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DURHAM



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DURHAM-ORANGE LIGHT RAIL CORRIDOR



TOD GUIDEBOOK



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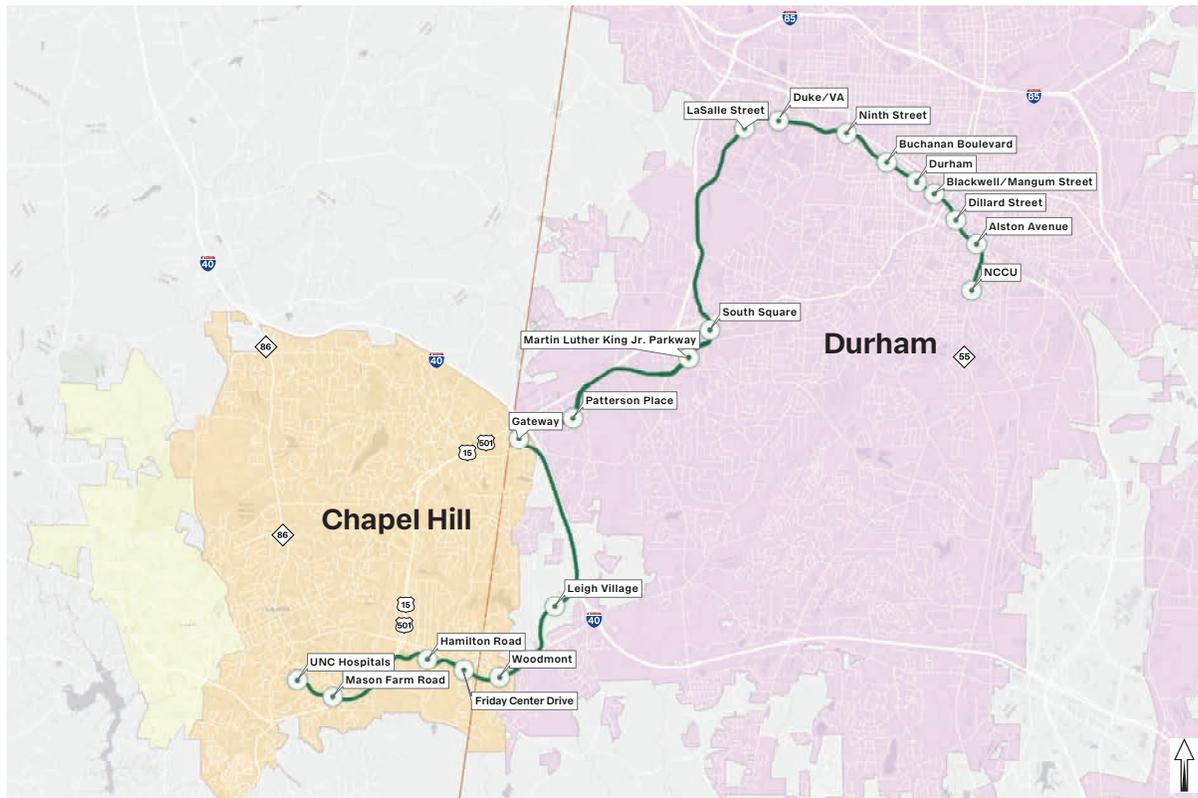
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Why the Guidebook & How to Use it

Chapel Hill and Durham are about to embark on a nearly \$2.5 billion dollar investment in light rail that will enable the region to accommodate growth by concentrating a significant portion of future development along the light rail corridor. By harnessing the growing market for walkable, mobility rich and transit served neighborhoods, transit-oriented development (TOD) at light rail stations will result in new property tax and other revenues that will enable the region to pursue and achieve an array of community priorities, goals and objectives. In addition, light rail will allow the corridor to capture a significantly greater share of the region’s expected growth than would occur without the presence of light rail, while fostering equitable growth and community prosperity.

This report, known as the TOD Guidebook, provides a guide to “one possible future” that will be made possible by the investment in light rail and station area infrastructure. The development scenarios presented in this TOD Guidebook are based on a market driven strategy that will connect people to education, jobs, shopping, dining, recreation and healthcare by creating walkable, transit-supportive places around each of the 19 stations along the Light Rail Corridor. The TOD Guidebook is the culmination of a two-year, \$1.7 million federal Transit-Oriented Development (TOD) planning grant awarded to GoTriangle in partnership with the Triangle J Council of Governments, the Town of Chapel Hill, and the City of Durham. Following two years of evaluation, engagement, and planning,

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the leadership of the Corridor coalesced around an implementation-focused approach that uses conceptual developments to illustrate “One Possible Future” for the Light Rail Corridor.

This initiative sets a foundation to help guide design and construction of rail infrastructure and surrounding neighborhoods in a manner that realizes desired community benefits and achieves positive social, economic and environmental outcomes for local neighborhoods and the region.

To maximize the benefits of the light rail, it is essential to look beyond the tracks and station platforms. This Guidebook highlights the key ingredients necessary to create walkable, mixed-use neighborhoods at each of the 19 stations along the Light Rail Corridor. The evolution of auto-oriented, low density areas into economically vibrant, socially diverse places requires a multi-faceted and integrated approach to succeed. Each of the station concepts presented is unique. While they are bound by the need for good urbanism and design, each station must be considered within its local context – what might be appropriate for certain uses, construction types or the amount of development at one station is not necessarily the correct approach for other locations.

Not every station will evolve into a major employment center with large office buildings or a regional shopping destination, just as not every station area will necessitate redevelopment to become a TOD. Each station presents a different set of existing conditions, neighborhood context, and market potential based on its location relative to other stations and job centers within the region. These variables underscore the need to properly calibrate planning and development scenarios.

Success as it relates to TOD lies in the governance and partnerships that must be developed around the common vision of establishing transit-oriented developments that reflect the neighborhoods surrounding the station, and the authentic qualities of the community that governance and those partnerships support.

To ensure both local and regional goals and objectives are met, Chapel Hill and Durham must proactively identify actionable steps, establish funding priorities, and adopt policies sooner rather than later – policies that enable different municipal agencies and departments to work together through a transparent, consistent and collaborative approach. Setting the vision and adopting policies now will enable the community, its leaders, and developers, to respond to a collective vision in a cohesive fashion when projects are proposed.

Developers and project designers will be in a better position to design and build projects that reflect desired outcomes and community benefits if that intended vision and benefits are encoded in consistent policies and development standards, as opposed to when they are applied and negotiated on a case-by-case basis. **To this end, the Guidebook is intended to serve as a foundation and resource for Chapel Hill and Durham to establish the overarching vision, identify policy changes, and prioritize public investments that enable transit-oriented development to occur according to the community’s goals.**

WHAT WE DID

The recommendations and development concepts illustrated in this Guidebook represent “One Possible Future.” This future is presented as a series of station-by-station development scenarios derived from a cautious, market-based approach, and rooted in principles of good urban design. These scenarios further took into account existing neighborhood context, adopted land use policies, environmental features, and physical barriers such as freight railroads or highways. **An overarching goal of this Guidebook is to provide an analysis of a possible, economically viable, future development scenario that maximizes the community benefits of responsible development at transit stations in a manner that both respects and enhances existing neighborhood fabric and that creates a series of new, enduring, and diverse TOD neighborhoods.**

To help set the stage for future success, an integrated, multi-disciplinary team of professionals worked collaboratively, through an iterative process, to create realistic future station area development

scenarios. In addition, the engineers designing the light rail worked closely with the transit-oriented development team to ensure that the placement of stations, station access points, parking lots and bus transfers supported the creation of walkable, transit-supportive communities. These pieces were realigned at a variety of stations to support better outcomes, with a continued focus on enhancement of the existing neighborhoods around those station areas. A range of desired outcomes was considered, including:

- Maximizing development potential in the near term where feasible
- Protecting key waterways and natural drainage paths
- Creating appropriate connections with and to existing adjacent neighborhoods
- Enhancing local and regional mobility for pedestrians, bikes, transit users and drivers.

To ensure that the vision and recommendations expressed in this report were reflective of local needs and desires, significant efforts were undertaken to garner input from a wide array of stakeholders. The efforts started with a multi-day kickoff attended by scores of staff from the agencies and municipalities. This cross-silo, multi-agency and interdepartmental launch set the stage for the comprehensive and inclusive process to follow, including:

- Multiple meetings and engagement activities were conducted with a wide array of individuals and groups including civic leaders, community leaders, local real estate developers, bankers, university representatives, and most importantly, the community at large.
- One-on-one and small-scale interviews, informational sessions, stakeholder focus groups, public workshops and a week-long public charrette in Chapel Hill with attendance by Durham staff.
- A first-of-its-kind community summit, titled “Connecting to Opportunity,” focused on TOD best practices and case studies presented by a range of local and national experts in real estate, finance, infrastructure, mobility and public policy
- An affordable housing roundtable and workshop attended by municipal representatives from Durham and Chapel Hill, and a host of local and national experts in affordable housing strategies
- Multiple presentations to the Chapel Hill Town Council and Durham City Council, and a joint session with members of both councils plus the Commissioners of Orange and Durham counties.

These meetings provided opportunities to inform and educate municipal partners and residents, and to allow the consulting team multiple chances to listen and learn about desired outcomes and aspirations of the Chapel Hill and Durham communities. These stakeholder goals and objectives, such as creating more public space and positive transitions between existing and new development, are reflected throughout the analysis and action steps in this Guidebook. Importantly, those goals are part of a larger policy framework that includes leveraging property tax values to fund catalytic infrastructure to support TOD, job creation and more money for affordable housing.

One of the key steps taken during the process was to retain the special character of existing neighborhoods near the light rail stations. Neighbors who lived near station areas shared their interests through workshops, public meetings and scheduled commission and board meetings. In particular, stakeholders expressed high hopes that the opportunity to manage future growth through concentrated development at and around future light rail stations, in addition to providing neighborhood connections and amenities, will serve the needs of their local communities as much as it serves the needs of people throughout the region.

Within each station area, the team integrated elements of successful transit-oriented development with strong attention to market realities and the demand for good urbanism, including:

- Design of likely building types and sizes based on market potential and site context

- Respect and enhance existing neighborhood fabric and integrity
- Provision of linked bus service and bike and pedestrian facilities
- Construction of catalytic infrastructure for activation and sustained phasing of development over the next few decades

In addition, critical policy recommendations were developed to address the issue of affordable housing and the need for district parking management to support walkable urban neighborhood patterns.

HOW TO USE THE GUIDEBOOK

It is important to underscore that while preliminary community engagement occurred, formal visioning and planning efforts were not undertaken. Input on vision was secured on an ongoing basis during the continuous stakeholder engagement; but, at the same time, the consultant team also relied on prior planning efforts, including adopted comprehensive plans, land use plans, open space plans, bike and pedestrian plans, and transportation studies, work that varied along the corridor in terms of purpose, sponsorship and scale.

A key purpose of the TOD Guidebook is to generate a data-supported and market-driven understanding of the sustainable level of tax revenue that can be derived from that type of development in the Light Rail Corridor.

TOD neighborhoods require investment in a range of community benefits such as integrated public spaces within the neighborhood context if a goal is to create an enduring, cherished place and healthy tax base. If sufficiently robust tax revenues are generated, some of that increase can be reinvested in TOD-supportive infrastructure, connecting bus service, and affordable housing, in addition to other identified community priorities. These public investments create a more attractive landscape for additional private investment and resulting job creation that takes full advantage of the increasing demand for walkability, housing variety and convenient access to jobs, education and healthcare.

This multi-generational infrastructure and housing strategy can only be tested meaningfully by actually developing realistic illustrative building-scale development plans for each station area. Although these conceptual development scenarios are one of many possible scenarios for any given station, they are based on a comprehensive market study tailored to the conditions at each respective station, and, thereby, form the basis for the recommended infrastructure enhancements and their phasing priority.

The intended use of the Guidebook is straightforward. It provides a toolbox of reinforcing analytical and policy tools. After framing the opportunity for TOD in general, a comprehensive market study extrapolates tax revenue impacts from the specific station-area development concepts provided later in the report. Finally, this initial baseline of analysis sets out opportunities for how rail transit can be used and implemented to advance significant policy objectives such as affordable housing, walkability and parking reform.

Using the information gathered from the market study, previous planning efforts, and ongoing stakeholder engagement, the TOD team set out to create realistic development scenarios for each station area as “One Possible Future.” Each of the development concepts presented in the TOD Guidebook takes into account market demand, existing neighborhoods, environmental features, and adopted local policies. The scenarios are designed in a way that embodies walkable, transit-supportive development that enables equitable prosperity, while achieving community benefits through design, such as quality public spaces, and through new property tax revenues.

To provide a sense of continuity in terms of the character of certain stations, infrastructure needs, adjacencies, market contexts, and appropriate framing for zoning, stations were grouped in “families” based on shared characteristics. Station families are described, and each specific station area is further explored to determine both necessary zoning and policy changes, and recommended publicly funded catalytic infrastructure needed to promote equitable neighborhood change.

These development concepts, representative of one possible future, are intended to be used in

the following ways to guide municipal representatives, real estate developers and investors, and community interests in a manner that results in the type of development described herein:

1. A helpful guide for community conversations regarding land use policy and rezoning;
2. A policy framework for prioritizing public investments that support TOD, including street connectivity, bike and pedestrian facilities, public space, water/sewer infrastructure, and affordable housing; and
3. A benchmark tool for measuring specific rezoning and development proposals.

THE TOD GUIDEBOOK TEAM

The TOD study was undertaken by a team of national and local experts in the fields of urban planning and design, transit-oriented development, real estate finance, market analysis, engineering and public policy. Led by Gateway Planning, the initiative was coordinated in a partnership led by GoTriangle that included the Triangle-J Council of Governments, the Town of Chapel Hill, Orange County, Durham County, and City of Durham government staff. The region’s three flagship universities – North Carolina Central University, Duke University, and the University of North Carolina – each helped shape this work, through both their adopted campus plans and through face-to-face meetings with university representatives, as these plans were developed.

At the regional level, the unprecedented cooperation and collaboration during the initiative enabled a regional focus that crossed jurisdictional lines and business lines. With that backdrop, a non-profit organization, GoTransit Partners, was formed to provide a platform for elected and business leaders to work side-by-side to secure right-of-way donations and other contributed resources from the private and non-profit sectors to help complete the financial plan for the light rail. The possible future TOD plans provided a key motivating force in that effort.

At the same time, the early willingness for cross-collaboration between Chapel Hill and Durham enabled the consultant team and GoTriangle to work seamlessly in terms of calibrating the analysis and ultimately the recommendations in this guide both to the unique context of each station and also to the overall needs of the system in terms of efficient and timely operations.

Continuing a culture of collaboration will be critical as the project moves into implementation and operations. For example, cooperation among the public partners and private developers will be critical as a corridor-wide policy is potentially established for district parking at specific stations. Policy and business questions will need to be aligned on issues such as introducing paid parking as well as day of week and time of day parking regulations on the streets and in parking structures. This evolving and maturing network of agency, business and institutional cooperation sets the stage for tackling even tougher challenges such as delivering more affordable housing in station areas to take full advantage of the development opportunities from the light rail system.

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OPPORTUNITY OF TOD

*“We have
a chance
to create a
community
and a region
where people
are able to
reach their
potential.”*

KEVIN PRIMUS
ENTREPRENEUR

The Opportunity of TOD

Transit-oriented developments (TOD), are real estate projects that incorporate a range of commercial, residential, retail, office, entertainment, educational and other uses located at or near a transit station. They are walkable and mixed-use in nature and provide concentrated activities, supported by higher densities, public amenities, and compact building design within a traditional neighborhood construct.

From the Federal Transit Administration¹:

Successful TOD depends on access and density around the transit station. Convenient access to transit fosters development, while density encourages people to use the transit system. Focusing growth around transit stations capitalizes on public investments in transit and provides many benefits, including:

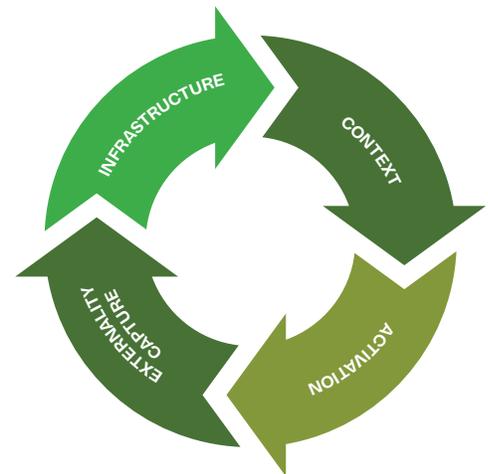
- *increased ridership and associated revenue gains for transit systems*
- *incorporation of public and private sector engagement and investment*
- *revitalization of neighborhoods*
- *a larger supply of affordable housing*
- *economic returns to surrounding landowners and businesses*
- *congestion relief and associated environmental benefits*
- *improved safety for pedestrians and cyclists through non-motorized infrastructure*

TOD primarily occurs when regional or local governments encourage it through land use planning, zoning laws, and changes to building codes, among other things.

TOD has many manifestations, ranging from a reinvented strip center like the one at the Othello Station anchored by Café Troung Nguyen Ben in an industrial area of Seattle, to the expanse of a modern transit village such as the Court House Station Area in downtown Arlington, Virginia. Regardless of the location, TOD is about the melding of people, community and its economy around a transit station.

In many respects, several destinations along the Corridor already show strong potential for this type of melding. In addition, the rail corridor was planned and located to capture as much existing activity as possible by connecting three major universities and three healthcare centers, incorporating three of the top ten largest employers in the state. Finally, there are some unique opportunities such as the combined power of the redevelopment potential of Patterson Place and the Gateway station to create a new regional employment center that also includes a significant residential population.

The ability for a TOD to provide community benefits for the transit corridor it serves is based on the intersection of four core factors: (1) essential infrastructure, (2) walkable neighborhood context, (3) street level activation and a sense of place, and (4) place management through district wide, ongoing governance. If related in a logically connected way, those factors can establish and sustain a TOD so that it becomes an organic, equitable, and vital center of community life.



Light rail offers Durham, Chapel Hill, Durham County, and Orange County as well as the university

1 <https://www.transit.dot.gov/TOD>

communities of the University of North Carolina at Chapel Hill, Duke, and North Carolina Central University, a special opportunity to leverage the investment in light rail to promote quality growth and equitable prosperity throughout the region. When properly supported with policies that support TOD, light rail can connect, reshape and revitalize communities. The plans and strategies presented herein can tap into the transformative power of integrating transit into community life in order to:

- Hasten the implementation of local community plans;
- Catalyze economic development and ensure equitable access to prosperity;
- Advance the delivery of affordable, mixed income housing;
- Maintain and enhance the region’s desirable quality of life; and
- Increase ridership within the Chapel Hill Transit, GoDurham, and GoTriangle systems by creating new transit-friendly destinations.

The benefits of walkable urban places for current and future residents and businesses are clear.

1. Walkability promotes increased physical activity and more sustainable lifestyles. Daily needs are just steps or a train ride away—the grocery store, shops, movies, restaurants, bars, and parks. In 2010, a study of commuters in Charlotte found that those who took light rail to work regularly were 6.45 pounds lighter than those who drove, due to the greater amount of walking among rail riders.
2. People living in walkable places have more disposable income because they do not need to spend as much on transportation. In addition to greater affordability, access to transit expands the reach of individuals to gain education, employment, and other economic opportunity. According to the Center for Neighborhood Technology (CNT), the average U.S. household spends 19% of its budget on transportation. Households with access to good transit typically spend only 9% of the household budget on transportation.
3. Transit-adjacent locations demonstrate an increase in land values by as much as 50% in comparison to locations that are not proximate to transit, and transit-oriented housing can generate up to 50% less auto traffic than conventional housing.
4. Walkable, mixed-use neighborhoods and the provision of transit each contribute greater outcomes for health and wellness, providing compounded benefits when both are in play. These benefits include reduced blood pressure, increased physical activity and reduction in obesity rates for those who use transit and/or live within walkable communities. In Arlington, Virginia, a national leader in developing TOD, the walk-to-school rate among children is nearly double the national average.

People who live and work near transit are much more likely to take transit than people who are located further away. Not only does TOD provide residents and employees with more transportation options, it also helps to maximize the benefits of Durham and Orange County’s investment in transit by making it convenient to more people.

By focusing on walkable places—many with the promise of a rich mix of housing, businesses, entertainment, and cultural amenities —Durham and Chapel Hill can harness light rail to support quality growth in new areas as well as within existing neighborhoods. Similarly, the Universities will be able to better connect staff, students, and professionals to the various campuses and other destinations relevant to university life as more students, staff, and faculty live within walking distance of convenient transit.

The ability to harness light rail for economic development, an expanded university experience, and improved neighborhood life will require the alignment of leadership, both public and private, as well as development policy/regulation and budget priorities. It is important to underscore that these opportunities can be activated in both suburban and central city station locations, supported by strong market demand for transit-activated walkable places in both suburban and urban contexts.

The TOD concepts provided in this Guidebook anticipate - but do not rely on - immediate rail

transit service in order to be implemented. As such, the benefits of walkable neighborhoods and TOD development can begin to be realized in the near term, prior to the commencement of rail service. Walkable TODs often command price and rent premiums for office, retail, and residential uses as a result of many people’s increasing preference to live and work in those types of areas. Accordingly, planning and activating walkable places in the immediate future makes sense even though rail service awaits a multi-year process for construction.

Starting to build walkable, compact, mixed-use neighborhoods in the future transit station areas today can capitalize on the unmet demand for walkable places. Doing so will bring about community benefits like increased tax revenue and job growth ahead of the light rail opening. These economic benefits will enable accelerated investment in affordably-priced housing to help offset the increase in housing prices being experienced across the region - and especially in walkable, “in town” neighborhoods close to Downtown Durham, Duke, and UNC. In other words, this Guidebook provides a practical approach to preparing now for equitable prosperity through purposeful policy-making and investment in walkability and transit-oriented development.

Principles for Creating Connected Walkable Places

The recipe for walkable urban places involves creating destinations that encourage regular life activities through appropriate density, walkable neighborhood design and diversity of uses. This usually entails an intensity of uses that is greater than the overall community average, with more flexible but managed and shared parking solutions. These places become centers of community life, with an active public realm, a mix of land uses and more housing and job choices, resulting in a walkable environment where the car is an option rather than a necessity. In short, they become neighborhoods that work for people, rather than forcing people to adjust to an environment created for cars, at the expense of the human experience. Together, these factors can result in real reductions of daily car trips and, as a result, (1) increased quality of life, (2) improved environmental outcomes, and (3) greater social equity for those for whom the cost of car ownership is burdensome.

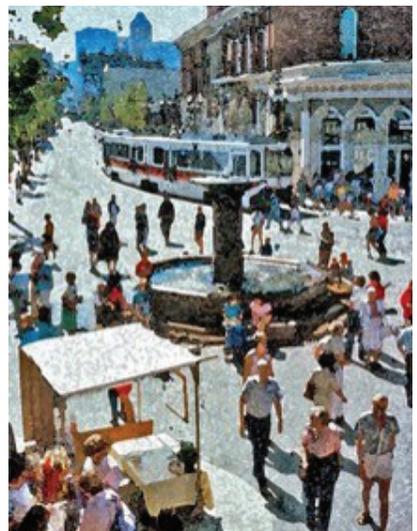
The following principles guide the process for creating these connected walkable places.

1. Medium to higher density development to foster positive local and regional outcomes.

An economically resilient community must have enough economic activity to support the array of uses necessary to create a vibrant, walkable neighborhood. This requires ground floor activity, including successful retail and significant street level and pedestrian activity. To provide this economic base, it is essential to have enough people live, work, and visit an area, which requires the need for higher than average densities for both residential and commercial uses.

Density equates to economic and social activity, which enables more people to live, work, and visit an area, providing the economic underpinnings for a successful walkable place. The provision of higher densities results in greater support for local businesses and retail, reduced auto dependence and increased transit ridership.

The benefits of density are both supported by and enhance the use of public transit. The higher densities of residential and commercial uses (1) provide



Source: GB Placemaking



Source: GB Placemaking

additional transit ridership and (2) result in the ability to support a greater range of businesses and services within a five to 10 minute walk from the transit station. The result is a virtuous cycle of economically beneficial neighborhood design, whereby density reinforces the ability to support transit, while transit helps serve a greater offering of residential and commercial uses.

That said, local context is essential. Recognizing that some existing neighborhoods near transit will remain lower density, it is all the more important to maximize new development opportunities where appropriate, in order to generate the overall economic and social performance needed for successful station areas and the creation of vibrant communities along the rail corridor.

In addition, not all density is the same. In a limited number of locations, it may entail mid or high-rise buildings. However, additional social and economic activity can be generated by increased density through reductions in land dedicated to surface parking lots and other non or underperforming uses, and more compact building design. Finally, it is possible to provide density, including mid and high-rise buildings, within a context whereby the greatest height and density is at and around a train station, yet both are reduced as one moves further from the TOD core. This stepped approach whereby building heights and densities decrease as you move further from the station itself enables buffers to existing communities and allows

Connecting to Opportunity Summit

As part of the day long “Connecting to Opportunity” summit, held February 6, 2018 at DPAC in downtown Durham, a series of panels were presented in a public forum to discuss the benefits and challenges associated with transit-oriented development.

One of the day’s most powerful panels was held among some of the Triangle’s public and private sector leaders, providing a range of views from a regional perspective. Panelists included:

- Wendy Jacobs (Durham County Commissioner and DCHC-MPO Vice Chair)
- Damon Seils (Carrboro Alderman and DCHC-MPO Chair)
- Michael Goodman (Capitol Broadcasting)
- Roger Perry (East West Partners).

Two common themes surfaced, the first being the opportunity to connect jobs to people. As Damon Seils stated, “This project provides another opportunity for employers to engage with the community and their pool of workers,” a sentiment echoed by Michael Goodman, “We are all in one big fight for talent... the link between Durham and Chapel Hill, long term, is a critical link.”

In an impassioned plea to break down traditional walls between municipalities and communities throughout the region, Roger Perry had this to add, “The biggest problem in the Triangle is... this ethnocentric bent that we all have about Raleigh, about Durham, about Cary, about Chapel Hill is bologna. It’s one place. We need an attitude in this community that we are one place and that we are one people and a region.”



for building heights at the edge of station areas that complement and exist cohesively within the surrounding neighborhood fabric.

Principle Attributes:

- Highest densities immediately around the transit station, tapering down and transitioning to lower densities at the edges of the district.
- Site design for major projects should allow for greater intensification of densities over time, preserving certain sites until the greatest desirable densities can be achieved.
- Retail and office uses should be concentrated closest to the station.

2. A mix of uses.

Creating a mix of land uses will provide diversity and variety, encouraging people to walk to meet their needs regardless of which mode of transportation they used to arrive in a walkable district. The key is to locate various compatible uses close together, making them easily accessible to each other. This strategy improves walkability and reduces automobile use. Creating a more compact, walkable fabric promotes greater connectivity to other nearby neighborhoods, in addition to promoting more pedestrian traffic within the district itself.

Principle Attributes:

- Where feasible, active first floor uses oriented to serve pedestrians along key streets.
- A mix of uses including residential (with a variety of housing types), commercial, service, employment, institutional and public uses.
- Vertical and/or horizontal mixed-use.
- A mix of uses consistent with the character, needs, opportunities, and constraints of the area.
- Encourage work-live and other job incubating uses, especially on the ground floor when the market for retail may be limited.
- Ensure the plan supports the continued vibrancy of nearby existing retail corridors – rather than supplanting existing businesses with new retail - if appropriate.

3. A resilient, compact, high quality pedestrian-oriented environment.

Vibrant communities are convenient and comfortable places for pedestrians. Subtle factors, focused on a pleasant environment for the pedestrian, encourage people to walk. Building setbacks and treatment of the interface between buildings (existing and new) and the sidewalk are critical items to address.

Principle Attributes:

- Places designed for walking, blocks sized for a five-minute walk. Breaks in block faces should occur on average every 400 feet, to promote internal pedestrian circulation through the block.
- Entrances oriented to be easily accessible from the public sidewalk.
- Minimized curb cuts, concentrated in a single area if possible
- When large scale development is possible and blocks can be broken up, encourage a multimodal street grid and pedestrian paths connecting to the street grid.
- The more activity within the development, the wider the sidewalk.
- Street trees to soften the urban environment by blending natural features with built features.
- Pedestrian-scale lighting to ensure safety and deter criminal activity.
- High quality architectural design and detail conveying a sense of place and relating to the street and the pedestrian environment.

4. Limited, managed parking.

One of the most challenging aspects of any walkable urban district is right-sized parking. This

is all the more important when an area is evolving from an auto dependent environment to one that is more walkable and people-focused. Limiting parking supply and moving parking away from surface parking lots to managed on-street parking and shared parking structures enables and encourages residents, shoppers and employees to use transit to get to/from an area. It also promotes the use of a range of mobility options such as biking, walking or new micro-mobility solutions such as bikeshare or scooter share within a station area. A District Parking strategy should be at the heart of resolving tensions and creating new opportunities for parking to work well in light rail station areas.

Principle Attributes:

- Unbundled parking, provided on a district basis (i.e., shared uses) rather than building by building. Ultimately, parking should be managed by the city or a business district.
- Eliminate minimum parking requirements. Consider lowering maximums.
- Parking facilities should be located behind buildings, in parking structures with ground floor retail, and screened from adjacent land uses with minimal curb cuts.
- On-street parking should be provided on all key streets in the walkable district.
- Parking design should be integrated with the development in a manner that relates to the streetscape and circulation routes.
- Design parking in early developments that require more parking to be unbundled from housing costs and designed to be readily shared with other projects later on to reduce overall parking ratio of the station area.
- Price parking according to the market - i.e., paid parking or time-limited free parking.

5. Place-making: parks, open space, public art, civic space and activation of space

To add value to the community and support higher densities in a walkable district, a variety of parks and public spaces should be integrated into walkable areas to provide a balance between what is 'built' and what is 'green.' Combined with well-designed multi-modal streets and public art, these spaces help to form a station area 'public realm' – spaces between the buildings that are open and accessible for all. These features will help communities preserve and enhance their unique identities while allowing new development.

Principle Attributes:

- Typically 10 to 15% of the land area in a walkable urban district should be dedicated to parks and public space of various sizes and types.
- Provide parks and public space within a five-minute walk of all residents.
- Maximize the relationship between adjacent land uses and provide a range of formal and informal gathering places
- Consider parks as part of a comprehensive approach to traffic calming.
- Incorporate public art where appropriate and feasible, and integrate with other place-making improvements.



MARKET + OPPORTUNITY

*“People
are already
perceiving us
as a region.
We have to
work together.
It’s really
the only way
forward.”*

WENDY JACOBS

CHAIRWOMAN, DURHAM BOARD OF COUNTY COMMISSIONERS

Market: Evolution

CHANGING DEVELOPMENT PATTERNS

Leveraging the investment in rail transit, development strategy and land use policy provides an opportunity for public jurisdictions to harness pent up demand for walkable urban neighborhoods and transit-oriented living. To “leverage” light rail, it is important to determine broader community goals and benefits that are both desirable and made possible by investments in transit and supportive TOD neighborhoods. While much of this Guidebook discusses the physical design of good urbanism, these place-based strategies support additional community benefits:

- Promote economic development;
- Provide financial and other support mechanisms for affordable housing;
- Increase mobility options that leverage public transit beyond the station areas proper;
- Create additional resources to finance the construction and maintenance of infrastructure, especially infrastructure for bikes and pedestrians, which receives limited state funding; and
- Increase connectivity and mobility not just at and around station areas, but throughout the corridor, including additional bus service linking rail stations to neighborhoods beyond the line.

A number of these desired outcomes are detailed throughout this Guidebook and necessitate a hard look at prioritization and timing to achieve community goals. As an example, it will be essential to properly phase certain infrastructure investments in the near-term future, that is, over the next five years, to enable development to occur at and around station areas. In addition, efforts may be needed to bridge a period of time between completion of the rail infrastructure and the creation of new property values that could support community benefits such construction of affordable housing. Just as a solid foundation must be built before constructing the upper levels of a house, it is essential to first invest in the underpinnings of the place-based and catalytic infrastructure that is necessary to create vibrant, walkable TODs.

Each submarket and accordingly, each station area, will mature at different times depending upon the existing built environment and economic fabric within an area and the timing and phasing of development of the station areas. For example, in some locations, retail may not be fully viable until the introduction of a significant residential population, while in others, hotels or taller office and residential buildings might be in a later phase after a local market has been created through the introduction of a mix of office, residential, and other uses on the site.

With these overlapping factors at hand, it will be critical for Chapel Hill and Durham to prioritize their desired community benefits, and then look to support phased development in a manner that provides sustainable growth of truly diverse, mixed-income residential TOD neighborhoods and the resulting tax base. Actions such as land banking may be necessary today to enable the provision of affordable housing into the future, understanding that the actual construction of those homes might be years away.

As will be discussed below, the opportunity to leverage economic development to generate additional financial resources depends largely on the scale, scope, densities and timing for each phase of development, and their associated uses. If TOD is not likely nor feasible at a specific station in the early years of the light rail line’s operation, a strategic decision to hold off on certain phases of development to wait for catalytic infrastructure to be built to support TOD may ultimately yield more tax revenue in the long run and increase the ability to deliver greater community benefits.

Transit-Ready Summit - May 2017

On May 25, 2017, the consultant team, in conjunction with TJCOG and Urban Land Institute, hosted an informational “Transit Ready Development Breakfast” to discuss market opportunities – and challenges – associated with the construction of the light rail line and related development activity. Topics discussed included real estate finance, market conditions and finance mechanisms to capture new tax revenues and other new resources that will result from investment in rail and subsequent development of walkable, mixed-use nodes at and around station areas.

This well attended forum was open to the public, with an audience that included a number of elected officials, municipal staff and members of the local real estate and banking community, all gathered to learn from local and national experts on transit oriented development. Some key takeaways from the day’s speakers and panelists:

- Expansive growth in the region and a growing market for walkable, transit-oriented neighborhoods can be harnessed to spur economic development and tend to issues including quality of life, traffic congestion and affordable housing, throughout the region.
- Consensus on the market shift in the region from companies that sought low density, bucolic office parks in favor of more dense, mixed-use and walkable environments.
- The need for public investment and/or public-private partnerships, like American Tobacco, which would not have happened without the City of Durham’s investment in the parking deck.
- The need to ensure zoning codes fit the needs of today’s market, especially in regard to appropriate calibration for walkable and transit-served communities into the future.

Following the public event, a series of one-on-one and small group interviews were held between the consulting team and local members of the real estate development and finance communities. This was an opportunity to get a true sense of the challenges associated with developing throughout the Light Rail Corridor.



GROWING LAND VALUES AND IMPLICATIONS

A number of factors come into play when discussing the nature of the appreciation in land values and rent growth at and around the planned station areas. Macro trends such as the general state of the economy, the cyclical nature of real estate, or the overall unmet demand for walkable, urban environments have a role. So too, do local and regional trends such as the expectation for continued strong growth, in addition to the continued presence and role of major universities, medical systems and other institutions. There is a level of confidence in the region’s overall growth projections, but where within the region new people and jobs will locate is largely dependent upon local policies that can either direct such growth toward more compact, walkable and connected communities or continue the historic growth of suburban sprawl in an auto-oriented fashion.

Local policy decisions can either harness or repel the market. Appropriate policies can encourage

a balance between rent growth and increased land values and the desired outcome of affordable housing. Decisions to invest in place-making infrastructure and mobility solutions that feed into the light rail line, in addition to land use and zoning decisions, will have a strong impact on whether values and rents rise to their potential over time. Conversely, values can be stifled as a result of poor infrastructure, land uses, densities or form at or around stations.

With the expected increase in land values and prices for homes and apartments over time, decisions must be made as to when to encourage development to occur. For example, before the line is open, but in anticipation of oncoming transit, development could begin to occur that might support stick-frame construction that maximizes its build-out at four or five stories, while that same parcel might support more intensive construction of 10, 12 or more stories in the future – where such height and density are appropriate within the local station area context. This scenario presents a choice:

1. Seek immediate, but less intensive development today which will limit potential future revenues, possibly in perpetuity.
2. Discourage / prohibit development at lower densities with an eye toward more intensive and economically fruitful development when the market is more substantial in the future.
3. Allow for development to evolve through strategically designed and placed buildings and infrastructure that anticipates future redevelopment.

As an example, it would not be ideal to see a three-story office building or five-story residential building at the station itself, when a few years into the future that same parcel may develop into something more.

In summation, hard decisions must be made as to where it may be in the overall interest to hold off on development that “could” occur today, but should wait until additional market support exists in the future, to support the type of quality development and level of activity necessary to create a successful TOD that withstands the test of time.

ECONOMIC DEVELOPMENT OPPORTUNITY

The light rail project can harness significant market demand for walkable, mixed-use neighborhoods connected by transit. With a greater focus by corporate tenants on relocating within such environments, coupled with pent up demand for multifamily living within walkable neighborhoods, the light rail line has the potential to capture a significantly greater share of the region’s expected growth over the coming decades than would likely occur without the investment in light rail.

As a result of the concentration of growth fostered by the light rail project, additional public and private revenue streams and resources will be available for Chapel Hill and Durham, providing an opportunity to reinvest a portion of those additional revenues toward catalytic infrastructure to support development near light rail stations, public space, ongoing maintenance of community infrastructure, and in affordable housing and other public amenities.

As noted above, to maximize the opportunity, a number of factors must be taken into consideration:

1. The ability to leverage development potential at a site (or station area) through appropriate marriage of land use and transportation policy.
2. Maximizing the scale and density of development at key locations (such as Gateway-Patterson) which provide a rare opportunity for intensive development which can attract Class A office plus a full range of uses including, but not limited to, a range of for sale and for rent residential, retail, hotel/hospitality, entertainment, education, and health care.

3. Timing and phasing of development to ensure highest and best use for key parcels that may provide significantly greater returns to the public (in terms of place-making, value capture, economic development) if deliberately phased in the future as opposed to immediate development.
4. Leveraging investment in station area and catalytic infrastructure to increase the market potential for transit-oriented locations, providing additional return-on-investment on the overall rail corridor that will lead to greater reinvestment opportunities.
5. Provision of additional local bus service, and other mobility options to extend the economic and social benefit of the Light Rail Corridor.

Each local government, and each community, must determine its priorities and find a balance between desired outcomes and potential development types, scale, and phasing, all with strong consideration for the market as it stands today and into the future.

Affordable Housing

Affordable housing is a critical issue throughout the Triangle Region, and particularly for Chapel Hill and Durham. The light rail project provides a number of opportunities to improve housing affordability along the corridor and throughout the region. New tax revenues and economic resources will be available to invest in the conservation of existing affordable housing stock in addition to opportunities to construct new affordable and affordably-priced housing. Furthermore, the creation of walkable, transit-served neighborhoods provides additional benefits such as significant reduction in transportation costs for residents, greater access to jobs and services, and economic opportunity for those who live throughout the corridor.

To achieve these objectives, affordable housing must become a central strategy in future policy decisions that range from land use and zoning to the investment in appropriate infrastructure that supports the densities necessary to create vibrant – and affordable – neighborhoods along the light rail line. There is no silver bullet; addressing the issue will require a combination of strategies and tactics over time. It is also important to recognize that trial and error is an essential component of finding the right combination of strategies and tactics. Finally, timing and phasing must be considered, as actions such as land banking or adopting new land use and zoning regulations must anticipate and set the stage to enable eventual construction of affordable housing upon completion of the light rail line.

Mobility / Transit Enhancements

In addition to the additional connectivity offered by the light rail itself, the rail line also provides opportunities to offer additional mobility and transportation services that will increase choices for non-auto trips. These include more robust last mile connections, access to/from station areas and existing neighborhoods, and new technology-driven mobility solutions throughout the corridor.

While the physical environment of the station areas is an important component to successful TODs, that built environment must also support multi-modal transportation and a robust suite of mobility offerings. Currently, the bus systems along the Light Rail Corridor serve two communities with a much higher per person demand for transit than most of the rest of the United States, with annual transit trips per person in the Durham-Chapel Hill Metropolitan Statistical Area exceeding that of communities like Charlotte, Minneapolis, and Denver, communities that have already invested in light rail.

This strong local transit market provides an opportunity for light rail to complement, enhance and expand the reach of this essential bus service. In addition, investment in complete streets, greater pedestrian connectivity and infrastructure to support cycling and oncoming micro-mobility options can, cumulatively, provide an outcome whereby “the whole is greater than the sum of its parts.” The result will be a comprehensive and holistic suite of transportation and mobility services meeting the needs of all residents and employees throughout the corridor. Such efforts should be taken in consideration of future automated local and regional mobility solutions to ensure a smooth transition as technology – and our associated behavior – evolves.

Light Rail Market Assessment

PURPOSE

Economic and market analysis serves as an important “reality check” to ensure that the range and amount of uses in the development concepts are reasonable when compared to the overall demand for within the regional job and housing markets. Future development designed without regard to market realities may never get built (builders cannot make a profit, so they skip it) or winds up empty (people don’t like it, so they refuse to live or work there). Market analysis provides insight as to whether developers and builders are likely to build, what they are likely to build, and whether people are likely to live and work there.

Successful translation from the Guidebook to the real world requires a number of items to come together in Durham and Chapel Hill. Enough companies need to be interested in the market to support development of office buildings. A large enough population of potential residents must be interested in living within the region, and, specifically within apartments, condos and townhouses. Finally, the existing population, in addition to new employees and residents, must be able to support retail and other commercial uses.

To meet these goals, there has to be sufficient economic growth and job creation within the region to support both the construction of new office space, while ensuring existing buildings remain stable and occupied. In addition, to market support for new space in general, it is essential to understand the type of space companies, and their employees desire - including those detailed within this Guidebook (walkable, transit-oriented, in mixed-use downtowns or downtown-like environments) as opposed to existing space in single-use suburban office parks.

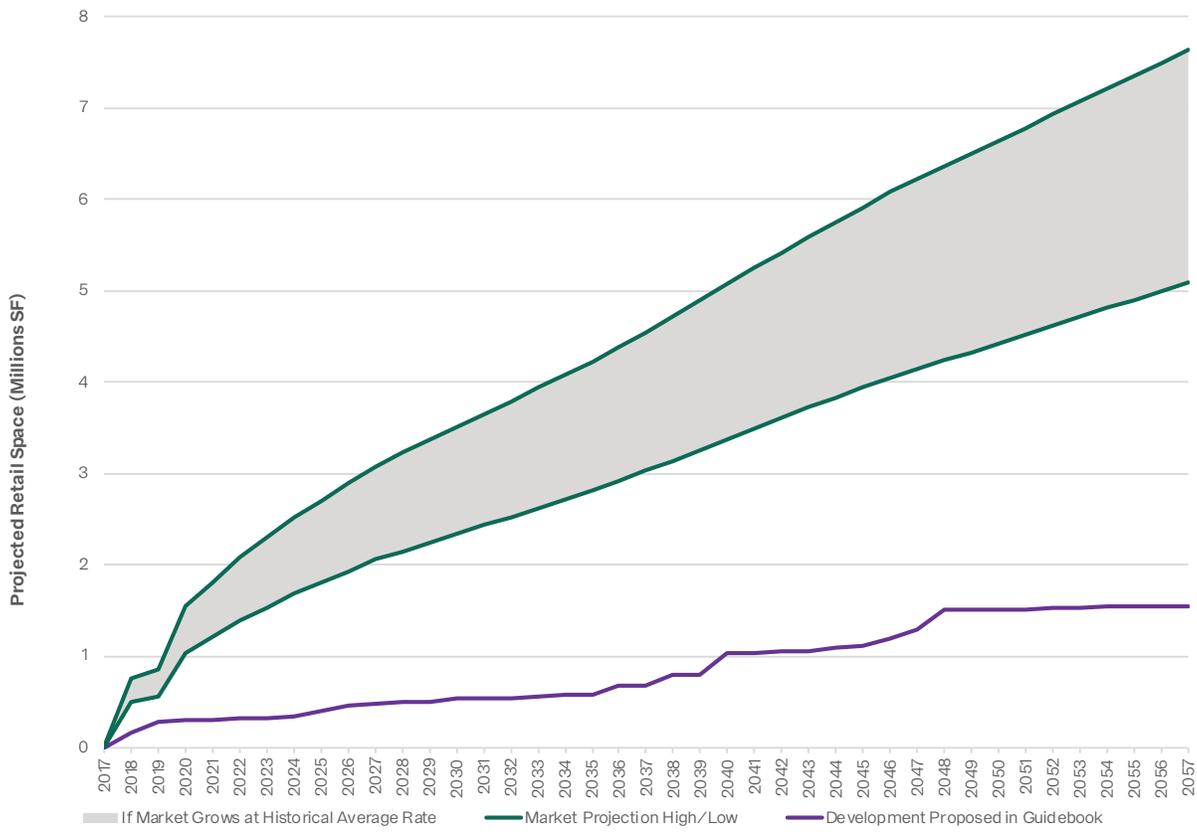
Furthermore, the new jobs that are created must pay enough to enable employees to afford the kinds of condos, apartments, and townhouses that are proposed - all the while further supporting associated retail and restaurant uses. Finally, people - the end users - must desire these kinds of living arrangements, within mixed-use, walkable communities, even with the wide array of housing choices already present in the region.

It should also be noted that the region as a whole is expected to continue growth at a similarly strong rate to what has occurred done in the past. However, **where and how this growth occurs can be heavily influenced by strategic and intentional planning efforts, such as a focus on creating new job and population centers at and around light rail stations.** Given these variables, this Guidebook has taken a more cautious approach based on conservative estimates, rather than using some unrealistic, above-average growth in jobs and residents to support the development plans presented in this work.

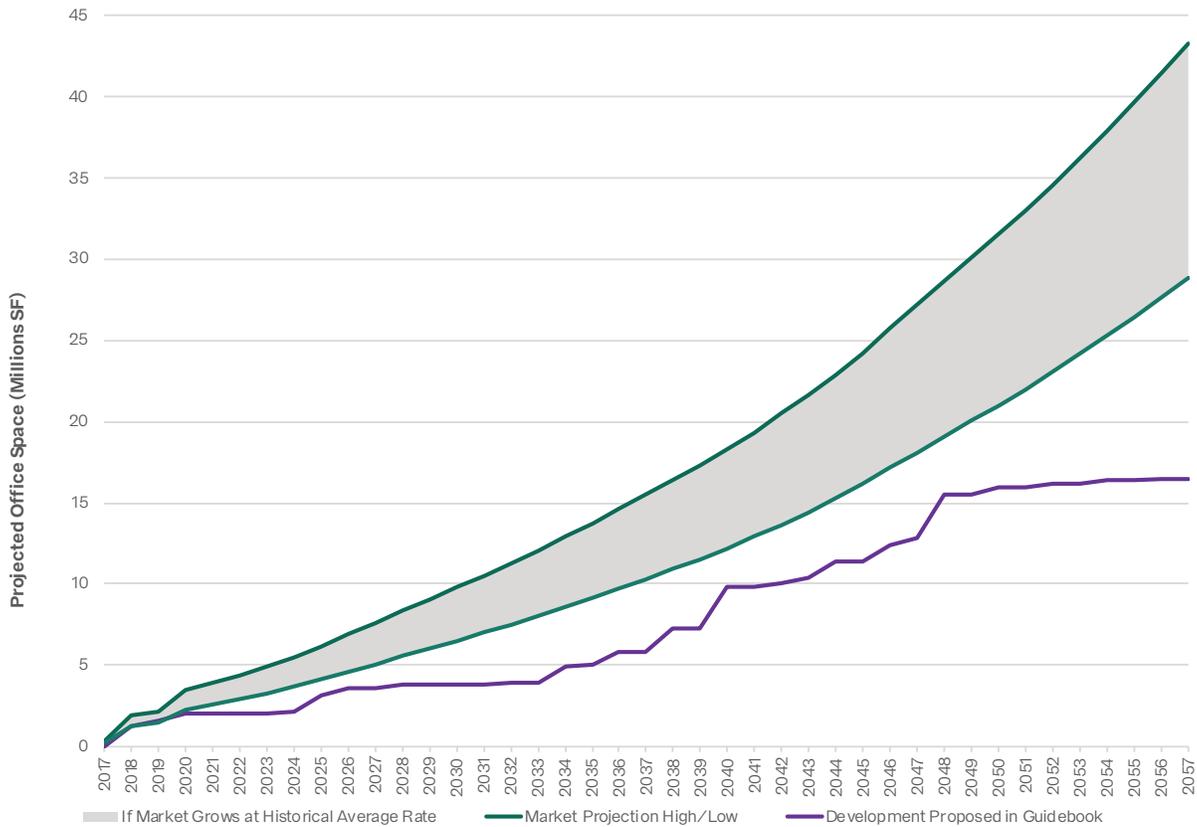
The analysis conducted demonstrates that should the Triangle region continue to grow at or near its historic average over the past three decades (which includes two recessionary periods), ample market support will exist to support the types of new development recommended within this Guidebook.

More broadly, demand in the U.S. for walkable communities is increasing while supply remains limited. That said, many significant research and studies have empirically demonstrated price premiums for walkable, urban, environments. This suggests that even within the confines of more cautious estimates for future growth, an opportunity exists to redirect and accommodate much of that growth toward the walkable TODs at light rail stations. These market trends are further supported by significant anecdotal evidence that demonstrate clear preference for companies and their employers to live in – or near – walkable, mixed-use, and transit-oriented neighborhoods.

RETAIL MARKET FORECASTS



OFFICE MARKET FORECASTS



OVERALL APPROACH AND ASSUMPTIONS

Research completed during the project shows that the Triangle Region has consistently grown at an average rate of 3% to 5% per year over the last 30 years. Whether measuring population growth, job and employment growth, or amounts of housing, offices, and retail construction, all growth rates fall into this 3% to 5% range, when averaged over the last 30 years to include all the boom and bust cycles, including recessions in 2000 and 2008.

Approximately 20% to 25% of the overall growth in the Triangle region has occurred within Durham and Chapel Hill. During some years, more new houses, hotels, offices, and stores have been built in Raleigh and Wake County; but in other years, more development occurs in Durham and Orange Counties. On balance, the portion of regional growth occurring in Durham and Chapel Hill averages in the 20% to 25% range.

If the Triangle region keeps growing at 3 to 5% per year, and Durham and Chapel Hill continue to absorb 25% of that growth, it would produce significantly more offices, stores, and apartments than are included for analysis in this Guidebook, supporting our conservative approach to this study. This strongly suggests that, if the Triangle Region can sustain its past growth rates, there will be plenty of market demand for the development outlined here, and potentially considerably more.

It is understandable to ask “can we believe the Triangle region will continue growing at a similar pace in the future?” The picture is encouraging: the region consistently appears in top-ten lists for jobs and opportunity, quality of life, and cost of living. Duke, NCCU, and UNC have strong and growing academic programs that are likely to continue to attract top-tier students and faculty. The health services and medical research sector, undergirded by the universities, offers a strong and recession-resistant economic base. There is ample economic evidence that regional growth is likely to continue for another thirty or forty years, even with the inevitable ups and downs of the business cycle.

It is also important to consider who will likely live in these new walkable TODs. As compared to a national baseline, students and employees within the region are expected to skew younger, single, and/or childless: the prime life stage for apartment and condo living. This age group has demonstrated a preference for non-auto dependent transportation more than any other cohort, based on Census data.

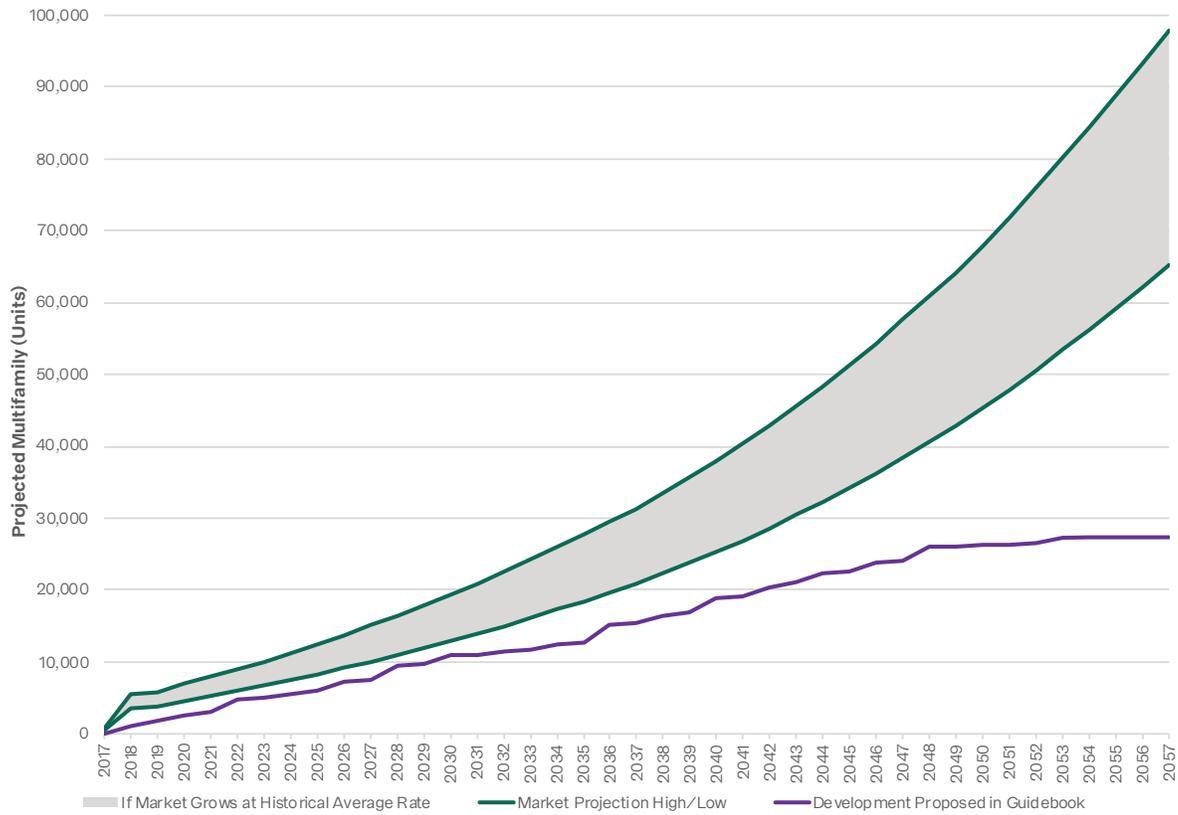
When light rail connects the major employment clusters (campuses, hospitals, and downtown Durham), it is reasonable, even by conservative estimates, to expect strong demand for the types of new housing outlined in this Guidebook.

An increasing number of companies report that they intend to locate in urban, walkable neighborhoods. The popularity of the tech incubators and co-working spaces in downtown Durham already illustrate this reality. Locating an office near transit increases the ways employees can get to work and broadens the talent pool that companies can recruit from. Urban locations also reduce the need to provide parking and keeps more people from clogging up roads. Furthermore, these workers and residents will want places to hang out. Although online ordering and delivery services are changing the retail industry, there will still be the need for personal services and experience-oriented retail: restaurants, bars, hair and nail salons, live music venues and escape rooms: places to meet, and things to see and do. With the growth of residents and employees, retail is likely to follow.

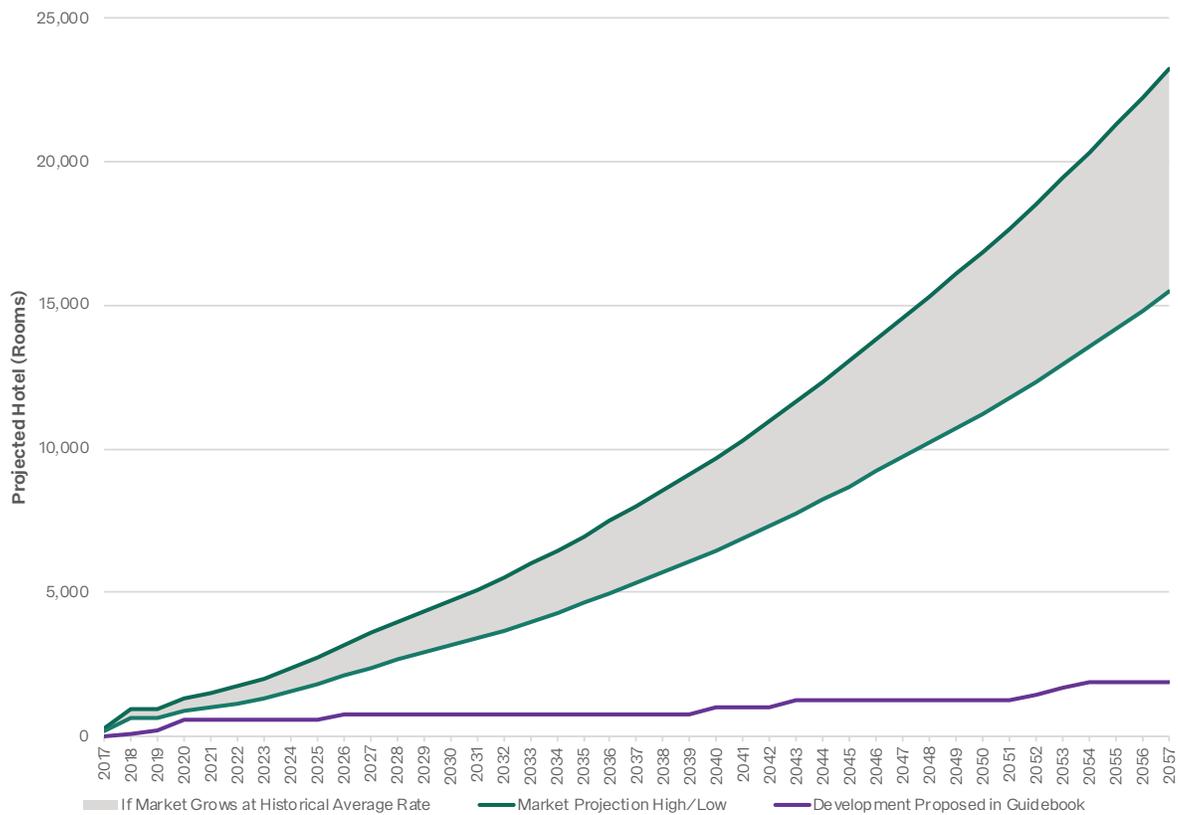
STATION AREA APPROACH

While market research on past economic growth and expected future development is helpful at a regional level, it is not a crystal ball that can predict when and where individual buildings might be

MULTIFAMILY RESIDENTIAL MARKET FORECASTS



HOTEL MARKET FORECASTS



built. When focusing on station areas, market-oriented questions more appropriately focus on what builders, developers, companies, employees, renters, owners, and residents will consider when deciding to build, use, or occupy new spaces. Market considerations include issues such as whether a parcel is large enough to site an office building, or if parking entrances and exits can be connected to existing streets while retaining good urban fabric. Some intersections may be too noisy for residential uses, while others may not be wide enough to support employees at rush hour.

As light rail is intended to add to the urban fabric, not replace it, development is depicted and analyzed primarily on parcels that are currently vacant, underutilized, or have old and empty buildings that can be adapted and reused in a different way to promote a higher and better use. Outside of the TOD study, a number of projects are currently proposed or under construction in or near the station areas. Development proposed in this Guidebook includes these projects as of July 1, 2017, and they influence the placement, amount, and timing of additional transit-oriented development shown.

Neighborhood context is just as important from a market perspective as it is from a design perspective. An out-of-place office building is less likely to attract companies to occupy it; people will shy away from an apartment complex if the neighborhood feels abandoned and unsafe at night. It would not make sense to propose a new corporate headquarters campus adjacent to NCCU, where the focus is on academic and residential uses. From a market perspective, it is important to consider the feasibility of successfully building and using new development. These market questions (will this location work for a builder? for a resident? for employees?) are considered for the designs and plans contained in the Guidebook.

MARKET STUDY RESULTS

The data that demonstrates continued growth is likely to at least meet, if not surpass, historic trends, coupled with the strength of the regions key employment industries suggest that Durham and Chapel Hill will add sufficient supply of new jobs and residents to support the proposed build scenarios outlined in this Guidebook.

The charts on the previous and adjacent page show the overall estimated future growth based on average historical growth rates continuing into the future. Also shown is the total amount of cumulative development in the station area, as described in the Guidebook. In the projected growth section, the range represents the “high” and “low” demand growth scenarios, as the future is always uncertain; years 2018 through 2023 are based on current projects under construction or approved for development as of July 1, 2017 (the date which served as the cutoff for data collection and analysis feeding into the market study).

To develop and fill the types and amounts of new building proposed in this Guidebook, based upon the findings of the market study, Durham and Chapel Hill would have to capture about 13% of expected regional growth, about half of what they have captured in the past. This suggests that the amount and kind of development in this Guidebook are not only realistic, but conservative, from a market perspective.

Since many of the region’s new jobs will be on or near the academic and medical campuses of Duke, NCCU, and UNC, there will be demand for housing close to these employment centers. Because the light rail will serve those employment centers, it makes sense to build new housing along the corridor it serves. This will both increase the number of jobs available to more residents without using their cars and reduce price pressure on single family homes that are a short drive away. From a market analysis perspective, the jobs (and the demand for housing that comes with them) will be generated. Already attracted to this market, developers and builders will be interested in adding to the urban

fabric if they are allowed to and if supporting infrastructure is put into place. Residents and employees will be interested in living and working within these walkable neighborhoods further enhanced by good transit service. **It is a question of how and where, not if, new growth will take shape within Durham and Chapel Hill.**

PROPERTY TAX REVENUE ANALYSIS RESULTS

TOD in the along the Light Rail Corridor could produce \$1.4 to \$1.9 billion in additional property tax revenues between 2018 and 2057. “Additional” refers to net new tax revenues that would be collected based on the increase property values above their 2017 baseline values (with the assumption that current land uses and densities continue unchanged for the same period from 2018 to 2057). This analysis concludes that the Light Rail Corridor has the potential to generate new development, property value, and tax revenue that could, with appropriate financial and regulatory mechanisms, be used to subsidize infrastructure or other community needs.

Station Areas	7,026 Acres
Development Concept Areas	1,361 Acres

POTENTIAL NEW TAX REVENUES

LIGHT RAIL CORRIDOR	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$3.4 Billion	\$2.8 Billion	\$2.1 Billion	\$1.7 Billion
Upper Estimate (65th Percentile)	\$4.6 Billion	\$3.8 Billion	\$2.9 Billion	\$2.4 Billion
Net New Property Value				
Lower Estimate (35th Percentile)	\$1.8 Billion	\$2.8 Billion	\$3.3 Billion	\$3.3 Billion
Upper Estimate (65th Percentile)	\$2.4 Billion	\$3.7 Billion	\$4.5 Billion	\$4.5 Billion

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$172.4 Million	\$493.5 Million	\$929.5 Million	\$1.4 Billion
Upper Estimate (65th Percentile)	\$233.3 Million	\$667.6 Million	\$1.3 Billion	\$1.9 Billion

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%
Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars.



TOD POLICY PRIORITIES

*“I think [about]
wholistic
communities,
and I think
that is the only
community
worth
building”*

PETER FRENCH

RISING BARN

After extensive work and stakeholder engagement in the development of this Guidebook, the consultant team and GoTriangle team determined that the following policy briefs and respective action steps are critical to successful implementation of the Light Rail Corridor. Supplemental information on each of these policy priorities may be found in the appendices, beginning with Appendix B.

Affordable Housing

As part of the TOD study, a comprehensive affordable housing report was developed in collaboration with Chapel Hill, Durham, Triangle-J Council of Governments and GoTriangle. For detailed insight into the affordable housing shortage, the opportunity the light rail presents to address it, and a comprehensive approach to address the issue at scale in the Light Rail Corridor — see Appendix B of The TOD Guidebook.

For detailed insight into local data, current efforts underway in the corridor, performance tracking measures, policy maps, and discussion of selected strategies refer to Appendix C of The TOD Guidebook. The essential policy takeaways, and strategies to support opportunities for dedicated affordable housing, and affordably-priced housing along the Light Rail Corridor are described in this section.

THE AFFORDABLE HOUSING SHORTAGE

Chapel Hill and Durham are experiencing a growing housing affordability crisis, similar to many economically prosperous regions across the country today. Recent population and job growth in the region far outpaces the number of homes that are being built, resulting in upward pressures on pricing, leading to gentrification and displacement. Together, Durham and Orange counties are adding, on average, 20 people per day and housing construction is not keeping pace. This phenomenon is exacerbated by recent shifts in people’s preferences, and therefore, willingness to pay more to live within more walkable, connected “in-town” neighborhoods near Downtown Durham, Duke, and the University of North Carolina at Chapel Hill. Further, demographics are trending towards one- and two-person family sizes at a time when one- and two-bedroom homes are already in short supply, particularly within in-town neighborhoods.

These trends are made even worse by the following dynamics within Durham and Chapel Hill:

1. There is limited available land, particularly in desirable in-town neighborhoods, resulting in higher land costs that are prohibitive for builders of affordable housing and an increasing number of families who are unable to afford increased rents or home sales prices.
2. Local regulatory policies, including zoning codes, that make it very cumbersome or outright illegal to develop a range of affordably-priced housing types, such as backyard cottages and other “Missing Middle” housing options. Regulatory policies can also unintentionally add substantial costs to more typical detached homes and apartment communities. These added costs are almost always passed onto the purchaser or renter of the home.
3. Arduous and unpredictable development review processes, which further limit housing options and diminish the pool of potential developers and lenders, while also stymieing creative ways to address the housing shortage.

Ironically, it is the builders of dedicated affordable housing and would-be builders of affordably-priced housing who are most impacted. The three trends above increase the gap between affordable rents, and the costs to build and maintain dedicated affordable housing. For builders of dedicated affordable housing, increasing costs create the need for increased public financial assistance to build

Affordable Housing Roundtable

The consultant team hosted an “Affordable Housing Roundtable” that included prominent real estate developers and affordable housing experts along with local municipal representatives to discuss innovative approaches to the affordability issue.

A full detailing of recommendations, including those that took root in this discussion, are available in the Affordable Housing Report (see Appendix B). The following were key takeaways from the roundtable:

- There is no silver bullet solution, but rather there is the need to “stack” a series of strategies to address various elements that contribute to the growing affordability crisis.
- “Trial and Error” will be an essential component of finding a successful strategy. As such, municipal representatives and the community at large must not be afraid to fail and adjust along the way.
- Creative approaches will be needed to overcome certain limitations inherent to voluntary and mandatory density bonus programs, including statutory and financial realities that limit the effectiveness of these tools,
- There is a need not just to tweak the current regulatory landscape, but to “break the rules” and invent new regulations and other mechanisms to successfully address the issue.



each home, resulting in a less efficient use of public resources in the face of a growing shortage of affordable homes. In other words, these dynamics that are increasing home costs mean that it costs more to build fewer dedicated affordable homes. For would-be builders, this means that either (1) they do not build the homes, or (2) the homes that they do build are more expensive.

Plainly stated, in a prosperous, growing region like the Triangle, limiting the number of homes that are built, intentionally or unintentionally, through local policy, is a recipe for more expensive and increasingly unaffordable prices, for all renters and for families hoping to purchase a home.

THE OPPORTUNITY

The light rail project provides an opportunity to reaffirm the decades-old framework for how Durham and Chapel Hill wish to accommodate new people and jobs while supporting the creation and conservation of dedicated affordable housing.

Transit-oriented development around light rail stations not only provides new opportunities for people to live in walkable neighborhoods served by transit, it also presents a substantial opportunity to leverage new private investment in station areas to support dedicated affordable housing. New tax revenues, increased property values, and economic growth can be harnessed to use a wide array of strategies that could result in greater production and conservation of affordable housing while improving overall quality of life for residents and employees.

Today, there are over 100,000 jobs in the Light Rail Corridor; in 20 years that number will exceed 150,000. The concentration of jobs, amenities, services, and healthcare in the corridor means that placing more housing near light rail, as well as along adjacent frequent bus routes connecting to light rail, will provide residents with low cost, frequent, and reliable access to educational and employment opportunities.

Housing along the Light Rail Corridor should be viewed as a key tool for equitable economic development. The creation of new housing options along the Light Rail Corridor – market rate and affordable alike – is an essential element to retain and attract employers to the area, as housing is one of the most critical aspects of corporate site selection and the ability to grow the local economy. Subsequently, investment and development activity along the corridor will increase property values that can be leveraged to support affordable housing, directly and indirectly through supportive infrastructure to create walkable and access-rich communities. The creation of new job centers along the light rail will have the dual benefits of (1) providing greater access to jobs and economic opportunity to individuals who live throughout the corridor while (2) reducing the combined cost of Housing + Transportation. Both of these realities provide for greater social equity and economic outcomes as a result of the light rail.

To frame the discussion about affordability, within the context of the light rail project, GB Arrington, one of the nation’s foremost experts on transit-oriented development, stated:

When you adopt TOD plans and zoning you have arrived at the starting line for securing affordable housing, not the finish line. The plans and zoning make TOD and affordable housing permissible, something very different than making them viable. The first pertinent question is ‘how much affordable housing and urban density do the plans and zoning allow?’ Then you can have the conversation about the robust toolbox necessary to help assure the outcomes the plans envision.

Four Primary Takeaways from the Affordable Housing Report:

1. **Resources are necessary to address the escalating affordability crisis throughout the region.** Whether for land banking, financial assistance or direct investment in the production of housing, more money will be necessary. New property value from TOD around the light rail line provides an opportunity to significantly expand those resources but cannot be viewed as the only source for revenue. In this regard, outreach to non-traditional sources for long-term investing—such as for land banking—should be undertaken, including institutions like the Methodist Pension Fund and the Duke Foundation. Further, zoning codes and affordable housing programs should be regularly evaluated to ensure that limited funds are stretched as far as possible to support as many affordable homes at the lowest possible cost in order to maximize the total number of affordable homes that can be created or conserved.
2. **It will take an “all-of-the-above” trial and error approach** to determine the best set of strategies for Chapel Hill and Durham, with the understanding that different strategies will be necessary in different neighborhoods. Strategies and the types of housing must be calibrated to the local, neighborhood context and appropriate future development in and around each area.
3. **A dual approach of conservation coupled with increasing supply will be necessary to provide greater all around affordability in both the short and long term.** Considering both the higher costs and that relatively fewer homes are created each year, compared to the existing number of attainably priced homes, efforts must include conservation of existing affordable housing stock while simultaneously creating policies to incentivize affordable housing from new development.
4. **The time to act is now.** Land, while it is more expensive than it has ever been, it is also less expensive than it ever will be. Critical decisions must be made today in regard to planning, phasing and development of infrastructure necessary to support vibrant neighborhoods, which include affordable and attainable housing. Policy changes should occur in the near future (one to three years from now) to best prepare for and leverage future development of rail infrastructure and private station area development.

In summation, there is no single silver bullet that can successfully address the affordability crisis

in the Chapel Hill and Durham region. However, in concert with one another, a range of potential strategies could make significant progress in meeting this need.

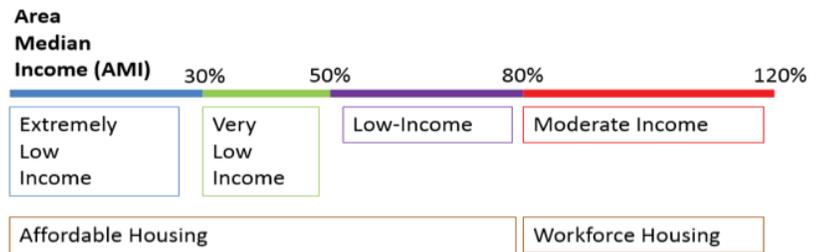
AFFORDABLE HOUSING OBJECTIVES & ACTION STEPS

The comprehensive Affordable Housing Reports, which may be found in Appendices II and III, advance the following 12 objectives, and associated action steps to promote implementation:

OBJECTIVE #1

Set Realistic, Yet Aggressive, Affordable Housing Goals by Number of Homes to Close the Affordability Gap within Station Areas

In order to substantially address the affordable housing crisis within the region, and to make a positive contribution to addressing it along the light rail line, it is necessary to have estimates and projections of the following:



- The shortage of affordable homes that exists today and will exist 10 years from now without action.
- The number of affordable homes that need to be built and conserved to address this shortage and the time it will reasonably take to do so.
- Identification of strategies that will be used to build and create new dedicated affordable homes and estimates of the number that can reasonably be produced by each strategy.
- Identification of strategies that will be used to support the construction of market rate homes and reduce price pressures on existing naturally occurring affordable homes.

□ **ACTION STEP:** Durham and Chapel Hill set and validate a target number of affordable units for both construction and conservation over the next five, ten, and twenty years within station areas by the end of 2019.

OBJECTIVE #2

Prioritize Conservation / Conversion of Existing Affordable Housing

While much of the burden to provide new attainably priced housing is put on the backs of new development, this approach is a rather inefficient way to make meaningful progress towards bold housing goals and production targets.

Instead, multiple existing naturally occurring affordable homes (or dedicated affordable homes whose affordability restrictions are about to expire) could be conserved for the cost of producing one new affordable home.

This is especially true of new construction in popular locations with higher land prices and higher construction costs. Conservation of affordable homes could be achieved through establishing a fund for affordable housing partners and private property owners to reinvest in existing communities in exchange for new or extended affordability commitments. This could also be done in partnership with property owners who would like to redevelop by using regulatory bonuses and financial incentives in exchange for the property owner committing to maintaining a certain amount of affordability as the property is redeveloped.

- **ACTION STEP:** Chapel Hill and Durham conduct an audit of existing workforce and affordable housing to determine properties that are best suited for conservation.
- Identify naturally occurring affordable properties and score their risk of either being redeveloped or renovated with an accompanying rent increase (also known as “filtering up”).
 - Identify and score legally binding affordable properties with expiring affordability restrictions.

- **ACTION STEP:** Chapel Hill and Durham build capacity to better understand and engage in the private real estate markets by hiring or contracting with a multi-family real estate professional with expertise in the capital markets. This type of professional experience would support land purchases, land banking, dispositions, and provide in depth knowledge of potential off-market opportunities.

OBJECTIVE #3
Implement Innovative Approaches to Land Acquisition and Control

Without land upon which to build or redevelop, it is impossible to create new homes. There is a need for both municipalities and their partners to acquire and/or control land for the purposes of creating a pipeline for affordable housing. There must be a sense of urgency to acquire and preserve key parcels within station areas for future development of affordable housing before land prices increase in anticipation of the opening of light rail. This could take the form of a land bank or partnerships with local institutions such as foundations or pension funds with social impact goals.

Interim uses are a potential tactic within a land banking strategy. This entails putting the property to a temporary economic use that is suitable to be transitioned through redevelopment to accommodate affordable housing once the funding is available. Not only do interim uses help reduce the carrying cost of the property, reserving more funding for affordable housing, they can also help to activate the area around the property. For example, a food truck park could provide an amenity to the employees and residents of a station area during its early phases of development without affecting the longer-term ability for the land to be used for affordable housing.

- **ACTION STEP:** Chapel Hill and Durham identify and prioritize purchase of land in station areas and other locations throughout the corridor, with timing informed by the targets established under Objective #1.
- **ACTION STEP:** Ensure that each land banked property has a role in meeting established targets for affordable housing. To do this, master plan and prioritize each site for development based on the analysis contained in this Guidebook and other pertinent community priorities.
- **ACTION STEP:** Identify potential private sector, not-for-profit and institutional partners to create an interim use of the land until it is ready to be developed into affordable housing.

OBJECTIVE #4
Capitalize on Market Activity to Generate Revenue for Affordable Housing

Explore innovative means to capture and use new property tax revenues to support Affordable Housing through public and private financing mechanisms. The following potential strategies are available to local governments in North Carolina to capture increased property values in station areas:

- **Synthetic Tax-Increment Finance (TIF) District.** This tool relies on committing a certain portion of increased property tax revenues that result from new development activity.
- **Special Assessment Improvement District.** This tool is a levy on properties to support community needs, including affordable housing. This tool requires approval by a majority of property owners within the district boundary and is therefore suited to station areas with concentrated land ownership.
- **Municipal Service District.** This tool allows an additional property tax on properties to support the provision of services or community needs, including affordable housing.

These committed future revenue streams can be monetized through an array of financing tools available to local governments in North Carolina as a way to pay for costs associated with the construction of station area infrastructure and affordable housing. New revenue districts are not

necessarily required to do this; in the absence of a formal mechanism, Durham, Chapel Hill, or the counties could commit a certain percentage of future revenue within station areas to their affordable housing funds for the conservation of existing homes or the creation of new ones within station areas.

Regulatory changes, infrastructure projects, and affordable housing must be timed to complement each other, and they must be completed ahead of the uptick of land prices associated with the opening of light rail, to maximize (or even realize) the ability to support affordable housing. For example, Durham and Chapel Hill should adopt work plans that coordinate policy changes and investments in utilities, streets, land banking, and parking management strategies ahead of, or concurrent with, the construction affordable housing. This coordinated infrastructure/land/parking investment should be undertaken when it can be catalytic to market-rate development on other nearby properties, in addition to supporting an investment in affordable housing. A coordinated approach is especially important given that other developments can help create a walkable neighborhood context for the affordable housing by providing things like sidewalks, public space, and retail. This approach will further reinforce the opportunity for equitable prosperity by using public investments to spur the creation of new places where people of all backgrounds and incomes can live, work, and interact with one another.

- **ACTION STEP:** Durham and Chapel Hill to commit portion of new station area tax revenue to affordable housing. As specific projects make their way forward, finance officers from the City of Durham, Chapel Hill, Orange County, and Durham County should work together to identify and recommend revenue mechanisms and finance vehicles to fund those projects.
- **ACTION STEP:** Create a set of priority investments (including their timing) to determine which investments provide the greatest opportunity to maximize future tax revenue generation and support affordable housing.

OBJECTIVE #5

Conserve and Create Affordable Housing Opportunities through Partnerships between Anchor Institutions and Local Communities

Durham and Chapel Hill must continue to coordinate and formalize partnerships with local universities, health care systems, and other anchor institutions. This strategy could be used in both the short- and long-term to leverage their presence and respective desires to be leaders within the community in addition to introducing housing as a potential benefit for employee recruitment and retention.

- **ACTION STEP Chapel Hill:** Incorporate affordable/attainable/workforce housing plans to into entitlement review for the UNC Health Care Eastowne Master Plan and Campus Master Plan / Development Plan Update
- **ACTION STEP Durham:** Incorporate affordable/attainable/workforce housing plans to into entitlement review for future Duke and NCCU planning and/or development processes

OBJECTIVE #6

Establish Partnerships with Private and Not-for-Profit Entities to Fund, Develop and Manage New Affordable Housing

In addition to partnering with the corridor's anchor institutions, it is necessary to find partners who can provide capital, develop affordable housing, and manage it. These partners can help provide the financial capacity and development expertise to make the most out of public investments in affordable housing and allow the municipalities and counties to pursue multiple projects at once.

Quasi-governmental or non-profit entities that provide a socially-minded investment function, such as Community Development Corporations, are particularly well-suited to fund land acquisition and/or development. This approach might also fit within the purview of an "impact fund" which is comprised of socially-minded investors who are willing to invest in projects that produce social and community benefits even though financial returns may occur on a longer timeline.

There may also be an opportunity for the municipalities and counties to partner directly with affordable housing developers which could take a number of forms, including the following:

- Selling or leasing municipal land at reduced or no cost.
- Providing construction of necessary infrastructure such as streets or utilities.
- Being a part owner of the project by contributing equity and sharing in financial returns or losses.

- **ACTION STEP:** Identify and engage in discussions with potential private, not-for-profit, faith/mission based and institutional partners. These include potential property owners and managers, developers, builders and investors.

OBJECTIVE #7
Ensure Zoning Requirements are Context Sensitive

An important aspect to addressing the affordability issue is to “densify everywhere” – while ensuring new homes fit within the local neighborhood fabric. This type of housing is known as “missing middle” and it includes housing types that range in scale between a stand-alone single family home and smaller apartment buildings. These types include Accessory Dwelling Units (ADU’s), duplexes or fourplexes that are sized to match and blend in to an existing neighborhood. Allowing missing middle housing types within residential neighborhoods surrounding station areas is a valuable strategy to complement the larger scale development anticipated in areas closer to the light rail stations.

In addition to allowing a diversity of housing types, it is important to reduce parking, unusable open space, and setback requirements in neighborhoods surrounding the station areas so that new homes can become a part of the neighborhood fabric while incrementally allowing it to adapt and change over time.

- **ACTION STEP:** Chapel Hill and Durham to conduct a neighborhood by neighborhood land use analysis to determine opportunities to increase supply of incremental, small scale “missing middle” housing.
- **ACTION STEP:** Review, assess and update zoning codes and other land use regulations to spur development of missing middle housing types, in accordance with the findings of the aforementioned analysis.
- **ACTION STEP:** Review, assess, and update zoning codes and other land use regulations to remove regulatory barriers that unnecessarily increase the costs of new housing and to remove barriers to constructing affordable and workforce housing in particular. Refer to the Zoning Policy Brief on page 29 for a listing of regulatory barriers identified by the TOD study.
- **ACTION STEP:** Create a public engagement process to help people understand the need for and benefit of incorporating incremental, small scale and missing middle housing within existing neighborhoods.

OBJECTIVE #8
Ensure that Density Bonuses are Calibrated to be Cognizant of Market Forces

Inclusionary zoning, while politically popular, is often applied too broadly, resulting in decreased overall production and higher housing costs – the exact opposite of the intended outcome. Too often, the result of compelling developers to include an affordable component, is an economic burden that makes it difficult to get a loan to build the project. As a result, the project may not occur, it may include fewer, larger, and more expensive homes, or it may skimp on design. Mis-calibrated density bonuses can have a similar effect. Policies that decrease the amount of new construction in places where people would like to live in a quickly growing market will result in upward price pressures for housing both in the station areas and in surrounding neighborhoods.

Given this reality, properly calibrated tools to encourage developers to provide more workforce and affordable housing rather than “force their hand” are recommended.

- **ACTION STEP:** Chapel Hill and Durham evaluate existing density bonus programs and other

development regulations to remove hurdles to better incentivize and enable developers to contribute to affordable housing.

- **ACTION STEP:** Chapel Hill and Durham to incorporate metrics in addition to straight line density (number of homes) as opposed to sole reliance on density in calculations, to increase the incentive for developers to build smaller, less expensive homes. These considerations could include:
 - Height requirements (which Durham already uses in areas)
 - Exemption (or flexibility) for lot coverage requirements
 - Exemption (or flexibility) for building massing requirements such as upper story setbacks
 - Reduced public space and parking requirements (where parking requirements exist)
 - Flexibility from material and design requirements, so long as requirements that relate to providing appropriate urban form and street-level characteristics are retained.

OBJECTIVE #9

Ensure Development Processes are Transparent, Fair and Predictable

One of the most overlooked and largest factors that dampens supply of both market rate and affordable housing are overly complex land use policies and entitlement processes. The additional time and risk work in tandem to contribute to higher costs for housing. Sometimes, adjusting the existing framework is not enough to provide the desired outcomes. At times, it is necessary to “start fresh” and either change the rules or break them and create a new way in which to do business.

As such, it is essential to provide clarity and transparency in the development process. Developers are willing to work within the rules, even jump through additional hurdles, if the process is clearly defined and conducted with fairness and objectivity.

- **ACTION STEP:** Chapel Hill and Durham review existing land use, development and construction approval processes to determine what aspects may hinder production of quality development in general, and the provision of affordable and attainable housing in particular.
- **ACTION STEP:** Chapel Hill and Durham revise approval framework with an expedited review for projects that meet certain affordability criteria. This type of framework provides more clarity and predictability and less financial risk for developers and investors.

OBJECTIVE #10

Increase Sources of Affordable Housing Funding Using Innovative Financing Tools

To successfully meet community goals the municipalities and counties must increase their financial capacity to support the pipeline and construction or purchase of affordable homes. Both Chapel Hill and Durham have experienced staff working on these efforts, and each has created a series of policies and mechanisms that result in a solid policy framework for the development of more affordable homes. However, limited financial resources remains a significant impediment to addressing community needs and reaching adopted housing goals.

The potential transit-oriented development spurred by the light rail project could provide a catalytic opportunity to obtain new revenue sources to meet the needs of the municipalities and the Region. However, new revenues must be leveraged by appropriate policies and investments within the Light Rail Corridor and beyond.

- **ACTION STEP:** Chapel Hill and Durham assess potential impact of innovative finance and funding strategies to increase capacity for affordable and attainable housing development at all scales (incremental, missing middle, larger scale intensive development).
- **ACTION STEP:** Chapel Hill and Durham codify mechanisms to leverage the increase in property values created at and around station areas, as a result of the light rail investment, to fund/ catalyze/leverage these funding sources and financing tools.

OBJECTIVE #11

“Stack” different strategies and tactics to provide a layered solution

A layered solution would reduce, if not eliminate, the funding gap between the cost to construct affordable homes and the requisite rents necessary to support such development. Public dollars can go much further when they are matched by or are used to incentivize and support private development when compared to having the public sector fund affordable housing directly. Increasing revenues for affordable housing without also finding ways to increase the effectiveness of those revenues will result in the inability of Chapel Hill and Durham to substantively address the affordable housing shortage.

- **ACTION STEP:** Chapel Hill and Durham create matrix of affordable housing priorities and opportunities categorized by scale, neighborhood typology and timing to create integrated strategies for a full range of affordable and workforce housing opportunities.

OBJECTIVE #12

Support Interdisciplinary Engagement and Collaboration

Since the only constant will be change (market conditions, policy tools, site opportunities, funding streams, organizational leadership, and staffing), structured and sustained engagement and collaboration will be important for success. Two initial collaborations that should be supported are:

- The existing Housing Practitioners Group facilitated by the Triangle-J Council of Governments that brings together housing expertise from local government agencies, the private sector and non-profit organizations to collaborate on affordable housing issues.
 - Increased communication and cross-silo frameworks within each municipality to ensure that a coordinated and informed process occurs to address a range of issues that inter-relate, including land use, economic development, infrastructure, affordable housing, and transportation.
- **ACTION STEP:** Chapel Hill and Durham look to create inter-municipal partnership frameworks to promote greater communication and coordination between and among the Town, City, Durham and Orange Counties, and TJCOG.
 - **ACTION STEP:** Chapel Hill and Durham look to create internal, cross-silo frameworks to foster coordination and collaboration among and between all staff and agencies that either affect or are affected by development in general and affordable housing, in particular.

Zoning and Entitlements

INTRODUCTION & OUTCOMES

This section describes the ways in which essential transit-oriented development principles inform and become incorporated into local planning and zoning mechanisms. In order to create walkable places with a mix of jobs, housing, shopping, dining, entertainment, and public space near light rail stations, Durham and Chapel Hill must adopt zoning requirements and review processes that intentionally enable and encourage transit-oriented development (TOD).

The recommendations in the Guidebook reflect differences between the two municipalities, including the different underlying characteristics within each station area, and the differences in planning and policy progress towards transit-readiness. This policy brief describes planning efforts that are already adopted or currently underway in Durham and Chapel Hill, in addition to the action steps needed for zoning and review processes to intentionally enable and encourage TOD. Also included in this policy brief is a discussion of the universities’ roles as Anchor Institutions in land use decisions at multiple stations along the Light Rail Corridor.

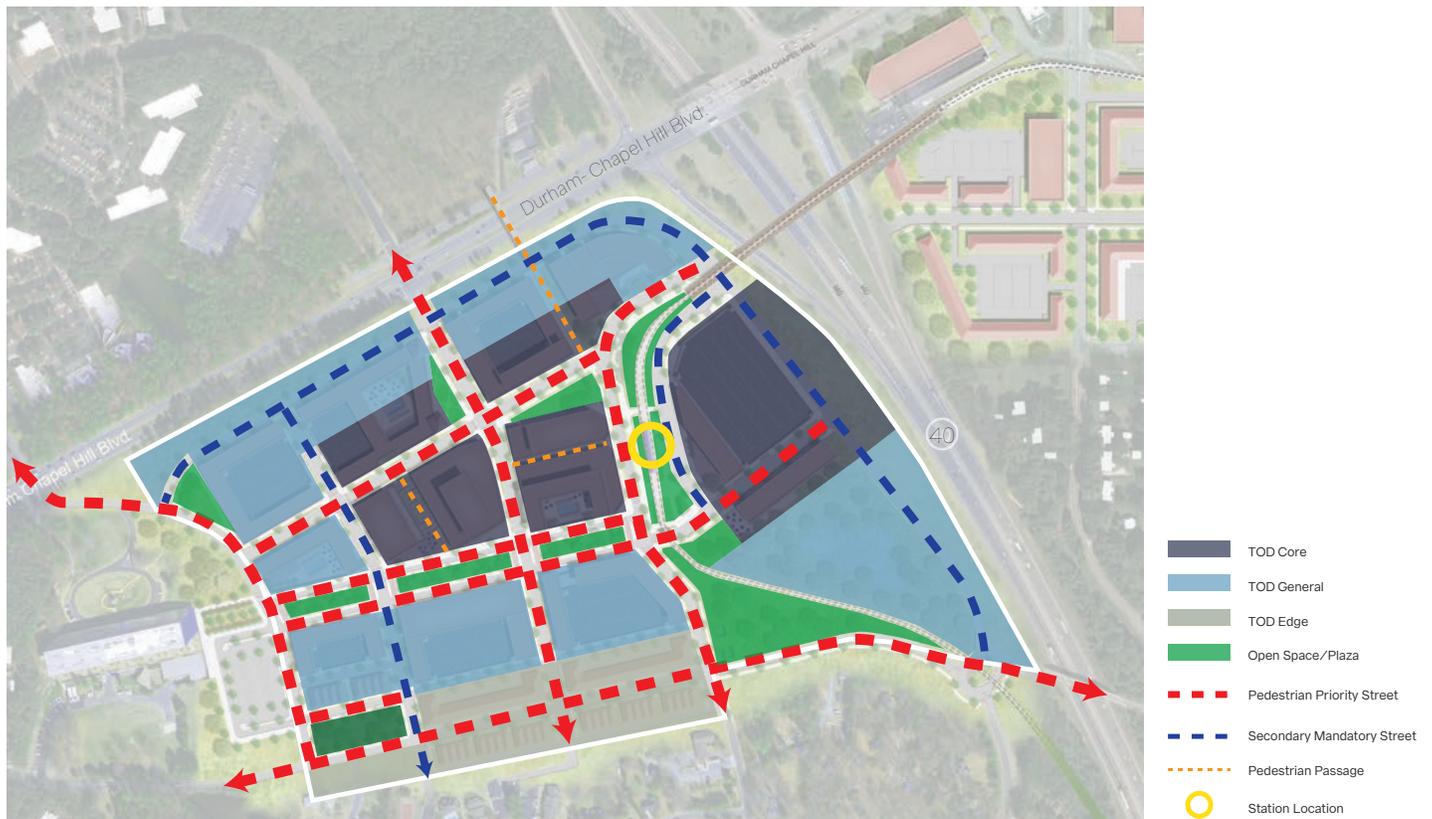
With the notable exception of the historic urban fabric in central Durham - adopted plans and appropriate zoning districts are essential for successful transit-oriented development. However, zoning requirements and processes are only a portion of the regulatory framework that is needed to support TOD. TOD plans and zoning ordinances, even in places like central Durham, must be coordinated with and complement a range of other policies and programs to fully realize the opportunity of TOD. The review process for mixed-use and transit-oriented development encompasses many municipal departments and external regulatory actors outside the municipal planning departments. Thoughtful and strategic coordination is warranted across multiple regulatory interests particularly given the fundamental importance of connectivity via a robust network of pedestrian, bike, and transit access, and the need for comfortable streetscapes and public spaces in all station areas.

Given the importance of connectivity of streets to both walkability and redundancy in the vehicular network, physical characteristics for TOD and walkable neighborhoods are often guided by a framework plan showing streets, blocks, and the ultimate build out of the public realm including streets and public spaces. In conjunction with this TOD study, a framework plan was created for the Gateway station area. These types of plans can be embedded in future land use maps, small area plans, or in zoning ordinances. The underway Patterson Place Compact Neighborhood Rezoning in Durham and the Future Land Use update in Chapel Hill present opportunities to establish framework plans that depict street types, streetscapes, public spaces and places where buildings should have active fronts that open onto sidewalks and public spaces. The image below depicts a draft framework that could be refined and adopted by Chapel Hill to enable and encourage TOD in the Gateway station area.

CHAPEL HILL ZONING & ENTITLEMENTS

The Town of Chapel Hill will be undertaking a multi-year process of rewriting the Town-wide Land Use Management Ordinance (LUMO), creating a nicely timed opportunity to incorporate TOD practices in the within its station areas. The LUMO rewrite process is anticipated to take several years, presenting

GATEWAY STATION EXAMPLE FRAMEWORK PLAN



the opportunity to take other types of action steps to enable and encourage TOD, consistent with the vision articulated in Chapel Hill 2020, the Town’s Comprehensive Plan.

Chapel Hill 2020 also identifies ‘Future Focus Areas’ along major corridors including U.S. 15-501 and NC 54. Four of the planned light rail stations are within these areas: Gateway, Woodmont, Friday Center Drive, and Hamilton Road. Each of these station areas was analyzed in detail as part of the TOD study, including a week-long design workshop in Chapel Hill in February of 2017, and in several public meetings with the Town’s advisory boards and the Town Council. The Gateway station area in particular garnered a great deal of attention given its central location along the line between two major research universities, proximity to major highways, as well as the airport. This important location combined with opportunities for coordinating with the Patterson Place station area and the pending Eastowne Master Plan creates an opportunity for a new regional employment center with a mix of offices, housing, shopping, dining, and entertainment with ample public spaces including pocket parks, avenues, greens, plazas and multi-use paths.

In addition to the draft framework for the Gateway station area, this report includes zoning principles as a helpful reference for TOD station areas for staff, residents and public officials to consider when drafting zoning regulations in the light rail station areas, consistent with the vision of Chapel Hill 2020. In the long term, the Friday Center and Hamilton Road stations, represent a significant transit-oriented economic development opportunity that should be carefully planned in partnership with the University of North Carolina at Chapel Hill, as discussed later in this section. Similar to other university-owned properties off the main campus, there are opportunities for increased property tax revenues through payment in-lieu-of-tax agreements for new property values created by both private and university development on UNC property.

DURHAM ZONING & ENTITLEMENTS

The City of Durham and Durham County operate with a joint planning department and Unified Development Ordinance (UDO). The Future Land Use Map and UDO are organized based on development tiers, categorized generally as downtown, urban, suburban, and rural. Light rail stations are located in the Downtown or Urban Tier in Central Durham, and Compact Neighborhood Tiers elsewhere in Durham, which are specifically designated transit-oriented developments (TOD) areas in the Comprehensive Plan and Future Land Use Map. Following the direction in the Comprehensive Plan, Durham is in the multi-year process of adopting transit-supportive Design Districts within its station areas. The Design Districts include standards that:

- Establish boundaries of the various sub-districts, which ensures a transit-supportive core and appropriate transitions in height and building size between new TOD and existing neighborhoods.
- Set parameters for building heights, building types, streetscapes, and outside building edges.
- Identify street networks, and in some cases, building requirements based on street type.
- Govern minimums and maximums.
- Provide bonuses to projects that commit to public priorities, such as affordable housing or public parking.

The stations in Downtown Durham and the Ninth Street station presently have adopted transit-supportive Design Districts in place. As of this writing, Compact Suburban Design District regulations are being drafted and publicly vetted for the Patterson Place station area.

Regulatory Barriers to Missing Middle Housing

As part of the Station Area Planning work, the team assessed existing Durham UDO requirements, and also conducted feedback sessions with a range of developers familiar with working in Durham

to identify certain requirements that add costs or barriers to developing affordably and moderately-priced housing across the city. Potential impacts of changing the identified requirements were considered, and it is recommended that the City evaluate the following improvements to better accommodate or allow the construction of “missing middle” housing types that are affordably-priced by design. While these recommendations are broadly applicable within Durham’s Urban Tier, they are specifically valuable as edge treatments to Durham’s station areas in the Downtown Tier and Compact Neighborhood Tier help provide an appropriate and neighborhood-scaled transition between existing neighborhoods and station areas.

- **Eliminate** the minimum acreage requirement for the Urban Planned Development Residential designation, to better facilitate incremental and innovative residential infill.
- **Simplify** architectural standards by eliminating requirement for townhomes to be varied in materials and varied in front façade setback, to better accommodate historically accurate architectural details and to avoid introducing unnecessarily complicating and costly building massing.
- **Refine** the density bonus to correlate with recommendations identified elsewhere in the affordable housing sections of this Guidebook.
- **Establish** complete streets design standards and require that street designs be context-determined.
- **Eliminate** the requirement for every house to have frontage on a public street, instead allowing detached, fee simple housing to have access to rights-of-way via dedicated easements such as alleys, greenways, and other small park spaces.
- **Increase** the maximum size limitations on Accessory Dwelling Units to 50% (from 30%) of the primary dwelling unit’s square footage, to allow more houses of smaller sizes to include such units.
- **Facilitate** the development of “missing middle” housing types such as cottage courts, duplexes, quadruplexes, multi-unit homes, and other architectural types that are spatially compatible with existing and redeveloping neighborhoods; regulate based on urban form rather than density.
- **Eliminate** minimum lot sizes within the Urban Tier; instead, allow minimum building code considerations to govern what constitutes a viable unit.
- **Consider** eliminating off-street parking requirements for single family detached units, cottage courts, and other detached housing types.
- **Eliminate** unnecessary ‘landscape’ buffers between differing uses or differing densities.
- **Prioritize** pedestrian connectivity across all driveway and alley entrances, maintaining sidewalks continuously in plan and profile across all private and commercial entrances.
- **Expand** street tree standards to require street trees in all public rights-of-way to be located between the travel lanes and pedestrian routes, everywhere in the Urban Tier (excluding freeway types where pedestrian facilities are not provided) with minimal exclusions for utilities and other specific site encumbrances.
- **Allow** publicly owned utilities such as water and sewer to be placed in dedicated easements rather than solely in public-rights-of-way.

At the time of this writing, the Durham City-County Planning Department has undertaken an evaluation of many of these regulatory barriers at the direction of the City Council and Board of County Commissioners. The first round of potential amendments to the UDO to address these regulatory barriers is slated for review by the community at large and public officials in the Winter of 2018-2019¹.

UNIVERSITY ENTITLEMENTS RELATIVE TO TOD

The light rail line connects three university campuses including significant acreage at several stations along the alignment. The public institutions of the University of North Carolina at Chapel Hill and North Carolina Central University anchor each end of the line, while both UNC - Chapel Hill and Duke

1 <http://durhamnc.gov/3679/Expanding-Housing-Choices>

University own large portions of land in proximity to multiple stations along the line. From a municipal land use perspective, universities often operate under specific zoning districts not applicable to other uses. This is the case in both Durham and Chapel Hill. Additionally, master agreements can be used to accommodate long-term approvals of university development in exchange for commitments to enhanced design and community benefits, enhancing clarity for the respective institution, and importantly, for the broader community.

With patient-serving medical uses, academic and research space, residential uses, athletics facilities, and extensive support uses, academic institutions have complex operations that do not fit easily into conventional zoning approaches. Many universities across the nation have partnered in developing staff and faculty housing, supportive retail, entrepreneurial office space, private research labs, and arts and entertainment facilities, to support both the Universities and the community. Collectively, these are uses that are compatible with or strengthened by the institutional mission.

While North Carolina Central University has a more compact campus and less developable acreage near the light rail station, both UNC - Chapel Hill and Duke University have significant undeveloped or underdeveloped university-owned acreage in proximity to light rail stations. As opportunities for transformation of those areas are contemplated by each of the universities, according to their respective internal interests and considerations, Durham and Chapel Hill should be prepared to partner, encourage and accommodate transit-supportive and transit-oriented development.

The area around UNC Hospitals area and the Duke and VA Medical Centers are among the largest and densest job centers in the Triangle. The medical centers also attract a significant number of patients and visitors each day. The result is that these areas generate a substantial amount of transit and vehicular trips today in compact areas. The light rail project offers the opportunity to capitalize on present land use and travel demands in these areas, to continue guiding growth and economic development across the region consistent with land management and growth frameworks that have been in place within Orange and Durham counties for several decades.

Zoning Action Steps

- **Adopt** transit-supportive future land use map designations and policies, such as the draft Gateway framework, for Gateway station and within the NC 54 focus area. (*Chapel Hill*).
- **Draft, Refine, and Adopt** transit-oriented development standards and review processes and Apply them to light rail station areas (*Chapel Hill*).
- **Continue to Refine and Adopt** Transit-Supportive Design Districts within the Compact Neighborhood Tier (*Durham*).
- **Continue to Partner with Universities** to meet university needs and provide community benefits as they update their respective master plans and seek updates to zoning entitlements (*Both*).
- **Evaluate and Remove Regulatory Barriers** to the construction of missing middle housing types, which are by design, affordably-priced, neighborhood-compatible, small-scale homes (*Both*).

Parking

Managing parking effectively is critical to the success of transit-oriented development (TOD) districts. Every component of parking will impact the economic vitality, transit ridership, and the overall livability of the station area for residents, employees, and visitors. These components include the parking supply, how easy or difficult it is to find parking, as well as how the parking is built and managed.

PRINCIPLES

When planning for parking in TOD districts, there are several key principles to consider. The first is that TODs have significantly higher levels of access across multiple modes of transportation, compared to many other places in the community. Therefore, parking in TODs should be approached differently than in other areas with less transit access.

With that in mind, by reserving less land for parking and more for development in TODs, the community can have greater economic development, a larger tax base, and more community amenities like public space. Creating the type of success described above requires the prioritization of access by walking, biking and transit to TOD districts ahead of access by private vehicles.

THE BIG IDEA: DISTRICT PARKING

Most development review processes and parking regulations outside of TOD districts narrowly consider parking on a micro-scale, evaluating outcomes on a parcel-by-parcel basis, asking “how do we make sure there is enough parking for this site?” By contrast, District Parking is by definition a macro-scale solution to parking, that continually asks “how do we get parking right across the neighborhood to support community goals?”

District Parking is a mechanism to address many challenges related to TOD parking. It provides a way to manage the implementation of a parking strategy in one or more station areas, and helps the strategy evolve over time to meet community goals. The District Parking approach can address several parking-related problems in urban settings simultaneously, and can be particularly effective in creating walkable urban places.

Successful District Parking features parking spaces that are:

- **Shared** – can be used by more than one land use, business, or institution
- **Actively Managed** – may be used in different ways at different times of day or week
- **Unbundled** – sold or rented separately from residential or commercial building space
- **Priced** – priced to make sure that there are always spaces available for people who like to park, which means a higher price when lots of people want to park and a lower price (or no price) when fewer people want to park.

The TOD Guidebook provides more detail on how to implement these strategies in TOD districts, and how to use District Parking as an overall strategy to get multiple initiatives to work together for greater benefits.

Timing of Action Steps

The recommended Action Steps for Parking in TOD along the light rail line below are presented as a set of actions that can be deployed at stations all across the corridor.

As current land use in different stations vary dramatically, from the ongoing urban development in Downtown Durham to presently-undeveloped land at Leigh Village, the timing of particular strategies and their relevance for will vary dramatically and must be calibrated to the characteristics of each individual station.

The specific timing of each action will depend on the status of development implementation at a particular station. For example, it would be reasonable to assume that implementation of new parking regulations would begin around the Patterson Place station, a suburban station on which transit-oriented development will be superimposed above an existing development pattern, before the Gateway Station, where there is currently little development. Additional parking strategies and action steps may be found within each station area analysis as well as in the full Parking Strategy in Appendix D.

PARKING ACTION STEPS

- **Adopt** zoning regulations that accomplish the following:
 - Reduce or eliminate parking requirements and set parking maximums,
 - Require new projects to provide public spaces and encourage them to share spaces
 - Require new projects to unbundle parking spaces from leases for building space
 - Require new projects to survey and report parking occupancy every five years
 - Allow payments-in-lieu as an option to meet parking requirements
 - Allow a new project to use existing nearby under used spaces to meet requirements
- **Assess** the readiness of each station area for District Parking strategies and prioritize the implementation of District Parking strategies accordingly.
- **Implement** the first coordinated District Parking Strategy in a station area by 2021, consisting of the following Action sub-steps:
 - Perform supply/demand analysis as well as a parking market-rate study
 - Evaluate financial options available to acquire, fund, and manage parking facilities.
 - Create an opt-in process for property owners to place their spaces into the parking district by procuring or expanding a parking availability and mobile payment application.
 - Develop a policy to manage curb space and prevent conflicts between parkers, bicycle infrastructure, deliveries, ride hail users, bike- and scooter-share.
- **Strengthen** Travel Demand Management (TDM) programs in station areas, treating light rail station sites as “TDM Hotspots,” including employer education on parking pricing / incentives.
- **Advocate** for changes to the NC Housing Finance Agency Qualified Allocation Plan to support reduced parking requirements in station areas as well as shared and off-site parking.
- **Educate** developers, property owners and managers, lenders, university parking officials, and public officials on the benefits of District Parking in light rail station areas and strategies necessary to establish them.

Streets and Public Spaces

To create comfortable and vibrant neighborhoods, it is critical to have well-connected, walkable streets and attractive, active public spaces of different sizes spread across the neighborhood. These collective experiences of public spaces, the street, the sidewalk, and the outside edges of buildings work together to form the “public realm.” People enjoy spending time in places that have quality streets and public spaces, whether they are walking somewhere, drinking coffee at a sidewalk café, chatting with a neighbor, or bird watching in a pocket park. Walkable streets and public spaces are not only important for connectivity and visual relief; they are central to the rich sensory experiences of civic life in towns and cities.

Public spaces – plazas, squares, parks, and greens – are the places where the experiences of nature can be encountered but also are points of respite, breaking up long walks into shorter, interesting segments. For walkable streets and public spaces, dimensions are critical. The best results often come from small public spaces where buildings, trees, and space for people provide neighborly places to meet. When it comes to public spaces, bigger is often not better. Each part of the street and each public space must be appropriately scaled for the purposes it serves, always with a priority placed on the quality of the experience for pedestrians.

This section frames design considerations for walkable streets across a spectrum of conditions from

higher to lower vehicular volumes, and from higher to lower intensities of adjacent buildings that come up to the sidewalk. This section also introduces several example designs for public spaces. Appendix E includes more specific design and policy information for both walkable streets and public spaces.

WALKABLE TOD STREETS

Purpose

Durham and Chapel Hill should adopt TOD street policies that then guide the adoption of regulations and design manuals to support TOD. A successful TOD Streets Policy addresses the essential role streets play in providing a high-quality pedestrian realm and connectivity that is critical for successful transit-oriented-development. Principles for walkable streets are equally applicable for walkable neighborhoods in general, serving a diversity of building types. In conjunction with zoning, a TOD Streets Policy helps to shape the basic and essential urban structure for walkable neighborhoods. The purpose of this policy is to provide for an inter-connected network of walkable streets supporting multiple modes of travel and access.

The conventional suburban street hierarchy of local streets, collector streets, and arterials is insufficient and often detrimental to creating walkable urbanism. This system limits street connectivity and directs traffic and business to wider, higher speed roads that are often hostile to people on foot or on bike. Fortunately, engineering resources, such as the *Urban Street Design Guide*, provide a framework for reconciling conventional standards, which prioritize cars, with the needs of people on foot and on bike. This streets policy framework provides and translates these technical considerations to action items for Durham and Chapel Hill to ensure that streets are designed for people and to support successful transit-oriented development.

Policy Goals

Creating and maintaining a positive relationship between public spaces and private spaces is essential for creating safe, comfortable and desirable spaces for pedestrians, cyclists, residents, and visitors. With an integrated and interconnected network of multimodal streets, demands for vehicular movement and access can be appropriately accommodated while creating a rich walkable, neighborhood environment having a mix of building types. In order to support the benefits of walkable streets in station areas, Chapel Hill and Durham should adopt policies that:

1. **Assign a role to each street.** Each street should either be a place-focused, experiential component of the public realm or a thoroughfare for people traveling between places. A successful TOD streets policy should take into account the different roles that streets play in supporting walkable urban places. The graphic below shows the difference between streets that are intentionally designed as place-based versus those prioritizing vehicular movements. This differentiation enables clearer guidance in design and operational considerations for people walking, biking, and those riding in buses or cars. Clear design guidance will create a coherent, calibrated, and purposeful street network for a given location.

- **Place:** Most of the streets within station areas fall into this category. These streets are designed to support places and prioritize people on foot and on bike over people in vehicles. The focus of these streets is providing access to businesses, residences, public buildings, and public spaces. These streets are not designed for the quick movement of vehicles at high speeds, though they may have multiple lanes. The Center City area of Downtown Durham, inside the Downtown Loop, is a good local example of streets functioning as places.



□ **Link:** These streets provide higher vehicular capacity connections between local streets and the surrounding road network. These types of connections may also serve parking facilities and service driveways. Links should still be designed with wide sidewalks and attractive streetscapes as well as protected facilities for bikes. While these streets may be necessary to support station areas, they are not conducive to forming the backbone of a walkable urban place and are less likely to support active ground floor uses like retail. South Columbia Street, on the Campus of the University of North Carolina at Chapel Hill between Franklin Street and Cameron Avenue, is a good local example of an urban link that provides vehicular capacity but also wide and comfortable pedestrian spaces.

2. **Use streets to create high-quality places through zoning requirements.** By their nature, streets constitute most of physical space within the public realm. Therefore, streets must be designed to serve as the backbone of walkable urbanism. To create a high quality place, the transportation framework must be developed in coordination with a zoning framework as both buildings and streets are vital parts of the public realm. Coordination allows better alignment between the street and sidewalk, and the building frontages that face the sidewalk and provide an active edge to the public realm.

A successful TOD streets policy must be coordinated with development standards that are conducive to creating an active street edge. These include standards that require:

- buildings pulled up to the street instead of set behind parking or unusable open space,
- an active commercial or office use on streets categorized as “places”,
- windows that allow people to see into non-residential ground floor spaces,
- entrances from the street be spaced every 50-100 feet for non-residential uses,
- each ground floor residence is elevated between 2.5-6 feet above the sidewalk, and
- each ground floor residence has an individual entry to the street

These standards are in addition to streetscape standards that require

- wide sidewalks that are sized according to the street type and building size
- landscape or pedestrian amenity zones that include benches, bike racks, planters, bulletin boards, “little libraries”, waste and recycling receptacles, and street lighting.

To create comfortable urban neighborhoods, it is critical that for TOD zoning ordinances to include standards such as these to guide the development of welcoming, attractive streets and street edges. Moreover, these standards must be written to compliment public space requirements to create a high quality public realm. A TOD streets policy should direct municipal staff and adequate municipal resources to accomplish this critical aim through continued, iterative refinements to zoning and street design guidelines.

3. **Align and balance public interests and goals.** A strong alignment across multiple public interests enables a clearer and more predictable design and development review process while holistically considering the public interest of protecting the health, safety and welfare of the general public. It is worth noting that traffic crashes are a leading cause of injury and fatalities. Many of these crashes are a result of streets that were designed to maximize vehicle throughput with insufficient consideration given to the comfort and safety of people on foot or on bike.

A successful TOD Streets Policy requires a highly collaborative and coordinated approach across multiple municipal departments that have responsibility for designing, approving, and maintaining the dimensions and physical character of streets and sidewalks. These departments include emergency services, fire protection, parking, transportation, engineering, planning,

parks, public works, and finance. NCDOT, transit providers, and the community at large should also be engaged.

4. **Establish realistic guidance that is mutually beneficial for the development community and the municipality.** A successful TOD streets policy should establish a shared set of expectations from municipal administrative officials, elected officials, the development community, and residents that govern how streets are built or retrofitted to support a walkable neighborhood.

The conceptual and technical basis of this policy framework is grounded in best practices from the Institute of Transportation Engineers (ITE) *Designing Walkable Urban Thoroughfares Manual*, the National Association of City Transportation Officials (NACTO) *Urban Street Design Guide*, the AASHTO *Guide for the Development of Bicycle Facilities*, and the NACTO *Urban Bikeway Design Guide*. As development occurs, this streets policy should evolve to match local context and new best practices as they emerge.

A full draft TOD Street Policy that achieves these policy goals may be found in Appendix E as a reference for Chapel Hill and Durham to consider refining and adopting. Such a policy is critical to coordinating the planning, design, and construction of streets that support TOD, through both municipal street and public space projects and private developments. Such a policy is also important for coordinating street design guidelines, transportation plans, zoning standards, public space standards, among other requirements to create a holistic approach to designing and building a quality public realm.

PUBLIC SPACE DESIGN

Just as streets are critical to shaping a comfortable and safe pedestrian realm providing connectivity and access for the station areas, public spaces such as plazas, parks, and squares are also important in shaping the public realm. To maximize the social and economic benefits of public space, it is essential to provide both appropriate design features and the appropriate size and scale. Locating public spaces near the sidewalk of high-quality pedestrian streets or near active ground floor uses such as a cafe with outdoor dining are some of the ways spaces can become better activated. Successful public spaces are interesting and attractive, and allow for both purposeful and leisurely uses as appropriate.

Too often, public spaces are too large to contribute to a highly connected and comfortable pedestrian realm. While large urban parks, athletics and events spaces, and natural reserves are vital components of a city, walkability and the pedestrian realm is influenced far more by the smaller, in-between spaces that are spread throughout pleasant neighborhoods. These spaces add vitality to the neighborhoods themselves, but also are critical in shaping a sense of place, a sense of movement and arrival, and sense of comfort that invites people to walk around. Small parks and civic spaces are also proven to add to real estate values, as the market reflects their desirability as a public amenity.

The Appendix includes examples of different types of civic space that are important contributing elements in the creation of walkable neighborhoods. Designed well, they can serve multiple functions beyond enhancing walkability, including managing stormwater, mitigating the urban heat island effect, providing play spaces for children, and creating spaces for neighborhood and public events. Such spaces, whether publicly or privately owned, perform a vital role as part of the public realm in enabling safe, comfortable and enjoyable walkable neighborhoods.

Principles for the Design of Public Space

Chapel Hill and Durham should adopt regulatory refinements and plans for both publicly and privately constructed public spaces in station areas taking the following principles into account, with reference the types of public spaces depicted in the Appendix.

- Locate the space where people are likely to be, such as near street corners, at transit stations, at public building entries, and areas with street-facing retail
- Make the space physically and visually connected to the sidewalk or other public spaces
- Size the space appropriately to serve its purpose

- Include design treatments that add visual interest and provide visual relief including trees, landscaping, and stormwater treatment
- Program the space with planters, seating, art, water fountains, community bulletin boards, pedestrian-level lighting, trash / recycling receptacles, and other pedestrian amenities
- Ensure that the combination of the placement of the space in addition to its edges, size, treatment, and programming make it feel like it is meant to be used by the public

Chapel Hill and Durham both have both recently made progress towards these public space design principles in refining public space requirements and design guidelines in their downtowns, as well as in other areas that are intended to transition into walkable places. To support TOD, it is necessary for both municipalities to continue this progress to ensure harmony in station areas between zoning codes that govern building placement and facades, public space requirements, streetscape requirements, and street design for both public street and park projects and private developments.

Street and Public Space Action Steps

- **Adopt** a broad “People First” policy that prioritizes access and mobility by people-powered means and transit above access and mobility by personal vehicles.
- **Adopt** a specific “TOD Streets Policy” that accomplishes the following:
 - Assigns a role to each new or retrofitted street
 - Compliments zoning requirements for streetscape and building faces
 - Aligns planning, transportation, public safety and other interests
 - Establishes clear guidance to manage public and private expectations.
- **Adopt** Public Space standards that fully compliment zoning and street design standards.
- **Evaluate and Adopt** alternatives to vehicular Level of Service for TOD projects including Vehicles Miles Traveled impacts or Maximum Daily Vehicle Trip Caps to support stronger TDM measures.

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STATION FAMILIES

“Living connected would be knowing you are a local community, but knowing how we fit into the bigger community and respecting that... we are all on the same page.”

VIJAY SIVARAMAN
PROFESSOR AT NCCU

Station Families

In developing light rail and the accompanying plans for TOD within each station area, Durham and Chapel Hill have an opportunity to strengthen and enhance the environment necessary for the continued cultivation of the highly coveted and incredibly valuable “Sense of Place” for which, those communities are already recognized. The Station Family Typology below provides a framework that groups stations based on their existing context and on opportunities for TOD place-making.

STATION FAMILY TYPOLOGY

To best explain the nature of each planned light rail station and its surrounding neighborhood, the consultant team assigned each station into one of five station families that share common activation and development characteristics. These include the market potential and scale of development, greenfield vs. redevelopment opportunities, types of buildings and uses, and general overall feel and user experience.

Within each station family, commonalities exist in terms of calibrating planning, infrastructure and development strategies to generate the greatest economic and social outcomes. By focusing on these common traits among each station family, it becomes possible to distill a set of priorities in policy and infrastructure needs to maximize the return on investment in light rail at both a station and corridor level. Importantly, each station area and surrounding neighborhoods offer a range of existing assets that set the tone for future opportunities. These new investments must be intentionally curated

LIGHT RAIL CORRIDOR



relative to the character, perception, function and feel of each place in order to ensure sustained success of the place as one of which people want to continue to return.

Application and Methodology

Understanding that each station area is unique, these groupings helped frame the associated analysis and individual station area activation approach. The groupings are informed by historical neighborhood patterns, current neighborhood attributes, parcel fragmentation and ownership, and infrastructure needs. Through this process, each station area activation strategy was then placed in the necessary context of specific development challenges, sensitivities, opportunities, and phasing.

The five station family categories along the Light Rail Corridor are: University Villages, Neighborhood Destinations, New Communities, Suburban Retrofits, and Urban Hubs. Some of these terms, such as Suburban Retrofits, are deeply ingrained within contemporary planning lexicon, while others, such as University Villages, may conjure up a variety of images. In this instance, the significant influence and land ownership at several station areas is driven by the three academic institutions located along the line. Icons were created to match each of the station family typologies and are used throughout this Guidebook to indicate which station areas are part of a particular family.

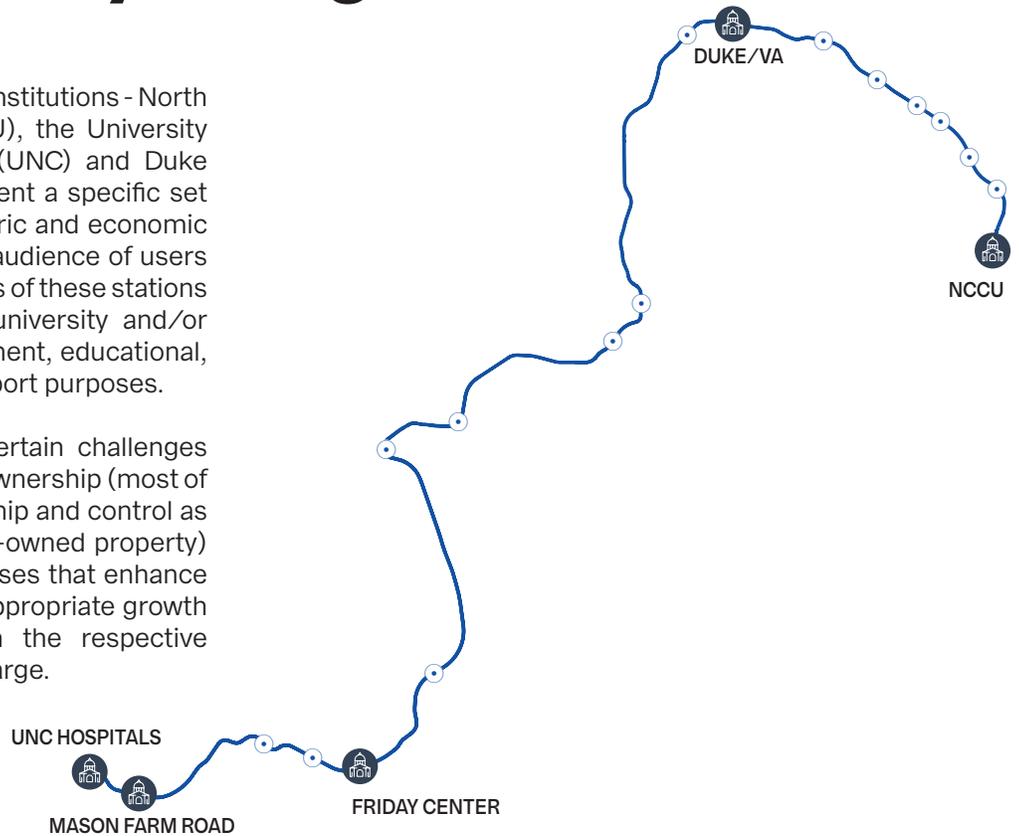
As has been noted throughout this Guidebook, the following scenarios (for both station families and the concepts for each station area) provides “One Possible Future.” A formal planning and development process – including requisite public input, meetings and hearings – will be conducted by each respective municipality as future land use plans and zoning ordinances are drafted and considered by Durham and Chapel Hill.



University Villages

Anchored by the corridor's historic institutions - North Carolina Central University (NCCU), the University of North Carolina at Chapel Hill (UNC) and Duke University, University Villages present a specific set of underlying conditions, social fabric and economic networks, in addition to a specific audience of users served by these locations. The users of these stations will be heavily weighted toward university and/or medical trips, whether for employment, educational, research, social, healthcare or support purposes.

University Villages also provide certain challenges and opportunities in terms of land ownership (most of which is under institutional ownership and control as opposed to public and/or privately-owned property) and the need for complementary uses that enhance the existing fabric while enabling appropriate growth in the future that benefits both the respective institutions and the community at large.



VERANO / TEXAS A&M TOD - SAN ANTONIO, TEXAS



ACTIVATION & DEVELOPMENT STRATEGIES

- Development is shaped by proximity to university educational, research, and healthcare enterprises, which pervade economic and social exchanges.
- Businesses, residences of varying types, and development patterns in general cater primarily to university affiliates.
- Business may include a dynamic mix of small local business with regional and national chains.
- Diverse residential options across a range of price points are focused on medium to high density housing and a mix of owners and renters.
- Performance spaces feature live music, theater and other cultural activities.
- Generally active between 6 a.m. and 12 a.m.

Partnerships Deliver: ASU Downtown Campus

The Downtown Arizona State University (ASU) campus is a story of how a strong partnership between ASU and the City of Phoenix resulted in a transit-oriented downtown revitalization. Phoenix voters approved a \$223 million bond in 2006 by a 2-1 margin to create the campus. A decade later, the campus is home to 11,500 students spread across 20-acres. Six colleges are based downtown including the Walter Cronkite School of Journalism and the Sandra Day O’Conner School of Law. Valley Metro Light Rail opened in Dec 2008, linking the Downtown Campus to ASU’s main Tempe campus 13 miles to the east.

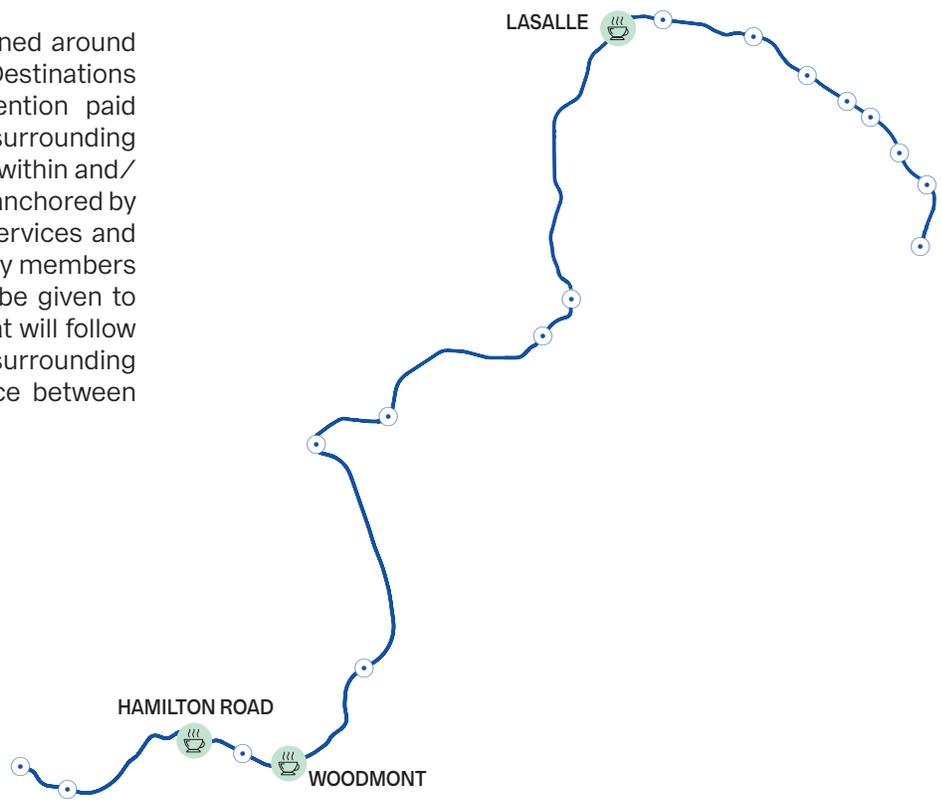
As the local paper *azcentral* put it in 2014 “In many ways, the creation of the downtown Phoenix campus was a perfect storm: The right leaders, in the right place, at the right time, with a shared vision and a willingness to take risks ... ASU has changed the face and feel of downtown. The area around Central Avenue north of Van Buren Street was, at its best, desolate; at its worst, scary. Civic Space Park, punctuated by an iconic net sculpture, replaced empty lots and abandoned storefronts. New academic buildings that have won national design awards stand where there were once parking lots. Formerly deserted streets now bustle with pedestrian activity. New restaurants and shops are thriving in spaces that were empty for years. Near campus there are new hotels, more new restaurants and a steadily growing nightlife.”





Nighborhood Destinations

Representing station areas that are planned around existing communities, Neighborhood Destinations should be calibrated with specific attention paid to enhancing and connecting to surrounding neighborhoods. These locations, located within and/or near bedroom communities, are often anchored by small commercial centers with limited services and entertainment geared to serve community members within close proximity. Attention should be given to the types of uses, intensity and forms that will follow the opening of these stations and their surrounding development activity to ensure a balance between existing and new development.



HERITAGE CROSSING - IRVING, TEXAS



ACTIVATION & DEVELOPMENT STRATEGIES

- While (re)development in these stations will not be as closely connected to historic/downtown areas, there are opportunities to create important, primarily local serving, neighborhood hubs.
- Experience will be grounded in two ways: (1) connecting to and enhancing the existing neighborhood fabric, and (2) by new opportunities presented by the introduction of transit service
- Establish areas of commerce that are characterized by a mixed-use environment (and supported by zoning that guides such development).
- Residential intensity, options and price points driven by neighborhood context, with pockets of medium-density multifamily, where appropriate.
- Retail will include a mix of corner stores, bodegas, small format coffee shops, and late night restaurants.
- Generally active between 7 a.m. and 12 a.m.

NEIGHBORHOOD DESTINATION ACTIVATION EXAMPLES



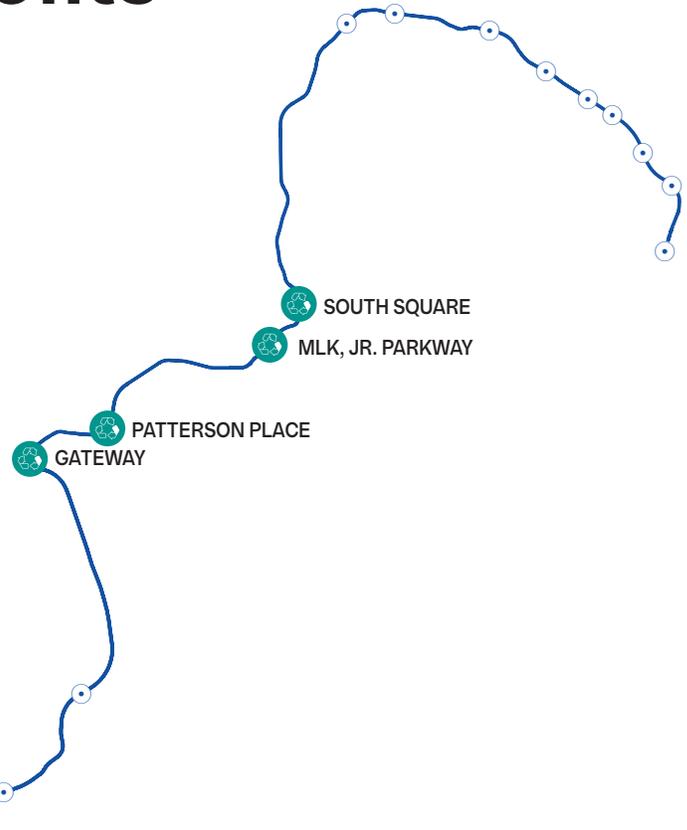
(Left to Right) Photos by: Alex Storozhuk; Kenner Galdamez; Chanan Greenblatt; Terrah Holly; and Han Song



Suburban Retrofits

The term “Suburban Retrofit” has developed a certain meaning and connotation within planning and development circles. For the purpose of this Guidebook, these stations represent the opportunity to transition and evolve from auto-dependent, lower density areas that range from completely built out (South Square) to a mix of developed land and significant greenfield areas (Gateway), to far more intense, vibrant areas of economic and social activity. These desired outcomes necessitate the construction of a range of uses that interface and interact with each other and the public realm within a truly walkable, compact and mixed-use fabric.

These areas are generally populated by larger parcels, with large parking lots that serve single-use development. While auto-dominated with lack of pedestrian amenities today, they are ideal placeholders



PARK HILL - NORTH LITTLE ROCK, ARKANSAS



for future transit-oriented development and functional services. Existing utility infrastructure can handle some development growth but may require additional investment for higher density projections. A variety of housing types currently exist in close proximity to these stations, but housing choices can be expanded by adding essential missing middle housing options as an edge treatment for the station area to help transition from larger building types near the station to existing residential communities.

ACTIVATION & DEVELOPMENT STRATEGIES

- Embrace a steady evolution from auto-oriented commercial to urban format commercial and mixed-use with proper phasing of infrastructure, parking and development, over time.
- Provide a reawakened community-oriented experience driven by the creation of new job growth centers, substantial increases in densities and considerable vertical mixed-use development.
- Ensure a respectful and contextually appropriate transition of housing intensity from the most active centers of the station areas, out to existing neighborhoods and communities.
- Create active, commercial hubs that are likely to be driven by national brands, including larger format grocery and other larger footprint regional and national chains.
- Retail/entertainment is likely to be predominantly driven by larger format restaurants, but can include small boutique chain and locally-owned concepts to provide both a mix of experiences and scales throughout the area.
- Potential opportunity to attract major employer for Class A office and/or corporate relocation opportunities within the newly created urban fabric.
- Generally active between 7 a.m. and 10 p.m.

America's Largest TOD: Tysons Corner

Tysons Corner Virginia grew-up around the automobile; it is now being transformed and transported into the future around its four new Metrorail stations which opened in 2014. The 2008 plan Transforming Tysons charted the course for the redevelopment of the nation's 12th largest employment center into America's largest TOD. Tysons' 1,700 acres are evolving from 46 million SF of development and 40 million SF of parking into a 21st century city of 160 million SF of urban livability: walkable, mixed-use, transit connected, green urbanism. Two assessment districts totaling \$650 million have been established to help fund Tysons implementation.

Four key drivers underpin the Tysons transformation strategy: first, substantially increasing the housing in Tysons to get a better housing jobs balance; second, focusing growth around Tyson's four metro rail stations; third, creating a tight grid of interconnected streets; and, fourth, greening Tysons with a multi-functional green network.

Since 2011 more than 5.4 million SF of development has been built or is under construction, an addition 42.2 million SF has been approved consistent with the TOD plan. Recent development approvals for the Tysons West station are indicative of the scale of what's coming: 13.3 million SF of redevelopment across five projects adjacent to station, 20% of the housing will be affordable/workforce and over five and a half acres park land. The wide the mix of uses has evolved consistent with the plan - the jobs to household ratio within Tysons has improved significantly from 12.4/1 in 2005, to 7.2/1 in 2017.

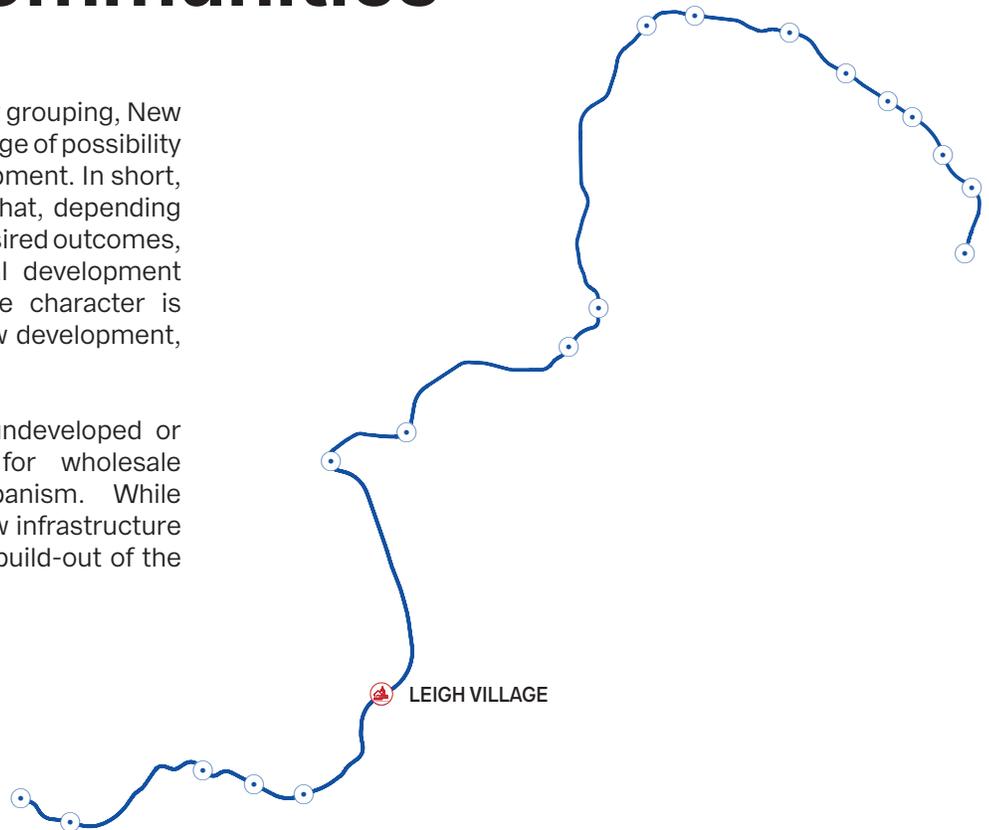




New Communities

More so than any other Station Family grouping, New Communities provide the greatest range of possibility as to the nature of potential redevelopment. In short, these are generally blank canvases that, depending upon future market conditions and desired outcomes, may support a number of potential development typologies and uses. Ultimately, the character is more so what is to be defined by new development, than that which exists today.

Currently, these areas are largely undeveloped or minimally developed, well-suited for wholesale transformation into walkable urbanism. While surrounding infrastructure exists, new infrastructure will be needed to accommodate full build-out of the station areas.



VERANO / TEXAS A&M TOD - SAN ANTONIO, TEXAS



High Performance TOD: The Platform District

Orenco Station is the Portland region's most celebrated early TOD. When the first phase of Orenco opened along with Westside light rail in 1998, the 237-acre project was recognized as the Best Master Planned Community in America. The final phase, the Platform District, followed some 15 years later on the land immediately adjacent to the light rail station within the larger Orenco TOD. In a reflection of the evolution of the station area, a six-story residential building now stands on what was a 155 space Park-N-Ride.

Government planners used both carrots and sticks to get the high-performance TOD project designs they wanted in the Platform District. The City of Hillsboro imposed extensive planning restrictions on the area, mandating high densities near the rail station. Incentives include a Portland Metro TOD grant, property tax abatement and a land donation from TriMet for a \$2.6 million plaza built by the developer.

Compared to the earlier phases of Orenco, the Platform District is denser, more mixed-use, has lower parking ratios and tighter, more urban scaled public spaces. The parking is unbundled, meaning it is not tied to a unit – residents can forgo parking or pay for it separately. The result is high-performance TOD, in this case the ability to have more growth with fewer impacts. A detailed 2017 national study showed nearly 69% of Platform District trips were non-auto, and that the TOD produced 41.5% fewer auto trips than Institute of Traffic Engineers (ITE) estimates. The district provides 40% less parking than ITE guidance.



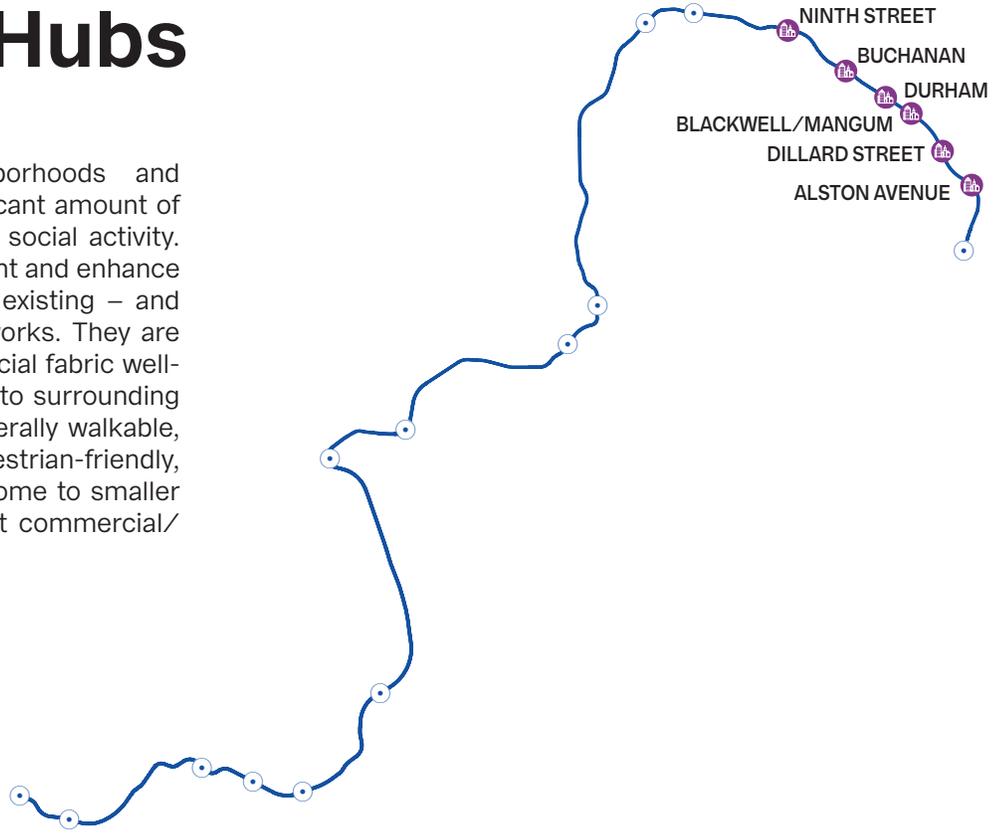
ACTIVATION & DEVELOPMENT STRATEGIES

- These stations are well-positioned for development as regional infill, to include range of mixed-use environments that promote walkable urbanism and connectivity within the new neighborhoods, and to adjacent areas and communities.
- Promote a range of housing densities and types, an integrated network of green spaces, and an active community/commercial center centrally-oriented to transit.
- Potential opportunity to attract major employer(s) within the newly created urban fabric.
- Active at variable times, in large part unknown until the specific nature of the development is more well-defined.



Urban Hubs

These stations represent neighborhoods and districts that already display a significant amount of urbanism and related economic and social activity. As such, it is important to complement and enhance the existing fabric while supporting existing – and future – cultural and economic networks. They are rich in history, with economic and social fabric well-connected by existing infrastructure to surrounding neighborhoods. These hubs are generally walkable, with a mix of uses within a pedestrian-friendly, human-scaled environment that is home to smaller scale, locally driven retail and recent commercial/office activity in some locales.



TRINITY LAKES - FORT WORTH, TEXAS



A New TOD Toolbox: Denver's Mariposa District

The Denver region's robust TOD toolbox was essential to the success of projects like the Mariposa District. The Denver toolbox balances implementation tools created in other regions, plus homegrown invention and creation of a new set of tools to address equitable TOD. The scope and breadth of the initiatives to specifically advance TOD is particularly illuminating: detailed TOD planning and new zoning; a \$24M TOD Housing Fund; a HUD funded Livability Partnership; transit agency TOD pilot projects; a non-profit which is part land bank and part community focused credit line for affordable TOD; and, a TOD Manager and TOD Strategic Plan within the City of Denver. These initiatives are housed in local governments, the transit agency, philanthropic, and non-profit agencies.

Planning for the Mariposa District started with the City of Denver's 2006 Station Area Plan for the 10th and Osage Station. The Denver Housing Authority (DHA) master redevelopment plan for South Lincoln Park Homes completed in 2009 – called for a mix of privately managed, subsidized affordable units and market-rate units along with commercial space and office. The result is a \$197M redevelopment of a distressed public housing development into a mixed income TOD with triple the units. The latest installment of the nine-phase project was completed in June 2017. Phasing allowed DHA to minimize resident displacement. About 48 percent of DHA residents returned to the Mariposa District, compared to 10 to 15 percent for project where housing is razed and replaced. Before construction started in 2012, 252 people were living in the 14-acre area. Now, about 1,500 people occupy the 581 mixed-income units. The eighth phase is expected to add 58 more units. The project received an EPA National Smart Growth Award for equitable development in 2012.



ACTIVATION & DEVELOPMENT STRATEGIES

- Build from and enhance the existing urban fabric with a mix of commercial amenities near existing residential neighborhoods.
- Use a range of densities and, where appropriate, mix of uses.
- Enhancement and/or creation of walkable streets and public spaces with concentrated centers of activity.
- The pre-existing character of small shops and restaurants should be protected.
- Generally active 18 to 20 hours with predominant activity between 6 a.m. and 2 a.m.

East Liberty: Urban Renaissance

East Liberty is a story of rise and fall and then rising again as a TOD. The New York Times described the journey as waking-up from an urban renewal induced coma. The urban renaissance was made possible by a long-term partnership with local non-profits, the City of Pittsburgh, the Pittsburgh Urban Redevelopment Authority, Mosites Company, the developer behind many of the retail and TOD developments, and the transit agency, the Port Authority of Allegheny County.

In the two decades since the 1999 community plan called for more retail, the partnership has delivered 810 new mixed-income homes. To address displacement East Liberty Development Inc. is looking to create 500 units of affordable housing over five years funded by a City of Pittsburgh affordable housing fund to help residents vulnerable to displacement. True to the plan, a series of national retailers opened new facilities with urban footprints rather than suburban setbacks. Home Depot opened in 2000 on a failed Sears site. Whole Foods, a \$7.6 million development on an abandoned stretch of Centre Avenue, ignited immediate activity when it opened in 2002. A new Target followed in 2011. With Google's arrival in 2006 market dynamics accelerated further. In 2010, Google moved into the newly developed Bakery Square where they occupy 160,000 square feet.

The centerpiece of the neighborhood's ongoing revitalization is a \$157 million transit, retail and residential center on the MLK JR Busway which opened in 2015. A new pedestrian bridge connects the transit center directly to the apartment complex with 360 market-rate units, a 554-space "cross-use" parking structure for retail and residential, a 120-space bike garage, and 43,000 square feet of retail space. A \$15 million TIGER grant helped to pay for the transit improvements. Transit ridership at the East Liberty station is up 20 percent because of the new center.



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STATION AREA ANALYSIS

“It’s not about connecting on how I get around, it is more of an internal thing, like how I’ve bought into the city and has the city embraced me.”

AYIZE GLENN GRAY

DEVELOPER

Station Area Analysis

METHODOLOGY

This TOD study was built upon significant prior engagement with the public in the development of the light rail project alignment. These details gathered from the public process were used as a starting point to dive into the existing conditions around the stations and perform development and policy analysis for creating great transit-oriented development at these stations.

Many of the stations within the City of Durham had an established planning framework for TOD as a starting point, as well as design district zoning adopted in two areas of the city. Chapel Hill had identified light rail station areas within its Comprehensive Plan, but had not yet adopted TOD supportive land use policies or zoning ordinances in its station areas. Accordingly, the Chapel Hill stations required more robust public engagement, a strong look at planning principles, and elements of a TOD framework for those station areas.

Public and Partner Engagement

A week-long workshop was held to convene key partners, in the analysis process, as well as offer specific input sessions for stakeholders, including the general public, at station areas in Chapel Hill. The collective conversation guided the process between Chapel Hill and Durham so that this study would be structured to meet the needs of each area. Continued workshops were internally held to detail development potential at each of the stations in the City of Durham, and additional meetings and work were performed by Perkins+Will, hired separately by a major landowner, focusing on the Leigh Village station.

Key insight from local citizens resulted in feedback related to bus access, walking, and bicycling points, a strong desire to cultivate community benefits, including affordable housing within the development of station area plans, and a concern for transitions of density to existing neighborhoods.

The TOD consultant team has held a series of informational meetings, workshops and summits to both listen to, and educate, elected leaders, municipal staff, key stakeholders and the community at large. These forums ranged from dozens of one-on-one and small scale meetings with key individuals and groups, to public workshops to day long events that convened local and national experts in the fields of transit oriented development, real estate finance, infrastructure and affordable housing. In addition to educational meetings and events, the consultant team presented on multiple occasions to the Chapel Hill Town Council and Durham’s City Council. Some of the highlights of other meetings include:

- In conjunction with TJCOG and Urban Land Institute, an informational breakfast was held that focused on the market opportunities – and challenges – associated with the construction of the light rail line and related development activity. Topics discussed included real estate finance, market conditions and mechanism by which to capture new tax revenues and other new resources that will result from investment in rail and subsequent development of walkable, mixed-use nodes at and around station areas. This well attended forum was open to the public, with an audience that included a number of elected officials, municipal staff and members of the local real estate and banking community, all gathered to learn from local and national experts on transit oriented development.
- An afternoon long Affordable Housing Roundtable was held between the consultant team, municipal staff and a group of national leaders in the field of affordable housing development and finance. This private session provided an opportunity to take a “deep dive” into this complex issue, in an effort to further educate staff and municipal leadership about potential strategies to address the growing crisis of housing affordability.

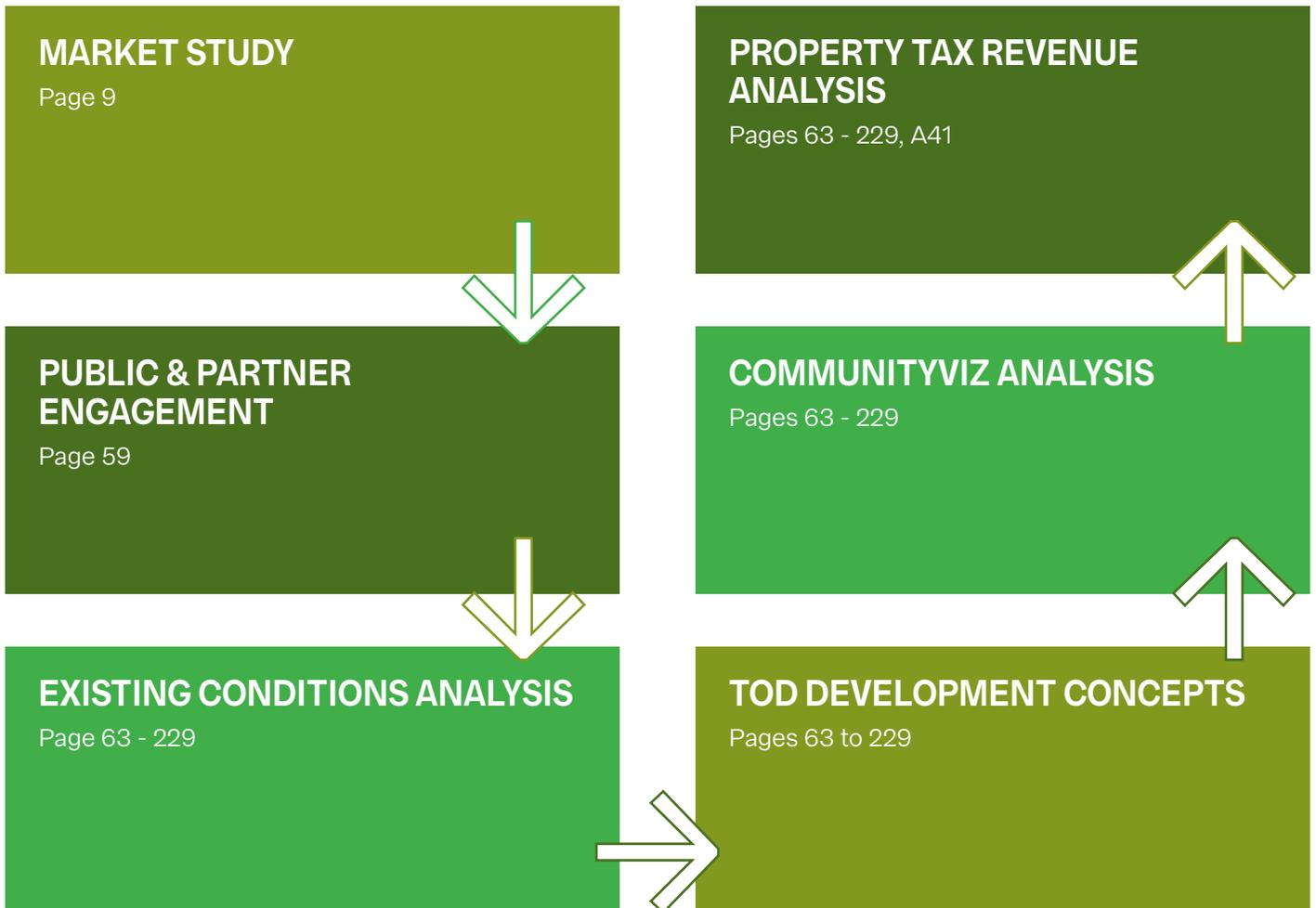
- A day long summit was held titled “Connecting to Opportunity.” This seminal event, open to the public, witnessed a sold out crowd at DPAC in downtown Durham, and was well attended by an array of elected officials, staff, leaders of the local business and real estate communities and the public at large. A series of panels convened nationally renowned experts across a full spectrum of topics, with a focus on economic development opportunities and how to address the affordable housing.
- Key members of the consulting team presented an update to a public meeting that included members of Durham City Council, Chapel Hill Town Council, Orange County Commissioners and Durham County Commissioners. This joint session was an opportunity to inform all interested municipal parties of the findings to date while providing an opportunity for Council Members and Commissioners to provide their insight, opinion and ask questions about the project and process.

Analysis

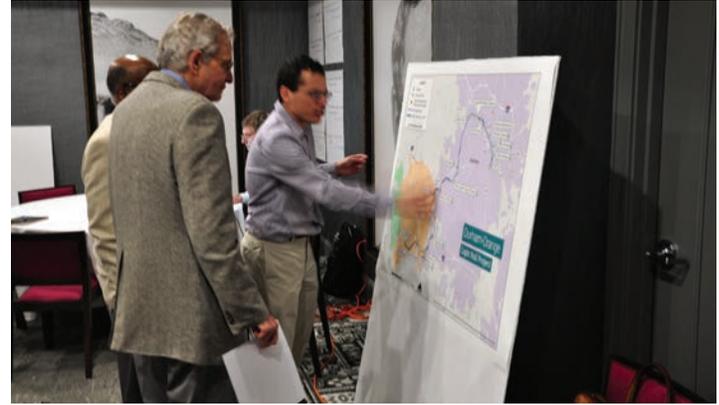
The recommendations and development concepts illustrated in this section represent “One Possible Future” and take into account neighborhood context, adopted land use policies, environmental features, and physical barriers. An overarching goal is to provide an analysis of a possible, economically viable, future development scenario that maximizes the community benefits of responsible development at transit stations that both respects and enhances existing neighborhood fabric and that creates a series of new, enduring and diverse TOD neighborhoods.

Takeaways from the development concepts at each station area were processed through CommunityVIZ in order to inform the regional mobility plan and this study’s performance measures.

THE TOD INITIATIVE & HOW THINGS RELATE



PUBLIC AND PARTNER ENGAGEMENT



The integration of new bus, bicycle and pedestrian connections were documented to show direct connections from planned and existing regional and local transit services and hubs. These enhancements also reflected expanded street network opportunities to accompany new development patterns in the station areas.

Development patterns within the concept plans informed additional insight towards zoning calibration for each of the municipalities. They also provided inputs for a “5D Analysis” to determine what levels of auto trip reduction could be accommodated by growing with walkable urbanism around light rail. Additional “5D Analysis” information is located in Appendix F.

Phasing Approach - Process and How Light Rail Fits In

Phasing within this section is highlighted relative to the opening of the rail line. With the assumptions that there is a ten year window from 2018 to the rail opening, the stages come in increments of ten years.

Pre-Rail (2018 - 2027): The near-term stage from current time to the opening of the rail line.

Rail +10 (2028 - 2037): The middle-term stage after rail has opened and progressing for ten years.

Rail +20 (2038 - 2047): A long-term stage between ten and twenty years after rail opens.

Rail +30 (2048 - 2057): Long-term stage of development 30 years after rail opens.

Infrastructure Improvements Estimates of Probable Cost

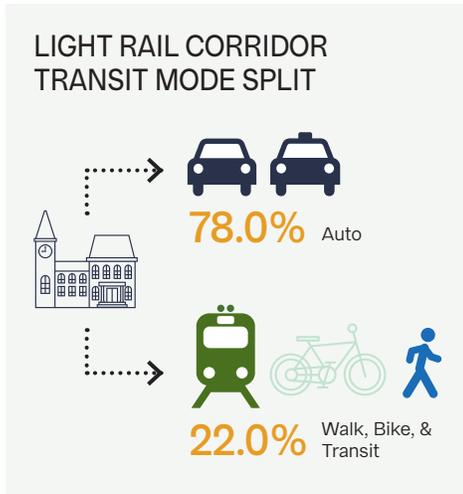
Under each station area, high level estimates of probable public investment infrastructure costs were presented using best professional judgment and local understanding of projects. The estimates are presented through dollar sign figures under each TOD Public Investment Infrastructure Priority section and indicate the following:

- \$ = <\$2 Million
- \$\$ = \$2 - \$5 Million
- \$\$\$ = \$5 - \$10 Million
- \$\$\$\$ = >\$10 Million

It is important to note that these estimates are not based on any engineering or survey work, but are order-of-magnitude projections. As projects are prioritized and enter into design and engineering detailed estimates will be required to understand and adequately plan for anticipated capital requirements.

TOD GUIDEBOOK STATION AREAS AT-A-GLANCE

The following information is based on the Conceptual Development Scenario analyzed in the Guidebook that represent “One Possible Future” for corridor redevelopment. The station development concepts consider existing land uses, infrastructure, and environmental features, and indicate land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



GUIDEBOOK STATION AREAS

Residents

40,200 Existing

57,300 New

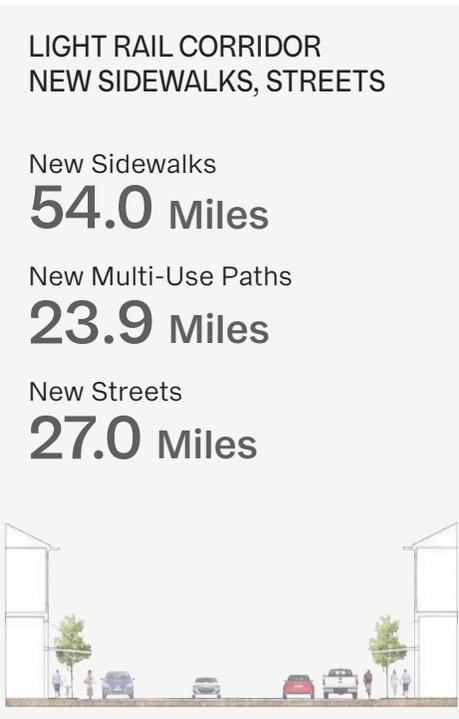
Jobs

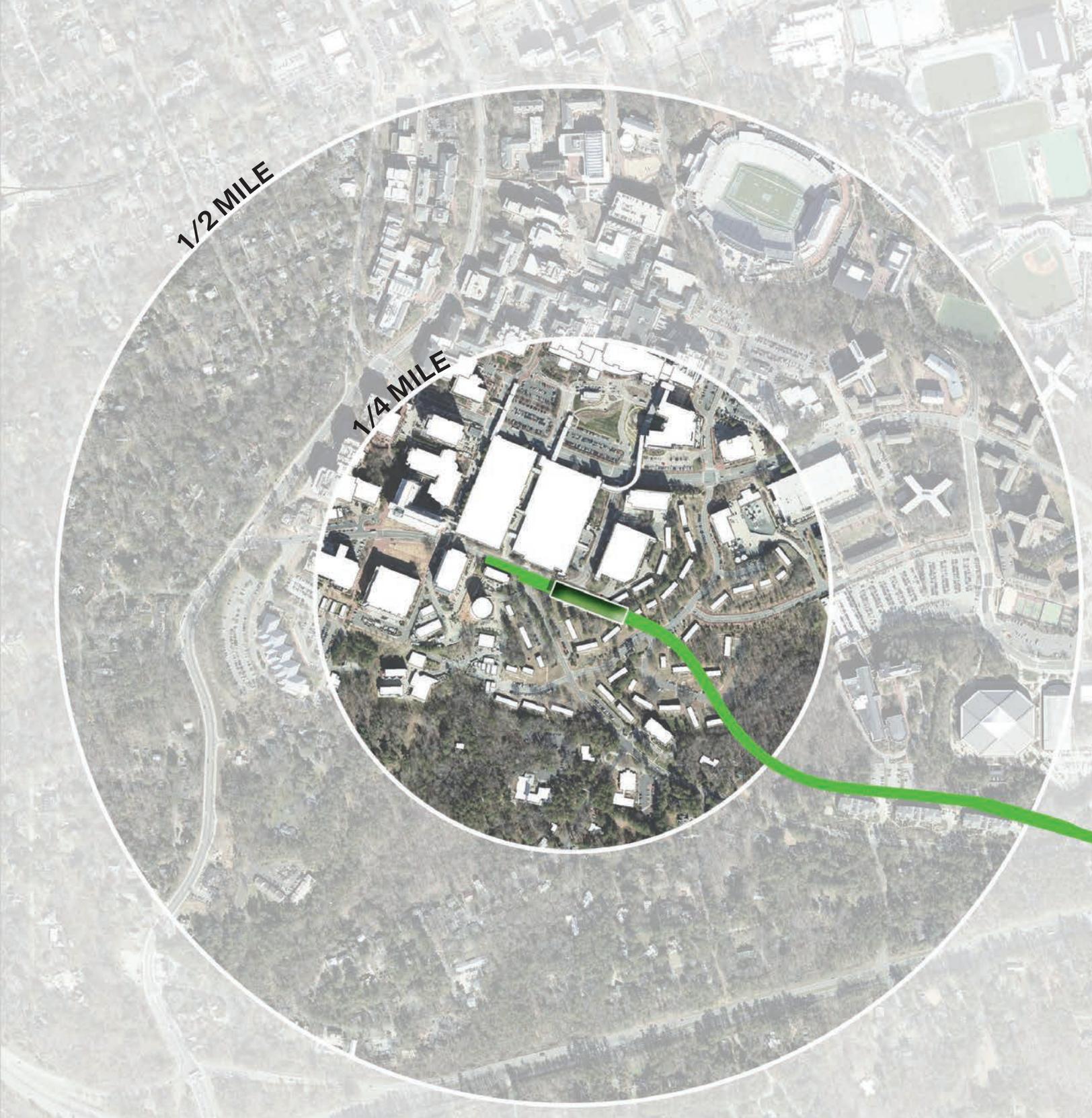
48,000 Existing

56,800 New

PROJECTED NEW DEVELOPMENT

		Light Rail Corridor
Single Family Residential	Dwelling Units	1,400
Multifamily Residential	Dwelling Units	28,300
General Retail	Square Feet	1,315,000
General Office	Square Feet	14,965,000
Institutional	Square Feet	1,360,000
Hotel	Rooms	1,900





UNC HOSPITALS



UNC Hospitals

Station Family: University Village
 County: Orange
 City: Chapel Hill

WHY THIS STATION?

Access to the University of North Carolina at Chapel Hill, UNC Hospitals, and Chapel Hill Transit.

As the main station serving UNC Hospitals and much of the University of North Carolina at Chapel Hill campus, this station has the highest projected ridership on the light rail system. Connectivity is a primary focus within this station area. UNC - Chapel Hill is updating their Campus Master Plan that will serve as the guide for future development on Main Campus, and on other university-owned properties within Chapel Hill.

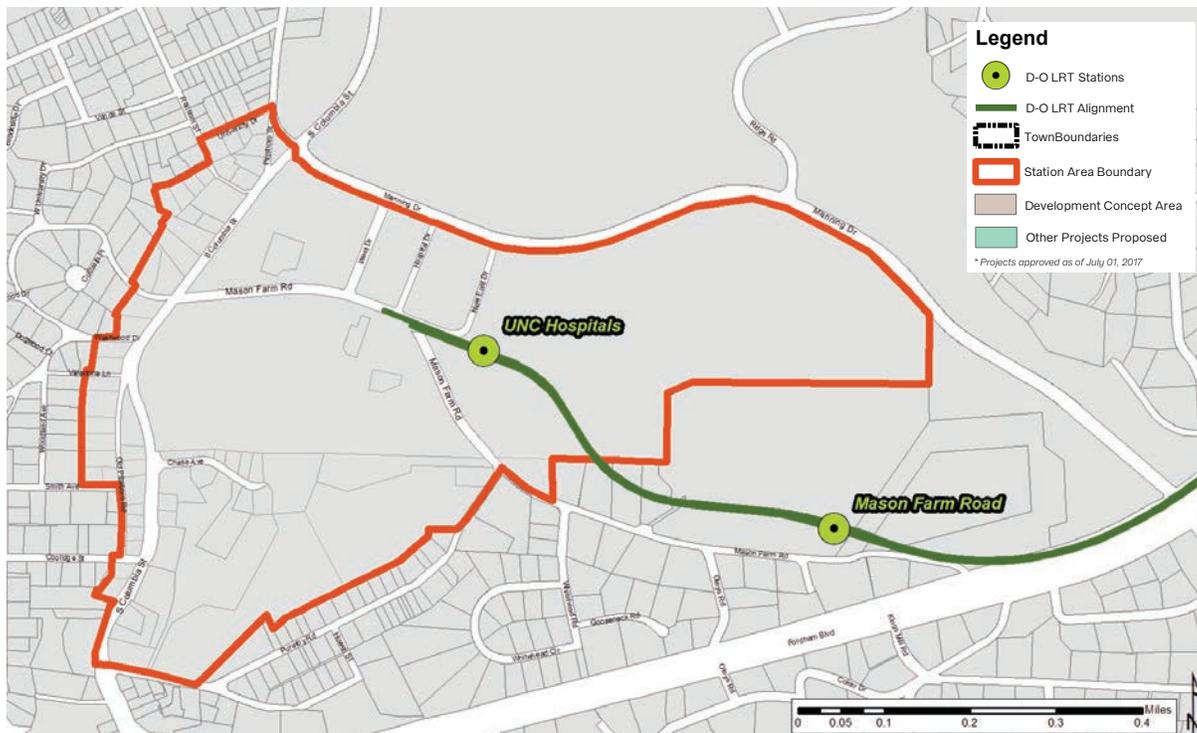
There are older residential neighborhoods that coexist on the edges of the station area; warranting careful transitions between more intensive university property and the neighborhoods. Opportunities for pockets of small scale residential infill will help in addressing much-needed, easily accessible housing opportunities for staff and faculty near campus.

Public investment in the station area should be aimed towards pedestrian and bicycle mobility and transit service enhancements as many Chapel Hill Transit and other bus routes will connect with light rail at UNC Hospitals station.

ATTRIBUTES

- Audience includes a mix of employees, students, and visitors to the hospital or university.
- Serves existing employment population by expanding transit options and access.
- UNC Master Plan and transit alignment developed in coordination with UNC.
- Predominant activity between 6 a.m. and 9 p.m.

STATION AREA CONTEXT





UNC HOSPITALS

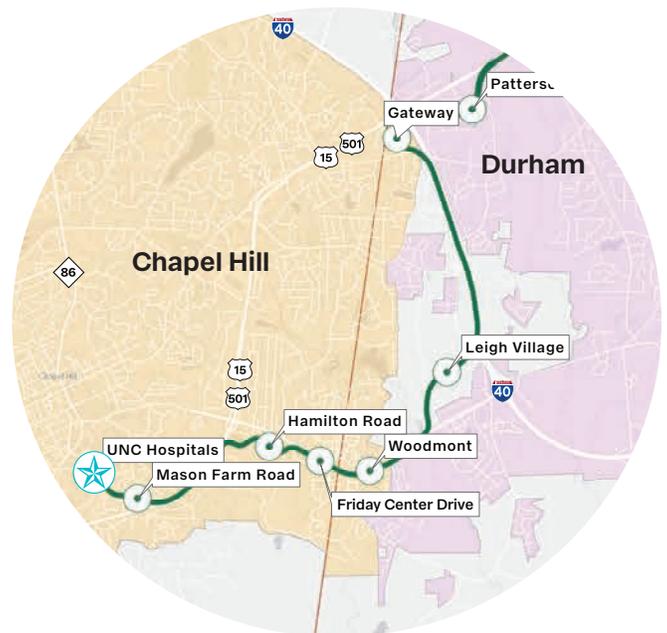
STATION DEVELOPMENT CONCEPT

The image shown here depicts the University of North Carolina at Chapel Hill's extensive hospital and research area. Development in this area will be driven by the UNC Campus Master Plan and accordingly, the Guidebook does not project non-university development at this station..



- A** Station platform integrated into existing multimodal context
- B** Improved connectivity to station area especially for bikes and pedestrians, as shown on the current Campus Master Plan

Future campus development will be driven by the UNC Campus Master Plan within this station area.



POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the UNC Hospitals station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill and Orange County. The analysis excludes sales tax.

Station Area	201 Acres
Development Concept Area	-

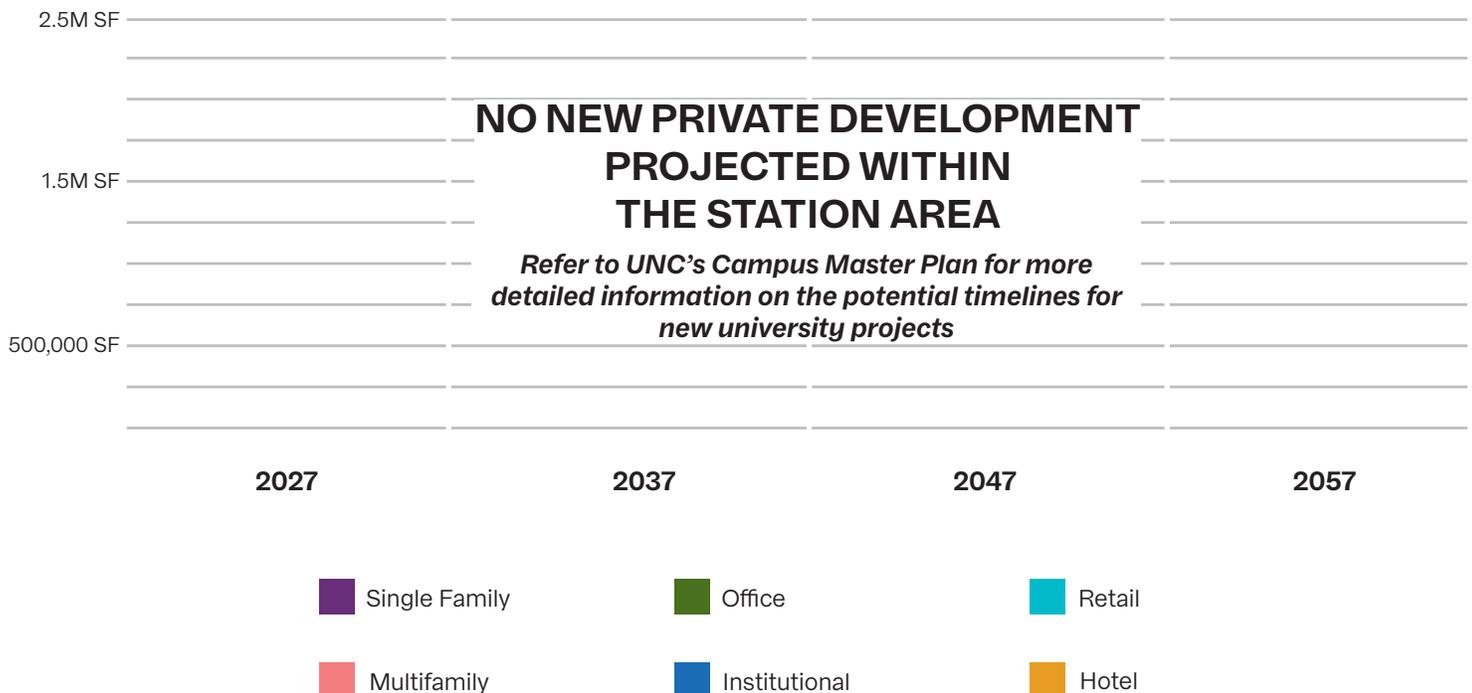
POTENTIAL NEW TAX REVENUES

UNC HOSPITALS	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$18.8 Million	\$15.5 Million	\$11.6 Million	\$9.6 Million
Upper Estimate (65th Percentile)	\$25.4 Million	\$21.0 Million	\$15.7 Million	\$12.9 Million
Net New Property Value				
Lower Estimate (35th Percentile)	-	\$620,000	\$460,000	\$380,000
Upper Estimate (65th Percentile)	-	\$840,000	\$630,000	\$520,000

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	-	\$50,000	\$120,000	\$180,000
Upper Estimate (65th Percentile)	-	\$70,000	\$160,000	\$240,000

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT

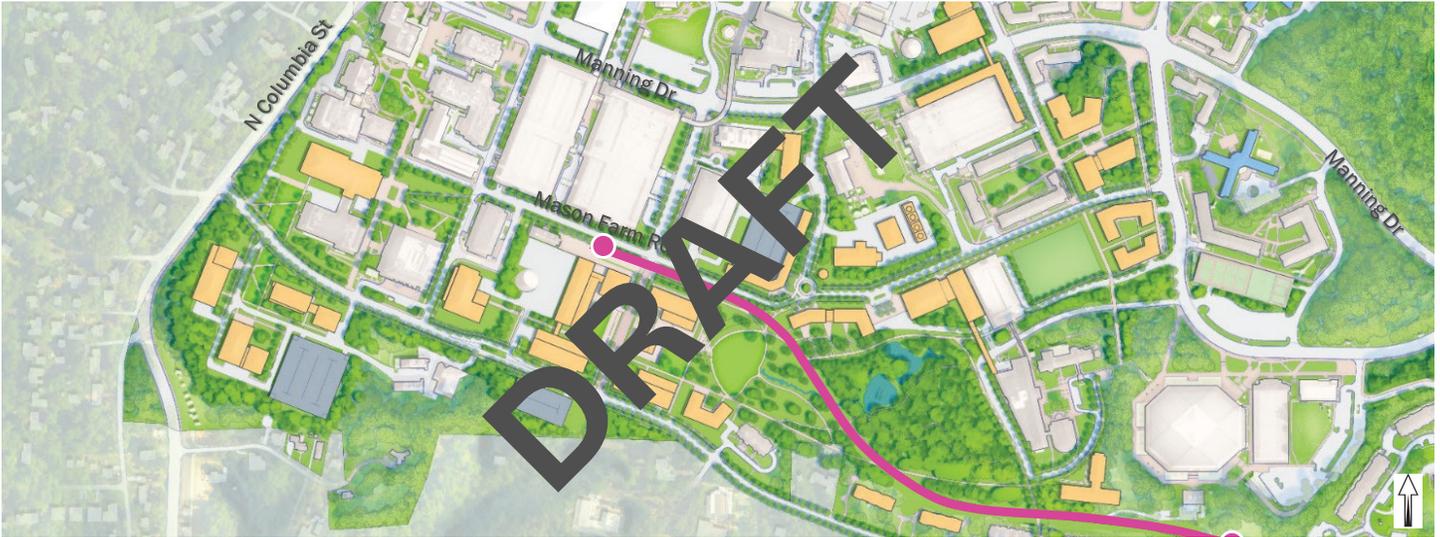




UNC HOSPITALS

UNC CAMPUS MASTER PLAN CONCEPT

Any new transit-oriented development in this station area is contingent on the University of North Carolina at Chapel Hill Campus Master Plan



Source: UNC Campus Master Plan (2018), Ayers Saint Gross

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the UNC Hospitals station area:

- Anchor institution involvement
- Remove barriers for missing middle housing, including Accessory Dwelling Units (ADUs) and neighborhood-compatible duplexes
- Repair assistance for low-income homeowners

ZONING STRATEGIES

The UNC Hospitals station area consists of three zoning categories. Most of the station area is in the OI-4, while the southern part of the station area is zoned R-2 and R-4.

Office/Institutional -4, OI-4 Zoning is a Town of Chapel Hill “Special District” that was created to “deal with unique, location-specific situations where special standards and procedures are appropriate.” The objective of the zoning is to “allow for growth and development while protecting the larger community, nearby neighborhoods, and the environment from impacts accompanying major new development. A key feature of this district is the preparation of a development plan that would allow the property owner, immediate neighbors, and the larger community to understand specifically what levels of development are being proposed, and what impacts would likely accompany the development, so that mitigation measures can be designed and implemented.” This zoning approach can provide the regulatory mechanisms to accommodate well-designed TOD including incremental infill and redevelopment.

The R-2 and R-4 zoning districts in portions of the station area are limited to residential uses with a

maximum of four (R-2) or ten (R-4) units per acre. Additional opportunities for new homes, especially smaller homes and neighborhood-compatible attached homes would provide more opportunities for small scale transit-oriented development that would allow more people to live close to UNC - Chapel Hill and the light rail. Careful transitions to existing single family areas outside of the station area may include incremental infill that enables a gradual change over time and more opportunities for people to live within walking distance of the station while also enhancing connectivity to the surrounding areas.

PARKING STRATEGIES

The UNC Hospitals station area currently has significant garage parking that serves the university and hospital campuses. As the University completes the build-out of main campus, it plans to continue decreasing its parking ratio for students, employees and visitors, although the overall number of spaces may increase somewhat to support employees and visitors who may not live near transit as the university grows.

Future parking strategies should follow the recommendations of the UNC Campus Master Plan and strongly focus on maintaining the existing status of the parking and not expanding in order to continue to support the transit systems already in place in the station area.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking where appropriate with each new street or street renovation within the campus			
	Surface	Use existing surface lots until they are redeveloped or replaced by structured parking	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Structured parking should be maintained. Coordinate all structured parking in accordance with a district master parking plan			
Policy	Supply	Consider reducing parking ratios (as appropriate with enhanced transit service provided by light rail) with new parking supply			
	Incentives	To be determined by the University of North Carolina at Chapel Hill			
	Pricing				
Implementation	District	Continue actively monitoring parking use, supply and pricing. Continue employee incentive programs to encourage biking and taking transit			
	Public	Coordinate with Chapel Hill, Chapel Hill Transit, GoTriangle, and other transit providers to continue enhancing transit, bicycle and pedestrian connectivity to the UNC Campus			

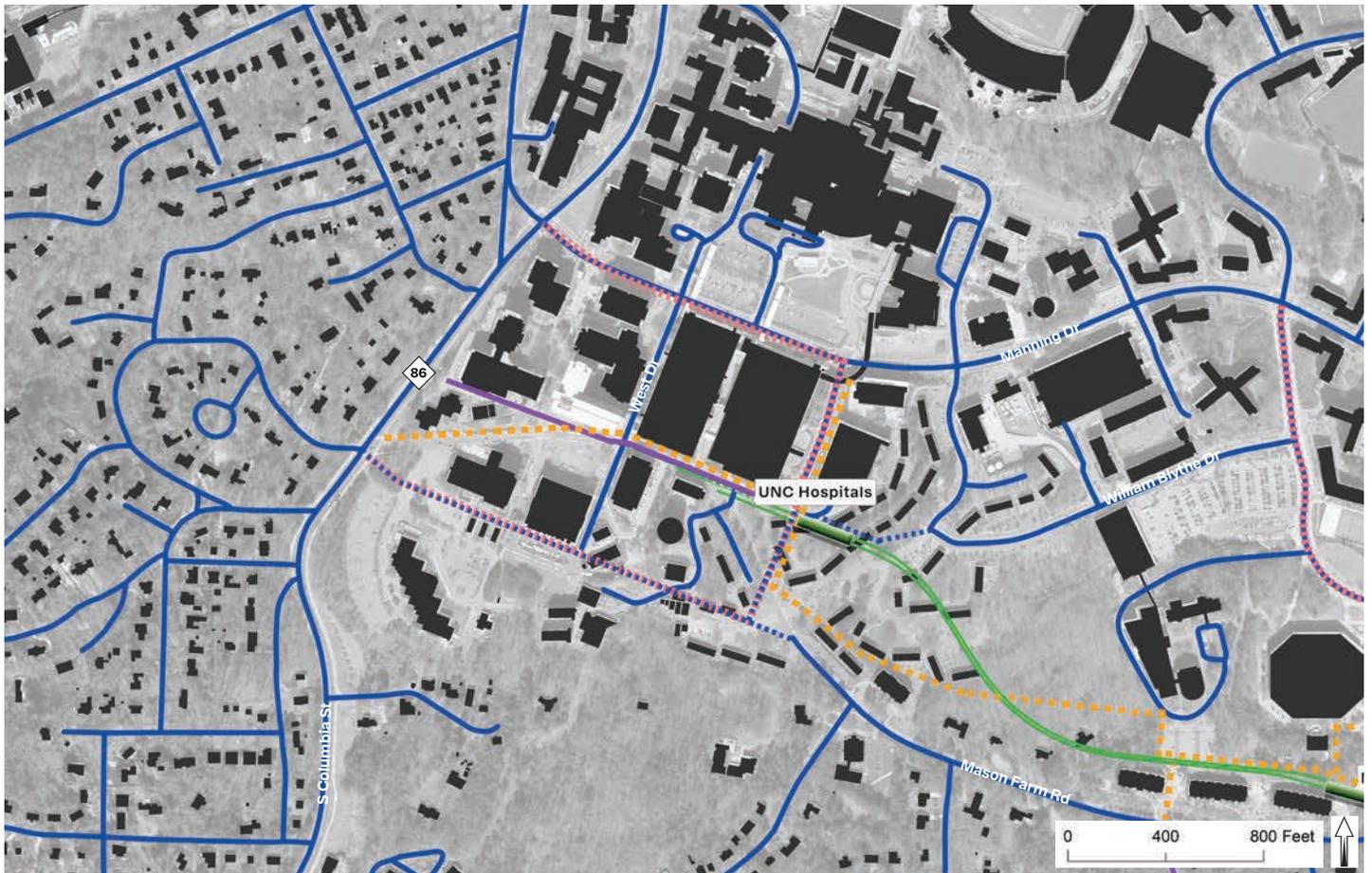


UNC HOSPITALS

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

Refer to the UNC Campus Master Plan for additional details regarding future street, bike and pedestrian connections.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the University and other partner entities should undertake to support continued transit-supportive university development.



Station to South Columbia Street Connection Upgrade

Extend East Drive and realign Mason Farm Road consistent with the Campus Master Plan to create a walkable, connected street network with an improved connection to South Columbia Street

Timeframe: Pre-Rail
Cost: \$\$



UNC Hospitals Bus Movements and Access

Prioritize bus movements in coordination with Chapel Hill Transit's North-South BRT project. Could include improvements along Manning Drive, East Drive and Mason Farm Road, such as queue jumps and transit signal priority

Timeframe: Pre-Rail
Cost: \$\$



East Drive Pedestrian Bridge

Connect to the existing pedestrian bridge over Manning Drive along East Drive to better connect the station to UNC Hospitals

Timeframe: Pre-Rail
Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	As campus development occurs, focus strategically on connectivity and pedestrian amenities at station areas			
	Connect to the existing pedestrian bridge over Manning Drive along East Drive	-	-	-
Bike/Ped and Transit Support	Connection upgrade from the station to South Columbia Street	Continue to support bike facilities and pedestrian amenities through integration of trailheads to get transit users to station areas. Continue connecting trail and path systems.		



MASON FARM ROAD





Mason Farm Road

Station Family: University Village
County: Orange
City: Chapel Hill

WHY THIS STATION?

Access to special event centers and the university’s southern edge.

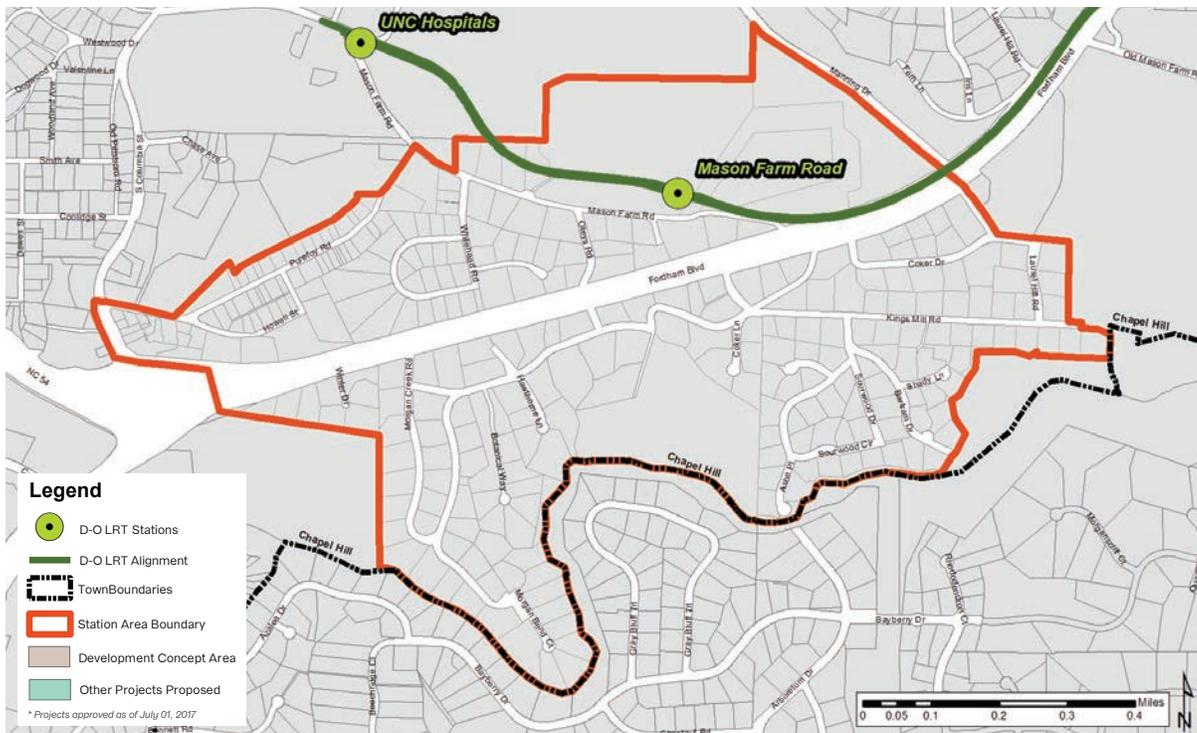
This station sits on the southern edge of the university’s South Campus near key athletics facilities. Peak demands will align with special events such as basketball games, football games, and special events. The station also provides additional connectivity to the Kenan-Flagler Business School and academic campus via pedestrian, bike and bus access. With much of the property in this station area owned by UNC - Chapel Hill, this station also informs the current UNC campus master planning process.

Most of the station area south of Mason Farm Road consists of single family residential properties, including portions in a Neighborhood Conservation District enacted by the Town of Chapel Hill. Public investment in the area should be geared towards pedestrian, bike, and accessibility improvements especially to the north, for campus access including athletics and special events. Also important, are connections south to pedestrian and bike trails as part of the Town’s mobility plan, specifically improvements along Oteys Road and a funded extension of the Morgan Creek Greenway will create a continuous off-road bike and pedestrian connection between the station and much of southern Chapel Hill and Carrboro.

ATTRIBUTES

- Station area defined by access for visitors, alumni, and others to athletic events, etc.
- Will provide bike and pedestrian connections for students and for nearby neighborhoods
- Predominant periods of activity will be varied according to academic and athletic calendars
- Station will help alleviate event-day parking and access

STATION AREA CONTEXT





MASON FARM

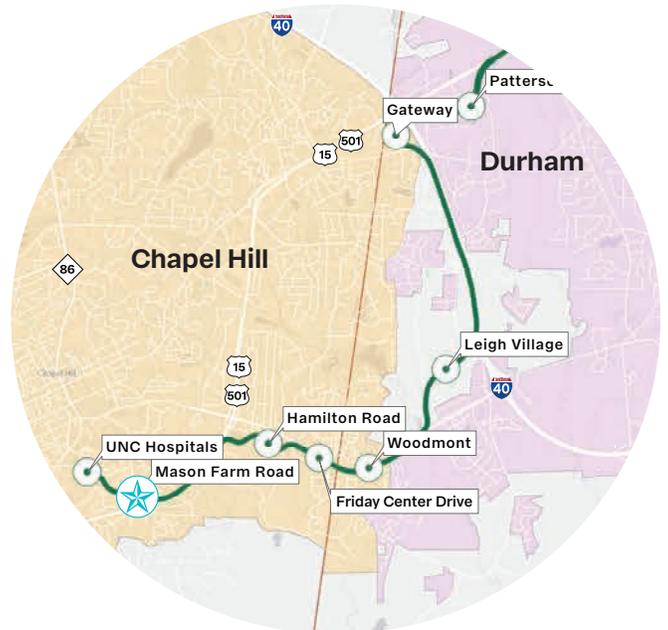
STATION DEVELOPMENT CONCEPT

Outside of the university's Campus Master Plan, potential new development is limited to transitions to existing single family neighborhoods through "missing middle" housing types, such as backyard cottages. Accordingly, the Guidebook does not project non-university development in this area..



- A** Station platform integrated into existing multimodal context
- B** Improved connectivity to station area especially for bikes and pedestrians, as shown in the current Campus Master Plan

Any future campus development will be guided by the Campus Master Plan within this station area.



POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Mason Farm Road station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill and Orange County. The analysis excludes sales tax.

Station Area	400 Acres
Development Concept Area	-

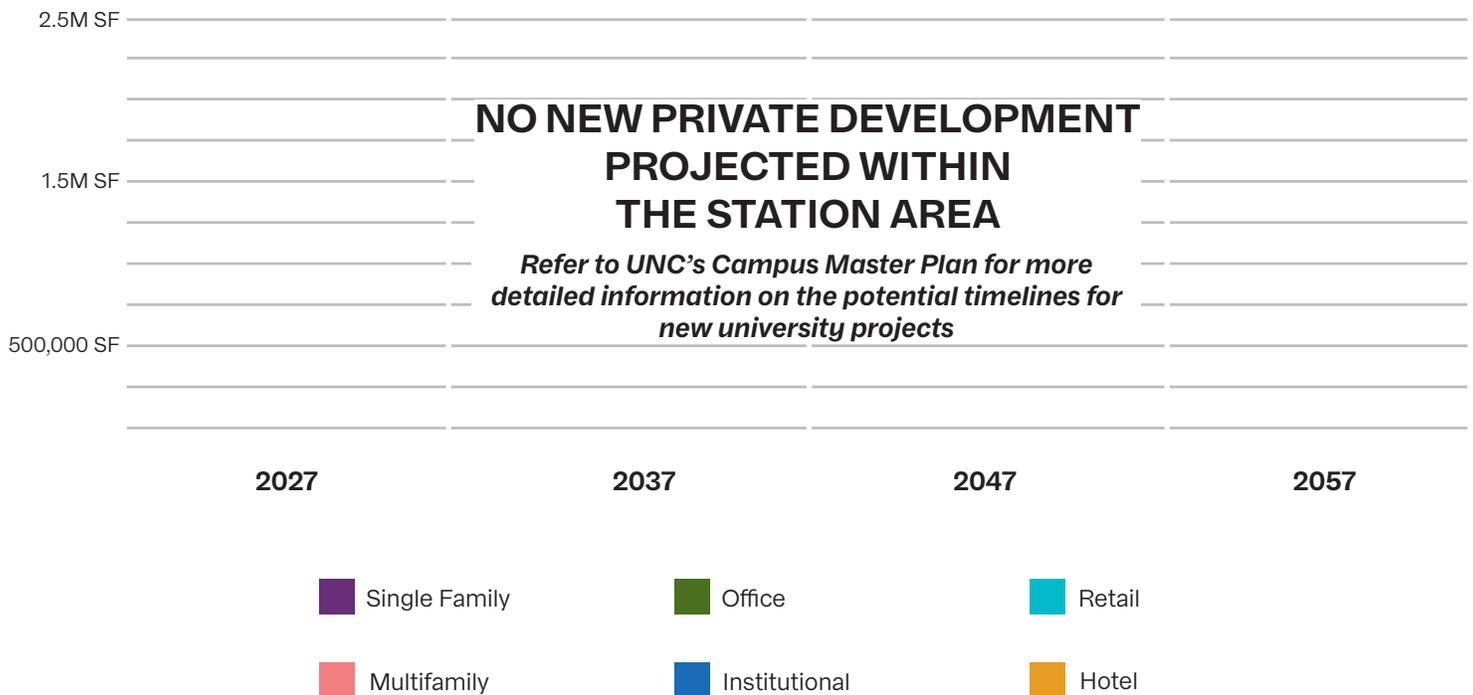
POTENTIAL NEW TAX REVENUE

MASON FARM ROAD	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$80.6 Million	\$66.5 Million	\$49.8 Million	\$41.4 Million
Upper Estimate (65th Percentile)	\$109.0 Million	\$90.0 Million	\$67.3 Million	\$55.6 Million
Net New Property Value				
Lower Estimate (35th Percentile)	-	\$2.7 Million	\$2.0 Million	\$1.6 Million
Upper Estimate (65th Percentile)	-	\$3.6 Million	\$2.7 Million	\$2.2 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	-	\$250,000	\$610,000	\$900,000
Upper Estimate (65th Percentile)	-	\$330,000	\$820,000	\$1.2 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





MASON FARM

UNC CAMPUS MASTER PLAN CONCEPT

Any new transit-oriented development in this station area is contingent on the University of North Carolina at Chapel Hill Campus Master Plan



Source: UNC Campus Master Plan (2018), Ayers Saint Gross

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Mason Farm Road station area:

- Anchor institution involvement
- Remove barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)

ZONING STRATEGIES

The Mason Farm Road station area consists of three zoning categories with much of the station area: OI-4 as university property, R-1 in the southern part of the station area, and R-LD1 along the far eastern edge of the station area.

Office / Institutional-4 (OI-4) zoning is a Town of Chapel Hill “Special Districts” that was created to “deal with unique, location-specific situations where special standards and procedures are appropriate.” The objective of the zoning is to “allow for growth and development while protecting the larger community, nearby neighborhoods, and the environment from impacts accompanying major new development. A key feature of this district is the preparation of a development plan that would allow the property owner, immediate neighbors, and the larger community to understand specifically what levels of development are being proposed, and what impacts would likely accompany the development, so that mitigation measures can be designed and implemented.”

The areas of R-LD1 and R-1 zoning inside of the station area are exclusively residential zoning that allows a maximum of one (R-LD1) or three (R-1) units per acre. Neither of these designations allow new opportunities for homes and for people to live near UNC and the station. Given the existing residential fabric of the neighborhood, large transformational change is undesirable and unlikely. However, there

is some opportunity within the station area for new university uses designed in a way to carefully transition to the neighborhood in addition to opportunities to add new small, neighborhood-scaled homes such as backyard cottages.

PARKING STRATEGIES

The Mason Farm Road station area currently has significant surface parking that serves the university and hospital campuses.

Future parking strategies should follow the recommendations of the UNC Campus Master Plan and strongly focus on maintaining the existing status of the parking and not expanding in order to continue to support the transit systems already in place in the station area.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking where appropriate with each new street or street renovation within the Campus			
	Surface	Use existing surface lots until they are redeveloped or replaced by structured parking	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Structured parking should be maintained. Coordinate all structured parking in accordance with a district master parking plan			
Policy	Supply	Consider reducing parking ratios (as appropriate with enhanced transit service provided by light rail) with new parking supply			
	Incentives	To be determined by the University of North Carolina at Chapel Hill			
	Pricing				
Implementation	District	Continue actively monitoring parking use, supply and pricing. Continue employee incentive programs to encourage biking and taking transit			
	Public	Coordinate with Chapel Hill, Chapel Hill Transit, GoTriangle and other transit providers to continue enhancing transit, bicycle and pedestrian connectivity to UNC Campus			

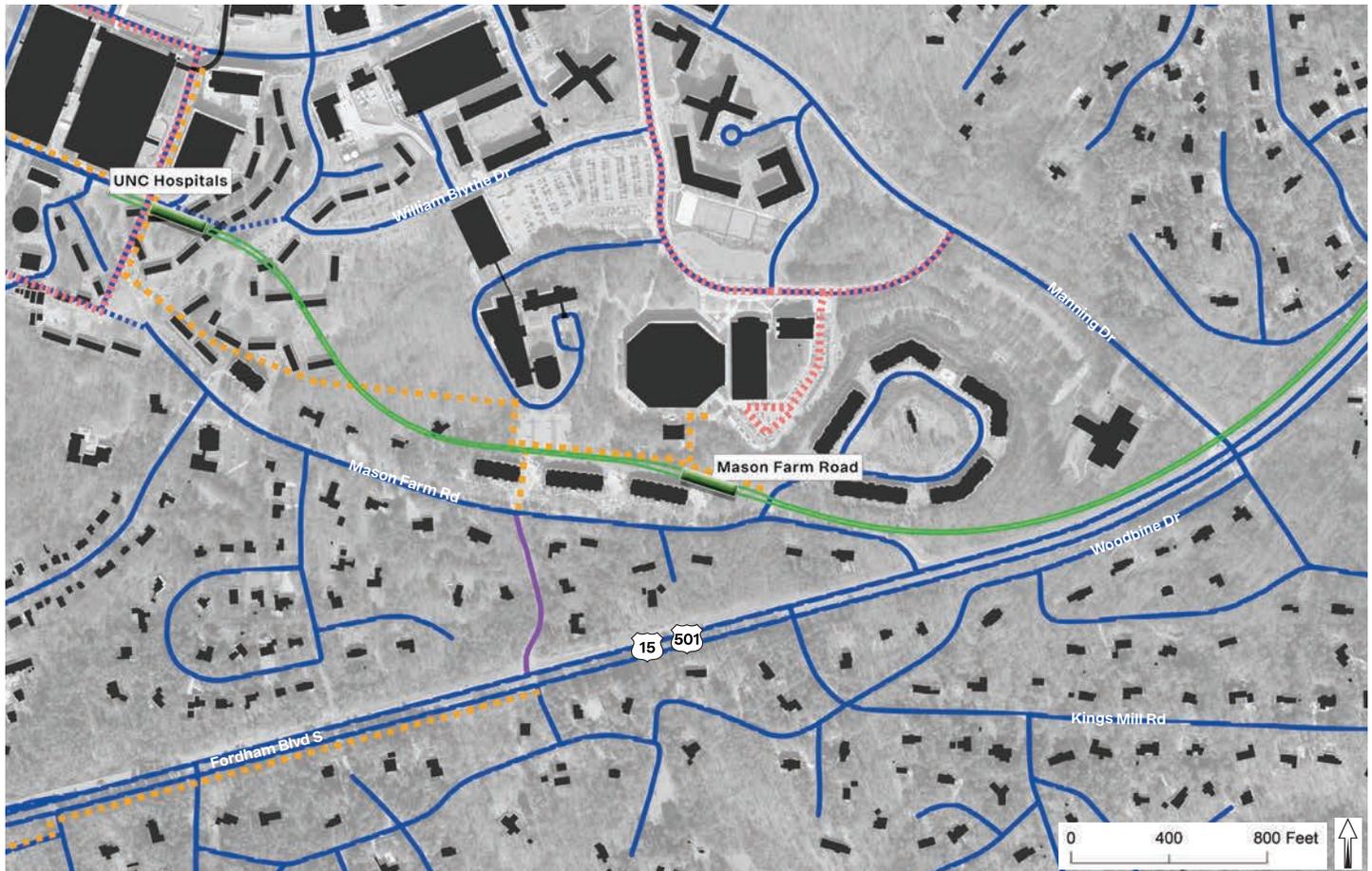


MASON FARM

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

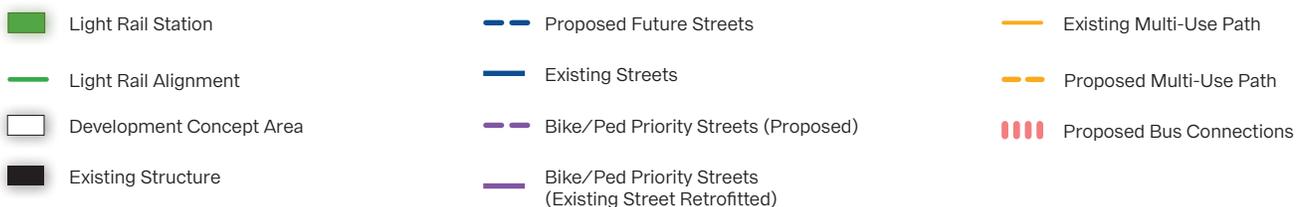
The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

Refer to the UNC Campus Master Plan for additional details regarding future street, bike and pedestrian connections.



TOD PUBLIC INFRASTRUCTURE INVESTMENT PRIORITIES

The following station area projects have been identified as the key projects the University and other partner entities should undertake to support safe connections to the rest of campus, surrounding neighborhoods, as well as any future campus development.



Oteys Road Bike and Pedestrian Improvements

Improve the roadway to include bike and pedestrian accommodations. Create signalized crossing at Fordham Blvd to connect the station to neighborhoods to the south

Timeframe: Pre-Rail

Cost: \$



Smith Center Parking Lot Redesign

Redesign the Smith Center parking lot to support bus service configuration to facilitate light rail transfer

Timeframe: Rail +10

Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	As campus development occurs, focus strategically on connectivity and passenger amenities at station areas			
	-	Smith Center parking lot redesign to facilitate light rail transfer	-	-
Bike/Ped and Transit Support	Plan connections to sidewalks, bike facilities and multi-use paths planned in the light rail project budget	-	Continue to support bike facilities and pedestrian amenities through integration of trailheads to get transit users to station areas. Continue connecting trail and path systems	
	Oteys Road bike and pedestrian improvements	-		



HAMILTON ROAD





Hamilton Road

Station Family: Neighborhood Destination
 County: Orange
 City: Chapel Hill

WHY THIS STATION?

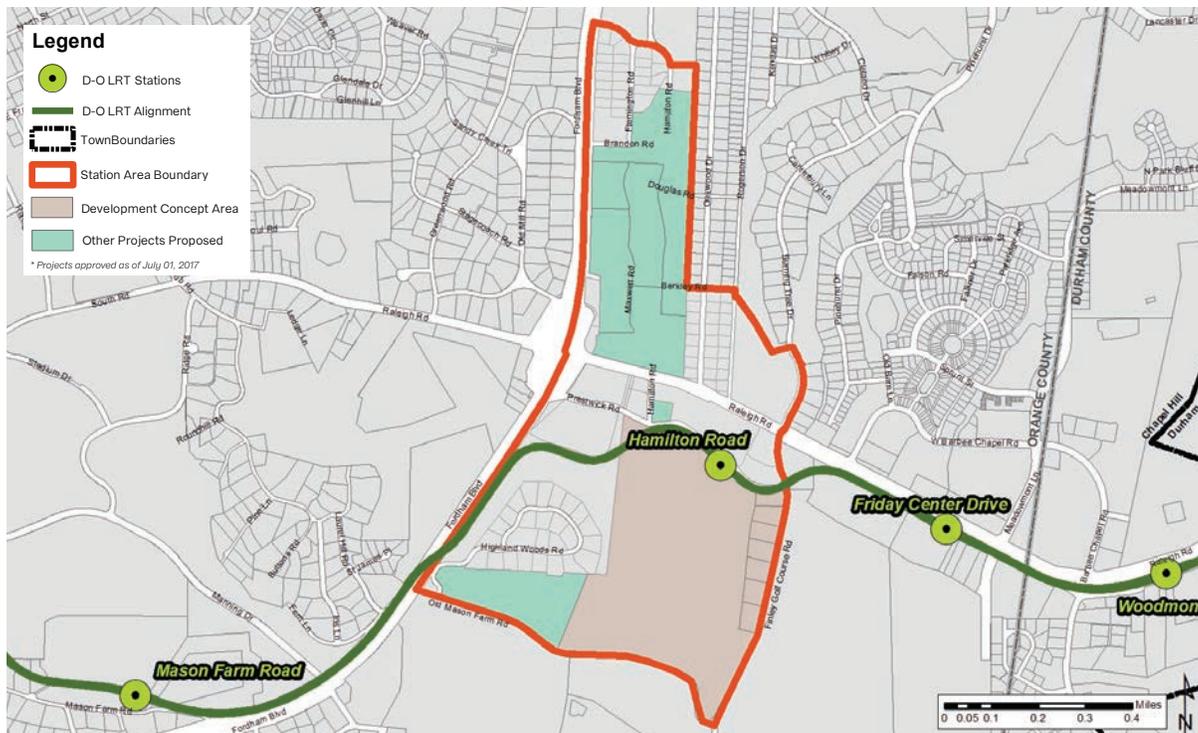
This station serves recently constructed and approved mixed-use redevelopment along NC 54, including East 54 and Glen Lennox.

This station includes existing and anticipated transformations of retail and mixed-use areas on both sides of NC 54, including East 54 on the south side of NC 54 and the approved redevelopment of Glen Lennox to the north. UNC - Chapel Hill's Finley Golf Course adjoins the south side of the station. The Glenwood Square Shopping Center may also present an opportunity to redevelop in a format similar to Glen Lennox in years to come. Prioritizing pedestrian and bicycle connections across NC 54 is critical to successfully linking and capitalizing on the existing neighborhoods and the redevelopment of Glen Lennox. Eastward from the station are properties along Prestwick that could also be redeveloped; extending Prestwick to Friday Center Drive would improve access and connectivity for the area.

ATTRIBUTES

- Serves the existing East 54 area and planned redevelopment of Glen Lennox to the north.
- Includes mix of retail, residential, office and university support services at a neighborhood scale.
- Predominant activity between 7 a.m. and 9 p.m.

STATION AREA CONTEXT





HAMILTON ROAD

STATION DEVELOPMENT CONCEPT

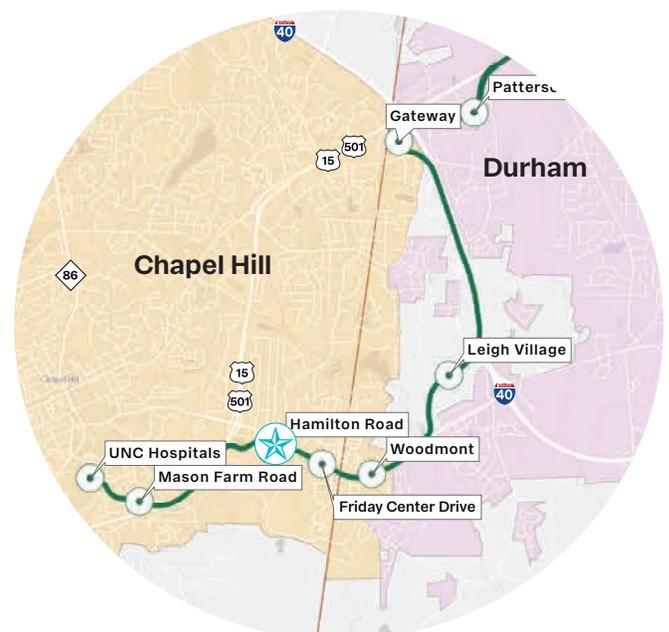
New transit-oriented development in this station area is largely contingent on the University of North Carolina at Chapel Hill Campus Master Plan. The areas shown in blue are illustrative and any development would be designed according to the interests of the University.



- A** Improved bike and pedestrian connections per the Chapel Hill Mobility Plan
- B** Prestwick Road connection to Friday Center Drive
- C** Private office with views of golf course and green space
- D** Townhomes introduced with frontage on green space
- E** Hamilton Road crossing of NC 54 to Glen Lennox enhanced for bike/pedestrian connections
- F** Bike and pedestrian improvements across NC 54 from Finley Golf Course Road

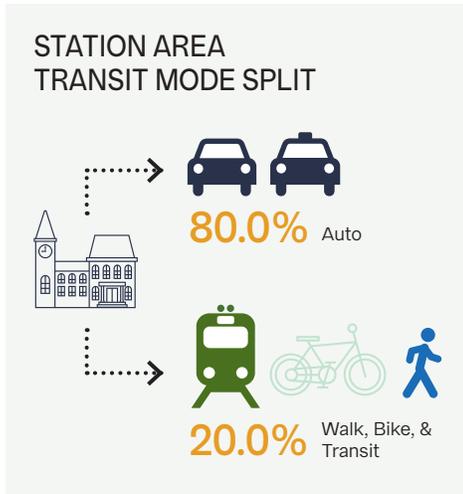
Additional development is possible on parcels not identified in the station development concept drawing.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Chapel Hill Town Council.



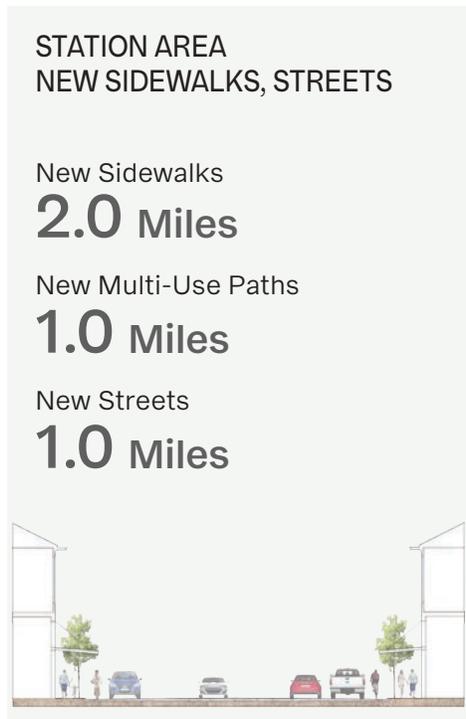
HAMILTON ROAD AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 80. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	70	350
Multifamily Residential	Dwelling Units	0	1,030
General Retail	Square Feet	0	90,000
General Office	Square Feet	1,090,000	1,690,00
Institutional	Square Feet	0	0
Hotel	Rooms	0	130





HAMILTON ROAD

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Hamilton Road station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill and Orange County. The analysis excludes sales tax.

Station Area	318 Acres
Development Concept Area	111 Acres

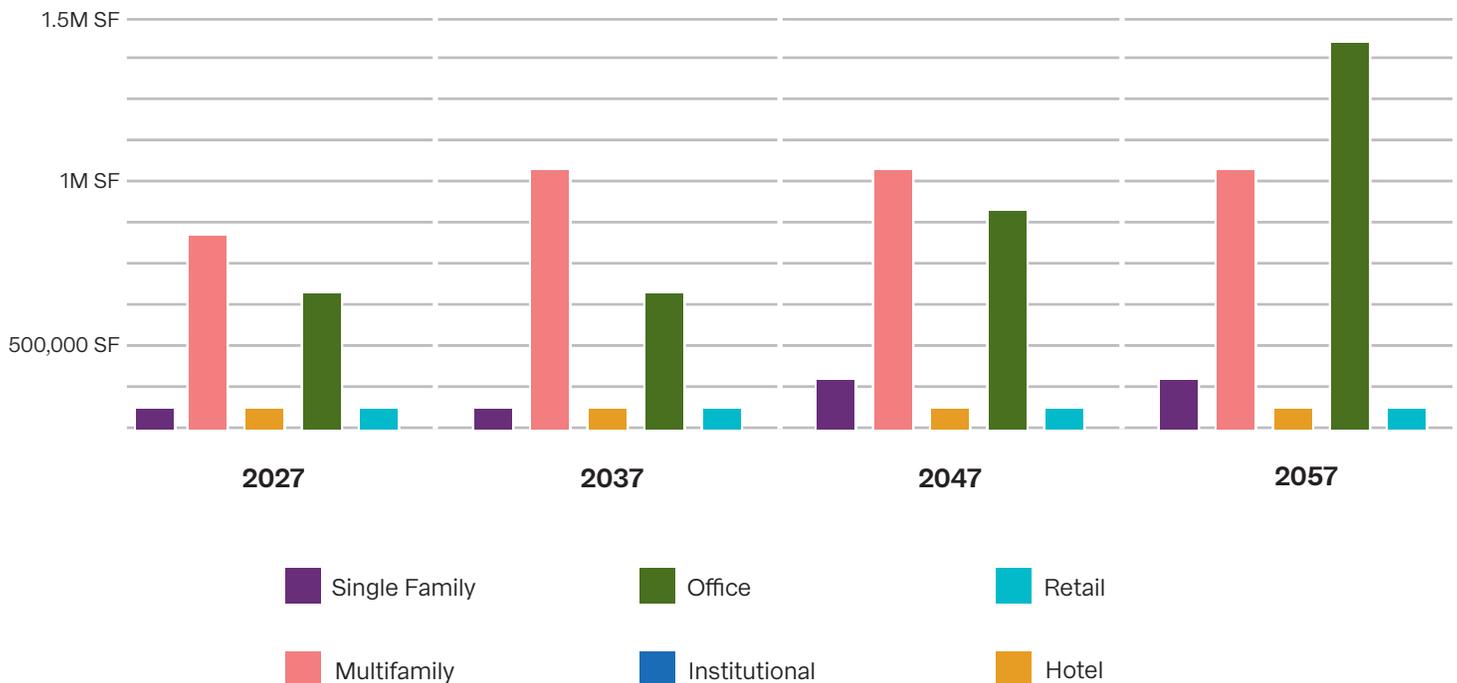
POTENTIAL NEW TAX REVENUE

HAMILTON ROAD	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$139.9 Million	\$115.5 Million	\$86.4 Million	\$71.3 Million
Upper Estimate (65th Percentile)	\$189.3 Million	\$156.3 Million	\$116.9 Million	\$96.5 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$157.2 Million	\$189.1 Million	\$197.8 Million	\$231.8 Million
Upper Estimate (65th Percentile)	\$212.7 Million	\$255.9 Million	\$267.6 Million	\$313.6 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$13.9 Million	\$43.3 Million	\$80.1 Million	\$120.3 Million
Upper Estimate (65th Percentile)	\$18.8 Million	\$58.5 Million	\$108.4 Million	\$162.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





HAMILTON ROAD

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Minimal development around station, likely more residential and some office uses across NC 54.

Rail +10 (2028 - 2037): Moderate development, likely some commercial, any office would be paired with any redevelopment activity along Prestwick Road.

Rail +20 (2038 - 2047): Continued moderate development to meet the needs of the market conditions at that time, specific to this period is the redevelopment of aged office buildings and commercial along Finley Golf Course Road.

Rail +30 (2048 - 2057): Continued moderate development of office space to meet the needs of the market conditions at that time.

Investment Phasing

Focus first on connectivity for pedestrians and bicyclists, in addition to extending Prestwick Road to Meadowmont Exchange Drive to create a new street to improve connectivity. Improving pedestrian and bike crossings of NC 54 is essential to provide connections to the planned mixed-use redevelopment of Glen Lennox on the north side of the highway.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Hamilton Road station area:

- Remove barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)
- Remove regulatory barriers to housing and recalibrate mandatory density bonus program

ZONING STRATEGIES

The Hamilton Road station area consists of five zoning categories; the majority of the station area is zoned OI-2. The eastern part of the station area is zoned R-1 and the northern area (Glen Lennox) is currently zoned R-3.

Office/Institutional-2 (OI-2) zoning is a Town of Chapel Hill district “intended to provide for medium-intensity office and institutional development.” This zoning allows 15 units to the acre and .264 FAR. Additional transit-supportive density is needed to accommodate well-designed transit-oriented development. The MU-R-1 is a legacy zoning category that allows some mixing of uses, but is not supportive of TOD densities. R-1 is exclusively residential with a maximum of three units per acre, well below transit-supportive densities. The areas of R-1, R-2, and R-3 zoning inside of the station area are exclusively residential zoning that requires a maximum of three (R-1) or seven (R-3) units per acre. Neither of those densities is ideal inside of a station area to support the threshold of residential within walking distance of a station. Approved plans for the redevelopment of Glen Lennox provide uses and the intensity of development that are more consistent with transit-oriented development.

Future TOD zoning considerations for this station include:

- The need to proactively work with the university to evaluate and create a vision and a development plan for the long-term uses of the properties along Finley Golf Course Road;

- Allow redevelopment of single use commercial shopping centers into walkable, mixed-use neighborhoods;
- In the station area, reduce barriers to mid-scale, missing middle development such as courtyard apartment buildings or “mansion homes” that include five to ten apartments; and
- On the edge of the station area and beyond, allow small-scale residential infill such as backyard cottages in existing neighborhoods.

Private property owners should be encouraged to share parking between developments rather than new garages being constructed to support a single use, particularly on the south side of NC 54.

PARKING STRATEGIES

Parking is presently managed on a development-by-development basis in the Hamilton Road station area, in addition, to more than 100 on-street parking spaces on Prestwick Road. The limited land for development warrants the need for garage parking to accommodate future uses, however, no parking is recommended for the station and transit operations.

As future development occurs, on-street parking should be located on any new or upgraded streets. New compact development within proximity of transit will have lower parking needs due to the adjacency to employment via transit.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Discourage any use of surface parking in this existing land use configuration around the station			
	Structured	Encourage structured parking for any development on-site to drive higher densities to meet the fiscal demands of a garage			
Policy	Supply	N/A	Evaluate, manage and allow new developments to share existing underused parking		
	Incentives	N/A	Each tenant in office buildings develop and maintain a Travel Demand Management program. Consider implementing caps on the number of new vehicle trips a development can produce to encourage developers and tenants to limit vehicle use		
	Pricing	N/A	Encourage existing employers and rental units to unbundle parking and require unbundled parking for new developments		
Implementation	District	Coordinate the development of a parking master plan with UNC for Hamilton Road and Friday Center Drive	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program in coordination with Friday Center Drive	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



HAMILTON ROAD

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the Town and other partner entities should undertake to support catalytic station area development.



NC 54 Bike and Pedestrian Crossings

Improve bike and pedestrian crossings at the intersections of Hamilton Road, East 54 and Burning Tree to NC 54

Timeframe: Pre-Rail
Cost: \$



Prestwick Connection to Friday Center Drive

Extend Prestwick parallel to NC 54 to Friday Center Drive in order to create parallel vehicular connections

Timeframe: Rail +10
Cost: \$\$



Infrastructure Supporting Parking District

Establishing the governance and protocol for a parking district that is done in coordination with the Friday Center Drive station area.

Timeframe: Rail +10
Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	-	Parking district established in coordination with Friday Center Drive station area		Plan and work towards partnerships for shared parking decks or garages to support the parking district
Bike/Ped and Transit Support	NC 54 bike and pedestrian crossings	Extend Prestwick to Friday Center Drive		-
	Improve and extend existing sidewalks, bike facilities and multi-use paths to station, including the pedestrian connection through East 54			

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FRIDAY CENTER DRIVE





Friday Center Drive

Station Family: University Village
 County: Orange
 City: Chapel Hill

WHY THIS STATION?

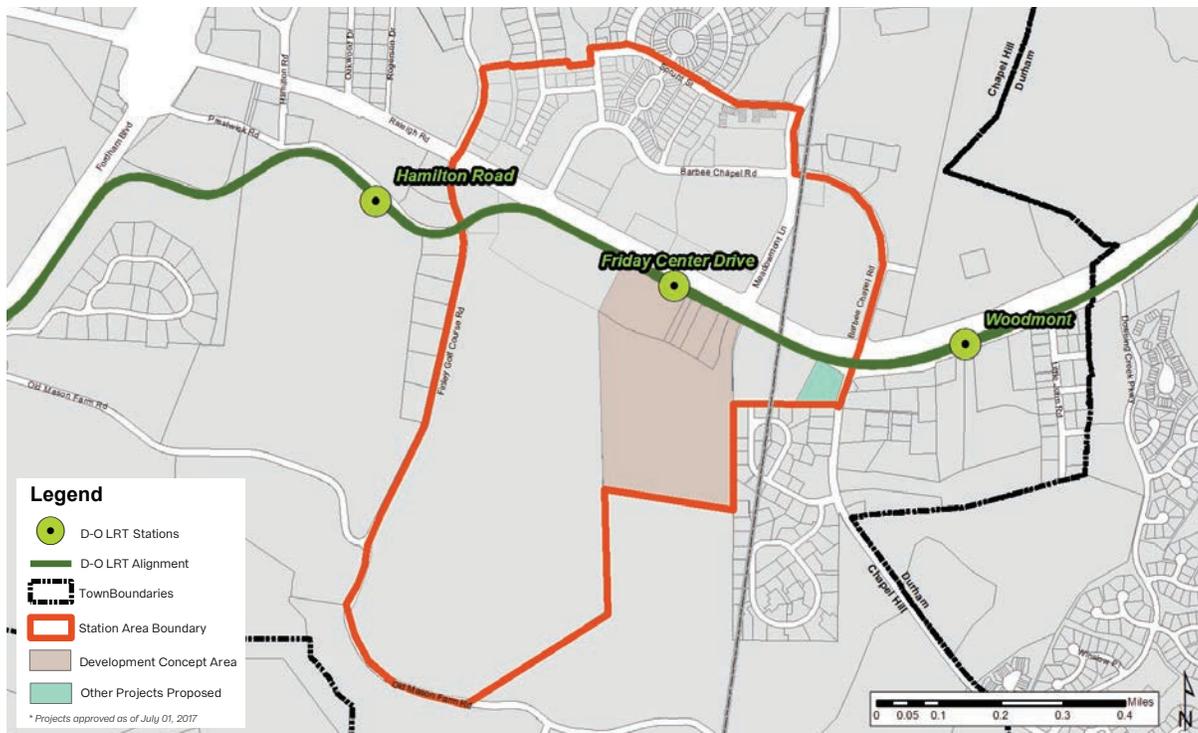
This station provides an opportunity to reinvent the Friday Center while adding opportunities for new buildings for the University of North Carolina at Chapel Hill, as envisioned in its Campus Master Plan.

With large surface parking lots, the Friday Center Drive station area is the first genuinely greyfield redevelopment opportunity among the University Villages family of stations. The university’s Campus Master Plan therefore will serve as a guide for much of the TOD potential in this station area, although several non-university parcels also offer redevelopment or infill development potential. Nearby neighborhoods are predominantly mixed-use or multifamily, lessening the challenges of compatibility and transitions. Connecting to Prestwick Road to the west and extending Marriott Way to the east, to Barbee Chapel Road, will provide additional connections to an alternative to NC 54 for local traffic and to support redevelopment.

ATTRIBUTES

- Extensive development and redevelopment potential on university property, as well as the existing parking lots in Meadowmont Village.
- Existing connections via grade-separated trail system to Meadowmont north of NC 54.
- Station area is well-located for housing.
- Most development potential here must be initiated by UNC - Chapel Hill given the land ownership.
- Predominant activity between 8 a.m. and 7 p.m.

STATION AREA CONTEXT





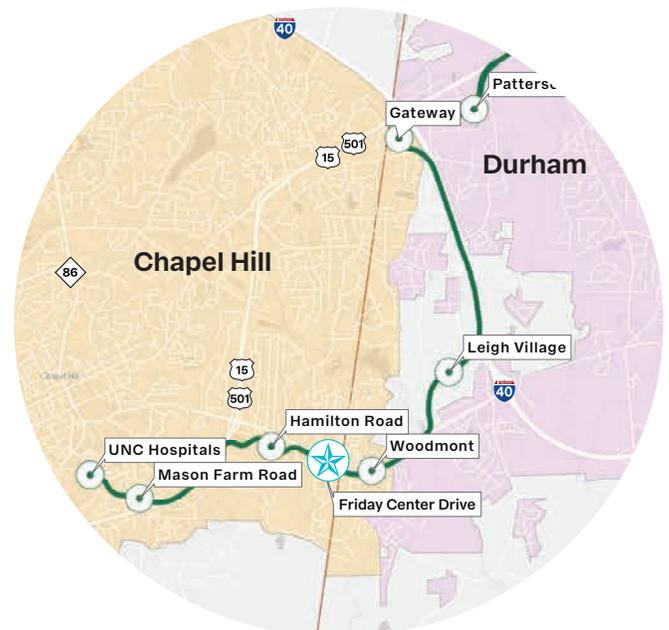
FRIDAY CENTER

STATION DEVELOPMENT CONCEPT

New transit-oriented development in this station area is largely contingent on the University of North Carolina at Chapel Hill Campus Master Plan. The areas shown in blue are illustrative and any development would be designed according to the interests of the University.



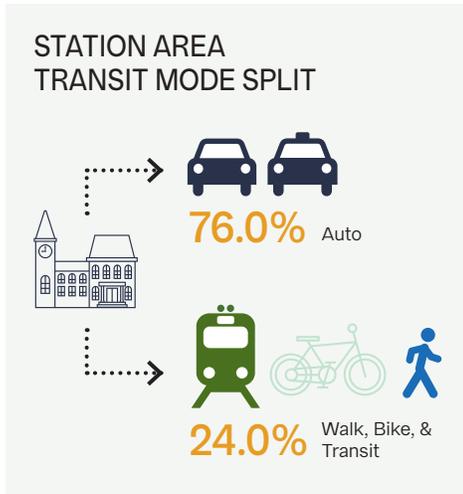
- A** Station and connection to Meadowmont under NC 54
- B** Private development incorporating public amenities, such as plazas, outdoor seating, etc.
- C** Natural landscapes incorporated into urban campus with public and private development
- D** Preserved existing Friday Center
- E** Prestwick Road connection to Hamilton Road
- F** Potential opportunity for new housing
- G** Marriott Way connection to Barbee Chapel Road



This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Chapel Hill Town Council.

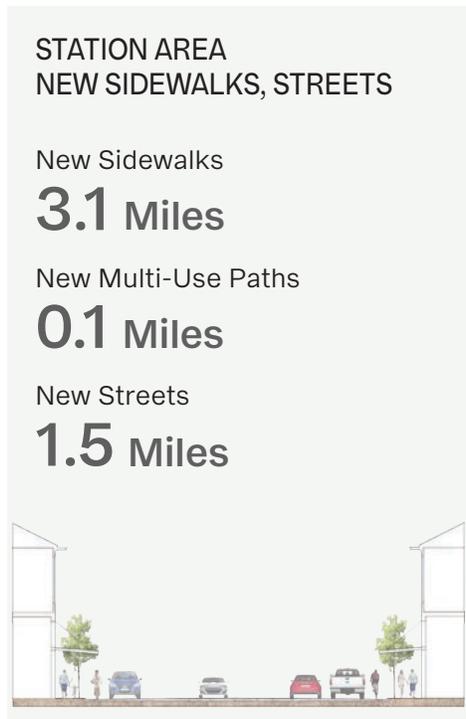
FRIDAY CENTER DRIVE AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 90. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	0	0
Multifamily Residential	Dwelling Units	220	240
General Retail	Square Feet	40,000	40,000
General Office	Square Feet	485,000	590,000
Institutional	Square Feet	1,210,000	1,210,000
Hotel	Rooms	0	0





FRIDAY CENTER

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.



POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Friday Center Drive station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill and Orange County. The analysis excludes sales tax.

Station Area	333 Acres
Development Concept Area	12 Acres

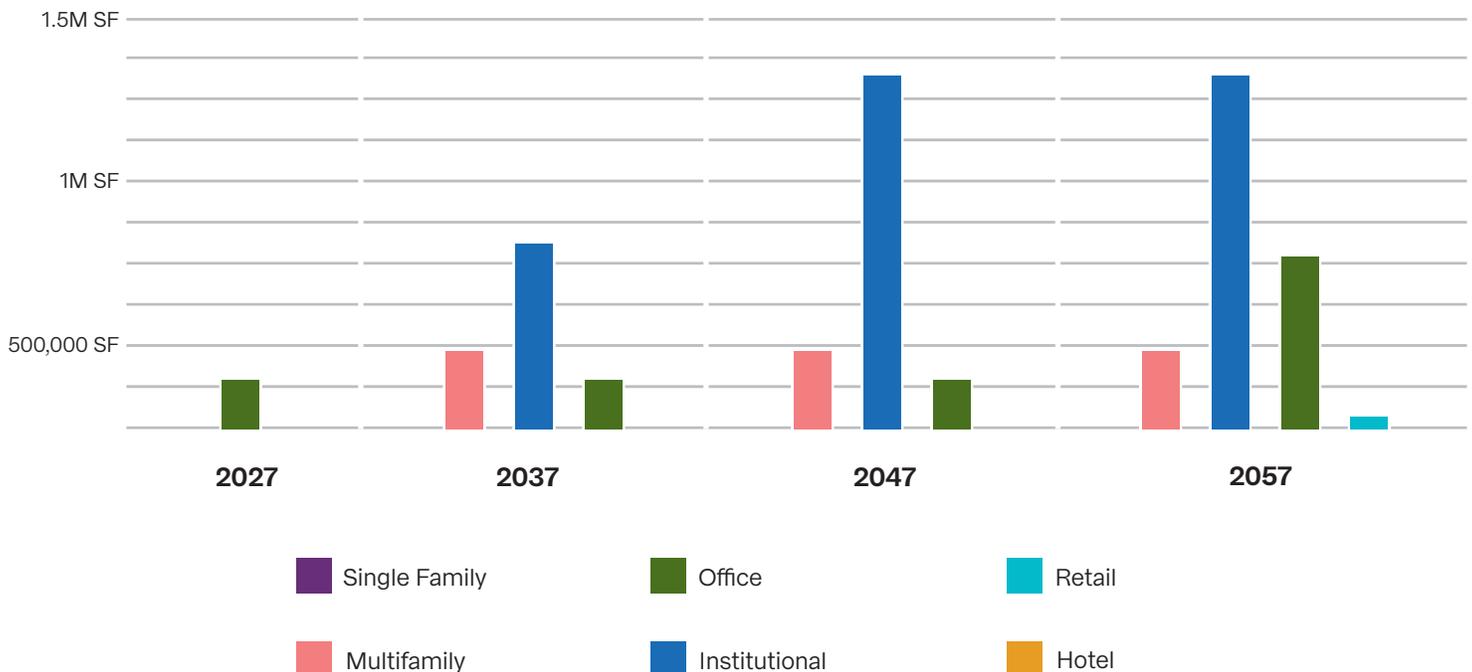
POTENTIAL NEW TAX REVENUE

FRIDAY CENTER	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$142.8 Million	\$117.9 Million	\$88.2 Million	\$72.8 Million
Upper Estimate (65th Percentile)	\$193.2 Million	\$159.5 Million	\$119.3 Million	\$98.5 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$12.0 Million	\$39.1 Million	\$29.2 Million	\$50.2 Million
Upper Estimate (65th Percentile)	\$16.2 Million	\$52.8 Million	\$39.5 Million	\$68.0 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$1.1 Million	\$4.6 Million	\$9.9 Million	\$18.7 Million
Upper Estimate (65th Percentile)	\$1.5 Million	\$6.2 Million	\$13.3 Million	\$25.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





FRIDAY CENTER

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Minimal development around station, likely some commercial along NC 54.

Rail +10 (2028 - 2037): Moderate development, likely some university buildings and commercial.

Rail +20 (2038 - 2047): Continued moderate development to meet the university’s needs and market conditions at that time.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

Subject to alignment with the university’s Campus Master Plan.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Friday Center Drive station area:

- Anchor institution involvement
- Reduce barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)
- Land banking

ZONING STRATEGIES

The Friday Center station area consists of four zoning districts; the majority of the station area is zoned as OI-2, a district specifically established for UNC property. The station itself is in R-1 and MU-R-1. The eastern part of the station area is zoned R-5-C.

Office/Institutional-2, OI-2 Zoning is a Town of Chapel Hill district “intended to provide for medium-intensity office and institutional development.” This zoning allows 15 units to the acre and .264 FAR. In this case the zoned land is primarily surface parking lots that could be redeveloped in the future depending on the needs of UNC. Additional transit-supportive density is needed to accommodate well designed TOD.

The MU-R-1 is a legacy zoning category that allows some mixing of uses but is not supportive of TOD densities. R-1 is exclusively residential with a maximum of three units per acre.

The areas of R-5-C are built out in relative proximity to the station location.

Whether as a separately initiated TOD zoning district or as part of the Town’s rewrite of the Land Use Management Ordinance, specialized zoning for transit-oriented development should articulate Core, General and Edge development conditions across the station area and provide a clear delineation of community benefits.

Specific zoning considerations include:

- Proactively work with UNC to envision future uses at the Friday Center Drive station area and implement zoning that enables that vision to be achieved; and
- Allow for incremental additions to the mixed-use and office parks near the station to support opportunities for people to live, work, and to support existing businesses near the station area.

PARKING STRATEGIES

The Friday Center Drive station area currently has significant surface parking that primarily serves the Friday Center and bus park-and-ride activity.

It is recommended that a steady transition take place that accommodates new parking needs with new development. There are significant transit-oriented parking needs required and will need to be maintained through transition to garages and shared parking opportunities. A coordinated effort for parking at this station through a district master plan will align the station to adjacent stations and support parking solutions for this important node along the Light Rail Corridor.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR		
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district		
	Surface	Use existing surface lots until they are redeveloped or replaced by structured parking	Discourage any use of surface parking in this existing land use configuration around immediate station area. Optimize use of existing parking within Hedrick and NC 54 park-and-ride lots	
	Structured	Structured parking recommended when redevelopment occurs. Coordinate all structured parking in accordance with a district master parking plan.		
Policy	Supply	N/A	Continue to monitor and manage existing supply of parking and the role of the underused NC 54 and Hedrick park-and-ride lots. Ensure that new supply is shared to the greatest extent possible	
	Incentives	Implement Travel Demand Management (TDM) programs similar to those on Main Campus that encourage employees to take transit, walk or bike		
	Pricing	N/A	Require any new private development to unbundle parking from leases. Adopt a priced permit program similar to Main Campus	
Implementation	District	Coordinate the development of a parking master plan with UNC for Hamilton and Friday Center Drive	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years	
	Public	Assemble district parking program in coordination with Hamilton Road station	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects	



FRIDAY CENTER

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the Town and other partner entities should undertake to support catalytic station area development.



Infrastructure Supporting Parking District

Establishing the governance and protocol for a parking district with Hamilton Station and UNC. Dedicate resources to create a parking master plan

Timeframe: Rail +10
Rail +20
Cost: \$

Prestwick Connection to Hamilton Road

Extend Prestwick parallel to NC 54 to Hamilton Road in order to create parallel vehicular connections

Timeframe: Rail +10
Cost: \$\$

Connect Marriott Way to Barbee Chapel Road

Create an a new street between Friday Center Drive and Barbee Chapel Hill Road to improve connectivity for local traffic.

Timeframe: Pre-Rail
Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	-	Parking district established in coordination with Hamilton Road station area		-
	Connect Marriott Way to Barbee Chapel Road	Extend Prestwick to Hamilton Road	-	-
Bike/Ped and Transit Support	Extend path connections per the Town's Mobility and Connectivity Plan			

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WOODMONT





Woodmont

Station Family: Neighborhood Destination
 County: Durham
 City: Chapel Hill

WHY THIS STATION?

Woodmont is a long-contemplated mixed-use development opportunity.

Existing development in the Woodmont station area is suburban, but a few key parcels in the immediate station area are undeveloped, offering an opportunity to create a mixed-use neighborhood destination with a variety of housing types transitioning to the nearby garden apartments, condominium complexes, and single family neighborhoods. Stream edges and natural areas should be protected and made integral to the pedestrian connections in the new development.

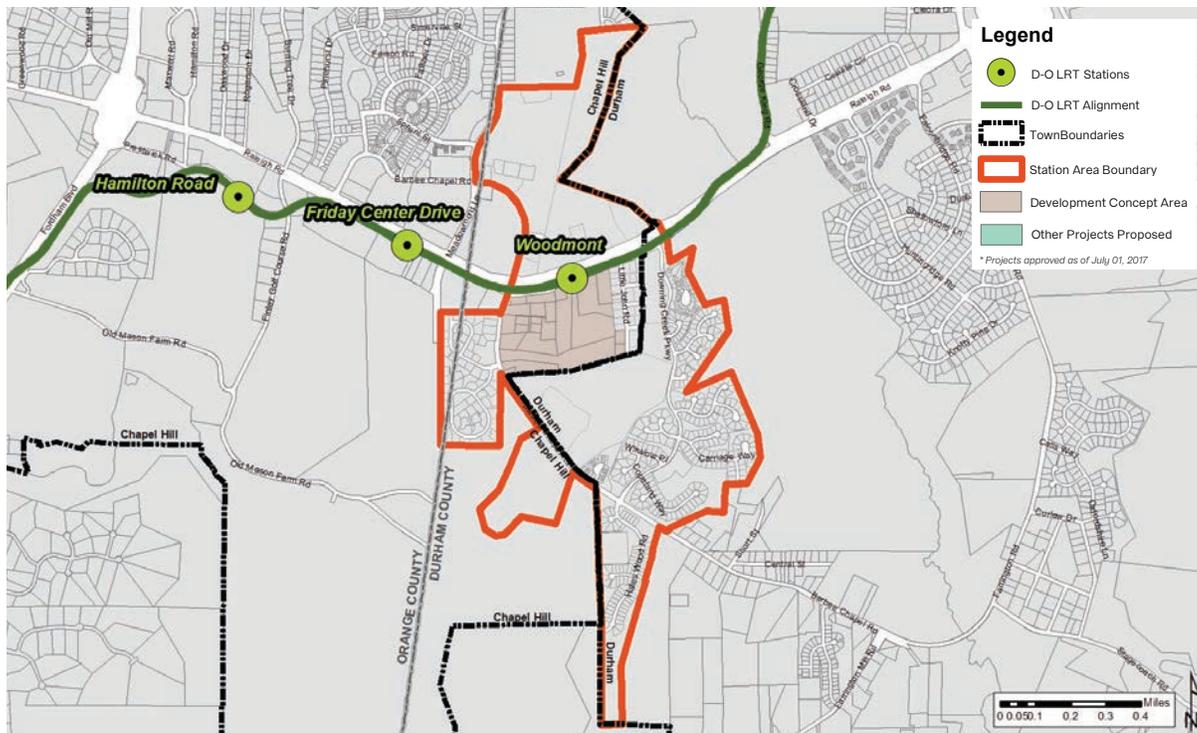
Given its existing neighborhood setting near UNC - Chapel Hill, the Woodmont station area is conducive to new housing opportunities with neighborhood serving retail and office space. Large amounts of new office space are more likely to cluster closer to UNC or in areas with better regional access such as Gateway and Patterson Place station areas than at Woodmont.

Additionally, access to Barbee Chapel Road and adjusted access for westbound left-turns into the station area from NC 54 is needed to support retail and office development.

ATTRIBUTES

- Provide neighborhood services within bike and pedestrian proximity to variety of housing types.
- Provide mix of retail and office to augment residential uses creating a neighborhood destination.
- Predominant activity weekdays between 6 a.m. and 9 a.m. and 4 p.m. and 7 p.m.

STATION AREA CONTEXT





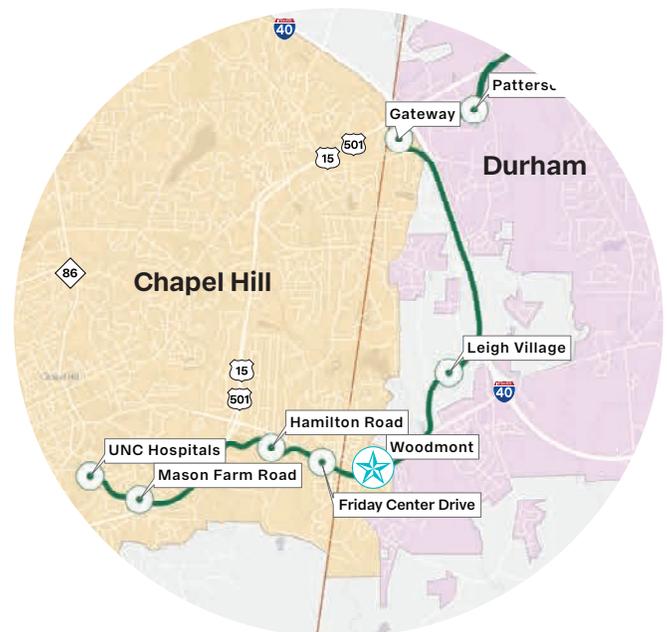
WOODMONT

STATION DEVELOPMENT CONCEPT

Development of a multitude of uses configured at the station area, with transitions to lower density single family and adjacent multifamily.



- A** Time limited drop-off and pick-up spaces on the south side of Stancell Drive
- B** Green space connection to private development and green public space
- C** Marriott Way connection to Barbee Chapel Road
- D** Interface of existing residential with missing middle housing types to transition density
- E** Connection to Downing Creek Parkway from Barbee Chapel Road
- F** Urban public park system in which development celebrates green public spaces
- G** Potential shared detention opportunity

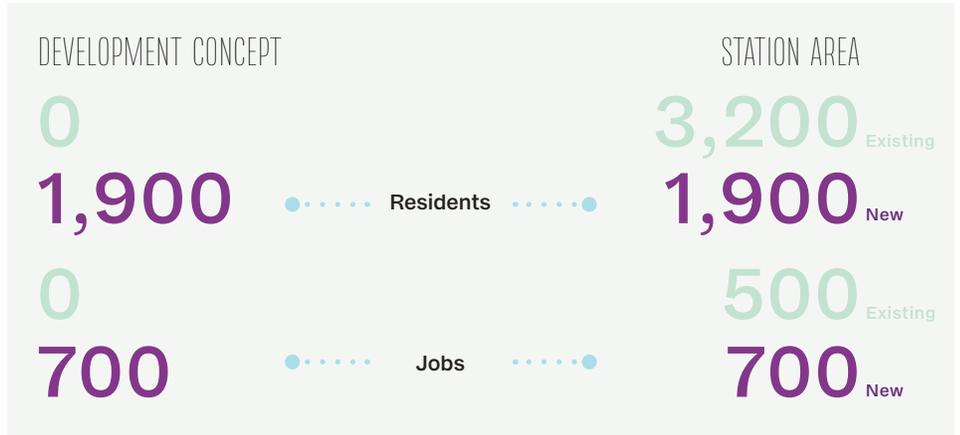
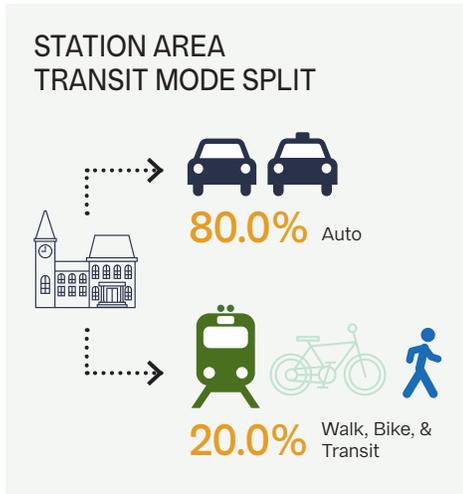


Possibilities include a different mix of uses compared to today, including some neighborhood serving office and retail.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Chapel Hill Town Council.

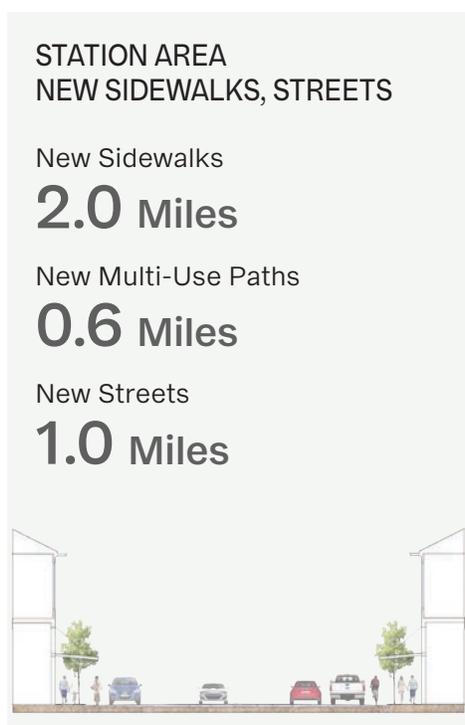
WOODMONT AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 100. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	150	150
Multifamily Residential	Dwelling Units	740	740
General Retail	Square Feet	40,000	40,000
General Office	Square Feet	170,000	170,000
Institutional	Square Feet	0	0
Hotel	Rooms	0	0





WOODMONT

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Existing Streets
- Proposed Multi-Use Path
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Development Concept Area
- Bike/Ped Priority Streets (Existing Street Retrofitted)
- Existing Structure

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Woodmont station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill, Durham County, as well as small portions of the City of Durham and Orange County. The analysis excludes sales tax.

Station Area	441 Acres
Development Concept Area	50 Acres

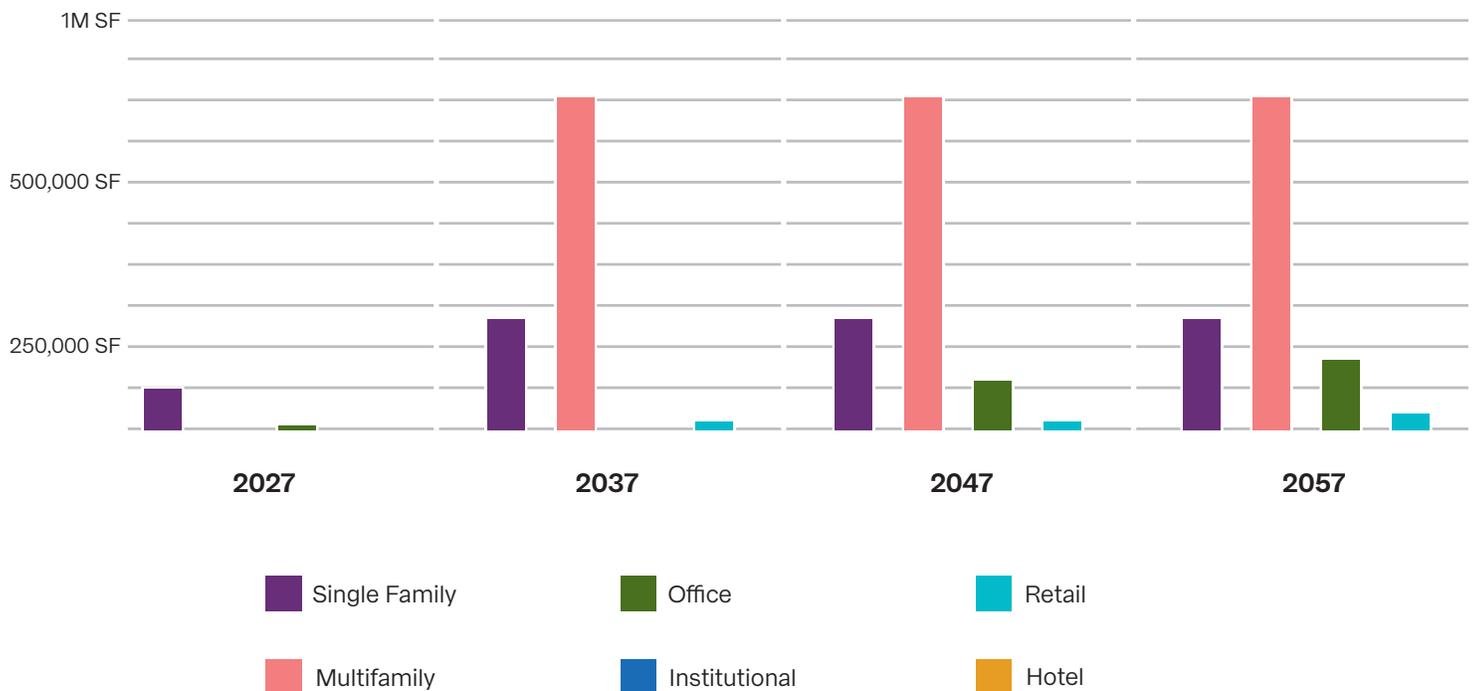
POTENTIAL NEW TAX REVENUES

WOODMONT	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$118.0 Million	\$97.4 Million	\$72.9 Million	\$60.2 Million
Upper Estimate (65th Percentile)	\$159.7 Million	\$131.8 Million	\$98.6 Million	\$81.4 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$8.7 Million	\$161.8 Million	\$129.7 Million	\$123.2 Million
Upper Estimate (65th Percentile)	\$11.7 Million	\$218.9 Million	\$175.5 Million	\$166.7 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$740,000	\$9.8 Million	\$27.2 Million	\$45.0 Million
Upper Estimate (65th Percentile)	\$1.0 Million	\$13.3 Million	\$37.4 Million	\$60.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





Anticipated Development Horizon

Pre-Rail (2018 - 2027): Some development of attached single family housing away from NC 54.

Rail +10 (2028 - 2037): Moderate residential development fed by new market conditions with light rail activation.

Rail +20 (2038 - 2047): Build out of moderate mixed-use development based on market conditions at the time.

Rail +30 (2048 - 2057): Limited development anticipated in this time frame for this station area.

Investment Phasing

Public investments in new streets should be focused first on connectivity for bikes and pedestrians, but should also accommodate local vehicular connections. Connectivity within the TOD will provide additional connections to NC 54 and Barbee Chapel Road for residents of nearby neighborhoods.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Woodmont station area:

- Remove barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)
- Land banking
- Remove regulatory barriers to housing and recalibrate mandatory density bonus program

ZONING STRATEGIES

The Woodmont station area consists of multiple zoning districts with portions of the core of the station area zoned as MU-V. South of NC 54 are tracts with zoning including NC, NC-C, R-2, PDR and RD. Undeveloped property north of NC 54 is zoned R-1.

Neighborhood Commercial (NC and NC-C) is a district intended to provide for “low-intensity commercial and service centers that are accessible by pedestrians from the surrounding neighborhoods, serve the daily convenience and personal service needs of the surrounding neighborhoods.” With relatively low intensity of development and other limitations, TOD would be better accommodated through other zoning criteria.

R-2 allows a maximum of four units per acre, even more limiting for successful TOD.

The areas zoned Planned Development Residential (PDR) and Rural Residential (RD) are within Durham’s city limits. They would be well-served by strong pedestrian connections through new development for access to the station.

The Mixed-Use Village (MU-V) zoning may support 20 units per acre and a range of uses. Keys in implementing successful TOD include specific urban design and connectivity principles that may be possible under MU-V zoning, but may not be required. The MU-V zoning also requires multiple steps for approval of site plans. Rather than developing under the MU-V, the Town and developers may find better alignment with agreed upon TOD principles through a rezoning to a new zoning district tailored more specifically to the station area. Whether as a separately initiated TOD zoning district or as part

of the Town’s rewrite of the Land Use Management Ordinance, specialized zoning for transit-oriented development should articulate Core, General, and Edge development conditions across the station area and provide a clear delineation of community benefits.

PARKING STRATEGIES

The Woodmont station area has minimal development in close proximity to the station. Existing developments meet their parking needs on a site-by-site basis.

All new streets within the station area need to accommodate on-street parking to minimize surface and garage parking needs. Development will need to incorporate parking and likely use a mixture of surface and garage parking. As development ages, a repurposing of initial parking may be warranted and should use a master parking plan as part of the district to support the parking’s evolution and prevent any installation that would inhibit repurposing of the parking.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Avoid over-building surface parking. Design lots to be repurposed for development in future		Discourage further development of surface parking in station area	
	Structured	Structured parking only incentivized when or if major employers or significant project is introduced as a catalytic development.		Encourage structured or wrapped parking for significant development	
Policy	Supply	N/A	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy to be elevated every year at a maximum		
	Incentives	Adopt development standards that encourage strong Travel Demand Management (TDM). Establish caps on the number of vehicles entering and exiting the development to incentivize the developer and tenants to walk, bike, and take transit.			
	Pricing	Ensure that all spaces are unbundled from leases for building space and from day one. Adjust prices to match the demand for spaces			
Implementation	District	N/A	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the Town and other partner entities should undertake to support catalytic station area development.



Left Turn off NC 54 into Development

Support the installation of a left turn from NC 54 into the Woodmont station area to improve commercial development opportunities

Timeframe: Pre-Rail
Cost: \$\$



Connect Barbee Chapel to Downing Creek Road

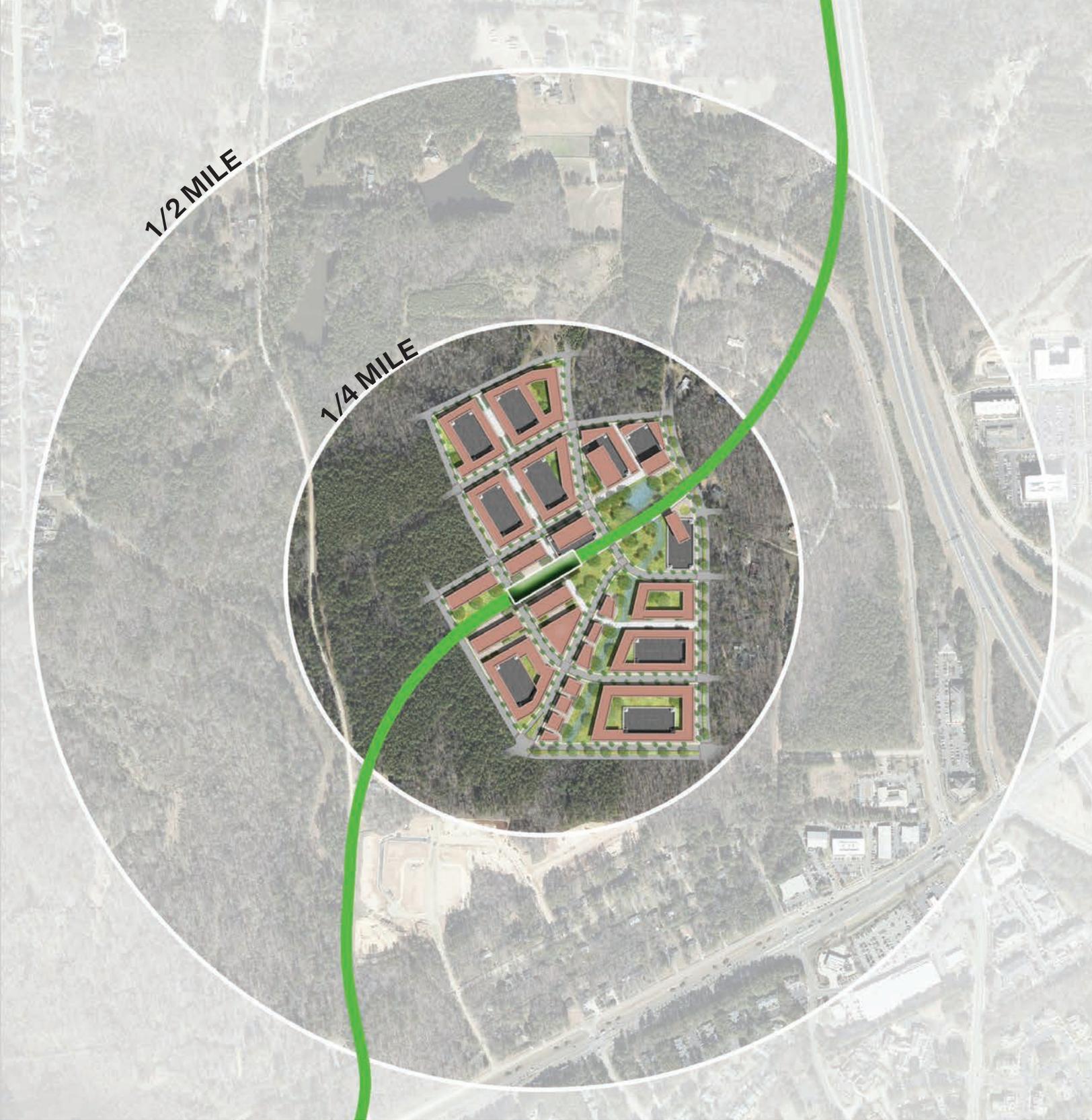
Create a street from Barbee Chapel Road to Downing Creek Road to improve connectivity for local traffic

Timeframe: Rail +10
Cost: \$\$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Left turn into Woodmont station area from NC 54 to increase vehicular connectivity	Installation of appropriate vehicular connections to the surrounding neighborhoods to support better local traffic flow off of NC 54		-
	-	Connect Barbee Chapel to Downing Creek Road to improve local connectivity	-	-
Bike/Ped and Transit Support	Improve crossing at Barbee Chapel Road for pedestrian and bike connectivity		-	-
	-	Extend trail connections per Chapel Hill Mobility Plan	-	-

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LEIGH VILLAGE





Leigh Village

Station Family: New Community
 County: Durham
 City: Durham

WHY THIS STATION?

Opportunity to create a substantial conveniently located urban village within the existing suburban fabric between Chapel Hill and Durham.

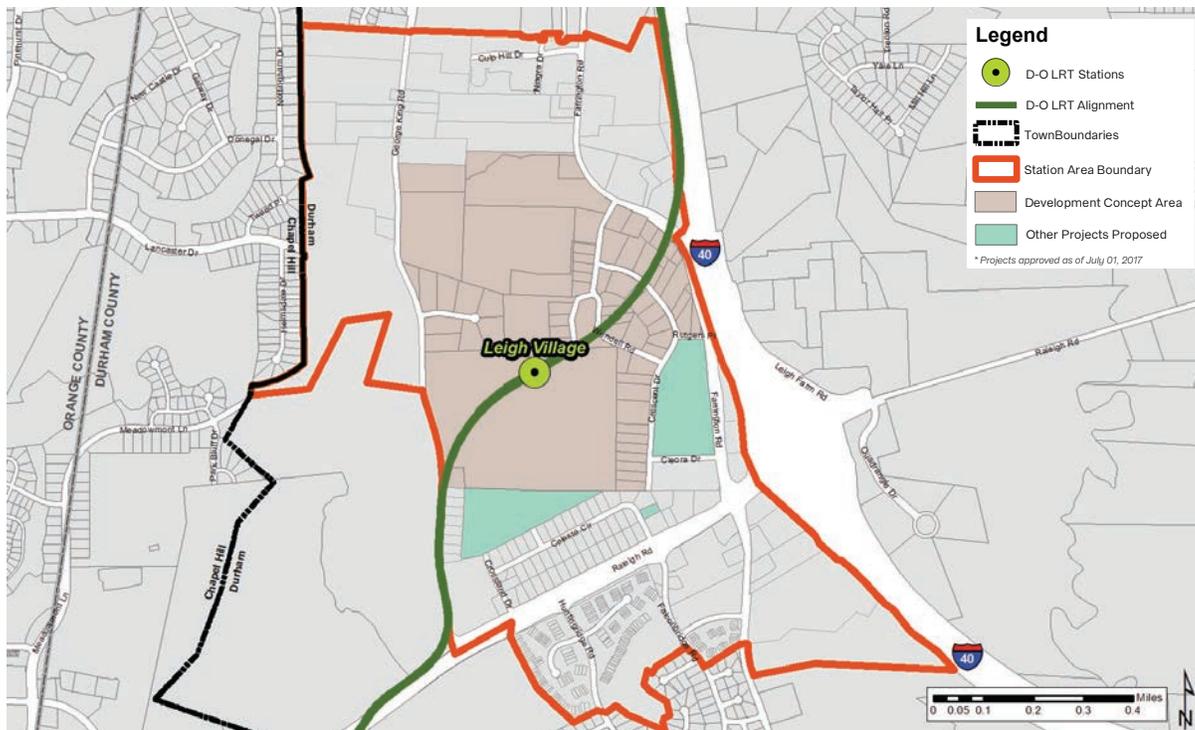
The Leigh Village station includes a largely undeveloped area surrounded by variously aged suburban neighborhoods, office, and some retail. The immediate station area is addressed by conceptual plans informed by a major landowner’s design team and comprising several new blocks, a full street network, and a central spine of greenspace based on an existing stream corridor. The plan offers rich possibilities of a highly connected, vibrant urban community with green infrastructure and sufficient buffers to protect sensitive environmental features to the west.

Wholly new infrastructure serving new development requires extensive public/private coordination and partnerships addressing streets, utilities, greenways, and connections to the surrounding roadway network. As a new community, Leigh Village presents an opportunity for station area-wide approaches to stormwater management, parking and public spaces as opposed to these components being handled on a site-by-site basis. Initial infrastructure will serve a park-and-ride location with circulation patterns anticipating a future street network, with the station area ultimately becoming a bustling regional node.

ATTRIBUTES

- Requires infrastructure partnerships and connectivity improvements to surrounding networks.
- Potential new major employer location.
- Predominant weekday activity between 7 a.m. and 10 p.m.

STATION AREA CONTEXT





LEIGH VILLAGE

STATION DEVELOPMENT CONCEPT

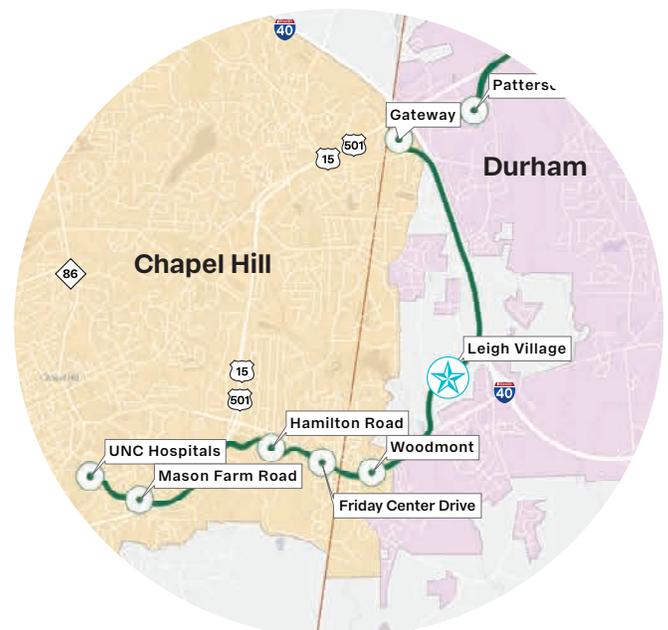
Large greenfield development opportunity coordinated, in part, with major landowner to balance implementation of sustainable development, park and ride access, and bus-rail integration.



- A** Station platform with public plaza and bus drop-off
- B** Stream preservation with public space, which could include green spaces and plazas
- C** Falcon Bridge Road extension from NC 54
- D** Block structure allows flexibility for evolution from park-and-ride to urban village
- E** Structured parking wrapped with private development

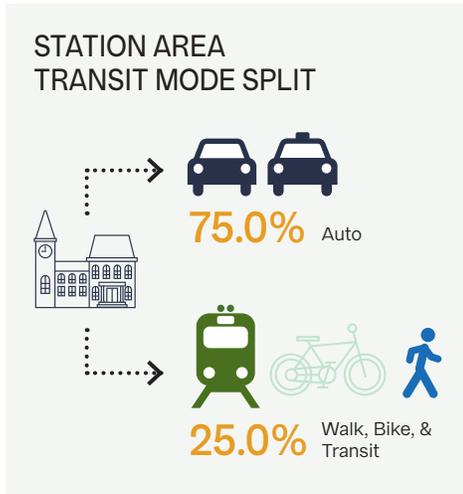
A wide range of building types, substantial variety of mixed uses, and substantial green infrastructure opportunities at the neighborhood scale.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.



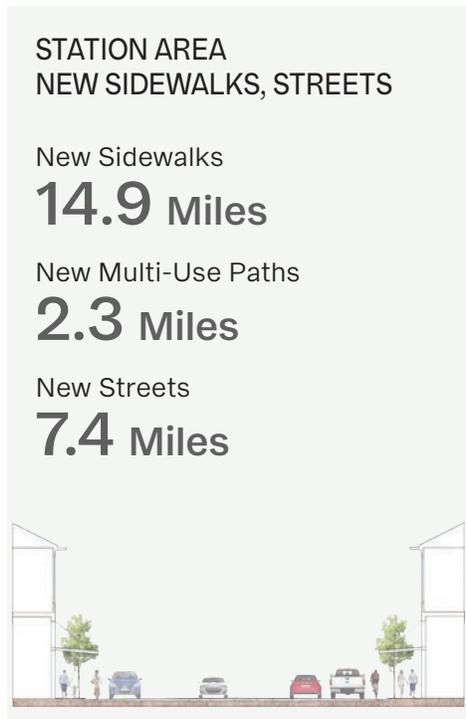
LEIGH VILLAGE AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 110. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	490	520
Multifamily Residential	Dwelling Units	1,150	1,780
General Retail	Square Feet	30,000	35,000
General Office	Square Feet	700,000	720,000
Institutional	Square Feet	0	0
Hotel	Rooms	340	380



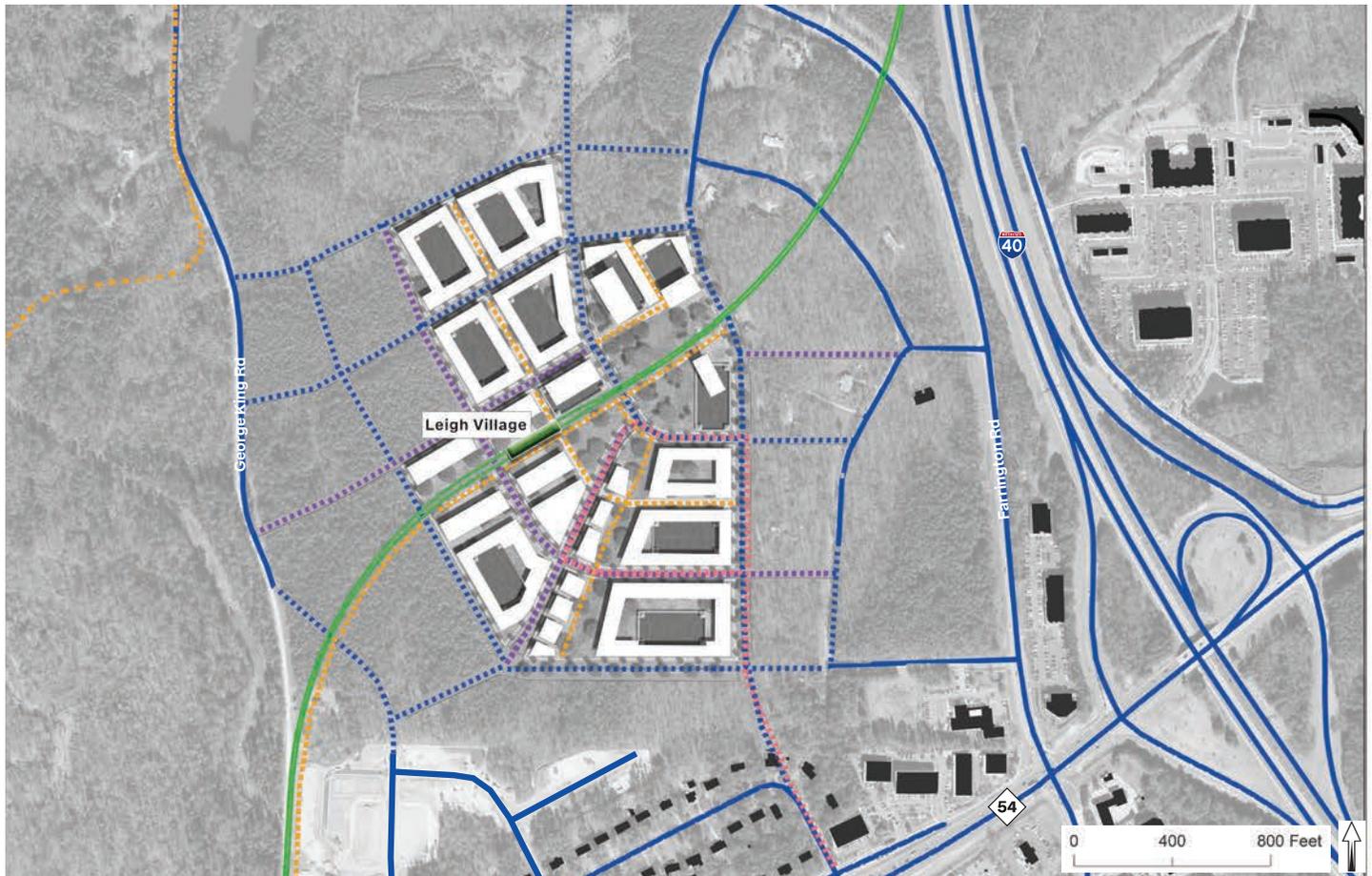


LEIGH VILLAGE

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- | | | |
|--------------------------|---|--------------------------|
| Light Rail Station | Proposed Future Streets | Existing Multi-Use Path |
| Light Rail Alignment | Existing Streets | Proposed Multi-Use Path |
| Development Concept Area | Bike/Ped Priority Streets (Proposed) | Proposed Bus Connections |
| Existing Structure | Bike/Ped Priority Streets (Existing Street Retrofitted) | |

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Leigh Village station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	557 Acres
Development Concept Area	194 Acres

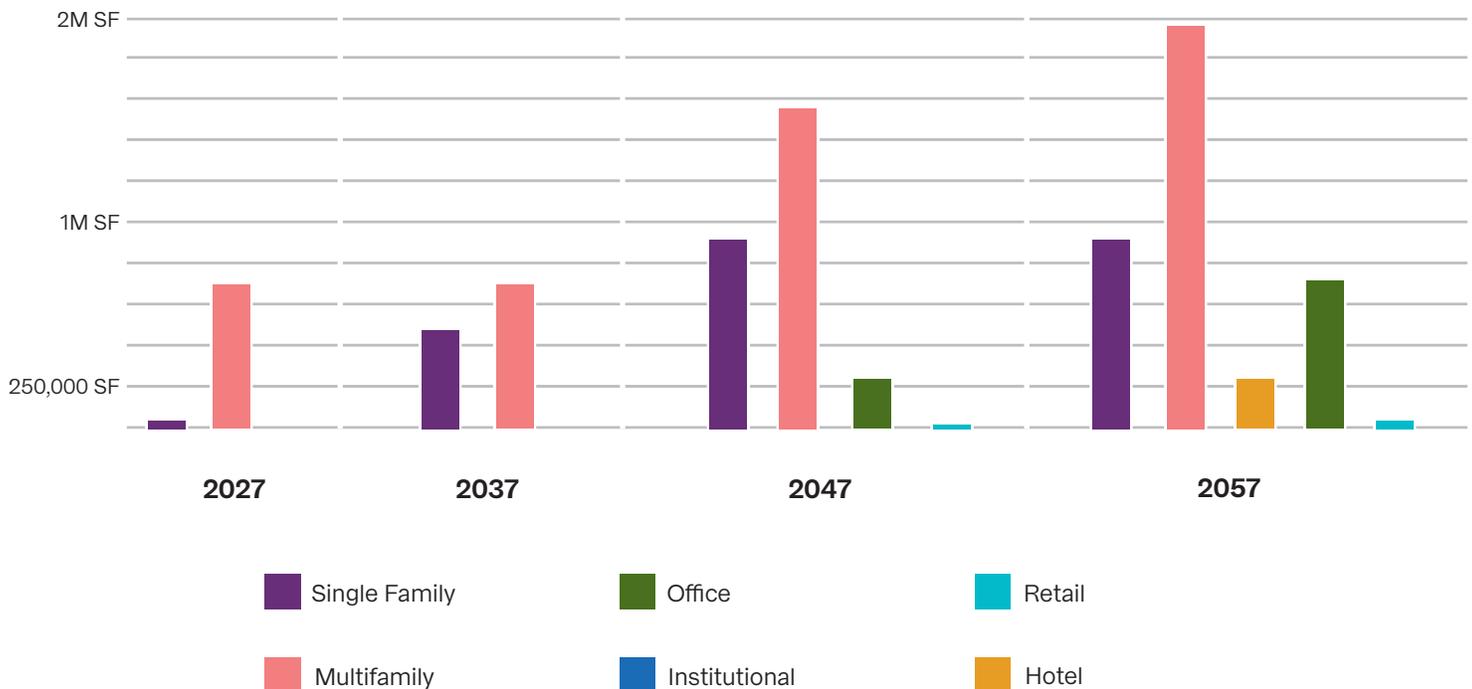
POTENTIAL NEW TAX REVENUES

LEIGH VILLAGE	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$103.9 Million	\$85.8 Million	\$64.2 Million	\$53.0 Million
Upper Estimate (65th Percentile)	\$140.6 Million	\$116.1 Million	\$86.9 Million	\$71.7 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$87.1 Million	\$120.0 Million	\$197.0 Million	\$217.1 Million
Upper Estimate (65th Percentile)	\$118.0 Million	\$162.4 Million	\$266.5 Million	\$293.8 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$10.6 Million	\$24.1 Million	\$47.4 Million	\$75.8 Million
Upper Estimate (65th Percentile)	\$14.4 Million	\$32.6 Million	\$64.1 Million	\$102.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





LEIGH VILLAGE

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Parking lots for the station operations located within the future block structure of the core station area. Other development is limited due to basic infrastructure access and connections to major roadways.

Rail +10 (2028 - 2037): Housing options with variety of housing types to interface with existing residential and establish the density and context around the station area. Preserve land directly adjacent to station for office and more intense development as the TOD matures.

Rail +20 (2038 - 2047): Maturing development of core area with office or employment opportunities that arise. Continued development across the general station area.

Rail +30 (2048 - 2057): Additional office and residential development to meet market demand.

Investment Phasing

Initial investments in access and connections to major roadways are needed before significant transit-oriented development can be implemented. A sewer pump station is also needed before TOD-scale development can occur on the site.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Leigh Village station area:

- Leverage new property values to fund affordable housing and requisite infrastructure
- Density bonus
- Land banking

ZONING STRATEGIES

The majority of the Leigh Village station area is encompassed by the Leigh Village Compact Neighborhood Area as defined by Durham. Lands in the station area currently include the following zoning districts: PDR, MU, CC, CN, OI, RS-M, RS-20, and RS-10. The Leigh Village station area is presently within the Compact Neighborhood Tier, which is a transit-supportive land use plan designation. The Durham Comprehensive Plan calls for transit-supportive zoning to be put into place for all areas within the Compact Neighborhood Tier.

The largest undeveloped areas adjacent to the Leigh Village station are zoned PDR and MU. The PDR District allows for design flexibility for primarily residential development. It can be a useful tool in accommodating transit-supportive residential density on the edges of a TOD. The MU District allows for “innovative opportunities for an integration of diverse but compatible uses into a single development.” It is a useful zoning category for TOD as it allows for 42 units per acre in the core of the Compact Neighborhood Tiers for horizontal mixed-use and 53 units per acre with vertical mixed-use. MU also regulates parking maximums in a manner consistent with TOD principles.

Some parcels south of the station area have highway frontage to NC 54 and are zoned CC, CN, and OI. Commercial Center (CC) is a primarily suburban commercial zoning but with some consideration for design. The district is “a concentration of commercial activities surrounding a node such as the intersection of two arterials with an overall design scheme, rather than strip commercial. The district is intended to provide

a wide range of retail and service activities that serve many neighborhoods.” Commercial Neighborhood (CN) is similar but with a reduction in allowed commercial activity. The district is not intended for use by major or large-scale commercial sales, service or automotive-oriented activities.” Office/Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

The remaining zoning designations include RS-M, RS-20, and RS-10. The RS districts are gradients of suburban residential densities, RS-M allows for multifamily up to 18 units per acre with a development plan, RS-20 and RS-10 allow for two units per acre, and four units per acre respectively. None of these densities correspond with optimum greenfield TOD characteristics within walking distance to the station.

Durham already has a work plan in place to create and adopt appropriate TOD zoning as part of the Compact Neighborhood Tier. Specialized zoning for transit-oriented development should articulate Core, General and Edge development characteristics across the station area, including addressing district-wide provisions for parking, stormwater management, civic space, connectivity and street design.

PARKING STRATEGIES

A current greenfield, there is no present development or parking. As development occurs, surface parking for park-and-ride should be incorporated with the opportunity for it to evolve over time to garage or mixed-use development. The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Surface parking used for park-and-ride program in early phases of development	Discourage any use of surface parking in the core area around the station. General and edge conditions can use appropriate screening around surface lots.		
	Structured	Structured parking incentivized when major employers or significant project is introduced as a catalytic development	Encourage structured or wrapped parking for significant development		
Policy	Supply	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy be evaluated every year at a maximum			
	Incentives	Adopt development standards that encourage strong Travel Demand Management (TDM) programs. Establish caps on the number of vehicles entering and existing the development to incentivize the developer and tenants to walk, bike and take transit			
	Pricing	Ensure that all spaces are unbundled from leases for building space and from day one. Adjust prices to match the demand			
Implementation	District	Upon creation, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



LEIGH VILLAGE

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Falconbridge Road Extension North of Station to Farrington Road

Extend Falconbridge Road from the station to Farrington Road. This extension will allow Falconbridge to be a parallel roadway to I-40

Timeframe: Pre-Rail
 Rail +10
 Cost: \$\$\$

George King Road Connection to NC 54

Serves as another alternative to Falconbridge, but mostly used for local traffic in and out of the station area

Timeframe: Rail +10
 Rail +20
 Cost: \$\$\$

Pump/Lift Station & Other Third-Party Infrastructure

Essential infrastructure for the development of the area will be necessary for any development to occur. A mutually agreeable partnership will be required

Timeframe: Pre-Rail
 Rail +10
 Cost: \$\$\$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Pump and lift station installation; support and coordinate other Tier 1 infrastructure needs		-	Potential upgrades to utility systems for increased density
	Local street connections through the station area, including the George King Road connection and intersection improvements to NC 54			
	Falconbridge Road extension south of station to NC 54	Falconbridge Road extension north of station to Farrington Road	-	-
Bike/Ped and Transit Support	Path connections along with light rail project path connections		Extend path connections per Durham greenway, bike, and pedestrian plans	

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GATEWAY



Gateway

Station Family: Suburban Retrofit
 County: Orange and Durham
 City: Chapel Hill

WHY THIS STATION?

Capitalizing on an important regional location for redevelopment, including a significant number of jobs in a mixed-use, walkable suburban center.

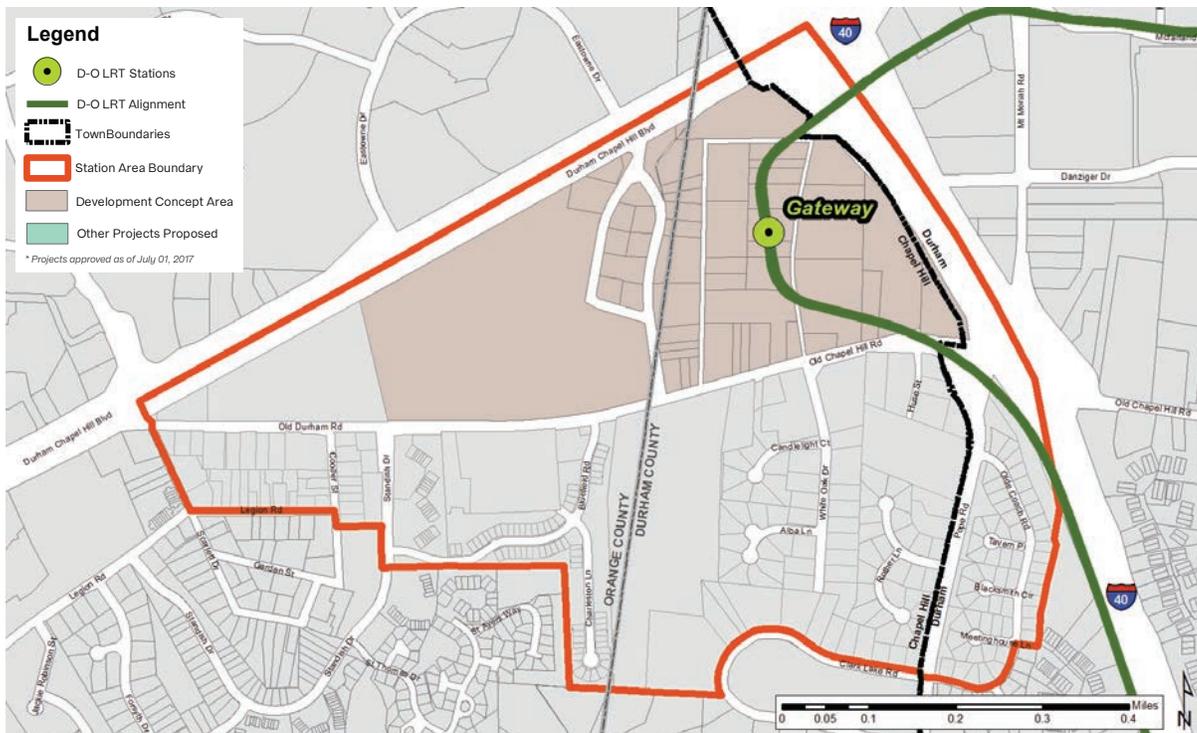
The Gateway station area offers an opportunity for several blocks of walkable urbanism next to I-40 at the U.S. 15-501 interchange. A bustling core with larger building types can transition to existing multifamily and single family suburban neighborhoods to the south by progressively decreasing heights and through pleasant urban design. Coupled with pedestrian connections and crossings east across the interstate and north across U.S. 15-501, the future for Gateway forms a vibrant regional node coupled with the Patterson Place station area and augmented by Eastowne redevelopment just to the north. The Gateway/Patterson Place pairing forms a central locus of activity along the line, activity that encompasses lands in all four partnering governments of Durham and Orange Counties, Chapel Hill, and the City of Durham.

Establishing a bike and pedestrian connection to Eastowne provides an opportunity to enhance the walkable, transit-supportive campus that UNC Health Care is planning, and provide additional opportunities for private development within the station area.

ATTRIBUTES

- Opportunity for a substantial amount of corporate office in creative environment
- Generally larger format building types with active ground floor uses, such as restaurants
- Smaller building types, such as walk-up apartments and townhouses at edges of station area
- Pleasant mix of public spaces such as plazas, greens, and pocket parks
- Predominant activity between 7 a.m. and 10 p.m.

STATION AREA CONTEXT

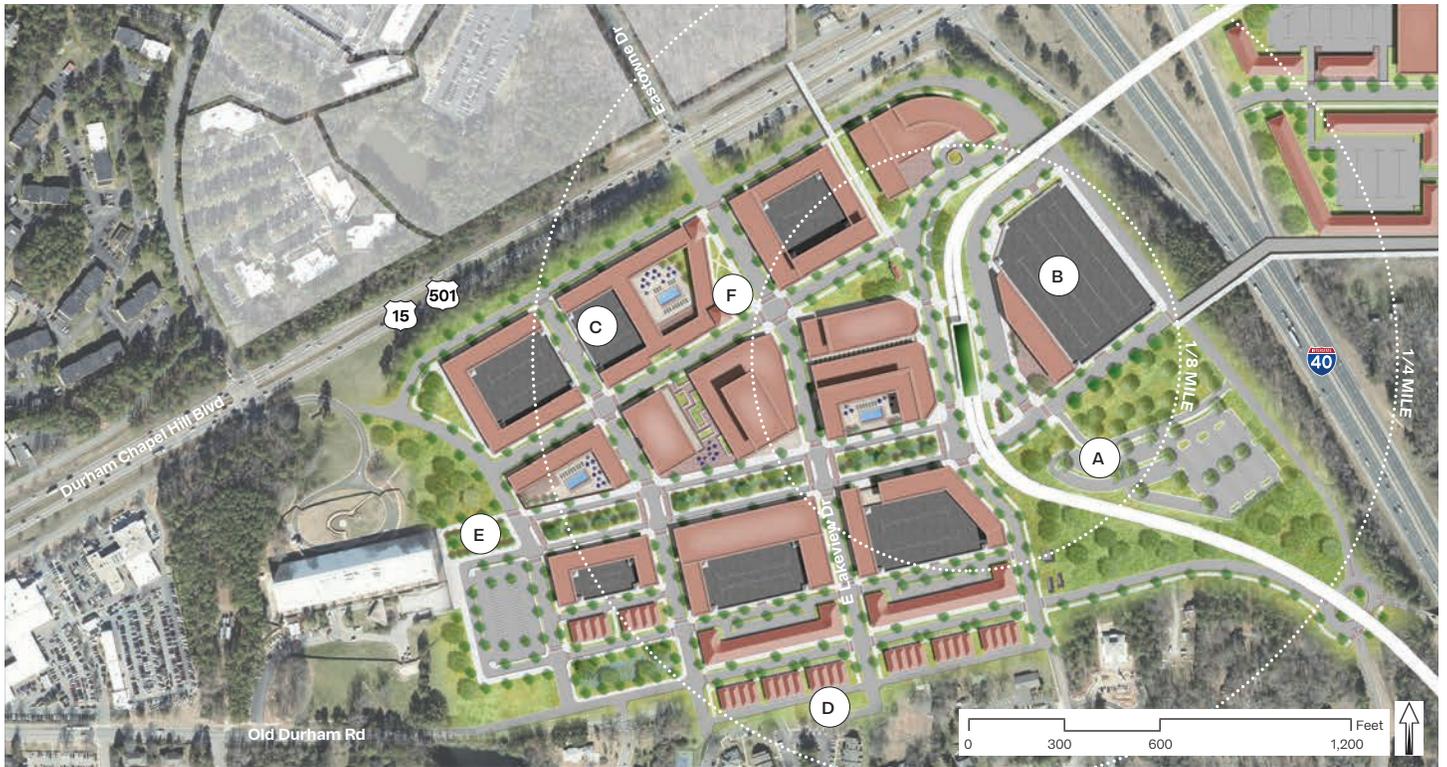




GATEWAY

STATION DEVELOPMENT CONCEPT

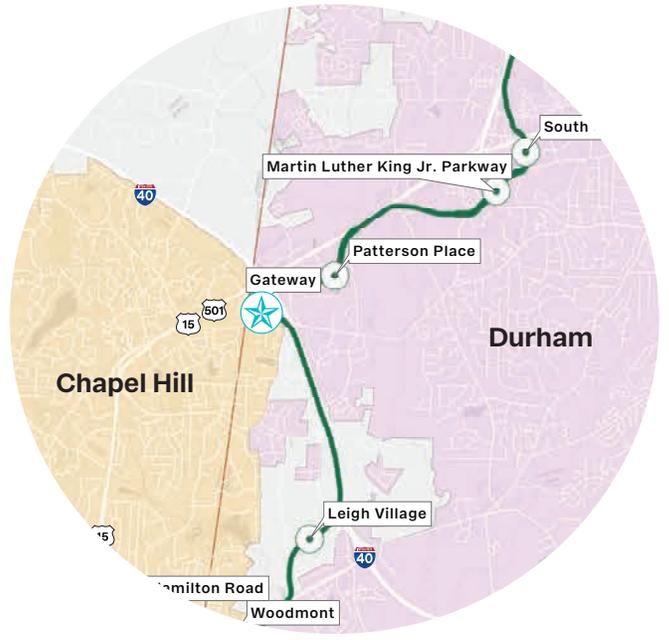
Generated through ongoing public and private engagement, the concept coordinates a visionary yet credible example of what is possible with a well-connected street network with strong urban spaces, a park-and-ride location, and designed so that the amount of activity and building heights transition from the core to match the scale of existing neighborhoods that adjoin the edge of the station area.



- A** Preservation of 100 foot wide area around existing stream as well as a GoTriangle park-and-ride lot
- B** Joint development including mixed-use, parking garage and multimodal connectivity
- C** Mixed-use development using existing infrastructure that will catalyze future development closer to the station
- D** Smaller format housing to transition the existing neighborhood to the density around the station
- E** A pedestrian-oriented street that serves as a view corridor and connects the existing major employment
- F** Pocket public spaces provide a break from the urban form. Some are common for tenants, while others are public

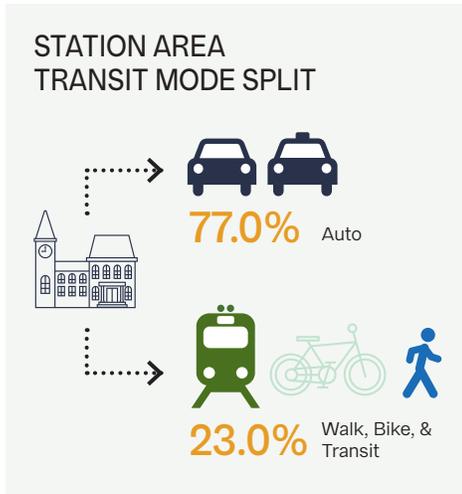
Wide range of potential densities at the core of the station area while maintaining transitions to existing neighborhoods.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Chapel Hill Town Council.



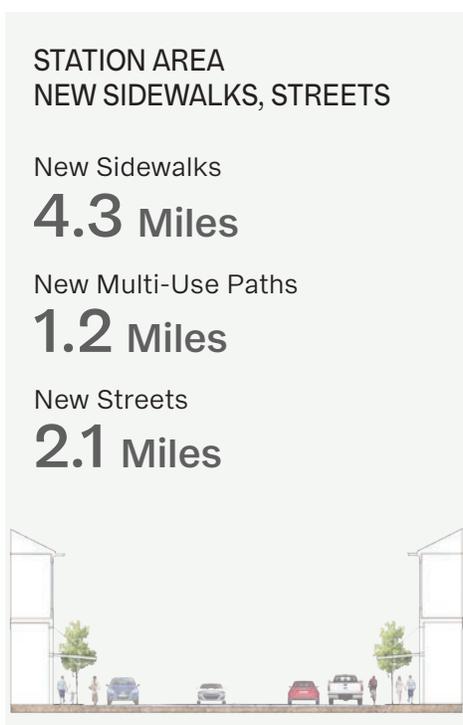
GATEWAY AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 120. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	10	10
Multifamily Residential	Dwelling Units	1,200	1,200
General Retail	Square Feet	220,000	220,000
General Office	Square Feet	1,765,000	1,765,000
Institutional	Square Feet	0	0
Hotel	Rooms	480	480



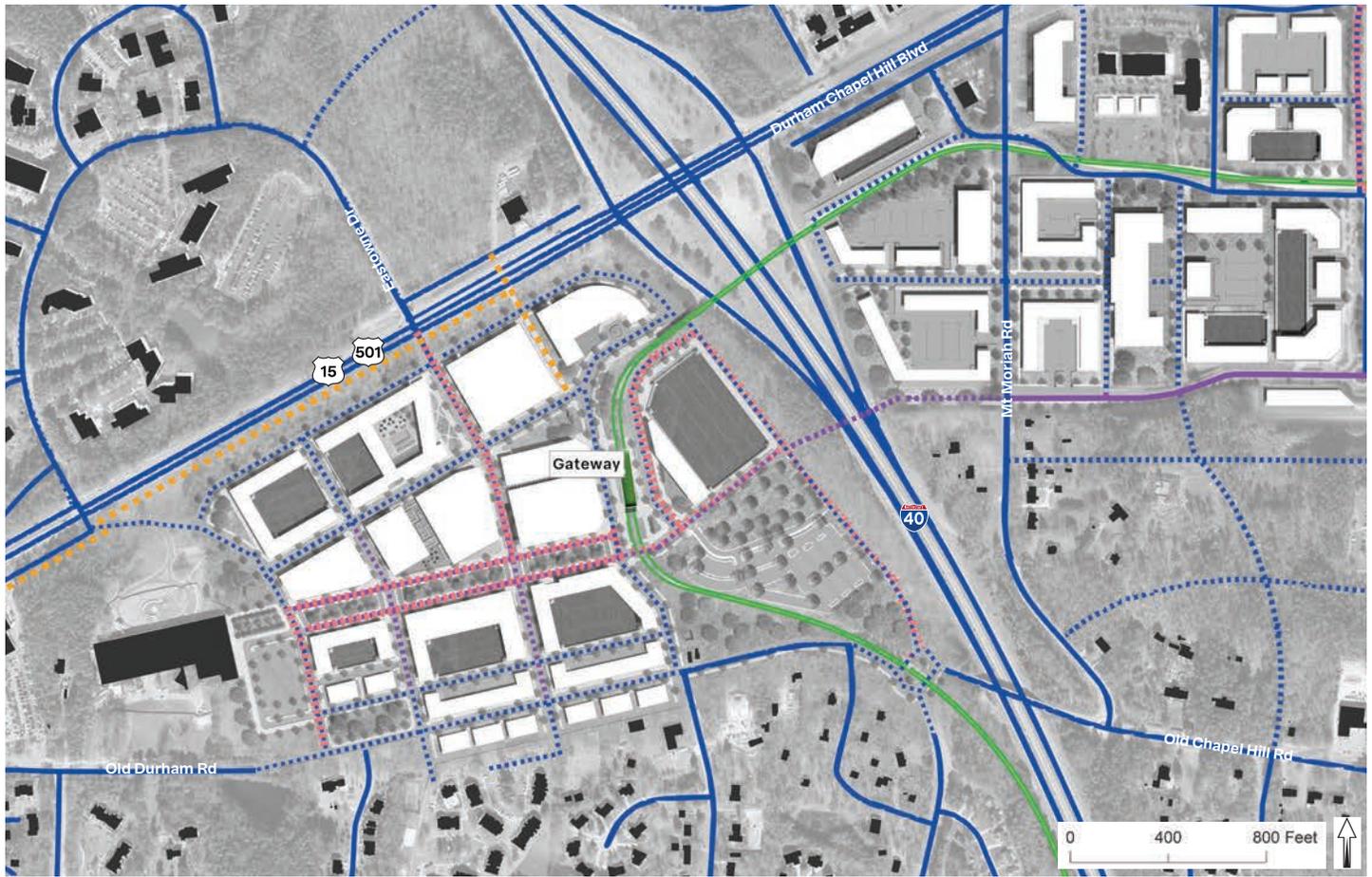


GATEWAY

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Gateway station area for the next 40 years. Tax revenue sources include property tax revenues to the Town of Chapel Hill, Orange County and Durham County. The analysis excludes sales tax.

Station Area	242 Acres
Development Concept Area	96 Acres

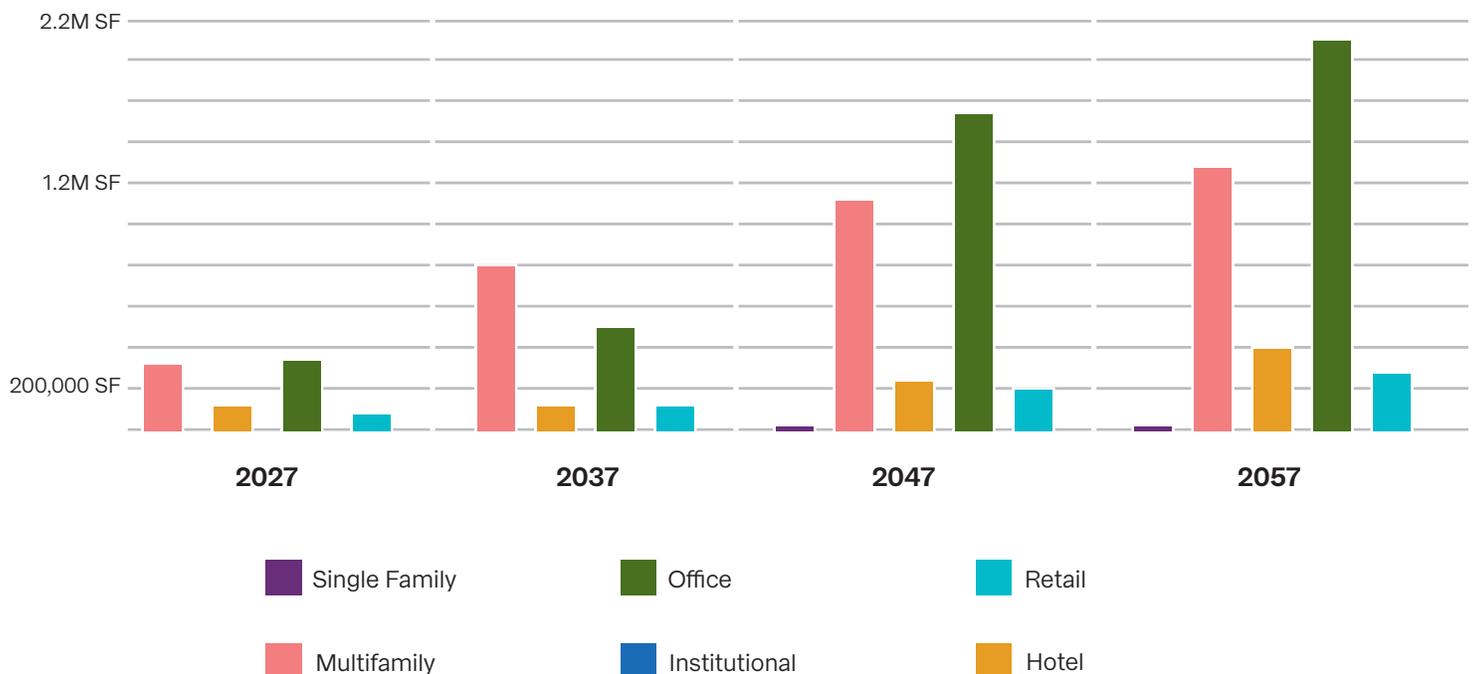
POTENTIAL NEW TAX REVENUES

GATEWAY	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$78.4 Million	\$64.7 Million	\$48.4 Million	\$40.0 Million
Upper Estimate (65th Percentile)	\$106.1 Million	\$87.6 Million	\$65.5 Million	\$54.1 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$99.8 Million	\$111.5 Million	\$207.0 Million	\$189.0 Million
Upper Estimate (65th Percentile)	\$135.1 Million	\$150.9 Million	\$280.1 Million	\$255.7 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$4.5 Million	\$19.2 Million	\$43.0 Million	\$70.4 Million
Upper Estimate (65th Percentile)	\$6.1 Million	\$26.0 Million	\$58.1 Million	\$95.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT BY DECADE





GATEWAY

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Some development along existing street network, U.S. 15-501 and Old Durham Road, although some moderately-scaled development could occur in transitional areas.

Rail +10 (2028 - 2037): Moderate to more intense development, coordinated across market conditions and activation needs for the immediate station area.

Rail +20 (2038 - 2047): Continued development of the core station area subject to market needs.

Rail +30 (2048 - 2057): Long-term build-out of the station area core subject to market demand for housing and office uses.

Investment Phasing

Focus first on infrastructure to support development beyond current capacity, including streets and utilities. Subsequently, focus on connectivity for pedestrians and bicyclists, as part of a more robust network including connections across I-40 and U.S. 15-501.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Gateway station area:

- Leverage new property values to fund affordable housing and requisite infrastructure
- Incentivize landlords to rehabilitate and preserve affordable housing
- Remove regulatory barriers to housing and recalibrate mandatory density bonus program

ZONING STRATEGIES

The Gateway station area is largely within what is identified as a Future Focus Area within the Town’s Comprehensive Plan. Out of this TOD study and through preliminary public engagement a draft framework has been derived for the Gateway station area so that it could be refined and adopted as part of the Town’s Future Land Use Map. An accompanying document in the Appendix includes fundamental TOD principles to serve as a guide for creating a new TOD zoning district as part of the Town’s rewrite of the Land Use Management Ordinance (LUMO). Alternatively, a separate TOD district could be developed, with appropriate sub-districts, in advance of completing the Town-wide LUMO rewrite, which may take several years. In either case, specialized zoning for transit-oriented development should articulate Core, General and Edge development conditions across the station area and provide a clear delineation of community benefits.

PARKING STRATEGIES

The Gateway station area currently has some surface parking related to existing users that has potential for shared parking strategies with near-term development.

As a significant station along the Light Rail Corridor, it will be essential to incorporate on-street parking with all new streets. The station will use a park-and-ride surface parking lot in the near-term that has the potential to evolve into a joint development opportunity with transit-oriented shared parking. Near-term parking structures may require some incentives to catalyze compact, walkable, mixed-use development, but those incentives may no longer be necessary once the station is operational.

A joint parking district with Eastowne and Patterson Place will support a balanced parking program between the three dense locations.

The table below details some of the specific strategies for parking.

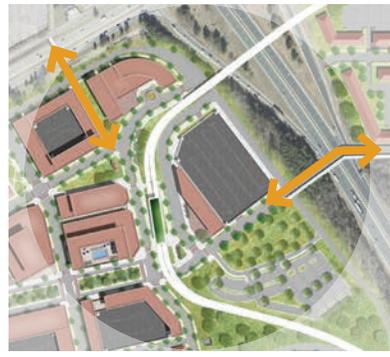
PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Surface parking used for park-n-ride program in early phases of development	Discourage any use of surface parking in the core area around the station. General and edge conditions can use appropriate screening around surface lots		
	Structured	Structured parking only incentivized when or if major employers or significant project is introduced as a catalytic development	Encourage structured or wrapped parking for new and significant development		
Policy	Supply	Optimize use of existing surface parking in station area	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy to be evaluated every five years at a maximum		
	Incentives	Adopt development standards that encourage strong Travel Demand Management (TDM) programs. Establish caps on the number of vehicles entering and exiting the development to incentivize the developer and tenants to walk, bike and take transit			
	Pricing	Encourage unbundling of parking spaces from leases	Conduct market rate study; raise rates as necessary	Index cost to inflation	
Implementation	District	Upon creation in coordination with Eastowne and Patterson Place station, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program in coordination with Eastowne and Patterson Place station.	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



GATEWAY

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the Town and other partner entities should undertake to support catalytic station area development.



U.S. 15-501 Street Connection to Station

Essential street connection from the active highway to the station in order to set the framework for the Gateway station area street network

Timeframe: Pre-Rail
 Cost: \$\$

Connections to Eastowne and Patterson Place

Build a complete street bridge over I-40 that connects to Patterson Place. Build a bike/ped bridge over U.S. 15-501 that connects to Eastowne

Timeframe: Rail +10
 Cost: \$\$\$\$

District Parking

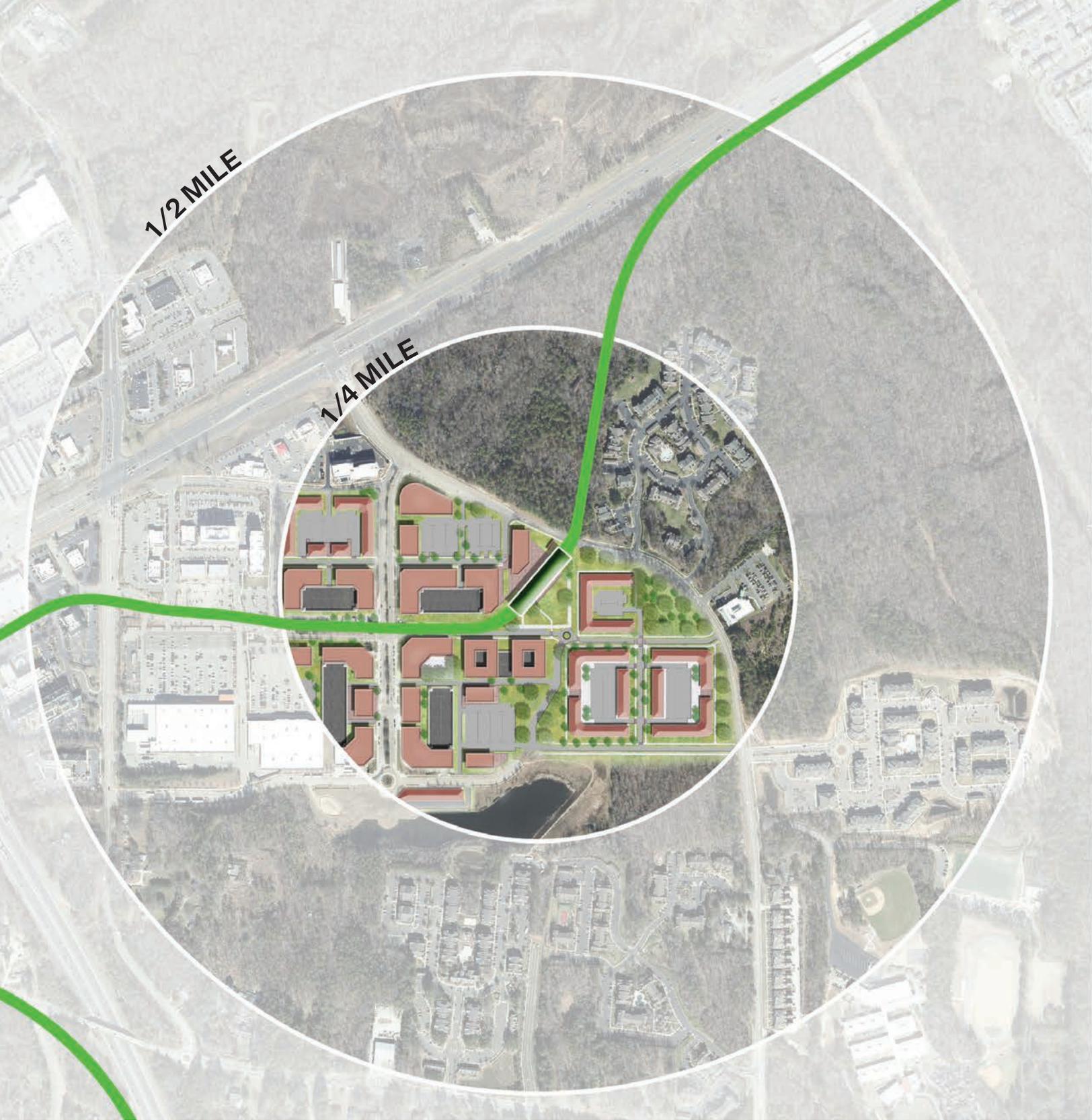
Establish a parking management district for Gateway and Eastowne

Timeframe: Pre-Rail
 Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Plan, design and install a U.S. 15-501 street connection to the station as part of the future grid system	Evaluate and complete sewer infrastructure upgrades	Complete station area street grid	
	Parking district established in coordination with Eastowne	Plan and work towards partnerships for shared parking decks or garages to support the parking district		-
Bike/Ped and Transit Support	Plan and develop the bike and pedestrian bridges to Eastowne and Patterson Place to improve connectivity to existing development		Extend trail connections per Town Mobility and Connectivity Plan	

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PATTERSON PLACE



Patterson Place

Station Family: Suburban Retrofit
 County: Durham
 City: Durham

WHY THIS STATION?

Patterson Place capitalizes on opportunities for transformation of the existing shopping center into a conveniently located and walkable suburban center with a range of employment, housing, and commercial uses.

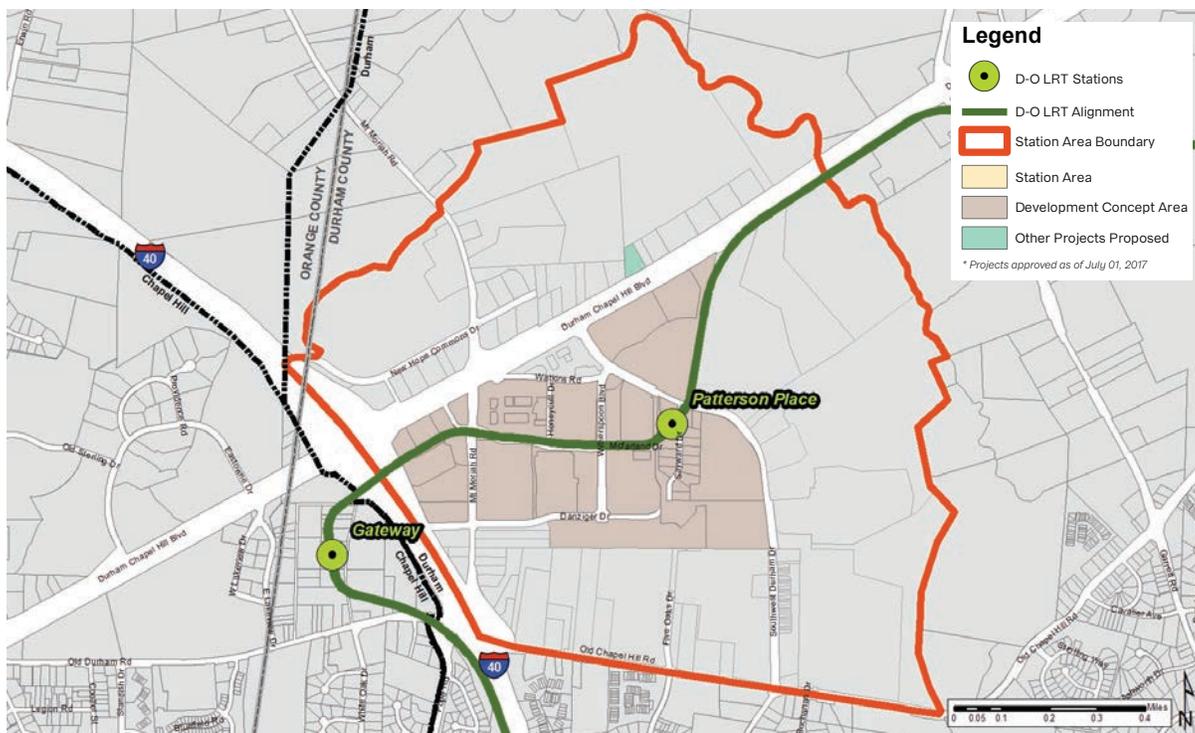
Located east of Gateway, and nestled in the southeastern quadrant of I-40 and U.S. 15-501, the Patterson Place station area is a quintessential suburban retrofit, with much of the area currently configured as a range of retail and surface parking. Portions of the core are configured with a street network that anticipates transit-oriented development.

The street network must be transformed into walkable urban streets in conjunction with site redevelopment, including urban building formats and structured parking. Patterson Place should be envisioned as a sister station to Chapel Hill’s Gateway station, enhancing character while capitalizing on infrastructure networks and the collective identity as a regional destination. Improved connections – including a pedestrian-friendly connection to New Hope Commons – will be key in alleviating the impact of new development on major thoroughfares. New Hope Creek wraps the eastern edge of the station area, providing an amenity as well as an edge that must be protected through carefully designed site development strategies.

ATTRIBUTES

- Bustling center of commerce and family-oriented entertainment in a classic suburban retrofit.
- Potential new major employer location and a range of housing types
- Connections north, west and south needed for more accessible, diverse, and vibrant urbanism.
- Predominant activity between 9 a.m. and 10 p.m.

STATION AREA CONTEXT





PATTERSON PLACE

STATION DEVELOPMENT CONCEPT

One possibility of suburban transformation building on existing infrastructure and parcelization patterns.



- A** Patterson Place station with pedestrian plaza access from both sides of platform
- B** Urban residential and mixed-uses with pedestrian-friendly street design and amenities
- C** Pedestrian-oriented street connecting development opportunity to the station
- D** Infill residential and commercial development
- E** High-rise development in close proximity to two stations, I-40 and U.S. 15-501
- F** Street crossing connecting Patterson Place and Gateway station areas
- G** Enhanced design of stormwater facilities to serve as amenity to attract tenants
- H** Wrapped parking within the block (formerly surface parking for big box commercial)

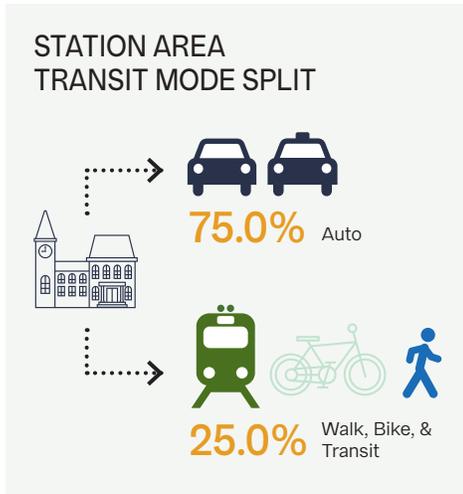


Could evolve in any number of ways based on phasing, range of densities and uses.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

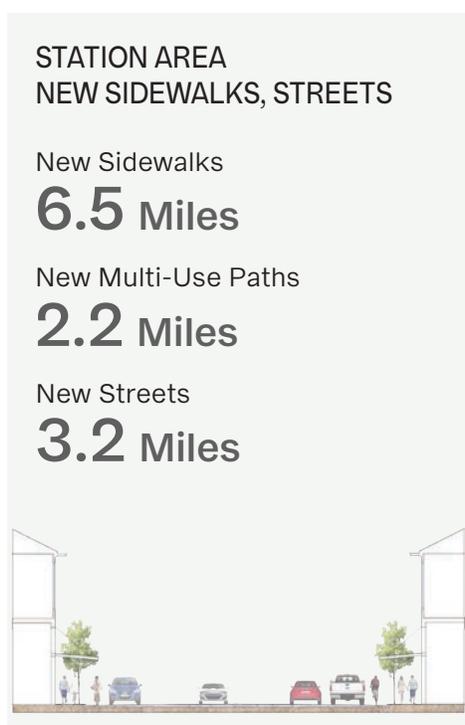
PATTERSON PLACE AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 130. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	80	80
Multifamily Residential	Dwelling Units	2,280	2,280
General Retail	Square Feet	80,000	90,000
General Office	Square Feet	2,490,000	2,490,000
Institutional	Square Feet	0	0
Hotel	Rooms	0	0





PATTERSON PLACE

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path (Unpaved)
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Patterson Place station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	721 Acres
Development Concept Area	153 Acres

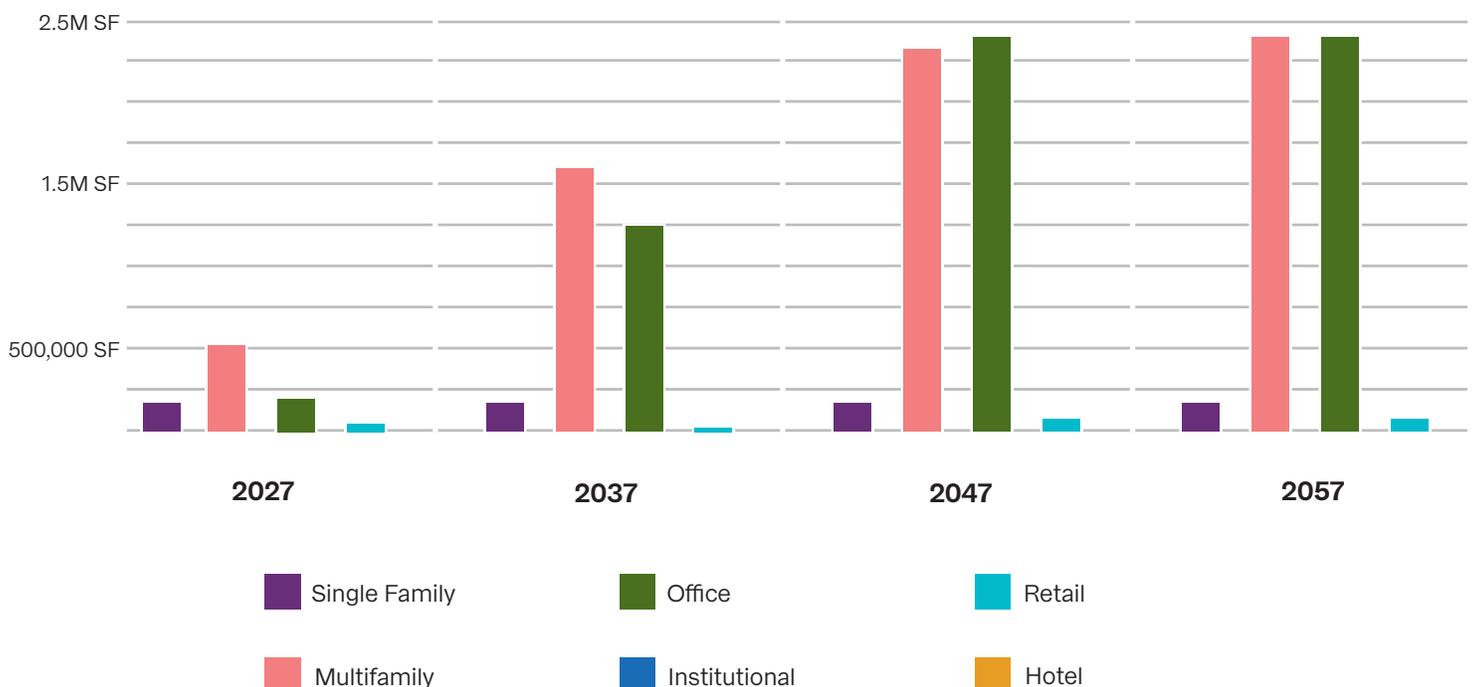
POTENTIAL NEW TAX REVENUES

PATTERSON PLACE	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$246.9 Million	\$203.8 Million	\$152.5 Million	\$125.9 Million
Upper Estimate (65th Percentile)	\$334.0 Million	\$275.8 Million	\$206.3 Million	\$170.3 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$96.7 Million	\$228.3 Million	\$294.4 Million	\$248.1 Million
Upper Estimate (65th Percentile)	\$130.9 Million	\$308.8 Million	\$398.2 Million	\$335.7 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$4.9 Million	\$25.2 Million	\$65.1 Million	\$101.0 Million
Upper Estimate (65th Percentile)	\$6.7 Million	\$34.1 Million	\$88.0 Million	\$136.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT BY DECADE





PATTERSON PLACE

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Moderate development, likely with more residential and some mixed-use buildings.

Rail +10 (2028 - 2037): Moderate development, likely some commercial, and potentially office. Key locations will be at the intersection of I-40 and U.S. 15-501, and around the station platform.

Rail +20 (2038 - 2047): Continued moderate development as market needs evolve, including redevelopment of the existing big box commercial, a reduction in block sizes to create better connectivity, and a special focus on creating well-defined urban spaces especially at the station area core.

Rail +30 (2048 - 2057): Any amount of longer horizon development will be subject to market demand for housing and office space.

Investment Phasing

Major utility infrastructure is required in order to realize substantial development, specifically for water and sewer capacity. Improved connectivity across I-40 and U.S. 15-501 is needed to serve the full station area with favorable access to the station area.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Patterson Place station area:

- Leverage new property values to fund affordable housing and requisite infrastructure
- Incentivize landlords to rehabilitate and preserve affordable housing
- Density bonus

ZONING STRATEGIES

The majority of the Patterson Place station area is within the Compact Neighborhood Tier, which is a transit-supportive designation on the Future Land Use Map. Rezoning to appropriate TOD districts and sub-districts is the next regulatory step to provide for the implementation of transit-oriented development and is underway at the time of this writing.

The station area consists of several zoning categories with much of the suburban redevelopment opportunity and undeveloped land zoned MU surrounded by parcels zoned OI, CN, CC, and PDR. Some parcels near the station and on the edges are zoned as RS-20 and RS-M.

The MU District allows for “innovative opportunities for an integration of diverse but compatible uses into a single development” It is a useful zoning category for TOD as it allows for 42 units per acre in the core of the Compact Neighborhood Tiers for horizontal mixed use development and 53 units per acre with vertical mixed use. MU also regulates parking maximums which can facilitate some goals of successful TOD.

Some parcels with highway frontage are zoned OI, CN and CC. Office/ Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

The remaining zoning designations in the Patterson Place station area are RS-M and RS-20.

Rezoning as a Design District will add clarity to the development review and approvals process. In addition, the zoning should align environmental protection concerns, by focusing on Low-Impact Development techniques within the edge conditions of the station area and concentrating development in the center of the station area and away from New Hope Creek.

PARKING STRATEGIES

The Patterson Place station area currently has surface parking that supports the current neighborhood center retail. The evolution of the surface parking will come with denser development. A joint parking district with Eastowne and Gateway will support a balanced parking program. The current existing parking should also be supported as it serves as an excellent overflow area for events at other station areas.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Provide on-street parking on all new station area streets			
	Surface	Any new surface parking must be staged to receive development in the future	Discourage use of surface parking		
	Structured	N/A		Optimize use of spaces within existing parking structures to support existing and new development	
Policy	Supply	Maximize the use of existing surface parking within station area	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy be evaluated every five years at a maximum		
	Incentives	Focus cash and policy incentives towards providing publicly accessible parking levels within privately owned structures			
	Pricing	Encourage the unbundling of parking spaces from leases	Conduct market rate study; raise rates as necessary	Index cost to inflation	
Implementation	District	Upon creation in coordination with Eastowne and Gateway station, begin work on a master parking plan		Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years	
	Public	Assemble district parking program in coordination with Eastowne and Gateway station		Support five year updates to district plans and financial analysis and incentive programs for catalytic projects	



PATTERSON PLACE

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Sewer Pump Station

Sewer Pump Station needed to support continued growth within the station area

Timeframe: Pre-Rail

Cost: \$\$\$\$



Danziger Drive Complete Street Connection

A new connection across I-40 is needed to connect to Gateway; an improved Old Chapel Hill/Durham bridge is needed to accommodate pedestrian and bike access

Timeframe: Pre-Rail
Rail +10

Cost: \$\$\$\$



U.S. 15-501 Bike and Pedestrian Connections

Bike and pedestrian connections to improve local connectivity across U.S. 15-501 to New Hope Commons should be incorporated into any future redesign of U.S. 15-501

Timeframe: Rail +10

Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	With new development, address maximum block size requirements and context sensitive street improvements			
	Initiate and support station parking strategy			
	Sewer pump station upgrade	-	Potential sewer pump station upgrade	
Bike/Ped and Transit Support	I-40 complete street connections between Patterson Place and Gateway station areas		-	-
	-	Bike and pedestrian connections across U.S. 15-501 between New Hope Commons and Patterson Place		-

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MLK JR. PARKWAY





Martin Luther King, Jr. Pkwy

Station Family: Suburban Retrofit
County: Durham
City: Durham

WHY THIS STATION?

This station will unlock the transformative potential for an aging suburban area with possibilities for strengthening connections and access to nearby residential areas.

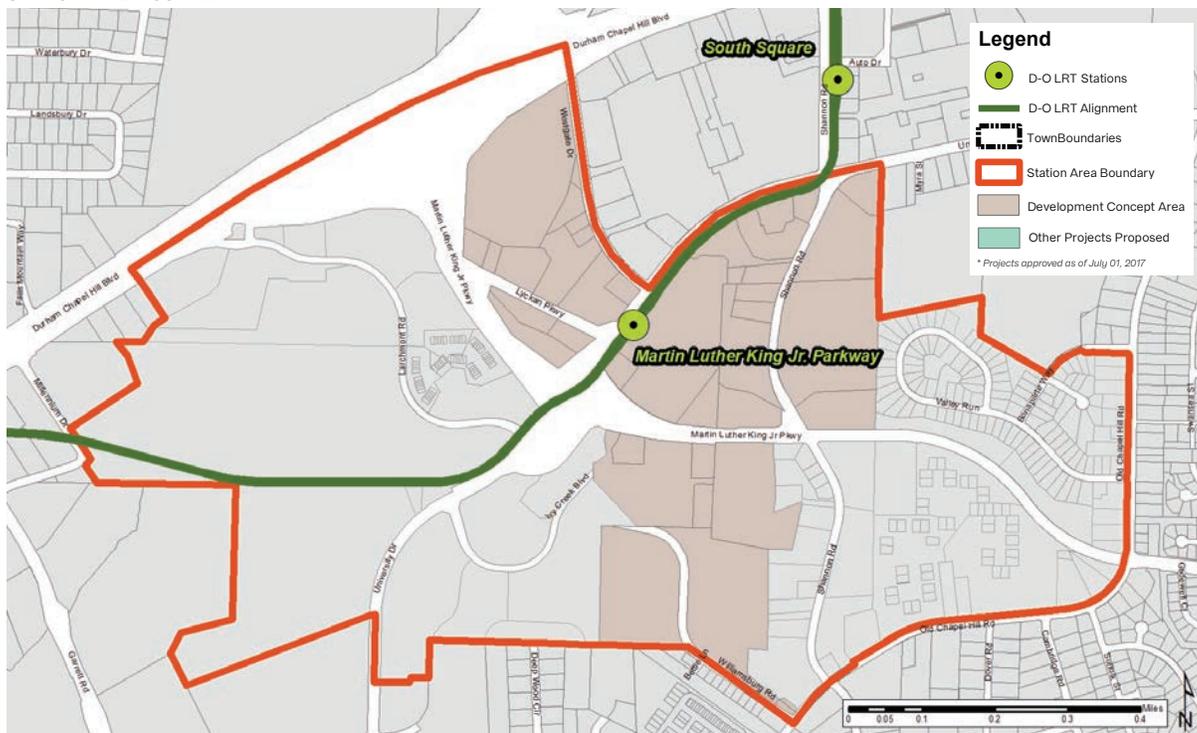
Characteristic of the suburban retrofit station family, the Martin Luther King, Jr. Parkway station area is located among largely single-use parcels including a mix of single story retail with ample surface parking, three-story garden style multifamily, a mix of office condos, and standalone multi-story office buildings. Basic suburban infrastructure is in place, but conversions to pedestrian-friendly complete streets are needed along with newly constructed local streets as large single-use parcels are transformed into walkable, mixed-use neighborhoods.

Reconciling the existing high-speed condition of adjacent University Drive and Martin Luther King, Jr. Parkway south of University Drive through the implementation of complete streets will be essential to facilitating safe and comfortable crossings. Lastly, there is an opportunity to daylight a natural streamline currently piped under the large surface parking lot southeast of the station.

ATTRIBUTES

- Opportunity to transform an expansive suburban parking lot into walkable neighborhood core
- Accentuate new key connections to adjacent suburban areas, particularly east, south, and west.
- Intentional mix of activities that retains diverse character of businesses while transforming to a walkable fabric through new development
- Localized tenant mixes and diverse formats, such as co-working spaces
- Predominant activity between 9 a.m. and 9 p.m.

STATION AREA CONTEXT





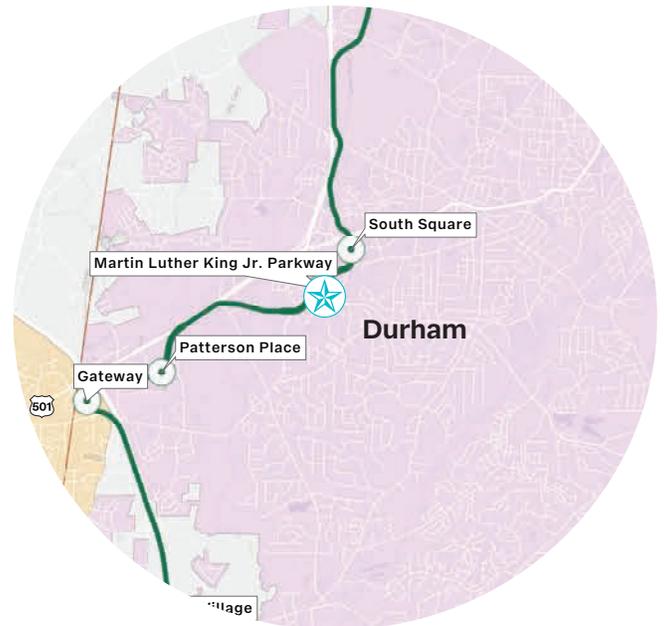
MLK JR. PARKWAY

STATION DEVELOPMENT CONCEPT

The possibility of suburban transformation of low density retail buildings on existing infrastructure networks and parcelization patterns.



- A** Station located with frontage onto University Drive and accompanied by high-rise development and public space nestled into the development of the block
- B** Multifamily development wrapping a parking garage and incorporating natural green spaces to serve as both public and private-common open space
- C** Roadways introduced to increase multimodal connectivity between University Drive and Shannon Road
- D** New central roadway centrally located in the current block structure to connect developments and serve as main activity center

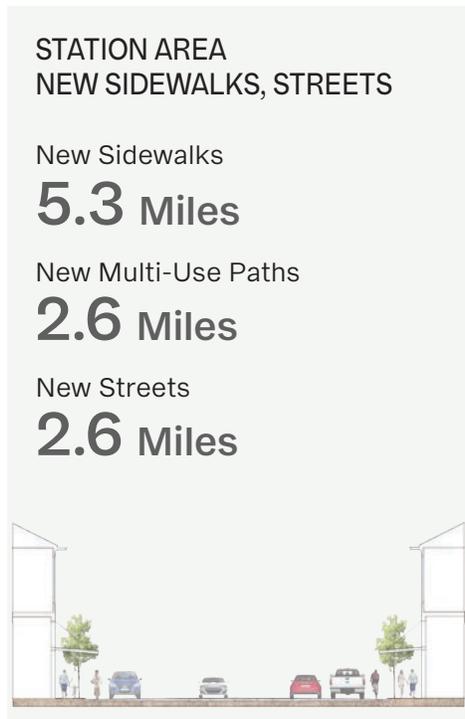
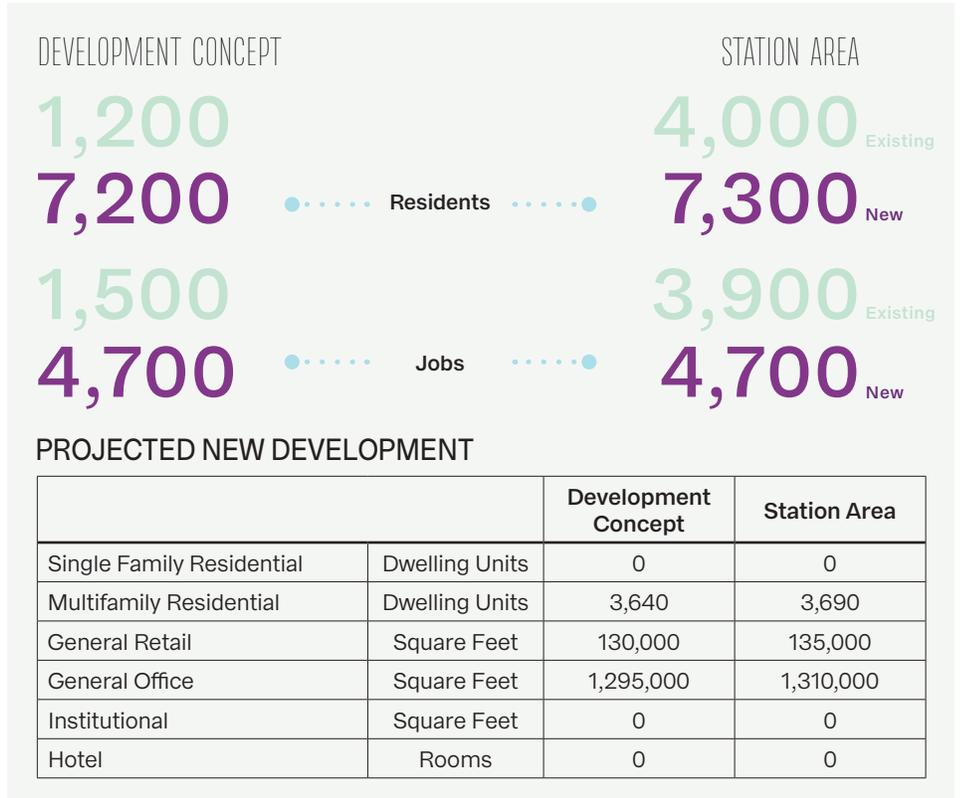
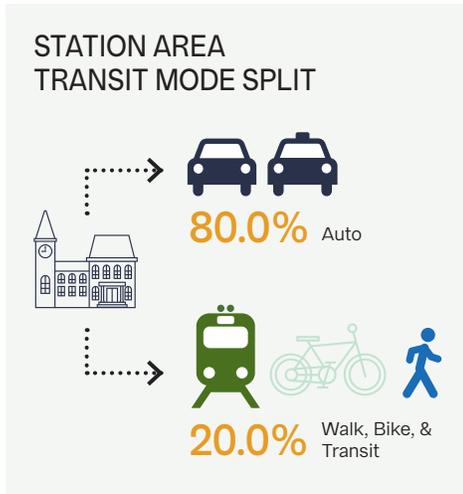


Could evolve in any number of configurations based on ultimate phasing of the transformation, including a range of densities at the station area core.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

MLK., JR. PARKWAY AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 140. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



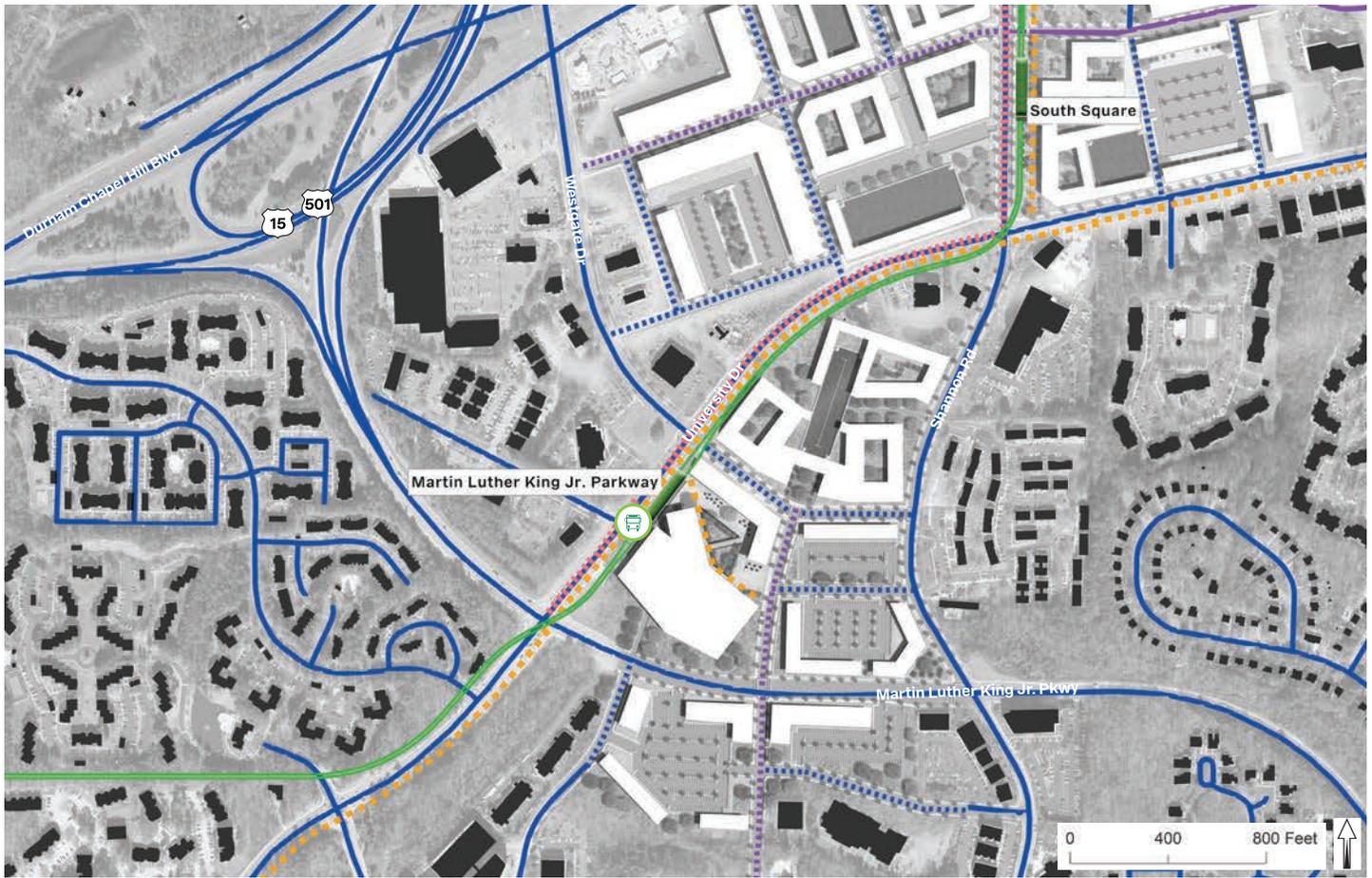


MLK JR. PARKWAY

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Martin Luther King, Jr. station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	419 Acres
Development Concept Area	136 Acres

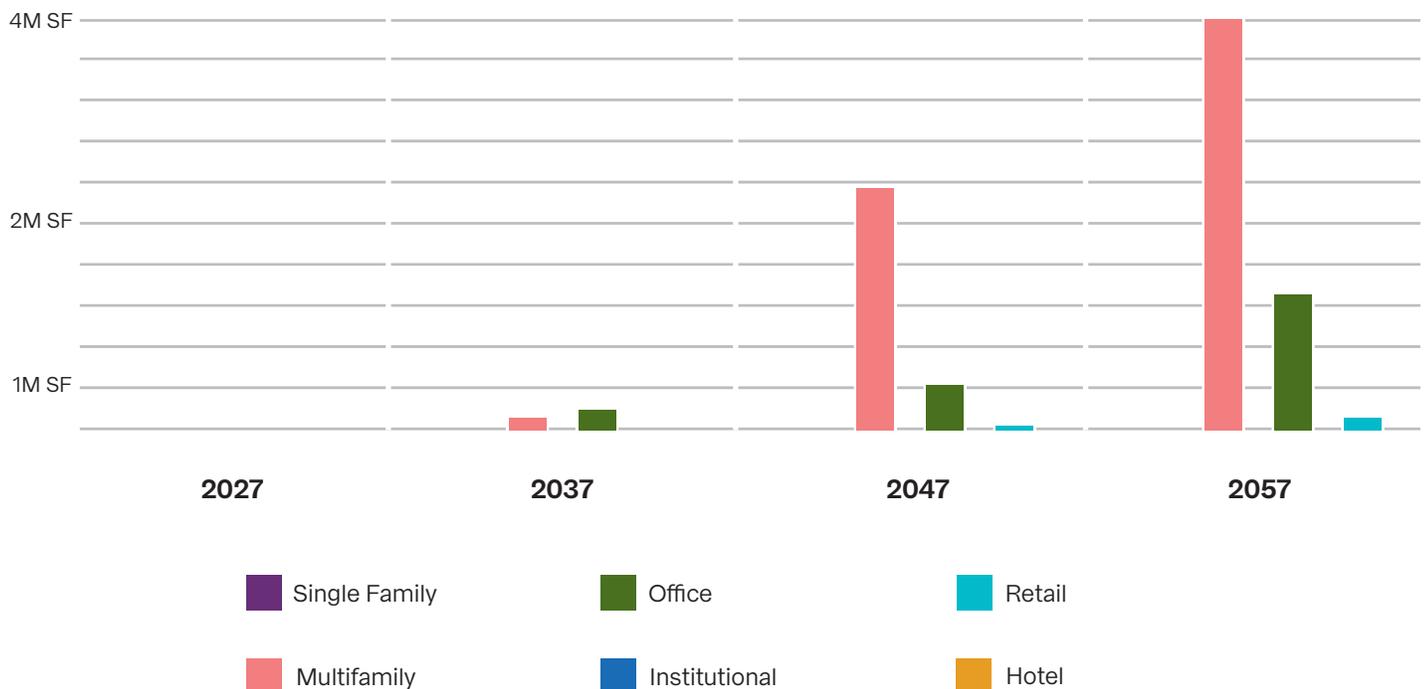
POTENTIAL NEW TAX REVENUES

MLK, JR.	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$229.6 Million	\$189.6 Million	\$141.8 Million	\$117.1 Million
Upper Estimate (65th Percentile)	\$310.6 Million	\$256.5 Million	\$191.8 Million	\$158.4 Million
Net New Property Value				
Lower Estimate (35th Percentile)	-	\$19.0 Million	\$212.9 Million	\$395.3 Million
Upper Estimate (65th Percentile)	-	\$25.6 Million	\$288.0 Million	\$534.8 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	-	\$1.1 Million	\$18.5 Million	\$75.7 Million
Upper Estimate (65th Percentile)	-	\$1.5 Million	\$25.1 Million	\$102.4 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





MLK JR. PARKWAY

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Limited development is projected in advance of the light rail opening.

Rail +10 (2028 - 2037): Moderate residential and office development following the opening of light rail.

Rail +20 (2038 - 2047): With enhanced roadway networks, higher density housing options replace aging multifamily within the station area.

Rail +30 (2048 - 2057): Opportunities for employment and mixed-use adjacent to the station.

Investment Phasing

A revised future street plan along with the results of the revised analysis of water and sewer needs are the primary catalytic infrastructure needs for development within the MLK, Jr. station area. This station should be continually planned and coordinated with South Square station, specifically related to a parking management district. Utility upgrades should be tackled incrementally to the extent feasible so as not to induce insurmountable debt programs for development that may take several decades to be built out.

AFFORDABLE HOUSING STRATEGIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Martin Luther King, Jr. station area:

- Leverage new property values to fund affordable housing and requisite infrastructure
- Incentivize landlords to rehabilitate and preserve affordable housing
- Density bonus

ZONING STRATEGIES

The majority of the MLK station area is encompassed by the South Square and MLK, Jr. Pkwy Compact Neighborhood Tier. The station area consists of many zoning categories with much of the suburban area ripe for development zoned as CC, and OI with surrounding parcels zoned a combination of residential districts including: RU-M, RS-M and PDR.

The station itself is in the Commercial Center (CC) district which is a primarily suburban commercial zoning. The district is “a concentration of commercial activities surrounding a node such as the intersection of two arterials with an overall design scheme, rather than strip commercial. The district is intended to provide a wide range of retail and service activities that serve many neighborhoods”

The Office / Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.” The residential zoning designations are suburban and urban multifamily districts. RS-M allows for suburban multifamily up to 18 units per acre with a development plan.

Rezoning to appropriate TOD districts and sub-districts is the next regulatory step to provide for the implementation of transit-oriented development. Special consideration should be given to the zoning for residential properties where affordably-priced, or naturally occurring affordable housing exists to ensure that some or all of the homes can be conserved as affordable once development occurs.

PARKING STRATEGIES

The MLK, Jr. station area currently has significant surface parking that supports current suburban development. The suburban retrofit of this station will need to incorporate on-street parking and smaller block sizes to promote better connectivity and will not need as much parking over time.

The significant housing in the area will be supported by this new connectivity and will not need as much parking over time. This reduction in the parking needs will lead to the eventual repurposing of those parking areas and supporting development into a denser mix of uses.

A parking district with South Square will help balance the parking needs over the greater neighborhood area. The table below details some of the specific strategies for parking.

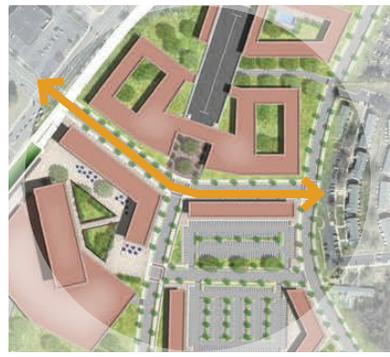
PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Any new surface parking must be staged to receive development in the future		Discourage the use of surface parking	
	Structured	Only use incentives when the structure will benefit catalytic projects or major employment	Use strategic incentives to support structured parking according to the district parking master plan		
Policy	Supply	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy be evaluated every five years at a maximum			
	Incentives	Focus cash and policy incentives towards providing publicly accessible parking levels within privately-owned structures			
	Pricing	Encourage unbundling of parking spaces from leases	Conduct market rate study; raise rates as necessary	Index cost to inflation	
Implementation	District	Upon creation, in coordination with South Square, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program in coordination with MLK Jr. Parkway station	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



MLK JR. PARKWAY

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Westgate Drive Extension to Shannon Road

Improving connections directly to the station from the east to connect with Shannon Road

Timeframe: Rail +10

Cost: \$\$

Improve Water/Sewer Capacity

Implement area upgrades and improvements to water and sewer infrastructure

Timeframe: Pre-Rail

Cost: \$\$

Area Complete Street Connections

Implement complete street connections and conversions on major roads, including protected bike and pedestrian accommodations

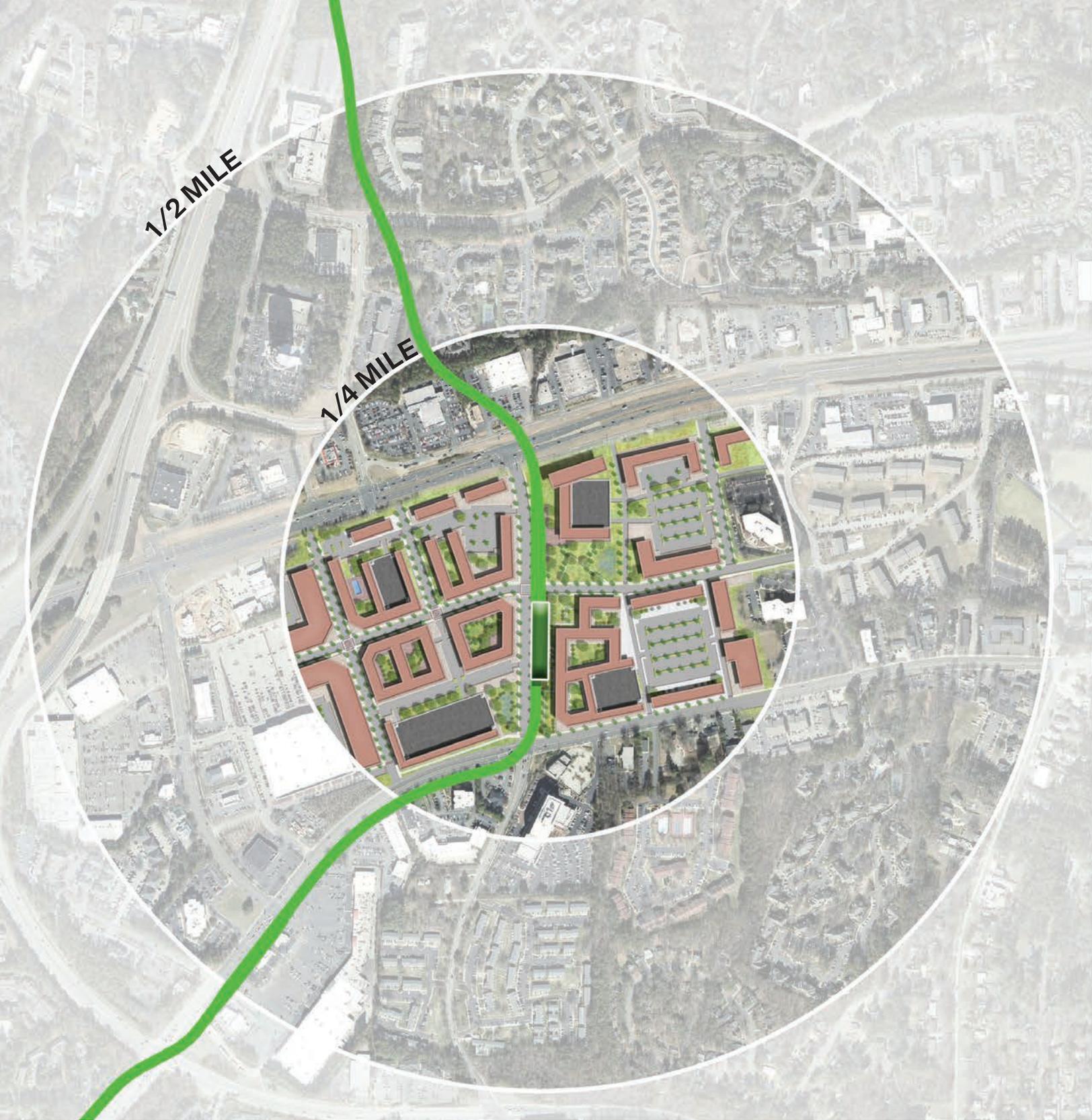
Timeframe: Rail +10
Rail +20

Cost: \$\$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Implement water and sewer upgrades	Implement complete street connections between University Drive and Shannon Road		-
	-	Extend Westgate Drive to improve connections from the east to the station to Shannon Road		-
Bike/Ped and Transit Support	Improve existing streets to accommodate complete street design	Implement complete streets and ensure additional block connectivity where block lengths exceed 600' (i.e., multi-use paths, mid-block crossings, etc.)		

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SOUTH SQUARE



South Square

Station Family: Suburban Retrofit
 County: Durham
 City: Durham

WHY THIS STATION?

Its existing infrastructure and large parcels support a transformation of low-density, single story suburban retail to transit-oriented development.

Just as Gateway and Patterson Place are linked, South Square is effectively a sister station to the Martin Luther King, Jr. Parkway station. As a greyfield site with varying degrees of current market vitality, South Square is well suited for development of a walkable, well-connected street and block network on both sides of the station. South Square’s biggest challenge is the hilly topography and the profile of the light rail bridge over U.S. 15-501 Business.

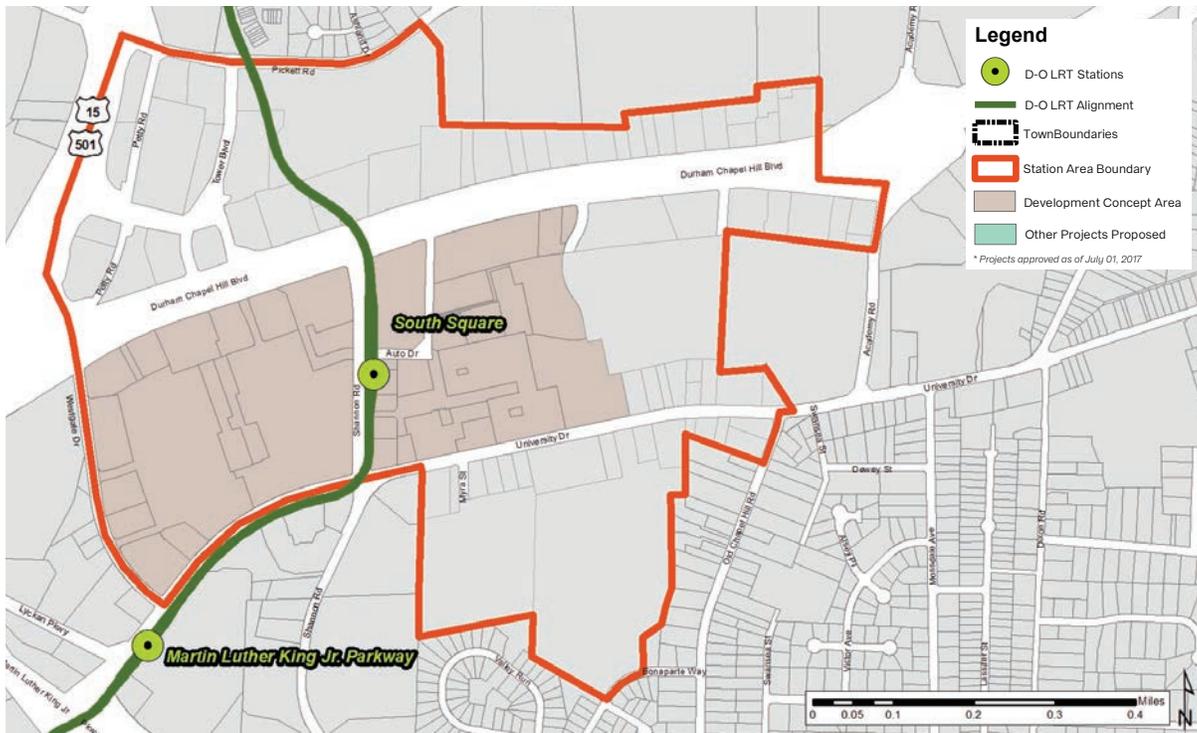
Parcels west of the station constitute the site of the former South Square Mall. That retail is approaching the lifespan that the original South Square Mall experienced before being replaced. The current large surface parking lots and single-story retail makes those areas ripe for denser transit-oriented development as the market conditions dictate. In the other direction, just east of the station, several development proposals have been initiated as the viability of those retail sites has waned. New proposals continue to arise and should be evaluated relative to the long term transit-oriented development potential.

As with each of the suburban retrofits, managing parking on a district-wide basis will be integral to efficient build-out and the creation of walkable urbanism in this station area.

ATTRIBUTES

- Continued evolution of retail and small, medium, and large scale job creation opportunities
- Introduction of urban housing types, such as missing middle type housing
- Predominant activity between 9 a.m. and 10 p.m.

STATION AREA CONTEXT

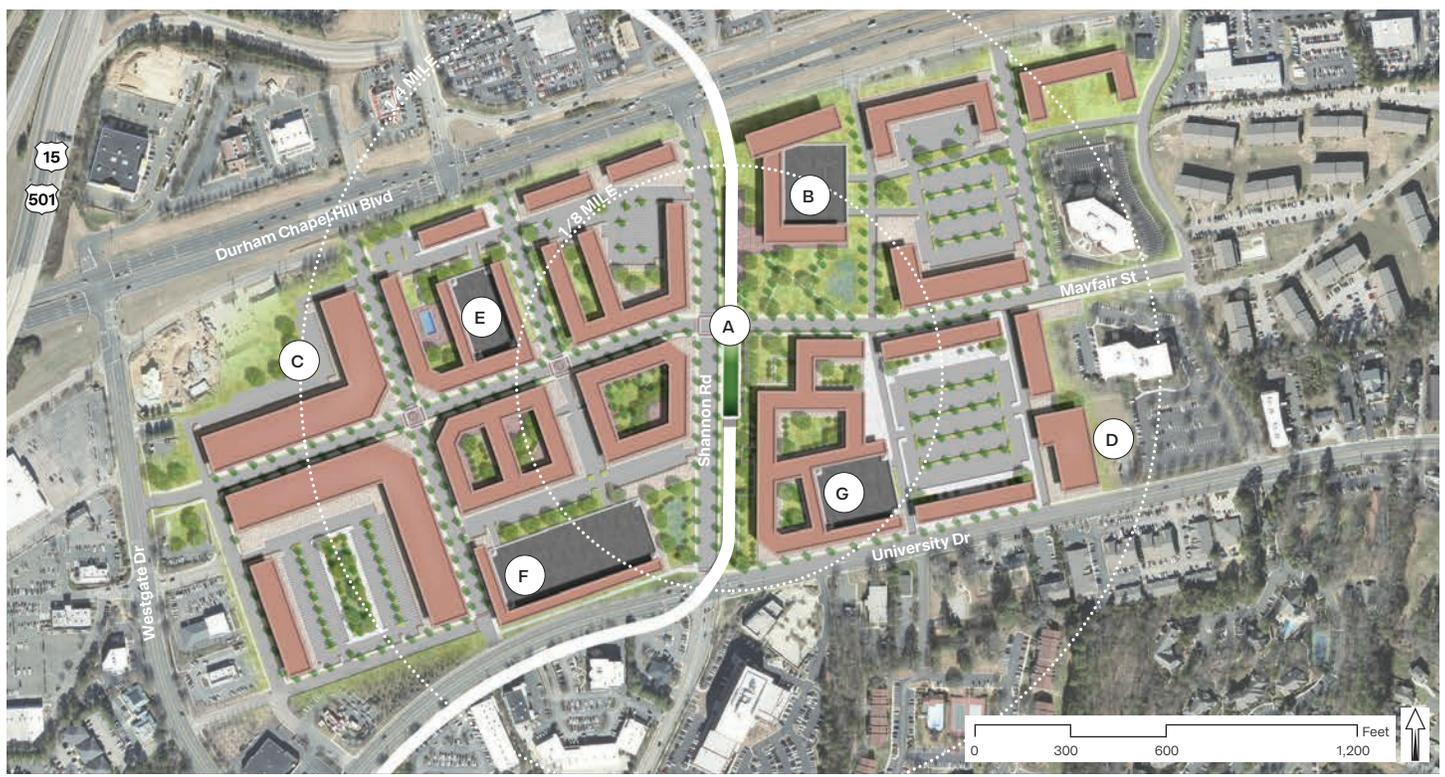




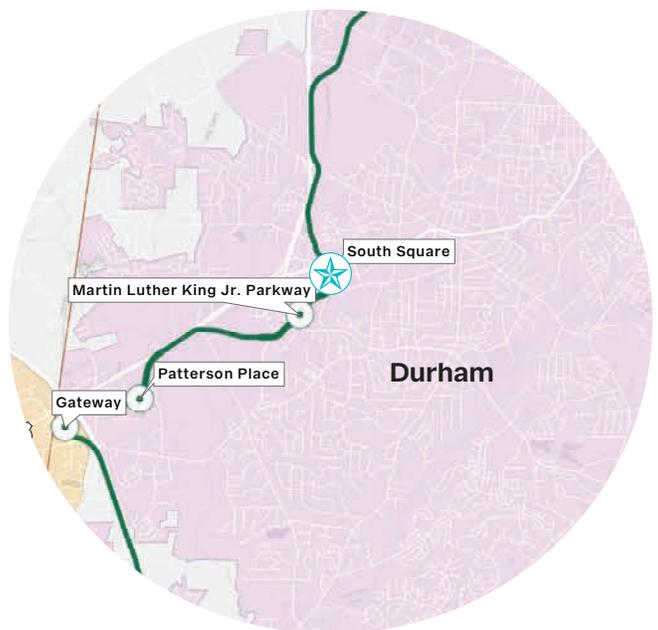
SOUTH SQUARE

STATION DEVELOPMENT CONCEPT

One scenario of potential suburban retrofit of large greyfield sites.



- A** Station along Shannon Road and coupled with a public green wrapped by mixed-use
- B** New development frontage wrapped around parking
- C** Employment development mixed with restaurant and retail space on the ground floor
- D** Grocery development accompanied by liner buildings around a parking lot
- E** Mixed-use with residential serving redevelopment of the existing large box uses
- F** Liner building to screen garage along the topography adjacent to University Drive
- G** Mixed-use and residential development to with liner buildings around the grocery lot.

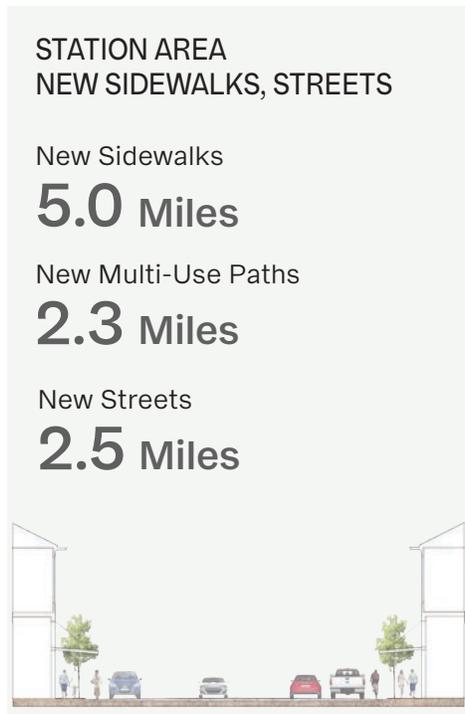
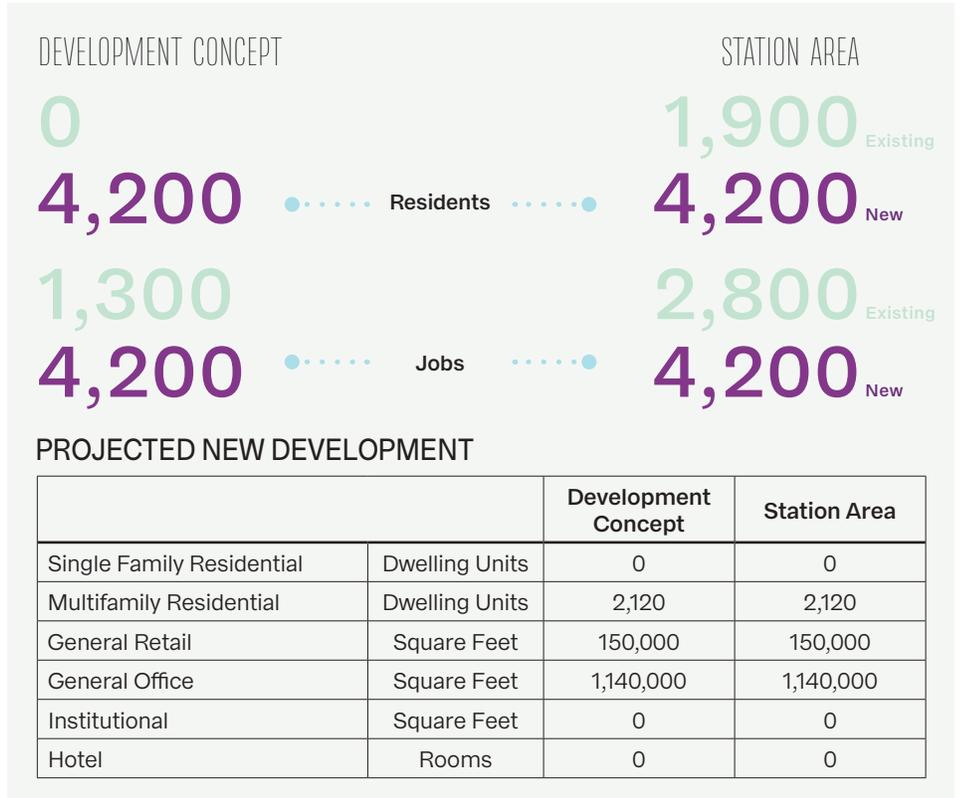
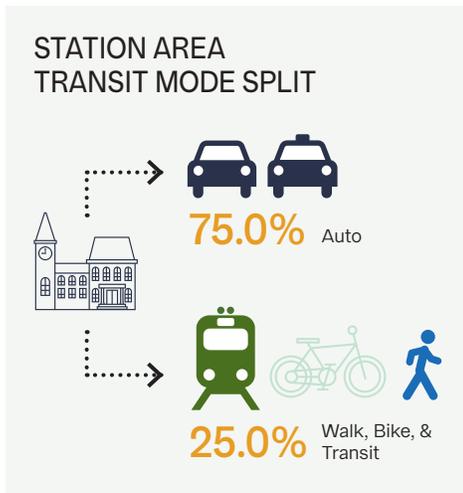


Could evolve in any number of configurations and build-out scenarios, including a broad range of densities and uses at the station area core.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

SOUTH SQUARE AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 150. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.





SOUTH SQUARE

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- | | | |
|--------------------------|---|--------------------------|
| Light Rail Station | Proposed Future Streets | Existing Multi-Use Path |
| Light Rail Alignment | Existing Streets | Proposed Multi-Use Path |
| Development Concept Area | Bike/Ped Priority Streets (Proposed) | Proposed Bus Connections |
| Existing Structure | Bike/Ped Priority Streets (Existing Street Retrofitted) | |

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the South Square station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	265 Acres
Development Concept Area	102 Acres

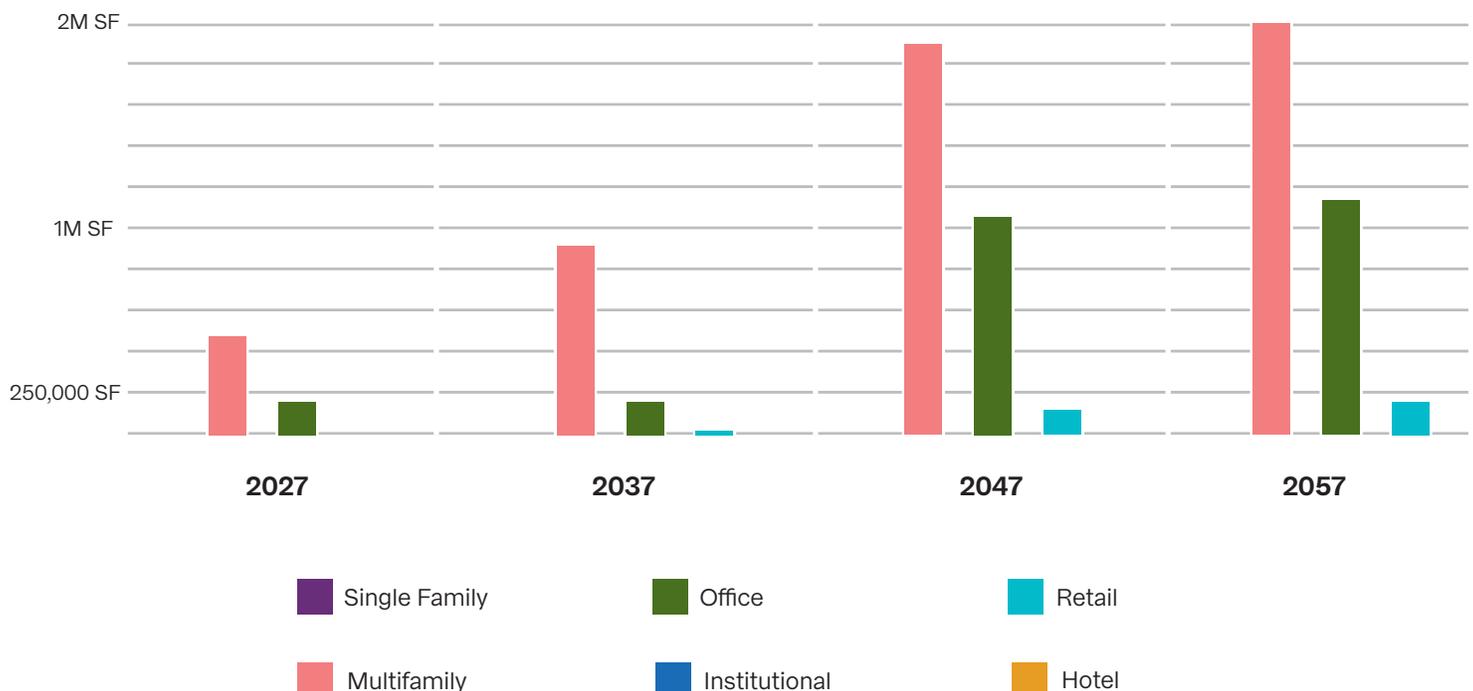
POTENTIAL NEW TAX REVENUES

SOUTH SQUARE	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$155.9 Million	\$128.7 Million	\$96.3 Million	\$79.5 Million
Upper Estimate (65th Percentile)	\$211.0 Million	\$174.2 Million	\$130.3 Million	\$107.6 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$105.0 Million	\$139.9 Million	\$300.1 Million	\$277.0 Million
Upper Estimate (65th Percentile)	\$142.0 Million	\$189.2 Million	\$406.1 Million	\$374.8 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$8.1 Million	\$25.0 Million	\$50.9 Million	\$90.7 Million
Upper Estimate (65th Percentile)	\$11.0 Million	\$33.9 Million	\$68.7 Million	\$122.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





SOUTH SQUARE

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Support current proposals of mixed-use development on infill sites.

Rail +10 (2028 - 2037): Redevelopment of aging large format retail to a mixed-use development with high-quality pedestrian and bike access to station.

Rail +20 (2038 - 2047): Office, residential and other mixed-use development types filling out the station area.

Rail +30 (2048 - 2057): Build-out of the station area subject to market needs.

Investment Phasing

South Square station will be a sister station to MLK. All coordinated governance should be established as a combined effort, similar to the joint Compact Neighborhood plan that was prepared for this area. The boundary between the two stations is fuzzy, as they will feed off each other's success moving forward. Supporting the evolution as one being more residential and the other being more employment will be a natural effort and should not be restricted.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the South Square station area:

- Leverage new property values to fund affordable housing and requisite infrastructure
- Incentivize landlords to rehabilitate and preserve affordable housing
- Density bonus

ZONING STRATEGIES

The majority of the South Square station area is encompassed by the South Square & MLK Jr Pkwy Compact Neighborhood Tier. The station area consists of many zoning categories with much of the suburban redevelopment opportunity zoned CC, MU and OI with surrounding parcels zoned a combination of residential zoning districts: RS-M and PDR.

The station itself is in the Commercial Center (CC) district which is a primarily suburban commercial zoning. The district is “a concentration of commercial activities surrounding a node such as the intersection of two arterials with an overall design scheme, rather than strip commercial. The district is intended to provide a wide range of retail and service activities that serve many neighborhoods”

Office/Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

The MU District allows for “innovative opportunities for an integration of diverse but compatible uses into a single development”

The residential zoning designations are suburban multifamily and Planned Development districts. RS-M allows for suburban multifamily up to 18 units per acre with a development plan.

Rezoning to appropriate TOD districts and sub-districts is the next regulatory step to provide for the implementation of transit-oriented development. Special consideration should be given to the zoning

for residential properties where affordably-priced, or naturally occurring affordable housing exists to ensure that some or all of the homes can be conserved as affordable as new development occurs.

PARKING STRATEGIES

The South Square station area currently has significant surface parking that supports the existing suburban development. The suburban retrofit of this station will need to incorporate on-street parking and smaller block sizes to promote better connectivity for pedestrians and bicyclists.

Significant retail in the area will evolve to new development with a denser mix of uses that will in turn transform the surface parking into garage parking.

A parking district within the MLK, Jr. Parkway station area will help balance the parking needs for the greater neighborhood area.

The table below details some of the specific strategies for parking.

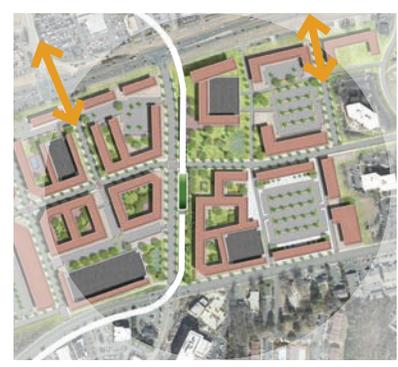
PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Any new surface parking must be staged to receive development in the future		Discourage the use of surface parking	
	Structured	Only use incentives when the structure will benefit catalytic projects or major employment	Use strategic incentives to support structured parking according to the district parking master plan		
Policy	Supply	Design parking lots and structures so that they can be shared between all uses within the parking district. Require parking occupancy be evaluated every five years at a maximum			
	Incentives	Focus cash and policy incentives towards providing publicly accessible parking levels within privately-owned structures			
	Pricing	Encourage unbundling of parking spaces from leases	Conduct market rate study; raise rates as necessary	Index cost to inflation	
Implementation	District	Upon creation in coordination with MLK Jr. Parkway station, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years		
	Public	Assemble district parking program in coordination with MLK Jr. Parkway station.	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



SOUTH SQUARE

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Complete Streets (University Drive east of Shannon and U.S. 15-501 Business)

Redesign of Shannon Road as a complete street thoroughfare providing north-south access to the station

Timeframe: Pre-Rail
Rail +10

Cost: \$\$

Water/Sewer Capacity

Through the current capacity analysis, determine needs for development horizon and plan accordingly

Timeframe: Pre-Rail

Cost: \$

Additional Bike/Ped Crossing of U.S. 15-501 Business

Add additional bike/ped crossings of U.S. 15-501 Business at Tower Road, Shannon Road and Auto Drive

Timeframe: Pre-Rail

Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Shannon Road complete street improvements (University Drive to U.S. 15-501 Business)		-	-
	Confirm utility needs for the next 10 to 20 years of development	-	Re-analyze utility needs to support the next phases of redevelopment	-
Bike/Ped and Transit Support	Improve existing streets to accommodate complete street design		-	-
	Additional Bike/Ped Crossing of U.S. 15-501 Business	-	-	-

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LASALLE STREET





LaSalle Street

Station Family: Neighborhood Destination
 County: Durham
 City: Durham

WHY THIS STATION?

This station area serves some newer mixed-use development constructed along Erwin Road while increasing access to a range of multifamily homes to the west and Duke University’s main academic campus to the east.

The LaSalle Street station is located along Erwin Road. A mix of older housing is located to the north and west, beyond a row of newer, mixed-use development fronting on Erwin. Between the newer development along Erwin and the older multifamily housing complexes, is a noticeably sloping hillside descending to a tributary of Sandy Creek. A few sloping streets cross this stream, but better connectivity to the multifamily beyond will be beneficial in improving access to the light rail for more moderately-priced housing stock. Otherwise a few infill opportunities exist both along Erwin and further into the adjacent areas. A key focus will be to maintain some affordability in this location, with the DHA sites representing a unique opportunity in this regard.

Notably, property south and east of the rail alignment is part of Duke University’s West Campus, with some physical separation by forested areas for the nearby surface parking lots, a chiller plant, academic buildings, and – moving north and east – medical research buildings.

ATTRIBUTES

- Neighborhood-serving mix of uses with proximity to portions of Duke’s West Campus, and to the east along Erwin a mix of retail, office and residential by the Duke/VA Medical Centers.
- Some opportunities for infill that adds urban amenities within reach of transit
- Predominant activity between 9 a.m. and 7 p.m.

STATION AREA CONTEXT

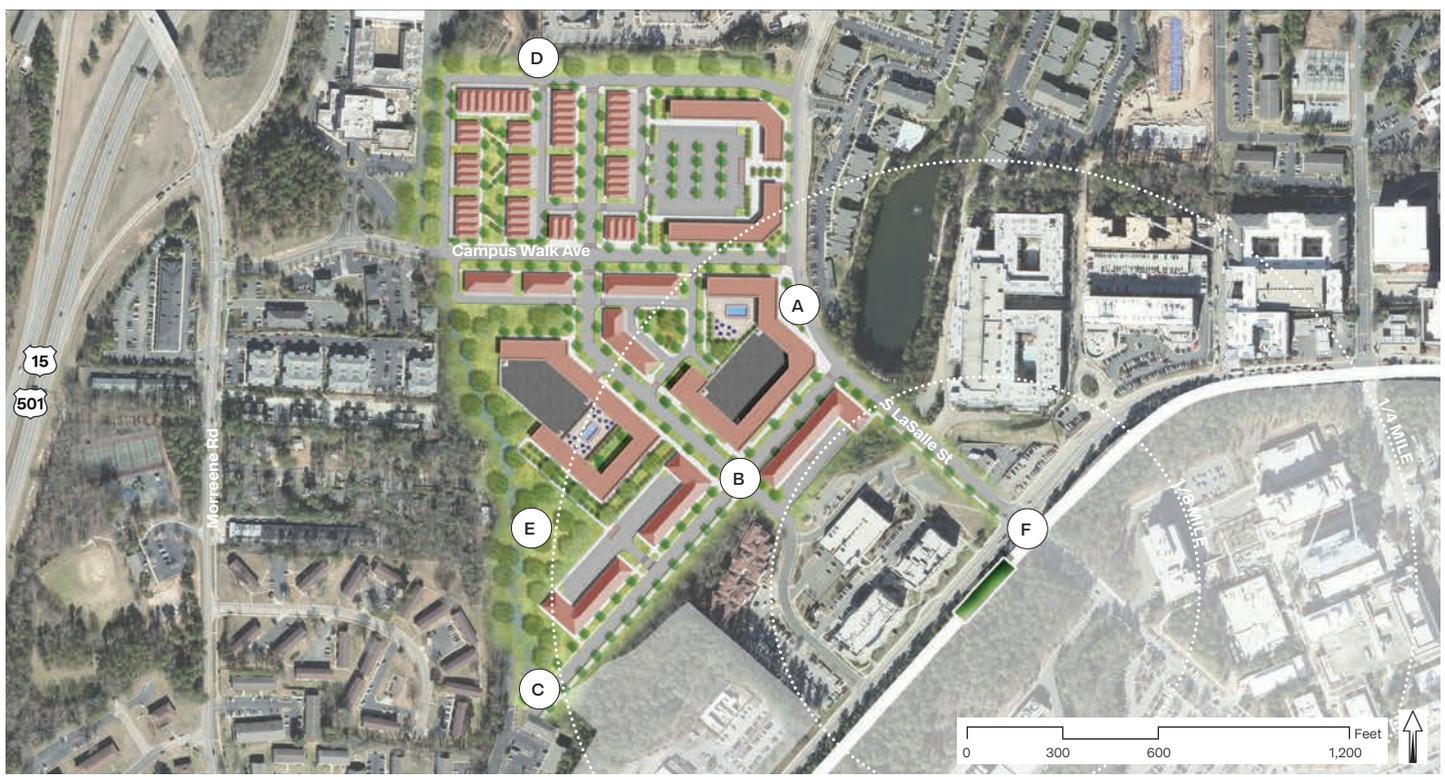




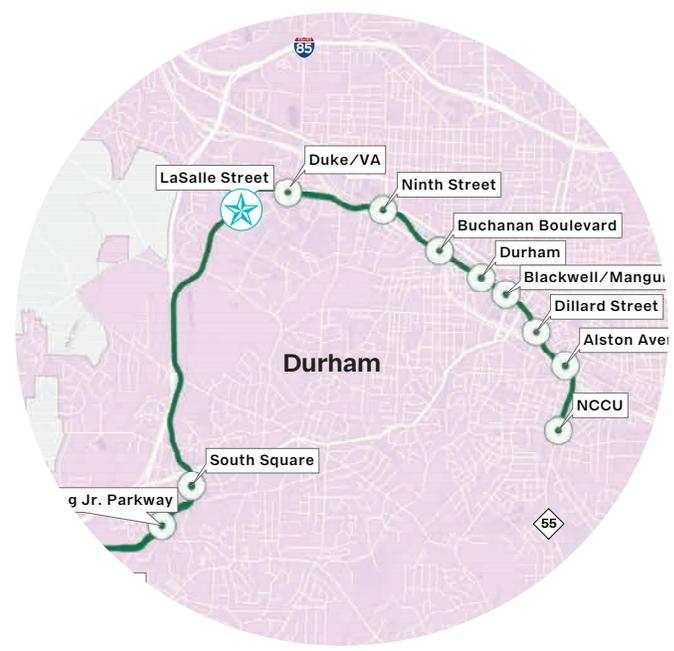
LASALLE

STATION DEVELOPMENT CONCEPT

Key considerations are providing connections and access to existing multifamily housing to the west.



- A** Urban mixed-use and public space to guide visitors down the hill to the redeveloped area
- B** Block and grid pattern to support pedestrian and bicycle connectivity through the development
- C** Roadway connection to act as a parallel road along Erwin Road for better local connectivity
- D** Mix of housing types including for-sale and rental to provide for a variety of lifestyles within the currently predominantly student housing area
- E** Preservation of open space and stream channels within the area
- F** Comfortable streetscape and public space along LaSalle to connect the station to new development

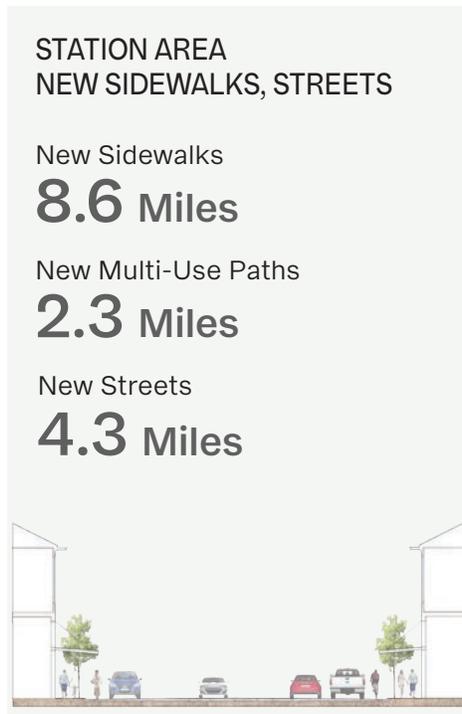
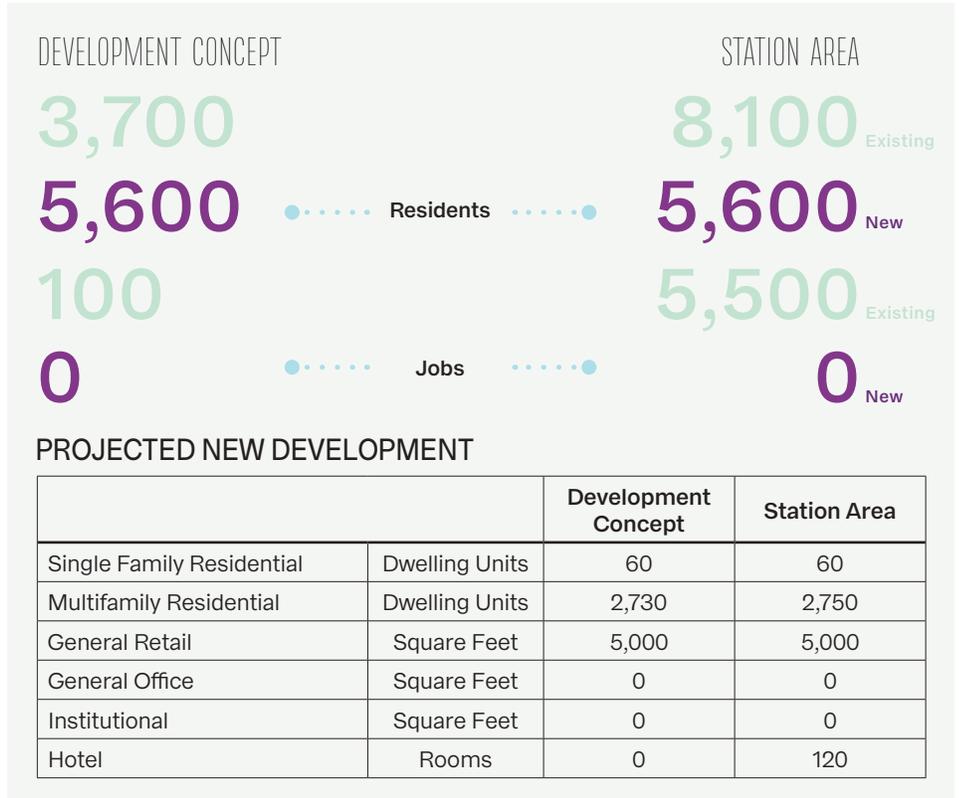
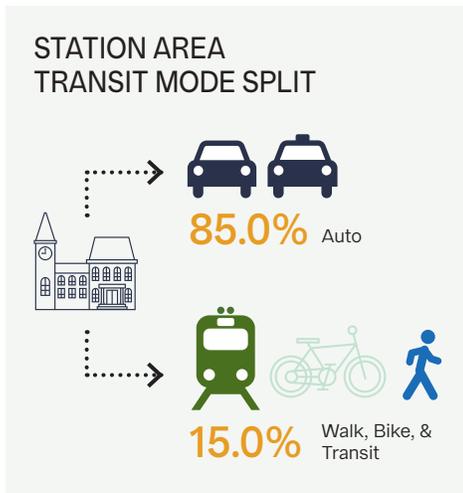
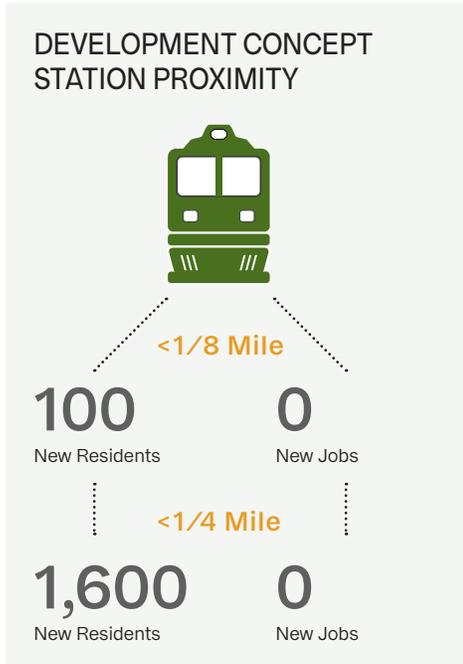


Different scenarios could evolve on institutional lands to the south of Erwin Road, and a range of residential and mixed-use redevelopment could occur to the north side.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

LASALLE STREET AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 160. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



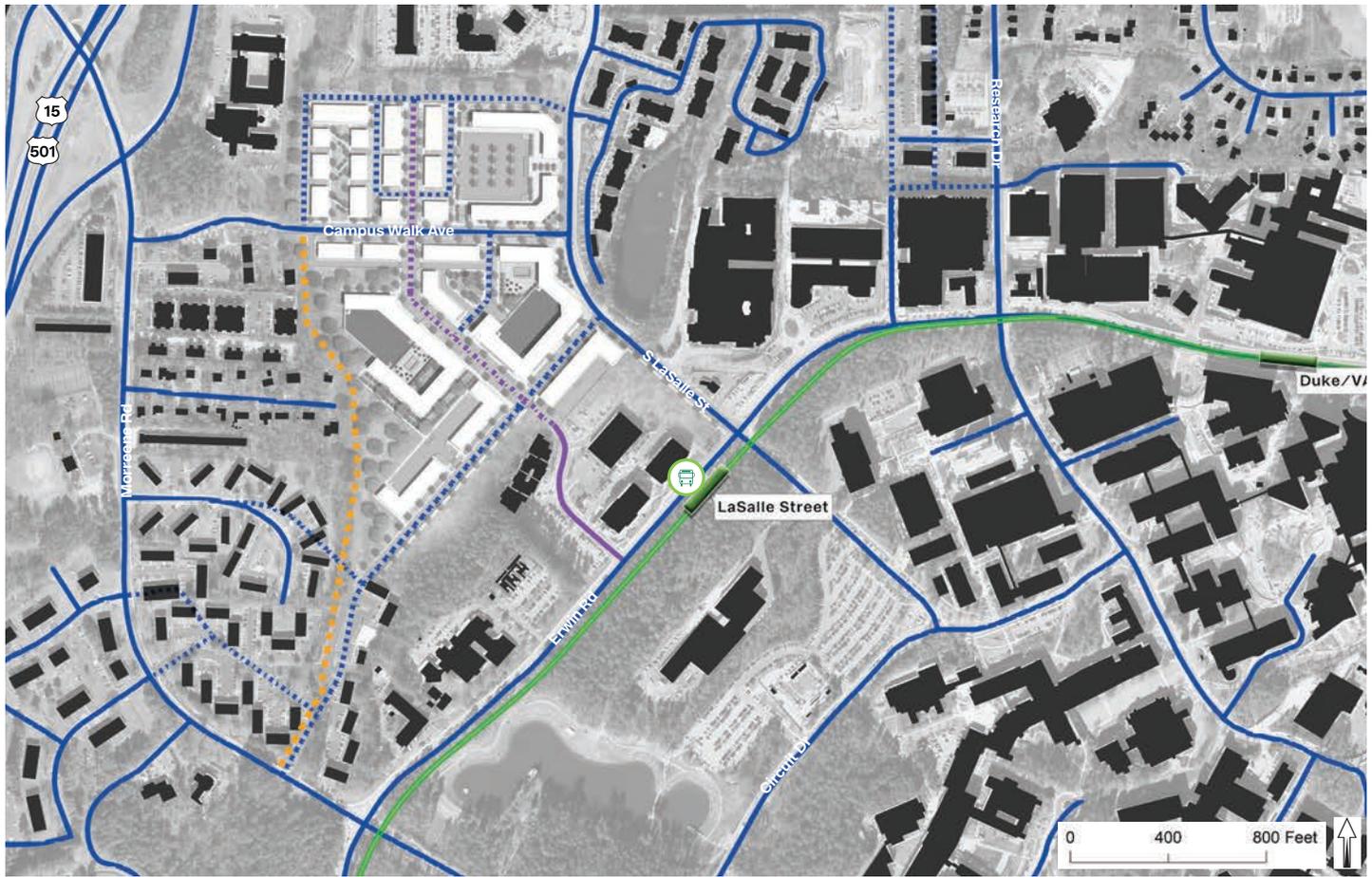


LASALLE

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the LaSalle station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	337 Acres
Development Concept Area	106 Acres

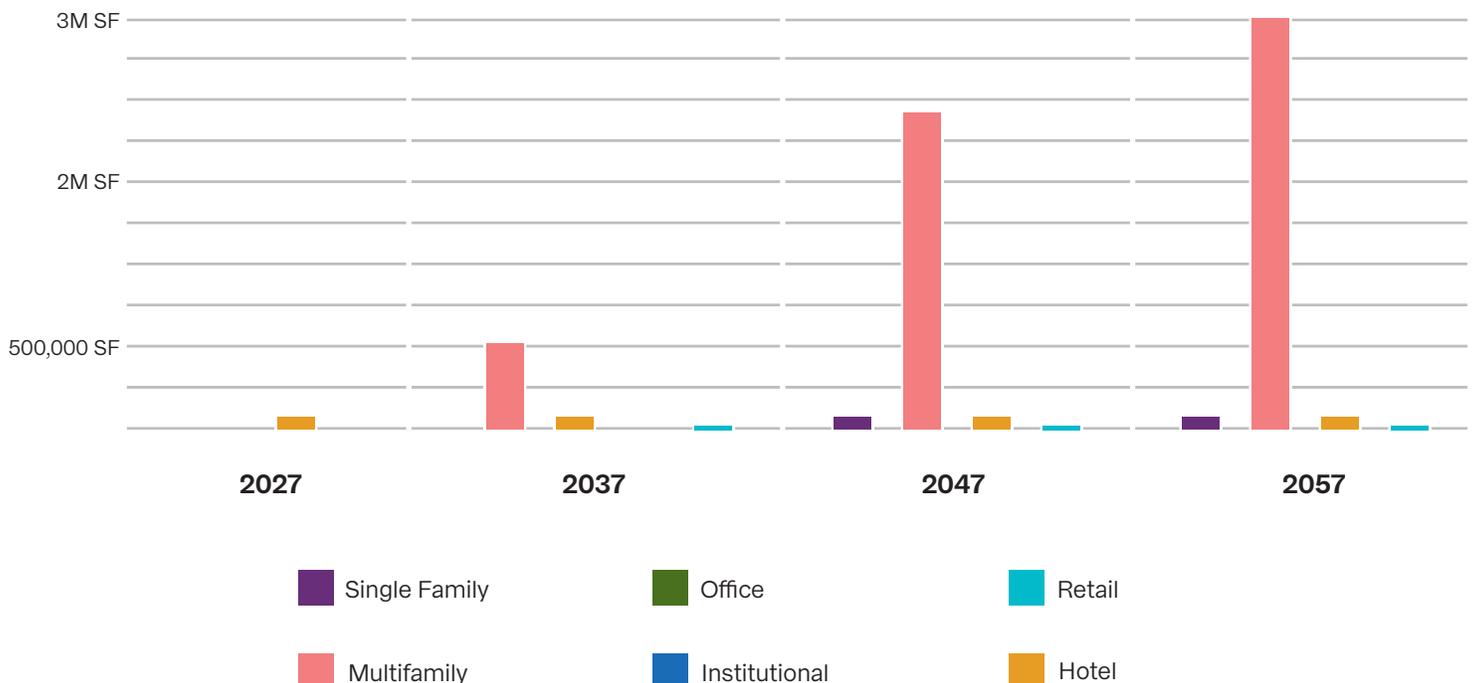
POTENTIAL NEW TAX REVENUES

LASALLE	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$306.8 Million	\$253.3 Million	\$189.5 Million	\$156.5 Million
Upper Estimate (65th Percentile)	\$415.1 Million	\$342.8 Million	\$256.4 Million	\$211.7 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$6.6 Million	\$75.5 Million	\$163.8 Million	\$173.6 Million
Upper Estimate (65th Percentile)	\$9.0 Million	\$102.1 Million	\$221.6 Million	\$234.8 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	\$780,000	\$6.7 Million	\$23.8 Million	\$46.2 Million
Upper Estimate (65th Percentile)	\$1.1 Million	\$9.0 Million	\$32.1 Million	\$62.5 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





Anticipated Development Horizon

Pre-Rail (2018 - 2027): Limited additional development prior to the light rail opening.

Rail +10 (2028 - 2037): Infill development to support nearby neighborhood needs and add housing opportunities. Development structured in a more urban format rather than past auto-oriented formats.

Rail +20 (2038 - 2047): Replacement of dated multifamily housing structures with more compact, walkable multifamily housing. Careful partnerships for development on housing authority property to ensure the same or more affordable units provided. Incorporate for-sale affordable and market rate housing.

Rail +30 (2048 - 2057): Continued redevelopment of various uses to more mixed-use and housing opportunities.

Investment Phasing

Infrastructure support to increase the capacity for developers to add more housing units and additional affordable housing to this area. A clear effort to mix housing types, (owner vs. rental, multifamily vs. townhouse, etc.) will bring greater value, a variety of incomes, and resiliency through socioeconomic diversity.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the LaSalle Street station area:

- Incentivize landlords to rehabilitate and preserve affordable housing
- Repair assistance for low-income homeowners
- Opportunity zones

ZONING STRATEGIES

The majority of the LaSalle station area is encompassed by the Erwin Road (LaSalle/Duke-VA Medical) Compact Neighborhood Tier. The station area consists of several zoning categories with much of the area adjacent to the station already redeveloped zoned MU and the suburban redevelopment opportunity zoned CN and RU-M with surrounding parcels zoned OI, RS-M and IL.

The MU District allows for “innovative opportunities for an integration of diverse but compatible uses into a single development” It may be a useful zoning category for TOD as it allows - in the core of the Compact Neighborhood Tiers - 42 units per acre for horizontal mixed-use development and 53 units per acre with vertical mixed use. MU also regulates parking maximums which can facilitate some goals of successful TOD.

The largest adjacent areas to the LaSalle station that are under-developed are zoned RU-M. The RU districts are gradients of urban residential densities suitable for edge neighborhoods or historic urban neighborhoods. RU-M allows for multifamily up to 20 units per acre with a development plan.

Commercial Neighborhood (CN) is a reduction in scale of commercial activity intended to be closer to residential, provide for “walkable, pedestrian-oriented development that complements nearby residential neighborhoods. The district is not intended for use by major or large-scale commercial sales, service or automotive-oriented activities,” nor is it generally appropriate for transit-oriented development because of the limited density.

Office / Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

Rezoning to appropriate TOD districts and sub-districts is the next regulatory step to provide for the implementation of transit-oriented development. Special consideration should be given to the zoning for residential properties where affordably-priced, or naturally occurring affordable housing exists to ensure that some or all of the homes can be conserved as affordable as new development occurs.

PARKING STRATEGIES

The LaSalle station area currently has parking that solely supports the current development. Future parking will continue to be needed for the uses in this area. As new streets are introduced a focus toward on-street parking will greatly reduce the size of parking areas. Most of the parking in the long term will be unbundled related to housing, as connectivity and transit improves, less parking will be needed by housing development.

The table below details some of the specific strategies for parking.

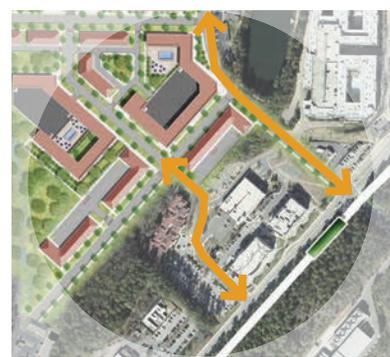
PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Any new surface parking must be staged to receive development in the future	Discourage surface parking		
	Structured	Only use incentives when the structure will benefit catalytic projects or major employment	Use strategic incentives to program structured parking according to the district parking master plan		
Policy	Supply	Optimize the use of existing parking	Work with multifamily developers to minimize necessary parking	Repurpose as demand becomes less	
	Incentives	N/A	Reduce required minimum and maximum parking for multifamily; office tenants maintain a Travel Demand Management program. Removal of parking for tax-generating uses		
	Pricing	N/A	Require developments to offer unbundled parking opportunities for tenants		
Implementation	District	Upon creation begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



LASALLE

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Water Infrastructure Improvements

Implement water infrastructure improvements and confirm capacity analysis

Timeframe: Pre-Rail
 Rail +10

Cost: \$\$

Sherwood Extension to LaSalle Street

Provide a street connection for multimodal access through undeveloped parcels north and west of Erwin Road, improving station access and connectivity

Timeframe: Rail +20

Cost: \$\$\$

Improved Connection across Erwin Road and along LaSalle

Improve pedestrian crossings at intersection of Erwin Road and Lambeth; add a multi-use path along Lambeth Circle

Timeframe: Rail +10

Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Improve connectivity through existing large blocks		Extend Sherwood Road to LaSalle	-
	Improve and/or update water system infrastructure	-	Re-analyze and reconfirm utility needs to support the next phases of development	-
	-	Improve connection across Erwin Road and add mixed-use path along LaSalle	-	-
Bike/Ped and Transit Support	Increase publicly accessible connections through multifamily complexes; reduce gated communities		-	-

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DUKE / VA





Duke/VA Medical Centers

Station Family: University Village
County: Durham
City: Durham

WHY THIS STATION?

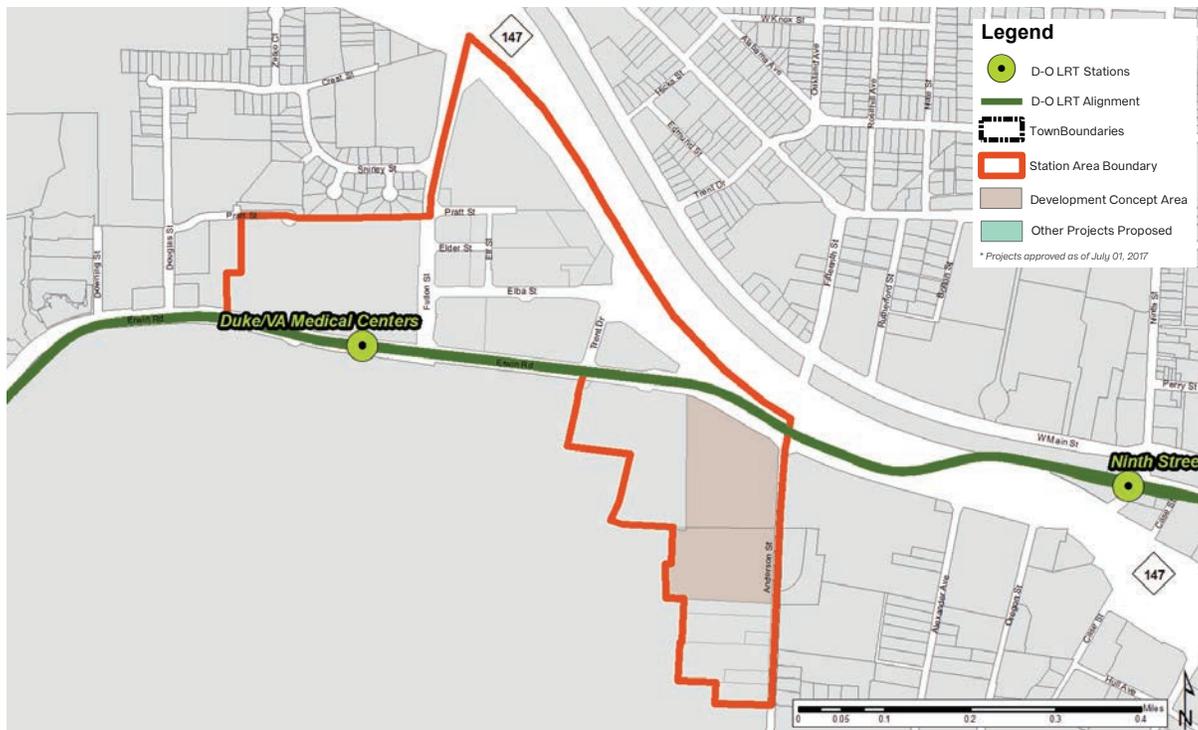
It serves major employment destinations of Duke University Medical Center and VA Hospital.

The Duke/VA Medical Centers station area consists almost entirely of institutional lands, both the respective Medical Centers, and the western portions of Duke’s Central Campus. Duke’s Central Campus is an area of residual surface lots for medical center employee parking plus several blocks of aged suburban student apartment buildings being decommissioned by the university. Duke could pursue transformation of those parking lots and central campus lands in any number of ways including research, housing, academic purposes, or a more comprehensive urban village.

ATTRIBUTES

- 24-hour activity/activation environment for daytime and shift population (patients, visitors, ancillary services, employees, etc.)
- Access to portions of the academic campus.
- Possibility of mixed-use, urban village.

STATION AREA CONTEXT





DUKE/VA

STATION DEVELOPMENT CONCEPT

Build out is dependent upon institutional interests with opportunities for connectivity to the north.



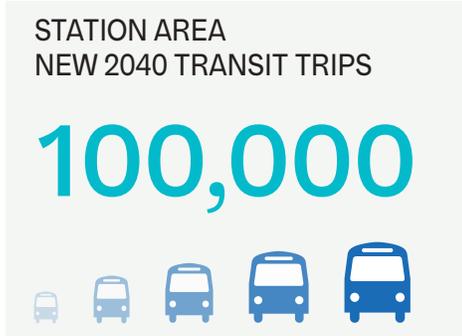
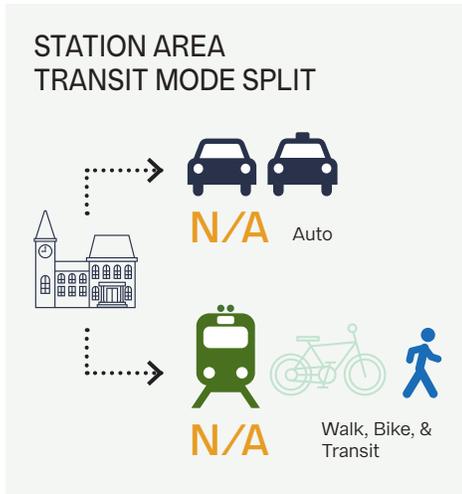
A Elevated station with stairs and elevators to Duke Hospital to the south and VA Medical Center to the north

Dependent largely upon institutional interests.



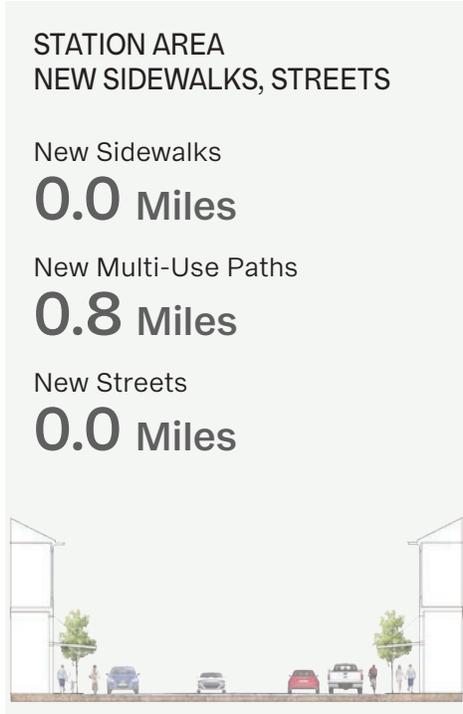
DUKE/VA AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 170. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	0	0
Multifamily Residential	Dwelling Units	450	450
General Retail	Square Feet	15,000	15,000
General Office	Square Feet	270,000	270,000
Institutional	Square Feet	0	0
Hotel	Rooms	0	0



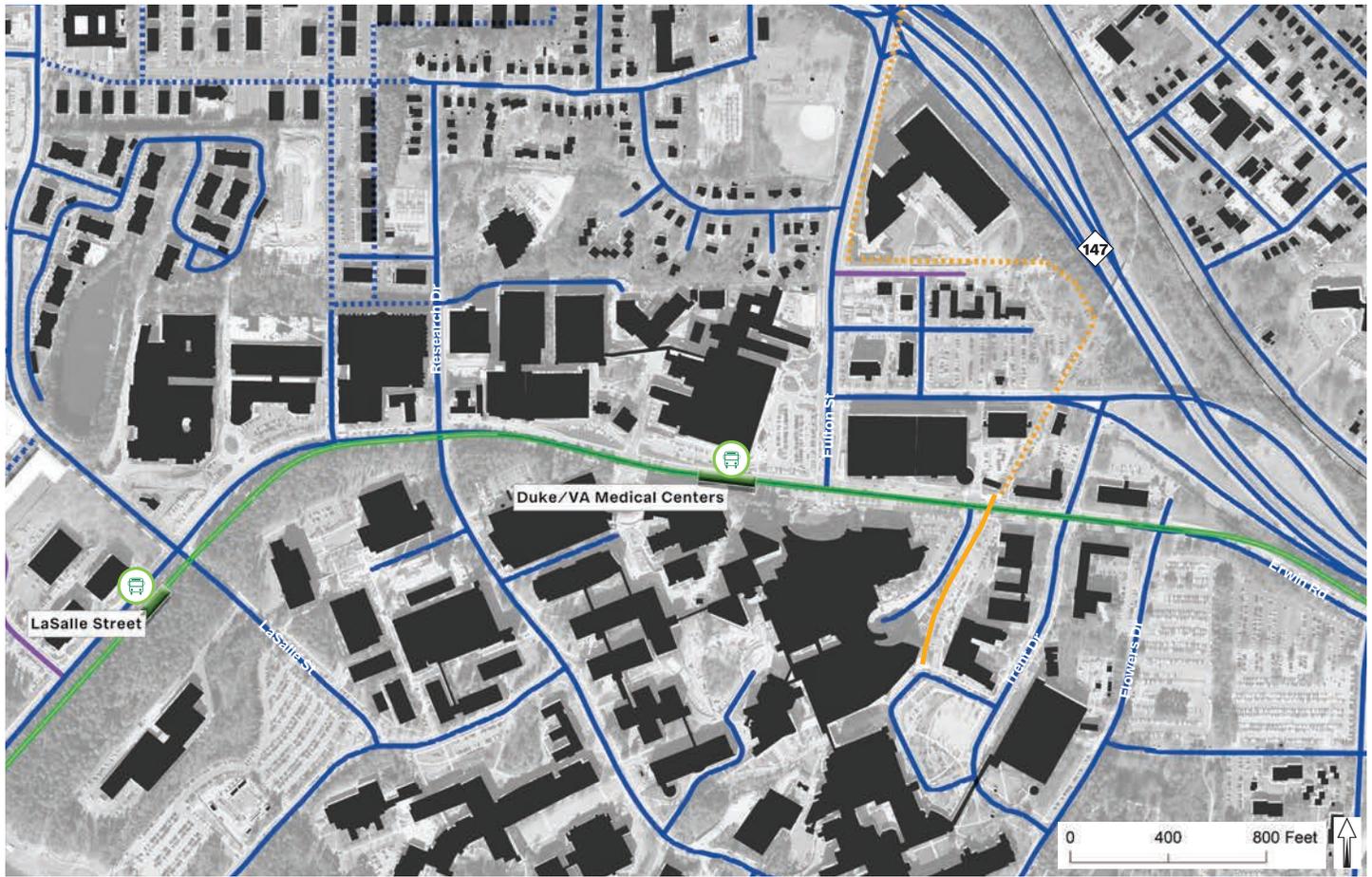


DUKE/VA

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Duke/VA Medical Centers station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	63 Acres
Development Concept Area	15 Acres

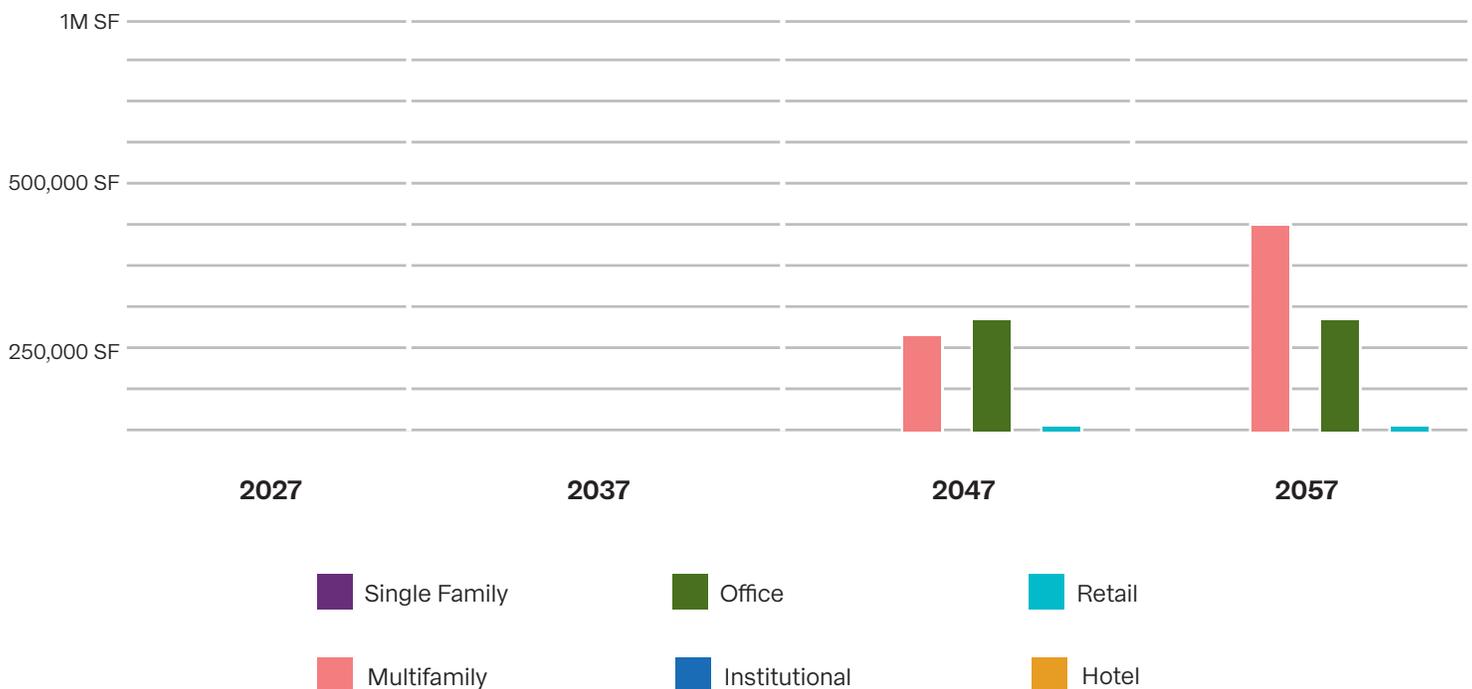
POTENTIAL NEW TAX REVENUES

DUKE/VA	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$74.9 Million	\$61.8 Million	\$46.3 Million	\$38.2 Million
Upper Estimate (65th Percentile)	\$101.3 Million	\$83.7 Million	\$62.6 Million	\$51.7 Million
Net New Property Value				
Lower Estimate (35th Percentile)	-	\$2.5 Million	\$40.6 Million	\$51.2 Million
Upper Estimate (65th Percentile)	-	\$3.3 Million	\$54.9 Million	\$69.3 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	-	\$20,000	\$4.8 Million	\$10.9 Million
Upper Estimate (65th Percentile)	-	\$30,000	\$6.5 Million	\$14.7 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





DUKE/VA

Anticipated Development Horizon

Pre-Rail (2018 - 2027): University related expansion and reinvestment in facilities.

Rail +10 (2028 - 2037): University related expansion and reinvestment in facilities.

Rail +20 (2038 - 2047): Improved connections to neighborhoods north of NC 147. Potential establishment of a mixed-use university village on vacant parcels along Erwin Road.

Rail +30 (2048 - 2057): Continued development of mixed-use university village and aging institutional properties.

Investment Phasing

Focus on improved and enhanced pedestrian and bike connectivity serving healthcare and university uses, as well as neighborhoods north of NC 147.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Duke/VA station area:

- Anchor institution involvement
- Repair assistance for low-income homeowners
- Land banking

ZONING STRATEGIES

The Duke/VA station area is encompassed by the Erwin Road (LaSalle/Duke-VA Medical) Compact Neighborhood Area. The station area consists primarily of the UC zoning category with some isolated parcels of CG and OI.

The LaSalle Compact Neighborhood Report recommends removal of the Duke campus from the Compact Neighborhood Tier.

Much of the area surrounding the station is the University and College District (UC) which allows for “growth and development of colleges and universities, while protecting the larger community, nearby neighborhoods.” This district allows for potential future growth of Duke and accommodating a major institution near a transit station is vital to successful TOD.

There are a few parcels of Commercial General (CG) district which “is established to provide for a wide variety of commercial activities of varying scales that are designed to be served by major thoroughfares. Businesses in this district should be sited convenient to automotive traffic.” Auto oriented commercial inside of a station area should not be encouraged through zoning, so the parcels having this zoning designation should be rezoned to a more suitable TOD designation..

PARKING STRATEGIES

The Duke/VA station area currently has parking that primarily supports the Duke/VA Hospital operations and staff. Any new development will warrant some parking, but with the transit and improved downtown connectivity across Erwin Road, less focus on providing parking is required. With a sound parking management plan, the Duke/VA station - along with LaSalle - could realize

a true walkable district with periphery parking to accommodate non-transit users. The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Any new surface parking must be staged to receive development in the future	Discourage new surface parking		
	Structured	Structured parking should be maintained. Coordinate all structured parking in accordance with a district master parking plan.			
Policy	Supply	N/A	Reduce required minimum parking for office and multifamily; set maximums		Repurpose as demand becomes less
	Incentives	N/A	Require developers of office and retail uses to develop and execute shared parking agreements or to join a public parking district; office tenants maintain a Travel Demand Management program		Removal of parking for tax-generating uses
	Pricing	N/A	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program in coordination with campus master plan	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



DUKE/VA

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Improve Water/Sewer Capacity

Implement water system improvements in the near term

Timeframe: Pre-Rail

Cost: \$\$

Erwin Road Complete Street Redesign

As a major connection for multimodal traffic, Erwin Road will serve Ninth Street and Duke/VA users. Redesign roadway as a complete street with mixed-use development

Timeframe: Rail +10
Rail +20

Cost: \$\$\$

Bike/Ped Connection over NC 147

Extend the railroad bridge over NC 147 to connect to the expanded Ninth Street Compact Neighborhood Tier

Timeframe: Rail +20

Cost: \$\$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Address water/sewer infrastructure needs through regular analysis and coordination with institutional needs		Bike/Ped Connection over NC 147	-
	-	Erwin Road redesign as a complete street		-
Bike/Ped and Transit Support	Improve Erwin Road bike/ped accommodations and access	Provide bike/ped connectivity to areas north of NC 147		-

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NINTH STREET

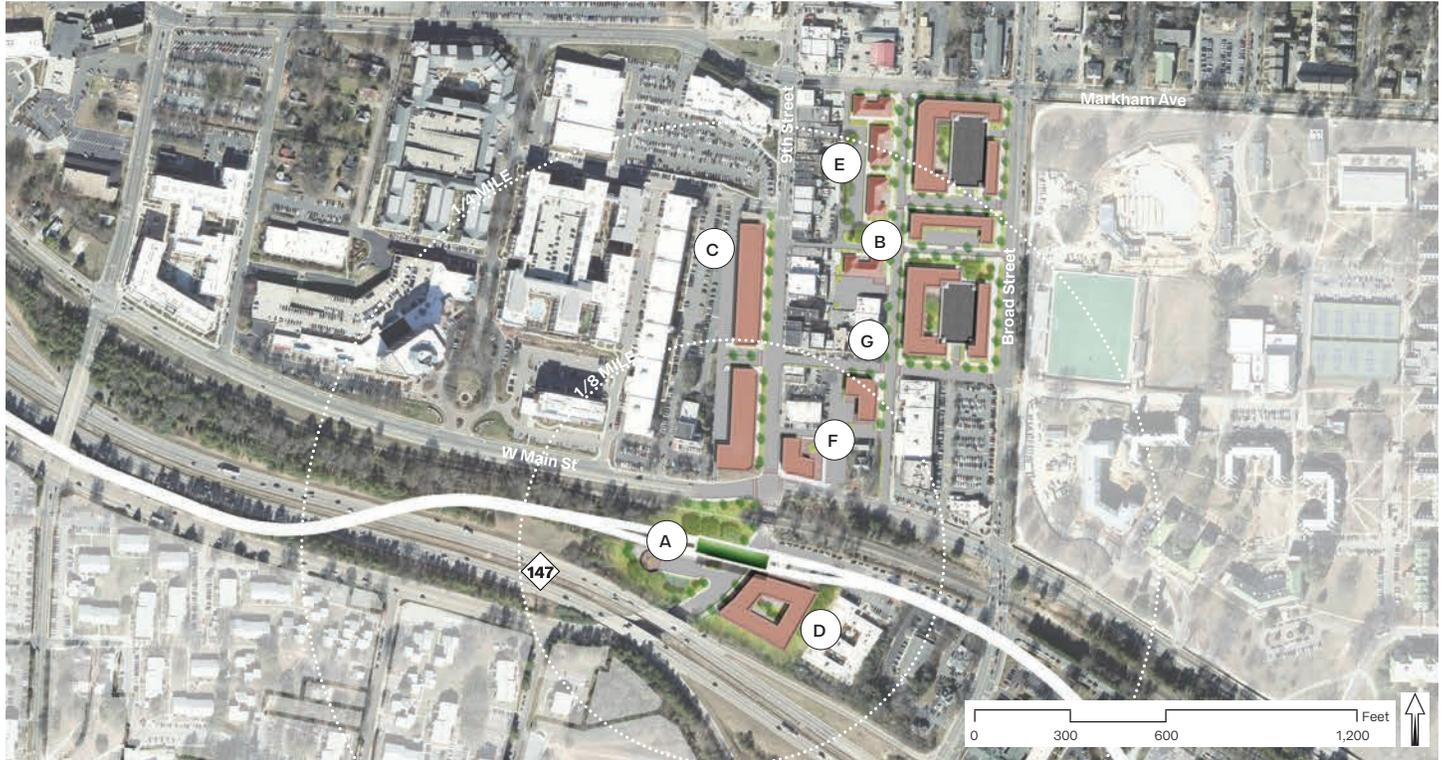




NINTH STREET

STATION DEVELOPMENT CONCEPT

Incremental development opportunities to retain character of the neighborhood-scaled retail center with opportunistic infill.



- A** Elevated station with pedestrian access
- B** New development along the alley to activate that as a major pedestrian area
- C** Redevelopment within existing parking lot of commercial development to complement the older street front buildings along Ninth Street
- D** New development to use private land adjacent to station and serve as an architectural marker
- E** Parking tucked away between existing buildings and new development along alley
- F** Push new development up to the corner along with on-street parking on Ninth Street
- G** Preserve key historic or character buildings to build towards the authenticity of the area

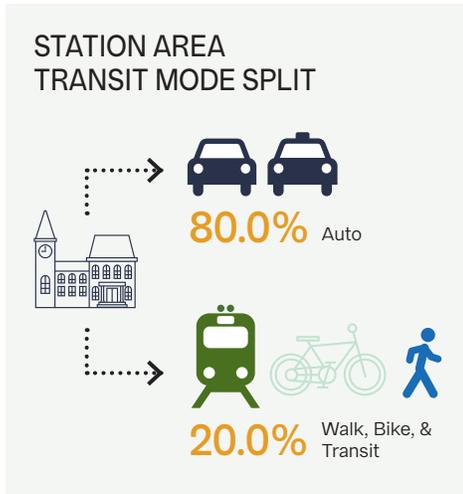
Significant breadth of possible redevelopment scenarios on Duke's Central Campus lands presently being decommissioned as student residential.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.



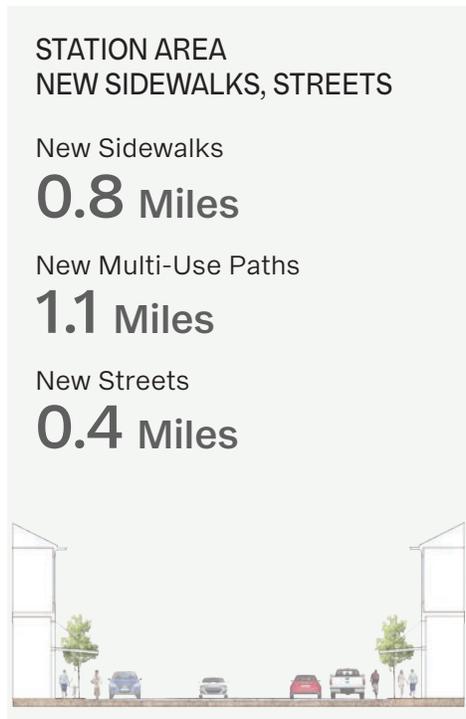
NINTH STREET AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 180. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	0	0
Multifamily Residential	Dwelling Units	2,440	2,440
General Retail	Square Feet	155,000	155,000
General Office	Square Feet	1,180,000	1,180,000
Institutional	Square Feet	0	0
Hotel	Rooms	300	300





NINTH STREET

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Ninth Street station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	416 Acres
Development Concept Area	88 Acres

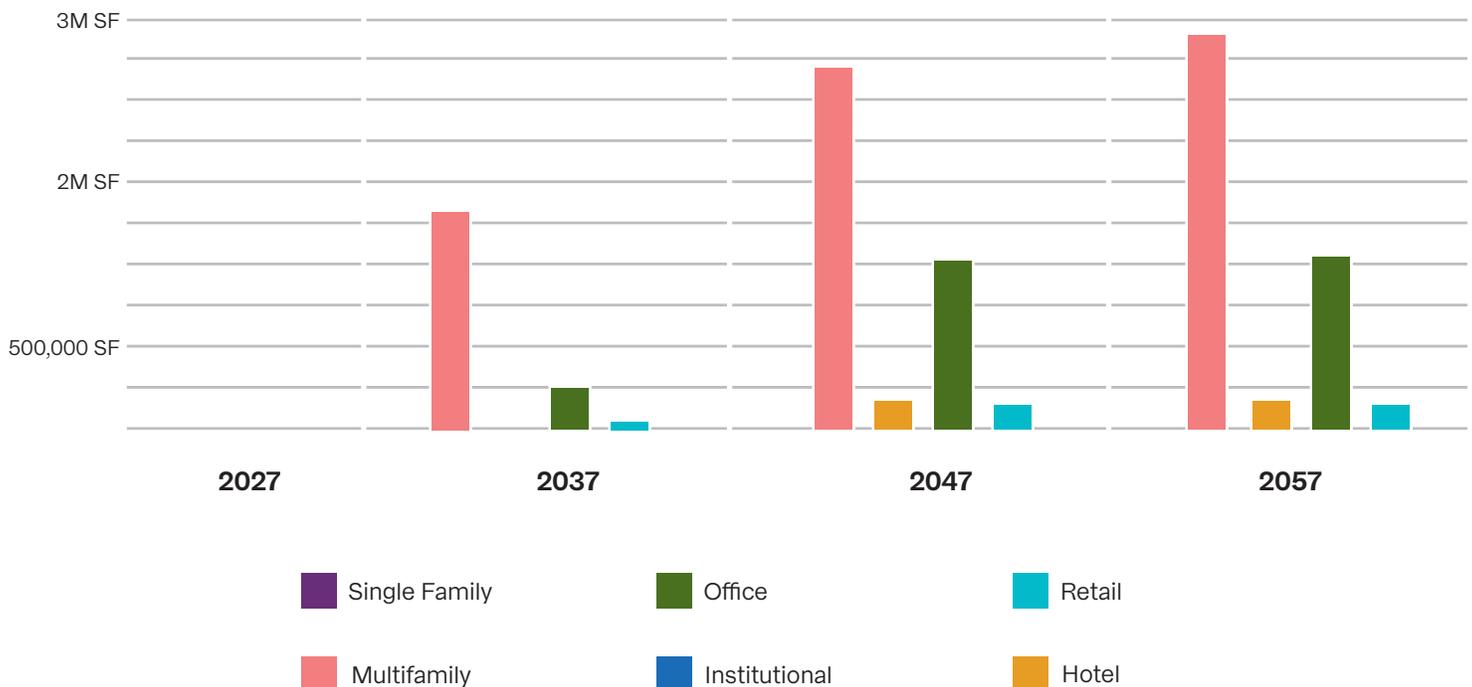
POTENTIAL NEW TAX REVENUES

NINTH STREET	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$319.6 Million	\$263.9 Million	\$197.4 Million	\$163.0 Million
Upper Estimate (65th Percentile)	\$432.4 Million	\$357.0 Million	\$267.0 Million	\$220.5 Million
Net New Property Value				
Lower Estimate (35th Percentile)	-	\$211.3 Million	\$310.9 Million	\$271.2 Million
Upper Estimate (65th Percentile)	-	\$285.8 Million	\$420.6 Million	\$366.9 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Lower Estimate (35th Percentile)	-	\$6.0 Million	\$47.0 Million	\$85.9 Million
Upper Estimate (65th Percentile)	-	\$8.1 Million	\$63.6 Million	\$116.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





NINTH STREET

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Add incremental commercial, mixed-use, and “missing middle” housing.

Rail +10 (2028 - 2037): Redevelopment of some aging commercial properties to support mixed-use.

Rail +20 (2038 - 2047): Where land permits, urban residential with wrapped parking decks to support growing commercial and housing needs.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

Improve or provide pedestrian and bike connections across the North Carolina Railroad at Broad Street, and via the underpass at Ninth Street, and improve Erwin Road pedestrian connections south of the Durham Freeway. Support incremental infill nearest the historic Ninth Street area. Support larger scale infill in the surrounding area.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Ninth Street station area:

- Anchor institution involvement
- Land banking
- Reduce barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)

ZONING STRATEGIES

Ninth Street is a downtown station area with many different zoning categories. The station itself is in the CD-C district surrounded by other Compact Districts CD-P, CD-S1 and CD-S2. Most of the station area is UC with parcels of RU-M, RU-5 and CN interspersed.

The Compact District zoning designations (CD) are intended to facilitate “transit-oriented development around light rail stations through various sub-districts.” These sub-districts include: Core (CD-C), Pedestrian (CD-P) and two support sub districts (CD-S1) and (CD-S2).

The Pedestrian Business sub-district (Ninth Street) (CD-P(N)) is created to protect the existing character along the east side of Ninth Street and to ensure that any new development on the west side of Ninth Street within the district is compatible with that character.

The CD Districts require nonresidential ground floor frontages along key corridors. They also allow residential densities that are supportive of transit including a minimum density and provide for an affordable housing density bonus of up to 75 units to the acre in any of the sub districts.

Much of the area surrounding the station is the University and College District (UC) which allows for “growth and development of colleges and universities, while protecting the larger community, nearby neighborhoods.” This district allows for potential redevelopment of Duke-owned lands, appropriately so with sufficient densities as successful transit-oriented development.

The remaining zoning designations in the Ninth Street station area are RU-M and RU-5. The RU districts

are gradients of urban residential densities with some limited nonresidential uses allowed. RU-M allows for Multifamily up to 20 units per acre with a development plan. RU-5 allows for eight units per acre.

Commercial Neighborhood (CN) is a reduction in scale of commercial activity intended to be closer to residential, provide for “walkable, pedestrian-oriented development that complements nearby residential neighborhoods. The district is not intended for use by major or large-scale commercial sales, service or automotive-oriented activities.”

PARKING STRATEGIES

The Ninth Street station area currently has minimal parking in the historic areas as well as rear and on-street parking. Future parking should continue to be located on the street and in the rear of buildings as it is developed. A garage may be warranted to support a large mixed-use or housing project, but generally, new development can tuck parking to the side or rear with limited interruption.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan for downtown stations			
Policy	Supply	N/A	Reduce required minimum parking for office and multifamily; consider constructing structured parking facility(s) for district	Repurpose as demand becomes less	
	Incentives	N/A	Require developers of office and retail uses to develop and execute shared parking agreements or participate in district parking; office tenants maintain a Travel Demand Management program		
	Pricing	N/A	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



NINTH STREET

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Ninth Street and Erwin Road Improvements

Improve Ninth Street and Erwin Road under NC 147

Timeframe: Rail +10
Cost: \$\$



District Parking

Establish an urban station district parking program through partnerships with developers of mixed-use and multifamily housing.

Timeframe: Pre-Rail
Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Provide water and sewer capacity improvements	Improve Ninth Street and Erwin Road under NC 147	-	-
	Establish an urban station district parking program	-	Complete street improvements along Ninth Street to Anderson Drive	-
Bike/Ped and Transit Support	Enhance the pedestrian and bike experience by including alleys as connections between blocks		-	-

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BUCHANAN BLVD





Buchanan Boulevard

Station Family: Urban Hub
 County: Durham
 City: Durham

WHY THIS STATION?

It provides access to historic West End and its reinvigorated commercial district, plus historic neighborhoods to the north and south as well as Duke’s Smith Warehouse and East Campus.

Like the Ninth Street station, the Buchanan Boulevard station is situated between the Durham Freeway to the south and the North Carolina Railroad to the north. Just north of the railroad is West Main Street, the southeastern corner of Duke’s East Campus and the western end of downtown Durham. Redevelopment of several parcels along West Main Street from single story retail to five to seven story multifamily is underway. Just north of the hotel is well intact residential with historic housing stock.

In the other direction, south along Buchanan, is the West End neighborhood, a historic neighborhood separated from downtown by the freeway. A few blocks south West Chapel Hill Street containing a mix of old and new businesses and widely varied character of buildings. To the west a renovated tobacco warehouse owned by Duke University containing a wide range of academic and support spaces.

Strengthening pedestrian and bike connections north and south will be essential for enhanced access to the surrounding neighborhoods.

ATTRIBUTES

- Opportunity for local and neighborhood-serving retail.
- Incremental, small footprint services and amenities that enhance the neighborhood fabric
- Predominant activity between 7 a.m. and 3 a.m.

STATION AREA CONTEXT





BUCHANAN BLVD

STATION DEVELOPMENT CONCEPT

Incremental development opportunities to retain character of the neighborhood-scaled retail center plus incremental infill.



- A** Continue the scale and density from West Village along Main Street to Buchanan Blvd
- B** Public space can serve as the connection between the station and key development when development is difficult due to environmental, easement or topographic interference
- C** Crossing underneath NC 147 should be improved with lighting, art and other elements to improve the north/south connection
- D** Smaller format housing to interface with existing neighborhoods
- E** Duke University's East Campus

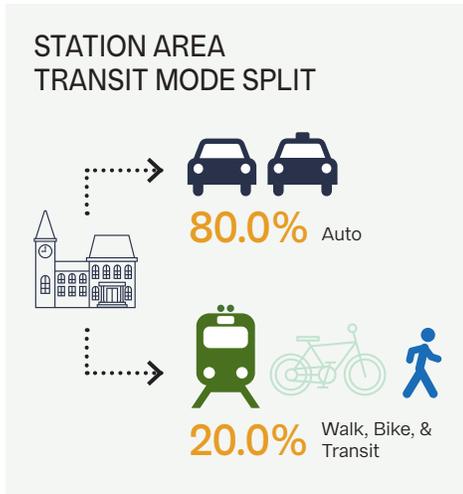


Varied scenarios of incremental redevelopment and improved connectivity.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

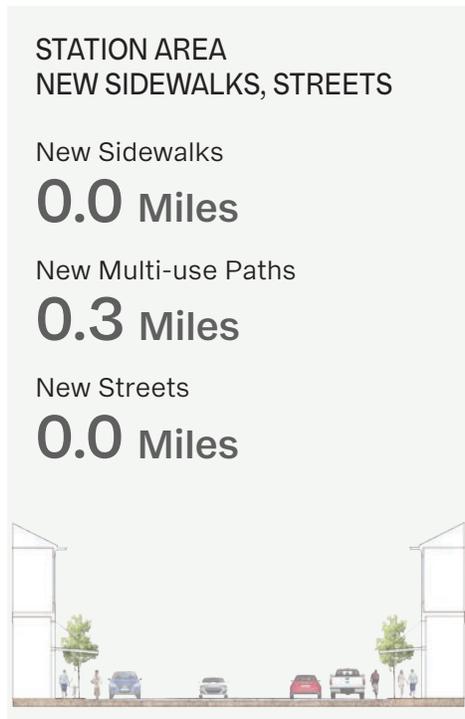
BUCHANAN BOULEVARD AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 190. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	0	0
Multifamily Residential	Dwelling Units	120	290
General Retail	Square Feet	25,000	25,000
General Office	Square Feet	350,000	350,000
Institutional	Square Feet	0	0
Hotel	Rooms	0	0



POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Buchanan Boulevard station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	197 Acres
Development Concept Area	21 Acres

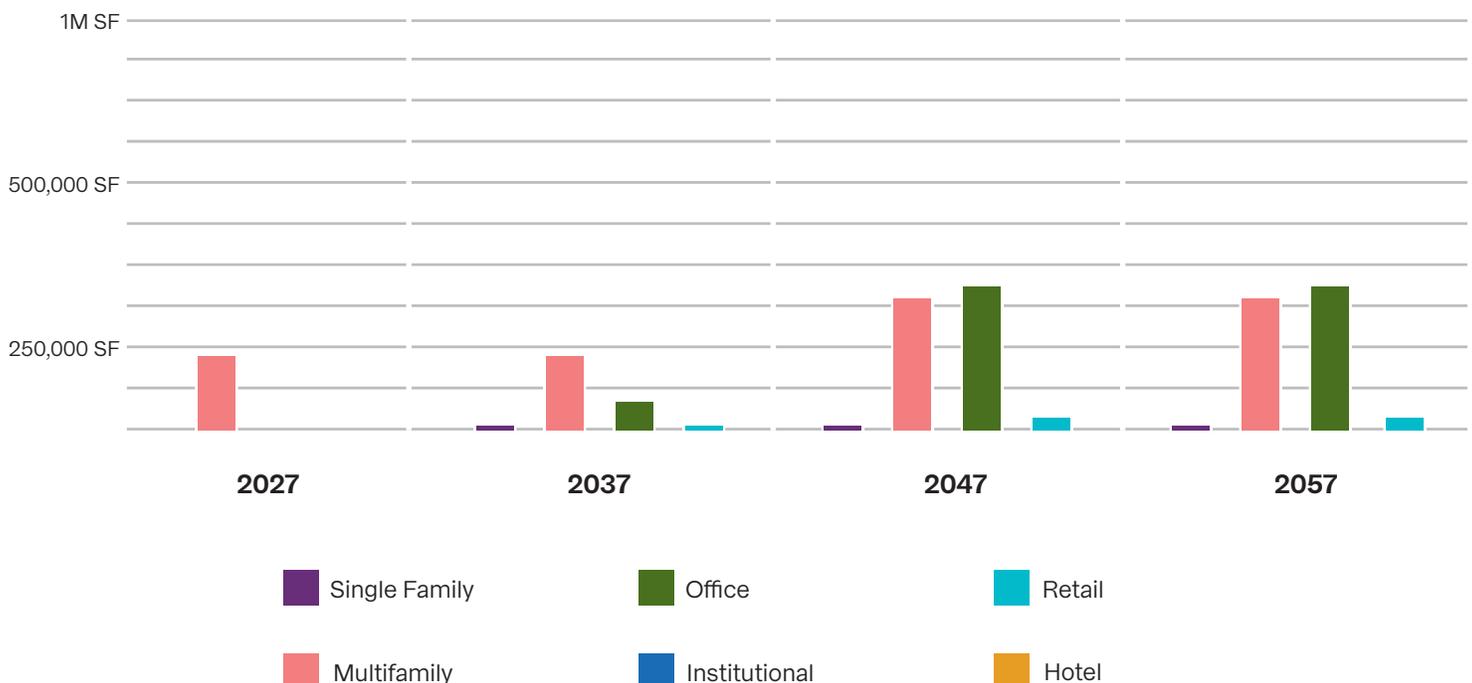
POTENTIAL NEW TAX REVENUES

BUCHANAN	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$170.8 Million	\$141.0 Million	\$105.5 Million	\$87.1 Million
Upper Estimate (65th Percentile)	\$231.1 Million	\$190.8 Million	\$142.7 Million	\$117.8 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$24.5 Million	\$32.6 Million	\$53.2 Million	\$43.9 Million
Upper Estimate (65th Percentile)	\$33.1 Million	\$44.0 Million	\$72.0 Million	\$59.4 Million

	2018 - 2017	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Low Estimate (35 Percentile)	\$3.9 Million	\$7.5 Million	\$13.3 Million	\$19.9 Million
Upper Estimate (65 Percentile)	\$5.3 Million	\$10.1 Million	\$18.0 Million	\$26.9 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





BUCHANAN BLVD

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Ongoing redevelopment of infill along Main Street and around station area.

Rail +10 (2028 - 2037): Mixed-use redevelopment of infill properties within close proximity to station.

Rail +20 (2038 - 2047): Continued mixed-use redevelopment.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

Several development projects are underway. Leading up to the station opening, additional projects will likely require some street and utility improvements. Attention to pedestrian and bike connectivity should be ongoing.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Buchanan Boulevard station area.

- Anchor institution involvement
- Reduce barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)
- Density bonus

ZONING STRATEGIES

Buchanan Boulevard is a downtown station area having several zoning districts. The station itself is in the DD-S1 district surrounded by DD-S2 and UC. Most of the station area is RU-5 with parcels of RU-M, OI and CN interspersed.

The Downtown Design (DD) District is established to encourage “transit-oriented development through regulations appropriate to the downtown area. It focuses on the form of the private and public realm instead of on use and intensity.” The Downtown Design District has several sub districts including support sub districts DD-S1 and DD-S2.

Other portions of the station area are in the University and College District (UC) which allows for “growth and development of colleges and universities, while protecting the larger community, nearby neighborhoods.”

The remaining zoning designations in the Buchanan station area are RU-M and RU-5. The RU districts are gradients of urban residential densities with some limited nonresidential uses allowed. RU-M allows for Multifamily up to 20 units per acre with a development plan. RU-5 allows for eight units per acre.

Office / Institutional (OI) District “is established for employment and community service activities...on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

Commercial Neighborhood (CN) is a reduction in scale of commercial activity intended to be closer to residential, provide for “walkable, pedestrian-oriented development that complements nearby residential neighborhoods. The district is not intended for use by major or large-scale commercial sales, service or automotive-oriented activities.”

PARKING STRATEGIES

The Buchanan Boulevard station area currently has surface parking that supports the existing development. Any new development will require less parking over time as new transit operations get implemented. The focus should be on a downtown district parking plan that would use this station area as a key garage site to support the greater downtown development area.

The table below details some of the specific strategies for parking.

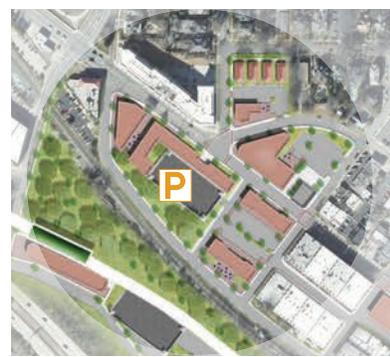
PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan for downtown stations			
Policy	Supply	N/A	Reduce required minimum parking for office and multifamily; consider constructing structured parking facility(s) for district	Repurpose as demand becomes less	
	Incentives	N/A	Require developers of office and retail uses to develop and execute shared parking agreements, or participate in the public parking district; office tenants maintain a Travel Demand Management program	Removal of parking for tax-generating uses	
	Pricing	N/A	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



BUCHANAN BLVD

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Bike/Pedestrian Improvements on Buchanan Blvd from Main to West Chapel Hill Street

Provide trail and/or bike/pedestrian connections between West Main Street and West Chapel Hill Street along Buchanan Boulevard

Timeframe: Pre-Rail

Cost: \$\$

District Parking

Establish an urban station district parking program that balances the needs of parking between station areas and support the provision of retail parking within the station areas as partnerships with developers of mixed-use development

Timeframe: Pre-Rail
Rail +10

Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Establish parking district for urban stations	Improve utility supply as deemed necessary		-
	NC 147 underpass improvements	-	-	-
Bike/Ped and Transit Support	Bike and pedestrian improvements on Buchanan from West Main Street to West Chapel Hill Street	-	-	-

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DURHAM STATION & BLACKWELL / MANGUM





Durham Station & Blackwell / Mangum Streets

Station Family: Urban Hub
County: Durham
City: Durham

WHY THESE STATIONS?

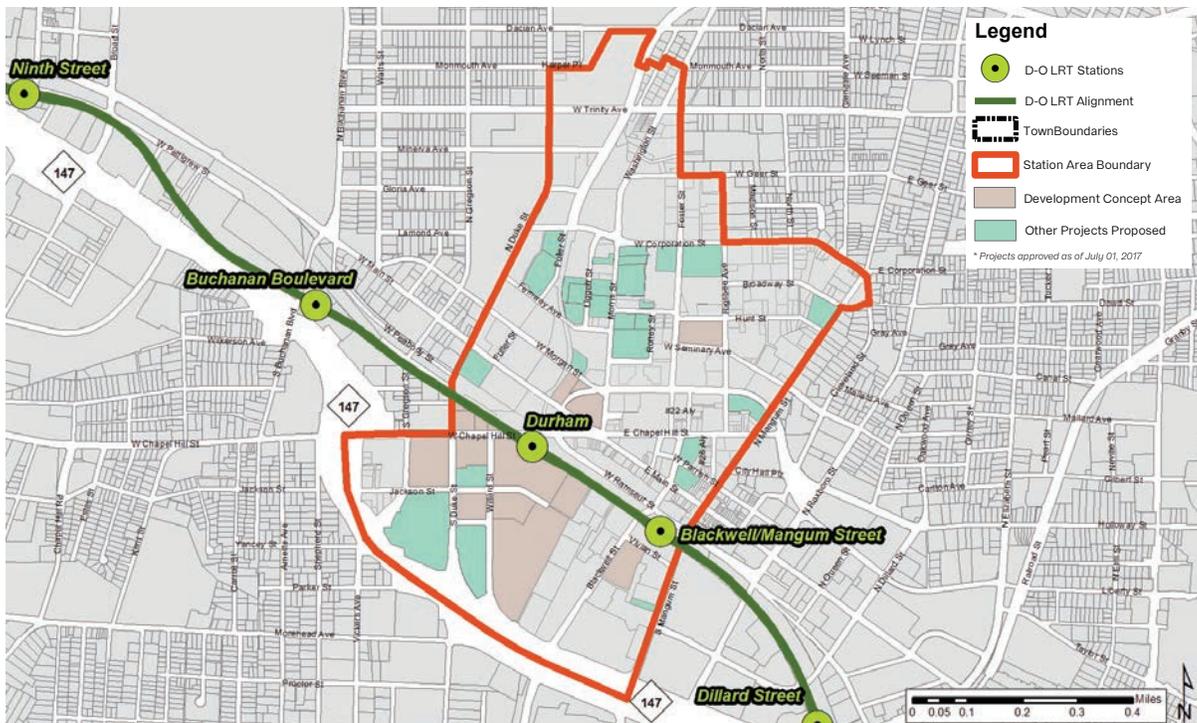
These stations both serve downtown, with one at the Durham Station Transportation Center providing GoDurham and GoTriangle bus connections and the other at the main north/south pedestrian spine and core of Durham’s Central Business District and special event venues.

Durham Station is the primary multimodal hub in Durham and on the western side of the Triangle, with GoDurham and GoTriangle buses, Megabus connections, Greyhound and Amtrak service all located within a few blocks. It also is located along the southern side of the North Carolina Railroad right-of-way. North of the tracks is the historic urban center while south is a new county courthouse, the Durham Bulls Athletic Park, and the successful American Tobacco District. Blackwell/Mangum Street station is located on the main north/south pedestrian axis through downtown extending from the American Tobacco Trail and Southside, through the American Tobacco District past the light rail line, then through Corcoran Plaza and on to Durham Central Park. Improved pedestrian and bike connections to the neighborhoods to the north and northeast, and to the south and west across NC 147 - are key for optimizing the light rail investment and expanding its benefits to the neighborhoods.

ATTRIBUTES

- Key railroad crossings - an underpass at Durham Station and a signature civic space that also provides north-south bike/ped mobility - to connect neighborhoods and future development.
- Diverse office, housing, retail, entertainment, and urban services and amenities.
- Predominant activity between 6 a.m. and 2 a.m.

STATION AREA CONTEXT

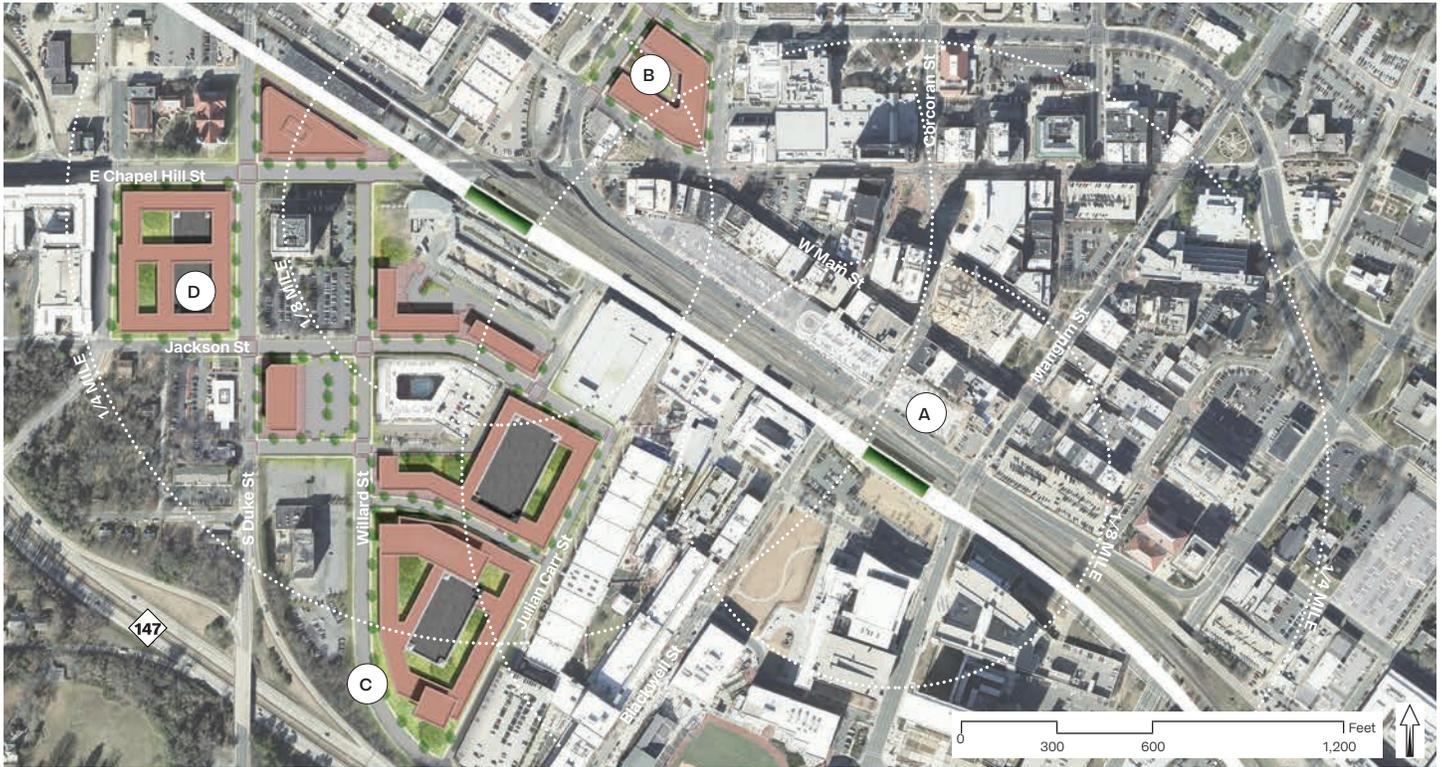




DURHAM STATION & BLACKWELL/MANGUM

STATION DEVELOPMENT CONCEPT

Certain properties are illustrated to show a range of redevelopment opportunities.



- A** Surface city-owned lots adjacent to Corcoran and along Ramseur offer an opportunity for infill redevelopment to draw activity to the north side of the tracks
- B** Mixed-use development to fill in the urban fabric and continue density from downtown
- C** Residential and mixed-use development infilling the connections to American Tobacco
- D** Hypothetical mixed-use development on the Police Headquarters site

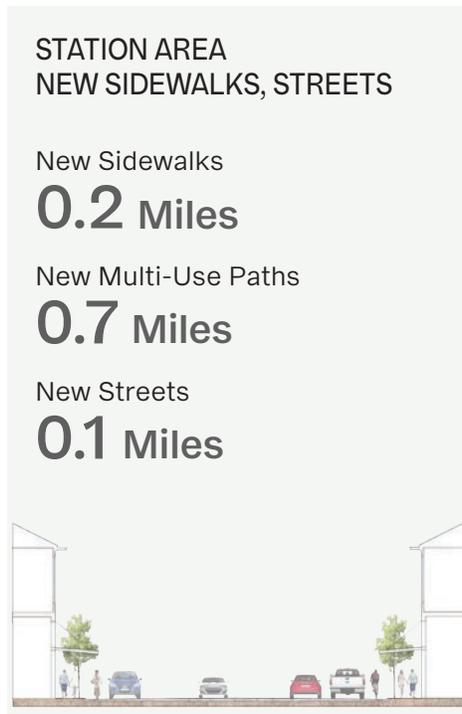
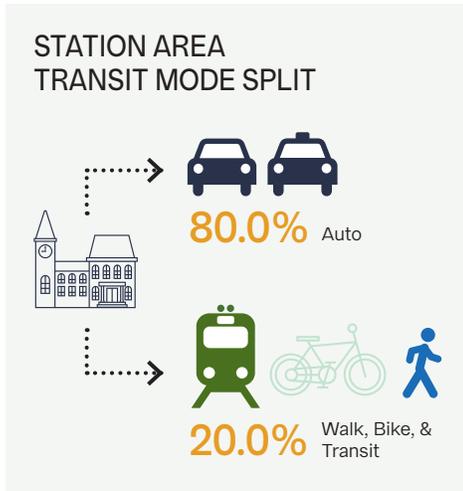
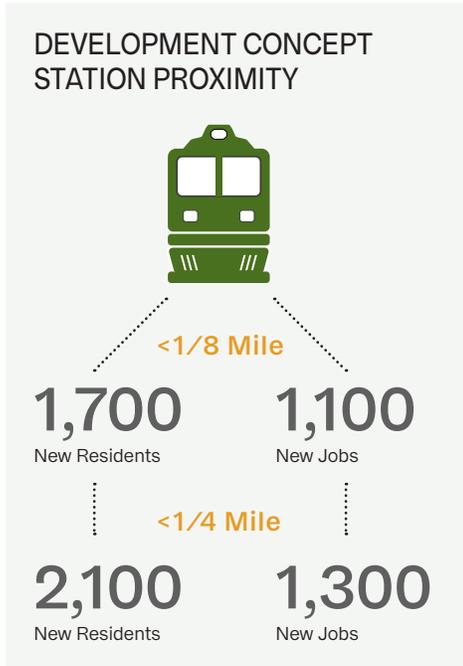


A wide range of redevelopment intensities, sites and uses are possible. Illustrative development is shown on several publicly-owned sites and is not necessarily representative of plans for those sites. These drawings were produced prior to plans for those sites being prepared.

This development concept represents "One Possible Future." The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

DURHAM STATION & BLACKWELL/MANGUM AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 200. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



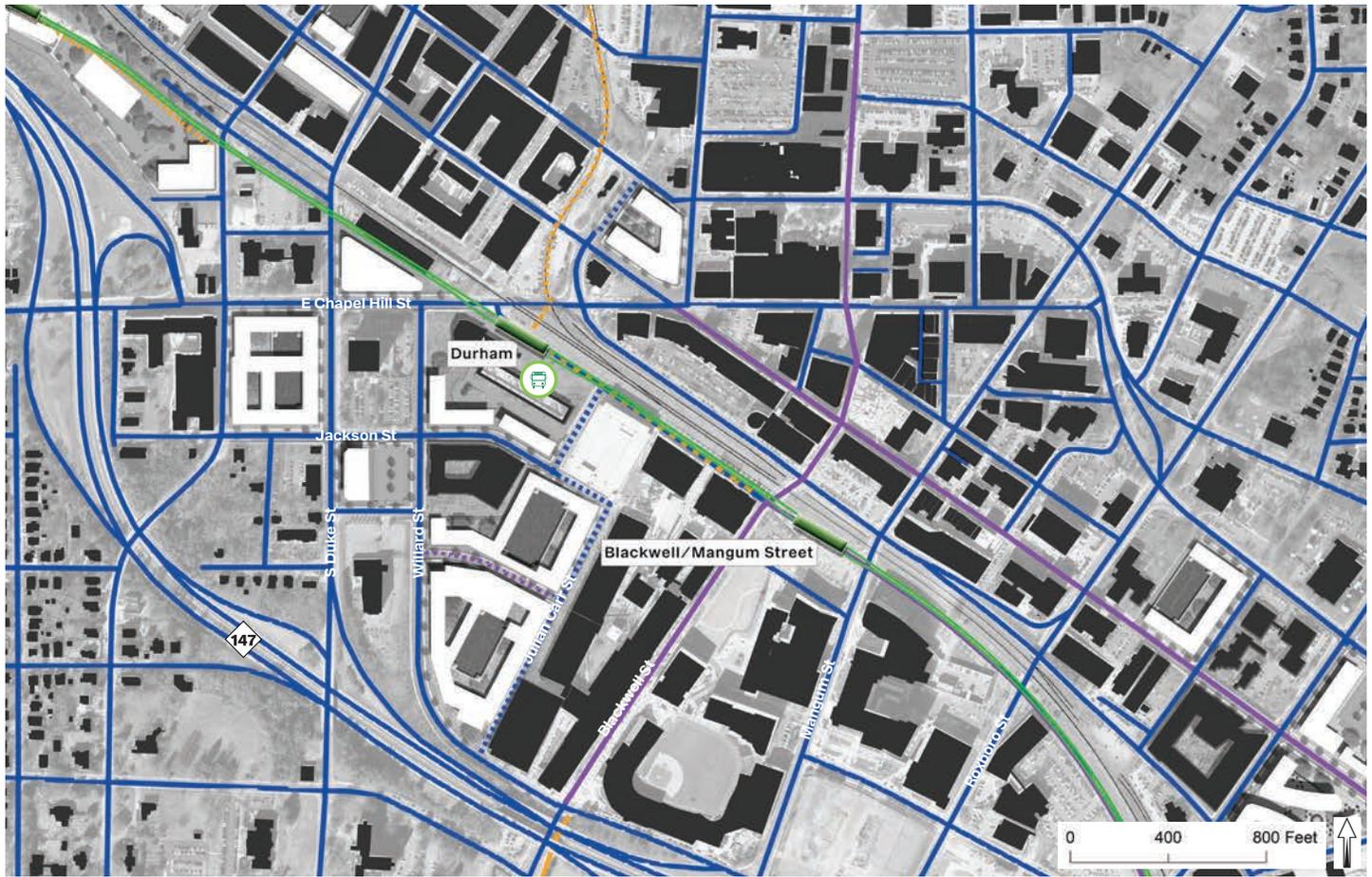


DURHAM STATION & BLACKWELL/MANGUM

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUE

The analysis below summarizes the potential new tax revenue for the Durham station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Areas	309 Acres
Development Concept Area	51 Acres

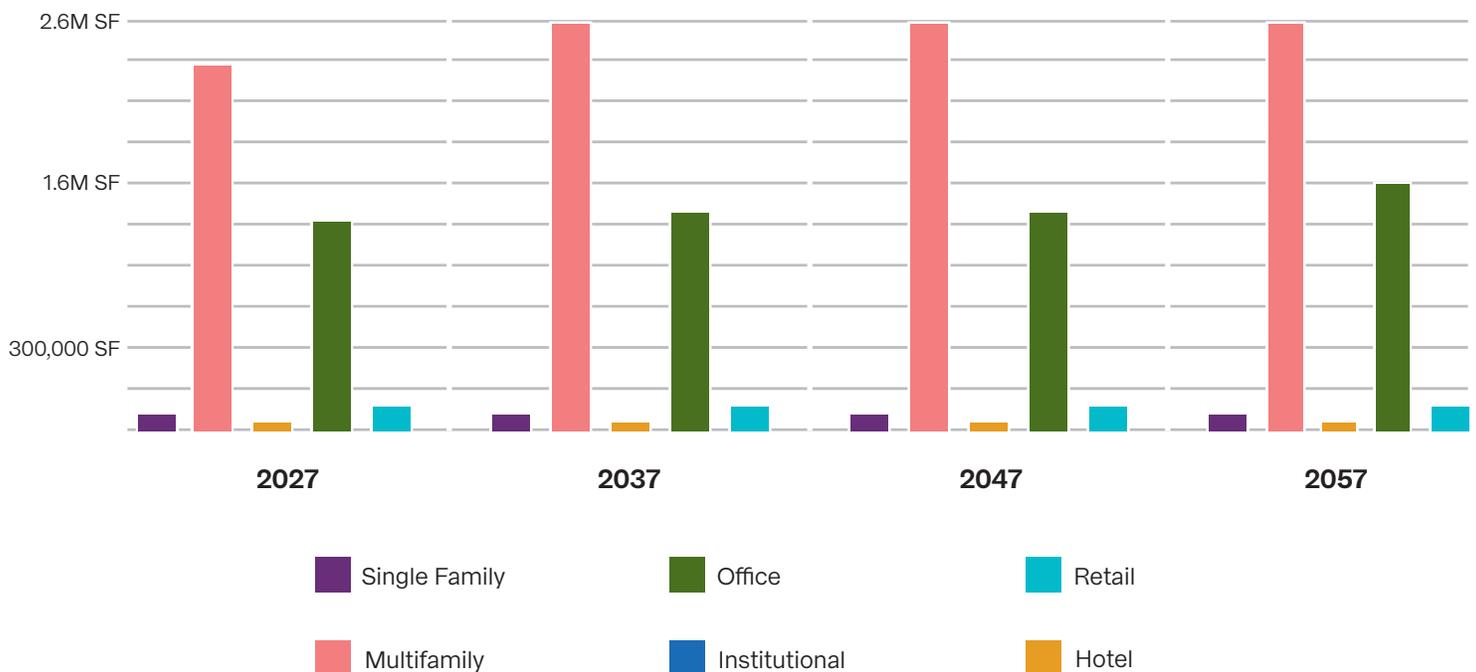
POTENTIAL NEW TAX REVENUE

DURHAM	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$663.0 Million	\$547.4 Million	\$409.5 Million	\$338.1 Milli
Upper Estimate (65th Percentile)	\$897.0 Million	\$740.6 Million	\$554.0 Million	\$457.4 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$550.9 Million	\$496.1 Million	\$371.1 Million	\$316.5 Million
Upper Estimate (65th Percentile)	\$745.4 Million	\$671.2 Million	\$502.0 Million	\$428.2 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Low Estimate (35 Percentile)	\$62.4 Million	\$135.8 Million	\$193.6 Million	\$241.2 Million
Upper Estimate (65 Percentile)	\$84.4 Million	\$183.7 Million	\$262.0 Million	\$326.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





DURHAM STATION & BLACKWELL/MANGUM

DURHAM STATION & BLACKWELL/MANGUM STATION AREA



Source: Gateway Planning

Anticipated Development Horizon

Pre-Rail (2018 - 2027): Build out of several projects that are underway and continued infill and redevelopment of office, residential and mixed-use.

Rail +10 (2028 - 2037): Continued development including a mix of uses to complement neighborhood services for the increasing downtown residential population.

Rail +20 (2038 - 2047): Additional employment opportunities.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

The focus for development within these stations will be to improve pedestrian and bike connections over the rail to downtown and around the stations to American Tobacco and other redeveloped sites.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Durham and Blackwell/Mangum station areas:

- Public housing redevelopment
- Leverage new property values to fund affordable housing and requisite infrastructure
- Disposition or development of publicly-owned property
- Repair assistance for low-income homeowners

ZONING STRATEGIES

Downtown Durham is within the Downtown Design District, which has three sub-districts. The stations itself is in the Core (DD-C) sub district surrounded by DD-S1. The Downtown Design (DD) District is established to encourage “transit-oriented development through regulations appropriate to the downtown area. It focuses on the form of the private and public realm instead of on use and intensity.”

PARKING STRATEGIES

The Durham Station and Blackwell/Mangum station area currently has a mix of garage and surface parking supporting current development.

Future considerations for parking should include on-street parking within the district as existing streets are improved. Development is already occurring on existing surface lots and the establishment of a district parking master plan, including operations and pricing packages, will support a clearer and more efficient parking program in the long-term.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan for downtown stations			
Policy	Supply	Maintain parking usage data for existing parking spaces	Lower maximum parking for office and multifamily; maximize use of existing spaces and evaluate construction of new parking spaces		Repurpose as demand becomes less
	Incentives	Off street, publicly accessible garages	Require developers of office and retail uses to develop and execute shared parking agreements, or to participate in public parking district; office tenants maintain a Travel Demand Management program		N/A
	Pricing	Conduct market study	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation in coordination with Dillard Street station, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program in coordination with Dillard Street station	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



DURHAM STATION & BLACKWELL/MANGUM

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Complete Two-Way Street Improvements

Complete the two-way conversion of Ramseur Street with sidewalks and bike accommodations

Timeframe: Pre-Rail

Cost: \$\$

Blackwell/Corcoran Connector

Bike/ped connection across railroad tracks is catalytic to development around station

Timeframe: Pre-Rail
Rail +10

Cost: \$\$\$\$

District Parking

Establish an urban station district parking program balancing needs of office, residential, retail, and entertainment venues in partnership with development and property owners

Timeframe: Pre-Rail

Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Two-way street improvements to coincide with multimodal improvements by station opening	Utility improvements as deemed necessary to continue redevelopment	-	Utility improvements as deemed necessary to continue redevelopment
Bike/Ped and Transit Support	Bike and pedestrian connectivity and transit support for high quality connections between the south side and north side serving Blackwell/Mangum station area		Continue trail and complete street renovations within the station area	
	Construction of the connection between the Belt Line Trail and American Tobacco Trail			

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DILLARD STREET





Dillard Street

Station Family: Urban Hub
 County: Durham
 City: Durham

WHY THIS STATION?

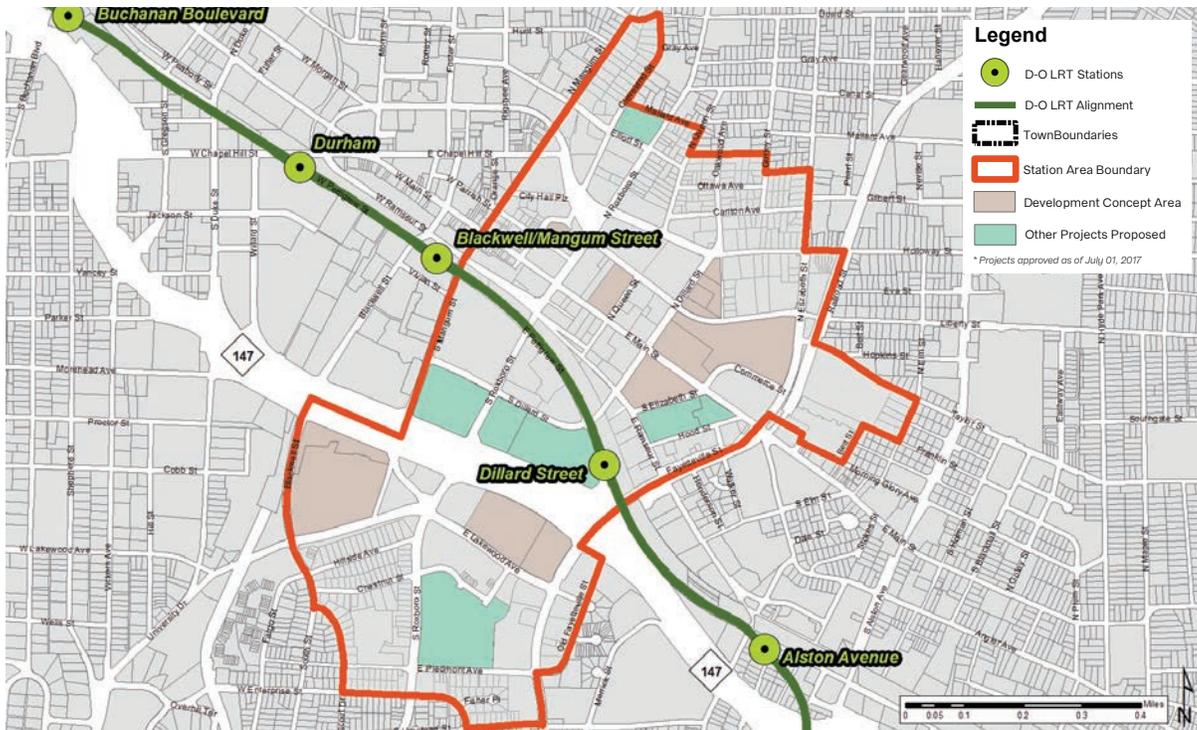
Serves the eastern end of downtown including the government services district.

The Dillard Street station area encompasses eastern portions of downtown adjacent to new multi-story urban housing. Just north of the station via an at-grade crossing of the mainline railroad is a wide mix of government services, housing authority properties, religious and non-profit entities, and a transitioning fabric of mostly single-story industrial spaces. Redevelopment of underutilized parcels and surface parking lots with a carefully curated transition of the existing street-oriented industrial buildings into maker spaces and other adaptive reuse will allow the distinctive character of the area to be enhanced while improving accessibility to the neighborhoods to the north.

ATTRIBUTES

- Cultivate and preserve the industrial-style buildings mixed with larger format new urban development.
- Reposition industrial fabric to artisan maker spaces and a production context.
- Focus on making comfortable, safe connections to nearby neighborhoods.
- Predominant activity between 7 a.m. and midnight

STATION AREA CONTEXT

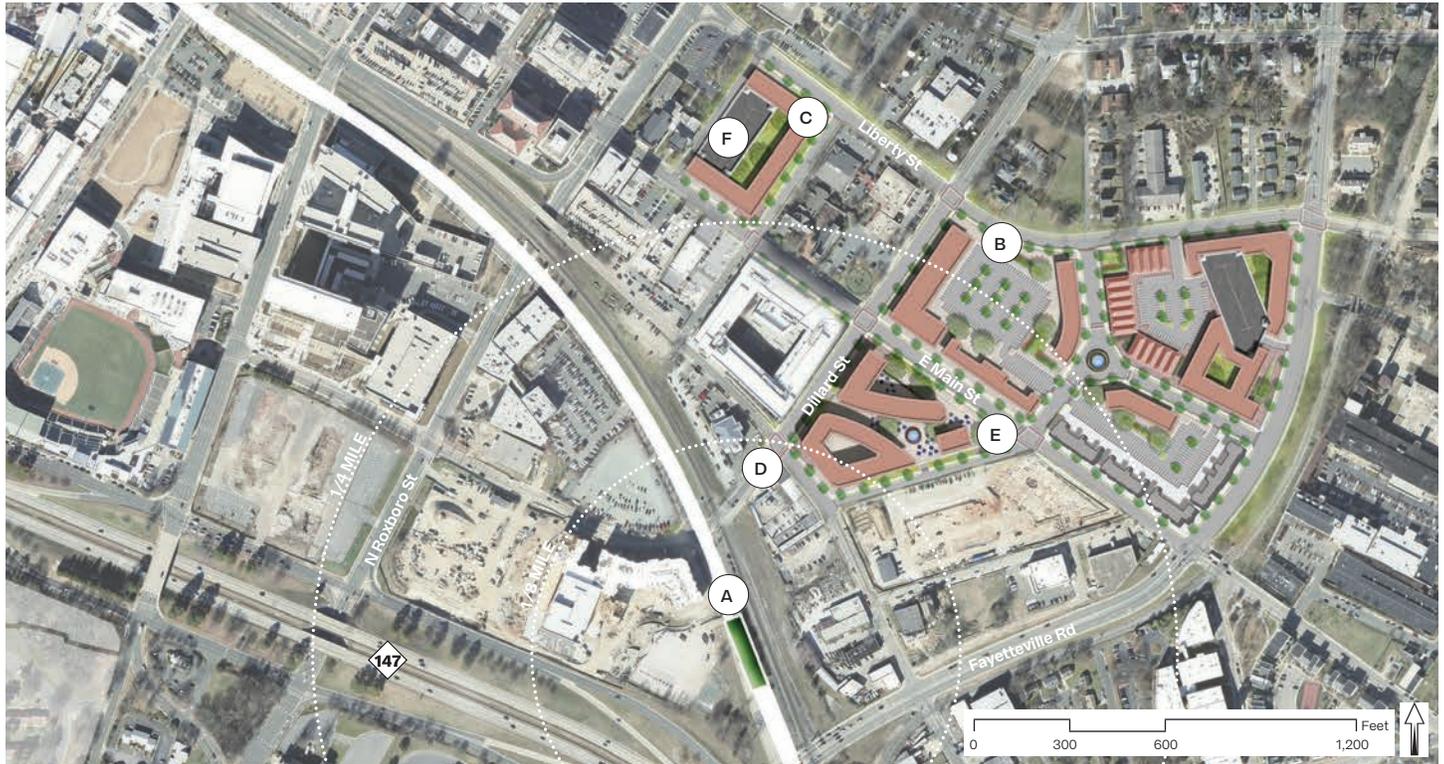




DILLARD ST

STATION DEVELOPMENT CONCEPT

Certain properties were shown with urban redevelopment to illustrate a range of options



- A** Station located adjacent to new mixed-use residential
- B** Redevelopment of aging housing authority property to be mixed-use with employment, while also maintaining the same or more affordable units
- C** Use existing parking lots to provide garage with liner building to screen the parking
- D** Enhance the existing road network for wider pedestrian spaces and public pocket spaces
- E** Redevelopment of county parking lot with mixed-use, public plaza and ground floor restaurant and entertainment
- F** Durham County property

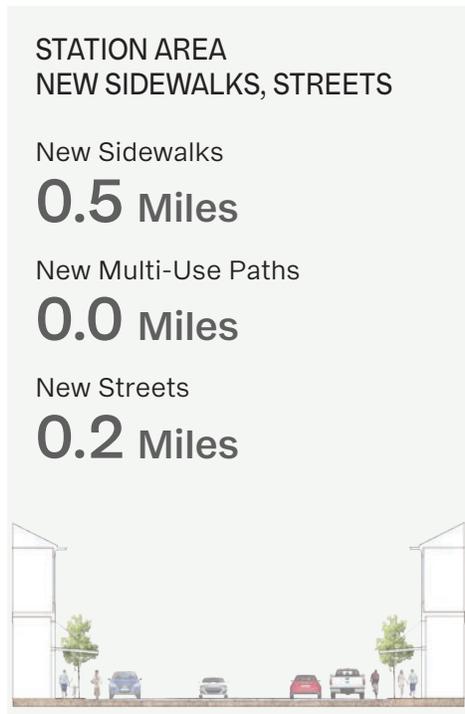
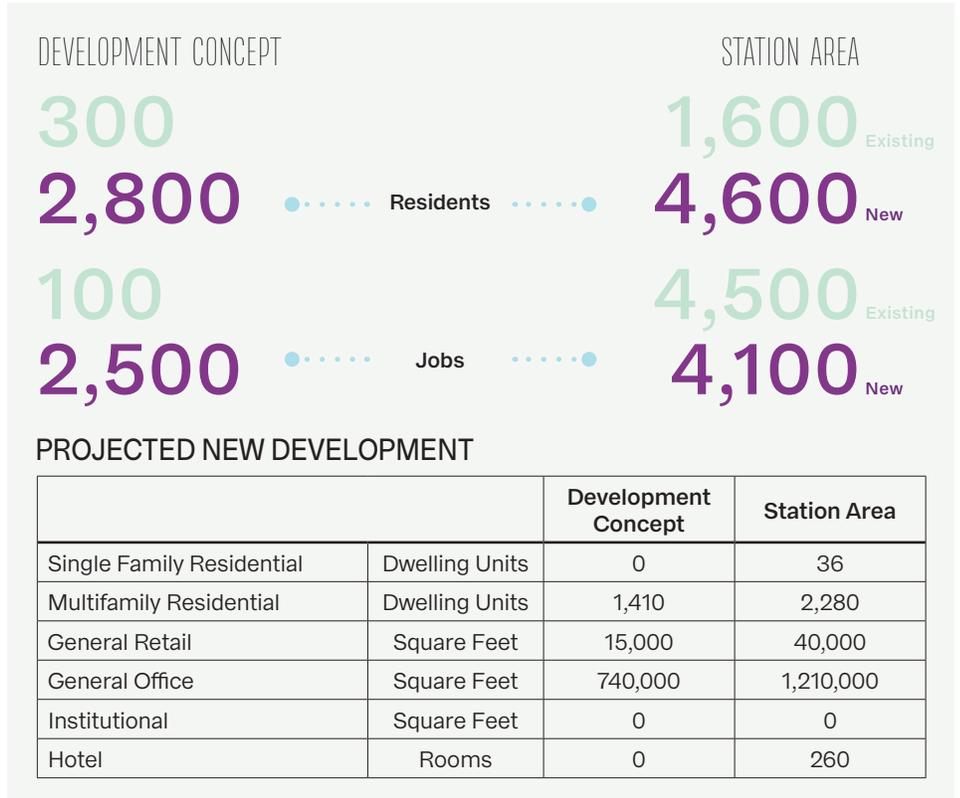
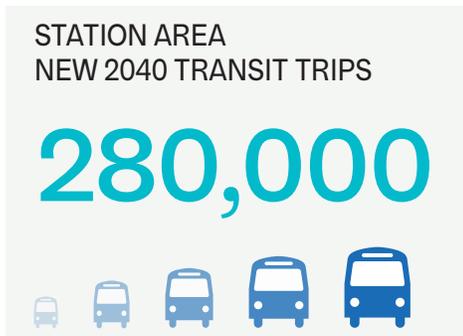
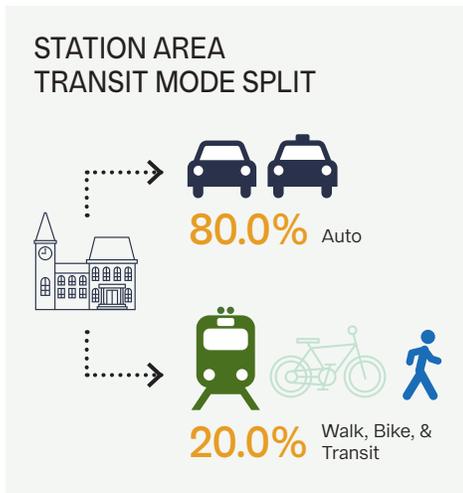
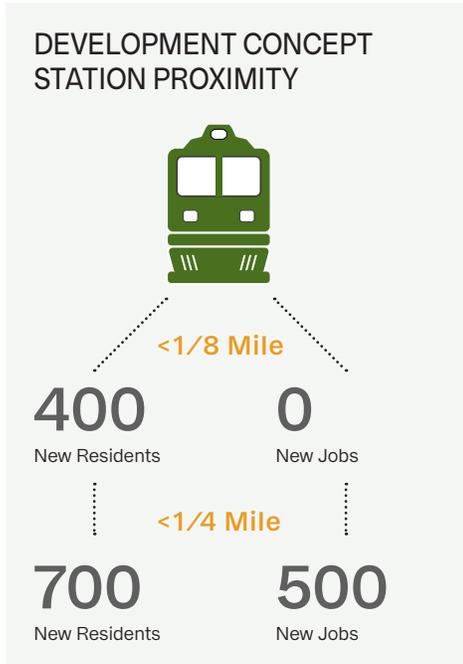


Wide range of development intensities, particularly for housing authority lands to the north. Illustrative development is shown on several publicly owned sites and is not necessarily representative of plans for those sites. These drawings were produced prior to plans for those sites being prepared.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

DILLARD STREET AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 210. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.





DILLARD ST

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUES

The analysis below summarizes the potential new tax revenue for the Dillard Street station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	312 Acres
Development Concept Area	47 Acres

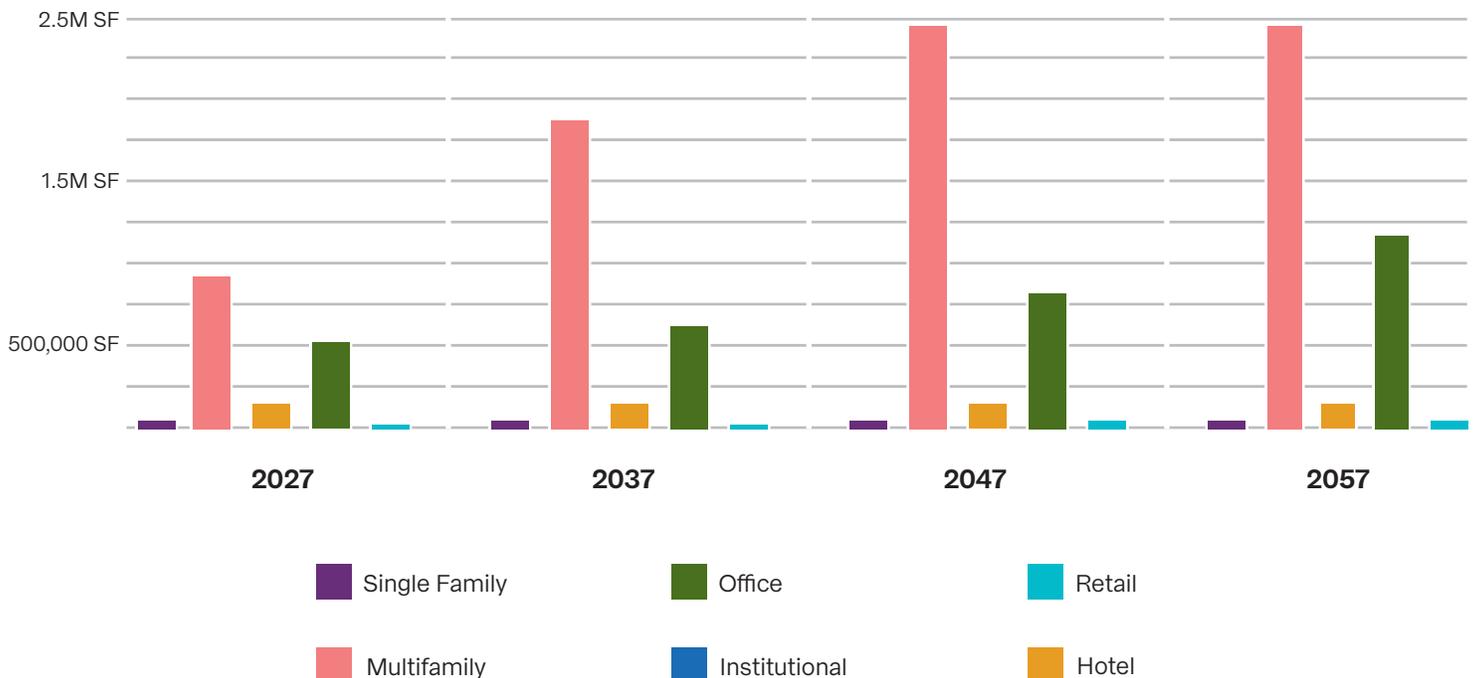
POTENTIAL NEW TAX REVENUES

DILLARD STREET	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$368.2 Million	\$304.0 Million	\$227.4 Million	\$187.7 Million
Upper Estimate (65th Percentile)	\$498.2 Million	\$411.3 Million	\$307.7 Million	\$254.0 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$274.9 Million	\$368.5 Million	\$346.5 Million	\$307.4 Million
Upper Estimate (65th Percentile)	\$372.0 Million	\$498.6 Million	\$468.8 Million	\$415.9 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Low Estimate (35 Percentile)	\$38.1 Million	\$85.3 Million	\$131.8 Million	\$177.5 Million
Upper Estimate (65 Percentile)	\$51.5 Million	\$115.4 Million	\$178.4 Million	\$240.2 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





Anticipated Development Horizon

Pre-Rail (2018 - 2027): Additional urban residential including affordable housing, and additional neighborhood services to support continued growth of the area.

Rail +10 (2028 - 2037): Redevelopment of housing authority lands as mixed-use redevelopment providing at least the same number of or more affordable housing units.

Rail +20 (2038 - 2047): Continued redevelopment of underutilized parking lots and housing authority parcels with attention to shaping the public realm with civic spaces as an urban amenity.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

Ongoing development supporting additional services, amenities, and a broad housing stock; improving connectivity as development progresses.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Dillard Street station area:

- Public housing redevelopment
- Disposition of publicly-owned property
- Repair assistance for low-income homeowners
- Incentivize landlords to rehabilitate and preserve affordable housing

ZONING STRATEGIES

Dillard Street is a downtown station area having several zoning districts. The station itself is in the DD-S1 district surrounded by DD-C, DD-S2, OI and RU-M.

The Downtown Design (DD) District is established to encourage “transit-oriented development through regulations appropriate to the downtown area. It focuses on the form of the private and public realm instead of on use and intensity.” The Downtown Design District has several sub districts including core (DD-C) and support sub districts (DD-S1) and (DD-S2).

Office / Institutional (OI) District “is established for employment and community service activities... on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.”

The RU districts are gradients of urban residential densities with some limited nonresidential uses allowed. RU-M allows for multifamily up to 20 units per acre with a development plan.

PARKING STRATEGIES

The Dillard Street station area currently has parking that supports current development and the majority of parking is surface. Additionally, within the station area is the large county parking lot.

The evolution of surface parking within downtown Durham is already occurring and a focus on an

innovative form for parking garages, i.e., underground, shared, unbundled, will support a better walking environment for pedestrians within the station area. In order to fulfill the demand for parking in this district and greater station area, a parking master plan is essential.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan for downtown stations			
Policy	Supply	Maintain parking usage data for existing	Reduce required minimum parking for office and multifamily; consider constructing structured parking facility(s) for district		Repurpose as demand becomes less
	Incentives	Require developers of office and retail uses to develop and execute shared parking agreements, or participate in the public parking district; office tenants maintain a Travel Demand Management (TDM) program			
	Pricing	Conduct market study	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation in coordination with Durham and Blackwell/Mangum stations, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program in coordination with Durham and Blackwell/Mangum stations	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Bike/Ped Improvements across NC 147

Improve Fayetteville overpass and Roxboro underpass for bicycle and pedestrian connections across NC 147

Timeframe: Pre-Rail

Cost: \$\$



District Parking

Establish an urban station district parking program balancing the needs of office, residential, retail and entertainment venues in partnership with development and property owners

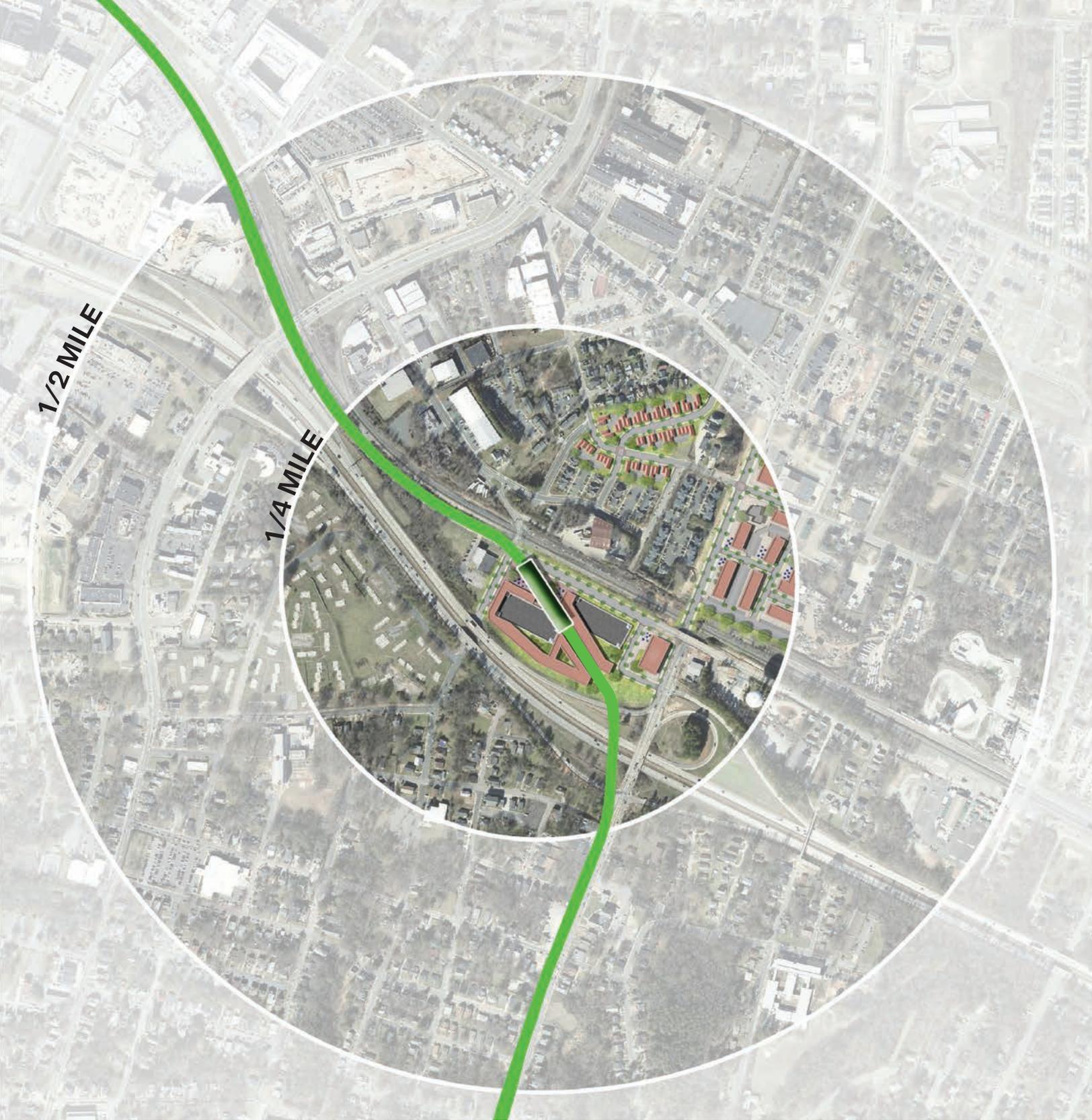
Timeframe: Pre-Rail

Cost: \$\$

PUBLIC INVESTMENT PRIORITIZATION

INVESTMENT	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Pedestrian and bike improvements extending south of NC 147 on Roxboro and Fayetteville Streets	-	-	-
Bike/Ped and Transit Support	Fill in gaps in pedestrian streetscape in key missing connections where redevelopment has occurred		-	-

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ALSTON AVENUE





Alston Avenue

Station Family: Urban Hub
County: Durham
City: Durham

WHY THIS STATION?

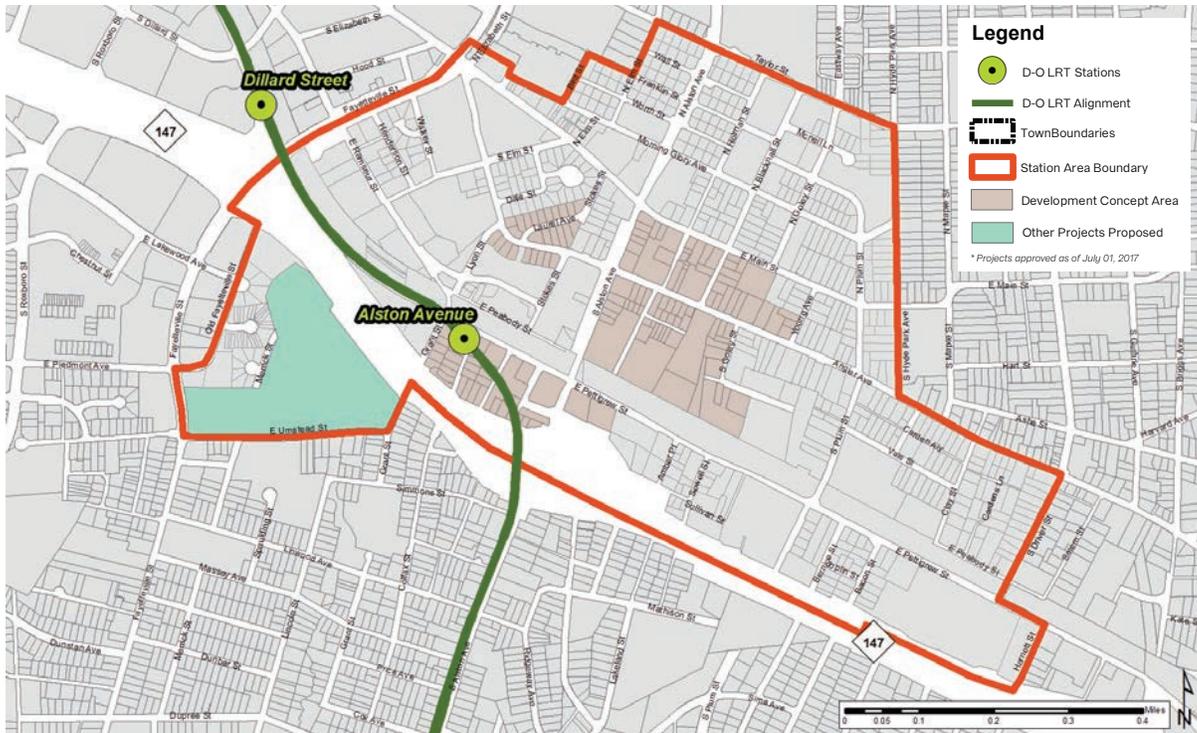
The last station north of NC 147 serving neighborhoods to the north and east of downtown; also provides park and ride access from Alston Avenue and the Durham Freeway (NC 147).

The Alston Avenue station must balance connectivity challenges north across the railroad tracks to existing urban neighborhoods, south beneath NC 147 to the Housing Authority redevelopment of the Fayetteville Street Apartment site and nearby neighborhoods, and east to a park-n-ride serving commuters inbound to the system from NC 147. The immediate station area must be a comfortable, interesting, and safe destination for pedestrians and bicyclists arriving from the north and the south. Public/private partnerships providing a range of mixed-income housing are needed to best frame the walkable streets, trails, and pathways necessary for improved connectivity and access to these surrounding neighborhoods, again with an emphasis on connecting both to the north and the south.

ATTRIBUTES

- North-south connections are critical to activate the station area.
- Creating an activated urban space at the station is important to provide identifiable place as an interesting, desirable, and comfortable destination.
- Development driven by public-private partnerships, neighborhood services, etc.
- Predominant activity between 9 a.m. and 7 p.m.

STATION AREA CONTEXT

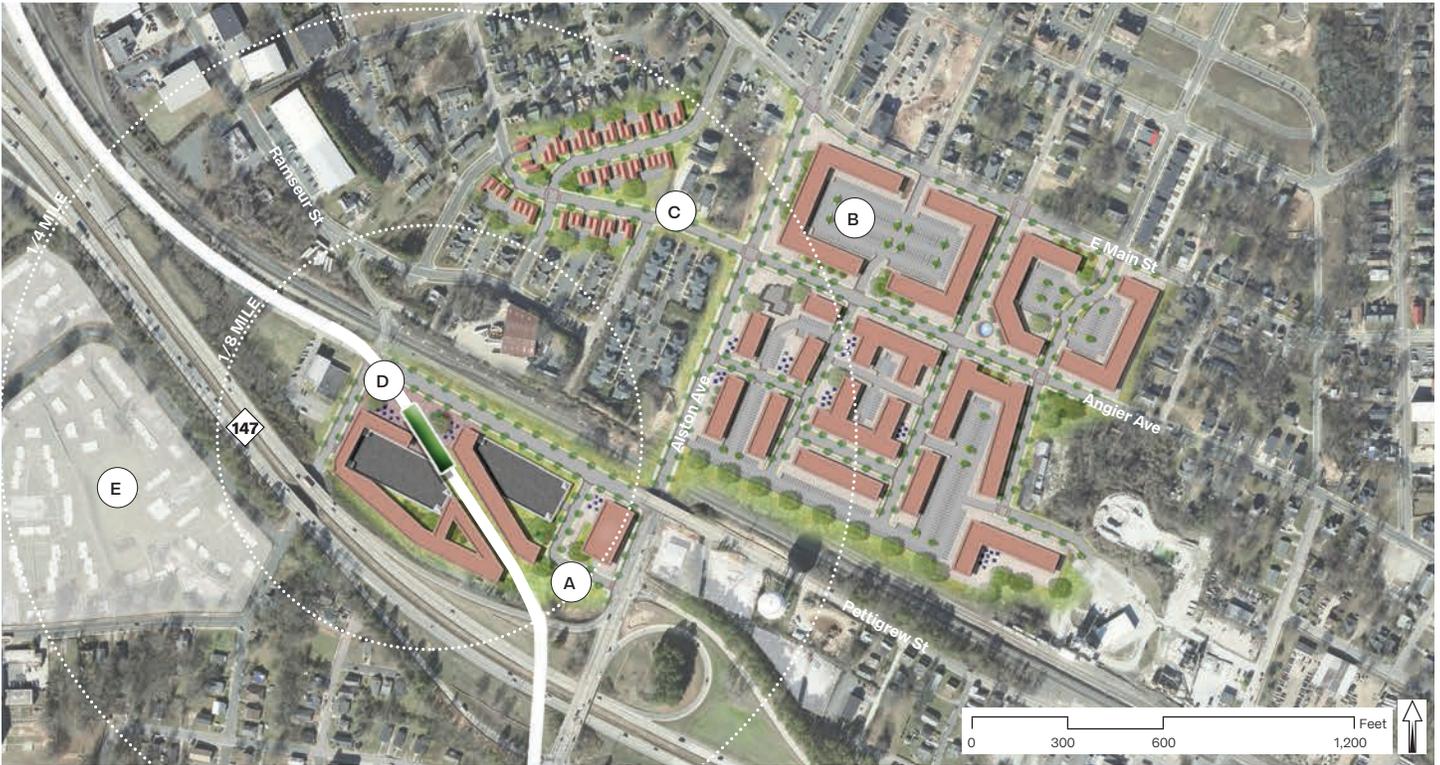




ALSTON AVENUE

STATION DEVELOPMENT CONCEPT

Certain redevelopment sites are shown with a range of intensities and configurations.



- A** Infill mixed-use to create a draw to the corner and minimize the impact of the grade separation between Alston and Pettigrew
- B** Redevelopment of aging, underutilized property for mixed-use, mixed-income development
- C** Rezone single family lots to allow multiple units and shared driveways to allow vacant housing authority lots to be redeveloped with “right-sized” housing for the budgets of future users. Ideally these would be used for home-ownership opportunities
- D** Station sitting at the corner along with a public plaza to build a synergy at the intersection. Development would include the improvement of Grant Street to provide access to station from the former Fayetteville Street Apartments future redevelopment
- E** Redevelopment of the Fayetteville Apartments Site by the Durham Housing Authority

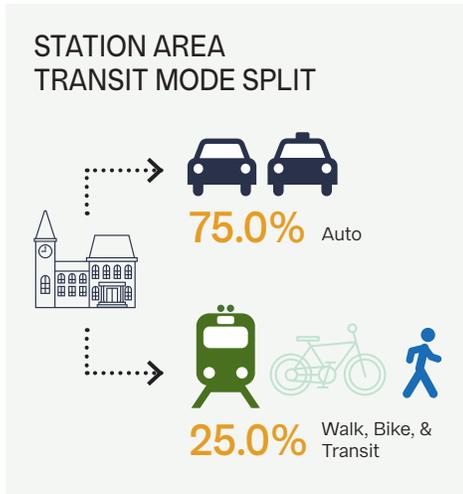
A wide variety of redevelopment typologies could unfold in this area, particularly through the influence of housing authority redevelopment projects underway or anticipated.

This development concept represents “One Possible Future” for the year 2057. The actual outcome will be shaped by the private market’s response to zoning, regulatory, and public investment decisions made by the Durham City Council.



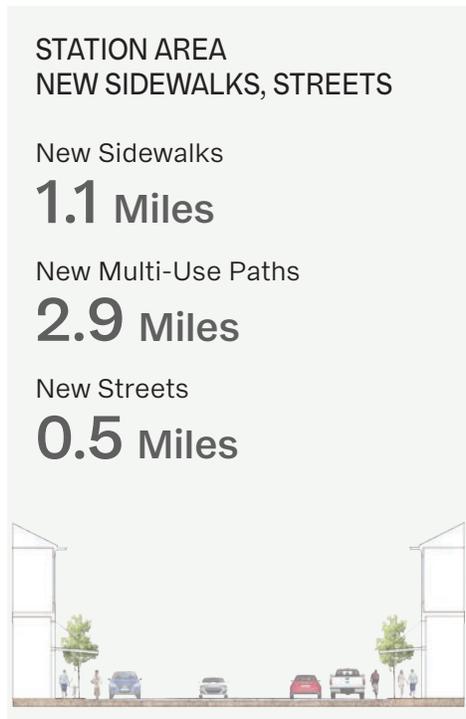
ALSTON AVENUE AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 220. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

		Development Concept	Station Area
Single Family Residential	Dwelling Units	50	50
Multifamily Residential	Dwelling Units	1,230	2,630
General Retail	Square Feet	20,000	30,000
General Office	Square Feet	110,000	110,000
Institutional	Square Feet	0	0
Hotel	Rooms	0	0



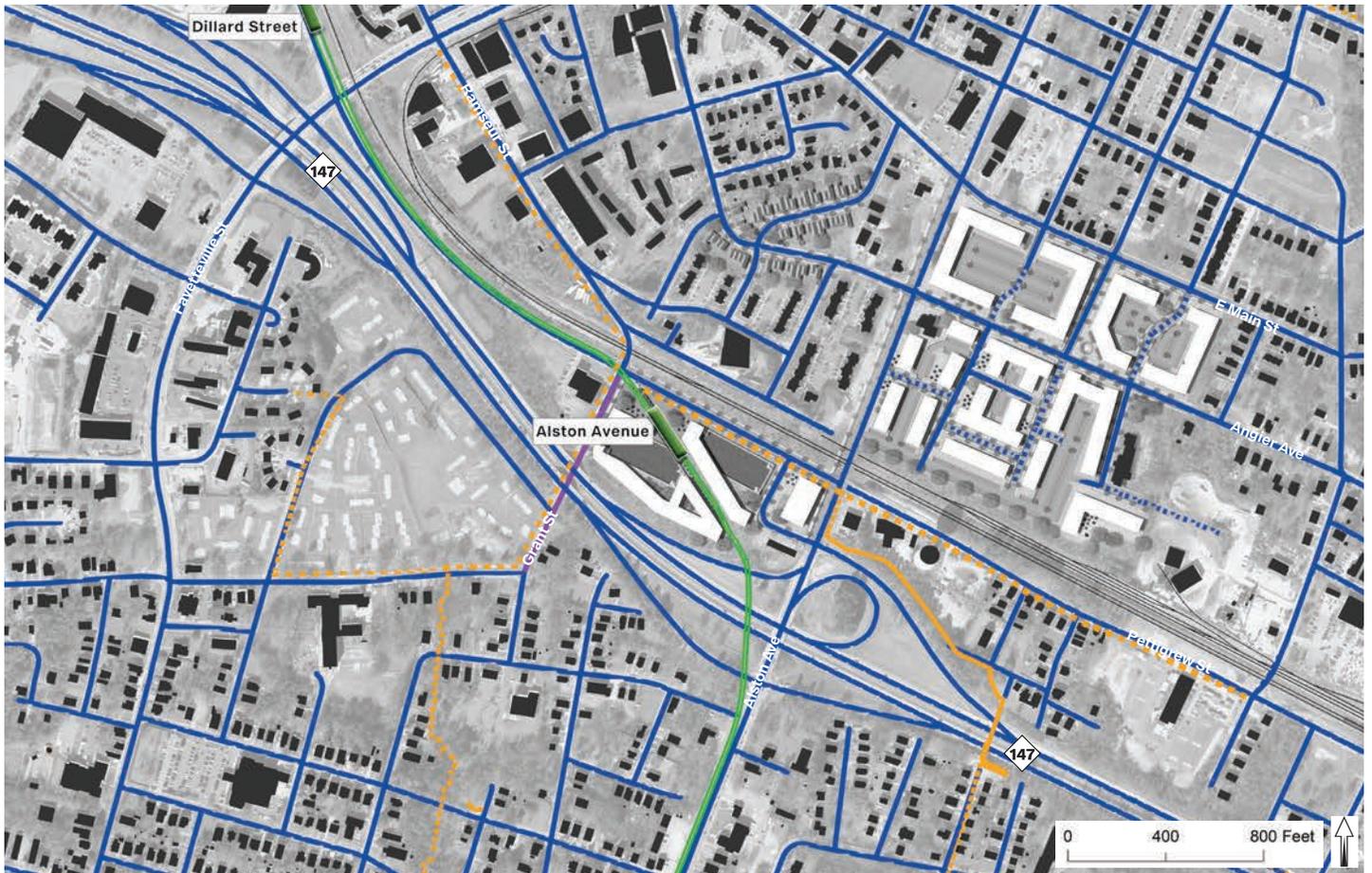


ALSTON AVENUE

STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Proposed Future Streets
- Existing Multi-Use Path
- Light Rail Alignment
- Existing Streets
- Proposed Multi-Use Path
- Development Concept Area
- Bike/Ped Priority Streets (Proposed)
- Proposed Bus Connections
- Existing Structure
- Bike/Ped Priority Streets (Existing Street Retrofitted)

POTENTIAL NEW TAX REVENUE

The analysis below summarizes the potential new tax revenue for the Alston Avenue station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	328 Acres
Development Concept Area	83 Acres

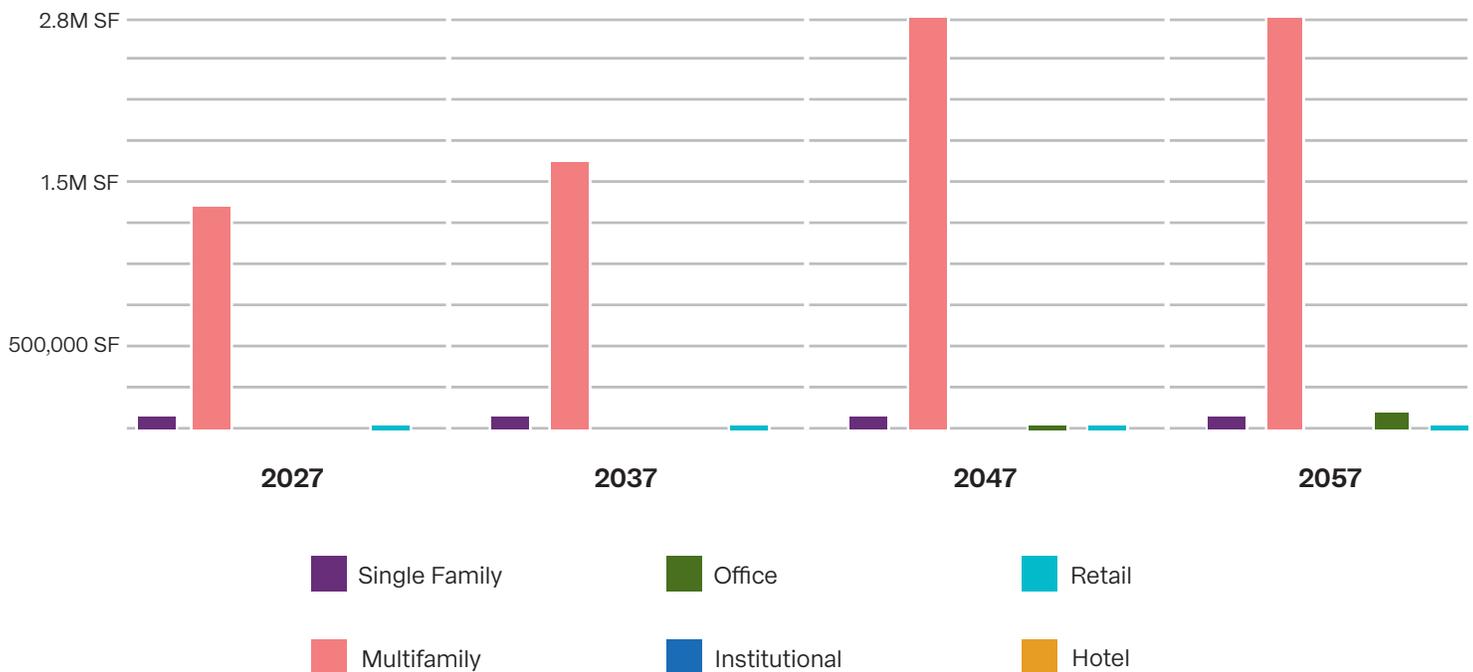
POTENTIAL NEW TAX REVENUE

ALSTON AVENUE	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$53.4 Million	\$44.1 Million	\$33.0 Million	\$27.2 Million
Upper Estimate (65th Percentile)	\$72.3 Million	\$59.7 Million	\$44.6 Million	\$36.8 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$221.0 Million	\$215.1 Million	\$209.4 Million	\$184.5 Million
Upper Estimate (65th Percentile)	\$299.0 Million	\$291.0 Million	\$283.3 Million	\$249.6 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Low Estimate (35 Percentile)	\$19.0 Million	\$46.1 Million	\$75.8 Million	\$102.5 Million
Upper Estimate (65 Percentile)	\$25.8 Million	\$62.4 Million	\$102.5 Million	\$138.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





Anticipated Development Horizon

Pre-Rail (2018 - 2027): Infill opportunities on private lands and on housing authority property south of NC 147.

Rail +10 (2028 - 2037): Mixed-use and housing redevelopment of housing authority properties north of the rail; creation of a sense of place and urban destination in the immediate station area.

Rail +20 (2038 - 2047): Infill and redevelopment of walkable urbanism, contextually appropriate with surrounding neighborhood fabric.

Rail +30 (2048 - 2057): Long-term development opportunities at station area.

Investment Phasing

Strategic and intentional redevelopment of significant housing authority lands south of NC 147 to be transit-supportive with safe, comfortable, and attractive connections from the Grant Street underpass to the Fayetteville Street Apartments site. Other lands may be landbanked for densities as appropriate, with redevelopment shaping better pedestrian and bike connections in the area.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the Alston Avenue station area:

- Public housing redevelopment
- Land banking
- Repair assistance for low-income homeowners
- Incentivize landlords to rehabilitate and preserve affordable housing

ZONING STRATEGIES

The majority of the Alston Avenue station area is encompassed by the Alston Avenue Compact Neighborhood Area. The station area consists of several zoning districts with much of the area adjacent to the station designated as LI. A variety of residential districts including RU-5, RU-M and RS-M cover other portions of the station area, with a few parcels interspersed as CG.

The Alston Avenue Compact Neighborhood Report recommends several changes to the existing future land use plan including: converting the existing Suburban Transit Area into a Compact Neighborhood Tier.

Rezoning to appropriate TOD districts and sub-districts is the next regulatory step to provide for the implementation of transit-oriented development. For the Alston station area particular attention will be needed to address compatible densities and dimensional standards where transitions to existing single family neighborhoods are to occur. Special consideration should be given to the zoning for residential properties where affordably-priced, or naturally occurring affordable housing exists to ensure that some or all of the homes can be conserved as affordable as new development occurs.

PARKING STRATEGIES

The Alston Avenue station area currently has parking that supports the current development, but is very limited in size and availability. This station area will serve as a park-and ride area for near-term operations of the Light Rail Corridor and development will continue to provide parking for residential

uses. This parking should be in a more sustainable and efficient form and additional density may be realized here due to its proximity to transit.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	N/A	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station	
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan			
Policy	Supply	Maintain parking usage data for existing	Reduce required minimum parking for office and multifamily; consider constructing structured parking facility(s) for district		Repurpose as demand becomes less
	Incentives	Require developers of office and retail uses to develop and execute shared parking agreements, or participate in the public parking district; office tenants maintain a Travel Demand Management (TDM) program			
	Pricing	Conduct market study	Office and multifamily operators provide unbundled parking options to tenants		
Implementation	District	Upon creation, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		



ALSTON AVENUE

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area projects have been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Alston Avenue to Grant Street Platform Connection

Improving access to platform for rail to maximize pedestrian connectivity, as well as enhance the connection from Bryant Bridge to Pettigrew Street

Timeframe: Pre-Rail

Cost: \$\$



Grant Street Improvements (Pettigrew to Umstead)

Pedestrian and bicycle connectivity to allow for underutilized parcels to be realized as viable and connected to the station

Timeframe: Pre-Rail
Rail +10

Cost: \$\$



Alston Avenue Complete Street

Enhanced complete street opportunity to connect NCCU station to Alston station and promote development on vacant parcels along the roadway

Timeframe: Rail +20

Cost: \$\$\$

PUBLIC INVESTMENT PRIORITIZATION

CATEGORY	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	-	Manage parking to accommodate for joint development		-
	Grant Street improvements for pedestrian and bicycle connectivity		Alston Avenue complete street Improvement	-
Bike/Ped and Transit Support	Alston to Grant Street platform connection and Grant Street improvements	-		-
	Enhanced pedestrian connection to the Bryant Bridge and Pettigrew Street and the extension of the mixed-use path to Alston			

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NCCU



Station Family: University Village
 County: Durham
 City: Durham

WHY THIS STATION?

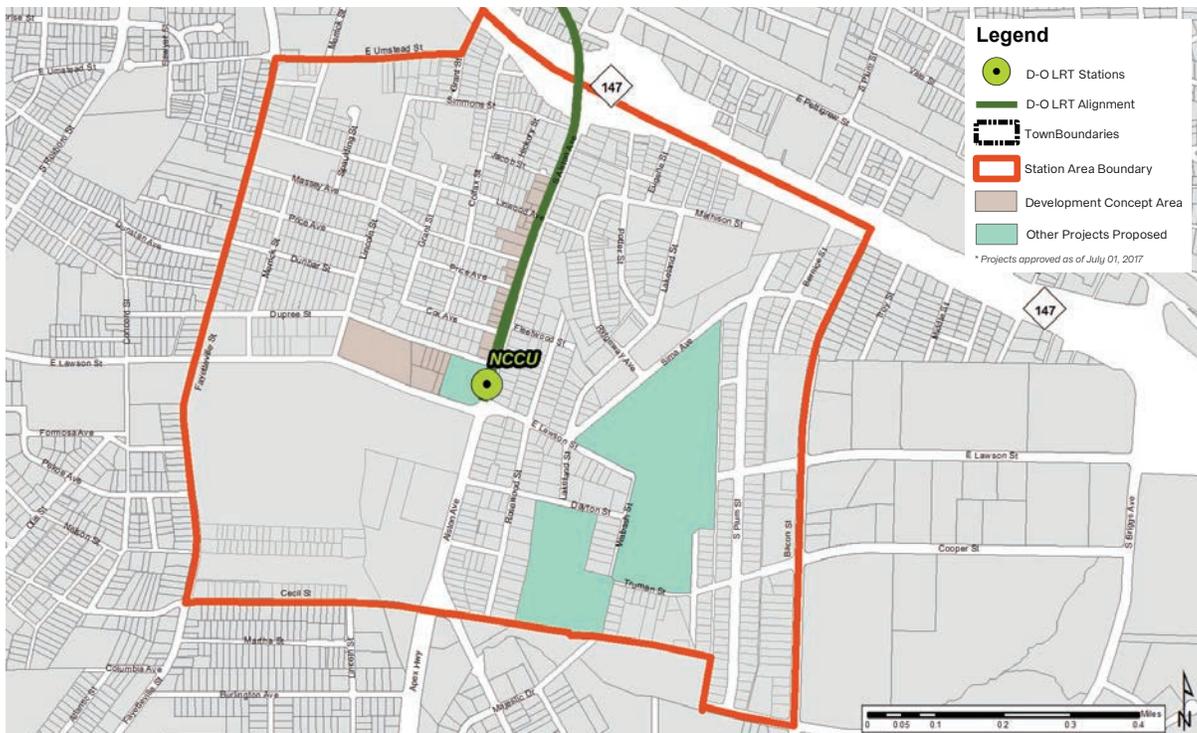
Serves the third major university on the line as well as nearby residential neighborhoods.

This station site sits at the eastern edge of the North Carolina Central University (NCCU) campus adjacent to existing residential neighborhoods along Alston Avenue. A mix of neighborhood businesses are also located along Alston, and Durham Technical Community College is one-half mile east along Lawson Street. Neighborhood integrity must be preserved while connections and access to both the residential areas and the academic institutions are enhanced. New development should be limited in scale, and modest in character in acknowledgment of the existing primarily single family neighborhoods.

ATTRIBUTES

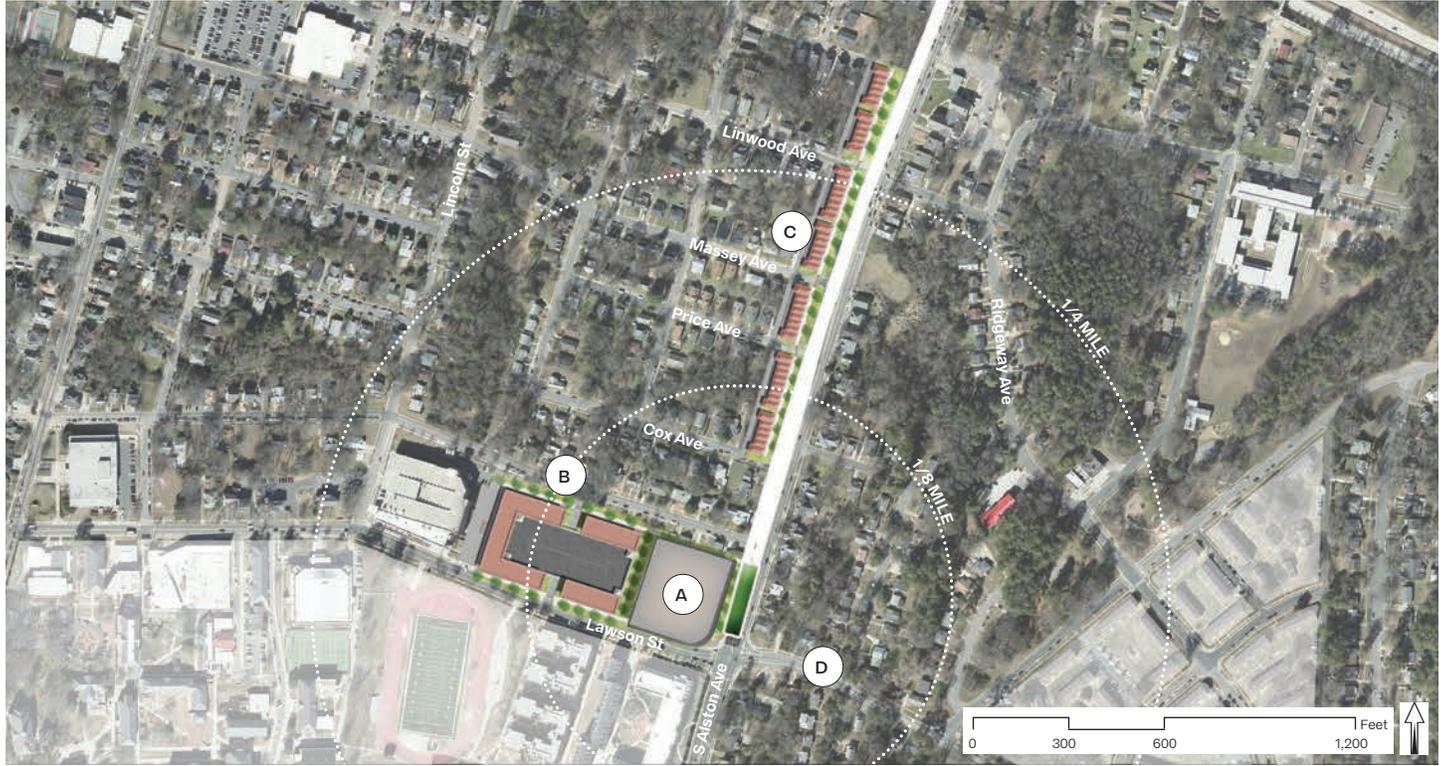
- University experience – interaction between existing neighborhood feel and the student experience.
- Small-format services, limited retail, and affordable housing also serving the neighborhood, students, and university employees.
- Station area strengthens expanded access for students and neighbors to city-wide opportunities.
- Predominant activity between 8 a.m. and 7 p.m.

STATION AREA CONTEXT



STATION DEVELOPMENT CONCEPT

Limited redevelopment includes residual parcels along Alston resulting from the rail construction in order to transition to adjacent residential neighborhoods.



- A** New NCCU building adjacent to the Alston Avenue station
- B** NCCU affiliated housing wrapped around a parking structure to screen the parking from the public realm
- C** New smaller format housing to transition the existing neighborhood from the new tracks along Alston Avenue
- D** Pedestrian and bicycle improvements along Lawson to connect Durham Technical Community College to NCCU and the station

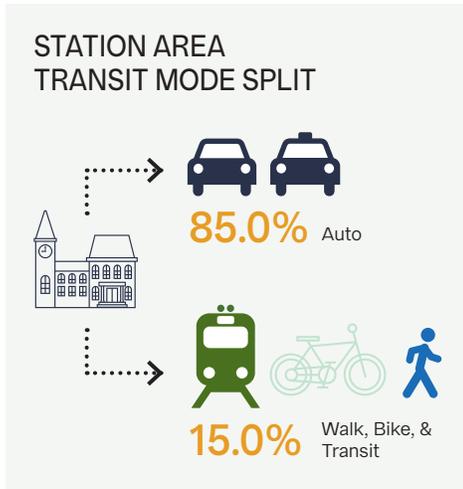


University lands could include additional development, and the housing authority sites to the east could also be redeveloped.

This development concept represents "One Possible Future" for the year 2057. The actual outcome will be shaped by the private market's response to zoning, regulatory, and public investment decisions made by the Durham City Council.

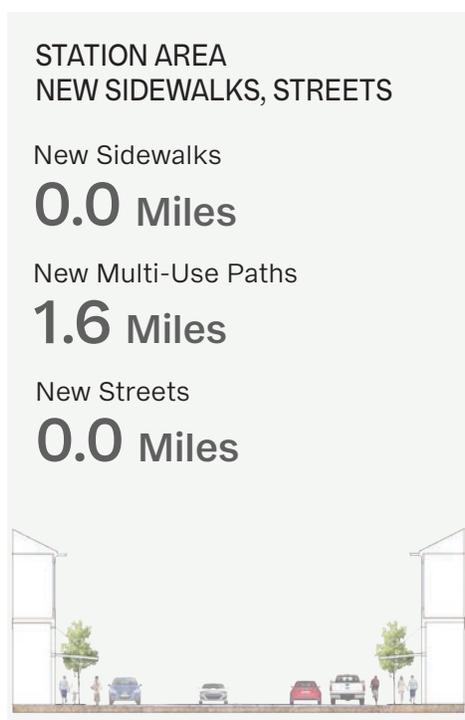
NCCU STATION AT-A-GLANCE

The following information is based on the station development concept from the previous page and the larger station area shown on page 230. The station development concept considers existing land uses, infrastructure, and environmental features, indicates land that is most likely to experience redevelopment as a result of market demand stemming from proximity to transit, and incorporates best practices for transit-oriented development.



PROJECTED NEW DEVELOPMENT

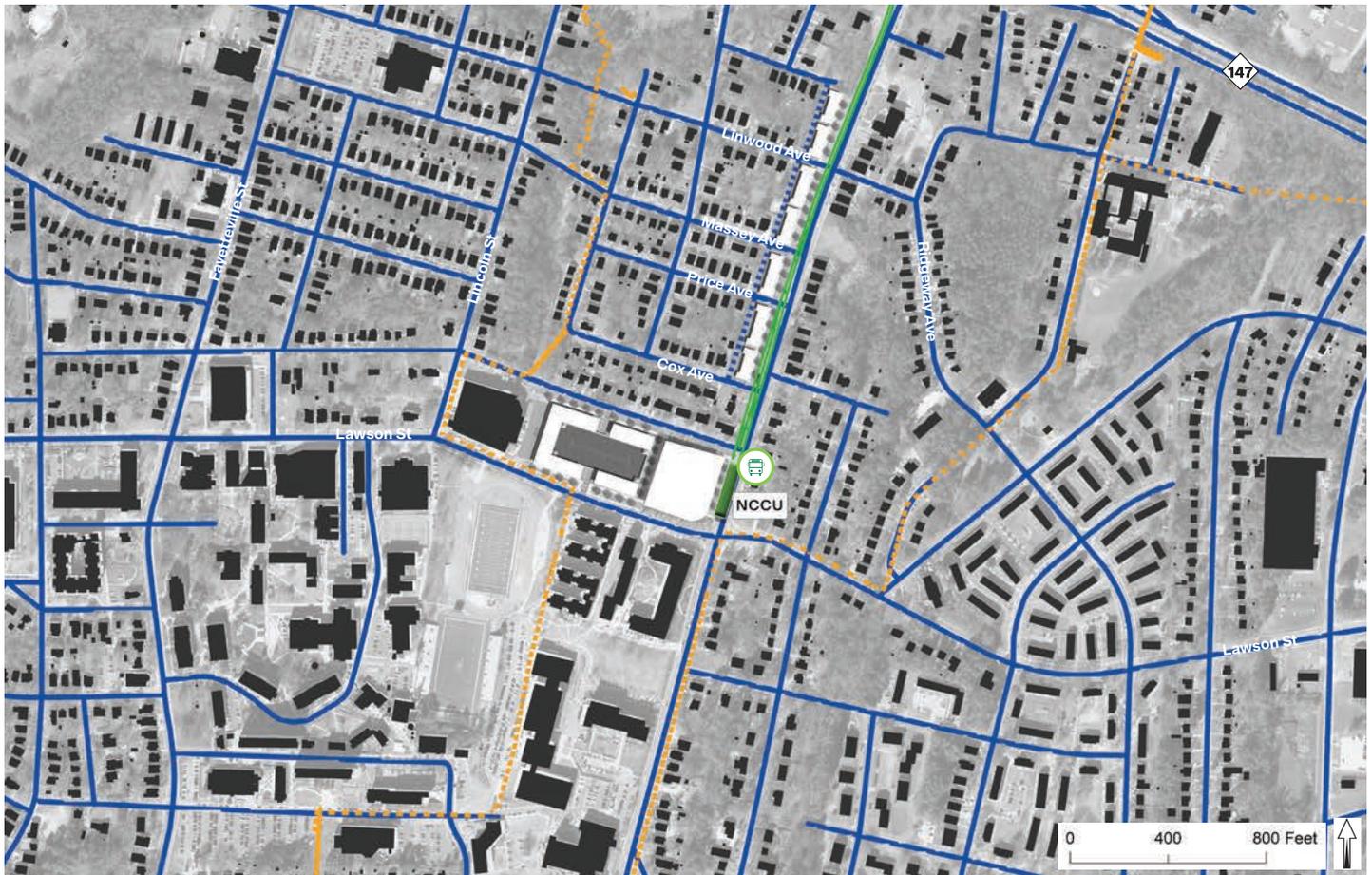
		Development Concept	Station Area
Single Family Residential	Dwelling Units	60	60
Multifamily Residential	Dwelling Units	200	2,000
General Retail	Square Feet	0	10,000
General Office	Square Feet	0	0
Institutional	Square Feet	0	150,000
Hotel	Rooms	0	0



STATION AREA BIKE & PEDESTRIAN AND STREET NETWORK

The map below shows existing and proposed streets within the station area, as well as streets that should be considered bike/ped priority when they are constructed or retrofitted as new development occurs. Multi-use paths and bus connections are also shown.

POTENTIAL BIKE/PED & STREET NETWORK



The image includes proposed refinements to the Durham-Orange Light Rail Transit Project currently under study. The proposed light rail project refinements are subject to environmental review and approval by the Federal Transit Administration following a public comment period.

- Light Rail Station
- Light Rail Alignment
- Development Concept Area
- Existing Structure
- Proposed Future Streets
- Existing Streets
- Bike/Ped Priority Streets (Proposed)
- Bike/Ped Priority Streets (Existing Street Retrofitted)
- Existing Multi-Use Path
- Proposed Multi-Use Path
- Proposed Bus Connections

POTENTIAL NEW TAX REVENUE

The analysis below summarizes the potential new tax revenue for the NCCU station area for the next 40 years. Tax revenue sources include property tax revenues to the City of Durham and Durham County. The analysis excludes sales tax.

Station Area	442 Acres
Development Concept Area	48 Acres

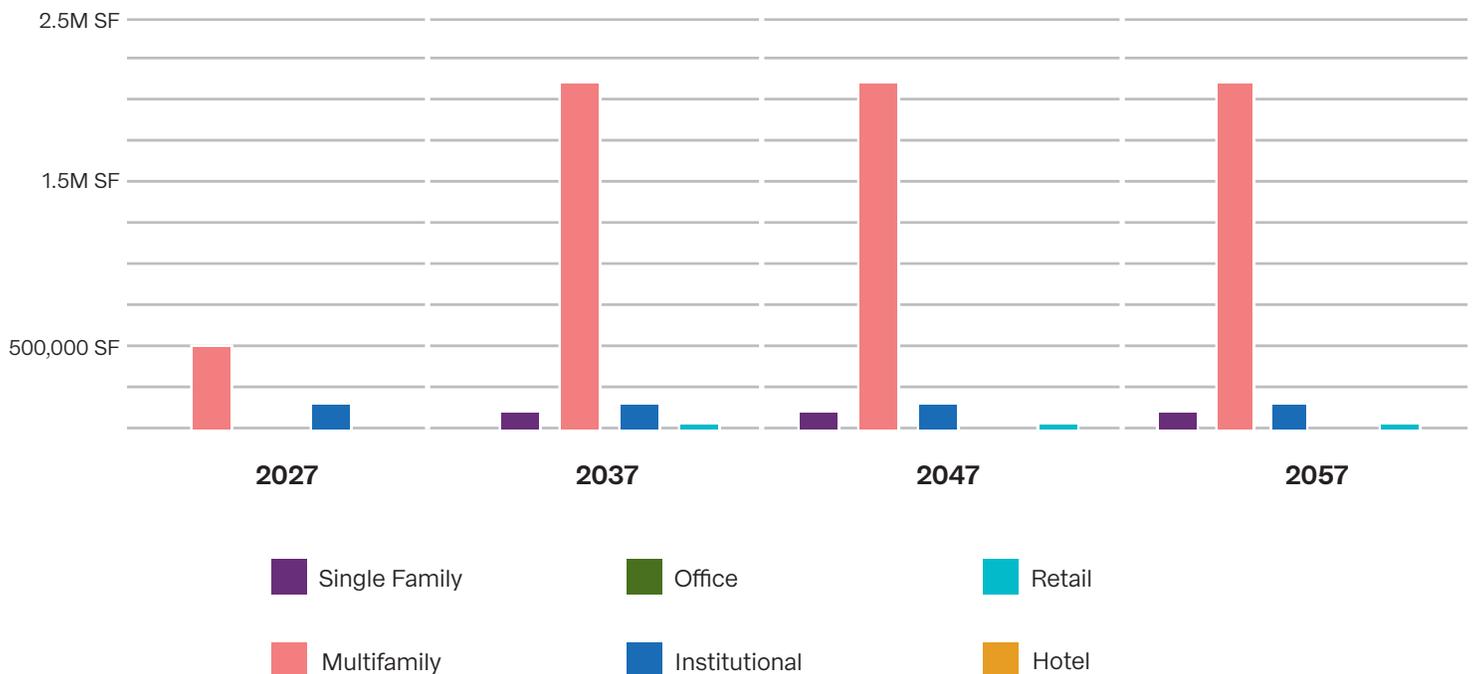
POTENTIAL NEW TAX REVENUE

NCCU	2027	2037	2047	2057
Baseline Property Value				
Lower Estimate (35th Percentile)	\$82.0 Million	\$67.7 Million	\$50.7 Million	\$41.8 Million
Upper Estimate (65th Percentile)	\$111.0 Million	\$91.6 Million	\$68.5 Million	\$56.6 Million
Net New Property Value				
Lower Estimate (35th Percentile)	\$91.5 Million	\$279.2 Million	\$208.9 Million	\$172.5 Million
Upper Estimate (65th Percentile)	\$123.8 Million	\$377.8 Million	\$282.6 Million	\$233.3 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue				
Low Estimate (35 Percentile)	\$2.7 Million	\$44.0 Million	\$76.3 Million	\$101.9 Million
Upper Estimate (65 Percentile)	\$3.6 Million	\$59.5 Million	\$103.2 Million	\$137.9 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%. Discounted Present Value is a financial calculation that measures the worth of a future amount of money in today's dollars in order to account for inflation.

ACCUMULATED STATION AREA DEVELOPMENT





Anticipated Development Horizon

Pre-Rail (2018 - 2027): Infill and university-related development.

Rail +10 (2028 - 2037): Redevelopment of vacant lots adjacent to Alston Avenue and incremental redevelopment of housing authority lands especially east of the station.

Rail +20 (2038 - 2047): Continued redevelopment of aging housing authority properties.

Rail +30 (2048 - 2057): Long-term development at station area.

Investment Phasing

The goal for NCCU station is to preserve the neighborhood character while facilitating strategic infill where appropriate. Also, redevelopment of housing authority properties can expand access to economic opportunity through the reach of the light rail line.

AFFORDABLE HOUSING OPPORTUNITIES

The following strategies should be employed to integrate affordable housing opportunities throughout the NCCU station area:

- Anchor institution involvement
- Public housing redevelopment
- Repair assistance for low-income homeowners
- Reduce barriers for missing middle housing types, including Accessory Dwelling Units (ADUs)

ZONING STRATEGIES

The NCCU station area consists mostly of residential zoned lands including RU-5 and RU-M, plus a number of OI, CN and UC-2 parcels.

RU districts are gradients of urban residential densities with some limited nonresidential uses allowed. RU-M allows for multifamily up to 20 units per acre with a development plan. RU-5 allows for eight units per acre. The station itself is located in an RU-5 district.

Office/ Institutional (OI) District “is established for employment and community service activities... on sites that have convenient access to arterials, since development of moderate to high intensity is allowed.” OI zoning may be reconsidered to ensure that it is limited across the station area.

Commercial Neighborhood (CN) is a reduction in scale of commercial activity intended to be closer to residential, provide for “walkable, pedestrian-oriented development that complements nearby residential neighborhoods. The district is not intended for use by major or large-scale commercial sales, service or automotive-oriented activities”

Much of the area surrounding the station is the University and College District (UC) which allows for “growth and development of colleges and universities, while protecting the larger community, nearby neighborhoods.” This district allows for potential future growth of NCCU with appropriate transit-oriented development densities and dimensional standards.

PARKING STRATEGIES

The NCCU station area currently has parking that supports the university and other surrounding

existing development in both surface and garage. New parking will continue to support the university and housing functions and limited parking will be required for the transit functions. Improving walkability along Lamar and Alston Avenue will support the goals for neighborhood preservation as well as neighborhood connectivity at the station area.

The table below details some of the specific strategies for parking.

PARKING STRATEGY		YEAR			
		PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Form	On-Street	Incorporate on-street parking with each new street or street renovation within the district			
	Surface	Maintain existing surface parking lots	Discourage any use of surface parking in this tight land use configuration around the station		
	Structured	Encourage structured or wrapped parking for significant development or through master parking plan			
Policy	Supply	N/A	Multifamily will provide parking for tenants; opportunity for shared use parking between retail and office		
	Incentives	Travel Demand Management (TDM) program for NCCU students/staff/faculty			
	Pricing	N/A	Multifamily operator to offer unbundled parking opportunities to tenants; NCCU to set pricing for Institutional uses		
Implementation	District	Upon creation in coordination with campus master plan, begin work on a master parking plan	Implement master parking plan and program incentives for parking towards catalytic projects. Revisit master parking plan every five years.		
	Public	Assemble district parking program in coordination with campus master plan	Support five year updates to district plans and financial analysis and incentive programs for catalytic projects		

TOD PUBLIC INVESTMENT INFRASTRUCTURE PRIORITIES

The following station area project has been identified as the key projects the City and other partner entities should undertake to support catalytic station area development.



Complete Street Lawson from Lincoln to Durham Tech

In order to promote connectivity from NCCU to the community college, Lawson becomes a primary route for multimodal activity

Timeframe: Pre-Rail
Cost: \$\$

Water/Sewer Improvements

Through the current capacity analysis, determine needs for development horizon and plan accordingly

Timeframe: Pre-Rail
Cost: \$\$\$

Linwood Sidewalk Improvements

Improve sidewalks at Linwood and Alston Avenue intersection for easier pedestrian path to light rail station

Timeframe: Pre-Rail
Cost: \$

PUBLIC INVESTMENT PRIORITIZATION

INVESTMENT	YEAR			
	PRE-RAIL (2018 - 2027)	RAIL +10 (2028 - 2037)	RAIL +20 (2038 - 2047)	RAIL +30 (2048 - 2057)
Station Area Infrastructure	Implement complete street conversion of Lawson	-	-	-
	Linwood and Alston Avenue sidewalk improvements	-	-	-
Bike/Ped and Transit Support	Lawson complete street improvements to connect to R. Kelly Bryant Bridge, apartments, and Pearson Town Trail		-	-

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ACTION STEPS

“TOD is the ultimate mobility glue linking all the other modes of transportation together through the spine of rail. And it is a place where one can live a life of choice”

SCOTT POLIKOV

GATEWAY PLANNING

Action Steps

The following action steps should be undertaken to implement the strategies to develop successful transit-oriented development along the Light Rail Corridor.

PRIORITIZATION

- Rank** TOD priorities against other municipal and county capital needs (*All, June 2019*)
- Program** TOD investments and funding sources in Capital Improvement Plans (*All, June 2020*)

AFFORDABLE HOUSING

- Set** targets for dedicated affordable homes at each station based on projected need (*All, 2019*)
- Identify** traditional and non-traditional funding sources with the greatest potential (*All, 2019*)
- Prioritize** strategies and projects to meet the targets (*All, 2020*)
- Identify** properties along line to conserve existing affordable homes (*All and TJCOG, 2020*)
- Calibrate** density bonuses to maximize creation of new affordable homes (*CH, DU, DC, 2020*)
- Streamline** standards & processes to reduce regulatory costs of new homes (*CH, DU, DC, 2021*)
- Enact** methods that leverage increased property values to fund affordable homes (*All, 2021*)
- Evaluate** and Buy properties along line to land bank for future affordable homes (*All, 2023*)
- Partner** with institutions, developers, and lenders to fund and build affordable homes (*All*)

INFRASTRUCTURE

- Petition** NCDOT for a left turn on NC 54 to enable office TOD at Woodmont (*CH, DC, 2019*)
- Analyze and Fund** sewer needs and complete street network at Gateway (*CH, DC, OC, 2020*)
- Jointly Fund** complete street bridge over I-40 from Gateway to Patterson Place (*All, 2020*)
- Fund** bike/ped crossings on NC 54 and bridge over US 15-501 at Gateway (*CH, DC, OC, 2021*)
- Fund** sewer lift stations and outfalls at Patterson Place and Leigh Village (*DU, DC 2019*)
- Prioritize** additional sewer projects based on south Durham capacity analysis (*DU, DC, 2021*)
- Enhance** bike/ped experience under NC 147 at Buchanan, Blackwell, & Grant (*DU, DC, 2023*)

PARKING

- Host** educational summit to set the stage for parking districts (*GoTriangle, 2019*)
- Prioritize** parking districts based on conditions at each station (*CH, DU, and GoTriangle, 2020*)
- Strengthen** Travel Demand Management program and link to auto trip caps (*CH, DU, DC, 2021*)
- Establish** first parking district with shared, unbundled and priced parking (*DU, 2022*)

PARTNERSHIPS

- Support** creation of community and business improvement groups in station areas (*All*)
- Track** TOD Transformation across the line and at individual stations (*GoTriangle and TJCOG*)

STREETS AND PUBLIC SPACE

- Adopt** policy that prioritizes bike/ped/bus experience over vehicular Level of Service (*All, 2019*)
- Adopt** TOD street policy that supports the creation of bike/ped-friendly streets (*CH, DU, 2020*)
- Enact** public space standards that complement zoning and street design rules (*CH, DU, DC, 2020*)

- **Evaluate and Adopt** alternatives to vehicular Level of Service for TOD projects (*CH, DU, DC 2021*)

ZONING

- **Adopt** transit-supportive future land use map designations and policies (*CH, 2019*)
- **Enact** Patterson Place Design District UDO amendment and rezoning (*DU, DC, 2019*)
- **Remove** barriers to building Missing Middle Housing near light rail stations (*CH, DU, DC, 2020*)
- **Rezone** other areas in the Compact Neighborhood Tier to Design Districts (*DU, DC, 2022*)
- **Establish** TOD standards and review processes and Apply them to station areas (*CH, 2022*)
- **Continue** Partnering with Universities as they update master plans and seek approvals (*CH, DU*)

Key: CH – Chapel Hill, DU – City of Durham, DC – Durham County, OC – Orange County, All – All Four Jurisdictions



APPENDICES



Appendix A:

Glossary of Terms

Accessory Dwelling Unit (ADU): A secondary dwelling unit on the same lot as a principal single-family home. ADUs can be built within a primary residence (such as a small apartment in a basement with a separate entrance) or detached from the primary residence. These dwelling units provide supplementary housing and can be integrated into existing neighborhoods with little or no impact on the character of the neighborhood. Because ADUs are usually small, they are often more affordable to rent than full-size single-family homes. Examples include a guest house, pool house, garage apartment, in-house apartment, granny-flat, etc.

Affordable Housing: Housing where the housing cost and utilities makes up no more than 30% of the gross household income for a low-income household. In terms of homeownership, housing is affordable when the principal, interest, taxes, insurance, and utilities make up no more than 30% of household income. For rental units, housing is affordable when the rent and utilities make up no more than 30% of household income. Affordable housing is generally used to refer to housing for households who make 80% or less of the Area Median Income.

Arterial Road: A high-capacity urban road whose function is to deliver traffic from collector roads to freeways or expressways, and between urban centers at the highest level of service possible.

Bike Lane: A bikeway separated from motorized traffic and dedicated to cycling or shared with pedestrians or other non-motorized users.

Collector Road: A low-to-moderate capacity road that serves to move traffic from local streets to arterial roads. Typically designed to provide access to residential properties.

Complete Street: A street designed and operated to enable safe use and support mobility for all users, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or using public transportation.

Cycle Track: A separated bike lane or protected bike lane; an exclusive bikeway that has elements of a separated path and off-road bike lane. Typically located within or next to the roadway, but is made distinct from both the sidewalk and general purpose roadway by vertical barriers or elevation differences.

Density Bonus: Engage market-rate developers to produce affordable housing units in exchange for an increased number of units, taller buildings, or more floor space than normally allowed.

Development Concept Area: The area identified on the station area maps as where potential new development or redevelopment could occur along the light rail alignment.

Joint Development: Local transit agencies can use joint development funds from the Federal Transit Administration to support affordable housing projects near transit, including funds for property acquisition, demolition of existing structures, site preparation, relocation or construction of utilities, building foundations, walkways, and providing bike and pedestrian access between public transit and related development.

Land Banking: Assembling, temporarily managing, and disposing of vacant land for the purpose of stabilizing neighborhoods and encouraging re-use or redevelopment of urban property. This can

happen through established land banks, which can be created by governmental entities or nonprofit corporations.

Legally-Binding Affordable Housing: Housing with a legally binding affordability restriction such as a lien, deed of trust, or other legal instrument attached to a property or housing structure that restricts the cost to be affordable to renters and/or owners with incomes below a defined percent of the area median income for a defined period of time. This includes, but is not limited to, state or federally supported public housing and housing owned by organizations dedicated to providing affordable housing.

Local Street: A typical street or thoroughfare.

Lower Estimate: For the purpose of analyzing potential new tax revenues at the station areas, a lower estimate in the 35th percentile, is presented. This spectrum of potential revenues applies to the baseline property value, net new property value and net new accumulated tax revenue.

Market Rate Rental Housing: Privately-owned housing that rents at whatever the owner or property manager deems reasonable, which is usually dictated by the market or local economy, and varies by location and quality of amenities.

Missing Middle Housing: Missing Middle is a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living. These types provide diverse housing options along a spectrum of affordability, including duplexes, fourplexes, and bungalow courts, to support walkable communities, locally-serving retail, and public transportation options. Missing Middle Housing provides a solution to the mismatch between the available U.S. housing stock and shifting demographics combined with the growing demand for walkability.

Mixed-Income Development: A type of development that includes families at various income levels, including some market-rate housing and some affordable to low- or moderate-income households below market rate. Mixed-income developments are intended to decrease economic and social isolation.

Multi-Use Paths: A type of off-road path that pedestrians or bicyclists can use that connects to other roadways or trails, but is not part of the roadway or sidewalk.

Multimodal: Accommodating multiple types of transportation uses.

New Sidewalks: New sidewalk calculations within each station area are calculated based on linear feet within the station area.

New Streets: New street calculations within each station area are calculated based on centerline miles within the station area.

Special Assessment Districts: Special assessment districts assess an additional tax on the full value of a property paid by property owners within a defined special assessment district that will benefit from public improvements

Station Area: The area identified on the station area maps as where potential new development or redevelopment could occur along the light rail alignment that contains the development concept area.

Tax Increment Financing (TIF): Local government establishes a district and borrows monies to fund public infrastructure projects that will benefit and incentivize new private development in the district. TIF uses the increased property taxes that a new real estate development will generate to finance the development cost. Note that synthetic TIFs are often a more viable option as compared to traditional TIF districts.

Total Transit Trips by Station Area: 2040 new and total transit trips by station area that include

bus and rail trips. The new transit trips are assessed by subtracting a “no-build” scenario in the same horizon year (2040) as the “build” scenario and incorporate a revised bus network to take advantage of the light rail.

Transit-Oriented Development: Development that supports the inclusion of transit, including light rail and bus service.

Unsubsidized Affordable Housing/Naturally Occurring Affordable Housing: Unsubsidized affordable housing, also known as naturally occurring affordable housing, is housing that is not currently publicly subsidized. The rent prices that the housing can demand in the unsubsidized private market given the properties’ quality, size, or amenities is low enough such that the tenants of these properties, whose income might otherwise qualify them to be a participant in publicly funded housing programs, can reasonably afford them.

Upper Estimate: For the purpose of analyzing potential new tax revenues at the station areas, an upper estimate in the 65th percentile, is presented. This spectrum of potential revenues applies to the baseline property value, net new property value and net new accumulated tax revenue.

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Appendix B: The Affordable Housing Shortage & Opportunity of Light Rail

ABSTRACT

This report examines tools and strategies that can leverage the investment in light rail and related economic growth to support construction and conservation of attainably priced and affordable housing in Chapel Hill and Durham along light rail. For this report, the term “Attainable Housing” and “Affordably-Priced” represents naturally occurring, non-subsidized housing, sometimes called Naturally Occurring Affordable Housing [NOAH] while “Affordable Housing” represents housing that is supported by public subsidy to bring down the cost to renters and owners, sometimes referred to as Legally Binding Affordable Restricted [LBAR] housing. The affordability crisis is a multi-faceted issue that will require an “all-of-the-above,” “all-hands-on-deck” approach, in order provide all families of varying means the opportunity to live in Chapel Hill and Durham in suitable and safe homes.

The Durham-Orange Light Rail (light rail) project will not be a panacea for housing; however, the light rail project presents Durham and Chapel Hill with a remarkable opportunity to leverage transit-oriented development (TOD), associated new property tax revenues, and other potential financial resources to make substantial progress toward preserving and creating new attainable and affordable housing within light rail station areas and beyond.

Strategies advanced herein include land acquisition and control; leveraging new property tax revenues; socially focused public-private and public-public partnerships; the role of community-based and anchor institutions; maintaining a balance of existing affordable housing with new construction; financial resources from a wider range of traditional and non-traditional sources; and improving context sensitive, locally calibrated land use and zoning policies. A new concerted effort is required. Substantially more money is needed. There must be a willingness to try and test new policies and approaches, and to adjust them expeditiously as experience dictates. Responsive, course-correcting innovation will be priceless as it will engender expanded community commitment.

Successful housing initiatives will achieve a meaningful mix of market rate- as well as attainable and affordable housing to support a diverse and sustainable economic context for the TOD neighborhoods connected by light rail as well as by bus, in addition to complete streets and multi-use paths. A sustainable mix includes—by definition—a diversity of housing types and sizes within a given neighborhood. Finally, delivery of affordable housing that is diversified and integrated increases access to jobs and thereby expands the effective regional labor base to support even more jobs. Creating a virtuous circle, increased regional job access in turn grows wages expended by working class families on reasonably priced housing as more supply reduces pressures on cost.

Success—measured simply as substantially more units available and preserved, in line with existing and projected needs—will be dependent on two big factors: more money as well as coordinated public, private and NGO partners executing a unified approach for the Region.

THE GROWING AFFORDABILITY CRISIS

Understanding the causes of the affordability crisis will enable policy makers, investors, anchor institutions, and other partners to establish a comprehensive approach to increase the amount and availability of legally protected affordable housing as well as affordably-priced housing. The affordability crisis is a multi-faceted issue that has been many decades in the making and is the result of a variety of factors.

There is a shortage of housing across the nation and within Durham and Chapel Hill. The housing market has been unable to keep pace with job growth, shifts in family composition, and changing preferences, resulting in a dizzying cycle of increasing home and rent prices and the construction of ever more luxurious homes and apartments. The result is that families with lower incomes are being displaced by families with higher incomes, stymieing Chapel Hill and Durham's efforts to build an equitable community and far outstripping their ability to provide and support legally binding affordable housing.

Causes and Implications of the Affordability Crisis

The affordability crisis is affecting communities across the nation. It currently threatens the quality of life in Durham and Chapel Hill. Many families are spending a disproportionate amount of their income on housing and transportation, excluding them from the increasing prosperity that the Triangle is experiencing. Amidst historic population and job growth in the Triangle Region, not enough housing is being built to accommodate the growing number of jobs and families in Chapel Hill and Durham. This shortage increases price pressures for houses and apartments across the region, but especially in the desirable, transit-rich "in-town" neighborhoods within proximity to Downtown Durham, Duke, and throughout much of Chapel Hill. As prices increase, more people find themselves unable to afford rents or home ownership in places that they once could, increasing the need and competition for the limited number of legally binding affordable homes supported by Chapel Hill, Durham, and variety of other partners.

Affordability is not limited to the cost of housing. As prices rise, people are forced to make the difficult decision to either pay more for housing in transit-rich "in town" neighborhoods within Durham and Chapel Hill or to find lower cost housing further away in a place with fewer transportation options. To account for this dynamic, a more realistic picture of housing affordability can be gained by combining the cost of housing and daily transportation into a total related impact on household budgets relative to income. When a person must drive greater distances to secure a wage that will provide some financial security or to find housing that is affordable to them, the resulting increased transportation costs imposed on that person's budget is a de facto increase in the cost of housing. Building housing on the fringes of the region does little to address affordability in Chapel Hill and Durham. Solving for housing affordability also requires solving for transportation affordability.

Not enough new homes are being built. Recent studies indicate that there is a shortage of more than 35,000 affordably-priced homes in Chapel Hill and Durham County, as measured by the number of cost burdened households¹. Nearby, in Wake County that number is 56,000,² which puts additional pressure on Chapel Hill and Durham. As major centers for employment, health care, and education, both have historically added more jobs than homes; both have day-time populations that are much higher than the number of people who live within their boundaries. More recently, this imbalance has increased to the point where the number of new homes being built has not kept pace with the number of new families. From 2010-2015 the new number of new households, or families, in Chapel Hill and Durham substantially exceeded the number of new homes built. If not addressed, this trend will continue to put significant upward price pressures on homes.

Not only is there an overall shortage of land and homes in Chapel Hill and Durham, there is a

1 Come Learn With Us Chapel Hill-- 30 years of Affordable Housing <https://www.townofchapelhill.org/home/showdocument?id=26249>
City of Durham Affordable Housing Goals 2016-2021 <https://durhamnc.gov/DocumentCenter/View/12522/Housing-Goals-Report?bidId=>

2 Key Housing Trends in Wake County <http://www.wakegov.com/humanservices/social/Documents/Key%20Housing%20Trends.pdf>

mismatch between family sizes and housing preferences with the types and locations of existing homes. Changing demographics indicate that by 2030, 87% of new households will not have children and over 50% will be single individual households. This shift in demographics places a premium on smaller homes and homes near retail and services within transit-rich, desirable “in-town” neighborhoods close to Downtown Durham, Duke, and UNC.³ Further, as congestion and commute times continue to increase, people’s preferences will continue to shift toward living closer to where they work. If not enough homes are built in places that people want to live, price pressures in those “in-town” neighborhoods will not only increase but also spread to other nearby lower-cost neighborhoods leading to more gentrification and gentrification-driven displacement.

There are many factors, some of which are decades in the making, that restrict enough new homes being built. Chapel Hill is out of available undeveloped land and Durham is quickly running out, putting significant upward price pressures on land and homes within their respective urban service boundaries. **Local regulatory policies—embedded within Durham’s and Chapel Hill’s zoning requirements—exacerbate the shortage of homes in desirable areas by limiting or prohibiting homeowners and home builders in these neighborhoods from adding small, neighborhood-scaled infill.** Burdensome requirements and cumbersome processes for medium to large scale residential infill in Chapel Hill and in Durham add risk and cost to projects, constraining the number of homes that get built and making the ones that do get built more expensive as a result.

The inability for home builders and developers to provide enough new homes can lead to a series of unintended consequences and an upward price cycle. When there are not enough homes, especially in desirable neighborhoods, price pressures increase. As price pressures increase, only more expensive homes become economically feasible in order to recoup land costs. In residential neighborhoods, these factors encourage homebuilders to almost exclusively build larger, more expensive homes. **In the case of new apartments, developers turn to squeezing as many apartments as possible on the property and by branding them luxury apartments.**

This cycle is playing out in Durham and Chapel Hill, and across the United States as a whole. Due to a number of factors discussed in this report, there are significant constraints that limit the overall supply of housing, even more so in regard to attainable and affordable options. As population growth exceeds new housing supply, a number of factors coalesce. Prices for housing as a whole trend upward as landlords see an opportunity and increase rents on what were once attainably-priced homes. **Where there are limited opportunities for development, lenders and homebuilders seek to upgrade and/or redevelop existing affordably-priced properties into housing that commands a higher price point, decreasing supply of attainable housing.**

This also occurs within the single family home market, where smaller, older and less expensive properties are purchased with the intent to upgrade and flip, usually at a far greater price point. These trends contribute to gentrification and displacement, particularly in and near desirable “in-town” neighborhoods, leaving lower income tenants with few options. Finally, residents who can no longer afford to live near the urban cores are pushed out of these areas (which, as will be explained later, provide affordability benefits due to their compact, walkable and transit-served nature), forced to find housing that they can afford - at the risk of spending significantly more of their limited income (and time) on transportation.

Increasing housing costs and the resulting displacement create acute pressures on policy makers and traditional resources to aid those negatively impacted. As population and jobs continue to increase faster in the Triangle relative to the amount of new homes, more people will find themselves

3 CLYDE HOLLAND CEO/Chairman Holland Partner Group as presented at LOCUS Leadership Summit April 25, 2017

cost burdened, spending more than 45% of their gross income on housing and transportation costs.⁴ Accordingly, the living wage necessary to afford rent or a mortgage will continue to climb as inflation-adjusted income remains stagnant. As more people become cost burdened, the need for already-scarce housing resources provided by Chapel Hill, Durham, and other partners increases. Even with recent commitments to increase funding for legally binding affordable housing by Chapel Hill, Durham, Durham County, and Orange County, the need for affordable homes will far outstrip the resources needed to build them.

The result is significant upward price pressures for attainably-priced and legally binding affordable homes, which can further impact a region's ability to retain and attract the young workforce that desires mixed-use environments and multifamily living. Even more concerning, the housing shortage has significant social equity implications, as low and moderate income families feel the economic strain the most. The present crisis is multi-faceted, was created over many decades, and has been exacerbated by the inability of the current housing pipeline to deliver a range of housing options including legally binding affordable homes at the rate needed to keep up with historic job growth, let alone the recent uptick in economic growth. There is no silver bullet for the issues described above. The issues are complex and interrelated and require an all-of-the-above and approach to solutions. Both market-based, and public-resource-based solutions must be utilized in a coordinated and strategic fashion. To be effective, all partners including private, public, and non-profit must be enabled and tapped to be a part of the solution.

Local Evidence of a Shortage

The United States has an overall housing shortage of nearly 3.5 million homes, driving price pressures upward across the board. This national shortage is evident locally. **While just a decade ago there may have been a far lesser concern with affordability, it has become a pressing issue in a very short period of time, and is on a trajectory to become an acute issue, if not properly addressed in the near term.**

Recent studies demonstrate a shortage of 11,000⁵ affordable homes in Chapel Hill and 27,000 in Durham County⁶. From 2010-2016 the number of new households in Durham County exceeded the number of new houses built by 3,400 (representing 26 percent fewer new homes than there were new households). The housing shortage in Durham County is even more acute when the number of new jobs is compared to the number of new homes. From 2010-2016 new jobs exceeded new homes by 127 percent; more than 29,300 jobs were created but only 12,911 homes were created during that same time frame⁷. Similarly, between 2010 and 2015, Chapel Hill added about 1,700 more jobs than homes⁸. These trends compound the historic trends whereby housing to support job growth in Durham County and Chapel Hill have, to a large degree, been built elsewhere, resulting in a net commuter inflow of 24,000 or 40% of its population for Chapel Hill and 57,000 or 20% of its overall population for Durham County⁹. In addition to the aforementioned factors leading to a housing shortage, people continue moving to the Triangle from regions with higher incomes which further disadvantages families with lesser means.

Perhaps most striking are the trend lines that demonstrate rapidly escalating housing prices at. In Durham County, median homes sale price jumped from \$168,000 five years ago to \$258,000 in March of 2018. In Chapel Hill, median home value increased from \$356,000 in 2010 to \$390,000 in 2016 and continue to be among the highest home values in North Carolina. Similarly, from January,

4 Center for Neighborhood Development - <https://htaindex.cnt.org/>

5 Come Learn With Us Chapel Hill-- 30 years of Affordable Housing <https://www.townofchapelhill.org/home/showdocument?id=26249>

6 City of Durham Affordable Housing Goals 2016-2021 <https://durhamnc.gov/DocumentCenter/View/12522/Housing-Goals-Report?bidId=>

7 Expanding Housing Choices Presentation. Durham City-County Planning Department. https://durhamnc.gov/DocumentCenter/View/24619/Expanding-Housing-Choices_Rolling-with-VoiceOver

8 US Census Bureau

9 2018 State of the Community Report. Chapel Hill-Carrboro Chamber of Commerce. <https://www.slideshare.net/carolinachamber/2018-state-of-the-community-report-presentation>

2014 to August, 2018, median rents increased by 15.5% in Durham and by 17% in Chapel Hill, more than twice the rate of inflation during that time period of 7.8%¹⁰.

Per a 2015 presentation by Chapel Hill Economic Development, “home values above \$500,000 have grown dramatically and there has been limited new housing for the middle and affordable market”. The report cited the fact that the cost of housing has outpaced inflation and median household income growth while lacking significantly in meeting the needs for those with incomes at or under 80% of mean annual income. The presentation cited that the number of units with rents between \$1000-1,500 had jumped by 300% between 2000-2011¹¹. An early study indicated a shortage of 11,000 affordably priced homes in Chapel Hill. This shortage matches with recent data that indicate that 75% of Chapel Hill’s homes are unaffordable to families of four earning \$64,500 or less (80 percent of area median income), and that over half of renters are cost burdened.

In addition to population growth, changing demographics indicate that 87% of new household formation through 2030 will be made up of households without children and over 50% of new households will be single individual households. This mismatch between market demand and available housing is demonstrated by Durham County, where there are 35,000 one-person households but only 17,000 one-bedroom homes. This mismatch places a premium on smaller units, and in areas where multifamily residential options are in short supply, as these demographic groups are more likely to desire homes within transit-rich, walkable “in-town” neighborhoods close to Downtown Durham, Duke, and UNC as well as neighborhood retail and services.¹²

The housing shortage and resulting price pressures are compounded between an existing disconnect between wages and the cost of housing. Even before the recent uptick in growth, many households do not earn enough to afford the median rent without being cost burdened. For example, the housing wage necessary to afford a two-bedroom apartment in the Durham-Chapel Hill HMFA is \$19.04 per hour.¹³ That is over 2.5x greater than the minimum wage, and accounts only for the cost of housing. Looked at from a different angle, utilizing the generally accepted 30% of income as the upper limit of affordability for the housing component of one’s cost of living, the average two bedroom apartment would command \$39,600 in salary to be considered attainably priced. This figure jumps to over \$54,000 for a three bedroom, constraining families with children, and especially single income households with children as the necessary housing wage jumps to \$25.62.

These statistics clearly demonstrate how the housing affordability issues has become acute in nature, commanding immediate attention and action. For a robust analysis of local housing affordability and income data please see Appendix C.

Existing Local Means to Create New Affordable Homes

Solutions cannot be effectively implemented if the specific underlying conditions that exist in Durham and Chapel Hill are not understood. With this opportunity at hand, it is important to recognize challenges that exist that are unique to Durham and Chapel Hill, respectively, in addition to programs and policies that are currently in place. This section provides a 30,000 foot view of key affordable housing policies and programs in place in Chapel Hill and Durham. For a more detailed discussion, please see Appendix C.

10 Data from Apartment List.com and US Census Bureau
 11 Come Learn With Us Chapel Hill-- 30 years of Affordable Housing <https://www.townofchapelhill.org/home/showdocument?id=26249>
 12 CLYDE HOLLAND CEO/Chairman Holland Partner Group as presented at LOCUS Leadership Summit April 25, 2017
 13 National Low Income Housing Coalition (Source: <http://nlihc.org/oor/north-carolina>). HMFA stands for HUD (Housing and Urban Development) Metro Fair Market (rent)

Durham, for example, controls a significant amount of land located within close proximity to future rail stations. However, the City faces a dual challenge of finding revenue sources to provide for attainably priced and affordable housing at these properties in addition to the questions of timing and phasing as to when to build in affordable housing and when to invest in infrastructure to support affordability.

The City of Durham, Durham County, and the Durham Housing Authority have historically supported a variety of partners in order to build new affordable units throughout Durham. Currently, these agencies are each planning several projects that will include legally binding affordable housing on properties that they own, resulting in a robust pipeline of potential new affordable homes. The City has made a significant local commitment by dedicating “two pennies¹⁴” on the property tax rate to affordable housing programs. However, even if this amount and other traditional sources were quadrupled, it would come nowhere near the level of funding that is needed to fully address the affordable housing crisis relative to the shortage of 27,000 affordable units. The primary traditional funding mechanism, Nine Percent Federal Tax Credits, which are awarded by the North Carolina Housing Finance Agency following a competitive application process, typically results in one project, with 80-100 homes, per year in Durham County. The limited ability of traditional sources to address the affordable housing need underscores the importance of finding new funding sources and developing new strategies to build out the projects within Durham’s existing pipeline in addition to continue encouraging other partners to contribute to affordable housing.

The City and County of Durham have also established a 15% target for new affordable homes (15% of the total number of new homes need be affordable to families earning 60% of less of area median income) within the light rail station areas. To help achieve this goal, the Durham UDO includes density bonuses in all station areas as well as a zero parking requirement for affordable homes in the station areas outside of Downtown. In the station areas outside of Downtown, these two regulatory incentives to developers alone are not sufficient to make it more profitable to provide affordable units, even with the added density bonus. Often, in order to add density to a project, a developer must switch to more expensive construction methods to accommodate the additional density, height and parking needs. More expensive costs, when combined with below-market-rate rents, make the project unprofitable when the market rents are not high enough to cover added expenses. The result is that lower density development may remain more profitable than more intensive development that is built utilizing the density bonus. Downtown Durham is beginning to witness market-driven upward price pressures that result in more expensive rents in buildings with more expensive construction types, but in many cases, these higher rents are still not enough to fill the gap that would be created by including below-market rate units in the project.

Even if market-rents in Downtown buildings could support new affordable units in the building, these units would be a very inefficient use of private contributions to affordable housing given that these represent the most expensive construction costs in the region. Instead of relying on private projects to include a limited number of affordable homes on-site through a density bonus that only works in very expensive buildings, private market activity could be better leveraged by adjusting policy levers by station area and over time so that they are precisely calibrated to the market. This would result in more impactful public funding, and better collaboration among private, public, and non-profit partners, including anchor institutions.

To this end, the City and County of Durham deserve credit for revisiting and adjusting the density bonus provisions within the UDO with the goal of finding the right set of incentives. However, more work and additional strategies are needed to reach the optimal level of calibration to fully leverage the private market – including a balance between new construction and conservation and utilizing density bonuses to invest in off-site provision of a greater number of attainably priced and affordable homes.

In addition, and to reinforce two primary themes of this report, it is important to look at taking a multi-pronged approach that utilizes a number of strategies in tandem while simultaneously recognizing that the single greatest overall lever to improve affordability is the need to increase overall housing supply

14 \$0.02 per \$100 of tax valuation of real and personal property

in a manner that meets the needs of the market. As such, it is important to always ask “do we have enough overall housing supply to support public policies and investments in a manner that results in a meaningful impact on housing affordability.” **To accomplish this, there must be a focus on providing not just new housing, but housing that can be built (and subsequently rented or sold) at a lower price point along with housing that meets the growing trends toward smaller household size.**

Chapel Hill has policy tools and some dedicated funding; however, its primary constraint is a lack of publicly owned land. In addition, the current development approval framework inhibits the creation of new homes in general, and even further discourages the construction and delivery of affordably-priced homes.

Historically, Chapel Hill’s primary means of adding affordable housing was through the rezoning process and also the Inclusionary Zoning ordinance which was adopted in 2009. In the almost 20 years since the inception of the rezoning policy, more than 300 units have been approved; however, fewer have actually been built. Although this mechanism has produced some affordable homes, the number pales in comparison to the shortage of over 10,000 affordable homes in Chapel Hill. Additionally, this mechanism has proven far less effective for rental projects, as a reflection of lending practices and a State Law that prohibits any local mechanism that can be construed as mandatory rent control. Only four rental projects have been approved with on-site affordable homes in exchange for a rezoning or a density bonus. Only one, with a total of six affordable units, has broken ground; the other three are indefinitely on hold.

More recently, Chapel Hill has increased staffing for its Office of Housing and Community, adopted affordable ownership and rental strategies, and completed an evaluation of Town-owned properties to identify opportunities for new affordable homes. Similar to Durham, Chapel Hill is planning to reinvest in its public housing communities, partly through mixed income redevelopments, which in addition to a one for one replacement of existing public housing, will result in new affordable options. To make progress on these strategies, the Town Council ordered a \$10 Million bond referendum that was overwhelmingly approved by voters to fund 400 new permanently affordable homes in addition to the preservation of 300 existing homes over the next five years, a goal of the adopted Affordable Housing Investment Plan. The Town Council has also waived all permitting and development fees for affordable projects, including a rebate of water and sewer impact fees, and the Town has initiated an evaluation of requirements and procedures that add costs to affordable housing projects.

While these efforts are to be commended, as in Durham, even if these efforts were multiplied, they would still be nowhere near what is needed to address the shortage of affordable homes in Chapel Hill. Like Durham, new partners, new strategies, and new funding sources area needed. Much of the land in Chapel Hill’s station areas is under institutional control, specifically the University of North Carolina at Chapel Hill and UNC Health Care, along with a few select private property owners such as SECU. Considering the limited amount of developable land, adjustments to land use and zoning processes and regulations will be necessary to promote the construction of more affordable homes in partnership with anchor institutions and private partners.

Simply put, expanding supply to meet pent-up demand will result in lower relative costs to families over time.

As will be discussed in the Strategic Interventions chapter of this report, the ability to promote different scales of development (especially the provision of middle market and attainably priced options) throughout new and existing neighborhoods will be a key component to successfully addressing the affordability issue. On a parallel track, conservation of existing homes and strategies aimed toward

preserving and/or allowing incremental density within existing residential neighborhoods will likely be necessary to overcome the limited amount of available land within the Town.

Expanding supply with a focus on meeting the specific needs of the market will help meet pent-up demand, resulting in lower relative costs to families over time. However, as will be discussed later in this report, creating policies and increasing investment to increase supply provides the ability to meet demand over a long period, while other areas of focus (such as policies that increase short term supply of missing middle housing, conservation efforts and other tools) will be necessary to address the more acute issues within a near-term horizon.

The existing housing stock is exponentially greater than the limited number of new units put on the market each year, further solidifying the need to take a hard look at what exists today.

The cost of providing attainable and affordable housing via the introduction of new product is quite inefficient, as it costs significantly more to construct new housing than it does to conserve existing product. This is exacerbated by the reality that most residential development is geared toward higher end, if not luxury markets, creating even higher costs for new construction. Expecting to solve a historic, regional affordability issue through fees or other demands on new development alone can reduce the number of units developed (while increasing the cost of those that are built) as it becomes less economically viable to do so.

While, over the long run, the most important aspect of housing policy should be to increase supply that meets the specific demands of the local market, this approach is incremental in nature and takes time to provide impact. In addition, new supply is incremental. The reality is that the number of existing homes is exponentially greater than the limited number of new homes put on the market each year. Therefore, it is essential to focus on the conservation of the much larger stock of attainably priced and affordable housing that exists today in addition to constructing new affordable homes.

UNLOCKING THE POTENTIAL OF TOD TO ADDRESS THE AFFORDABILITY CRISIS

The Opportunity

Today, there are over 100,000 jobs along the light rail line; in 20 years that number will exceed 150,000. The concentration of jobs, amenities, services and healthcare services along the line means that placing more housing near light rail station and along frequent bus routes that connect to the light rail means that more people will have low cost, frequent, and reliable access to opportunity.

The implementation of light rail will provide Durham and Chapel Hill a once-in-a-lifetime-opportunity to harness the growing market for walkable, mixed-use environments by leveraging growth in property values to support attainable and affordable housing. This provides an opportunity to spur transformative redevelopment at specific, strategic locations, including opportunities to build new mixed-income and affordable homes within the new developments.

As will be discussed in this report, there are significant economic benefits to residents and employees by locating jobs and housing around frequent, reliable transit. More people near transit + more jobs near transit = more access to opportunity. Additionally, with the economic development achieved through TOD, the municipalities have the ability to allocate a portion of the new local property tax revenues, estimated to be \$1.4 Billion through 2057, to make additional investments in permanent affordable housing to address the affordability issue along the light rail line and beyond.

Setting the stage for overcoming the rising affordability gap in Durham and Chapel Hill, the following statements frame the opportunity for a comprehensive approach for substantial affordable housing to be developed along the light rail line. **These statements underscore that tools and policies alone are insufficient. Honesty about the need for more money, leadership and cooperation through new non-traditional partnerships will be critical.**

“When you adopt TOD plans and zoning you have arrived at the starting line for securing affordable

housing, not the finish line. The plans and zoning make TOD and affordable housing permissible, something very different than making them viable. The first pertinent question is ‘how much affordable housing and urban density do the plans and zoning allow?’ Then you can have the conversation about the robust toolbox necessary to help assure the outcomes the plans envision¹⁵

The light rail project provides an opportunity to reframe the vision for how communities along the line wish to grow, within the context of leveraging economic growth and development from TOD to achieve Community Goals. New tax revenues, increased property values, and economic growth can be harnessed to utilize a wide array of strategies that will result in greater production and conservation of affordable housing while improving overall quality of life for residents and employees across the line.

Resources, including financial ones, will be necessary to combat, address and overcome the growing housing affordability crisis, particularly for lower income families for whom a market-affordable unit is out of reach, even in transportation-efficient locations. Transit-oriented development along the light rail line will provide new property tax revenues. The municipalities and counties have the opportunity to utilize these increased tax revenues in addition to other potential revenue streams that are not available today, for future use and investment. Should Chapel Hill, Durham, Durham County, and Orange County direct these revenues to affordable housing programs (whether to support development directly through funding or financing tools or to create a land bank for affordable projects in the future), there are a number of tools that can be utilized – or created – to conserve existing affordable housing, spur new construction of missing middle attainable housing and increase long term supply across the board. On the other hand, if there is no additional money available, the reality is the community will struggle to make any meaningful dent in the effort to provide a more equitable array of housing choices for residents across all income levels.

Additional outcomes that can be fostered through economic development include investments in infrastructure and creating engaging public spaces or preserving open space. Further yet, retaining and attracting talent by creating vibrant, walkable neighborhoods can be viewed as another set of desired outcomes.

As mentioned prior, the most significant cost burden for most families outside of housing is transportation, which is a cost that varies greatly depending on where a particular family lives. Therefore, a simple means to consider the true cost of where someone lives is to take into account both the cost of housing and transportation.

As stated prior, it is important to the overall analysis to consider the full cost of living, rather than isolate housing without context.

The Center for Neighborhood Technology, which has compiled a significant amount of research on the subject, has developed a methodology to compute the actual cost of housing when incorporating the imputed cost of travel between accessible housing and a job. Again, certain non-subsidy policy reforms, such as expanding housing access near jobs, can make an immediate impact on the availability of attainable housing. As Scott Bernstein of the Center for Neighborhood Technology and one of the nation’s foremost experts on affordability states “Very low-income people can easily spend 80 percent of their incomes on the combined cost of housing and transportation.” Bernstein continues, “Even moderate-income people who are stuck with no mass transit can end up spending as much on transportation as on housing.”¹⁶

Counterintuitively, while land and housing costs are greater in walkable and transit served locations

15 GB Arrington, Principal GB Placemaking

16 Scott Bernstein of the Center for Neighborhood Technology as quoted in Governing.com article by John Buntin, May 2017

(all other factors being equal), the reduction in cost for transportation for those able to walk, bike or use transit results in a lower overall cost of housing + transportation as compared to auto-oriented, non-transit served environments. In addition, the provision of transit greatly increases access to jobs and other economic opportunity. In a recent survey conducted by George Washington University, researchers found that a correlation exists that demonstrated a higher degree of social equity within walkable, mixed-use neighborhoods (which, when supported by transit such as light rail, can provide increased densities and overall activity as compared with non-transit served walkable nodes).¹⁷

The creation of walkable, transit rich and connected environments has significant social equity benefits. In addition to greater access to jobs and opportunity, by eliminating one car from a family results in \$150,000 in additional mortgage spending power (30 year term), or \$468 per month in additional renting power.¹⁸

Housing near services, retail and frequent, reliable transit provides people with the option to forgo the expense of owning a car, significantly reducing their household transportation expenditures and enabling more of their housing + transportation budget to be spent on housing if they so choose. While enabling more housing to be built in transportation efficient locations does not result in the direct creation of affordable housing supply, it does present people, including people with lesser means, with an option to reduce their transportation costs significantly and to choose to allocate some of that additional money towards housing while still reducing their total household housing + transportation costs.

To reiterate, the potential growth and new public and private revenue generation associated with light rail will be no panacea; but rather, light rail provides an opportunity to leverage the new investment in a manner that provides additional resources (financial and otherwise) to foster meaningful change in addressing housing affordability across the line.

Barriers to Success

The following barriers are explained to set the stage for solutions. While there is general consensus as to the need to provide more affordably priced housing and legally binding affordable housing, and while Durham and Chapel Hill are both undertaking ongoing efforts to address the growing affordability issue, a number of impediments create obstacles to achieving these goals. These barriers must be addressed in order to enable more affordably-priced and legally binding affordable homes to be built. While the affordable housing crisis requires an all-of-the above approach with respect to solutions, the effectiveness of those solutions will be muted until the following barriers are addressed. Providing more housing options in places where people want to live is essential to reducing pressures of gentrification and displacement in nearby neighborhoods where affordably-priced homes and apartments exist today. Failure to address these barriers that inhibit enough housing from being built will result in more and more families, higher up the income spectrum, becoming housing + transportation cost burdened at a faster rate than Durham and Chapel Hill are able to support the construction and preservation of affordable homes.

Increasing Land Costs: Due to population and economic growth, land costs have increased and will continue to increase, especially in desirable neighborhoods. Land costs are often greatest in more walkable, transit-connected, “in town” neighborhoods. While Chapel Hill and Durham cannot create new land in desirable neighborhoods, they can adopt policies that make it easier to provide new appropriately scaled housing in those neighborhoods. Large minimum residential lot sizes, lot widths, setbacks, and restrictions on vacant non-conforming lots all have an effect on limiting the number of sites that are available for the construction of homes. Modest adjustments to lot size/ shape requirements can provide more opportunities for homeowners and homebuilders to split their lot and allow another home to be built.

Restrictions on Missing Middle Housing: In addition to limitations on the number and size of available lots, local regulatory policies make certain types of housing such as “missing middle” difficult to

17 Foot Traffic Ahead Report by Smart Growth America and George Washington University, 2016

18 Chris Leinberger, GWU and Brookings Institution

build or by prohibiting them out right. Missing middle housing is a range of multi-unit or clustered housing types compatible in scale with single family homes (i.e. Accessory Dwelling Units, Duplex, Triplex and Quadplexes, and small multifamily buildings with six to 12 homes). These modestly-scaled housing types help meet the growing demand for walkable urban living that match the needs of many households, such as workforce households, single households, parents with adult children living at home, and elderly parents living with adult children. In addition, they allow for a greater degree of social equity, by enabling families within a greater range of economic strata to live within residentially-oriented neighborhoods near retail, services, and other amenities. To the contrary, limiting the types of housing that can be built in established and desirable neighborhoods limits the types of families who can live in the neighborhood, negatively impacting social equity outcomes. By limiting the ability for homeowners and homebuilders to spread rising land costs over multiple homes, over time, only families with increasingly higher incomes will be able to afford to live in the neighborhood.

Site Development Requirements: Site development standards embedded in zoning codes have a substantial effect on the costs of the homes that do get built. Stringent site-by-site stormwater requirements, recreation space requirements, and tree canopy requirements add costs to all projects, but can add disproportionate costs to small scale multi-family homes and single family homes.

In both Durham and Chapel Hill, existing single and two family homes may add impervious surfaces without required stormwater mitigation. Meanwhile for multi-family homes, the same set of requirements are applicable regardless of whether a project has three or three hundred homes. For smaller multi-family projects, these requirements often prove cost-prohibitive; larger projects are typically able to absorb these costs, but pass them along to renters and buyers.

Tree canopy preservation and recreation space requirements or payments-in-lieu represent another constraint on buildable space as well as a cost. Stormwater mitigation, tree canopy conservation, and park space are all integral in providing a comfortable neighborhood environment. However, these interests and resulting requirements must be examined to ensure that both existing homes, through property taxes, and new homes, through development requirements, are contributing their fair share to achieve these goals. Failure to do so will limit the ability of homebuilders to build in affordability and add extra costs to legally binding affordable homes.

Off Street Parking Requirements: Off street parking requirements limit what can be built and can often add unnecessary costs to projects of all sizes. Many small scale projects are required to provide redundant on-site parking even though plentiful space exists on publicly owned streets. Parking minimums often result in the need for structured parking for mid-sized and larger projects, which can make up as much as 30 percent of the construction cost.¹⁹ This cost is passed on to renters and buyers in rents and sales prices, including families who do not own a car. In addition to adding costs, parking spaces and driveways take up space that could otherwise be used for housing or communal space and adds extra impervious surface, which is then required to be mitigated. These requirements make it difficult for small and mid-sized projects to make financial sense for homebuilders to pursue, even if some families would like to live in these types of homes. The result is that fewer types of homes and less homes overall are built, limiting the number of options that are available to families.

Arduous Development Entitlement Processes: With the exception of Durham’s Downtown and Compact Design Districts, zoning processes in Durham and Chapel Hill are punishingly complex and cumbersome for most uses other than single family residential homes. As a result, homebuilders and developers shy away from small and mid-size projects, and either take the path of least resistance by building single

¹⁹ A recent Government Accountability Office Report of focused on Low Income Housing Tax Credit (LIHTC) projects found that the average cost of structured parking made up 27% of construction costs of projects. Industry group reports have drawn similar conclusions for market-rate housing.

family homes or by focusing on big projects with larger returns-on-investment to better ensure that their time and efforts are worthwhile. A difficult process, without defined outcomes, sends a strong signal to homebuilders, developers and investors, to maintain the status quo and avoid innovative approaches to providing housing. Many homebuilders and developers who do build, or who might consider building moderately priced, mixed-income, or legally binding affordable homes, simply do not when faced with an arduous process. Finally, uncertainty results in lenders demanding higher return-on-investment for project loans to offset the increased risk. The end result is less homes, higher cost homes, and a tendency to build fewer, but increasingly larger, multi-family communities made up of luxury homes.

Infrastructure: The state of local infrastructure also plays a role in the affordability issue. For example, a disconnect between roadway design and/or pedestrian infrastructure, and adjacent land uses, can make it difficult to create a local environment that is conducive to walking, biking and other non-auto oriented means of transportation. Good urban design is necessary to create a public realm that enables privately owned parcels to work together in a manner that promotes walkability and access to transit. If these outcomes are not achieved, it becomes more difficult, if not impossible, to adequately build and support appropriate densities within a transit-oriented setting.

The same is true of stormwater, water, and sewer infrastructure. These systems are foundational for the development of housing, and even more so for legally binding affordable housing. Public policies that place the mitigation burden on individual projects, especially smaller and mid scaled projects, rather than on a community as a whole precludes affordability from being built into these projects. In the case of water, sewer, and streets, if sufficient infrastructure is not in place, it is very unlikely that a single project, especially one that includes affordable homes, would be able to bear the costs of improving public infrastructure in addition to building housing.

The question of timing and phasing is a paramount issue. To ensure the private sector is able to develop the type of compact, walkable neighborhoods desired within a transit-oriented setting, it is first essential to provide the infrastructure necessary to support development activity.

The Funding Gap: Often, legally binding affordable homes and even attainably priced housing are faced with a funding gap, which is the difference between what a developer can afford to invest in a project and the ability to deliver lower cost homes that allows for enough profit to induce the private sector into building. Even with a clear approval process and favorable zoning standards, this gap usually exists. The economic factors at play, such as a lack of available land, increased costs for construction materials, and a tight labor market for construction workers, stack the deck against providing attainably priced housing through market measures, alone. For attainably priced housing to be built, it must be feasible for sales prices or for future rents to cover the construction costs in addition to financing costs. If a project does not earn enough in rents to cover its costs and earn a sufficient return on investment, it will neither obtain financing nor be built.

Limited Effectiveness of Regulatory Incentives: It must be noted that certain tools that are available in many other states are not available for Chapel Hill and Durham due to limitations under state law. “Inclusionary Zoning,” one of the more popular, albeit questionably effective tools in middle-tier markets such as the Triangle, is not lawful in North Carolina. Even affordability conditions agreed to by the developer and approving body as a part of a legislative rezoning decision are on questionable legal footing in the state. Opt-in density bonuses can often prove ineffective, particularly in the case of multifamily rental homes, due to the paradox of affordability at the middle market.

In this paradox, awarding additional density to a project in exchange for the project constructing affordable homes makes the project less profitable. In such an instance, additional density can result in the need for higher cost construction typologies, rendering the project financially unfeasible at the higher density (unless there is a commensurate increase in rent or sales price). For example, at four to five stories, structured parking is necessitated, even at parking ratios of one space per unit; at six-seven stories the lower one-two floors must be concrete or steel; and over seven stories, the entire structure must be concrete or steel.

Each of these factors adds significant additional per square foot (and per home) cost to the project.

The cost to construct concrete and steel are far above those necessary to build utilizing less costly construction typologies, often by factors of two or more. Meanwhile, below market rate homes increase the effective cost per home for the overall project in addition to the switch to more expensive construction types, affecting the project's profit margin overall. A developer will not take advantage of more density if the profit margin is substantially lower and especially if profitability is not even possible.

Limited Funding for Legally Binding Affordable Homes: Traditional funding sources including the Federal Government, the State, local governments, and other subsidy programs for affordable housing are limited, and produce too few units per year relative to the need demonstrated in Chapel Hill and Durham. The lack of substantial state funding and other policies is fundamentally a barrier in real estate markets, like those in North Carolina, that rely on the private sector to deliver most of the housing. Means by which to increase and maximize the efficiency of funding are discussed further in this report. More funding is essential to addressing affordability, especially for families with the lowest incomes. Chapel Hill and Durham must also strengthen existing partnerships and create new ones so as to maximize the amount and types of funding available for affordable housing.

However, in order for additional funding and new partnerships to provide affordable homes to be effective, they must be accompanied by changes to the regulatory framework to be more favorable to developing more homes at all scales in a manner whereby the private sector can meet financing requirements to achieve a sufficient return on investment while constructing more attainable priced housing. Failure to do so will mean that publicly supported efforts to provide affordable homes will be quickly outpaced by rising home prices as a result of these of barriers limiting homeowners, homebuilders, and developer's ability to provide enough housing and better build affordability into new housing.

A BROAD SET OF INTEGRATED STRATEGIES

With the anticipated light rail service and station area infrastructure investments, there is a window of opportunity to leverage the significant economic growth from transit-oriented development catalyzed by the light rail to support an increased supply of affordable units.

The affordability crisis is a multi-faceted issue and will require an all-of-the-above and all-hands-on-deck approach in order provide all families the opportunity to live in Chapel Hill and Durham. Utilizing a broad set of integrated strategies, Chapel Hill and Durham have a rare opportunity to leverage new property tax revenues and economic growth that will result from the investment in light rail, to make substantial progress toward preserving and creating new attainable and affordable housing within light rail station areas and beyond.

Durham and Chapel Hill are pursuing two goals, not only along the light rail corridor but more broadly in their communities:

1. Create new affordable housing units
2. Conserve existing affordable housing units

To achieve these goals, local governments have five strategic approaches they can take -- outlined in the table below -- that frame how local government interacts with private sector, anchor institution and non-profit partners:

STRATEGIC APPROACH	ROLE OF LOCAL GOVERNMENT
Educate	Strategies that inform private sector, anchor institution and non-profit partners, along with prospective homeowners, about actions they can take.

STRATEGIC APPROACH	ROLE OF LOCAL GOVERNMENT
Facilitate	Strategies that encourage partners to take specific actions.
Stimulate	Strategies that reward partners for actions they take.
Regulate	Strategies that require partners to take specific actions.
Allocate	Strategies that acquire public resources and allocate them to affordable housing projects and programs.

These strategic approaches are designed to address the cost challenges on the supply side of the housing affordability equation. Although not addressed in this report, local governments can also leverage the transit and associated development investments in station areas to boost household incomes, essentially a third “goal.” A strategic approach to achieve this goal might be termed, “Elevate” – strategies that take advantage of the transit investment and development along the line to provide training and job opportunities for lower-income residents, so they can better afford the housing opportunities served by the transit investment.

This section of the affordable housing opportunity report discusses 10 key objectives that can guide Durham and Chapel Hill as they pursue specific strategies for each of these approaches. As local government and its private sector, anchor institution and non-profit partners work on strategies, they should recognize and respond to three significant barriers to success:

- The ability to gain site control for affordable housing,
- The ability to devise land use standards that are sufficient to incentive the private sector to provide affordable housing, and
- The need for on-going subsidies for the operation and maintenance of affordable housing.

Common Needs, a Shared Vision

Success is also represented in terms of access to opportunity and employment along with entertainment, cultural and public amenities for communities that represent the full spectrum of economic standing—a requirement for integrating and sustaining affordable housing within a diverse and equitable community context.

Trial and Error, Utilizing an Integrated, Cross-Silo Approach

To that end, there must be a concerted effort, including a degree of trial and error. Efforts should be focused not on a limited number of viable strategies, but rather a broad range, calibrated for both the local context and the market in a manner that leverages the investment in light rail to provide greatest results. In addition, and as mentioned elsewhere, some tools that are available in other locales may be limited or prohibited under North Carolina state law. This is especially true in regard to legislation and legal frameworks that affect taxing authority and rules of property disposition, in addition to zoning levers and the ability to create Tax Incremental Financing and other financial-regulatory frameworks for development. That said, it is important to consider the full spectrum of potential strategies to determine what adjustments in policy may be necessary at the local level, and, perhaps in time, in terms of a changed state legislative landscape to promote greater affordability.

Understanding potential limitations, it is essential to utilize a multi-strategy approach that takes into account the comprehensive nature of the light rail line and related development activity. Looking at the line holistically, a set of strategies can be combined to best leverage local conditions at and around each train station, and throughout the region as a whole. Collectively, this series of specific interventions (each created according to a local, context-sensitive framework) provide short-, mid- and long-term solutions that continually chip away at the need for more affordable units.

A comprehensive and holistic approach with appropriate prioritization of resources and efforts can both maximize the potential benefits of public investment as a whole, while focusing on those who need assistance, the most. By both reducing barriers to enable the market to produce more housing

at all scales, while investing strategically in supporting the development of affordable housing (be it through investment in supportive infrastructure or financial support as is described below), increased supply would help reduce, to some degree, upward pressures on price for housing in the short term, while providing greater equilibrium between long term supply and demand. It could also provide greater and more robust access to employment and economic opportunity, while reducing a household or individual’s transportation costs enabling a household to have more money available for other necessities such as food, medication, clothing and so on.

A number of potential strategies should be examined to determine a comprehensive and holistic approach to meeting the region’s affordable housing needs. There is no one silver bullet in terms of policy or financing that would successfully overcome the challenges associated with creating additional affordable housing. There must be a complete suite of tools that can work in a complementary manner which utilize a test, evaluate and adjust strategy, to best enable Chapel Hill and Durham to capitalize on a range of short-, mid- and long-term opportunities.

OBJECTIVE #1

Set Realistic Yet Aggressive Affordable Housing Goals by Number of Homes to Close the Affordability Gap within Station Areas

In order to substantially address the affordable housing crisis within the region and to make a positive contribution to addressing it along the light rail line, it is necessary to have estimates and projections of the following:

- The shortage of affordable homes that exists today and will exist 10 years from now without action.
- The number of affordable homes that need to be built and conserved to address this shortage and the time it will reasonably take to do so.
- Identification of strategies that will be used to build and create new legally binding affordable homes and estimates of the number that can reasonably be produced by each strategy.
- Identification of strategies that will be used to support the construction of market rate homes and reduce price pressures on existing naturally occurring affordable homes.

ACTION STEP: Durham and Chapel Hill set and validate a target number of affordable homes for both construction and conservation over the next five, ten, and twenty years within station areas by the end of 2019.

OBJECTIVE #2

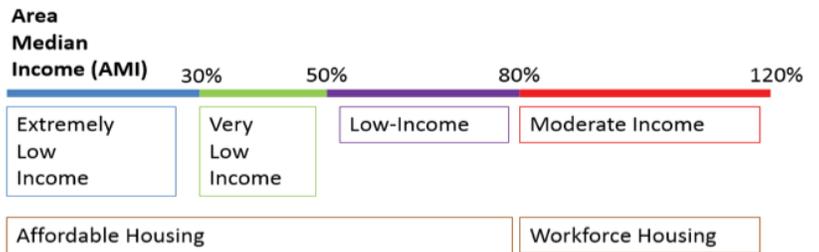
Prioritize Conservation / Conversion of Existing Affordable Housing

While much of the burden to provide new attainably priced housing is put on the backs of new development, this approach is a rather inefficient way to make meaningful progress towards bold housing goals and production targets.

Instead, multiple existing naturally occurring affordable homes (or legally binding affordable homes whose affordability restrictions are about to expire) could be conserved for the cost of producing one new affordable home.

This is especially true of new construction in popular locations with higher land prices and higher construction costs. Conservation of affordable homes could be achieved through establishing a fund for affordable housing partners and private property owners to reinvest in existing communities in exchange for new or extended affordability commitments. This could also be done in partnership with

property owners who would like to redevelop by using regulatory bonuses and financial incentives in exchange for the property owner committing to maintaining a certain amount of affordability as the property is redeveloped.



As a note on this issue, while there are benefits to adding additional overall supply to the market (more supply reduces price pressures), those benefits accrue over a long period of time. In addition, the provision of one new subsidized affordable unit reduces displacement pressures more than two additional market rate units, while the former can also be more target to meet short term, acute needs. In terms of countering concerns of gentrification and displacement, these are important factors to consider.

In addition, the provision of one new subsidized affordable unit reduces displacement pressures more than two additional market rate units, while the former can also be more target to meet short term, acute needs. In terms of countering concerns of gentrification and displacement, these are important factors to consider.

ACTION STEP: Chapel Hill and Durham conduct an audit of existing workforce and affordable housing to determine properties that are best suited for conservation.

- Identify naturally occurring affordable properties and score their risk of either being redeveloped or renovated with accompanying rent increases.
- Identify and score legally binding affordable properties with expiring affordability restrictions.

ACTION STEP: Chapel Hill and Durham build capacity to better understand and engage in the private real estate markets by hiring or contracting with a multifamily real estate professional with expertise in the capital markets. This type of professional experience would support land purchases, land banking, dispositions, and provide in depth knowledge of potential off-market opportunities.

OBJECTIVE #3

Implement Innovative Approaches to Land Acquisition and Control

Without land upon which to build or redevelop, it is impossible to create new homes. There is a need for both municipalities and their partners to acquire and/or control land for the purposes of creating a pipeline for affordable housing. There must be sense of urgency to acquire and preserve key parcels within station areas for future development of affordable housing before land prices increase in anticipation of the opening of light rail. This could take the form of a land bank or partnerships with local institutions such as foundations or pension funds with social impact goals.

Land is more expensive than it has ever been. It is also less expensive than it will ever be.

While it is difficult to ascertain the specific timing of land appreciation due to the investment in rail, it is likely that the following progression is likely to take place (it should also be noted that these assumptions recognize that it is a vastly different climate today, and into the future, as compared with a decade or so ago with Charlotte’s light rail began to take shape, in addition to other similar efforts around the country): (1) In the years during the light rail’s construction, at least some speculative land purchases are likely to occur, especially in areas where significant future development is expected and/or a land is in short supply, today and (2) as stations begin to open, and as local station areas infrastructure is put in place, additional escalations in price/cost should be expected and (3) as initial phases of station area development are underway, with a mix of uses and good urban form, additional escalations are likely to occur. Mind you, these steps of appreciation in land cost don’t include additional increases in land cost that would be associated with anticipated zoning changes and actual changes in land use regulation that allow for greater height, density and range of uses.

Interim uses are a potential tactic within a land banking strategy. This entails putting the property to a temporary economic use that is suitable to be transitioned through redevelopment to accommodate affordable housing once the funding is available. Not only do interim uses help reduce the carrying cost of the property, reserving more funding for affordable housing, they can also help to activate the area around the property. For example, a food truck park could provide an amenity to the employees

and residents of a station area during its early phases of development without affecting the longer-term ability for the land to be used for affordable housing.

ACTION STEP: Chapel Hill and Durham identify and prioritize purchase of land in station areas and other locations throughout the corridor, with timing informed by the targets established under Objective #1.

ACTION STEP: Ensure that each land banked property has a role in meeting established targets for affordable housing. Master plan and prioritize each site for development based on the analysis contained in this Guidebook and other pertinent community priorities.

ACTION STEP: Identify potential private sector, not-for-profit and institutional partners to implement an interim use of the land until it is ready to be developed into affordable housing.

OBJECTIVE #4

Capitalize on Market Activity to Generate Revenue for Affordable Housing

Explore innovative means to capture and use new property tax revenues to support Affordable Housing through public and private financing mechanisms. The following potential strategies are available to local governments to capture increased property values in station areas:

- **Synthetic Tax-Increment Finance (TIF) District.** This tool relies on committing a certain portion of increased property tax revenues that result from new development activity.
- **Special Assessment Improvement District.** This tool is a levy on properties to support community needs, including affordable housing. This tool requires approval by a majority of property owners within the district boundary and is therefore suited to station areas with concentrated land ownership.
- **Municipal Service District.** This tool an additional property tax on properties to support the provision of services or community needs, including affordable housing.

These committed future revenue streams can be monetized through an array of financing tools available to local governments in North Carolina as a way to pay for costs associated with the construction of station area infrastructure and affordable housing. New revenue districts are not necessarily required in order to allocate funding in this manner; in the absence of a formal mechanism, Durham, Chapel Hill, or the counties could commit a certain percentage of future revenue within station areas to their affordable housing funds for the conservation of existing homes or the creation of new ones within station areas.

Regulatory changes, infrastructure projects, and affordable housing must be timed to complement each other, and they must be completed ahead of the uptick of land prices associated with the opening of light rail to maximize (or even realize) the ability to support affordable housing. For example,

Durham and Chapel Hill should adopt work plans that coordinate policy changes and investments in utilities, streets, land banking, and parking management strategies ahead of or concurrent with the construction affordable housing. This coordinated infrastructure/land/parking investment should be undertaken when it can be catalytic to market-rate development on other nearby properties in addition to supporting an investment in affordable housing. A coordinated approach is especially important given that other developments can help create a walkable neighborhood context for the affordable housing by providing things like sidewalks, public space, and retail. This approach will further reinforce the opportunity for equitable prosperity by using public investments to spur the creation of new places where people of all backgrounds and incomes can live, work, and interact with one another.

ACTION STEP: Durham and Chapel Hill to commit portion of new station area tax revenue to affordable

housing. As specific projects make their way forward, finance officers from the City of Durham, Chapel Hill, Orange County, and Durham County should work together to identify and recommend revenue mechanisms and finance vehicles to fund those projects.

ACTION STEP: Create a set of priority investments (including their timing) to determine which investments provide the greatest opportunity to maximize future tax revenue generation and support affordable housing.

OBJECTIVE #5

Conserve and Create Affordable Housing Opportunities through Partnerships between Anchor Institutions and Local Communities

Durham and Chapel Hill must continue to coordinate and formalize partnerships with local universities, health care systems, and other anchor institutions. This strategy could be utilized in both the short- and long-term to leverage their presence and respective desires to be leaders within the community in addition to introducing housing as a potential benefit for employee recruitment and retention.

ACTION STEP Chapel Hill: Incorporate affordable and workforce housing plans into entitlement review for the UNC Health Care Eastowne Master Plan and Campus Master Plan / Development Plan Update

ACTION STEP Durham: Incorporate affordable and workforce housing plans to into entitlement review for future Duke and NCCU planning and/or development processes.

For sake of discussion, the Town of Chapel Hill and the potential transformative redevelopment opportunities that exist on university-owned property are utilized as an illustrative demonstration of how this could unfold, with benefits for multiple constituencies throughout the region. As UNC is undergoing a Master Planning effort, opportunities may present themselves for development of this sort that is beneficial to the mission of the university as well as the Town. Both the University of North Carolina and the Town acknowledge the need to work together to provide an appropriate framework by which development can occur around the stations, specifically the main campus stations and the Friday Center where there opportunities for new mixed use development in addition to institutional development.

To simplify this potential process, there could be mechanisms that provide for the approval of additional uses and densities on university- or health care system- owned land in exchange for the university providing affordable housing on site for its staff. Another scenario might be that an agreement is executed whereby a certain percentage of residential units are built on site, for use by university or health care system employees who seek and are qualified for affordable units. Additional funding could be placed into a special housing fund that enables the creation of units off the university's land for qualified staff. This approach would yield multiple wins for a wide range of constituencies:

- **Enables University to help address the affordable housing issue**, with greatest impact on those working for the University in regard to providing affordable and/or attainable housing in conjunction with housing that is within close proximity to their workforce's place of employment
- **The University would be able to garner public support for more intensive development** (higher densities, heights, range of uses etc.) than might otherwise be publicly amenable, allowing them to grow at a faster pace while utilizing land to its highest and best use – something of utmost importance considering the long range vision of the University, its land locked status, and need to retain flexibility to grow into the distant future;
- **The University would be able to tend to the needs of its employees by providing affordable units** within the confines of its own property, which helps to attract and retain employees and provide more equitable opportunities for lower wage employees.
- **By providing some housing for lower wage employees, workforce housing helps relieve the overall need for affordable units in Chapel Hill and Durham;**
- The Town would be able to address its affordable housing demand more aggressively, as the

off-site contributions would help fund land acquisition and/or offset development costs for the private sector and/or allow the Town to build units itself or within a Joint Venture partnership;

- **University employees would have additional opportunities to live within the communities they currently live and/or work;** and
- **The community at-large will see a true partnership,** whereby the University is not only looking out for the needs of its employees, but is also proactively working with the Town to address, in a meaningful way, the overall affordability crisis, even with the understanding that the University cannot be seen as the sole party responsible for / able to address this growing need.

This objective may have positive implications in Durham in terms of potential partnerships with Duke and associated foundations. This tactic could be utilized in conjunction with one or more of the other aforementioned strategies, in addition to existing programs, creating a “capital stack” of sorts whereby no one program, institution nor constituency can meet the significant affordable housing need on its own. Instead, there would be a layering of multiple and complementary strategies and tactics upon one another in a manner that could make a significant dent in addressing the overall situation and need.

OBJECTIVE #6

Establish partnerships with private and not-for-profit entities to fund, develop and manage new affordable housing

In addition to partnering with the anchor institutions along the line, it is necessary to find partners who can provide capital, develop affordable housing, and manage it. These partners can help provide the financial capacity and development expertise to make the most out of public investments in affordable housing while allowing the municipalities and counties to pursue multiple projects at once.

Quasi-governmental or non-profit entities that provide a socially-minded investment function, such as a Community Development Corporation, are particularly well-suited to fund land acquisition and/or development. This approach might also fit within the purview of an “impact fund” which is comprised of socially-minded investors who are willing to invest in projects that produce social community benefits even though financial returns may occur on a longer timeline.

There may also be an opportunity for the municipalities and counties to partner directly with affordable housing developers which could take a number of forms including the following:

- Selling or leasing municipal land at reduced or not cost.
- Providing construction of necessary infrastructure such as streets or utilities.
- Being a part owner of the project by contributing equity and sharing in financial returns or losses.

ACTION STEP: Identify and engage in discussions with potential private, not-for-profit, faith/mission based and institutional partners. These include potential property owners and managers, developers, builders and investors.

OBJECTIVE #7

Ensure Zoning Requirements are Context Sensitive

It is essential to think beyond the corridor, and beyond downtown and mixed-use type environments.

An important aspect to addressing the affordability issue is to “densify everywhere” while ensuring

new homes fit within the local neighborhood scale. This type of housing is known as “missing middle” and it includes housing types that range in scale between a stand-alone single-family home and smaller apartment buildings. These types include Accessory Dwelling Units (ADU’s), duplexes, or fourplexes that are sized to match and blend in to an existing neighborhood. Allowing missing middle housing types within residential neighborhoods surrounding station areas is a valuable strategy to complement the larger scale development anticipated in areas closer to the light rail stations.

In addition to allowing a diversity of housing types, it is important to reduce parking, unusable open space, and setback requirements in neighborhoods surrounding the station areas so that new homes can become a part of the neighborhood fabric while incrementally allowing it to adapt and change over time.

ACTION STEP: Chapel Hill and Durham to conduct a neighborhood by neighborhood land use analysis to determine opportunities to increase supply of incremental, small scale “missing middle” housing

ACTION STEP: Review, assess and update zoning and other land use regulations to spur development of missing middle housing types, in accordance with the findings of the aforementioned analysis.

ACTION STEP: Review, assess, and update zoning codes and other land use regulations to remove Regulatory Barriers that unnecessarily increase the costs of new housing and to remove barriers to constructing affordable and workforce housing in general. Refer to the Zoning Policy Brief on page 29 for a listing of Regulatory Barriers identified by the TOD study.

ACTION STEP: Create a public engagement process to educate the public as to the need for and benefits of incorporating incremental, small scale and missing middle housing within existing neighborhoods

OBJECTIVE #8

Ensure that Density Bonuses are Calibrated to be Cognizant of Market Forces

Inclusionary zoning, while politically popular, is often applied too broadly resulting in decreased overall production and higher housing costs – the exact opposite of the intended outcome. Too often, the result of compelling developers to include an affordable component is an economic burden that makes it difficult to get a loan to build the project. As a result, the project may not occur, it may occur with fewer, larger, and more expensive homes, or it may skimp on design. Mis-calibrated density bonuses can have a similar effect. Policies that decrease the amount of new construction in places where people would like to live will result in upward price pressures for housing both in the station areas and in surrounding neighborhoods.

Given this reality, properly calibrated tools to encourage developers to provide more workforce and affordable housing rather than “force their hand” are recommended.

ACTION STEP: Chapel Hill and Durham review existing land use regulations and policy levers regarding development to consider adoption of new and/or revised density bonuses, fees-in-lieu of and other mechanisms to support mixed-income communities by incentivizing developers to produce more affordable and workforce housing both on and off site, for new development.

ACTION STEP: Chapel Hill and Durham to incorporate metrics in addition to straight line density (number of homes) as opposed to sole reliance on density in calculations, to increase the incentive for developers to build smaller, less expensive homes. These considerations could include:

- Height requirements (which Durham already utilizes in areas)
- Exemption (or flexibility) for lot coverage requirements
- Exemption (or flexibility) for building massing requirements such as upper story setbacks
- Reduced public space and parking requirements (where parking requirements exist)
- Flexibility from material and design requirements, so long as requirements that relate to providing appropriate urban form and street-level characteristics are retained.

OBJECTIVE #9

Ensure Development Processes are Transparent, Fair and Predictable

One of the most overlooked and largest factors that dampens supply of both market rate and affordable housing are overly complex land use policies and entitlement processes. The additional time and risk work in tandem to contribute to higher costs for housing. Sometimes, adjusting the existing framework is not enough to provide the desired outcomes. At times, it is necessary to “start fresh” and either change the rules or break them and create a new way in which to do business.

As such, it is essential to provide clarity and transparency in the development process. Developers are willing to work within the rules, even jump through additional hurdles, if the process is clearly defined and conducted with fairness and objectivity.

ACTION STEP: Chapel Hill and Durham review existing land use, development and construction entitlement and approval processes to determine what aspects may hinder production of quality development in general, and the provision of affordable and attainable housing in particular.

ACTION STEP: Chapel Hill and Durham revise approval framework with an expedited review for projects that meet certain affordability criteria. This type of framework provides more clarity and predictability and less financial risk for developers and investors.

OBJECTIVE #10

Increase Sources of Affordable Housing Funding Using Innovative Financing Tools

To successfully meet community goals, the municipalities and counties must increase their financial capacity to support the pipeline and construction or purchase of affordable homes.

Both Chapel Hill and Durham have experienced staff working on these efforts, and each has created a series of policies and mechanisms that result in a solid policy framework for the development of more affordable homes. However, limited financial resources remains a significant impediment to addressing community needs and reaching adopted housing goals.

The potential transit-oriented development spurred by the Light Rail Project could provide a catalytic opportunity to obtain new revenue sources to meet the needs of the municipalities and the Region. However, new revenues must be leveraged by appropriate policies and investments along the light rail line and beyond.

ACTION STEP: Chapel Hill and Durham assess potential impact of innovative finance and funding strategies to increase capacity for affordable and attainable housing development at all scales (incremental, missing middle, larger scale intensive development).

ACTION STEP: Chapel Hill and Durham codify mechanisms to utilize a portion of new tax revenues generated at and around station areas as a result of the Light Rail investment, to fund/catalyze/leverage these funding sources and financing tools.

Some potential venues to provide new sources of revenues and/or financing to spur development, especially at the local, non-institutional and neighborhood scale include:

- **Financing for Upgrades of Existing Affordable Product:** offer financing that allows for-profit developer to upgrade the property in exchange for continuing to rent to low income households

for a certain period of time.

- **Incentivize owners to bring vacant sites to market:** An example of this might be the imposition of a higher marginal tax rate on idle urban land than on improved urban land (this may not be currently allowed under state law, but could be considered if there is an opportunity for enabling legislation at some point in the future).
- **Provide incentives for development of affordable product on vacant sites:** Where feasible and appropriate, consider property tax holidays or partial public funding for infrastructure upgrades. This might take the form of a land use incentive grant or synthetic TIF.
- **Create a revolving fund (public and/or private) to invest in ongoing rehabs:** to spur smaller scale upgrades. It may be worth exploring the creation of a partnership led by a public or not-for-profit entity which could then seek to create a fund for the acquisition of existing Class C or C- Multifamily properties. The fund could be managed and operated by a private sector developer that has the capacity, wherewithal and market know to purchase, rehabilitate and manage subject properties. By partnering with the private sector, additional market knowledge will be brought to the table, including knowledge of properties that have not formally hit the market and other industry information that may not be privy to governmental or not-for-profit entities as a general rule of thumb. Such an effort could be utilize to provide attainable product or legally binding affordable options by converting market rate (and/or conserving affordable) into the future.
- **Create long-term, low interest funds** (even up to 50 year financing at 3%) for more significant affordable housing project
- **Create low and/or no cost interest financing assistance to support incremental development** and ongoing rehabs including ADU's and one to four unit properties and missing middle projects. Utilizing General Obligation Bonds or other municipal funding sources, financing vehicles can be created whereby low interest or no interest loans can be provided to incent the development of smaller scale missing middle product. Such an approach could piggy back onto Freddie Mac's new financing program which provides Mezzanine loans at favorable pricing and additional debt capital conditional upon the multifamily property owner voluntarily keeping a rents affordable for low and moderate income families through limitation of rent growth on 80% of their units.
- **Explore Neighborhood Empowerment Zones** that would create designated districts that could provide tools and incentives such as:
 - Consider a property tax freeze for a period of time (i.e. 10 years) for homeowners if they are making improvements to their property resulting in more than 25% increase in value and increased density (ADU's, granny flats, additions)
- **Utilize development fee rebates** (permits, planning, zoning, recreation space, landscape & utilities)
- **Consider Tax Exempt Bond Financing** to assist persons of low and moderate income for the acquisition and ownership of quality, safe, sanitary, and affordable housing. Bonds could be issued to finance, in whole or in part, the development costs of a residential development or redevelopment; the costs of purchasing or funding the making of home mortgages; and any other costs associated with the provision of decent, safe, and sanitary housing and non-housing facilities that are an integral part of or are functionally related to an affordable housing development.
- **Create a Housing Trust Fund:** Chapel Hill and Durham each have such funds, however Go Triangle may wish to establish a Housing Trust Fund that allows monies to be used to make loans to support the production goals of updated Housing Policies. Set funding aside to support developments. Research the ability to direct dedicated revenue sources for the Housing Trust Fund, including unencumbered property tax revenues from developments that have been built on previously City-owned land, proceeds from the sale of properties acquired by the City following non-tax lien foreclosures, among other sources. In addition, Chapel Hill's current fund is limited to only four projects to be financed annually through such a fund, and as such, may wish to explore expanding the program and/or enabling more projects at lesser

cost to be applicable, which would serve to reduce or eliminate the funding gap for a series of smaller, incremental and missing middle projects.

OBJECTIVE #11

“Stack” different strategies and tactics to provide a layered solution

A layered solution would reduce, if not eliminate, the funding gap between the cost to construct affordable homes and the requisite rents necessary to support such development. Public dollars can go much further when they are matched by or are used to incentivize and support private development when compared to having the public sector fund affordable housing directly. Increasing revenues for affordable housing without also finding ways to increase the efficacy of those revenues will result in the inability of Chapel Hill and Durham to substantively address the affordable housing shortage.

ACTION STEP: Chapel Hill and Durham create matrix of affordable housing priorities and opportunities categorized by scale, neighborhood typology and timing to create integrated strategies for a full range of affordable and workforce housing opportunities.

By utilizing efforts that enable and support the private development community, municipalities can be better stewards of public dollars as they be utilized with far greater impact. Public dollars can go much further when they are matched by or are used to incent and support private development when compared to having the public sector fund affordable housing directly. For example, New Urbanist developer Robert Chapman describes a program whereby different strategies are combined:

- Low or zero land cost by utilizing municipal property or creating a public-private and/or not-for-profit entity. Municipal property could be provided at no cost for the development of affordable housing;
- Long term, low-interest finance –up to 50 year financing at 3%, to reduce cost of debt and the burden of debt service;
- Not profit-sponsorship of affordable development projects; and
- Utilization of good design and location, which is paramount to the light rail project and the creation of walkable, mobility rich and transit-connected neighborhoods. All other development factors aside, this would reduce the need to construct more parking.

Such an approach, in theory, could reduce the cost of housing by as much as 50%, leveraging a series of tools and strategies in a concerted effort that may include public, private, institutional and not-for-profit participants.

OBJECTIVE #12

Support Interdisciplinary Engagement and Collaboration

There must be a marriage between land use, mobility, infrastructure and public policy to provide the greatest economic and social returns for the investment in light rail, and associated private investment induced by the new transportation potential.

Since the only constant will be change (market conditions, policy tools, site opportunities, funding streams, organizational leadership, and staffing,) structured and sustained engagement and collaboration will be important for success. Two initial collaborations that should be supported are:

- The existing Housing Practitioners Group facilitated by the Triangle-J Council of Governments that brings together housing expertise from local government agencies, the private sector and

- non-profit organizations to collaborate on affordable housing issues.
- Increased communication and cross-department frameworks within each municipality to ensure that a coordinated and informed process occurs to address a range of issues that inter-relate, including land use, economic development, infrastructure, affordable housing, and transportation.

ACTION STEP: Chapel Hill and Durham create inter-municipal partnership frameworks to promote greater communication and coordination between and among the Town, City, Durham and Orange Counties and TJCOG.

ACTION STEP: Chapel Hill and Durham look to create internal, cross-department frameworks to foster coordination and collaboration among and between all staff and agencies that either affect or are affected by development in general, and affordable housing, in particular.

SUMMATION

The issue of affordable housing is not an isolated issue. It is interrelated with many policies, including but not limited to transportation, land use and zoning and other regulatory frameworks. As such, it is important to consider the affordability issue across the board, by explicitly stating support for affordable housing within comprehensive plans and other strategic documents. **Emphasize the need to ensure construction and preservation of existing housing that is attainable at a full range of income levels (30%-120% of AMI) and set production goals and income bands to be served to serve as a baseline and set of goals to monitor progress and adjust strategies as needed.**

In addition, recognize housing as a key tool for equitable economic development by encouraging walkable, mixed-use development to drive additional corporate retention and attraction while providing equitable opportunities for upward economic mobility. Light Rail as a transit spine anchoring TOD neighborhoods with affordable housing makes this possible on a large scale.

This approach not only generates new tax revenues through new employment, but recent studies have demonstrated greater worker productivity within walkable, mixed-use neighborhoods, further improving economic competitiveness, wage growth and additional tax revenues. Perhaps most importantly, these walkable environments have been shown to be more socially equitable through a reduction in housing + transportation costs while increasing access to economic opportunity and jobs for those who live in and near such walkable nodes or who are connected to these nodes by reliable, frequent bus service.

GATEWAY/PATTERSON PLACE STATIONS—AN OPPORTUNITY

An often overlooked, and very impactful strategy to provide greater affordability is to focus on the issues of adjacency and proximity. Specifically, there may be no single factor that can better address regional affordability as that associated with individuals living close to their place of employment, and, secondarily, proximate to mobility options to connect the two.

As discussed in more detail above, location efficiency that can be leveraged by transit-oriented development near light rail stations:

1. Housing near jobs + retail + services + community facilities + transit
2. Jobs near transit

The Gateway station in Chapel Hill and the adjacent Patterson Place station in Durham provides an opportunity for several million square feet of TOD development, representing thousands of potential residential units. This opportunity area is also adjacent to the anticipated UNC Health Care's Eastowne Campus mixed use development just to the north of U.S. 15-501. Gateway station to the west of I-40 provides a substantial ground-up live-work-play corporate relocation opportunity; and Patterson Place to the east of I-40 represents a major suburban retrofit opportunity, providing a multi-village context with Eastowne linked by rail, trails and bike/ped.



The recent study by George Washington University, referenced earlier in this report, showed a correlation between walkable, urban environments and increased social equity benefits. These equity benefits are compounded when combined with access to transit. While this may run counter to expectation, as housing in transit-rich areas may become more costly than in auto-oriented and non-walkable environments, the reduction in transportation costs per household is sufficient to overcome the higher price for housing. But achieving affordable housing in station areas can be difficult, especially in greenfield and suburban areas with significant new infrastructure.

Using Gateway and Patterson Place stations as an example, the cost and timing of infrastructure must be considered through a comprehensive approach that recognizes no single development can support the foundational infrastructure needs to support even initial development (let alone built out of multiple developments that promote good urbanism), at these stations.

For example, if Chapel Hill builds a street that connects neighborhoods, and that street that provides access to multiple properties is built in a manner to support pedestrian activity, a mix of uses and significant economic and social activity, greater private investment and higher resulting tax revenues are likely to occur. In addition, private sector investments – supported by the public provision of infrastructure – can promote outcomes including affordable housing and access to economic opportunity. Such outcomes are further reinforced should Chapel Hill, in this example, look to foster bike and pedestrian-mobility within the new station development, and retrofit existing auto-oriented roads. Prior to any of these investments by the public or private sector, it is essential to anticipate the provision of appropriate mixed-use zoning, to ensure that land use regulations are in lock step with

planned infrastructure investments and preferred private sector development typologies. Conversely, failure to adjust regulations and invest in infrastructure will make it less feasible for any type of transit-oriented development to occur at station areas, let alone affordable housing, which is already at a cost disadvantage, as noted earlier in the report.

By harnessing the pent up demand for mixed-use developments such as Gateway and Paterson Place, a number of the recommendations contained within this report may become feasible. As discussed, the first step is to address the lack of funding and resources, which can be partly ameliorated by the scale and types of development in these locations; In short larger, higher value developments will produce greater tax revenues that can be used to further support affordable housing at Gateway and Patterson Place and beyond. By providing for a potential mix of subsidized and market rate housing, the true cost of living would be addressed to a greater degree, as these new developments would provide connectivity, transit and walkability that reduces the need for the automobile. In addition, partnerships with UNC Healthcare and/or SECU would be able to further promote the provision of affordable and attainable units at these sites.

As such, and with economic development and economic competitiveness as the lead (locally, regionally and statewide), there may be an opportunity for discussion at the State level in terms of mechanisms, regulations and financing tools that would better support economic development through a focus on creating quality places that meet the markets demand for more walkable, mixed-use environments.

CONCLUSION AND NEXT STEPS

“Get Real About Affordable Housing”

To conclude, in one of the early community meetings for the TOD study, a resident implored Durham and Chapel Hill to “get real about affordable housing.” Her admonition was clear. Getting real will require hard decisions to be made to successfully overcome the growing divide between housing needs and attainably priced options.

The solution to Affordable Housing is not a silver bullet. No one policy nor financial tool will be sufficient. Instead, it is essential to embark upon a comprehensive approach that includes a coordinated and phased set of strategies that include changes to existing policies, the creation of new partnerships and tools and, the need to identify new funding sources, such as new property tax revenues from transit-oriented development. That said, no one effort, nor single funding source, will be sufficient – not even the significant new revenues that are to occur from new property tax revenue as a result of the transit-oriented development projected to occur around light rail stations. The admonition to “get real” underscores the need to embrace the light rail project as an opportunity to begin a comprehensive effort to address affordable housing, and utilize this seminal investment to catalyze a coordinated set of strategies.

The One Overarching Recommendation is to adopt an all-of-the-above, trial and error approach. No one tool will be sufficient, and trial and error will be necessary to properly calibrate strategies and tactics as the effort progresses. The recommendations set forth in this report should be viewed collectively as a tool-kit, rather than as individual tools.

It is essential that specific programs, policies and regulations are conceived of within a comprehensive framework, to ensure that efforts are complimentary and to identify and ameliorate conflicting efforts and unintended consequences. A comprehensive “try, test, evaluate and evolve” approach will enable individual programs and policies to leverage others, resulting in an overarching strategy whereby the whole becomes far greater than the sum of its parts.

There is no single silver bullet that can successfully address the affordability crisis in the Chapel Hill and Durham region. However, taken in concert with one another, a range of potential strategies could make significant progress in meeting this need.

This is a situation that is not unfamiliar throughout the United States, especially in areas such as Chapel

Hill and Durham that are experiencing significant population growth as a result of economic expansion and a desirable quality of life. However, one of the silver linings from economic growth is the ability to produce and harness additional tax revenues that can be invested to achieve community goals and objectives. The significant development potential along the light rail line provides such an opportunity. To maximize the benefits, it is essential to coordinate zoning and land use regulation, infrastructure priorities to support affordable housing, using the strategies set forth in this report, to spur enough private sector investment activity to make substantive progress towards meeting the need.

The private sector can be harnessed by appropriate public sector policies, further supported by well-planned infrastructure. The tax revenues created by this private sector activity can be utilized to build these appropriate infrastructure networks to promote walkable, mixed-use and economically vibrant station areas. This, in turn, will produce even greater ongoing tax revenues that can be utilized to support additional affordable housing and other priorities in which, the community wishes to invest. In addition, by paying for new infrastructure from the revenues associated with development along the light rail line, other public monies can be allocated (today and into the future) to pay for affordable and attainable housing strategies, as the economic activity generated by light rail can be a primary means to build the very infrastructure that will enable that growth to occur, in the first place.

By optimizing potential station area development through land use, zoning, other policies and appropriate infrastructure, a series of economically and socially vibrant neighborhoods will be created, providing significant new tax revenues. These revenues enable the utilization of the toolkit of strategies in this report to further bolster the supply of affordable and attainable housing choices along the line and throughout the region.

There is one underlying reality that must not be dismissed. While land values are increasing, that land will never be cheaper than it is today... The time to act is now. The manner in which to act is comprehensive in nature.

While there may be some difficult decisions to make, there is one underlying reality that must not be dismissed. While land values are increasing, that land will never be cheaper than it is today. To punt on this issue, especially in terms of identifying land and development opportunities (public, private and with the local institutions) will only result in a more acute crisis in the years ahead, with the added difficulty of even higher land costs and other potential restraints in the future.

NEXT STEPS

Four important next steps are for Durham and Chapel Hill to work with GoTriangle and the Triangle-J Council of Governments to:

- **Use the strategy framework and objectives of this document, along with the companion deliverables developed by the Triangle-J Council of Governments, to further refine and implement** broad Action Steps and specific strategies within particular station areas.
- **Track changes over time in legally-binding affordability-restricted (LBAR) housing and Naturally Occurring Affordable Housing (NOAH),** along with other important affordable housing and transit performance measures and opportunity metrics.
- **Support the existing housing practitioners group** and ensure that the group is cognizant of opportunities related to transit investments.
- **Create and support an inter-disciplinary collaboration among local and regional agency staff involved in housing, transportation and land use** to provide guidance on strategies and performance measurement.

The time to act is now. The manner in which to act is comprehensive in nature and should involve structured and sustained collaboration. Through collaboration, interdisciplinary approaches to affordable housing will be aligned with the ongoing transit investments in Durham and Chapel Hill. It is clear that in order to achieve the goals outlined herein and to maximize the efficacy of public support of Affordable Housing, a full toolkit must be leveraged to create context- and market-driven strategies for light rail station areas and for other transit investments planned in the region.

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Raising the Roof

Linking Housing Affordability and Transit Investments
-- Metrics and Strategies for the Durham-Orange Light Rail Transit Corridor --



GoTriangle  Triangle J Council of Governments

November 2018

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Appendix C: Raising the Roof Linking Housing Affordability & Transit Investments

METRICS AND STRATEGIES FOR THE DURHAM-ORANGE LIGHT RAIL CORRIDOR

BY: TRIANGLE-J COUNCIL OF GOVERNMENTS | NOVEMBER 2018

INTRODUCTION

The idiom “raising the roof” can refer to either a boisterous celebration or a loud complaint. Major transit infrastructure investments – like the one being planned to link Durham and Chapel Hill using light rail – provide an opportunity to serve affordable housing, but also pose risks that current affordable housing could be lost. This report brings together hard evidence and strategic actions so that over time, we can look back and know we have done what we could to increase the chances for a boisterous celebration about our housing affordability successes and decrease the chances for loud complaints about what we were unable to do.

This report is designed to help inform a variety of decision-makers who, working together, will determine how well we align our transit investments with concrete actions to create and preserve affordable housing near these investments: local elected officials, developers and builders, non-profit housing and community development organizations, financial professionals, transportation agencies, and leaders in anchor institutions such as universities and medical centers.

The vast majority of housing – from single-family detached homes to townhouses to a range of multifamily housing in urban and suburban settings – is successfully provided and managed through the private marketplace. This report focuses on a particular segment of the housing market: housing that can remain affordable to low- and moderate-income households where public investments in high-quality transit may increase land values, market rents and prices. Many of these households are home to people who make our communities run: the firefighters, teachers, nurses, technicians and others who provide vital services in our economy.

The report does not point to a single solution – a range of tools and techniques will need to be either started or strengthened to improve our efforts at creating and preserving affordable housing. Instead, it surveys the current landscape, highlights some approaches that have been successful elsewhere, and frames the next steps for greater progress along our planned transit corridors.

THE BIG PICTURE

Easy access to high quality transit helps connect Triangle employers with the workers on which business depends. Better access also increases the number of riders on transit systems, helping

transit agencies develop and operate more cost-effectively. Better access also helps people get to critical services, from health care to social services to schooling, in addition to providing more opportunities to find gainful employment without needing to own a vehicle. Increasing the number of people who live near and regularly use transit – especially low- and moderate-income residents who are more likely to depend on and use transit – benefits citizens, economic development and the cost-effectiveness of public services.

Recognizing this mutually supportive relationship, the Federal Transit Administration includes land use and housing affordability metrics along transit corridors in the process it uses to decide which new transit investments to fund. These metrics reward communities that, through plans and actions, are collaborating on transit investments, land use plans and affordable housing decisions.

GoTriangle and the region's communities are working together to plan a network of high-quality bus, light rail and commuter rail services to connect communities within Wake, Durham and Orange Counties. With affordable housing options along transit lines, the Triangle's residents will be able to choose the commute option that best fits their budgets. Furthermore, the more that people who depend on transit to get to jobs, schools, and everyday needs live near transit stations, the better they will be able to access these services, and the more riders the system will carry, improving the Triangle's chances to secure the federal funds included in our transportation plans.

The housing-transit relationship is a pocketbook issue: average transportation costs for households living near transit are 10% lower than for those that live farther away and more households are seeking to lower their transportation costs by living closer to jobs or transit.¹ Moderate income households in Durham and Orange Counties spend between 57% and 68% of their incomes on housing and transportation costs combined²; accepted affordability benchmarks indicate this cost should be less than 45%.



Finally, as a result of increasing congestion and unpredictable travel times, Triangle employers may increasingly rely on the region's public transit infrastructure to get their employees to work each day; more than 40,000 households in the Triangle metro region have no car available.³ High profile companies, Amazon being a recent example, make it clear that they look at a community's quality of transit in making locational decisions. An increase in public transit options in the region may help attract and retain companies seeking more travel choices for their employees.

The development of new transit services, especially light rail, increases the value of land near stations. This is due to improved access to jobs, healthcare, and other necessities that transit provides. While this increase in land value benefits cities, towns and counties along the transit corridors by increasing their tax base, it makes it harder for low- and moderate-income families to afford existing and new homes in or near these station areas, further exacerbating the challenge of living in transit-rich areas for lower income households. Since low- and moderate-income families tend to be more dependent on – and heavier users of – transit service, failure to make room for these families in station areas can hurt ridership, making transit service less cost-effective than it could be.

Creating and preserving affordable housing near transit will not happen by accident. Arlington County, VA, a national leader in both transit investment and affordable housing strategies, saw its market-rate housing affordable to households making 60% of the Area Median Income (AMI) decline by over 80% between 2000 and 2013 due to market conditions.⁴ In the wake of the loss of a significant portion of its affordable housing stock to market forces, the County has committed to making every reasonable effort to prevent additional loss of market-rate affordable rental housing in their community. If the Triangle is to avoid a similar fate, creativity and collaboration among a wide range of actors will be needed, so that all the region's citizens can benefit from transit investments.

HOUSING GOALS, PRIORITIES AND CURRENT EFFORTS

Affordable housing is central to Durham and Chapel Hill's growth strategies and plays a key role

in retaining existing residents, attracting new residents, and creating equitable and inclusive communities. Both Durham and Chapel Hill have focused on addressing the affordable housing need from two perspectives – preserving the affordability and quality of the existing housing stock and creating new affordable housing where possible. Both Durham and Chapel Hill have formally adopted goals and prioritized strategies to address the affordable housing need, and efforts are currently underway in both communities to reach their goals.

Durham

The City of Durham’s Affordable Housing Five-Year Plan (2016-2021) includes a goal to create or preserve 1,150 affordable units over five years. The plan prioritizes strategies that preserve and expand the supply of affordable rental units, maintain affordability for very-low income households in appreciating neighborhoods, and engage the broader Durham community.⁵

These goals and strategies indicate a shared concern and resolve to address the affordable housing crisis in Durham, particularly near proposed transit investments. In 2015, City Council Members and County Commissioners formalized this commitment by adopting the goal of having 15% of housing units within ½ mile of each light rail station be affordable to households earning 60% AMI or below, based on annual U.S. Department of Housing and Urban Development Income Limits for the Durham-Chapel Hill Metro Area.

Ongoing efforts to address affordable housing in Durham include the City’s commitment to support the redevelopment of publicly-owned downtown properties, to support preservation and creation of affordable units in multifamily and smaller scale developments, and the preservation of owner-occupied units through repair and rehab programs. More specifically, during the 2018-2019 Fiscal Year:

- Durham anticipates supporting the rehabilitation of 356 Durham Housing Authority (DHA) units at three existing properties
- The preservation or creation of over 230 rental and ownership units in partnership with non-profit organizations and private developers, and
- The rehabilitation of over 40 owner-occupied units.

The City also continues to commit public resources for affordable housing. Council Members most recently approved doubling the property tax set-aside dedicated to affordable housing to two cents, totaling approximately \$5.7 million annually going into the City’s dedicated housing fund.⁶

Durham has also created new tools to address its affordable housing need. These tools include revising their existing density bonus incentive and working to revise its Unified Development Ordinance (UDO) to reduce barriers to the development of a variety of housing types, including duplexes, townhomes, and Accessory Dwelling Units. Additionally, the City of Durham has begun engaging with Duke University, Self Help, and North Carolina Community Development Initiative to form a \$15 to \$20 million housing loan fund.

Finally, the City of Durham is working to create new partnerships within City departments and with DHA, as well as with partner stakeholders, such as GoTriangle and other private and community organizations to support affordable housing. These partnerships are key to addressing the affordable housing need as they may lead to the preservation and creation of units as well as financial support.

Chapel Hill

The Town of Chapel Hill has also established goals and strategies to address the affordable housing need within its own community. The Town Council has expressed its commitment with the adoption

of its Affordable Housing Policy in 2000 and an Affordable Housing Strategy in 2011. The Town's Affordable Housing Policy is used by the Town Council to negotiate affordable housing for any project that requests a rezoning or as part of the Inclusionary Zoning Ordinance. The Strategy is broader and outlines three main goals, which include supporting solutions and programs that offer affordable housing options to a range of incomes, advocating for sustainable approaches to community development that balance economic vitality, social equity, and environmental protection, and pursuing creative partnerships on a local and regional level.⁷

The Town's ongoing efforts to support affordable housing include creating policies that induce affordable housing development, creating financial assistance programs for low- and moderate-income households, and providing financial support for the preservation and creation of new housing units. Chapel Hill also has an Inclusionary Zoning Ordinance, which mandates a set-aside percentage for affordable housing for new for-sale residential developments with more than five units. These developments are required to provide 15% of the units (10% in the Town Center zoning districts) at prices that are affordable to households that earn between 65% and 80% AMI, or provide a payment-in-lieu. The Inclusionary Zoning Ordinance only applies to for sale unit residential developments, not rental developments. An example can help clarify the policy:

“If a development application proposes 10 market-rate units and is required to provide 15% affordable units, then the development would be required to provide 1.5 affordable units (the amount of 1.5 is 15% of 10 market-rate units). The development would be required to build one affordable dwelling unit. Then, rather than building half of a unit, the applicant would meet his/her remaining obligation by providing a payment-in-lieu for the half unit. As outlined in the Ordinance, the payment would be calculated based on the amount needed to make a unit affordable (3.10.3(B)(1)).”^{8,9}

By-and-large, these set-aside units are sold to the Community Home Trust, which then sells them to eligible homeowners through a renewable 99-year ground lease, thus ensuring the permanent affordability of these units. Additionally, since the adoption of the Affordable Housing Strategy, both an Affordable Rental Housing Strategy and a Rental and Utility Assistance Program for low-income housing voucher holders have been established. The Town is currently working to develop a strategy to preserve naturally occurring affordable housing.

Financial support for the preservation and creation of affordable housing units comes from local sources of funding, including the Town's Affordable Housing Fund and Affordable Housing Development Reserve as well as federal sources in the form of Community Development Block Grant funds. Funds for the Affordable Housing Fund are generated through inclusionary zoning payments-in-lieu, while funds for the Affordable Housing Development Reserve (AHDR) are funded through an annual allocation of the Town's general fund. Priority project areas for the AHDR funds include land banking and land acquisition, rental subsidy and development, home ownership and development assistance, and future development planning.¹⁰ The Town has also committed additional funds to support land banking through the Northside Neighborhood Initiative – a partnership with the University of North Carolina, Chapel Hill, Self-Help, and the Jackson Center.¹¹

The Town's efforts to provide financial assistance for affordable housing are also supported by Orange County, which passed a \$5 million affordable housing bond in 2016. Orange County has since awarded five development projects a total of \$2.5 million of the Affordable Housing Bond Funds in 2017.¹² Those projects will preserve or create 54 affordable units, including both rental and homeownership opportunities. On November 6, Chapel Hill voters overwhelmingly approved a \$10 million affordable housing bond, which is intended to support the creation and preservation of 700 affordable units. The Town anticipates using the bond funding to support several large-scale affordable housing projects, including public housing redevelopment and development on Town-owned parcels. In January 2017, Town Council established and appointed the Council Task Force on Strategic Uses of Town Properties to develop a strategic framework and initial ideas for specific Town-owned sites, including affordable housing. The Task Force recommended that four sites be used for affordable housing development, including 2200 Homestead Road, which is currently in the pre-development phase.^{13,14}

SUPPLY AND DEMAND: WHAT WE HAVE AND WHAT WE NEED

The Demand for Affordable Housing

If a household can keep its housing expenses to a reasonable level, it is more likely to be able to access economic opportunities and achieve greater financial stability and educational outcomes. Affordable housing can also provide community benefits by generating public health savings, jobs, and increased tax revenue.^{15,16} Understanding the income and socioeconomic profile of households living within Durham and Chapel Hill today is key to addressing the need for affordable housing. The socioeconomic profile of a community helps us understand where existing low- and moderate-income households live and where they are most cost-burdened. Additionally, this data helps determine where there may be a need for higher-paying jobs within the community, as well as workforce development. By pairing this information with data on the current inventory of affordable housing, we can most effectively create specific strategies to preserve and create additional affordable housing that are responsive to the unique context of the communities along the light rail.

Housing is considered affordable when housing costs, including rent or a mortgage and utilities, are no more than 30% of a household's gross monthly income. Many of the people who work within the university and healthcare systems in close proximity to the proposed light rail make less than \$50,000. These workers include police officers, fire fighters, childcare workers, janitors, registered nurses, home health aides and minimum wage retail workers. In fact, the average annual earnings for the majority of these professions is 50% AMI or below.

Average Durham and Chapel Hill Workforce Income vs. Area Median Income



Figure 1: Average Durham-Chapel Hill Metro Area Workforce Income vs. AMI, 2017 BLS Data, 2018 HUD Income Limits, assumes worker is sole earner in a 3-person household.

Households able to secure affordable housing near access to transit are further supported, as they may be able to spend less of their remaining disposable income on transportation costs. Housing affordability is defined as a household spending no more than 30% of their income on housing costs.

For low- and moderate-income households in particular, spending more than 30% of their income towards housing costs means they have limited funds to cover transportation, food, healthcare, education, and other essentials. Higher-income households can sometimes spend over the 30% of their income on housing and still have enough disposable income left over for other needs. Thus, understanding the number of low- and moderate-income cost-burdened households in a community is important in determining affordable housing needs.

In both Durham and Chapel Hill, approximately 35% of all households are cost-burdened. More than 37,000 households that make less than \$50,000 are cost-burdened, approximately 68% of all low-income households. Low-income renters are particularly affected by the lack of affordable housing. In Durham, approximately 90% of renter households making less than \$20,000 are cost-burdened and more than 95% of households in Chapel Hill. Owner households are also cost-burdened – particularly low-income homeowners. In Durham, 83% of owner households making less than \$20,000 are cost-burdened, compared to 80% in Chapel Hill.

Table 1: Cost-Burdened Households by Income Range and Approximate AMI Level

	Durham and Chapel Hill		Durham		Chapel Hill	
	Cost-Burdened Households	Percent	Cost-Burdened Households	Percent	Cost-Burdened Households	Percent
Total Cost-Burdened Households (All Incomes)	42,253	35%	35,017	34%	7,236	36%
Total Cost-Burdened Households (Low-Income)	37,017	100%	30,993	100%	6,024	100%
Under 30% AMI (less than \$20,000)	17,415	47%	14,463	47%	2,952	49%
30% - 50% AMI (\$20,000 to \$34,999)	13,247	36%	11,291	36%	1,956	32%
50% - 80% AMI (\$35,000 to \$49,999)	6,355	17%	5,239	17%	1,116	19%

*Note that given AMI ranges are rough estimates as they do not match Census income ranges.

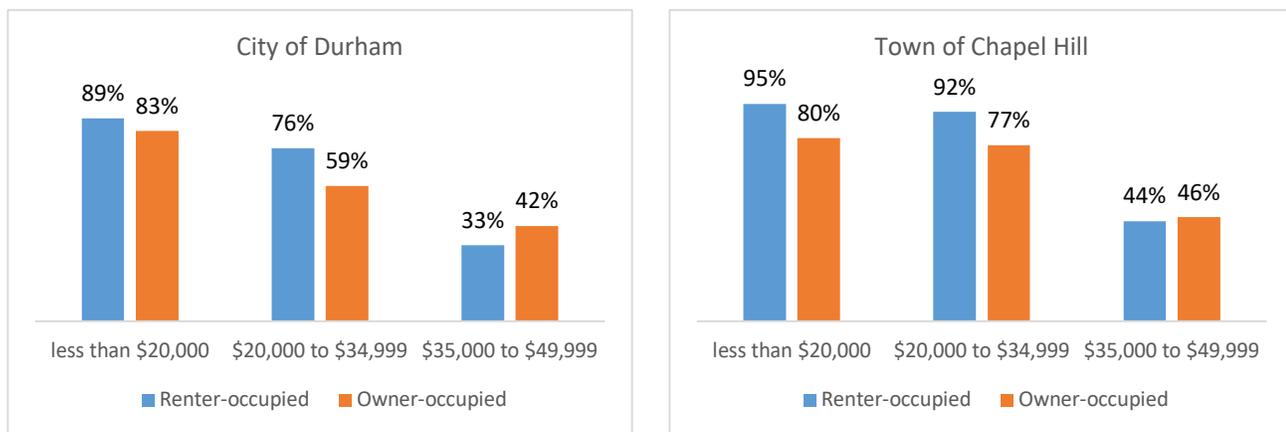


Figure 2 and 3: Low-Income Cost-Burdened Households by Tenure

To holistically understand whether a household is cost-burdened, we must also consider how much the household spends on their housing and transportation costs combined. The Center for Neighborhood Technology’s Housing and Transportation Index (H+T), defines housing and transportation cost-burden as households who spend 45% or more of their income on housing and transportation costs combined.¹⁷ If a household has greater access to public transportation or job opportunities, they may choose to spend more of their income on housing. According to H+T, the average household in both Durham and Chapel Hill is considered cost-burdened, with the average household in Durham spending

46%, and the average household in Chapel Hill spending 56% of their income on the combined costs.

While the importance of the demand side of affordable housing cannot be ignored, this report focuses primarily on strategic approaches and strategies designed to address only the cost challenges on the supply side of the housing affordability equation. To address the affordable housing need within Durham and Chapel Hill, local governments could leverage the transit and associated development investments in station areas to boost access to workforce development and meaningful employment opportunities in order to increase household incomes.

The Supply of Affordable Housing

Tracking the supply of affordable housing and the unmet demand is a critical element of tracking progress towards achieving the goals and priorities set by the local governments. Areas near future transit investments may not remain affordable to low- and moderate-income households over time as development occurs, especially if not enough new affordable housing is built where people would like to live. In these locations in particular, examining the inventory of affordable housing can help identify context-specific strategies towards creating and/or preserving affordable housing opportunities. Additionally, by establishing and maintaining a current inventory of affordable housing, we are more prepared to track the amount of and need for affordable housing in our communities over time.

Affordable housing can be thought of in two ways – big “A” and little “a” affordable housing. Big “A” affordable housing broadly refers to housing that is intentionally developed as affordable housing and is only available to households that meet specific income limits. Big “A” affordable housing is often referred to as legally-binding affordability restricted (LBAR) housing or income-restricted affordable housing, and its affordability is tied to its funding source and/or its ownership. Little “a” affordable housing refers to housing that is affordable to low- and moderate-income households but is not income-restricted. This type of housing, also called naturally occurring affordable housing (NOAH) or market-rate affordable housing, is often older, smaller, or has fewer amenities than the general housing stock and thus is less expensive. To successfully address the affordable housing issue in Durham and Chapel Hill, both of these types of affordable housing will need to be considered and are included in the inventories for both communities.

The term “affordable housing” is generally used to describe housing for households who make less than 80% AMI. The table below shows HUD’s 2018 Income Limits for the Durham-Chapel Hill HUD

Examples of LBAR and NOAH Housing in Durham and Chapel Hill

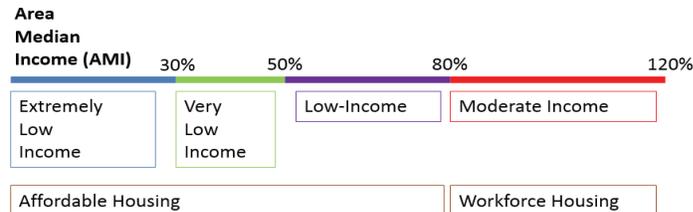


Metro area, which includes Chatham, Durham and Orange Counties. The figure below also illustrates the income ranges that describe different affordable housing terms. When looking at Census data for households by annual income range, this report used \$50,000 or less as a rough equivalent to households making less than 80% AMI.

Table 2: 2018 HUD Income Limits by Household Size and AMI Level (Durham-Chapel Hill HUD Metro Area)

	1-person	2-person	3-person	4-person
60% AMI	\$33,900	\$38,700	\$43,560	\$48,360
80% AMI	\$45,150	\$51,600	\$58,050	\$64,500

Figure 6: Affordable Housing Terminology by Area Median Income



Legally-Binding Affordability-Restricted Housing

This housing is considered big “A” affordable housing. Income restrictions for this kind of housing are legally-binding, and are often set by the requirements of the funding source used to develop the units. Housing built through Low-Income Housing Tax Credits, HOME Investment Partnerships Program (HOME), Community Development Block Grant (CDBG), or other federal funding sources are in this category. In addition, homes built or managed by a specific entity, such as a housing authority, Habitat for Humanity affiliate, or a community land trust, often have legally-binding income restrictions. It is extremely difficult to build new affordable housing without a subsidy. As shown in the figure below, the rent or mortgage paid by low- and moderate-income residents is simply not enough to cover the costs to construct and operate a property, including land acquisition, construction, and operating expenses. Subsidy is often used as equity in the deal, allowing a developer to take on debt that is sized to the reduced rental income received from renting units at affordable rates. This mismatch between incomes and housing costs is only exacerbated by increasing land costs and construction prices. Because of this mismatch, subsidy is often required in order to make housing prices more affordable. To secure the subsidy, which is often a public investment, legally-binding affordability restrictions are put in place.

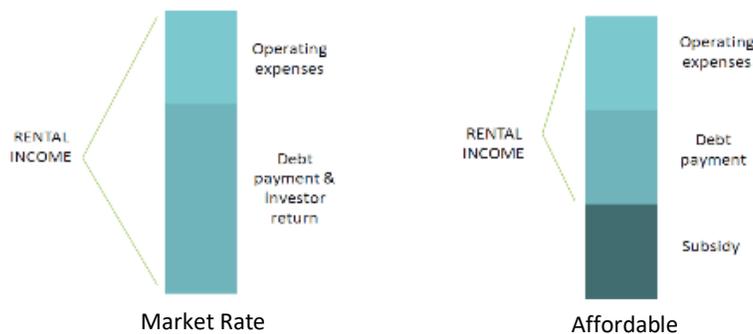


Figure 7: The Financing Structure of Market-Rate versus Affordable Housing

Two specific types of LBAR housing are public housing authority-owned units and units rented with public housing authority vouchers. Public housing units are built or purchased with government subsidies and are owned and operated by the local public housing authority. Public housing authorities generally only serve extremely low-income households, in the less than 30% AMI range, although some new management

models are emerging. The Durham Housing Authority (DHA) owns and operates public housing units, which make up over 30% of the existing income-restricted affordable housing in Durham.¹⁸ Several DHA properties are located in downtown Durham and are a part of DHA’s Downtown Neighborhood Planning Initiative – a partnership with the City of Durham to redevelop six DHA properties, including Oldham Tower, Liberty Street, Forest Hill Heights, JJ Henderson, Fayette Place, and DHA’s Central Office.¹⁹ Many of these sites are located near the proposed light rail corridor. The Orange County Housing Authority (OCHA) does not currently own or operate any public housing units; however, the Town of Chapel Hill manages more than 300 public housing units in 14 properties. None of the public housing units owned and operated by the Town of Chapel Hill are near the proposed light rail corridor.

Tenant-based Section 8 vouchers are also provided by public housing authorities and can be used for any property where the landlord accepts vouchers. This is another way of making market-rate housing affordable to lower income households. With a Section 8 voucher, a household pays 30% of their income towards rent and utilities, and the voucher pays the difference between that amount and the rental rate directly to the landlord. Known primarily as Section 8 vouchers, these are also referred to as Housing Choice Vouchers. Both DHA and OCHA manage their own Housing Choice Voucher (Section 8) programs.²⁰ It is important to note that while voucher programs have the ability to provide much needed resources to low-income households, many voucher recipients have difficulty finding landlords that will accept their vouchers, particularly in attractive housing markets, such as Durham and Chapel Hill.^{21,22}

Legally-Binding Affordability Restricted Housing Inventory

Income-restricted units play a critical role in meeting the affordable housing need due to their long-term periods of affordability. For example, properties developed with Low-Income Housing Tax Credits or other federal funding sources have a 15-30 year affordability period. Housing developed using federal subsidies often becomes unaffordable when those affordability restrictions expire and owners are free to convert their properties to market-rate housing. Maintaining an inventory of legally-binding units helps communities be proactive about preserving this housing, as tracking a property’s affordability restrictions allows local stakeholders to make decisions about the property before the restriction expires.

There are close to 10,000 income-restricted housing units that serve households at 80% AMI or below throughout Durham and Orange counties.^{23,24} This number includes both single- and multifamily property types and include both rental and affordable homeownership units. Overall, rental units make up the majority of income-restricted housing in both Counties, though affordable homeownership opportunities are a larger portion of the LBAR housing inventory in Orange County (30%) compared to Durham County (6%). Chapel Hill’s income-restricted affordable homeownership units are primarily developed through their Affordable Housing Policy as part of negotiations with the Town Council for special use permits. Much of the legally-binding affordable housing in Chapel Hill is either public housing managed by the Town, properties managed by the Community Home Trust, or properties developed by partner organizations such as EmPOWERment, Inc., Habitat for Humanity of Orange County, and Self-Help.

Approximately 25% of all legally-binding units in Durham County are located within the proposed light rail station areas, compared to only 8% in Chapel Hill and 4% in Orange County overall.²⁵ Approximately 20% of the income-restricted inventory in Durham is owned and managed by the Durham Housing Authority (DHA). Several properties included in DHA’s downtown inventory are being redeveloped as part of the Downtown Durham Neighborhood Planning Initiative. In Chapel Hill, 40% of the income-restricted inventory is owned and managed by the Chapel Hill Housing Authority. Orange County Housing Authority does not currently own any public housing units.

Within Durham County, there are 16 properties with close to 750 units whose affordability restrictions will expire within the next 20 years. Of these, four properties with a total of 67 units are set to expire within the next five years. Expiring affordability restrictions are also important for properties in Orange County; however, of the four properties located within the proposed light rail stations, only one unit has affordability restrictions to consider, which will expire in the next 11 to 15 years. The other properties are homeownership units managed by the Community Home Trust and have no expiration date for their affordability restrictions due to their renewable 99-year ground lease.²⁶

Table 3: Legally-Binding Affordability Restricted Housing Units in Durham and Orange Counties

	Durham County		Orange County	
	Units	Percent	Units	Percent
All Legally-Binding Units (County-wide)	8,107	100%	1,768	100%
Legally-Binding Units (Station Analysis Areas)	2,091	26%	73	4%
<60% AMI	1,311	63%	23	32%
60% - 80% AMI	780	37%	50	68%

Table 4: Expiring Affordability of Legally-Binding Units and Properties in Durham near Proposed Light Rail Stations

	Properties	Units
Next 5 Years (2019 – 2024)	4	67
6 to 10 Years (2025 – 2029)	1	60
11 to 15 Years (2030 – 2034)	4	151
16 to 20 years (2035 – 2039)	7	468

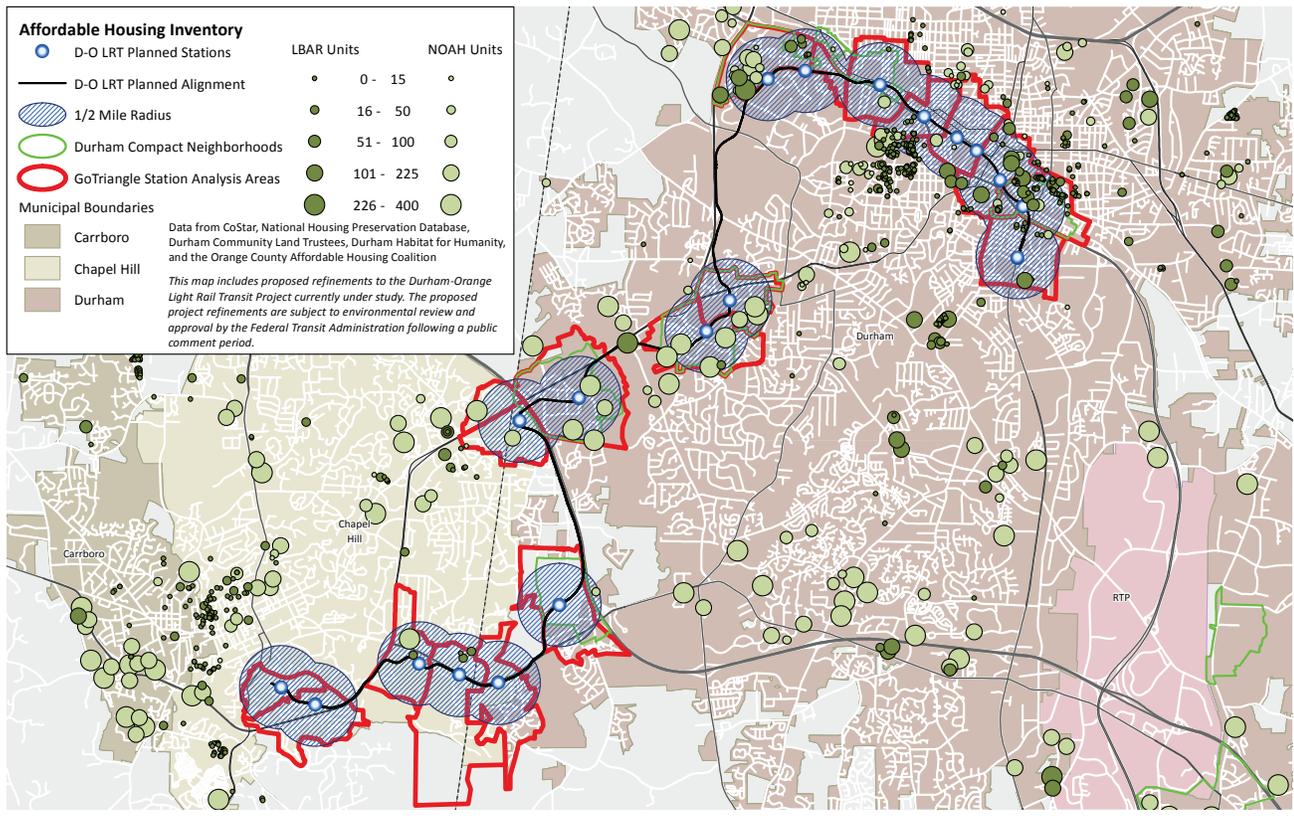
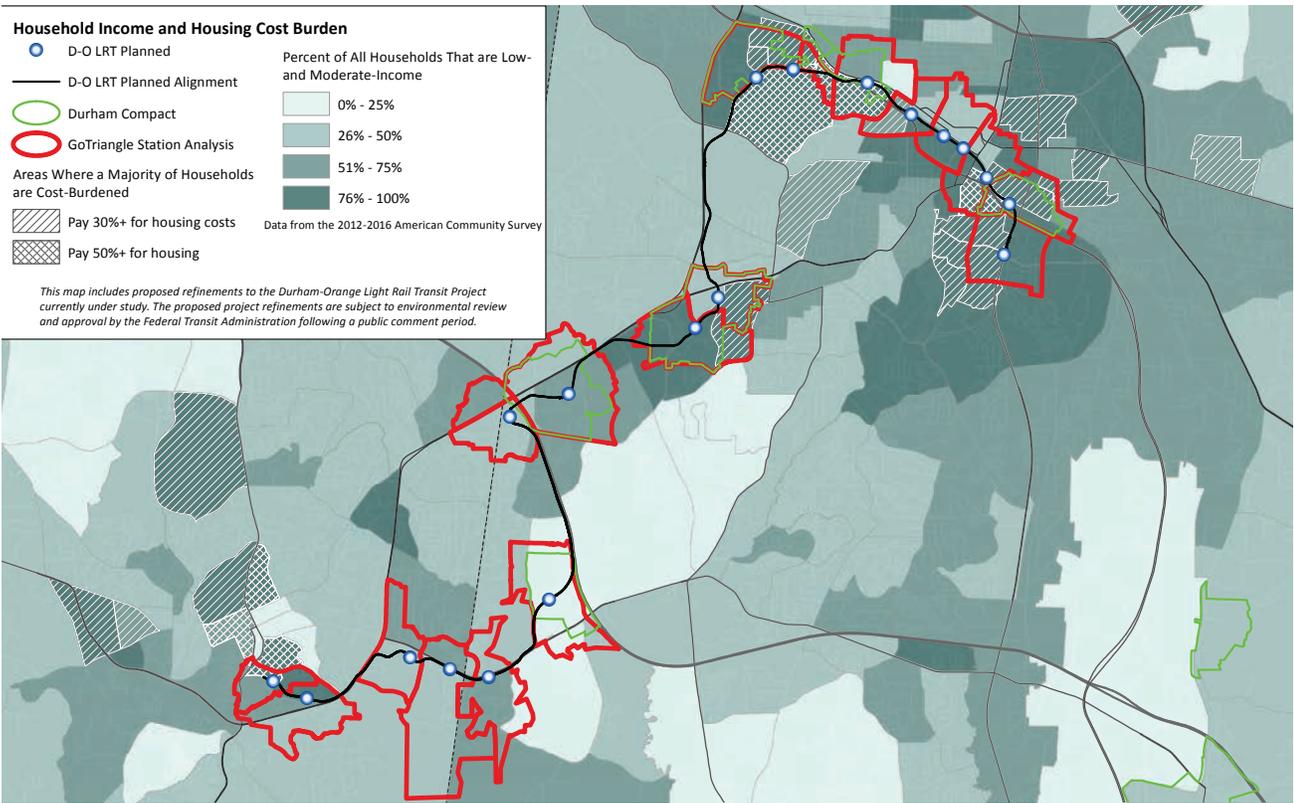
Naturally Occurring Affordable Housing

Also known as market-rate affordable housing, this is housing that is affordable based on its price on the private market, and it is not restricted to occupancy by low-income households. As previously shown in Figure 7, rental rates for market rate properties are enough to cover the operating expenses, debt payment, and investor return. Naturally-Occurring Affordable Housing (NOAH) properties tend to be older, lack amenities, and may be of substandard quality. For purposes of this report, properties are considered NOAH if their rental rates are affordable to households at or below 80% AMI based on number of bedrooms and household size.

Naturally Occurring Affordable Housing Inventory

It is important to track information on NOAH as part of an overall affordable housing inventory, particularly to hone in on where changes in the market – potentially brought on by the proposed transit investment – may increase rents and cause the loss of NOAH units. For example, in Arlington County, VA, market-rate housing affordable to households making 60% AMI declined by over 80% county-wide between 2000 and 2013, primarily due to rent increases and the redevelopment of market rate affordable rental properties.^{27,28} This statistic illustrates just how dire the need is to preserve NOAH in growing markets. For the purposes of this inventory, NOAH units do not include homeownership properties due to data limitations around calculating and tracking the affordability of owner-occupied units. Data comes from CoStar, a real estate listing company that collects information on multifamily residential buildings, typically with 20 units or more.

In Durham and Orange Counties combined, there are more than 35,000 NOAH units that serve households at 80% AMI or below. Similar to the legally-binding units, NOAH units near the proposed light rail station areas are only 25% and 8% of the total NOAH units overall for Durham and Orange Counties, respectively. While the majority of the NOAH units near the proposed light rail station areas in Durham serve households between 60 and 80% AMI, existing NOAH units near station areas in



Orange County are more likely to serve households less than 60% AMI.

More than 400 NOAH units near the proposed stations in Orange County are found within the Glen Lennox apartment community, which is currently slated for redevelopment over the next 20 years to add denser housing and office space. As this community develops, there will be a loss of NOAH units in this area; however, there will be limited displacement because the owner will enter into a master leasing agreement in which they will lease units to a community housing organization at market rate rents. The housing organization will then sublease the units to qualified existing residents and will subsidize their rents to ensure that a household pays no more than 30% of their income on rent.^{29,30} Chapel Hill’s Inclusionary Zoning Ordinance will also apply to any new for-sale homes built and will require 15% of the units to be affordable for households that earn between 65% and 80% AMI or will require a payment in-lieu.

Table 5: Naturally Occurring Affordable Housing Units in Durham and Orange Counties

	Durham County		Orange County	
	Units	Percent	Units	Percent
All NOAH Units (County-wide)	25,409	100%	9,108	100%
Total NOAH Units (Station Analysis Areas)	6,074	24%	693	8%
<60% AMI	2,565	42%	601	87%
60% - 80% AMI	3,509	58%	92	13%

STRATEGIC INTERVENTIONS

Durham and Chapel Hill are pursuing two housing affordability goals, not only along the light rail corridor, but also more broadly in their communities:

1. Create new affordable housing units
2. Preserve existing affordable housing units

To achieve these goals, local governments have five strategic approaches they can take – outlined in the table below – that frame how local government interacts with private sector, anchor institution and non-profit partners:

STRATEGIC APPROACH	ROLE OF LOCAL GOVERNMENT
Educate	Strategies that inform private sector, anchor institution and non-profit partners, along with prospective homeowners, about actions they can take.
Facilitate	Strategies that encourage partners to take specific actions.
Stimulate	Strategies that reward partners for actions they take.
Regulate	Strategies that require partners to take specific actions.
Allocate	Strategies that acquire public resources and allocate them to affordable housing projects and programs.

These strategic approaches are designed to address the cost challenges on the supply side of the housing affordability equation. Although not highlighted in this report, local governments can also leverage the transit and associated development investments in station areas to boost household incomes, essentially a third “goal.” A strategic approach to achieve this goal might be termed, “Elevate” – strategies that take advantage of the transit investment and development along the corridor to provide training and job opportunities for lower-income residents, so they can better afford the housing opportunities served by the transit investment. Workforce development and business creation opportunities can be important for addressing the “demand side” of the affordable housing challenge, providing local residents with the skills and business opportunities to afford market-rate housing.

This section of the report discusses specific strategies within each of these approaches. As local government and its private sector, anchor institution and non-profit partners work on strategies, they should recognize and respond to three significant barriers to success:

- The ability to gain site control for affordable housing,
- The ability to devise land use standards that are sufficient to incentivize the private sector to provide affordable housing, and
- The need for dedicated funding sources for on-going subsidies to cover the cost of the operation and maintenance of affordable housing

The matrix on the next page takes these five strategic approaches and lists various strategies that local governments can pursue to address the affordable housing need within their communities. Within the matrix, each affordable housing strategy is categorized in three ways:

1. The **goal** of the strategy – whether the strategy will create or preserve affordable housing units, or both.

2. The **role** of local government in utilizing the strategy – whether the local government would educate, facilitate, stimulate, regulate, or allocate to implement the strategy.
3. The **type** of housing the strategy targets – whether the strategy supports the preservation and creation of multifamily housing, single-family housing, or is able to support both multifamily and single-family housing types (denoted by font color).

Some strategies included in the matrix work best in particular housing markets, while other strategies could be pursued more generally throughout a community. For example, if a local government chooses to implement a strategy focused on landlord outreach for voucher programs, the strategy could be used throughout the entire community, as voucher holders can use their assistance anywhere within the community, provided they can find a landlord who accepts it and the housing authority approves the unit.

Table 6: Matrix of Affordable Housing Strategies

Strategic Approach	Create New Housing		Preserve Existing Housing
	Affordable Housing (Legally-Binding and Naturally Occurring)	Market Rate Housing (Diversify Only)*	Affordable Housing (Legally-Binding and Naturally Occurring)
Educate (inform private action)	<ul style="list-style-type: none"> - From NIMBY to YIMBY: Neighborhood-scale education and engagement - Equitable TOD: Community-scale education and engagement 		<ul style="list-style-type: none"> - Landlord outreach for voucher programs - Repair assistance for low-income homeowners - Educate homeowners
Facilitate (encourage private action)	<ul style="list-style-type: none"> - Reduce barriers for missing middle housing, including ADUs - Crowd sourcing - Development review efficiency - Departmental coordination - Opportunity zones - Reduce parking minimums - Anchor institution involvement - Social impact investing 	<ul style="list-style-type: none"> - Reduce barriers for missing middle housing, including ADUs - Opportunity zones 	<ul style="list-style-type: none"> - Opportunity zones - Social impact investing - Preservation warning system
Stimulate (reward private action)	<ul style="list-style-type: none"> - Density bonus 	<ul style="list-style-type: none"> - Density bonus 	
Regulate (require private action)	<ul style="list-style-type: none"> - Municipal service districts - Inclusionary zoning (conditional) 		<ul style="list-style-type: none"> - Right of first refusal - Delayed demolition timelines within historic overlay districts - Municipal service districts
Allocate (invest public resources for control of land or to subsidize units)	<ul style="list-style-type: none"> - Disposition of publicly-owned property - Contribute to a housing fund - Contribute to an acquisition fund - Rental subsidy - Fee rebates - Joint development - Land banking - Public housing redevelopment - Tax Increment Financing - Master leasing - Homebuyer support 		<ul style="list-style-type: none"> - Contribute to a housing fund - Contribute to an acquisition fund - Rental subsidy - Land banking - Incentivize landlords to rehabilitate and preserve affordable housing - Incentivize landlords to participate in voucher programs - Public housing redevelopment - Tax Increment Financing - Master leasing - Repair assistance for low-income homeowners

*Strategies to create market-rate housing included in this table are suited only for areas where the goal is to diversify the housing stock where little or no market rate housing currently exists.

Strategy Housing Type	Multifamily Housing	Single-Family Housing	Multifamily and Single-Family Housing
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CONTEXT-DRIVEN SOLUTIONS FOR STATION TYPES

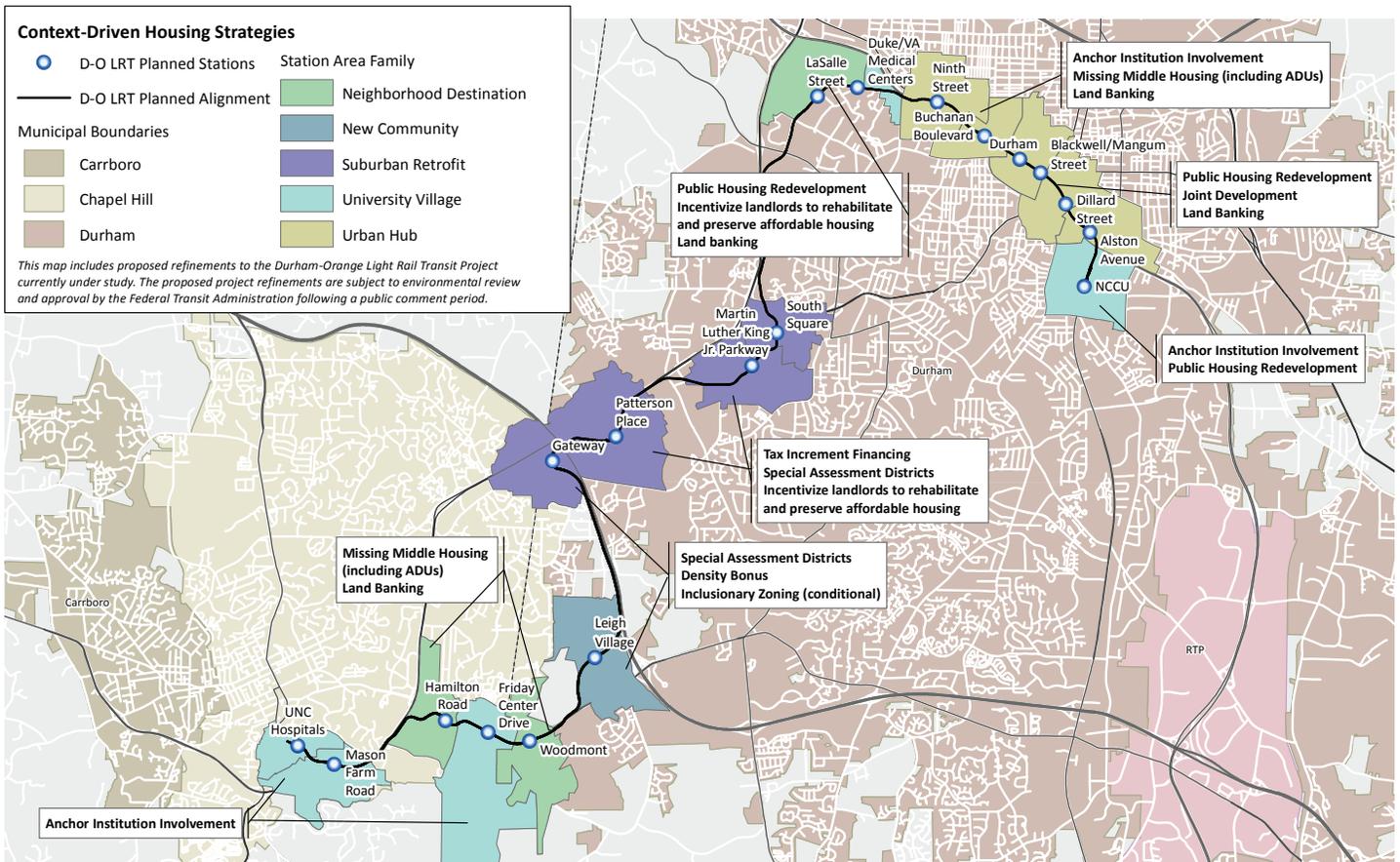
Most strategies included in the matrix are context-specific, meaning their effectiveness to preserve and create affordable housing is dependent on the location and neighborhood-level housing market. This table shows context-specific strategies based on GoTriangle’s station area families. Strategies that might be particularly effective are shown in **bold font**.

Table 7: Matrix of Context-Driven Strategies for Stations

Stations	Characteristics	Housing Strategies
University Villages		
<ul style="list-style-type: none"> UNC Hospitals Mason Farm Road Friday Center Drive Duke/VA Medical Center NCCU 	<ul style="list-style-type: none"> Near anchor institutions Large amounts of institutionally-owned property 	<ul style="list-style-type: none"> Anchor institution involvement Public housing redevelopment (NCCU) Repair assistance for low-income homeowners Opportunity zones (NCCU) Reduce barriers for missing middle housing, including ADUs
Urban Hubs		
<ul style="list-style-type: none"> Alston Avenue Dillard Street Blackwell/Mangum Durham Station 	<ul style="list-style-type: none"> Downtown location Public housing redevelopment sites and other publicly owned land Single-family homeowners (Alston Avenue) Expiring legally-binding units (Alston Avenue) 	<ul style="list-style-type: none"> Public housing redevelopment Joint development (Alston and Durham Station) Land banking Repair assistance for low-income homeowners Incentivize landlords to rehabilitate and preserve affordable housing Disposition of publicly-owned property Opportunity zones
<ul style="list-style-type: none"> Ninth Street Buchanan Boulevard 	<ul style="list-style-type: none"> Downtown-adjacent location Near anchor institutions Located within historic district Many vacant small infill lots Significant number of NOAH units 	<ul style="list-style-type: none"> Anchor institution involvement Reduce barriers for missing middle housing, including ADUs Land banking Delayed demolition timelines for historic districts Density bonus
Neighborhood Destinations		
<ul style="list-style-type: none"> LaSalle Street 	<ul style="list-style-type: none"> Close to activity centers Anchored in existing community Larger landlords, fewer single-family homeowners Significant number of NOAH units 	<ul style="list-style-type: none"> Public housing redevelopment Incentivize landlords to rehabilitate and preserve affordable housing Land banking Repair assistance for low-income homeowners Opportunity zones
<ul style="list-style-type: none"> Hamilton Road Woodmont 	<ul style="list-style-type: none"> Anchored in existing community Single-family homeowners 	<ul style="list-style-type: none"> Missing middle housing, including ADUs Land banking Inclusionary zoning (conditional)
New Communities		
<ul style="list-style-type: none"> Leigh Village 	<ul style="list-style-type: none"> Nearby Interstate access Large, undeveloped or underdeveloped parcels Opportunity for big change 	<ul style="list-style-type: none"> Municipal service districts Density bonus Inclusionary zoning (conditional) Land banking Reduce barriers for missing middle housing, including ADUs
Suburban Retrofits		
<ul style="list-style-type: none"> Patterson Place Martin Luther King Jr. Parkway South Square Gateway 	<ul style="list-style-type: none"> Opportunity for big change Significant number of NOAH units 	<ul style="list-style-type: none"> Tax increment financing Municipal service districts Incentivize landlords to rehabilitate and preserve affordable housing Density bonus Anchor institution involvement (Eastown area) Opportunity zones Joint development (South Square and Gateway)

The matrix on the previous page lists 34 strategies with potential for application in transit station areas - their definitions are in Appendix 1. Many strategies either work well together, or are different ways to reach similar ends. This section of the report shows how several strategies might relate to one another.

	<p>Municipal Service Districts (MSDs), Tax Increment Financing (TIF), Contributions to Acquisition Funds or Housing Funds, Providing Rental Subsidy, Master Leasing, and Reimbursement of Development Fees are all <u>strategies that devote local government revenues to affordable housing</u>. Contributions to funds are allocations from the general fund, typically annually through the budgeting process, and are sometimes referred to in terms like “pennies for housing.” TIF takes the growth in tax revenue from a parcel over time from a starting year (the “increment”) and applies it to affordable housing. The tax paid by the parcel owner is the same whether or not TIF is in place. MSDs apply a supplemental property tax specifically for use within the district – affordable housing within a Transit Oriented Development is an eligible activity under NC law. Landowners in MSDs pay a higher tax rate than landowners outside of the district.</p>
	<p>Joint Development, Opportunity Zones, Anchor Institution Involvement, Social Impact Investing, and Crowdsourcing are all <u>strategies to bring non-traditional resources to affordable housing</u>. Joint Development (using federal transit dollars on or adjacent to transit station areas) and Opportunity Zones (tax-advantaged areas designated by the federal government) have both geographic and use limitations, but can bring important funding to creative applications. Universities, medical centers and concerned investors can use stable, affordable housing as one means to advance their missions and goals, whether a productive workforce, a healthy community, or poverty alleviation.</p>
	<p>Land Banking, Land Disposition, and Public Housing Redevelopment are <u>strategies to set aside, repurpose, or redevelop publicly-owned or publicly-acquired land to maximize affordable housing benefits</u>. Public control of land can be one of the most critical elements of success, not only because it is a tangible asset, but also because it can shorten development timelines and decrease carrying costs of land for housing developers.</p>
	<p>Conditional Inclusionary Zoning, Private Sector Led Inclusionary Zoning, and Density Bonuses are <u>strategies to generate new affordable housing without direct allocation of government financial resources</u> through the private sector development process.</p>
	<p>Development Review Efficiency, Departmental Coordination, and Reducing Barriers to Missing Middle Housing are <u>strategies to increase the speed and certainty of the development review process</u> for affordable housing units, since time is money and risk translates to cost. When risk is reduced and timelines are faster, developers may be more willing to take creative approaches than they otherwise would.</p>
	<p>Right of First Refusal, Delayed Demolition Timelines in Historic Districts, and Preservation Warning System are <u>strategies to provide upfront notification or time to address the potential loss of existing affordable housing</u>. Working collaboratively with owners of affordable housing can preserve key parts of the housing stock.</p>
	<p>Landlord Outreach for Voucher Programs, Landlord Incentives for Voucher Programs, and Landlord Incentives for Rehabilitation and Preservation are <u>strategies to work directly with private sector landlords</u>, who own and manage the largest portion of rental affordable housing. Helping landlords repair their properties as well as addressing risks and uncertainties associated with managing affordable housing can play an important role in maintaining and expanding the housing choices that low-income renters have.</p>
	<p>Homeowner Education, Repair Assistance for Low-income Homeowners, and Homebuyer Support are <u>strategies to work directly with people living in or purchasing affordable homes</u>. Helping people with financial and management skills – and in some cases financial assistance – can ensure stable, quality affordable housing in a community. Additionally, in a rapidly changing market, low-income homeowners could also benefit from education around predatory practices.</p>



AN IN-DEPTH LOOK AT HIGHLIGHTED STRATEGIES

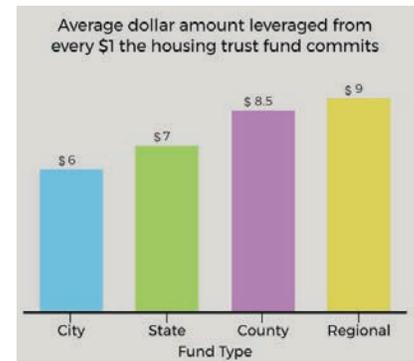
Creating transit-oriented neighborhoods that provide opportunities to households at a wide range of incomes requires intentional and strategic planning to preserve and create affordable housing. The intentional planning for transit-accessible neighborhoods, known as equitable transit-oriented development (eTOD), strives to ensure affordably-priced housing options for people who stand to benefit the most from cost savings associated with increased access to transit. In many cases, eTOD requires specific tools and strategies to preserve and create affordable housing in transit-oriented neighborhoods – particularly as property values increase and neighborhoods become less accessible for lower income households.

Successful eTOD strategies are based off several key characteristics, including using and creating dedicated funding sources to provide flexible and consistent funds for affordable housing, providing more flexibility and incentives for the private market to provide affordable housing options, and partnering with the community to support affordable housing. This section provides an in-depth look at highlighted strategies that can spur equitable transit-oriented development within the Durham-Orange Light Rail corridor:

- Increase funding through a regional transit-oriented development fund
- Prime private-sector support using density tools
- Accessory dwelling units as Missing Middle Housing
- Partner with anchor institutions for financial and community support

Increase Funding through a Regional Transit-Oriented Development Fund

As planning for the proposed light rail corridor continues, the preservation of land affordability and existing affordable housing is key to preserving opportunities for low- and moderate-income households near station areas. A regional transit-oriented development (TOD) fund could be used to purchase land, acquire existing affordable housing developments, and provide gap financing for the development of new affordable housing projects near transit. A regional TOD fund could be used to leverage funds from local, regional, state, and county resources, as shown in Figure 8.³¹ These funds are often created by local governments in partnership with banks, foundations and anchor institutions, and can be structured as a revolving loan fund. There are many examples of TOD funds for affordable housing, but few that work at a regional scale. Denver, Colorado’s Regional TOD Fund and the San Francisco Bay Area’s Transit Oriented Affordable Housing (TOAH) Fund are two examples of regional TOD funds for affordable housing.^{32,33}



Source: Housing Trust Fund Project (data), Triangle J Council of Governments (figure)

	DENVER REGIONAL TOD FUND	BAY AREA TRANSIT-ORIENTED AFFORDABLE HOUSING FUND
Goal/Focus	Creating and preserving affordable housing and mixed-income, mixed-use projects along current and future transit corridors	Provides financing for the development of affordable housing, community services, fresh food markets, and other neighborhood assets near transit lines throughout the San Francisco Bay Area.
Partners	Partners include the City and County, the Colorado Housing and Finance Authority, Enterprise Community Loan Fund, as well as several banks and foundations.	The fund is sponsored by the Great Communities Collaborative and seeded with investment from the region’s MPO, the Metropolitan Transportation Commission. A consortium of five community development financial institutions will originate loans: the Low Income Investment Fund, Corporation for Supportive Housing, Enterprise Community Loan Fund, Local Initiatives Support Corporation, and Northern California Community Loan Fund.
Fund Size	Launched in 2010 with \$13.5 million in capital, expanded to \$24 million to serve the entire Denver metropolitan area. Since 2010, the Fund has made 14 acquisitions and has created or preserved 1,200 affordable rental units.	Launched in 2011 with a \$10 million investment, the fund leveraged an additional \$40 million in private capital from six local community development financial institutions, banking institutions, and local and national foundations. The fund serves the 9-county Bay Area region.

Current Efforts in the Region

Durham is currently working to create an Affordable Housing Loan Fund (AHLF) in partnership with Duke University’s Office of Durham and Regional Affairs. The fund is Durham specific, rather than a regionally-focused fund. Some key characteristics of the Durham AHLF proposal are:

Goal/Focus	Creating and preserving affordable housing by enabling local affordable housing developers to stabilize and expanding production by building multi-year development pipelines. Affordable rental units must serve households at or below 60% AMI and affordable ownership units must serve households at or below 80% AMI.
Partners	Duke University, City of Durham, and other investors will provide the initial investment. Self-Help Ventures Fund and the North Carolina Community Development Initiative will act as fund administrators.
Fund Size	As of June 2018, the City of Durham has committed up to \$3.5 million in first and second loss funds, which are the most risky. Duke University has also committed \$1 million in second loss and \$2 million in senior debt. Fundraising is currently underway for the balance of funds (approximately \$9 to \$14 million) for a total fund size of \$15 to \$20 million.
Anticipated Success	Over 10 years, the Fund is expected to support the creation or preservation of over 1,000 affordable homes.

While the Durham AHLF does not currently serve the region, there may be potential for the Durham model to scale up the regional level to include multiple jurisdictions. If there is interest in pursuing the

fund as a regional strategy to preserve and create affordable housing, existing and future stakeholders might consider the following questions:

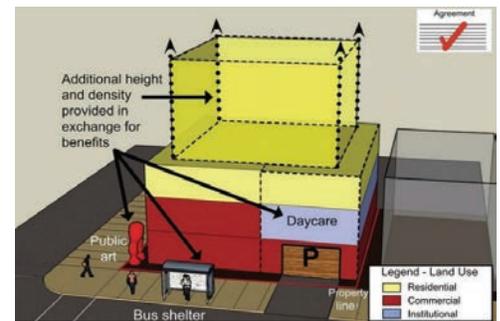
1. Who are the fund partners, investors, and administrators?
2. What will the revenue sources be?
3. What is the scale of the fund?
4. What is the goal and/or focus of the fund and how does that impact project eligibility criteria?
5. How are local government contributions to the fund structured? How are the funds disbursed throughout the region? How should the Fund’s legal agreements reflect this?
6. How should the fund be structured? Should the fund provide grants or be structured as a revolving loan fund?

PRIME PRIVATE-SECTOR SUPPORT USING DENSITY TOOLS

A density bonus is a zoning incentive tool that allows developers to build at higher than allowed densities in exchange for a provision of a defined public benefit, such as affordable housing. Typically, affordable housing density programs allow for bonuses related to height or floor area ratios (FAR). In exchange for the provision of affordable housing, developers may be allowed increases of between 10% and 20% over baseline permitted density.³⁴ Programs can be also designed to allow developers to provide other contributions in lieu of building affordable units, such as a providing a payment in lieu, land, or preserving existing affordable housing. The benefit of using a density bonus is that it can provide affordable housing without directly using public funding and it can incorporate affordable housing into market-rate developments, thus creating mixed-income communities.

Where are Density Bonuses Most Successful?

Density bonuses work best in strong housing markets where land values are high and developable land is limited.³⁵ In weaker housing markets where developers can more easily develop lower-density projects, this tool is not well utilized. Density bonuses should be carefully designed to provide enough of an incentive given the higher construction costs for mid- and high-rise buildings that utilize steel-frame construction. Density bonuses are also often used to incentivize transit-oriented development in more urban areas, such as the density incentive being provided by the City of Durham within the City’s Compact Neighborhood districts.



Source: Spacing Ottawa

Current Efforts in the Region

In 2015, Durham City and County elected officials adopted a resolution in support of affordable housing near planned transit areas and set a goal that at least 15% of housing units within one-half mile of light rail stations would be affordable to households at or below 60% AMI. Additionally, elected officials adopted an interim density bonus incentive in planned transit areas that have the Compact Neighborhood zoning designation. The bonus allowed an additional three market-rate units for every one unit of affordable housing built. According to a 2017 memo addressing proposed changes to the density bonus, developers have been more interested in voluntarily providing monetary contributions for affordable housing in exchange for rezoning to a higher-density zoning district rather than utilizing the recently adopted density bonus program.³⁶

The density bonus was amended again in February 2018 to provide increased incentives for developers. If projects meet location and eligibility requirements, they are eligible for a density bonus up to 75 units per acre, less restrictive height limits (height up to 90 feet is permitted unless otherwise specified),

and waived parking requirements.³⁷ Additionally, projects that provide affordability for households up to 60% AMI will be eligible for this incentive. This density bonus is being offered on an interim basis while a longer-term policy is developed. A memorandum addressed to the Durham Planning Commission outlined several potential consequences of adopting the interim density bonus incentive as a long-term solution. The density bonus may push developers toward developing lower-density housing or possibly away from developing residential projects at all. Furthermore, developers may choose to build projects outside of the Compact Neighborhoods, which would decrease density and transit ridership near the proposed light rail.

Chapel Hill’s Inclusionary Zoning Ordinance outlines the provision of density bonuses, known as development bonuses within the Ordinance. Projects that abide by the Ordinance may be eligible for both height and FAR bonuses for single- and multifamily developments, if the development falls within an approved zoning district. The type and size of the bonus is dependent on both the zoning district where the development is located as well as the type of unit being developed.³⁸

Best Practices to Consider When Utilizing Density Tools

1. Regularly monitoring the use of the program over time is key to the success of the incentive. Density bonuses should be able to be adapted as necessary in order to address potential changes in housing market conditions.
2. Density bonuses are most effective when used in tandem with other affordable housing strategies.
3. Jurisdictions could consider adopting a density bonus incentive that regulates density based on residential FAR rather than unit count. This could be done as a measure to encourage developers to build more, smaller units as opposed to fewer, larger units, which could result from a density bonus program that limits density based on the number of units.

ACCESSORY DWELLING UNITS AS MISSING MIDDLE HOUSING

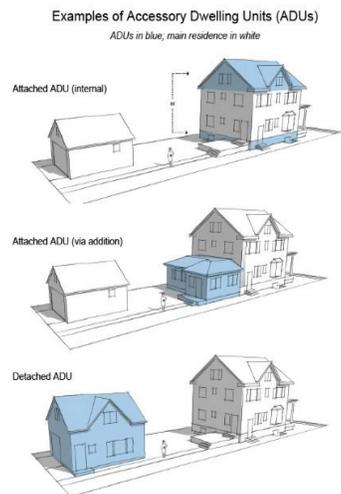
It is clear that we must build more housing and different types of housing as a way to increase housing accessibility and affordability within Durham and Chapel Hill near the proposed light rail. Several of the station areas and their surrounding neighborhoods are comprised of predominantly single-family homes. To expand housing choices and allowing more people the opportunity to live within transit-served neighborhoods, building different housing types that are still compatible with the existing neighborhood fabric should be a development option. This strategy, known as reducing barriers to building missing middle housing, “offers a range of multi-unit housing types compatible in scale with single-family homes that help meet the growing demand for walkable, urban living.”³⁹

One type of missing middle housing is accessory dwelling units (ADUs). An ADU is a small, secondary dwelling unit built on the same lot as the main house, and can be attached or detached. Because they are built to the rear of the primary structure, they increase density without dramatically changing the character of the neighborhood. Accessory Dwelling Units support affordable housing in a variety of ways. Due to their smaller size, ADUs can often be rented at moderate prices, creating units that could be considered market-rate affordable housing. In addition, the rental income can potentially allow the homeowner to afford to remain in their home for a longer period of time even as property values and associated costs rise.

It should be noted that this strategy is likely to be more appropriate in neighborhoods surrounding the proposed light rail station areas, rather than inside of them. For example, the City of Durham’s policies and ordinances for Compact Neighborhoods promote multi-family and mixed-use developments, rather than smaller forms of missing middle housing, such as ADUs.

Current Efforts in the Region

Although ADUs are currently allowed in Durham, few have been developed.⁴⁰ In fact, in Durham, despite



Source: City of Saint Paul, Minnesota

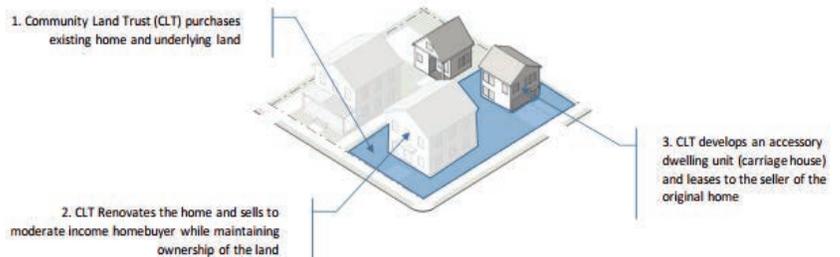
being allowed by-right for all single-family homes since 2006, only 72 permitted ADUs exist on record.⁴¹ To promote the development of ADUs, Durham’s City/County Planning Department is working on a project called Expanding Housing Choices, which aims to contribute to market-rate affordability by removing certain regulatory barriers that restrict the supply and types of housing that can be built. As part of this project, the Planning Department is working with the Triangle-J Council of Governments (Triangle-J) to reduce financing barriers and increase community education related to ADU development.

The regulatory barriers related to ADUs that are being reviewed include the maximum square footage and height of the ADU, parking requirements, the location on the lot, and which types of lots can have a permitted ADU (such as nonconforming lots). In addition, Durham is developing an ADU manual that will provide a basic understanding of the process by which a homeowner can build an ADU, including easily accessible information on zoning and land use restrictions, permitting and utility fees, development costs and processes, and financing options.

Triangle-J has focused primarily on reducing barriers related to financing the cost of constructing an ADU. Currently, existing pathways to financing an ADU are generally limited to homeowners who either have access to a significant amount of personal assets or home equity. Due to these constraints, many low- and moderate-income homeowners are limited in their ability to construct an ADU, which would provide an additional source of income and help them remain in place. Triangle-J also identified that there is a lack of existing comparable sales data for houses with ADUs, which makes it difficult for financial institutions to provide construction loans for homebuyers who want to build an ADU. The lack of available comps also makes it difficult for banks to establish new lending products that are predicated on the value of the ADU.

To address this issue, Triangle-J has engaged the financing and real estate community in a variety of ways. First, Triangle J has begun conversations with the Triangle Multiple Listing Service (Triangle MLS) to include data fields specifically for ADUs in the MLS database to increase the intake of data and the availability of comparable sales information for properties with ADUs. This will improve appraisers’ ability to easily search and document sales of homes with ADUs, which is necessary to establish the value of ADUs in the market and increase the possibility for new lending products in the future. Additionally, Triangle-J has researched alternative lending products and development models that may be replicable within the Triangle region. Craft3, a certified non-profit Community Development Financial Institution based in the Pacific Northwest, is creating an unsecured consumer loan for low- and moderate-income homeowners to finance the construction of an ADU on their property. The loan is predicated on the projected rental income from the ADU, which is included as borrower income in the underwriting of the loan. Craft3 cites the need for pre-fabricated or modular units in order to bring down the cost of construction. The organization intends to establish the market for ADU financing with this product, and hopes other lenders will enter the market once it stabilizes. Craft3 intends to raise funds from foundations and public entities in addition to its own equity to finance this product.⁴² Given the strong rental market and the need for more housing, a similar product would be valuable in the Triangle region to support low- and moderate-income homeowners in pursuing the construction of ADUs on their property.

Finally, Triangle-J researched alternative development models for ADUs, including building them within a community land trust (CLT) model. A CLT ADU model could work in either of two ways. The CLT could construct an ADU on a property and sell both the main home and the ADU to an eligible homebuyer.



Source: City of Decatur, Unified Development Ordinance

Or, as outlined in the figure on the right, the CLT could work with the owner of the main structure to construct, rent, and manage the ADU on a CLT property.⁴³ This may be a particularly good fit for a CLT that is already equipped to act as a property manager for rental units, such as Durham Community Land Trustees.

Next Steps and Considerations for Supporting the Development of ADUs

To promote housing variety, increase density, and address affordable and accessible housing needs along the future light rail, Durham and Chapel Hill could continue to do several things:

1. Establish quantitative and qualitative data about existing ADUs through surveys, MLS data, and other sources.
2. Educate elected officials, the public, and lending institutions on the importance of ADUs and the need for financing for low- and moderate-income homeowners within the community.
3. Collaborate with mission-driven and private organizations to develop alternative lending products and development models to increase construction of ADUs, particularly for low- and moderate-income homeowners and renters.
4. Support efforts to make revisions to the North Carolina Building Code to make it easier to build ADUs.

PARTNER WITH ANCHOR INSTITUTIONS FOR FINANCIAL & COMMUNITY SUPPORT

Durham and Chapel Hill, as well as their surrounding counties, will need partners to holistically address the need for affordable housing throughout the proposed light rail corridor. Universities and medical centers, also known as anchor institutions, act as engines of innovation and growth for the communities in which they are situated as well as the region as a whole. As highlighted earlier in this report, the proposed transit corridor connects several key anchor institutions, including Duke University, Duke University Health System, North Carolina Central University (NCCU) and the Duke/VA Medical Center in Durham, as well as the University of North Carolina (UNC)-Chapel Hill and UNC Health Care. Many of the workers at these institutions have incomes that are at or below 80% AMI. By pairing reduced housing costs with close proximity to public transportation, these workers could realize significant savings between their combined housing and transportation costs.

In addition to contributing to stable and safe housing for their employees and members of the surrounding community, motivations for anchor institution involvement include maintaining diverse and thriving communities, stimulating economic development and new investment, and attracting new residents while incentivizing current residents to stay. For medical centers, supporting quality affordable housing not only means reducing housing-related health issues, but potentially generating significant public health care savings through the provision of supportive housing. Permanent supportive housing, targeted towards people who are homeless or otherwise unstably housed, combines low-barrier affordable housing, health care, and supportive services to help people lead more stable lives.^{44,45}

There are many examples of universities and medical centers making a difference in affordable housing. The University of Pennsylvania (Penn) has worked to provide affordable housing through community development and the West Philadelphia Initiative. Penn raised more than \$50 million to create the Neighborhood Housing Preservation and Development Fund as part of the University's neighborhood revitalization effort.⁴⁶ Through this fund, the University invested \$4.5 million to acquire 20 aged and declining apartment buildings with 448 apartment units, which they rehabbed and preserved as affordable housing for students and community residents in partnership with private-sector actors.⁴⁷ The University also provides direct financial assistance to University staff and faculty to help them buy and maintain their homes in West Philadelphia, the neighborhood in which the University is located.⁴⁸



Source: West Philadelphia Neighborhood, University of Pennsylvania Home Ownership Services

ProMedica, a regional health system that serves Michigan and Ohio, has worked for more than a

decade to combat the physical and social effects of distressed housing and neighborhoods in Toledo, Ohio, where it is headquartered. While much of the housing stock in Toledo is publicly subsidized or income-restricted, many units are at risk of being lost due to expiring affordability restrictions. As a core component of ProMedica’s efforts to stabilize the aging affordable housing stock, it collaborated with KeyBank to provide \$2.65 million to preserve the affordability of affordable housing funded through Low-Income Housing Tax Credits, through the Year 16 Initiative.⁴⁹ Working with the Local Initiative Support Coalition (LISC), the funds will be used to make upgrades to affordable rental properties and will be made available for first-time homebuyers’ assistance.⁵⁰ ProMedica is also particularly interested in supporting its entry- and mid-level employees by providing down payment assistance for first-time homebuyers.

Current Efforts in the Region

Duke University in Durham has invested in affordable housing to increase affordable rental and homeownership opportunities for faculty, staff, and community residents. Launched in 1996, the Duke-Durham Neighborhood Partnership has helped revitalize Durham neighborhoods through direct assistance by building and rehabbing affordable housing. The Partnership includes Duke’s Office of Durham and Regional Affairs, local affordable housing organizations, such as Habitat for Humanity, Builders of Hope, and Durham Community Land Trustees, as well as Self-Help Credit Union. In 2004, Duke doubled its loan commitment to Self-Help, bringing the total value of the loan to \$4 million. These funds allowed Self-Help and non-profit developers to expand its homeownership work and develop a land bank.⁵¹ More recently, Duke’s Office of Durham and Regional Affairs convened a working group that includes representatives from the City, County, affordable housing developers and lenders to discuss affordable housing challenges facing the City. The working group developed the proposal for the Durham Affordable Housing Loan Fund to assist with the creation and preservation of affordable housing in Durham. To date, Duke has committed a total of \$3 million to the fund. Over the next 10 years, the Fund is expected to support the creation or preservation of over 1,000 affordable homes.⁵²



Source: Duke Office of Durham and Regional Affairs

In Chapel Hill, a similar partnership exists between the University of North Carolina (UNC)-Chapel Hill, the Town, and two non-profits, Self-Help and the Jackson Center.⁵³ These stakeholders created the Northside Neighborhood Initiative (NNI), to preserve the Northside neighborhood in Chapel Hill near the University campus. Through a \$3 million no-interest loan provided by the University, and \$200,000 in administration funding from the Town of Chapel Hill, NNI’s efforts have focused on ensuring that long-term community residents can stay in their homes, while attracting new residents and providing affordable housing throughout the Northside neighborhood. Self-Help has used the loan to buy properties to be placed into a land bank and maintain them until they are ready to be converted to homeownership or rental housing.⁵⁴ Since the creation of NNI in 2015, affordable housing partners, including Community Home Trust, EmPOWERment, Inc., and Habitat for Humanity have purchased property from the land bank, while other properties have been rehabbed by Self-Help.⁵⁵

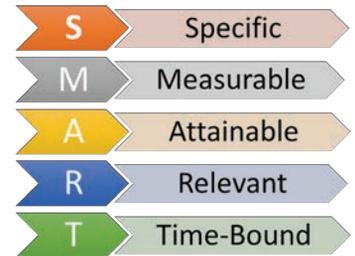
Next Steps for Interested Anchor Institutions to Get Involved

1. Continue to participate in conversations around local housing initiatives, such as the TJCOG’s quarterly Housing Practitioners’ Group or a more focused work group with housing developers, local governments, and other stakeholders.
2. Duke and UNC may continue to provide additional funds for affordable housing through the Duke’s Duke-Durham Neighborhood Partnership or UNC’s Northside Neighborhood Initiative or through

- other affordable housing funding mechanisms, such as Durham’s Affordable Housing Loan Fund.
- 3. Look to see how anchor institution assets, such as land and parking, can be leveraged to address the financing gap for affordable housing.
- 4. Provide employee housing assistance through homeownership or rental assistance or by developing housing.

SET, MEASURE, AND TRACK TRANSIT CORRIDOR HOUSING GOALS

Setting affordable housing goals is key to addressing the affordable housing need throughout the proposed light rail corridor in a meaningful way. To accomplish these goals, local governments must be able to point to specific actions and outcomes that will support preservation and creation of additional housing and also identify adequate measurements of successful implementation. To remain accountable to these goals, it is important to set implementation timeframes and plan for continued revision of goals, outcomes, and metrics to ensure that the needs of the community are met and objectives accomplished. To ensure goals and objectives are clear and achievable, each one should be specific, measurable, actionable, relevant, and time-bound, or S.M.A.R.T.



Source: Google Image Search

Examples of jurisdictions that have proactively adopted transit-corridor housing goals are Austin, Texas, and Atlanta, Georgia. Austin’s housing-specific strategic plan includes two 10-year targets for linking housing with transportation.⁵⁶ The first target sets a goal that 25% of affordable housing that is created or preserved be within ¼ mile of high-frequency transit. The second target poses that 75% of affordable housing created or preserved by within ¾ mile of local, fixed-route transit service. In Atlanta, the BeltLine 2030 Strategic Implementation Plan presents the target that 20% of the new residential units to be built in the planning area be affordable.⁵⁷ In support of this goal, the City adopted an ordinance requiring 15% of revenues from the tax increment district associated with the planning area to be directed to the BeltLine Affordable Housing Trust Fund (BAHTF), which supports the creation of rental and owner-occupied housing units within Beltline neighborhoods.

Durham and Chapel Hill have both set goals for affordable housing within their respective communities. In Durham, the housing goal is tied to the objective of transit-oriented development within Compact Neighborhoods, where the goal is to have 15% affordable housing. Chapel Hill’s has established annual goals as well as five-year targets for affordable housing. The Town has also defined a work plan for the major affordable housing initiatives. The Town generates quarterly reports to determine where they are in meeting their affordable housing goals. The Town’s dashboard tracks its progress in real time, as well.

EMERGING STRATEGIES

The below strategies are innovative, emerging strategies that have not yet been tested in the Triangle region, but that may be unique approaches to bring additional investment into the region. They include:

- Joint development for affordable housing
- Attracting social impact investments
- Private sector-led inclusionary housing
- Opportunity Zone investing

JOINT DEVELOPMENT FOR AFFORDABLE HOUSING

After several years of cumulative cuts in federal housing funding, public and private partners must utilize new tools to address the growing shortfall of affordable housing in our communities. One of these tools is joint development. Joint development is defined by the Federal Transit Administration (FTA) and GoTriangle’s TOD Policy Framework as:

- Partnerships between transit agencies and the public or private sector



Source: Federal Transit Administration, Examples of Joint Development

in the development of land owned by a transit agency.

- Integrated development of transit and non-transit projects. Or, transit improvements physically related to, and often co-located with, commercial, residential, or mixed-use development.
- Mutual benefit and shared cost among all of the partners involved.

The most important word in joint development is “joint:” without the transit investment itself, there can be no transit-oriented development benefit. So joint development will always remain contingent until final designs, costs and revenues are assured. In order to take advantage of this opportunity, planning for joint development needs to occur throughout the process, since identifying viable opportunities and putting together complex affordable housing financing also takes a long time.

Through the use of FTA joint development funds, public and private partners can join together to develop projects near transit investments that incorporate affordable housing and economic development. The objectives of joint development, as outlined by FTA, are to simultaneously generate benefits for transit agencies and value for real estate developers while enhancing the transit system and creating mixed-use, transit-oriented communities. Projects aligned with these objectives have the ability to receive FTA funds during the period of performance of the federal grant, or utilize transit agency-owned real property previously purchased using FTA funds to support development along a proposed transit corridor of a transit investment project.

Understanding the importance and availability of this financial tool, GoTriangle has included a joint development line item in its budget for the light rail project in the amount of approximately \$50 million in federal funds.⁵⁸ Joint development funds may be used to develop residential, commercial, or mixed-use developments. Eligible uses of FTA funds for joint development projects include property acquisition, demolition of existing structures, relocation or improvement of utilities, construction of foundations, and site preparation. Other eligible capital expenses can be found within FTA’s Joint Development Circular.⁵⁹ Joint development typically involves land owned by a transit agency and joint development funding is only available to that transit agency when the development expenses are incurred simultaneously with a FTA-funded transit improvement project, currently anticipated to extend to Year 2032. To partner with FTA during the development period of the light rail, a strategy that may work especially well is for stations near park and ride lots, such as Gateway, South Square, and Alston Avenue, where funds could be primarily be used to land bank and prepare park and ride lots for eventual redevelopment. For example, GoTriangle is currently working with a site planning consultant to ensure that parking lots are designed in a way that is conducive to receiving future development, which could possibly include affordable housing.

Proposed development projects must meet several criteria to be eligible for joint development funds, including:

1. creating an economic benefit by either enhancing economic development or incorporating private investment in the development of the site;
2. enhancing public transportation through a physical or functional relationship to transit or by establishing new or enhanced coordination between transit and other multi-modal options;
3. providing local or private funds to match FTA’s investment in the project; and
4. providing a “fair share of revenue” generated by the development to GoTriangle for transit operations, except in some exceptional cases, like affordable housing.⁶⁰

As the need for affordable housing in our communities continues to increase and federal funding remains stagnant at best, public entities must rely on their ability to leverage public funds to garner private investment for projects that align with public interests. As the engineering and implementation phases of the light rail project continue, it is clear that investments must be made to capitalize on the rising value of

real estate in close proximity to future transit investments. GoTriangle and other public entities have the opportunity to achieve their goals by leveraging joint development to attract additional private investment. By utilizing these funds, rather than local sources of subsidy alone, public agencies can more efficiently achieve their objectives to increase affordable housing and create inclusive communities.

ATTRACTING SOCIAL IMPACT INVESTMENTS

With continued decreases in federal funding sources for affordable housing, gaps in affordable housing finance are more critical than ever. Social impact investing, whereby private entities invest with the intention of generating a specific social or environmental benefit, has emerged as an innovative way to raise capital to fill the financing gap for affordable housing developments. Social impact investing for affordable housing can be used to preserve or create LBAR or NOAH units as well as provide capital for predevelopment activities or other line items that can be difficult to finance.

By providing capital that is, by nature, more flexible, developers can utilize this financing to respond quickly to preserve expiring LBAR units or acquire land in a quickly appreciating market, such as areas surrounding a proposed transit investment. According to a new report highlighting successful impact investing practices, “investments that trigger additional capital not otherwise available to a fund, enterprise, sector, or geography [and] can be transformative, generating exponential social and/or environmental value.”^{61,62} Essentially, impact investing has the ability to produce a catalytic impact, allowing developers to secure additional financing once the gap financing is in place.

PRIVATE SECTOR-LED INCLUSIONARY HOUSING

Extensive private sector multi-family housing development has been occurring near proposed light rail stations, particularly in and around Downtown Durham and Duke, and more is on the drawing boards. On the plus side, this development is locating households close to transit and has so far been built on land that was commercial, so has not directly displaced residents. But very few of these new projects have included legally binding affordable housing. Some developers have indicated a desire to voluntarily contribute to affordable housing solutions – for example, by providing some level of internal subsidy for affordable units -- but are constrained by two market dynamics:

1. Projects need to show they can provide competitive returns or investors will not finance them, and
2. Projects cannot be put at a cost disadvantage relative to competitors, or market-rate tenants will choose lower cost units in other developments.

Given these constraints, a private sector-led inclusionary housing program may be able to supply only a limited number of new units. If only 5% of the approximately 4,000 multifamily units built or renovated in light rail station areas over the past decade had been affordable, a total of 200 new affordable units would be in place. With a private sector-led program, there may be opportunities for public partnership elements to spur acceptance. For example, communities might explore rebates on tax amounts that can be attributed to any legally-binding units in a mixed income development.

OPPORTUNITY ZONE INVESTING

The Opportunity Zones Program was created through The Tax Cuts and Jobs Act (H.R.1), which was signed into legislation on December 22, 2017. The program provides tax incentives for qualified investors to re-invest unrealized capital gains into low-income communities throughout the state, and across the country. Low-income census tracts are areas where the poverty rate is 20 percent or greater and/or family income is less than 80% of the area’s median income. In North Carolina, 252 census tracts have been certified as Opportunity Zones.⁶³ Along the light rail corridor, there are overlaps between the station analysis areas and Opportunity Zones near the Martin Luther King Jr. Parkway, LaSalle Street, Blackwell/Mangum, Dillard Street, Alston Avenue, and NCCU planned stations (Figure 8).

The Opportunity Zones program offers three tax incentives for investing in these zones through a qualified Opportunity Fund.⁶⁴

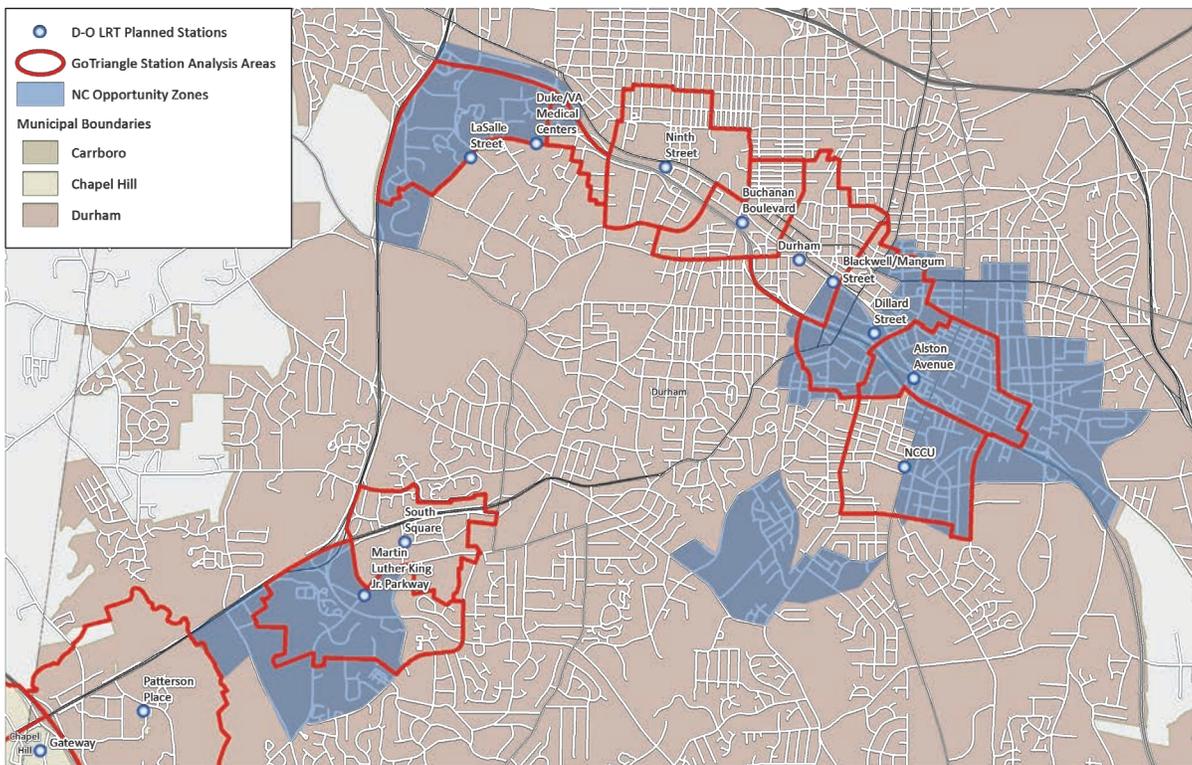


Figure 8: Opportunity Zones in Proximity to the Station Analysis Areas

1. **Temporary Deferral:** A temporary deferral of inclusion in taxable income for capital gains reinvested into an Opportunity Fund.
2. **Step-Up In Basis:** A step-up in basis for capital gains reinvested in an Opportunity Fund. The basis is increased by 10% if the investment in the Opportunity Fund is held by the taxpayer for at least five years and by an additional 5% if held for at least seven years, thereby excluding up to 15% of the original gain from taxation.
3. **Permanent Exclusion:** A permanent exclusion from taxable income of capital gains from the sale or exchange of an investment in an Opportunity Fund if the investment is held for at least 10 years. This exclusion only applies to gains accrued after an investment in an Opportunity Fund.

Real estate development projects are ideal Opportunity Zone investments given the long hold periods required to take advantage of the federal tax benefits. To attract investment in Opportunity Zones, local governments can identify attractive private development projects within Opportunity Zones, secure site control, make them “investment ready,” and market them to Opportunity Zone developers and investors. Projects that are ready for investment by the end of 2019 will be most attractive to investors, because equity invested in Opportunity Zones before the end of 2019 will receive the greatest tax benefit. The Development Finance Initiative at the UNC School of Government provides a pre-development process that can help local governments ready sites for Opportunity Zone investments.⁶⁵

MEASURING PERFORMANCE

Tracking Data to Achieve Affordable Housing Goals and Outcomes

Durham and Chapel Hill have two overarching goals related to affordable housing within their communities:

1. Preserve Legally-Binding (LBAR) and Naturally Occurring Affordable Housing (NOAH) Units
2. Create New Legally-Binding Affordability Restricted (LBAR) Units

Both communities also have a third goal:

3. Encouraging transit-oriented development near the proposed light rail stations to promote affordable and accessible communities

This goal should also be included to track whether development near stations is aligned with the priorities of several agencies that provide funding to affordable housing and public transportation, such as the Federal Transit Administration through its Capital Improvement Grant Program and the North Carolina Housing Finance Agency’s Low-Income Housing Tax Credit Program. A system must be implemented to track and monitor progress toward achieving all three affordable housing goals. Annual updates should be completed to assist with data tracking and monitoring. As a regional organization, Triangle-J Council of Governments is particularly suited to track and maintain this data and convene regional stakeholders, including housing and planning departments of towns and counties within the light rail corridor, to assess the progress made towards these goals annually.

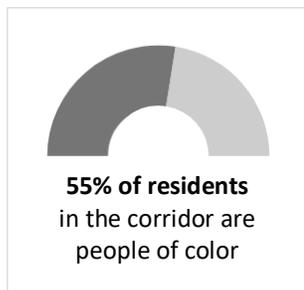
Data included in the annual update will be comprised of metrics related to each of the three housing goals and associated desired outcomes. Baseline metrics will also be included to measure the overall trends in the proposed transit corridor. Baseline metrics and metrics related to the three affordable housing goals and their associated outcomes are outlined on the following pages. Each outcome is linked to a metric, its desired trend, and baseline data, where applicable. Baseline data has been pulled for each metric and will be updated on an annual basis. Data sources and geographies for each metric are also included in the table.

The Light Rail Corridor At-A-Glance

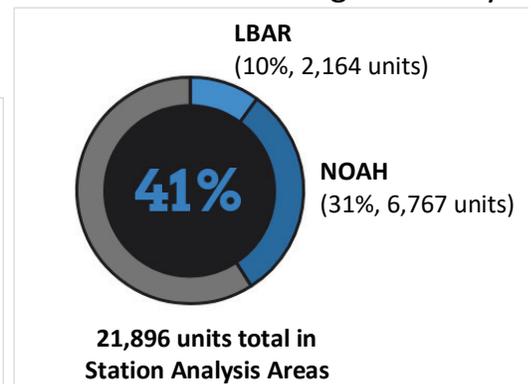
Housing Tenure and Income

	Proportion in Corridor	Median Household Income	Cost-Burdened Households <80% AMI
Owner	32%	\$80,000	13%
Renter	68%	\$31,000	45%

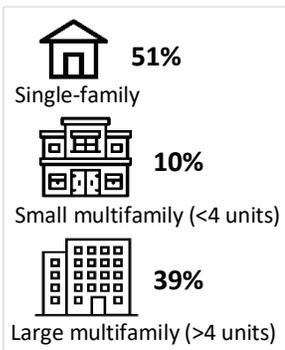
Corridor Diversity



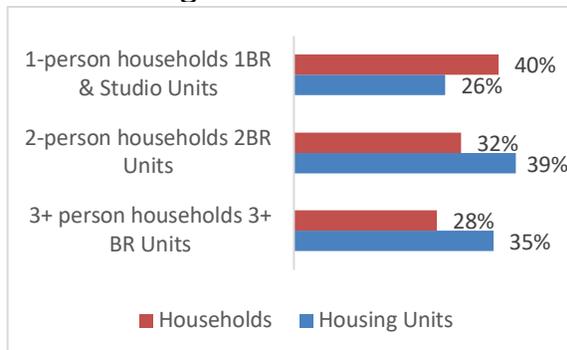
Affordable Housing Inventory



Housing Type Breakdown



Household Size and Housing Unit Size Mismatch



Employee and Housing Mismatch

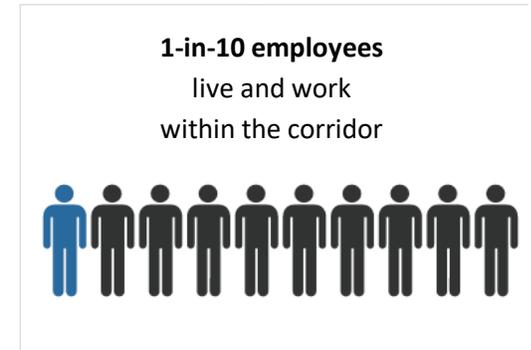


Table 6: Baseline Metrics

Topic	Metric	Baseline Data	Data Source	Geography of Analysis
Population Characteristics	1. Population	1. 81,603	American Community Survey	Census block groups within station analysis areas
	2. Population density (per sq. mi)	2. 2,236 persons/sqmi		
Household Characteristics	3. % White alone	3. 55.4%	American Community Survey	Census block groups within station analysis areas
	4. % African American alone	4. 23.4%		
	5. % Other races or multiracial	5. 16.5%		
	6. % Hispanic/Latino (of any race)	6. 12.6%		
	1. Number of households	1. 67,845		
	2. % Family households	2. 65.4%		
Resident Economic Characteristics	1. Median family income	1. \$47,252	American Community Survey	Census tracts within station analysis areas
	2. Median Family income as a % of area median income	2. 58.6%		
	3. Median household income: owner occupied unit	3. \$80,230	American Community Survey	Census block groups within station analysis areas
	4. Median household income: renter occupied unit	4. \$30,947		
	5. % of renter households below 80% AMI who are housing cost-burdened	5. 44.8%	American Community Survey	Census block groups within station analysis areas
	6. Median household income	6. \$35,668		
	7. % families with income below poverty level	7. 18.9%	H+T Index	Census block groups within station analysis areas
	8. Share of aggregate household income in bottom two income quintiles	8. 10.9		
	9. Number and proportion of zero car households	9. 4,316 (13%)	American Community Survey	Census block groups within station analysis areas
	10. % of income spent on housing and transportation costs for households less than 80% AMI (a household is considered cost-burdened if they spend more than 4% of income on combined costs)	10. 50.2%		
Housing Supply Characteristics	1. Number of housing units	1. 33,942	American Community Survey	Census block groups within station analysis areas
	2. % owner-occupied units	2. 31.8%		
	3. % renter-occupied units	3. 68.2%	American Community Survey	Census tracts within station analysis areas
	4. Median gross rent	4. \$930		
	5. Median owner-occupied house value	5. \$227,700	American Community Survey	Census tracts within station analysis areas
	6. Median gross rent as a % of household income	6. 29.8%		
	7. Median owner costs as a % of household income (with mortgage)	7. 21.2%	American Community Survey	Census tracts within station analysis areas
	8. % single-family properties	8. 50.6%		
	9. % small multifamily properties	9. 10.2%	American Community Survey	Census tracts within station analysis areas
	10. % large multifamily properties	10. 39.2%		

Table 7: Performance Metrics to Achieve Affordable Housing Goals

Goals	Outcomes	Metrics & Desired Trend	Baseline Data	Data Source	Geography of Analysis
1. Preserve Legally-Binding (LBAR) and Naturally Occurring Affordable Housing (NOAH) Units	1.1 Maintain the number of existing LBAR units	1.1.1 Number of LBAR units that have reverted to market-rate within the last year (→)	0 units	TICOG-maintained affordable housing inventories	Station analysis area
	1.2 Prevent displacement of low- and moderate-income renters and homeowners	1.2.1 Number of homeowners provided with financial assistance to rehab their homes (↗)	6 homeowners	Durham Home Repair Collaborative, Orange County Home Preservation Coalition, Durham, Chapel Hill	Station analysis area
	1.3 Maintain the number of naturally occurring affordable housing units	1.2.2 Number of homeowners who receive property tax assistance (↗) 1.2.3 Proportion of residential properties that are 10+ years old that have sold within the last year (→)	103 homeowners 9% (300/3,207 properties in Durham) Orange County - pending data	County property records	Station analysis area
2. Create New Legally-Binding Affordability Restricted (LBAR) Units	1.4 Increase availability of healthy, safe, and affordable places for renters	1.4.1 Number and proportion of rental properties considered to be in poor, very poor, or unsound condition by the tax assessor (↘) 2.1.1 Number of LBAR units (↗)	pending data 2,164 units	Durham and Orange County Tax Assessors	Station analysis area
	2.1 Increase in number of LBAR units	2.1.2 Proportion of legally-binding units within 1/2 mile station area buffer vs. proportion of total legally-binding units in the county in which station is located (↗)	2.42 - Medium-High FTA rating	TICOG-maintained affordable housing inventories	Station analysis area
3. Encourage Transit-Oriented Development	2.2 Increase the availability of market-rate units with a range of sizes	2.2.1 Difference between number of units by bedroom size compared to the number of households by household size (↘)	1BR/Studio & 1 Person HHS: -3,161 2 BR & 2 Person HHS: 3,229 3 BR & 3 Person HHS: 3,662 4 BR & 4 Person HHS: 277 5 BR & 5+ Person HHS: -603	American Community Survey	Census block groups within station analysis areas
	3.1 Increase employment opportunities near affordable housing and public transportation	3.1.1 Number of employees (↗)	94,793	LEHD OnTheMap database	Census block groups within station analysis areas
	3.2 Increase population densities near public transportation	3.2.1 Number of people who live and work within the transit corridor (↗)	9,181	LEHD OnTheMap database	Census block groups within station analysis areas
	3.3 Increase mixed-use transit-oriented development communities	3.3.1 Square feet of office, multi-family, industrial, hospitality, retail, health care, and sports & entertainment properties (↗)	Office: 375 properties/9,401,597 sqft Industrial: 64 properties/1,191,213 sqft Hospitality: 25 properties/1,936,646 sqft Retail: 406 properties/4,552,482 sqft Health Care: 9 properties/2,705,427 sqft Sports & Entertainment: 6 properties/467,573 sqft Multi-Family: 144 properties/15,242 units	CoStar database	Station analysis area

Desired Trend Outcomes

- ↗ Metric increases over time
- Metric remains the same over time
- ↘ Metric decreases over time

NEXT STEPS: ADVANCING STRATEGIES FOR AFFORDABLE HOUSING NEAR TRANSIT

Chapel Hill and Durham do not have deep pockets relative to the larger and more prosperous regions that are investing significant amounts public money to address their affordable housing shortages. Additionally, they are hampered by state restrictions from applying innovative tools used successfully elsewhere to create and preserve affordable housing. In the light rail corridor itself, actions by major anchor institutions – universities and medical centers – can significantly influence housing efforts. In order to be successful, people of good will must collaborate voluntarily to do their part.

In one word: Partnerships. Both this report, and the light rail Guidebook prepared by GoTriangle, come to the same conclusion: sustained, systematic partnerships will be needed if meaningful affordable housing results are to be achieved.

The tools and techniques outlined in this report can lead to better affordable housing results, but none is a silver bullet, and the effect of each is stronger when used as part of a comprehensive approach. For these strategies to achieve their full potential, partnerships between interdisciplinary stakeholders can be created where they do not yet exist, and nurtured and strengthened where they do.

Two initial partnerships – one already existing and the other with a precedent in the region – can serve as cornerstones for collaboration:

- **The Triangle Housing Practitioners Group** – Consisting of stakeholders from the public, private and civic sectors with direct responsibility to fund, build, manage or regulate affordable housing, the practitioners group was created in 2017 and is convened by the Triangle-J Council of Governments to examine specific techniques, learn about emerging opportunities, and share effective practices.
- **A Land Use-Housing-Transit Partnership** that can bring together expertise from different “silos” for a laser-like focus on the inter-related decisions that communities make on land use regulation, transit investment, and housing programs. An analogous group was created by Triangle-J COG to look at passenger rail, bus rapid transit, and frequent bus service corridors in the Wake Transit Plan. Transitioning this group to a regional group and sustaining it over time could be a productive collaboration.

These two partnerships can have the added benefit of supporting affordable housing efforts not just in the light rail corridor, but along other bus and rail investments planned in the region.

In addition to partnerships, four other next steps can form an effective framework for pursuing the strategies outlined in this report:

1. Monitoring, Evaluation, and Reporting. Both Triangle-J COG and GoTriangle have work programs oriented to TOD performance. By divvying up tasks and coordinating efforts, they can provide decision-makers with timely information to inform policies and make course corrections. Triangle-J COG has particular strengths in housing and community land use planning due to its work with the national Housing Preservation Database and the CoStar development database, and as the

What If ...

If partnerships are crucial to implementing strategies, what can help strengthen partnerships?

Partnerships need to be more than people sitting around a table discussing issues. Four pillars could provide a foundation:

- Recognition. What if we created a “Part Of The Solution” recognition program that rewarded developers and communities that go the extra mile?
- Commitment. What if we created an “A Place For All” Resolution that communities could sign on to strengthen the connective tissue of regional housing partnerships?
- Policy Advancement. What if we worked with the state to allow tried-and-true affordable housing tools in carefully designated Transit-Oriented Development zones?
- Innovation. What if we created a Land Use-Transit-Housing Strategy Lab that brought together university, developer and community expertise to explore and test innovative approaches?
- eTOD. What if we partnered with local government, financial organizations, and housing and transit authorities to advocate for state policies that better support eTOD?

managing partner of the CommunityViz Growth Allocation tool for the two Metropolitan Planning Organizations. GoTriangle has particular strengths and interests in tracking project submittals affecting station areas and land values along transit corridors. GoTriangle and Triangle-J COG can develop a collaborative monitoring, evaluation and reporting system that can work seamlessly with other tools, like Chapel Hill's Affordable Housing Dashboard. As monitoring results accumulate over time, the data can help us discern where we have come from, in an effort to plan for where we would like to go, and how we can get there.

2. Resource Attraction. From private investment in Opportunity Zones to federal joint development funding to social impact investing, innovative techniques to attract non-traditional revenues for affordable housing emerge periodically. Ensuring Chapel Hill and Durham are on the leading edge to take advantage of these opportunities could have significant benefits.
3. Top Priorities and Next-in-Line. With 34 specific strategies identified in this report, it would be easy to dilute collaborative efforts by trying to pursue everything at once. One task of the partnerships can be to select a limited set of top priorities for collaborative effort, and a “next-in-line” list to begin to gather information about, even while individual organizations may work on some of the other strategies.
4. Annual Development & Transit Investment Summit. Building on the work of the partnerships and the monitoring and evaluation effort, an annual summit can showcase what communities along the Light Rail Corridor are doing to meet their affordable housing goals and introduce fresh ideas from people in the Triangle and experts from peer regions. A summit or similar event can be a way to partner with organizations with similar interests, such as the Urban Land Institute, and engage regional stakeholders.

While this report does not point to a single solution, it does outline a range of tools and techniques that can be utilized to improve our efforts at creating and preserving affordable housing in our region. Preserving housing affordability near transit will not happen by accident. Our solutions must be intentional and strategic, so that over time, we can look back and know we have done what we could to increase the chances for a boisterous celebration about our housing affordability successes and decrease the chances for loud complaints about what we were unable to do.

Additional Resources

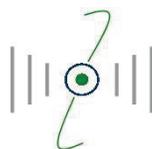
- TJCOG Housing – www.tjcog.org/housing.aspx
- GoTriangle Transit Planning Projects – <https://gotriangle.org/lightrail/home>
- Enterprise Community Partners – www.enterprisecommunity.com
- HUD Evidence Matters – www.huduser.org/portal/evidence.html
- Center for Transit Oriented Development – www.ctod.org
- Reconnecting America – www.reconnectingamerica.org
- Denver TOD Fund – www.urbanlandc.org/denver-transit-oriented-development-fund/
- Bay Area Transit-Oriented Affordable Housing Fund – www.bayareatod.com
- TJCOG Affordable Housing Glossary - <https://bit.ly/2tml3o0>
- Missing Middle Housing – www.missingmiddlehousing.com

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- | | |
|--|---|
| <ul style="list-style-type: none"> • Duke University • North Carolina State University • The University of North Carolina at Chapel Hill • North Carolina State University • The Research Triangle Foundation • GoTriangle | <ul style="list-style-type: none"> • Town of Chapel Hill
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Hannah Jacobson
Lisa Miller |
|--|---|



Triangle J Council of Governments

APPENDIX 1: DEFINITIONS OF AFFORDABLE HOUSING STRATEGIES

STRATEGIES	DEFINITIONS
Anchor Institution Involvement	Hospitals, universities, and other institutions contribute funds or land and even construct properties to preserve and create affordable housing opportunities for faculty, staff, students, and existing and future members of the community surrounding the institution.
Contribute to a Housing Fund	Established by local elected officials, housing trust funds are distinct funds made up of a variety of sources, including public revenue, to provide affordable housing. Housing trust funds have an organized way to distribute the funds to specific projects and to achieve housing goals.
Contribute to an Acquisition Fund	Support acquisition funds for affordable housing developers to acquire and rehabilitate NOAH properties close to planned transit
Crowdsourcing for Affordable Housing	Crowdsourcing leverages social networking tools to create funding, build support, and gather input into projects.
Delayed Demolition Timelines	Utilize Historic Overlay Districts to implement a delayed demolition timeline of any structure for up to one year while alternatives to demolition are explored as a way to preserve naturally occurring affordable housing, particularly multi-family properties. This action is allowed by NC state law under enabling legislation for the Creation of Historic Preservation Commissions by Counties and Municipalities (GS. 160A-400.1-400.14).
Density Bonus	Engage market-rate developers to produce affordable housing units in exchange for an increased number of units, taller buildings, or more floor space than normally allowed.
Disposition of Publicly-Owned Property	Create a developable land inventory to determine which publicly-owned parcels are suitable for affordable housing development.
Educate Homeowners	Support homeowners in appreciating neighborhoods by providing education on their rights, options, and opportunities to remain in their homes
Engage Faith Leaders and Faith-Based Organizations	Engage faith leaders organizations who support affordable housing in order to increase community support through advocacy and raise funds or allocate land for affordable housing.
Equitable TOD: Community-Scale Education and Engagement	Local governments can engage with staff, boards, commissions, and community members to educate and create tools and strategies to support affordable housing in the community.
Fee Rebates	Reduces or eliminates permitting fees for affordable housing developments. North Carolina statute prohibits local governments from waiving fees, but they are able to reimburse these fees.
From NIMBY to YIMBY: Neighborhood-Scale Education and Engagement	Engage community members who support development of affordable housing to increase community support and educate community members who are against development to understand the needs and benefits of increasing density and providing affordable housing within the community.
Homebuyer Support	Provide loans or grants to moderate-income homebuyers. Some programs can be specifically targeted to support first time homebuyers, public sector employees, or other targeted groups.
Incentivize Landlords to Participate in Voucher Programs	Create risk mitigation fund to provide financial assistance to landlords of private market units to mitigate qualifying damages cause by tenants who use a voucher program, including Section 8, VASH, or other voucher program.
Incentivize Landlords to Rehabilitate and Preserve Affordable Housing	Provide financing or tax incentives to rehabilitate their properties in exchange for affordability restrictions.
Incusory Zoning (Conditional)	Developers receive certain valuable incentives, such as planning, zoning, or financial benefits, in exchange for providing affordable homes or paying into an affordable housing fund. Common benefits include the right to build higher density (also known as a density bonus), lower parking requirements, or tax incentives.
Increase Development Review Efficiency	Increase efficiency of the development review process to reduce costs and timelines for developing affordable housing. Strategies to increase efficiency include streamlining the review process, increasing staff capacity, creating a separate process for expedited review, implementing online permitting, creating accountability, and making the process more user-friendly.
Increased Departmental Coordination	Reduce barriers to development within other departments and coordinate meetings with other departments to discuss proposed affordable housing projects early and often.
Joint Development	Local transit agencies can utilize joint development funds from the Federal Transit Administration to support affordable housing projects near transit, including funds for property acquisition, demolition of existing structures, site preparation, relocation or construction of utilities, building foundations, walkways, and providing bike and pedestrian access between public transit and related development.

STRATEGIES	DEFINITIONS
Land Banking	Assembling, temporarily managing, and disposing of vacant land for the purpose of stabilizing neighborhoods and encouraging re-use or redevelopment of urban property. This can happen through established land banks, which can be created by governmental entities or nonprofit corporations.
Landlord Outreach for Voucher Programs	Continue to conduct outreach to existing and potential landlords to educate them on voucher programs, including but not limited to, Section 8 voucher program and the Veterans Affairs Supportive Housing voucher program, to increase number of landlords who accept vouchers near proposed transit corridors.
Master Leasing	A local government or non-profit organization could master lease rental units at one property or throughout the community at existing market rates and then sublease the units at affordable rates to qualified tenants. Local governments or non-profit organizations may also be able to secure a subsidized rate from the property owner and pass on the discount to the tenants without requiring additional subsidy. Local governments may choose to provide subsidy and work with a third party as property manager.
Municipal Service Districts	Municipal service districts assess an additional tax on the full value of a property paid by property owners within a defined municipal service district that will benefit from public improvements.
Opportunity Zones	The Opportunity Zones Program was signed into legislation in December 2017 through the Tax Cuts and Jobs Act (H.R.1) that provides tax incentives for qualified investors to re-invest unrealized capital gains into low-income communities through a qualified Opportunity Fund.
Preservation Warning System	Track properties with expiring affordability requirements or that otherwise are available for purchase and notify public and private entities of properties to encourage acquisition and rehabilitation of properties for affordable housing. Including tax credit properties or other properties available for purchase.
Public Housing Redevelopment	Continue to partner with the housing authority to support the redevelopment of housing authority owned properties.
Reduce Barriers for Missing Middle Housing, including ADUs	Decrease barriers to constructing missing middle housing, including ADUs, in single-family and low-density neighborhoods by changing zoning to allow development by right and minimizing other regulatory barriers where applicable. ADUs are a secondary dwelling unit on the same lot as a principal single-family home. Because ADUs are usually small, they are often more affordable to rent than full-size single-family homes. Examples include a guest house, pool house, garage apartment, in-house apartment, granny-flat, etc.
Reduce Parking Minimums	Reducing parking requirements allows developers to provide an appropriate amount of parking based on demand; it does not prevent a developer from building parking. Most provisions do not reduce or eliminate parking requirements uniformly across a municipality, but rather target lower parking requirements to downtown areas, areas with greater accessibility to alternative modes of transit, or to specific types of development, such as affordable and senior housing.
Rental Subsidy	Support existing renters with rental and utility assistance. Local governments may choose to serve only housing voucher recipients or other special populations.
Repair Assistance for Low-Income Homeowners	Support existing low-income homeowners with funds for rehabilitation, repair, and energy efficiency upgrades as well as educate homeowners on the expanded use of the State property tax relief programs
Right of First Refusal	A right of first refusal in the deed requires property owners to give identified entities the right to buy rental housing before they offer to sell it to another party. For this policy to be successful, potential buyers need to have experience purchasing and operating housing and need to have quick access to funding or financing.
Social Impact Investing	Work with social impact investors to provide gap financing to acquire and rehabilitate NOAH properties or properties with expiring affordability requirements or to preserve or create new affordable housing units.
Tax Increment Financing (TIF)	Local government establishes a district and borrows monies to fund public infrastructure projects that will benefit and incentivize new private development in the district. TIF uses the increased property taxes that a NEW real estate development will generate to finance the development cost. Note that synthetic TIFs are often a more viable option as compared to traditional TIF districts.

APPENDIX 2: AFFORDABLE HOUSING INVENTORY - STATION AREA DATA

Stations	Total DUS	SF	MF	2018 Total AH		% Affordable <80% AMI	2018 LBAR	2018 NOAH	<60% AMI		60-80% AMI	
				Total AH	% Affordable				LBAR	NOAH	LBAR MF	NOAH MF
Station Analysis Areas												
UNC Hospitals	167	47	120	0	0%	0	0	0	0	0	0	0
Mason Farm Road	350	283	67	0	0%	0	0	0	0	0	0	0
Hamilton Road	838	79	759	423	50%	27	396	11	396	16	0	0
Friday Center Drive	496	96	400	46	9%	46	0	12	0	34	0	0
Woodmont	741	46	695	0	0%	0	0	0	0	0	0	0
Leigh Village	702	99	603	411	59%	0	411	0	0	0	0	411
Gateway*	751	229	522	473	63%	0	473	0	297	0	0	176
Patterson Place	1,163	25	1,138	932	80%	0	932	0	88	0	0	844
Martin Luther King Jr Parkway	2,491	172	2,319	1,765	71%	24	1,741	24	825	0	0	916
South Square	1,149	9	1,140	770	67%	0	770	0	420	0	0	350
LaSalle Street	3,735	96	3,639	2,374	64%	864	1,510	464	910	400	0	600
Duke/VA Medical Centers	136	0	136	0	0%	0	0	0	0	0	0	0
Ninth Street	1,993	183	1,810	86	4%	5	81	3	0	2	0	81
Buchanan Boulevard	719	252	467	212	29%	25	187	13	95	12	0	92
Durham Station & Blackwell/Mangum	1,429	177	1,252	112	8%	0	112	0	0	0	0	112
Dillard Street	899	171	728	529	59%	489	40	357	40	132	0	0
Alston Avenue	982	340	642	593	60%	519	74	285	55	234	19	19
NCCU	1,456	745	711	205	14%	165	40	165	40	0	0	0
Compact Neighborhoods												
Leigh Village	48	48	0	0	0%	0	0	0	0	0	0	0
Patterson Place	1,163	25	1,138	932	80%	0	932	0	88	0	0	844
South Square / Martin Luther King Junior Parkway	2,767	4	2,763	2,535	92%	24	2,511	24	1,245	0	0	1,266
Erwin Road	3,628	18	3,610	2,236	62%	726	1,510	726	910	0	0	600
Hillsborough Road	33	14	19	14	42%	0	14	0	14	0	0	0
Ninth Street	1,316	24	1,292	81	6%	0	81	0	0	0	0	81
Downtown Tier	2,558	51	2,507	875	34%	723	152	668	40	55	0	112
Alston Avenue	641	159	482	440	69%	366	74	366	55	0	0	19

*Gateway Station Analysis Area includes the Eastown Station Analysis Area

ENDNOTES

² Housing and Transportation Index. <https://htaindex.cnt.org/>

³ 2012-2016 American Community Survey 5-year Estimates for the Raleigh-Durham-Chapel Hill Combined Statistical Area.

⁴ Arlington County, *Affordable Housing Master Plan*. (2015). <https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/15/2015/12/AHMP-Published.pdf>

⁵ City of Durham, *Affordable Housing Five-Year Plan, 2016 – 2021*<https://durhamnc.gov/DocumentCenter/View/12522/Housing-Goals-Report?bidId=>

⁶ City of Durham Community Development. *Affordable Housing Goals Update*. (2018).

⁷ Town of Chapel Hill, *Affordable Housing Strategy Statement*. (2011).

⁸ Town of Chapel Hill, *Inclusionary Zoning*. <https://www.townofchapelhill.org/town-hall/departments-services/housing-and-community/affordable-housing-policy/inclusionary-zoning>

⁹ Town of Chapel Hill, *Inclusionary Zoning Ordinance*. (2011) <https://www.townofchapelhill.org/home/showdocument?id=6988>

¹⁰ Town of Chapel Hill, *Call for Applications to Create Affordable Housing Opportunities*. <https://www.chapelhillaffordablehousing.org/news/2018/7/3/call-for-applications-to-create-affordable-housing-opportunities>

¹¹ Town of Chapel Hill, *Northside Neighborhood Initiative*. <https://www.townofchapelhill.org/town-hall/departments-services/housing-and-community/northside-neighborhood/northside-neighborhood-initiative>

¹² Orange County Board of Commissioners Meeting Agenda (2017). <http://www.co.orange.nc.us/DocumentCenter/View/2514/Board-awards-first-round-of-bond-grants-PDF?bidId=>

¹³ Town of Chapel Hill, *Town Properties Task Force Report on Recommendations for Strategic Uses of Town-Owned Properties*. (2017). <https://www.townofchapelhill.org/home/showdocument?id=36194>

¹⁴ Tammy Grubb. *Affordable Housing Bond on Chapel Hill 2018 Election Ballot*. (2018). <https://www.newsobserver.com/news/local/counties/orange-county/article219677125.html>

¹⁵ North Carolina Housing Finance Agency, *The Impacts of Community Based Affordable Homeownership Programs*. https://www.nchfa.com/sites/default/files/page_attachments/HOC%20Impact%20Brief%20FINAL.pdf

¹⁶ North Carolina Housing Finance Agency, *The Impact of the Low-Income Housing Tax Credit in North Carolina*. https://www.nchfa.com/sites/default/files/page_attachments/LIHTECPolicyBrief1.pdf

¹⁷ Housing and Transportation Index. <https://htaindex.cnt.org/about/>

¹⁸ City of Durham, *Housing Goals*. (2016).<https://durhamnc.gov/DocumentCenter/View/11033/Durham-Housing-Goals-5-31-16?bidId=>

¹⁹ Durham Housing Authority, *DDNP Frequently Asked Questions*. <https://www.durhamhousingauthority.org/development/ddnp-faq/>

²⁰ Housing Choice Vouchers were not included in the inventory or mapping of LBAR housing, due to data limitations and confidentiality concerns.

²¹ Sarah Willets, *Section 8 Voucher Holders are Having a Hard Time Finding Housing in Durham*. (2017). <https://indyweek.com/news/archives/section-8-voucher-holders-hard-time-finding-housing-durham/>

²² Ellie Kinnaird, *Disparities in Orange County Housing a Local Disgrace*. (2016). <https://www.newsobserver.com/news/local/community/chapel-hill-news/article96441477.html>

²³ The inventory of LBAR housing is comprised of data compiled from several sources. In Durham County, sources included the National Preservation Database, Durham Community Land Trust, Durham Habitat for Humanity, and CoStar, a real estate listing company that collects information on multifamily residential buildings, typically with 20 units or more. The Durham inventory data was most recently compiled in April 2018. In Orange County,

sources include the Orange County Affordable Housing Coalition's database, which is compiled by housing providers in the County and was most recently updated in August 2018.

²⁴ Affordable housing data included in this inventory includes data from the National Preservation Database, Durham Habitat for Humanity, the Durham Community Land Trust, and CoStar, a real-estate database.

²⁵ Units were included if they were located within the Station Analysis Area for each station, as defined by GoTriangle. Of all legally-binding affordable housing units in the Town of Chapel Hill, 8% are located within the Station Analysis Areas for the Chapel Hill stations.

²⁶ Most units managed by Community Home Trust in Chapel Hill were built by private developers, as part of the Town's Inclusionary Zoning Ordinance.

²⁷ Arlington County, *Affordable Housing Master Plan*. (2015). <https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/15/2015/12/AHMP-Published.pdf>

²⁸ Arlington County, *Affordable Housing Study FAQ*. <https://housing.arlingtonva.us/affordable-housing-study/frequently-asked-questions-affordable-housing-study/>

²⁹ Glen Lennox, *Grubb Properties Kicks Off Next Phase of Glen Lennox Redevelopment*. (2018). <https://glenlennoxvision.com/press/grubb-properties-kicks-off-next-phase-of-glen-lennox-redevelopment/>

³⁰ Zachary Eanes, *This Rent Experiments Could Be One Answer to More Affordable Housing in the Triangle*. (2018). <https://www.heraldsun.com/news/business/article208677754.html>

³¹ Center for Community Change, *The 2016 Housing Trust Fund Survey Report*. (2016). http://housingtrustfundproject.org/wp-content/uploads/2016/10/HTF_Survey-Report-2016-final.pdf

³² Enterprise Community Investment, Inc., *Denver Regional Transit-Oriented Development (TOD) Fund*. <https://www.enterprisecommunity.org/financing-and-development/community-loan-fund/denver-regional-tod-fund>

³³ Bay Area Transit Oriented Affordable Housing. <http://www.bayareatod.com/>

³⁴ Grounded Solutions Network, Inclusionary Housing, Density Bonus. <https://inclusionaryhousing.org/designing-a-policy/land-dedication-incentives/density-bonus/>

³⁵ Puget Sound Regional Council, Housing Innovations Program: Featured Tool: Density Bonuses. https://www.psrc.org/sites/default/files/hip_density_bonuses.pdf

³⁶ City of Durham, Memorandum Outlining the Unified Development Ordinance Text Amendment, Compact Neighborhood Interim Affordable Housing Bonuses. (2017). <https://durhamnc.gov/AgendaCenter/ViewFile/Item/2083?fileID=7435>

³⁷ Ibid.

³⁸ Town of Chapel Hill, *Inclusionary Zoning Ordinance*. (2011). <https://www.townofchapelhill.org/home/showdocument?id=6988>

³⁹ Missing Middle Housing. <http://missingmiddlehousing.com/>

⁴⁰ ADUs are allowed by right in all residential zoning districts in Durham, while in Chapel Hill, they are allowed by right in all residential zoning districts except CD-1 and CD-4, where they are not allowed.

⁴¹ ADU data comes from the Durham Tax Assessor and includes all permitted Garage Apartments. These only represent free-standing ADUs and are a proxy at best. A note that no additional information on use of the ADUs is currently available.

⁴² Interview with Adam Zimmerman, President and CEO of Craft3. Information about Craft3 is available on their website, <https://www.craft3.org/>

⁴³ *Feasibility Study and Business Plan for a Proposed Community Land Trust Program Serving Denver's Globeville, Elyria and Swansea Neighborhoods*. (2017). <https://www.urbanlandc.org/wp-content/uploads/2017/08/GES-Feasibility-and-Business-Plan-Executive-Summary.pdf>

⁴⁴ North Carolina Housing Finance Agency, *The Impact of the Low-Income Housing Tax Credit in North Carolina*. https://www.nchfa.com/sites/default/files/page_attachments/LIHTCPolicyBrief1.pdf

⁴⁵ North Carolina Housing Finance Agency, *Permanent Supportive Housing*. <https://www.nhchc.org/policy-advocacy/issue/permanent-supportive-housing/>

⁴⁶ Local Initiatives Support Corporation, *Anchor Institutions Open Doors for Their Communities*. <http://www.lisc.org/our-resources/resource/anchor-institutions-open-doors-their-communities>

⁴⁷ University of Pennsylvania, Office of the Executive Vice President, *Increasing Opportunities for Homeownership and Housing*. <http://www.evp.upenn.edu/strategic-initiatives/housing-and-homeownership.html>

⁴⁸ University of Pennsylvania, *About PHOS*. <http://cms.business-services.upenn.edu/homeownership/about-phos.html>

⁴⁹ U.S. Department of Housing and Urban Development, *Case Study: ProMedica Focuses on Community Development to Strengthen Health in Toledo, Ohio*. <https://www.huduser.gov/portal/casestudies/study-060418.html>

⁵⁰ ProMedica Toledo Hospital, *KeyBank and ProMedica Commit \$2.65 Million to Revitalize Central Toledo-Area Neighborhoods*. (2017). <https://www.promedica.org/toledo-hospital/news/keybank-and-promedica-commit-2-65-million-to-revitalize-central-toledo-area-neighborhoods>

⁵¹ Duke University’s Office of Durham and Regional Affairs, *Our Five Year Report to the Community*, <https://community.duke.edu/wp-content/uploads/2014/03/DARA-5-Year-Report.pdf>

⁵² City of Durham, *Affordable Housing Loan Fund Overview presentation*, draft from June 2018.

⁵³ Susan Hudson, *Supporting the Northside Neighborhood Initiative*. (2015). <https://www.unc.edu/discover/northside-neighborhood-initiative/>

⁵⁴ Town of Chapel Hill, *Northside Neighborhood Initiative*. <https://www.townofchapelhill.org/town-hall/departments-services/housing-and-community/northside-neighborhood/northside-neighborhood-initiative>

⁵⁵ University of North Carolina at Chapel Hill School of Government, *Checking In: The Impact of the Northside Neighborhood Initiative and Land Bank*. (2018). <https://ced.sog.unc.edu/checking-in-the-impact-of-the-northside-neighborhood-initiative-land-bank/>

⁵⁶ City of Austin Neighborhood Housing and Community Development, *Austin Strategic Housing Blueprint*. https://www.austintexas.gov/sites/default/files/files/NHCD/Strategic_Housing_Blueprint_4.24.17__reduced_.pdf

⁵⁷ Atlanta BeltLine, *2030 Strategic Implementation Plan*. (2013). https://beltlineorg-wpengine.netdna-ssl.com/wp-content/uploads/2013/03/Beltline_Implementation-Plan_web.pdf

⁵⁸ The joint development line item is line 20.05 in the Standard Cost Category (SCC) summary sheet submitted to FTA to enter the Engineering phase of the New Starts Program. GoTriangle assumed \$90 million in “base year” funds for joint development with an additional \$8.5 million assigned as “unallocated” to account for contingencies. With the understanding that 50 percent of the total joint development funds must come from local sources, federal funds for joint development as outlined in the SCC amount to approximately \$49.25 million.

⁵⁹ U.S. Department of Transportation Federal Transit Administration, *Guidance on Joint Development*, Circular FTA C 7050.1A. (2016.) <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA-161221-001%20Joint%20Development%20Circular.pdf>

⁶⁰ “Fair share of revenue” is the division of revenue generated from a joint development project that the project sponsor and its partners negotiate and agree that the project sponsor will receive. It may be amortized over the life of the project. The minimum threshold for the amount of revenue that a project sponsor receives must be equivalent to the amount of FTA funds that the project receives. For example, if GoTriangle bought a property for \$2 million in 2000 and FTA’s share of the land acquisition cost was 50% or \$1 million, the fair share of revenue for the joint development project on the property would be \$1 million, which GoTriangle must receive over the life of the joint development agreement with the developer.

⁶¹ ImpactAssets, and Duke University’s Fuqua School of Business, *Impact Investing 2.0: The Way Forward, Pacific Community Ventures, Inc. (PCV)*. (2013). <http://www.pacificcommunityventures.org/impinv2/>

⁶² Strength Matters, *The Demand and Requirements for Impact Investment in Housing Enterprises*. (2014). <https://www.neighborworks.org/About-Us/Business-Opportunities/RFPs/StrengthMattersImpactInvestmentWhitePaperSEP2014.aspx>

⁶³ North Carolina Opportunity Zones Program, *Program Overview*. <https://public.nccommerce.com/oz/#section-overview>

⁶⁴ Economic Innovation Group, *Opportunity Zones: A New Incentive for Investing in Low-Income Communities*. <https://eig.org/wp-content/uploads/2018/02/Opportunity-Zones-Fact-Sheet.pdf>

⁶⁵ University of North Carolina at Chapel Hill School of Government, *Opportunity Zones*. <https://www.sog.unc.edu/resources/microsites/development-finance-initiative/opportunity-zones>

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Appendix D: Parking Strategies

INTRODUCTION

Managing parking effectively is critical to the success of Transit Oriented Development (TOD) districts. Every component of parking will impact the economic vitality, transit ridership, and the overall livability of the station area for residents, employees, and visitors. These components include the parking supply, how easy or difficult the parking is to use, as well as how the parking is built and managed.

Guiding Principles for the Light Rail Corridor Parking Strategy

TOD represents an opportunity for significant, intensive economic development through the creation of compact, walkable places on land close to stations. The following principles provide guidance to ensure sufficient vehicular access, through parking, and sufficient space for the public realm and development activity in order to maximize the opportunity for and benefits of TOD.

- Promote greater economic development and tax base by reserving less land for parking and more for development as transit, bike, and pedestrian access increase.
- Provide sufficient parking to support new development but focus on maximizing access overall so as to not overprovide spaces helps ensure access by car but also maximizes access overall and allows for increased jobs, housing, and tax value.
- Recognize that parking in TOD districts is unique from parking in other all areas, given the amount of access available in a TOD and plan accordingly.
- Tailor parking strategies to the local context of each individual station including its existing market conditions.
- Prioritize access by walking, biking, and transit to TOD Districts ahead of access by private vehicles.
- Prioritize the experience of people on foot over the storage of private vehicles.
- Incorporate parking strategies into unified development ordinances (UDOs) and other local policies to be most successful.
- Account for future changes to the parking market as a result of autonomous vehicle technology. Accordingly, prioritize strategies that optimize the use and sharing of existing parking ahead of the creation of new parking.
- Establish District Parking Strategies to allow parking solutions to be tailored to the context of each station and adapted over time to support TOD and associated community benefits.

This report covers four key elements of parking for TOD: District Parking Strategies, Supply and Demand, Form and Design, and Complementary Strategies. The report concludes with Action Steps to begin putting these elements into practice in station areas.

THE BIG IDEA: PARKING MANAGEMENT DISTRICTS

While there are many strategies that can be deployed to make parking work effectively near rail stations, there is one strategy that can be used across the Light Rail Corridor in both Durham and

Chapel Hill that will enhance the performance of all the other parking strategies—the establishment of District Parking.

WHAT ARE THE BENEFITS OF A DISTRICT PARKING STRATEGY?

District Parking provides a mechanism to address many challenges related to TOD parking, as it provides a way to manage the implementation of a parking strategy in one or more station areas, and to help the strategy evolve over time to meet community goals.

The District Parking approach can address several parking-related problems in urban settings simultaneously, and can be particularly effective in creating walkable urban places.

Whereas many development review processes and parking regulations outside of TOD districts narrowly consider parking on a micro-scale, evaluating outcomes using a parcel-by-parcel basis, asking “how do we get parking right at this site,” District Parking is by definition a macro-scale solution to parking, that continually ask “how do we get parking right across the neighborhood to support community goals?”

District Parking tracks parking demand across many different developments, public amenities, and community facilities, and works to allocate parking in a responsive and responsible manner. District Parking can respond to different parking demands on individual days and times of day during the week.

Generally speaking, the more parking spaces there are included within the District Parking system, the more effective the strategies deployed can be. However, there are also practical geographic limits and institutional boundaries that must be taken into account when establishing such a district, and the recommendations in this document reflect both of these realities.

Four Key Attributes of Spaces in Parking Management Districts: Shared, Managed, Unbundled and Priced

Successful Parking Management Districts have parking spaces that are:

- Shared
- Actively Managed
- Unbundled (sold or rented separately from residential or commercial building space)
- Priced according to demand for parking, which means a higher price when lots of people want to park and a lower price (or no price) when fewer people want to park.

Each of these strategies can vary over time according to the specific context of each station area.

Shared: Shared parking is the ability of multiple land uses or businesses in a development or a district to effectively share parking resources due to variation in the peak usage time of individual uses, the presence of transit, bicycling, and walking opportunities in the district, and accounting for the ability of visitors to a walkable urban place to visit more than one destination without the need to move their vehicle. Hourly public parking in Downtown Durham and Downtown Chapel Hill are local examples of shared parking. Sharing parking resources provides the ability for each parking space to be occupied more frequently, maximizing both usage and revenue, as well as lowering initial construction costs.

Managed: Effective active management of parking spaces acknowledges that demand for parking for different uses will vary by the day of the week and time of day, and rules around parking are then set to optimize the use of multiple parking spaces and parking facilities with those usage patterns in mind.

Examples of managed parking include:

- Using on-street spaces for short-term parking to support business activity, while using parking

“Ultimately, parking should be managed by the city or a business district as a shared resource.”

GB ARRINGTON

decks or parking lots for full-day parking to accommodate employees or hotel guests.

- Setting a maximum time limit of two or three hours per on-street space to encourage turnover for businesses, regardless of whether spaces are priced or not.
- Allocating parking spaces further from core business areas to business employees to maximize access for customers.
- A bakery limiting parking spots to customers until 3:00 p.m. and then opening them to the public after closing at 3:00 p.m., whether spaces are priced or not.

District Parking gives communities the opportunities to make these types of adjustments **across multiple parking facilities at once to benefit multiple stakeholders** to ensure that parking policies adapt to development and community needs as the TOD evolves.

One of the most challenging and important aspects of any walkable urban neighborhood is right sizing parking when an area is evolving to become less auto dependent. By creating a more flexible parking supply that can respond to current and changing neighborhood conditions, residents, shoppers and employees are encouraged to use transit, bike, and walk within a station area, while also ensuring existing parking is well-utilized throughout the day.

Unbundled: Parking Spaces should be leased or sold separately from commercial or residential space. This reduces the rents for residential units and non-residential spaces by the cost associated with the construction of parking spaces. Such a policy allows households with cars to choose to lease a space rather than requiring everyone to pay for the parking spaces through their rents, including the households that may have two driving adults but share one vehicle.

The same is true for commercial tenants. A business may decide that the access afforded by being near the light rail station means that they need fewer spaces for their employees and customers than they would in a location with lower levels of transit service.

In both cases, residents and businesses are empowered to choose the number of parking spaces that is right for them rather than having it bundled in their rents and likely result in paying for more parking spaces than they actually need, especially following the opening of light rail.

Priced: Appropriately priced parking encourages turnover for businesses and promotes transit usage. Parking rates are typically determined by market conditions, with parking lots with low demand typically charging less than those with high demand. Customers appreciate being able to be confident that they will be able to find a space when they drive to a pay-to-park location, and therefore, a best practice in pricing is to charge the lowest price possible (including \$0) that still keeps 10% to 15% of the parking spaces available on one block of a street, or in a specific parking lot or deck.

More expensive rates charged for parking will cause customers to limit their stay on the lot or search out less expensive, possibly less convenient locations to park. It may also encourage people to choose park and ride, transit, or bicycling as ways to reach their destination.

As TOD districts grow and develop, it is likely that some station areas will have priced parking at most times of the day and week, whereas others will only have priced parking on certain days and times. This is a normal part of TOD evolution.

Local governments should begin tracking parking market data in light rail station areas well before the rail opens to assess how and when pricing may make sense to be deployed in a station area.

Studies typically include tasks such as:

- Quantify existing parking supply
- Perform utilization study to understand how existing supply is serving the market
- Determine cost rates for existing supply
- Compare to peer city examples
- Identify shared-use opportunities

The more frequently parking data is gathered, the more effectively local governments and parking management districts can respond with tactical adjustments to parking policies in their development regulations and management strategies.

HOW TO ESTABLISH DISTRICT PARKING STRATEGY

While some cities choose to establish new parking authorities or municipal service districts to deploy or manage district parking strategies, this is not required. Cities and Towns in North Carolina have the authority to take coordinated steps to begin managing parking from a district perspective using existing tools and existing municipal departments such as Transportation, Planning, and Parking. Here are the key steps to take to deploy a District Parking Strategy.

Identify the District Boundaries

Define which portions of a station area or neighborhood should be included. Locations where parking pricing, time-limited parking, residential parking permits, or unpriced parking with aggressive towing by merchants are already present are natural areas to include in a district. Areas in or near downtowns or transit-oriented development zoning districts should also be included. Consider drawing boundaries at streets where competition for parking is present or anticipated on one block, but not on the next.

Identify the Types of Spaces that can be Included in the District

Within the District boundary, it is important for each parking space to have an identified role. Generally, each space can be classified as being a Full-Time District Space, a Part-Time District Space, or a Non-District Space. The table below shows the roles for each type of space.

FULL-TIME DISTRICT SPACES	PART-TIME DISTRICT SPACES	NON-DISTRICT SPACES
On-Street Public Parking Spaces	Private parking spaces that owners agree to put into district when not needed by customers, employees, or residents (i.e., office spaces on nights and weekends)	Private parking spaces that owners do not put into the district
Public Parking Lots and Decks		
Private Parking that Owners Agree to Put in District 24/7		

Define Goals for the Parking District

A frequent challenge with parking occurs when simply finding an available parking space is difficult and/or time-consuming. Businesses want customers to feel confident they can find a place to park and shop during business hours. Residents want to feel confident that they can park when they drive home in the evening. A successful parking district will give people confidence that their expectations for access to the neighborhood will be met when they need to park. Typical goals of these districts include:

- Set a target of 15% vacancy in on-street spaces for business customers
- Encourage employees and long-term parking users to park more than ¼-mile from high-traffic business locations
- Allow businesses who put private spaces into the District to receive a share of parking revenue based on the use of their spaces
- Develop parking and access management strategies (see Complementary Strategies) for special events in the District when parking demand changes drastically for several hours

Give Each Parking Space in the District a Role

Generally speaking, most parking activity can be broken down into two categories: short-term parking, where the space is used for as little as ten minutes or as much as two hours, and long-term parking, defined as longer than two hours and up to eight hours or more for a worker on their shift at a business. The table below details who uses both types of parking, and facilities that usually work best for short-term and long-term parking.

TYPE OF PARKING	SHORT-TERM	LONG-TERM
Likely Users	Business Customers, Visitors	Residents, Employees
Most Suitable Facilities	On-Street Parking, Small Lots, Spaces near Core of District	Parking Decks, Large Lots, Spaces Farther from Core of District

Establish Ways to Add Spaces to District

All publicly owned spaces within a District Boundary should be included in the District parking pool. Owners of private parking with more parking than their buildings should be invited to include some or all of their spaces in the District, either full-time or during certain times of day (e.g. in the evening for a private parking facility linked to an office building).

If revenue is collected from these privately-owned parking spaces, a portion should be returned to this businesses. This would incentivize businesses to participate in the District, and recognizes that additional use of their parking may increase their maintenance costs.

Private lot owners who supply spaces for the District should be eligible for reimbursement to get appropriate signage identifying the spaces that are part of the district in their lots or decks.

As a TOD district grows, Durham and Chapel Hill should require a percentage of any parking built for new development be made available to be part of the District on a full-time or part-time basis. As parking demand continues to shift in the future, the percentage of required district spaces should increase. As a TOD district is built out, the focus should shift towards the sharing and optimizing the use of existing parking spaces instead of building new ones.

Identify Public Sector Department or Entity to Manage District Strategy

There are multiple ways a District Parking strategy can be carried out. This section describes three potential ways of organizing a District Parking strategy within local government.

County / Municipality: The most straightforward option is to use the municipality’s existing authority to regulate various aspects of parking. One potential approach using the municipality’s general state authorization could entail the following:

- Identify a parking zone around a station area to support TOD.
- Establish zero parking minimum requirements and low or zero parking maximum requirements as a policy lever to encourage participation in the district.
- Provide parking the public parking lots and structures, or alternatively, incentivizing the private construction of parking facilities, that could be associated with another project, that are leased to nearby projects and individuals.

One challenge with this approach is that North Carolina municipalities do not generally have the power to require payments in lieu of providing parking. Chapel Hill has been provided explicit authority by the North Carolina General Assembly to do so, but the City of Durham has not. Absent this authority, without using one of the other options discussed below, the municipality will need to identify additional general

fund revenues that may be needed to “kickstart” development of parking structures in station areas.

Another option, which both municipalities occasionally use, is for the municipality or county to enter into an agreement with a property owner or developer for a portion of the parking spaces to be made publicly available for all or part of the day. This could be compelled through general parking regulation authority, done in exchange for economic incentives, supported by one of the financing mechanisms described below, particularly installment financing, or any combination thereof.

Two additional options rely on the municipality’s existing regulatory powers but provide additional resources for managing and paying for off-street parking facilities.

Municipal Service District: A “service district” is authorized by NCGS §§ 160A-535 et seq. This section authorizes municipalities to create any number of service districts to finance eligible facilities, which include off-street parking facilities. Within the service district, the municipality is authorized to levy additional property taxes specific to the district. These funds could be used to help construct publicly-funded parking facilities or for other designated purposes. A potential downside of this approach is that additional tax rates for municipal service districts are typically set much lower than the tax rate for a city or county as whole, and are therefore not ideal primary sources of revenue for large capital expenditures without some other form of supplemental revenue, such as parking revenues.

Parking Authority: Municipalities have the authority to create a “parking authority” as authorized by NCGS §§ 160A-550 et seq. A parking authority is a separate corporate body, led by commissioners appointed by the establishing municipality, charged with construction and management of parking facilities. The parking authority is authorized to issue revenue bonds which may be secured by the stream of revenue generated by the parking facility.

Regular Activities Under the District Parking Approach

- Data Collection
 - Periodically assess parking occupancy and needs
 - Evaluate demand from proposed developments
 - Evaluate pricing of peer cities and local examples to understand market for parking given transportation choices within each TOD.
- Metrics describing successful implementation:
 - Measure access to station area destinations across all modes, with parking as one method of access alongside bike, walking, transit, etc.
 - An 85% and full garage is considered full for all intents and purposes (additional parking should be considered, etc.)
 - Supply/demand studies as the TOD evolves may be appropriate when dramatic shifts take place, new technologies are implemented, or transit ridership is increased.
- TODs should use a station area-specific shared parking model for the area in question which is described in detail in the supporting strategies section. The model is based on the following fundamental for urban planning for parking demand: Shared parking is defined as the use of a parking space to serve two or more individual land uses without conflict or encroachment. The ability to share parking spaces is the result of two conditions:
 - Variations in the accumulation of vehicles by hour, by day, or by season at the individual land uses, and;
 - Relationships among the land uses that result in visiting multiple land uses on the same auto trip. Some scenarios for sharing are:
 - Hotel where the peak demand is in the evening and weekend and office where the peak demand is during the weekday.
 - Fine dining restaurants and nightlife venues where the peak demand is in the evenings and office where peak demand is during the weekday.
 - Residential near stations tend to provide less sharing opportunities as people will leave

their vehicle parked throughout the day. However, sharing of residential space can be accomplished through other forms where developments are looking to maximize their parking uses. For example, if a two bedroom requires two spaces per code, one of the spaces can be a shared space for all uses and one reserved for the resident. The model should be adjusted to account for the partial sharing of residential spaces.

- Educate and partner in implementing and overseeing travel demand management and parking reduction such as Transit-Pass incentives, Parking Cash Out, Daily Parking Plans, etc.
 - Developments can also provide residents options to eliminate the need for a parking space by providing car-share programs, rail/bus passes, rideshare subsidies and educating them on the overall cost of vehicle ownership in order to help reduce the number of necessary parking spaces, thereby saving in construction cost.
- Management/Maintenance
 - Set and adjust parking polices that implement and tweak core and supporting strategies
 - Allocate parking spaces
 - Allocate curb space on public streets (i.e. on-street parking, loading/drop-off zones, parklets, etc.)
 - Set and adjust parking rates
 - Maintain, or contract out parking spaces that are under control of the parking district
 - Investigate and develop partnerships with owners of existing parking spaces with the goal of bringing part of all of their parking spaces under control of the district (i.e. apps that allow private property owners to put their excess spaces in the parking market)
 - Manage parking technology including sharing of real-time parking availability and pricing data with parking apps and navigation systems (i.e. Google Maps and Apple Maps)
 - Manage and/or acquire private parking facilities
 - Lease spaces to developers or individual tenants.

Factors to Consider When Establishing Parking Management Districts

- The readiness of the market for parking at individual stations should drive the prioritization of where District Parking should be implemented first. Areas with already priced parking, time-limited parking, residential parking permits, and aggressive towing by merchants are all indicators a neighborhood is ripe for District Parking.
- Work with, and do not duplicate, the parking systems of Universities and Healthcare Systems (UNC Hospitals, Mason Farm Road, Friday Center Drive, Duke/VA, NCCU)
- Instances where a few landowners control a significant portion of land (i.e. Leigh Village, Patterson Place, Woodmont, Gateway, and South Square / MLK to a lesser extent) represent unique opportunities to manage policy at a wider level, and District Strategy planning should reach out to those landowners early in the process
- Ideally District Parking Strategy implementation would occur at the station level (i.e. each station has its own management district). This typically allows for the greatest ability to respond to changes in a station’s circumstances or demographics.
- In practical reality the district-per-station approach is hard to achieve. There are often more instances where a single District Parking Strategy approach might be best for 2-3 stations or more.

Based on these principles, this report recommends the following parking districts:

RECOMMENDED PARKING DISTRICTS

DISTRICT	PRIMARY STRATEGY	LEADER
UNC Hospitals, Mason Farm Road	<input type="checkbox"/> Coordinate management of existing parking	UNC

DISTRICT	PRIMARY STRATEGY	LEADER
Hamilton Road (North of NC 54)	<input type="checkbox"/> Master Plan parking management district with new development	Grubb Properties
Hamilton Road (South of NC 54) and Friday Center Drive	<input type="checkbox"/> Coordinate management of existing parking <input type="checkbox"/> Encourage new spaces to be brought into the district	Town of Chapel Hill and UNC
Friday Center Drive	<input type="checkbox"/> Coordinate management of existing parking	UNC
Woodmont	<input type="checkbox"/> Master plan parking management district with new development	Town of Chapel Hill or Master Developer
Leigh Village	<input type="checkbox"/> Master plan parking management district with new development	City of Durham or Master Developer
Gateway, Patterson Place	<input type="checkbox"/> Coordinate management of existing parking <input type="checkbox"/> Master plan parking management district with new development <input type="checkbox"/> Patterson Place: Consider city investment in centralized parking structure	Durham Eastowne (in coordination with UNC Healthcare)
Martin Luther King, Jr. Parkway / South Square	<input type="checkbox"/> Coordinate management of existing parking <input type="checkbox"/> Patterson Place: Consider city investment in centralized parking structure	City of Durham
LaSalle (North side of Erwin Road)	<input type="checkbox"/> Partner / require private developers to contribute toward shared parking <input type="checkbox"/> Coordinate management of existing parking	City of Durham
Duke (LaSalle, Duke/VA Medical Centers, Ninth Street, Buchanan)	<input type="checkbox"/> Coordinate management of existing parking	Duke
Ninth Street	<input type="checkbox"/> Coordinate management of existing parking <input type="checkbox"/> Partner / require developers to include shared parking	City of Durham
Buchanan Boulevard	<input type="checkbox"/> Consider city investment in parking <input type="checkbox"/> Partner / require developers to contribute toward shared parking	City of Durham
Durham Station, Blackwell/Mangum, Dillard Street	<input type="checkbox"/> Coordinate management of existing parking <input type="checkbox"/> Implement lower maximums and require contributions to parking management district	City of Durham
Alston Avenue	<input type="checkbox"/> Partner / require developers to include shared parking	City of Durham
NCCU	<input type="checkbox"/> Coordinate management of existing parking	NCCU

SUPPLY AND DEMAND

The Challenges of TOD Parking Supply

The arrival of light rail and accompanying bus service improvements will greatly enhance mobility options for people who live and/or work along the light rail line. As TOD takes place along the light rail line, even more people and jobs will be able to access the station areas without the need for a personal car. As this transition occurs, it is paramount for Chapel Hill and Durham to manage the transition by prioritizing people on foot, bikes, and on transit while simultaneously accommodating parking and enabling personal cars to be a part of the access menu, while no longer being the dominant or default mode of access in the station areas.

Parking in TOD districts requires strategies that are sensitive to the needs of each station and that are capable of adapting over time. On the one hand, parking is a necessary component to facilitate development around light rail stations, but on the other, it can undermine the goal of concentrating

people and opportunities around frequent and reliable transit if it is over provided or underpriced.

Allowing too little parking may stifle development, especially in the years prior and immediately following the opening of light rail. Allowing too much parking will take up valuable land area and limit the amount of people, jobs, services, amenities, and community facilities that are built near transit, resulting in those things being more spread out and reducing the usefulness of the light rail and accompanying bus service improvements. The desired outcome of a successful parking strategy is to provide the minimum amount of parking necessary in order to maximize the potential for TOD.

Goals for TOD Parking Supply

- Right-size parking to meet needs while not overbuilding supply
- Avoid providing too few parking spaces so that development is constrained by the limited ability to have the car as a reasonable choice and mode of access.
- Encourage transit, bicycle, and pedestrian mobility during all of the TOD evolutionary cycles;
- Establish District Parking Strategies with the power to maintain the flexibility and adaptability of parking supply management to TOD conditions and grow alongside the TOD (described in subsequent section)

The Critical Need for Local Parking Data to Manage Supply and Demand

Most parking minimum requirements in use today in the United States are based on national studies in unwalkable suburban settings with limited sample sizes. Likewise, similar facilities located in other communities, or even other states, can be used as a guide only.

To better define the relationship between parking supply and demand, it is necessary to understand the factors that affect both sides of the equation. **Frequent and ongoing local observations and study are needed** at a variety of properties with a range of parking policies and prices.

Both parking supply and parking demand are influenced positively and negatively by several factors. Each of these factors can be manipulated via the core and supporting strategies discussed in the next section to ensure that TOD parking is provided at the right level.

Factors that Influence Parking Supply

- **Land availability for parking facilities.** As development in the area increases and densifies, it is important that the location of parking facilities be properly planned. The amount of land in close proximity to the generator available for parking is a limiting factor.
- **Government regulations.** Government regulations may require a minimum number of parking spaces to be provided based on the land use type and size. Best practice in TOD neighborhoods is now moving towards parking maximums and away from parking minimums.
- **Mutual Shared parking agreements can also work to limit parking supply.** Removing any local ordinances that prevent individual property owners from working together to create shared parking agreements can be an early win in station areas.
- **The level-of-service or convenience each new additional parking space affords.** More convenient spaces will fill first, leaving the less convenient spaces to fill last. Exceptions such as reserved spaces for ADA, carpool, etc. do apply.
- **Street capacity and other infrastructure requirements.** Connectivity and access of a proposed or expanded parking site also have an impact on the level-of-service. Street type should influence the ingress and egress from the parking facility. Whenever possible, Streets that are “Places” rather than “Connectors” should not have major parking facilities located on

them so as not to dilute the quality of the pedestrian experience.

Factors that Influence Parking Demand

- **Acceptability (time and overall cost) of transit, bicycle, pedestrian and shared mobility access.** If convenient, alternate means to the personal auto are available and used by employees and visitors, these opportunities can reduce the demand for parking spaces.
- **Turnover of the facility.** Familiarity and low turnover (such as transit riders) require lower levels-of-service whereas unfamiliarity and high turnover (such as visitors to a hospital) require higher levels-of-service. Patrons of special events/concerts, airport parking or overflow parking will generally accept a lower level-of-service and will walk greater distances than those going to retail/restaurants or medical facilities.
- **The public's tolerance level in finding a vacant parking space.** In multi-story parking garages and large surface lots customers could drive through the entire garage or lot before they find a vacant space. Customers with low tolerance levels will not complete their journey through the facility before deciding the facility is full and look elsewhere. The larger a facility becomes the less efficient the search becomes to find available spaces. Technology in garages are being used to count and track available parking, allowing the driver to be less concerned about availability when entering a garage.
- **Price.** When parking is priced, people seeking to access the TOD are much more likely to consider and use alternatives to driving alone, and to choose their parking spot more intentionally. For example, Pricing where the first two hours are free, but there is an hourly fee thereafter- will strongly encourage employees of businesses to park further away in lower priced lots, reserving closer-in spaces for customers.

Finally, operational policies and procedures of the parking infrastructure management team affect overall parking demand. Policies regarding the allocation of parking among the various generators can influence demand. Enforcement of those policies either through a soft approach where warnings are provided to hard approaches where towing is enforced will also impact demand.

PARKING FORM AND DESIGN

On-Street Parking

On-street parking can accommodate a variety of users in addition to being cost efficient parking solution at suburban TODs. Layered with a shared parking strategy in a mixed-use development, on-street parking has unique potential at generating interesting synergies between the mixed-use functions and providing parking spaces that remain functional for larger portions of daily cycles of a particular development.

- Buffer for bike/ped
- Lower travel speeds
- Reduce meter/signage clutter



Source: Walter P Moore

Off-Street Surface Parking

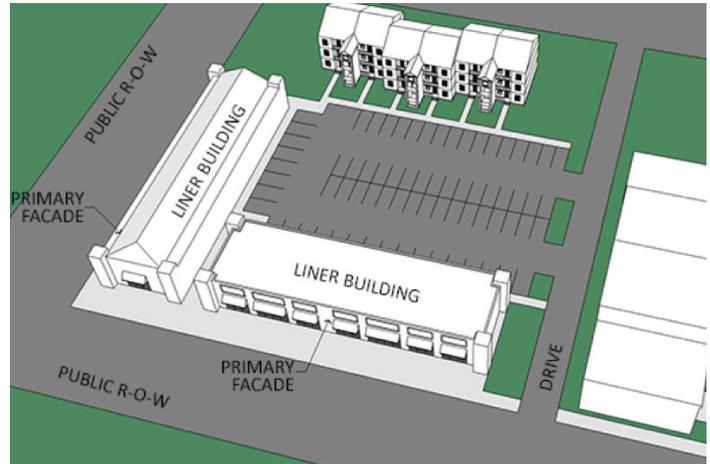
Surface parking lots strategies lend themselves to suburban TODs with planned park-and-ride or kiss-and-ride facilities. Major benefits to the surface parking suburban TOD strategy is that you obtain cost efficient parking while simultaneously providing land capture for future development. This strategy is particularly applicable to the large park and ride stations that will collect many car commuters in the station catchment areas.

- Land holding opportunity - this strategy could be applied by private developers to reserve some of the sites that are closer to the light rail stop / more valuable so that they can be

developed more intensely in future years when the market can support more intense development.

- Screening with landscape; required landscaping within surface lot
- Locate behind building to maintain active streetscape

Off-Street Garage. Structured parking is another potential strategy that may apply to certain suburban TODs that are planned to experience rapid growth and urbanization. While it is a costlier solution, a public garage with a mixed use or retail ground floor can be a major impetus to growth of a burgeoning development. In this strategy an adaptable structure starting its life as a garage, can be planned to be adapted to future office or residential use as the TOD grows up around it, and land prices dictate alternative uses than parking. This also insulates the development if future technologies create a drastic reduction in parking needs.



Source: City of Pflugerville, TX Unified Development Code

Design of Parking Structures

Within a TOD district parking needs to be well-defined in terms of a location and form that will promote pedestrian-oriented streets. However, because they are a relatively “passive” use, parking structures can easily contribute to creating “dead,” spaces, pedestrian barriers, and unfriendly environments. Unlike retail/service, office, and residential uses, parking structures generate focused pedestrian activity because they typically have only one or two pedestrian entries for a large structure. In addition, parking structures typically display very little internal activity to the passing pedestrian. Because their inherent use is auto-oriented, their design could easily fail to consider the pedestrian realm. Therefore, the design of parking structures needs to be carefully considered such that parking structures within a TOD district make a positive contribution to its walkability.



Source: Walter P Moore

These guidelines are intended to define the character of parking structures, whether they are standalone structures, embedded within a building block, or as ground floor podium parking.

- **Parking Location** – Parking, on all floors, must be located 30 feet (or more) behind the façade of the building that fronts onto a pedestrian streets that contain a non-residential ground floor space requirement. This requirement ensures that all floors of the building present an active front to the public realm. If phasing is necessary provide 35-40 feet of space for future single-loaded residential or hotel space. (potential linkage to affordable housing strategy with respect to land (and parking) banking).
- **Parking Orientation** – Unwrapped parking facades, even when screened, should be minimized along all street frontages, excluding alleys, highways, and RR ROWs that do not include light rail tracks. Entrances to parking, off-street loading zones, and service areas, should be clustered and located on alleys, and secondary pedestrian streets and should be prohibited on primary pedestrian streets unless there is no other feasible alternative. Where possible, pedestrian access to parking garages should be onto primary and secondary pedestrian streets instead of via alleys.

- **Parking Frontages** - Parking structures located behind a building, within the interior of the block and wrapped by more active uses, are still likely to have a frontage that is visible from a public street, pedestrian corridor, park or plaza. These frontages, as well as those of stand-alone structures and podium structures should be designed to support a pedestrian-friendly environment. This will often be site-specific and addressed by the designer of each development. Options to support a pedestrian plaza include pedestrian arcades, canopies, awnings, context-specific lighting, etc. To the greatest degree possible, the exposure of structured parking should be minimized along streets and sidewalks, parks, and plazas. Minimizing their frontages along secondary pedestrian routes or pedestrian corridors is also encouraged. Where allowed on a primary or secondary pedestrian street, structured parking should be screened from public view with active building space “wrapped” around the parking structure. Where this is not feasible, entries to lobbies, stairs, and landscaping should be used to minimize the impact of structured parking on the pedestrian realm.
- **Architectural Features** – Garage structures should adhere to the same requirements as office and commercial buildings in terms of orientation, entries, design, and architectural elements. Blank, monotonous facades shall be avoided. To lend interest to facades, architectural details similar to other commercial and residential uses should be used. This can include trellises, awnings, arbors, overhangs, balconies, railings, public art, and architectural façade details.
- **Design for Repurpose** – The need to futureproof or provide an adaptive reuse strategy for parking is a subject that should be a part of every new parking garage discussion. The parking market is in the early stages of change. The avenues of change are stemming from increased mass transit, ridesharing and future autonomous vehicles. As the need for parking structures continue in the near-term, the decision to futureproof the parking garage becomes more important to align with the vision of a more flexible development.
 - Where possible, parking decks should include flat levels abutting street, alley, or other open facades.
 - Use express ramps in the center of the deck or circular ramps on the exterior to enable easy removal.
 - Require that parking decks be designed within 14 - 15 feet of floor height from (ceiling to ceiling) to enable 9 - 10 feet of usable floor height while providing two to three feet of space for mechanical equipment.
 - Design the parking garage to maximize flat plate parking so that can be converted to other uses. Flat slabs will still have a positive slope for drainage in a parking garage.
 - Locate the ramps on the exterior of the garage so that they can be easily torn-down, and the flat plates can be converted to other uses (OR locate the ramps in the center to provide for natural daylighting when the ramp is removed).
 - Provide for increased structural loads for future reuse of the structure, including topping the existing slab to make it flat.
 - Design a removable façade so it can be easily removed and retrofitted with a building envelope.
 - Locate the elevator core in the center of the garage to easily accommodate a conversion.
 - Provide for future electrical and mechanical capacities.
 - Plan for waterproofing for future reuse.

FUTURE PROOFING: RIDESHARE AND AUTONOMOUS VEHICLE CONSIDERATIONS

The onset of Uber, on-demand services, and ride share technologies is becoming an increasingly important factor in the way we conduct business, plan activities, and even the way we live our lives. Currently studies show an approximate 30% uptake by American adults in On-demand usage. As designers we must react! Planning adjustments anticipated from the utilization of these technologies include:

- Higher ride-share demographics where density is high, and parking is a premium
 - Leisure activities
 - Movies/concerts/entertainment
- Venues will plan and allocate space specifically for ride share USA

The parking market is in the early stages of change. The avenues of change are stemming from

increased mass transit, rideshares, and the future of autonomous vehicles. As the need for parking structures continues in the near-term, the decision to futureproof the parking garage should align with the future vision of the development.

Rideshares such as Uber or Lyft are becoming commonplace in every major market. This expanded use has led to impacts in some markets. The largest rideshare impacts are in the hotel, event, airport, restaurant and night-life markets. A major impact that is being observed is the use of the curb space. Any proposed developments will have some ridesharing impacts from visitors and should be planned for accordingly.

The most common discussion topic stems from autonomous vehicles and the impacts that they will have on the parking market. There are a multitude of published opinions regarding autonomous vehicles. Some argue that the autonomous vehicle will have a major impact within five years and other argue that it will be much further out before we will see a true shift in parking demands. There is still the discussion of owned versus subscription based autonomous vehicles that need to be considered.

As we do not know the future of autonomous vehicles, we do know that parking demands will continue to increase for a period of time while population densification occurs. During that time, parking garages will need to meet the needs of the developments. A possible strategy is to plan for parking garages being designed and built to accommodate parking for future autonomous vehicles through the implementation of contactless charging. In one scenario for instance; these garages could become storehouses for autonomous vehicles (while surface lots and older garages could be demolished to provide for increased development.)

SUPPORTING STRATEGIES: PARKING TOOLKIT

Demand Reduction Strategies: In addition to codifying lower or no parking requirements and instituting parking maximums in TODs, there are other available tools to offset parking demand and take advantage of technological improvements to gain efficiency in the existing parking supply.

Employer Parking Policies (I.e. Parking Cash-Out)

The arrival of light rail and accompanying bus service improvements will substantially enhance mobility options for employees near its stations. This presents an opportunity for employers to encourage and incentivize the use of transit and other non-auto modes to get to work. However, this will require intentional changes to employer parking policies in cooperation with parking management districts. Without carrots or sticks, few employees are likely to use transit if parking is free or provided at a low cost. Donald Shoup, the preeminent parking policy expert, has observed,

Employer paid parking is an invitation to drive to work alone. Once you buy a car, insure it, and have a parking permit, why not drive it to work? Trying to persuade commuters who can park free at work to choose the alternatives to solo driving is almost hopeless. Free parking distorts transportation prices in favor of solo driving, which increases traffic congestion, fuel consumption, accidents, and air pollution. (Shoup, 2005, pp. 17,44)

In places where transit options are more abundant and where employees must pay full-market price for parking permits, drive alone rates to work are much lower than would otherwise be the case. For example, Hennepin County Minnesota, home to Minneapolis, has a 60% drive alone rate to work. Its downtown facilities are close to the Green and Blue light rail lines, and it offers subsidized transit passes while not providing free or reduced-price parking permits.

On the same block, the City of Minneapolis has demolished a 1,000 space parking deck to make room

for its new Public Service Building, which will house 1,500 employees and zero parking spaces in part to encourage employees to use transit, bike, or walk. On the other end of the Green line in Saint Paul, the Minnesota State Government Complex demonstrates the effects of new transportation options and changes to parking policy. It has three light rail stations nearby. In the six months following the opening of the Green Line in June of 2014, the number of employees taking transit to work increased by 14%; however, in the six months following a parking rate increase and accompanying transit pass cost decrease in September 2016, the number of employees using transit increased even more by 18%.

However, many employers are hesitant to begin charging for parking that was previously free. As an alternative, Donald Shoup proposes a program known as parking cash-out, whereby employees who choose to forgo a monthly parking permit receive a cash benefit:

Parking cash out gives commuters a new choice, rewards the alternatives to solo driving, reduces vehicle trips, enhances employee welfare, treats all commuters equally, costs employers very little, strengthens the city center, and sidesteps the political opposition to charging for parking at work. And it accomplishes all these goals simply by letting commuters choose how to spend their own money. (Shoup, 2005, p. 44)

Such programs have been shown to reduce drive alone rates by an average of 13 percentage points without any changes to mobility options (Ibid, p. 65). Given the example of Minnesota State Government complex, it is very likely that the combined effects of a cash-out program and the mobility improvements provided by the light rail would reduce the need for parking spaces by more than the 13% reported in the study.

Travel Demand Management (TDM) Plans

- TDM Incentives: Travel Demand Management (TDM) programs are based on providing users with an incentive to arrive at work via alternate transportation modes or alternate times. The main goal is to encourage to consider alternatives to their personal vehicles. Planning an approach with integrated TDM strategies from the onset will result in lower capital costs and associated maintenance costs over the useful life of campus infrastructure Incentivizing the use of smart, sustainable commuting methods by patrons and visitors;
- Developing marketing tools to illustrate the benefits of commuting alternatives (bus, rail, carpool/vanpool, bike, walk).
- Designing, informing and supporting alternate transportation options such as public transportation, carpooling, vanpooling, ridesharing, walking, biking, etc.
- Limiting drive accessibility in congested areas of TOD such as the approach UNC Hospital has done with their on-campus parking strategy.
- TDM education / awareness, such as the efforts undertaken by the City of Durham as part of their Smart Cities grant award.

Adjust Parking Level of Service

- Another influencer is the level-of-service mix of parking spaces in relation to the parking generators. Level-of-service is defined as a qualitative measure of the conditions in a particular parking component, to be applied to geometrics, flow capacity, queuing at entry/exit points and other design parameters including walking distance to the generator. A major factor in selecting level-of-service is the familiarity of the user.
- Generally Parking should be within approximately 600 – 1,200 feet of the generator(s) it supplies (walking distance is the number one consideration of the parking public; price is a secondary consideration). Users are willing to pay more for parking when it is convenient, safe and reliable.
- Having a large supply of low “level of service” parking such as remote parking lots on the edge of a district will not always satisfy demand for high “level of service” parking such as on-street spaces in front of a coffee shop.

Matching Parking Supply and Demand

- Parking supply can be determined in two forms: code requirements and market-based

requirements. ULI’s shared parking model allows for the understanding of the market-based requirements. The basis of the model is to calculate current/future peak and daily parking demand resulting from economic development initiatives and the construction of new projects throughout the area using the principles of shared parking.

- The components of shared parking include:
 - Base year parking demand by block.
 - Current/Future development by block (e.g., square feet of office development, retail, number of hotel rooms, etc.),
 - Ability to combine future developments with other future or existing developments for the purpose of analysis of the impact of shared parking. Opportunity to incentivize developers in the station areas to pursue shared use agreements prior to rail construction.
 - Policies regarding the number of transit riders and carpools,
 - Parking demand ratios.
 - The model can allow the development to:
 - Apply various scenarios for different mixes of office, retail, hotel, restaurant, and residential space to determine the appropriate number of parking spaces.
 - Find the balance between providing adequate parking to support a development from a commercial viewpoint and avoiding excessive costs and impact to project viability.
 - Explore case studies of existing developments and their effective use of shared parking.
 - Provide empirical data and future forecast for developing policy for the design, operation, and management of shared parking.

Parking Minimums and Maximums

Right sizing parking ratios is an important function of Parking Districts which, if managed correctly will resolve many TOD parking issues. Many parking ratios were developed in a transit vacuum far away from TOD styled environments and are ripe for correction. Benefits of getting parking ratios correct include:

- Reduced congestion, and/or pedestrian traffic conflicts
- Infrastructural efficiencies relating to storm water runoff and pervious topography
- Affordable housing costs reduction from over-required parking
- “Parking requirements play a part in determining what kind of housing is built and discouraging the “missing middle,” according to researchers. “Because parking can consume so much space and money, parking requirements needlessly reduce variety in the type and location of housing available,” Michael Manville - Parking Diets for Healthier Cities

A preferred approach is to adjust the land-use parking ratios progressively as the land use area gets closer to the transit stations. For instance:

- Within 1000 to 500 feet of a TOD transit station:
 - A range between the WPM Best Practices ratio (as shown in the D-O LRT Land-Use Parking Ratios table), and the associated reduction factor for that land use.
 - For example, if there is a proposed office development within 1000 to 500 feet of a transit station, the recommended range would fall between (2.4/1000 GFA) parking spaces – ((2.4/1000 GFA) - (2.4/1000 GFA)/3) spaces, this incorporates a 1/3 reduction based on proximity to the TOD station area.
- Within 500 feet of a TOD transit station:
 - A more aggressive range using values between the WPM best practices column (including the reduction factor), and a no parking minimum requirement. Taking the office development



Parking Availability Technology Examples (Source: Walter P Moore)

land-use again as an example; the recommended range would fall between (2.4/1000 GFA) parking spaces (1/3 reduced value) – and (0/1000 GFA) spaces (aka - no parking minimum).

- While no parking minimum is a tool that is approaching the ideal, it can also be equally useful to have established parking maximums. Parking maximums create an upper limit on resources a development designates to cars, and thereby adds another mechanism to reach the desired equilibrium. Parking maximums are a tool that is best established through further parking analysis (as development of each station area occurs).
- These strategies allows for flexibility to provide a response to any desired parking allocation determined by the developer (or the market). While simultaneously pushing the envelope towards minimizing land usage away from parking utilization near the transit center, which frees up space for other land use functions. We believe this strategy has the greatest chance for finding the sweet spot in parking allocation.

Supply Management – Parking Availability Technology

- Employ app-based technology to share parking availability through a parking management system. Add details on the systems like Asheville’s parking app’
- Occupancy Monitoring: Parking technologies can help optimize the overall efficiencies of the parking facility. The effective supply factor is the percentage of spaces in a parking facility that are not easily found or underutilized. This is typically 5% of the parking spaces for an employee parking garage. With the implementation of a Parking Guidance System (PGS) can provide direction and ultimately utilization of those spaces.
 - License Plate Recognition can help improve the user’s parking experience. Not only can this technology track vehicles by plate when they enter or leave a facility, provide valuable analytical data, they can also be linked to the parking equipment.
- Plan for increased wireless connectivity for vehicles – navigation interaction with parking guidance system
- Plan for EVs

Additional Policy Levers

- Set low maximums. Can only exceed maximum if developer commits to parking agreement (Hobson’s Choice / model – (only one attractive / viable option)
 - Requires periodic occupancy survey / report to parking management district
 - Must unbundle parking
 - Must Participate in parking app program (participation could be zero spaces if parking is maxed out... but this will be unlikely at all times of day)
- Consider Municipal Services District (MSD) to assist in funding in earlier years. MSD funds could be allocated to other priorities in future years when parking market is established and parking management district pays for itself)
- Replace commuter space requirement in large lots with shared parking requirement / parking management district contribution – similar to existing height bonus in Durham’s Downtown District (DD) and Compact District(CD) zoning districts.
- Require parking study / that evaluates shared parking for ALL projects. Not just those that request waivers to minimums and maximums

- Require parking occupancy survey at 1-2-3 years from CO
- Enable new developers to partner with existing sites to use existing underutilized parking. This could be a process that is brokered by the Parking Management District.

PARKING BEST PRACTICES

LAND USE TYPE	CHAPEL HILL TOWN CENTER ZONING	DURHAM COUNTY (Existing Code)	(ULI) PARKING RATIOS	ADJUSTED RATIOS	(ITE) PARKING RATIOS	TOD POTENTIAL REDUCTION FACTORS
RESIDENTIAL						
Single Family Dwelling Unit	N/A	2 per Unit	<2000 SF = 1/DU 2000 - 3000 SF = 2/DU >3000 SF = 3/DU	1 Space per Bedroom up to 2.5	1.83/Unit 1.33 - 2.17/Unit	-
Multifamily Dwelling Unit (Rented)	1 - 1.67/Unit	1 per 4 Beds	1.65/DU	1.5/DU	1.37/Unit 1.15 - 1.52/Unit	1/2*
Multifamily Dwelling Unit (Owned)			1.85/DU	2/DU	1.46/Unit 1.04 - 1.96/Unit	1/2*
Multifamily Dwelling Unit (Accessory)			1/Accessory DU	-	-	1/2*
Sleeping Rooms	-	-	1/Unit or Room 2/Owners-Managers	1 per Room	-	-
Commercial Lodgings*	0.9/Lodging Unit	1.25 per Room + 1 per 100 SF of Conference/Banquet/Restaurant	1.25/Room + 10/1000 SF GFA for Lounge and/or Restaurant, Conference/Banquet Facilities	1 per Room + 11 GFA for Conference/Banquet	0.91/Room 0.61 - 1.94/Room	-
Housing for Seniors	0.7/Unit	0.6/Unit	0.5/DU	0.5/DU	-	1/3*
Assisted Living	-	-	0.35/DU	0.35/DU	0.33/Unit 0.22 - 0.42/Unit	-
RETAIL SALES AND SERVICES						
General and Convenience Retail	1/300 SF	1 per 200 SF Floor Area for first 50,000 SF of Gross Leasable Area and 1 per 250 SF of Leasable Area after that	2.75/1000 SF of GFA	3/1000 GFA	4.47/1000 GFA 2.08 - 5.71/1000 GFA	1/3*
Grocery Stores	-		6.75/1000 SF of GFA	6 - 7/1000 GFA	4.75/1000 GFA 1.97 - 7.97/1000 GFA	-
Heavy/Hard Goods	1/350 SF	-	2.5/1000 SF of GFA	2.5/1000 GFA	3.4/1000 GFA 3.15 - 3.65/1000 GFA	-
Discount Superstores	-	1 per 200 SF Floor Area for first 50,000 SF of Gross Leasable Area and 1 per 250 SF of Leasable Area after that	5.5/1000 SF of GFA	5.5/1000 GFA	-	-
Specialty Superstores	-		4.5/1000 SF of GFA	4.5/1000 GFA	-	-
Shopping Centers	-		<400,000 SF = 4.0/1000 SF >600,000 SF = 4.5/1000 SF	<400,000 SF = 4.0/1000 SF >600,000 SF = 4.5/1000 SF	4.74/1000 GLA 4.48/1000 GLA	1/3*

LAND USE TYPE	CHAPEL HILL TOWN CENTER ZONING	DURHAM COUNTY (Existing Code)	(ULI) PARKING RATIOS	ADJUSTED RATIOS	(ITE) PARKING RATIOS	TOD POTENTIAL REDUCTION FACTORS
FOOD AND BEVERAGE SERVICES						
Fine or Casual Dining (with Bar)	1/110 SF	1 per 100 SF	20/1000 SF of GFA	20/1000 GFA	17.2/1000 GFA 8.8 - 26.6/1000 GFA	-
Family Restaurant			15/1000 SF of GFA	15/1000 GFA	-	-
Fast Food Restaurant			15/1000 SF of GFA	15/1000 GFA	12.4/1000 GFA 7.1 - 14.6/1000 GFA	-
Night Club	-	1 per 100 SF of Floor Area	19/1000 SF of GFA	19/1000 GFA	-	-
OFFICE AND BUSINESS SERVICES						
General Business Offices	1/375 SF	-	<25,000 SF = 3.8/1000 SF of GFA 100,000 SF = 3.4/1000 SF of GFA >500,000 SF = 2.8/1000 SF of GFA	3 - 4/1000 GFA	2.4/1000 GFA 1.46 - 3.43/1000 GFA	1/3*
Consumer Services Offices	1/250 SF	-	4.6/1000 SF of GFA	4.5/1000 GFA	-	1/3*
Data Processing, Telemarketing	-	-	6/1000 SF of GFA	6/1000 GFA	-	-
Medical Offices	1/300 SF	-	4.5/1000 SF of GFA	4.5 - 5/1000 GFA	4.43/1000 GFA 3.64 - 4.98/1000 GFA	-
Medical Offices (Hospital Campus)	1 per 2 Beds	1 per 2 Beds + 1 per Doctor/Nurse + 1 per Employees	4/1000 SF of GFA	4/1000 SF GFA	3.47/Bed 2.84 - 4.10/Bed	-
INDUSTRIAL, STORAGE OR WHOLESALE FACILITIES						
Manufacturing or Industrial	-	1 per 1000 SF of Enclosed Floor Area	1.85/1000 SF of GFA	1.85/1000 GFA	-	-
Storage or Wholesale	-	1 per 1,000 SF of Floor Area	0.67/1000 SF of GFA	0.67/1000 GFA	-	-
Mini-Warehouse	-	1/100 Units	1.75/100 Units	1.75/100 Units	1.39/100 Units 1.05 - 1.96/100 Units	-
EDUCATIONAL OR INSTITUTIONAL USES						
Elementary or Middle School	1 per Staff	1 per Classroom + 1 per 300 SF Admin Space	0.2/Gym or Auditorium Seat or 0.25/Student, whichever is higher	0.2/Gym or Auditorium Seat or 0.25/Student, whichever is higher	0.28/Student 0.18 - 0.54/Student	-
Secondary School	1 per 3/Students	-	0.3/Gym or Auditorium Seat or 0.3/Student, whichever is higher	0.3/Gym or Auditorium Seat or 0.3/Student, whichever is higher	0.9/Student 0.3 - 0.15/Student	-
College or University	-	1.25 per Dorm Room + 1 per Classroom + 1 per 300 SF of Admin Space	*Varies per Institution*	*Varies per Institution*	0.17/School Population 0.14 - 0.19/School Population	-
Daycare Center	-	1 per Employee + 1 per 10 Attendees	0.3/Person based on Enrollment Capacity	0.3/Person based on Enrollment Capacity	1.35/Employee 1.21 - 1.40/Employee	-
ARTS, RECREATION AND ENTERTAINMENT USES						

LAND USE TYPE	CHAPEL HILL TOWN CENTER ZONING	DURHAM COUNTY (Existing Code)	(ULI) PARKING RATIOS	ADJUSTED RATIOS	(ITE) PARKING RATIOS	TOD POTENTIAL REDUCTION FACTORS
Convention Centers/Banquet	-	-	<25,000 SF = 30/1000 SF of GFA 50,000 SF = 20/1000 SF of GFA 100,000 SF = 10/1000 SF of GFA >250,000 SF = 6/1000 SF of GFA	<25,000 SF = 30/1000 SF GFA 50,000 SF = 20/1000 SF GFA 100,000 SF = 10/1000 SF GFA >250,000 SF = 6/1000 SF GFA	-	-
Health Club	-	1 per 250 SF of Enclosed Area	7/1000 SF of GFA	7/1000 SF GFA	5.19/1000 SF 1.77 - 10.56/1000 SF	-
Cinema	1 per 4 Seats	1 per 100 SF of Floor Area	<10 Screens = 0.3/Seat >10 Screens = 0.27/Seat	<10 Screens = 0.3/Seat >10 Screens = 0.27/Seat	0.26/Seat 0.11 - 0.46/Seat	-
Theatre	-		0.4/Seat	0.4/Seat	0.25/Seat 0.18 - 0.42/Seat	-
Arena	-	1 per 250 SF of Enclosed Floor Area	0.33/Seat	0.33/Seat	-	-
Football Stadium	-		0.31/Seat	0.31/Seat	-	-
Baseball Stadium	-		0.35/Seat	0.35/Seat	-	-
All Other Public Assembly Spaces	1 per 4 Persons	-	Seated = 0.3/Seat Not Seated = 0.25/Person (Based on Permitted Capacity)	Seated = 0.3/Seat Not Seated = 0.25/Person (Based on Permitted Capacity)	-	-

ACTION STEPS

The recommended Action Steps for Parking in TOD along the light rail line below are presented as a set of actions that can be deployed at stations all across the corridor. As current land use in stations vary dramatically, from the intense urban development in Downtown Durham to presently-undeveloped forest at Leigh Village, the timing of particular strategies and their relevance for will vary dramatically and must be calibrated to the characteristics of each individual station.

Therefore, although each of the recommended Action Steps is assigned to a time period linked to the opening of the light rail line, the specific timing of each action will depend on the status of development implementation at a particular station. For example, it would be reasonable to assume that implementation of new parking regulations would begin around the Patterson Place Station, a suburban station on which transit-oriented development will be superimposed above an existing development pattern, before the Gateway Station, where there is currently no significant development.

Additional implications for each of the Station Families are discussed after the primary list of Action Steps.

Pre-Rail

- Adopt zoning regulations that reduce or eliminate parking requirements in TOD station areas, and introduce parking maximums at the same time.
- Adopt zoning regulations that explicitly allow a project to reach an agreement with a nearby property owner for use of existing underutilized spaces to meet 100% of minimum parking requirement, including counter-cyclical use of parking spaces.
- Adopt zoning regulations and vehicular level of service evaluations that are based on either Vehicle Miles Traveled and/or driveway in/out counts
- Adopt Transit- and people- first policies within station areas that prioritize people-powered and transit access above vehicular access within and around station areas
- Develop relationships with large property owners and property owners with large underutilized parking facilities to enable management and sharing of existing parking
- Develop relationships with and educate developers, lenders, and public officials on benefits of District Parking in light rail station areas.
- Continue to develop relationships and educate employers on the effects of parking pricing and available transit pass programs and programs such as parking cash out.
- Develop or strengthen other types of TDM incentive programs in station areas, treating light rail station sites as “TDM Hotspots.”
- Advocate for changes to the NCHFA Qualified Action Plan to support reduced parking requirements in transit station areas as well as shared and offsite parking.
- Perform supply/demand analysis as well as a parking market-rate study.
- Assess the readiness of each station area for District Parking strategies and prioritize the implementation of District Parking strategies accordingly.
- Evaluate financial options available to acquire, fund, and manage parking facilities.
- Implement first coordinated District Parking Strategy in a station area by 2021.
- Procure / expand parking availability app technology.
- Create opt-in process for property owners to place private spaces into public parking district via parking app.
- Begin planning parking facilities to meet needs of existing plus planned development
- Develop a curb space management policy for TOD station areas to manage competition for curb usage and prevent conflicts among those using on-street parking, protected bicycle infrastructure, business deliveries, pickup/drop-off zones for Uber/Lyft/taxis, bike-share, and scooter-share parking.
- Purchase land for public parking in suburban retro-fit areas that can be land-banked for either a future deck and/or some other type of project.

Rail-Opening to Rail+10

- Identify shared, managed parking opportunities between new and existing developments.
- Plan for future development cycles in TODs to have progressively less parking per square foot as biking, walking, and transit use become more common.
- Build any new District Parking in parking decks or on street.
- Consider land banking or constructing district parking concurrent with other uses
- Continue monitoring parking usage and optimizing use of existing facilities as well as outreach to property owners with underutilized parking.
- Maximize efficiency of existing garages utilizing new technology

Rail+10 to Rail+30

- Identify opportunities to repurpose existing garages

- Continue monitoring parking usage and optimizing use of existing facilities as well as outreach to property owners with underutilized parking.
- Maximize efficiency of existing garages utilizing new technology

Considerations for particular Station Families:

New Communities

New communities provide what is perhaps the cleanest slate for TOD, and parking strategy will be instrumental to the development of the station.

- Land-banking opportunities should be prioritized, as there may be unique opportunities to create centralized facilities here, in collaboration with private developers.
- Incorporate a parking district master plan in the land use entitlement process for new communities. In early years, consider strategically placing surface parking on sites that may be much more valuable in the future and lend themselves to more intensive development than would otherwise be possible in the near term.
- Include regulatory incentives to nudge, or require outright, that all spaces be shared, unbundled, managed, and appropriately priced.
- Consider funding mechanisms that capture a portion of the new tax revenue from development to help support the construction of district parking spaces.
- Consider adopting zero minimum parking from day one, and tracking the market carefully to develop and lease public district spaces.

Suburban Stations

Traditionally, paid parking has existed in urban areas where demand is high. Suburban developments traditionally have not charged patrons for parking; therefore parking prices should be introduced in suburban station areas in a way that does not significantly disadvantage businesses within the station areas relative to places that provide free parking to customers and employees. Some Suburban factors to consider include:

- Create Land banking opportunities for future development
- Optimize Mixed-use shared parking and maximizing on-street parking opportunities
- Establish Parking Districts to help broker sharing of existing underutilized parking in addition to planning for potential new district spaces
- Consider funding mechanisms that capture a portion of the new tax revenue from development to help support the construction of district spaces.
- Include regulatory incentives to nudge property owners to build spaces that are shared, unbundled, and appropriately priced or spaces that are controlled by a Parking District.
- When parking prices are first introduced, consider price structures that allow visitors to park off-street for a certain period of time for free to encourage people from outside of the district to patronize businesses within the district.

University Village Stations

University Village stations are primary-destination stations, and heavy utilization of transit modes are expected. 2017 data show that Chapel Hill’s daytime population increases by 24,000 as a result of commuter inflows. Since Universities already have parking management:

- Parking is not likely to be tied to a publicly directed parking district strategy
- Policies to organize and control on-street parking implementation need to be coordinated across campus and non-campus blocks
- Additional study is needed to understand the needs of individual user groups such as university students/faculty/staff as well as retail, office, and nearby residential neighborhoods.
- Municipalities need to closely coordinate parking policy and development requirements with the universities and vice versa
- Continue to require parking program information and occupancy information as a part of the entitlement process for universities.

Neighborhood Destinations

Neighborhood Destination Stations are closely related to Suburban stations, with the primary difference being a slower and more deliberate rate of future growth:

- Neighborhood destinations are often already established as residential areas -- parking strategies should be implemented with that notion in mind.
- On-street parking should be planned to help mixed-use developments but will need to be managed, even if unpaid, to prevent commuter vehicle parking spillover effect scenarios.
- Chapel Hill and Durham could consider using paid or resident-only permits as a way of allowing/disallowing on-street parking on some residential streets with input from neighborhoods. As an incentive to allow part time use of residential street parking for nearby businesses, where applicable, set the price of a residential parking permit lower than in places where parking is exclusively for residents, but near stations or local business districts.
- Optimize Mixed-use shared parking and maximizing on-street parking opportunities
- Establish Parking Districts to help broker sharing of existing underutilized parking in addition to planning for potential new district spaces

Urban Hubs

Urban Hub Stations will benefit the most from the utilization and coordination of Management districts

- Invite large property owners and property owners with large underutilized parking facilities to make some of their spaces available in a district parking pool on a part-time or full time basis
- Host an event on District Parking to educate developers, lenders, and other stakeholders on how it can benefit TOD neighborhoods.
- Use Parking Districts to help broker sharing of existing underutilized parking in addition to planning for potential new district spaces.
- Direct resources towards optimizing use of existing spaces before building new spaces
- Continue to develop relationships and educate employers on the effects of parking pricing and available transit pass programs and programs such as parking cash out.
- Employers and tenants in the station area should develop and maintain Travel Demand Management programs for their employees.

Technology is important at all station areas, but maybe more so in the Urban Hubs. Opportunities include occupancy monitoring equipment, license plate recognition and app-based parking availability software. Use this technology to optimize use of existing spaces.

Appendix E: Streets & Public Space Design

STREET ASSEMBLY GUIDANCE

The following matrix provides the guidance for creating specific cross-sections:

STREET TYPE STREET PURPOSE	COLLECTOR		LOCAL	
	CONNECTOR	PLACE	CONNECTOR	PLACE
OVERALL				
Right-of-Way Width (Min)	74 FT	70 FT	44 FT	62 FT
STREETSCAPE ZONE				
Overall Width per Side (Min)	13 FT	13 FT	10 FT	13 FT
Cafe Seating	Outside ROW	Inside or Outside ROW (may be placed within furnishing zone)	Outside ROW	Inside or Outside ROW (may be placed within furnishing zone)
Furnishing Sub-Zone				
Width Minimum	8 FT	5 FT	5 FT	5 FT
Landscaped or Hardscaped	Landscaped Only	Both Permitted	Landscaped Only	Both Permitted
Pedestrian-Scale Street Lighting	Optional	Required	Optional	Required
Street Trees	Optional	Required	Optional	Required
Sidewalk/Trail Sub-Zone				
Sidewalks	Required if No Trail	Required	Required if No Trail	Required
Sidewalk Width (Min)	5 FT	6 FT	6 FT	6 FT
Sidewalk Material Permitted	Concrete or Similar Surface	Concrete or Similar Surface	Concrete or Similar Surface	Concrete or Similar Surface
Trails	Optional	Optional	Optional	Not Permitted Outside Travel Way
One-Way Trail Width (Min)	8 FT (if no sidewalk)	8 FT (in addition to required sidewalk)	8 FT (if no sidewalk)	N/A
Two-Way Trail Width (Min)	12 FT (if no sidewalk)	10 FT (in addition to regular sidewalk)	12 FT (if no sidewalk)	N/A
Trail Material Permitted	Concrete or Similar Surface; Crushed Aggregate	Concrete or Similar Surface	Concrete or Similar Surface; Crushed Aggregate	N/A
Building Entryway Sub-Zone				
Required	No	Yes	No	Yes
Clearance Width (Min)	N/A	2 FT	N/A	2 FT
TRAVEL WAY				
Target Speed (Min - Max)	25 - 35 MPH	20 - 30 MPH	20 - 25 MPH	15 - 20 MPH
Overall Pavement Width (Min)	48 FT	44 FT	23 FT	36 FT
Number of Travel Lanes (Max)	4	4	2	2
Lane Width not including Bike Lane (Min - Max)	11 - 12 FT	10 - 11 FT	10 - 12 FT	10 - 12 FT

Curb and Gutter Pan Typical	2 FT	2 FT	2 FT	1 FT
Parking				
Parallel Parking	Not Permitted	Optional	Optional	Required
Parallel Parking Width	N/A	8 - 9 FT	8 - 9 FT	7 - 9 FT
Angle Parking	Not Permitted	Optional	Not Permitted	Optional
Reverse Angle Parking	Not Permitted	Optional	Optional	Optional
Bicycle Facilities				
Bike Lane	Not required if parallel trail or convenient alternative route available	Not required if parallel trail or convenient alternative route available	Not required if parallel trail or convenient alternative route available	Optional
Bike Lane Width (Min)	5 FT	5 FT	5 FT	5 FT
Cycle Track	Optional	Optional	Optional	Not Permitted
Median				
Median	Optional	Optional	Optional	Required
Minimum Width	16 FT	12 FT	6 FT	12 FT
ACCESS TO PUBLIC SPACE				
Linking to Major Park or Open Space	Trail, bike lane, or cycle track required	Trail, bike lane, or cycle track required	Optional	Required
INTERSECTIONS				
Pedestrian Enhanced Crosswalks	Optional	Optional	Optional	Required
Curb Return Radii (Min - Max)	15 - 25 FT	15 - 25 FT	15 - 20 FT	10 - 20 FT

PUBLIC SPACE DESIGN

Just as streets are critical to shaping a comfortable and safe pedestrian realm providing connectivity and access for the station areas, public spaces such as plazas, parks, and squares are also important in shaping the public realm. This section provides a common language for different types of civic space that are not only appropriate but are important contributing elements in the creating of walkable neighborhoods. Designed well, they can serve multiple functions beyond enhancing walkability, including significant enhancements to stormwater management, urban heat island mitigation, play spaces for children, and as spaces for neighborhood and public events.

PUBLIC SPACE TYPES BY STATION FAMILY

PUBLIC SPACE TYPE	UNIVERSITY VILLAGES	NEIGHBORHOOD DESTINATIONS	SUBURBAN RETROFITS	NEW COMMUNITIES	URBAN HUBS
Courtyard					
Forecourt					
Green					
Multi-Use Trail					
Pedestrian Passage					
Play Area					
Plaza					
Pocket Park					
Pocket Plaza					
Roof Terrace					
Square					

COURTYARD



Typical Characteristics

General Character

- Small scale private common open space
- Defined by buildings on at least three sides with connection to public sidewalk
- Size of court should be proportionate to building height
- Hardscape should accommodate circulation, gathering, and seating.
- Trees and plants are critical
- Maintain the character of surrounding buildings

Standards

Min. Width	25'
Minimum Area	650 SF
Minimum Pervious Cover	30%

Typical Uses

- Gathering
- Casual Seating

FORECOURT



Typical Characteristics

General Character

- Small scale private common open space
- Defined by buildings on at least 2 sides with connection to public sidewalk
- Size of court should be proportionate to building height
- Hardscape should accommodate entry circulation
- Trees and plants are critical
- Enhance the character of surrounding buildings

Standards

Min. Width	25'
Minimum Size	<i>Depth:</i> Based on building height ratio; <i>Width:</i> Max. of 50% of building's street frontage
Min. Pervious Cover	30%

Typical Uses

- Building Entry Circulation
- Visual Building Announcement

GREEN



Typical Characteristics

General Character

- Open space
- Spatially defined by street and building frontages and landscaping
- Lawns, trees and shrubs naturally disposed
- Open shelters and paths formally disposed

Standards

Size	0.25 – 4 Acres
Minimum Width	25'
Minimum Pervious Cover	80%
Minimum Perimeter	50%
Frontage on Public ROW	

Typical Uses

Unstructured Recreation
Casual Seating
Commercial and Civic Uses
No Organized Sports

MULTI-USE TRAIL



Typical Characteristics

General Character

- Multi-use trail in Neighborhood Park:
 - Naturally disposed landscape
 - Trees lining trail for shade
 - Appropriately lit for safety
- Formally disposed pedestrian furniture, landscaping and lighting
- Multi-use trail along Spine Road or through neighborhoods
- Paved trail with frequent gathering spaces and regular landscaping.

Standards

Min. Width	12 FT
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Typical Uses

Unstructured Recreation
Casual Seating
Commercial and Civic Uses
No Organized Sports

PEDESTRIAN PASSAGE



Typical Characteristics

General Character

- Hardscape pathway with pervious pavers
- Defined by building frontages
- Frequent side entries and frontages
- Shade Required
- Minimal planting and potted plants
- Maintain the character of surrounding buildings

Standards

Min. Width 15 feet



Typical Uses

Pedestrian Connection and Access
 Casual Seating

PLAY AREA



Typical Characteristics

General Character

- Focused toward family-friendly needs
- Fencing depends on surroundings
- Open shelter
- Shade and seating provided
- Play structure, interactive art or fountains

Standards

Min. Size 300 SF
 Max. Size N/A
 Protected from traffic
 No service or mechanical equipment

Typical Uses

Active and Passive Recreation
 Unstructured Recreation
 Casual Seating



PLAZA



Typical Characteristics

General Character

- Formal open space
- A balance of hardscape and planting
- Trees important for shade
- Spatially defined by building frontages

Standards

Size	0.1 – 1 acre
Minimum Width	30'
Min. Pervious Cover	20%
Min. Perimeter ROW Frontage	25%
Frontage on Public ROW	

Located at important intersections, at the end of an important view, or at entrances to public/civic buildings

Typical Uses

Commercial and Civic Uses
Formal and Casual Seating
Tables and Chairs for Outdoor Dining
Retail and Food Kiosks

POCKET PARK



Typical Characteristics

General Character

- Small open space responding to specific user groups and space available.
- Range of character can be for intense use or aesthetic enjoyment. Low maintenance is essential

Standards

Size 0.25 – 1.99 acres
Within walking distance of either a few blocks or up to a quarter mile of residences

Typical Uses

Varies per User Group



POCKET PLAZA



Typical Characteristics

General Character

- Formal open space for gathering
- Defined seating areas
- Refuge from the public sidewalk
- Spatially defined by the building configuration

Standards

Min. Size	300 SF
Min. Width	15'
Max. Width	20'
Min. Pervious Cover	10 %
Minimum Perimeter	25%

Frontage on Public ROW

Located at important intersections, at vista termini, or at entrances to public/civic buildings

Typical Uses

Civic and Commercial Uses
 Formal and Casual Seating

ROOF TERRACE



Typical Characteristics

General Character

- Small scale private common open space on roof top
- Screened from view of adjacent property
- Vegetated portion critical
- Hardscape should accommodate gathering, seating, shade
- Provides common open space that might not be available at grade

Standards

Min. Area	50% of the Roof Top
Planted Area	30% Min.

Typical Uses

Gathering for Tenants and Residents
 Green Roof

SQUARE



Typical Characteristics

General Character

- Formal open space
- Spatially defined by buildings and tree-lined streets.
- Open shelters, paths, lawns, and trees formally arranged
- Walkways and plantings at all edges
- Abundant seating opportunities

Standards

Size	0.25 - 4 Acres
Minimum Width	25'
Min. Pervious Cover	60%
Minimum Perimeter	60%
Frontage on Public ROW	
Located at Important Intersections	

Typical Uses

Unstructured and Passive Recreation – No Organized Sports.
Community Gathering
Occasional Commercial and Civic Uses

Appendix F: The 5D Analysis

The analysis of modal shift estimates is done through a quantitative scoring matrix that examines both quantitative and qualitative metrics. In general, evaluation criteria look at a physical or demographic characteristic of the station and/or its surrounding infrastructure and development. These criteria are labeled high, medium, or low, (or good, neutral, and bad) in terms of the assumed effect on modal shift. High/good means a greater mode shift in trips generated by the station, based on positive influences of the evaluated criterion, while low/bad means a lesser mode shift. Note that even the low/bad evaluation simply means the station generates trips at a rate similar to the regional average, with no additional mode shift.

DENSITY

This metric examines the concentration of existing and projected population and employment within ½ mile of the station areas. For what is in the defined “area of change,” we calculate the total dwelling units among single family and multi-family residential buildings. The calculation for both projected population and employment were based on the proposed dwelling units or jobs within the development area. Employment Ratios were provided by the Triangle-J Council of Governments (TJCOG) to determine the number of projected employees based on building square footage. The following employment ratios were used for the calculation:

Office	3.3 emp / 1,000 sq. ft.
Industrial	1.8 emp / 1,000 sq. ft.
Hotel	3.0 emp / 1,000 sq. ft.
Retail	2.9 emp / 1,000 sq. ft.

A larger total of residents and jobs would result in higher internal trip capture, and thus a facilitate greater mode shift. For population, station-area totals are deemed high if greater than 1,250 dwelling units, medium for 200 to 1,250 dwelling units and low for below 200 dwelling units. Similarly, for employment, station-area totals are deemed high if greater than 3,500 jobs, medium for 750 to 3,500, and low for below 750.

DESIGN

Each of these criteria pertain to physical characteristics of the surrounding area.

Bicycle Facilities encourage and facilitate short-distance trips by bicycle, helping to reduce motorized vehicle trips. This criterion is based on a map evaluation of the number of facilities located within a 1/4 mile of the station area. This does not take into account the quality or type of facility. It is deemed high if there are more than six facilities nearby, medium for three to five facilities and low if less than three facilities. The existing and proposed Bicycle Facility evaluation is the same as many of the existing roadways already have bicycle facilities present. It would require connecting the facility to the station location.

Other Transit similarly helps bring nearby residents to jobs or commercial uses near the station, as well as the light rail itself, and as such reduces overall trip generation. This criterion is deemed positive if there are three or more existing bus routes within 1/4 mile of the station area (this short

distance assumes that the routes/stops could be moved into the station proper if they are not already planned to travel through it. One to two such routes result in a neutral evaluation, and no nearby bus routes results in a negative evaluation.

Sidewalks/Trails, like bicycle facilities, encourage and facilitate short-distance trips, helping to reduce motorized vehicle trips. This criterion is deemed positive if there is an existing sidewalk infrastructure or trail present that provides a regional trail connection and neutral if there is a proposed sidewalk infrastructure or trail that provides a regional trail connection.

Constrained by Freeway is a simple yes/no evaluation. Presence of a freeway restricts the area accessible to the station, particularly by pedestrians and bicyclists, and reduces the potential development area and thus potential for trip-generation reduction. A “no” evaluation is positive as it indicates a lack of that restriction.

DISTANCE

This metric examines the size of the area of change that is within a 1/4 mile of the station location. The area of change is based on the redevelopment of the buildings within the station location. A high percentage, greater than 40% change in our calculation, means there is more of an opportunity to redevelop around the station location to add value and capture trips; medium is between 15% - 40% and low is less than 15%. While development outside a 1/4 mile of the station location is still advantageous to the station and potential trip capture, the highest opportunity is located within a 1/4 mile and this area of change.

DIVERSITY

Land Use Mix has a positive effect on mode shift, as a variety of uses in a small area increases the potential for chained trips and for various trip types to be undertaken either without a car, or with parking only one for multiple activities. The 18 stations are divided into cohorts of 6, based on a map evaluation of the number of different land use types located adjacent to the station location. This evaluation does not calculate the magnitude of each land use type. The most diverse land use types adjacent to the station are ranked highest, while the fewest land use types are ranked lowest.

DESTINATIONS

These criteria measure the ease of access to surrounding areas, which may either compete with or support the TOD around light rail stations.

Existing/Future Congestion would tend to increase mode shift, once patrons arrive in an area with heavy congestion, they are more likely to remain for a longer period and visit multiple destinations. The 18 stations are divided into cohorts of 6, based on evaluation of the average daily traffic (ADT) on roadways within 1/4 mile, divided by the number of travel lanes on those roadways. This produces a volume-to-capacity ratio (v/c), which when averaged over the station vicinity, produces a single number indicative of general traffic congestion (the higher the number the more congestion, and the greater likelihood for reduction in trip generation as explained above).

Appendix G: Potential New Tax Forecast

STATION AREA SUMMARY

The following tables delineate the tax forecast summary and value capture potential for each of the station areas along Light Rail Corridor. Specific details on the development potential and opportunities at each station area can be found within the Station Areas section of this report.

LIGHT RAIL CORRIDOR TOTAL

LIGHT RAIL CORRIDOR	2027	2037	2047	2057
Station Areas	7,026 Acres			
Development Concept Areas	1,361 Acres			
Baseline Property Value (2018)	\$3.4 - \$4.6 Billion	\$2.8 - \$3.8 Billion	\$2.1 - \$2.9 Billion	\$1.7 - \$2.4 Billion
Forecast Property Value	\$5.2 - \$7.0 Billion	\$5.6 - \$7.6 Billion	\$5.4 - \$7.4 Billion	\$5.0 - \$6.8 Billion
Net New Property Value	\$1.8 - \$2.4 Billion	\$2.8 - \$3.7 Billion	\$3.3 - \$4.5 Billion	\$3.3 - \$4.5 Billion
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$32.7 - \$44.3 Million	\$27.0 - \$36.5 Million	\$20.2 - \$27.3 Million	\$16.7 - \$22.6 Million
Forecast Annual Tax Revenue	\$57.4 - \$77.6 Million	\$64.3 - \$87.0 Million	\$65.1 - \$88.1 Million	\$61.3 - \$82.9 Million
Net New Annual Tax Revenue	\$24.7 - \$33.4 Million	\$27.3 - \$50.4 Million	\$44.9 - \$60.8 Million	\$44.6 - \$60.4 Million
Baseline Accumulated Tax Revenue	\$383.8 - \$519.2 Million	\$299.6 - \$405.4 Million	\$233.2 - \$315.4 Million	\$185.1 - \$250.4 Million
Forecast Accumulated Tax Revenue	\$557.1 - \$753.7 Million	\$621.1 - \$841.0 Million	\$669.9 - \$906.4 Million	\$669.2 - \$905.4 Million
Net New Accumulated Tax Revenue (Between Years)	\$173.3 - \$234.5 Million	\$322.0 - \$435.6 Million	\$436.8 - \$590.9 Million	\$484.1 - \$655.0 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$173.3 - \$234.5 Million	\$495.3 - \$670.1 Million	\$932.0 Mil. - \$1.3 Bil.	\$1.4 - \$1.9 Billion

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

DURHAM COUNTY

DURHAM COUNTY	2027	2037	2047	2057
Station Areas	5,555 Acres			
Development Concept Areas	1,144 Acres			
Baseline Property Value (2018)	\$2.9 - \$4.0 Billion	\$2.4 - \$3.3 Billion	\$1.8 - \$2.5 Billion	\$1.5 - \$2.0 Billion
Forecast Property Value	\$4.5 - \$6.0 Billion	\$4.8 - 6.5 Billion	\$4.8 - 6.5 Billion	\$4.4 - 6.0 Billion
Net New Property Value	\$1.5 - \$2.1 Billion	\$2.4 - \$3.3 Billion	\$3.0 - \$4.0 Billion	\$2.9 - \$3.9 Billion
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$25.2 - \$34.1 Million	\$20.8 - \$28.2 Million	\$15.6 - \$21.1 Million	\$12.9 - \$17.4 Million
Forecast Annual Tax Revenue	\$45.8 - \$62.0 Million	\$52.4 - \$70.9 Million	\$54.7 - \$74.0 Million	\$51.2 - \$69.3 Million
Net New Annual Tax Revenue	\$20.6 - \$27.9 Million	\$31.6 - \$42.8 Million	\$39.1 - \$53.0 Million	\$38.3 - \$51.9 Million
Baseline Accumulated Tax Revenue	\$295.8 - \$400.3 Million	\$231.0 - \$312.5 Million	\$179.7 - \$243.2 Million	\$142.6 - \$193.0 Million
Forecast Accumulated Tax Revenue	\$450.0 - \$608.8 Million	\$503.4 - \$681.1 Million	\$550.0 - \$744.2 Million	\$558.4 - \$755.4 Million

Net New Accumulated Tax Revenue (Between Years)	\$154.1 - \$208.5 Million	\$272.4 - \$368.6 Million	\$370.3 - \$501.0 Million	\$415.7 - \$562.5 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$154.1 - \$208.5 Million	\$426.6 - \$577.1 Million	\$796.9 Mil. - \$1.1 Bil.	\$1.2 - \$1.6 Billion

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

ORANGE COUNTY

ORANGE COUNTY	2027	2037	2047	2057
Station Areas	1,471 Acres			
Development Concept Areas	216 Acres			
Baseline Property Value (2018)	\$474.4 - \$641.9 Million	\$391.7 - \$529.9 Million	\$293.0 - \$396.4 Million	\$241.9 - \$327.3 Million
Forecast Property Value	\$721.5 - \$976.1 Million	\$737.2 - \$997.4 Million	\$646.7 - \$875.0 Million	\$628.6 - \$850.5 Million
Net New Property Value	\$247.1 - \$334.3 Million	\$345.4 - \$467.5 Million	\$353.8 - \$478.6 Million	\$386.7 - \$523.2 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$7.5 - \$10.1 Million	\$6.2 - \$8.4 Million	\$4.6 - \$6.3 Million	\$3.8 - \$5.2 Million
Forecast Annual Tax Revenue	\$11.5 - \$15.5 Million	\$11.7 - \$15.9 Million	\$10.3 - \$14.0 Million	\$10.1 - \$13.6 Million
Net New Annual Tax Revenue	\$4.0 - \$5.4 Million	\$5.6 - \$7.5 Million	\$5.7 - \$7.7 Million	\$6.2 - \$8.4 Million
Baseline Accumulated Tax Revenue	\$87.9 - \$119.0 Million	\$68.7 - \$92.9 Million	\$53.4 - \$72.3 Million	\$42.4 - \$57.4 Million
Forecast Accumulated Tax Revenue	\$106.2 - \$143.7 Million	\$117.3 - \$158.7 Million	\$119.2 - \$161.3 Million	\$110.2 - \$149.2 Million
Net New Accumulated Tax Revenue (Between Years)	\$18.3 - \$24.7 Million	\$48.6 - \$65.8 Million	\$65.8 - \$89.0 Million	\$67.8 - \$91.8 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$18.3 - \$24.7 Million	\$66.9 - \$90.5 Million	\$132.7 - \$179.5 Million	\$200.5 - \$271.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

CITY OF DURHAM

CITY OF DURHAM	2027	2037	2047	2057
Station Areas	4,594 Acres			
Development Concept Areas	1,045 Acres			
Baseline Property Value (2018)	\$2.9 - \$3.9 Billion	\$2.4 - \$3.2 Billion	\$1.8 - \$2.4 Billion	\$1.5 - \$2.0 Billion
Forecast Property Value	\$4.3 - \$5.9 Billion	\$4.6 - \$6.2 Billion	\$4.5 - \$6.1 Billion	\$4.1 - \$5.6 Billion
Net New Property Value	\$1.5 - \$2.0 Billion	\$2.2 - \$3.0 Billion	\$2.7 - \$3.7 Billion	\$2.7 - \$3.6 Billion
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$24.6 - \$33.3 Million	\$20.3 - \$27.5 Million	\$15.2 - \$20.5 Million	\$12.5 - \$17.0 Million
Forecast Annual Tax Revenue	\$44.3 - \$60.0 Million	\$49.2 - \$66.5 Million	\$51.0 - \$68.9 Million	\$47.6 - \$64.6 Million
Net New Annual Tax Revenue	\$19.7 - \$26.7 Million	\$28.9 - \$39.1 Million	\$35.8 - \$48.4 Million	\$35.1 - \$47.5 Million
Baseline Accumulated Tax Revenue	\$288.4 - \$390.2 Million	\$225.2 - \$304.6 Million	\$175.2 - \$237.0 Million	\$139.1 - \$188.1 Million
Forecast Accumulated Tax Revenue	\$439.0 - \$539.9 Million	\$481.6 - \$651.5 Million	\$517.0 - \$699.4 Million	\$520.5 - \$704.2 Million
Net New Accumulated Tax Revenue (Between Years)	\$150.6 - \$203.7 Million	\$256.4 - \$346.9 Million	\$341.8 - \$462.4 Million	\$381.4 - \$516.0 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$150.6 - \$203.7 Million	\$407.0 - \$550.7 Million	\$748.8 Mil. - \$1.0 Bil.	\$1.1 - \$1.5 Billion

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

TOWN OF CHAPEL HILL

TOWN OF CHAPEL HILL	2027	2037	2047	2057
Station Areas	2,432 Acres			
Development Concept Areas	316 Acres			

Baseline Property Value (2018)	\$533.4 - \$721.7 Million	\$440.4 - \$595.9 Million	\$329.4 - \$445.7 Million	\$272.0 - \$368.0 Million
Forecast Property Value	\$849.0 Mil. - \$1.1 Bil.	\$1.0 - \$1.4 Billion	\$949.8 Mil. - \$1.3 Bil.	\$913.0 Mil. - \$1.2 Bil.
Net New Property Value	\$315.5 - \$426.9 Million	\$561.7 - \$759.9 Million	\$620.3 - \$839.3 Million	\$641.0 - \$867.2 Million
	2018 - 2017	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$8.1 - \$11.0 Million	\$6.7 - \$9.1 Million	\$5.0 - \$6.8 Million	\$4.1 - \$.56 Million
Forecast Annual Tax Revenue	\$13.0 - \$17.6 Million	\$15.0 - 20.3 Million	\$14.1 - \$19.1 Million	\$13.6 - \$18.4 Million
Net New Annual Tax Revenue	\$4.8 - \$6.6 Million	\$8.3 - \$11.2 Million	\$9.1 - \$12.3 Million	\$9.5 - \$12.8 Million
Baseline Accumulated Tax Revenue	\$95.4 - \$129.1 Million	\$74.5 - \$100.8 Million	\$58.0 - \$78.4 Million	\$46.0 - \$62.2 Million
Forecast Accumulated Tax Revenue	\$117.2 - \$158.6 Million	\$139.1 - \$188.2 Million	\$152.3 - \$206.0 Million	\$148.2 - \$200.5 Million
Net New Accumulated Tax Revenue (Between Years)	\$21.8 - \$29.5 Million	\$64.6 - \$87.4 Million	\$94.3 - \$127.6 Million	\$102.2 - \$138.2 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$21.8 - \$29.5 Million	\$86.4 - \$117.0 Million	\$180.8 - \$244.6 Million	\$282.9 - \$382.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

UNC HOSPITALS

UNC HOSPITALS	2027	2037	2047	2057
Station Area	201 Acres			
Development Concept Area	-			
Baseline Property Value (2018)	\$18.8 - \$25.4 Million	\$15.5 - \$21.0 Million	\$11.6 - \$15.7 Million	\$9.6 - \$12.9 Million
Forecast Property Value	\$18.8 - \$25.4 Million	\$16.1 - \$21.8 Million	\$21.1 - \$16.3 Million	\$10.0 - \$13.5 Million
Net New Property Value	-	\$620,000 - \$840,000	\$460,000 - \$630,000	\$380,000 - \$520,000
	2018 - 2017	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$250,000 - \$340,000	\$210,000 - \$280,000	\$150,000 - \$210,000	\$130,000 - \$170,000
Forecast Annual Tax Revenue	\$250,000 - \$340,000	\$210,000 - \$290,000	\$160,000 - \$220,000	\$130,000 - \$180,000
Net New Annual Tax Revenue	-	\$10,000 - \$10,000	\$10,000 - \$10,000	\$10,000 - \$10,000
Baseline Accumulated Tax Revenue	\$2.9 - \$4.0 Million	\$2.3 - \$3.1 Million	\$1.8 - \$2.4 Million	\$1.4 - \$1.9 Million
Forecast Accumulated Tax Revenue	\$2.9 - \$4.0 Million	\$2.3 - \$3.2 Million	\$1.9 - \$2.5 Million	\$1.5 - \$2.0 Million
Net New Accumulated Tax Revenue (Between Years)	-	\$50,000 - \$70,000	\$70,000 - \$100,000	\$60,000 - \$80,000
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	-	\$50,000 - \$70,000	\$120,000 - \$160,000	\$180,000 - \$240,000

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

MASON FARM ROAD

MASON FARM ROAD	2027	2037	2047	2057
Station Area	400 Acres			
Development Concept Area	-			
Baseline Property Value (2018)	\$80.6 - \$109.0 Million	\$66.5 - \$90.0 Million	\$49.8 - \$67.3 Million	\$41.1 - \$55.6 Million
Forecast Property Value	\$80.6 - \$109.0 Million	\$69.2 - \$93.6 Million	\$51.8 - \$70.0 Million	\$42.7 - \$57.8 Million
Net New Property Value	-	\$2.7 - \$3.6 Million	\$2.0 - \$2.7 Million	\$1.6 - \$2.2 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$1.3 - \$1.7 Million	\$1.1 - \$1.4 Million	\$790,000 - \$1.1 Million	\$650,000 - \$880,000

Forecast Annual Tax Revenue	\$1.3 - \$1.7 Million	\$1.1 - \$1.5 Million	\$820,000 - \$1.1 Million	\$680,000 - \$910,000
Net New Annual Tax Revenue	-	\$40,000 - \$60,000	\$30,000 - \$40,000	\$30,000 - \$40,000
Baseline Accumulated Tax Revenue	\$15.0 - \$20.2 Million	\$11.7 - \$15.8 Million	\$9.1 - \$12.3 Million	\$7.2 - \$9.8 Million
Forecast Accumulated Tax Revenue	\$15.0 - \$20.2 Million	\$11.9 - \$16.1 Million	\$9.4 - \$12.8 Million	\$7.5 - \$10.1 Million
Net New Accumulated Tax Revenue (Between Years)	-	\$250,000 - \$330,000	\$360,000 - \$490,000	\$290,000 - \$390,000
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	-	\$250,000 - \$330,000	\$610,000 - \$820,000	\$900,000 - \$1.2 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

HAMILTON ROAD

HAMILTON ROAD	2027	2037	2047	2057
Station Area	318 Acres			
Development Concept Area	111 Acres			
Baseline Property Value (2018)	\$139.9 - \$189.3 Million	\$115.5 - \$156.3 Million	\$86.4 - \$116.9 Million	\$71.3 - \$96.5 Million
Forecast Property Value	\$297.1 - \$401.9 Million	\$304.6 - \$412.1 Million	\$284.2 - \$384.5 Million	\$303.1 - \$410.1 Million
Net New Property Value	\$157.2 - \$212.7 Million	\$189.1 - \$255.9 Million	\$197.8 - \$267.6 Million	\$231.8 - \$313.6 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$2.2 - \$3.0 Million	\$1.8 - \$2.5 Million	\$1.4 - \$1.8 Million	\$1.1 - \$1.5 Million
Forecast Annual Tax Revenue	\$4.7 - \$6.4 Million	\$4.9 - \$6.6 Million	\$4.6 - \$6.2 Million	\$4.9 - \$6.6 Million
Net New Annual Tax Revenue	\$2.5 - \$3.4 Million	\$3.0 - \$4.1 Million	\$3.2 - \$4.3 Million	\$3.7 - \$5.1 Million
Baseline Accumulated Tax Revenue	\$25.7 - \$34.8 Million	\$20.1 - \$27.2 Million	\$15.6 - \$21.2 Million	\$12.4 - \$16.8 Million
Forecast Accumulated Tax Revenue	\$39.7 - \$53.7 Million	\$49.4 - \$66.9 Million	\$52.5 - \$71.0 Million	\$52.6 - \$71.2 Million
Net New Accumulated Tax Revenue (Between Years)	\$13.9 - \$18.8 Million	\$29.3 - \$39.7 Million	\$36.8 - \$49.9 Million	\$40.2 - \$54.4 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$13.9 - \$18.8 Million	\$43.3 - \$58.5 Million	\$80.1 - \$108.4 Million	\$120.3 - \$162.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

FRIDAY CENTER DRIVE

FRIDAY CENTER DRIVE	2027	2037	2047	2057
Station Area	949 Acres			
Development Concept Area	12 Acres			
Baseline Property Value (2018)	\$142.8 - \$193.2 Million	\$117.9 - \$159.5 Million	\$88.2 - \$119.3 Million	\$72.8 - \$98.5 Million
Forecast Property Value	\$154.8 - \$209.4 Million	\$157.0 - \$212.3 Million	\$117.4 - \$158.8 Million	\$123.1 - \$166.5 Million
Net New Property Value	\$12.0 - \$16.2 Million	\$39.1 - \$52.8 Million	\$29.2 - \$39.5 Million	\$50.2 - \$68.0 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$2.2 - \$3.0 Million	\$1.8 - \$2.5 Million	\$1.4 - \$1.8 Million	\$1.1 - \$1.5 Million
Forecast Annual Tax Revenue	\$2.4 - \$3.2 Million	\$2.4 - \$3.3 Million	\$1.8 - \$2.5 Million	\$1.9 - \$2.6 Million
Net New Annual Tax Revenue	\$170,000 - \$230,000	\$610,000 - \$820,000	\$460,000 - \$620,000	\$800,000 - \$1.1 Million
Baseline Accumulated Tax Revenue	\$25.8 - \$34.9 Million	\$20.1 - \$27.2 Million	\$15.7 - \$21.2 Million	\$12.4 - \$16.8 Million
Forecast Accumulated Tax Revenue	\$26.9 - \$36.4 Million	\$23.6 - \$32.0 Million	\$20.9 - \$28.3 Million	\$21.3 - \$28.8 Million
Net New Accumulated Tax Revenue (Between Years)	\$1.1 - \$1.5 Million	\$3.5 - \$4.7 Million	\$5.3 - \$7.1 Million	\$8.8 - \$12.0 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$1.1 - \$1.5 Million	\$4.6 - \$6.2 Million	\$9.9 - \$13.3 Million	\$18.7 - \$25.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

WOODMONT

WOODMONT	2027	2037	2047	2057
Station Area	441 Acres			
Development Concept Area	50 Acres			
Baseline Property Value (2018)	\$118.0 - \$159.7 Million	\$97.4 - \$131.8 Million	\$72.9 - \$98.6 Million	\$60.2 - \$81.4 Million
Forecast Property Value	\$126.7 - \$171.4 Million	\$259.2 - \$350.7 Million	\$202.6 - \$274.1 Million	\$183.4 - \$248.1 Million
Net New Property Value	\$8.7 - \$11.7 Million	\$161.8 - \$218.9 Million	\$129.7 - \$175.5 Million	\$123.2 - \$166.7 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$1.5 - \$2.0 Million	\$1.2 - \$1.6 Million	\$910,000 - \$1.2 Million	\$750,000 - \$1.0 Million
Forecast Annual Tax Revenue	\$1.6 - \$2.1 Million	\$3.3 - \$4.4 Million	\$2.5 - \$3.4 Million	\$2.3 - \$3.1 Million
Net New Annual Tax Revenue	\$110,000 - \$150,000	\$2.0 - \$2.8 Million	\$1.6 - \$2.2 Million	\$1.6 - \$2.1 Million
Baseline Accumulated Tax Revenue	\$17.2 - \$23.3 Million	\$13.4 - \$18.2 Million	\$10.5 - \$14.2 Million	\$8.3 - \$11.2 Million
Forecast Accumulated Tax Revenue	\$18.0 - \$24.3 Million	\$22.5 - \$30.4 Million	\$28.3 - \$38.3 Million	\$25.6 - \$34.6 Million
Net New Accumulated Tax Revenue (Between Years)	\$740,000 - \$1.0 Million	\$9.1 - \$12.3 Million	\$17.9 - \$24.2 Million	\$17.3 - \$23.4 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$740,000 - \$1.0 Million	\$9.8 - \$13.3 Million	\$27.7 - \$37.4 Million	\$45.0 - \$60.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

LEIGH VILLAGE

LEIGH VILLAGE	2027	2037	2047	2057
Station Area	557 Acres			
Development Concept Area	194 Acres			
Baseline Property Value (2018)	\$103.9 - \$140.6 Million	\$85.8 - \$116.1 Million	\$64.2 - \$86.9 Million	\$53.0 - \$71.7 Million
Forecast Property Value	\$191.2 - \$258.6 Million	\$205.9 - \$278.5 Million	\$261.1 - \$353.3 Million	\$270.1 - \$365.5 Million
Net New Property Value	\$87.2 - \$118.0 Million			
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$1.3 - \$1.8 Million	\$1.1 - \$1.5 Million	\$820,000 - \$1.1 Million	\$680,000 - \$920,000
Forecast Annual Tax Revenue	\$2.5 - \$3.3 Million	\$2.7 - \$3.6 Million	\$3.4 - \$4.6 Million	\$3.5 - \$4.7 Million
Net New Annual Tax Revenue	\$1.1 - \$1.5 Million	\$1.6 - \$2.1 Million	\$2.6 - \$3.5 Million	\$2.8 - \$3.8 Million
Baseline Accumulated Tax Revenue	\$15.6 - \$21.1 Million	\$12.2 - \$16.5 Million	\$9.5 - \$12.8 Million	\$7.5 - \$10.2 Million
Forecast Accumulated Tax Revenue	\$26.2 - \$35.4 Million	\$25.7 - \$34.7 Million	\$32.7 - \$44.3 Million	\$35.9 - \$48.6 Million
Net New Accumulated Tax Revenue (Between Years)	\$1.1 - \$1.5 Million	\$13.5 - \$18.3 Million	\$23.3 - \$31.5 Million	\$28.4 - \$38.5 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$10.6 - \$14.4 Million	\$24.1 - \$32.6 Million	\$47.4 - \$64.1 Million	\$75.8 - \$102.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

GATEWAY

GATEWAY	2027	2037	2047	2057
Station Area	242 Acres			
Development Concept Area	96 Acres			
Baseline Property Value (2018)	\$78.4 - \$106.1 Million	\$64.7 - \$87.6 Million	\$48.4 - \$65.5 Million	\$40.0 - \$54.1 Million

Forecast Property Value	\$178.2 - \$241.1 Million	\$176.2 - \$238.4 Million	\$255.4 - \$345.6 Million	\$229.0 - \$309.8 Million
Net New Property Value	\$99.8 - \$135.1 Million	\$111.5 - \$150.9 Million	\$207.0 - \$280.1 Million	\$189.0 - \$255.7 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$1.1 - \$106.1 Million	\$910,000 - \$1.2 Million	\$680,000 - \$920,000	\$560,000 - \$760,000
Forecast Annual Tax Revenue	\$2.5 - \$3.4 Million	\$2.5 - \$3.4 Million	\$3.5 - \$4.8 Million	\$3.2 - \$4.3 Million
Net New Annual Tax Revenue	\$1.4 - \$1.9 Million	\$1.6 - \$2.2 Million	\$2.9 - \$3.9 Million	\$2.6 - \$3.5 Million
Baseline Accumulated Tax Revenue	\$12.9 - \$17.4 Million	\$10.1 - \$13.6 Million	\$7.8 - \$10.6 Million	\$6.2 - \$8.4 Million
Forecast Accumulated Tax Revenue	\$17.4 - \$23.6 Million	\$24.8 - \$33.5 Million	\$31.6 - \$42.7 Million	\$33.7 - \$45.5 Million
Net New Accumulated Tax Revenue (Between Years)	\$4.5 - \$6.1 Million	\$14.7 - \$19.9 Million	\$23.7 - \$32.1 Million	\$27.4 - \$37.1 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$4.5 - \$6.1 Million	\$19.2 - \$26.0 Million	\$43.0 - \$58.1 Million	\$70.4 - \$95.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

PATTERSON PLACE

PATTERSON PLACE	2027	2037	2047	2057
Station Area	721 Acres			
Development Concept Area	153 Acres			
Baseline Property Value (2018)	\$246.9 - \$334.0 Million	\$203.8 - \$275.8 Million	\$152.5 - \$206.3 Million	\$125.9 - \$170.3 Million
Forecast Property Value	\$343.6 - \$464.9 Million	\$432.1 - \$584.6 Million	\$446.8 - \$604.5 Million	\$374.0 - \$506.0 Million
Net New Property Value	\$96.7 - \$130.9 Million	\$228.3 - \$308.8 Million	\$294.4 - \$398.2 Million	\$248.1 - \$335.7 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$3.0 - \$4.0 Million	\$2.5 - \$3.3 Million	\$1.8 - \$2.5 Million	\$1.5 - \$2.1 Million
Forecast Annual Tax Revenue	\$4.3 - \$5.8 Million	\$5.5 - \$7.4 Million	\$5.7 - \$7.7 Million	\$4.8 - \$6.4 Million
Net New Annual Tax Revenue	\$1.3 - \$1.7 Million	\$3.0 - \$4.0 Million	\$3.8 - \$5.2 Million	\$3.2 - \$4.4 Million
Baseline Accumulated Tax Revenue	\$35.1 - \$47.5 Million	\$27.4 - \$37.1 Million	\$21.3 - \$28.8 Million	\$16.9 - \$22.9 Million
Forecast Accumulated Tax Revenue	\$40.0 - \$54.2 Million	\$47.7 - \$64.5 Million	\$61.2 - \$82.8 Million	\$52.8 - \$71.5 Million
Net New Accumulated Tax Revenue (Between Years)	\$4.9 - \$6.7 Million	\$20.3 - \$27.4 Million	\$39.9 - \$53.9 Million	\$35.9 - \$48.6 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$4.9 - \$6.7 Million	\$25.2 - \$34.1 Million	\$65.1 - \$88.0 Million	\$101.0 - \$136.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

MARTIN LUTHER KING, JR. PARKWAY

MLK, JR. PARKWAY	2027	2037	2047	2057
Station Area	419 Acres			
Development Concept Area	136 Acres			
Baseline Property Value (2018)	\$229.6 - \$310.6 Million	\$189.6 - \$256.5 Million	\$141.8 - \$191.8 Million	\$117.1 - \$158.4 Million
Forecast Property Value	\$229.6 - \$310.6 Million	\$208.5 - \$282.1 Million	\$354.6 - \$479.8 Million	\$512.3 - \$693.1 Million
Net New Property Value	-	\$19.0 - \$25.6 Million	\$212.9 - \$288.0 Million	\$395.3 - \$534.8 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$2.9 - \$3.9 Million	\$2.4 - \$3.2 Million	\$1.8 - \$2.4 Million	\$1.5 - \$2.0 Million
Forecast Annual Tax Revenue	\$2.9 - \$3.9 Million	\$2.6 - \$3.5 Million	\$4.5 - \$6.1 Million	\$6.6 - \$9.0 Million
Net New Annual Tax Revenue	-	\$240,000 - \$330,000	\$2.8 - \$3.7 Million	\$5.2 - \$7.0 Million
Baseline Accumulated Tax Revenue	\$33.8 - \$45.7 Million	\$26.4 - \$35.7 Million	\$20.5 - \$27.8 Million	\$16.3 - \$22.0 Million
Forecast Accumulated Tax Revenue	\$33.8 - \$45.7 Million	\$27.5 - \$37.2 Million	\$38.0 - \$51.4 Million	\$73.4 - \$99.4 Million
Net New Accumulated Tax Revenue (Between Years)	-	\$1.1 - \$1.5 Million	\$17.4 - \$23.6 Million	\$57.1 - \$77.3 Million

	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	-	\$1.1 - \$1.5 Million	\$18.5 - \$25.1 Million	\$75.7 - \$102.4 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

SOUTH SQUARE

SOUTH SQUARE	2027	2037	2047	2057
Station Area	265 Acres			
Development Concept Area	102 Acres			
Baseline Property Value (2018)	\$155.9 - \$211.0 Million	\$128.7 - \$174.2 Million	\$96.3 - \$130.3 Million	\$79.5 - \$107.6 Million
Forecast Property Value	\$260.9 - \$353.0 Million	\$268.6 - \$363.4 Million	\$396.4 - \$536.4 Million	\$356.5 - \$482.3 Million
Net New Property Value	\$105.0 - \$142.0 Million	\$139.9 - \$189.2 Million	\$300.1 - \$406.1 Million	\$277.0 - \$374.8 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$2.0 - \$2.7 Million	\$1.6 - \$2.2 Million	\$1.2 - \$1.7 Million	\$1.0 - \$1.4 Million
Forecast Annual Tax Revenue	\$3.4 - \$4.5 Million	\$3.5 - \$4.7 Million	\$5.1 - \$6.9 Million	\$4.6 - \$6.2 Million
Net New Annual Tax Revenue	\$1.4 - \$1.8 Million	\$1.8 - \$2.5 Million	\$3.9 - \$5.3 Million	\$3.6 - \$4.9 Million
Baseline Accumulated Tax Revenue	\$23.4 - \$31.6 Million	\$18.3 - \$24.7 Million	\$14.2 - \$19.2 Million	\$11.3 - \$15.3 Million
Forecast Accumulated Tax Revenue	\$31.5 - \$42.6 Million	\$35.2 - \$47.6 Million	\$39.9 - \$54.0 Million	\$51.3 - \$69.3 Million
Net New Accumulated Tax Revenue (Between Years)	\$8.1 - \$11.0 Million	\$16.9 - \$22.9 Million	\$25.7 - \$34.8 Million	\$40.0 - \$54.1 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$8.1 - \$11.0 Million	\$25.0 - \$33.9 Million	\$50.8 - \$68.7 Million	\$90.7 - \$122.8 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

LASALLE STREET

LASALLE STREET	2027	2037	2047	2057
Station Area	337 Acres			
Development Concept Area	106 Acres			
Baseline Property Value (2018)	\$306.8 - \$415.1 Million	\$253.3 - \$342.8 Million	\$189.5 - \$256.4 Million	\$156.5 - \$211.7 Million
Forecast Property Value	\$313.5 - \$424.1 Million	\$328.8 - \$444.9 Million	\$353.3 - \$478.0 Million	\$330.0 - \$446.5 Million
Net New Property Value	\$6.6 - \$9.0 Million	\$75.5 - \$102.1 Million	\$163.8 - \$221.6 Million	\$173.6 - \$234.8 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$3.6 - \$4.8 Million	\$3.0 - \$4.0 Million	\$2.2 - \$3.0 Million	\$1.8 - \$2.5 Million
Forecast Annual Tax Revenue	\$3.7 - \$4.8 Million	\$3.0 - \$4.0 Million	\$2.2 - \$3.0 Million	\$1.8 - \$2.5 Million
Net New Annual Tax Revenue	\$90,000 - \$120,000	\$970,000 - \$1.3 Million	\$2.1 - \$2.9 Million	\$2.3 - \$3.1 Million
Baseline Accumulated Tax Revenue	\$42.1 - \$56.9 Million	\$32.8 - \$44.4 Million	\$25.6 - \$34.6 Million	\$20.3 - \$27.4 Million
Forecast Accumulated Tax Revenue	\$42.8 - \$58.0 Million	\$38.7 - \$52.4 Million	\$42.6 - \$57.7 Million	\$42.7 - \$57.8 Million
Net New Accumulated Tax Revenue (Between Years)	\$780,000 - \$1 Million	\$5.9 - \$8.0 Million	\$17.1 - \$23.1 Million	\$22.4 - \$30.3 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$780,000 - \$1.1 Million	\$6.7 - \$9.0 Million	\$23.8 - \$32.1 Million	\$46.2 - \$62.5 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

DUKE/VA MEDICAL CENTERS

DUKE/VA	2027	2037	2047	2057
Station Area	63 Acres			
Development Concept Area	15 Acres			
Baseline Property Value (2018)	\$74.9 - \$101.3 Million	\$61.8 - \$83.7 Million	\$46.3 - \$62.6 Million	\$38.2 - \$51.7 Million
Forecast Property Value	\$74.9 - \$101.3 Million	\$64.3 - \$87.0 Million	\$86.9 - \$117.5 Million	\$89.4 - \$121.0 Million
Net New Property Value	-	\$2.5 - \$3.3 Million	\$40.6 - \$54.9 Million	\$51.2 - \$69.3 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$100,000 - \$140,000	\$80,000 - \$110,000	\$60,000 - \$90,000	\$50,000 - \$70,000
Forecast Annual Tax Revenue	\$100,000 - \$140,000	\$90,000 - \$120,000	\$590,000 - \$790,000	\$740,000 - \$1.0 Million
Net New Annual Tax Revenue	-	-	\$520,000 - \$710,000	\$680,000 - \$930,000
Baseline Accumulated Tax Revenue	\$1.2 - \$1.6 Million	\$940,000 - \$1.3 Million	\$730,000 - \$990,000	\$580,000 - \$780,000
Forecast Accumulated Tax Revenue	\$1.2 - \$1.6 Million	\$960,000 - \$1.3 Million	\$5.5 - \$7.4 Million	\$6.7 - \$9.1 Million
Net New Accumulated Tax Revenue (Between Years)	-	\$20,000 - \$30,000	\$4.8 - \$6.4 Million	\$6.1 - \$8.3 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	-	\$20,000 - \$30,000	\$4.8 - \$6.5 Million	\$10.9 - \$14.7 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

NINTH STREET

NINTH STREET	2027	2037	2047	2057
Station Area	416 Acres			
Development Concept Area	88 Acres			
Baseline Property Value (2018)	\$319.6 - \$432.4 Million	\$61.8 - \$83.7 Million	\$46.3 - \$62.6 Million	\$38.2 - \$51.7 Million
Forecast Property Value	\$319.6 - \$432.4 Million	\$475.1 - \$642.8 Million	\$508.3 - \$687.7 Million	\$434.1 - \$587.4 Million
Net New Property Value	-	\$211.3 - \$285.8 Million	\$310.9 - \$420.6 Million	\$271.2 - \$366.9 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$2.7 - \$3.7 Million	\$2.3 - \$3.1 Million	\$1.7 - \$2.3 Million	\$1.4 - \$1.9 Million
Forecast Annual Tax Revenue	\$2.7 - \$3.7 Million	\$5.0 - \$6.8 Million	\$5.8 - \$7.9 Million	\$5.0 - \$6.7 Million
Net New Annual Tax Revenue	-	\$2.7 - \$3.7 Million	\$4.1 - \$5.6 Million	\$3.6 - \$4.9 Million
Baseline Accumulated Tax Revenue	\$32.1 - \$43.4 Million	\$25.0 - \$33.9 Million	\$19.5 - \$26.4 Million	\$15.5 - \$20.9 Million
Forecast Accumulated Tax Revenue	\$32.1 - \$43.4 Million	\$31.0 - \$42.0 Million	\$60.5 - \$81.9 Million	\$54.4 - \$73.6 Million
Net New Accumulated Tax Revenue (Between Years)	-	\$6.0 - \$8.1 Million	\$41.0 - \$55.5 Million	\$38.9 - \$52.7 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	-	\$6.0 - \$8.1 Million	\$47.0 - \$63.6 Million	\$85.9 - \$116.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

BUCHANAN BOULEVARD

BUCHANAN BLVD	2027	2037	2047	2057
Station Area	197 Acres			
Development Concept Area	21 Acres			
Baseline Property Value (2018)	\$170.8 - \$231.1 Million	\$141.0 - \$190.8 Million	\$105.5 - \$142.7 Million	\$87.1 - \$117.8 Million
Forecast Property Value	\$195.3 - \$264.2 Million	\$173.6 - \$234.8 Million	\$158.7 - \$214.7 Million	\$131.0 - \$177.3 Million
Net New Property Value	\$24.5 - \$33.1 Million	\$32.6 - \$44.0 Million	\$53.2 - \$72.0 Million	\$43.9 - \$59.4 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$1.3 - \$1.8 Million	\$1.1 - \$1.5 Million	\$810,000 - \$1.1 Million	\$670,000 - \$900,000

Forecast Annual Tax Revenue	\$1.6 - \$2.2 Million	\$1.5 - \$2.0 Million	\$1.5 - \$2.1 Million	\$1.3 - \$1.7 Million
Net New Annual Tax Revenue	\$340,000 - \$450,000	\$410,000 - \$560,000	\$720,000 - \$970,000	\$590,000 - \$800,000
Baseline Accumulated Tax Revenue	\$15.4 - \$20.8 Million	\$12.0 - \$16.2 Million	\$9.3 - \$12.6 Million	\$7.4 - \$10.0 Million
Forecast Accumulated Tax Revenue	\$19.3 - \$26.1 Million	\$15.6 - \$21.1 Million	\$15.2 - \$20.5 Million	\$14.0 - \$18.9 Million
Net New Accumulated Tax Revenue (Between Years)	\$3.9 - \$5.3 Million	\$3.5 - \$4.8 Million	\$5.8 - \$7.9 Million	\$6.6 - \$8.9 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$3.9 - \$5.3 Million	\$7.5 - \$10.1 Million	\$13.3 - \$18.0 Million	\$19.9 - \$26.9 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

DURHAM STATION

DURHAM STATION	2027	2037	2047	2057
Station Area	309 Acres			
Development Concept Area	51 Acres			
Baseline Property Value (2018)	\$663.0 - \$897.0 Million	\$547.4 - \$740.6 Million	\$409.5 - \$554.0 Million	\$338.1 - \$457.4 Million
Forecast Property Value	\$1.2 - \$1.6 Billion	\$1.0 - \$1.4 Billion	\$780.5 - \$1.1 Billion	\$654.6 - \$885.6 Million
Net New Property Value	\$550.9 - \$745.4 Million	\$496.1 - \$671.2 Million	\$371.1 - \$502.0 Million	\$316.5 - \$428.2 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$4.7 - \$6.4 Million	\$3.9 - \$5.3 Million	\$2.9 - \$4.0 Million	\$2.4 - \$3.3 Million
Forecast Annual Tax Revenue	\$12.3 - \$16.7 Million	\$10.6 - \$14.3 Million	\$7.9 - \$10.7 Million	\$6.7 - \$9.1 Million
Net New Annual Tax Revenue	\$7.6 - \$10.3 Million	\$6.7 - \$9.1 Million	\$5.0 - \$6.8 Million	\$4.3 - \$5.8 Million
Baseline Accumulated Tax Revenue	\$55.5 - \$75.1 Million	\$43.3 - \$58.6 Million	\$33.7 - \$45.6 Million	\$26.8 - \$36.2 Million
Forecast Accumulated Tax Revenue	\$117.9 - \$159.5 Million	\$116.7 - \$157.9 Million	\$91.6 - \$123.9 Million	\$74.3 - \$100.5 Million
Net New Accumulated Tax Revenue (Between Years)	\$62.4 - \$84.4 Million	\$73.4 - \$99.3 Million	\$57.9 - \$78.3 Million	\$47.6 - \$64.4 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$62.4 - \$84.4 Million	\$135.8 - \$183.7 Million	\$193.6 - \$262.0 Million	\$241.2 - \$326.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

DILLARD STREET

DILLARD STREET	2027	2037	2047	2057
Station Area	312 Acres			
Development Concept Area	47 Acres			
Baseline Property Value (2018)	\$368.2 - \$498.2 Million	\$304.0 - \$411.3 Million	\$227.4 - \$307.7 Million	\$187.7 - \$254.0 Million
Forecast Property Value	\$643.1 - \$870.1 Million	\$672.5 - \$909.9 Million	\$573.9 - \$776.5 Million	\$495.2 - \$670.0 Million
Net New Property Value	\$274.9 - \$372.0 Million	\$368.5 - \$498.6 Million	\$346.5 - \$468.8 Million	\$307.4 - \$415.9 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$880,000 - \$1.2 Million	\$720,000 - \$980,000	\$540,000 - \$730,000	\$450,000 - \$600,000
Forecast Annual Tax Revenue	\$4.6 - \$6.3 Million	\$5.6 - \$7.6 Million	\$5.2 - \$7.0 Million	\$4.6 - \$6.2 Million
Net New Annual Tax Revenue	\$3.8 - \$5.1 Million	\$4.9 - \$6.6 Million	\$4.7 - \$6.3 Million	\$4.1 - \$5.6 Million
Baseline Accumulated Tax Revenue	\$10.3 - \$13.9 Million	\$8.0 - \$10.8 Million	\$6.2 - \$8.4 Million	\$5.0 - \$6.7 Million
Forecast Accumulated Tax Revenue	\$48.4 - \$65.4 Million	\$55.2 - \$74.7 Million	\$52.8 - \$71.4 Million	\$50.6 - \$68.5 Million

Net New Accumulated Tax Revenue (Between Years)	\$38.1 - \$51.5 Million	\$47.2 - \$63.8 Million	\$46.5 - \$63.0 Million	\$45.7 - \$61.8 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$38.1 - \$51.5 Million	\$135.8 - \$183.7 Million	\$193.6 - \$262.0 Million	\$241.2 - \$326.3 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

ALSTON AVENUE

ALSTON AVENUE	2027	2037	2047	2057
Station Area	328 Acres			
Development Concept Area	83 Acres			
Baseline Property Value (2018)	\$53.4 - \$72.3 Million	\$44.1 - \$59.7 Million	\$33.0 - \$44.6 Million	\$27.2 - \$36.8 Million
Forecast Property Value	\$274.4 - \$371.3 Million	\$259.2 - \$350.6 Million	\$242.4 - \$327.9 Million	\$211.7 - \$286.4 Million
Net New Property Value	\$221.0 - \$299.0 Million	\$215.1 - \$291.0 Million	\$209.4 - \$283.3 Million	\$184.5 - \$249.6 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$400,000 - \$540,000	\$330,000 - \$450,000	\$250,000 - \$340,000	\$200,000 - \$280,000
Forecast Annual Tax Revenue	\$3.3 - \$4.4 Million	\$3.1 - \$4.2 Million	\$3.0 - \$4.0 Million	\$2.6 - \$3.5 Million
Net New Annual Tax Revenue	\$2.9 - \$3.9 Million	\$2.8 - \$3.8 Million	\$2.7 - \$3.7 Million	\$2.4 - \$3.3 Million
Baseline Accumulated Tax Revenue	\$4.7 - \$6.4 Million	\$3.7 - \$5.0 Million	\$2.9 - \$3.9 Million	\$2.3 - \$3.1 Million
Forecast Accumulated Tax Revenue	\$23.7 - \$32.1 Million	\$30.8 - \$41.6 Million	\$32.5 - \$44.0 Million	\$29.0 - \$39.2 Million
Net New Accumulated Tax Revenue (Between Years)	\$19.0 - \$25.8 Million	\$21.7 - \$36.7 Million	\$29.7 - \$40.1 Million	\$26.7 - \$36.1 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$19.0 - \$25.8 Million	\$46.1 - \$62.4 Million	\$75.8 - \$102.5 Million	\$102.5 - \$138.6 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

NCCU STATION

NCCU	2027	2037	2047	2057
Station Area	442 Acres			
Development Concept Area	48 Acres			
Baseline Property Value (2018)	\$82.0 - \$111.0 Million	\$67.7 - \$91.6 Million	\$50.7 - \$68.5 Million	\$41.8 - \$56.6 Million
Forecast Property Value	\$173.5 - \$234.8 Million	\$347.0 - \$469.4 Million	\$259.5 - \$351.1 Million	\$214.3 - \$289.9 Million
Net New Property Value	\$91.5 - \$123.8 Million	\$279.2 - \$377.8 Million	\$208.9 - \$282.6 Million	\$172.5 - \$233.3 Million
	2018 - 2027	2028 - 2037	2038 - 2047	2048 - 2057
Baseline Annual Tax Revenue	\$280,000 - \$370,000	\$230,000 - \$310,000	\$170,000 - \$230,000	\$140,000 - \$190,000
Forecast Annual Tax Revenue	\$1.6 - \$2.1 Million	\$4.0 - \$5.4 Million	\$3.0 - \$4.0 Million	\$2.5 - \$3.3 Million
Net New Annual Tax Revenue	\$1.3 - \$1.8 Million	\$3.7 - \$5.1 Million	\$2.8 - \$3.8 Million	\$2.3 - \$3.1 Million
Baseline Accumulated Tax Revenue	\$3.2 - \$4.4 Million	\$2.5 - \$3.4 Million	\$2.0 - \$2.7 Million	\$1.6 - \$2.1 Million
Forecast Accumulated Tax Revenue	\$5.9 - \$8.0 Million	\$43.8 - \$59.3 Million	\$34.3 - \$46.4 Million	\$27.2 - \$36.8 Million
Net New Accumulated Tax Revenue (Between Years)	\$2.7 - \$3.6 Million	\$41.3 - \$55.9 Million	\$32.3 - \$43.7 Million	\$25.6 - \$34.7 Million
	2018 - 2027	2018 - 2037	2018 - 2047	2018 - 2057
Net New Accumulated Tax Revenue	\$2.7 - \$3.6 Million	\$44.0 - \$59.5 Million	\$76.3 - \$103.2 Million	\$101.9 - \$137.9 Million

Financial estimates are reported as discounted present value based on an inflation-adjusted discount rate of 2.5%.

Appendix H: TOD Planning & Zoning Principles for Chapel Hill Station Areas

Transit-Oriented Development (TOD) describes neighborhoods that are wholly supportive of transit, but also many other community goals of walkability and access to jobs, services, and public spaces. Transit-Oriented Development is not simply development in proximity to transit; rather, TOD is a collection of complementary things, a neighborhood that has been shaped intentionally to provide choice in mobility and access. The physical configuration of Transit-Oriented Development includes: a mix of uses and housing types; an active public realm with comfortable public spaces; a highly walkable environment where pedestrian safety, comfort, and convenience is prioritized over the automobile; less parking than the community average, and a greater number of places for people to live and work, in addition to increased property tax revenues and relatively lower costs of service per person. Transit-Oriented Development done well aligns transit investments with a series of development projects consistent with the community’s vision for how it wants to grow, creating vibrant activity centers of different uses, contributing to affordable and accessible housing, prioritizing pedestrian and bicycle-friendly station-area neighborhoods, and promoting economic development. TOD responds to shifting real estate preferences where an increasing number of people are choosing to live and businesses locating near high-value jobs in walkable, mixed-use, transit accessible locations.

The planning and implementation of successful Transit-Oriented Development involves many small decisions to ensure development is consistent with broad TOD principles. This policy guide addresses those fundamental TOD principles and their primary attributes and is tailored to opportunities for Transit-Oriented Development in the Town of Chapel Hill. It is intended to be a helpful guide for future community conversations and decisions pertaining to land use in and around the light rail station areas. This guide can also be used to communicate expectations with property owners and developers, and as a means to evaluate specific projects and plans for consistency with TOD best practice principles.

TOD policies and regulations should directly influence the land use, connectivity, urban form, and overall performance of a place. Proximity alone is insufficient; rather, the built environment must be supportive of and informed by the opportunities transit offers to improve mobility and access, achieve community goals, and facilitate economic development. If the station area core is configured in close adherence to these TOD principles, the opportunity for viable Transit-Oriented Development extends outward to the entire district surrounding a station, up to a distance of a ten-minute walk from the station entrance. Benefits for residential uses will extend even further if the built environment is conducive to walkability. Each successful TOD district must reflect the local context of its surroundings with a mix of activities while expressing the following key principles.

PRINCIPLE 1

A greater amount of activity than the community on average

The number of people who live in, work in, and visit a TOD matters. TOD functions the best when

there are enough people living and working within a walkable area to support retail and services. There is threshold at which the amount of both people and destinations, in combination with pleasant urban design, make it not only possible, but desirable for an individual to walk, bike, or take transit to run errands, grab lunch, catch a movie, or go to work. With well-designed streets including the adjacent building frontages, good pedestrian connections, and appropriately-sized public spaces, larger amounts of places to live and work support greater ridership and greater viability for other amenities within a five to 10 minute walk of transit. When TOD does not reach this critical threshold of activity, businesses will have a hard time staying open and there will be less pedestrian-level activity, which in turn will make walking a less enjoyable experience.

Principle Attributes:

- Highest amounts of activity immediately around the station, taper down to transition to less activity and smaller building types at the edges of the TOD district to match adjoining neighborhoods.
- Site design for major projects should allow for greatest amounts of activity over time, preserving certain sites, or allowing them to build up over time until the greatest desirable levels of activity are viable.
- Retail and services uses located closest to the station as well as office to ensure a sufficient level of activity to support pedestrian-level businesses.

PRINCIPLE 2

A compact, high quality pedestrian-oriented environment including walkable streets and a well-connected public realm

Vibrant neighborhoods are convenient and comfortable places for pedestrians with streets designed accordingly. Subtle design factors focused on providing a pleasant environment for the pedestrian are essential for enhancing walkability. Building locations and proximity to the street, and treatment of the interface between new development projects and the sidewalk are critical items to address in a district plan; land uses are important but secondary to design standards shaping streets which serve as the prevailing portion of the public realm. Street designs must be determined according to context, that is, according to the intended character of the adjacent built environment and with a thoroughly supportive pedestrian realm.

Principle Attributes:

- Places designed for walking, with well-connected blocks sized for a five-minute walk around the block. Blocks lengths generally are no more than 450 feet in length - especially closest to the station area - with a perimeter of no more than 1,800 feet.
- Building entrances oriented for easy access from the public sidewalk. Building entrances, even those for stairway access, should be designed as features rather than afterthoughts.
- Frequently spaced building entrances whether they serve ground level retail or ground level residences.
- Curb cuts are minimized and, where possible, co-located in a single area. If possible, curb cuts should be placed on secondary streets rather than on bike and pedestrian priority streets.
- Pedestrian paths and mid-block passageways supplementing the street grid are encouraged.
- New development is based on National Association of City Transportation Officials (NACTO) urban street design principles. Existing thoroughfares incorporated as part of new Transit-Oriented Development are redesigned based on the same principles.
- Sidewalks are amply sized, and wider as activity increases.
- Sidewalk extensions that shorten crossing distances and slow turning vehicles
- Traffic signals with leading pedestrian intervals and short wait times for pedestrians
- Street trees are plentiful, softening the urban environment by providing shade while providing other environmental benefits and serving as a buffer between vehicular lanes and pedestrian zones.
- Pedestrian-scale lighting enhances safety and security.
- High-quality architectural design and street-level detail enhances a sense of place and by

relating to the pedestrian environment. Elements to consider include:

- Recessed storefront entries and other means to articulate building entrances
- Awnings and canopies, especially at building entrances
- Large windows that allow passers-by to see into non-residential ground floors
- Pedestrian-level (first 10 feet of height) architectural flourishes
- Generous allowances for creative pedestrian-level signage

PRINCIPLE 3

Placemaking includes parks, civic spaces, purposeful public space, and public art

TOD’s relatively higher densities and the community’s broader goals for access to green space should be supported by a variety of parks and publicly available open spaces integrated into each station area. Combined with well-designed streets and imbued with meaning through public art, these spaces expand the public realm of each station area beyond streets. The public realm is then an essential and formative part of the identity of each neighborhood, richly contributing to the sense of place and identity as part of Chapel Hill.

Principle Attributes:

- Typically 10 to 15% of the land area in a TOD district is dedicated to public space. See the TOD Guidebook for a full listing of walkable public space types.
- Parks of various sizes are dispersed across the neighborhood, with at least one park within a five-minute walk of every resident.
- The size of public spaces matters. Bigger is not always better. Spaces should be designed, sized, and shaped to be a part of the streetscape and adjoining buildings, especially when those buildings can have an active front on those public spaces
- Design spaces to be conducive to spontaneous use by people walking about as a part of their daily routine. Walkable public spaces differ in function from larger neighborhood and community parks where active and organized recreation is a larger component of design
- A range of formal and informal gathering places are configured and located to maximize the relationship with adjacent uses.
- Parks may be a part of a comprehensive approach to traffic calming.
- Public art is integrated with other placemaking improvements.

PRINCIPLE 4

A mix of uses

Creating a mix of land uses provides physical variety and economic diversity, encouraging people to walk to meet their needs regardless of how they arrive at the TOD. Since the commute trip only comprises 20% of trips made by a typical household, it is important to ensure the other 80% of trips (e.g. for shopping, child care, and services) can be completed without a car in order to maximize the reduced auto dependence opportunities created by station areas. Key is locating compatible and complementary uses close together, making them easily accessible to each other in order to improve walkability and reduce automobile use.

One of the great benefits of transit stations is the access to new businesses and services that is created by connecting other nearby neighborhoods to the station area. Providing a mix of uses provides additional goods and services within walking distance of existing neighborhoods provides new options to those neighborhoods and has the effect of shortening the perceived walking distance to the station for transit users as long as the public realm of streets and pedestrian connections are

well-designed. Amenities and services provided at nearby stations and at nearby bus stops should be considered in determining complementary uses relative to the surrounding neighborhoods and the corridor as a whole.

Principle Attributes:

- A mix of uses including a variety of housing types, retail, office, services, amenities, and civic uses, tailored across the different station areas according to the surrounding infrastructure and neighborhood context.
- Where feasible, “active” first floor uses serve pedestrians along key street edges.
- A mix of vertical and horizontal mixed-use.
- Land uses such as ground level, sidewalk serving retail and services rather than retail set back behind parking. Generally, uses should emphasize pedestrians and de-emphasize motorists within 1/4 mile of the station.
- Auto-oriented uses such as drive-through facilities are prohibited nearest to the station.
- Work-live building types and other job-incubating uses are encouraged at public street frontages along the ground floor, especially where retail viability is limited.
- Residential uses in smaller building types such as two and three story townhomes.

PRINCIPLE 5

Limited, managed parking

One of the most challenging and important aspects of any TOD district is right-sizing parking when an area is evolving to become less auto dependent. Balancing between near-term market demands while capitalizing on long term travel behaviors must be managed successfully to avoid costly and space consuming excessive parking, among other concerns. By creating a more limited parking supply, and moving parking away from surface parking to managed on-street parking and shared parking structures, residents, customers and employees are encouraged to use transit, bike, and walk within a station area. The Town plays a critical role in not just addressing the supply, location, and design of parking in the district, but the management of it as a district resource over time.

Principle Attributes:

- Parking is unbundled and provided on a district basis (i.e., via shared uses and coordinated management) rather than building by building. Ultimately, parking should be managed by the Town or a business district as a shared resource.
- No minimum parking requirements; rather, parking minimums are governed by financing requirements.
- Reduced maximum parking requirements.
- Parking facilities are located behind buildings with minimal curb cuts. Parking is generally in parking structures while adjacent, enfronting buildings have active ground floor uses oriented to the street. Parking is screened from adjacent land uses except other parking.
- On-street parking generally is included on all key streets in the station area.
- Parking design, location and access is integrated with the overall station area with intentional relationships between streetscapes and circulation routes.
- Parking in early-stage station area developments requiring more plentiful parking is unbundled from housing costs and designed to be readily shared with other later projects to reduce overall parking ratio of the station area.
- The district uses paid parking and time-limited free parking.

PRINCIPLE 6

Meaningful community engagement

Engaging a wide range of community members is an important part of the planning process to ensure the final plan not only reflects community needs and desires but makes them central to the plan itself.

Local context is key in creating a successful station area plan that acknowledges existing character of areas beyond the district while defining parameters and guiding TOD transformations. Meaningful community engagement builds community buy-in, and subsequently, ownership of the plan when it accurately captures community interests. It is critical to engage with community members in various ways to reach the widest audience possible, not just those who are consistently present and engaged in local discourse. Community members who typically attend evening or other regularly scheduled meetings may not reflect the view points of other local community members who are unable to do so. It is also important to engage local businesses, institutions, and others with a stake in community reinvestment and development.

Principle Attributes:

- Strong communication that includes the impacts of changes to land use and transportation plans, fiscal impacts and opportunities, and education on market and economic realities and a framework for considering trade-offs. A multi-pronged outreach strategy that reaches and engages all viewpoints from the community, including underrepresented and actively engaged residents alike throughout the various phases of listening, ideating, drafting, adopting, and implementing the plan.
- Advisory boards and commissions are included in the broader community engagement process.

PRINCIPLE 7

Public leadership

The most successful TOD projects have occurred when the public sector has taken on a primary leadership role and initiative before the private sector is willing to commit time and money. Public leadership by elected officials, businesses, community organizations, and residents is needed as a station area is being planned and developed, and dedicated public champions will need to manage the evolution of a changing station area throughout its life span.

Principle Attributes:

- Station Area Plans articulate the community benefits of TOD to achieve community interests pertaining to uses, intensities, amenities, connectivity, and mobility choice so that these are understood over time.
- Linkages between broader community goals and TOD plans are clearly communicated.
- Clear prioritization of regulatory changes, infrastructure investments, and other policy adjustments to maximize the benefit to the community, based on its interests.
- Strategic public improvements identified in station area plans are incorporated into the Town’s capital improvements budget.
- Necessary Town staff and capital resources are dedicated to carry out implementation.
- Commitments to fully participate and sponsor the engagement process to determine community interests, create regulations that support those interests, and remove barriers that inhibit property owners, builders, and developers from achieving those interests. Simply put, changing expectations without changing the rules will result in projects that do not fully meet those expectations.
- Leadership includes implementing organizations such as Business Improvement Districts, Parking Management Districts, nearby institutions and others with a long term stake in the process.
- Leadership seeks early engagement and continued relationships with developers to encourage and facilitate TOD while communicating clear expectations for community benefits.

PRINCIPLE 8

Implementation of Station Area Plans

Successful implementation of a station area plan is perhaps the most challenging phase of the process. The Town should prepare for implementation during the planning phase by exploring and establishing solid financial strategies, identifying catalytic sites and infrastructure elements, and establishing a data-driven story about the transformation likely to occur so that new political and community leaders become familiar with the associated benefits of TOD in the specific future focus areas.

Notably, access to transit increases market demand especially for office. A 2017 study Jones Lang LaSalle shows that “U.S. submarkets with access to public transportation are achieving rents that are almost 80 percent higher than the broader office market, driven by changing commuting patterns and an intensifying battle by companies to recruit and retain employees.”¹ This change in value can be leveraged, with the right approaches for implementation, to help finance critical public needs such as:

- Affordable housing
- Street improvements
- Transit improvements
- Parks, libraries, schools, and other public infrastructure
- Programmatic investments, such as business improvement districts, parking management districts and other ongoing services to an area.

Because increases in land values may occur concurrently with adoption of a specific station area plan, it is important to identify these public needs up front, to establish the potential financing mechanisms to pay for them, and adopt any applicable zoning policies, financing districts (e.g., community facilities districts, benefit assessment districts, enhanced infrastructure financing districts), development impact fees, or other such value capture policies early in the process. Adopting these mechanisms later in the process may place an unfair burden on property owners who have already paid a higher land value for the premium rendered through transit access, and could generate additional political resistance to new financing mechanisms.

Principle Attributes:

- Plans identify and quantify public or shared district-wide needs.
- Plans identify potential funding and financing sources and assess feasibility.
- Synthetic value-capture mechanisms and resource allocations are established up front in station area plans, prior to introduction of projects or plans that change the market for development.
- Zoning-based mechanisms, such as increases in allowable density (where the market can support them) are considered in exchange for community benefits.

1 <http://www.theinvestor.jll/news/us/01/transit-rich-u-s-submarkets-fetch-80-percent-higher-rent/>.

