

Greater Cleveland Regional Transit Authority

# Transit Street & Bus Stop Design Guidelines

# This document was created by

# **Greater Cleveland Regional Transit Authority**

# **Service Management**

Director Joel Freilich Jeffrey Macko Nate Robbins James Liou

# **Programming and Planning**

Director Maribeth Feke Mandy Metcalf Joey Warnkin

# **Our Mission:**

Connecting the Community

### **Our Vision:**

Leading the delivery of safe and creative mobility solutions and community connections

Published April 2024



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# **Purpose**

GCRTA is committed to delivering outstanding transit service to residents and visitors of Cuyahoga County and ensuring accessibility for riders regardless of age or ability. Bus stops are a critical part of the transit system as they serve as the first point of contact between the customer and the service. The purpose of these guidelines is to explain how developers, community groups, and municipalities can work with GCRTA to facilitate excellent transit service and maximum accessibility. This document explains how bus stops should be designed in order to support safe and efficient transit operations and how much space needs to be allocated for bus stops and shelters. These guidelines also provide some background on how GCRTA decides where to place bus stops and shelters.

The guidelines presented in this document are intended to supplement existing engineering, design, and environmental standards of the local municipality in which the transit facility is located. The design of any transit facility shall be fully compliant with all applicable laws, rules, regulations and codes. *Nothing written or illustrated in these guidelines should be construed as a waiver of any applicable law, rule, regulation or code, nor does it relieve the designer or developer of the responsibility to verify the compliance of their designs.* 

### For Developers

When a property is located adjacent to transit service, the design team should reach out to GCRTA before site design begins. GCRTA's design review services can help developers configure their project to capitalize on nearby transit service. GCRTA can provide guidance on the following:

- Maximizing the ability of future employees and/or residents to access the site via transit
- Ensuring that site layout will be conducive to transit use
- Integrating bus stops successfully into streetscape plans
- Upgrading bus shelters in coordination with streetscape improvements
- Reducing disruption to transit service during construction

GCRTA prefers to be included in design processes before plans are submitted to municipalities.

See Chapter 5 for more detailed information and guidance.

# **For Community Groups**

We appreciate community groups that want to work with GCRTA to help improve the transit waiting environment. This document explains the processes for adopting a shelter or investing in an enhanced shelter. GCRTA can also work with members of the community to install art wraps or community branding on select shelters.

For more information on the Adopt-a-Shelter program and the Community Partner Investment Program see Chapter 3.

# For Municipalities

GCRTA operates in many different municipalities in Cuyahoga County. We encourage all serviced municipalities to include GCRTA at the beginning stages of planning for all roadway projects, including both road rehabilitation and streetscape improvement projects. It is important for GCRTA to review projects for transit compatibility in their early stages.

These guidelines identify best practices for transit supportive street design - in the roadway, on sidewalks, in rights-of-way, and at intersections. The guidelines will be useful for:

- Understanding lane and curb configurations that prioritize transit and some basic principles for good bus stop design and placement
- Facilitating discussion with GCRTA on site development
- Promoting investment in transit waiting environments and pedestrian connections

### Contact

For municipal roadway projects, please contact Brian Temming

- btemming@gcrta.org, 1-216-3563-270

For development review, please contact Jeffrey Macko - jmacko@gcrta.org, 1-216-356-3048

For enhancements to local bus stops, please contact Nicholas Miller - nicholas.miller@gcrta.org, 1-216-356-3259



# **System Overview**

GCRTA operates several modes of transit service throughout Cuyahoga County. This document will provide guidance on bus stop design for fixed-route bus service including radial routes, crosstown routes, Park-N-Ride routes, and trolley routes. The fixed-route bus service is described below.

Radial - routes that travel to and from downtown (excluding Park-N-Ride);

Crosstown - routes that run entirely outside of downtown;

Park-N-Ride - routes that operate on freeways between downtown and Park-N-Ride lots;

Trolley - routes that operate a local service traveling entirely within a small, dense area.

GCRTA also operates bus rapid transit (BRT) and rail service. BRT and rail station design guidance is not provided in this document.

For all services and schedules see <a href="https://www.riderta.com/routes">https://www.riderta.com/routes</a>

For an interactive system map see <a href="https://www.riderta.com/systemmap">https://www.riderta.com/systemmap</a>



### **Overview**

This chapter explains how GCRTA places bus stops, the specific requirements for bus stops, and the street design needs for safe and efficient service. This section includes typologies for bus stops with local service and then illustrates where these typical bus stops should be placed on their respective blocks.

# Where Bus Stops are Established

Careful consideration is given when determining bus stop locations. Safety plays a significant role in the placement of bus stops. Consideration is given to bus operations, passenger boarding/alighting, and how pedestrians access the bus stop. A standard round-trip on transit will almost always require crossing the street. A traffic signal with crosswalks on all legs of the intersection presents the ideal location to place a bus stop. When a traffic signal is not present, stops can be placed at unsignalized intersections, preferably with crosswalks. Midblock stops are located in between two intersections. Midblock stops are placed near trip generators such as large employment centers, healthcare facilities, and schools. It is common practice for GCRTA to establish six bus stops per mile in each direction. When possible, pairs of bus stops are located across the street from each other.

# **Local Bus Stop Typologies**

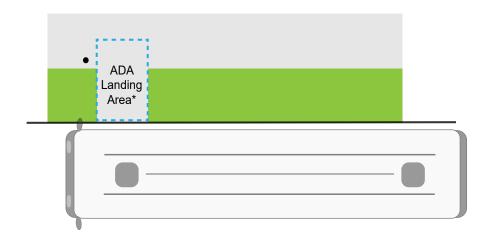
GCRTA has two main bus stop typologies that can further be broken down by stops with and without a shelter. The primary typologies are (1) Front Door Boarding Only, Hard Surface and (2) All Door Boarding, Hard Surface. We recognize that many stops in our service area may not be representative of these typologies. This document is part of an effort to improve the customer experience at all bus stops. It is GCRTA's desire to eventually improve all stops to fit these typologies.

# **ADA Compliance**

For a bus stop to be ADA compliant it must include a 5 foot by 8 foot 4 inch (as of publishing date) clear and continuous hard surface with a slope perpendicular to the roadway of 2.1% or less (as of publishing date) that connects to the sidewalk network. Bus shelters must be connected by an accesible route to a boarding and alighting area. See also ICC Accessible and Usable Buildings and Facilities.

# Front Door Boarding Only, Hard Surface

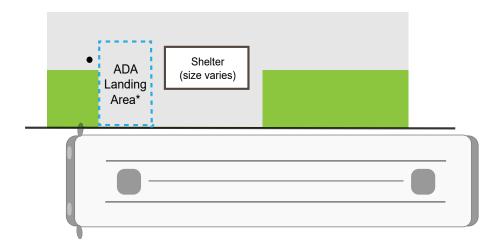
This bus stop typology requires an ADA Landing Area that connects to the sidewalk network.



\*ADA Landing Area must be 5' by 8'4" and have a slope perpendicular to the roadway of 2.1% or less

# Front Door Boarding Only, Hard Surface with Shelter

This bus stop typology requires an ADA Landing Area adjacent to additional hard surface for a bus shelter. The exact hard surface area needed depends on shelter size and type. There must be an accessible route between ADA Landing Area and bus shelter.

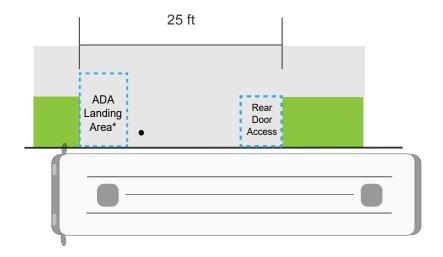


\*ADA Landing Area must be 5' by 8'4" and have a slope perpendicular to the roadway of 2.1% or less



# All Door Boarding, Hard Surface

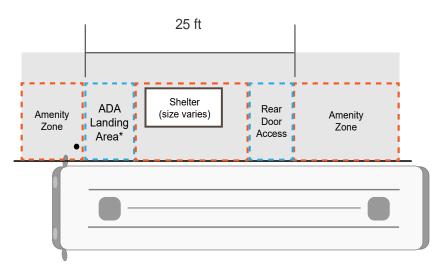
This bus stop typology requires an ADA Landing Area and a minimum of 20 additional feet of continuous hard surface that allows for rear-door access to our vehicles. 25 feet total.



\*ADA Landing Area must be 5' by 8'4" and have a slope perpendicular to the roadway of 2.1% or less

# All Door Boarding, Hard Surface with Amenity Zone

This bus stop typology requires an ADA Landing Area and a minimum of 20 additional feet of continuous hard surface that allows for rear-door access to our vehicles. Additional hard surface may be necessary for amenities that do not impede the accessible route between the ADA Laning Area and bus shelter. Amenities are detailed in Chapter 3 of this document.



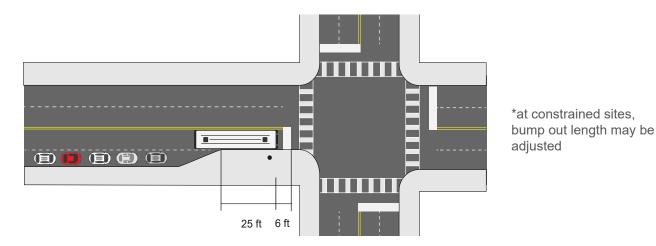
\*ADA Landing Area must be 5' by 8'4" and have a slope perpendicular to the roadway of 2.1% or less

# **Bus Stop Configurations**

This section provides guidance on how bus stops should be placed on a given block and how many feet of marked bus stop zone is required for bus operations. There can be no parking or stopping in these zones. Representation is based on 8 foot parking lane. For each additional foot of curb lane width, regardless of use, 5 additional feet of bus stop zone is needed.

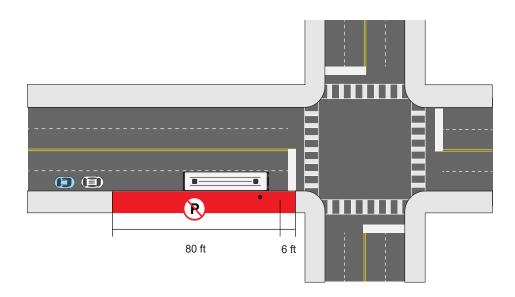
### **Near Side Bump Out**

This configuration requires a 25 foot bump out including an ADA Landing Area for bus approach, boarding, and alighting beginning no less than 6 feet from the stop bar. 31 feet minimum clearance.



# Near Side

This configuration requires an 80 foot no parking zone for bus approach, boarding, and alighting beginning no less than 6 feet from the stop bar. 86 feet minimum clearance.

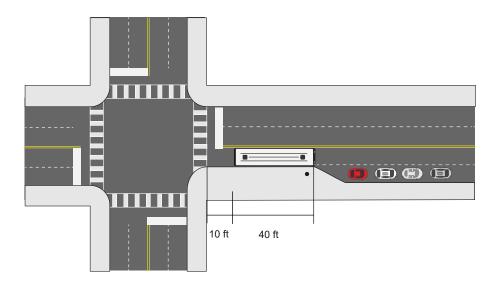




# **Far Side Bump Out**

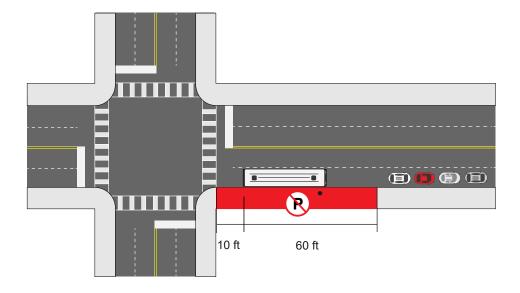
This configuration requires a 40 foot bump out including an ADA Landing Area for bus approach, boarding, and alighting beginning no less than 10 feet from the nearest crosswalk or intersection. 50 feet minimum clearance.

\*at constrained sites, bump out length may be adjusted



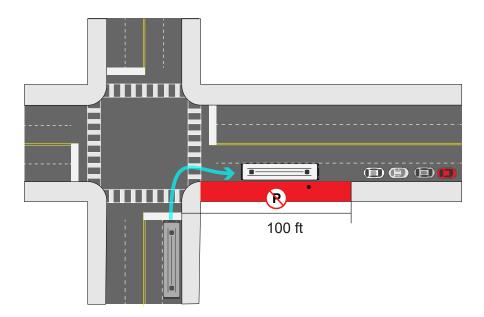
### Far Side

This configuration requires a 60 foot no parking zone for bus boarding, alighting, and departure beginning no less than 10 feet from the nearest crosswalk or intersection. 70 feet minimum clearance.



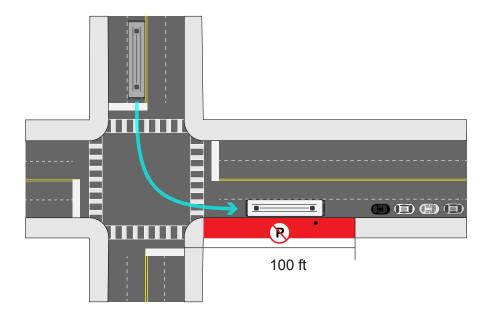
# **Far Side from Right Turn**

This configuration requires a 100 foot no parking zone for bus approach, boarding, alighting, and departure measured from the road's tangent point.



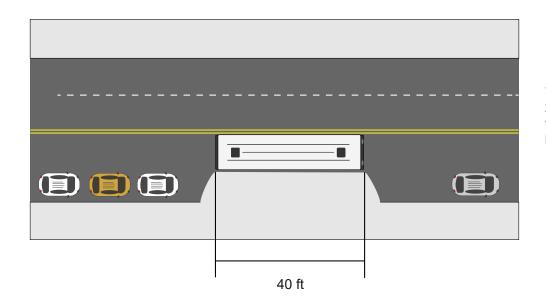
### Far Side from Left Turn

This configuration requires a 100 foot no parking zone for bus approach, boarding, alighting, and departure measured from the road's tangent point.



# **Mid-Block Bump Out**

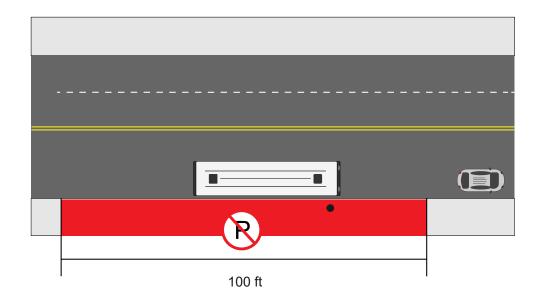
This configuration requires a 25 - 40 foot bump out including an ADA Landing Area for bus approach, boarding, and alighting beginning no less than 10 feet from the nearest crosswalk (if applicable).



\*40 feet is ideal, but 25 feet is acceptable to allow for all door boarding

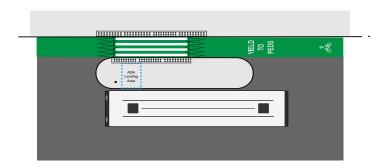
### Mid-Block

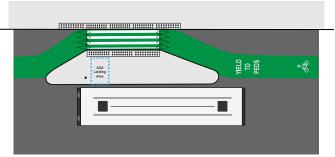
This configuration requires a 100 foot no parking zone for bus approach, boarding, alighting, and departure.



# Raised Bike Lane Boarding Island

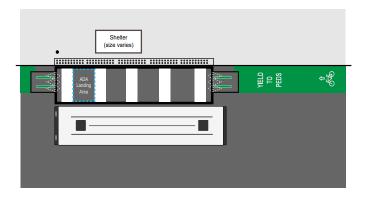
This is GCRTA's preferred bike-bus interaction. In this scenario, the bike lane runs behind a 25 foot minimum boarding island, but is raised to meet the height of the curb and the pedestrian crossing will remain curb height. An ADA Landing Area, an ADA accessible route to and from the shelter (if shelter is provided), and space for rear-door access must be present. Tactile warning strips and pavement marking should alert both cyclists and pedestrians that they are entering a shared platform. The layout of the bike lane can vary as demonstrated in the diagrams. The bike lane can run in front of or behind on-street parking.





### Raised Shared Platform

In this scenario, cyclist and transit riders share a 25 foot minimum curb extension. The bike lane will rise to meet the height of the curb and then go back down to street level again. There are several ways to achieve this scenario including temporary platforms such as ZICLA platforms. An ADA Landing Area, an ADA accessible route to and from the shelter (if shelter is provided), and space for rear-door access must be present. Tactile warning strips and pavement marking should alert both cyclists and pedestrians that they are entering a shared platform.





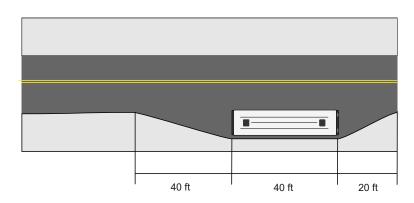
ZICLA Vectorial Platform with dedicated platform space for boarding and alighting.



# **On-Street Layover**

A layover is where a bus ends its current trip and parks until the next trip is scheduled to begin. A layover is the only time that GCRTA is supportive of a bus pull-off. For detailed design of bus pull-offs please consult GCRTA.

Bus pull-offs for one bus must have at minimum, a 40 foot entrance taper, 40 feet of straight curb, and a 20 foot exit taper.





### **Overview**

Passenger amenities are a significant element in attracting people to use public transportation. Shelters are the foremost passenger amenity because they offer protection from the elements. Other important amenities include: trash receptacles, seating, lighting, information, shared mobility, public art, and landscaping. An investment in passenger amenities enhances the overall transit riding experience by making facilities safer and more comfortable. Amenities should typically be placed in 'Amenity Zones' as illustrated in the previous section of this document, but the most important thing is they do not obstruct the ADA landing area, accessible route, rear-door access area, or impede the travel path in any way.

Generally, GCRTA's practice is to target high ridership stops for the addition of amenities and other transit waiting environment improvements, but we have two standing programs that allow community partners to improve transit waiting environments of their choice. These are the Community Partner Investment Program and the Adopt-a-Shelter Program.

# **Community Partner Investment Program**

The Community Partner Investment Program (CPIP) allows individuals, businesses, or organizations to provide funds to GCRTA for the purchase of a new shelter at a bus stop of their choosing. GCRTA can provide guidance in determining the ideal and most impactful location for new shelters. After the community partner provides payment, GCRTA will order the shelter, install it, and maintain it in accordance with our standards.

Under the CPIP there are many shelter options available including standard and enhanced styles. Community partners can purchase new shelters in GCRTA's standard style with different pre-approved roof options. GCRTA also welcomes and facilitates enhanced shelters that integrate into varied streetscape designs and community branding initiatives.

GCRTA can also apply custom art to shelter glass with an adhesive vinyl wrap where it will not conflict with GCRTA advertising contracts and follow the sizing and visibility guidelines (see next page.) GCRTA will assist community partners in layout and formatting artwork. A maintenance agreement is required for wraps.

For CPIP inquiries involving new shelters and shelter wraps, please contact Programming & Planning at planning@gcrta.org. You can also refer to *GCRTA's website*.

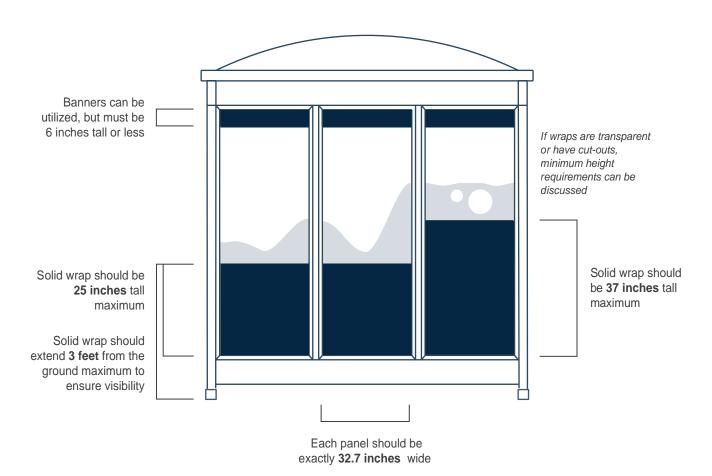


Lakewood City Hall



Gordon Square Arts District

# **Graphic Wrap Sizing Guidelines**



- Measurements based on a standard issue GCRTA shelter
- Height requirements for all standard shelter sizes remain the same
- Lower height requirements reflect panels with/without a bench
- All design propsoals are subject to GCRTA review

# **Adopt-a-Shelter Program**

The Adopt-a-Shelter Program is available for an individual or community group interested in helping GCRTA maintain a pre-existing shelter. The program allows local businesses, organizations, churches, individuals, etc. to keep their local shelters attractive and well maintained and is based on a two-year adoption cycle. Participants are recognized for their commitment with a personalized decal on their shelter.

### What are my responsibilities?

- Help remove debris between scheduled cleanings.
- Help remove snow and ice.
- Call 216-621-9500 to report the need for repair, due to damage or vandalism.
- Provision of amenities, subject to GCRTA and municipality approval.
- May include planting, seating, art, etc.

# Who can adopt shelters?

- Individual residents
- Local development corporations
- Religious institutions or local religious groups
- Non-profits
- Schools
- Businesses

# How can I get started?

- To begin the adoption process, please refer to <u>GCRTA's website</u> or contact Marketing at marketing@gcrta.org or 1-216-356-3361.

# **Shelter Programs Recognition Decal**

Those who take part in the Community Shelter Investment Program or the Adopt-a-Shelter Program will be recognized with a small vinyl decal on their shelter. Examples below.





### **Individual Amenities**

Amenities at bus stops are always subject to approval by the local municipality. Not all amenities listed here are provided or maintained by GCRTA. Local partnerships can facilitate the placement of amenities. Amenities must not impede ADA access, rear-door access, or bus operations.

# **Trash Receptacles**

Trash and recycling receptacles are important to keeping the transit waiting environment litter-free and inviting. GCRTA does not provide or empty trash receptacles, they are typically the responsibility of the municipality. If provided, they must not obstruct the ADA Landing Area or rear-door access area (see Chapter 2). Trash receptacle should be emptied regularly and kept in good repair. GCRTA recommends that the receptacles not be attached to the GCRTA bus stop pole.





# **Seating**

Seating at bus stops enhances passenger comfort, especially for patrons who have difficulty walking and standing. Benches can be especially beneficial if bus headways are longer than 15-minutes. GCRTA standard shelters include a bench, but there are many opportunities for additional seating. These pieces of furniture must not obstruct the ADA Landing Area or reardoor access area (see Chapter 2).





# Lighting

Lighting enhances customer safety by providing quality visibility in the early morning and evening. It also ensures that customers are visible to approaching bus drivers. Solar-powered lighting is a sustainable option that could be added to bus shelters in suitable locations through the Community Partner Investment Program (see Chapter 3). Standard street lighting is also very important to keeping a bus stop safe and visible.





### Information

A bus stop sign, provided and maintained by GCRTA, designates bus stop locations. GCRTA has a standard informational sign (*see Appendix*). Other types of informational displays, including real time digital information are very helpful for transit riders. Digital information is better than printed materials because the latter are cumbersome to keep updated with current information.





# **Shared Mobility**

Other agencies and municipalities may identify destinations where bike racks are desired to support multimodal activity. In addition, bike/scooter share stations and bike/scooter storage can support transit use. It is recommended that bike/scooter share stations and bike/scooter parking be located outside of ADA landing areas, rear-door access areas, and accessible paths outlined earlier in this guide (see Chapter 2). All bike/scooter zones located at or near bus stops should be planned and designed in coordination with GCRTA.





### **Public Art**

GCRTA supports the installation of art projects in transit systems to elevate the customer experience and to foster the artistic interests of the region. Public art can also increase the appeal of transit in our community. GCRTA encourages partnerships between agencies, municipalities, developers, local art studios, and other community development organizations to bring artistic elements to transit waiting environments. It is also strongly recommended that the community be involved in the process as much as possible. GCRTA welcomes public art installations provided they do not impede the ADA Landing Area, rear door access, or reduce sight lines between the bus operator and waiting passengers or general traffic.

GCRTA offers community partners the ability to design graphic wraps to be installed on our shelters through our Community Partner Investment Program. A community partner can enter into a wrap agreement to design a wrap and if approved, GCRTA will print and install it. Please refer to Chapter 3 of this guide for more information.





# Landscaping

Street trees and other landscaping can benefit waiting passengers by providing shade and enhancing the appeal of the bus stop to the surrounding community. Street trees and other landscaping installed near bus stops should not compromise the function of the bus stop or reduce its visibility or accessibility. This involves appropriately siting plantings and regularly maintaining them. Landscaping must not obstruct the ADA landing area, rear-door access area, or the connection to the sidewalk network.





# **Overview**

When designing complete streets or considering multimodal improvements, communities should keep in mind the special needs of transit. This section provides guidance on a wider range of roadway and streetscape issues. Many of these suggestions improve transit's speed and reliability, but they will also improve cyclist and pedestrian conditions. Our recommendations are broken down by recommendations for all streets with transit service and additional recommendations for transit priority streets.

# **Strategies for Streets with Transit Service**

The following strategies should be considered for all streets with transit service.

### **Bring the Curb to the Bus**

The bus must meet the curb to pick up passengers. Bus bump outs, boarding islands, and raised cycle lanes at stops enable buses to travel in a straight line without having to pull out of traffic and then wait to merge back into traffic at stops, which results in improved safety and faster, more reliable service. Bus bump outs can also provide additional space for enhanced transit waiting environments and allow additional space for parking.

### **Lane Width**

Lane widths on streets with transit service need to be appropriate based on lane configuration, level of service, and the knowledge that our vehicles are up to 123 -125 inches wide mirror to mirror. Please consult with GCRTA about lane width needs on a case-by-case basis.

# **Enhance Transit Waiting Environments**

As detailed in other sections, bus passengers should have a safe and pleasant place to wait for the bus, with amenities like seating, shelter, trash cans, and real-time arrival information.

# **Improve Pedestrian Connections and Safety**

All transit riders are pedestrians for a portion of their trip, therefore a safe and pleasant walking environment is essential to encourage transit use. When designing transit streets, pedestrian convenience and safety should be a high priority while carefully considering the occasional tradeoffs between bus operations and pedestrian comfort.





### Pedestrian/Crosswalk Best Practices

As mentioned before, over the course of a round trip, almost all bus passengers will need to cross the street multiple times.

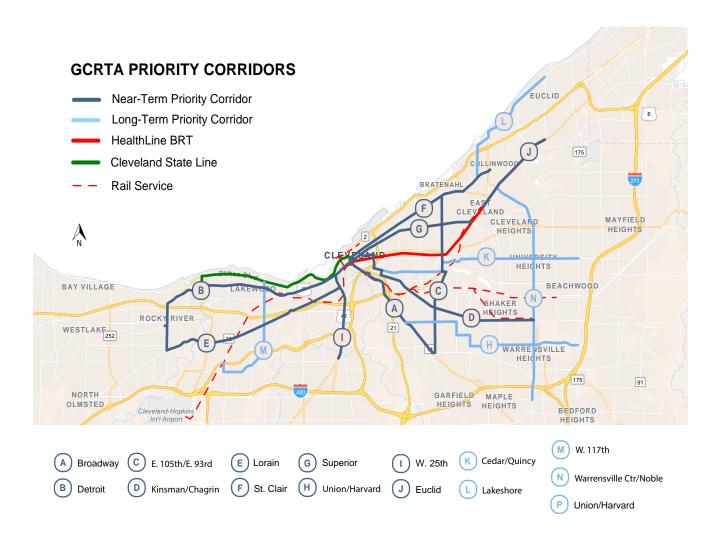
For maximum convenience and safety, bus stops should be located as close as possible to a safe crossing. An intersection with a traffic light provides the greatest level of safety for pedestrians. Crossings with a designated pedestrian signal also provide a higher level of safety than crossings designated only with paint or signage. Marked crosswalks should be installed at *all legs* of signalized intersections.

# Safety for pedestrians crossing the street is further improved by:

- Reduced vehicle speed
- Leading pedestrian intervals
- Right turn restrictions
- Left turn restrictions
- Signalized dedicated left turn only lanes
- Bump Outs and Boarding Islands
- Reduced number of travel lanes
- Shorter pedestrian crossing distance
- Raised, high visibility crosswalks and intersections
- Frequent crosswalks, especially at bus stops (see <u>ODOT Multimodal Design Guide</u> <u>section 4.4.1</u>)
- Street lighting
- All red signal phase

# **Priority Corridors and Transit Priority Streets**

In its Strategic Plan, GCRTA has designated priority corridors where the agency would like to pursue capital improvements that enable fast, frequent bus service and/or BRT. Short of qualifying as BRT, the priority corridors can still be designed to give priority to transit. Municipalities may want to designate additional streets beyond the GCRTA priority corridors to be designed as Transit Priority Streets. A Transit Priority Street is a street which is designed to give priority to fast and reliable bus service while supporting opportunities for placemaking and bike and pedestrian travel. GCRTA planning staff is available to provide consultation and advice on these matters.



# **Strategies for Transit Priority Streets**

Additional strategies should be included when designing streets **prioritized for transit**.

### Align Land Use and Zoning to Support Transit

Zoning can support walkable environments by encouraging reduced curb cuts, buildings adjacent to the sidewalk, density, mixed uses, and other elements of pedestrian-oriented design. GCRTA has developed guidance for transit-oriented development (TOD). For more detailed information on what types of zoning and land use support transit, please see <a href="Cuyahoga County's Best Practices for TOD Zoning.">Cuyahoga County's Best Practices for TOD Zoning.</a>

### **Transit Signal Priority**

Utilize traffic signal technology that can detect buses and give them priority. For example, by triggering or extending green lights. This allows buses to compete with the speeds of other modes of travel.

### **Queue Jumps**

A queue jump is a type of roadway configuration used to provide preference to buses at intersections. It consists of an additional travel lane on the approach to a signalized intersection. This lane is often restricted to buses only. A queue jump lane is usually accompanied by a signal which provides a phase specifically for the bus. Buses in the queue jump lane get a head-start over other vehicles and can therefore merge into the travel lane immediately beyond the signal.

# **Prioritize Space for Bus Travel**

There are three main ways to configure streets to prioritize bus travel. Dedicated bus lanes, peak hour bus lanes, and single travel lanes. these configurations are further explained on the following pages. Depending on the width of the street, parking and/or bike lanes may be incorporated into transit streets. The design recommendations for bus stops adjacent to parking and bike lanes that are found elsewhere in these guidelines must be incorporated.

### **Dedicated, 24-Hour Bus-Only Lanes**

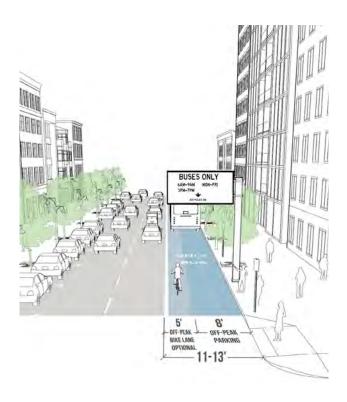
While the Healthline on Euclid Avenue has center running bus lanes, GCRTA prefers curb running bus lanes in most cases for access, safety, and efficiency (pictured opposite).

Where bus lanes are adjacent to parking lanes, bus bump outs are required to bring the curb to the bus for fast, reliable service, and can also provide additional space for enhanced transit waiting environments. Bike travel can share the bus lane. However, the preferred option for bike traffic from a bus operation point of view is to physically separate it from the bus lane. This can be done by creating a protected bike lane between the parking and the curb, with a bus Boarding Island in the parking lane at stops. For bus stops adjacent to bike lanes, use Raised Cycle Lanes.

### **Peak Hour Bus-Only Lanes**

These operate as bus-only lanes at rush hours and provide parking at other times. Buses are prioritized for peak hour commuters, but have a significant operational disadvantage during non-peak hours as the bus must pull to the curb. For this reason, peak hour bus lanes are best for streets with low off-peak traffic volumes.

Bikes can share the bus lane during peak hours and utilize the space adjacent to parking during off-peak hours.





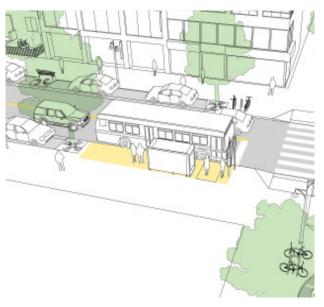


# **Single Travel Lanes**

Where the bus remains in the lane at stops and other vehicles wait behind the bus, travel times are more similar for cars and buses. Pedestrians traveling to and from bus stops are also prioritized by streets with one travel lane in each direction, because shorter street crossings are safer.

One travel lane shared with general vehicles and buses means that all vehicles must wait behind buses as they load and unload. This allows bus speeds to be competitive with general vehicle speeds in the corridor. If the street has parking, a bus bump out or bus Boarding Island in the parking lane at bus stops is required to bring the curb to the bus for fast reliable service. See examples of single travel lane configurations below.







#### **Plan Review**

Since roadway design, land use, and development affect GCRTA's transit service, GCRTA should be consulted and involved in the early planning and design phases of a project. Through this early collaboration, transit service options can be identified, and transit-oriented design features can be integrated into the project plans to ensure that transit is accessible for current and future riders.

GCRTA offers in-house plan review to municipalities, developers, and others. Municipalities often request that plans are reviewed by GCRTA and the implementation of the guidelines set forth in this document. GCRTA staff is available to meet, analyze site plans, and suggest design options.

Construction projects that significantly impact a transit route or the surrounding land use of existing stops may elicit a re-evaluation of the current route alignment and/or current location of bus stops. Early involvement is required from GCRTA staff to identify any possible changes to the route alignment and/or stop locations.

In order to review development plans and provide feedback, GCRTA requests the following items:

- An e-mail or letter identifying:
- Municipality or developer requesting the review
- Information of appropriate contact person
- Project name and location
- Requested date for GCRTA response

#### **Construction Coordination**

When a construction project will affect existing GCRTA transit service, GCRTA staff should be contacted as early as possible to ensure the effected transit routes and stops are still serviceable by GCRTA vehicles. GCRTA should be given at least two weeks advance notice of projects that will interfere with service so the proper reroutes and temporary stops can be identified and to ensure the public can be given sufficient notice of the service changes. To the extent possible, it is preferred that GCRTA bus stops are allowed to remain operational throughout a construction phase and pedestrian access to the stops is maintained.



#### **Image Citations**

Page 16 (bottom right): ZICLA. https://www.zicla.com/en/blog/zicla-products-in-the-transit-street-design-guide-of-nacto/.

Page 17 (top): Doug Trumm. https://www.theurbanist.org/2019/07/02/northgate-link-bus-restructure-opens-up-new-possibilities/

Page 28: Green Lane Project. https://nacto.org/case-study/dexter-avenue-seattle/

Page 34 (left): National Association of City Transportation Officials (NACTO). https://nacto.org/publication/transit-street-design-guide/transit-lanes-transitways/transit-lanes/peak-bus-lane/

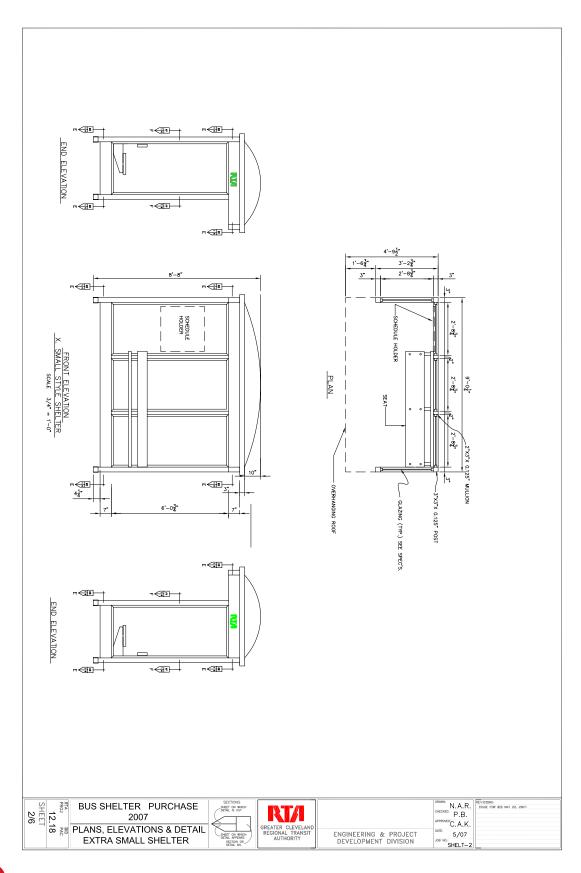
Page 34 (right): NACTO. https://nacto.org/publication/transit-street-design-guide/transit-lanes-transit-ways/transit-lanes/shared-bus-bike-lane/

Page 35 (top): NACTO. https://nacto.org/publication/transit-street-design-guide/transit-streets/street-environments/

Page 35 (bottom left): NACTO. https://nacto.org/publication/transit-street-design-guide/stations-stops/stop-configurations/side-boarding-island-stop/

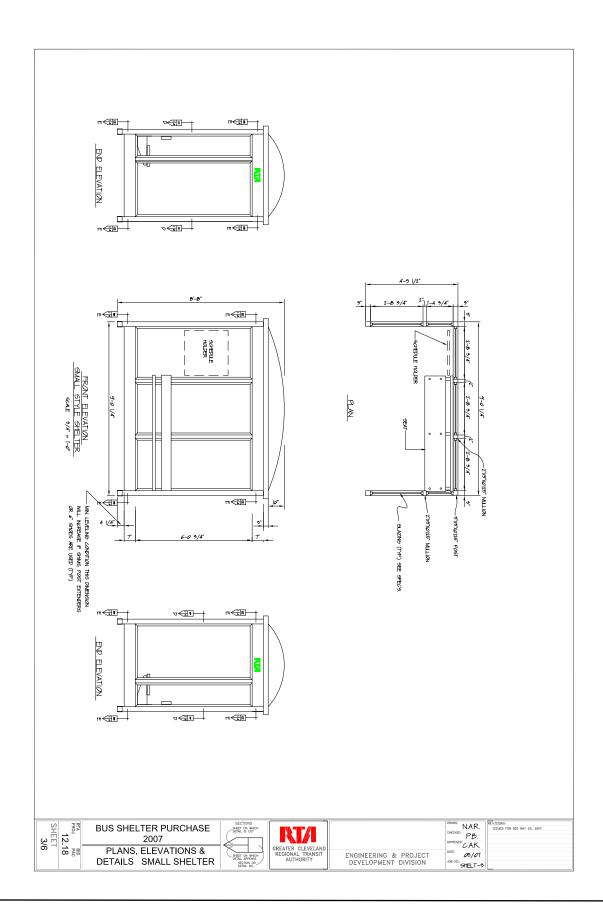
Page 35 (bottom right): NACTO. https://nacto.org/publication/transit-street-design-guide/stations-stops/stop-configurations/boarding-bulb-stop/

# **Extra Small Standard Shelter Spec Drawing**

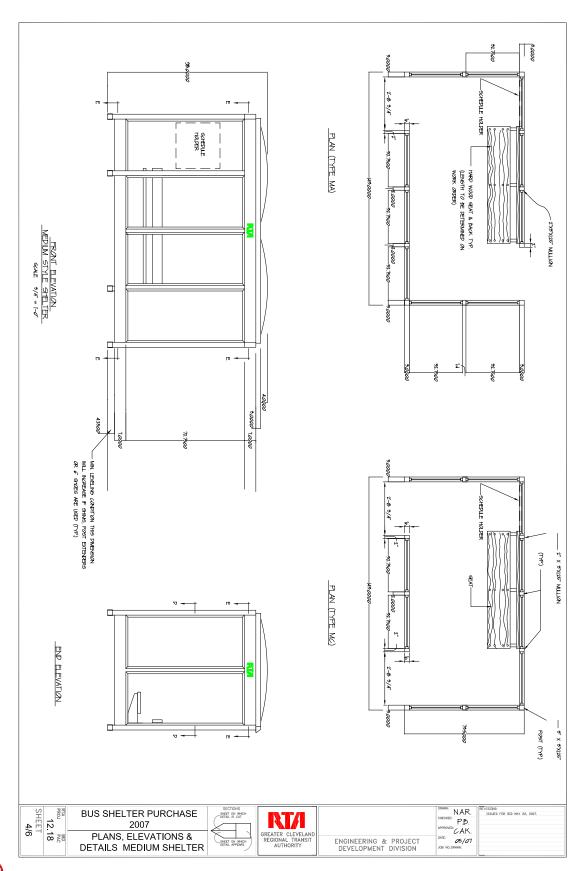




# **Small Standard Shelter Spec Drawing**

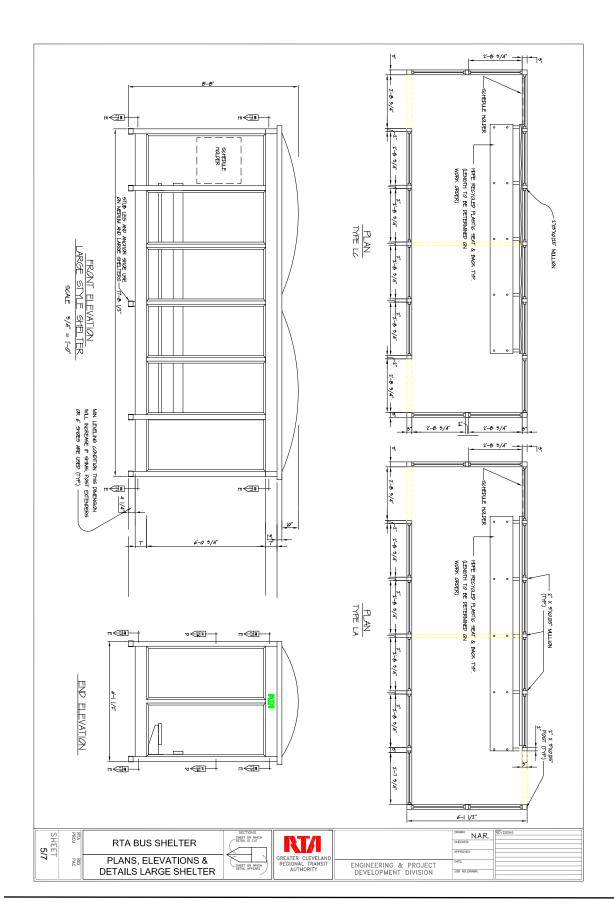


# **Medium Shelter Standard Spec Drawing**





# **Large Shelter Standard Spec Drawing**



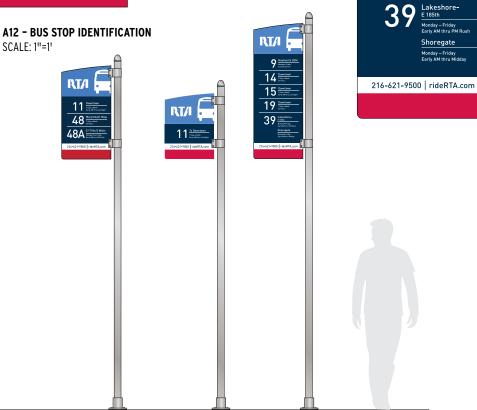
## **Bus Stop Sign Standards**

### **STATION & FACILITY IDENTIFICATION**



SCALE: 1"=1'



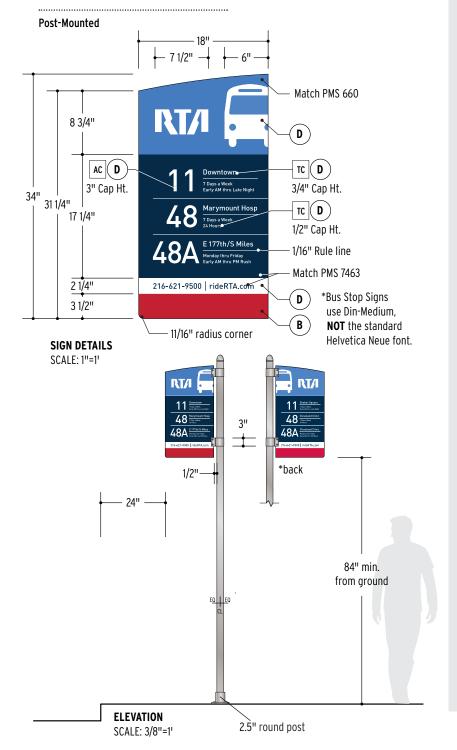




#### **Bus Stop Sign Standards**



# BUS STOP IDENTIFICATION



#### DESCRIPTION

.080 gauge aluminum, double-sided sign, used to show applicable RTA routes and bus stops. These signs are posted at bus stops around the Greater Cleveland area.

#### SIGN CONSTRUCTION

- · .080 gague aluminum sheet
- Face—White High intensity prismatic sheeting, with applied translucent vinyl or printed color(s).

#### MOUNTING

Flag-mounted with tension bands to a 2-inch round post. Post is buried directly into ground or mounted via a small plate to concrete.

Alternatively, this sign can be mounted to an existing pole or overhead structure, as long as it clears a minimum of 84-inches to ground level.

#### **REFERENCES**

- · Logo Usage-Page 2
- $\cdot$  Colors and Materials—Page 5
- · Fonts-Page 3



# **Greater Cleveland Regional Transit Authority**

rideRTA.com