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THE CITY OF COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF PUBLIC SERVICE

DESIGN MEMO 6.31

To: Designers, Contractors, and City Departments

Date: January 1, 2025

Subject: Bus Facilities

Category: Streets

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1 Purpose

The purpose of this design memo is to establish guidelines for bus pads, bus shelters, bus stop signage, permitting, and Designer coordination requirements with Central Ohio Transit Authority (COTA) and Campus Area Bus System (CABS) for bus facilities within the City of Columbus jurisdiction.

2 Applicability

Until further notice, this direction will be used for scoping, design and review within the City of Columbus jurisdiction. The guidance provided in this memo is applicable to all projects including both capital improvement projects (CIP) and private development projects.

As applicable, guidance provided herein with respect to COTA shall also apply to CABS. Standards published by the Ohio State University for CABS facilities may govern where conflicts exist. In the event that a conflict of design standards is encountered, the Designer should contact the City Project Manager or City of Columbus Division of Traffic Management (DOTM).

In the event that bus facilities are outside of the City of Columbus right-of-way and/or easements, this memo shall not apply.

3 Definitions

Definitions of key terms in this memo are provided below. Additional definitions are provided in the City of Columbus Design Memo 1.00: Introduction.

Bus Pad: The bus pad per City of Columbus Standard Construction Drawing (SCD) 2332 is located within the roadway pavement adjacent to the curb or edge of pavement within the limits of a bus stop. Defining this area serves to protect the longevity of the pavement and delineate the bus-only service area. Rigid pavement Item 452 as detailed under SCD 2332 – Concrete bus pad, and the COTA Design Guide directs Designers to comply with the Standard Drawing for all new bus pads.

Bus Stops: Bus stops are passenger waiting areas, which are outside of the curbed or pavement section that are designed for buses to efficiently depart and onboard passengers. According to ODOT's Multimodal Design Guide, "Bus stop infrastructure should provide safe interactions for transit passengers and people walking, biking, and driving".

Bus Rapid Transit (BRT) Line: A bus line that provides premium transit services with upgraded shelters and may include articulated buses. This includes all bus lines developed and implemented under the LinkUS program and does not include the CMAX line.

4 Design Guidance

4.1 General

COTA Bus Facilities within City of Columbus right-of-way should be designed in accordance with the COTA Transit Stop Design Guide, as published by the Central Ohio Transit Authority, unless otherwise noted in this design memo or as directed by the City of Columbus. If a COTA facility is impacted by a new project, consult COTA's Engineering & Design team at COTADesignReview@cota.com. If a CABS facility is impacted by a new project, consult OSU (ttminfo@osu.edu) for further coordination and details.

COTA Transit Stop Design Guide:
https://www.cota.com/static/ab242d40b9dcb3c19f0ccab09f681c5a/COTA-Transit-Stop-Design-Guide.pdf.

For CIP Projects, the City of Columbus will specify the need for new or relocated bus facilities within the project scoping document. Preliminary information regarding bus facilities may be included in the initial scoping of the project. The Designer shall contact the City Project Manager for any questions regarding the proposed bus facilities.

Private improvements within Columbus right-of-way should be designed to minimize or eliminate impacts to existing COTA facilities. Unless otherwise provided in a cooperative agreement between all parties for private projects, any modifications, temporary or permanent, required to COTA or CABS facilities will be performed at the expense of the Developer. The Designer shall coordinate new, impacted, or relocated bus facilities as applicable directly with COTA or CABS.

If the limit of improvements of a new project impacts an existing bus facility, the project shall install a replacement bus facility considering the most recently published COTA design guidelines in the same or new location with guidance from both the City of Columbus and COTA.

It shall also be noted that if a Developer or their project damages, relocates, modifies and/or destroys an existing bus facility, it is the responsibility of the Developer to replace the bus facility to an in-kind condition or improve the condition to meet the current standards and guidelines outlined within this document, City of Columbus Standard Drawings, and COTA Transit Stop Design Guide. The Designer should reference sections 4.6.1 and 4.6.2 for additional considerations on costs and obligations for impacts to bus facilities.

4.2 Bus Stops and Bus Pads

4.2.1 Bus Stop Locations

When practical, appropriate, and when sight distance conflicts do not exist, the City of Columbus preference is to locate bus stops on the far side (departure side) of a signalized intersection. Reference Table 5.1 (Characteristics of Transit Stops and Intersections) of the COTA Transit Stop Design Guide for additional considerations for bus stop locations.

When evaluating the location of a bus stop, examples of possible variables to consider include but are not limited to: utility conflicts, average daily traffic volumes, roadway design speed, traffic patterns, number of lanes, presence of parallel parking or bike facilities, signalization, available right-of-way, proximity to pedestrian trip ends and pedestrian access routes, etc. The Designer shall also consider COTA's design guidelines and preferences during the design process when locating bus stops. The Designer shall coordinate with the owner of the facility and the City of Columbus as necessary if deviations are required.

To request the placement or relocation of a bus stop, consult COTA Engineering & Design at COTADesignReview@cota.com.

4.2.2 Relationship to Crosswalks

The relationship between a bus stop and adjacent crosswalks should be considered when evaluating a bus stop location. Bus pads should not be located in a position that blocks a crosswalk. A stopped or waiting bus should not create a sight distance conflict for pedestrians using the adjacent crosswalk. Examples of pedestrian viewing areas are shaded in gray on Figures 1 through 4 below:

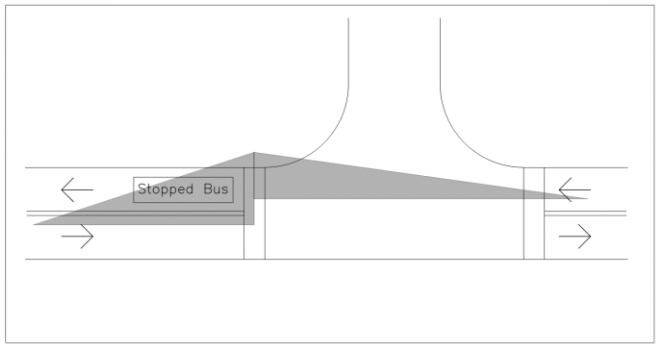

Figure 1

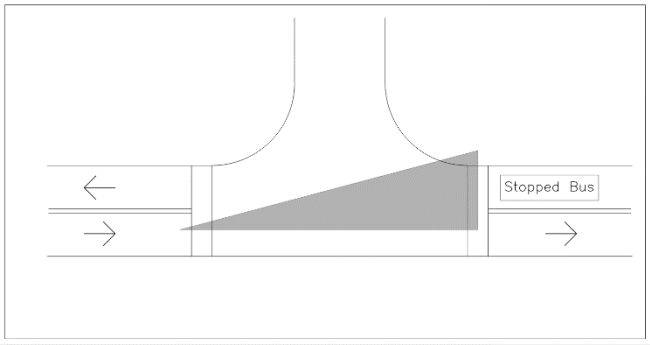

Figure 2

An unsignalized condition with one through lane in each direction is illustrated in **Figure 1 and Figure 2**. In **Figure** 1, a potential pedestrian sight distance conflict exists when the bus stop is located on the far side (departure side) of the intersection. In **Figure 2**, this conflict is resolved by placing the bus stop on the near side (approach side) of the intersection.

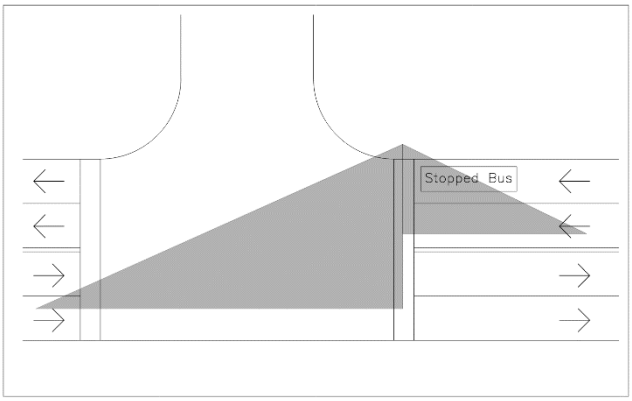

Figure 3

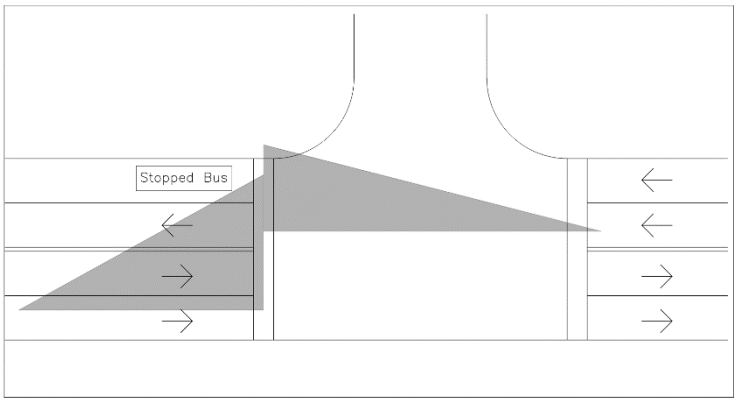

Figure 4

An unsignalized condition with two through lanes in the bus's direction of travel is illustrated in **Figure 3** and **Figure 4**. In **Figure 3**, a potential pedestrian sight distance conflict exists when the bus stop is located on the near side (approach side) of the intersection. In **Figure 4**, this conflict is resolved by placing the bus stop on the far side (departure side) of the intersection.

4.2.3 Concrete Bus Pad Criteria

The City of Columbus retains sole authority to determine when and if bus pads are required. The criteria outlined below provides guidance on when to install a bus pad.

For CIPs and private developments scoped to completely reconstruct the roadway corridor or a streetscape corridor improvement with resurfacing, a concrete bus pad meeting City of Columbus SCD 2332 shall be installed at a COTA reviewed/approved bus stop if any one of the following criteria is met:

- Located within the Downtown Business District;
- Located on a COTA bus rapid transit (BRT) line;
- 100 buses per day or greater are scheduled to stop at the bus stop
    - *Example: Three (3) Standard lines averaging 36 stops/day/bus stop that use the same bus stop would result in 108 stops. Two (2) Frequent lines averaging 76 stops/day/bus stop using the same bus stop would result in 152 stops.*

For projects not reconstructing pavement full depth or relocating a bus stop, constructing a new bus pad is not required. Bus pads meeting City of Columbus SCD 2332 should be considered if the COTA reviewed bus stop pavement section demonstrates pavement rutting or shoving.

The criteria provided in this section does not apply to utility projects.

4.2.4 Adjacent Impacts

The Designer shall also consider disturbances to the adjacent pavement when placing bus pads within an existing roadway. In scenarios where a bus pad is to be placed in existing pavement, pavement repair guidelines as published in City of Columbus SCD 1441 should be followed. Unless otherwise directed by the City of Columbus, the Designer should specify the replacement of existing roadway pavement to a minimum width of two feet surrounding the proposed bus pad or to the nearest longitudinal pavement joint. In addition, the Designer shall follow the requirements outlined in SCD 1441 for an overlay of the adjacent pavement section if the bus pad exceeds 100 feet in length. When a bus pad is located on the near side (approach side) of an intersection and is located within 15 feet of an existing crosswalk pavement, overlay limits shall be extended to the nearest crosswalk line.

If the curb and/or sidewalk/shared use path (SUP) adjacent to the bus pad is in poor condition, replacement of an existing bus pad may trigger the need for curb and sidewalk/SUP replacement. New bus pad facilities should not be placed adjacent to deteriorated curb. If during design it is found that the adjacent curb and/or sidewalk/SUP are in poor condition, the City of Columbus Project Manager or DOTM should be notified.

4.2.5 Bus Pad Size

In certain locations where COTA has multiple buses stopped at a single location, it may require the lengthening of the bus pad to accommodate the additional buses and shall be coordinated with both the City of Columbus and COTA's Engineering & Design team throughout the design process.

The width of the bus pad shall extend from the face of curb or edge of gutter pan to the limits of the nearest adjacent vehicular lane or the minimum width as illustrated on City of Columbus SCD 2332, whichever is greater. The minimum width criteria outlined herein shall be applied with or without the presence of bike facilities (e.g. bike lanes, SUPs, etc.).

Determination of bus pad width shall also consider traffic control features such as pavement markings and raised pavement markers (RPMs). The width of the bus pad may be reduced by a maximum of six

inches to allow pavement markings and RPMs to be placed on the adjacent asphalt surface in their proper alignment. It is discouraged for pavement markings and RPMs to be placed on concrete bus pads.

The length of the bus pad shall be per City of Columbus Standard Construction Drawing 2332.

The Designer should verify that existing traffic control devices which are impacted by the bus pad construction, including but not limited to pavement markings and RPMs, etc., are replaced to comply with current standards.

The Designer should avoid impacts to concrete crosswalk bands. In the event that the criteria noted above would impact concrete crosswalk bands, the Designer should consult the City of Columbus Project Manager or DOTM.

4.2.6 Bus Stop Removal

Prior to removal and/or impact of any bus stop, the Designer should contact COTA's Engineering & Design team to coordinate the removal and/or relocation of bus stops.

4.2.7 Bus Pad Removal

The City of Columbus shall approve all bus pad removals and document their removal within the project scoping document. Bus pads shall be replaced as follows:

- If the adjacent pavement section is to remain, the Designer shall replace the removed bus pad and/or impacted pavement with the same pavement buildup as the existing pavement while maintaining the surface and subsurface drainage patterns.
- If the adjacent pavement is to be replaced full depth by the project, the removed bus pad pavement shall be replaced with the pavement proposed per the adjacent roadway section.

4.3 Bus Shelters

4.3.1 Placement

The installation, location and design elements of a bus shelter will be directed by COTA's Engineering & Design team. Direction from COTA will be confirmed with the City of Columbus Project Manager and/or DOTM. The Designer should clarify the intent of the installation of the shelter with COTA and confirm impacts to any infrastructure, sight distance, site features and/or real estate prior to inclusion in the plans.

Bus shelters should be located per the guidelines published in the COTA Transit Stop Design Guide, Figures 3-9 through 3-12. Additionally, bus shelters shall be placed a minimum of five feet from the back of curb while also considering the available right-of-way, conflicting utilities, existing walk/SUP locations, ADA, grading requirements, etc. If a shelter is installed in an uncurbed section, the location shall comply with COTA Transit Stop Design Guide Figure 3-5 and that the shelter shall not inhibit any drainage pathways. When impractical to satisfy the offsets noted herein, the Designer shall notify the City of Columbus Project Manager/DOTM and COTA. Once a formal decision has been provided, a memo should be developed by the Designer and submitted to the City of Columbus Project Manager and COTA to document final directives.

Depending on the location of the existing sidewalk/SUP and the location of the ADA landing pad, the offset of a proposed shelter may vary. Standard shelter sizes as referenced in COTA Transit Stop Design Guide should be considered when evaluating shelter locations. Special / upgraded shelters are used only

as specified by COTA. All COTA stops, shelters, signs and trash receptacles shall be located within the public right-of-way.

The Designer shall consider COTA specific site furnishing when laying out a bus shelter. Impacts to lead walks and infrastructure should be considered. COTA utilizes standard benches which vary in size. The COTA Transit Stop Design Guide should be vetted for site furnishing selection and placement while also maintaining required pedestrian access routes (PAR). The final location of the bus shelter must be coordinated with COTA.

Placement of bus shelters shall be in conformance with clear zone requirements in City of Columbus Design Memo 5.02 Cross Section Design. Additionally, the City of Columbus discourages the use of bus shelters in locations with a posted speed of 50 miles per hour or greater.

4.3.2 Lead Walks

A 5 foot wide lead walk from the existing walk/SUP to the back of curb is required. If the existing walk/SUP is adjacent to the curb or closer than 8 feet from the curb, then a (5' x 8') ADA landing pad is required adjacent to the curb. The pad must be a minimum of 5 feet wide and extend a minimum of 8 feet from the curb. Beyond the proposed pad, the lead walk can be sloped to tie back into the existing walk/SUP, with a 5 percent maximum slope. Where the walk is adjacent to the curb or closer than 8 feet from the curb, the exiting walk outside of the ADA landing must be transitional to meet a compliant PAR. For illustrations relating lead walk and ADA landing pads to bus shelter placement, please refer to the COTA Transit Stop Design Guide Figures 3-9 through 3-12. For uncurbed roadways, reference Figure 3-5.

Lead walks shall be included and detailed in the plans on CIP Projects. If the lead walk is impacted by a private project, the Developer is responsible to replace it. It should be noted that the City of Columbus does not replace lead walks to shelters or pedestrian staging facilities outside of the pavement as part of maintenance projects.

4.3.3 Drainage

In areas where lead walks are installed on uncurbed roadways or where a ditch is installed at the back of curb, a drainage pipe shall be installed under the lead walk to convey ditch drainage. Pipes shall be designed in accordance with the Columbus 2022 Stormwater Drainage Manual to accommodate calculated ditch flows.

When a bus shelter is proposed within an open ditch section, adequate drainage shall be provided.

4.4 Bus Stop Signage

The installation, relocation, maintenance and removal of proprietary bus stop signage shall be the responsibility of the operating transit authority. All signage shall be located in accordance with the operational offset requirements prescribed in the Ohio Department of Transportation's Location and Design Manual, Volume1, Section 600.2.3.

Regulatory signage that establishes no stopping, standing, loading, bus zones, etc. shall be the responsibility of the CIP or private project. Both the proprietary and regulatory signage shall be depicted on the improvement plan.

4.5 Permitting

The operating transit authority is required to file for a permit when adding stops, signs, shelters, etc. within Columbus right-of-way. If the planned improvements are limited to bus facilities only and do not impact surrounding public infrastructure, a 903 Excavation Permit or a 903 Occupancy Permit can be utilized to document a private entity's permitted use within the right-of-way. Should the installation of the bus facility trigger modifications to adjacent infrastructure, a Drawer E plan will be required.

4.6 Coordination Requirements

Whenever there is a project or maintenance activity that will impact COTA facilities, it is the responsibility of the Designer to reference the COTA Transit Stop Design Guide and coordinate planned work activities with COTA's Engineering and Design team. COTA shall relocate bus stops, signs and shelters as needed to maintain service to the public both during and after construction. The project may be responsible for temporary lead walks or ADA landing pads. Proposed elimination or permanent relocation of a COTA bus stop should be completed within the Site Compliance process and with approved coordination from COTA's Engineering & Design team.

4.6.1 Public Improvements

The City of Columbus generally approaches coordination with COTA similar to a private utility occupying the right-of-way. In the event that a public improvement design is impacting a COTA facility through direct means or potentially modifications during the maintenance of traffic operations, the Designer should notify COTA of such planned improvements for each of the CIP design stages. Reference 4.6.3 for additional details.

For public improvements projects, the City is the owner of all pavement, walk, curb and bus pads.

4.6.2 Private Improvements

For private development projects, it is the sole responsibility of the Developer or Designer to notify COTA of impacts to their infrastructure. It is required that the Developer or Designer consult COTA at the onset of the project to develop a notification and coordination schedule. DOTM should be included in this coordination effort to ensure improvements are acceptable to both the City of Columbus and COTA.

For private improvement projects where a bus stop or shelter is impacted, the Developer is responsible for all related infrastructure costs, including but not limited to pavement, walk, curb, bus pads, etc.

4.6.3 Communication Log

It is the Designer's responsibility to maintain a communication log of all correspondence with all private utilities and COTA throughout the duration of the design of a public or private project. This log should be submitted to the City of Columbus with each plan submittal. Reference is made to the Depart of Public Service Utility Manual as published by the City of Columbus: (https://www.columbus.gov/Business-Development/Design-Construction/Upcoming-Contracts/CIP-Utility-Coordination-%E2%80%93-Private-Utilities).