

**RZN18-0006**  
**The View PRD**

1435 Toms Creek Road



-  Subject Parcel
-  Parcels



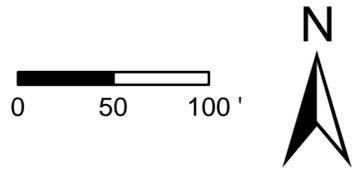
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**Blacksburg** TOWN OF  
VIRGINIA

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2017 Aerials provided by Pictometry  
Town of Blacksburg, P&B Dept. 07-12-18



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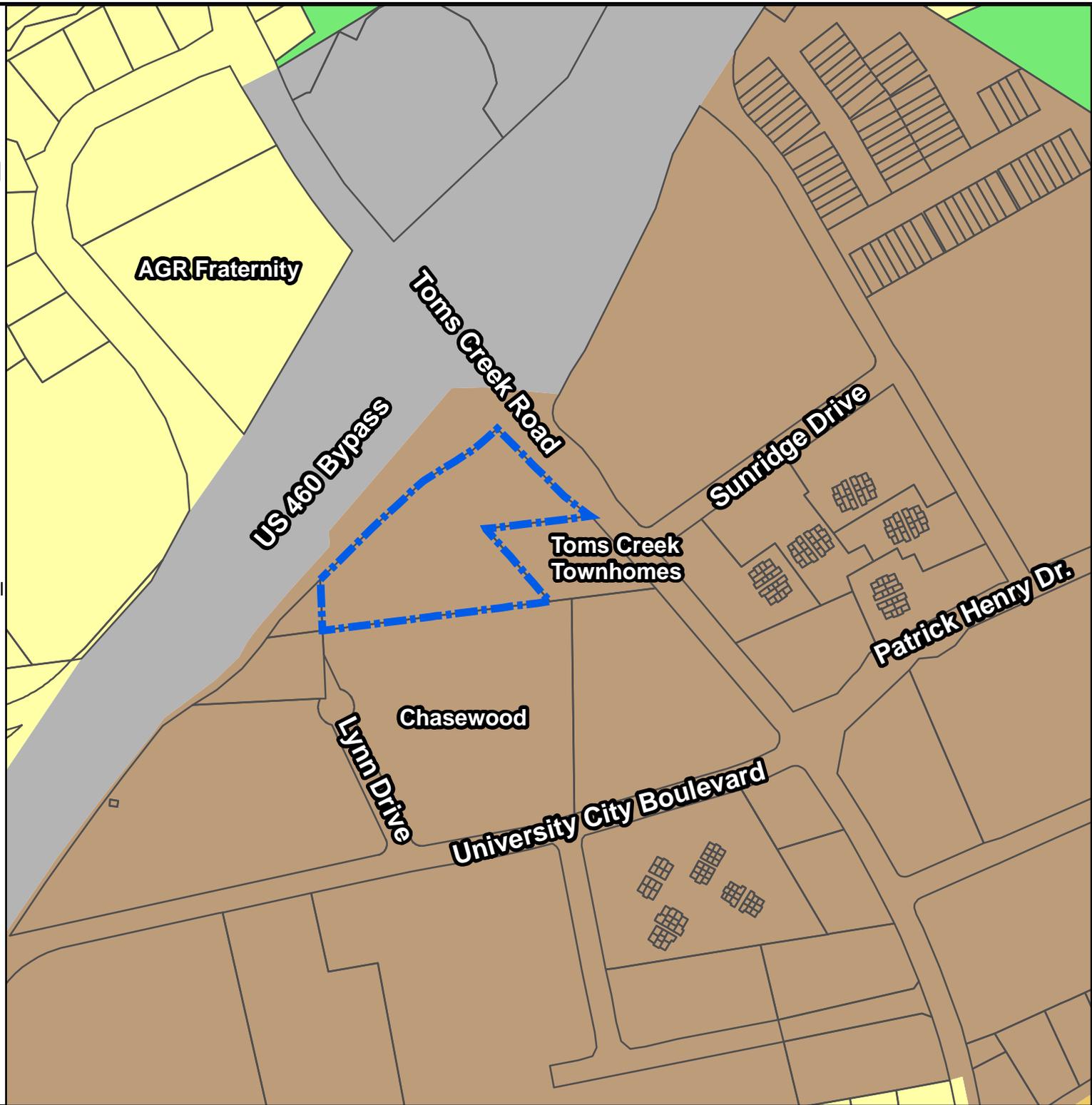
## Future Land Use

-  Subject Parcel
-  Parcels
-  Low Density Residential
-  Medium Density Residential
-  High Density Residential
-  Park Land / Open Space / Resource Protection
-  US 460 Corridor



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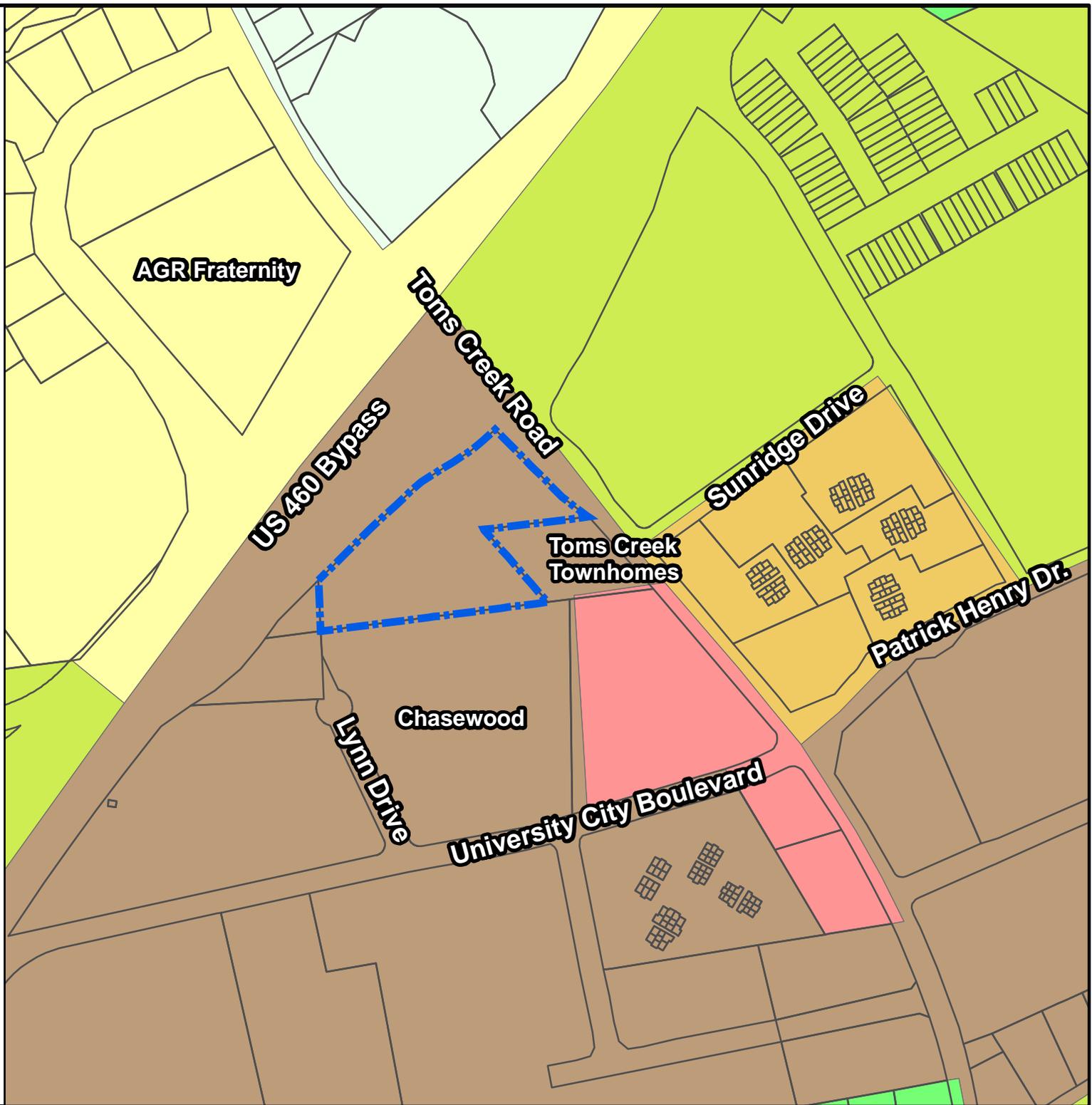
1435 Toms Creek Road

## Zoning

-  Subject Parcel
-  Parcels
-  RR-1 Rural Residential 1
-  RR-2 Rural Residential 2
-  R-4 Low Density Residential
-  RM-27 Low Density Multiunit Residential
-  RM-48 Medium Density Multiunit Residential
-  GC General Commercial
-  PR Planned Residential



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## **RZN18-0006 The View PRD Staff Appendix**

This appendix is provided to give additional supporting information from the Comprehensive Plan, the Residential Infill Guidelines, and the Zoning Ordinance in order to allow the staff report to focus on the analysis of the application. This appendix is grouped topically, with supporting text from the Comprehensive Plan and Zoning Ordinance to illustrate the topical concepts.

### **PHYSICAL SITE DEVELOPMENT**

#### Building Orientation, Scale, Massing, Height

- **Comprehensive Plan Land Use Policy LU.6** Consider the compatibility of development with surrounding uses. Utilize strategies such as landscaping or other buffering techniques along with modification of site design to minimize impacts and facilitate compatibility
- **Comprehensive Plan Community Character Principle CCP.21** The Town is concerned about the height, mass, and placement of buildings, cell towers, or other features of considerable height on viewsheds.
- **Multifamily Dwelling Use & Design Standard for building orientation §4216 (a)(3)**
  - The street elevation of the residential buildings shall have at least one (1) street-oriented entrance and contain the principal windows of the front unit.

#### Setbacks, Lot Coverage, Buffer Yards & Landscaping

- **Comprehensive Plan Community Character Principle CCP.15** Blacksburg is a responsible headwaters community for Southwest Virginia
- **CCP.16** Responsible site design and development practices will minimize environmental impacts within the town
- **Comprehensive Plan Environment Objective E.17** As a part of the development review process, the Town will evaluate a proposed development's impact and proposed mitigation measures for the following:
  - Open Space
  - Urban forest canopy
  - Watershed
- **Comprehensive Plan Sustainability Objectives & Policy S.6** Promote, protect and enhance the Town's urban forests through Town initiatives and in the development review process. Minimize site disturbance to protect existing tree canopy, native vegetation, and pervious surfaces to encourage open space.

### **STREETSCAPE, BICYCLE, AND PEDESTRIAN IMPROVEMENTS**

- **Comprehensive Plan CCP.1** Well-designed pedestrian and bicycle friendly routes and facilities are essential to the Town's identity as a walkable and bikeable community.
- **CCP.14** Transit connections and bus stop facilities are important components to support transit as a viable transportation option in town. These elements should be part of the design of new developments and be coordinated with Blacksburg Transit regarding service availability.
- **CCP.18** Minimize light pollution, balancing dark skies with a safe pedestrian and vehicular experience at night.
- **Comprehensive Plan Transportation Objective & Policy T.10** Complete the construction of a connected sidewalk system.
- **T.12** Maintain and improve the aesthetic quality of the pedestrian environment by planting street trees and other landscaping, and installing street furniture where appropriate.

- **T.28** During the development review process, ensure that transit service and access to/from the transit stop and the development are provided.
- **Multifamily Use & Design Standard for sidewalks §4216 (a)(2)**
  - Sidewalks shall connect each unit to the parking area serving that unit, to other units onsite, and to other buildings or uses on adjacent lots.
- **Site Development Plans Minimum Standards and Improvements Required §5120(d)(1)**
  - Sidewalks meeting the design standards of the Subdivision Ordinance shall be provide on public or private land along all parts of a site abutting a developed public street where such sidewalks do not exist as of the date of the application for site plan approval. The provision of these sidewalks will advance the goal of the Blacksburg comprehensive plan of development of “a network of walkways in the Town to increase the safety and convenience of pedestrian travel.” The Town Council finds that the need for such sidewalks in this Town is substantially generated by the development

#### **DENSITY, OCCUPANCY, LIFESTYLE CONFLICTS, & AFFORDABILITY**

- **Comprehensive Plan CCP.2.** Lifestyle conflicts are inherent in a college town, where neighborhoods may have a mix of students and non-students.
- **Comprehensive Plan LU.7** Encourage developers to work with surrounding property owners and tenants to resolve community concerns prior to formalizing development plans.
- **Comprehensive Plan Jobs & Housing Objective & Policy J&H. 48** Plan for the housing demands of a changing and diversifying population
- **J&H.49** Continue to provide affordable workforce housing in Blacksburg in accordance with the adopted Consolidated Plan.
- **J&H.50** Work with regional partners to promote affordable and sustainable housing in the New River Valley
- **J&H.51** Promote varying types of housing types needed, including:
  - Rental or starter homes for purchase by graduate students and young families
  - Young professional housing and services in the Downtown area
  - Workforce housing for those making 80% - 120% of AMI
  - Affordable workforce housing options for LMI families making less than 80% of AMI
  - Housing with universal design features to allow aging-in-place
- **J&H.52** As the active adult, retiree, and senior citizen population increases, promote varying types of housing needed. For example, provide smaller homes that retirees can downsize to such as townhomes or condos, as well as retirement communities and nursing home facilities.
- **Comprehensive Plan Sustainability Objectives & Policy S.8** Support the New River Valley Livability Initiative coordinated by the NRV Planning District Commission and other regional efforts.

#### **PARKING, TRAFFIC, AND CIRCULATION**

- **Multifamily Dwelling Use & Design Standards §4216(a)(4)**
  - All parking spaces shall be located behind the front building line
- **Comprehensive Plan CCP.13** Increasing the safety and efficiency of traffic flow on arterial and collector roads is important in maximizing the functionality of the transportation network. For commercial developments: minimize curb cuts and driveways, add internal connections between adjacent properties, and optimize signal timing. For residential developments: design an internal connected street grid system as well as connections to the external street system, along with traffic calming measures.

## **OPEN SPACE**

- **Comprehensive Plan CCP.6** Creation of public and private parks and recreation amenities is an important part of land use development decisions. A variety of gathering spaces should be available to citizens throughout the Town. Recreation areas should be thoughtfully designed to meet the needs of the development, neighborhood, or broader community.
- **CCP.17** The preservation of open spaces is an important part of community identity. Provision of private and public open spaces on both a small scale and large scale can be achieved by protecting environmentally sensitive areas and scenic vistas, and promoting agricultural and forestal lands. Dedicated open space, passive recreational open space and community gardens within developments are ways to preserve open space.
- **Multifamily Use & Design Standard for open space, recreation, and trails §4216(a)(6)**
  - Except in the Downtown Commercial (DC) district and the Mixed Use (MXD) district, for any development of twenty (20) or more bedrooms, a minimum of twenty (20) percent of the gross land area shall be reserved as open space. A specific recreational activity area or areas shall be developed and maintained for the residents of the development as a part of this open space

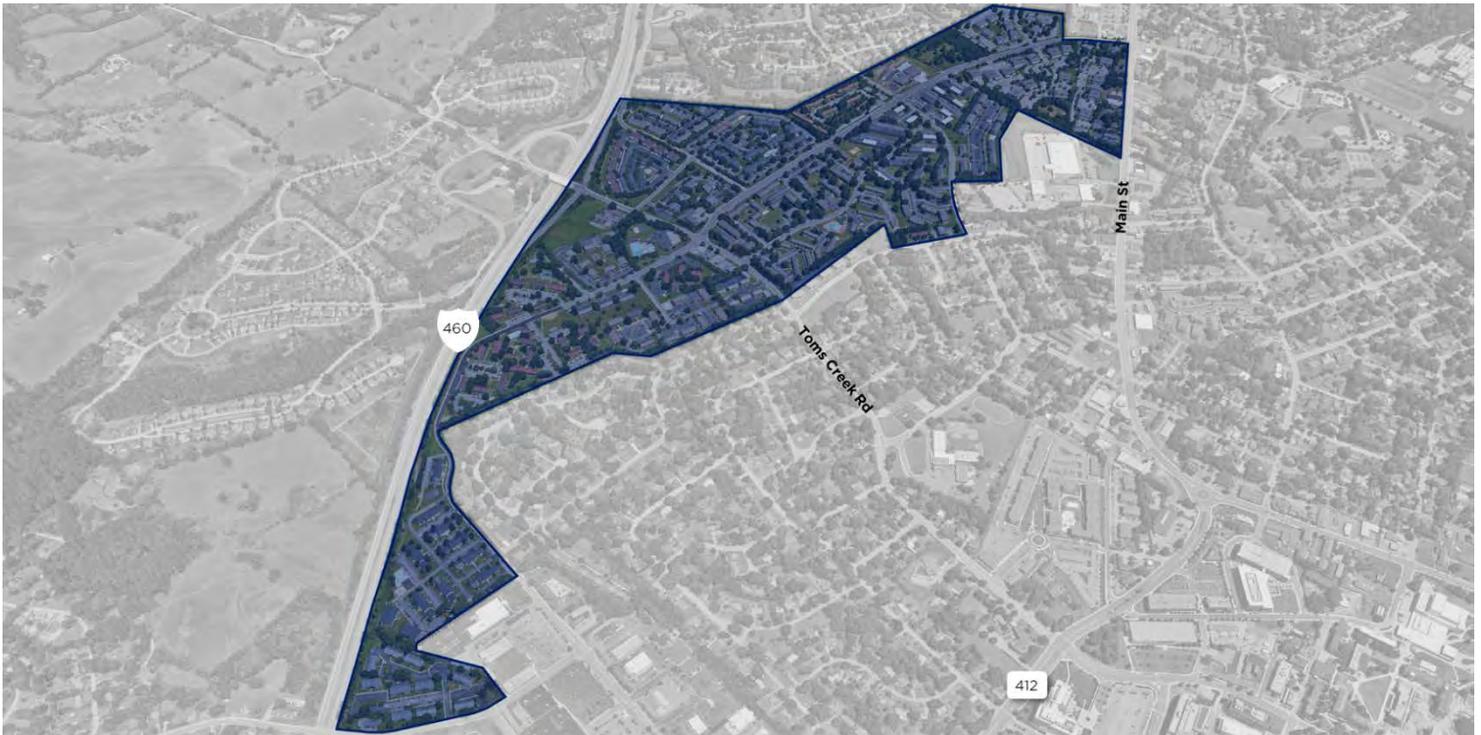
## **NEIGHBORHOODS, EMPLOYMENT, & SERVICE AREAS**

### **Multi-unit Residential Neighborhoods**

These neighborhoods are primarily apartment developments rented to students due to the proximity of the Virginia Tech campus. In these dense urban areas with a high concentration of students, there are fewer lifestyle conflicts than in other residential areas because the properties are larger rental developments where residents have a shared set of lifestyle expectations. The compact forms of development in these areas allow residents to rely less on automobiles as they have access to public transit, on- and off- road trail systems, sidewalks, and bicycle lanes. With the exception of the Hethwood and Foxridge neighborhoods, these areas are located just beyond the urban/walkable neighborhoods, and all are located near the Town's major employment and commercial areas. These neighborhoods also have easy access to the US 460 Bypass, the main transportation route to I-81 and surrounding localities.

### **Multi-Unit Residential Neighborhood Issues for the Future**

- Transit service in these areas should continue to meet residents' needs.
- Enhancing sidewalk, trail and bicycle opportunities that link these areas of high concentrations of people with Downtown and the University core campus will be beneficial.
- New developments and redevelopments should:
  - Consider providing open areas and recreational opportunities within their developments.
  - Provide landscaped multi-use trail systems for commuting opportunities to the Commercial and Employment areas while providing landscape buffers.
  - Provide strong property management and maintenance.
- Through education of residents, owners and property managers, as well as the Town's zoning enforcement property maintenance programs, seek to minimize lifestyle conflicts that may occur at the interface of these higher density developments with adjacent residential neighbors.
- New multi-family developments in these areas should de-emphasize parking areas, maximize the use of alternate transportation options, be walkable, connect to other developments, have a street presence, and use other principles as detailed in the Residential Infill Guidelines.



**An Advisory Memo for the Town of Blacksburg**  
on Best Practices for Multi-Family Development  
and a Critique of Three Proposed Projects

Prepared for  
**The Town of Blacksburg**

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# INTRODUCTION

The Patrick Henry corridor presents numerous strategic and logistical opportunities and challenges for Blacksburg. With coordination and clear objectives, a combination of market-based development and public-private/institutional partnerships could be harnessed to the benefit of the Town, residents, developers, and Virginia Tech.

Located on the northern end of Blacksburg, the Patrick Henry corridor consists of roughly 14 separate student housing developments bordering Patrick Henry Drive and University City Boulevard, between North Main Street and Glade Road (see map below). These properties were built primarily in the 1970s and 1980s as a means of meeting considerable off-campus student housing demand, and it remains the single greatest concentration of off-campus student housing in Blacksburg. There are approximately 6,500 beds spread across these developments today.

Unfortunately, the regulatory environment of that era encouraged single use development on large tracts of land, and this development was ultimately done in an uncoordinated way. The result has been large developments built on superblocks (blocks of 800 feet in length or more) with poor street grid connections, near complete auto-dependence due to a lack of commercial services, traffic congestion due to a combination of high density and a limited street network, and development

design where most buildings face internal courtyards and do not address the street in a meaningful way. All in all, this has not created the sense of a neighborhood community with a pleasant and attractive public realm.

## GOALS

Recently, there has been an increase in demand for student housing, as Virginia Tech plans to expand their enrollment. At the same time, quality expectations for off-campus student housing units have increased. The marketplace has responded and a number of proposed student housing redevelopment projects are under review with the Town. Within the Patrick Henry corridor, Terrace View and Frith are pending. Outside of the corridor, Stadium View is under review. These redevelopment projects are at higher densities and offer updated finishes and amenities.

The goals for the Town, when evaluating redevelopment proposals, should be to seek ways to improve, enhance, and retrofit development design and transportation networks in ways that address these primary issues:

- Increase the density and supply of student housing to take pressure off other areas, such as Downtown, that are

Existing Apartment Communities



strategically important for developing non-student housing, employment, and other uses.

- Improve the architectural quality of the community through better building materials, massing, and articulation.
- Improve the relationship of buildings to the street to make the public realm more inviting.
- Encourage a mix of uses to place more services where residents live, alleviating some demand for vehicular traffic.
- Encourage bicycle and pedestrian transportation through high-quality public facilities and thoughtfully designed private properties that safely take a user all the way from their door to the street and ultimately, their final destination.
- Improve connectivity through the reduction of superblocks via the addition of more street connections through properties.
- Reduce vehicle miles and traffic, as well as the need for parking, through increased transit service and more and varied bike and pedestrian facilities.
- Improve the sustainability of residential communities through the thoughtful design of buildings and stormwater management facilities in ways that promote energy and water savings.

## CHALLENGES

Accomplishing these goals through redevelopment is not without challenges. Achieving these goals will be costly, not just to developers but to the Town as well. This is particularly true of improvements to the transportation network, which will require partnerships between the public, private, and institutional sectors in order to be successfully implemented. Given the widespread benefits that these improvements will bring town-wide, such partnerships should be sought.

The cost of encouraging better design will require reasonable architectural and environmental standards that balance aesthetics, functionality, and cost. In particular, allowing developers to build at greater densities will help to offset the costs of higher building standards. At the same time, the town should encourage the development community to introduce more commercial uses into the

neighborhood, to better serve the greater number of residents and reduce their auto-dependency.

Finally, as developers seek to upgrade their units to meet higher quality expectations, prices for units will rise. Over time, this has the potential to “price out” too many students who can only afford midscale-priced housing, pushing them out of town (which increases traffic) or into single family residences (which leads to building deterioration). Therefore, it is not advisable to redevelop every community in the corridor. The Town will have to work with property owners and managers to identify those properties best placed for redevelopment and those that are better positioned to continue to serve the midscale market, and to provide the appropriate support and, if necessary, incentives to maintain that balance.

## BEST PRACTICES & CRITIQUES

The first chapter of this memo provides recommended best practices for the Town to consider in approaching redevelopment in the Patrick Henry corridor, and the community as a whole. While these recommendations are not exhaustive, and will require continual review as conditions change, they offer a first step in making sure that the next round of development in the corridor is done strategically and with larger town impacts in mind.

The remainder of the memo includes reviews of the development proposals for Terrace View, The View, and Stadium View apartment complexes. These critiques are provided to help the Town understand which desirable elements are being addressed by developers, and which will require a more active role by the Town in order to be considered and implemented.

# CHAPTER 1: BEST PRACTICES

## ARCHITECTURE & SITE DESIGN

Improving the design of the corridor’s communities as they are redeveloped will contribute to a public realm that is attractive, walkable, and sustainable.

### ARCHITECTURAL STANDARDS

The primary goal in recommending architectural standards for redevelopment in the corridor is to move away from the inward-facing building design, which results in a wall of monolithic building facades addressing the street. This makes for an unpleasant walking environment and detracts from attempts to create a neighborhood feel that encourages non-vehicular mobility.

Some design standards that can address this issue include:

- Use of insets in building facades.
- Variation in roof elements/designs.
- Courtyards and pocket parks between buildings.
- Appropriately-placed variation in materials – specifically, at inside corners of vertical façade elements (e.g. recesses and projections in the elevation) rather than on a flat plane of the façade.
- Use of “heavier” masonry material along ground floor/foundation, and use of siding and other “lighter” materials on upper floors.
- Application of foundation landscaping consistently applied along all non-active ground floor facades.

All of the above standards help to mitigate the massing of the buildings, and create more visual interest from the street level.

## PARKING DESIGN

As redevelopment occurs in the corridor, higher quality projects can be encouraged by focusing on two main strategies in regards to parking. The first strategy involves reducing the need for parking by making it easier for residents to use alternate forms of transportation to get where they need to go. This is addressed in the transportation network and commercial nodes sections.

The second strategy is to minimize the appearance of parking garages and lots from outside the community. As with building architectural standards, this will improve the street environment around the community. The primary way to achieve this is through the use of building-wrapped structured parking and interior courtyard surface parking. This approach can also maximize site efficiency.

The Town should also encourage, where economically feasible, the development of parking garages rather than surface lots. This will minimize the overall footprint needed for parking, leaving room for denser development and more open space. It’s important to note that while parking garages will help create higher quality, pedestrian-friendly developments, considerable expenses are involved. The typical cost of construction for a parking space in a 3+ story garage is \$15,000-\$30,000, far more expensive than the same space in a surface parking lot.

### Estimated Parking Construction Cost per Space

*Does NOT include value of the land*

Subsurface or 3+ Story Parking Garage	\$15,000-\$30,000
2-Story Parking Garage	\$10,000-\$15,000
Surface Lot	\$1,000-\$4,000

*Source: CBB Transportation*

## SUSTAINABILITY STANDARDS

Blacksburg is committed to being a sustainable community. This commitment includes seeking ways to encourage smart and efficient energy and water use, particularly in the built environment. Requiring and encouraging sustainable features in redeveloped buildings will help the town in realizing this commitment.

A baseline for energy efficiency and sustainability is provided by the 2012 Virginia Building Code (VBC) and the 2012 Virginia Energy Conservation Code (VECC). Both of these codes are based on the standard International Code Council (ICC) versions, although the State did make some modifications. Adoption of the VECC was a large step forward for the State of Virginia as it mandated a level of energy efficiency far beyond previous expectations. As an example, the 2012 edition of the International Energy Conservation Code is expected to improve commercial and residential building efficiency by 30% compared to those built under the 2006 edition, and 17% more than those constructed under the 2009 edition.<sup>1</sup> Blacksburg staff fully enforces these requirements, some of which are listed below:

- Programmable thermostats
- Energy efficient appliances

- Low-flow plumbing fixtures
- 50% of lighting to meet energy efficiency requirements
- Blower door tests to ensure building is properly sealed
- R-38 insulation in the ceiling
- Sealed duct work

Building codes are a good standard, but do in fact represent the minimum requirements a builder must conform to. However, many paths exist to go above and beyond building code requirements. One of the best options is to have a third party verification system such as LEED, National Green Building Standard, Passive House Institute, or Green Globe. These organizations provide standardized, yet flexible methods of ensuring sustainable building practices are followed and can verify techniques (such as recycling of building materials) that are above and beyond what is possible for municipal staff. Of course, the cost of these services is an important consideration, despite the fact that high efficiency buildings save property owners money in the long term.

As an alternative, a municipality can convene a stakeholder group made of local builders, concerned citizens, and municipal staff to help determine the sustainability goals of the community. For example, water conservation may not be as critical in Blacksburg, Virginia as it is in Tucson, Arizona, but perhaps energy conservation (and the

### Stormwater Best Practice Example



<sup>1</sup> [www.ecmweb.com/content/step-closer-net-zero](http://www.ecmweb.com/content/step-closer-net-zero)

associated lower utility costs) and encouraging non-vehicular transportation are the most important here. Determining the priorities of the community will be helpful in deciding which standards above and beyond the building code should be pursued. If the example cited above holds true, some of the regulations that would help achieve those goals could include:

- Lowered parking requirements in exchange for the provision of car-sharing services, bike sharing services, enhanced bicycle parking, and/or improved connectivity in multi-family properties.
- Preferred parking and charging stations for electric vehicles
- Use of solar power for water heating or electricity
- Increasing the percentage of lighting fixtures that must be energy efficient
- Increasing insulation requirements

While water conservation may not appear to be a major priority for the community initially, stormwater management elements are important both for water and energy conservation, and for overall community appearance. In general, drainage basins, catchment areas and conveyance channels, where located within or adjacent to open space/landscape areas, should be designed to intentionally integrate with the landscape design through use of stormwater Best Management Practices (BMPS), such as rain gardens, bioswales, curb notching, stormwater planters, permeable pavement, etc. (see image on the previous page for an example).

## TRANSPORTATION SYSTEM & CONNECTIVITY

Given the town’s challenges with traffic, redevelopments in the Patrick Henry corridor should be designed to encourage the use of alternative transportation options—specifically, walking, cycling, and transit. Additionally, opportunities for creating new north-south corridors connecting Patrick Henry Drive to Virginia Tech’s campus and Downtown should be explored, so as to take traffic pressure off of existing corridors.

### BIKE AND PEDESTRIAN NETWORK

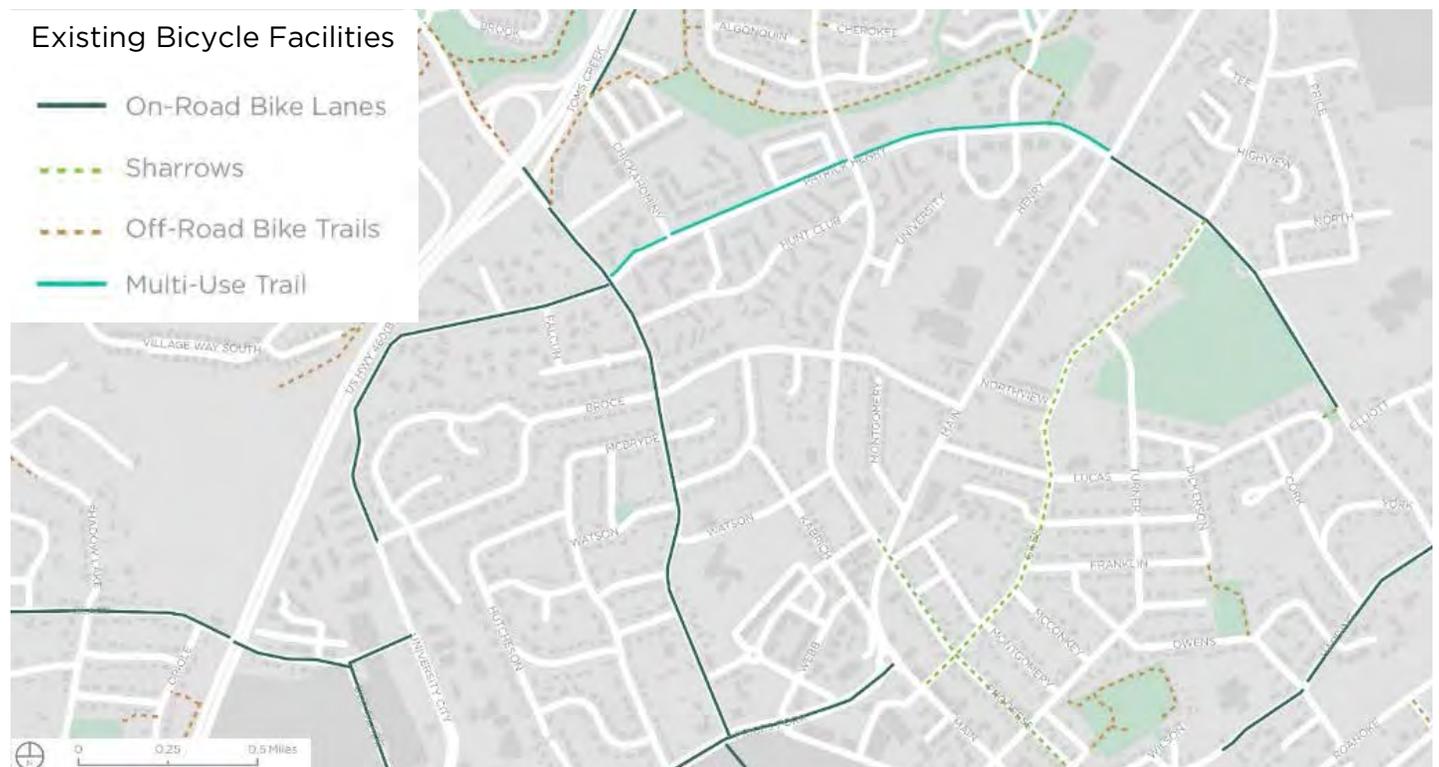
Not all cyclists have the same level of comfort interacting with vehicular traffic in the public right-of-way. While more experienced cyclists may have no issue using heavily-trafficked or high-speed roads, most casual cyclists will avoid a difficult route or not cycle at all if conditions are perceived to be dangerous or otherwise unappealing. Various types of bicycle facilities can improve safety and make cycling a more attractive alternative. Generally speaking, the more separation from vehicular traffic provided, the more users will feel comfortable taking advantage of the facility.

An example of a treatment that provides little to no separation is shared lane markings, also known as sharrows. This low cost alternative is typically only used

when there is not enough roadway width for a full-size bike lane. This system of pavement markings and signs primarily serves to alert motorists that cyclists may be present and help show cyclists the appropriate position in the roadway. In this situation, cyclists may use the full lane, as there is not enough room for a bicycle and car to travel side-by-side. The next major option, which provides moderately more separation distance, is a striped bike lane. Again, this system relies on pavement markings and signage, but provides a dedicated space, allowing bicycles to operate more safely.

Above and beyond those two options, bicycle facilities strive for physical separation through the use of barriers which can consist of planters, curbs, parked cars, or posts. These protected bike lanes (sometimes called cycle tracks) represent the highest level of protection and safety for users and are typically preferred by the majority of riders. The appropriate facility for any particular road is determined based on road conditions, available right-of-way, and budget constraints.

It's also important for all new development to consider the way cyclists and pedestrians will travel from the right-of-way to the door of the facility. Thoughtful design can minimize conflicts with vehicular traffic, ensure accessible paths are available, and provide ample bicycle parking in convenient locations. This parking should be required at both multi-family properties and destinations throughout



the community. Inverted u-type racks are considered the “gold standard”, but other options may be utilized if necessary.

Along with adequate bicycle parking, a well-connected street network allows more cautious riders to use residential side-streets to reach their desired destinations, without the need for costly infrastructure projects. In those circumstances, often all that is required is a little encouragement and safety education for both cyclists and drivers.

It is also recommended that all municipalities have an overarching plan that guides the development of bicycle and pedestrian facilities over time. The Town of Blacksburg has a Bicycle Master Plan that should be consulted with all proposed developments or other changes to the right-of-way. Any missed opportunities could result in a significant gap in the bike/ped system that will likely persist for many years. The Bicycle Master Plan should be reviewed periodically and the Town should continue to assess the best use of the available right-of-way in the corridor.

**TRANSIT CAPACITY AND ROUTES**

Like the use of bicycles, transit use by residents living in the Patrick Henry corridor will mitigate traffic and improve overall sustainability. Today, the corridor is served directly by three Blacksburg Transit (BT) bus routes—the Progress Street, University City Boulevard, and Toms Creek lines. All three provide access to the Virginia Tech campus, two provide access to the University Mall, and one provides access to Main Street in Downtown.

Given that most residents are students, providing access to campus is the most critical piece of this service. And the need is evident in the fact that the three lines serving the corridor have the highest ridership of all of BT’s lines. Common complaints heard from students are that there is not enough capacity, particularly along these lines, and that buses are often full before they have completed their route. Opportunities to expand transit capacity in the corridor, particularly as redevelopment brings more residents, should be explored.

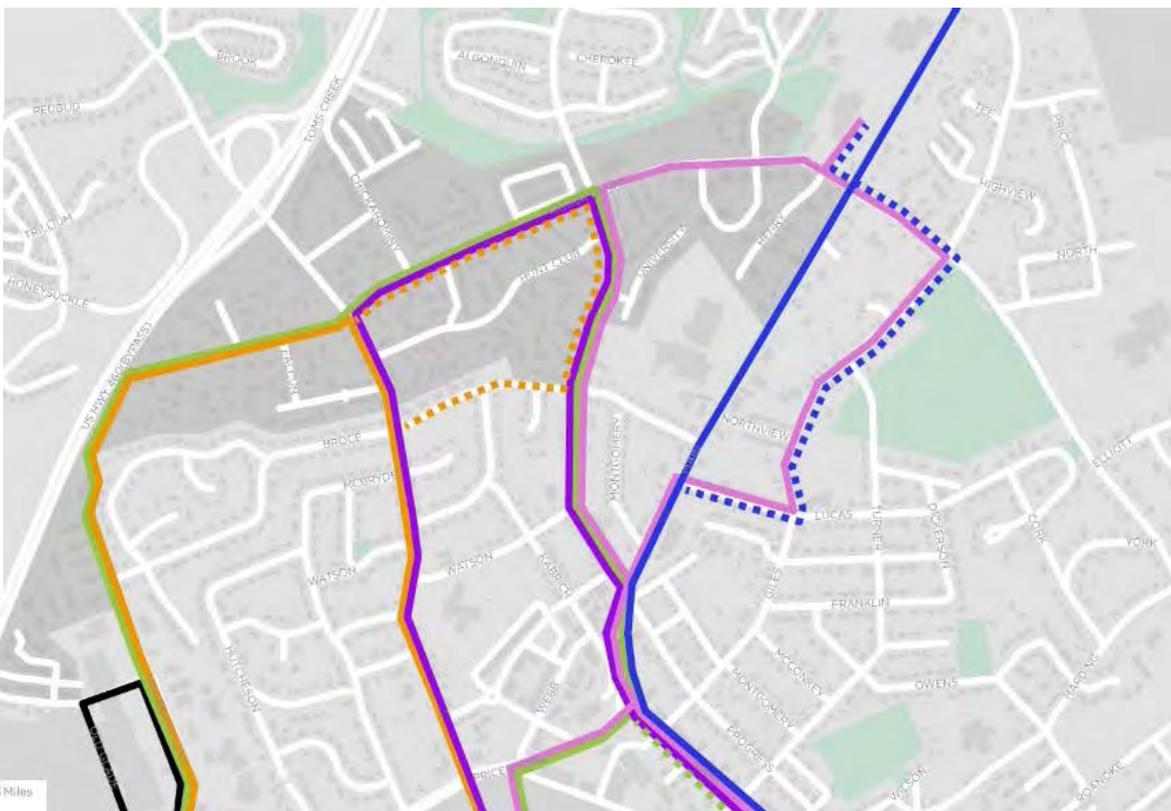
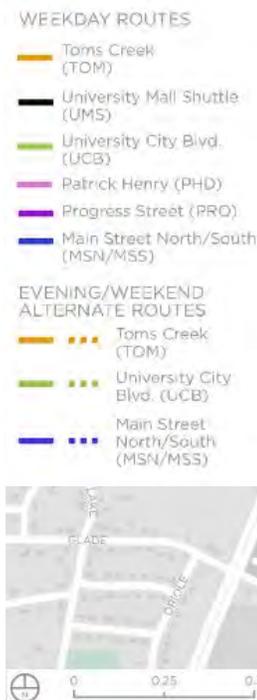
If sufficient capacity can be provided, redevelopment of existing properties should include elements that encourage transit ridership among residents. These could include adding bus stops, if they do not already exist, at key access

points to the properties, and improving the quality of those stops—for example, by installing bus shelters.

In addition to serving students’ need to get to class, connecting residents to retail and recreational amenities is important for encouraging transit use. Residents of the corridor currently have two lines—Toms Creek and University City Boulevard—that provide evening and weekend service to University Mall and Downtown Main Street. The Town and BT should continue to track the use of the lines at these times, and survey riders if possible, to determine any adjustments to schedule or route that may encourage greater ridership for non-school-related activities.

Reduction in travel times and improved reliability of service can be achieved through bus prioritization strategies which include dedicated bus-only lanes, transit signal prioritization, or rapid bus transit. Dedicated bus lanes are a potential solution where the right-of-way will allow for such a space. Based on the relatively low recorded traffic volumes (less than 10,000 AADT in 2016) the current configuration of four vehicular travel lanes on Patrick Henry Drive between Toms Creek Road and Main Street could potentially be reconfigured for a bus-only lane. Further improvements to reliability of service can be made through signal prioritization, in which slight

**Existing Bus Routes**



adjustments can be made to signal timing in order to accommodate an approaching bus. Generally speaking, bus rapid transit is a combination of dedicated lanes, signal prioritization, and high quality bus stops, which together make the bus similar to a light rail system in regards to quality and predictability. Further assessment of the right-of-way and reconfiguration options would be necessary to fully assess these opportunities.

In regards to other best practices, BT already provides bike racks on their busses. However, continual outreach to encourage students to use the bus or a combination of bus and bicycle to reach their destinations is warranted. It's important to remember that each year there is a significant turnover in the population of Blacksburg so these type of outreach campaigns need to be repeated regularly. BT should also continue to upgrade the BT4U app, which appears to be poorly rated in the iTunes store. Users appreciate programs such as this, which allow them to track bus locations in "real time". The increased predictability helps foster confidence in the system and encourage regular ridership. The university may also want to consider increasing the \$399 annual "resident student" parking fee as a way to deter more students from driving, particularly those who live nearby and have many other options.

**STREET GRID**

As discussed in the introduction and seen in the map below, the properties along the Patrick Henry corridor were generally constructed on “superblocks”—blocks that are more than 800 feet in length before hitting an intersection. Superblocks detract from the pedestrian experience, as they can feel long and uninviting, especially when lined by the backs of buildings. They also have a negative impact on vehicular and bicycle access, as people have to drive or bike a farther distance to find an access point to a property. Shorter blocks also calm traffic, especially if they include crosswalks at each intersection.

Through redevelopment, consideration should be made to establishing a street grid within the neighborhood. This would include finding places to add streets through properties, particularly where they might meet up with existing streets on the other side. In addition to the benefits described above, linking existing streets will provide more routes through the neighborhood. These new corridors could either be for cars, mitigating traffic, or for pedestrians and cyclists, making for a more comfortable non-automobile experience off of major roads. Either way, they can take pressure off the major corridors of Patrick Henry Drive, University City Boulevard, Toms Creek Road, and Progress Street.

Superblocks Along Corridor



## COMMERCIAL NODES

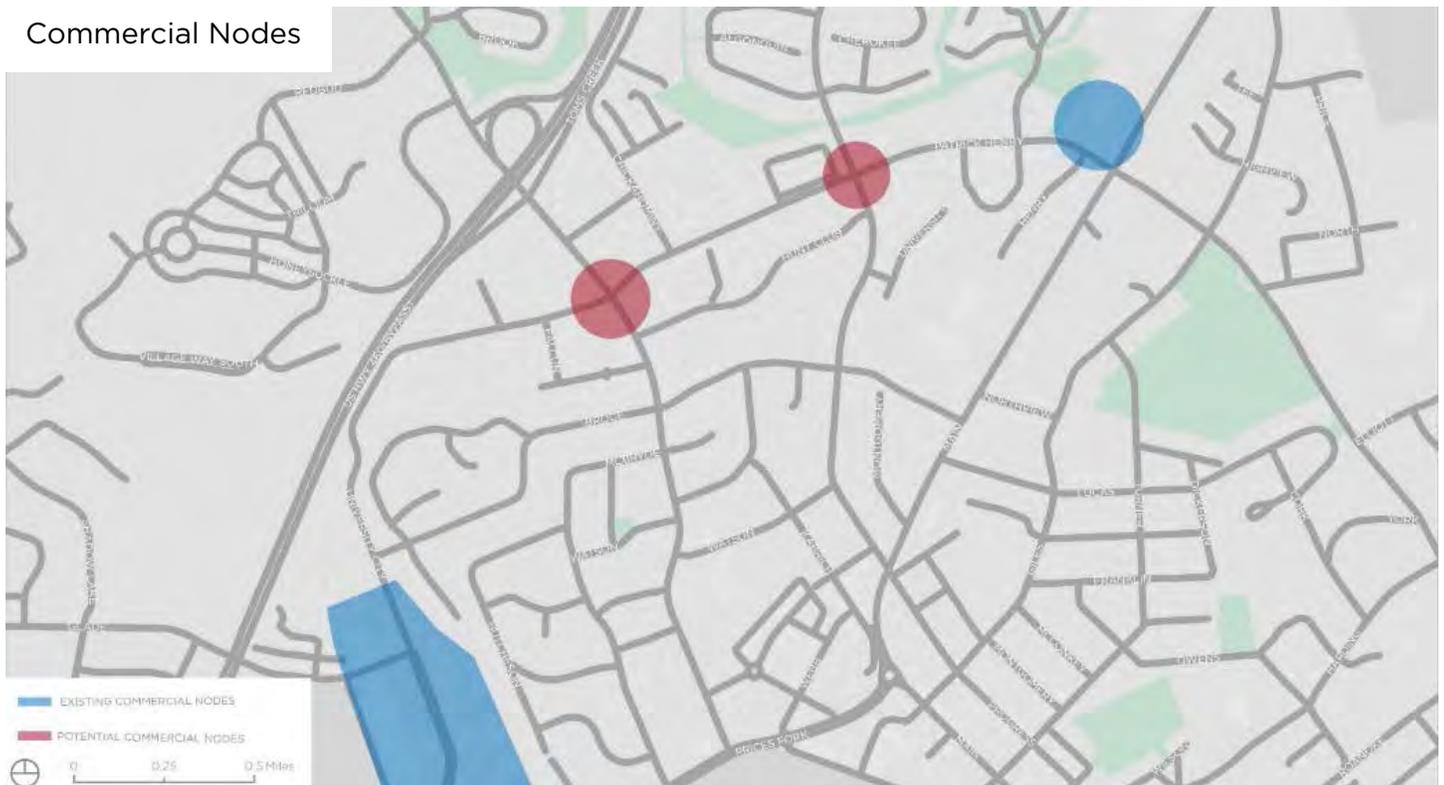
A final set of recommendations that would serve the goals of creating a better neighborhood feel, encouraging non-vehicular mobility, and improving overall access for residents involves the development of non-residential uses in and near the corridor. Today, the major commercial amenities closest to residents are the Patrick Henry Centre, including a Food Lion, at the corner of Patrick Henry Drive and North Main Street; and the various centers clustered around University City Boulevard and Prices Fork Road, including University Mall and Kroger. These centers are approximately a mile from the middle of the corridor, right around Terrace View. At this distance, they are fairly accessible by bicycle, transit, and car, but too far for comfortable pedestrian access. The neighborhood is also served by two gas station convenience stores at the southwest corner of Patrick Henry Drive and Toms Creek Road.

About two miles separate these two major commercial centers. Given the density of residents sandwiched between them, there is market opportunity for additional small-scale commercial development towards the middle of the corridor. These “inner” locations in the corridor would be best served by uses that residents patronize on a daily basis—convenience stores, coffee shops, restaurants—as opposed to the more occasional uses, such

as supermarkets, that are seen in the larger commercial centers. Reducing the need for residents to drive out of the neighborhoods to find these uses will mitigate traffic, encourage walking and cycling, and create a more vibrant neighborhood environment.

Identifying the most strategic locations for this commercial development will be critical to its success. The locations must be visible and accessible if they are to be patronized. Some recommendations for key commercial nodes are shown on the map below. In general, development at the intersection of two major streets is ideal. Development located adjacent to and accessible from a residential property would also likely be successful. Since the existing gas station convenience stores at the southwest corner of Patrick Henry Drive and Toms Creek Road meet all of the criteria mentioned above, focusing on their redevelopment could be beneficial to the Town. Those aging properties should be redesigned to be more pedestrian friendly and aesthetically pleasing and their offerings can be expanded to meet more of the daily needs of nearby residents.

Commercial Nodes



## CHAPTER 2: TERRACE VIEW CRITIQUE

### TERRACE VIEW PROPOSAL

#### SITE DESCRIPTION

The Terrace View apartment complex covers 43.5 acres, bordered by Patrick Henry Drive, Toms Creek Road, Broce Drive, and Progress Street. Approximately one mile northwest of Virginia Tech, the property has 1,720 total bedrooms in numerous buildings, for an overall density of 39.5 bedrooms per acre. Amenities include an outdoor pool, clubhouse, and active recreation areas. The complex was constructed in nine phases beginning in the 1960s and has undergone significant rehabilitation recently.

Terrace View is primarily surrounded by other student-focused multi-family properties, although single family neighborhoods are in the vicinity. There is a small amount of commercial activity nearby, with two gas stations with convenience stores directly across the street at the southwest corner of Patrick Henry Drive and Toms Creek Road.

The apartment complex currently does not provide any vehicular access directly to Patrick Henry Drive, so most residents enter via Hunt Club Road, which traverses the site from east to west. Tenant parking is provided through surface parking lots and on-street parallel parking. Several bus stops are located on the perimeter of the property. In addition, some basic bicycle facilities are provided through a multi-use trail on the north side of Patrick Henry Drive and a narrow bike lane on Toms Creek Road.

Terrace View Location





ARCHITECTURE & SITE DESIGN

ARCHITECTURAL STANDARDS

In many ways, the design of the proposed new buildings improves how the community addresses the street and breaks up the massing of the buildings. Despite the large footprints of the proposed buildings, the architectural design is generally effective in breaking down the perceived mass of the structures along the Patrick Henry Drive street frontage, through the use of courtyards and pocket parks and insets within the building facades. Masonry, metal panels and fiber cement siding are appropriate materials.

“Heavier” appearing materials (i.e. masonry) are generally applied in an appropriate manner, located along the foundation/ground floor of the building or in vertical elements. Material specifications and installation details should be provided as the project moves forward to ensure selected materials are of a high quality, in terms of both aesthetics and durability, and will be correctly installed.

However, there are some elements that could be improved upon to further “break up” the appearance of the buildings:

- Extensive use of pitched roof design along street facades may contribute to a sense of increased massing. Consider incorporating a flat roof/capped parapet design (with a strong roofline edge such as a cornice or eave) for portions of the buildings to minimize the visual dominance of roof massing. Alternatively, incorporation of more modern shed-style roof elements (used in limited application in current elevations) could be considered to add visual interest to more dominant roof mass elements. The proposed overhanging eaves with the pitched roof design are appropriate. Pitched roof elements should be surfaced with dimensional or architectural shingles or similar high-quality, long life span roofing material.
- Dormer elements on some roof masses appear small in relation to the overall roof mass. However, dormer elements in general are an effective means of breaking up larger roof masses. If pitched roofs remain in the design, dormer elements should be increased in size to create the appearance of a functional architectural element, rather than a decoration. Consider the use of shed-style dormers to coordinate with other shed-roof architectural elements and add visual interest.
- Use of masonry for some elements of the ground floor façade and as a foundation water table element is effective and should be more consistently applied as a

Terrace View Redevelopment



design element. It is not necessary to apply masonry to the entire ground floor façade of the buildings, but the foundation water table feature should line all or most of the street-visible facades to provide a consistent visual “base” to the buildings. Plank siding materials should not extend to the ground. Metal siding is an appropriate exception to this recommendation. Plank siding should have a minimum butt thickness of a quarter of an inch to provide visual depth and strong shadow lines.

- To highlight exterior facades with a high quality-appearance, windows should be designed to appropriately integrate with adjacent materials. Flush-mounted windows should be avoided. Windows in masonry walls should be designed with lintels and projecting sills. Windows within siding clad walls should have a projecting sill and integrated trim surround.

## PARKING DESIGN

The proposed Terrace View redevelopment includes the recommended elements discussed previously. A majority of the parking is provided through dual four-story parking structures that are partially enveloped by the new residential buildings. This design makes the parking essentially invisible from Patrick Henry Drive and Toms Creek Road.

Street parking is also provided along Hunt Club Road and Snyder Lane. However, the applicant has proposed a combination of parallel and perpendicular parking along Snyder Lane, with the latter being requested to serve the leasing centers for the buildings. Since perpendicular parking with direct access to the roadway is typically not allowed, the applicant has requested vacation of the right-of-way, which is likely not in the Town’s best interest in the future. Perpendicular parking along a roadway is not recommended and a consistent application of parallel parking along the street would improve its appearance and increase safety for cyclists. Consideration should also be provided for curbside management and the potential need for designated pick-up/drop-off zones for rideshare services (e.g. Uber, Lyft, etc.)

## SUSTAINABILITY STANDARDS

At this time, the proposed Terrace View redevelopment does not plan to pursue any third party verification systems such as LEED or EarthCraft. Even so, in addition to many of the standard energy efficiency features required by the building code, the property owners are taking additional steps to further sustainability by encouraging the use of alternative transportation. The redevelopment project will enhance existing bus stops and extend the bike lane on Toms Creek Road. The property will also provide bike parking on-site, as well as electric car charging stations in the parking structures.

The Stormwater Plan report submitted with the redevelopment proposal states: “In the post development condition, the remaining portion of the site (Drainage Area #2) has been divided into three separate drainage areas, each of which will incorporate an underground stormwater detention system to manage runoff. The proposed site will be graded to capture runoff through a combination of sheet flow, conveyance channels, and curb and gutter.” The use of underground detention is appropriate given the intensity of the site development. Drainage entry points into the system should be designed to integrate with the overall site design to avoid excessive grades to catch basins in paved areas and landscape areas alike.

Overall, the Terrace View proposal certainly offers some sustainability elements that are beyond the requirements of the Virginia Building Code and the Virginia Energy Conservation Code. Most importantly, it reduces sprawl by reutilizing an existing site in a developed area and does not require costly infrastructure extensions or other investments that will burden the Town in the long term. In addition, it is attempting to encourage public transit and bicycle/pedestrian transportation, an important consideration in this community. The Town would be wise to ask for more detailed information on bicycle parking and connectivity on the site, as well as to request additional bicycle accommodations on Hunt Club Road. Relatively inexpensive enhancements to the energy efficient lighting standards as well as improved insulation could further reduce the impact of this building on the environment. Costlier investments such as solar power could also be pursued and would serve the dual purpose of decreasing energy costs and acting as a marketing element that highlights the sustainable nature of the apartment complex.

## TRANSPORTATION SYSTEM & CONNECTIVITY

### BIKE AND PEDESTRIAN NETWORK

Bicycle facilities currently exist in the immediate vicinity of the Terrace View project. A multi-use path is on the north side of Patrick Henry Drive between Toms Creek Road and Main Street. A narrow area that appears to be a bike lane is present on Toms Creek Road. This bike lane does not have the standard pavement markings and appears to be narrower than recommended, which in this particular case would be a minimum four feet of usable space (not including the gutter pan) and a preferred width of five feet of usable space.

The applicant is proposing new 10+ foot wide curvilinear sidewalks on both Toms Creek Road and Patrick Henry Drive. These changes will improve pedestrian access to and from the apartment complex. In general, the Town should be cautious in approving “meandering” sidewalk designs as substantial weaving adds travel distance for a pedestrians and can make it difficult for users to see ahead to their destination. These issues are less of a concern in this particular application as the weaving appears to be minor and the sidewalk is relatively wide. The adjacent tree lawn and landscape areas between the walkway and the building should be thoughtfully landscaped to make best use of the spaces created by the meandering alignment. The Town must also ensure proper easements are provided for public access if the new sidewalks are placed on private property.

The Terrace View project also includes a four-foot-wide extension of the existing bicycle lane on Toms Creek Road, along with bicycle parking and repair stations for residents. While these features will likely contribute to greater use of bicycles by residents, there are some opportunities for further improvements. One step is to ensure that not only is bicycle parking is present, but that it is provided in reasonable quantities (perhaps at a rate exceeding the town minimum, given the density of the site), conveniently located, covered, and well-lit. The applicant should carefully evaluate the site to ensure that there is safe and convenient access from bicycle parking all the way to the street. In addition, with changes proposed for both Hunt Club Road and Snyder Lane, and the higher volumes of traffic that can now be expected, bicycle accommodations should be provided along these roads in a form deemed most appropriate by the town. At a minimum, the applicant should provide the preferred width of five feet for the bicycle lane on Toms Creek Road, as there is more than adequate room to do so. The applicant should also explore partnering with the planned

Blacksburg/Virginia Tech Gotcha Bikeshare program to locate one or more stations on or adjacent to the development site.

It will also be important to carefully consider the applicant’s request to privatize the Snyder Lane right-of-way. In a community trying to increase connectivity, vacating right-of-way is definitely a step backwards. Of further concern is the applicants request to add perpendicular parking to Snyder Lane, creating a situation which can be dangerous for cyclists due to visibility issues.

It would also be wise to make future plans to provide a connection to Stonegate Drive to the south. If a full roadway connection is not a viable option, providing bicycle/pedestrian access would allow them to use a calmer residential street to complete their trips to and from campus and other areas of town. This concept is also important to the re-establishment of the street grid in the neighborhood, which is discussed at the end of this section.

### TRANSIT CAPACITY AND ROUTES

Terrace View owners should be commended for surveying their tenants regarding their transportation preferences. The information offers an interesting glimpse into the choices of their residents. According to this survey, over 47% of responds do not drive to class. Of the students not already driving, over 70% use the bus, clearly indicating that the bus is much more popular than walking or cycling from this particular location. Approximately 51% said they could be interested in a car share program and 32% could be interested in a bike share program.

The redevelopment proposal includes the construction of new covered bus shelters at each of the three existing stops adjacent to the property along Patrick Henry Drive, as well as the replacement of an existing bus shelter along Progress Street. It will also include the relocation of an existing stop on Toms Creek Road so that it is closer to the property access point on Hunt Club Road. All of these elements will improve the transit-riding experience for residents.

More can be done to encourage a higher percentage of tenants to use alternative forms of transportation. As indicated by the survey results, there is significant interest in car sharing and this should definitely be explored by property management. Transit use can be further supported with an educational campaign geared towards residents. For example, Terrace View can partner with BT to create an annual event where students can practice

putting bikes on bus racks, download the BT4U app, and speak with representatives about service options. Car use can be also discouraged by carefully examining the price of parking in the apartment complex, particularly if the spaces are in high demand. Students are generally price sensitive in regards to transportation choices and will respond accordingly if cars are no longer the cheapest and most convenient option.

## **STREET GRID**

The redevelopment proposal includes adjustments to the existing street grid in and around the property. Hunt Club Road will still act as a major entrance and will be improved with the addition of a turn lane on Toms Creek Road. Hunt Club Road itself will also be widened to provide on-street parking on both sides of the street. In addition, residents will now also have access directly from Patrick Henry Drive, through the extension of Snyder Lane. However, Snyder Lane will still dead-end to the south at Hunt Club Road, as it does today.

While Snyder Lane will provide access to the parking garages and accommodate additional street parking, it will do little to improve access between Terrace View and other parts of the neighborhood. The Town should work towards making a future connection between Snyder Lane and Broce Drive/Stonegate Drive, particularly as additional areas of Terrace View are redeveloped in the future. If a vehicular connection is not a politically viable option, a bicycle/pedestrian connection is a great alternative. Providing access to a low traffic volume street that leads towards campus, such as Stonegate Drive, will encourage bicycle and pedestrian use, with minimal infrastructure investments on behalf of the Town.

A major cause for concern is the applicant's request to vacate Snyder Lane, turning it from a public right-of-way into a private street. It appears this request was made to enable the addition of perpendicular parking, which is not normally allowed directly off a street. As mentioned in a previous section, perpendicular parking along a roadway is particularly dangerous to cyclists, who may very likely use this street. In addition to the safety concerns associated with this act, the Town needs to consider the long-term implications of losing control of this roadway and perhaps forfeiting the option to require connections or extensions of it in the future. The vacation of right-of-way generally works against the stated goal of improved community connectivity.

## COMMERCIAL NODES

The redevelopment proposal includes the development of a “Reliant Collaborative Work Space and Café” at the corner of Toms Creek Road and Hunts Club Road. This is envisioned as a co-working space, with small offices for rent, as well as a café. It would be open to the entire Blacksburg community, not only residents

The placement of the space makes it very accessible and visible and the use serves a larger community need for flexible work space. However, it is not the type of “resident-serving” commercial use that is recommended for the area (with the caption of the café element). Further, since it is the kind of use that people from outside the neighborhood will want to come in to use, it may result in increased traffic in the area, running counter to the intent of encouraging commercial development in the neighborhood.

## CHAPTER 3: THE VIEW CRITIQUE

### THE VIEW PROPOSAL

#### SITE DESCRIPTION

The site of the proposed The View apartment building, also known as the Frith site, consists of an irregularly shaped 3-acre lot at the southwest corner of Toms Creek Road and Route 460. There is a significant slope to the land and it sits well below the grade of Toms Creek Road. Although currently vacant, the property is primarily surrounded by other student-focused multi-family properties to the east, west, and south.

The View Location

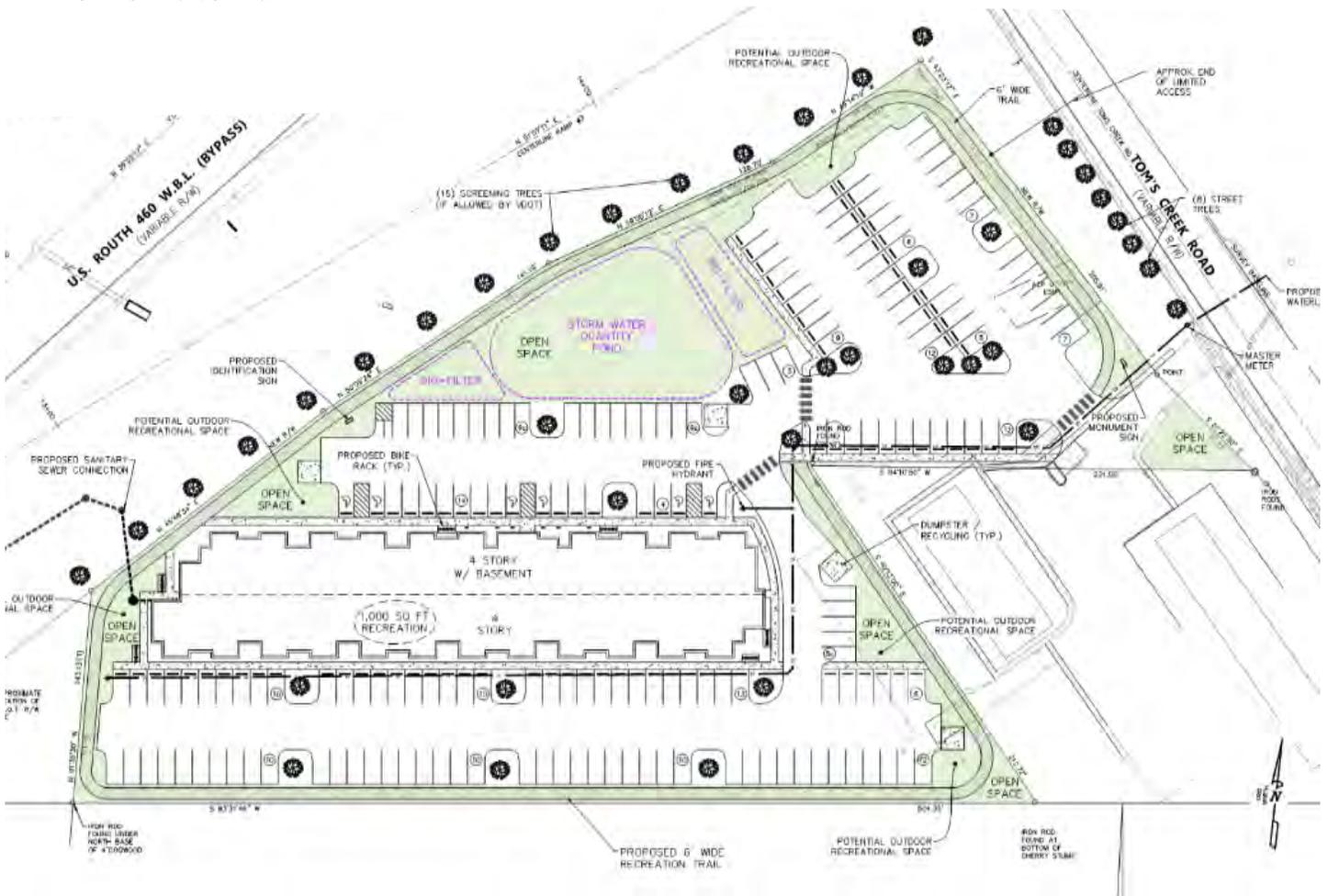


**DEVELOPMENT PROPOSAL**

The owner is requesting a change of zoning from RM-48 (Medium Density Multi-Unit Residential District) to Planned Residential District. The property is shown as High Density Residential in the Town's Comprehensive Plan. The proposed rezoning would allow for the creation of 68 bedrooms per acre (a total of 204 bedrooms) instead of 48 bedrooms per acre (a total of 144 bedrooms) under current zoning.

The proposed View development will consist of one 4-5 story building and the amenities include a club/study area, exercise room, outdoor space, and multi-use trail around the perimeter of the property. The building will be positioned on the rear of the site and will be surrounded by surface parking on three sides.

The View Site Plan



## ARCHITECTURE & SITE DESIGN

### ARCHITECTURAL DESIGN

The designer did an effective job breaking down the long façade into smaller pieces by dividing the building into six portions, although the design is basic and a bit monotonous. The façade can be broken up further by adding vertical reliefs and reveals on the wall that accentuate its height and detract from its width. Taller windows may also help make the building seem lighter.

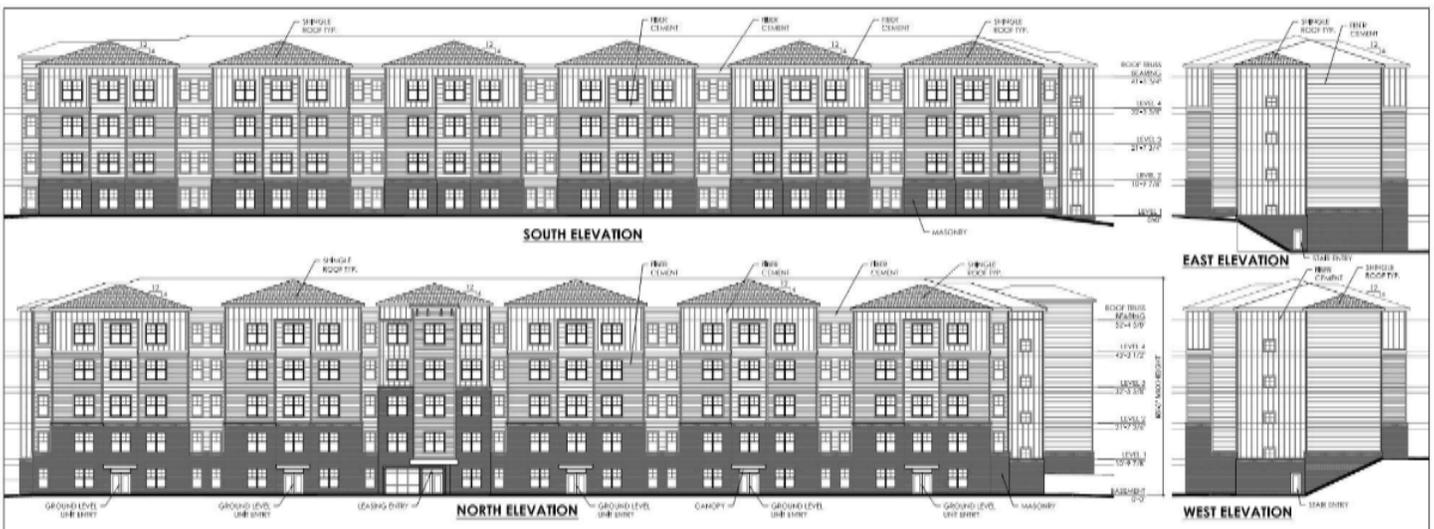
The material changes add visual interest and help divide the tall building into three distinct sections, making it feel more human scaled. However, the Town should insist that high quality materials such as stone and fiber cement siding are used. Cheaper alternatives such as vinyl siding do not age well over time and are not appropriate for multi-family developments such as this.

The design for the building can be improved by making the lobby/common area more prominent. At a functional level, the main entrance needs to be easily identifiable to detract guests and newcomers from approaching the ground level unit entries. Beyond that, it's also important to consider that this common area is the first space potential renters will see, and it can also serve as a social space for the apartment where students can relax, study, hang out, and collaborate. Thus, it's important that the space is highly visible and visually appealing.

Unfortunately, in this case the entrance is not centered on the building and has a commercial-style window on only one side, making it feel strangely lopsided. The differentiating fiber material directly above the doorway and the larger canopy helps accentuate it to a degree, but more should be done to enhance this key area of the building. At a minimum, matching commercial-style windows should be on both sides of the door and landscaping should be used to help make this area a focal point. It may also be helpful to change the style of the canopy to further differentiate it from the overhangs above the ground level entry units.

Another consideration is the window sizes and placements. Currently, the design has three main windows and two smaller windows for the four-bedroom units. Assuming that the living room will have a main window, only two of the bedrooms will have a main window and the other two will have smaller windows. Because student bedrooms are typically smaller than the average bedroom, consider adjusting the floor plan and window placements to allow all bedrooms to have windows the size of the main windows. This ensures that every user of the unit will have a bedroom that will appear more spacious and will allow for more natural light. For the southern façade, it may be appropriate to add overhangs of appropriate depth to cast off direct sunlight over the summer.

### Building Elevations



**PARKING & SITE DESIGN**

The View development does not embrace the parking/site design best practices described in the first chapter of this report. The first recommendation was to reduce parking demand by making it easier for residents to use alternate forms of transportation, an issue which will be discussed in more detail under the Transportation System section of this chapter. The second recommendation was to minimize the appearance of parking from the main street and, where economically feasible, encourage the use of multi-story parking garages for high density residential developments in order to preserve open space and help create a more pedestrian-friendly environment.

In both respects, The View development proposal falls short. As opposed to a parking garage, this site offers a suburban-style parking lot. This lot has poor vehicular circulation as each access aisle leads to a dead end, requiring a user to back down the aisle if all the spots are full. Perhaps more importantly, the developer is requesting a variance to allow parking to be placed in front of the building, making the parking lot more visible from Toms

Creek Road than the apartment building itself. As noted by the developer, the parking will be less prominent due to the slope of the land, however, the position of the parking lot lowers the curb appeal of the property and hinders the ability of the development to contribute to the pedestrian realm. In addition, this building will be highly visible from Route 460, a road which thousands of cars travel on every day. With the proposed development placed next to a major access point, The View will act as the first impression for many visitors, which makes it even more important that the building itself and the site are well designed.

While the project narrative states that The View meets the Town’s requirement for 20% open space, the true intent of the code may not be met in this case. The open space provided in the proposal is simply small scraps of land scattered throughout the site where parking would not fit. The narrative is also ambiguous about the outdoor amenities that will be provided, and where they will be located on the site. While the site features a walking trail around the perimeter, it mostly encircles the parking lot

**Open Space & Landscaping**



and does not provide connections to other destinations in the area. The project narrative indicates a desire to dedicate this trail to the Town of Blacksburg after completion, however, the Town should likely decline this option unless provisions are made for the trail to continue west or south. If the trail doesn't connect to anything and has no plan to do so, it will not be used by the general public and therefore, the property owner should continue to be responsible for its maintenance.

The applicant states that the site will contain 40 trees, including "extensive tree and shrub screening and buffering" along Toms Creek Road. While there are trees throughout the parking lot as required by the zoning code, it's important to note that more than half of the proposed trees are not on the development parcel. The trees in question are shown on the Route 460 and Toms Creek Road right-of-way. The site plan also notes that it currently does not have permission from VDOT to place trees in this location. If these trees are required/desired by the Town, they should be placed within the site itself to ensure their placement is permitted and that the owner bears the maintenance responsibility in the future. The trees will also need to be placed in such a way that they don't impair sight distance for cars trying to exit the property onto Toms Creek Road. If the Town allows the proposed parking lot placement and desires extensive screening to lessen its visual impact, a more detailed and fully considered landscape plan should be required moving forward.

## **SUSTAINABILITY FEATURES**

As with any new construction project, The View development will have a basic level of energy efficiency as it is required to meet the standard specifications provided for in the 2012 Virginia Building Code (VBC) and the 2012 Virginia Energy Conservation Code (VECC). The proposal does not indicate any features of the building itself that will go above and beyond code requirements in regards to sustainability and does not indicate that they will seek any third-party certification services such as LEED.

In regards to the site design, the project narrative mentions several stormwater features, including Filterra units and bio-retention areas, which are being provided to meet basic code requirements for water quality and runoff. Beyond that, The View is including a unique rainwater harvesting system which will allow rainwater to be reused in toilets and landscape irrigation. These easy to maintain systems offer many benefits to the property owner and community as a whole including: lessened risk of flooding

and soil erosion, reduction in water demand, and lower water bills.

A very important aspect of sustainability involves the location of the project in the Town. Developments on the fringe of the community increase traffic and require the costly extension of utility lines and infrastructure. Infill development, which occurs in the core of the community, limits sprawl and allows for better utilization of existing sites with lower long term maintenance costs to the municipality. Although the Frith property is currently vacant, it is surrounded by development and has good access to existing roads and utilities. In general, development of this site makes sense in regards to sustainability as it is a good use of existing resources in an already developed neighborhood.

## TRANSPORTATION SYSTEM & CONNECTIVITY

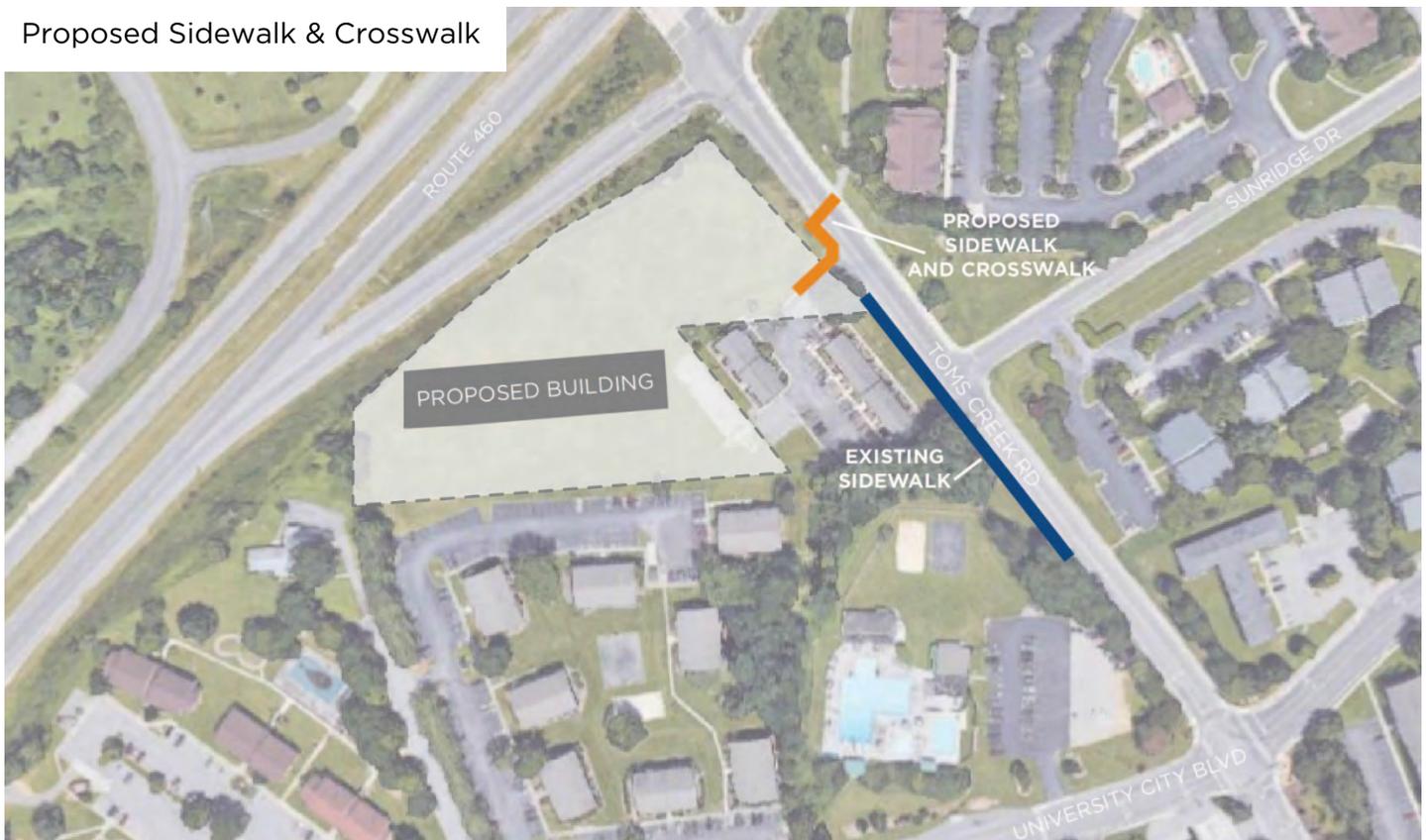
### BIKE AND PEDESTRIAN NETWORK

Although some basic pedestrian accommodations have been made, the layout for The View is not particularly pedestrian friendly. As currently designed, a pedestrian must walk over 400 feet from the building through a parking lot to Toms Creek Road before beginning their journey. It will be important to ensure that there is an ADA accessible pathway from the Toms Creek sidewalk to the building. The plan does not currently show the required connection between the internal sidewalk network and the existing public sidewalk on Toms Creek Road, a basic issue which must be addressed along with the lack of a sidewalk ramp near the entrance to this site. Typically, a development such as this would be required to construct a sidewalk along the entire length of the property on Toms Creek Road. In this particular case, that sidewalk would not lead to any kind of pedestrian space on the existing overpass, so it may not be useful. However, the Town may want to consider requiring a short extension of the sidewalk in that direction in order to provide a better crossing to Givens Trail, a suggestion which discussed further in the following paragraph.

The development application notes that it provides a connection to the Givens Lane trail across the street. While it is in close proximity, there is no connection or safe passage provided across Toms Creek Road. A user would have to make a quick left-right turning pattern into moving traffic or travel a considerable distance in the opposite direction to reach a traffic signal at Toms Creek Road and Patrick Henry Drive. The Town may want to investigate a flashing beacon-style pedestrian crossing device at the trail entrance, or at a minimum, a striped crosswalk where Givens Lane Trail crosses the road. As discussed in the Parking and Site Design Section, there is also a circular walking trail around the perimeter of the property. This trail does not provide connectivity to other destinations or trails in the area, and will not likely be used by anyone other than residents of the property itself.

There are minimal provisions made for cyclists other than a few bike racks. The main two racks in the front of the building are placed directly in front of the ground level unit entry doors, suggesting that little thought has been put into their inclusion. The applicant doesn't provide any specific information about the racks, but an inverted u-type rack should be utilized as it provides support for the frame of the bike and offers better security. In order to truly encourage cycling, these racks should be covered,

Proposed Sidewalk & Crosswalk



well-lit, and conveniently placed on the site. In regards to surrounding bicycle infrastructure, a narrow bicycle lane is currently present on Toms Creek Road and the Town’s Bicycle Master Plan indicates that the road is a designated bicycle route. The Town should consider requiring the applicant to improve the roadway along their street frontage to provide the recommended width of 5 feet as part of the development process.

The property could further encourage the use of public transit by offering car share options, allowing residents to have occasional access to a vehicle when necessary, but otherwise rely on transit, a bicycle, or walking on a regular basis. Education and outreach campaigns coordinated with Blacksburg Transit could also make residents more likely to use the existing bus system.

**TRANSIT CAPACITY AND ROUTES**

Transit use by residents will mitigate traffic and reduce the need for parking at the apartment complex. The applicant notes the distance to the closest bus stop is approximately 600 feet. However, due to the layout of the site and the lack of connectivity to neighboring properties, the actual travel distance for pedestrians to get to the bus stop will be significantly longer and will be somewhat difficult due to the grading of the site. Assuming residents don’t trespass on adjacent residential properties for a more direct route, their walking path from the building to the closet transit stop will be closer to 1,500 feet, or a 5-minute walk. This walking distance is reasonable, but is not as accessible as other properties directly on Patrick Henry Drive and farther south on Toms Creek Road.

Transit Access



**STREET GRID**

As indicated by their traffic study, the applicant has offered to construct a center turn lane on Toms Creek Road. This proposed change will need to be reviewed by the Town and VDOT to ensure that it will provide positive benefits to the community. Otherwise, few changes will be made to the street network.

site grading, which should be considered as part of the final site plan. It would be worthwhile and less problematic to pursue pedestrian and bicycle access to these adjacent properties as an alternative to vehicular access.

The applicant indicates that an effort was made to obtain access to Lynn Drive towards the southwest corner of the site, but an adjoining property was not willing to provide an easement. The applicant further states that an attempt was made to connect to the Toms Creek Terrace Apartment parking lot to the south, but the owner was similarly disinterested. Therefore, in spite of the efforts of the developer, there is no improvement to the street grid and connectivity of the Frith property.

If the Town confirms that this information is accurate, there is little that can be done to ensure a connection at this point in time. However, it would be wise to request that The View property owner provide the requisite access easements on his property in the two locations mentioned previously, so that if the adjacent properties redevelop in the future, these connections can be made without issues. These potential future connections will require the loss of a few parking spaces and may require adjustments to the

Proposed Easement Location



## COMMERCIAL NODES

Major commercial amenities are accessible via public transit and car, but the nearest walkable commercial uses in the neighborhood are the convenience stores at the southwest corner of Patrick Henry Drive and Toms Creek Road. The View site itself is not an appropriate location for a commercial use and the developer does not indicate any commercial activity will be on the site. In the future, the Town of Blacksburg will need to consider if additional small-scale commercial nodes will be appropriate, particularly if the population density increases along the corridor.



**DATE:** June 26, 2018  
**TO:** Kinsey O'Shea  
**FROM:** Lori Lester, Water Resources Manager  
**TITLE:** Water Comments for RZN18-0006 The View-Frith Property Rezoning

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**Water Comments:**

- The rezoning application does not contain sufficient information to confirm the water line design will meet Town standards. Additional water infrastructure may be required for fire hydrant spacing and dead end lines.
- Per Town Code, private fire hydrants are not allowed. The master meter shall be relocated and configured so hydrants and the water main are public and located in a public utility easement.
- Since the waterline internal to the project will be public to serve the fire hydrants, the line shall be upgraded to an 8" water main to meet Town Water Standards and Specifications.
- The Town can provide the minimum required pressure at the water meter based on the water demand provided. The applicant should investigate if fire pumps, etc. are needed to provide adequate pressure to meet building and fire code requirements for multistory buildings.

**MEMORANDUM**

TO: Kinsey O'Shea, Development Administrator

FROM: Randy Formica, Director, Engineering and GIS  
Joshua Middleton, Town Engineer

DATE: June 29, 2018

SUBJECT: Frith Property (The View) – Transportation Comments

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This proposed development is located adjacent to U. S. Route 460 Bypass, which is a Virginia Department of Transportation (VDOT) maintained roadway and the Prices Fork Interchange, which includes a VDOT maintained bridge and traffic signal. Also, the northwest boundary line of this property is also the boundary of the VDOT Limited Access for U. S. Route 460 Bypass. In addition, VDOT Limited Access for U. S. Route 460 Bypass extends approximately 300 feet southeast along Toms Creek Road.

The proposed development will potentially impact the operations of the traffic signal due to an increase in vehicle trips generated by the development. In addition, any proposed improvements within the right of way of Toms Creek Road may potentially impact the U. S. Route 460 Bypass Limited Access.

Therefore, the Traffic Impact Analysis was provided to VDOT for review and comment. A letter from Paul Brown, Assistant Resident Engineer, VDOT, Christiansburg Residency, summarizing his review and comments is attached in a separate letter. Any subsequent revisions to the application will be provided to VDOT for review and comment.

**Trip Generation & Turn Lane Warrant Analysis**

The provided trip generation analysis was performed through a comparison of an adjacent development, the Villages at Blacksburg. It appears that data was collected for one day and was then was proportionately applied by bedroom count to the proposed development. Though this type of comparison is useful it would not be the preferred, primary, method of developing trip generation. The 10<sup>th</sup> Generation ITE manual should be utilized as a primary method for determining peak hour generation. The use of ITE Land Use Code 225 – Off Campus Student Housing, would seem applicable.

The AM Peak and PM Peak Hour volumes shall be re-evaluated utilizing the land use code referenced above. As the PM Peak generates the most site volume and street volume, this volume should still drive the need for infrastructure improvements. Considering this, the conclusions and recommendations for a turn lane and improvements to sight distance should still be applicable.

**Left Turn Lane – Toms Creek Rd. / Future Site Access / Sunridge Drive**

The traffic analysis identifies that site volume increases, in conjunction with existing traffic volumes, will warrant a Left Turn Lane on Toms Creek Road into the development. The recommendation for improvement, however, has included a Two-way Left Turn Lane (TWLTL) not only for the development but also for Sunridge Drive. However, little to no design

considerations has been made. Also, the master plan does not include the recommended infrastructure improvements. Further design considerations, considering right-of-way limits, entrance and signal spacing limits, impacts to VDOT Limited Access along Toms Creek Road and necessary turn lane storage must be facilitated and included in the master plan to ensure the proposed infrastructure improvements can be provided.

While the proposed Two-Way Left Turn Lane may be an applicable improvement for this situation, there are alternatives to this design that should be considered, such as a stacked left turn lane design that may be more appropriate/desirable.

### **Level of Service (LOS) Analysis – Toms Creek Rd. / 460 WB Ramps (Signalized)**

Upon review of the submitted LOS Analysis, for the signalized intersections at Toms Creek / 460 west bound ramps, it appears that the conclusion presented in the traffic study are valid. As presented there would not be a need for infrastructure or signal timing improvements. However, the ultimate review and impact determination falls on VDOT as this intersection is managed and maintained by the state.

### **Bicyclist Connectivity**

The submitted master plan does not appear to provide any direct bicycle connectivity to Toms Creek Road. Along Toms Creek Road, adjacent to the future site access, there is an existing bicycle lane. There is an existing obscuring of the lane at and through the Toms Creek / Patrick Henry intersection, however once through the intersection the lane continues directly into campus. The Town is currently pursuing upgrades to the bicycle facilities along this corridor and plans to improve the movement through the Toms Creek / Patrick Henry intersection in the near future. Considerations should be given to providing a direct connection from the development to the existing bicycle facilities along the Toms Creek corridor, to provide for a safe and inviting connection which should entice usage. This consideration should be a factor in the evaluation regarding right-of-way which should be undertaken as part of the left lane design, discussed previously.

Included in the master plan is a 6-foot wide recreation trail. The intended use seems to match that of the multi-use trail application within the town code and standards. The width of the proposed trail, however, is indicated to be 6-feet. It would be advisable to increase this width to 10-feet, particularly if the trail is utilized as part of the bike connectivity to the Toms Creek corridor for bicycle connectivity. Paths directly from the building and/or bicycle storage or parking area/s should be implemented utilizing this design criterion.

### **Sidewalk / Pedestrian Connectivity**

Sidewalk connectivity to the Toms Creek corridor could not be readily identified within the master plan. Connectivity should be a priority but is somewhat limited as sidewalk only exists south of the access / entrance. This is due to the proximity of the access to the 460 west bound intersection to the north. Therefore, connectivity from the development must cross the access / entrance to utilize the corridor. Provisions for this connectivity need to be provided in the master plan, particularly as the site property extends across the access / entrance providing them with not only the responsibility but the control of the required facilities. Some aspects of the sidewalk / pedestrian connectivity could be addressed with the bicycle connectivity needs discussed previously.

Internal sidewalk applications seem to generally fit the nature of the intended use. The sidewalk network provides for connection to the 6-foot wide recreation trail in many locations. One additional connection, that should be considered, is along the western leg of the sidewalk on the southern face of the building. There is a small gap between the sidewalk and the trail that should

be closed to provide for a logical connection that would encourage movement away from potentially busy entry points along the building.

### **Entrance Design & Layout**

The proposed access / entrance design presents some challenges for vehicular movement onto Toms Creek Road during peak hours. Given the student orientated nature of the development, movement left onto Toms Creek Road, from the development, would be few; however, any movement attempted during peak hour would result in queuing within the development. Due to the proposed access / entrance design there is a large bottle neck immediately inside the development which, when queuing occurs, could restrict movement from Toms Creek Road into the development, pushing the impact into public right-of-way. Consideration should be given to limiting left movement onto Toms Creek (right out only) or providing space for dedicated right movement. As the number of vehicle's trying to go left would be limited (one at a time) this could be achieved with only minor adjustments to the existing entrance. Implementation of these type of design consideration would help improve the flow of vehicle during peak hour and would work to eliminate potential impacts to the Toms Creek corridor.

Smaller aspects regarding the access / entrance design (i.e. radii, depth, width) could not be fully reviewed based on the scale of the plan. A comprehensive evaluation will be performed at the site plan stage, however, the sizing of the area needed to achieve an appropriate design should be evaluated and incorporated into this master plan to ensure adequate space is available.



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF TRANSPORTATION

731 Harrison Ave., P.O. Box 3071  
Salem, VA 24153-0560

STEPHEN C. BRICH, P.E.  
COMMISSIONER

July 3, 2018

Mr. Randy Formica  
Director of Engineering & GIS  
400 S. Main Street  
Blacksburg, Virginia 24060

RE: Planned Residential District for The View  
Graystone Companies, LLC  
Toms Creek Road, Adjacent to US 460 Bypass  
Town of Blacksburg, Virginia

Dear Mr. Formica:

A Preliminary Development Master Plan for a Planned Residential District (dated May 31, 2018) was received by this office on May 31, 2018. This property is located in the Town of Blacksburg and connects to Toms Creek Road (town maintained) in the vicinity with an interchange with US 460 Bypass (state maintained). The traffic signal in close proximity is state maintained. The comments are provided in an advisory role to provide technical support in review of the documents as if all roads are state maintained. VDOT has completed the review of the documents and offer the following comments:

### **Summary of Evaluation:**

While an existing access point does exist, the proposed traffic addition is considered a change in use and should be evaluated with Access Management Regulations. The access's location, relative to an interchange and limited access, is of some concern; however, equally concerning is the width and configuration of the entrance given the anticipated increased traffic at this location. The TIA submittal shows no improvements to the entrance; however, there is a proffer to add a Two-Way Left Turn Lane (TWLTL), which would generally require reconstruction of the entrance. At a minimum, a document should be provided to show the roadway and entrance improvements to incorporate the TWLTL to see what effects it has on the limited access area/interchange, effects to existing utilities, and if adequate right of way exist without additional dedication of right of way. Generally, the minimum required pavement widening would extend beyond both the entrance to the property and the intersection of Toms Creek Road and Sunridge Drive. With a dedicated left turn lane at the intersection of Toms Creek Road and Patrick Henry Drive, it may be more appropriate to extend the pavement widening to the existing dedicated left turn lane at Patrick Henry. Using the minimum VDOT widening/transition details, there would be approximately 100 LF between the limit of this widening and the existing left turn transition. While there is a proffered condition to include a TWLTL between Sunridge Drive and the site entrance, a "stacked" left turn lane in each direction may be more appropriate. An example of a "stacked" left and the generic detail for turn lane tapers are attached for reference.

From a stormwater (SWM) standpoint, it appears that certain SWM features will be directed toward the limited access of US 460 Bypass. The submittal states that no downstream analysis has been performed. Please be aware of the requirements from the VDOT Drainage Manual including:

- a. Table 6-1: Rural Principal Arterial System shall be analyzed for the 50-year storm to insure that the travelway is not inundated;
- b. Chapter 7 for analysis of roadside ditches and adequacy of receiving channels;
- c. Chapters 8 and 9 for culverts and storm systems to the Principal Arterial;
- d. With the presence of a trail between the SWM Quantity Pond and the limited access right of way, there is concern that a storm pipe may be proposed to be installed within the limited access right of way. The pond discharge pipe should be constructed to daylight on the private property side. Minor revisions may be required.
- e. VDOT reserves the right to review the site plan submittal to verify compliance with the regulations.

From a landscaping standpoint, several plantings are proposed within the limited access limits of US 460 Bypass. Please note that the plantings shall be placed outside of the limited access limits. In a similar manner, several plantings are proposed along Toms Creek Road, which may adversely affect the available sight distance.

#### **General/Background:**

1. The existing access was reconstructed as part of the Toms Creek Interchange construction, approved for construction September 2005. The existing access served a limited number of units, as shown on the construction plan sheet, U000-150-109 c501, sheets 05 and 06 (attached).
2. VDOT Access management regulations were modified in 2008 and 2009. Applicable code sections are included for reference (portions of 24VAC30-73). In addition, several design standards have been established and presented in Appendix F, Road Design Manual (RDM). Applicable standards are provided for reference.
3. The existing/ proposed access should be evaluated with the Access Management regulations as this plan is considered a change in use; the planned use will increase traffic to this access point. (Section 110, #2). A more detailed analysis is summarized below.
4. Toms Creek Road at this area contains one lane in each direction and a dedicated bicycle lane in each direction. From the Toms Creek interchange to access point, the area contains only curb, drainage improvements, and guardrail; no sidewalk exists. East of the existing access, Toms Creek does include sidewalk in addition to curb and drainage improvements.
5. With this submittal, a waterline layout includes installation of waterline across Toms Creek Road, outside of limited access. Please note that a Traffic Control Plan will be required to depict the impact on the signalized intersection.
6. With respect to the proffered condition to construct the TWLTL, VDOT recommends that an exhibit be provided to depict the reconstructed items and any effects to the limited access right of way. With the reconstruction, it is recommended that the entrance be reconstructed to meet current entrance standards, either Town of Blacksburg standards or VDOT standards.

#### **Sight Distance (Section 80)**

The Engineer has noted only that more than adequate sight distance is available for the existing entrance under existing conditions. Please note that a site plan shall provide the available sight distances in each direction with any proposed improvements. In a similar manner, while an analysis was provided based on a two lane road, the inclusion of a TWLTL changes the minimum sight distance requirements, beyond what has been presented. Additional guidance is found in Table 2-5, Appendix F, Road Design Manual.

**Access Management (24VAC30-73-120.C):**

1. Entrances should be positioned outside of the functional area of a signalized intersection. A traffic engineering study has been provided to show the functional area / queue lengths at Toms Creek / US 460 Bypass. As presented, the existing access is outside of the functional area of the Northbound Lane.
2. Commercial entrances shared with adjoining properties. The documents state that shared entrances have been pursued but have been unable to achieve this requirement. While no documentation has been provided from the adjoining land owners, VDOT acknowledges the situation. The Town may want to document the situation utilizing the VDOT AM-E form.
3. Spacing of commercial entrances and intersections. Toms Creek Road is identified as a “collector” road near an interchange. Two standards apply to this regulation, as follows:
  - a. Table 2-2 (App. F, RDM): “Minimum Spacing Standards for Commercial Entrances, Intersections, and Median Crossovers” for a Collector road with a posted speed of <30 mph, full access entrance to any intersection → regulated spacing is 225 LF. Existing spacing appears to be 765 LF to University City Boulevard and 280 LF to the Toms Creek Interchange.
  - b. Table 2-4 (App. F, RDM): “Minimum Spacing Standards for Intersections and Commercial Entrances Near Interchange Areas on Two-Lane Crossroads” → regulated spacing is 750 LF. Existing spacing appears to be less than 280 LF, as measured by Figure 2-10. A traffic engineer study has been provided to identify any adverse effects the proposed use would have on the existing interchange. The Town may want to document the situation utilizing the VDOT AM-E form.
4. Vehicular/pedestrian circulation between undeveloped adjoining properties: Other parcels appear to be developed. This requirement does not always apply to collector roads.
5. Traffic Signal Spacing: This development does not include any new traffic signal. Signals already exist at the interchange with US 460 Bypass and at University City Boulevard.
6. Limiting Entrance Movements: This development does not propose limiting any entrance movements. While this is not a specific requirement, there is a need to preserve the safety and function of certain highways, including the interchange with US 460 Bypass. A mitigation of adding a TWLTL has been mentioned; however, if pursued, a more detailed plan describing the items required to be reconstructed and the effects to the limited access right of way shall be provided to insure the proffered condition is viable. As mentioned above, other alternatives may be more effective and the limit of lane construction would need to extend beyond the entrance and Sunridge Drive.

**Submitted TIA:**

Clarification is requested with respect to the location of the existing counts for the Village at Blacksburg, including:

1. Clarify that the complex had only one entrance/exit or that all entrances and exits were included in the analysis.
2. Clarify the percentage of occupancy of the apartments at the time the counts were taken.
3. Clarify the discrepancy between the prorated anticipated trips for 204 bedrooms compared to the measured volumes of the existing 18-unit development that will share the access.
4. Provide comment with respect to this prorated approach when compared to the 10<sup>th</sup> Edition ITE Trip Generation manual. The prorated approach provides anticipated volumes well below the average rates from the Trip Generation Manual.

**Entrance Design Considerations:**

The existing entrance appears to be limited in width and small radius dimension, in part due to existing drainage structures. Given the apparent increase in site traffic, the developer should consider

Mr. Randy Formica

July 3, 2018

Page 4 of 4

reconstruction of the existing access to the standard dimensions shown in Figure 4-10, Appendix F, RDM. Under this scenario, the radii would be increased and the width of entrance would be increased to more readily allow two-way traffic.

The information above represents an analysis of the existing/proposed access with respect to the Access Management Regulations and Standards if Toms Creek Road were a state maintained road. The presence of the state maintained interchange does affect the overall evaluation.

Should you have any questions, please do not hesitate to contact my office at (540) 381-7194.

Sincerely,

A handwritten signature in black ink that reads "Paul J. Brown". The signature is written in a cursive style with a large initial "P" and "B".

Paul J. Brown, P.E.

VDOT, Christiansburg Assistant Resident Engineer - Land Use

Enclosure

# Example of Stacked Dedicated Left Turns

Legend

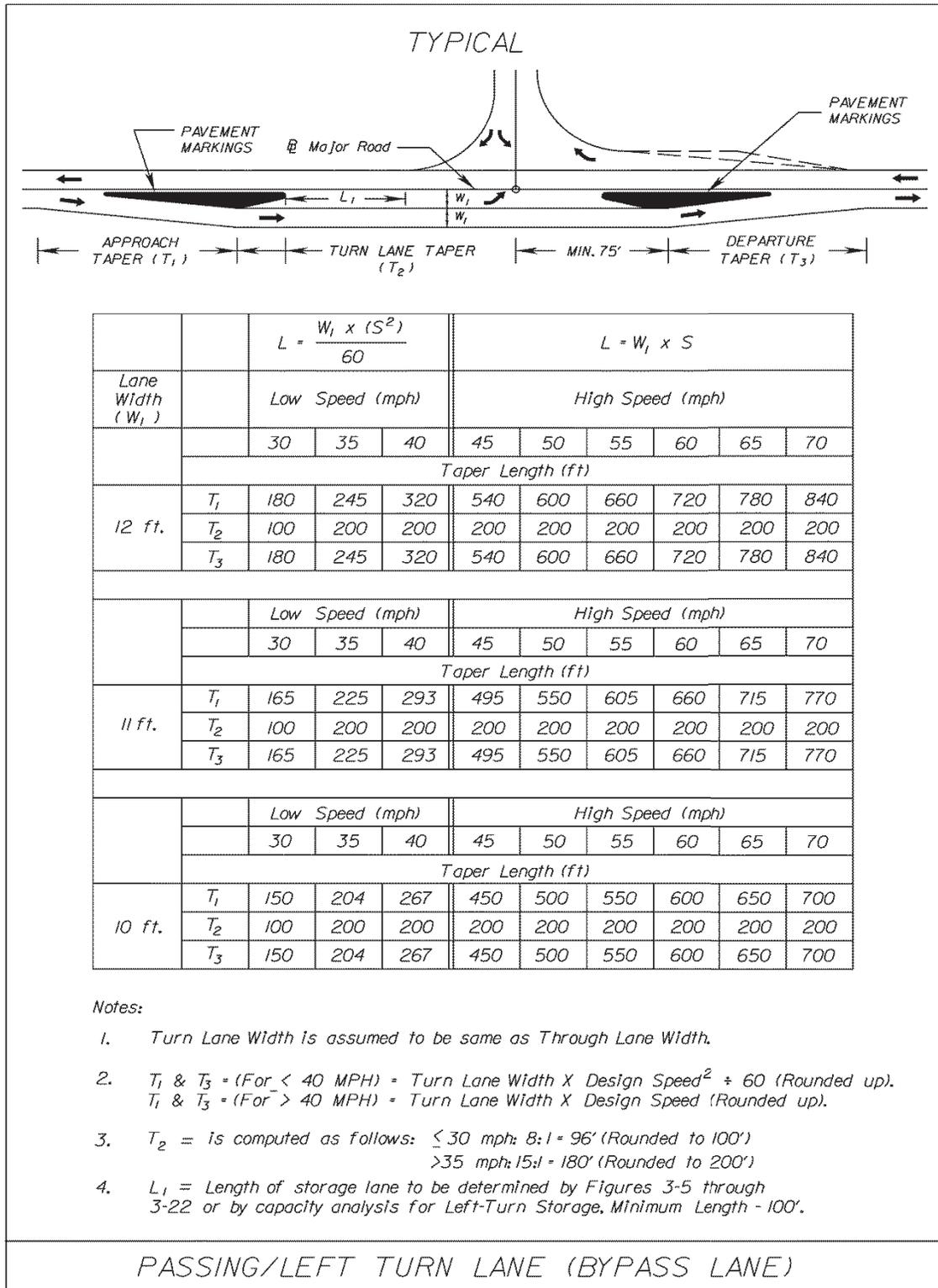


Google Earth

© 2018 Google



200 ft



**FIGURE 3-4 PASSING/LEFT TURN LANE**

Sources: AASHTO Green Book, Chapter 3, Section 3.4.4, pages 3-132 to 3-138  
NCHRP Report 780, page 17\* © 2014

\* Rev. 7/17



# MEMORANDUM

**Date:** June 19, 2018

**To:** Randy Formica

**From:** John Holst

**Subject:** Frith Property & Terrace View TIA Reviews

**CC:**

**Work Order Number:** 45863-000

**Contract Number:** P.O Number 180900

**Project:** Traffic Impact Analysis Review

As requested by the Town of Blacksburg, WRA has performed reviews of the Traffic Impact Analysis (TIA) reports for the Terrace View Redevelopment and the Frith Property. This memorandum contains the findings of these reviews.

## SUMMARY OF FINDINGS

### Terrace View TIA

The following key points were noted during the review of the TIA report:

- Section 3 Analysis of Future Conditions Without Development
  - Frith Property development was not considered in background traffic growth, but its impacts to the study area intersections should be relatively minor.
- Section 4 Trip Generation
  - ITE Code 225 (Off-Campus Student Apartment) appears appropriate for this type of development.
  - As ITE Code 225 is based on vehicular trip ends for similar off-campus student-oriented developments, the proposed 50% reduction for alternative transportation modes seems artificially high.

The remainder of this study was reviewed and the overall methodology appears to be technically sound.

It is recommended that this TIA be revised to reflect proper ITE trip generation rates with all analyses and conclusions revisited, and that a revised TIA be submitted to the Town for review.

### Frith Property TIA

The following key points were noted during the review of the TIA report:

- Section 1.5 Existing Roadway Network
  - The ADT for Toms Creek Road in the project vicinity (i.e. south of US 460) is 9400, not 1800.
- Section 4.2 Adjacent Development Traffic
  - This will need to be revised pending the revisions to the Terrace View TIA.
- Section 5.1 Trip Generation
  - Study should utilize ITE Trip Generation Code 225 (Off-Campus Student Apartment) for proposed trip generation. Trip generation information provided appears to be low for the proposed land use.

The remainder of this study was reviewed and the overall methodology appears to be technically sound. It is recommended that this TIA be revised to reflect proper ITE trip generation rates with all analyses and conclusions revisited, and that a revised TIA be submitted to the Town for review.

If there are any questions regarding the findings compiled in this memorandum, please do not hesitate to contact us.



