

# FAIRFAX COUNTY BUS STOP GUIDELINES

July 2004



*Fairfax County Bus Stop Inventory and Safety Study*





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# Fairfax County Bus Stop Inventory and Safety Study

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## I. PURPOSE AND OBJECTIVES

The bus stop serves as the first point of entry to the bus transit system. The bus stop must be safe and customer friendly to encourage the continued use of the service. Bus stop location, spacing and design are critical elements in the quality of bus service.

This section provides objectives for the design and location of bus stops that will aid in the enhancement of customer safety and convenience, and will improve the accessibility and operations of the transit system. The objectives and guidelines in this study should be used by transportation professionals in determining proper bus stop locations.

### A. Safety Objectives

- Maximize pedestrian safety:
  - When accessing stop, or waiting for the bus
  - When alighting and boarding
  - Leaving stop and crossing adjacent street
  - Maximize ease with which passengers can access stop from adjacent land use or intersection
  - Minimize the distance pedestrians must walk before reaching stop
  - Maximize the ease with which passengers with disabilities can enter the bus
- Maximize stop location safety:
  - When accessing stop, or waiting for the bus
  - For a vehicle passing a stopped bus
  - For the bus entering or leaving the stop
  - Maximize sight distance for buses, vehicles in the roadway and pedestrians

### B. Operational Objectives

- Minimize delay of buses when leaving stop, and vehicles in queue behind the bus
- Minimize conflict between bus leaving stop and vehicles on adjacent roadway
- Provide overall standardization of stops, which reduces confusion for bus operators, pedestrians and motorists
- Provide sufficient design to meet service demand



## II. OTHER CONSIDERATIONS

This section identifies the bus stop characteristics that need to be examined to evaluate the safety, accessibility and operation of a stop:

- Existence and condition of features (sidewalk, loading pad, shelter, lighting, signs, etc.)
- Access to stop from nearest intersection or adjacent property
- Location of stop relative to intersection (near-side, far-side or mid-block)
- Location of stop relative to driveway
- Location of stop along horizontal/vertical alignment
- Location of stop relative to lane configuration at stop location
- Spacing of stops
- Spacing of shelters or benches
- Type of stop (along curb, bus bay, queue jumper, or nub)
- Supplemental roadway use (e.g. bike lanes)
- Length of curb available for the number of buses using stop
- Visibility
- Ridership
- Number of transfers
- Disabled passenger ridership
- Available accident data (internal transit operator accident data, police data, customer complaint data)
- Roadway classification
- ROW availability
- Proximity to major activity centers
- Adjacent land use compatibility
- Bus dimensions (a schematic of a standard bus is attached)



## III. ADA AND BUS STOP LOCATION GUIDELINES

### A. ADA Compliance

The ADA Standards for Accessible Design set “guidelines for accessibility to places of public accommodation...by individuals with disabilities.” They “are to be applied during the design, construction, and the alteration of such buildings and facilities...” All new bus stop construction must comply with ADA standards. Existing bus stops should be considered in terms of a firm/stable surface. ADA Specifications are as follows:

**Loading Pads.** All new bus stop loading pads shall have surfaces that are stable, firm and slip resistant, with a minimum clear length and width of 96 inches and 60 inches, respectively. Future loading pad construction should also consider that bus lifts may be at the front or rear doors of the transit vehicle.

**Accessible Route.** All pads shall be connected to existing sidewalks and pedestrian paths by an accessible route. This accessible route shall:

- Be at least 36 inches wide
- Have a cross slope not exceeding 2%
- Have a running slope no greater than 5%
- Have a ramp if the route has changes in level greater than 0.5 inches

Guidelines for sidewalk design can be found in **Section V**

**Shelters.** New or replaced bus shelters shall:

- Have a minimum clear floor area of 30 inches by 48 inches
- Be installed or positioned so as to permit a wheelchair or mobility aid user to enter from the public way and to reach a location entirely within the perimeter of the shelter
- Be connected by an accessible route to the loading area

**Figure 1** (see Appendix) shows a schematic of a typical 40-foot bus. **Figure 2** shows a schematic of an ADA-compliant shelter. It is assumed that all new shelter construction will include a bench inside of the shelter. **Figure 3** is a flowchart showing the decision process in determining bus stop accessibility and conformance.



## B. Location

In order to provide adequate sight distance for buses and passing vehicles, the placement of bus stops on curves, near driveways or on steep grades should generally be avoided. A stop should not be obscured by trees, poles, or buildings and adequate lighting should be provided. According to the code of the County of Fairfax, all bus stops are “No Parking” zones.

It is crucial that bus stops be placed at locations with adequate pedestrian facilities. Marked crosswalks inform the pedestrian of the best places to cross a roadway and clarify for drivers that a pedestrian crossing exists at a particular location.

If a stop is located adjacent to a signalized intersection, there should be crosswalks, ramps and pedestrian signals on all legs of the intersection. If the stop is located at an unsignalized intersection or a mid-block location, it should be determined if a marked crosswalk would be the best pedestrian enhancement to allow riders to safely access a stop, or if other improvements would be more appropriate for that situation. In some cases, stop relocation or elimination may be the best option. **Figure 4** illustrates the decision process for locating pedestrian facilities and **Figure 5** illustrates the decision process for the relocation or elimination of stops.

Whether a bus stop should be located at the near side of the intersection, the far side of the intersection or at mid-block depends on the best application at a given location. The choice depends on the geometric design of the roadway, the local orientation of passenger arrival and departure, vehicle turning movements and other factors. Additionally, location-specific factors such as bus stops on two-lane streets, bus stops between driveways, nearby traffic signals, and departing bus turning maneuver needs, should all be considered as appropriate. **Table 1** presents the advantages and disadvantages to each location.

**Figure 6** shows typical dimensions for each type of bus stop location. Far side stops can improve pedestrian safety by eliminating the sight-distance restrictions caused by the stopped bus. Near side locations are effective where there are not heavy volumes of right turning vehicles at the intersection. Mid-block stop locations should generally be used in situations where far-side or nearside stop locations are not feasible due to the conditions at a particular location; placing a stop close to an intersection provides safer facilities for pedestrians.



**Table 1. Bus Stop Location Types**

<b>STOP TYPE</b>	<b>ADVANTAGES</b>	<b>DISADVANTAGES</b>
<b>NEAR SIDE</b>	<ul style="list-style-type: none"> <li>▪ Minimizes interference when traffic is heavy on the far side of the intersection</li> <li>▪ Passengers access buses closest to crosswalk</li> <li>▪ Entire intersection width available to driver to assist in pulling away from curb</li> <li>▪ No double stopping</li> <li>▪ Buses can service passengers while stopped at a red light</li> <li>▪ Provides driver with opportunity to look for oncoming traffic including other buses with potential passengers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conflicts with right turning vehicles are increased</li> <li>▪ Stopped buses may obscure curbside traffic control devices and crossing pedestrians</li> <li>▪ Sight distance is obscured for crossing vehicles stopped to the right of the bus</li> <li>▪ The through lane may be blocked during peak periods by queuing buses</li> <li>▪ Increases sight distance problems for crossing pedestrians</li> </ul>
<b>FAR SIDE</b>	<ul style="list-style-type: none"> <li>▪ Minimizes conflicts between right turning vehicles and buses</li> <li>▪ Provides additional right turn capacity by making curb lane available for traffic</li> <li>▪ Minimizes sight distance problems on approaches to intersection</li> <li>▪ Encourages pedestrians to cross behind the bus</li> <li>▪ Requires shorter deceleration distances for buses</li> <li>▪ Gaps in traffic flow are created for buses re-entering the flow of traffic at signalized intersections</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intersections may be blocked during peak periods by queuing buses</li> <li>▪ Sight distance may be obscured for crossing vehicles</li> <li>▪ Increases sight distance problems for crossing pedestrians</li> <li>▪ Stopping far side after stopping for a red light interferes with bus operations and all traffic in general</li> <li>▪ May increase number of rear-end accidents since drivers do not expect buses to stop again after stopping at a red light</li> <li>▪ May impact the amount of vehicles queuing into the intersection when a bus is stopped</li> </ul>
<b>MID BLOCK</b>	<ul style="list-style-type: none"> <li>▪ Minimizes sight distance problems for vehicles and pedestrians</li> <li>▪ Passenger waiting areas experience less pedestrian congestion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires additional distance for no-parking restrictions</li> <li>▪ Encourages patrons to cross street at mid-block (jaywalking)</li> <li>▪ Increases walking distance for patrons crossing at intersections</li> </ul>
<p>Source: Table A-4, Appendix A, <a href="#">TCRP</a>, original source: K. Fitzpatrick et al., <i>Guidelines for Planning, Designing, and Operating Bus-Related Street Improvements</i>. FHWA/TX-90/1225-2F, Texas Transportation Institute, College Station, TX. August 1990.</p>		



## C. Bus Bays

Loading bay capacity at a bus stop will depend on:

- The rate of bus arrivals (multiple bus operators per stop)
- Service time at the stop
- Ridership

The use of bus bays typically leads to delays for the bus when attempting to re-enter the travel lane, and to conflicts between the bus and vehicles/cyclists traveling in the curbside lane. They should be considered only on roadways where justified for reasons of safety or to provide a reduction of significant delay for vehicular traffic.

To meet safety criteria, bus bays should be considered:

- Where the speed limit is 45 miles per hour or higher, or
- At locations with substandard alignment (i.e., horizontal or vertical curves with limited sight distance or at the bottom of a steep grade).

To minimize delay, they should be considered:

- Where buses wait for a significant amount of time (where there is high transfer activity or especially high ridership – typically dwell times over 10 seconds/stop), and the queue behind the bus would lead to safety hazards.

If a bus bay is deemed necessary, it should:

- Have tapered deceleration and acceleration lanes
- Be located at the far side of a signalized intersection to take advantage of interruptions in the traffic stream from the upstream traffic signal.

**Figure 7** shows a typical bus bay design. Construction of bus bays may need to be modified in sizing due to local impacts and costs associated with full-scale bays, acceleration and deceleration areas.

## D. Spacing

Bus stops will generally be located at or near major trip generators or destinations, or at regular intervals based on the population density and transit-related demographic factors along the route. If the spacing is too frequent, it will lead to increased delays along the route.

Three transit density classes have been developed:

- High (750-foot spacing). Primarily commercial with high concentration of employment, or with a population density of more than 5 people per acre.
- Moderate (1,000-foot spacing). Population density of 2 to 5 people per acre.
- Low (spacing based on activity centers rather than distance). Population density of less than 2 people per acre.



## IV. FAIRFAX COUNTY BUS STOP BEST PRACTICES

The bus stop design to be implemented at any location will depend on a number of factors. These include:

- Land use and density
- Roadway classification (arterial, major/minor collector, or residential street)
- Type of road section (shoulder or curb)

Examples of best practices have been developed which implement a bus stop classification based on ridership, land use, and proximity to a major activity center. **Figure 8** shows the decision process for the best practices in the placement of shelters and benches; the need for a shelter or bench for any area should be determined using this flowchart. **Figures 9 through 12** show examples of “best practices”. The descriptions of the best practices by area are below.

### A. Transit Center / Park and Ride Area

#### A.1 Criteria

- (a) Located at an area dedicated exclusively to transit

#### A.2 Facilities

- (a) Shelter
- (b) Bench
- (c) Loading pad extending full length of bus(es)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Customer information displays (schedule, system map)
- (g) Lighting

#### A.3 Access

- (a) Sidewalks
- (b) Crosswalks
- (c) Ramps
- (d) Pedestrian signals at signalized intersections

### B. Major Activity Center

#### B.1 Criteria

- (a) Greater than 100 daily passenger boardings
- (b) Usually located on an arterial or major collector



## **B.2 Facilities**

- (a) Shelter (as appropriate by special circumstances – see Figure 8)
- (b) Bench (as appropriate by special circumstances – see Figure 8)
- (c) Loading pad (5-foot by 8-foot minimum)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Customer information displays (schedule, system map)
- (g) Lighting
- (h) Bus bay (when appropriate; see Section III, C)

## **B.3 Access**

- (a) Sidewalk/Trail
- (b) Crosswalks
- (c) Ramps (on curb and gutter sections)
- (d) Pedestrian signals at signalized intersections

## **C. Arterial/Major Collector – Higher Ridership**

### **C.1 Criteria**

- (a) Between 50 and 100 daily passenger boardings

### **C.2 Facilities**

- (a) Shelter (as appropriate by special circumstances – see Figure 8)
- (b) Bench (as appropriate by special circumstances – see Figure 8)
- (c) Loading pad (5-foot by 8-foot minimum)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Customer information displays (schedule, system map)
- (g) Lighting
- (h) Bus bay (when appropriate; see Section III, C)

### **C.3 Access**

- (a) Sidewalks
- (b) Crosswalks
- (c) Ramps (on curb and gutter sections)
- (d) Pedestrian signals at signalized intersections

## **D. Arterial/Major Collector – Lower Ridership**

### **D.1 Criteria**

- (a) Less than 50 daily passenger boardings



## **D.2 Facilities**

- (a) Shelter (as appropriate by special circumstances – see Figure 8)
- (b) Bench (as appropriate by special circumstances – see Figure 8)
- (c) Loading pad (5-foot by 8-foot minimum)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Customer information displays (schedule, system map)
- (g) Lighting
- (h) Bus bay (when appropriate; see Section III, C)

## **D.3 Access**

- (a) Sidewalks
- (b) Crosswalks
- (c) Ramps (on curb and gutter sections)
- (d) Pedestrian signals at signalized intersections

## **E. Minor Collector**

### **E.1 Facilities**

- (a) Shelter (as appropriate by special circumstances – see Figure 8)
- (b) Bench (as appropriate by special circumstances – see Figure 8)
- (c) Loading pad (5-foot by 8-foot minimum)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Lighting
- (g) Bus bay (when appropriate; see Section III, C)

### **E.2 Access**

- (a) Sidewalks
- (b) Crosswalks
- (c) Ramps (on curb and gutter sections)
- (d) Pedestrian signals at signalized intersections

## **F. Residential**

### **F.1 Facilities**

- (a) Shelter (as appropriate by special circumstances – see Figure 8)
- (b) Bench (as appropriate by special circumstances – see Figure 8)
- (c) Loading pad (5-foot by 8-foot minimum)
- (d) Bus stop sign
- (e) Two “No Stopping, Standing or Parking” signs where problems exist
- (f) Lighting

### **F.2 Access**

- (a) Sidewalks
- (b) Ramps (on curb and gutter sections)



## V. FAIRFAX COUNTY ACCESS AND BUS STOP GUIDELINES

This section presents the minimal requirements for the various bus stop design elements discussed above. These requirements are based on current ADA regulations and are subject to change as the ADA changes.

### A. Pedestrian Access and Facilities

#### A.1 Sidewalk

- (a) Existing minimum of 4 feet wide, new construction must be 5 feet wide.
- (b) Surface must be stable, firm and slip resistant. (ADA 4.5.1)
- (c) Surface must be well-drained.
- (d) Must be equipped with a wheelchair ramp at nearest intersection. (ADA 4.7.1)
- (e) Curb ramp must be a maximum 1:12 slope. (ADA 4.8.2)
- (f) The minimum width of a curb ramp shall be 36 in, exclusive of flared sides. (ADA 4.7.3)
- (g) Must be free of all obstacles. (ADA 4.2.4)
- (h) The cross-slope must not exceed 2%. (ADA 4.3.7)
- (i) The longitudinal grade should follow that of the roadway, to the extent possible. (New construction not to exceed 5% running slope)
- (j) Grate elongated openings must be perpendicular to pedestrian path of travel and be no greater than 0.5 inches in width. (Openings greater than 0.5 inches could catch wheelchair wheels or walking sticks) (ADA 4.5.4)

#### A.2 Loading pad

- (a) At curbed area: pad must be at least 5-foot by 8-foot. (ADA 10.2.1)
- (b) At uncurbed area: pad must be on 8-foot (min) wide shoulder.
- (c) Surface must be stable, firm and slip resistant. (ADA 4.5.1)
- (d) Surface must be well-drained.
- (e) The cross-slope must not exceed 2%. (ADA 4.3.7)
- (f) No amenities should be located within the loading pad. (ADA 4.2.4)
- (g) Location of storm drains and catch basins in reference to the stop must not be within the loading pad areas.
- (h) Access should be provided to sidewalk/trail.

#### A.3 Waiting pad

- (a) Surface must be stable, firm and slip resistant. (ADA 4.5.1)
- (b) Surface must be well-drained.
- (c) The cross-slope must not exceed 2%. (ADA 4.3.7)
- (d) Access should be provided to curbside loading pad and sidewalk/trail.

#### A.4 Crosswalks

- (a) Provide a minimum clearance of 5 feet between crosswalk and front/rear of bus.
- (b) Signalized crosswalks should have pedestrian signalization.



## **A.5 Additional Considerations**

- (a) Path of travel must be adequately maintained so there are no safety or accessibility issues with overgrown shrubs, bushes, uneven surfaces, etc. (ADA 4.2.4)
- (b) Tree branches on roadway side should be trimmed back to no less than 132 inches in height and 24 inches from back of curb to prevent becoming an obstacle for bus drivers and also may impair bus driver's vision of waiting passengers.
- (c) Tree branches inside bus stops access must be trimmed to provide a minimum overhead clearance of no less than 77 inches to prevent pedestrians from being forced to walk in the street.
- (d) Snow removal should be considered in order to keep the pads accessible in inclement weather.
- (e) A regularly scheduled maintenance program and trash removal program should be implemented to ensure the cleanliness and structural safety of the shelters and pads.

## **B. Bus Stop Facilities**

### **B.1 Roadway**

- (a) Reinforced pavement will best support bus weights (reducing maintenance and repair to pavement, therefore reducing the probability of slip/trip/fall hazards to the public).
- (b) Taper of acceleration and deceleration portions of the bus bays. (see Figure 7)
- (c) Intersection turning radius should be considered to eliminate wide swinging buses.

### **B.2 Shelters**

- (a) Must be placed on waiting pad, not on the 5-foot x 8-foot loading pad.
- (b) A minimum distance of 2 feet should be maintained between the back face of curb and the front face of the roof of the shelter.
- (c) If pedestrian facilities are present between the back face of the curb and the shelter, refer to Section A for guidelines.
- (d) At least a 1-foot clearance should be maintained between the shelter and the nearest building.
- (e) A clearance of at least 3 feet should be maintained either in front or behind the shelter for access.

### **B.3 Benches (free standing)**

- (a) Must be placed on waiting pad.
- (b) Must be offset from the back face of curb by at least 2 feet. (preferably 4 feet) This distance should be increased with increased speed along the roadway to accommodate passenger safety and comfort.
- (c) If pedestrian facilities are present between the back face of the curb and the bench, refer to Section A for guidelines.



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### **B.4 Lighting**

- (a) Bus stops should be located near existing street lighting, where possible.
- (b) All lighting at stop should meet current IES Standards as specified in the Fairfax County Public Facilities Manual (PFM) Chapter 7.1000, based on road classification.
- (c) The loading pad, waiting pad, sidewalk access and intersection crosswalk should have the minimum specified illumination per PFM Chapter 7.1000.

### **B.5 Signs**

- (a) The characters and background of all new bus route identification should follow standard bus stop signage practices. Signs that are sized to the maximum dimensions permitted under legitimate local, state or federal regulations or ordinances shall be considered in compliance.

# APPENDIX

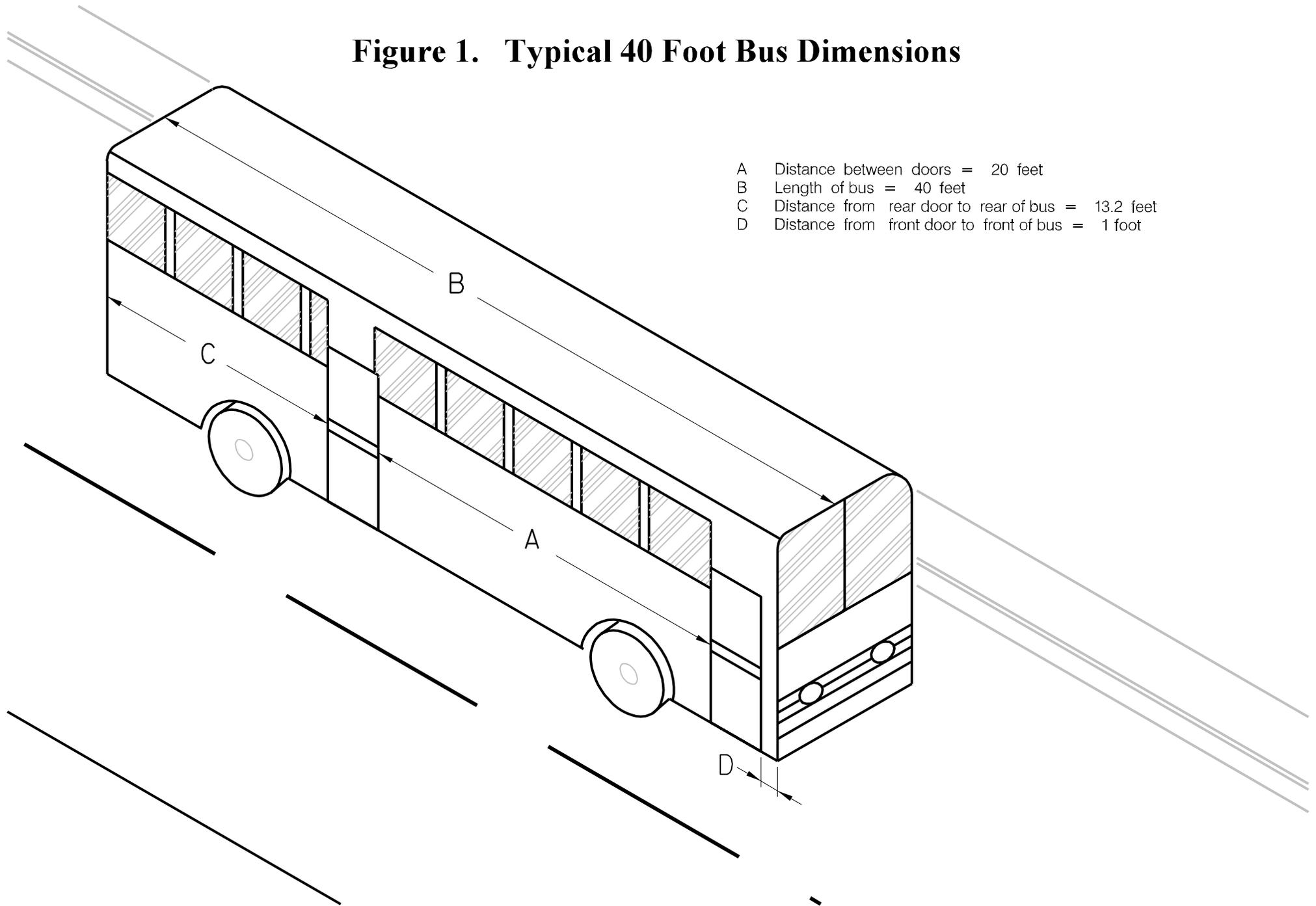
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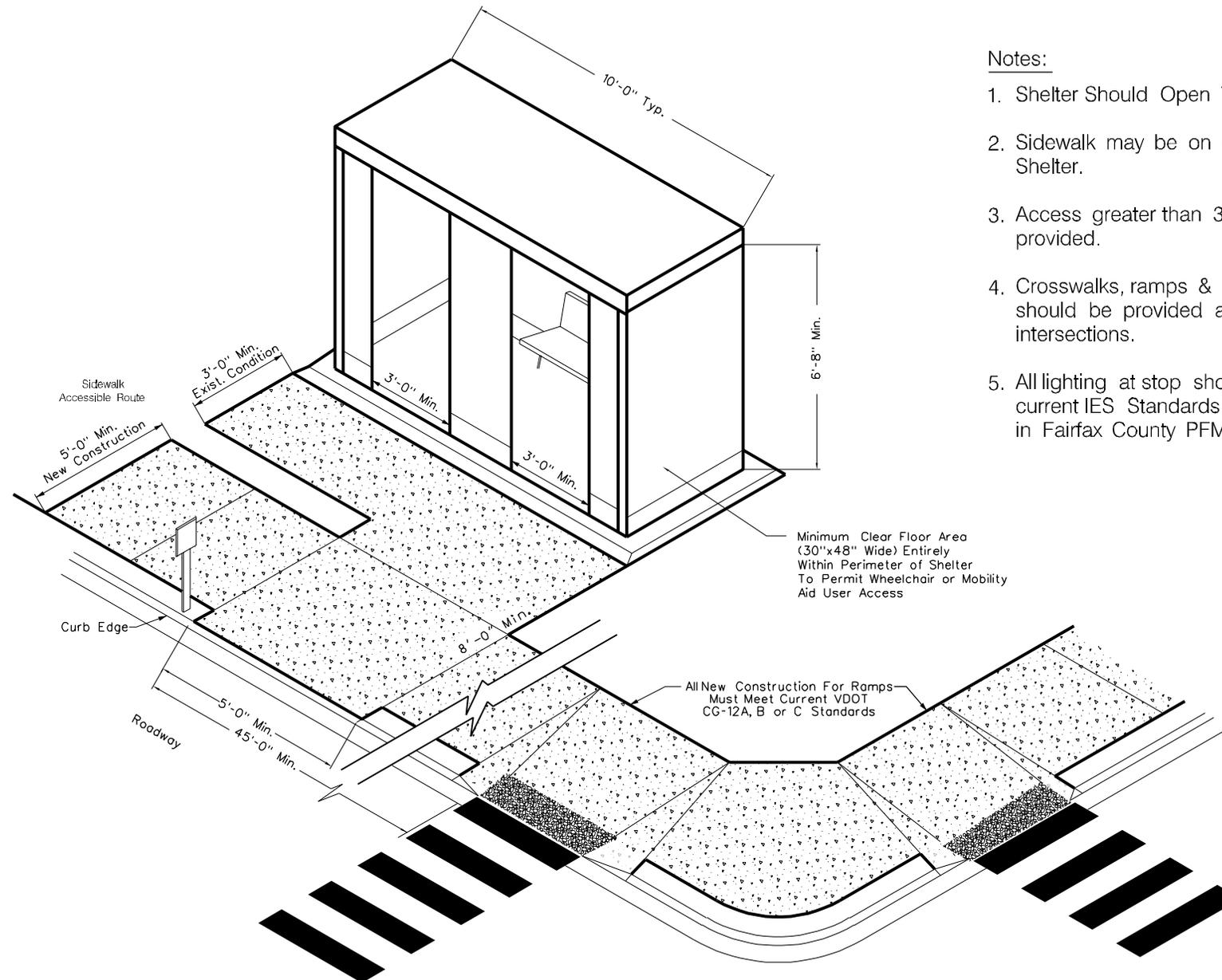
**Figure 1. Typical 40 Foot Bus Dimensions**



- A Distance between doors = 20 feet
- B Length of bus = 40 feet
- C Distance from rear door to rear of bus = 13.2 feet
- D Distance from front door to front of bus = 1 foot



## Figure 2. ADA Compliant Shelter

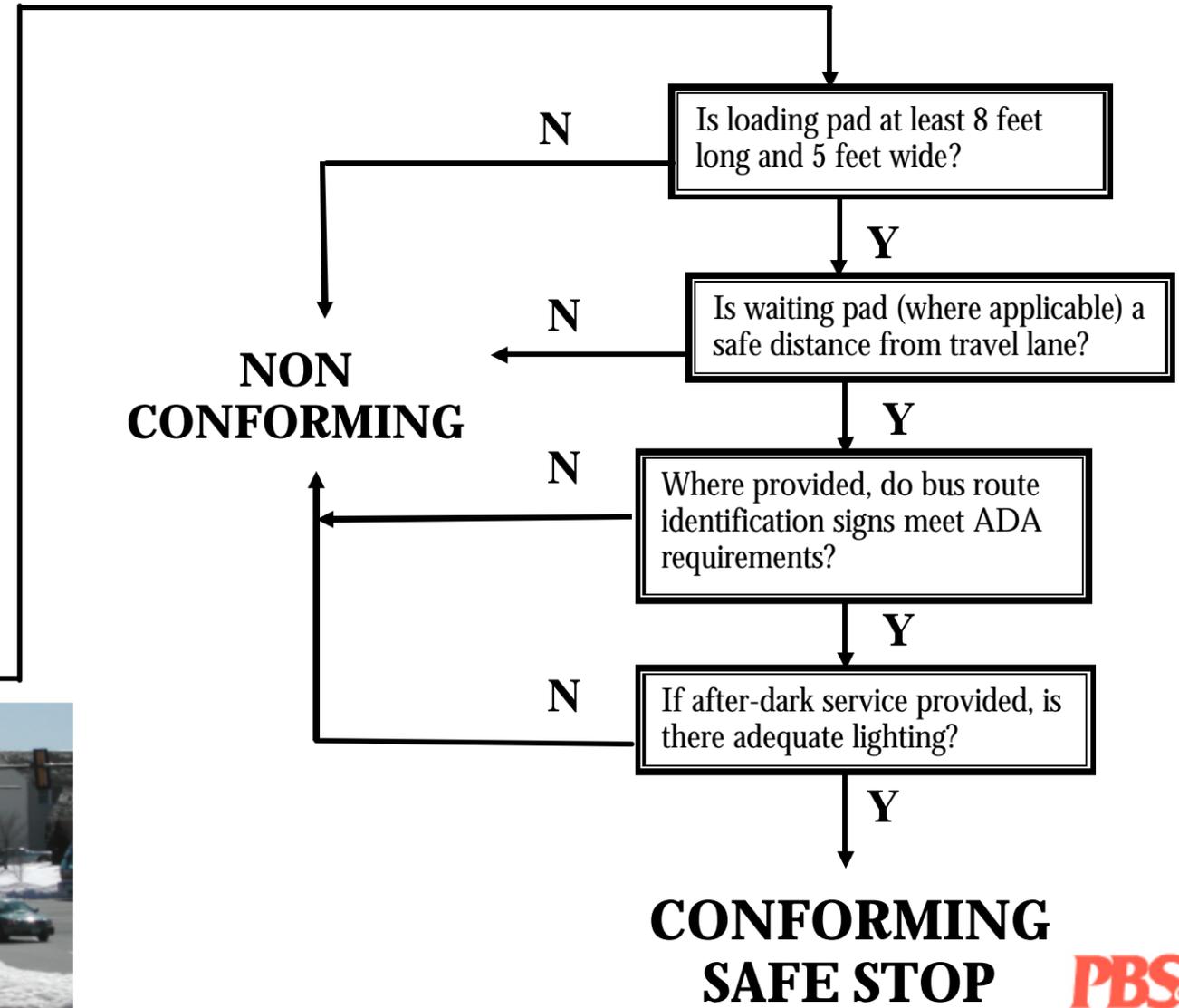
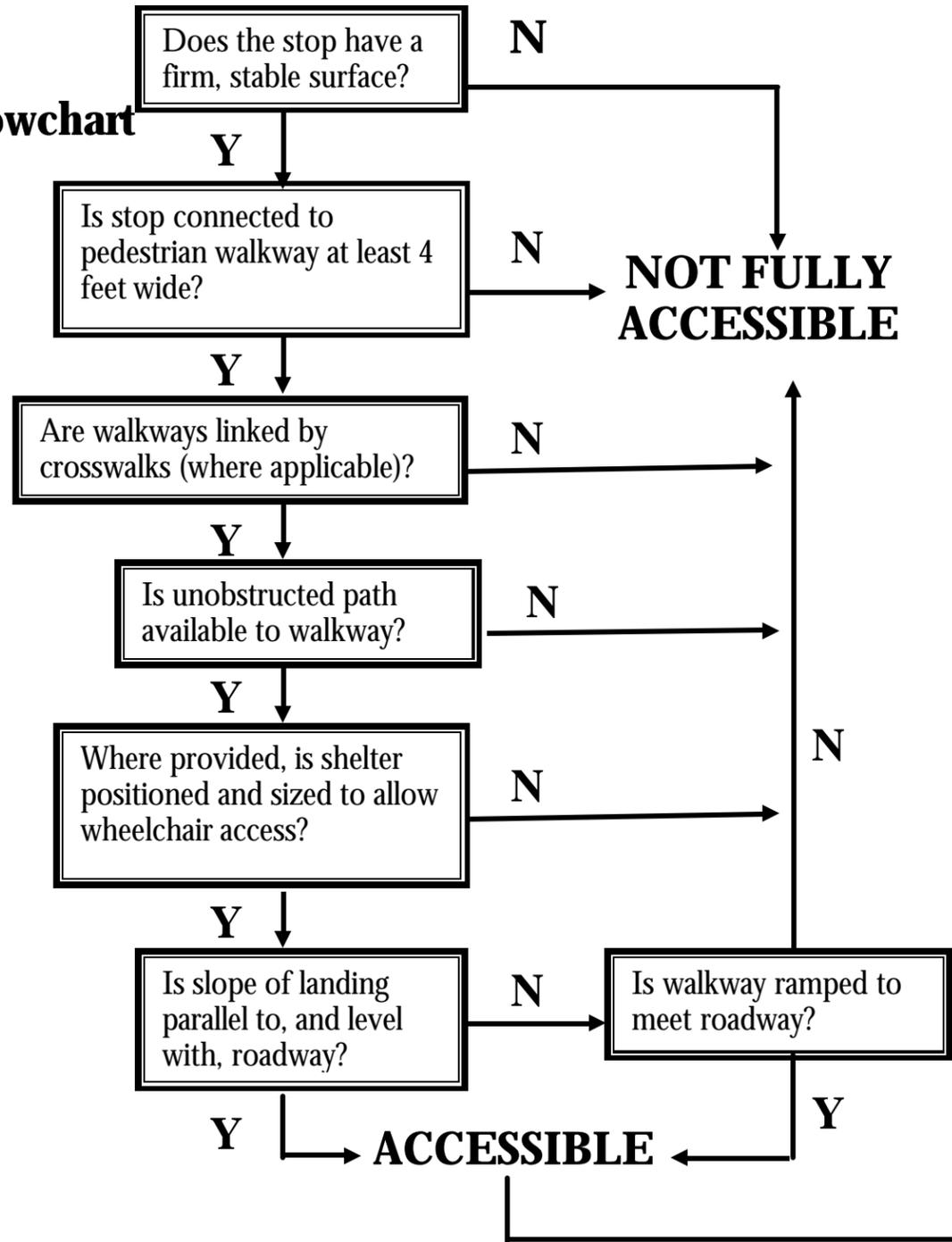


Notes:

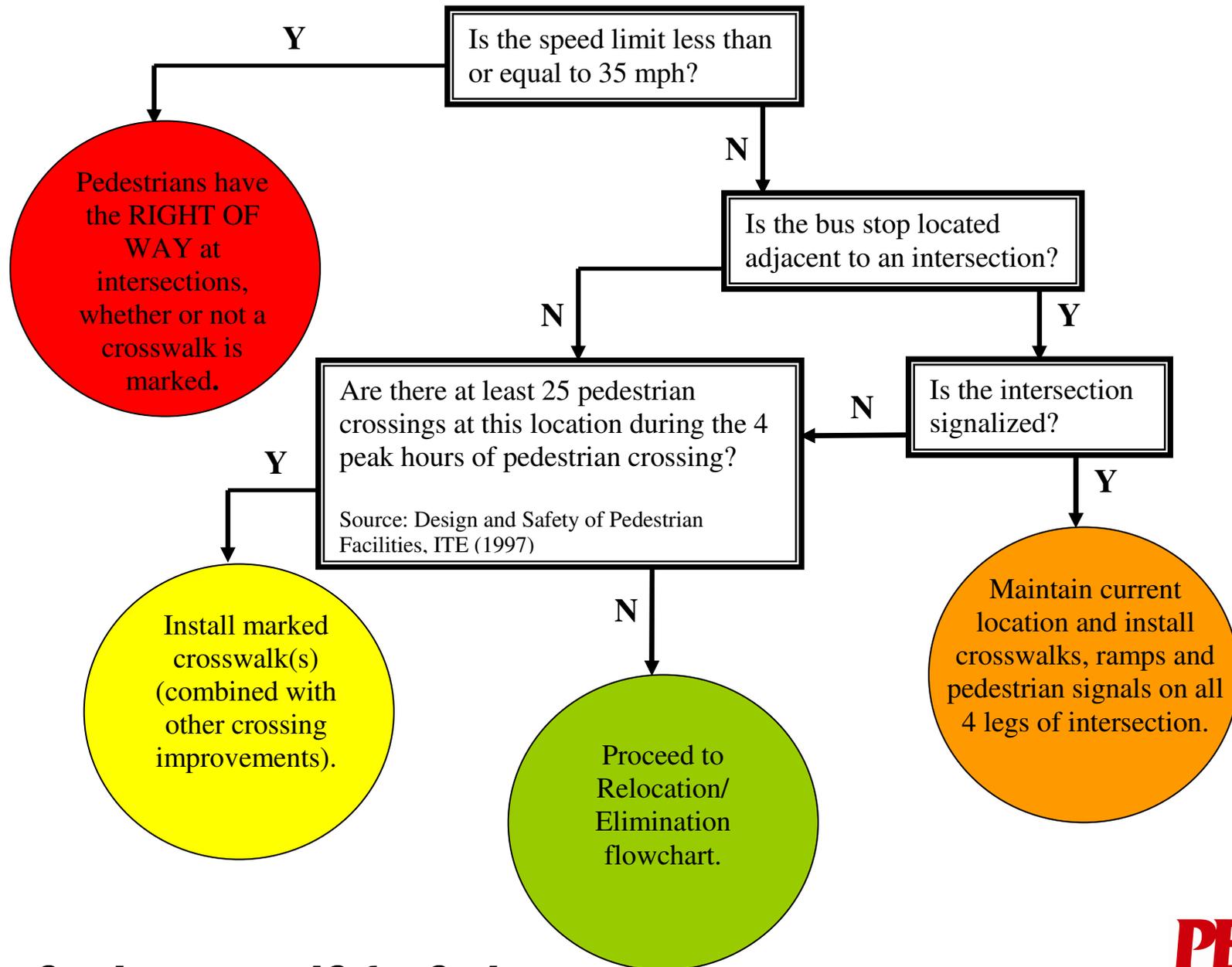
1. Shelter Should Open To Curb.
2. Sidewalk may be on either side of Shelter.
3. Access greater than 3 feet must be provided.
4. Crosswalks, ramps & pedestrian signals should be provided at all signalized intersections.
5. All lighting at stop should meet current IES Standards as specified in Fairfax County PFM, Chapter 7.1000.



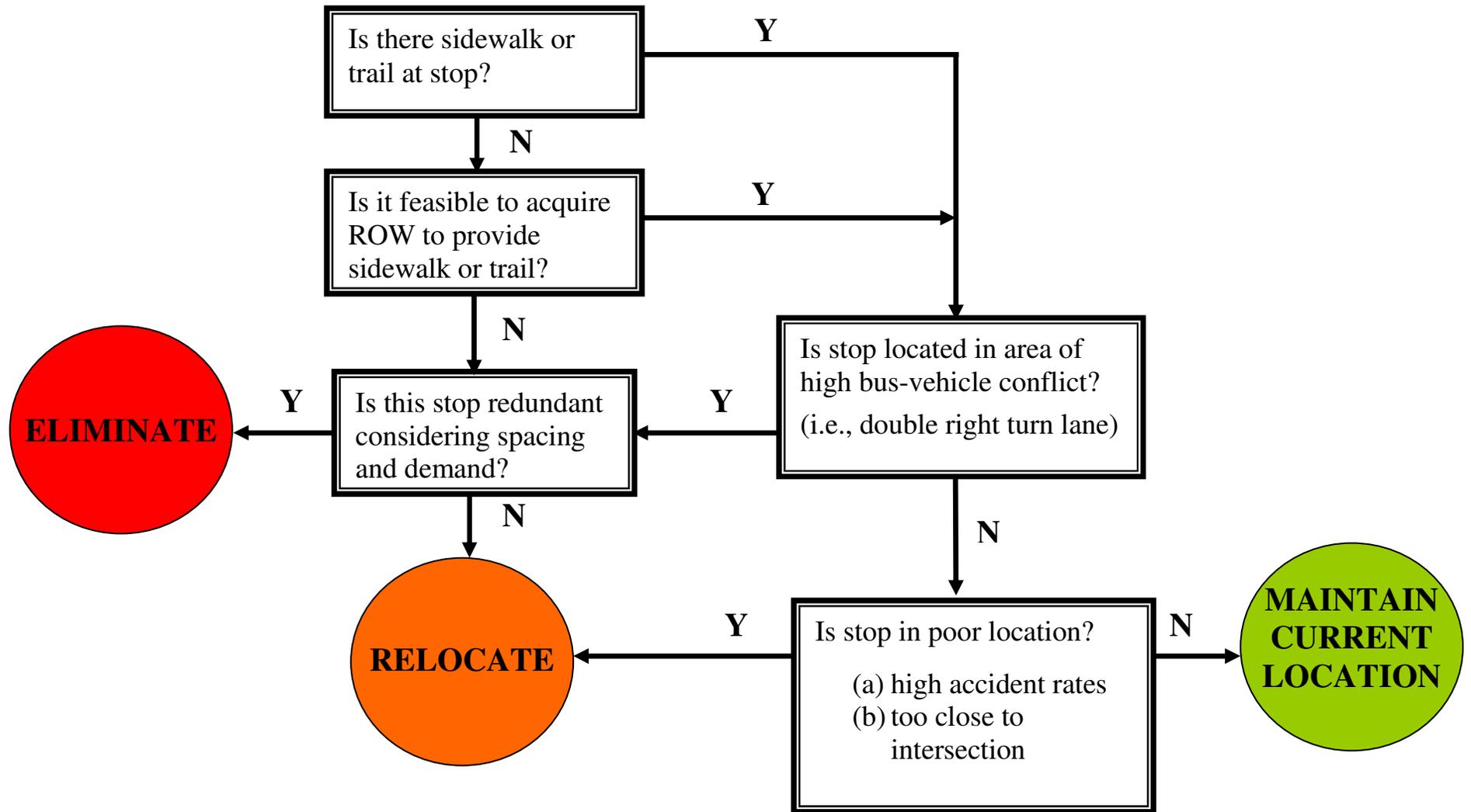
**Figure 3.**  
**Accessibility Flowchart**



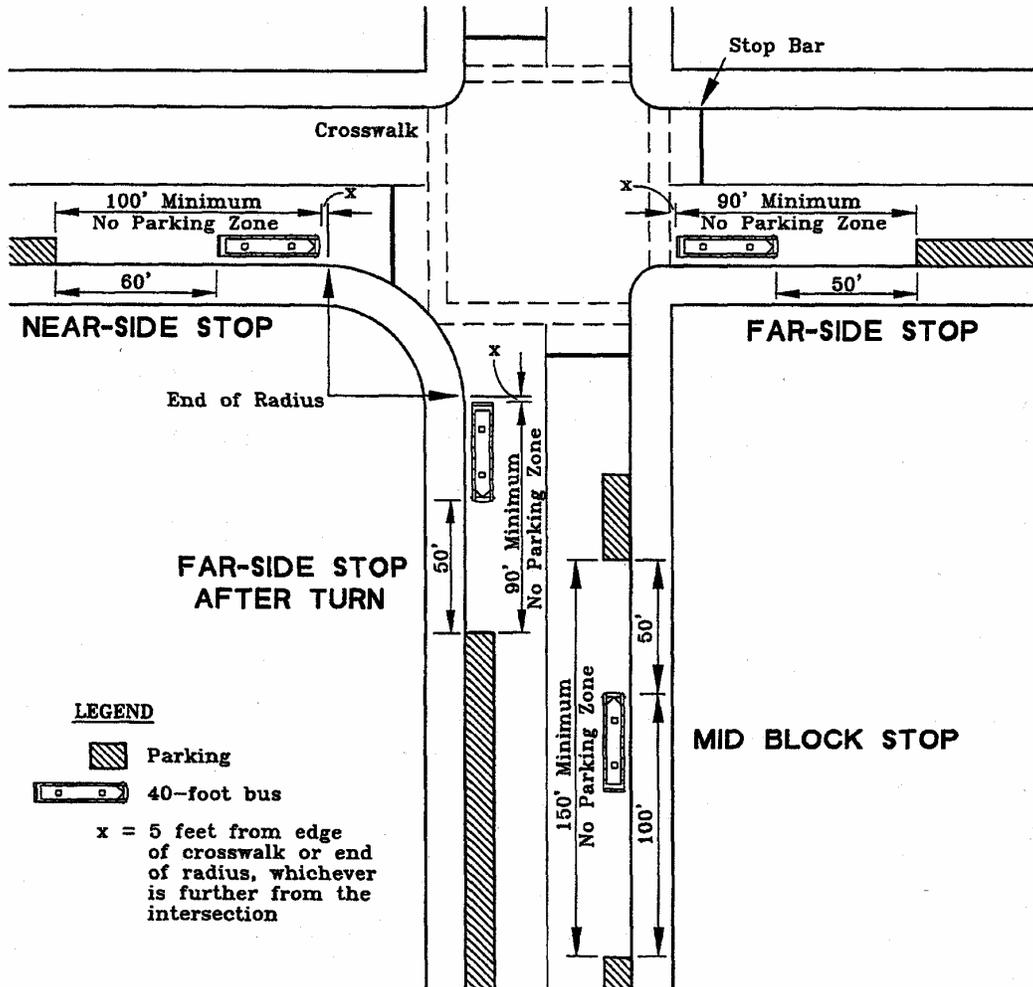
**Figure 4. Pedestrian Facilities Flowchart**



**Figure 5. Relocation/Elimination Flowchart**



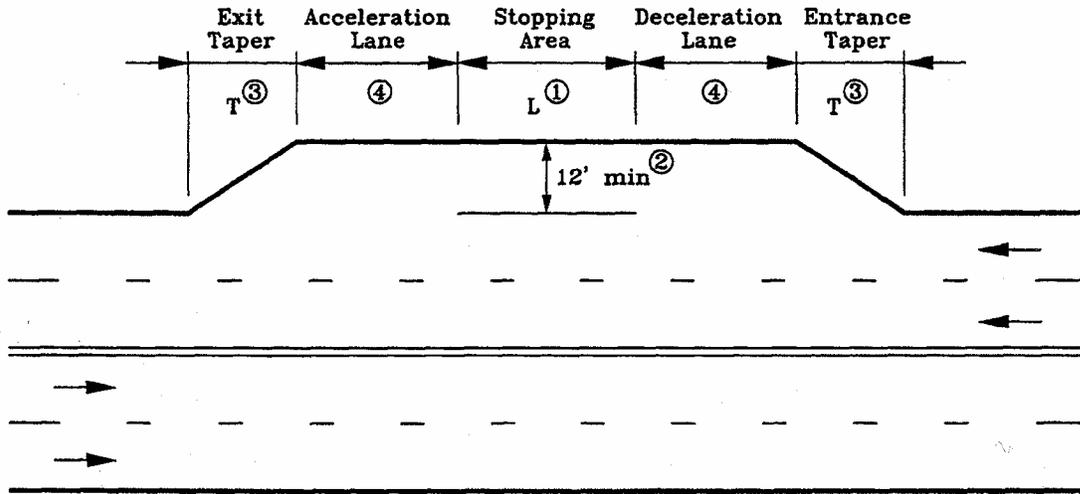
**Figure 6. Typical Dimensions for On-Street Bus Stops**



Source: TCRP Report 19 - Guidelines for the Location and Design of Bus Stops, Figure 3, Page 25, Transportation Research Board, 1996.



## Figure 7. Typical Bus Bay Layout



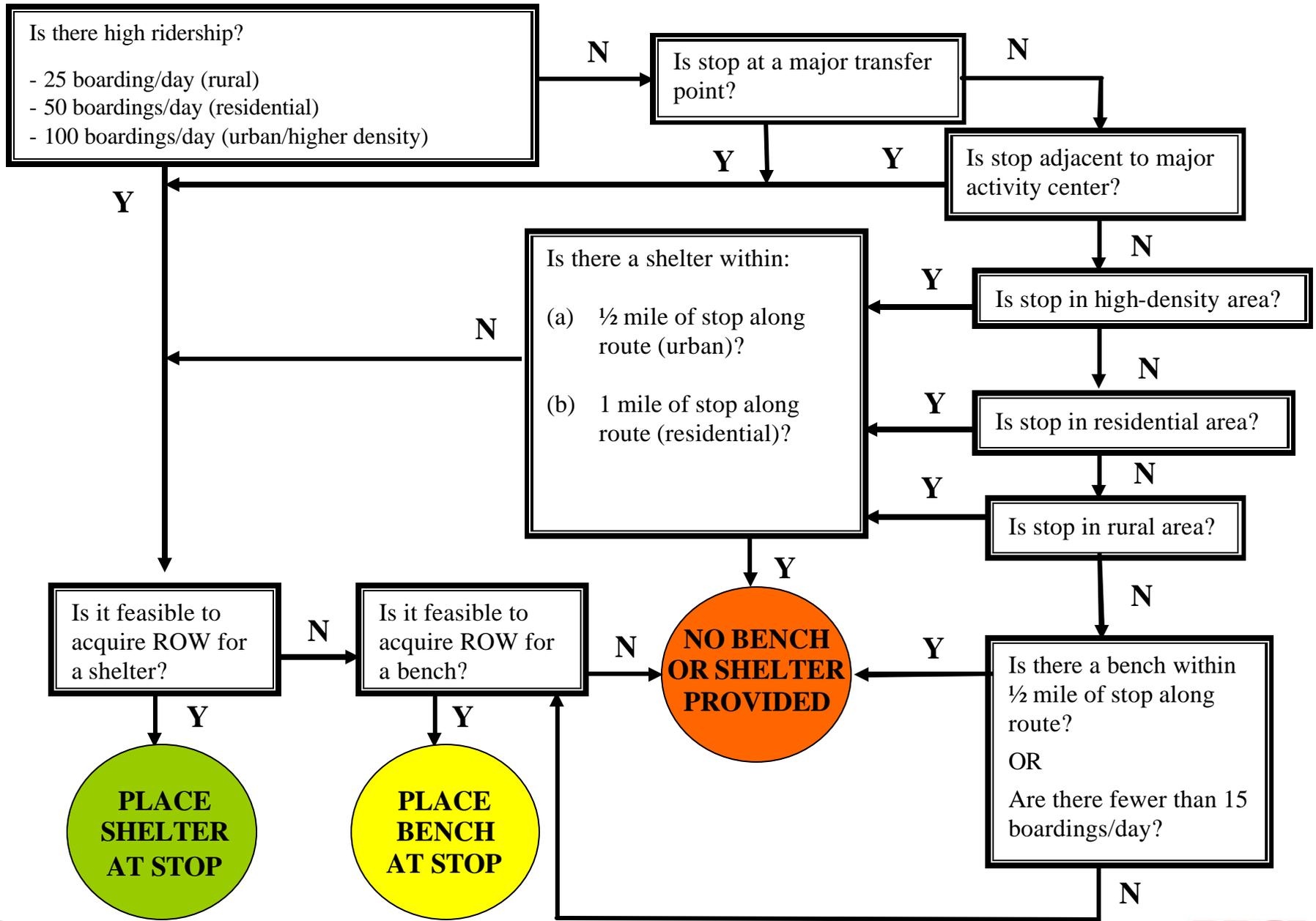
Notes:

1. Stopping area length consists of 50 feet for each standard 40-foot bus and 70 feet for each 60-foot articulated bus.
2. Bus bay width is desirably 12 feet.
3. Desirable taper length is equal to the major road through speed (mph) multiplied by the width of the turnout bay. A taper of 5:1 is a desirable minimum for an entrance taper, while the merging or re-entry taper should not be sharper than 3:1.
4. Minimum design for a bus bay does not include acceleration or deceleration lanes.

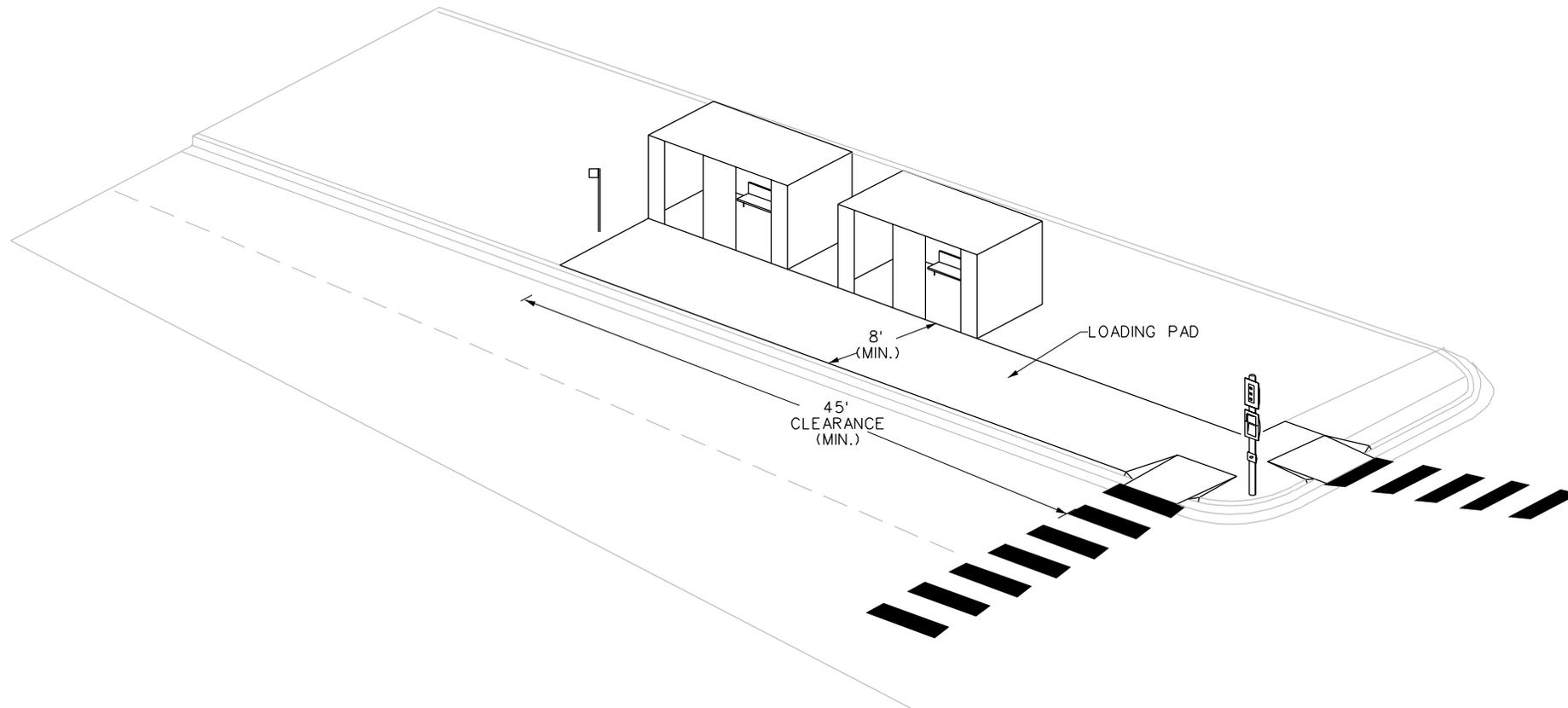
Source: TCRP Report 19 - Guidelines for the Location and Design of Bus Stops, Figure 5, Page 29, Transportation Research Board, 1996.



# Figure 8. Shelter/Bench Decision Flowchart



**Figure 9. Typical Bus Stop - Transit Center / Park & Ride Area**



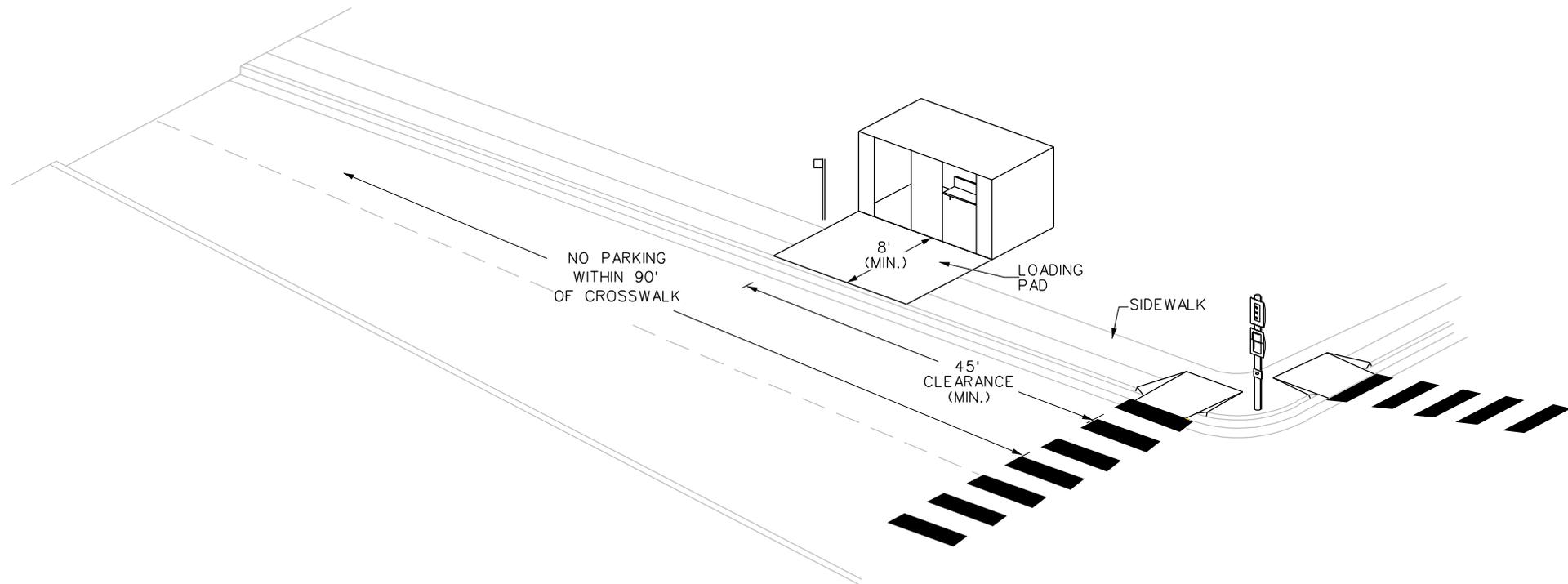
NOTES:

1. IF A STOP IS LOCATED ADJACENT TO A SIGNALIZED INTERSECTION, THERE SHOULD BE CROSSWALKS, RAMPS AND PEDESTRIAN SIGNALS ON ALL LEGS OF THE INTERSECTION.
2. IF A STOP IS LOCATED AT AN UNSIGNALIZED INTERSECTION OR A MIDBLOCK LOCATION, IT SHOULD BE DETERMINED IF A MARKED CROSSWALK WOULD BE THE BEST PEDESTRIAN ENHANCEMENT, OR IF ANOTHER IMPROVEMENT WOULD BE MORE APPROPRIATE.
3. BUS STOPS SHOULD BE LOCATED NEAR EXISTING STREET LIGHTING, WHERE POSSIBLE.
4. ALL LIGHTING AT A STOP SHOULD MEET CURRENT IES STANDARDS, AS SPECIFIED IN THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL (PFM) CHAPTER 7.1000, BASED ON ROAD CLASSIFICATION.
5. THE NEED FOR A SHELTER OR BENCH SHOULD BE DETERMINED USING THE DECISION FLOWCHART.

IN AREAS OF HIGH TRANSFER ACTIVITY, THE LOADING PAD SHOULD BE LONG ENOUGH TO ACCOMODATE THE NUMBER OF BUSES EXPECTED AT ANY ONE TIME.



**Figure 10. Typical Bus Stop - Curb & Gutter**



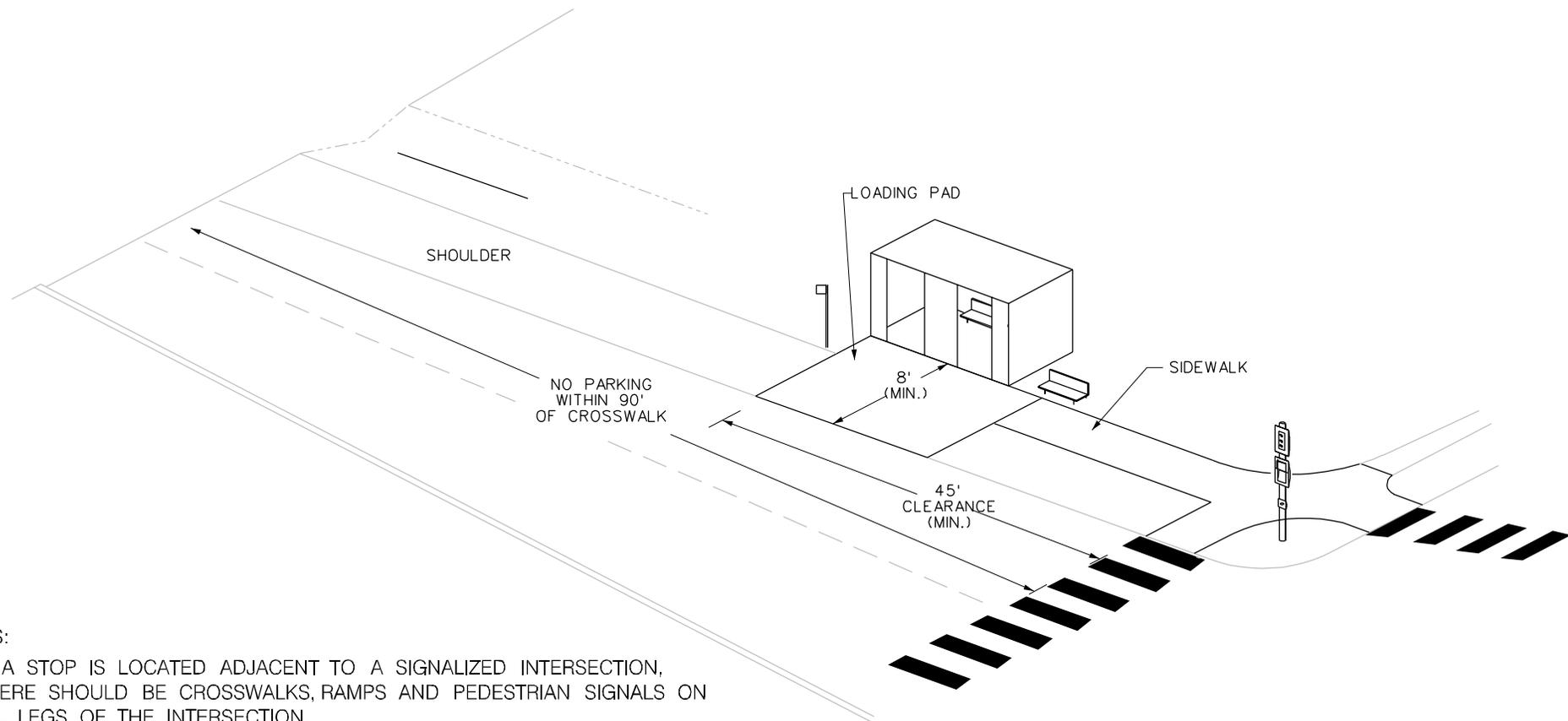
NOTES:

1. IF A STOP IS LOCATED ADJACENT TO A SIGNALIZED INTERSECTION, THERE SHOULD BE CROSSWALKS, RAMPS AND PEDESTRIAN SIGNALS ON ALL LEGS OF THE INTERSECTION.
2. IF A STOP IS LOCATED AT AN UNSIGNALIZED INTERSECTION OR A MIDBLOCK LOCATION, IT SHOULD BE DETERMINED IF A MARKED CROSSWALK WOULD BE THE BEST PEDESTRIAN ENHANCEMENT, OR IF ANOTHER IMPROVEMENT WOULD BE MORE APPROPRIATE.
3. BUS STOPS SHOULD BE LOCATED NEAR EXISTING STREET LIGHTING, WHERE POSSIBLE.
4. ALL LIGHTING AT A STOP SHOULD MEET CURRENT IES STANDARDS, AS SPECIFIED IN THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL (PFM) CHAPTER 7.1000, BASED ON ROAD CLASSIFICATION.
5. THE NEED FOR A SHELTER OR BENCH SHOULD BE DETERMINED USING THE DECISION FLOWCHART.
6. ALL EXISTING SIDEWALKS SHALL BE A MINIMUM OF 4 FEET WIDE. ALL PROPOSED SIDEWALKS SHALL BE A MINIMUM OF 5 FEET WIDE.

THE LOADING PAD IS ONLY IN THE VICINITY OF THE SHELTER, WITH A SIDEWALK EXTENDING TO THE NEAREST INTERSECTION.



## Figure 11. Typical Bus Stop - On A Shoulder

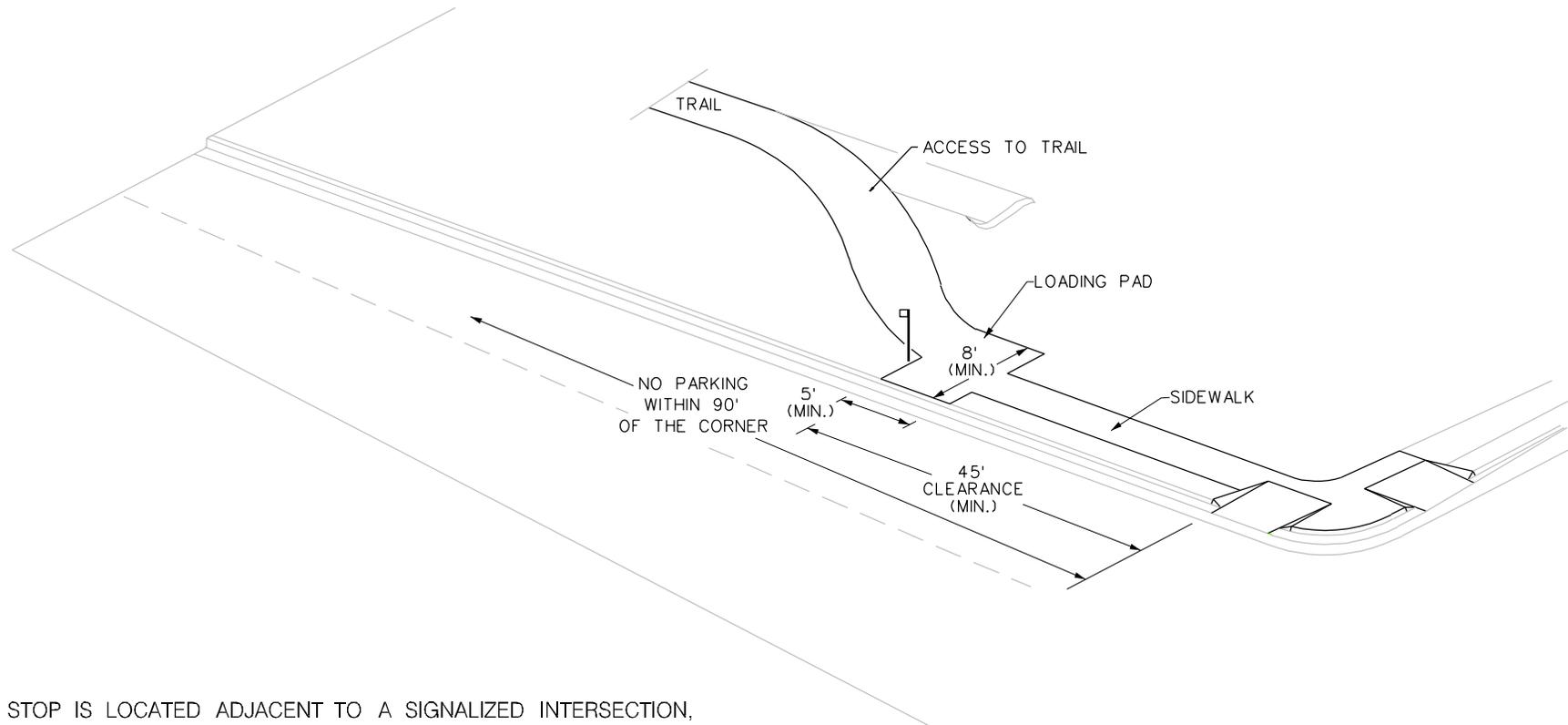


### NOTES:

1. IF A STOP IS LOCATED ADJACENT TO A SIGNALIZED INTERSECTION, THERE SHOULD BE CROSSWALKS, RAMPS AND PEDESTRIAN SIGNALS ON ALL LEGS OF THE INTERSECTION.
2. IF A STOP IS LOCATED AT AN UNSIGNALIZED INTERSECTION OR A MIDBLOCK LOCATION, IT SHOULD BE DETERMINED IF A MARKED CROSSWALK WOULD BE THE BEST PEDESTRIAN ENHANCEMENT, OR IF ANOTHER IMPROVEMENT WOULD BE MORE APPROPRIATE.
3. BUS STOPS SHOULD BE LOCATED NEAR EXISTING STREET LIGHTING, WHERE POSSIBLE.
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5. THE NEED FOR A SHELTER OR BENCH SHOULD BE DETERMINED USING THE DECISION FLOWCHART.
6. ALL EXISTING SIDEWALKS SHALL BE A MINIMUM OF 4 FEET WIDE. ALL PROPOSED SIDEWALKS SHALL BE A MINIMUM OF 5 FEET WIDE.



**Figure 12. Typical Bus Stop - In A Residential Area**



NOTES:

1. IF A STOP IS LOCATED ADJACENT TO A SIGNALIZED INTERSECTION, THERE SHOULD BE CROSSWALKS, RAMPS AND PEDESTRIAN SIGNALS ON ALL LEGS OF THE INTERSECTION.
2. IF A STOP IS LOCATED AT AN UNSIGNALIZED INTERSECTION OR A MIDBLOCK LOCATION, IT SHOULD BE DETERMINED IF A MARKED CROSSWALK WOULD BE THE BEST PEDESTRIAN ENHANCEMENT, OR IF ANOTHER IMPROVEMENT WOULD BE MORE APPROPRIATE.
3. BUS STOPS SHOULD BE LOCATED NEAR EXISTING STREET LIGHTING, WHERE POSSIBLE.
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