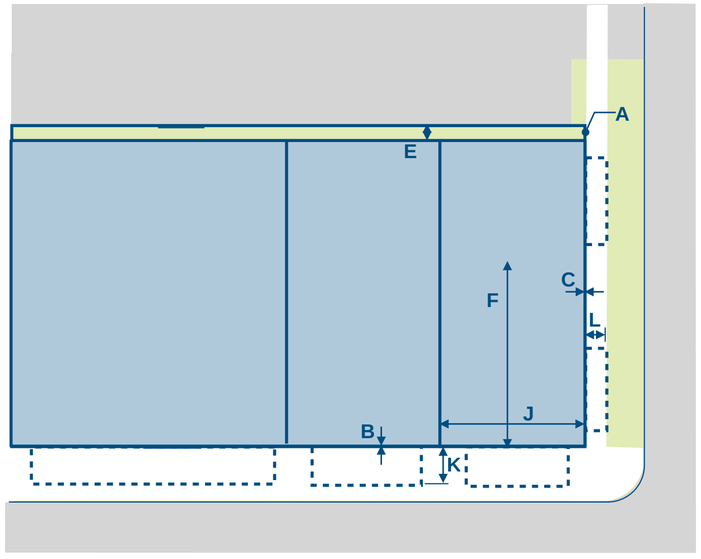
SHOPFRONT / MIXED-USE

SHOPFRONT / MIXED USE

Shopfront and Mixed-Use Buildings are small to medium size size traditional building types typically following the platting patterns of the historic main street. Ground level uses typically include retail shops, restaurants and cafes, and commercial. Upper level uses typically include residential and/or commercial uses. Ground level facades are detailed with inviting storefronts with abundant windows and canopies, balconies, and/or awnings above. Parking is provided on-street and in shared screened parking areas or park-under accessed from a rear alley while the primary front faces the street or public green space. Refer to the Land Use Plan for recommended shopfront locations.

Lot width x depth	12’ min. x 40’ min. (A)	
Building Footprint	5,000 sf building footprint max.	
Setbacks		
Front	0’ min.	(B)
Front Corner	0’ min.	(C)
Side	0’ min.	(D)
Rear	0’ min.	(E)
Parking and Waste from Front Façade	20’ min.	(F)
Building Frontage at Setback	80 % min.	(J)
Building Front Encroachments Above 1st Level	15’ max.	(K)
Building Side Encroachments Above 1st Level	8’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	0’ min.	

Note: These standards do not apply to the existing buildings.

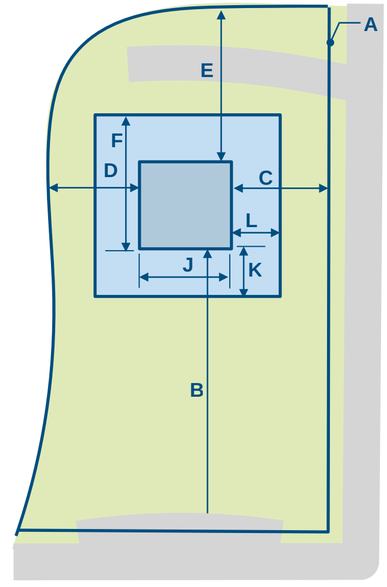


TREEHOUSE

TREEHOUSE

A Treehouse Type is a single-family dwelling. The small footprint is vertical in proportion and typically includes substantially deep cantilevered porches and balconies. Parking is generally provided along the street frontage or by driveways set back from the frontage.

Lot width x depth & max footprint	50’ min. x 50’ min. (A) 576 sq. ft. max. building footprint	
Setbacks		
Front	5’ min.	(B)
Front Corner	12’ min.	(C)
Side	12’ min.	(D)
Rear	5’ min.	(E)
Parking and Waste from Front Façade	20’ min.	(F)
Building Frontage at Setback	40 % max.	(J)
Building Front Encroachments	15’ max.	(K)
Building Side & Rear Encroachments	12’ max.	(L)
Height		
Principle Building	4 Stories max.	
First Floor Above Grade	1.5’ min.	
Outbuilding	N/A	



ACCESSORY BUILDING

ACCESSORY BUILDING

- Accessory Structures are permitted in zones with residential uses. In all cases, garages and storage buildings should be located behind or set back from the principal dwelling. When the housing type does not include a garage, a storage building is recommended.

- Garages: Garages should be located behind the principal dwelling. Construction of garages for houses should be optional; however, when homeowners elect to forego or delay garage construction, a storage building is required.

- Accessory Dwelling Unit: A secondary dwelling unit associated with a principal residence on a single lot is permitted. ADUs shall be a maximum of 50% of the square footage of the primary building footprint. An accessory unit is typically located over the detached garage of a townhouse or detached house. Refer to each Building Type for specific standards.

- See the Use Table for “accessory apartment” when attached to the principal residence.

Note: These standards do not apply to the existing buildings.

WALLS

Walls shall be in stone, brick, stucco, wood clapboard, board and batten, fiber cement, or vinyl, or polymeric.

Walls shall show no more than two materials above the foundation.

Materials shall change along a horizontal line, with the heavier material below the lighter.

Siding shall be of integral color, painted or stained.

Arches and Piers shall be brick, stone, or stucco.

Posts shall be pressure treated, wood, or protective wrapped with vinyl or PVC.

Foundations shall be enclosed with horizontal wood boards, wood louvers, stucco over block, stamped poured concrete, stone, or brick.

Trim shall be high grade lumber, pre-painted metal, polymeric, vinyl, or fiber cement board, and shall be 3.5 inches to 6 inches in width at corners and around corners.

Wood, if visible, shall be painted or stained with an opaque stain, except walking surfaces, which may be left natural.

Stucco shall be cement with smooth sand or pebble finish.

OPENINGS

Doors shall provide a clear width of not less than 32”. Exterior doors shall have a maximum nominal width of 36” for single doors. If double doors are used, one leaf shall provide a minimum 32” clearance. Local compliance for fire egress and ADA standards takes precedent.

Doors shall be side-hinged swinging type (no sliders) at frontages.

Doors shall be painted.

Windows shall be made of wood, extruded aluminum, vinyl, or hollow steel frame and glazed with clear glass.

Windows shall be with a vertical or square proportion,

Storm Windows and Screens, shall cover the entire window area.

Panes shall be of square or vertical proportion.

Shutters shall be operable w/ shutter dogs, sized, and shaped to meet the associated openings.

ELEMENTS

Porches and Colonnades are generally covered and shall have their columns, and posts.

Porches shall have square or vertically proportioned intercolumniation. Porches may encroach into the setbacks.

Railings shall be made of metal, wood, or composite.

Railings shall have horizontal top and bottom rails centered on the balusters. The openings between balusters shall not exceed 4 inches. Bottom rails shall be raised above the level of the floor.

Equipment including HVAC and utility meters shall be screened and located away from the primary entries.

Vista Points where shown on the Land Use Plan are prominent locations including corners, deflections, and at the axial conclusion of a thoroughfare or public space. A building located at a Vista Point designated on a Regulating Plan is required to be designed in response to this location.

Galleries shall be aligned close to the frontage line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk.

SUSTAINABILITY GUIDELINES

Sites should be disturbed as little as possible during construction. Natural drainage patterns shall be kept wherever feasible. Excavated soil shall be used for required contour line modifications and onsite backfill.

Materials should be locally sourced where feasible.

Use of Recycled Materials is encouraged.

Building Shape is recommended to be rectangular to allow breezes inside, cross-ventilation, and provide natural cooling.

Landscaping should encourage deciduous trees next to buildings to provide them with shade in summer and solar heating in winter.

Building Shading should be used selectively to minimize unwanted solar heat gain in the summer and maximize heat gains in the winter.

Cross ventilation is recommended to be provided through narrow floor plans with large, operable windows, porches and breezes.

Paints are recommended to have Low-VOC emissions.

Stormwater Management for guidance on stormwater management and the application of tools for paving, channeling, storage, and filtration including maintenance and costs refer to the; Light Imprint Handbook; Integrating Sustainability and Community Design.

9.Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.

ROOFS

Roofs shall be clad in galvanized metal, fiberglass/asphalt shingles, or slate.

Roof Penetrations, including vent stacks, shall be placed on the rear slope of the roof where feasible. Roof penetrations shall be finished to match the color of the roof.

Mechanical equipment including solar panels shall be screened and located away from frontages.

Roof Slope shall be between 6:12 and 12:12. Porch Slope shall be a minimum of 3:12.

Gutters, Downspouts, and Projecting Drainpipes shall be made of galvanized metal, copper, or painted aluminum in white or same color as building.

Flashing shall be galvanized/pre-painted metal or copper.

Eaves shall be continuous.

Eaves shall be either exposed with custom cut rafter tails, partially exposed with square-cut rafter tails, or closed soffits and on the front facade shall project 12 to 36 inches from the exterior wall sheathing to the outer edge of gutter.

Rafter Tails shall not exceed 6 inches in depth at the tip.

HEIGHT

Height of buildings shall be measured per the Salem code.

For residential dwellings the ground floor shall be a minimum of 18” above the back of curb measured at the front corners.

SIGNAGE

A Master Signage Plan and Sign Standards may be submitted prior to specific site plan submissions.

General to all zones:

a. There shall be no signage permitted additional to that specified in this section. Temporary signage for builders is excluded.

Edge zone

a. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox.

General zone

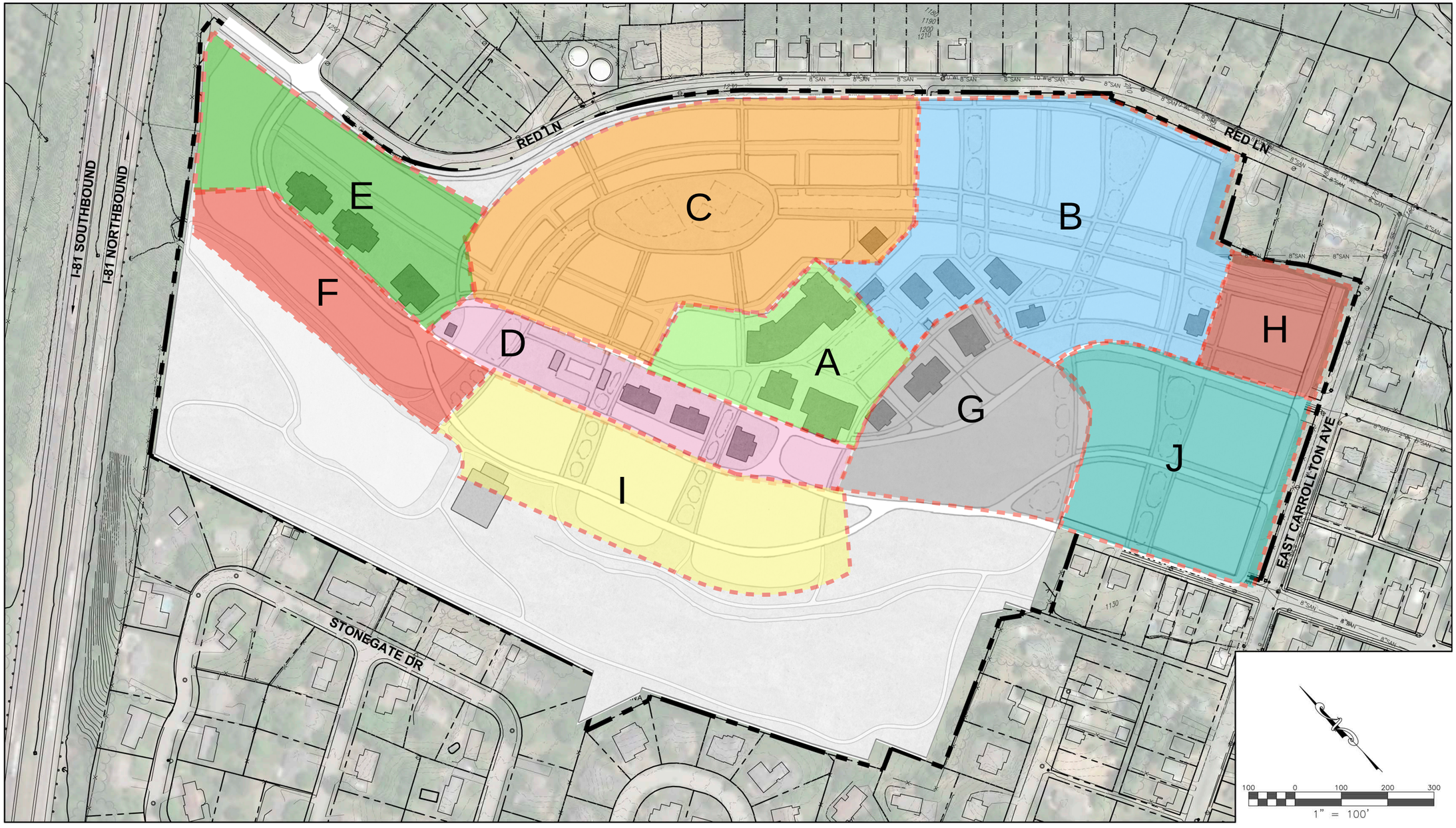
a. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit.

b. One blade sign for each business may be permanently installed perpendicular to the Facade within the front setback. Such a sign shall not exceed a total of 4 square feet and shall clear 8 feet above the Sidewalk.

Center zone

a. Blade signs, not to exceed 6 square ft. for each separate business entrance, may be attached to and should be perpendicular to the Facade, and shall clear 8 feet above the Sidewalk.

b. A single external permanent sign band may be applied to the Facade of each building, providing that such sign not exceed 3 feet in height by any length.



10. A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreation areas, and non-residential uses should be included.

PHASING PLAN

The City of Salem Zoning Ordinance - Hopetree Uses & Definitions

Agriculture

Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Agriculture						√*	The use of land for the production of food and fiber, including farming, dairying, pasturage, agriculture, horticulture, viticulture, and animal and poultry husbandry. A garden accessory to a residence shall not be considered agriculture. The keeping of a cow, pig, sheep, goat, chicken or similar animal shall constitute agriculture regardless of the size of the animal and regardless of the purpose for which it is kept. *Equine Assisted Psychotherapy
Agritourism	√	√		√	√	√	Any activity carried out on a farm or ranch that allows members of the general public, for recreational, entertainment, or educational purposes, to view or enjoy rural activities, including farming, wineries, ranching, historical, cultural, harvest-your-own activities, or natural activities and attractions.
Farm stand	√	√		√	√	√	An establishment for the seasonal retail sale of agricultural goods and merchandise primarily produced by the operator on the site, or on nearby property. Agricultural goods produced on other properties owned or leased by the operator may also be allowed provided a majority of the produce comes from land surrounding the wayside stand. This use type shall include agricultural products picked by the consumer.
Forestry operations							The use of land for the raising and harvesting of timber, pulp woods and other forestry products for commercial purposes, including the temporary operation of a sawmill and/or chipper to process the timber cut from that parcel or contiguous parcels. Excluded from this definition shall be the cutting of timber associated with land development approved by the City of Salem, which shall be considered accessory to the development of the property.
Stable	√	√		√	√	√	The boarding, keeping, breeding, pasturing or raising of horses, ponies, mules, donkeys or llamas by the owner or occupant of the property and/or their paying or non-paying guests. Included in this definition are riding academies.

Residential

Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Accessory apartment	√*	√*	√*	√*	√*		A second dwelling unit within a detached single family dwelling which is clearly incidental and subordinate to the main dwelling unit. *Detached Accessory Dwellings are also permitted - see specific Building Types.
Family day care home	√	√		√	√		A single family dwelling in which more than five but less than ten individuals, are received for care, protection and guidance during only part of a 24 hour day. Individuals related by blood, legal adoption or marriage to the person who maintains the home shall not be counted towards this total. The care of five or less individuals for portions of a day shall be considered a home occupation.
Home occupation	√	√	√	√	√		An accessory use of a dwelling unit for gainful employment involving the production, provision, or sale of goods and/or services.
Manufactured home							A structure, transportable in one or more sections, which in the traveling mode is eight body feet or more in width or 40 body feet or more in length, or, when erected on site, is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation. A manufactured home shall contain one dwelling unit. Some manufactured homes are also referred to as mobile homes.
Manufactured home, accessory							A manufactured home that is subordinate to a single family dwelling on a single lot and meets the additional criteria contained in this chapter.
Manufactured home, emergency							A manufactured home used temporarily for the period of reconstruction or replacement of an uninhabitable dwelling lost or destroyed by fire, flood, or other act of nature, or used temporarily as housing relief to victims of a federally declared disaster in accordance with the provisions of this chapter.
Manufactured home subdivision							A ten acre or larger community of manufactured home dwellings with lots that are subdivided for individual ownership.
Manufactured home park							A ten acre or larger tract of land intended to accommodate a manufactured home community of multiple spaces for lease or condominium ownership. A manufactured home park is also referred to as a mobile home park.
Multi-family dwelling	√	√		√	√		A building or portion thereof which contains three or more dwelling units for permanent occupancy, regardless of the method of ownership. Included in the use type would be garden apartments, low and high rise apartments, apartments for elderly housing and condominiums.
Residential human care facility	√	√		√	√		A building (1) used as a group home where not more than eight mentally ill, mentally retarded or other developmentally disabled persons, not related by blood or marriage, reside, with one or more resident counselors or other staff persons and for which the Virginia Department of Behavioral Health and Developmental Services is the licensing authority, pursuant to Virginia Code § 15.2-2291, or (2) used as a group home where not more than eight aged, infirm or disabled persons, not related by blood or marriage, reside with one or more resident counselors or other staff persons and for which the Department of Social Services is the licensing authority, pursuant to § Virginia Code § 15.2-2291(B). Excluded from this definition are drug or alcohol rehabilitation centers, half-way houses and similar uses. *Adult Group Homes for individuals with Intellectual and Developmental Disabilities

(Residential Continued) Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Single family dwelling detached	√		√	√	√		A site built or modular building designed for or used exclusively as one dwelling unit for permanent occupancy. A single family dwelling which is surrounded by open space or yards on all sides, is located on its own individual lot, and which is not attached to any other dwelling by any means.
Single family dwelling attached	√		√	√	√		A site built or modular building designed for or used exclusively as one dwelling unit for permanent occupancy. Two single family dwellings sharing a common wall area, each on its own individual lot.
Temporary family health care structure							A transportable residential structure providing an environment facilitating a caregiver's provision of care for mentally or physically impaired person that (i) is primarily assembled at a location other than its site of installation, (ii) is limited to one occupant who shall be the mentally or physically impaired person, (iii) has no more than 300 gross square feet, (iv) complies with the applicable provisions of the Industrialized Building Safety Law and the Uniform Statewide Building Code, and (v) is not placed on a permanent foundation. For purposes of this definition "caregiver" and "mentally or physically impaired person" are as defined in § 15.2-2292.1 of the Code of Virginia.
Townhouse			√	√	√		A grouping of three or more attached single family dwellings in a row in which each unit has its own front and rear access to the outside, no unit is located over another unit, and each unit is separated from any other unit by one or more common walls.
Two family dwelling	√	√	√	√	√		The use of an individual lot for two dwelling units which share at least one common wall, each occupied by one family.
Civic							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Administrative services	√	√		√	√		Governmental offices providing administrative, clerical or public contact services that deal directly with the citizen. Typical uses include federal, state, county, and city offices.
Assisted care residence	√	√		√	√		An establishment that provides shelter and services which may include meals, housekeeping, and personal care assistance primarily for the elderly. Residents are able to maintain a semi-independent life style, not requiring the more extensive care of a nursing home. Residents will, at a minimum, need assistance with at least one of the following: medication management, meal preparation, housekeeping, money management, or personal hygiene. At least one nurse's aid is typically on duty, with medical staff available when needed.
Camps						√	A use which primarily provides recreational opportunities of an outdoor nature on a daily or overnight basis. Included in this use type would be scout camps, religious camps, children's camps, wilderness camps, and similar uses which are not otherwise specifically described in this chapter.
Cemetery						√*	Land used or dedicated to the burial of the dead, including columbariums, crematoriums, mausoleums, and necessary sales and maintenance facilities. Funeral Services use types shall be included when operated within the boundary of such cemetery. * There is small cemetery located on the edge of our pasture
Clubs	√	√		√	√		A use providing meeting, or social facilities for civic or social clubs, and similar organizations and associations, primarily for use by members and guests. Recreational facilities, unless otherwise specifically cited in this section, may be provided for members and guests as an accessory use. This definition shall not include fraternal or sororal organizations associated with colleges or universities. A Club does not include a building in which members reside.
Community recreation	√	√		√	√		A recreational facility for use solely by the residents and guests of a particular residential development, planned unit development, or residential neighborhood, including indoor and outdoor facilities. These facilities are usually proposed or planned in association with development and are usually located within or adjacent to such development.
Correction facilities							A public or privately operated use providing housing and care for individuals legally confined, designed to isolate those individuals from a surrounding community.
Crisis center	√	√			√		A facility providing temporary protective sanctuary for victims of crime or abuse including emergency housing during crisis intervention for individuals, such as victims of rape, child abuse, or physical beatings.
Cultural services	√	√			√		A library, museum, or similar public or quasi-public use displaying, preserving and exhibiting objects of community and cultural interest in one or more of the arts or sciences.
Educational facilities, college/university	√	√		√	√		An educational institution authorized by the Commonwealth of Virginia to award associate, baccalaureate or higher degrees.
Educational facilities, primary/secondary	√	√		√	√		A public, private or parochial school offering instruction at the elementary, junior and/or senior high school levels in the branches of learning and study required to be taught in the public schools of the Commonwealth of Virginia.
Guidance services	√	√		√	√		A use providing counseling, guidance, recuperative, or similar services for persons requiring rehabilitation assistance or therapy for only part of a 24 hour day. This use type shall not include facilities that dispense and/or administer controlled substances and/or pharmaceutical products for the treatment of drug addiction and substance abuse and/or mental health disorders. Non-medicinal counseling-based treatment of drug addiction and substance abuse and/or mental health disorders may be considered guidance services after review by the administrator. Facilities that do dispense and/or administer controlled substances and/or pharmaceutical products for the treatment of drug addiction and substance abuse and/or mental health disorders shall be considered an Outpatient mental health and substance abuse clinic.
Halfway House							An establishment providing residential accommodations, rehabilitation, counseling, and supervision to persons suffering from alcohol or drug addiction, to persons reentering society after being released from a correctional facility or other institution, or to persons suffering from similar disorders or circumstances.

(Civic Continued) Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Life care facility	√	√		√	√		A residential facility primarily for the continuing care of the elderly, providing for transitional housing progressing from independent living in various dwelling units, with or without kitchen facilities, and culminating in nursing home type care where all related uses are located on the same lot. Such facility may include other services integral to the personal and therapeutic care of the residents.
Nursing home	√	√		√	√		A use providing bed care and in-patient services for persons requiring regular medical attention but excluding a facility providing surgical or emergency medical services and excluding a facility providing care for alcoholism, drug addiction, mental disease, or communicable disease. Nursing homes have doctors or licensed nurses on duty.
Park and ride facility							A publicly owned, short-term, parking facility for commuters.
Post office	√	√					Postal services directly available to the consumer operated by the United States Postal Service.
Public assembly	√	√					Facilities owned and operated by a public agency accommodating public assembly for sports, amusement, or entertainment purposes. Typical uses include auditoriums, sports stadiums, convention facilities, fairgrounds, and sales and exhibition facilities.
Public maintenance and service facilities	√	√			√		A public facility supporting maintenance, repair, vehicular or equipment servicing, material storage, and similar activities including street or sewer yards, equipment services centers, and similar uses having characteristics of commercial services or contracting or industrial activities.
Public parks and recreational areas	√	√				√	Publicly-owned and operated parks, picnic areas, playgrounds, indoor or outdoor athletic facilities, greenways and open spaces.
Religious assembly	√	√					A use located in a permanent building and providing regular organized religious worship and related incidental activities, except primary or secondary schools and day care facilities.
Safety services	√	√					Facilities for the conduct of safety and emergency services for the primary benefit of the public, whether publicly or privately owned and operated, including police and fire protection services and emergency medical and ambulance services.
Office							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Financial instutitions	√	√			√*		Provision of financial and banking services to consumers or clients. Walk-in and drive-in services to consumers are generally provided on site. Typical uses include banks, savings and loan associations, savings banks, credit unions, lending establishments and free-standing automatic teller machines. • Walk-In Only
General office	√	√			√		Use of a site for business, professional, or administrative offices, excluding medical offices/clinic. Typical uses include real estate, insurance, management, travel, computer software or information systems research and development, or other business offices; organization and association offices; or law, architectural, engineering, accounting or other professional offices. Retail sales do not comprise more than an accessory aspect of the primary activity of a General Office.
Medical Office/clinic	√	√			√	√	A facility used for human health care of the body, such as medical, dental, therapeutic, chiropractic or similar consultation, diagnosis, and treatment by one or more practitioners licensed by the Commonwealth of Virginia. Medical offices/clinics provide outpatient care on a routine basis, and may offer minor surgical care, but do not provide overnight care or serve as a base for an ambulance service.
Outpatient mental health and sustance abuse clinic	√	√			√		An establishment which provides outpatient services primarily related to the diagnosis and treatment of mental health disorders, alcohol, or other drug or substance abuse disorders. Services include the dispensing and administering of controlled substances and pharmaceutical products by professional medical practitioners licensed by the Commonwealth of Virginia.
Laboratories	√	√			√		Establishments primarily engaged in performing research or testing activities into technological matters. Typical uses include engineering and environmental laboratories, medical, optical, dental and forensic laboratories, x-ray services, and pharmaceutical laboratories only involved in research and development. Excluded are any laboratories which mass produce one or more products directly for the consumer market.
Commercial							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Adult business							Any adult bookstore, adult video store, adult model studio, adult motel, adult movie theater, adult nightclub, adult store, business providing adult entertainment, or any other establishment that regularly exploits an interest in matters relating to specified sexual activities or specified anatomical areas or regularly features live entertainment intended for the sexual stimulation or titillation of patrons, and as such terms are defined in Chapter 58 of this Code.
Agricultural services	√	√					An establishment primarily engaged in providing services specifically for the agricultural community which is not directly associated with a farm operation. Included in this use type would be servicing of agricultural equipment, independent equipment operators, and other related agricultural services.
Antique shops	√	√			√		A place offering primarily antiques for sale. An antique for the purposes of this chapter shall be a work of art, piece of furniture, decorative object, or the like, of or belonging to the past, at least 30 years old.

(Commercial Continued) Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Assembly hall	√	√			√		A building, designed and used primarily for the meeting or assembly of a large group of people for a common purpose. Typical uses include meeting halls, union halls, bingo parlors, and catering or banquet facilities.
Athletic instruction services	√	√			√		Establishments primarily engaged in providing indoor instruction and training in athletic sports that require high ceiling heights for the activity. Typical uses include gymnastics academies, baseball and softball training centers, tennis centers and golf centers.
Automobile dealership, new							The use of any building, land area or other premise for the display of new and used automobiles, trucks, vans, or motorcycles for sale or rent, including any warranty repair work and other major and minor repair service conducted as an accessory use.
Automobile dealership, used							Any lot or establishment where three or more used motor vehicles, including automobiles, trucks, and motorcycles are displayed at one time for sale.
Automobile repair services, major							Repair of construction equipment, commercial trucks, agricultural implements and similar heavy equipment, including automobiles, where major engine and transmission repairs are conducted. This includes minor automobile repairs in conjunction with major automobile repairs. Typical uses include automobile and truck repair garages, transmission shops, radiator shops, body and fender shops, equipment service centers, machine shops and other similar uses where major repair activities are conducted.
Automobile repair services, minor							Repair of automobiles, noncommercial trucks, motorcycles, motor homes, recreational vehicles, or boats, including the sale, installation, and servicing of equipment and parts. Typical uses include tire sales and installation, wheel and brake shops, oil and lubrication services and similar repair and service activities where minor repairs and routine maintenance are conducted.
Automobile rental/leasing							Rental of automobiles and light trucks and vans, includ-ing incidental parking and servicing of vehicles for rent or lease. Typical uses include auto rental agencies and taxicab dispatch areas.
Automobile parts/supply, retail							Retail sales of automobile parts and accessories. Typical uses include automobile parts and supply stores which offer new and factory rebuilt parts and accessories, and include establishments which offer minor automobile repair services.
Business support services	√	√			√		Establishments or places of business engaged in the sale, rental or repair of office equipment, supplies and materials, or the provision of services used by office, professional and service establishments. Typical uses include office equipment and supply firms, small business machine repair shops, convenience printing and copying establishments, as well as temporary labor services.
Business or trade schools	√	√			√		A use providing education or training in business, commerce, language, or other similar activity or occupational pursuit, and not otherwise defined as an educational facility, either primary and secondary, or college and university.
Campgrounds							Facilities providing camping or parking areas and incidental services for travelers in recreational vehicles and/or tents.
Car wash							Washing and cleaning of vehicles. Typical uses include automatic conveyor machines and self-service car washes.
Commercial indoor amusement	√	√			√		Establishments which provide multiple coin operated amusement or entertainment devices or machines as other than an incidental use of the premises. Such devices would include pinball machines, video games, and other games of skill or scoring, and would include pool and/or billiard tables, whether or not they are coin operated. Typical uses include game rooms, billiard and pool halls, and video arcades.
Commercial indoor entertainment	√	√			√		Predominantly spectator uses conducted within an enclosed building. Typical uses include motion picture theaters, and concert or music halls.
Commercial indoor sports and recreation	√	√			√		Predominantly non-instructional participant-based uses conducted within an enclosed building. Typical uses include bowling alleys, ice and roller skating rinks, indoor racquetball, swimming, and/or tennis facilities.
Commercial outdoor entertainment							Predominantly spectator uses conducted in open or partially enclosed or screened facilities. Typical uses include sports arenas, motor vehicle or animal racing facilities, and outdoor amusement parks.
Commercial outdoor sports and recreation	√	√				√	Predominantly participant uses conducted in open or partially enclosed or screened facilities. Typical uses include driving ranges, miniature golf, swimming pools, tennis courts, outdoor racquetball courts, motorized cart and motorcycle tracks, and motorized model airplane flying facilities.
Communications services	√	√			√		Establishments primarily engaged in the provision of broadcasting and other information relay services accomplished through the use of electronic and telephonic mechanisms. Excluded from this use type are facilities classified as Utility Services - Major or Towers. Typical uses include television studios, telecommunication service centers, telegraph service offices or film and sound recording facilities.
Construction sales and services							Establishments or places of business primarily engaged in retail or wholesale sale, from the premises, of materials used in the construction of buildings or other structures, but specifically excluding automobile or equipment supplies otherwise classified herein. Typical uses include building material stores and home supply establishments.
Consumer repair services	√	√			√		Establishments primarily engaged in the provision of repair services to individuals and households, rather than businesses, but excluding automotive and equipment repair use types. Typical uses include appliance repair shops, shoe repair, watch or jewelry repair shops, or repair of musical instruments.
Convenience store	√	√			√		Establishments primarily engaged in the provision of frequently or recurrently needed goods for household consumption, such as prepackaged food and beverages, and limited household supplies and hardware. Convenience stores shall not include fuel pumps or the selling of fuel for motor vehicles. Typical uses include neighborhood markets and country stores.
Dance hall	√	√			√		Establishments in which more than ten percent of the total floor area is designed or used as a dance floor, or where an admission fee is directly collected, or some other form of compensation is obtained for dancing.
Day care center	√	√		√	√		Any facility operated for the purpose of providing care, protection and guidance to ten or more individuals during only part of a 24 hour day. This term includes nursery schools, preschools, day care centers for individuals, and other similar uses but excludes public and private educational facilities or any facility offering care to individuals for a full 24 hour period.

(Commercial Continued) Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Equipment sales and rental							Establishments primarily engaged in the sale or rental of tools, trucks, tractors, construction equipment, agricultural implements, and similar industrial equipment, and the rental of mobile homes. Included in this use type is the incidental storage, maintenance, and servicing of such equipment.
Flea market	√	√				√	Businesses engaged in the outdoor sale of used or new items, involving regular or periodic display of merchandise for sale.
Funeral services							Establishments engaged in undertaking services such as preparing the dead for burial, and arranging and managing funerals. Typical uses include mortuaries and crematories.
Garden center	√	√			√	√	Establishments or places of business primarily engaged in retail or wholesale (bulk) sale, from the premises, of trees, shrubs, seeds, fertilizers, pesticides, plants and plant materials primarily for agricultural, residential and commercial consumers. Such establishments typically sell products purchased from others, but may sell some material which they grow themselves. Typical uses include nurseries, plant stores and lawn and garden centers.
Gasoline station							Any place of business with fuel pumps and gasoline storage tanks which provides fuels and oil for motor vehicles.
Golf course							A tract of land for playing golf, improved with tees, greens, fairways, hazards, and which may include clubhouses and shelters. Included would be executive or par 3 golf courses. Specifically excluded would be independent driving ranges and any miniature golf course.
Homestay inn	√	√		√	√		A dwelling in which not more than five bedrooms are provided for overnight guests for compensation, on a daily or weekly basis, with or without meals. The owner or the owner's agent shall reside on the same parcel occupied by the homestay inn. A homestay inn may also be known as a bed and breakfast.
Hospital	√	√					A facility providing medical, psychiatric, or surgical service for sick or injured persons primarily on an in-patient basis and including ancillary facilities for outpatient and emergency treatment diagnostic services, training, research, administration, and services to patients, employees, or visitors.
Hotel/motel/motor lodge	√	√			√		A building or group of attached or detached buildings containing lodging units intended primarily for rental or lease to transients by the day, week or month. Such uses generally provide additional services such as daily maid service, restaurants, meeting rooms and/or recreation facilities.
Kennel, commercial							The boarding, breeding, raising, grooming or training of dogs, cats, or other household pets of any age not owned by the owner or occupant of the premises, and/or for commercial gain.
Laundry	√	√			√		Establishments primarily engaged in the provision of laundering, cleaning or dyeing services other than those classified as Personal Services. Typical uses include bulk laundry and cleaning plants, diaper services, or linen supply services.
Manufactured home sales							Establishments primarily engaged in the display, retail sale, rental, and minor repair of new and used manufactured homes, parts, and equipment.
Massage parlor							Establishments having a fixed place of business where any person other than a massage therapist, as licensed by the Virginia Board of Nursing, administers or gives any kind or character of massage, manipulation of the body or other similar procedure. Massage therapy as licensed by the Virginia Board of Nursing shall be considered a personal service. This definition shall not be construed to include a hospital, nursing home, medical clinic, or the office of a duly licensed physician, surgeon, physical therapist, chiropractor, osteopath, or a barber shop or beauty salon in which massages are administered only to the scalp, the face, the neck, or the shoulders, or an exercise club where massage is performed by a person of the same sex as the subject of the massage.
Microbrewery	√	√			√		An establishment engaged in the production of beer with a significant commercial component, such as a restaurant or retail store.
Microdistillery	√	√			√		An establishment engaged in the production of spirits with a significant commercial component, such as a restaurant or retail store.
Owner's agent	√	√		√	√		A person who manages a homestay inn and whose primary residence and domicile shall be on the same parcel as the homestay inn.
Personal storage	√	√			√		A building designed to provide rental storage space in cubicles where each cubicle has a maximum floor area of 400 square feet. Each cubicle shall be enclosed by walls and ceiling and have a separate entrance for the loading and unloading of stored goods.
Pawn shop							A use engaged in the loaning of money on the security of property pledged in the keeping of the pawnbroker and the incidental sale of such property.
Personal improvement services	√	√			√		Establishments primarily engaged in the provision of informational, instructional, personal improvements and similar services. Typical uses include driving schools, health or physical fitness centers (excluding athletic instruction services), reducing salons, dance studios, handicraft and hobby instruction.
Personal services	√	√			√		Establishments or places of business engaged in the provision of frequently or recurrently needed services of a personal nature. Typical uses include beauty and barber shops; grooming of pets; seamstresses, tailors, or shoe repairs; florists; and Laundromats and dry cleaning stations serving individuals and households.
Recreationsal vehicle sales and service							Retail sales of recreational vehicles and boats, including service and storage of vehicles and parts and related accessories.
Restaurant*	√*	√*			√*		An establishment engaged in the preparation and sale of food and beverages. Service to customers may be by counter or table service, or by take-out or delivery. * Walk-In Only.
Retail Sales	√	√			√		Sale or rental with incidental service of commonly used goods and merchandise for personal or household use but excludes those classified more specifically by these use type classifications.
Short-term lender							Establishments primarily engaged in short-term lending such as payday loans, car title loans, and refund anticipation loans.

Studio, fine arts	√	√		√	√		A building, or portion thereof, used as a place of work by a sculptor, artist, or photographer.
Truck stop							An establishment containing a mixture of uses which cater to the traveling public and in particular motor freight operators. A truck stop might include such uses as fuel pumps, restaurants, overnight accommodations, retail sales related to the motor freight industry, and similar uses.
Veterinary hospital/clinic	√	√			√		Any establishment rendering surgical and medical treatment of animals. Boarding of animals shall only be conducted indoors, on a short term basis, and shall only be incidental to such hospital/clinic use, unless also authorized and approved as a commercial kennel.

Miscellaneous							
Use Type	Existing Buildings	Civic Buildings	T3	T4	T5	Open Space / Natural	Definition
Amateur radio tower	√	√			√		A structure on which an antenna is installed for the purpose of transmitting and receiving amateur radio signals erected and operated by an amateur radio operator licensed by the Federal Communications Commission.
Aviation facilities							Private or public land areas used or intended to be used for the take-off and landing of aircraft. Aviation facilities may include facilities for the operation, service, fueling, repair and/or storage of the aircraft.
Mixed use	√	√			√		Mixed use is a single building or parcel wherein multiple uses such as residential and commercial share space.
Outdoor gathering	√	√				√	Any temporary organized gathering expected to attract 500 or more people at one time in open spaces outside an enclosed structure. Included in this use type would be music festivals, church revivals, carnivals and fairs, and similar transient amusement and recreational activities not otherwise listed in this section. Such activities held on publicly owned land shall not be included within this use type.
Parking facility, surface/structure							Use of a site for surface parking or a parking structure unrelated to a specific use which provides one or more parking spaces together with driveways, aisles, turning and maneuvering areas, incorporated landscaped areas, and similar features meeting the requirements established by this chapter. This use type shall not include parking facilities accessory to a permitted principal use.
Shooting range, outdoor							The use of land for archery and the discharging of firearms for the purposes of target practice, skeet and trap shooting, mock war games, or temporary competitions, such as a turkey shoot. Excluded from this use type shall be general hunting, and the unstructured and nonrecurring discharging of firearms on private property with the property owner's permission if in compliance with the Code of the City of Salem.
Tower	√	√					Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas. The term includes but need not be limited to radio and television transmission towers, microwave towers, common-carrier towers, and cellular telephone and wireless communication towers. Tower types include, but are not limited to monopoles, lattice towers, wooden poles, and guyed towers. Excluded from this definition are amateur radio towers, which are otherwise defined.
Utility services, minor	√	√	√	√	√	√	Services which are necessary to support existing and future development within the immediate vicinity and involve only minor structures. Including in this use type are distribution lines and small facilities that are underground or overhead, such as transformers, relay and booster devices, and well, water and sewer pump stations. Also included are all major utility services owned and/or operated by the City of Salem, or any major utility services which were in existence prior to the adoption of this chapter.
Utility services, major							Services of a regional nature which normally entail the construction of new buildings or structures such as generating plants and sources, electrical switching facilities and stations or substations, water towers and tanks, community waste water treatment plants, and similar facilities. Included in this definition are also electric, gas, and other utility transmission lines of a regional nature which are not otherwise reviewed and approved by the Virginia State Corporation Commission.

Sec. 106-228. - Planned Unit district.

Sec. 106-228.1. - Statement of intent.

(A) The intent of the Planned Unit District (PUD) is to encourage maximum flexibility in the design and development of land. PUD developments facilitate the adequate and economical provision of streets, utilities and other improvements, and allow for the management of the natural and scenic qualities of vacant land that is proposed for development. The PUD district allows a variety of housing options, as well as commercial, civic and office use types of a number and scale sufficient to serve the needs of the PUD residents.

(Ord. of 3-14-05(2))

Sec. 106-228.2. - Permitted uses.

(A) Applications for planned unit districts may propose any residential, civic, and/or commercial use type as part of a planned unit district. All land uses proposed shall be shown on the preliminary and final master plans. as required by this chapter.

(B) All use types proposed shall be reviewed by the Commission and Council pursuant to the provisions of this chapter. No use type may be allowed within the planned unit district unless approved by Council as part of the final master plan.

(Ord. of 3-14-05(2))

Sec. 106-228.3. - Development regulations.

(A) Each planned unit development shall be subject to the following development standards.

1. *Maximum gross density: Maximum gross density allowable in the planned unit district shall be established by Council by approval of the final master plan.*
2. *Minimum common open space and/or recreational areas: 15 percent of the gross area of the planned unit district.*
3. *Criteria for all required open space:*
   a. *Minimum countable open space: 5,000 contiguous square feet*
   b. *Minimum horizontal dimension: 50 feet, except that areas with a horizontal distance of not less than 20 feet shall be counted as open space provided such areas contain facilities such as, but not limited to, bikeways, exercise trails, tot lots, gazebos, picnic tables, etc.*
   c. *Common open space shall not include proposed street rights-of-way, open parking areas, or driveways.*
   d. *All common open space and/or recreational areas shall be of an appropriate nature and location to serve the residents of the planned unit district.*
4. *The maximum area devoted to civic, office and commercial use types shall be established by Council by approval of the final master plan.*
   a. *Commercial and office uses types shall be located, and shall be of a scale and location suitable to serve the needs of the residents of the planned unit district convenience.*
   b. *Commercial, office, and civic use types shall be screened and landscaped so as to be compatible with adjoining residences.*

Not Applicable for existing buildings.

   c. *Construction of commercial, office and civic use types shall not begin until 20 percent of the residential units of the total planned unit district have been completed.*
5. *Minimum setback requirements shall be specifically established during the review and approval of the preliminary and final master plans. The following guidelines shall be used in establishing the building spacing and setbacks:*
   a. *Building spacing shall provide privacy within each dwelling unit;*
   b. *Building spacing shall ensure that each room has adequate light and air;*
   c. *Areas between buildings used as service yards, storage of trash, or other utilitarian purposes should be designed so as to be compatible with adjoining dwellings;*

Not Applicable due to campus arrangements of multiple buildings.

   d. *Building spacing and design shall provide privacy for outdoor activity areas (patios, decks, etc.) associated with individual dwelling units.*
6. *Streets in the planned unit district may be public in accordance with VDOT and city standards or may be private. In reviewing the planned unit development preliminary master plan, the commission may recommend, and the Council may approve, one or more private streets within the proposed district*

(Ord. of 3-14-05(2))

Sec. 106-228.4. - Application process.

(A) Prior to submitting a formal application for review and approval under these provisions, the applicant shall meet with city staff to discuss the requirements of the planned unit district. The purpose of the meeting is to obtain a mutual understanding of the application requirements and process. The applicant is encouraged to submit information on the scope and nature of the proposal to allow staff to become familiar with the proposal in advance of this meeting.

(B) Any application to rezone land to the PUD designation, shall constitute an amendment to the zoning ordinance. The written and graphic information submitted by the applicant as part of the application process shall constitute conditional zoning proffers. Once the Council has approved the final master plan, all accepted proffers shall constitute conditions pursuant to the provisions of this chapter.

(C) To initiate an amendment, the applicant shall complete a rezoning application. This information shall be accompanied by graphic and written information, which shall constitute a preliminary master plan. All information submitted shall be of sufficient clarity and scale to clearly and accurately identify the location, nature, and character of the proposed district. At a minimum this information shall include:

1. *A legal description and plat showing the site boundaries, and existing street lines, lot lines, and easements.*
2. *Existing zoning, land use and ownership of each parcel proposed for the district.*
3. *A general statement of planning objectives to be achieved by the PUD district, including a description of the character of the proposed development, the existing and proposed ownership of the site, the market for which the development is oriented, and objectives towards any specific manmade and natural characteristics located on the site.*
4. *A description and analysis of existing site conditions, including information on topography, natural water courses, floodplains, unique natural features, tree cover areas, etc.*
5. *A land use plan designating specific use types for the site, both residential and non-residential use types, and establishing site development regulations, including setback, height, building coverage, lot coverage, and density requirements.*
6. *A circulation plan, including location of existing and proposed vehicular, pedestrian, bicycle, and other circulation facilities and location and general design of parking and loading facilities. General information on the trip generation, ownership and maintenance and proposed construction standards for these facilities should be included. A traffic impact analysis may be required by the administrator.*
7. *A public services and utilities plan providing requirements for and provision of all utilities, sewers, and other facilities to serve the site.*
8. *An open space plan, including areas proposed for passive and active recreational uses, natural and undisturbed areas, and proposed buffer areas proposed around the perimeter of the site. Information on the specific design and location of these areas and their ownership and maintenance should be included.*
9. *Generalized statements pertaining to any architectural and community design guidelines shall be submitted in sufficient detail to provide information on building designs, orientations, styles, lighting plans, etc.*
10. *A development schedule indicating the location, extent and sequence of proposed development. Specific information on development of the open space, recreational areas, and non-residential uses should be included.*

(D) The completed rezoning application and supporting preliminary master plan materials shall be submitted to the planning commission for review and analysis. The commission shall review this information and make a report of its findings to the Council. The commission shall as part of its review hold a public hearing pursuant to § 15.2-2204 of the Code of Virginia, as amended.

(E) The commission shall make a report of its findings to the Council within 90 days of the receipt of the materials, unless the applicant requests, or agrees to an extension of this time frame. The commission's report shall recommend approval, approval with modifications, or disapproval of the preliminary master plan. Failure of the commission to make a report of its findings to the Council within this period shall constitute a commission recommendation of approval.

(F) If the commission recommends denial of the preliminary master plan, or approval with modification, the applicant shall, if requested, have 60 days to make any modifications. If the applicant desires to make any modifications to the preliminary master plan, the council's review and action shall be delayed until such changes are made and submitted for review.

(G) The Council shall review the preliminary master plan, and act to approve or deny the plan within 90 days. Approval of the preliminary master plan shall constitute acceptance of the plan's provisions and concepts as proffers pursuant to the provisions of this chapter. The plan approved by the Council shall constitute the final master plan for the PUD.

(Ord. of 3-14-05(2))

Sec. 106-228.5. - Revisions to final master plan.

(A) Major revisions to the final master plan shall be reviewed and approved following the procedures and requirements for zoning map amendments contained in section 106-520of this chapter. Major revisions include, but are not limited to changes such as:

1. *Any increase in the density of the development;*
2. *Substantial change in circulation or access;*
3. *Substantial change in the mixture of dwelling unit types included in the project;*
4. *Substantial changes in the mixture of land uses or an increase in the amount of land devoted to non-residential purposes;*
5. *Reduction in the approved open space, landscaping or buffering;*
6. *Substantial change in architectural or site design features of the development;*
7. *Any other change that the administrator finds is a major divergence from the approved final master plan*

(B) All other changes in the final master plan shall be considered minor amendments. The administrator, upon receipt of a written request of the owner, may approve such minor amendments.

1. *A request which is disapproved by the administrator shall be considered a major amendment and shall be subject to the approval process outlined above for such amendments.*

Sec. 106-228.6. - Approval of preliminary and final site development plans.

(A) Following the approval of the final master plan, the applicant or its authorized agent, shall be required to submit preliminary and final site plans for approval.

(B) It is the intent of this section that subdivision review under the subdivision regulations be carried out simultaneously with the review of a PUD under this section. The plans required under this section shall be submitted in a form which will satisfy the requirements of the subdivision regulations, as determined by the administrator.

(C) Preliminary and final site plans submitted for review shall in compliance with the final master plan approved by the Council. The city shall review and approve or disapprove any final site plan within 60 days of its submittal.

(D) No PUD shall be approved and no work shall be authorized on construction until all property included in the Final Master Plan is in common ownership.

(Ord. of 3-14-05(2))

Sec. 106-228.6. - Approval of preliminary and final site development plans.

(A) Following the approval of the final master plan, the applicant or its authorized agent, shall be required to submit preliminary and final site plans for approval.

(B) It is the intent of this section that subdivision review under the subdivision regulations be carried out simultaneously with the review of a PUD under this section. The plans required under this section shall be submitted in a form which will satisfy the requirements of the subdivision regulations, as determined by the administrator.

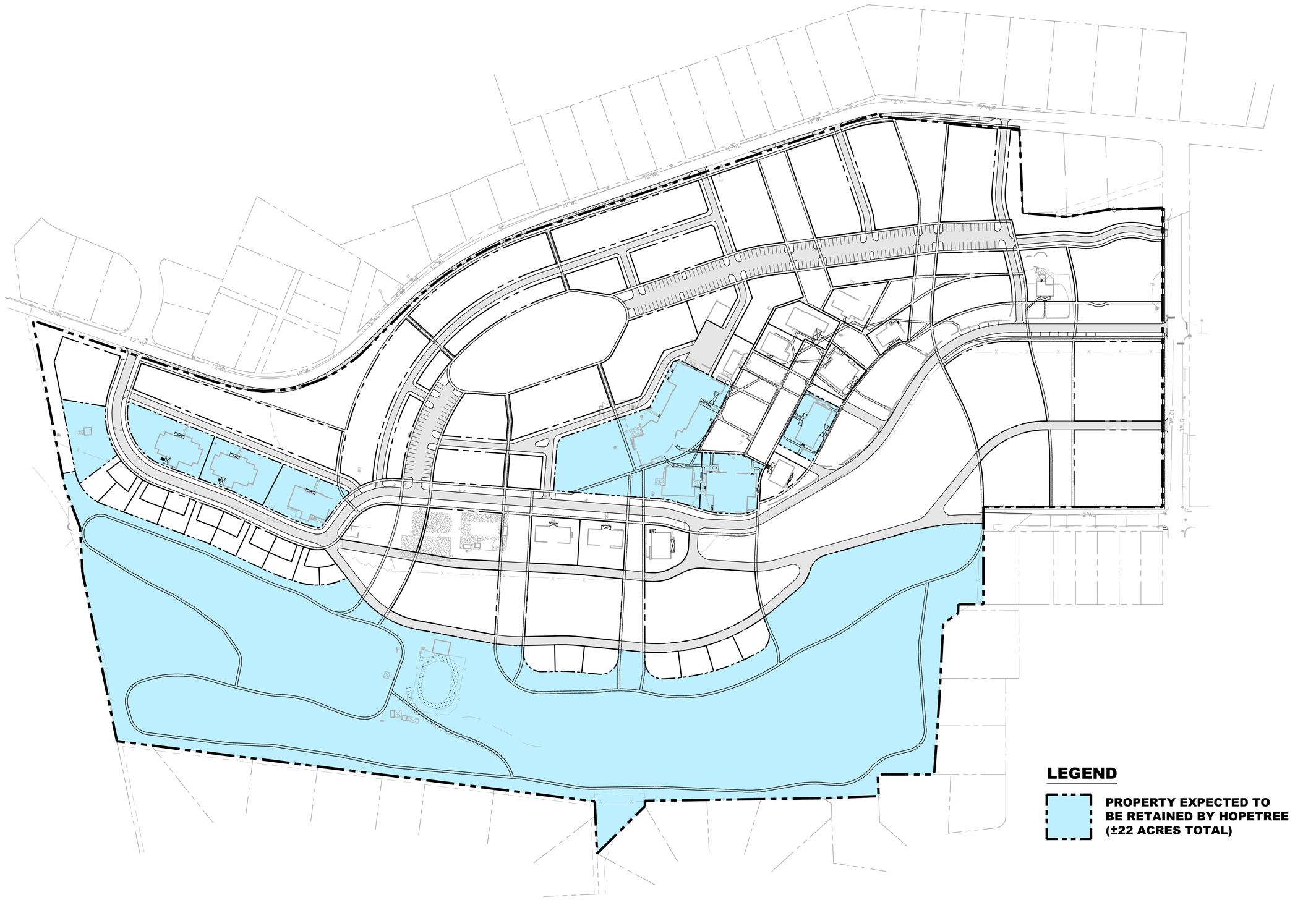
(C) Preliminary and final site plans submitted for review shall in compliance with the final master plan approved by the Council. The city shall review and approve or disapprove any final site plan within 60 days of its submittal.

(D) No PUD shall be approved and no work shall be authorized on construction until all property included in the Final Master Plan is in common ownership.

HOPETREE

SALEM, VIRGINIA

PUD REZONING APPLICATION



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PRELIMINARY

HOPETREE

PROPERTY OWNERSHIP EXHIBIT

CITY OF SALEM, VIRGINIA
MOUNT VERNON AVENUE

DRAWN BY	AAB
DESIGNED BY	CPB
CHECKED BY	CPB
DATE	2/9/2024
SCALE	1" = 100'
REVISIONS	

EX-A

PROJECT NO. 04220029.00

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