

# Bus Stop Improvement Program

### Fairfax County Department of Transportation Transit Services Division

### Transportation Advisory Committee January 6, 2009

Department of Transportation





# Bus Stop Inventory and Safety Study







### Bus Stop Inventory and Safety Study

Identify bus stop related safety hazards



- Develop comprehensive safety criteria and bus stop guidelines
- Create a complete geographic database of County's Bus Stops





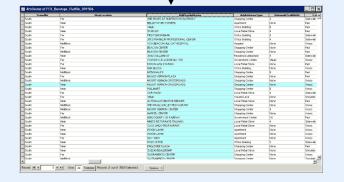




- Study began in May 2003 with the bulk of the inventory taking place from July 2003 through October 2004
- "53-element database structure"
  - There are 53 observed elements
  - Elements are the characteristics used to describe the bus stop and used for in analysis



Inventory: Data Collection







- Engineering elements
  - Curb cut ramps
  - Sidewalk
  - Waiting pads
  - Crosswalks and pedestrian signals
- Property Elements
  - Bus stop sign
  - Shelter
  - Bench
  - Transit Information

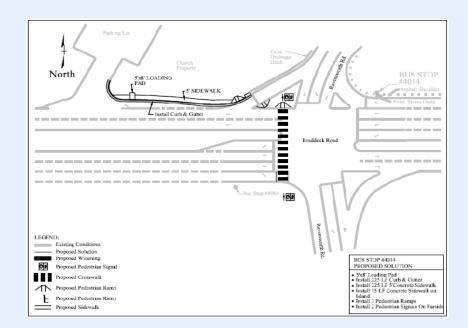








- Recommendations from the study considers the infrastructure environment
- The Study recommends pedestrian links, curb cuts, crosswalks, pedestrian signals and other intersections improvements



Safety Study: Recommendations





### **Prioritization**





	Prioritization Criteria and Weights	
Evaluation Criteria	Typical Considerations	Weight
Safety		
Pedestrian access	Sidewalk, ramps, pedestrian signals, lighting	
	and any obstacles to access.	0.731
Waiting safety	Pad, shelter, obstacles and proximity to	0.751
	roadway.	
Bus Access	Lane width, sight distance, pull out area.	
Estimated and	Current use, nearby generators and potential	0.161
Potential Ridership	based on land use with fully accessible stops	
Cost	Construction cost	0.073
Secondary Benefit	Non transit pedestrian safety or removal of	0.035
	vehicular or pedestrian obstacles.	0.035
TOTAL		1.000



#### Safety Study: Bus Stop Categories

#### Category A

Category "A" bus stops have all required elements set forth in the Guidelines. These include an adequately sized waiting pad consisting of a hard surface (concrete, brick, or asphalt); appropriate, paved access to the stop via either a concrete sidewalk or asphalt trail; adequate lighting; adequate approach sight distance for the bus; and adequate waiting facilities for the ridership levels (shelter, bench, etc.). These stops are fully ADA-compliant as well.



#### Category B

This category is broken down into two sub-categories: B1 and B2. Stops in Category



B1 stops are considered to have adequate accessibility and waiting areas, but do not technically meet the requirements set in the Guidelines. These stops may have an undersized, but useable waiting pad; or all elements except adequate lighting. In the immediate future, Category B1 stops most likely will not require improvements even though they do not technically meet all elements set forth in the Guidelines.

Category B2 stops have adequate accessibility and waiting areas, but unlike Category B1 bus stops, minor improvements or minor maintenance is recommended. Stops in this category may have no waiting area other than the sidewalk/trail; or unpaved access adjacent to a low-speed road, but are still safe. Category B2 stops also may be highly used stops that are safe, but should have a shelter; or adequate access that is not fully compliant with ADA.



#### Category C



Stops in this category are missing one or more elements for adequate accessibility or missing one or more safety elements. Often these stops are adjacent to roads with higher speeds or with poor sight distance. A stop requiring significant improvements such as pedestrian signals at an adjacent signalized intersection would also be included in Category C. Recommended improvements are to be done based on a prioritization method described in Section V. These stops do not meet ADA standards.

#### Category D

Category D bus stops generally have difficult access for pedestrians and/or vehicles. This includes, but is not limited to, any access that:

- Forces riders onto, or to wait immediately adjacent to, a roadway having a speed limit greater than 25 mph.
- Has a severe or unstable grade (i.e. ditches, etc.).
- 3. Is located in areas with little or no sight distance for oncoming drivers
- Has difficult or impossible pedestrian access because of obstacles such as drainage ditches, guardrail, landscaping, and sound walls.



The recommendations for these stops are not necessarily complex or expensive. These stops are considered high priority and the recommendations should be implemented before those at any other stops.

For each Category D stop there could be an alternate recommendation to remove the stop completely if the ridership data is low enough that improvements are not justified.

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made)

Original Five Categories Based on Accessibility Review Approximately 4,000 Stops

A. Fully Accessible B1. Minor Improvements (no work order)

B2. Minor Improvements (easily

C. Improvement Needed

D. Access Difficult

Top 344 Stops Priority 1 (60) Priority 2 (114) Priority 3 (170)

Final Priority Ranking

Prioritization performed by Staff and Study Team

Categorization performed by Engineers

# 344 stops scored 3.0 or above and are identified as "high priority" stops





## **Implementation Plan**

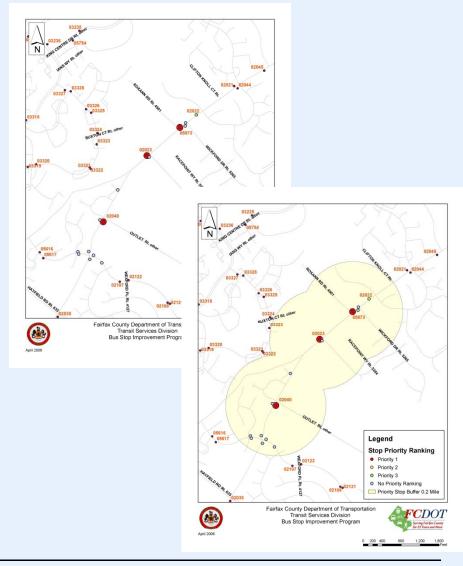






#### Implementation Plan: "Stop Clusters"

- "Stop Clusters" implementation: Consideration of priority ranking and construction efficiency
  - Priority stops should be addressed first
  - Construction mobilization on small projects is a large cost item Materials should be procured and crews assembled to perform substantial work
  - Work on multiple stops in the same area as part of a project improves efficiency
  - Work on identical items on multiple stops improves efficiency For example, sidewalk improvements, guardrail, and pad constructions can be done in a repetitive and efficient manner







There are 248 bus stops identified in the priority stop clusters:

- 60 of 60 Priority 1:	100%
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- 17 of 114 Priority 2: 15%
- 15 of 170 Priority 3: 9%
- 156 of 3546 No priority: 4%
- Status 1/2009
  - 190 projects in design
  - 18 projects completed 2008
  - Anticipating 50 projects complete 2009





### Implementation Plan: Funding

- FY 2007 Board Authorized: \$2,500,000 for use to begin implementing study recommendations. Due to budget; \$650,000 returned to general fund
- FY 2008 Bond issue: \$7,750,000 for Bus Stop improvements countywide
- FY 2008 Bond issue: \$500,000 for bus stop and shelter lighting project
- CMAQ funds: Countywide construction of bus shelters and related accessibility improvements











## **Solar Lighting Project**









- A common recommendation made by the safety study is "Appropriate lighting at the stop meeting Fairfax County IES Standards"
- \$500,000 is identified in the bond for a Bus Stop and Shelter Lighting Pilot Program
- Preliminary Lighting Study installing Carmanah i-Stop® at 10 locations Countywide to determine if LED Illuminated transit stops will be an effective solution
- Have not received any feedback from "passive outreach" regarding the installations. Considering a reshuffle of installations to try some new locations









### **ADA Accessibility**







### WMATA Elderly and Disabled Transportation Advisory Committee

FA - Disability Services Board







- ADA Accessibility
- Guidelines (Bus Stop Inventory and Safety Study was a Pedestrian initiative)
  - Bus stops must be ADA compliant
  - Making stops accessible will save Fairfax County money by reducing dependence on Metro-Access and other programs
  - Bus Stop design and location are critical elements in the quality of bus service







- Commitment to the disabled community: If there are stops that people are disabled use, or want to use, the stop should be elevated in priority
- "The Kansas City Model"
  - A person who is disabled want to use the bus, but stops are not accessible
  - Identify stops that are used, or would like to used and focus on those stops







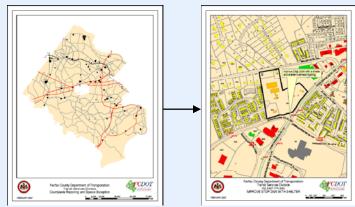
### **Future**





#### Implementation Plan: Strategies for Construction

- Design and Construction
  - Improvement Programs (Bond)
  - CMAQ (Federal)
  - Opportunities to improve bus stops in conjunction with other improvement projects- ("Top 40" Pedestrian intersections; Route 1 initiative; etc.)



- Proffers
  - Review requests for Rezoning and special exceptions
  - Proffers for shelters should include maintenance
- Bus Shelter Advertising RFP
  - Board has approved generation of a RFP for a shelter advertising program
  - Contractor will construct and advertise on bus shelters - shelters will be accessible







- Competitive bidding selects a contractor that will:
  - Install bus shelters, accessible pathways, curb cut ramps and proper loading areas
  - Maintain bus shelters (trash, cleaning, repair)







- Services will be provided at <u>NO COST</u> to Fairfax County
- Advertising will pay for the construction and maintenance of shelters in the program
- AND Fairfax County will receive a share of the advertising revenues







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# Please, feel free to contact me with questions.



