



**Americans with Disabilities Act Self-Evaluation
Field Inventory of Public Rights of Way
Central Business District and Surrounding Areas**

Baltimore City Department of Transportation

August 2016

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Executive Summary

As stated in Baltimore City Department of Transportation's (BCDOT) ADA policy, Baltimore City is committed to a policy of full accessibility and does not discriminate in the provision of its activities or services. It is BCDOT's responsibility and desire that no person in the city of Baltimore be excluded or denied the benefits of safely traversing in the public right-of-way (ROW). As required by the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973, Baltimore City initiated a city-wide self-evaluation of their existing sidewalks and sidewalk ramps in order to determine compliance with their "Official Design Guidelines for Pedestrian Facilities", see Appendix V for a copy of the guidelines. The guidelines were created to ensure that the city and all private contractors performing work in the public ROW, adheres to the minimum standards set forward by the ADA, the United States Department of Justice (USDOJ), and the United States Department of Transportation (USDOT).

This multi-phase, multi-year self-evaluation includes an inventory of existing pedestrian facilities, in which Phase I/Year 1 concentrated within the Central Business District (CBD), also referred to as "Downtown" and immediately adjacent neighborhoods. The inventory included data collection of all sidewalks, curb ramps, median openings and driveways in the CBD.

In summary, the evaluation found that approximately 64% of the 64 miles of sidewalk, 93% of the 2938 curb ramps, 84% of the 1007 driveways, and 70% of the median treatments within the phase I project area were found to be non-compliant in accordance with the "Official Design Guidelines for Pedestrian Facilities".

At completion of the self-evaluation, the BCDOT will incorporate a transition plan which will establish a method of prioritizing needed modifications. The transition plan will prioritize locations and funding over multiple years in order to achieve full compliance. This report will be used as a starting point for a citywide inventory and can be used to track the City's progress of meeting full compliance in the public ROW.

Background

The Americans with Disabilities Act (ADA) of 1990 was signed into law on July 26, 1990 by President George H. W. Bush. The ADA is a wide-ranging civil rights law that prohibits, under certain circumstances, discrimination based on disability. It affords similar protections against discrimination to Americans with disabilities as the Civil Rights Act of 1964. That act made discrimination based on race, religion, sex, national origin and other characteristics illegal and Section 504 of the Rehabilitation Act of 1973. It ensures that no qualified individuals with disabilities are discriminated against under any program or activity receiving federal financial assistance or government agencies that receive federal financial assistance. The ADA was amended when President George W. Bush signed into law the ADA Amendments Act of 2008 (ADAAA) on September 25, 2008. The ADAAA gives broader protections for disabled workers and includes a list of impairments to major life activities. Refer to the BALTIMORE CITY DEPARTMENT OF TRANSPORTATION POLICY ON NON-DISCRIMINATION AND EQUAL ACCESS UNDER THE AMERICANS WITH DISABILITIES ACT on the following page.


The federal legislation known as the ADA, provides comprehensive civil rights protections to persons with disabilities in the areas of employment, state and local government services, and access to public accommodations, transportation, and telecommunications. Title II of ADA specifically applies to “public entities” (state and local governments) and the programs, services, and activities they deliver. Title II Article 8, requires public entities to take several steps designed to achieve compliance, including the development of a transition plan. The plan shall, at a minimum include:

1. A list (self-evaluation/inventory) of physical barriers in a public entity’s facilities that limit the accessibility of its programs, activities, or services to individuals with disabilities.
2. A detailed outline of the methods to be utilized to remove these barriers and make the facilities accessible.
3. The schedule for taking the necessary steps to achieve compliance with Title II.
4. The name of the official responsible for the plan’s implementation.

In addition to the federal requirements of ADA, the Maryland Department of Transportation and State Highway Administration, as a State Transportation Agency receiving and distributing federal funds to local entities, has the responsibility to monitor sub-recipients to ensure their compliance with Title II of the ADA and Section 504 with respect to STA-funded projects and programs in which the sub-recipient, such as BCDOT, implements. Under ADA and Section 504, an agency receiving federal funds may not provide financial assistance to an agency, organization, or person that discriminates on the basis of disability or any of those that are not in compliance with the overall requirements of ADA and Section 504.

The transition plan provides a method for a public entity to schedule and implement ADA required improvements to existing streets and sidewalks. Prior to developing a transition plan, the self-evaluation (inventory) must be completed.

The City of Baltimore has become increasingly proactive in fulfilling the ADA requirements and continues to dedicate resources to improve accessibility in its public right-of-way (PROW). As a requirement of the ADA, a Transition Plan is being developed in order to provide a method of scheduling and implementing the necessary improvements.

F R O M	Name & Title	Frank J. Murphy, Acting Director	CITY OF BALTIMORE MEMO 
	Agency Name & Address	Department of Transportation Transportation Planning Division 417 East Fayette Street, 5 th Floor	
	Subject	Americans With Disabilities Act (ADA) Policy (Revised/Updated July 2016)	

July 21, 2016

The Baltimore City Department of Transportation (BCDOT) strives to provide a fully safe and accessible multi-modal transportation system. As such, effective as of the date of this memorandum, BCDOT is issuing the attached Accessibility Policy for Pedestrian facilities within Baltimore City to combine many of the on-going efforts across public and private entities to strengthen the City's efforts to enhance safety and mobility for all users of the transportation system. To meet accessibility goals, BCDOT will ensure that the requirements of the Americans with Disabilities Act (ADA) are considered and implemented to the fullest extent possible in each project that it develops, plans, designs, and constructs.

This policy is intended to ensure that BCDOT continues to hold itself, as well as any others performing work in the public right of way, accountable for moving the city towards full accessibility. Please make yourself familiar with the Policy. All new projects, retrofits, and emergency work regardless of funding are to adhere to it.



 Frank J. Murphy, Acting Director

Baltimore City Department of Transportation

Baltimore City Department of Transportation Policy on Non-Discrimination and equal Access under the Americans with Disability Act (Revised/Updated July 2016)

The Baltimore City Department of Transportation (BCDOT) is committed to a policy of full accessibility and does not discriminate in the provision of any of its business activities. BCDOT is committed to upholding the intent and spirit of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973 to the fullest extent possible. This commitment extends to all programs, services, and activities of BCDOT, such that no qualified individual with a disability shall be discriminated against on the basis of their disability.

It is BCDOT's responsibility and desire that no person in the City of Baltimore be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity supported by BCDOT, including the public right-of-way, based on their disability, as provided by the American with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. It is also the responsibility of each and every BCDOT employee to work cooperatively to achieve the goals and objectives of this statement.

BCDOT is fully committed to the goal of achieving equal opportunity and non-discrimination for all persons in their interactions with BCDOT.

Self-Evaluation and Transition Plan

As required by the ADA, BCDOT will complete a self-evaluation and transition plan to identify and correct pedestrian facilities of non-compliance. BCDOT understands and acknowledges that this is a requirement of all recipients and sub-recipients of federal financial assistance.

Design Guidelines for Accommodating Persons with Disabilities within the Public Right-of-Way (ROW)

BCDOT will consider the accommodation of persons with disabilities as a routine and integral element of all stages of project development, planning, design, construction, operations, and maintenance activities, unless identified and documented as "technically infeasible" to implement. All projects will aim to accommodate and provide accessibility for persons with disabilities where it is reasonable, feasible, and appropriate to do so as described herein. Providing accommodations is especially important where the existing and/or proposed land use supports pedestrians. This includes areas of significant trip generation and destinations such as public services, employment, education, residential, commercial, recreation, and transit centers. BCDOT will develop, adhere to, and enforce the design guidelines that support the accommodation of persons with disabilities within the public right-of-way. Furthermore, BCDOT will ensure that all persons (i.e. residents, contractors, businesses, etc.) conducting work in the public right-of-way also adhere to the ADA policy, through its review of permits, developers agreements, site plans, and other technical documents.

Complaint/Grievance Policy

BALTIMORE CITY DEPARTMENT OF TRANSPORTATION ADA COMPLAINT GRIEVANCE PROCEDURES FOR PUBLIC RIGHT-OF-WAY

The Grievance Procedure was established to meet the requirements of the Americans with Disabilities Act of 1990 ("ADA"). It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of a disability in the provision of services, activities, programs or benefits by the Baltimore City Department of Transportation (BCDOT), hereinafter the "Department".

Complaints of disability discrimination, whether oral or written, should be submitted to the Department's ADA Coordinator, preferably, within thirty (30) working days from the alleged violation. The grievance should contain information pertinent and descriptive to and about the alleged discrimination (complainant's name, address, current contact information: phone number(s)/email addresses). When providing the location, the grievant shall use as much identifying information as possible (local addresses, street/block names and numbers, intersections/cross streets; closest business address; major landmarks). A detailed description and possible remedies will be sought as well. Finally, all documentation, applications and/or forms shall be dated by the grievant or designee prior to being mailed. If the application does not bear a date, the date will be stamped by the Department on the day it receives the grievance, and will be considered the first day of notification.

If the complaint involves requests for service or repairs in the public right-of-way, a complainant can submit these requests through the City's 3-1-1 System (by dialing 3-1-1) for initial review, investigation and resolution. If an issue cannot be resolved or responded to within a reasonable timeframe, after submitting a 311 service request, the grievant may submit a written complaint to the Department or "file a grievance". The procedure for filing grievances is as follows:

STEP 1.

A written or oral grievance should be filed on the Department's ADA Discrimination Complaint Form. Any oral grievance will be transcribed by the Department's ADA Compliance Coordinator - utilizing the Department's ADA Discrimination Complaint Form - for the grievant or designee to sign.

STEP 2.

A fully completed ADA Discrimination Complaint Form will be accepted by the ADA Coordinator who will investigate the grievance. Within forty-five (45) working days of receiving a complaint, a written response shall be provided by the Department. The written response shall outline the resolution jointly agreed upon between the Department and the complaining party. In the event the Department is unable to resolve the complaint in forty-five (45) working days, written notice must be provided to the complainant detailing that information.

STEP 3.

Should the grievant disagree with the Department's findings and/or proposed resolution, the grievant has twenty (20) working days from receipt of the Department's response to submit a written request for reconsideration.

STEP 4.

In all likelihood, the Department shall do its best to remedy and/or address the grievance and/or complaint at the lowest level possible via an informal resolution. The Department will have thirty (30) calendar days to respond to any requests for reconsideration.

STEP 5.

If an informal resolution cannot be reached in the aforementioned time, the grievant has twenty (20) calendar days to escalate the complaint to the City's ADA Director for review of its complaint.

Note: Where current resolution is underway and additional time beyond the forty-five (45) working days are required, with good justification, the Department's Director may grant the Department up to an additional thirty (30) working days to respond to and/or address the complainant's issue(s). The City's ADA Director shall be notified that an extension is required.

STEP 6.

Again, a written response and determination as to the validity of the complaint and description of the resolution, if appropriate, shall be issued to the grievant by the Department. If the grievant disagrees with the Department's final findings and/or proposed resolution, the grievant may request reconsideration in writing by submitting the complaint to the City's ADA Director. The City's ADA Director shall review both the complainant's and the Department's information; suggesting an informal resolution within 90 calendar days of filing the request for reconsideration.

STEP 7.

If the grievant is dissatisfied with City's handling of its complaints and/or grievance at any stage of the process or does not wish to file a grievance through the Department and/or the City's Grievance Procedure, the grievant may file a complaint directly with the United States Department of Justice or other appropriate state or federal agency. Use of City DOT's Grievance Procedure is not a prerequisite to the pursuit of other remedies, rather the "lowest form of administrative process".

The grievance shall be submitted by the grievant or designee as soon as possible but no later than thirty (30) working days after the alleged violation to the Department's ADA Compliance Coordinator (for public right-of-way) at:

Dr. Nollie P. Wood, Jr.
Executive Director
Baltimore City Mayor's Commission on Disabilities
250 City Hall, Baltimore, MD21202 Phone: 410-396-3835

The resolution of any specific grievances will require consideration of varying circumstances, such as the specific nature of the disability or the nature of the services, programs or facilities; AND the essential eligibility requirements for participation (health and safety of others; degree to which an accommodation would constitute a fundamental alteration to the program, service or facility; or cause an undue hardship to the Department and/or City).

Accordingly, the resolution of any one grievance does not constitute a precedent upon which the Department is bound or upon which other complaining parties may rely.

The maintenance of ADA complaints and/or grievances shall be maintained by the BCDOT Planning Division and the disposition shall be not more than three years from the latest dated document of a particular or concurring file/package.

Where appropriate, the response will be in a format accessible to the grievant (large/larger print, Braille, audio).

Filing Discrimination Complaints with Other Government Agencies

In addition to the aforementioned Complaint/Grievance Policy, persons who feel that they have been subject to discrimination that is illegal per the current law can file a complaint to the following government agencies:

U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-001
Phone: 202-514-2000
<http://www.justice.gov/actioncenter/complaint.html>

U.S., Department of Transportation, Federal Highway Administration
Headquarters Office of Civil Rights
1200 New Jersey Avenue, SE (HCR-40)
Washington, DC 20590
Phone: 202-366-1595
<http://www.fhwa.dot.gov/civilrights/programs/iecd.htm>

U.S. Equal Employment Opportunity Commission
Baltimore Field Office
City Crescent Building
10 S. Howard Street, Third Floor
Baltimore, MD 21201
Phone: 1-800-669-4000
www.eeoc.gov

Maryland Commission on Civil Rights
6 Saint Paul Street
Suite 900
Baltimore, Maryland 21202
Phone: 410-767-8600
www.mccr.maryland.gov

Mayor's Office on Disabilities
401 E. Fayette Street, 1st Floor
Baltimore, Maryland 21202
Phone: 443-984-3170
www.baltimorecity.gov/disabilities

Baltimore City Office of Civil Rights and Wage Enforcement
Community Relations Commission
7 E. Redwood Street, 9th Floor
Baltimore, Maryland 21202
Phone: 410-396-3141
Fax: 410-244-0176
<http://civilrights.baltimorecity.gov/community-relations-commission/contact-us>

Self-Evaluation Methodology

Baltimore City performed an inventory of all pedestrian facilities in City-owned rights of way in the Central Business District (CBD) and immediately adjacent neighborhoods from September 2015 through January 2016.

The first step was to identify the boundaries of the CBD and to determine which streets and areas needed to be accounted for in the inventory. To assist in the effort, Graphic Information Systems (GIS) files were used to help define boundaries and determine which features should be collected. It was determined that a new boundary did not have to be created, and BCDOT utilized the city's existing e-GIS layer for the CBD. Once data collection for the CBD was complete, data for the remaining portions of the immediately surrounding neighborhoods were also collected to complete neighborhoods that were split by the CBD boundary. Those neighborhoods included Midtown-Belvedere, Mt Vernon, Seton Hill, University of Maryland, Ridgely's Delight, Otterbein, Sharp-Leadenhall, Spring Garden Industrial Area, and South Baltimore. Refer to Appendix II for a map of the locations inventoried.

Baltimore City did not have an existing database of all sidewalk features. Therefore, an inventory was created based upon the existing conditions on the given date that the location was visited.

The field inspections included a crew of two engineers utilizing mapping grade Global Positioning System (GPS), measuring tape, and a 2-foot digital smart level. The GPS unit tracked the locations inventoried and stored the results of the inventory. A GPS file was created to log and document the compliancy of each feature. The features were designated in the GPS log as either compliant or non-compliant based upon how current conditions compared to the given ADA standards. Each day, an area of the city was collected and then the GPS file was uploaded and edited to make sure the data was correct. The corrected data was then post-processed and modified in GIS to appear in a user-friendly format.

The sidewalk lengths within the project areas were measured by the GPS. Each sidewalk was evaluated based upon cross slope, width, condition, material, presence of a passing zone, number of pinch points, and number of tripping hazards. The cross slope, width, condition, material, and number of pinch points were collected for every feature regardless of whether it was compliant. A passing zone was only documented if the sidewalk was less than 5' for a length of 200'. The number of tripping hazards were collected if the sidewalk was compliant. If the sidewalk was not compliant fixing the tripping hazards would be incidental to rebuilding the non-compliant sidewalk and therefore were not counted. This allowed for the total length of compliant and non-compliant sidewalks to be recorded, but also noted where tripping hazards existed on otherwise compliant sidewalk.

The pedestrian ramps were evaluated and determined to be compliant or non-compliant using the City's standards. A log was not kept of each specific failure criteria in order to speed up collection and the fact that reconstruction would be required to bring any one feature into compliance. Some criteria that could cause a ramp to be non-compliant are excessive cross or running slopes, lack of detectable warning surface, or not flush with the roadway.

All of the driveways in the project areas were also collected and compared to the City's standards and were collected as compliant or non-compliant, regardless of material or accessible width. The median treatments were also examined to see if they met the City's standards. Areas around the Maryland Transit Administration's (MTA) light rail were also noted as railroad crossings if it didn't fall into other categories. If it was an alleyway, only the ramps were collected.

Examples of non-compliant features found are shown below:



Non-compliant Sidewalk: Steep cross slopes can make it difficult for persons in a wheelchair or other walking aids to maintain balance. Cross slopes of pedestrian access routes shall not exceed 2%.



Non-compliant Ramp: Detectable Warning Surfaces (DWS) provide detection for visually impaired persons when entering a crosswalk and/or intersection. DWS devices shall be placed on every curb ramp. Running slopes also should be between 5% and 8.3%.



Non-compliant Driveway: The cross slope at the entrance of this surface parking lot has a slope that exceeds the maximum 2%.



Non-compliant Median Treatment: A pedestrian refuge island, also known as median cut-throughs, shall also be equipped with detectable warning surfaces at its edges.

Self-Evaluation Results

The original notes and details from the self-evaluation have been placed in a GIS database and appropriately stored. The highlights are listed below. The standards were derived from *Official Design Guidelines for Pedestrian Facilities*, adopted by the City of Baltimore Department of Transportation (2014).

Ramps

Total number of ramps inventoried:	2938	100%
Total number of compliant ramps:	219	7%
Total number of non-compliant ramps:	2719	93%

Please note that many non-compliant ramps failed in more than one component of the standard.

The cost of repairing all of the ramps to bring them up to ADA compliance would be roughly around \$18,602,127 based on logical estimates as shown in Appendix III.

Sidewalks

Total length of sidewalk inventoried:	336,758 ft	63.78 miles	100%
Total length of compliant sidewalk:	122,232 ft	40.63 miles	36%
Total length of non-compliant sidewalk:	214,526 ft	23.15 miles	64%
Total number of pinch points	795		
Tripping Hazards	1115		

The non-compliant sidewalk can fail in more than one component of the standard. Compliant sidewalk may include tripping hazards.

The cost of repairing all of the sidewalks, regardless of material, to bring them up to ADA compliance would be roughly around \$35,602,743 based on logical estimates as shown in Appendix III.

Driveways

Total number of driveways inventoried:	1007	100%
Total number of compliant driveways:	165	16%
Total number of non-compliant driveways:	842	84%

Please note that many non-compliant driveway crossings failed in more than one component of the standard.

The cost of repairing all of the driveways to bring them up to ADA compliance would be roughly around \$2,234,107 based on logical estimates as shown in Appendix III.

Median Treatments

Total number of median treatments in Central Business District:	52	100%
Total number of compliant median treatments:	16	31%
Total number of non-compliant median treatments:	36	69%

Please note that many non-compliant median treatments failed in more than one component of the standard.

The cost of repairing all of the median treatments to bring them up to ADA compliance would be roughly around \$120,096 based on logical estimates as shown in Appendix III.

Public Input

The ADA requires that as part of the process for developing a transition plan, the public agencies seek public input to help identify concerns and rank areas where accessibility is of the greatest need for improvement. BCDOT makes it common practice with any of its planning, design, and construction projects, to conduct extensive public engagement to ensure that Baltimore City citizens, stakeholders, and the general public has the opportunity to obtain information about a project as well as provide input. As part of the public input process, a meeting was held on November 23, 2015 at the Enoch Pratt Central Library in Downtown Baltimore. The intent of the first public meeting was to inform the public of the self-evaluation program that was being undertaken by the City. Advertisements and meeting notifications were conducted 30 days in advance of the meeting date, and were placed in local newspapers and fliers, mailings to property owners within the project boundaries (such as the one shown below), and robo-calls. There were 6 attendees at the November meeting, and all questions and concerns were addressed. The material presented at the public meeting can be found in Appendix IV as well as on BCDOT's website. The draft ADA Self-Evaluation report was released for a 30-day public comment period, in which all public feedback will be considered prior to finalizing the report. Additionally, a pedestrian accessibility survey was released for public participation and distributed to various disability community networks. The responses from that survey will help inform how the transition plan is developed.



**BALTIMORE CITY DOT
COMMUNITY MEETING
Citywide ADA update project**



The Baltimore City Department of Transportation will hold a public meeting
to discuss The Citywide ADA update project
Please share this postcard with your neighbors and constituencies.
All are Invited to Attend

**Monday, November 23, 2015 - The Baltimore City Central Library
400 Cathedral St, Baltimore, MD 21201
5:00p.m. - 7:00p.m.
In the Poe Room**

The meeting location is accessible to persons with disabilities. Please contact Ms. Nikia Mack, Liaison Lead at Nikia.Mack@baltimorecity.gov or 443-984-4094/4095 if you have special needs. Should Baltimore City Schools have a delay or are closed due to inclement weather, the meeting will be re-scheduled. A revised invitation will be shared with your community association and leaders.

Sample Meeting Notification

Self-Evaluation Phasing Program

The Baltimore City Department of Transportation is committed to accommodating persons with disabilities along City roadways. The self-evaluation in the CBD and surrounding neighborhoods is the first step to measure the compliance of the entire city with ADA standards. Over a 6 month process, the data was collected and processed to determine areas that were not in compliance.

The step following the inventory is developing a transition plan to identify and prioritize improvements to the non-compliant sidewalk facilities in the city right of way. The transition plan enables a path to full compliance over a period of time, which addresses the issues in a feasible manner. The inventory is the basis for the plan and will have to be updated as construction projects progress over time.

Based upon the summary of the data collection for the CBD, a rough estimate was developed giving an indication of the costs required to bring the entire area into compliance. Using common assumptions for the amount of work to be done at each instance of non-compliance, it was determined that the cost to achieve compliance in the CBD and surrounding neighborhoods would be approximately \$63 million. The estimate that was developed is shown in Appendix III.

Public comments on the inventory will be documented and included in the transition plan when developed. The next phases of the self-evaluation are as follows:

Project Phase/Year	Scope	Proposed Construction Plan (pending funding allocation)
Phase I-Year 1 (FY16)	Self-Evaluation and Transition Plan Development for Downtown Area	--
Phase II-Year 2 (FY17)	Self-Evaluation and Transition Plan Development for Transportation Sector I	Modifications in Downtown Area (as funding permitted)
Phase III-Year 3 (FY18)	Self-Evaluation and Transition Plan Development for Transportation Sector II	Prioritized modifications in Sector I (as funding permitted)
Phase IV-Year 4 (FY19)	Self-Evaluation and Transition Plan Development for Transportation Sector III	Prioritized modifications in Sector II (as funding permitted)
Phase V-Year 5 (FY20)	Self-Evaluation and Transition Plan Development for Transportation Sector IV	Prioritized modifications in Sector III (as funding permitted)
Phase VI-Year 6 (FY21)	--	Prioritized modifications in Sector IV (as funding permitted)
Phase VII-Beyond Year 6 (on-going)	--	Emergency ADA repairs and all other needed modifications citywide (as funding permitted)

Methods for Removing Barriers (Transition Plan)

Baltimore City will continue to utilize many different approaches in removing barriers in the public right-of-way, including proactively identifying and eliminating the barrier, responding to public complaints, and ensuring the appropriate design and build-out of new construction follow the most recent design guidelines.

Location Priority

According to the Accessible Rights-of-Way Design Guide, the DOJ regulation imposes a specific construction requirement, specifying priorities near places of public accommodation. Additionally, BCDOT conducted a public pedestrian accessibility survey for public feedback on priority improvements. Following the DOJ guidance as well as public input, the City of Baltimore has identified the following locations as priority. Intersections or blocks serving (in no particular order):

1. Government Offices and Services
2. Schools
3. Parks and Recreational Facilities
4. Transit Facilities (stations, stops, etc)
5. Hospitals, Urgent Care, and other major Medical Facilities
6. Significant traffic/pedestrian volumes and crashes
7. Senior or other disability facilities

Condition Priority

Although there are numerous locations throughout the city that have or will be deemed non-compliant, there are levels of non-compliance that will be taken into consideration and prioritized based on severity. For example, an intersection corner that has no curb ramp at all would be considered a more severe non-compliance in comparison to a location that does have a curb ramp but the curb ramp does not have a detectable warning surface or its slope does not meet current standards. In this case, the location without a curb ramp would be prioritized over the other.

Contact Information

Questions, comments, and complaints should be directed to the City's ADA coordinator, Dr. Nollie P. Wood Jr., who will then forward the matter to the most appropriate City agency. For example, issues regarding pedestrian accessibility in public rights of way under Baltimore City jurisdiction will be forwarded to the Division of Transportation. Complaints will be addressed in accordance with the City's compliant/grievance policy found on page 7 of this document.

Questions, comments, and complaints, may be filed via telephone, email, regular mail, or in person. Other accommodations are available upon request.

Specific requests for repairs in the public right-of-way can be addressed to:

Ms. Betty T. Smoot, City Planner
ADA Coordinator for Public Right-of-Way
Baltimore City Department of Transportation
Planning Division
417 E. Fayette Street, 7th Floor, Baltimore, MD 21202
410-396-6856
betty.smoot@baltimorecity.gov

Appendix I:

Grievance Reporting Form

BALTIMORE CITY DEPARTMENT OF TRANSPORTATION

TITLE VI COMPLAINT FORM

Title VI of the Civil Rights Act of 1964 (42 United States Code § 2000d) provide that any entity receiving Federal financial assistance may not discriminate against their program beneficiaries or participants based on their race, color, or national origin. The Baltimore City Department of Transportation does not discriminate against any person based on race, color, national origin, gender, religion, disability, age, creed, familial status, or in any other basis legally prohibited by or protected by Federal or State law. Parties who to file a complaint against the Baltimore City Department of Transportation for violation of Title VI of the Civil Rights Act of 1964 under 42 U.S.C § 2000d should direct such complaints to the Baltimore City Department of Transportation, by contacting Khadriah Ward, PMP at (410)396-6818 or Khadriah.Ward@baltimorecity.gov.

Section I:				
Name:				
Address:				
Telephone (Home):			Telephone (Work):	
Electronic Mail Address:				
Accessible Format Requirements?	Large Print		Audio Tape	
	TDD		Other	
Section II:				
Are you filing this complaint on your own behalf?			Yes*	No
*If you answered "yes" to this question, go to Section III.				
If not, please supply the name and relationship of the person for whom you are complaining:				
Please explain why you have filed for a third party: _____				
Please confirm that you have obtained the permission of the aggrieved party if you are filing on behalf of a third party.			Yes	No
Section III:				
I believe the discrimination I experienced was based on (check all that apply):				
<input type="checkbox"/> Race <input type="checkbox"/> Color <input type="checkbox"/> National Origin				
Date of Alleged Discrimination (Month, Day, Year): _____				
Explain as clearly as possible what happened and why you believe you were discriminated against. Describe all persons who were involved. Include the name and contact information of the person(s) who discriminated against you (if known) as well as names and contact information of any witnesses. If more space is needed, please use the back of this form.				

Section IV		
Have you previously filed a Title VI complaint with this agency?	Yes	No
Section V		
Have you filed this complaint with any other Federal, State, or local agency, or with any Federal or State court?		
<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, check all that apply: <input type="checkbox"/> Federal Agency: _____ <input type="checkbox"/> Federal Court _____ <input type="checkbox"/> State Agency _____ <input type="checkbox"/> State Court _____ <input type="checkbox"/> Local Agency _____		
Please provide information about a contact person at the agency/court where the complaint was filed.		
Name:		
Title:		
Agency:		
Address:		
Telephone:		
Section VI		
Name of agency complaint is against:		
Contact person:		
Title:		
Telephone number:		

You may attach any written materials or other information that you think is relevant to your complaint.

Signature and date required below

Signature

Date

Please submit this form in person at the address below, or mail this form to: Baltimore City Department of Transportation
 Contract Administration/Civil Rights Division Title VI Coordinator
 417 E. Fayette Street, 5th floor
 Baltimore, MD 21202

Appendix II:

Map of Survey Areas

Appendix III:

Cost Estimate

DEPARTMENT OF TRANSPORTATION ADA RETROFIT ENGINEER'S CONSTRUCTION COST ESTIMATE

DATE: August 17, 2016
 PROJECT TITLE: **CBD ADA RETROFIT**

PREPARED BY: WCM
 CHECKED BY: BJR

ACCOUNT NO.: NA
 PROJECT NO.: NA
 ROADWAY = VARIOUS
 BRIDGES = NA
 TOTAL LENGTH = NA

CITY DOT PM: BETTY SMOOT
 PHONE NUMBER:
 CALENDAR DAYS FOR COMPLETION = TBD
 ADVERTISE DATE: TBD

ITEM NO.	CATEGORY CODE NO.	ITEM DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL
CATEGORY 100 - PRELIMINARY						
101	100000	20% of CATEGORIES 200, 500 AND 600	1	LS	\$ 7,022,800.00	\$7,022,800.00
CATEGORY 200 - GRADING						
201	200030	CLASS 2 EXCAVATION	65,000	CY	\$ 35.00	\$ 2,275,000.00
202	200060	VARIABLE DEPTH GRADED AGGREGATE FOR BACKFILL	3,300	CY	\$ 75.00	\$ 247,500.00
203	200270	SAW CUTTING, FULL DEPTH	113,000	LF	\$ 3.00	\$ 339,000.00
CATEGORY 300 - DRAINAGE						
301	300000	DRAINAGE INLET MODIFICATIONS	1	LS	\$ 3,000,000.00	\$ 3,000,000.00
CATEGORY 400 - STRUCTURES						
CATEGORY 500 - PAVING						
501	500000	7 INCH PLAIN PORTLAND CEMENT CONCRETE PAVEMENT, MIX NO. 7 FOR DRIVEWAY/ALLEY	15,000	SY	\$ 75.00	\$ 1,125,000.00
502	500030	6 INCH BASE COURSE USING CRUSHER RUN	15,000	SY	\$ 10.00	\$ 150,000.00
503	504530	SUPERPAVE ASPHALT MIX 12.5 MM SURFACE, PG64S-22, LEVEL 2	900	TON	\$ 100.00	\$ 90,000.00
CATEGORY 600 - SHOULDERS						
601	601360	5 INCH CONCRETE SIDEWALK	1,896,000	SF	\$ 8.00	\$ 15,168,000.00
602	600000	3" CRUSHER RUN AGGREGATE (CR-6)	252,000	SY	\$ 10.00	\$ 2,520,000.00
603	600000	MODIFIED TYPE 'A' COMB. CURB AND GUTTER 12" GUTTER, 10" DEPTH, 8" CURB HEIGHT	71,940	LF	\$ 35.00	\$ 2,517,900.00
604	600000	PORTLAND CEMENT CONCRETE MIX NO. 6 FOR SLOT BACKFILL	71,940	LF	\$ 10.00	\$ 719,400.00
605	601400	DETECTABLE WARNING SURFACE FOR CURB RAMPS	27,910	SF	\$ 30.00	\$ 837,300.00
606	600000	BRICK UNIT PAVERS	365,000	SF	\$ 25.00	\$ 9,125,000.00
CATEGORY 700 - LANDSCAPING						
701	700140	TURFGRASS ESTABLISHMENT	252,000	SY	\$ 5.00	\$ 1,260,000.00
702	700000	FURNISHED TOP SOIL (2" DEPTH) - SLOPES	252,000	SY	\$ 6.00	\$ 1,512,000.00
CATEGORY 800 - UTILITIES AND TRAFFIC						
TOTAL NEAT CONSTRUCTION (CAT. 1 - CAT. 8)						\$47,908,900.00
DESIGN CONTINGENCIES (20%)						\$ 9,581,800.00
CONSTRUCTION COST						\$57,490,700.00

Appendix IV:

Public Meeting Material



ADA SELF EVALUATION

Central Business District



Community Meeting

Enoch Pratt Free Library – November 23, 2015

Meeting Overview



- ◆ ADA Self-Evaluation
- ◆ Data Collection
- ◆ City Standards for Accessibility
- ◆ Conclusion



ADA SELF EVALUATION

Central Business District

Self-Evaluation



- ◆ Required of all public facilities
 - Rehabilitation Act of 1973
 - Public agencies cannot discriminate against disabilities
 - Americans with Disabilities Act (ADA) of 1990
 - Requires pedestrian access for all persons
 - Relation to Baltimore City
 - Owns facilities, so must be accessible to all
 - For federal funding, must meet compliance with ADA
 - Since not fully compliant, a transition plan for becoming compliant is required



Self-Evaluation



- ◆ Purpose
 - Determine whether existing facilities meet accessibility guidelines according to ADA standards

- ◆ What features are evaluated?
 - Sidewalks
 - Ramps
 - Driveways
 - Medians

- ◆ Result
 - Inventory all pedestrian features within City
 - Develop GIS database of all features evaluated



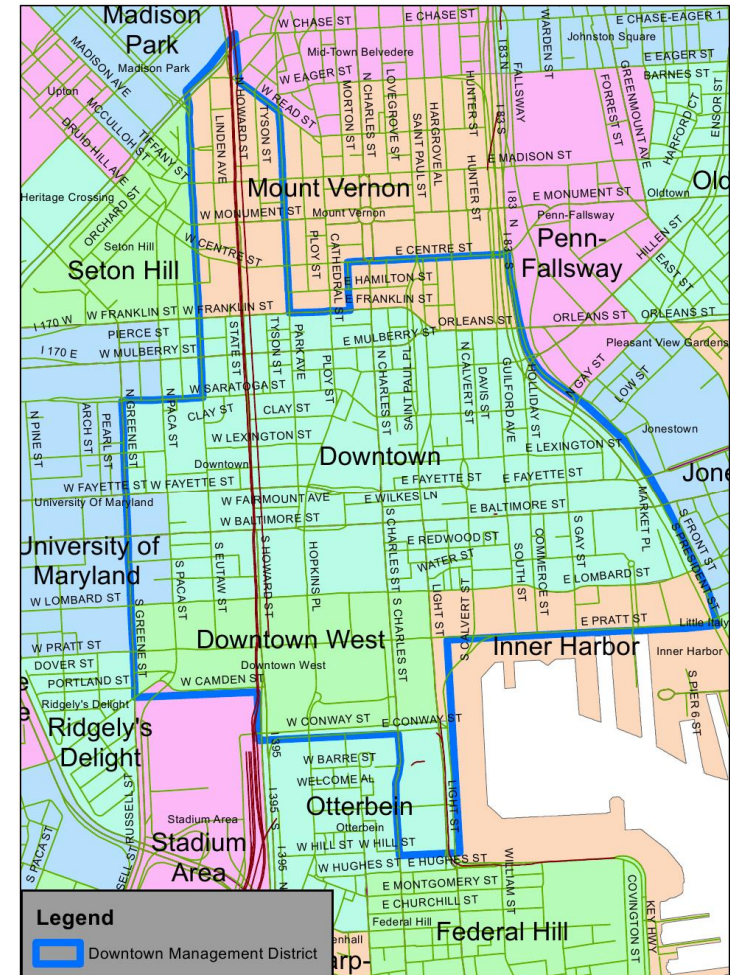
ADA SELF EVALUATION

Central Business District

Evaluation Area

- ◆ Central Business Area
 - First part of city to be done
- ◆ Includes:
 - 30 miles of sidewalk
 - 350 intersections
 - City Offices
 - Courthouses
 - 3 Hospitals
 - UM-Baltimore
 - Libraries

Baltimore City ADA Self-Evaluation - Phase I



Self-Evaluation Equipment

- ◆ 2' Digital Level



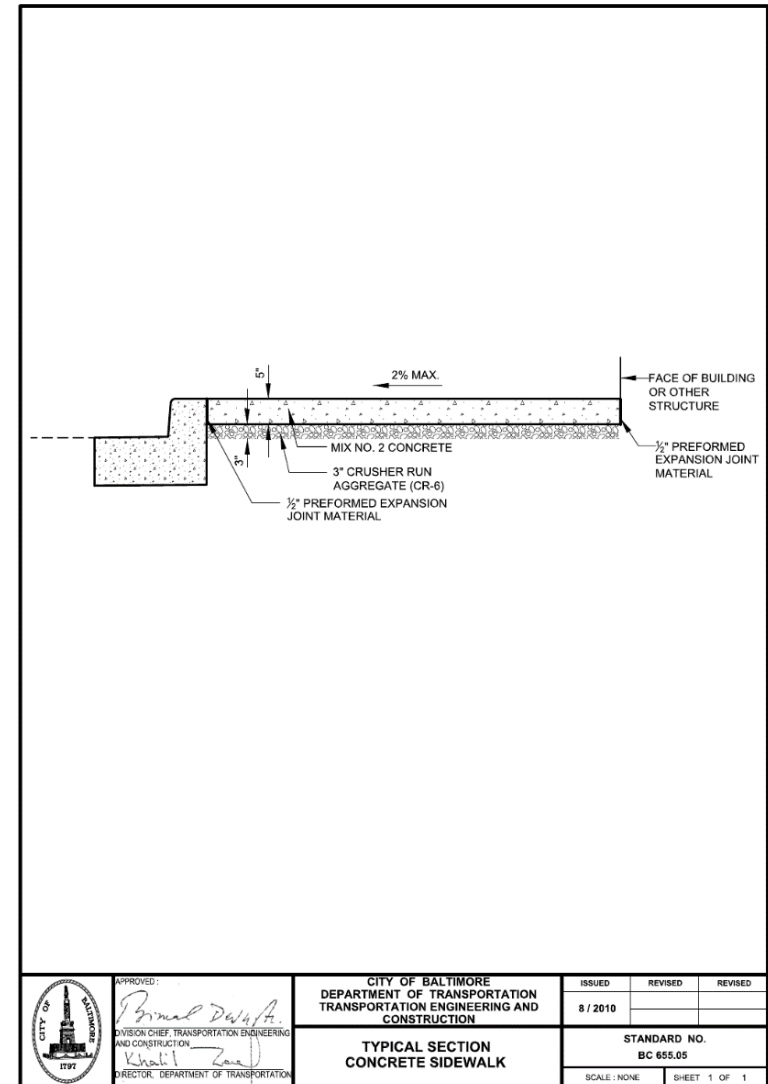
- ◆ Tape measure
- ◆ Global Positioning System unit



Sidewalk Standards



- ◆ Made of concrete or brick
- ◆ Minimum 48" width (60" desired)
- ◆ Maximum $2 \pm 1\%$ cross slope
- ◆ Minimum 36" clear width for pinch points (fire hydrants, street lights, etc.)
- ◆ $\frac{1}{4}$ " elevation difference constitutes tripping hazard



ADA SELF EVALUATION

Central Business District

Sidewalk Examples

Compliant



Non-compliant



Sidewalk Examples

Tripping Hazard

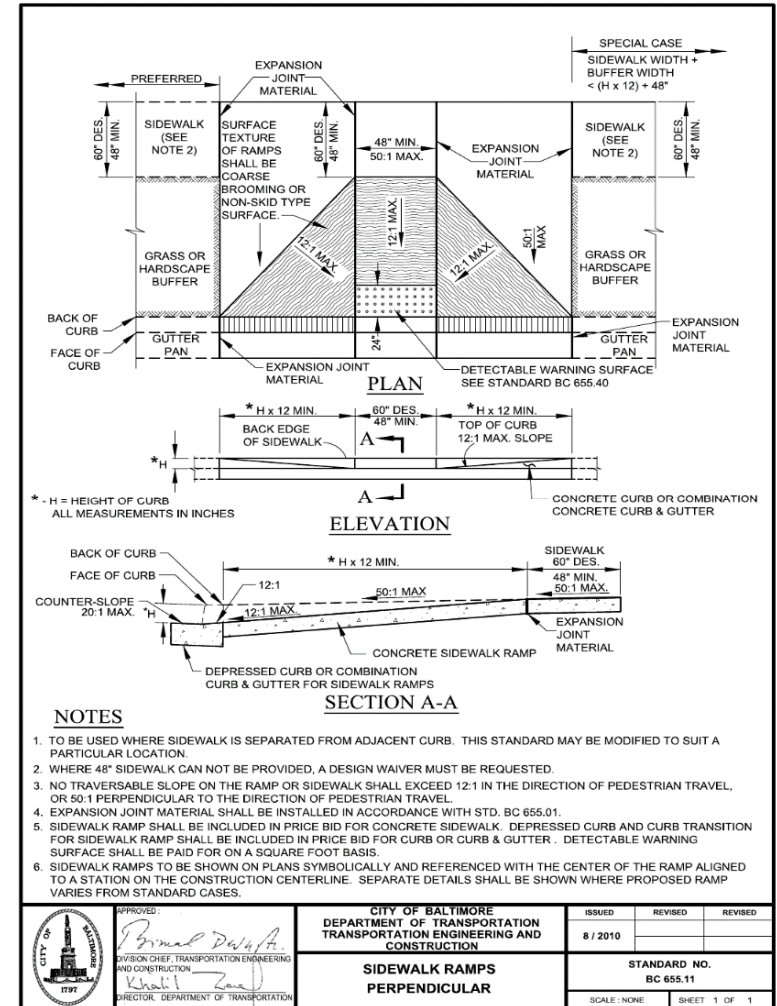


Pinch Point



Ramp Standards

- ◆ Minimum 48" width (60" desired)
- ◆ Maximum $2 \pm 1\%$ cross slope for landing areas
- ◆ Ramp length is dependent on height of curb, with 8.3% being the maximum unless catching grade
- ◆ Needs detectable warning surface (DWS) if crossing street or rail



Ramp Examples

Compliant



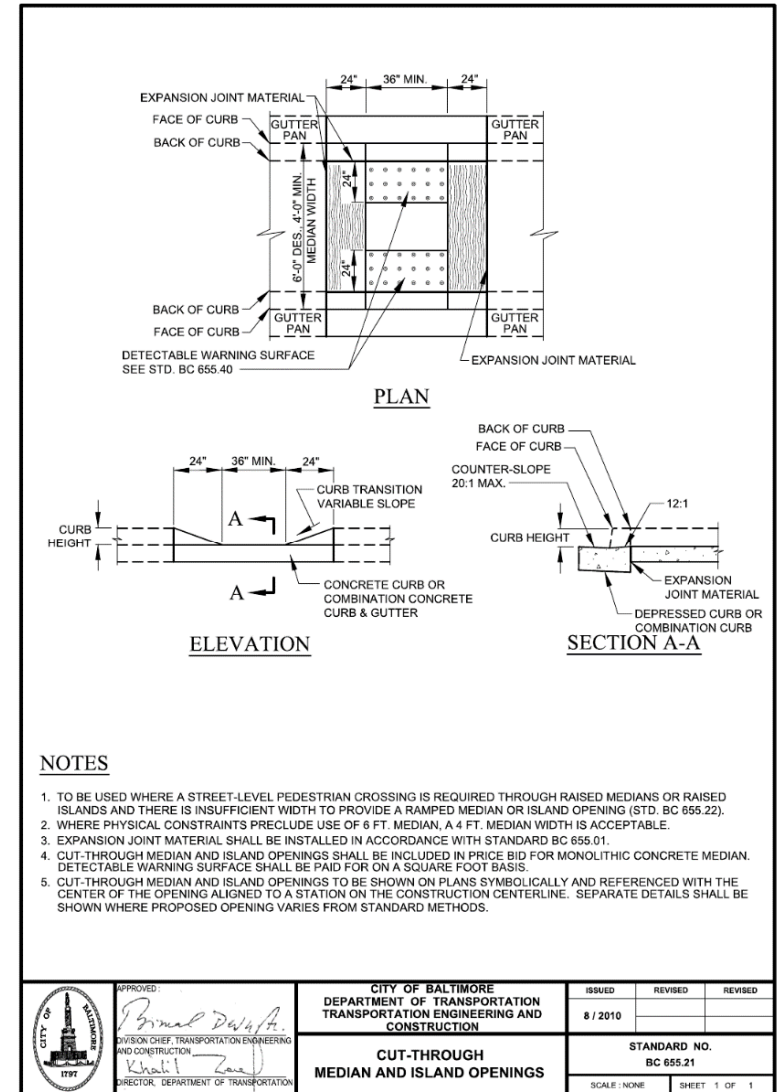
Non-compliant



Median Treatment Standards



- ◆ Used to reduce travel width across street
- ◆ Minimum length is 72", but can be reduced to 48"
- ◆ Minimum width is 36"
- ◆ Needs DWS



ADA SELF EVALUATION

Central Business District

Median Treatment Examples

Compliant



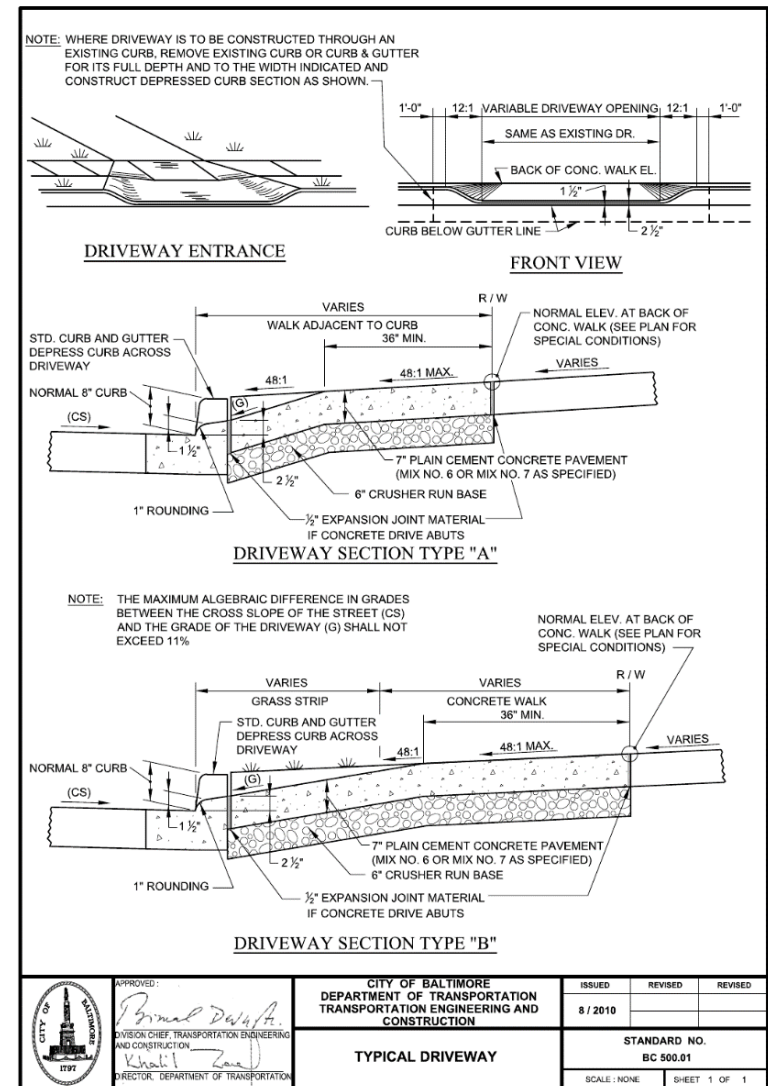
Non-compliant



Driveway Crossing Standards



- ◆ Minimum 36" width
- ◆ Cross slope of $2 \pm 1\%$
- ◆ Portion outside travel path can be greater
- ◆ DWS not required
- ◆ Can be either asphalt or concrete



ADA SELF EVALUATION

Central Business District

Driveway Crossing Examples

Compliant



Non-compliant



Conclusion



- ◆ All pedestrian features within the CBD will be inventoried against the City's ADA Standards
- ◆ A GIS database will be created using the inventoried features
- ◆ Data will be used to develop transition plan for becoming fully ADA compliant in CBD



What's Next?



Project Year	Scope	Construction Plan
Year 1 (FY16)	Self-Evaluation in Central Business District	-
Year 2 (FY17)	Self-Evaluation in Transportation Sector I	Modifications in Central Business District
Year 3 (FY18)	Self-Evaluation in Transportation Sector II	Prioritized modifications in Sector I
Year 4 (FY19)	Self-Evaluation in Transportation Sector III	Prioritized modifications in Sector II
Year 5 (FY20)	Self-Evaluation in Transportation Sector IV	Prioritized modifications in Sector III
Year 6 (FY21)	-	Prioritized modifications in Sector IV
Beyond Year 6 (on-going)	-	Emergency ADA repairs and all other needed modifications citywide





Questions?

Appendix V:

Official Design Guidelines for

Pedestrian Facilities

CITY OF BALTIMORE

STEPHANIE RAWLINGS-BLAKE, Mayor



DEPARTMENT OF TRANSPORTATION

WILLIAM M. JOHNSON, Director
417 E. Fayette Street, 5th Floor
Baltimore, Maryland 21202

July 25, 2014

Ms. Melinda B. Peters, Administrator
Maryland State Highway Administration
707 N. Calvert Street
Baltimore, MD 21202

Attn: Mr. Guy Talerico

Dear Ms. Peters,

The attached documents "*Official Design Guidelines for Pedestrian Facilities*" and "Baltimore City Standard Details for pedestrian ways" have been developed to guide the City of Baltimore in becoming an ADA-compliant community.

The "*Official Design Guidelines for Pedestrian Facilities*", which will be incorporated into city-wide standards, have been developed to assist the engineers in designing ADA compliant pedestrian facilities within a restrictive urban environment. In conjunction with facility design standards, these guidelines will provide guidance to the engineer when designing new roadways and retrofit projects. It is the City's goal that these guidelines will assist the engineer with design of pedestrian facilities within the public right-of-way as well as achieve a more consistent approach to the design of accessible facilities within the City. It is the City's intent that these guidelines will be the design guide for projects constructed within the City of Baltimore using local, State and Federal funds.

The City of Baltimore Department of Transportation requests that the Maryland State Highway Administration coordinate approval of these proposed standards, notes and plans with the Federal Highway Administration for use in all transportation construction projects.

We appreciate your assistance in this matter. Please feel free to contact Mr. Bimal Devkota at 410-396-6930 or at Bimal.devkota@baltimorecity.gov should you require additional information.

Sincerely,

William M. Johnson, Director
Department of Transportation
City of Baltimore




Cc: Charles Lattuca, Deputy Director, BC Department of Transportation
Bimal Devkota, Chief, Transportation Engineering and Construction Division



**OFFICIAL DESIGN GUIDELINES FOR PEDESTRIAN FACILITIES
WITHIN THE CITY OF BALTIMORE**

1.0 INTRODUCTION

- 1.1 These general notes supplement the City of Baltimore Standard Details and have been assembled to provide additional direction on the installation of pedestrian facilities along Baltimore City streets. The general notes also provide additional guidelines and useful information that will facilitate the design and construction of ADA compliant features. These standards were derived from the US Department of Justice's *2010 ADA Standards for Accessible Design* (dated September 15, 2010), the US Department of Transportation's *ADA Standards for Transportation Facilities* (effective November 29, 2006), the Maryland State Highway Administration's *Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways* (dated June 2010), and the 2006 City's *Specifications for Materials, Highways, Bridges, Utilities, and Incidental Structures*. The intent of these standards and guidelines is to establish ADA requirements for pedestrian facilities that can be reasonably accommodated in an urban environment.
- 1.2 In applying these standards and guidelines, questions about applications and interpretations should be referred to the City's ADA Reviewer, Project Manager or other responsible City employee who has expertise in ADA compliance.
- 1.3 It is the City's intent to provide ADA compliance to the maximum extent feasible for all transportation improvements. The level and limits of ADA compliance shall be discussed at the project scoping meeting to determine the pedestrian features that shall be included in the transportation improvement. The physical limits of work for a given project will be determined at the project scoping and planning phase which will include the proposed ADA improvements. While the City would like to accommodate individual requests for ADA improvements, the City is not required to expand a planned scope of work to include other items of accessibility, and the City is not required to improve non-compliant features that are not included in a specific scope of work. Considering the dense urban environment of Baltimore City, logical termini will be established and approved by the Chief of the Transportation Engineering & Construction Division. Following the project scoping, if it is determined that ADA compliance cannot be achieved, a design waiver must be requested and approved prior to advertisement for features that cannot be made compliant. A sample of the ADA design waiver shall be obtained from the City's project manager. For locally funded projects, the ADA design waiver shall be approved by the Chief of the Transportation Engineering and Construction Division (TEC) or the Director/Deputy Director of the Department of Transportation.
- 1.4 Determining the size and scope is the first order of business for all roadway projects. The Department of Transportation's Planning Division determines the scope of a proposed project by considering a number of factors including the need of the improvements, available budget, and community input. The scoping process typically includes concept plans to assist in determining project feasibility. All pedestrian and ADA compliant improvements are determined at this phase. Once the project limits have been determined, the project is then managed by the Transportation Engineering and Construction Division which completes the project through final design and construction.
- 1.5 The general notes address the following topics:
 - 2.0 - Definitions and Abbreviations
 - 3.0 - Sidewalks
 - 4.0 - Sidewalk Ramps

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	 DIRECTOR, DEPARTMENT OF TRANSPORTATION	OFFICIAL DESIGN GUIDELINES FOR PEDESTRIAN FACILITIES WITHIN THE CITY OF BALTIMORE	STANDARD NO. BC		
			SCALE: NONE		

- 5.0 - Detectable Warning Surfaces
- 6.0 - Median Treatments
- 7.0 - Alley and Driveway Crossings
- 8.0 - Protruding Objects
- 9.0 - Crosswalks
- 10.0 - Mid-Block Crossings
- 11.0 - Stop Lines
- 12.0 - Signals
- 13.0 - Accessible Pedestrian Signals
- 14.0 - Maintenance of Pedestrian Access During Construction
- 15.0 - Railroad Crossings
- 16.0 - Multi-Use Trail Projects
- 17.0 - References

2.0 DEFINITIONS AND ABBREVIATIONS

Access Board – The U.S. Architectural and Transportation Barriers Compliance Board.

Accessible Route – A continuous route that is unobstructed and ADA compliant throughout.

ADA – Americans with Disabilities Act: 1990 legislation recognizing and protecting the civil rights of people with disabilities.

APS – Accessible Pedestrian Signal: A device that communicates information about pedestrian signal timing in non-visual format such as audible tones, speech messages, and/or vibrating surfaces.

City – Mayor and City Council of Baltimore, a municipal corporation and body politic of the State of Maryland, commonly referred to as Baltimore City.

Construction – The process of building, adding, altering, converting, relocating, renovating, replacing, or restoring of real property in which the City has an interest.

Contractor – The party entering into the contract for the performance of the Work required thereby, and the legal representative of said party or agent, appointed to act for said party in the performance of the Work.

Cross Slope – Slope/gradient that is perpendicular to the path of travel.

Designer – The City or private entity who develops the contract plans and specifications.

Engineer – The duly authorized representative of the City.



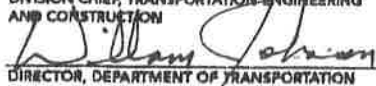
Entrance – Point of access to a driveway from a City street, often serving as a pedestrian crossing where sidewalk is present.

MUTCD – The latest edition of the Manual of Uniform Traffic Control Devices, FHWA publication.

Pedestrian Facilities - A general term denoting improvements and provisions made to accommodate or encourage walking.

Ramp – Any part of a constructed pedestrian pathway with a longitudinal running slope between 5% (20H:1V) minimum and 8.3% (12H:1V) maximum.

Right-of-Way – The area, which has been acquired and reserved by the City for use in constructing the proposed improvement and appurtenances thereto.

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	 DIRECTOR, DEPARTMENT OF TRANSPORTATION				
	OFFICIAL DESIGN GUIDELINES FOR PEDESTRIAN FACILITIES WITHIN THE CITY OF BALTIMORE			STANDARD NO. BC	
			SCALE: NONE		

Running Slope – Slope/gradient that is parallel to the path of travel.

Sidewalk – A portion of a street between the curb line or the lateral line of a roadway, and the adjacent property line or on easements of private property that is paved or improved and intended for use by pedestrians.

Sidewalk Ramp – A short pedestrian ramp that cuts through a curb or is built up to a curb from a lower level.

Street – A general term denoting a public way for purposes of vehicular travel, including the entire area with the right-of-way.

Work – Any and all things agreed to be furnished or done by or on the part of the Contractor and which are required in the construction and completion of the project herein contemplated, including labor, materials, tools and/or equipment.

3.0 SIDEWALKS

The City's goal for sidewalk construction is to make continuous connections to existing sidewalks, schools, rail transit stations, bus stops, and other pedestrian destinations. Sidewalks shall be designed to serve all pedestrians, including those with disabilities. Sidewalks shall be designed to provide a smooth, clear and predictable accessible route. Sudden changes in grade or direction, steep cross slopes, unexpected obstacles, drop-offs, narrow pathways and close traffic are all potential hazards.

With consideration given to accepted guidelines, the City will seek to achieve the following in implementation for sidewalk design:

- A. The preferred width of travel shall be 60" with the minimum width of travel being 48", exclusive of the width of the curb. The minimum width must be maintained without obstruction and shall be constructed of a uniform material for the entire width. The basis for utilizing less than the preferred 60" width must be related to physical constraints or right-of-way limitations. An ADA design waiver will be required for sidewalk widths less than 48".
- B. At isolated pinch points, the minimum clear width of travel shall be 36" exclusive of the width of the curb. The only exception for this is that the clear width shall be permitted to be reduced to 32" minimum for a length of 24" maximum provided that reduced width segments are separated by segments that are 48" long minimum and 36" wide minimum.
- C. Where the sidewalk is placed on a bridge or a large culvert, the preferred width of travel shall be 68" with the minimum width for travel being 56" where there is no separately poured and formed curb. The basis for utilizing less than the preferred 68" width must be related to physical constraints or right-of-way limitations. For bridges and large culverts, an ADA design waiver will be required for sidewalk widths less than 56".
- D. If the width for travel is less than 60", then use of a passing zone that is 60" wide by 60" long is required. Passing zones shall be provided at an interval no greater than 200'. Use of driveways and residential sidewalks as passing zones is acceptable as long as the 60" width and 2% maximum cross slope requirements are met.
- E. Sidewalk running slope for existing roadways shall not exceed the grade established for the adjacent roadway. If the nearest edge of the sidewalk is greater than 10' from the adjacent roadway, the sidewalk running slope shall not exceed 5%.
- F. Sidewalk running slope for newly constructed roadways or sidewalks supported by structures shall not exceed 5%.



APPROVED:

Bimal Dehra

DIVISION CHIEF, TRANSPORTATION ENGINEERING AND CONSTRUCTION

William Johnson
DIRECTOR, DEPARTMENT OF TRANSPORTATION

CITY OF BALTIMORE
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION ENGINEERING AND
CONSTRUCTION

**OFFICIAL DESIGN GUIDELINES
FOR PEDESTRIAN FACILITIES
WITHIN THE CITY OF BALTIMORE**

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- G. Where conditions and right-of-way allow, sidewalks may be separated from the roadway to make grade adjustments possible.
- H. Sidewalk cross slope shall be a maximum 2%, including crossings of alleys, driveways, or entrances. The designer shall consider use of special details in lieu of standards where necessary to meet this requirement.
- I. Construction tolerances of new and/or reconstructed sidewalk cross slopes shall be $\pm 1\%$.
- J. The sidewalk surface shall be firm, stable and slip resistant. Vertical elevation differences between adjacent surfaces (this includes special sidewalk treatments, such as brick pavers) shall not exceed $\frac{1}{4}$ ". Elevation differences between $\frac{1}{4}$ " and $\frac{1}{2}$ " shall be beveled at a maximum slope of 2H:1V.
- K. Surface openings shall not permit passage of a sphere more than $\frac{1}{2}$ " in diameter. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.
- L. Where the newly constructed sidewalk transitions to meet the existing sidewalk, the transition shall occur over a distance of 5'.

Whenever feasible, sidewalks shall be separated from the back of curb by a green space/planting/utility strip. This area can be used for signs, fire hydrants, light poles, etc and provides pedestrians with a greater sense of safety from traffic. The cross slope of this strip can be adjusted to achieve the 2% sidewalk cross slope.



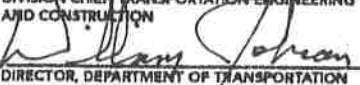
The presence of sidewalk at an intersection implies that a crosswalk exists, whether it is marked or not. In certain cases, it may be determined for safety reasons not to allow pedestrian crossings at one or more legs of an intersection. The designer needs to be aware of these situations and coordinate directly with the City's Traffic Division. When this occurs, the sidewalk shall be physically separated from that leg of the intersection. This shall be accomplished by providing a physical barrier or planting strip between the sidewalk and the curb.

4.0 SIDEWALK RAMPS



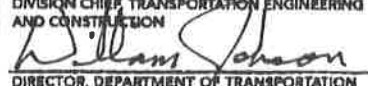
A sidewalk ramp shall be provided at pedestrian walkways which are intersected by curbs. The City's standard sidewalk ramps are generally compliant with the currently accepted guidelines, however, the standards do not address all potential conditions and constraints. In cases where the existing conditions prevent the use of the City's standards, the designer is required to provide detailed designs for the sidewalk ramps. Reference the City's current *Book of Standards for Sidewalk Ramps* (BC 655.11, BC 655.12 and BC 655.13).

The following principles shall be followed for the application of standards and special designs:

- A. Sidewalk ramps should be perpendicular to the curb (even on a radius) with each side of the ramp having an equal run.
- B. All slopes shall be measured independent to the surrounding terrain. Therefore, the length of the ramp is solely dependent on the height of the curb (for example, an 8" curb with a 12:1 ramp slope should have an 8' length).
- C. Detectable warning surfaces shall be provided where the sidewalk ramp connects to the street.
- D. The transition between the sidewalk ramp and gutter shall be smooth and the gutter shall have no lip at the curb. The counter slope of the gutter or street at the foot of the sidewalk ramp shall be 5% maximum.
- E. Grade breaks at the top and bottom of perpendicular ramps shall be perpendicular to the direction of the ramp run. At least one end of the bottom grade break shall be at the back of

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- curb. Grade breaks shall not be permitted on the surface of sidewalk ramps, landings, and gutter areas within the path of travel. Surface slopes that meet at grade breaks shall be flush.
- F. The minimum width of sidewalk ramps shall be 48" with a preferred width of 60".
 - G. A level landing shall be provided at the top of perpendicular and diagonal sidewalk ramps and at the bottom of parallel sidewalk ramps. The preferred landing size shall be 60" by 60" with the minimum landing being 48" by 48". Level landing areas are required where a change in travel direction is required.
 - H. The cross slope on sidewalk ramps shall be 2% maximum. The slopes of the landing area shall also be 2% maximum in all directions. For existing or reconstructed roadways where an existing buffer separates the sidewalk from the roadway and the nearest edge of the sidewalk ramp landing is offset by more than 4 feet from the face of curb, the landing shall have a 2% maximum slope in all directions. When the nearest edge of the landing is equal to or less than 4 feet from the face of curb, the running slope of the landing to the roadway shall be 2% maximum and the slope that is parallel to the curb flow line shall not exceed the flow line slope.
 - I. Side flares shall be sloped at 10% maximum.
 - J. The sidewalk ramp, not including side flares, shall be located at least 2' within the limits of crosswalk striping. For sidewalk ramps located on the curb radii (a.k.a. diagonal ramp), a clear space of 4' minimum by 4' minimum shall be provided beyond the curb face within the width of the crosswalk and wholly outside the parallel vehicle travel lane.
 - K. Drainage shall be considered in locating sidewalk ramps. Placement of ramps in close proximity to sumps and Inlet grates within the path of travel shall be avoided.
 - L. Pedestrian railings should be considered for use on a case by case basis. For safety reasons, railings may be considered when providing a sidewalk adjacent to steep slopes.
 - M. Utilization of paired perpendicular ramps (i.e. two ramps on each corner) is preferred. While this is more easily accomplished on intersections of smaller radius, the designer should seek to apply this approach more broadly as long as other design elements are not compromised (i.e. sight distance, cross slopes, etc). Paired perpendicular ramps may be the best solution for one corner at skewed intersections, while a diagonal ramp may be the best solution for other situations.
 - N. For ramps within the City right-of-way that do not lead pedestrians into the street, the following shall apply:
 - a. The rise for any ramp run shall be 30" maximum.
 - b. Ramps shall have landings at the top and the bottom of each ramp run. The slopes of the landings shall be 2% maximum in all directions.
 - c. Ramps that change direction between runs at landings shall have a clear landing width of 5' minimum and length of 5' minimum. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.
 - d. Ramp runs with a rise greater than 6" (excluding sidewalk ramps) shall have handrails that meet the local, state or federal requirements as applicable.
 - e. Edge protection shall be provided on each side of a ramp run excluding sidewalk ramps. To comply with this requirement, one option would be to extend the surface of the ramp run or landing a minimum of 12" beyond the inside face of the handrail. A second option would be to construct a curb or barrier that prevents the passage of a 4" diameter sphere, where any portion of the sphere is with 4" of the ramp surface.
 - O. Construction tolerances for sidewalk ramp cross slopes shall be $\pm 1\%$.
 - P. Curb walls shall be used only as a last resort for sidewalk ramps. Curb walls may be used to replace side flares when the accessible route at the side flare is protected by a permanent physical obstruction (i.e. light pole, signal pole, fire hydrant, etc.) or a permanent underground feature that cannot be adjusted (i.e. drainage structure, manhole, etc.). Where curb walls are provided at level landing areas, the level landing area shall be 60" by 60".

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				SCALE: NONE			

Q. At all intersections that are repaved as part of a roadway capital project, all four corners of the intersection must have ADA compliant pedestrian ramps as outlined in these guidelines once the project is complete.

5.0 DETECTABLE WARNING SURFACES

A detectable warning surface is a standard feature built into the sidewalk, ramp or median that alerts visually impaired individuals to the presence of a hazard in the line of travel. ADAAG specifies that the detectable warning surfaces shall consist of raised truncated domes. Truncated domes are required at the following locations:

- A. Sidewalk ramps at street crossings, alleys and signalized intersections/entrances.
- B. Pedestrian refuge islands that have a minimum island width of six feet (measured from face of curb to face of curb).
- C. Boarding platforms at transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards.
- D. Boarding and alighting areas at level transit stops as requested by the Maryland Transit Administration (MTA).

Reference the City's current *Book of Standards* for Detectable Warning Surfaces (BC 655.40) and the City's special provision for Detectable Warning Surfaces.

6.0 MEDIAN TREATMENTS




The principal function of a raised median on a divided highway is to separate opposing traffic. Raised medians should also be treated as points of refuge for pedestrians. Medians help pedestrians by reducing the crossing distance from one side of the road to the other. Desirably, the pedestrian crosswalk should pass through the median to be more effective as a refuge. However, this may not always be feasible. The geometric configuration of the intersection and the location of the curb ramps at the corners of the intersection will determine if the pedestrian crossing will pass through the median or if the nose of the median will be cut back.

Where a pedestrian crossing is proposed through the median, the minimum median width from face of curb to face of curb shall be 72". Where right-of-way and physical constraints control the available space, a 48" minimum width is acceptable. Raised medians should be designed with a cut through flush to the roadway or ramped dependent upon the width of the median and the ability to provide positive drainage. Both cut-through medians and ramped medians shall provide a preferred 60" wide clear width for travel for pedestrians with a minimum clear width of 36". If a median is ramped, the running slope of the ramps shall be 8.3% maximum with a level landing connecting the ramps. The landing area width shall match the median cut through opening width and the length of the landing area shall be 4' minimum. The running slope of this landing area shall be 2% and the cross slope shall not exceed the flow line slope of the adjacent roadways.

Reference the City's current *Book of Standards* for Median and Island Openings (BC 655.21 and BC 655.22).

7.0 ALLEY AND DRIVEWAY CROSSINGS

Where the pedestrian pathway crosses an alley or driveway, limitations on ramp and sidewalk criteria will apply. Where the pedestrian pathway crosses a non signalized alley or driveway, a

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minimum 36" pedestrian pathway with a maximum cross slope of 2% shall be provided regardless of the material. The location of the pedestrian pathway relative to the curb can be varied to meet slope limitations. For standard applications, refer to the City's current *Book of Standards for Typical Driveway (BC 500.01)* and *Alley Entrance (BC 500.11)*. The designer is required to provide detailed designs for special entrances, as necessary.

8.0 PROTRUDING OBJECTS

Protruding objects into sidewalks can cause many challenges to a person with a disability. These objects may consist of light poles, utility poles, fire hydrants, parking meters, mailboxes, signal poles, signal boxes, signs, etc. A protruding object (traffic control cabinet, sign, etc.) that is mounted to a fixed structure shall be mounted both vertically and horizontally in accordance with the requirements outlined in the latest edition of the MUTCD and the Department of Justice's 2010 *ADA Standards for Accessible Design*.

The designer shall provide a minimum sidewalk width as defined under the sidewalk section above. Acceptable access widths at isolated pinch points may be provided at a width of 32" minimum as defined above.

9.0 CROSSWALKS

Crosswalks at intersections are marked primarily to guide pedestrians across the intersection and to warn approaching motorists of a pedestrian crossing location. Ideally, all marked crosswalks at an intersection should have the same type of markings to provide a consistently marked path of travel in the public right-of-way.


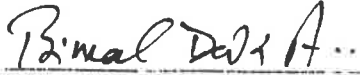
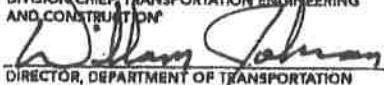
The crosswalk guidelines are as follows:

- A. The crosswalk width shall be at least 6' wide.
- B. The cross slope of the crosswalk will vary depending on the following:
 - a. With stop control, the cross slope shall be 2% maximum.
 - b. Without stop control, the cross slope shall be 5% maximum.
 - c. For mid block crossings, the cross slope can be warped to meet the roadway grade.
- C. The crosswalk running slope shall be 5% maximum in the direction of pedestrian travel.

Crosswalks with special surface treatments, such as brick pavers or stamped concrete shall not exceed 1/4" vertical elevation differences between adjacent surfaces. Elevation differences between 1/4" and 1/2" shall be beveled at a maximum 2H:1V slope. When choosing a treatment, special attention should be paid to the depth and spacing between the walking surface of each paver to ensure that the spacing is less than or equal to 1/2 inch.

10.0 MID-BLOCK CROSSINGS

Mid-block crossings shall be discouraged and used only when diversion to other crosswalks is unlikely. Mid-block crossings shall be designed using the governing AASHTO standards including the MUTCD and supplements to the MUTCD. Design for mid-block crossings shall be fully consistent with placement of sidewalk ramps and other associated federal ADA standards. The use of mid-block crossings will require approval by the City prior to design. Speed tables, warning signs, or similar devices shall be used at mid-block crossings for pedestrian safety.

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11.0 STOP LINES

Stop Lines shall be designed using the MUTCD and supplements to the MUTCD. If a crosswalk is present, the stop line shall be parallel to the crosswalk and placed 4' in advance of the crosswalk to ensure visibility at the intersecting roadways for both the pedestrian and motorist. If a crosswalk is not required, the stop line shall be located based on the angle of intersection of the cross street, sight distance, vehicle turning radius, signal timing, etc.

12.0 SIGNALS

A signal warrant analysis is required to determine if a new signal is warranted. Included in the study are pedestrian movements at the intersection and surrounding area. The study will note which legs of the intersection shall be marked for crosswalks and pedestrian signals. Pedestrian signals will be considered at locations having marked crosswalks where additional passage and/or clearance time is required, where pedestrians must be held to avoid vehicle conflicts, or where pedestrians are given advanced passage time prior to vehicles being given a green light, and at established school crossings at signalized intersections. If an existing signal is in the project limits, the City's Traffic Division shall be contacted for guidance on existing pedestrian movements and how that will affect the placement of sidewalk ramps and crosswalks.



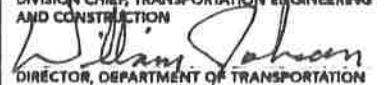
Close coordination with the City is required to ensure ADA compliance with the installation of the signal and its related hardware and signal cabinets. The signal poles, signing and handboxes shall all be located outside the clear pedestrian route while adhering to the sight distance requirements for the intersection. Right-of-way may need to be purchased to assure ADA compliance. The placement of unimpeded accessible ramps with proper markings needs to be determined, balancing the needs of highway design and the signal designer. Identification of significant pedestrian generators such as schools, churches, and community centers should be included in the discussion.

If a new pedestrian signal is deemed warranted, pedestrian pushbuttons shall be located to ensure accessibility for pedestrians with disabilities. The following considerations should be evaluated when determining the location:

- A. Pushbuttons are to be located so that they can be activated by a person in a wheelchair from a 60" by 60" preferred (48" by 48" minimum) level landing area. The cross slope of the level landing area shall not exceed 2%.
- B. The center of the pushbutton shall not be mounted higher than 36" above the level landing area.
- C. The maximum horizontal reach distance from the level landing area shall be 10".

13.0 ACCESSIBLE PEDESTRIAN SIGNALS

To provide equal access under the American Disabilities Act, increasing use of APS is being made. Several publications, including those from the U.S. Access Board, Transportation Research Board and others, provide information for APS. The MUTCD also provides information on the design of APS. Before addressing the need for APS, the City's Traffic Division is to be contacted when considering the need for any traffic signal upgrades. APS will be required as deemed necessary by the City's Traffic Division at intersections where there are high volumes of pedestrian traffic or related issues that require this function.

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			SCALE: NONE		


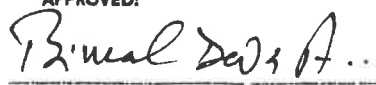

14.0 MAINTENANCE OF PEDESTRIAN ACCESS DURING CONSTRUCTION

This work shall consist of providing and maintaining an accessible pedestrian route, to the maximum extent feasible, throughout the project's limits during construction. Where an existing pedestrian route is disrupted by construction activities, all pedestrians, including persons with disabilities, shall be provided with a reasonably safe, convenient and accessible path throughout the limits of the work zone.

The phrase "to the maximum extent feasible" applies to the occasional case where the nature of an existing facility or site conditions makes it virtually impossible to comply fully with applicable accessibility standards through a planned alteration. In these circumstances, the alternate accessible pedestrian route shall provide the maximum physical accessibility that is feasible.

The following considerations should be taken into account when addressing accessible pedestrian maintenance of traffic:

- A. Whenever an existing pedestrian access route in the public right-of-way is blocked by construction, alteration, or maintenance activity, an alternate accessible pedestrian route must be provided.
- B. If adequate, the width of the existing pedestrian facility should be maintained. When it is not possible to maintain a minimum width of 60" throughout the entire length of the pedestrian route, a minimum width of 36" shall be provided with 60" by 60" passing zones at least every 200', to allow individuals in wheelchairs to pass.
- C. Traffic control devices and other construction materials and features shall not intrude into the usable width of the sidewalk, temporary pathway or other pedestrian facility.
- D. Signs and other devices shall be mounted both vertically and horizontally in accordance with the requirements outlined in the latest edition of the MUTCD and the Department of Justice's *2010 ADA Standards for Accessible Design*.
- E. A smooth, continuous hard surface shall be provided throughout the entire length and width of the pedestrian route throughout construction. There shall be no curbs or vertical elevation changes greater than ¼" in grade or terrain that could cause tripping or be a barrier to wheelchair use. Vertical elevation differences between ¼ inch and ½ inch shall be beveled at a maximum 2H:1V slope. Elevation changes greater than ½ inch shall be ramped at a slope not to exceed an 8.3% slope.
- F. When channelization is used to delineate a pedestrian pathway, a continuous detectable edging shall be provided at grade. If a bottom opening is provided, a minimum 1.5" and maximum 4" above finished grade shall be provided throughout the length of the facility such that pedestrians using a white cane can follow it.
- G. Temporary ramps shall be provided wherever an alternate pedestrian route crosses a curb and no permanent ramps are in place. To the maximum extent feasible, the width of the ramp shall be a minimum of 48" and the running slope of the ramp shall not exceed an 8.3% slope.
- H. To the maximum extent feasible, an accessible pedestrian route shall be provided on the same side of the street as the disrupted route. Where it is not feasible to provide a same side accessible pedestrian route an accessible pedestrian detour route will be required.
- I. Information regarding closed pedestrian routes, alternate crossings, relocated transit stops, and sign and signal information shall be communicated to pedestrians with visual disabilities by providing devices such as audible information devices, accessible pedestrian signals or detectable barriers and channelizing devices.
- J. Access to existing and/or temporary transit stops shall be maintained and/or provided.

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15.0 RAILROAD CROSSINGS




The location of the required detectable warning surfaces along the pedestrian path varies by situation:

- A. When the pedestrian path crosses railroad tracks that are within the curbed portion of the street, the detectable warning surfaces at the bottom of the sidewalk ramps serving the crosswalk meet the requirement. A second set of detectable warning surfaces at the tracks in the street are not needed.
- B. When the pedestrian path crosses railroad tracks that intersect the street, detectable warning surfaces are required to be located on the outside edges of the tracks as follows:
 - a. The detectable warning surface shall cover the full width of the pedestrian path and shall be 2' deep along the path of travel.
 - b. The nearest edge of the detectable warning surface adjacent to the rail must be located at least 6' from the center of the closest rail but no farther than 15' from the center of the closest rail.
 - c. The rows of truncated domes in the DWS must be aligned to be parallel with the direction of wheelchair travel.
- C. The pedestrian path surface crossing the freight and non-freight railroads must be firm stable and slip resistant. The requirements for the vertical alignment of the pedestrian path surface and the flangeway gaps (the area adjacent to the inside of each rail that accommodates the wheel flanges of a rail car) are as follows:
 - a. The pedestrian path approach to the outer edge of the rail must be level and flush with the top of the rail.
 - b. The surface of the pedestrian path between the rails must be aligned with the top of the rails.
 - c. The flangeway gap on non-freight rail crossings is 2.5".
 - d. The flangeway gap on freight rail crossings is 3.0".

16.0 MULTI-USE TRAIL PROJECTS

Trails shall conform to design regulations as prescribed by AASHTO, the MUTCD and other federal design standards. For urban areas, the minimum trail width shall be 6' wide with a preferred minimum width of 10' for bi-directional, non-motorized travel of pedestrians of all abilities, bicyclists and equestrians (where applicable).

- A. When a sidewalk ramp is needed for a multi-use trail, detectable warning surfaces shall be provided where the sidewalk ramp connects to the street or at railroad crossings.
- B. For trail projects, the trail must be ADA compliant, including cross-slope allowance, pedestrian ramps, and across driveways and driveway aprons. Adjacent sidewalks, ramps and other access points to the trail, including the other side of the street, shall not be required to have immediate design upgrades as part of the trail project.
- C. At isolated pinch points, the minimum clear width of travel shall be 72" exclusive of the width of the curb.



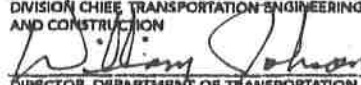
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	OFFICIAL DESIGN GUIDELINES FOR PEDESTRIAN FACILITIES WITHIN THE CITY OF BALTIMORE	STANDARD NO. BC		SCALE: NONE	

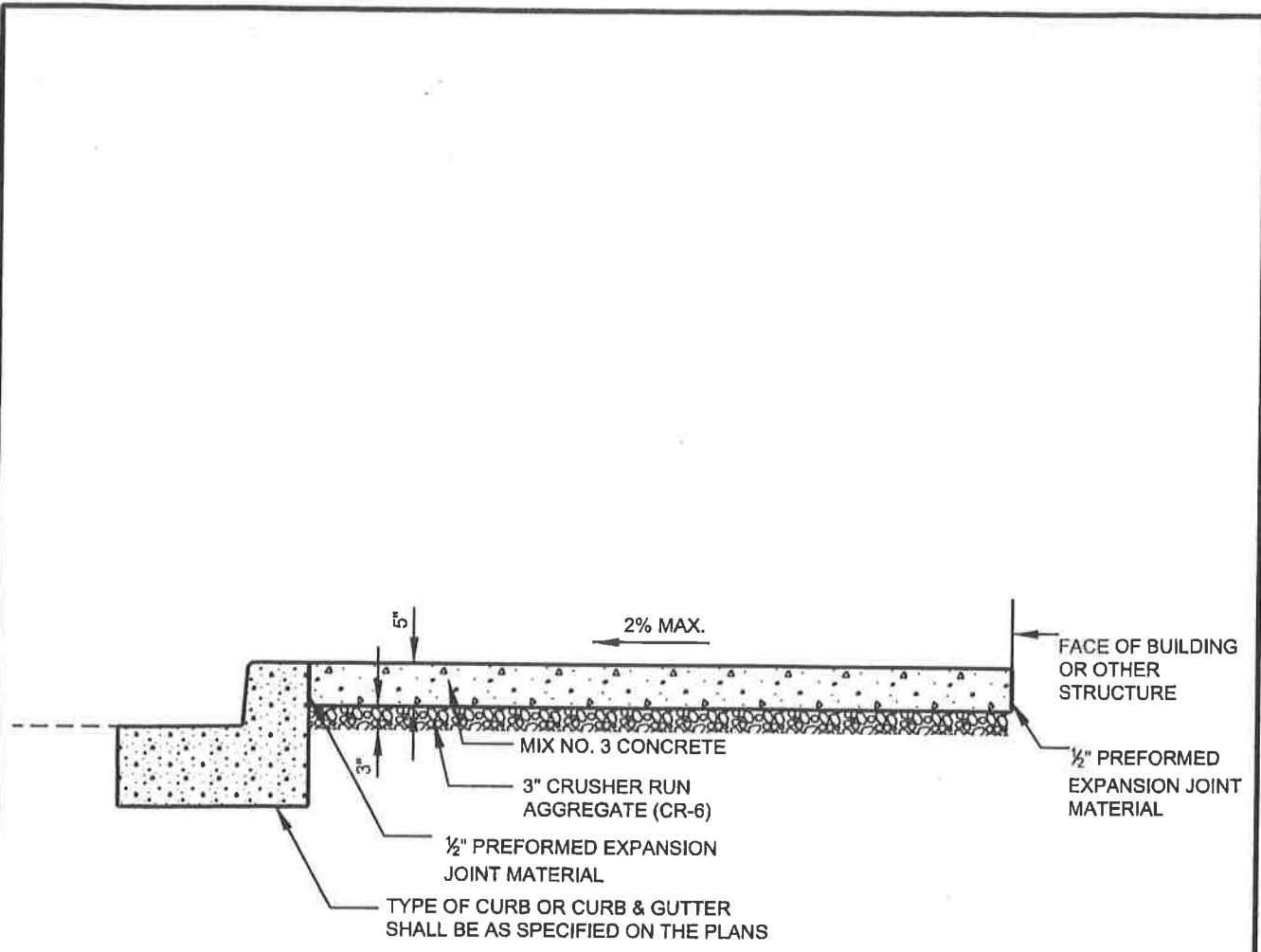
17.0 REFERENCES

In addition to these general notes, the City recognizes and utilizes the following documents with regard to the planning and design of pedestrian facilities.

- 2010 ADA Standards for Accessible Design, September 15, 2010, US Department of Justice.
- Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways, June 2010, Maryland Department of Transportation, State Highway Administration.
- Accessible Rights-of-Way: A Design Guide, November 1999, US Architectural and Transportation Barriers Compliance Board.
- ADA Handbook, US Equal Employment Opportunity Commission and the US Department of Justice.
- Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines, July 23, 2004, US Access Board.
- ADA Standards for Transportation Facilities, November 29, 2006, US Department of Transportation.
- A Policy on Geometric Design of Highways and Streets 2004, American Association of State Highway and Transportation Officials.
- Designing Sidewalks and Trails for Access – Best Practices Design Guide, Parts 1 & 2, US Department of Transportation, Federal Highway Administration.
- Guidance on the 2010 ADA Standards for Accessible Design, September 15, 2010, US Department of Justice.
- Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004, American Association of State Highway and Transportation Officials.
- Guide to the Updated ADA Standards, 2010, US Access Board
- Manual on Uniform Traffic Control Device for Streets and Highways 2009 Edition, US Department of Transportation, Federal Highway Administration.
- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way, July 26, 2011, US Access Board
- Special Report: Accessible Public Rights-of-Way, Planning and Design for Alterations, July 2007, Public Rights-of Way Access Advisory Committee.

The documents referenced above are to be utilized as guidelines.

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Bimal Dewshi
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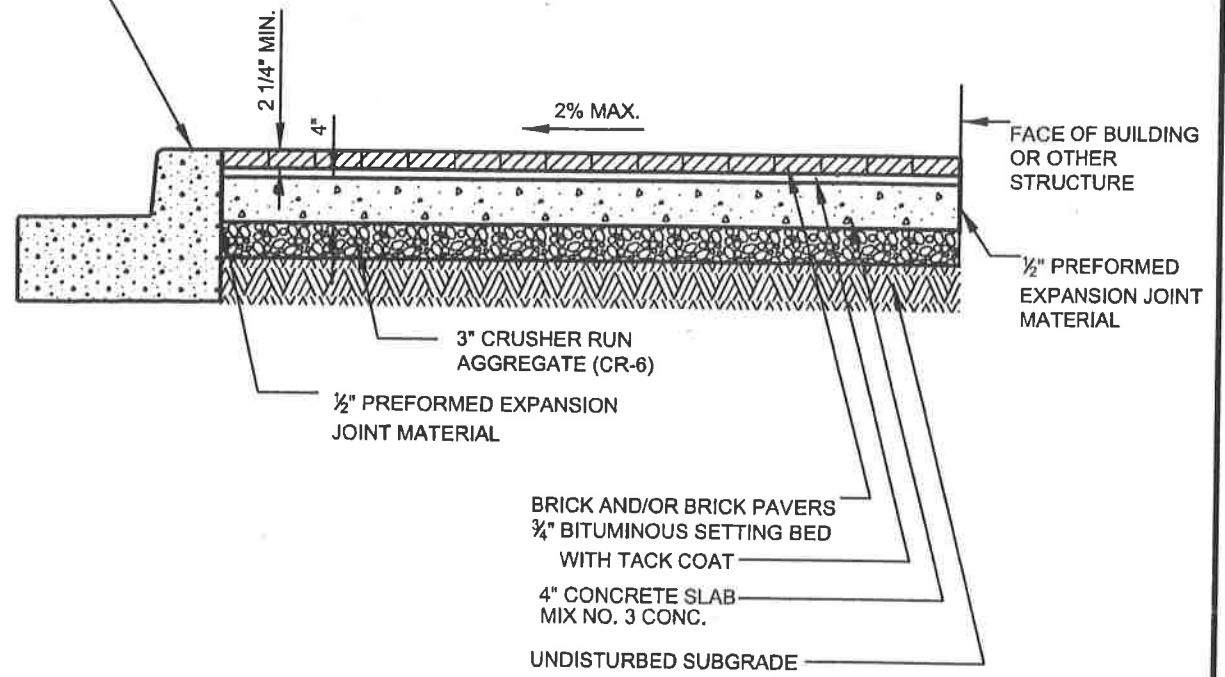
Khalil Zana
 DIRECTOR, DEPARTMENT OF TRANSPORTATION

CITY OF BALTIMORE
 DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION ENGINEERING AND CONSTRUCTION

**TYPICAL SECTION
 CONCRETE SIDEWALK**

ISSUED	REVISED	REVISED
8 / 2010	10 / 2013	
STANDARD NO. BC 655.05		
SCALE: NONE	SHEET 1 OF 1	

NOTE: TYPE OF CURB OR CURB AND GUTTER SHALL BE AS SPECIFIED ON THE PLANS.



NOTE: BRICK WILL NOT BE INSTALLED FOR DRIVEWAYS. ONLY STANDARD CONCRETE SHALL BE USED.



APPROVED:

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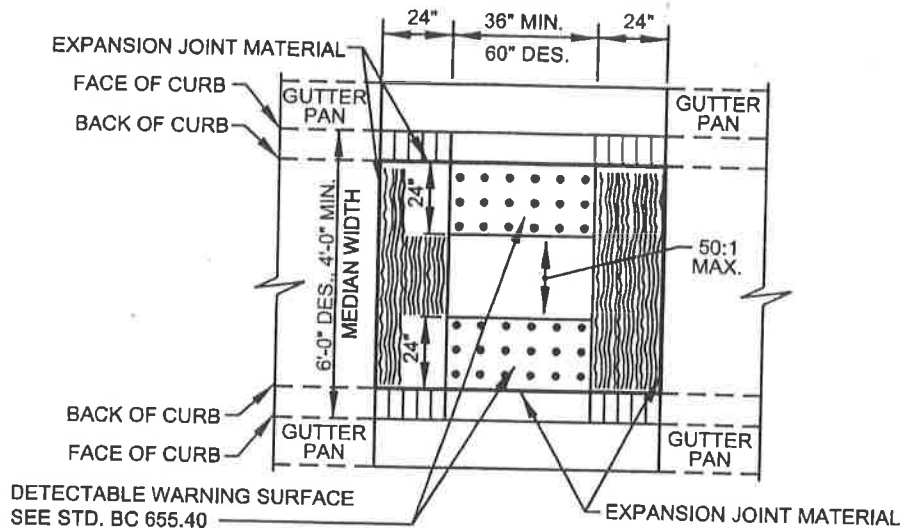
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8 / 2010	10 / 2013	

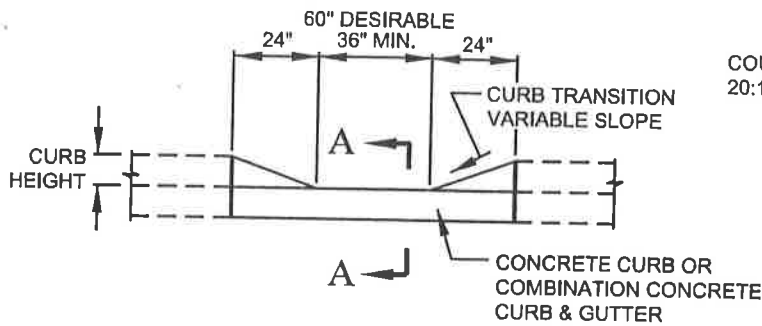
**TYPICAL SECTION
 BRICK SIDEWALK**

STANDARD NO.
 BC 655.10

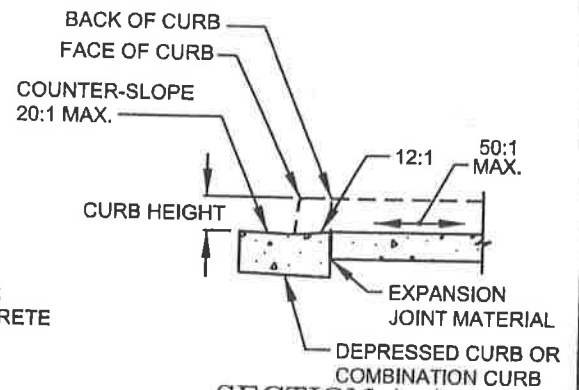
SCALE: NONE SHEET 1 OF 1



PLAN



ELEVATION



SECTION A-A

NOTES

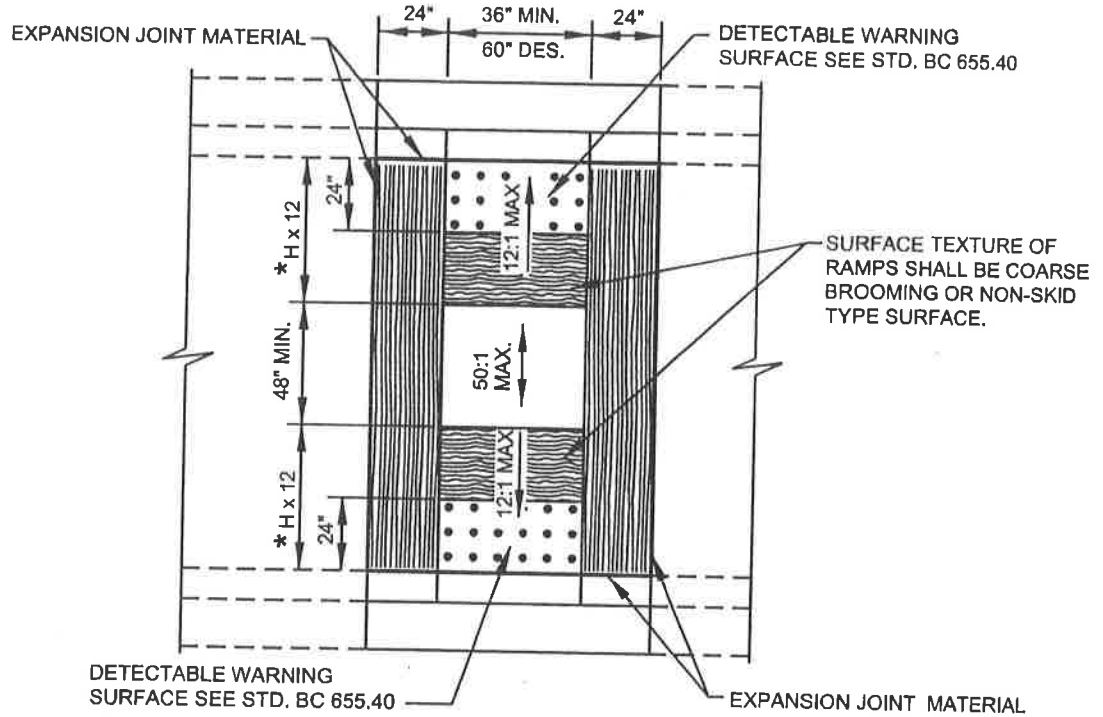
1. TO BE USED WHERE A STREET-LEVEL PEDESTRIAN CROSSING IS REQUIRED THROUGH RAISED MEDIANS OR RAISED ISLANDS AND THERE IS INSUFFICIENT WIDTH TO PROVIDE A RAMPED MEDIAN OR ISLAND OPENING (STD. BC 655.22).
2. WHERE PHYSICAL CONSTRAINTS PRECLUDE USE OF 6 FT. MEDIAN, A 4 FT. MEDIAN WIDTH IS ACCEPTABLE.
3. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD BC 655.01.
4. CUT-THROUGH MEDIAN AND ISLAND OPENINGS SHALL BE INCLUDED IN PRICE BID FOR MONOLITHIC CONCRETE MEDIAN OR SIDEWALK. DETECTABLE WARNING SURFACE SHALL BE PAID FOR ON A SQUARE FOOT BASIS.
5. CUT-THROUGH MEDIAN AND ISLAND OPENINGS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE OPENING ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED OPENING VARIES FROM STANDARD METHODS.



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Primal Dewara
 DIVISION CHIEF, TRANSPORTATION ENGINEERING
 AND CONSTRUCTION
Khalil Zare
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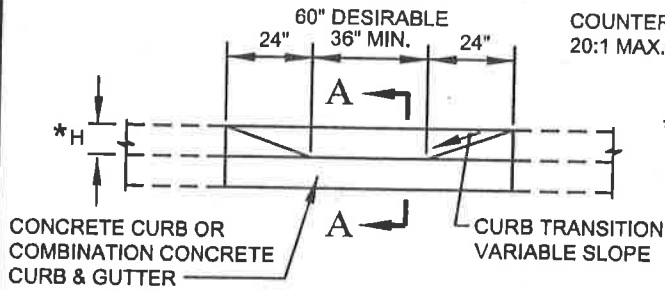
CITY OF BALTIMORE
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 CONSTRUCTION
**CUT-THROUGH
 MEDIAN AND ISLAND OPENINGS**

ISSUED	REVISED	REVISED
8 / 2010	10 / 2013	
STANDARD NO. BC 655.21		
SCALE: NONE	SHEET 1 OF 1	

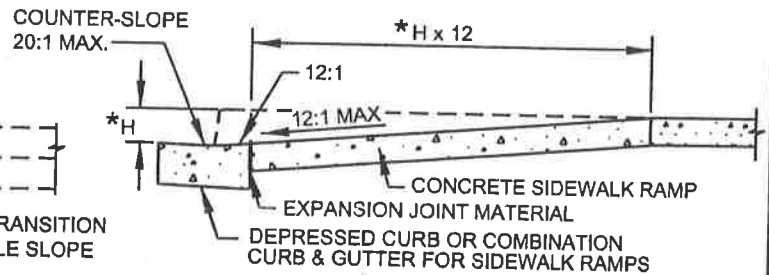


* H = HEIGHT OF CURB
ALL MEASUREMENTS IN INCHES

PLAN




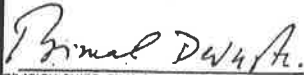
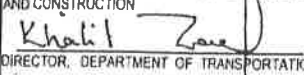
ELEVATION



SECTION A-A

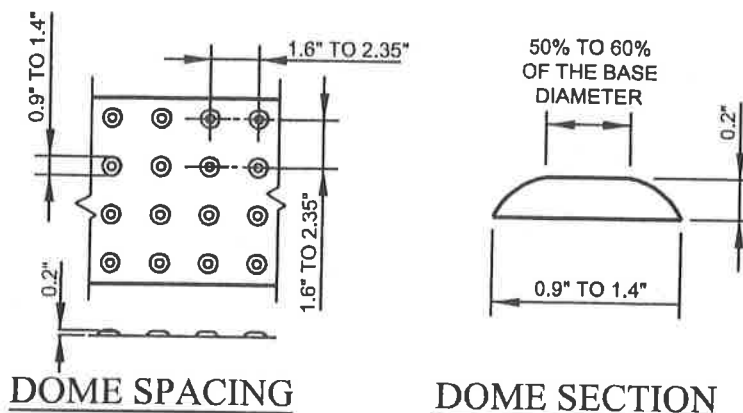
NOTES

1. TO BE USED WHERE A PEDESTRIAN ACCESS ROUTE CROSSES RAISED MEDIANS OR RAISED ISLANDS AND THERE IS SUFFICIENT WIDTH TO SATISFY THE GEOMETRY OUTLINED IN THIS STANDARD.
2. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD BC 655.01.
3. RAMPED MEDIAN AND ISLAND OPENINGS SHALL BE MEASURED AND PAID AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR CONCRETE SIDEWALK. DETECTABLE WARNING SURFACE SHALL BE PAID FOR ON A SQUARE FOOT BASIS. DEPRESSED CURB AND CURB TRANSITION FOR SIDEWALK RAMP SHALL BE INCLUDED IN THE PRICE BID FOR CURB OR CURB AND GUTTER.
4. RAMPED MEDIAN AND ISLAND OPENINGS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE OPENING ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED OPENING VARIES FROM STANDARD METHODS.

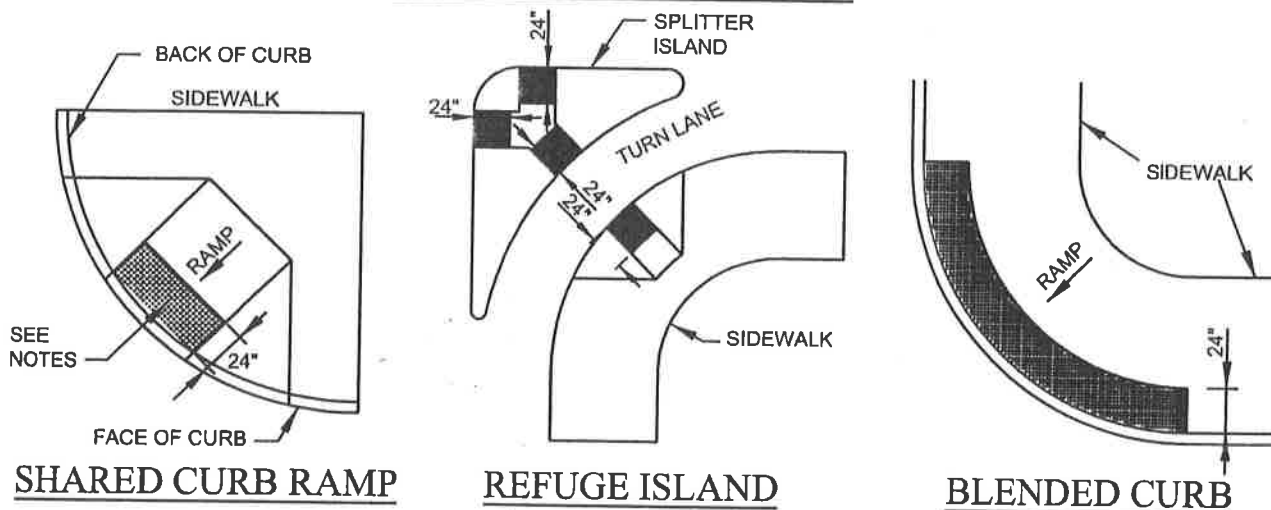
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	 DIRECTOR, DEPARTMENT OF TRANSPORTATION		8 / 2010	10 / 2013	
RAMPED MEDIAN AND ISLAND OPENINGS			STANDARD NO. BC 655.22		
			SCALE: NONE	SHEET 1 OF 1	

DETAILS FOR DETECTABLE WARNING SURFACE

SEE PLACEMENT GUIDELINES BELOW




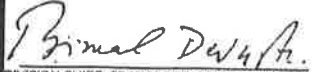
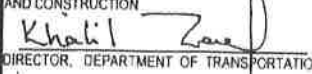
PLACEMENT GUIDELINES



WHERE ISLANDS OR MEDIANS ARE LESS THAN 6 FEET WIDE, THE DETECTABLE WARNING SURFACE SHOULD EXTEND ACROSS THE FULL LENGTH OF THE CUT THROUGH THE ISLAND OR MEDIAN

NOTES

1. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 TO 8 INCHES FROM THE FACE OF CURB.
2. FOR SKEWED APPLICATIONS DETECTABLE WARNING SURFACE SHALL BE PLACED SO THAT THE DOMES CLOSEST TO THE BACK OF CURB ARE NO LESS THAN 0.5" AND NO MORE THAN 1.0" FROM THE BACK OF CURB. TRUNCATED DOME SURFACES SHALL BE FABRICATED TO PROVIDE FULL DOMES ONLY.
3. DETECTABLE WARNING SURFACE SHALL BE PAID FOR ON A SQUARE FOOT BASIS.
4. DETECTABLE WARNING SURFACES ARE REQUIRED AT STREET CROSSING ALLEY & SIGNALIZED INTERSECTIONS.

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	 DIRECTOR, DEPARTMENT OF TRANSPORTATION	DETECTABLE WARNING SURFACES	STANDARD NO. BC 655.40	SCALE : NONE	SHEET 1 OF 1