

March 2022

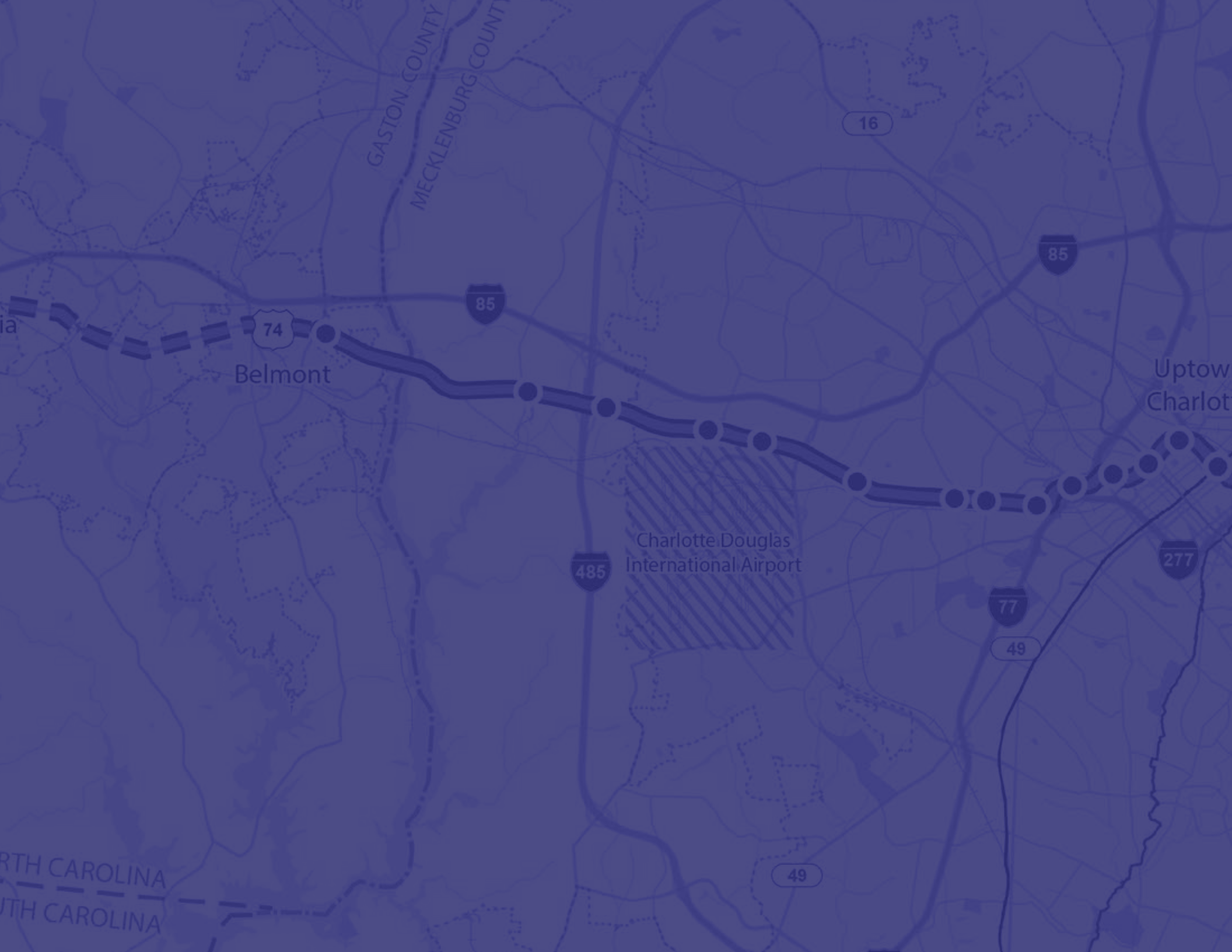
# LYNX STATION AREA TYPOLOGY MANUAL



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NORTH CAROLINA  
NORTH CAROLINA



# INTRODUCTION









# INTRODUCTION

The Station Typology Manual is intended to support the planning, design, and development of transit station sites and help prepare for future transit-oriented development (TOD) within and near transit stations. By thoughtfully connecting desired features to the surrounding land use context, sites can be designed to provide quality service based on current needs, catalyze future development, and create opportunities for integration into the surrounding built environment. This manual creates a consistent vocabulary for station area features and connects station site design to best practices for TOD by outlining the necessary and desirable elements for creating vibrant and successful transit-oriented places along the LYNX rapid transit system.

To support surrounding infrastructure development and preparation for TOD across the CATS LYNX rapid transit system, this manual is designed to complement the station site selection process and inform station area design considerations. It is important to note that this manual does not dictate transit design (e.g., track alignment, station platform location, etc.). Although specific examples may refer to the LYNX Silver Line, this document is applicable across all jurisdictions.



# KEY POLICIES

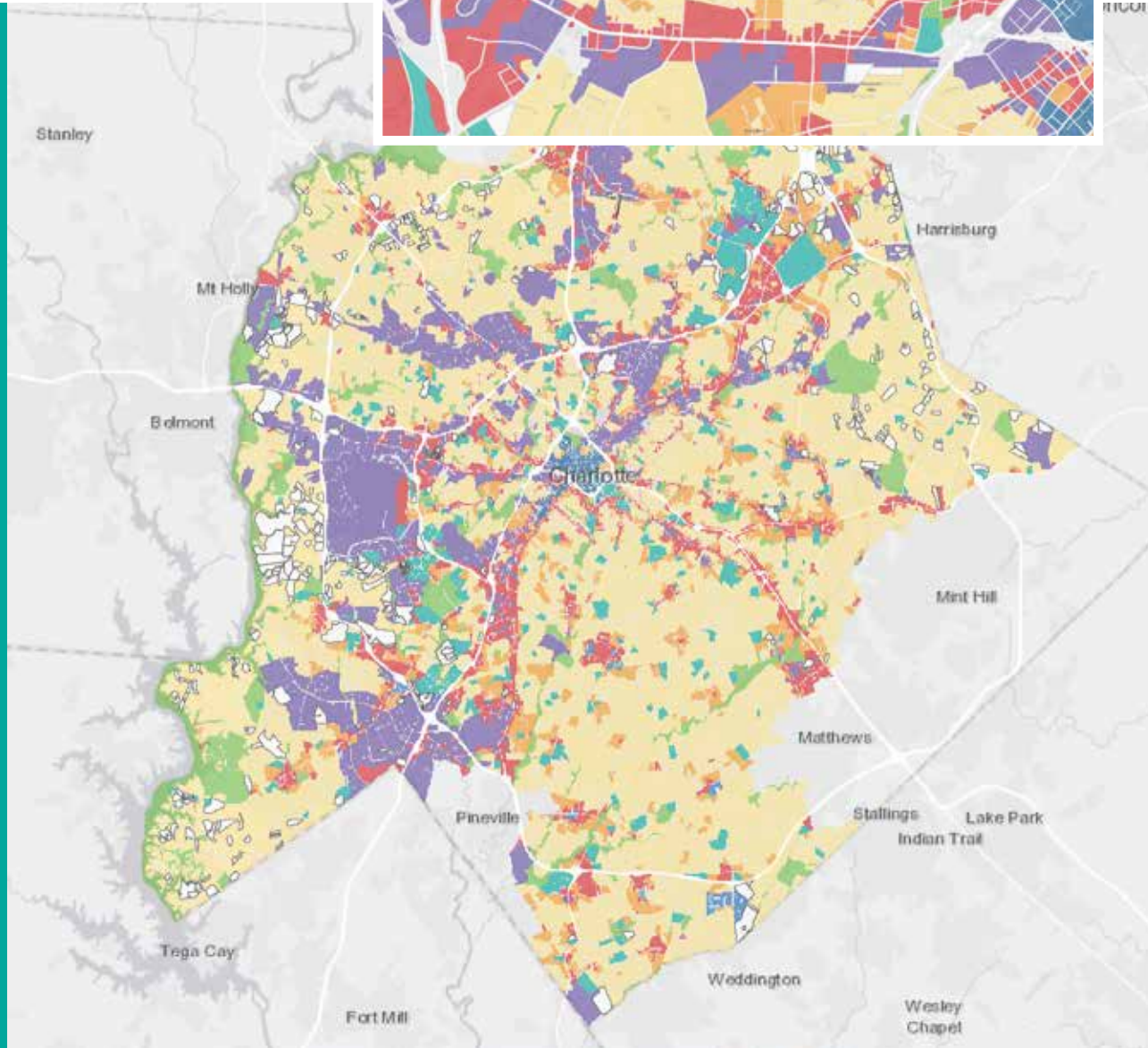
This manual was informed by these essential policies and plans:

## CHARLOTTE FUTURE 2040 COMPREHENSIVE PLAN + PLACE TYPES

The Charlotte Future 2040 Comprehensive Plan (CF2040) is a vision and living document that guides Charlotte's progress for the next 20 years. The plan sets a blueprint for equitable growth, defines and states Charlotte's community character, and provides a path to understand community goals and aspirations. In the comprehensive plan are 10 place types that Charlotte uses to define how the city will grow.

CF2040 sets a community-based vision and provides a policy framework for growth. The plan works with place types and has various policies, projects, and programs that work to preserve what is important to the Charlotte community as well as what will guide new investments and development for years to come. The comprehensive plan outlines a growth strategy that relies on continued investment and growth in and along premium transit corridors.

Current and future land use information from CF2040 informs definitions in the Station Area Typology Manual to better understand the current station area typologies as well as how those typologies may change over time.





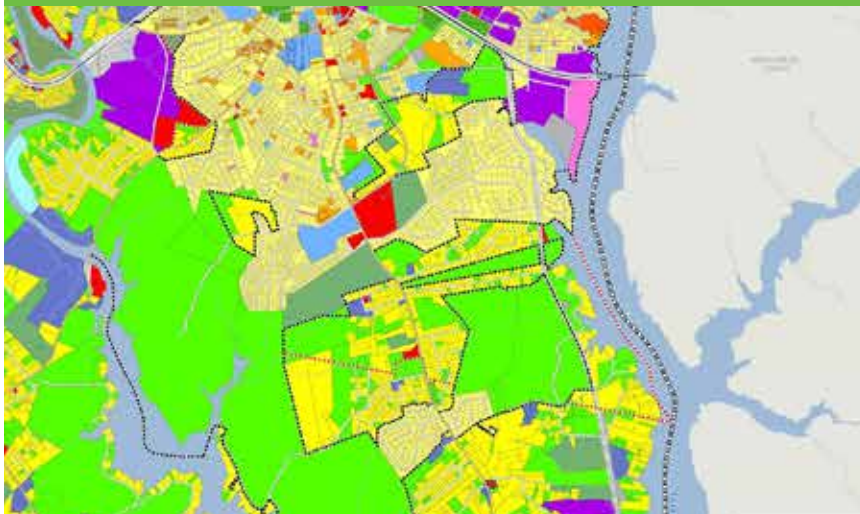
## CATS LIGHT RAIL DESIGN CRITERIA & URBAN DESIGN FRAMEWORK

The CATS Light Rail Design Criteria guided the design of the LYNX Silver Line project. These criteria set guidelines for architectural and engineering design aspects of stations, including parking facilities, utilities, buildings, light rail operations, and urban design.

The design of the LYNX Silver Line carefully considers potential noise and vibration impacts, historic preservation, visual intrusion, visual barriers, station access, continuity and transition of structures, separation of alignment, common system elements, and maintenance. The Silver Line's accessibility and sensory components present valuable opportunities for aesthetic enhancements. This typology manual, along with the Urban Design Framework, will help inform aesthetic design treatments along the Silver Line.

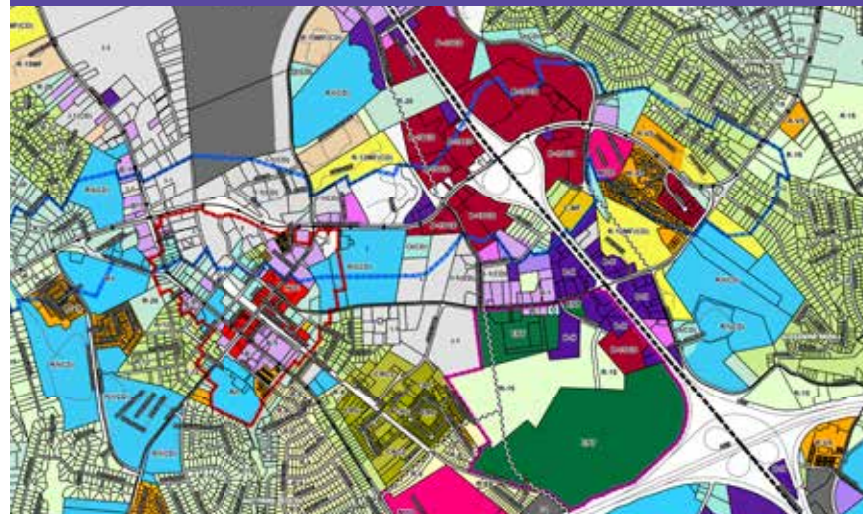
## BELMONT COMPREHENSIVE LAND USE PLAN

This comprehensive land use plan is an aspirational policy guide for how Belmont should manage land use change over the next 20 years. It contains a vision statement, guiding principles, a future land use map, goals, action statements, and a detailed implementation element, which together provide a blueprint for residents, developers, property owners, and City staff.



## MATTHEWS LAND USE PLAN

The Matthews Land Use Plan sets land development policies for the entire town. The plan includes general goals, objectives, and recommendations for each land use category and for each corridor or transition area. To reach its identified goals and objectives, the plan suggests tools for achieving and enforcing land use patterns. It also addresses long term sustainability, transit supportive developments, mixed use developments, and multi-modal transit.



# USERS OF THIS TYPOLOGY MANUAL



## CITY OF CHARLOTTE & CATS

The City of Charlotte and CATS are the primary users of this manual. The typology process was developed in conjunction with the LYNX Silver Line Corridor as well as other stations in future transit projects. These typologies set a common language for discussions about future stations and the qualities and specifics that go into planning each station.



## PARTNER JURISDICTIONS

Adjacent local jurisdictions can use these typologies when planning and designating station areas to ensure site development supports and enhances transit.



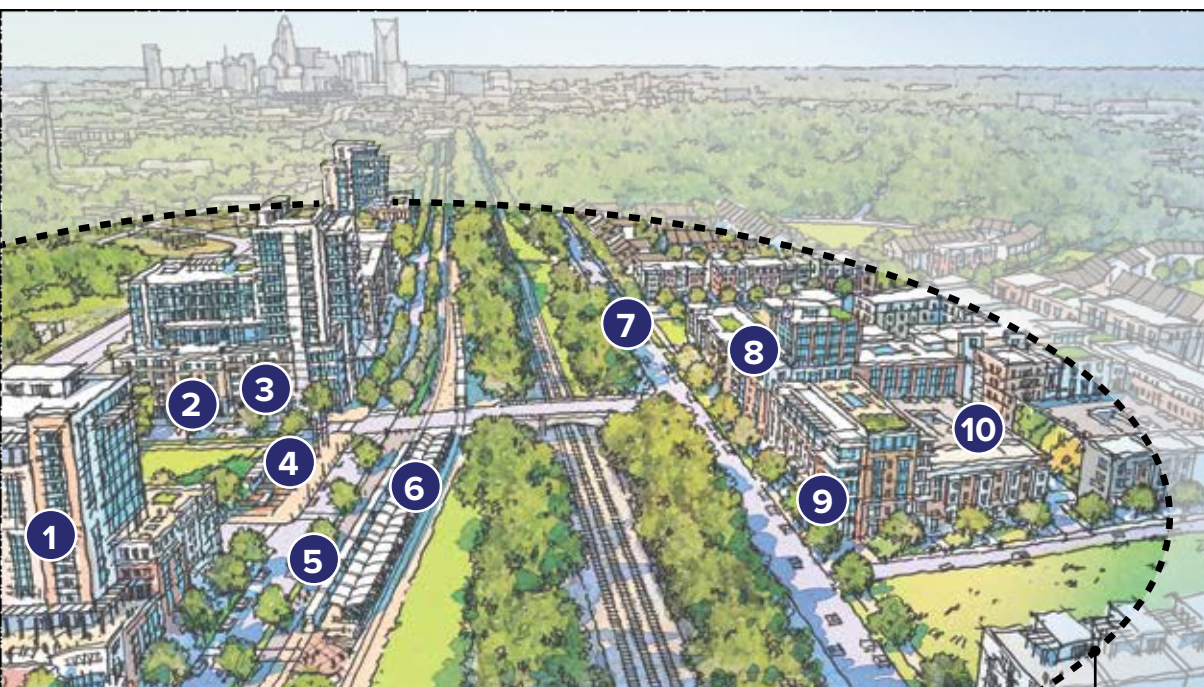
## DEVELOPERS

Developers can use these typologies to design successful TOD projects near CATS stations that are fully integrated into the existing community and transit network.

# FEATURES OF A SUCCESSFUL TOD

Successful station areas leverage the presence of transit to become vibrant community nodes by:

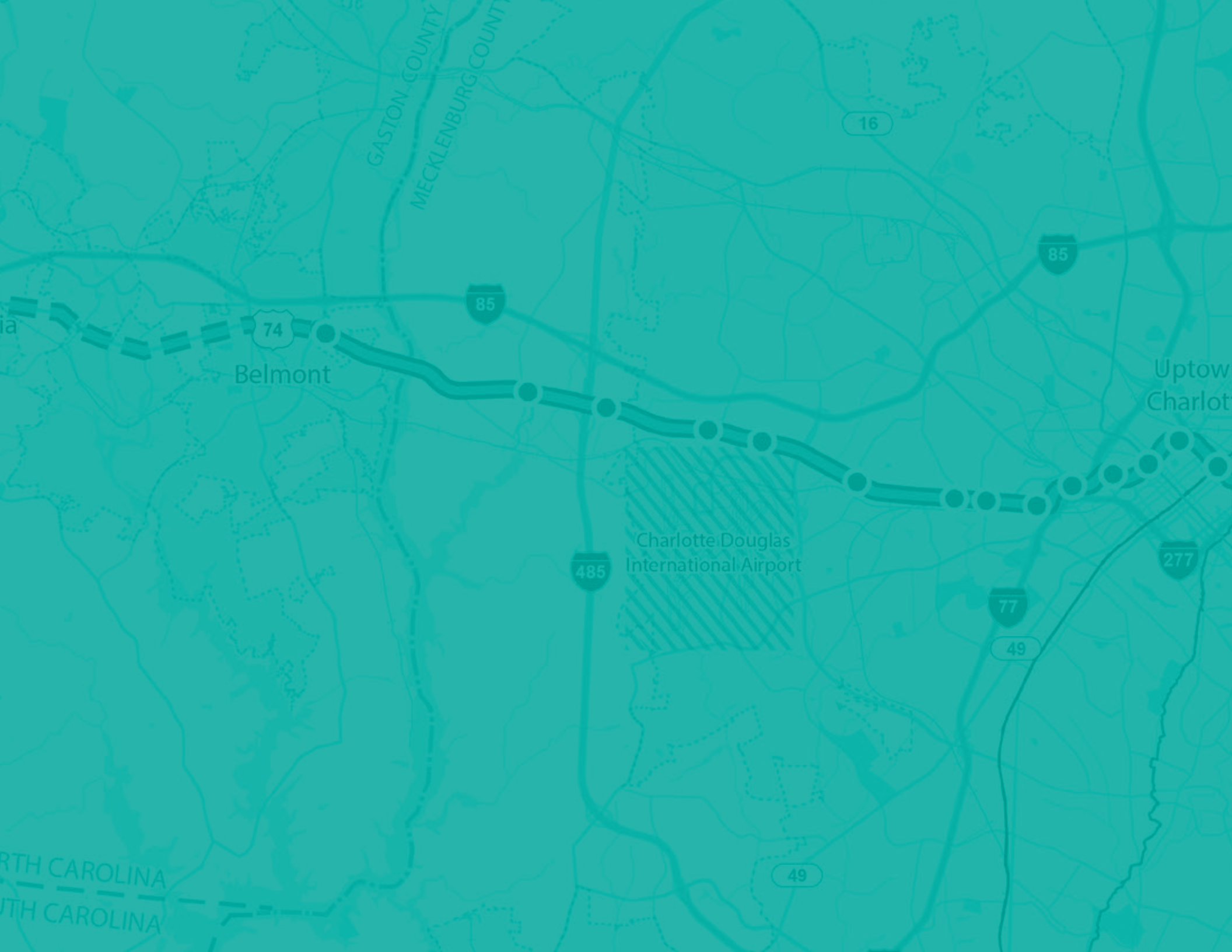
- Capitalizing upon the spatial relationship between high density development and transit demand by locating development near transit and providing transit access to high density development.
- Utilizing street, site, and building designs that prioritize active transportation.
- Introducing a diversity of land uses and elements, which contribute to a more vibrant place.



5 Minute Walk  
from the Station

- 1 A mix of complementary uses surround the station. The highest intensity and density developments are located closest to the station.
- 2 Key pedestrian walking streets have active ground-floor uses.
- 3 Effective wayfinding orients users to the station.
- 4 Station is fronting an open public space that acts as a community gathering space and shares amenities with surrounding TOD.
- 5 In some station types, designated pick-up and drop-off areas are provided for rideshare, and transit is accessible from the station.
- 6 The transit station and structure are designed to be a civic landmark for the community.
- 7 Connected networks of complete streets and paths provide safe pedestrian, bicycle, and vehicular access to the transit station.
- 8 Density steps down as TOD transitions to adjacent established neighborhoods.
- 9 Street, site, and building design prioritizes pedestrians.
- 10 Parking garages are behind mixed-use buildings and accessed from secondary streets.





Belmont

Charlotte Douglas  
International Airport

Uptown  
Charlotte

NORTH CAROLINA  
NORTH CAROLINA



# METHODOLOGY 2

# METHODOLOGY

## ABOUT

This chapter outlines and discusses the primary and secondary characteristics and features associated with each typology. It provides a consistent vocabulary to describe the features of stations and how they connect to the surrounding land use context. This document will not dictate transit design elements (e.g., track alignment, station platform location, etc.).

Station typology determinations are primarily driven by station access, notably current and planned vehicular access, parking facilities, and connections to transit. Typologies are also informed and influenced by the current and planned surrounding land use context. Because they are based on existing constraints and adopted future plans, typologies can change over time. Chapter 4 explores the evolution of station areas as well as why and how typologies change.

Design principles are provided to inform and compliment the station design and engineering process. The design of each site should be viewed as an opportunity to lay the groundwork for future TOD. Even if specific infrastructure cannot be immediately provided, sites can influence development directly—through publicly funded projects—and indirectly—through nearby private sector development.

The principles are a modular approach to station site design and should be applied based on the surrounding future land use context as defined by the Charlotte Future 2040 Comprehensive Plan's Place Types map.





# STATION AREA TYPOLOGY PRIMARY & SECONDARY FEATURES

Each station's area typology is determined by primary and secondary characteristics. Primarily, typology is driven by how transit customers access the station, available parking facilities at the station, and access to transit services at the station. Secondly, typology is influenced by urban design, placemaking, land use, and market factors.

## Primary Features



### Vehicular Access

Station area connections to, and integrated within, the road network, including proximity to local streets, arterial streets, or interstate access, can affect infrastructure provided at station sites for all modes. The surrounding street network influences TOD opportunities and decisions.



### Transit Connections

These features facilitate connections between lines or between modes and include on-street and curbside stops, designated bus layover areas, access to other premium transit, or connections to mobility hubs.



### Parking

Parking facilities are a primary determining factor of station typology and can be integral to the support and development of future TOD.



### Bike/Ped Accommodations

These features provide active transportation infrastructure, such as trails, sidewalks, and site integration into the surrounding bicycle network.



### Rideshare

These features facilitate connections to rideshare services through spaces like designated drop-off areas.



### Micromobility

These features provide infrastructure and space for parking or charging of small, single-person transportation equipment like e-scooters or bike-share stations.

# Land Use & Market Factors



## Place Types

Place Types serve as a guide for the desired form of future development. Notably, place types can be used to evaluate potential and likelihood for future TOD and should be used as the basis for understanding land use policies in the areas around transit stations. Although the designated place type may not directly affect the current station typology, the development a particular place type can cause change over time as new developments change the built environment.



## Market Opportunities

The existing built environment includes residential, industrial, office, and/or retail businesses. After a station is built, it can create new market opportunities based on the changing context. It may be appropriate to designate areas for preservation, infill development, and redevelopment.



## Housing Opportunities

Preserving, enhancing, and creating naturally-occurring affordable housing (NOAH) and minimizing displacement is a critical policy in most jurisdictions and generally applies at all station typologies.

## Principles to Guide Station Site Design Decisions

### Public Parking Design

Parking facilities provide an opportunity for future TOD. The design of any parking facility should consider how the modular organization of space can be converted into TOD in the future. Surface parking lots can establish a framework block structure. Structured parking can be designed with active ground-floor uses and reserve space for building wraps or podium development.

### Trail Network

The LYNX Blue Line Rail Trail is one of Charlotte's premier public spaces. In addition to providing access to stations, the trail serves as a public gathering space. Its surrounding TOD is now using the trail as its "front door." Integration of a LYNX Silver Line Rail Trail and other trails with the station area is critical for preserving active transportation access and encouraging TOD opportunities.

### Open Space

Open areas provide flexible public spaces for placemaking, which includes a variety of amenities such as seating and public art. Because they can be used for a variety of functions, public open spaces are key components of vibrant walkable environments. They support TOD by providing informal gathering spaces for people.

### Private Parking Design

Parking as part of private development should support future block structure and TOD development. Station site designs should consider the surrounding built environment and strive to integrate or align the site to create opportunities for future development within and adjacent to the site. Structured parking should support the integration of active ground-floor uses and reserve space for building wraps or podium development where feasible.

### Privately-Owned Public Space (POPS)

These open spaces are dedicated to public use and enjoyment and are owned and maintained by private property owners in exchange for density increases as part of the entitlement or permitting process. TOD processes, including public-private partnerships and private land development, can be used to leverage the development requirements to create POPS in transit station areas.

### Stormwater Design

Use a modular approach to stormwater facility design when locating them on the site. Ensure that stormwater BMP areas are placed in locations that do not preclude building pads fronting local streets, arterial streets, and primary internal streets. Consider life-cycle costs and incorporating green stormwater infrastructure (e.g., rain gardens).

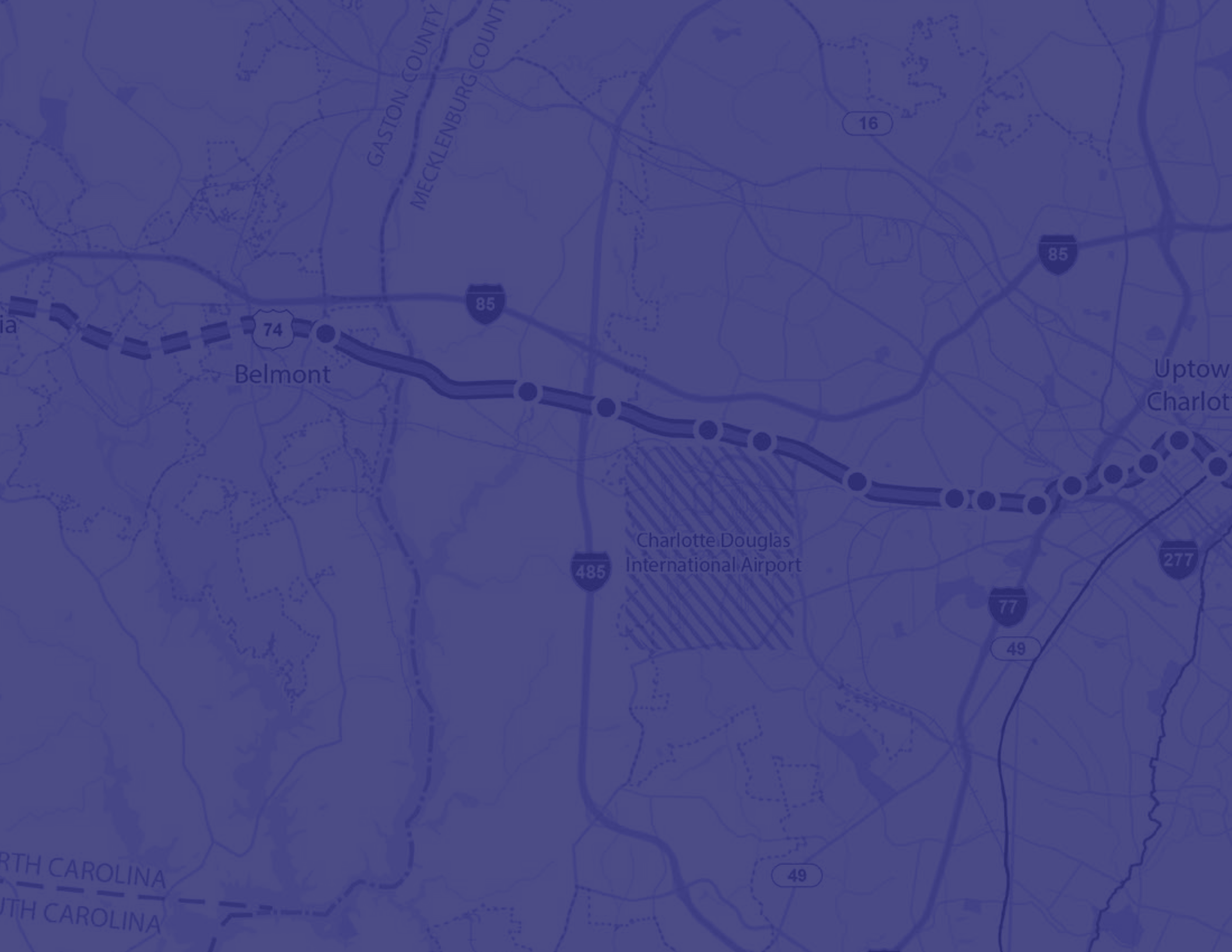
### Street Activation

Active street frontages are critical to creating vibrant, walkable TOD areas. All streets in TOD areas should seek to maximize active street frontages. Prioritization should focus on the location of "main streets," primary access points to the station, and localized market-driven factors. For more, see Market Opportunities.



\* Specific application and policy considerations may vary depending on the local policy and regulatory framework for TOD.





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# STATION AREA TYPOLOGIES



# STATION AREA TYPOLOGIES

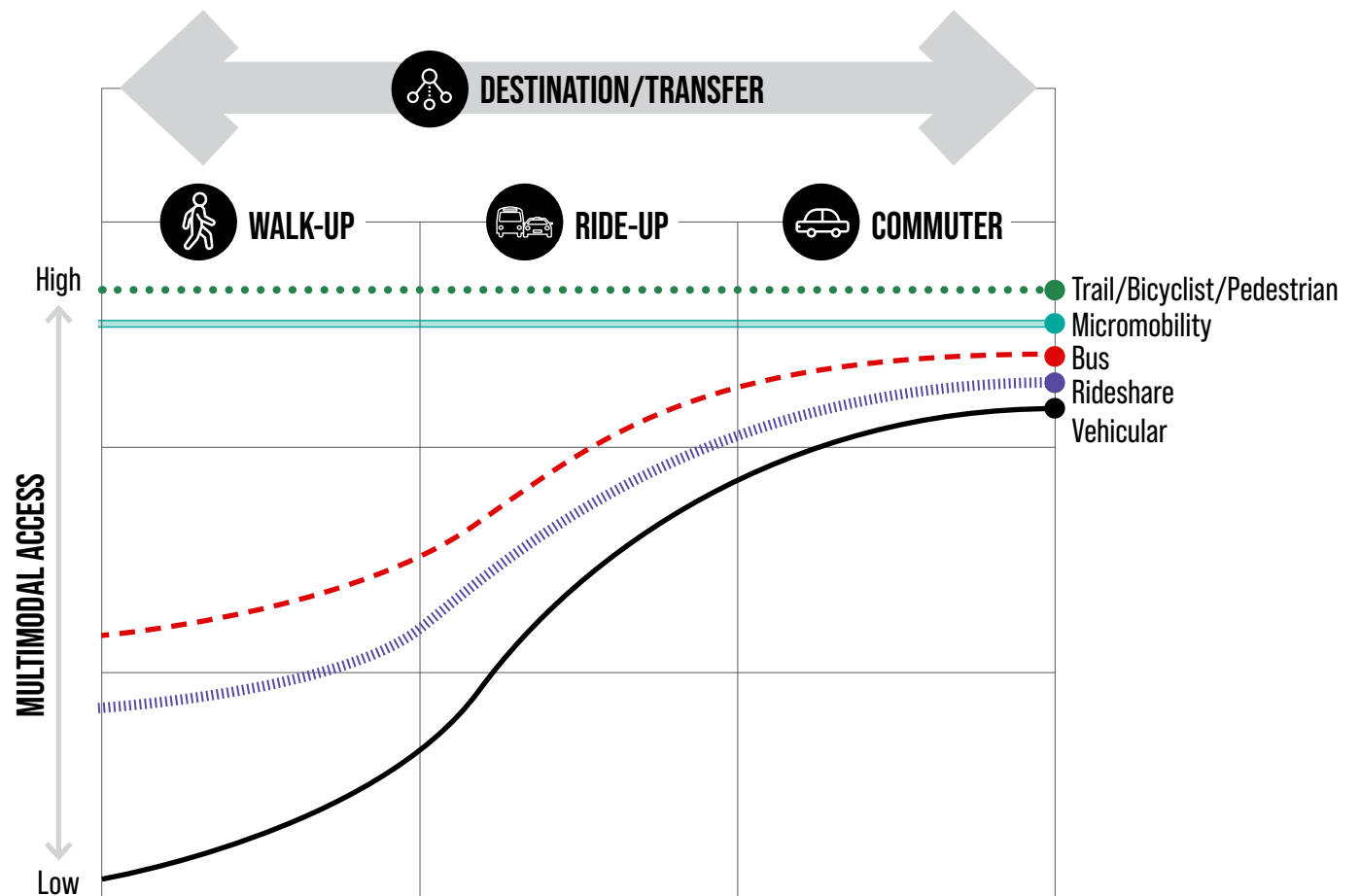
## ABOUT

This section identifies the specific features and characteristics for each typology based on the methodology in Chapter 2.

Station typologies exist on a spectrum based primarily on the provision of vehicular access, parking, and connections to additional transit service. These typologies support station-site design and integration with the surrounding built environment.

This chart summarizes the typology spectrum based on level of access for each mode.

**Multimodal Access & Station Typology Spectrum**









# WALK-UP

Walk-up stations are intended for dense, highly-walkable built environments. This station typology is most appropriate in locations with existing or planned/funded moderate-to-intense land uses. Walk-up stations are primarily accessed by walking and bicycling and have no on-site vehicular parking. Bus connections and rideshare drop-off may have designated on-street space.

## PRIMARY STATION FEATURES



### Vehicular Access

No adjacent street, local street, arterial street



### Transit

On-street; curbside stop



### Parking

None



### Bicycle/Pedestrian

Trails, sidewalks, and Bicycle Network integration



### Rideshare

None OR designated drop-off area



### Micromobility

Designated space on-site

## LAND USE & MARKET FACTORS



### Place Types

- Neighborhood 1 ● X
- Neighborhood 2 ● X
- Parks & Preserves ● X
- Commercial ● X
- Campus ● X
- Manufacturing & Logistics ●
- Innovation Mixed Use ● X
- Neighborhood Center ● X
- Community Activity Center ● X
- Regional Activity Center ● X



### Market Opportunities

- Retain Existing Development ● X
- Infill Redevelopment ● X
- Full Site (Re)Development ●



### Housing Opportunities

- Preserve NOAH ● X
- Enhance NOAH ● X
- Build New Affordable Housing ●

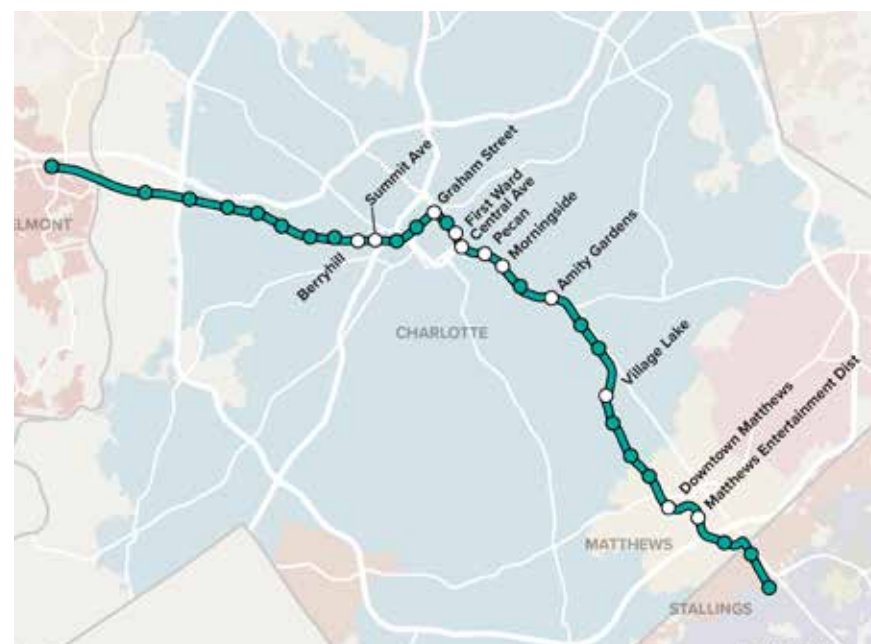


## PRINCIPLES TO GUIDE STATION SITE DESIGN DECISIONS

Site Design Features	Design considerations
Public Parking Design	N/A
Public Open Space	Limited or none; When present, connect platform to built environment; Integrates with platform in RAC, CAC, NC areas (where at-grade)
Stormwater	N/A
Trail Network	Integration with platform and plaza spaces; Trail crossings at or adjacent to station
Street Activation	Seek opportunities to maximize street activation, but prioritize streets providing direct access to the station platform
Privately-Owned Public Space	Include on primary streets
Surface Parking Design	N/A



## LYNX SILVER LINE WALK-UP STATIONS







# RIDE-UP

Ride-up stations are intended for areas that still have a walkable and bikeable built environment in contexts where drop off is anticipated for successful ridership. These stations are accessed by walking and bicycling and have accommodations for ride-ups and drop-offs and shared mobility. Ride-up stations typically have limited personal vehicular parking, but parking may be provided depending on site conditions and context. Bus connections for this station area can occur on-street, and the station may include limited layover spaces.

## PRIMARY STATION FEATURES



### Vehicular Access

Local or arterial street



### Transit

Designated bus layover area



### Parking

None OR limited/ small parking lots



### Bicycle/Pedestrian

Trails, sidewalks, and bicycle network integration



### Rideshare

Designated rideshare drop-off area



### Micromobility

Designated space on-site OR defined charging areas

## LAND USE & MARKET FACTORS



### Place Types

- Neighborhood 1 ● X
- Neighborhood 2 ● X
- Parks & Preserves ●
- Commercial ● X
- Campus ● X
- Manufacturing & Logistics ● X
- Innovation Mixed Use ● X
- Neighborhood Center ● X
- Community Activity Center ● X
- Regional Activity Center ● X



### Market Opportunities

- Retain Existing Development ●
- Infill Redevelopment ● X
- Full Site (Re)Development ● X



### Housing Opportunities

- Preserve NOAH ● X
- Enhance NOAH ● X
- Build New Affordable Housing ●

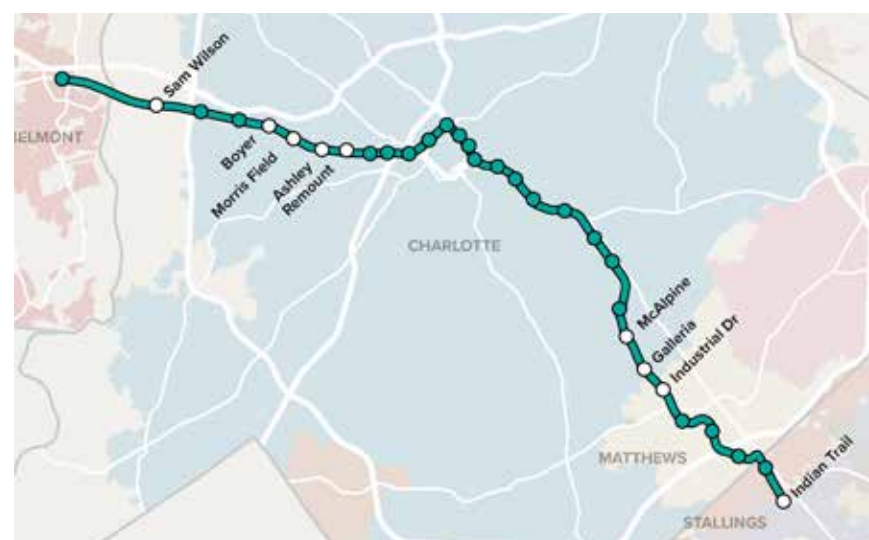
## PRINCIPLES TO GUIDE STATION SITE DESIGN DECISIONS

Site Design Features	Design considerations
Public Parking Design	When present, create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future.
Public Open Space	Incorporate smaller left-over spaces as flexible public space for seating and public art; connect platform area to rideshare drop-off area
Stormwater	N/A
Trail Network	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail
Street Activation	Seek opportunities to maximize street activation; prioritize streets providing direct access to the station platform
Privately-Owned Public Space	Include on primary streets
Surface Parking Design	N/A
Structured Parking Design	N/A



Photo source: Google Maps

## LYNX SILVER LINE RIDE-UP STATIONS



CHARLOTTE AREA TRANSIT SYSTEM



# COMMUTER

Commuter stations are intended to serve the largest populations and are typically found near and accessible to key arterials and interstates. Often, these stations are located at or near the end of rail lines. These stations include significant parking facilities for personal vehicles, along with accommodations for all other modes. The parking facilities may be surface lots or parking structures and can include bus connection/staging areas.

## PRIMARY STATION FEATURES



### Vehicular Access

Local or arterial street; interstate access



### Transit

Designated bus layover area



### Parking

Parking lots or structures



### Bicycle/Pedestrian

Trails, sidewalks, and bicycle network integration



### Rideshare

Designated rideshare drop-off area



### Micromobility

Designated space on-site OR defined charging areas

## LAND USE & MARKET FACTORS



### Place Types

- Neighborhood 1 ●
- Neighborhood 2 ● X
- Parks & Preserves ●
- Commercial ● X
- Campus ● X
- Manufacturing & Logistics ● X
- Innovation Mixed Use ●
- Neighborhood Center ●
- Community Activity Center ● X
- Regional Activity Center ● X



### Market Opportunities

- Retain Existing Development
- Infill Redevelopment X
- Full Site (Re)Development X



### Housing Opportunities

- Preserve NOAH
- Enhance NOAH X
- Build New Affordable Housing



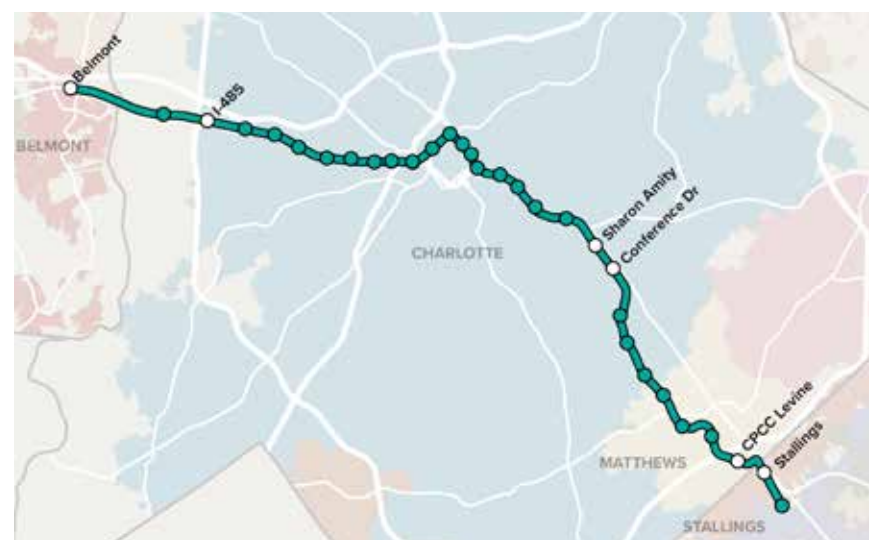
## PRINCIPLES TO GUIDE STATION SITE DESIGN DECISIONS

Site Design Features	Design considerations
Public Parking Design	Create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future
Public Open Space	Vibrant public space that can be used for a variety of functions; integrated with station platform and connected to primary access point
Stormwater	Set up stormwater BMPs to support the proposed built environment, leaving room for building pads to be constructed in the future and incorporating features into public open space where possible
Trail Network	Direct sidewalk connection to trail OR regional trail system within 1/4 mile
Street Activation	Seek opportunities to maximize street activation, but prioritize streets providing direct access to the station platform
Privately-Owned Public Space	Include on primary streets
Surface Parking Design	Set up to support block spacing as part of future TOD
Structured Parking Design	Provide opportunities to integrate parking into the site, supporting planned block structure, providing active ground floor uses, or preserving space for office/residential buildings to wrap the deck. Parking should be well-screened where visible from the street.



Photo source: Google Maps

## LYNX SILVER LINE COMMUTER STATIONS



CHARLOTTE AREA TRANSIT SYSTEM



# DESTINATION/TRANSFER

Destination/transfer stations can be functionally identical to walk-up, ride-up, or commuter stations with the notable addition of connections to other premium transit, mobility hubs, or a major destination at the stop. These stations are intended to accommodate large crowds as well as connections to multiple other modes including streetcar, multiple bus routes, and more.

## PRIMARY STATION FEATURES



### Vehicular Access

Local street or Arterial street



### Transit

Access to other premium transit or mobility hub; optional bus layover area



### Parking

Limited/small lots, large lots, OR parking structures



### Bicycle/Pedestrian

Trails, sidewalks, and bicycle network Integration



### Rideshare

None or dedicated rideshare drop-off areas



### Micromobility

Designated space on-site OR defined charging areas

## LAND USE & MARKET FACTORS



### Place Types

- Neighborhood 1
- Neighborhood 2
- Parks & Preserves
- Commercial
- Campus
- Manufacturing & Logistics
- Innovation Mixed Use
- Neighborhood Center
- Community Activity Center
- Regional Activity Center



### Market Opportunities

- Retain Existing Development
- Infill Redevelopment
- Full Site (Re)Development



### Housing Opportunities

- Preserve NOAH
- Enhance NOAH
- Build New Affordable Housing

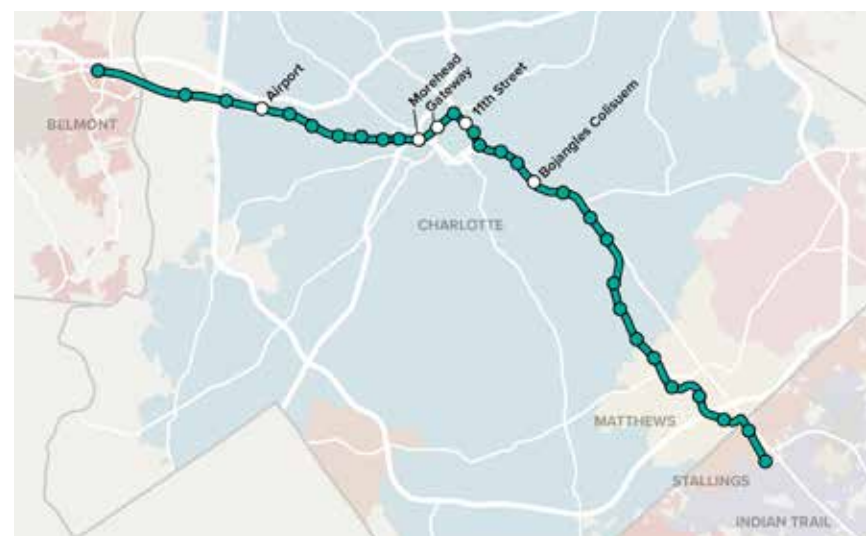


## PRINCIPLES TO GUIDE STATION SITE DESIGN DECISIONS

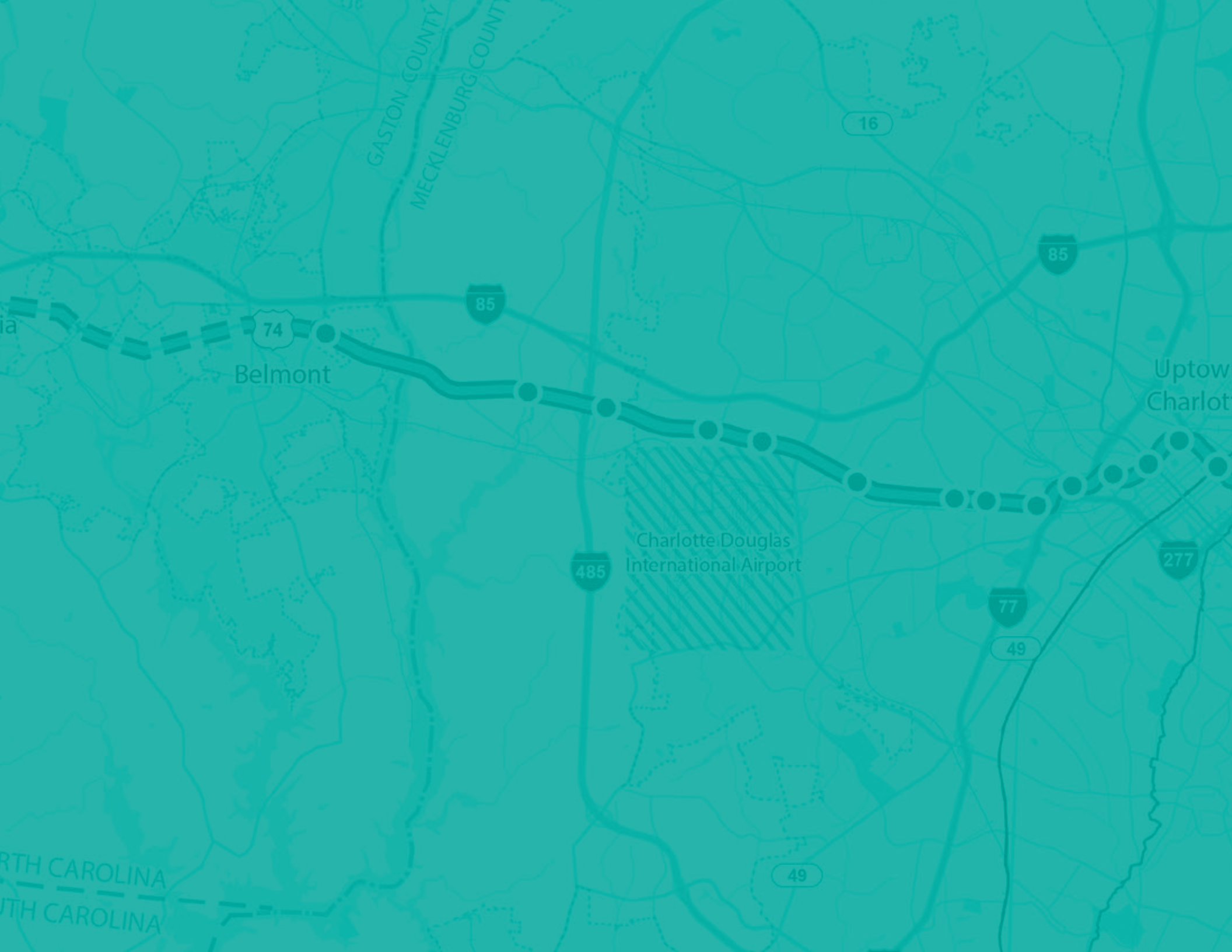
Site Design Features	Design considerations
Public Parking Design	When needed for a site, seek opportunities to create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future
Public Open Space	Large plaza space to account for crowds
Stormwater	If associated with a significant station site design, set up stormwater BMPs to support the proposed built environment, leaving room for building pads to be constructed in the future and incorporating features into public open space where possible
Trail Network	Direct sidewalk connection to trail
Street Activation	Seek opportunities to maximize street activation, but prioritize streets providing direct access to the station platform
Privately-Owned Public Space	Include on primary streets
Surface Parking Design	Set up to support block spacing as part of future TOD
Structured Parking Design	Provide opportunities to integrate parking into the site, supporting planned block structure, providing active ground floor uses, or preserving space for office/residential buildings to wrap the deck. Parking should be well-screened where visible from the street.



## LYNX SILVER LINE DESTINATION/TRANSFER STATIONS







Belmont

Charlotte Douglas International Airport

Uptown Charlotte

NORTH CAROLINA  
SOUTH CAROLINA



# EVALUATING & CHANGING STATION AREA TYPOLOGIES

# EVALUATING AND CHANGING STATION AREA TYPOLOGIES

Station area typology and station area characteristics represent the current characterization of the station area rather than future or planned conditions. To assist TOD planning efforts, station area typologies should adapt as places develop and change over time. The planning and design of TOD around stations should result in solutions that balance competing interests and opportunities within each context and capitalize on the potential synergies between transit and its surrounding development. This section explores this flexibility and the reasons for why or how a station area typology can change.

## WHAT TRIGGERS CHANGES IN TYPOLOGY?

**P**

### Changes in Parking

A change in on-site surface parking or structured parking is a significant factor driving typology change. An increase, decrease, or change in form (e.g. surface lot to structured parking), sometimes coinciding with changing vehicular access needs/demand, will affect the station site's other typological features. Parking needs/form could change significantly with the conversion of surface lots to TOD.

**V**

### Changes in Vehicular Access

Transportation context may evolve with the introduction of new infrastructure. Adding, removing, or changing streets, intersections, and driveways as well as intersection capacity improvements could impact how vehicles access the station. In addition, the emerging areas of shared mobility, micromobility, and autonomous technology could affect vehicular access.

**B**

### Built Environment

The built environment is a secondary trigger of typology change. In some cases, land surrounding a station site may be developed over time in a way that drives the need for changes in primary typological features.

**T**

### Changes in Transit Service or Land Use

The introduction of new transit service (e.g., mobility hub or other premium transit service) or the addition of a significant land use (e.g., sports/entertainment arena) converts the station typology to a destination/transfer.



## WHAT IF CHARACTERISTICS DON'T MATCH?

Station area typologies are not one-size fits all, and there are instances in which a station typology does not quite match every characteristic or the full context of a community. The intent of this manual is to provide consistent expectations for common features of a given station site and not to be an inflexible set of design rules. If characteristics don't match:

### Change typology

Based on changes in station area features, a different typology may be selected. For example, consider a commuter station with a large, underutilized parking lot that has been developed to accommodate housing and retail development surrounding the station to support ridership. This change to no parking and/or no rideshare space can create a change to a walk-up typology.

### Change station-specific policy to seek out desired features

If it is impossible to implement all features of a given typology at a specific station, it may be necessary to plan for the facilities to be implemented over time. For example, if a ride-up station does not have a bus/rideshare drop-off area, CATS and the City/Town may need to work together to plan for implementation as conditions change. Alternatively, it may be more appropriate to leave out missing features as long as careful consideration is given to the surrounding context and how an omission might affect subsequent design and policy.

### Change policy for place type where incompatible

If the typology is inconsistent with the surrounding land use pattern, it may be necessary to revise the land use policy for a given station area as part of a comprehensive plan update. For example, if the station typology changes to a transfer station, especially with addition of a future rail line, then land use policy may need to be adapted to accommodate the anticipated ridership and goals of the typology.

# 6

## SAMPLE SCENARIOS

Following are six scenarios of why a station typology could change over time for the CATS LYNX Silver Line. This section explains key factors that can cause typology changes.

# Scenario 1

## Commuter to Walk-up



- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street; interstate access

Surface or structured parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE



No change to arterials; improved local street network



Removal or reduction of surface parking for TOD

No change



Bus drop off moved to local street network



Improved local street network

### FUTURE CONDITION

No adjacent street; local street; arterial street












\*None

Designated rideshare drop-off area

On-street; curbside stop

Trails, sidewalks, and bicycle network integration

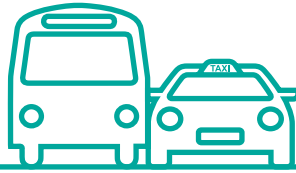
**\*In this scenario change in parking drives the change in typology**

	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b>	Curbside designated parking OR defined charging/parking areas	Create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Direct sidewalk connection to trail OR regional trail system within 1/4 mile	Vibrant public space that can be used for a variety of functions; integrated with station platform and connected to primary access point	Future land use policy (i.e., place types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b>	 Possible expansion of dedicated space based on changes in use or demand	  TOD implemented; local street network created	 Context of the built environment may necessitate adjustments to the alignment or new connections to the trail	 Context of the built environment may necessitate adjustments to the design of public space	
<b>FUTURE CONDITION</b>	Curbside designated parking OR defined charging/parking areas	None	**Integration with platform and plaza spaces; trail crossings at or adjacent to station	**Limited or none; When present, connect platform to built environment; integrates with platform in RAC, CAC, NC areas (where at-grade)	**Change in parking should provide opportunities for expanded public realm integration within platform



# Scenario 2

## Commuter to Ride-up



- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street; interstate access

Surface or structured parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE



No change to arterials; improved local street network



Removal or reduction of surface parking for TOD

No change

No change



Improved local street network

### FUTURE CONDITION

\*Local or arterial street










\*None OR limited on-site parking

Designated rideshare drop-off area

Designated bus layover area

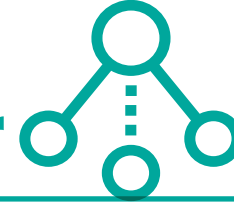
Trails, sidewalks, and bicycle network integration

**\*In this scenario, a reduction in access creates a reduced need for parking facilities which drives the change in typology**

	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b> <hr/>	Curbside designated parking OR defined charging/parking areas	Create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Direct sidewalk connection to trail OR regional trail system within 1/4 mile	Vibrant public space that can be used for a variety of functions; integrated with station platform and connected to primary access point	Future land use policy (i.e., place types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b> <hr/>	No change	 Removal of parking	 Context of the built environment may necessitate adjustments to the alignment or new connections to the trail	 Context of the built environment may necessitate adjustments to the design of public space	
<b>FUTURE CONDITION</b> <hr/>	Curbside designated parking OR defined charging/parking areas	None	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail	Incorporate smaller left-over spaces as flexible public space for seating and public art; connect platform area to rideshare drop-off area	<b>**In this scenario, the introduction of new premium transit service or a mobility hub drive the change in typology</b>

# Scenario 3

## Commuter to Destination/Transfer



- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street; interstate access

Surface or structured parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE



No change to arterials; improved local street network



Removal of parking

No change



Increase in access to premium transit/ bus hub OR new destination built near a station

No change

### FUTURE CONDITION

Local or arterial street

Typically none









Designated rideshare drop-off area

Access to other premium transit or bus hub; optional bus layover area

Trails, sidewalks, and bicycle network integration

**\*In this scenario, the introduction of new premium transit service connections or a mobility hub drives the change in typology.**



	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b> <hr style="border: 2px solid black;"/>	Curbside designated parking OR defined charging/parking areas	Create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Direct sidewalk connection to trail OR regional trail system within 1/4 mile	Vibrant public space that can be used for a variety of functions; integrated with station platform and connected to primary access point	Future land use policy (i.e., place types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b> <hr style="border: 2px solid purple;"/>	No change	No change	 Context of the built environment may necessitate adjustments to the alignment or new connections to the trail	 Increase of dedicated public open space	
<b>FUTURE CONDITION</b> <hr style="border: 2px solid teal;"/>	None; curbside designated parking OR defined charging parking areas	When needed for a site, seek opportunities to create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Direct sidewalk connection to trail OR regional trail system within 1/4 mile	*Large plaza space to account for crowds  <b>*Increase in transit service warrants an expanded public open space</b>	

# Scenario 4

## Ride-up to Walk-up



- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street

None OR limited on-site parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE



Improved street network



Removal of surface parking for TOD

No change



Removal of designated layover area

No change

### FUTURE CONDITION











No adjacent street, local street, arterial street

None

Designated rideshare drop-off area

On-street; curbside stop

Trails, sidewalks, and bicycle network integration

	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b> 	Curbside designated parking OR defined charging/parking areas	N/A	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail	Incorporate smaller left-over spaces as flexible public space for seating and public art; connect platform area to rideshare drop-off area	Future land use policy (i.e., Place Types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b> 	No change	N/A	No change	 Converted to TOD	
<b>FUTURE CONDITION</b> 	Curbside designated parking OR defined charging/parking areas	N/A	Integration with platform and plaza spaces; trail crossings at or adjacent to station	Limited or none; When present, connect platform to built environment; integrates with platform in RAC, CAC, NC areas (where at-grade)	<p><b>*In this scenario, change in land use over time drive the typology change</b></p>



# Scenario 5

## Ride-up to Commuter

- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street

None OR limited on-site parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE



Potential increase in interstate access



Increase in on-site public parking options

No change

No change

No change

### FUTURE CONDITION

\*Local street or arterial street; interstate access













\*Surface or structured parking

Designated rideshare drop-off area

Designated bus layover area

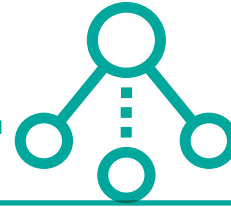
Trails, sidewalks, and bicycle network integration

**\*In this scenario, change in access drives the need for more parking and a typology and change in typology.**

	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b> 	Curbside designated parking OR defined charging/parking areas	N/A	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail	Incorporate smaller left-over spaces as flexible public space for seating and public art; connect platform area to rideshare drop-off area.	Future land use policy (i.e., place types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b> 	No change	 No change in parking facilities, but area parking strategy/policy may need to be adjusted	 No change OR possible alignment adjustments to ensure compatibility with new public parking	 Increase of dedicated public open space	
<b>FUTURE CONDITION</b> 	Curbside designated parking OR defined charging/parking areas	Create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Direct sidewalk connection to trail OR regional trail system within 1/4 mile	Vibrant public space that can be used for a variety of functions; integrated with station platform and connected to primary access point	

# Scenario 6

## Ride-up to Destination/Transfer



- P** Changes in Parking
- V** Changes in Vehicular Access
- B** Built Environment
- T** Changes in Transit/Land Use



### EXISTING CONDITION

Local or arterial street

None OR limited on-site parking

Designated rideshare drop-off area

Designated bus layover area

Trails, sidewalks, and bicycle network integration

### CHANGE

No change



Removal or reduction of surface parking for TOD

No change



Increase in access to premium transit/ bus hub OR new destination built near a station

No change

### FUTURE CONDITION

Local or arterial street










None

Designated rideshare drop-off area

Access to other premium transit or bus hub; optional bus layover area

Trails, sidewalks, and bicycle network integration

**\*In this scenario, new premium transit or mobility hub drives the typology change.**

	 <b>MICROMOBILITY</b>	 <b>PRIVATE PARKING DESIGN</b>	 <b>TRAIL NETWORK</b>	 <b>PUBLIC OPEN SPACE</b>	 <b>LAND USE</b>
<b>EXISTING CONDITION</b> <hr style="border: 2px solid black;"/>	Curbside designated parking OR defined charging/parking areas	N/A	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail	Incorporate smaller left-over spaces as flexible public space for seating and public art; connect platform area to rideshare drop-off area.	Future land use policy (i.e., place types) drives station-specific TOD implementation decisions that can occur via public-private partnerships and/or private sector development
<b>CHANGE</b> <hr style="border: 2px solid purple;"/>	No change	 No change in parking facilities, but area parking strategy/policy may need to be adjusted	 No change OR possible alignment adjustments to ensure compatibility with new public parking	 Increase of dedicated public open space	
<b>FUTURE CONDITION</b> <hr style="border: 2px solid teal;"/>	Curbside designated parking OR defined charging/parking areas	When needed for a site, seek opportunities to create blocks that are compatible with planned built environment and opportunities to convert to TOD in the future	Integration with platform and plaza spaces; trail crossings at or adjacent to station; OR direct sidewalk connection to trail	Large plaza space to account for crowds	



# ATLANTA CASE STUDIES

As the Charlotte region continues to grow, it will be critical to support the growth strategies as outlined in each community's comprehensive plan. As a sunbelt city, Atlanta offers many examples from the past 10–20 years of converting station site parking lots along its MARTA system into transit-oriented development. These projects demonstrate the evolution of transit sites over time and provide examples of the need and importance of planning for long term TOD investment opportunities when designing station area facilities, especially affordable housing, parking, stormwater systems, and street network. In each case, the parking lots associated with the stations were converted into market rate and affordable multi-family housing and commercial space.

## Edgewood/Candler Park Station

The Edgewood/Candler Park Station in Atlanta has undergone considerable transformation. The City classifies this station as a neighborhood station defined by its principal function of helping people who live nearby access services and amenities.<sup>1</sup> This station had an underutilized parking lot that became the focus of the Edgewood Community Master Plan and a community design charrette. Transformation of the parking characteristics of this station area have allowed for the redevelopment of a 6.3-acre TOD project. This project converted the parking lot into a 224-unit residential building, a new performing arts center supporting creative youth development program based in the Old Fourth Ward, and a public green space. The last phase of development will include 208 multifamily residential units (of which 53 units are affordable housing), 7,500 square feet of commercial space with offices and a restaurant, and a structured parking deck with about 400 spaces.<sup>2</sup>



Image sources: Google Earth

1 MARTA, Edgewood-Candler Park Station Transit Oriented Development, 2017. [https://www.itsmarta.com/uploaded-Files/More/Transit\\_Oriented\\_Development/Station%20Profile%20Rev%202017-11-03%20Edgewood.pdf](https://www.itsmarta.com/uploaded-Files/More/Transit_Oriented_Development/Station%20Profile%20Rev%202017-11-03%20Edgewood.pdf).

2 Dave Williams, "Invest Atlanta board OKS third phase of Edgewood/Candler Park TOD project," Atlanta Business Chronicle, June 20, 2019, <https://www.bizjournals.com/atlanta/news/2019/06/20/invest-atlanta-board-oks-third-phase-of-edgewood-c.html>.

## Avondale Station

At Atlanta's Avondale Station, a 6.6-acre parking lot was transformed into a mixed-use, transit-oriented development. This station is also classified as a neighborhood station. In 2018, the completed project had 504 units (nearly 90 of which were reserved for seniors at a range of incomes below 80 percent of the area's median income). The project also included an 800-space parking deck, 41,500 square feet of retail, and 25,000 square feet for institutional use.<sup>3</sup> In 2021, MARTA sold 1.45 acres to an affordable housing developer. Together, The City of Decatur, Decatur Housing Authority, and DeKalb County are helping pay for the new mixed-income development with 80 new units for seniors at a range of incomes below 80 percent of the area median income next to the Cortland Decatur East apartment complex.<sup>4</sup>



Image sources: Google Earth

3 MARTA, Avondale Station Transit Oriented Development, 2017, [https://itsmarta.com/uploadedFiles/More/Transit\\_Oriented\\_Development/Station%20Profile%20Rev%202017-11-03%20Avondale.pdf](https://itsmarta.com/uploadedFiles/More/Transit_Oriented_Development/Station%20Profile%20Rev%202017-11-03%20Avondale.pdf).

4 Columbia Residential, "MARTA sells land to Columbia Residential for Senior Affordable Housing Development," 2021, <https://www.columbiare.com/news/avondale-station-development/>.

## King Memorial Station

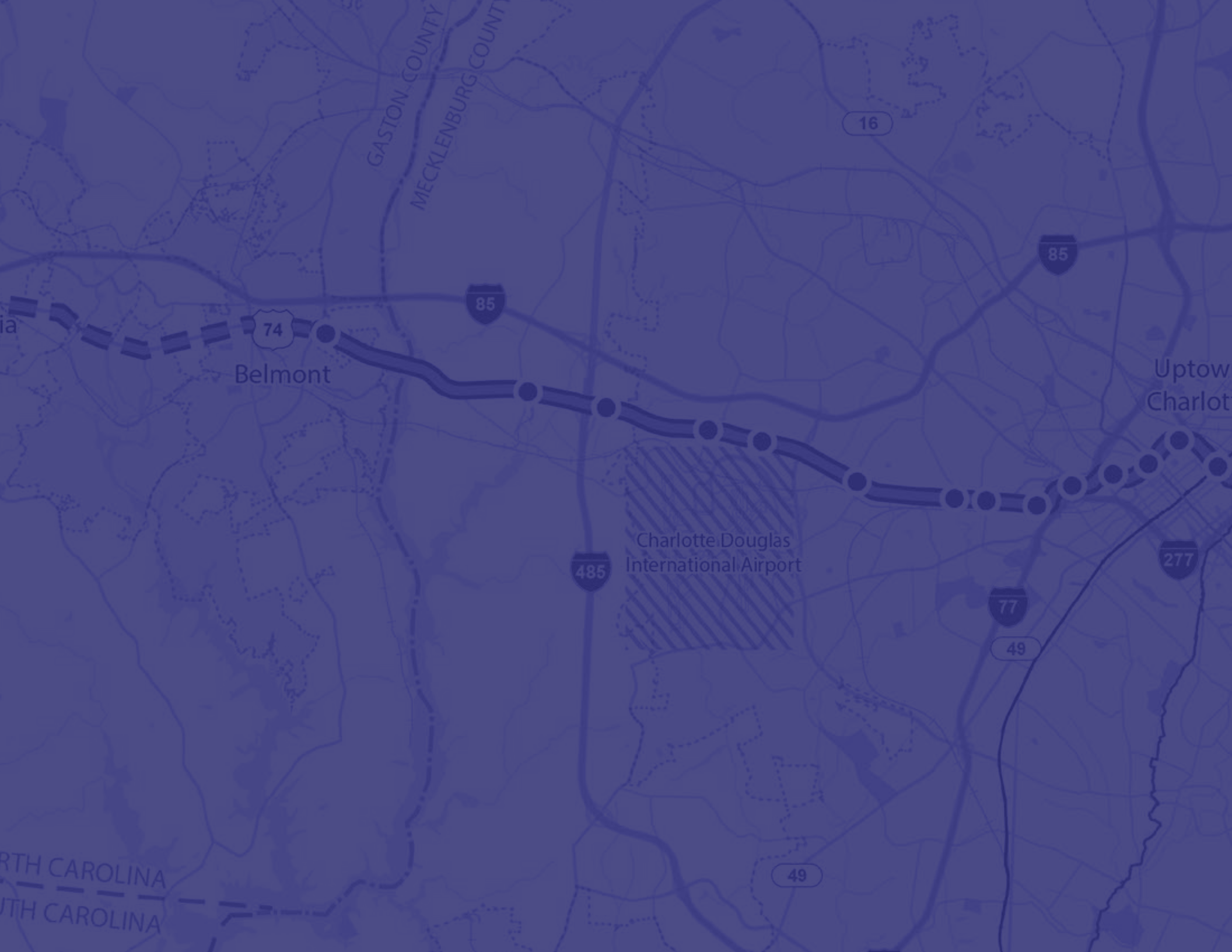
The underutilized 4-acre south parking lot at King Memorial Station was redeveloped. The City of Atlanta classifies this station as a neighborhood station, and its principal function is to connect people who live nearby with services and amenities. This multi-story modular project was the first of its kind in Atlanta to pair a transit hub with approximately 400 apartment units (including 80 affordable housing units) and 10,000 square feet of retail space.<sup>5</sup>



Image sources: Google Earth

Image sources: Google Earth

5 MARTA (2017). Kings Memorial Station Transit Oriented Development. [https://www.itsmarta.com/uploadedFiles/More/Transit\\_Oriented\\_Development/Station%20Profile%20Rev%202017-11-03%20King%20Memorial.pdf](https://www.itsmarta.com/uploadedFiles/More/Transit_Oriented_Development/Station%20Profile%20Rev%202017-11-03%20King%20Memorial.pdf)



GASTON COUNTY  
MECKLENBURG COUNTY

16

85

85

74

Belmont

Uptown  
Charlotte

485

Charlotte Douglas  
International Airport

277

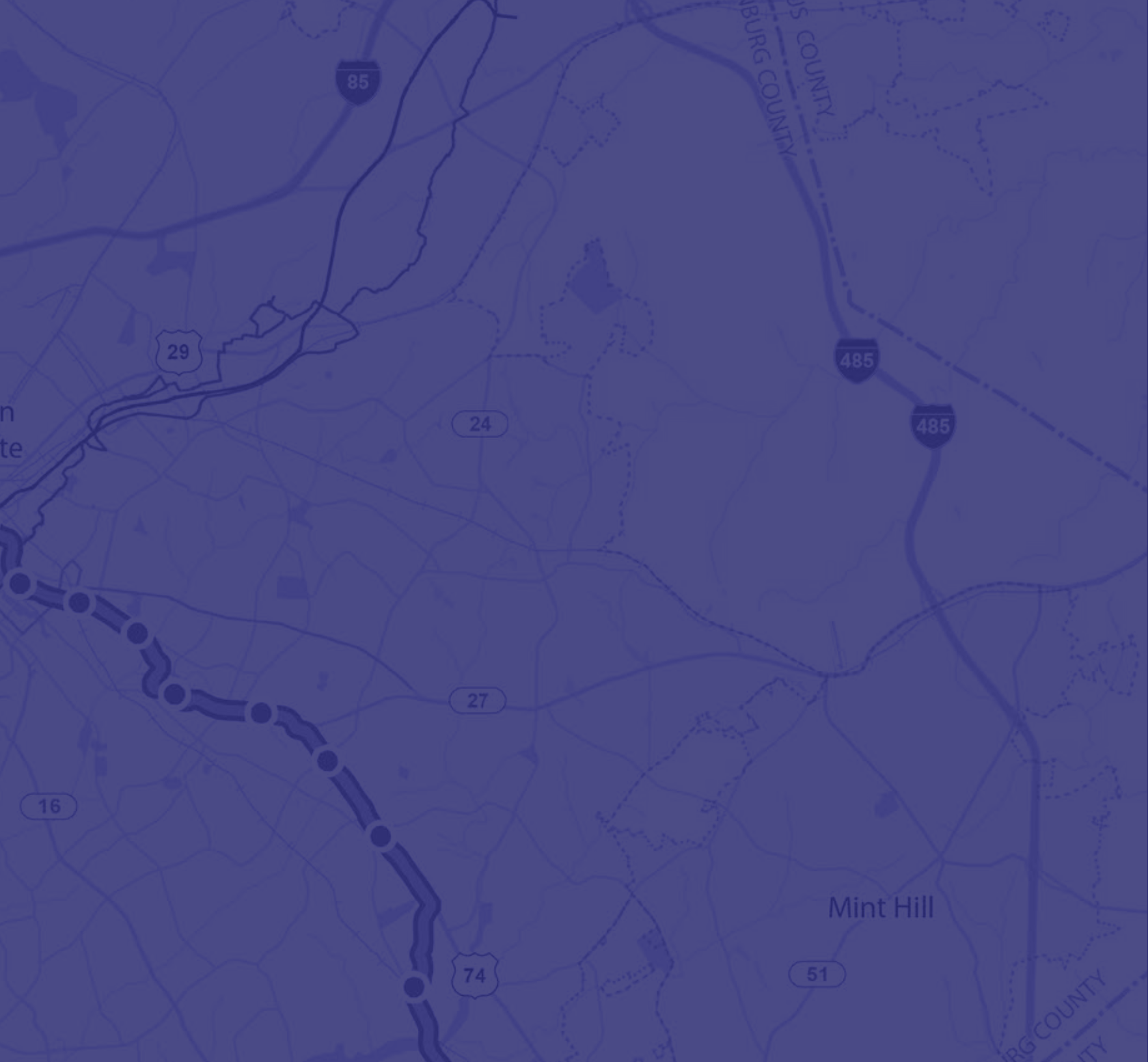
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NORTH CAROLINA  
NORTH CAROLINA










# APPLICATION FOR THE LYNX SILVER LINE

# 5



-  COMMUTER
-  RIDE-UP
-  RIDE-UP + DESTINATION TRANSFER
-  WALK-UP
-  WALK-UP + DESTINATION TRANSFER

# APPLICATION FOR THE LYNX SILVER LINE

## Primary Station Area Typology Features by Station

This evaluation is based on a review of concept design plans for the LYNX Silver Line accessed in November 2021. Station Typologies may change as the project and the surrounding built environment evolve.

Station Name	Belmont	Sam Wilson	I-485	Airport	Boyer	Morris Field	Ashley	Remount	Berryhill	Summit	Cedar Yard	Gateway	Graham	11th Street	First Ward	Central	Pecan	Morningside	Bojangles	Amity Gardens	Sharon Amity	Conference Dr	Village Lake	McAlpine	Galleria	Industrial Dr	Downtown Matthews	Matthews Entertainment	CPCC Levine	Stallings	Indian Trail		
Station Typology	Commuter	Ride-up	Commuter	Ride-up + Destination Transfer	Ride-up	Ride-up	Ride-up	Ride-up	Walk-up	Walk-up	Walk-up + Destination Transfer	Walk-up + Destination Transfer	Walk-up	Walk-up + Destination Transfer	Walk-up	Walk-up	Walk-up	Walk-up	Ride-up + Destination Transfer	Walk-up	Commuter	Commuter	Walk-up	Commuter	Ride-up	Ride-up	Walk-up	Walk-up	Commuter	Commuter	Walk-up		
<b>Vehicular Access</b>																																	
No Adjacent Street																		X		X													
Local Street				X			X	X		X	X						X										X	X	X	X			
Arterial Street	X		X	X	X	X	X	X	X		X	X	X	X	X	X					X	X	X	X	X	X	X						
Interstate	X		X	X									X	X	X					X	X	X	X							X	X		
<b>Parking</b>																																	
Limited parking		X				X	X																	X									
Large parking lot								X												X						X				X			
Structured parking	X		X																		X	X									X		
Rideshare																																	
Designated rideshare drop-off area	X			X	X		X	X												X	X	X	X	X		X		X		X	X		
<b>Transit Connections</b>																																	
Designated bus layover area		X				X	X	X				X								X	X	X	X	X		X		X			X	X	
Mobility Hub				X				X				X					X												X				
Premium Transit Connection				X								X		X																			
<b>Bicycle &amp; Pedestrian Accommodations</b>																																	
Trails	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sidewalks	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bicycle Network Integration	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## Site Design Principles by Station

This evaluation is based on a review of concept design plans for the LYNX Sliver Line accessed in November 2021. Station Typologies may change as the project and the surrounding built environment evolve.

Station Name	Belmont	Sam Wilson	I-485	Airport	Boyer	Morris Field	Ashley	Remount	Berryhill	Summit	Cedar Yard	Gateway	Graham	11th Street	First Ward	Central	Pecan	Morningside	Bojangles	Amity Gardens	Sharon Amity	Conference Dr	Village Lake	McAlpine	Galleria	Industrial Dr	Downtown Matthews	Matthews Entertainment	CPCC Levine	Stallings	Indian Trail				
Station Typology	Commuter	Ride-up	Commuter	Ride-Up + Destination Transfer	Ride-up	Ride-up	Ride-up	Ride-up	Walk-up	Walk-up	Walk-up + Destination Transfer	Walk-up + Destination Transfer	Walk-up	Walk-up + Destination Transfer	Walk-up	Walk-up	Walk-up	Walk-up	Ride-up + Destination Transfer	Walk-up	Commuter	Commuter	Walk-up	Commuter	Ride-up	Ride-up	Walk-up	Walk-up	Commuter	Commuter	Walk-up				
<b>Parking Design</b>																																			
Design for future block structure	X	X	X			X	X	X												X		X	X		X		X				X	X			
<b>Stormwater</b>																																			
Integrate into site design to support future TOD	X	X	X			X	X	X												X		X	X		X		X				X	X			
<b>Trail Network</b>																																			
Integration with platform and plaza space	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X		X	X	X	X	X		X		X		X	X	X			
Trail crossings at or adjacent to station			X	X																			X									X	X		
Direct sidewalk connection to station										X	X	X								X	X	X		X		X					X				
Trail within 1/4 mile of station									X	X	X																	X	X						
<b>Open Space</b>																																			
None		X							X							X	X	X										X	X						
Small Plaza	X		X	X	X	X	X	X		X			X		X					X	X	X	X	X	X	X	X				X	X	X		
Large Plaza											X	X		X																					
<b>Privately-Owned Public Space</b>																																			
Include on primary streets	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		
<b>Street Activation</b>																																			
Prioritize streets with platform access, but include on all	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		



COMMUTER



RIDE-UP + DESTINATION TRANSFER



RIDE-UP



WALK-UP + DESTINATION TRANSFER



WALK-UP

# Land Use & Market Factors by Station

This evaluation is based on a review of current land use and future land use data from Charlotte's Policy Mapping process. For consistency, land use plans in other jurisdictions were reviewed and compared to Charlotte's descriptions. Typologies may change as the project and the surrounding built environment evolve.

Station Name	Belmont	Sam Wilson	I-485	Airport	Boyer	Morris Field	Ashley	Remount	Berryhill	Summit	Cedar Yard	Gateway	Graham	11th Street	First Ward	Central	Pecan	Morningside	Bojangles	Amity Gardens	Sharon Amity	Conference Dr	Village Lake	McAlpine	Galleria	Industrial Dr	Downtown Matthews	Matthews Entertainment	CPCC Levine	Stallings	Indian Trail		
Station Typology	Commuter	Ride-up	Commuter	Ride-up + Destination Transfer	Ride-up	Ride-up	Ride-up	Ride-up	Walk-up	Walk-up	Walk-up + Destination Transfer	Walk-up + Destination Transfer	Walk-up	Walk-up + Destination Transfer	Walk-up	Walk-up	Walk-up	Walk-up	Ride-up + Destination Transfer	Walk-up	Commuter	Commuter	Walk-up	Commuter	Ride-up	Ride-up	Walk-up	Walk-up	Commuter	Commuter	Walk-up		
<b>Place Types</b>																																	
Neighborhood 1																		X		X	X	X					X				X	X	
Neighborhood 2											X	X	X		X			X		X													
Parks & Preserves																												X					
Commercial	X																														X	X	
Campus																														X			
Manufacturing & Logistics		X																								X							
Innovation Mixed Use		X	X	X	X																							X				X	
Neighborhood Center																				X	X		X	X									
Community Activity Center	X				X	X	X	X	X						X	X	X			X		X			X		X	X		X	X	X	
Regional Activity Center				X						X	X	X	X	X	X																		
<b>Market Opportunities</b>																																	
Retain Existing Development				X							X	X	X	X	X	X	X	X	X	X	X		X					X		X			
Infill Redevelopment	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Full Site Redevelopment	X	X	X	X							X	X		X						X	X	X		X	X	X		X	X	X	X	X	
<b>Housing Opportunities</b>																																	
Preserve NOAH		X							X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	
Enhance NOAH	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Build New Affordable Housing	X	X	X	X		X	X	X			X	X		X						X	X	X		X	X	X		X	X	X	X	X	

# LYNX SILVER LINE ALIGNMENT & STATIONS

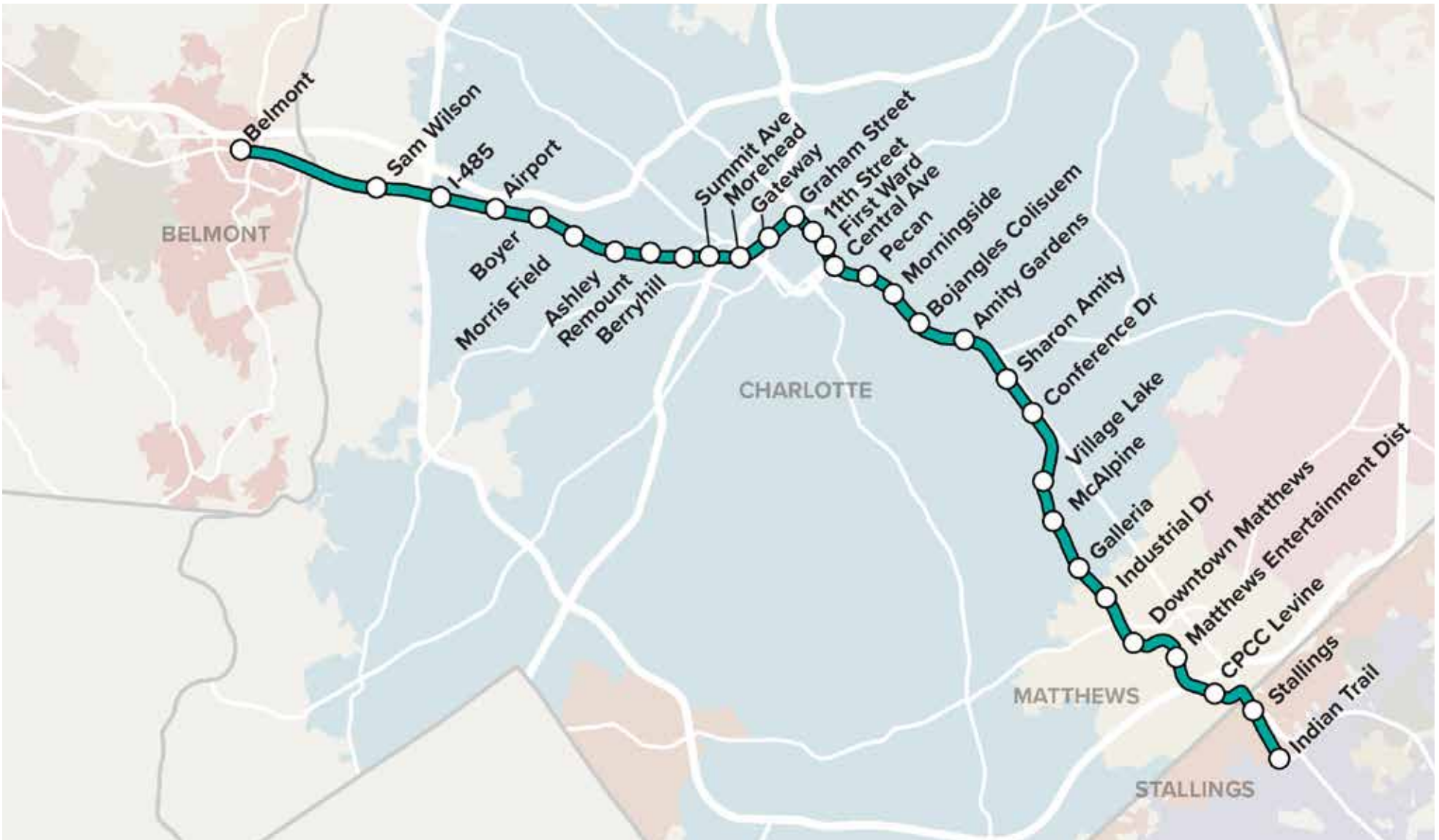






Photo source: Frankie Lopez, Unsplash

