

BCDCOG

# Transit and Bus Stop Design Guidelines



October 2021

# 6 BUS STOP MODIFICATIONS

This chapter explains how bus stop modifications take place. It focuses on when modifications typically occur, and what the process is.

CARTA attempts to locate bus stops where they will be most convenient, accessible, and safe. Nonetheless, sometimes changes are necessary.

Bus stop modifications may originate through a CARTA analysis of local conditions using the guidelines in this section, or by request from elected officials, community organizations, transit riders, or property owners.

Changing a bus stop can be a complex process that involves access, safety, and operational efficiency. It also requires analysis and coordination among stakeholders. Ultimately, factors related to access, safety, and security for people who use the street may take priority and override the concerns of property owners when determining transit stop locations.

The modifications listed in this chapter include: (1) modifying amenities at an existing bus stop, (2) adding bus stops, (3) relocating bus stops, (4) removing bus stops, and (5) modifications during construction. This chapter also covers different types of encroachment permits involved in bus stop modifications.

## **CARTA Is Here to Help**

CARTA receives requests year-round and implements modifications to bus stops on an as-needed and approved basis.

To make a bus stop-related request for CARTA, email Transit Planning at [belenv@bcdcog.com](mailto:belenv@bcdcog.com) or call BCDCOG at (843) 529-0400.





# MODIFYING AMENITIES AT AN EXISTING BUS STOP

**ADD, REMOVE, MOVE, OR OTHERWISE CHANGE AMENITIES—SUCH AS SEATING, LIGHTING, OR A SHELTER—AT A BUS STOP THAT ALREADY EXISTS.**

## When Might this Happen?

- A member of the public or a property developer requests a modification to amenities at an existing bus stop. Any member of the public can make such a request.
- CARTA determines through a planning effort that modifying amenities at existing bus stops is desired.
- SCDOT or a local municipality or county requests a modification to amenities at an existing bus stop based on state or local planning efforts, or as part of a roadway project.

## What’s the Process?

Step	 Community	 BCDCOG/ CARTA Staff	 Other Agency Staff	 Developers
Send a request for modifications to amenities at an existing bus stop (or stops). The request can come from a community member, property developer, municipality, county, SCDOT, or CARTA.	✓	✓	✓	✓
Use the Bus Stop Amenities Scoring process (see Chapter 8) to determine whether it is appropriate to make the requested modifications.		✓		
If the modification request is approved, CARTA staff will manage implementation.		✓		

# ADDING BUS STOPS





## ADD A NEW BUS STOP TO AN EXISTING BUS ROUTE.

Today, CARTA bus stops are generally spaced at appropriate distances to balance access and efficiency. While it is neither feasible nor efficient for every origin and destination point in the transit network to have a bus stop directly in front of it, there are instances where CARTA might consider adding a new stop to a bus route.

### When Might this Happen?

- A member of the public or a property developer requests a modification to amenities at an existing bus stop. Any member of the public can make such a request.
- CARTA determines through a planning effort that modifying amenities at existing bus stops is desired.
- SCDOT or a local municipality or county requests a modification to amenities at an existing bus stop based on state or local planning efforts, or as part of a roadway project.

### What’s the Process?

Step	 Community	 BCDCOG/ CARTA Staff	 Other Agency Staff	 Developers
Send a request for bus stop addition. The request can come from a community member, property developer, municipality, county, SCDOT, or CARTA.	✓	✓	✓	✓
Evaluate a potential new location for an existing stop based on access, safety, and operational efficiency factors (see below call out box and Chapter 2 – Bus Stop Placement)		✓		
If the addition request is approved, CARTA staff will manage implementation.		✓		

All new stops must improve the transit network as a whole by strategically improving access to bus routes while maintaining operational efficiencies that enable passengers to reach their destinations quickly and reliably.

### **New Bus Stops: What Does CARTA Take into Account?**

CARTA considers the following factors related to access, safety, and operational efficiency, when evaluating proposed new bus stop locations.

#### **ACCESS**

- Transit need, defined by demographics, socioeconomics, and other criteria;
- Access to (and at) the proposed stop in compliance with the Americans with Disabilities Act (ADA), including the boarding and alighting area, sidewalks, curb ramps, and pedestrian crossings;
- Equity, as defined and measured by Title VI of the Civil Rights Act of 1964;
- Amenities, including the feasibility of installing seating or a shelter;
- Block lengths, street connectivity, presence of controlled pedestrian crossings, and topography around the proposed stop;
- Curb space uses (i.e. loading, parking) and available curb space for buses to dwell.

#### **SAFETY**

- Lighting, visibility, and protection from vehicle traffic for waiting passengers;
- Presence of controlled pedestrian crossings;
- Ease of bus movement in and out of the proposed stop;
- Volumes and movements of traffic other than transit.

#### **OPERATIONAL EFFICIENCY**

- Routes that would serve the proposed stop, including their service type (Fixed, Commuter, DASH, Neighborhood Circulator) and their frequency of service;
- Land uses surrounding the proposed stop and their suitability for transit service;
- Spacing between adjacent stops and compliance with the Bus Stop Spacing Guidelines (See Chapter 2 - Bus Stop Placement)
- Travel time and dwell time effects on bus operations and passengers' trips;
- Potential ridership, primarily in the form of passengers who currently do not have adequate access to the transit network.

# RELOCATING BUS STOPS





## MOVE THE LOCATION OF AN EXISTING BUS STOP.

Most CARTA stops are located within the public right-of-way on public property. CARTA strives to provide safe, efficient, reliable transportation to as many people as possible. The relocation of a bus stop is a complex and costly process that involves a variety of safety and operational considerations, requiring input and cooperation from internal and external stakeholders. Relocating a bus stop is a decision that should not be made lightly.

### When Might this Happen?

- CARTA determines that there is a major safety concern at an existing bus stop that is best resolved through relocation (based on the factors listed under “Safety” on the previous page.)
- CARTA determines through a planning effort that there is an opportunity to improve the safety, accessibility, or operational efficiency of a bus stop or route by relocating an existing bus stop.
- SCDOT or a local municipality or county requests the relocation of an existing bus stop based on state or local planning efforts, or as part of a roadway project.
- A property developer requests the relocation of an existing bus stop to provide more convenient access to residents, visitors or employees.

### What’s the Process?

Step	 Community	 BCDCOG/ CARTA Staff	 Other Agency Staff	 Developers
Send a request for relocating an existing bus stop (or stops). The request can come from a community member, property developer, municipality, county, SCDOT, or CARTA.	✓	✓	✓	✓
Evaluate a potential new location for an existing stop based on access, safety, and operational efficiency factors.		✓		
If relocation request is approved, CARTA will coordinate.		✓		

# REMOVING BUS STOPS

## REMOVE A SINGLE BUS STOP OR SEVERAL BUS STOPS ON A STREET SEGMENT OR ROUTE.

### When Might this Happen?

- CARTA determines through a planning effort that one or several bus stops should be removed or consolidated to increase the operational efficiency of a bus route.
- CARTA permanently discontinues a bus service.

### What’s the Process?






Step	 Community	 BCDCOG/ CARTA Staff	 Other Agency Staff	 Developers
Analyze the stop or stops for safety, accessibility, transfer points, trip generators, ridership, and spacing guidelines (see Chapter 2- Bus Stop Placement)		✓		
Post a rider notice to notify transit users and the surrounding community of the proposed stop removal 15 days before stop is removed. See figure on next page for an example rider notice.		✓		
Remove bus stop.		✓		

Figure 6-1 Example Rider Notice at Modified Bus Stop




## ATTENTION CARTA CUSTOMERS

### BUS STOP RELOCATION-EFFECTIVE 02/05/21

#### #840 St. Andrews Blvd/Sycamore Ave.

Bus Stop #840 will be moved several feet down across Sycamore Ave.  
View map below for details.



Visit [RideCARTA.COM](http://RideCARTA.COM) FOR MORE INFO OR PLEASE CALL CUSTOMER SERVICE -- 724-7420 MENU OPTION 1

### Stop Removal or Relocation: What Does CARTA Take into Account?

CARTA considers the following factors related to access, safety, location, ridership and trip generation when evaluating removing or relocating bus stops:

#### SAFETY/ACCESSIBILITY

It is vitally important that passengers only access the bus network where it is safe to do so. Because street infrastructure is the responsibility of the state, county, and/or local jurisdictions' departments of transportation, CARTA can make only minor accessibility improvements at bus stops. Bus stops without a safe waiting area, sidewalks, crosswalks, or lighting may be relocated to safer and more accessible locations.

For example, a stop on St. Andrews Boulevard at Sycamore Avenue was shifted from near-side to far-side to be located adjacent to a crosswalk that allows riders to more safely cross St. Andrews Boulevard (Figure 6-2 shows the stop before it was relocated. The crosswalk is visible in the left of the image).



**Figure 6-2 Stop at St Andrews Blvd / Sycamore Ave Before Relocating for Safety and Access Reasons**



### **TRANSFER POINTS**

For the transit network to operate efficiently and effectively, passengers must be able to connect between services. Bus stops should be maintained at locations where passengers can connect to Tri-County Link and other transit providers. Bus stops may be retained at transfer points even if they do not meet spacing guidelines.

### **RIDERSHIP**

Because CARTA has limited resources it is sometimes necessary to discontinue service to bus stops that are used by only a small number of passengers. Stops with less than five boardings and alightings per day may be considered for removal if it is not needed to meet the Bus Stop Spacing Guidelines in Chapter 2.

A bus stop with more than 100 boardings and alightings per day is a useful stop that should be retained. However, even stops that have more than 100 passengers a day may be removed when they are close to another stop, adjacent to a stop that functions as a transfer point, or adjacent to a stop with greater capacity for waiting passengers or amenities such as a bus shelter.

### **TRIP GENERATORS AND SPECIAL CONSIDERATIONS**

Many origins and destinations in the transit network are very important to serve as directly as possible. Before removing a stop, consideration is given to nearby schools and universities, healthcare facilities, services and dense housing for people with disabilities and older adults, large employers, community centers, and other major points of interest. Bus stops near some trip generators may be retained even if they do not meet spacing guidelines.

## MODIFICATIONS DURING CONSTRUCTION

Construction and maintenance near bus stops, whether related to public infrastructure or private development, is inevitable. It is vital that state and local government agencies and private developers coordinate with CARTA to ensure that passengers can safely access the transit network during periods of construction or maintenance.

Requirements for construction and maintenance near bus stops:

- In accordance with SCDOT Complete Streets regulations, work zone traffic control plans must address all modes of travel that are currently accommodated within the limits of the construction project. This may require appropriate design features to adequately maintain existing accommodations during construction.<sup>1</sup>
- Traffic control devices, including variable message signs, must not interfere with accessible paths to bus stops. If a traffic control device must block access to a bus stop, then an accessible temporary bus stop must be established during construction.
- Where an alternative route to an existing bus stop cannot be provided, work zone traffic control plans<sup>2</sup> must include a temporary bus stop. Temporary bus stops must be accessible to passengers with disabilities, with accessible boarding and alighting and waiting areas, and signage and notice must be provided to passengers.
  - A temporary bus stop should be signed by posting a temporary bus stop sign provided by CARTA
  - Local government agencies and private developers may mount a temporary bus stop sign on a temporary support they provide during construction.

Guidelines for construction and maintenance near bus stops:

- CARTA should be involved in the planning of traffic control during construction. CARTA seeks to minimize delay for passengers when creating detours, but street closures are not within its jurisdiction.
- Pedestrian routes during construction should be located on the same side of the street as the construction activity to reduce pedestrian crossings.

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<sup>1</sup> Source: SCDOT <http://info2.scdot.org/SCDOTPress/PublishingImages/DD%2028%20Complete%20Streets.pdf>

<sup>2</sup> Detailed here: [https://www.scdot.org/inside/pdfs/WZTCM/Work\\_Zone\\_Traffic\\_Control\\_Manual.pdf](https://www.scdot.org/inside/pdfs/WZTCM/Work_Zone_Traffic_Control_Manual.pdf)

# ENCROACHMENT PERMITS, PRIVATE PROPERTY USE AGREEMENTS, AND MUNICIPAL REVIEW COMMITTEES

If a bus stop is approved to be moved or added according to the above guidelines, CARTA may have to obtain an encroachment permit, private property use agreement, and/or approval by municipal review. A bus stop modification may be subject to one or more of the following requirements. CARTA is available to assist with directing any relevant parties to the correct and relevant permitting websites described below:

## Private Property Use Agreement

If a change will impact private property—e.g., a bus stop landing pad and shelter will encroach onto the land of a privately owned commercial site—CARTA will seek an Agreement with the property owner to either own or lease the land that the bus stop will occupy. CARTA, the property owner, the engineering firm CARTA hires to design and build the bus stop, and the municipality where the change is taking place will work together to obtain a permit to make the change.

If a change will impact public property, CARTA must obtain permits from the affected agency or municipality. All possible agencies and municipalities are listed below:

## SCDOT Encroachment Permit

As of 2021, approximately three-quarters of CARTA bus stops are located on state roads. In the event that a stop is added or moved on a SCDOT road, and the stop involves a major capital improvement, CARTA must obtain an Encroachment Permit from SCDOT. The Encroachment Permit form and drawings are submitted for review to SCDOT, which reviews the submission for safety concerns, site visibility issues and traffic controls. Following rounds of review and changes, SCDOT will issue an Encroachment Permit. Guidelines and checklists for obtaining an Encroachment Permit from SCDOT are available online at <https://www.scdot.org/business/permits.aspx>. SCDOT maintains a “Street Finder” to help determine if a road is under municipal or SCDOT jurisdiction: <https://ris.scdot.org/RoadwayInformationStreetFinder.aspx>.

## County of Charleston Encroachment Permit

Most CARTA bus stops are located in Charleston County. Where bus stops are sited to encroach on Charleston County public property, an encroachment permit is needed. Following rounds of reviews and changes to an application for an encroachment permit, the Charleston County Department of Public Works will issue an encroachment permit.

Application and instructions for an encroachment permit in Charleston County are available online: <https://www.charlestoncounty.org/departments/public-works/index.php>

## **City of Charleston Design Review Committee**

As of 2021, approximately 375 of CARTA's stops are located in the City of Charleston (see Figure 6-3 and Figure ). The Design Review Committee (DRC) is special to the City of Charleston. DRC has approved the new and historical shelter design used at CARTA bus stops (see Appendix E – Shelter Specifications) and is tasked with approving any major elements of a bus stop improvement located south of Line Street (the historic district) within the City of Charleston. Following rounds of review and changes, DRC will issue a final approval. DRC processes and procedures are available online: <https://www.charleston-sc.gov/DocumentCenter/View/1336/DRC-process-and-application-form?bidId=>.

## **Town of Mt. Pleasant Design Review Team**

As of 2021, approximately 85 of CARTA's stops are located in Mt. Pleasant (see Figure 6-3 and Figure ). Mt. Pleasant's Design Review Team (DRT) is charged with reviewing CARTA's bus stop site plans. DRT is tasked with approving any site plans for modified bus stops. Following rounds of review and changes, DRT will issue a final approval. DRT processes and procedures are available online: <http://www.tompssc.com/1170/Development-Review-Team>.

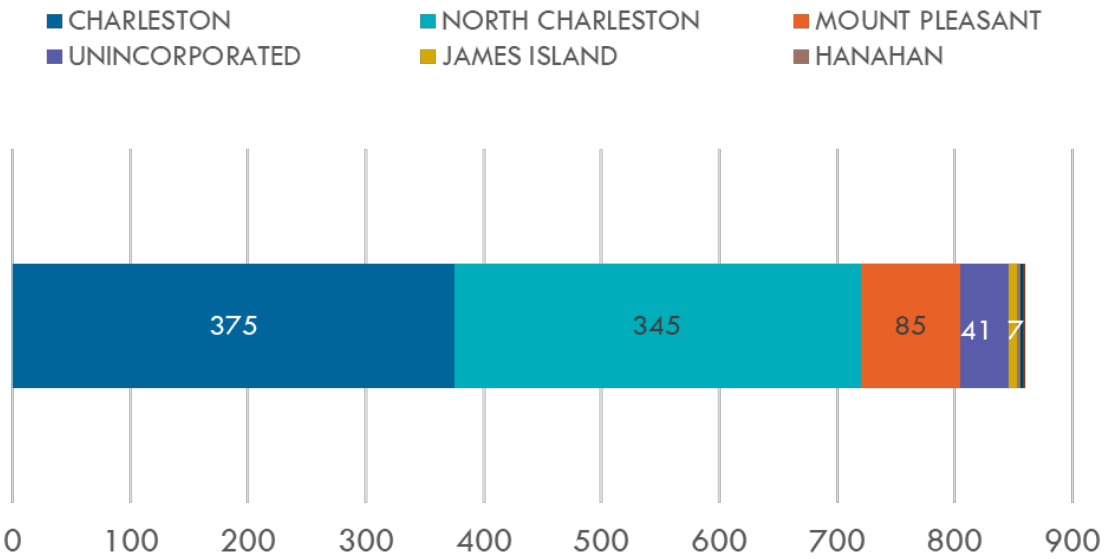
## **Town of James Island Encroachment Permit**

An application is required when any type of work is proposed within a Town of James Island right-of-way or easement. The Town of James Island Encroachment Permit application is available online: <https://www.jamesislandsc.us/Data/Sites/1/media/public-works-forms/encroachment-permit-application.pdf>

## **City of North Charleston Permit**

As of 2021, approximately 345 of CARTA's stops are located in North Charleston (see Figure 6-3 and Figure 6-4). If a site plan is along a North Charleston street, CARTA must work with the City to obtain an encroachment permit. Following rounds of review and changes to CARTA's site plan, the City will issue an Encroachment Permit. City of North Charleston encroachment permit processes and procedures are available online: <https://www.northcharleston.org/business/construction-and-development/permits/encroachment-permit/>.

**Figure 6-3 Bus Stops by Municipality**



**Figure 6-4 Map of Bus Stops by Municipality**

