CHAPTER FOUR – ADA TRANSITION PLAN AND UNIVERSAL PEDESTRIAN ACCESS

Under Title II of the Americans with Disabilities Act (ADA) of 1990, state and local governments and public transit authorities must ensure that all of their programs, services, and activities are accessible to and usable by individuals with disabilities. They must ensure that new construction and altered facilities are designed and constructed to be accessible to persons with disabilities. State and local governments must also keep the accessible features of facilities in operable working condition through maintenance measures including sidewalk repair, landscape trimming, work zone accessibility, and snow removal.

Under the ADA, the U.S. Access Board is responsible for developing the minimum accessibility guidelines needed to measure compliance with ADA obligations when new construction and alteration projects are planned and engineered. These guidelines for public rights-of-way are found in draft form in the Public Rights-of-Way Accessibility Guidelines (draft PROWAG). The U.S. Department of Transportation has recognized this document as current best practices in pedestrian design and has indicated its intent to adopt the final PROWAG.

In addition to the PROWAG guidelines, Title II of the ADA also requires states and localities to develop ADA Transition Plans that remove barriers to disabled travel. These plans must:

- Inventory physical obstacles and their location
- Provide adequate opportunity for residents with disabilities to provide input into the Transition Plan
- Describe in detail the methods the entity will use to make the facilities accessible
- Provide a yearly schedule for making modifications
- Name an official/position responsible for implementing the Transition Plan
- Set aside a budget to implement the Transition Plan

FORT WORTH ADA TRANSITION PLAN

ADA Transition Plans are intended to ensure that existing inaccessible facilities are not neglected indefinitely and that the community has a detailed plan in place to provide a continuous pedestrian environment for all residents. The first task involved in preparing an ADA Transition Plan is to conduct an inventory of existing physical barriers in the facilities operated by the Department and listing all the barriers that limit accessibility. This is often referred to as the self-evaluation process. Possible inventory approaches are on-ground surveys, windshield surveys, aerial photo studies, or drawing reviews.

In 2010, the U.S. Department of Justice published a final rule for the American with Disabilities Act. This act requires all communities to ensure that all pedestrian facilities will become accessible to disabled citizens over time. Currently, in the City of Fort Worth, an American with Disabilities Act transition plan does exist but it needs to be updated. The current plan was adopted in early 1992. The City is implementing this plan by handling maintenance and improvement issues on a case-by-case basis.

The necessary improvements to the Fort Worth ADA transition plan include creating policies that spell out when maintenance activities will take place, policies to make the plan more proactive instead of reactive, and a creating a schedule for implementing the plan. It is recommended the City of Fort Worth update this plan as soon as feasible.

UNIVERSAL PEDESTRIAN ACCESS DESIGN

Nowhere is the concept of universal access more important than in the design of the pedestrian environment. While perhaps not intuitively obvious the pedestrian environment supports the greatest variation in user capabilities, and is thus the realm where attention to design detail is essential to balance user needs. Signs and street furniture are located here, and where transitions are made between modes (e.g., driver or passenger to pedestrian via parking, bus stop/train station or bike rack). The pedestrian environment includes sidewalks, curb ramps, crosswalks, bus stops, signs, and street furniture.

Without design guidelines, sidewalks are often too narrow, utility poles obstruct travel, steep driveway ramps are impassable to wheelchair users, and bus stops become blocked by the disorderly placement of shelters, poles, trash receptacles, and bike racks.

Designing the pedestrian realm for universal access enables persons with disabilities to live independently and lead full, enriched lives; they are able to go to work and to school, to shop, and otherwise engage in normal activities. Moreover, walking environments that accommodate people with disabilities improve walking conditions for everyone. People with strollers and rolling suitcases can make their way about with ease. Children can mature by learning to navigate through their neighborhoods with independence. Inaccessible pedestrian networks, on the other hand, can lead to persons with disabilities and the elderly becoming housebound and socially isolated, which in turn can lead to a decline in well-being and a host of associated negative health outcomes such as depression.

ESSENTIAL PRINCIPLES OF UNIVERSAL PEDESTRIAN ACCESS

The following design principles should be incorporated into every pedestrian improvement:

- The walking environment should be safe, inviting, and accessible to people of all ages and physical abilities.
- The walking environment should be easy to use and understand.
- The walking environment should seamlessly connect people to places. It should be continuous, with complete sidewalks, well-designed curb ramps, and well-designed street crossings.

USERS AND NEEDS

In order to accomplish universal access, designers must consider the widely varying needs and capabilities of the people in the community. People walk at different speeds. Some are able to endure long treks, while others can only go short distances. Some use wheelchairs and are particularly sensitive to uneven pavement and surface materials. Others have limited sight and rely on a cane. People's strengths, sizes, and judgmental capabilities differ significantly. The needs of one group of users may be at odds with those of another group of users. For instance, gradual ramps and smooth transitions to the street help people in wheelchairs, but present challenges for the sight-impaired when they cannot easily find the end of the sidewalk and beginning of the street.

MOBILITY IMPAIRMENTS

People with mobility impairments range from those who use assistive devices, such as wheelchairs, crutches, canes, orthotics, and prosthetic devices, to those who use no such devices but face constraints walking long distances on non-level surfaces or on steep grades. Prosthesis users often move slowly and have difficulty with steep grades or cross slopes.

Wheelchair and scooter users are most affected by the following:

- Uneven surfaces that hinder movement
- Rough surfaces that make rolling difficult and can cause pain, especially for people with back injuries
- Steep uphill slopes that slow the user
- Steep downhill slopes that cause a loss of control
- Cross slopes that make the assistive device unstable
- Narrow sidewalks that impede the ability of users to turn or to cross paths with others
- Devices that are hard to reach, such as push buttons for walk signals and doors
- The lack of time to cross the street

OBSTRUCTIONS CAN MAKE PASSAGE DIFFICULT OR IMPOSSIBLE
PHOTO CREDIT: MICHAEL RONKIN

Walking-aid users are most affected by the following:

- Steep uphill slopes that make movement slow or impossible
- Steep downhill slopes that are difficult to negotiate
- Cross slopes that cause the walker to lose stability
- Uneven surfaces that cause these users to trip or lose balance
- Long distances
- Situations that require fast reaction time
- The lack of time to cross the street

COGNITIVE IMPAIRMENTS

People with cognitive impairments encounter difficulties in thinking, learning and responding, and in performing coordinated motor skills. Cognitive disabilities can cause some to become lost or have difficulty finding their way. They may also not understand standard street signs and traffic signals. Some may not be able to read and benefit from signs with symbols and colors.

VISUAL IMPAIRMENTS

People with visual impairments include those who are partially or fully blind, as well as those who are colorblind. Visually impaired people face the following difficulties:

- Limited or no visual perception of the path ahead
- Limited or no visual information about their surroundings, especially in a new place
- Changing environments where they rely on memory
- Lack of non-visual information
- Inability to react quickly
- Unpredictable situations, such as complex intersections that are not at 90 degrees
- Inability to distinguish the edge of the sidewalk from the street
- Compromised ability to detect the proper time to cross a street
- Compromised ability to cross a street along the correct path
- Need for more time to cross the street

SIGHT-IMPARED PEDESTRIANS NEED SENSORY CUES PHOTO CREDIT: DAN BURDEN

PEDESTRIAN FACILITY DESIGN

To provide a seamless path of travel throughout the community that is accessible to all, designers should consider four important elements: sidewalks, curb ramps, crosswalks, and signals.

SIDEWALKS

Sidewalks should provide a comfortable space for pedestrians between the roadway and adjacent land uses. Sidewalks along city streets are the most important component of pedestrian mobility. They provide access to destinations and critical connections between modes of travel, including automobiles, transit, and bicycles. General provisions for sidewalks include pathway width, slope, space for street furniture, utilities, trees and landscaping, and building ingress/egress.

A SIDEWALK WITH A WIDE BUFFER FROM MOTOR VEHICLE TRAVEL PROVIDES A COMFORTABLE ENVIRONMENT

CURB RAMPS

Proper curb ramp design is essential to enable pedestrians using assistive mobility devices (e.g., scooters, walkers, and crutches) to transition between the street and the sidewalk. These design guidelines provide a basic overview of curb ramp design. The ADA requires installation of curb ramps in new sidewalks and whenever an alteration is made to an existing sidewalk or street. Roadway resurfacing is considered an alteration and triggers the requirement for curb ramp installations or retrofits to current standards. Curb ramps are typically installed at intersections, mid-block crossings (including trail connections), accessible on-street parking, and passenger loading zones and bus stops.

The following define the curb ramp components along with minimum dimensions:

- **Landing** – the level area at the top of a curb ramp facing the ramp path. Landings allow wheelchairs to enter and exit a curb ramp, as well as travel along the sidewalk without tipping or tilting. This landing must be the width of the ramp and measure at least 4 feet by 4 feet. There should also be a level (not exceeding a 2 percent grade) 4-foot by 4-foot bottom landing of clear space outside of vehicle travel lanes.
- **Approach** – the portion of the sidewalk on either side of the landing. Approaches provide space for wheelchairs to prepare to enter landings.
- **Flare** – the transition between the curb and sidewalk. Flares provide a sloped transition (10 percent maximum slope) between the sidewalk and curb ramp to help prevent pedestrians from tripping over an abrupt change in level. Flares can be replaced with curb where the furniture zone is landscaped.
- **Ramp** – the sloped transition between the sidewalk and street where the grade is constant and cross slope at a minimum. Curb ramps are the main pathway between the sidewalk and street.
- **Gutter** – the trough that runs between the curb or curb ramp and the street. The slope parallel to the curb should not exceed 2 percent at the curb ramp.
- **Detectable Warning** – surface with distinct raised areas to alert pedestrians with visual impairments of the sidewalk-to-street transition.

There are several different types of curb ramps. Selection should be based on local conditions. The most common types are diagonal, perpendicular, parallel, and blended transition. PROWAG provides additional design

guidance and curb ramp examples appropriate for a variety of contextual constraints.

DIAGONAL CURB RAMPS

Diagonal curb ramps are single curb ramps at the apex of the corner. These have been commonly installed by many jurisdictions to address the requirements of the ADA, but have since been identified as a non-preferred design type as they introduce dangers to wheelchair users. Diagonal curb ramps send wheelchair users and people with strollers or carts toward the middle of the intersection and make the trip across longer.

PERPENDICULAR CURB RAMPS

Perpendicular curb ramps are placed at a 90-degree angle to the curb. They must include a level landing at the top to allow wheelchair users to turn 90 degrees to access the ramp, or to bypass the ramp if they are proceeding straight. Perpendicular ramps work best where there is a wide sidewalk, curb extension or planter strip. Perpendicular curb ramps provide a direct, short trip across the intersection.

PARALLEL CURB RAMPS

Parallel curb ramps are oriented parallel to the street; the sidewalk itself ramps down. They are used on narrow sidewalks where there is not enough room to install perpendicular ramps. Parallel curb ramps require pedestrians who are continuing along the sidewalk to ramp down and up. Where space exists in a planting strip, parallel curb ramps can be designed in combination with perpendicular ramps to reduce the ramping for through pedestrians. Careful attention must be paid to the construction of the bottom landing to limit accumulation of water and/or debris.

CURB RAMP PLACEMENT

One ramp should be provided for each crosswalk, which usually translates to two per corner. This maximizes access by placing ramps in line with the sidewalk and crosswalk, and by reducing the distance required to cross the street, compared with a single ramp on the apex.

A single ramp at the apex requires users to take a longer, circuitous travel path to the other side and causes users to travel towards the center of the intersection where they may be in danger of being hit by turning cars. Being in the intersection longer exposes the user to greater risk of being hit by vehicles. A single ramp at the apex should be avoided in new construction and may be used only for alterations where a design exception is granted because of existing utilities and other significant barriers. In all cases, reducing the curb radius makes ramp placement easier.

ONE RAMP PER CROSSWALK SHOULD BE STANDARD PRACTICE
CREDIT MICHELE WEISBART

BLENDED TRANSITIONS

Blended transitions are situations where either the entire sidewalk has been brought down to the street or crosswalk level, or the street has been brought up to the sidewalk level. They work well on large radius corners where it is difficult to line up the crosswalks with the curb ramps, but have drawbacks. Children, persons with cognitive impairments, and guide dogs may not distinguish the street edge. Turning vehicles may also encroach onto the sidewalk. For these reasons, bollards, planting boxes or other intermittent barriers should be installed to prevent cars from traveling on the sidewalk. Detectable warnings should also be placed at the edge of the sidewalk to alert pedestrians with visual impairments of the transition to the street.

DETECTABLE WARNINGS

Because a curb ramp removes the curb that visually impaired persons use to identify the location of a street, a detectable warning surface must be placed at the back of the curb. This detectable strip should be as wide as the ramp and a minimum of 24 inches deep. One corner should be located at the back of the curb and the other corner may be up to 5 feet from the back of the curb. These strips are most effective when adjacent to smooth pavement so the difference is easily detected. Color contrast is needed so partially sighted people can see them.

SIGNALS

Signalized street crossings require special consideration of people with disabilities. The following text provides guidance to do that.

CROSSING TIMES

In planning for people with disabilities, slower speeds must be considered. This is critical in setting the timing of the walk phase of signalized intersections. The Manual on Uniform Traffic Control Devices (MUCTD) requires that transportation agencies use an assumed walking speed of 3.5 feet/second for signal timing. In situations where a large number of older adults or persons with disabilities cross, this may be inadequate to meet their needs. Some cities instead use 2.8 feet/second.

Cities may also use PUFFIN (Pedestrian-User-Friendly-Intelligent) traffic signals to ensure that all pedestrians have adequate time to cross. PUFFIN crossings use infrared monitors to detect the presence of pedestrians in the crosswalk, and will hold the signal red for cross traffic until the pedestrian has left the crosswalk. PUFFIN crossings help slower pedestrians, but also help the flow of traffic because they allow the normal pedestrian design speed to be set at a higher level.

PEDESTRIAN-ACTIVATED PUSH BUTTONS

Pedestrian-activated traffic controls require pedestrians to push a button to activate a walk signal, which are generally discouraged. The “Walk” signal should automatically come on except under certain circumstances. Where pedestrian-activated traffic controls exist, they should be located as close as possible to curb ramps without reducing the width of the path. The buttons should be at a level that is easily reached by people in wheelchairs near the top of the ramp. The U.S. Access Board guidelines recommend buttons raised above or flush with their housing and large enough (a minimum of 2 inches) for people with visual impairments to see them. The buttons should also be easy to push.

PEDESTRIAN PUSH BUTTON PLACEMENT. CREDIT MICHELE WEISBART

ACCESSIBLE PEDESTRIAN SIGNALS (APS)

Wayfinding for pedestrians with visual impairments is significantly improved with the use of APS at signalized intersections. APS communicate information about pedestrian timing in non-visual formats such as audible tones, verbal messages, and/or vibrating surfaces. Verbal messages provide the most informative guidance. These devices should be installed close to the departure location and on the side away from the center of the intersection. Since they are typically only audible 6 to 12 feet from the push button, 10 feet should separate two APS devices on a corner. If two accessible pedestrian pushbuttons are placed less than 10 feet apart or on the same pole, each accessible pedestrian pushbutton must be provided with a pushbutton locator tone, a tactile arrow, a speech walk message for the WALKING PERSON (symbolizing WALK) indication, and a speech pushbutton information message. Volumes of the walk indication and push button locator tone must automatically adjust in response to ambient sound.