

Building Better Bus Stops: Planning and Partnerships

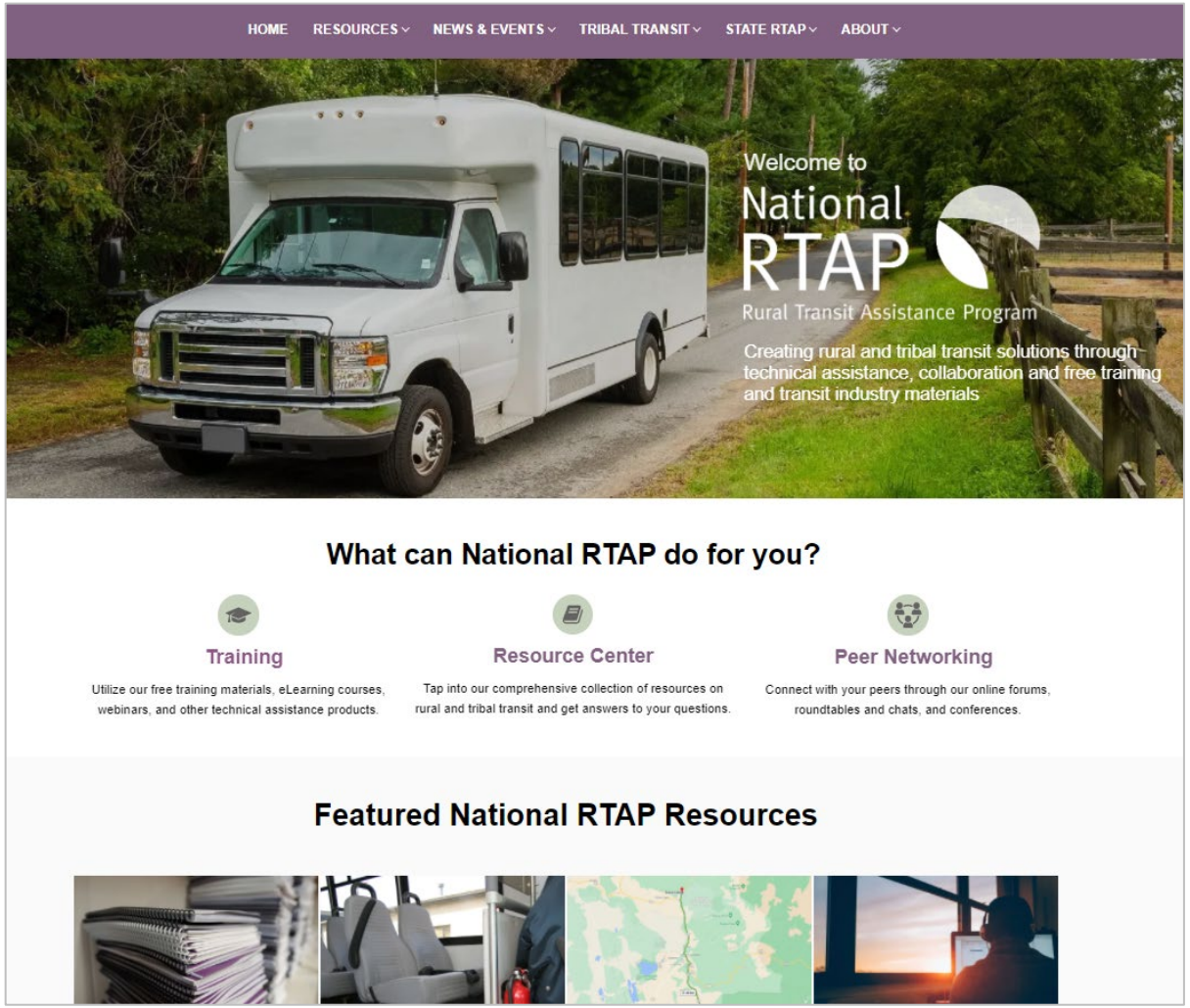
March 14, 2022, 2:00-3:00 PM ET

National RTAP
Rural Transit Assistance Program

FTA
U.S. Department of Transportation
Federal Transit Administration

National Rural Transit Assistance Program

- Technical assistance center funded by FTA through the Section 5311 Program
- Provides free training materials and technical assistance to rural and tribal transit providers and State RTAPs
- Review Board – 14 state DOT and rural and tribal transit agency staff from across the country
    - Currently soliciting nominations for new members in 2022-2023. Visit our News page for details and the nomination form.
- Learn more at nationalrtap.org



What is TACL?



http://transportation-tacl.org

The Transportation Technical Assistance Coordination Library (TACL) provides a sustainable methodology and platform for access and findability of rural and tribal transit coordination resources across a diverse range of transportation technical assistance centers and the Federal Transit Administration (FTA).

The FTA-funded technical assistance centers participating in this ongoing work are:

- National Aging and Disability Transportation Center (NADTC)
- National Center for Applied Transit Technology (N-CATT)
- National Center for Mobility Management (NCMM)
- National Rural Transit Assistance Program (National RTAP)
- Shared-Use Mobility Center (SUMC)
- Transit Workforce Center (TWC)

Presenters



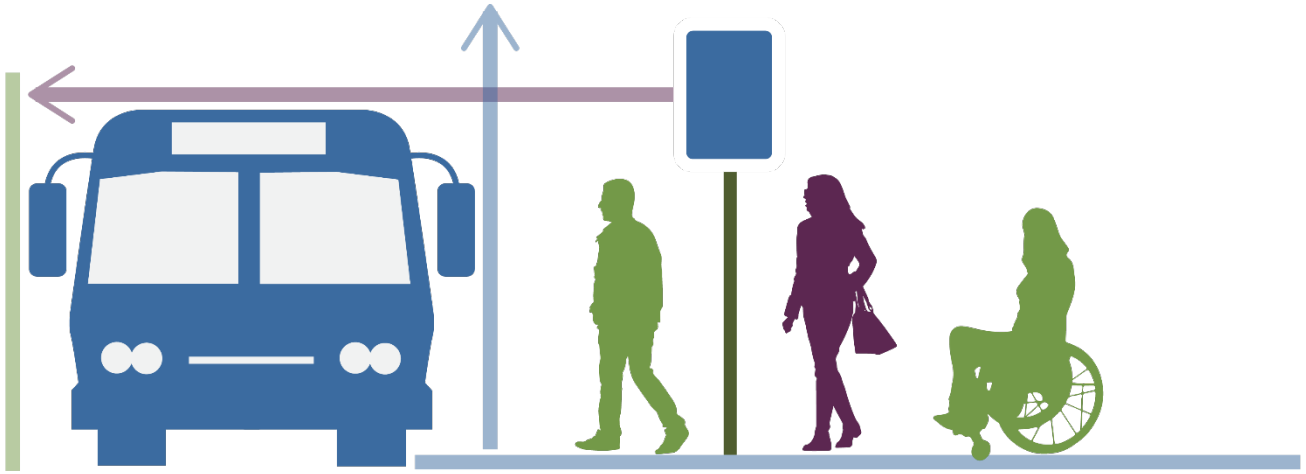
Andy Batson
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Rich Schlameuss
Assistant Executive Director
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Building Better Bus Stops
Resource Guide

National RTAP Webinar

Building Better Bus Stops: Planning and Partnerships

March 14, 2022

ppta.net/pages/betterbusstops
penndot.gov/Doing-Business/Transit/InformationandReports

PPTA
Pennsylvania Public Transportation Association

pennsylvania
DEPARTMENT OF TRANSPORTATION

Resource Guide - Background

- Increasing interest and need for bus stop planning
  - Public transportation agency efforts and initiatives
  - Development of Bus Stop Design Guidelines
  - Municipal interest
- Limited bus stop guidance and resources
- Leadership to fill the gap
  - Pennsylvania Public Transportation Association (PPTA) – Planning Committee
  - PennDOT Bureau of Public Transportation







Resource Guide - Overview

- **Resources, tools, and best practices - Not requirements**
- Developed by PennDOT and PPTA
- Covers planning and design for fixed route bus stops
- Focus on bus stop planning and design for suburban and rural areas

Full Resource Guide and Quick Reference Available on PPTA and PennDOT Websites

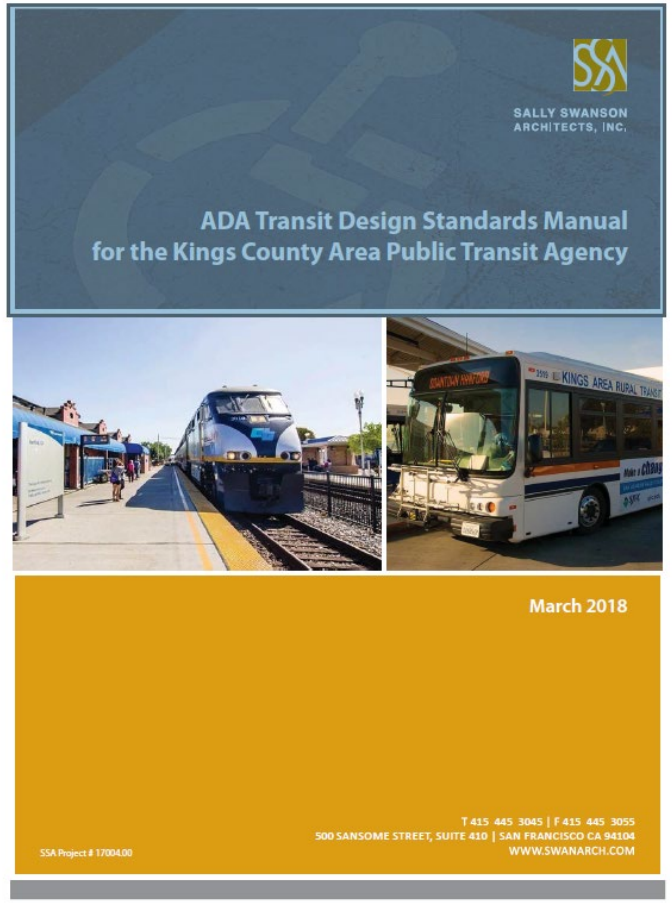
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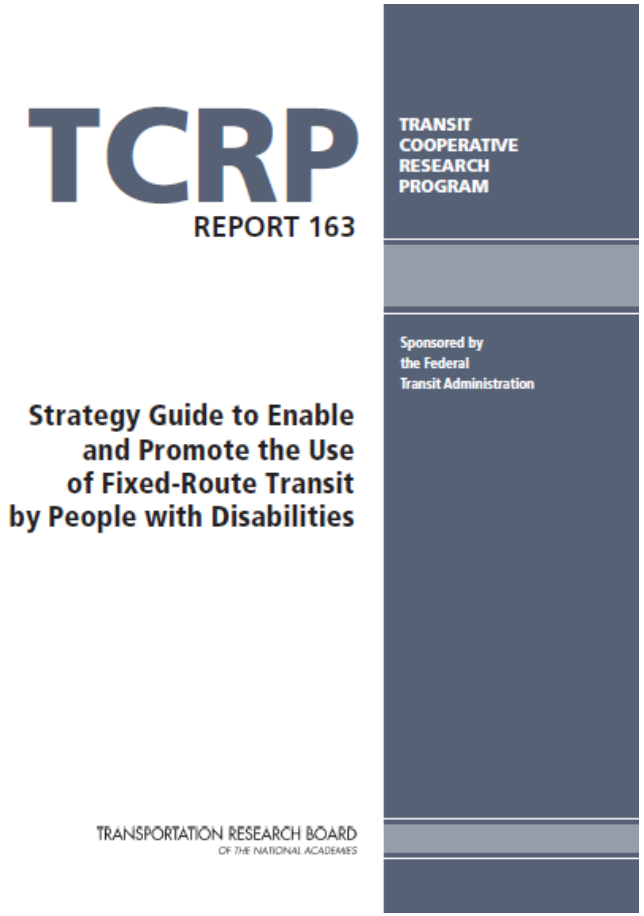
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Resource Guide – Research & Development

- National RTAP Resource Library and Technical Assistance







Challenges – Existing Conditions and Physical Constraints





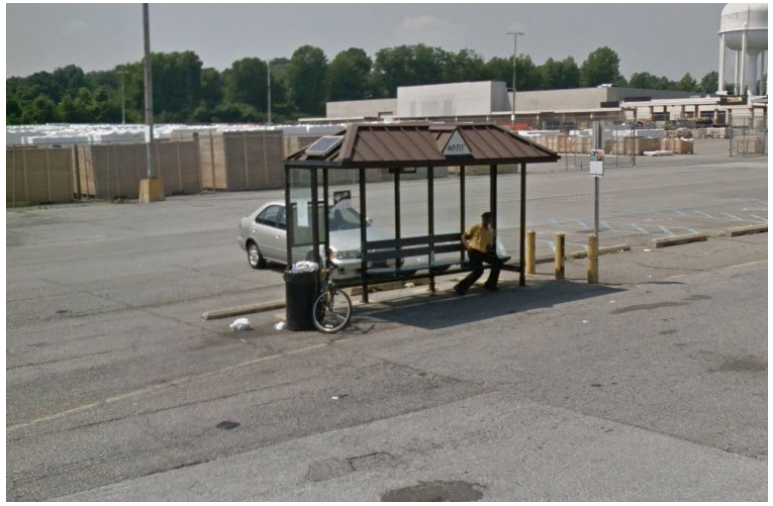




Image sources: McMahon Associates, Inc.; Google Street View; LANTA

Challenges – Coordination and Approval Processes

Requirements are different for each bus stop!

- Depends on the location
- Depends on the type of improvements
- Depends on the funding source
- May be outside the areas of expertise of transit agency staff

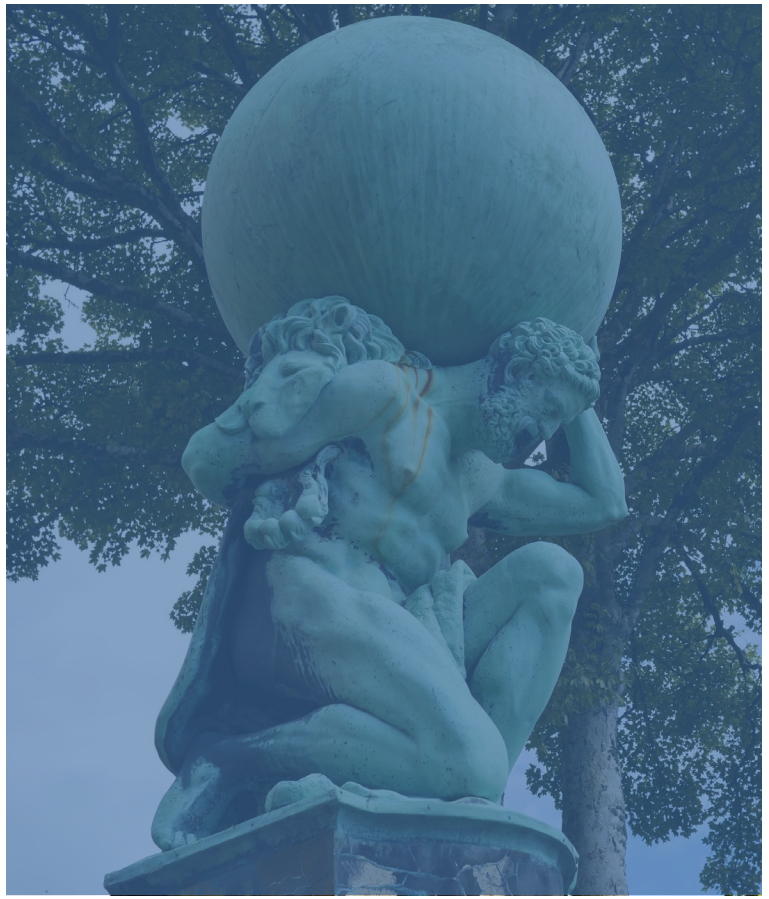


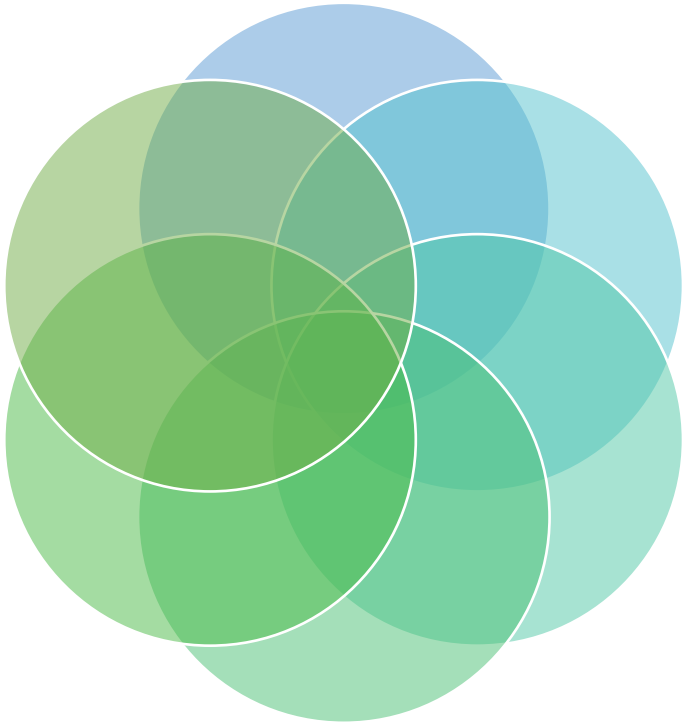
Image source: Smads Sputzer

- State DOT permit
- Municipal zoning / ordinance requirements
- Municipal building permit
- Developer coordination
- Individual property owner coordination
- Historic board coordination

Roles, Responsibilities, and Partnerships

Municipalities

Community



Public Transportation Agencies

Developers, Planners, Engineers

Metropolitan Planning Organizations (MPOs)

State Department of Transportation (DOTs)

Resource Guide - Contents







- [1] Planning and Policy Resources
  - Appendix A – Model Ordinance
  - Appendix B – Plan Review Checklist
- [2] Design Resources
- [3] Bus Stop Typologies
- Quick Reference

Image sources: McMahon Associates, Inc.; Monroe County Transit Authority; LANTA



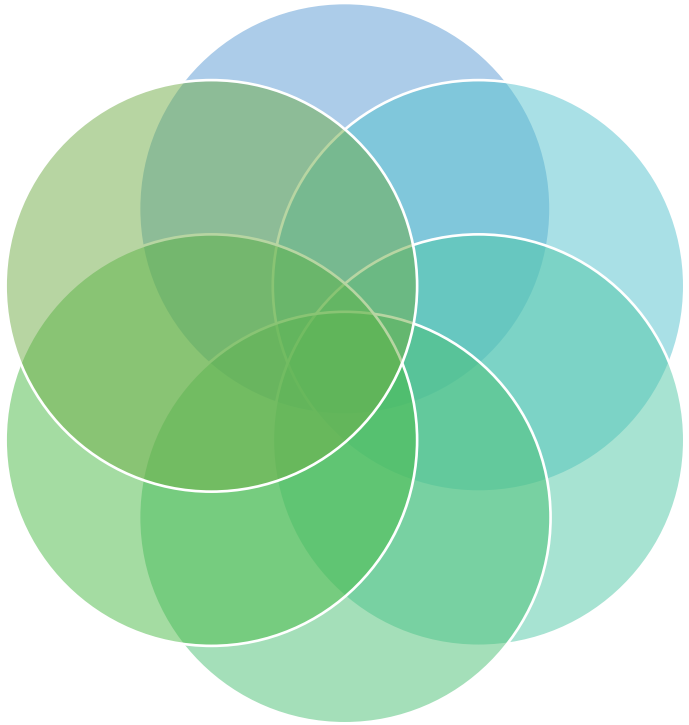
[1] Planning and Policy Resources

Building Better Bus Stops
Resource Guide

Planning Resources – Key Partners

Municipalities

Community



Public Transportation Agencies

Developers,
Planners,
Engineers

Metropolitan Planning Organizations (MPOs)

State Department of Transportation (DOTs)

Relationship between Transit and Land Use







Image source: Monroe County Transit Authority

Public Transportation Benefits

Delivers Economic Opportunity
$10 billion/year statewide in economic activity

Safer than a car
10x safer/mile

Saves money
Household savings of $10,000/year by living with one less car

Decreases gas consumption
1 passenger mile = 1/2 fuel consumption of private vehicle

Reduces air pollution
1 passenger mile = 95% less CO, 92% less VOCs, 50% less CO2 and NO

Increases Mobility
For ALL riders

Encourages Healthier Habits
2/3 of riders walk to bus stops

Sources: American Public Transportation Association (APTA) and Pennsylvania Public Transportation Association (PPTA)

Opportunities to Incorporate Transit

- Comprehensive Plan
- Zoning Ordinance
- Subdivision and Land Development Ordinance (SALDO)
- Official Map and Ordinance

- Other Planning Documents
  - Capital Improvement Plans
  - Economic Development / Revitalization Plans
  - Open Space / Recreation Plans
  - Corridor / Special Area Plans
  - Active Transportation Plans



Incorporate Transit into Municipal Plans

Evaluate Existing Conditions

- Existing Stop and Route Locations
- Key Destinations
- Vulnerable Populations
- Service Frequency
- Ridership
- Access

Identify Future Needs

- Future Growth
- Land Use Changes
- Transit Oriented Design
- Demographic Trends

Develop Recommendations

- Coordinate with Transit Service Providers
- Implement Transit-Supportive Land Use and Infrastructure



Transit Supportive Land Use and Design

- Land Use
- Site Design
- Parking
- Pedestrian / Bicycle Connections and Amenities
- Bus Stops

Success Story -
Centre Area Transportation Authority (CATA) and Centre Regional Planning Agency

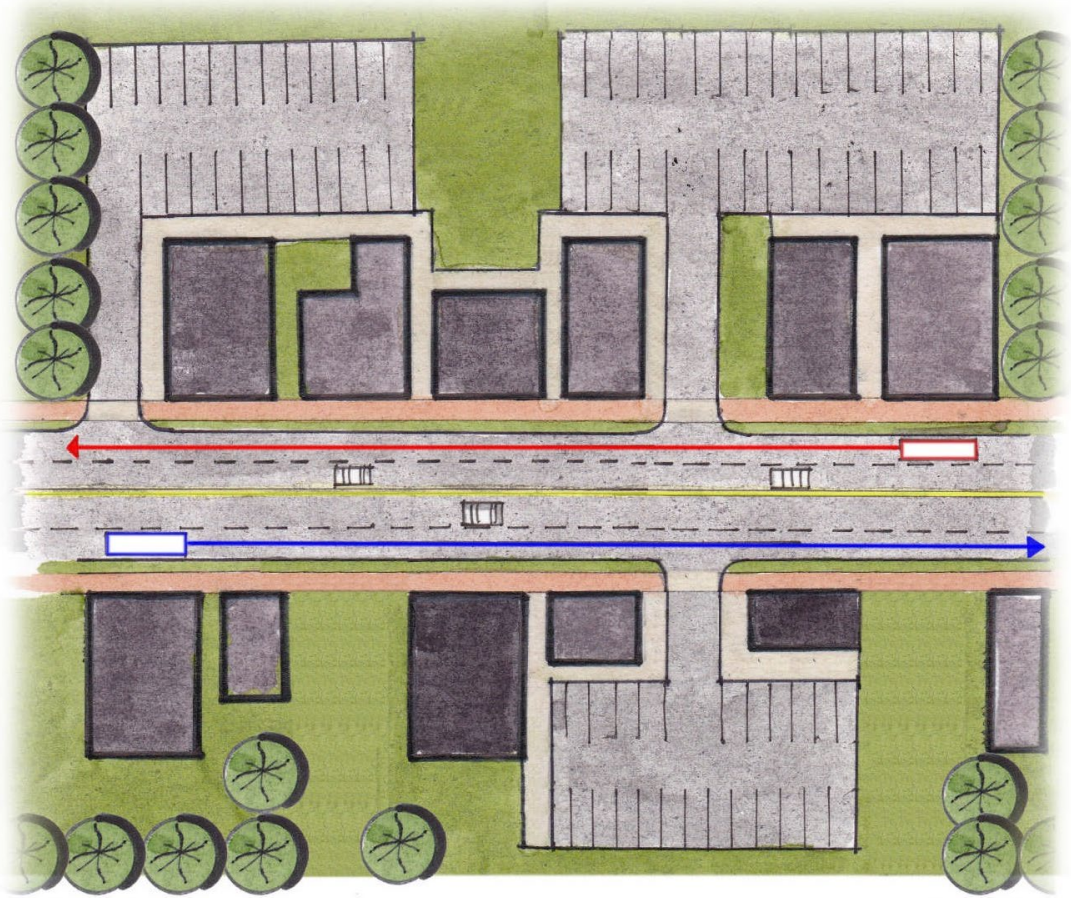


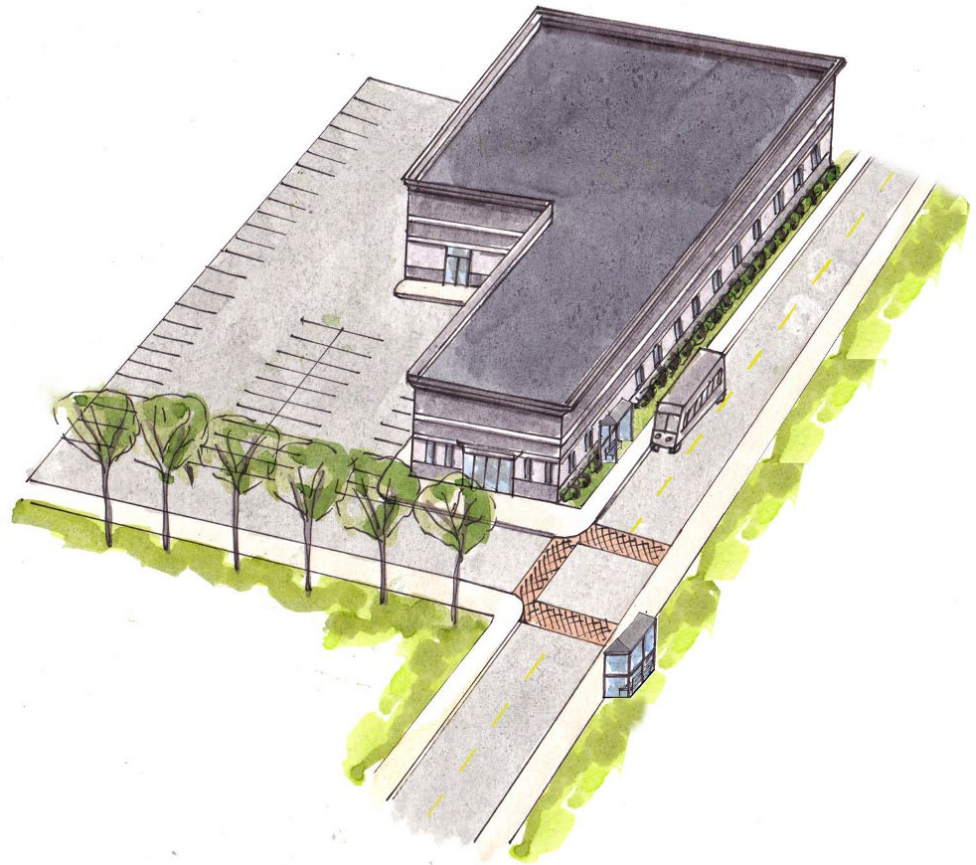


Image source: Hugh Mose

Transit Supportive Site Design

Success Story -
Lehigh and Northampton Transportation Authority (LANTA) and Lehigh Valley Planning Commission (LVPC)





LANTA Transit Supportive Land Use for the Lehigh Valley

Source: LANTA

Model Ordinance

Appendix A | Model Ordinance Language for Better Bus Stops

- Definitions
- Zoning Ordinance
- Subdivision and Land Development Ordinance (SALDO)

Definitions

The following definitions should be included, added, or updated in the definitions sections of a municipal Zoning Ordinance and/or Subdivision and Land Development Ordinance (SALDO).

– **ADA** – The Americans with Disabilities Act of 1990.

– **ADA Loading Pad** – A level loading area with a firm, stable surface where the front door of a bus opens to receive and discharge passengers. The ADA loading pad may be a stand-alone facility or may be integrated with the adjacent sidewalk.

– **Bus Passenger Bench** – A seat where multiple people may sit at one time while waiting for a bus.

– **Bus Shelter** – A permanent roofed structure located at a bus stop that provides protection from the weather to persons waiting for a bus. The shelter is often semi-enclosed and may provide seating.

– **Bus Stop** – A designated place where a bus may stop to allow boarding or alighting of public transit riders. A bus stop is marked with a bus stop location sign and may include infrastructure or amenities, such as a bus shelter or bus passenger bench.

– **Bus Stop Infrastructure** – Facilities located at a bus stop that are designed and intended to provide safe access to fixed route public transit service, including ADA loading pads, bus passenger benches, and bus shelters.

– **Bus Stop Passenger Information Sign** – Printed or electronic display at a bus stop that provides information to waiting passengers related to the public transit services, such as maps, schedules, or real-time information about the location or anticipated arrival of a transit vehicle.

– **Bus Stop Street Furniture** – Bus stop street furniture that provides comfort to public transit riders and may include, but is not limited to, bus passenger benches, leaning rails, waste receptacles, and bicycle racks.

– **Bus Stop Location Sign** – A marker identifying a location used as a bus stop, typically listing the name of the public transit service provider and bus routes serving the stop.



Plan Review Checklist

Appendix B | Plan Review Checklist for Better Bus Stops

For all projects

	Yes	No	Comments
Is the proposed project located adjacent to an existing or planned bus stop?			
Does the proposed project include bus stop infrastructure?			
Is the proposed land development project located adjacent to or within 3/4 mile of an existing or planned bus route?			
Is the proposed land development project considered a development of regional significance and impact? (Does the proposed project meet PennDOT's criteria for a Transportation Impact Study?)			
Is there public and community support for a new, relocated, or improved bus stop?			
If the answer to any of the above questions is "Yes," has the applicant contacted and coordinated with the transit agency? (Request documentation of coordination.)			
Has the transit agency reviewed and approved the bus stop location?			
If it is determined that a bus stop is not necessary based on current conditions, but could be needed in the future, can an easement be dedicated or right-of-way reserved for future bus stop infrastructure or connecting sidewalks?			



Implementation Resources

Potential Funding Sources

- Federal
  - FTA Formula Funds (Sections 5307 / 5311)
  - Bus and Bus Related Facilities (Section 5309)
- State DOTs
- MPOs
  - Congestion Mitigation and Air Quality (CMAQ)
- Competitive Grant Programs
  - AARP Community Challenge: Due 3/22/21
    https://www.aarp.org/livable-communities/community-challenge/



Implementation Resources

Commitment of Time and People



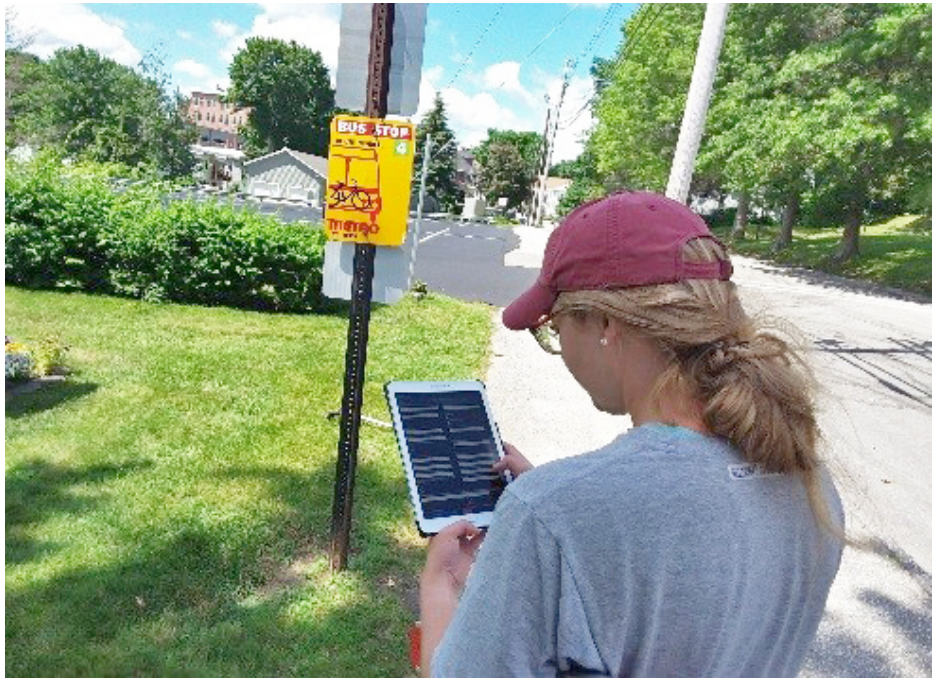


Image source: McMahon Associates, Inc.

Implementation Resources

Integrate with Other Projects

- Transportation Improvement Projects
- Land Development Projects
- Public-Private Partnerships



Image source: McMahon Associates, Inc.



Image source: Delaware Valley Regional Planning Commission (DVRPC)

Monroe County Transit Authority

Improving Bus Stops in Rural Communities





State Route 196 /
A Pocono Country Place Community Bus Shelter

Image source: Rich Schlameuss, Monroe County Transit Authority

Monroe County Transit Authority

Improving Bus Stops in Rural Communities



State Route 196 /
A Pocono Country Place J, K, L Gate



Stroud Mall Bus Shelter

Image source: Rich Schlameuss, Monroe County Transit Authority



[2] Design Resources

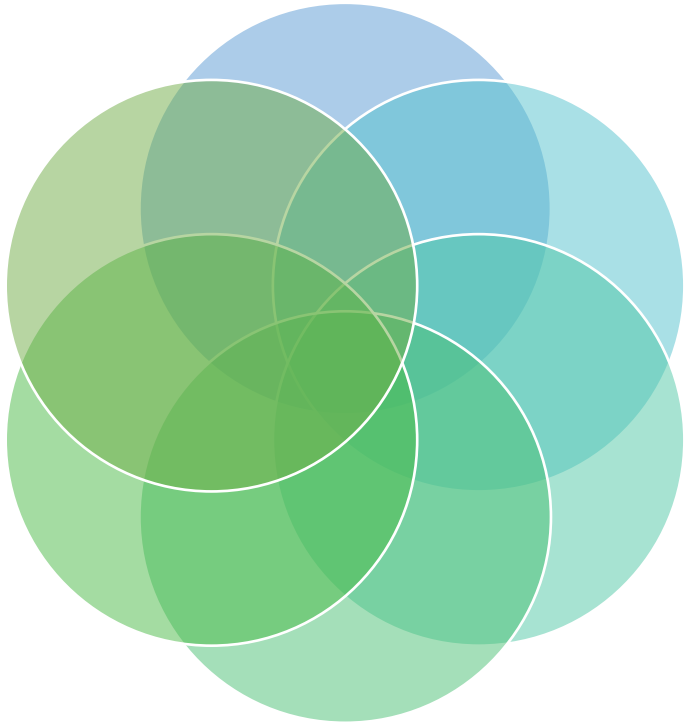
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Resource Guide

Design Resources – Key Partners

Municipalities

Community

Public Transportation Agencies



Developers, Planners, **Engineers**

Metropolitan Planning Organizations (MPOs)

State Department of Transportation (DOTs)

Basic Bus Stop Design Principles

- Accessible to everyone.
- Safe, convenient, and comfortable location.
- Visible and easily identifiable.
- Good pedestrian access and connections.
  Well integrated with surroundings.
- Includes amenities to make the wait comfortable.
  Supports efficient and effective bus operations.

Source: Adapted from Memphis Area Transit Authority (MATA) Bus Stop and Accessibility Guidelines, 2017



Steps for Planning and Designing a Bus Stop

[1] Identify

Identify potential for a new or improved bus stop during planning/design:

- Transportation improvement project
- Land development project, particularly when it may generate transit trips
- Community request

[2] Evaluate

Coordinate with the transit agency

No new or improved bus stop

- Not necessary
- Not feasible based on current conditions
- Consider reserving right-of-way and providing pedestrian infrastructure

[3] Design

- Coordinate with transit agency, municipality, roadway owner, and adjacent property owner
- Bus stop placement and configuration
- Bus stop elements and amenities
- Permits/approvals and execute maintenance agreements



Evaluating Bus Stop Locations

- Land Use
- Ridership, Demographics and Equity
- Transit Operations and System Performance
- Safety and Security
- Pedestrian Connections and Accessibility
- Roadway Operations
- Amenities



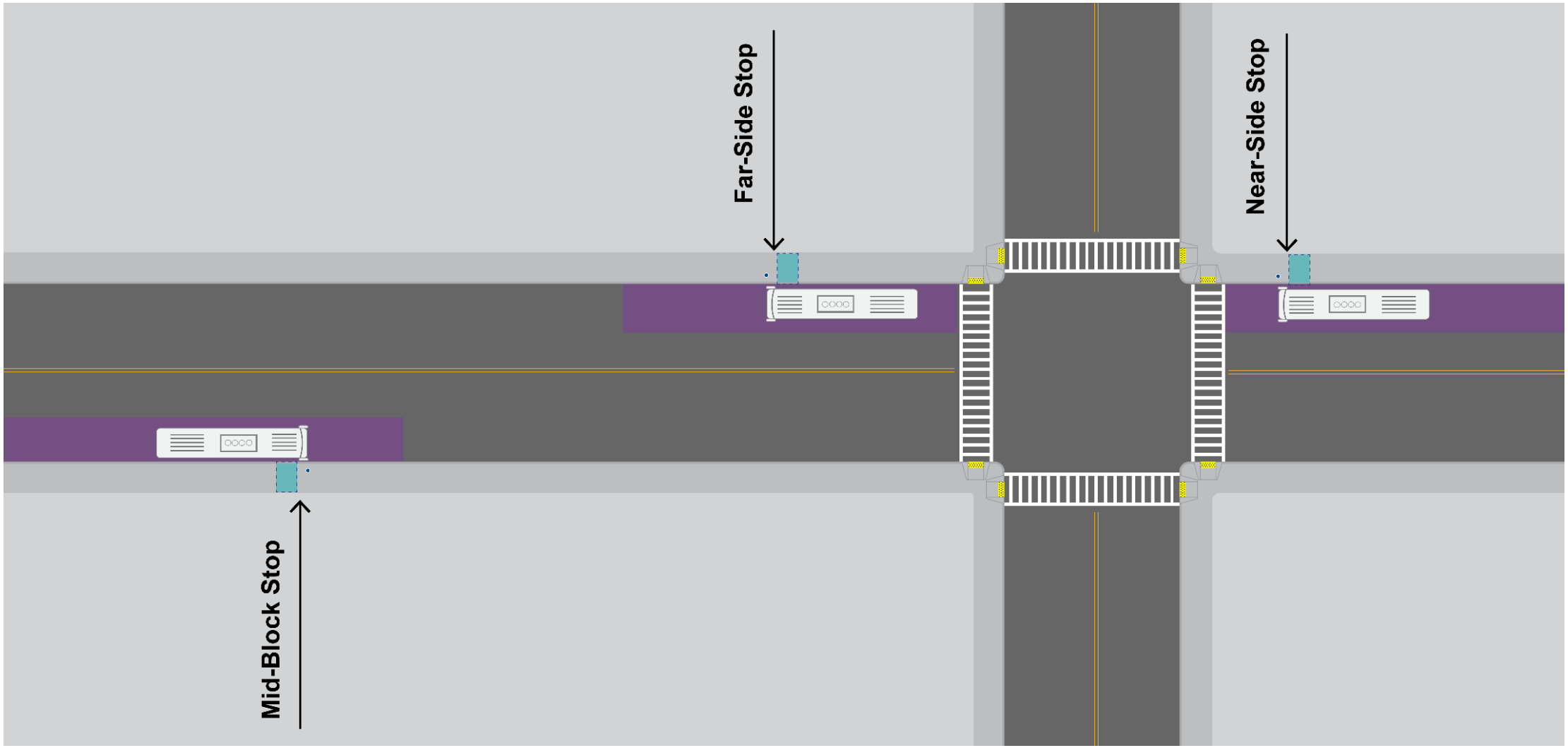
Other Siting and Design Considerations

- Transit Vehicles
  - Length: 35’ and 40’ most common in Pennsylvania
  - Width: 10.5’ wide with mirrors
  - Clearances
  - Turning radii

- Driveways and Access Management
- Sight Lines and Sight Distance
- Curb Management and Parking Restrictions
- Bicycle Lanes
- Pavement Markings and Signage
- Pavement Materials
- Traffic Signals and Roundabouts



Bus Stop Placement



Bus Stop Configuration



Roadside or Curbside Stops

- Travel Lane
- Parking Lane
- Shoulder



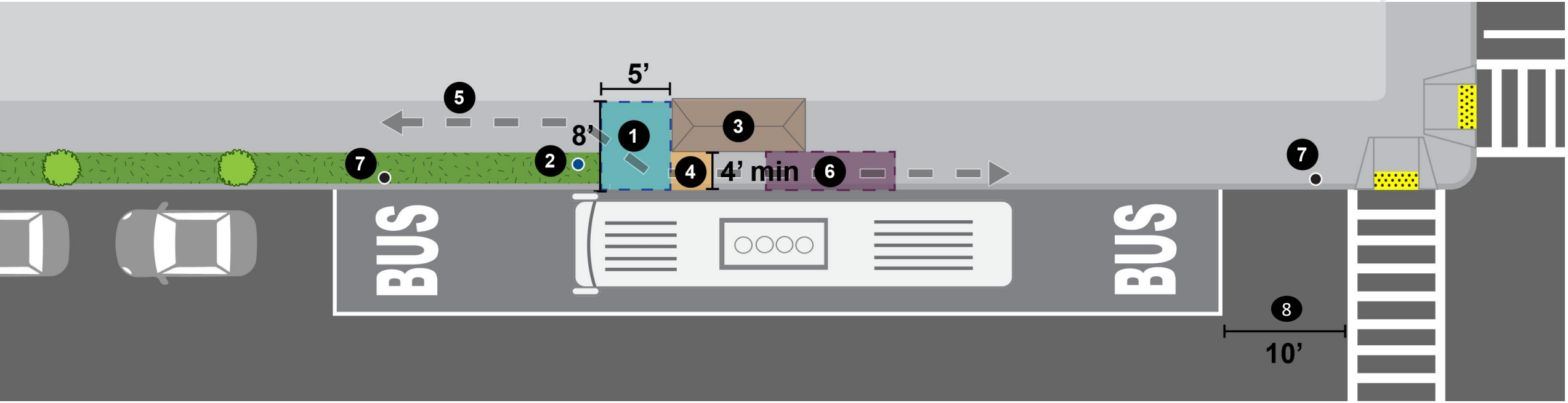
Curb Extensions



Bus Bays

Image sources: rabbittransit; Port Authority of Allegheny County (and Google Street View); LANTA

Basic Bus Stop Elements



1 ADA Loading Pad

Informational Signage

Shelter, Bench, Amenities

Accessible Route (to shelter)

Accessible Route (through the stop)

Clear Zone for Rear Door

No Parking

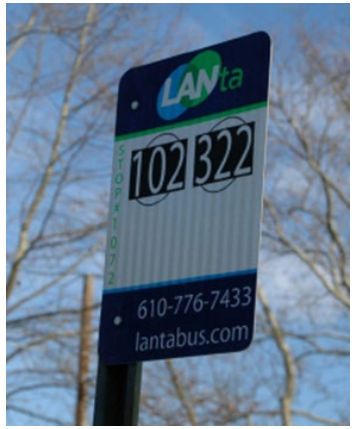
Safety Buffer

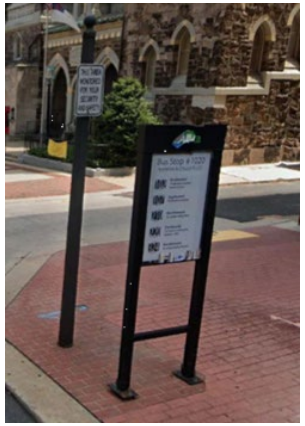
Basic Bus Stop Elements

1 ADA Loading Pad



2 Informational Signage





3 Shelter, Bench, Amenities



4 Accessible Route (to shelter)



5 Accessible Route (through the stop)



6 Clear Zone for Rear Door



Image sources: Google Street View,; LANTA; DVRPC; McMahon Associates, Inc.

Other Amenities

- Benches
- Bicycle Parking
- Trash Receptacles
- Lighting
- Landscaping and Stormwater Management



Play bus stop with a bench on West Market Street in the City of York
Source: rabbittransit

Permissions, Agreements, and Maintenance

- Rights and permissions
  - State DOT Right-of-Way
  - Municipal Right-of-Way
  - Private Property: Open to public

- Routine and Ongoing Maintenance
  - Emptying trash
  - Replacing signs
  - Cleaning shelters
  - Removing graffiti
  - Seasonal maintenance



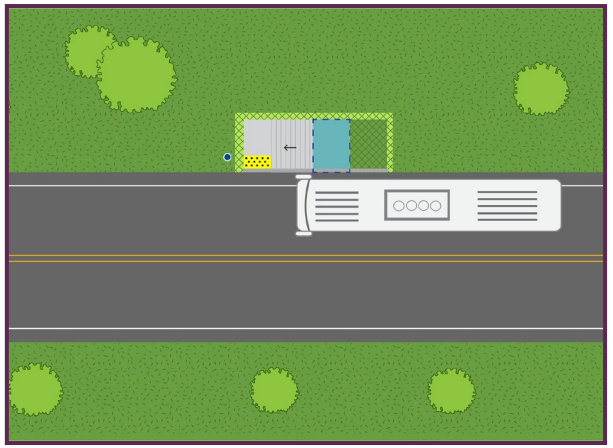


[3] Bus Stop Typologies

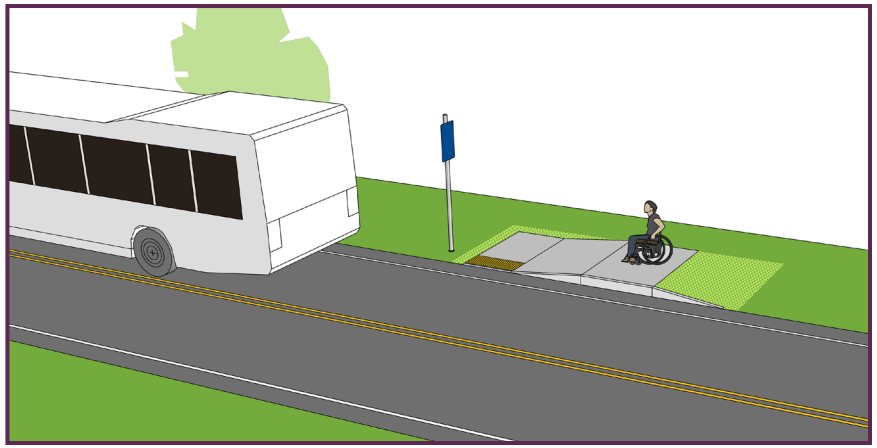
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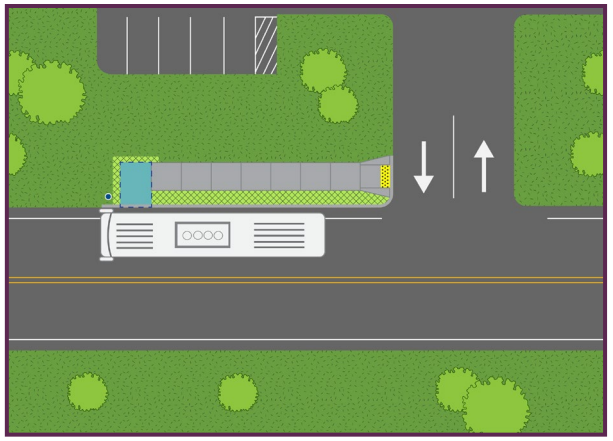
Typologies - Overview

Rural/Suburban Stops

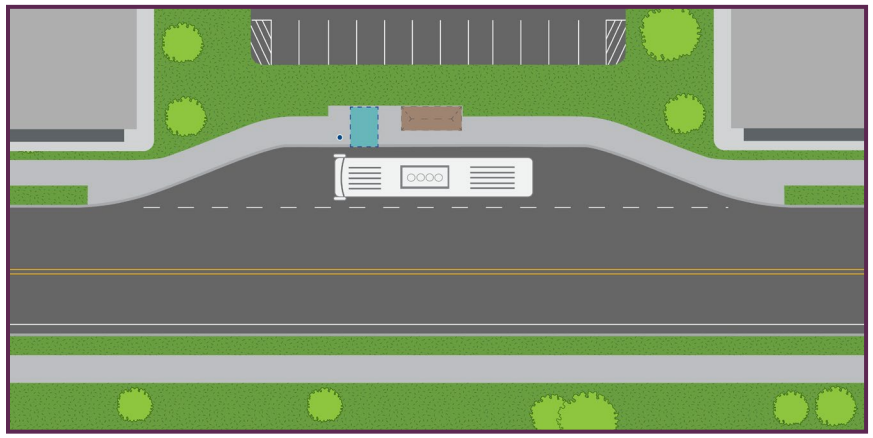


Curb Height ADA Loading Pad

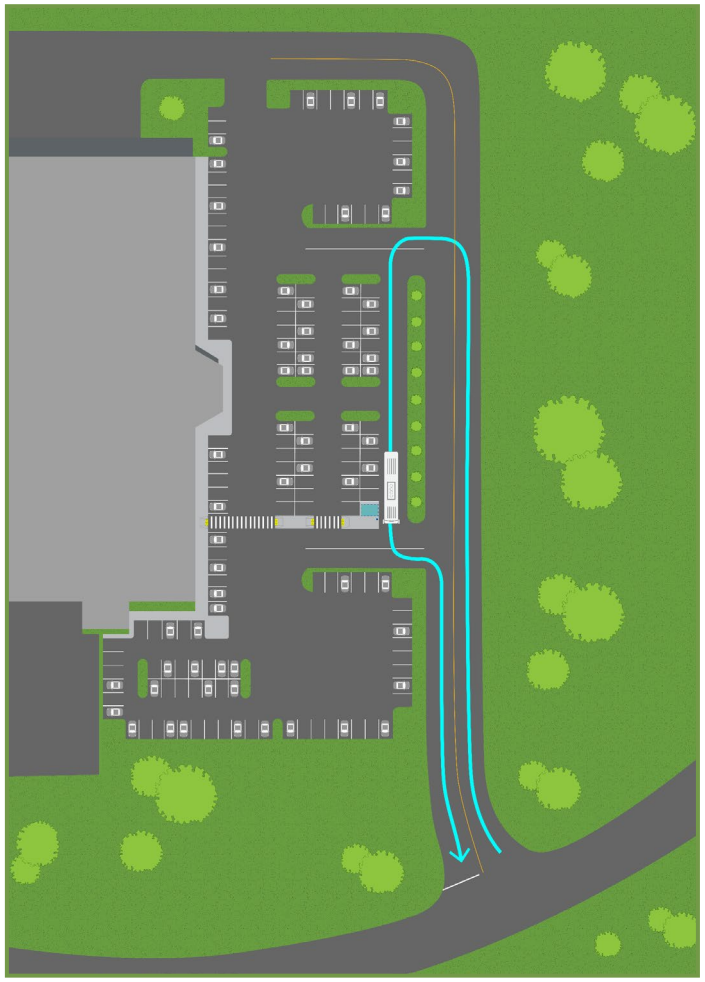




Commercial Driveway



Closed Bus Bay



Within a Site

Key Takeaways

- Find bus stop champions – at all levels
  - State DOT, MPO, County, Municipality, Transit Agency, Non-Profits
- Start small – Start easy
- Proactive planning
- Build strategic partnerships
  - MPOs, Counties, Municipalities
- Seek opportunities to integrate improvements with other projects

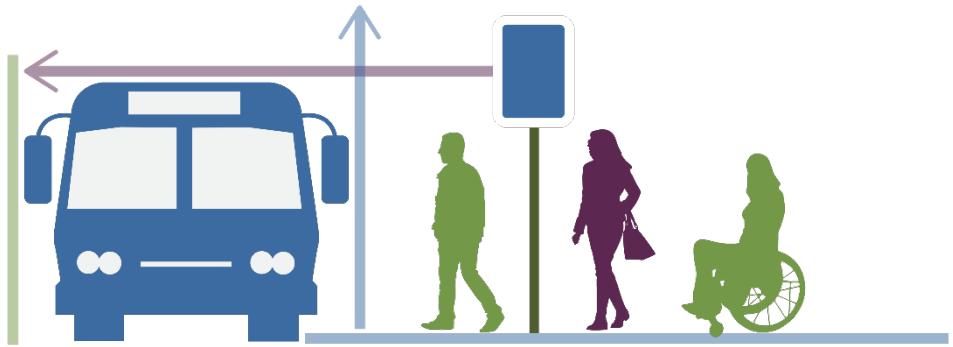


Thank you!

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Thank You

National Rural Transit Assistance Program

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Rural Transit Assistance Program

FTA

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Federal Transit Administration