PHILADELPHIA DEPARTMENT OF STREETS

ADA RAMP DESIGN GUIDELINES

BACKGROUND

This document is written to provide guidance and policy for ADA ramps built in the City of Philadelphia and to supplement to the PennDOT District 6-0 ADA ramp design guidance for designs in the City of Philadelphia. Any guidance below that contradicts PennDOT's written guidance is done so with the District ADA coordinator's knowledge and buy-in.

The installation of ADA compliant curb ramps within the City of Philadelphia poses a significant challenge due to narrow sidewalks, zero building set-back distances and the presence of numerous building entrances, driveway curb cuts and other obstacles.

Due to the large number of ramps that must be installed, the Department of Streets (DOS) has adopted these protocols for the design and review process. These protocols are intended to enable all parties to quickly reach consensus on the most suitable ramp design.

GUIDELINES

Ramp Slope

1. The most critical design element of a curb ramp is the longitudinal slope of the ramp itself. Every effort shall be made to design the longitudinal ramp slope to be as close to, but not greater than, the recommended maximum design slope of 8.33% (taking into consideration normal construction tolerances).
2. Standard ramp cross-slope is between 1% and 2% in front of a ramp. However, at non-stop controlled intersections, ramp cross slopes can exceed 2% as long that it is less than the roadway slope of the crossing street.
3. If a triangular landing area is necessary, it should not be larger than 2' long. The slope toward the street should be maximized and be 1%-4% to avoid ponding. (A TIF will be required for triangular area slopes greater than 2%, even though 2%-4% is preferred on ramps in the City.)
4. Design the longitudinal ramp slopes to minimize the ramp and transition length, while ensuring that the slopes are below the maximum allowable value, with margin of error in construction.

Ramp Layout

1. For a shared-use path, the City's standard is to use an 8' wide DWS, regardless of the path/trail width.
2. All directional, type-1 ramps should be 4' wide. Wider ramps can be proposed and will be reviewed on a case-by-case basis if justification is provided for deviation from the standard.
3. All type-2 ramps and shared diagonal ramps must be 5' wide.
4. For ramps crossing medians, all ramps will be type-B if the median is between 7' and 9' wide. If the median width is 10' wide or more, type-1 ramps must be used. If median is less than 7' wide, provide a Type B ramp in the median without DWS.
5. **These items below are to be prioritized in descending order, with "a" being the highest importance**:
    a. The DWS must be entirely within the crosswalk, but does not have to be centered in it. The flare of the ramp can be located off the PC and outside the crosswalk
    b. Minimize angle of ramp to crosswalk. Maximum allowed without a TIF is 22 degrees.
    c. Minimize (or eliminate) triangular landing pads in ADA design, which can cause ponding.

Landings

1. The top landing shall be designed for longitudinal and transverse slopes of 2% or less.
2. The bottom of the ramp shall be flush with the gutter line.

Transition Zone

1. The design goal for the longitudinal slope of the sidewalk transition zone is 5% or less.
2. A sidewalk transition zone may extend up to 15-ft. from the top of the ramp. When a 5% or flatter transition grade can be accomplished over a shorter distance, the length of the transition zone shall be reduced to that shorter distance.
3. When a 5% grade cannot be accomplished within 15-ft. from the top of the ramp, the transition zone grade may be increased up to a maximum of 8.33%
4. When an 8.33% transition zone slope cannot be accomplished within 15-ft., DOS will consider approving adjustments to ramp elements in the following order of priority:
    a. A marginally longer transition zone.
    b. An increase in the ramp slope (TIF).
    c. An increase in the landing slope (TIF).
5. Transition zones shall not be constructed that reduce the accessibility of existing building entrances. The designer shall be aware of Building Code requirements for maneuvering clearances adjacent to door openings.

Sidewalk Grading

1. Establish positive drainage flow from houseline or protruding property features (steps or window wells, etc.) to street. This sidewalk cross-slope should be minimized (above 1%), while achieving positive drainage to the gutter
2. New curb reveal can vary in order to meet cross-slope and City Plan top of curb grade requirements. Proposed curb reveal should ideally be set to 6", although it can vary between 4" and 8". Where on-street parallel parking exists, do not exceed 7" curb reveal to minimize interference with vehicle doors.

Gutterline Grading

1. Gutter slopes should be a minimum of 1%, but 0.5% is allowed outside of the depressed curb area; provide positive drainage is established. Maximum gutter slope allowed is 5.0% where existing grades in the adjacent area are already less than 5%.
2. Roadway crown must be maintained at all times (unless City agrees otherwise). Water should stay flowing along the curb, and not be pushed into the street
3. Ponding cannot be found near the ramps or any asphalt adjustment areas, or in proximity to the limit of work.
4. The algebraic difference between the gutter slope and the curb ramp slope shall be no greater than 13.33%. TIFs are not accepted if this is exceeded.
5. No new gutterline grade breaks may be created. The direction of the flow of water must be maintained as it was before construction.
6. Asphalt adjustment should not exceed 6' width. Re-design ramps if a larger adjustment is necessary.
7. Asphalt adjustments should only be used to mitigate minor adjustment issues caused by the existing grades or from the proposed ramps. They should not be used to forego other ADA ramp requirements.

Curb Return & Flares

1. To prevent the creation of tripping hazards, curb returns will only be approved where non-walking surfaces (full width grass area) can be provided adjacent to the curbs.
2. Increased flare slope may be approved by DOS on a case-by-case basis when they abut a signal pole, light pole, fire hydrant, open inlet, or other similar obstruction.
3. Utility poles and other obstructions may be in the flare of the ramp.
4. Curb reveal at flare ends should always be designed to be at least 4"
    a. Curb reveal designed to be less than 4" is only allowed if water cannot drain from sidewalk at 4" reveal
    b. If existing curb reveal is less than 4", maintain 4" reveal for the transition, and taper down over the last 2'-3' before the end of the transition/nearest joint