City of Santa Fe: Transition Public Right-of-Way Update (PROW)

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Prepared for

City of Santa Fe

By

KFH Group, Inc.

Bethesda, Maryland

Table of Contents

Chapter 1: ADA Standards and Guidelines

Chapter 2: Existing Conditions

Chapter 3: Prioritization Strategies

Chapter 4: Prioritization Results

Chapter 5: ADA Transition Plan

Chapter 1
ADA Standards and Guidelines

INTRODUCTION

The Americans with Disabilities Act (ADA) of 1990 provides civil rights protections to individuals with disabilities and prohibits discrimination with regard to services and accommodations provided by local and state governments. Pedestrian facilities in the public right-of-way fall under Title II of the ADA, which applies to state and local government services (including facilities). The *Santa Fe Transition Plan – Public-Right-of-Way Update* is a plan for the City of Santa Fe to make sidewalks, curb ramps, and street crossings in the public right-of-way accessible to all pedestrians, including those with disabilities, in compliance with federal standards and guidelines.

This document provides the background for this project, including relevant accessibility standards and guidelines (Chapter 1), describes the evaluation and results (Chapter 2), discusses action steps for making access modifications to bring the public right-of-way into compliance with 2011 Standards (Chapter 3), and provides an overview of the transition plan (Chapter 4).

ADA STANDARDS AND GUIDELINES

National

The U.S. Access Board develops accessibility guidelines and standards for the built environment, as well as vehicles for transportation services, communications and information technology, and medical diagnostic equipment. Following the 1990 passage of the ADA, the Access Board developed and continues to update the ADA Accessibility Guidelines (ADAAG), design guidelines that the U.S. Department of Justice (USDOT) and the U.S. Department of Transportation (USDOT) have adopted into enforceable standards. Municipalities are required to comply with the adopted guidelines and standards when designing, building, and improving elements in the built environment, including sidewalks, and pedestrian facilities, as well as codes, standards and guidelines adopted at the local level.

The first version of the ADA Accessibility Guidelines (ADAAG) was published in 1991 to set accessibility guidelines to places of public accommodation and commercial facilities. This version of the ADAAG did not address requirements for public rights-of-way, with the exception of curb ramps and pedestrian refuge islands. In 1992, the U.S. Access Board proposed supplements to the ADAAG to address public right-of-way accessibility requirements. However, concerns were raised about how to fund and manage the

reconstruction of significant portions of the existing right-of-way, thus stalling the effort. Finally, in 1999, a U.S. Access Board Committee revisited the ADAAG and proposed additional standards for public sidewalks, protruding objects, street fixtures and furniture, sidewalk-street transitions, pedestrian crossings, and vehicular ways and facilities.

The first *Draft Guidelines for Accessible Public Rights-of-Way* were released by the Access Board in 2002. Based on committee recommendations regarding these specifications, the Access Board published an updated version of the ADAAG in 2004, and the *Revised Draft Guidelines for Accessible Public Rights-of-Way* in 2005. Following consideration of comments received on this second draft, in July 2011, the Access Board published *Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way*. As of January 2017, these guidelines (sometimes referred to in this document as the *Proposed PROW Guidelines*) have not yet been finalized; however, they are considered the current recommended practice for designing and improving sidewalks, curb ramps, and crosswalks.

The currently *enforceable* guidelines and standards are based on the ADAAG issued by the Access Board in July 2004 and subsequent technical amendments. These guidelines were adopted, with several minor modifications, as standards enforced by the USDOT in November 2006 (focusing on transportation facilities such as bus stops and rail stations, as well as passenger vehicles). In September 2010, following a lengthy rulemaking process with extensive public commentary, the USDOJ also adopted the 2004 ADAAG into enforceable standards, published as the *2010 ADA Standards for Accessible Design*. The USDOJ document sets minimum accessibility requirements for newly designed or altered state and local government facilities, public accommodations, and commercial facilities. Chapter 4 of the *2010 Standards* document includes the 2004 ADAAG that dictate accessibility standards for public services and accommodations, including public rights-of-way. As required by the USDOJ, all new or altered state and local government facilities beginning construction on or after March 15, 2012 must follow the requirements of the 2010 Standards.

Facilities built or altered prior to this date were subject to the USDOJ's 1991 ADA standards which adopted the Access Board's concurrently published 1991 ADAAG.

Prior to passage of the ADA, only federally-funded facilities were required to be accessible, under the Architectural Barriers Act (ABA) of 1968, as well as Section 504 the Rehabilitation Act in 1973, which required federally assisted programs, services, and activities to be accessible. This could also impact facilities that host programs, even if the facilities are not federally-funded. In 1982, the Access Board published *Minimum Guidelines and Requirements for Accessible Design (MGRAD)*, and in 1984 the Uniform Federal Accessibility Standards (UFAS) was published. These documents continue to be in use by the Department of Housing and Urban Development (HUD), and were updated in the 2004 *ADA and ABA Accessibility Guidelines* and adopted by several federal agencies as the *ABA Accessibility Standards*. The ABA Standards essentially mirror the ADAAG.

Going even further back in time, the American National Standards Institute (ANSI) developed a voluntary technical standard, A117.1, first published in 1961 and updated in 1980 and beyond.

The ADAAG and USDOT/USDOJ standards apply to new construction and modifications, as will the Proposed PROW Guidelines once finalized and adopted. Because accessibility standards that local governments are required to follow have evolved over time, a sidewalk may have been compliant with the standards in place at the time. Finalization of the requirements regarding detectable warnings was particularly lengthy. Detectable warnings provide a tactile surface (required under the ADAAG in the form of truncated domes), intended to alert people with vision impairments of the boundary between sidewalk and street. Boundaries can be detected under foot and with a cane, and if they are a contrasting color to the sidewalk, can also serve as a visual warning to individuals with low vision. There was concern at the time of the first ADAAG that they had not been adequately researched. Therefore, the requirement to install detectable warnings on curb ramps was suspended in 1994 until July 2001.

The Access Board is currently developing new guidelines for shared use paths, which are used for off-road transportation and recreation by pedestrians, bicyclists, and skaters. To date, the Access Board has solicited notices of proposed rulemaking and collected public comments. Ultimately, these guidelines will supplement the Proposed PROW Guidelines.

State Standards

The New Mexico Department of Transportation (NMDOT) requires compliance with the 2011 Proposed PROW Guidelines for all new and altered pedestrian routes constructed in NMDOT owned public right-of-way. Standard drawings were issued with an infrastructure design directive in January 2015. The *NMDOT ADA Directive* may be found in Appendix A.

THE REQUIREMENT FOR AN ADA TRANSITION PLAN

While the adopted standards and guidelines apply to new construction and alterations, they do not change pedestrian facilities constructed prior to their adoption. Local governments have an obligation to take steps toward compliance with regards to older, inaccessible facilities. These steps must be documented in a plan, known as a transition plan. Beginning in 1992, under the ADA and Section 504 [as codified in 28 CFR Part 35, Subpart D, §35.150 Existing facilities, (d) Transition plan], state and local governments with fifty or more employees are required to perform a self-evaluation of their current services, policies, and practices regarding ADA compliance. Each public agency must develop a transition plan to address compliance deficiencies (including inaccessible sidewalks and curb ramps). The transition plan must specifically:

"(i) Identify physical obstacles in the public entity's facilities that limit the accessibility of its programs or activities to individuals with disabilities;

(ii) Describe in detail the methods that will be used to make the facilities accessible;

(iii) Specify the schedule for taking the steps necessary to achieve compliance with this section and, if the time period of the transition plan is longer than one year, identify steps that will be taken during each year of the transition period; and

(iv) Indicate the official responsible for implementation of the plan."

The requirement for this plan was established in July 1991, with the initial plan to be completed by July 1992. The transition plan must be updated periodically, and is expected to be implemented.

CITY ADA COMPLIANCE BACKGROUND AND SCOPE OF PROJECT

The City of Santa Fe developed its initial *ADA Self Evaluation and Transition Plan* in 1992, and updated it in 2011. The 2011 *ADA Transition Plan* focused on city policies, programs, services, activities, buildings, and parks. The 2011 plan included a representative sample of intersections and mid-block sections of city public right-of-way leading to city facilities, selected based on the city Public Works prioritization criteria for making accessibility improvements.

The purpose of this project was to update the 2011 *ADA Transition Plan* by including all walkways, sidewalks and curb ramps in the city public right-of-way along streets and roads. Santa Fe contracted with the KFH Group to conduct this study. Between June 2016 and January 2017, KFH Group conducted a field inventory and assessment, and developed a detailed database of all curb ramps, sidewalks and pedestrian pathways throughout Santa Fe. The field survey was conducted in two phases; the first focusing on curb ramps, and the second focusing on pathways. The survey tool compiled details necessary to determine compliance with the 2011 *Proposed PROW Guidelines*.

The remaining sections in this chapter present a summary of Proposed PROW Guidelines that apply to this project, and discussions of the features of curb ramps and pathways, and the guidelines that apply to each feature.

SUMMARY OF PROPOSED PROW GUIDELINES

The 2011 Proposed PROW Guidelines build on the 2004 ADAAG (and consequently the current USDOT and USDOJ standards). The Proposed Guidelines provide more detailed guidance with regards to pathways (including access for blind pedestrians at street crossings,

and variables related to street slope), contain additional styles of curb ramps not addressed in the ADAAG, and in some cases establish or change minimum or maximum measurements for items in the current ADAAG. The Proposed Guidelines are organized in the following chapters:

- Chapter R1: Application and Administration –General introductory information, including overarching applicability, measurement conventions, references to related standards, and definitions.

- Chapter R2: Scoping Requirements –Outlines the types of facility projects to which requirements apply, and indicates appropriate sections in the technical requirements that apply to each.

- Chapter R3: Technical Requirements –Provides detailed standards for pedestrian access routes, curb ramps, blended transitions, detectable warning surfaces, pedestrian street crossings, transit stops, shelters, on-street parking spaces, and passenger loading zones.

- Chapter R4: Supplementary Technical Requirements –Provides detailed standards for cross-cutting elements referenced in Chapter R3, including protruding objects (which can reduce the horizontal or vertical clearing of a pathway), operable parts (such as pedestrian signal pushbuttons), clear spaces (important to the accessibility of pedestrian signal pushbuttons, transit shelters, and parking payment locations), knee and toe clearance (related to clear spaces), reach ranges (govern placement pedestrian signal pushbuttons and parking payment machines in relation to clear spaces), ramps (cover ramps in general; curb ramps are covered in Chapter R3), stairways, handrails, visual characters on signs, and the International Symbol of Accessibility.

The numerous elements of the 2011 Proposed PROW Guidelines that apply to permanently installed curb ramps, sidewalks, and pedestrian street crossings are provided in Appendix B. These guidelines are summarized and discussed in the context of curb ramps and pedestrian pathways in the next two sections.

CURB RAMPS AND BLENDED TRANSITIONS

Curb ramps and blended transitions provide grade transition points between sidewalks and the street. These transition points provide people with mobility and vision disabilities with a navigable pathway.

Typical curb ramps include the ramp itself, a level landing at the top of the ramp (often part of the ramp itself), and a level landing at the bottom of the ramp, with a detectable warning to alert pedestrians with vision disabilities that they are making the transition from sidewalk to street crossing. The top and bottom landings often serve as turning spaces so that a

pedestrian using a wheelchair can turn the wheelchair to the direction of travel. Curb ramps that are placed perpendicular to the curb often have flared sides that slope between the ramp to the surrounding sidewalk, and parallel ramps are often two ramps sharing the same lower landing area.

The type of ramp design affects how these elements are configured. Figures 1-1 and 1-2 provide diagrams of the components of the most common types of curb ramps.

Figure 1-2: Components of a Perpendicular or Diagonal Curb Ramp

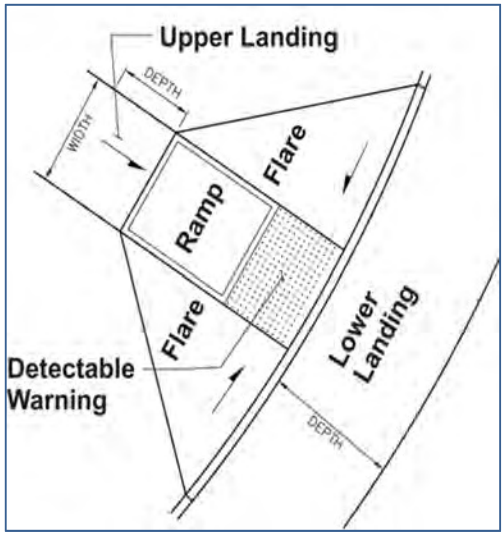
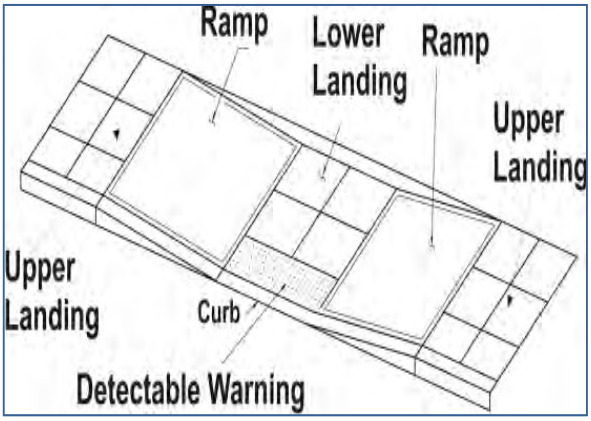


Figure 1-1 Components of a Parallel Curb Ramp



Types of Curb Ramps and Blended Transitions

There are four types of curb ramps allowable under the Proposed PROW Guidelines:

- Perpendicular
- Diagonal,
- Parallel, and
- Combination

Figure 1-3 displays examples of each of these.

Figure 1-3: Types of Curb Ramps

Perpendicular

Diagonal

Parallel

Combination

In addition to curb ramps, an alternative approach to providing access to street crossings is a category of treatment referred to as a blended transition. The Proposed PROW Guidelines define a blended transition as "a raised pedestrian street crossing, depressed corner, or similar connection between the pedestrian access route at the level of the sidewalk and the level of the pedestrian street crossing that has a grade of 5 percent or less."

Figure 1-4: Examples of Blended Transitions

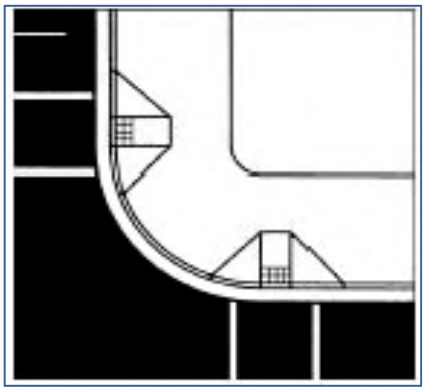
While no specific curb ramp or blended transition type is a better design than another, each type comes with certain advantages and disadvantages based on the location of the curb ramp and the context of the area, including sidewalk width. The *Proposed PROW Guidelines* indicate minimum sidewalk widths needed to install perpendicular, parallel, and combination ramps.

Perpendicular Curb Ramps

Perpendicular curb ramps are generally perpendicular to the street curb and allow pedestrians to cross the street perpendicular to vehicular traffic. Ideally they are in line with the path of travel of both the sidewalk and the street crossing, but this is not always possible within existing conditions. A distinguishing feature is that each ramp generally serves a single street crossing, so at a typical four-way intersection, two perpendicular ramps are needed at each corner (Figure 1-5).

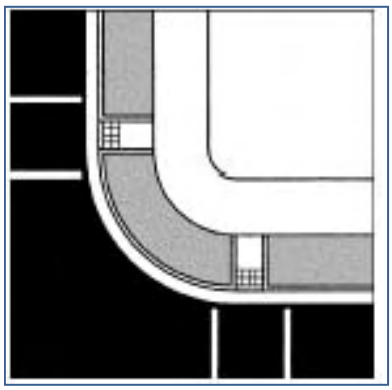
Perpendicular curb ramps typically have side flares, but not always. Sometimes a returned curb will be installed on one or both sides of the ramp (Figure 1-6).

Figure 1-5: Perpendicular Curb Ramps



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Figure 1-6: Perpendicular Curb Ramps with Curb Returns



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Advantages

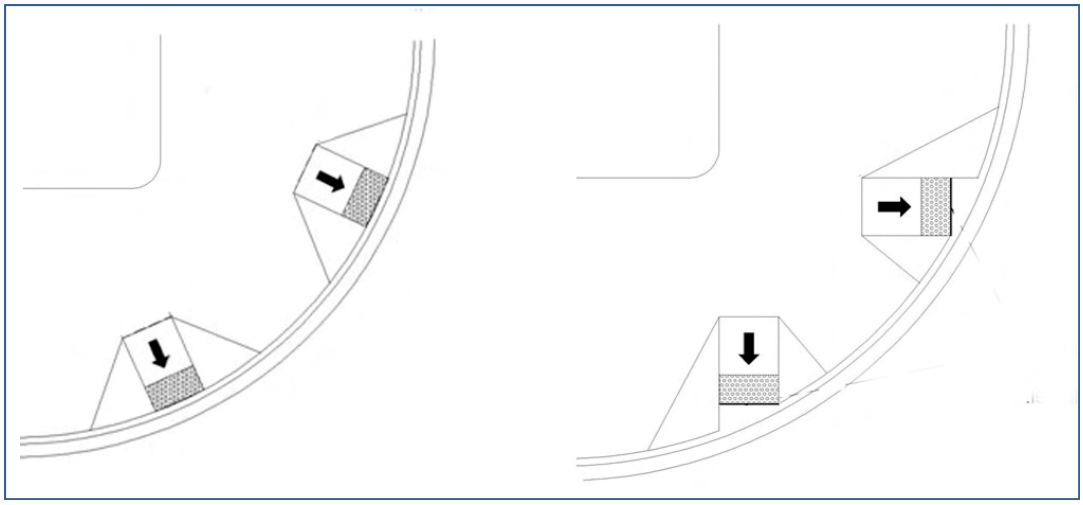
- Aligns perpendicular to vehicular traffic
- Provides straight path of travel on tight radius corners
- Aligns with crossing direction on tight radius corners
- Should be positioned with crosswalk
- At expected crossing location for all pedestrians

Disadvantages

- More expensive than a single diagonal ramp because two ramps must be constructed
- Does not provide a straight path on large radius corners unless ramp design is modified (see Figure 1-7).

- Requires a wide sidewalk corridor or curb extension to accommodate the ramp and a level landing. The Proposed PROW Guidelines advise that these ramps can be provided in places where the sidewalk is at least 12 feet wide.

Figure 1-7: Large Radius Corner Treatments

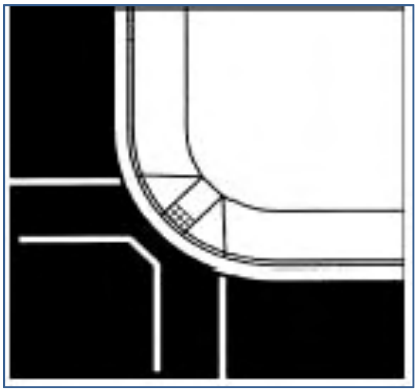


Source of base images: Proposed PROW Guidelines (modified Figures R304.2.1 and R304.5.2)

Diagonal Curb Ramps

Diagonal curb ramps are similar in design to perpendicular ramps; the main difference is in placement and alignment to the path of travel. Diagonal ramps are located at the apex of the corner of an intersection. Alignment of the ramp leads the pedestrian diagonally into the center of the intersection, and a single ramp provides access to two street crossings (Figure 1-8).

Figure 1-8: Diagonal Curb Ramp



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Advantages

- Requires less space because there is only one ramp per corner
- Less expensive for alterations
- Normal path of travel intersects a curb rather than a ramp, thus enhancing detectability of transition into the street for people with vision impairments

Disadvantages

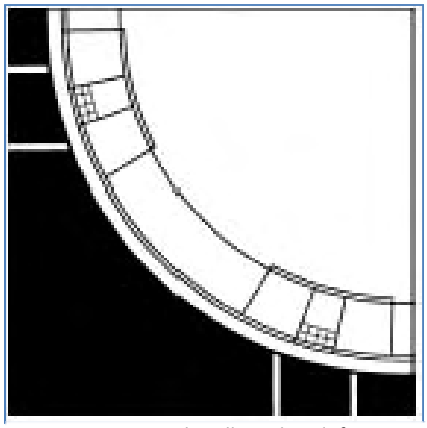
- Pedestrians may be in an area of conflict with motorists traveling straight and/or turning
- Requires directional changes at the top and bottom of the ramp
- Typically does not align with proper crossing direction
- Makes the essential level maneuvering area difficult to achieve at the bottom of the ramp
- May cause visually impaired persons to unintentionally travel into the middle of the intersection

Parallel Curb Ramps

Parallel curb ramps (Figure 1-9) typically consist of two ramps connecting to a shared level bottom landing (although sometimes only a single parallel ramp, such as at the end of a sidewalk that does not connect to another one). Ramps are oriented so that pedestrians traveling up or down the ramps travel parallel to vehicle traffic. These ramps are common on narrow sidewalks where there is little area for a top landing. The bottom landing is at street level and does not extend beyond the curb.

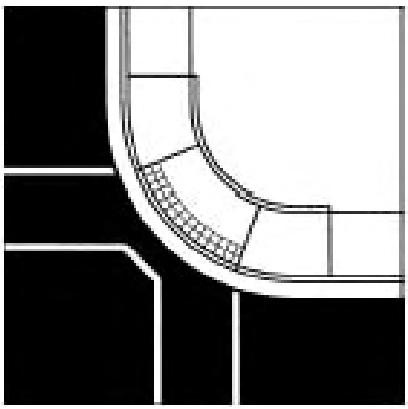
Parallel curb ramps can be designed so that one lower landing serves two street crossings at the corner (Figure 1-10).

Figure 1-9: Parallel Curb Ramps



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Figure 1-10: Parallel Curb Ramps with a Shared Lower Landing



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Advantages

- Requires minimal right-of-way. The Proposed PROW Guidelines advise that these ramps can be provided where the sidewalk is at least four feet wide.

- Enhances detectability of boundary between ramp and roadway because ramp ends at a landing not in the street
- Provides level turning and maneuvering area at top and bottom of ramp
- Provides clearly defined edges on sides of ramp for people with visual impairments

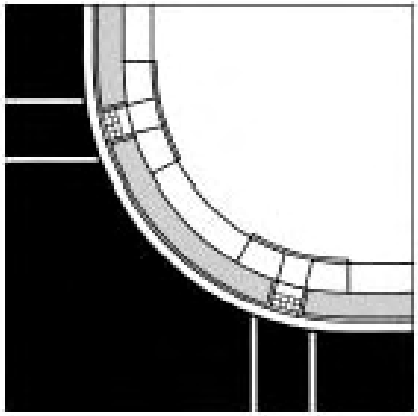
Disadvantages

- Requires users continuing along sidewalk to negotiate two ramp grades
- Requires careful attention during construction to limit water/debris accumulation in the level bottom landing.

Combination Curb Ramps

Combination curb ramps are modified curb ramps which take design components from perpendicular and parallel curb ramps. Generally, these ramps use the concept of a parallel ramp to lower the elevation of the landing, and then use a perpendicular ramp to bridge the remaining elevation gap down to the street (Figure 1-11). Combination ramps are typically used in areas where the sidewalk is narrow, and has a steep grade or a high curb.

Figure 1-11: Combination Curb



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

Advantages

- Provides maneuvering area at the top of the perpendicular ramp/bottom of the parallel ramps
- Provides connection to the street within the marked crosswalk
- Aligns with proper crossing direction
- Provides adequate drainage to limit accumulation of water or debris

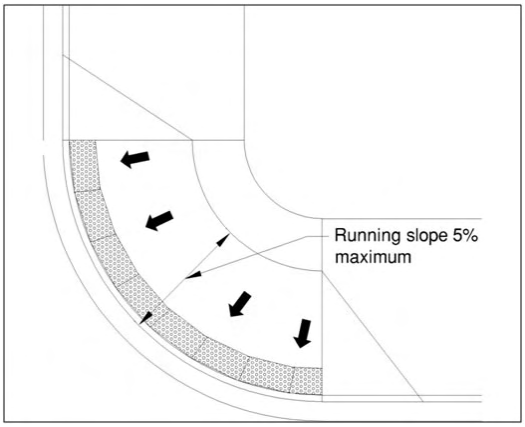
Disadvantages

- Generally requires more space than a parallel curb ramp. The Proposed PROW Guidelines advise that these ramps can be provided where the sidewalk is at least 6 feet wide.
- Requires more extensive alterations for installation in retrofit situations
- Requires users continuing along the sidewalk to negotiate the parallel ramps

Depressed Corners

Depressed corners are a type of blended transition that gradually lowers the level of the sidewalk to meet the grade of the street in a way that gives the illusion that the sidewalk and street are in a unified pedestrian space (Figure 1-12). The Proposed PROW Guidelines specify that blended transitions have a grade of 5 percent or less. Blended transitions are suitable for a range of sidewalk conditions.

Figure 1-12: Blended Transition – Depressed Corner



Source: 2011 Proposed PROW Guidelines, Figure R304.4.1

Advantages

- Gives the illusion that the sidewalk and the street are a unified pedestrian space
- Can potentially be easier for wheelchair users to use due to the minimal slope and greater freedom to maneuver into path of travel at the base

Disadvantages

- May encourage vehicular traffic to drive onto the sidewalk when making tight turns (this can be mitigated by bollards or other barriers)
- Makes it more difficult for people with vision impairments (and guide dogs) to detect the boundary between the sidewalk and the street

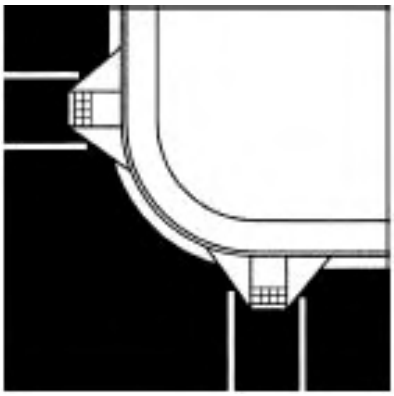
A depressed corner design that is frequently found in Santa Fe involves separation of two crossings at a depressed corner by a curb. The curb separation provides a wayfinding cue for pedestrians with vision impairments and discourages vehicles from driving onto the sidewalk. Examples are shown in Figure 1-13.

Figure 1-13 – Depressed Corners Protected by Curb

Other Variations

Less common varieties include built-up ramps, which are found in the UFAS, still in use by HUD. Built up ramps are built beyond the curb, with a ramp and flares that slope down to street level (Figure 1-14). They are not permitted to project into vehicular traffic lanes. A curb extension or bulb-out, with perpendicular ramps installed behind the curb, is preferable to a built-up curb ramp.

Figure 1-14: Built-up Curb



Source: Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide

ADA Specifications for Curb Ramps

The Access Board's specifications and guidelines for curb ramp construction have been altered and updated over the course of the past 26 years since the initial ADAAG was issued. The specifications summarized within the following section are from the 2011 Proposed PROW Guidelines, distilling the elements detailed in Appendix A. Table 1-1 summarizes the dimensions and slopes of the elements specific to perpendicular and parallel ramps as required by the Proposed PROW Guidelines.

Table 1-1: Dimensions and Slopes for Perpendicular and Parallel Curb Ramp Elements

Element/ Specification	Perpendicular Curb Ramps	Parallel Curb Ramps
Ramp Run		
Running Slope	5 to 8.3 %	5 to 8.3%
Cross Slope	Maximum 2%	Maximum 2%
Width	Minimum 4 feet	Minimum 4 feet
Length	Maximum 15 feet	Maximum 15 feet
Flared Sides		
Slope	Maximum 10%	No flares for parallel ramps.
Top Landing Area		
Dimensions	Referred to as "turning space" (R304.2.1). Minimum 4 feet by 4 feet. Where constrained at the back of the sidewalk, a minimum of 5 feet in the direction of the ramp run.	Not specified for parallel curb ramps. Per R407.6 for ramps other than curb ramps, a landing area as wide as the widest ramp run leading to landing at least 5 feet long is required at the top and bottom of each ramp run.
Slope	Maximum 2% in any direction.	Not specified for parallel curb ramps. Per R407.6 for ramps other than curb ramps, maximum 2% in any direction.

Element/ Specification	Perpendicular Curb Ramps	Parallel Curb Ramps
Bottom Landing Area		
Dimensions	Referred to as "clear space" (R304.5.5). Minimum 4 feet by 4 feet. Provided within width of pedestrian street crossing and wholly outside parallel vehicle travel lane.	Referred to as "turning space" (R304.3.1). Minimum 4 feet by 4 feet. Where constrained by two or more sides, a minimum of 5 feet in the direction of the street crossing.
Running Slope	Not specified for bottom "clear space" for perpendicular curb ramps. Per R304.5.4 Counter Slope: Maximum 5%	Maximum 2%
Cross Slope	Not specified for bottom "clear space" for perpendicular curb ramps. Per R302.6 Cross Slope: maximum 2% percent Exceptions: • at street crossings without yield or stop control: maximum 5% • at midblock crossings: equal to street or highway grade	Maximum 2% *(There is an exception for street or highway grade for turning areas at certain types of street crossings under R304.5.3, but it is unclear how this should be applied to a parallel ramp lower landing/turning area where direction of travel changes.)*

Ramp Run

The following dimensions and slopes apply to ramp runs for all types of curb ramps.

Ramp Slope

The running slope of any curb ramp should be between 5 percent and 8.3 percent.

Ramp Cross Slope

Curb ramp cross slopes should not exceed 2 percent.

An exception is allowed under the Proposed PROW Guidelines at pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings. For curb ramps at these locations, the cross slope is allowed to equal the street or highway grade.

Ramp Width

The minimum curb ramp width is 48 inches.

Ramp Length

The maximum curb ramp length is 15 feet.

Flared Sides

Where provided (i.e., for perpendicular or diagonal ramps), flared sides should have a slope no greater than 10 percent, measured parallel to the curb line.

Top Landing Area

For perpendicular curb ramps, a landing area/turning space should be provided at the top of each ramp that measures at least 4 feet by 4 feet. Where the landing area is constrained at the back of the sidewalk, a minimum of 5 feet in the direction of the ramp run is recommended. The slope of this landing area should be no more than 2 percent in any direction.

> *(The minimum required depth under the ADAAG is 36 inches in the direction of travel by the width of the ramp (which must be a minimum of 36 inches). The ADAAG alternately allowed an absence of top landing area as long as there were flares no steeper than 8.3 percent.)*

Although the 2011 Proposed PROW Guidelines do not specify a top landing for parallel curb ramps (which typically would be the connecting sidewalk), the need for a top landing area for parallel ramps is implied by:

- R304.3 Parallel Curb Ramps, R304.3.2 Running Slope: Maximum ramp length of 15 feet
- R407 Ramps (other than curb ramps), R407.6 Landings, requires landings at the top and bottom of each ramp run. The landing must be as wide as the widest ramp run leading to the landing, at least 5 feet long, with a slope of no more than 2 percent in any direction.

Bottom Landing Area

For perpendicular and diagonal ramps, a lower landing area (referred to as a clear space in the Proposed Guidelines) of at least 4 feet by 4 feet should be provided within the width of the pedestrian street crossing and outside of the parallel vehicle travel lane.

The Proposed Guidelines do not specify slopes for this clear space; however, the counter slope of the gutter or street at the foot of the ramp run should be no more than 5 percent. Additionally, the cross slope specified for pedestrian crossings—within which this clear landing area is required to be provided—is to be a maximum of 2 percent, except in the case

of those without yield or stop control, which can have a cross slope up to 5 percent, and midblock crossings, which can equal the street or highway grade.

For parallel ramps, a turning space should be provided at the bottom of each ramp that measures at least 4 feet by 4 feet. Where the turning area is constrained on two more sides, a minimum of 5 feet in the direction of the street crossing recommended. The slope of the turning area/landing area should be no more than 2 percent. There are exceptions for cross slope for street or highway grade for turning areas at certain types of street crossings under R304.5.3, as described in the preceding paragraph. However, tt is not clear how this would be applied to a parallel ramp lower landing area/turning area, where the direction of travel changes.

This landing is generally contained within the sidewalk width for parallel ramps. The counter slope of the gutter or street where it connects to the lower landing should be no more than 5 percent.

Grade Break Connections

Grade breaks at the top and bottom of curb ramp runs must be perpendicular to the direction of the ramp run. Grade breaks are not permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks need to be flush.

Surfaces of Ramps and Landing Areas

Surfaces of curb ramps, landing areas, and flares should be firm, stable, and slip resistant. Utility covers, gratings, and other objects should not be located on curb ramp runs, blended transitions, turning spaces, or gutter areas.

Detectable Warnings

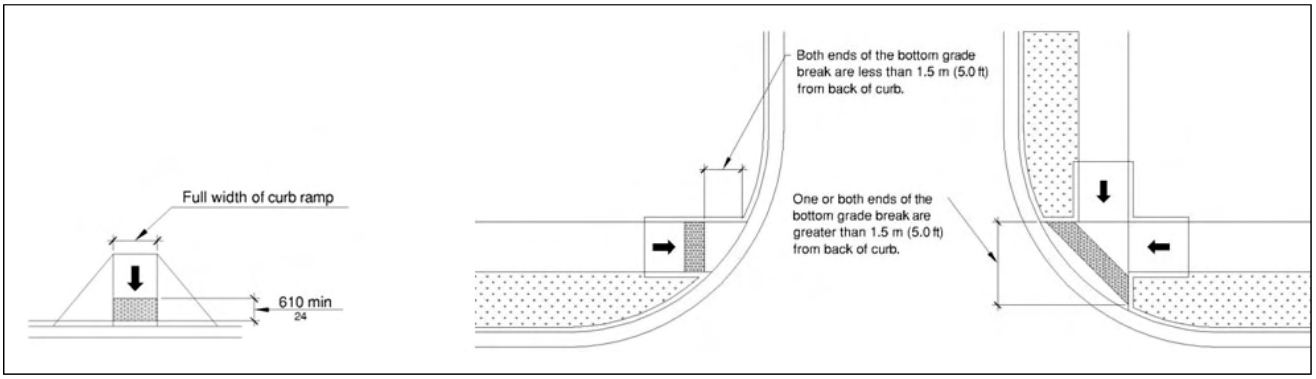
Detectable warnings must be a minimum of 24 inches in depth in the direction of pedestrian travel.

For perpendicular ramps, the detectable warning must extend the full width of the ramp run and be placed, based on ramp design, as indicated in Table 1-2 and illustrated in Figure 1-15.

Table 1-2: Placement of Detectable Warnings at Perpendicular Curb Ramps

Location of Ends of Bottom Grade Break	Detectable Warning Placement Location
In front of the back of curb	At the back of curb
Behind the back of curb, and the distance from either end of the bottom grade brake to the back of curb is 5 feet or less	On ramp run within one dome spacing of the bottom grade break
Behind the back of curb, and the distance from either end of the bottom grade brake to the back of curb is more than 5 feet	On lower landing at the back of curb

Figure 1-15: Placement of Detectable Warnings on Different Styles of Perpendicular Curb Ramps

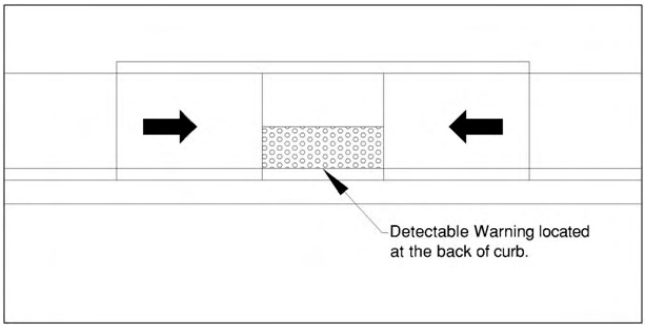


Source: 2011 Proposed PROW Guidelines

For parallel ramps, the detectable warning should be placed at the back of curb, at the flush transition between the street and sidewalk, for the full width of this transition (Figure 1-16).

The Proposed Guidelines advise that the rows of truncated domes in detectable warning surfaces should be aligned perpendicular to the grade break between the ramp run and the street so pedestrians who use wheelchairs can "track" between the domes (although this is less critical on surfaces with slopes below 5 percent).

Figure 1-16: Placement of Detectable Warning on Parallel Curb Ramp



Source: 2011 Proposed PROW Guidelines

ADA Specifications for Blended Transitions

This section presents allowable specifications for depressed corners and other blended transitions under the Proposed PROW Guidelines.

Width

The minimum clear width on a blended transition is 48 inches.

Running Slope

The maximum allowable running slope on a blended transition is 5 percent.

Cross Slope

Cross slopes on blended transitions should not exceed 2 percent.

An exception is allowed under the Proposed PROW Guidelines at pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings. For blended transitions at these locations, the cross slope is allowed to equal the street or highway grade.

Counter Slope

The counter slope of the gutter or street at the foot of the blended transition should be no more than 5 percent.

Surface

The surface of a blended transition should be firm, stable, and slip resistant. Utility covers and gratings, and other objects should not be located on the blended transition.

Detectable Warnings

Detectable warnings must be a minimum of 24 inches in depth in the direction of pedestrian travel. On blended transitions, detectable warnings must be placed at the back of the curb at the flush transition between street and sidewalk.

PATHWAYS

The pedestrian pathway guidelines referenced in this project draw from numerous sections of the Proposed Guidelines including:

- Chapter R2: Sections R204, R206, R208, R209, R210
- Chapter R3: Sections R302, R305, R306
- Chapter R4: Sections R402, R403, R404, R406, and R407.

Details of these requirements are presented in Appendix B and summarized in this section as they apply to sidewalks, street crossings, and pedestrian crossing signals (specifically access to signal pushbuttons, and presence of audible pedestrian signals).

The summary of the accessibility specifications is followed by an introduction to common barriers to a full-accessible pedestrian pathway in the public right-of-way along, and crossing, streets and highways. Because conducting a 100% set of measurements for every foot of sidewalk was not a feasible undertaking under this project, the field assessment assessed general dimensions and sampled slopes, with a focus on identifying barriers in the environmental that constrained accessibility.

General Specifications

Width

In general, a minimum continuous clear width of 4 feet is required for pedestrian pathways.

The minimum width increases to 5 feet for pathways within medians and pedestrian refuge islands.

On pathways where the clear width of pedestrian access routes is less than 5 feet, passing spaces need to be provided at least every 200 feet. Passing spaces must be a minimum of 5 feet by 5 feet and are permitted to overlap pedestrian access routes.

Grade

Running Slope

Generally, a pathway's running slope can be no greater than 5 percent. This includes street crossings.

Where the pathway is alongside a street or highway (e.g., a sidewalk), it is allowed to be the general grade established for the adjacent street or highway (but not steeper.)

Cross Slope

Generally, a pathway's cross slope may not exceed 2 percent. Two exceptions are allowable under the Proposed Guidelines:

- At pedestrian street crossings without yield or stop control – Where vehicles generally proceed through an intersection without slowing or stopping—the cross slope for the street crossing can be up to 5 percent. Where there is a yield or stop control, the 2 percent maximum rule applies.

- At mid-block pedestrian street crossings, the cross slope can equal the street or highway grade.

Surface

Surfaces of pedestrian access routes and elements must be firm, stable, and slip resistant. They must be generally planar, with flush grade breaks and pavement connections.

Vertical surface discontinuities cannot exceed ½ inch in height, and those between one-quarter and ½ inch must be beveled with a slope no steeper than 50 percent.

Horizontal openings in gratings and joints can be no wider than ½ inch, with elongated openings in gratings placed so that the long dimension is perpendicular to the dominant direction of travel.

Where a pedestrian pathway crosses and at-grade rail line, the pedestrian access route surface must be level and flush, aligned with top of the rail. Flange way gaps at pedestrian crossings cannot exceed 2.5 inches on non-freight rail track and 3 inches on freight rail track.

Detectable Warnings

In addition to those required for curb ramps and blended transitions, detectable warnings are required for the following locations along pedestrian pathways:

- At cut-through pedestrian refuge islands, detectable warnings must be placed at the edges of the pedestrian island. They must be at least 2 feet in the direction of travel, and separated by a minimum of 2 feet of walking surface without detectable warnings. Logically, therefore, any cut-through would need to be a minimum of 6 feet long. On pedestrian refuge islands with curb ramps, detectable warnings should follow applicable guidelines for the type of curb ramp(s) installed.

- At pedestrian at-grade rail crossings that are not located within a street or highway, detectable warnings must be placed on each side of the rail crossing, between 6 feet and 15 feet from the centerline of the nearest rail. Where pedestrian gates are provided, the detectable warning must be placed on the side of the gates opposite the rail (i.e., so pedestrians would encounter the detectable warning before reaching the gate).

Pedestrian Signals

For the purposes of this project, accessibility of pedestrian signals focused on two aspects:

- The presence of pedestrian signals, including audible signals to help people with vision disabilities know when the visible "walk" signal is on, and
- The ability of a person in a wheelchair to access the pushbutton for manually-activated pedestrian signals.

Presence of Pedestrian Signals

With regards to accessible pedestrian signals and pedestrian pushbuttons, the Proposed Guidelines reference compliance with sections 4E.08 through 4E.13 of the Manual on Uniform Traffic Control Devices (MUTCD). The Proposed Guidelines supplement the MUTCD with the following guidelines related to roundabouts and channelized turn lanes.

When pedestrian facilities are provided at roundabouts with multi-lane pedestrian street crossings, an MUTCD-compliant pedestrian activated signal must be provided for each multi-lane segment of each pedestrian street crossing, including the splitter island and channelized turn lanes. Each signal must clearly identify which pedestrian street crossing segment the signal serves.

At signalized intersections other than roundabouts with pedestrian street crossings and channelized turn lanes, MUTCD-compliant pedestrian activated signals must also be provided.

Access to Pedestrian Signal Pushbuttons

The sections in the Proposed Guidelines relating to accessing operable parts, clear spaces, and reach ranges guide the accessibility requirements for pushbuttons at pedestrian signals. There needs to be a clear space adjacent to the pushbutton, connected to the pedestrian pathway, and the pushbutton must be mounted within a height range that makes it reachable by people in wheelchairs.

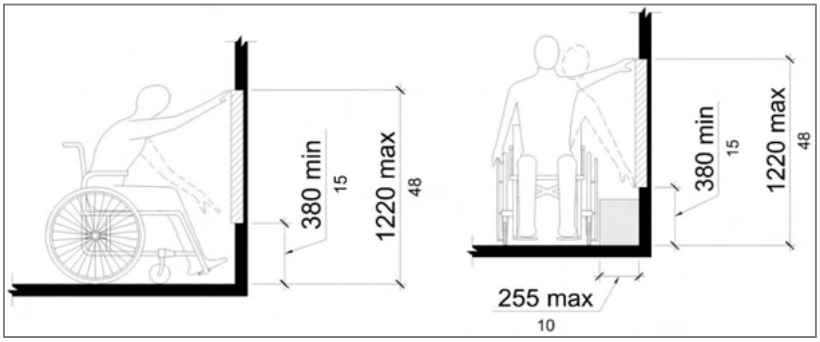
The clear space must have a firm, stable, and slip resistant surface, with a running slope that is consistent with the grade of the adjacent pedestrian access route and a maximum cross slope of 2 percent. It must be a minimum of 48 inches by 30 inches and must be positioned to

allow either forward or parallel (side) approach to the pushbutton, with at least one fully unobstructed side adjoining the pedestrian route.

If this space is confined on all or part of three sides, it must have additional maneuvering space. For a forward approach, the clear space and additional maneuvering space must be at least 3 feet wide where the depth exceeds 2 feet. For a parallel approach, the clear space and additional maneuvering space need a minimum width of 5 feet where the depth exceeds 16 inches.

The allowable reach range necessitates mounting the pushbutton between 15 inches and 4 feet in height (Figure 1-17). If the approach is parallel/sideways, an obstruction would be permitted that extends a maximum of 10 inches into the clear space below the reach range.

Figure 1-17: Reach range for a Pedestrian Signal Pushbutton

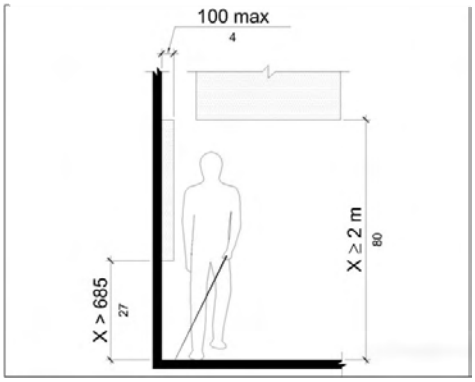


Source: 2011 Proposed PROW Guidelines (Figures R406.2 and R406.3)

Vertical Clearance

In general, a minimum vertical clearance of 6.7 feet (80 inches) is needed for an accessible pedestrian pathway. The Proposed Guidelines specify the extent that objects can protrude into this clearance, designed to protect a pedestrian with a vision disability from walking into an object they are unable to detect with a cane (Figure 1-18).

Figure 1-18: Vertical Clearance and Protrusion Limits for Accessible Walk Paths



Source: 2011 Proposed PROW Guidelines (Figure R402.2)

An object with its lowest edge at least 27 inches above the walking surface can protrude no more than 4 inches into the vertical clear space.

An object mounted on a free-standing post or pylon between 27 inches and 6.7 feet (80 inches) above the walking surface may overhang a pedestrian circulation path a maximum of 4 inches measured horizontally from the post or pylon base. The base dimension of the post or pylon must be at least 2.5 inches thick.

Where an object is mounted between posts or pylons that are separated by more than 12 inches, the lowest edge of the object must be no higher than 27 inches, or at least 6.7 feet minimum above the walking surface.
Where the vertical clearance is less than 6.7 feet high, guardrails or other barriers to pedestrian travel must be provided, with the lowest edge of the guardrail or barrier located no higher than 27 inches above the walking surface.

Barriers and Obstructions

Barriers and obstructions render a curb ramp, crosswalk, or sidewalk difficult to use or even completely impassable. Barriers to clear width and walking surfaces may range from things permanently installed in what would otherwise be an accessible pedestrian route, such as utility poles or gratings with large gaps, to changes in the built environment over time, such as pavement heave or damage, to obstructions that could easily be removed, such as vendor boxes, overgrown landscape, or parked cars. Barriers such as steep slopes or cross slopes can be the result of design/construction errors or grade of the adjacent street. Driveways can be barriers if they contain vertical discontinuities or cars parked across the pedestrian pathway.

Barriers and obstructions are detailed in the following sections and are organized as follows:

- Cross Slopes
- Driveways
- Obstructions
- Protrusions
- Removable Barriers
- Running Slopes
- Surface Obstructions

Cross Slopes

A cross slope is the slope of the pathway perpendicular to the direction of travel (Figure 1-19). Cross slopes should be 2.0 percent or less. Steeper slopes make it difficult, if not hazardous, for a wheelchair user to access a sidewalk, crosswalk, landing area or curb ramp.

Figure 1-19: Example of a Steep Cross Slope

Driveways

Driveways are the points where vehicles navigate across (perpendicular to) pathway segments (Figure 1-20). They should be designed so that pedestrians are able to safely cross them.

Figure 1-20: Example of a Pathway Driveway Crossing with Issues

Obstructions

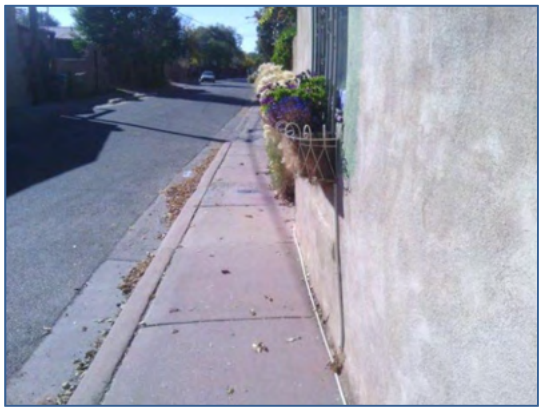
Obstructions are objects that limit or even prevent pedestrian travel on a pathway. The Proposed PROW Guidelines state that a walk path must provide at least 48 inches of clearance. Common obstructions include fire hydrants, utility poles, and sign posts.

Figure 1-21: Examples of Pathway Obstructions

Protrusions

Protrusions are objects which have leading edges that encroach upon the walk path. Specifically under the ADAAG and Proposed PROW Guidelines, protrusions along a walk path that fall within a height of 27 inches to 80 inches from walking surface must not protrude more than 4 inches into the vertical clearance of the walk path. Below 27 inches, wider protrusions would likely be detected by a person with a vision impairment using a cane before they would walk into it. Typical protrusions are mounted signs, window ledges, and cables that support utility poles. Tree branches can be removable protrusions. Examples of protrusions are shown in Figure 1-22.

Figure 1-22: Examples of Vertical Clearance Protrusions



Removable Barriers

Removable barriers are objects that limit the effective use of the walk path to less than 48 inches and may be removed with relative ease. The primary example of a removable barrier is overgrown vegetation; however, rocks, debris, vendor boxes, and sandwich board advertisements also make up a decent portion of this category (Figure 1-23). Trash receptacles and parked cars can be barriers that change from day to day.

Figure 1-23: Examples of Removable Barriers

Running Slope

Running slope of a walk path should ideally be no more than 5 percent, although along streets and highways with a steeper slope, pathways may equal the grade of the roadway. Under the Proposed PROW Guidelines, running slopes of curb ramps should be between 5 and 8.3 percent. On landings at top and bottom of each ramp, and in crosswalks, clear spaces and turning areas, the running slope should ideally be 2 percent, although a 5 percent counter slope is allowable where the base of a curb ramp meets the street or gutter. Slopes that exceed the maximum allowable ranges (examples in Figure 1-24) are a barrier for people who use wheelchairs, and who may be unable to climb sleep grades. Depending upon an individual's center of gravity in their wheelchair, steep slopes could potentially present a tipping hazard.

Figure 1-24: Running Slopes That Are Barriers

Surface Obstructions

Surface obstructions are a catch-all category for hindrances caused by issues with the sidewalk itself. There are four main types of surface obstructions including:

- Grade breaks
- Surface gaps
- Vertical discontinuities
- Uneven pavement

Figure 1-25 provides examples of various types of surface obstructions.

Surface obstructions should always be avoided on the surface of curb ramps, landing areas, clear spaces, and turning spaces.

Grade breaks occur at the top and bottom of ramps and can also occur along walk paths. They should be flush, planar and perpendicular to the path of travel. Grade breaks that are not perpendicular can be difficult to walk upon and can present a tipping hazard for someone in a wheelchair.

Figure 1-25: Examples of Surface Obstructions

Surface gaps can include pavement joints, gratings, and damaged pavement. Surface gaps greater than ½ inch can be a tripping hazard for ambulatory pedestrians and be problematic for wheelchair users should their wheels get stuck in a groove. For this reason, elongated openings of gratings should be aligned perpendicular to the path of travel.

Vertical discontinuities can present a tripping hazard for ambulatory pedestrians and make it difficult for or prevent someone using a wheelchair from passing. Examples of vertical discontinuities include pavement expansion joints that are not flush, utility covers, and gratings. The ADAAG and Proposed PROW Guidelines permit vertical discontinuities up to ½ inch, although those between ¼ and ½ an inch require a bevel sloped up to 50 percent across the entire vertical gap.

Uneven pavement can involve each of the preceding three types of surface obstructions to some degree. As advised in the Propose PROW Guidelines, surfaces should be chosen for easy rollability. Surfaces that are rough, heavily textured, or composed of individual units such as

bricks or paving stones, can greatly increase rolling resistance, and the vibration of rolling over such surfaces can be painful for people who use wheelchairs and other mobility devices. Over time, pavement that was initially smooth can become uneven due to temperature changes, geologic changes, growth of tree routes, and heavy usage.

Chapter 2
Existing Conditions

INTRODUCTION

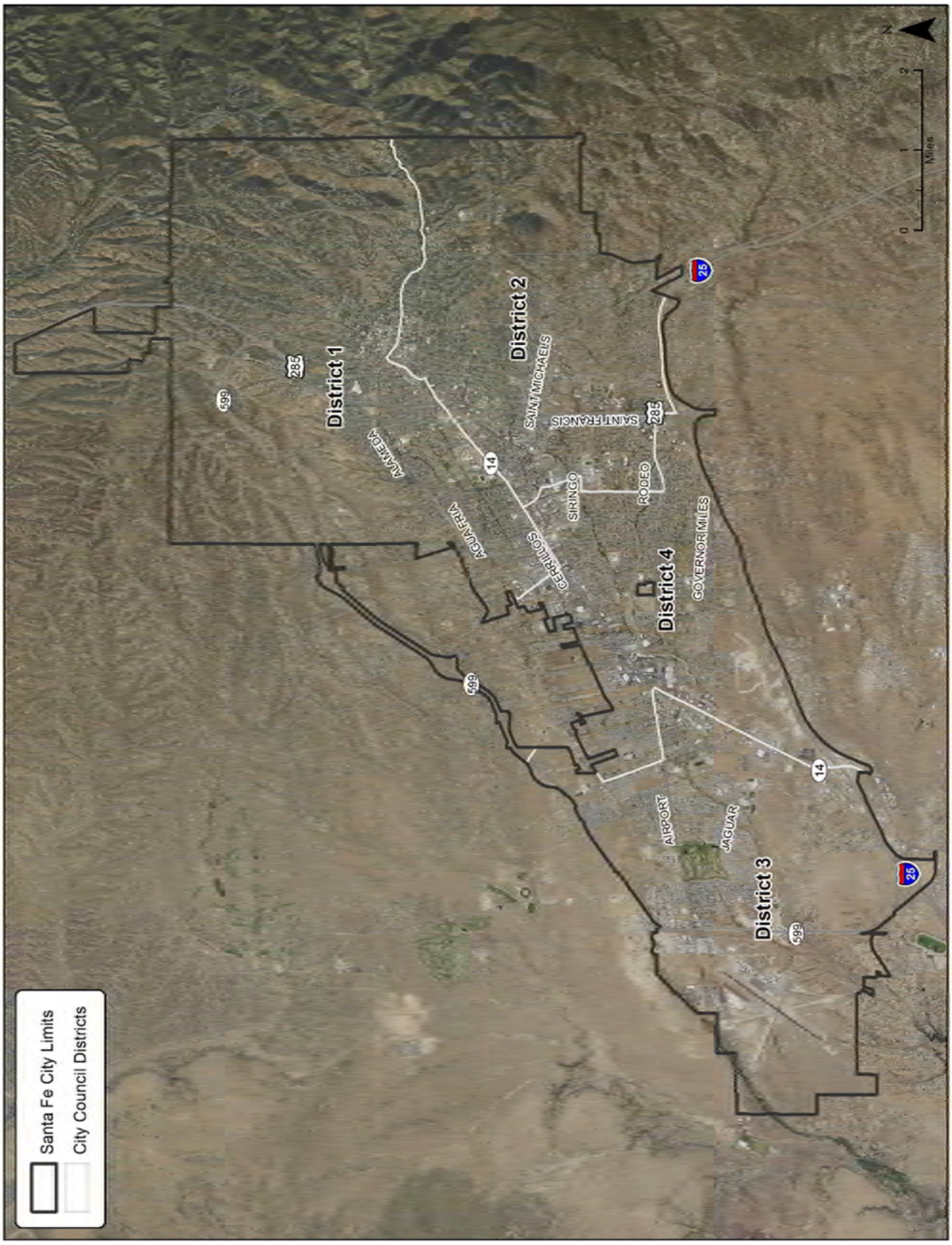
Chapter 2 presents the existing conditions of the City of Santa Fe's pedestrian network. This chapter provides a brief overview of the methodology used during the ADA accessibility field survey, equipment used during the survey, and the database analysis that was conducted as part of the quality assurance and quality control portion of the survey. This chapter also details the existing conditions in the order of curb ramps, intersections, and sidewalks. The associated analysis begins with an overview of the categorical documentation of each element, followed by a categorized break-down of the accessibility condition ranking and a side-by-side comparison of each City Council District.

METHODOLOGY

Within the City of Santa Fe, KFH Group surveyed and evaluated every curb ramp, sidewalk, and intersection along the public right-of-way (PROW) for compliance with ADA requirements. A total of 5,834 curb ramps and 462 miles of pathways (4,810 intersections and 4,686 sidewalk segments) were surveyed and evaluated. The seven-month field survey effort began in early-June 2016 and concluded in mid-January 2017. Over the course of the field survey, fifteen surveyors contributed to the data collection effort. Surveyors worked over 5,000 hours to inventory and assess the city's pedestrian network. The Santa Fe city limits are shown in Figure 2-1.

To aid in identifying each element, the survey effort was divided into two processes. Initially, surveyors were tasked with locating and surveying curb ramps at intersections. Each of the 4,810 intersections was assigned a number. Assignments were generated using a grid system to cover the developed portions of the city. Upon completion of the first phase, priority shifted to pathways (intersections and sidewalks). Pathway assignments were initially created for the long corridor roads in the city (e.g. Cerrillos Road, Agua Fria Road, St. Michaels Drive). Once corridor assignments were complete, small area and neighborhood assignments were made beginning in the downtown area and progressing south. Pathway assignments were cataloged sequentially (e.g. Cerrillos1000, Cerrillos1001) with odd numbers on one side of the street and even on the opposite side. As surveyors assessed pathways they also located and surveyed curb ramps at mid-block crossings and large driveways.

Figure 2-1: Santa Fe City Limits – Study Area Overview



DATA COLLECTION EQUIPMENT

Teams of surveyors were equipped with Smart levels (6.5 inch and 24 inch), measuring tape, measuring wheel, and Trimble Juno 3B GPS Unit. Evaluation of curb ramps, intersections, and sidewalks was based on technical standards provided within the 2011 ADA Guidelines. Photos were taken of each curb ramp, intersection, and compliance issue to provide further detail for the end user.

DATABASE ANALYSIS

The database of curb ramps, intersections, and sidewalks was maintained and updated daily during the course of the data collection process. Manual edits were necessary to correct GPS logged points and user error while in the field. Analysis was undertaken following completion of data collection. Results were separated into individual databases and analyzed separately based upon ADA standards.

CURB RAMP EVALUATION AND METHODOLOGY

Following setup, extensive fieldwork was undertaken to document the conditions of every curb ramp within the City of Santa Fe. This included the assessment of ramps at intersection crossings, mid-block crossings, and curb ramps at driveway crossings. Figure 2-2 provides the location of the 5,834 curb ramps that were surveyed and evaluated.

The following attributes of curb ramps were surveyed and recorded:

- Type of curb ramp
- Ramp width
- Running slope
- Cross slope
- Flare slope
- Presence of landing
- Landing run slope
- Landing cross slope
- Presence and placement of bottom landing
- Presence of tactile surface
- Barriers or obstructions

To aide in the analysis, categories were developed for each element in accordance with ADA Guidelines. While precise measurements were taken for every curb ramp; these measurements were grouped categorically by best practices, compliance, non-compliance, or severe non-compliance. The curb ramp elements with their associated categories are shown in Table 2-1.

Figure 2-2: Curb Ramp Assessment Summary

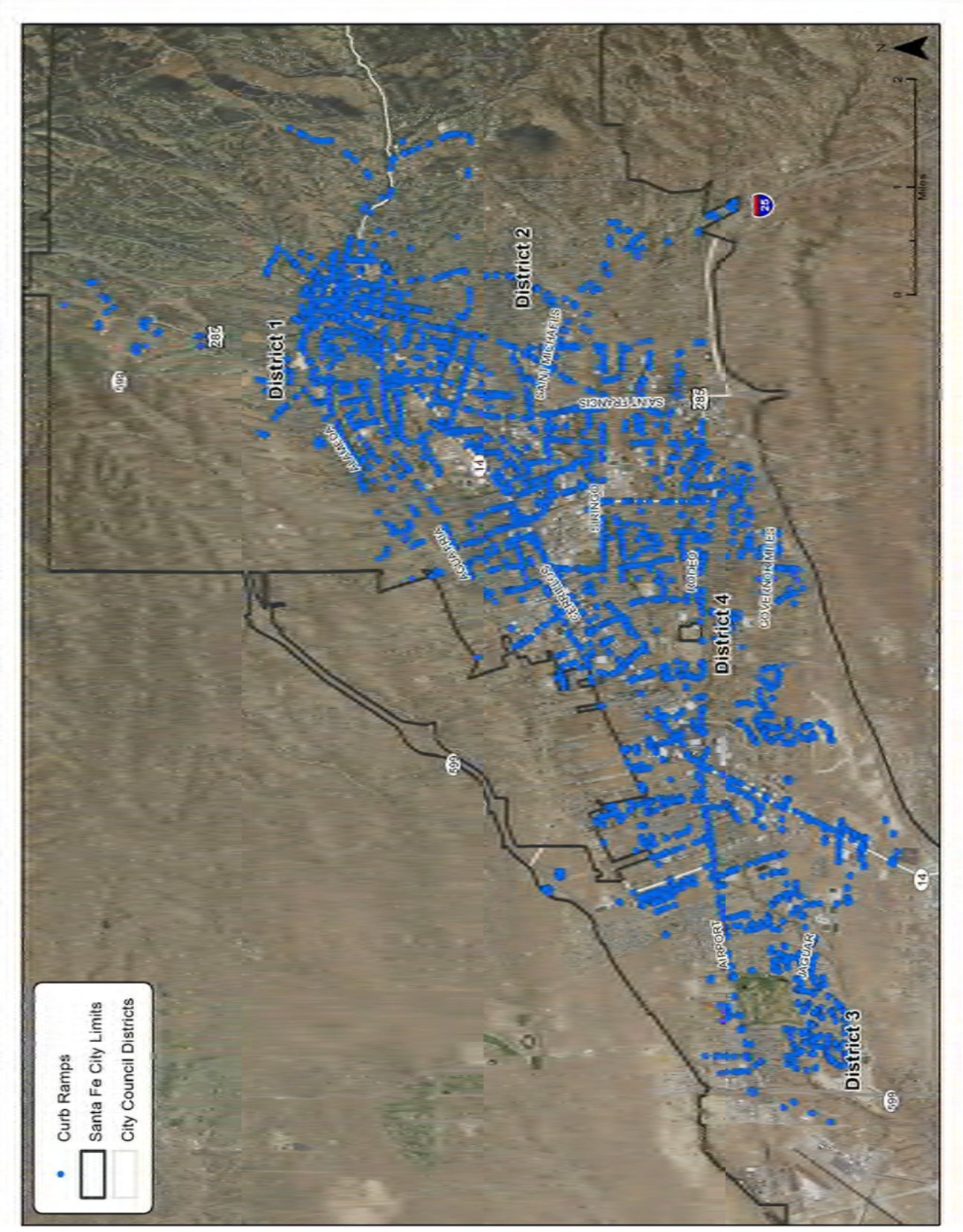


Table 2-1: Curb Ramp Categorical Documentation

Element	Categories	Count	Percent
Ramp Type	Blended Transition	46	0.8%
	Diagonal	1,558	26.7%
	Modified	120	2.1%
	Parallel	2,041	35.0%
	Perpendicular	2,069	35.5%
Sidewalk Connection	Yes (Compliant)	5,764	98.8%
	No (Non-Compliant)	70	1.2%
Tactile Surface	Yes (Compliant)	2,663	45.6%
	No (Non-Compliant)	3,171	54.4%
Tactile Surface Placed Correctly	Yes (Compliant)	2,400	90.1%
If Tactile Surface is Present	No (Non-Compliant)	263	9.9%
Bottom Space *In Crosswalk, if Present*	>= 48 inches (Compliant)	1,213	20.8%
	< 48 inches (Non-Compliant)	62	1.1%
	No Crosswalk	4,559	78.1%
Obstruction	Yes (Non-Compliant)	335	5.7%
	No (Compliant)	5,499	94.3%
Removable Barrier	Yes (Non-Compliant)	1,592	27.3%
	No (Compliant)	4,242	72.7%
Surface Obstruction	Yes (Non-Compliant)	904	15.5%
	No (Compliant)	4,930	84.5%
Ramp Length	<= 24”	21	0.3%
	24” to 48”	481	6.4%
	> 48”	6993	93.3%
Ramp Width	<36” (Non-Compliant)	234	3.1%
	36” – 47.99” (Non-Compliant)	1920	25.6%
	48” – 59.99” (Compliant)	2707	36.1%
	>= 60” (Compliant	2634	35.1%
Ramp Running Slope	<= 5% *	2907	38.8%
	5.1% - 8.3% (Compliant)	2762	36.9%
	8.4% - 10% (Non-Compliant)	767	10.2%
	10.1% - 12.5% (Non-Compliant)	603	8.0%
	> 12.5% (Non-Compliant)	456	6.1%
Ramp Cross Slope	<=2% (Compliant)	4629	61.8%
	2.1% - 4% (Non-Compliant)	2017	26.9%
	>4% (Non-Compliant)	849	11.3%

Element	Categories	Count	Percent
Flare Slope	<=8.3% (Compliant)	1487	28.8%
	8.4% - 10% (Compliant)	453	8.8%
	10.1% - 12.5% (Non-Compliant)	737	14.3%
	12.6% - 16.7% (Non-Compliant)	1022	19.8%
	>16.7% (Non-Compliant)	1467	28.4%
Counter Slope	<=5% (Compliant)	5546	95.1%
	5.1% - 10% (Non-Compliant)	254	4.4%
	>10% (Non-Compliant)	33	0.6%
Top Landing Size	None	1816	24.5%
	>= 48”x48” (Compliant)	4474	60.4%
	< 48”x48” – 36”x36” (Non-Compliant)	952	12.9%
	< 36”x36” (Non-Compliant)	161	2.2%
Top Landing Run Slope	<=2% (Compliant)	3201	57.3%
	2.1% - 4% (Non-Compliant)	1598	28.6%
	4.1% - 10% (Non-Compliant)	770	13.8%
	>10% (Non-Compliant)	18	0.3%
Top Landing Cross Slope	<=2% (Compliant)	3081	55.1%
	2.1% - 4% (Non-Compliant)	1936	34.7%
	4.1% - 10% (Non-Compliant)	555	9.9%
	> 10% (Non-Compliant)	15	0.3%
Lower Landing Depth	>= 48” (Compliant)	1929	89.3%
	< 48” (Non-Compliant)	231	10.7%
Lower Landing Width	>= 60” (Compliant)	1443	66.8%
	48” to 59” (Non-Compliant)	629	29.1%
	< 48” (Non-Compliant)	88	4.1%
Lower Landing Run Slope	<=2% (Compliant)	1423	65.9%
	2.1% - 4% (Non-Compliant)	616	28.5%
	4.1% - 10% (Non-Compliant)	119	5.5%
	>10% (Non-Compliant)	2	0.1%
Lower Landing Cross Slope	<=2% (Compliant)	1515	70.1%
	2.1% - 4% (Non-Compliant)	469	21.7%
	4.1% - 10% (Non-Compliant)	174	8.1%
	>10% (Non-Compliant)	2	0.1%
Top Landing Transition	Flush (Compliant)	5350	94.2%
	Not Flush (Non-Compliant)	328	5.8%

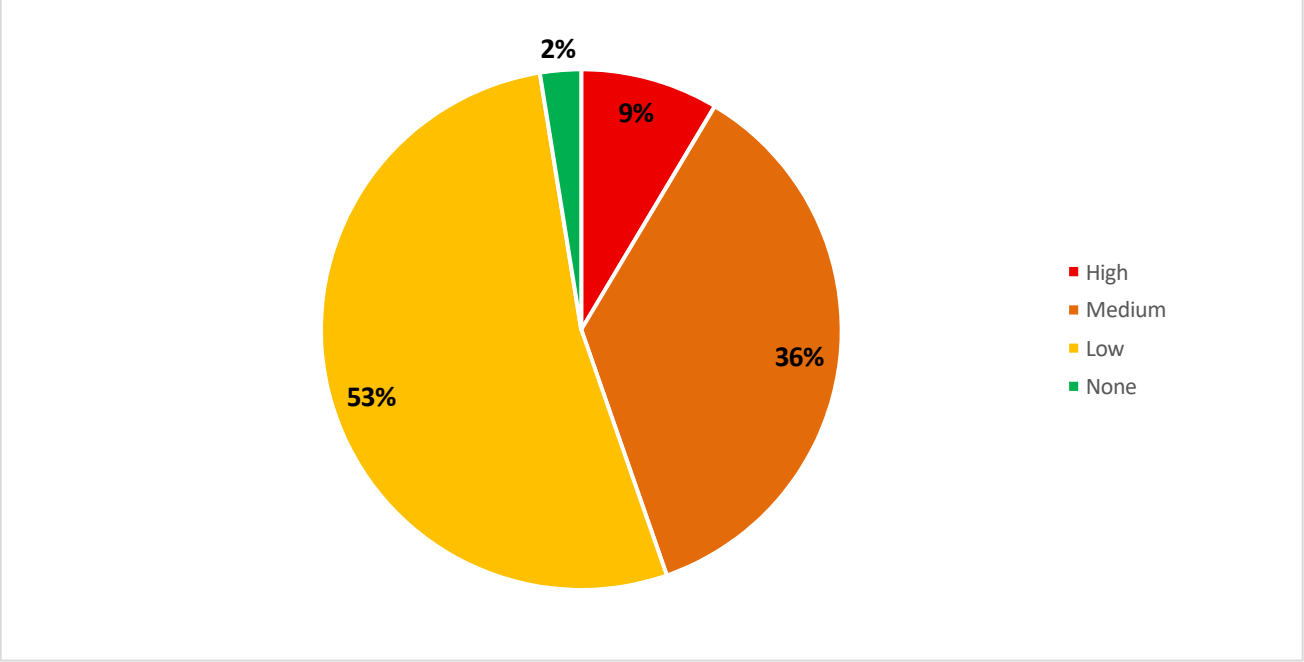
Element	Categories	Count	Percent
Top Landing Perpendicular	Yes (Compliant)	5483	96.6%
	No (Non-Compliant)	195	3.4%
Lower Landing Transition	Flush (Compliant)	3702	99.3%
	Not Flush (Non-Compliant)	27	0.7%
Lower Landing Perpendicular	Yes (Compliant)	3579	95.9%
	No (Non-Compliant)	154	4.1%
Street Transition	Flush (Compliant)	4554	78.2%
	Not Flush (Non-Compliant)	1268	21.8%
Street Perpendicular	Yes (Compliant)	4940	84.8%
	No (Compliant)	885	15.2%

*10 of 46 Blended Transitions did not meet the running slope guideline (5% or less)

Curb Ramp Rating

For the purposes of this report, the study team developed a three-tier rating system for curb ramps in need of repair or modification to meet ADA guidelines. Curb ramps found not to be compliant were designated as either "High," "Medium," or "Low." Figure 2-3 shows the overall results of the curb ramp rating process. This tiered system is meant to demonstrate the level of non-compliance for each curb ramp. More information on the rating system can be found in Appendix C.

Figure 2-3: Curb Ramp Deficiency Rating



High Priority Deficiency

The categorical rating of high represents the curb ramps that are not compliant with ADA guidelines and not functional for a user with disabilities. Curb ramps that fall into this categorization should be a top priority for maintenance and repair. Contributing attributes include obstructions rendering the curb ramp difficult or impossible to use or a ramp with a width less than 36 inches which renders the curb ramp non-functional for wheelchair users. From a total of 5,834 curb ramps, 500 are high priority. This represents 8.6% of all curb ramps surveyed. Table 2-2 shows the breakdown of high priority curb ramps by city council district.

Table 2-2: High Priority Deficiency Breakdown by Council District

City Council District	Total Curb Ramps	High Priority Ramps	High Priority Percentage
District 1	1498	210	14.0%
District 2	1653	199	12.0%
District 3	1006	18	1.8%
District 4	1677	73	4.4%
Totals	**5,834**	**500**	**8.6%**

Obstructed Curb Ramps

Curb ramp obstructions largely consist of light poles, street sign poles, utility poles, and fire hydrants. The category "other" mostly represents fences, walls, and traffic bollards. Figure 2-4 illustrates the most common curb ramp obstruction types. As the chart shows, light poles make up the largest share of curb ramp obstructions (29%) and street sign poles were the second most common (25%) obstruction. Figure 2-5 provides examples of common curb ramp obstructions.

Figure 2-4: Curb Ramp Obstruction Type

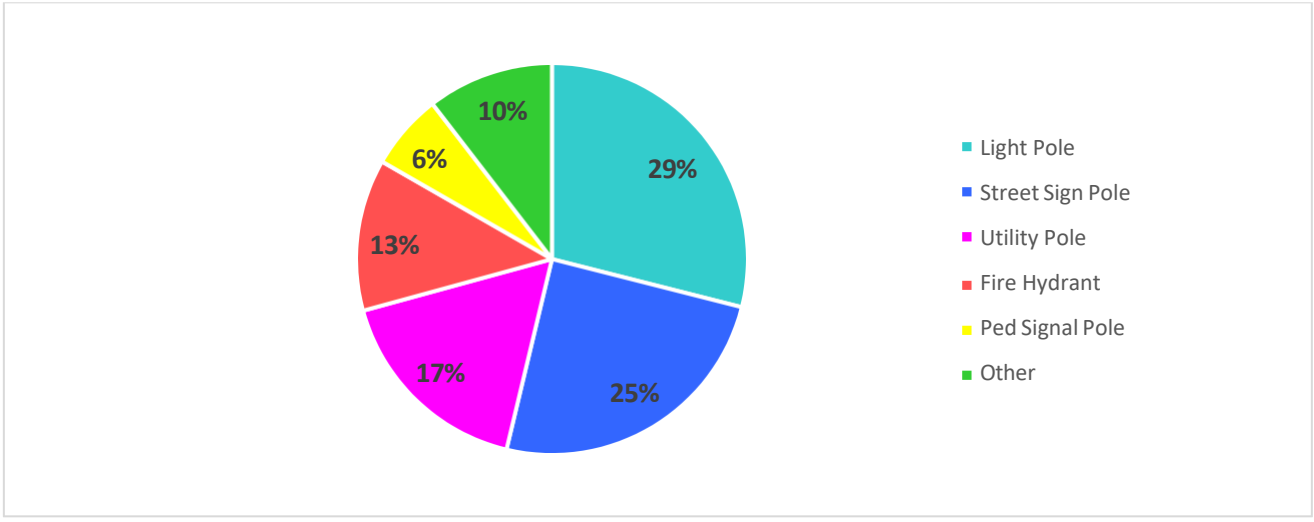


Figure 2-5: Common Curb Ramp Obstructions

Ramp Width Less than 36 Inches

A curb ramp with a width of less than 36 inches is non-compliant under ADA guidelines (ADA requires a width of no less than 48 inches), and inaccessible for a wheelchair user. As seen in Figure 2-6, only 3% of curb ramps surveyed are less than 36 inches wide. Figure 2-7 shows curb ramps with a ramp width below 36 inches.

Figure 2-6: Curb Ramp Width

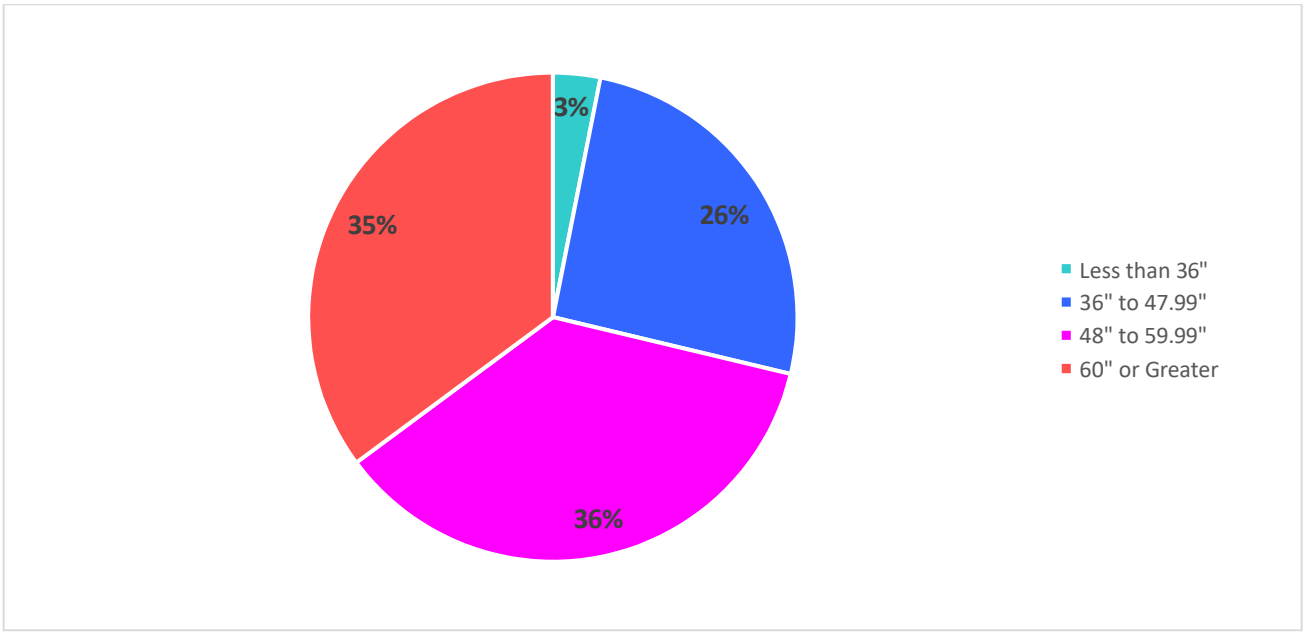
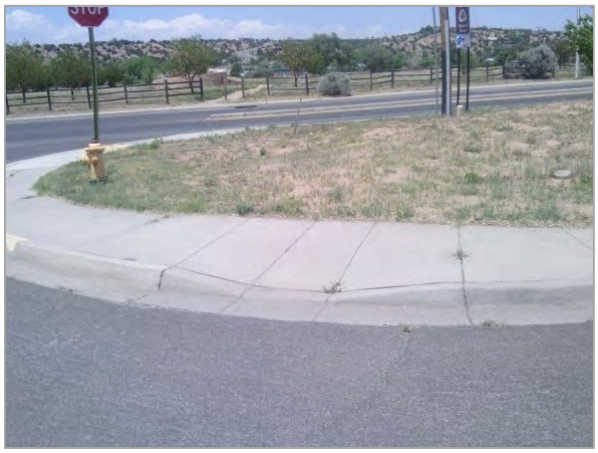


Figure 2-7: Curb Ramps Less Than 36 Inches in Width



Medium Priority Deficiency

The medium priority category includes curb ramps that do not meet many ADA guidelines, including ramps that are less than 48 inches in width, have severe cross slope or running slope issues, and other potential issues.

Medium priority represents 2,106 of the 5,834 curb ramps or 36.1% of the total. Table 2-3 shows the breakdown of high priority curb ramps by city council district.

Table 2-3: Medium Priority Deficiency Breakdown by Council District

City Council District	Total Curb Ramps	Medium Priority Ramps	Medium Priority Percentage
District 1	1498	473	31.6%
District 2	1653	671	40.6%
District 3	1006	320	31.8%
District 4	1677	642	38.3%
Totals	**5,834**	**2,106**	**36.1%**

Low Priority Deficiency

The low priority category represents curb ramps that do not meet one or more of the ADA guidelines, but remain functional or accessible. These curb ramps may seem compliant to the casual observer as their non-compliance typically stems from slight slope issues. Additionally, many of the curb ramps in this category are missing a required tactile surface.

Low priority represents 3,079 of the 5,834 curb ramps or 52.8% of the total. Table 2-4 provides the breakdown of low priority curb ramps by city council district.

Table 2-4: Low Priority Deficiency Breakdown by Council District

City Council District	Total Curb Ramps	Low Priority Ramps	Low Priority Percentage
District 1	1498	763	50.9%
District 2	1653	754	45.6%
District 3	1006	639	63.5%
District 4	1677	923	55.0%
Totals	**5,834**	**3,079**	**52.8%**

Fully Compliant Curb Ramps

Fully compliant curb ramps meet each of the ADA design guidelines. The City of Santa Fe contains 149 compliant curb ramps, or approximately 2.6% of all curb ramps. Table 2-5 provides the breakdown of compliant curb ramps by city council district.

Table 2-5: Fully Compliant Breakdown by Council District

City Council District	Total Curb Ramps	Compliant Ramps	Percentage
District 1	1498	52	3.5%
District 2	1653	29	1.8%
District 3	1006	29	2.9%
District 4	1677	39	2.3%
Totals	**5,834**	**149**	**2.6%**

Under the fully compliant category some exceptions are included where curb ramps are compliant in their functional components. This means if a curb ramp has a level landing that provides sufficient room to maneuver, the slope of the flares becomes irrelevant due to the compliance of the functional components. The situation is reversed if a top landing is less than 48 inches by 48 inches. These scenarios are broken down and explained in the following sub-sections.

Flare Exception

The flare exception isolates curb ramps that do not have functional flares. The exception includes curb ramps that meet all other ADA guidelines but have flare slopes that exceed 10% slope. A curb ramp with non-functional flares can be seen in Figure 2-8.

Figure 2-8: Curb Ramp with Non-Functional Flares

Top Landing Exception

The second functional exception is the top landing exception. These curb ramps either do not have a top landing or have a top landing that is less than 48 inches by 48 inches. As seen in Figure 2-9, the curb ramp does not have a top landing but provides a suitable surface for transitioning to the sidewalk.

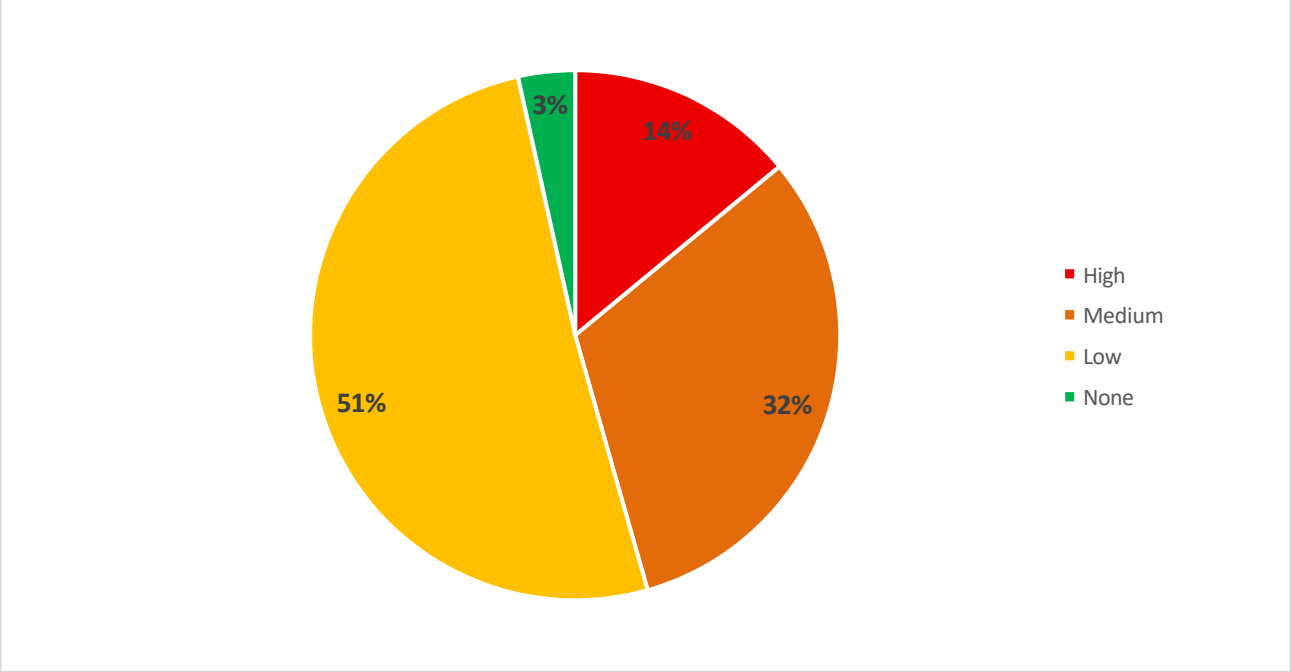
Figure 2-9: Curb Ramp without a Top Landing

Curb Ramp Results Overview

City Council District 1

District 1 is located in the northern most region of the City of Santa Fe. District 1 is home to the downtown plaza area and the neighborhoods along Alameda and Agua Fria to the intersections of Siler Road. As seen in Figure 2-10, the overall condition of curb ramps in District 1 is good. Figure 2-11 displays the location of curb ramps in District 1 and their priority level.

Figure 2-10: District 1 Curb Ramp Deficiency Rating

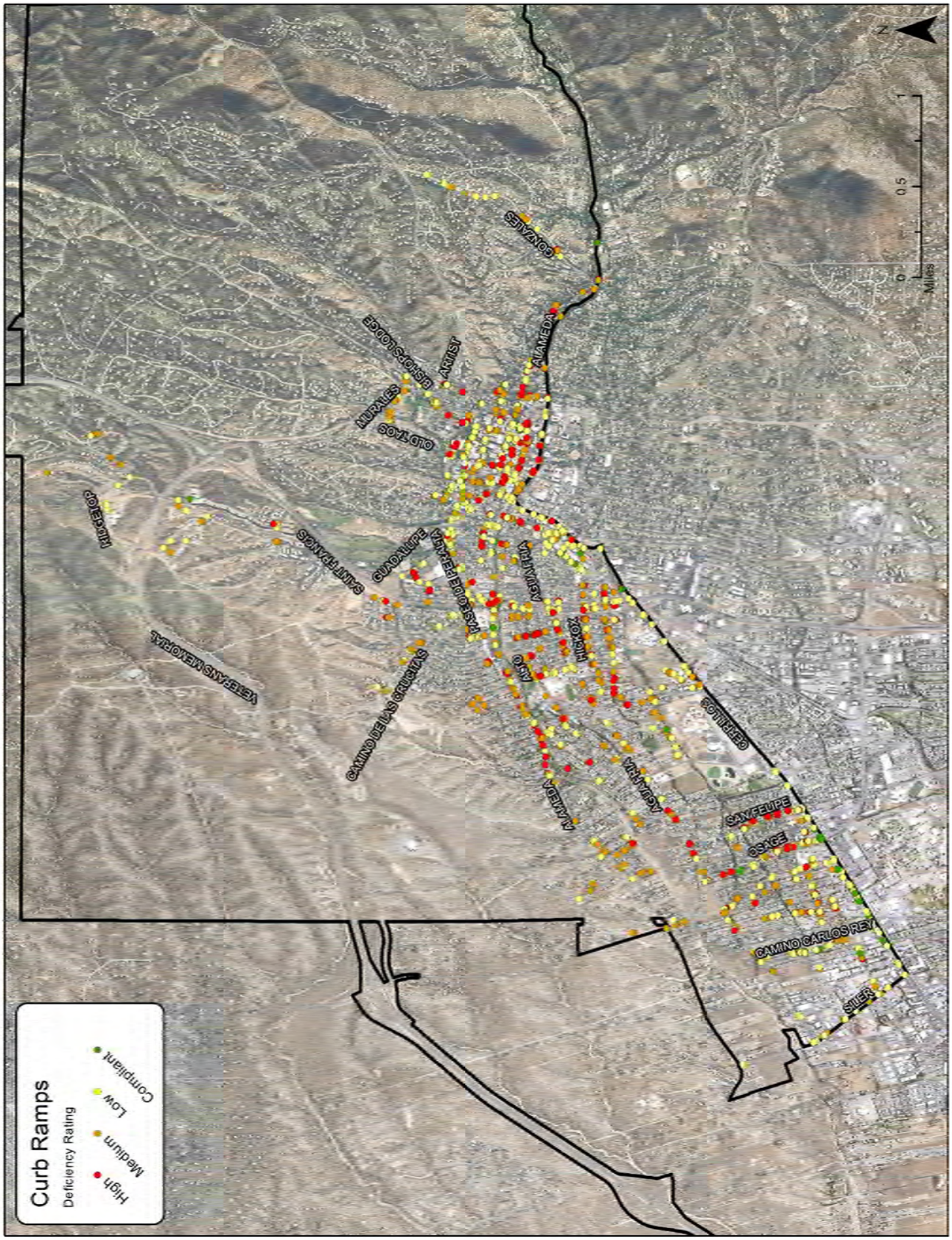


District 1 has the largest percentage of high priority curb ramps when compared to the other districts (14.0%). High priority curb ramps are fairly dispersed throughout the downtown area and northern residential areas; however, some concentrations exist along Agua Fria Street, W. Alameda Street, and Paseo de Peralta.

Medium priority curb ramps are also dispersed throughout the district. Areas of heavy concentration include the northwestern neighborhoods along Agua Fria Street, Camino Sierra Vista, and Rosina Street.

Low priority curb ramps make up the majority of ramps in District 1 at 50.9%. These curb ramps are heavily dispersed with relative concentrations through the downtown areas.

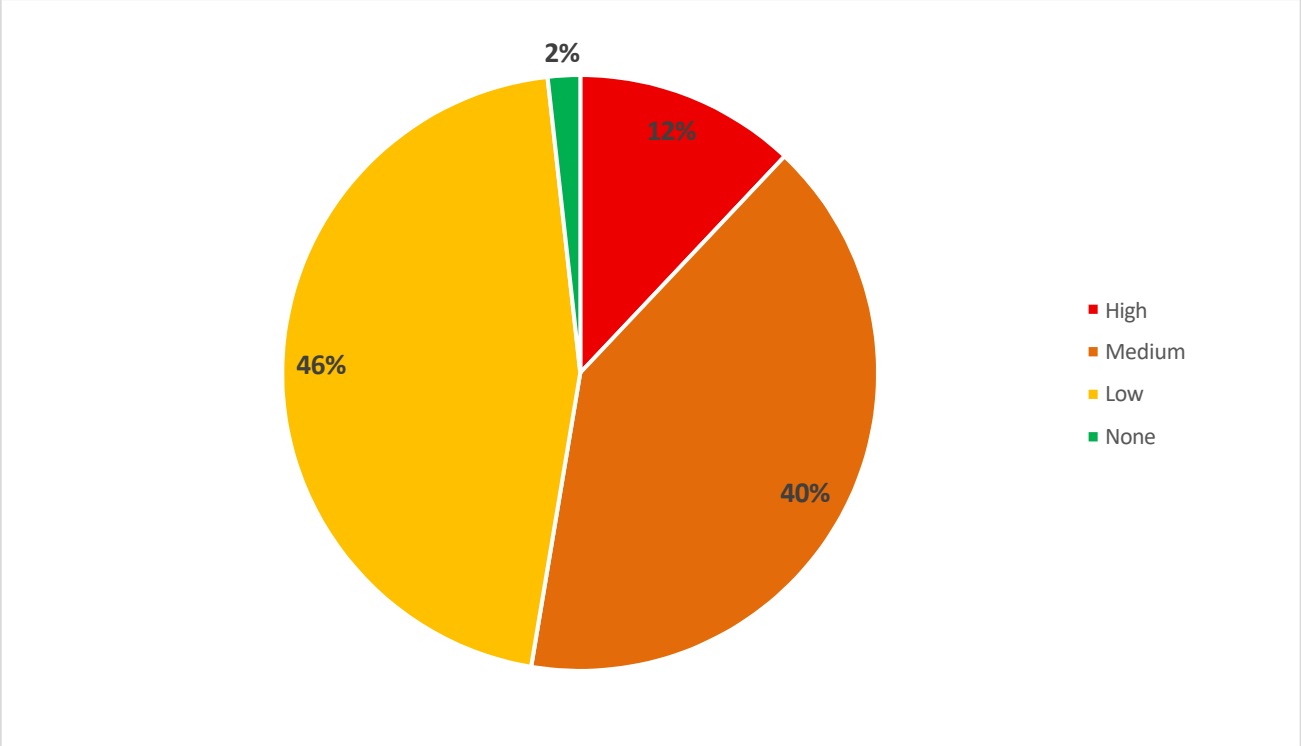
Figure 2-11: City Council District 1 Curb Ramp Summary Map



City Council District 2

City Council District 2 is located in the eastern portion of the city. District 2 includes the downtown area south of Alameda Street which includes state government offices, including the capital building. Other noteworthy areas include St. Vincent Medical Center and surrounding medical offices, cultural attractions of Museum Hill, and St. John's College. As seen in Figure 2-12, the overall condition of curb ramps in District 2 is average. Figure 2-13 displays the location of curb ramps with District 2 and priority level.

Figure 2-12: District 2 Curb Ramp Deficiency Rating

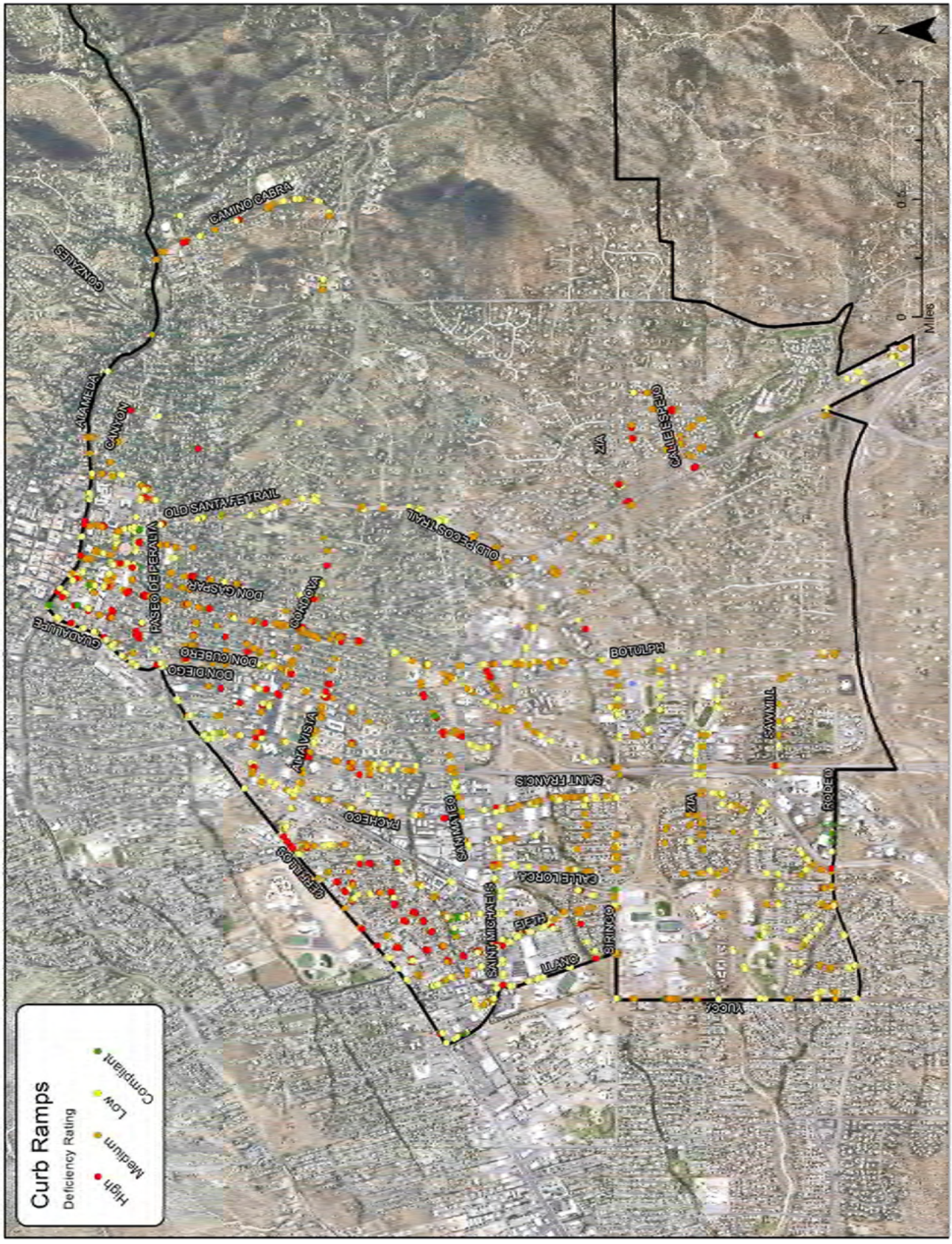


District 2 has the second highest concentration of high priority curb ramps, after District 1. This designation is largely due to curb ramps downtown and in the neighborhood bound by Cerrillos Road to the west, Saint Michael's Drive to the south, and the Rail Runner tracks to the east.

District 2 has the highest concentration of medium priority curb ramps with 40.6%. While these curb ramps are located throughout the district, concentrations exist along Calle Espejo, Galisteo Street, and Pacheco Street.

Low priority ramps make up 45.6% of District 2's curb ramps. Low priority ramps are evenly distributed across the district.

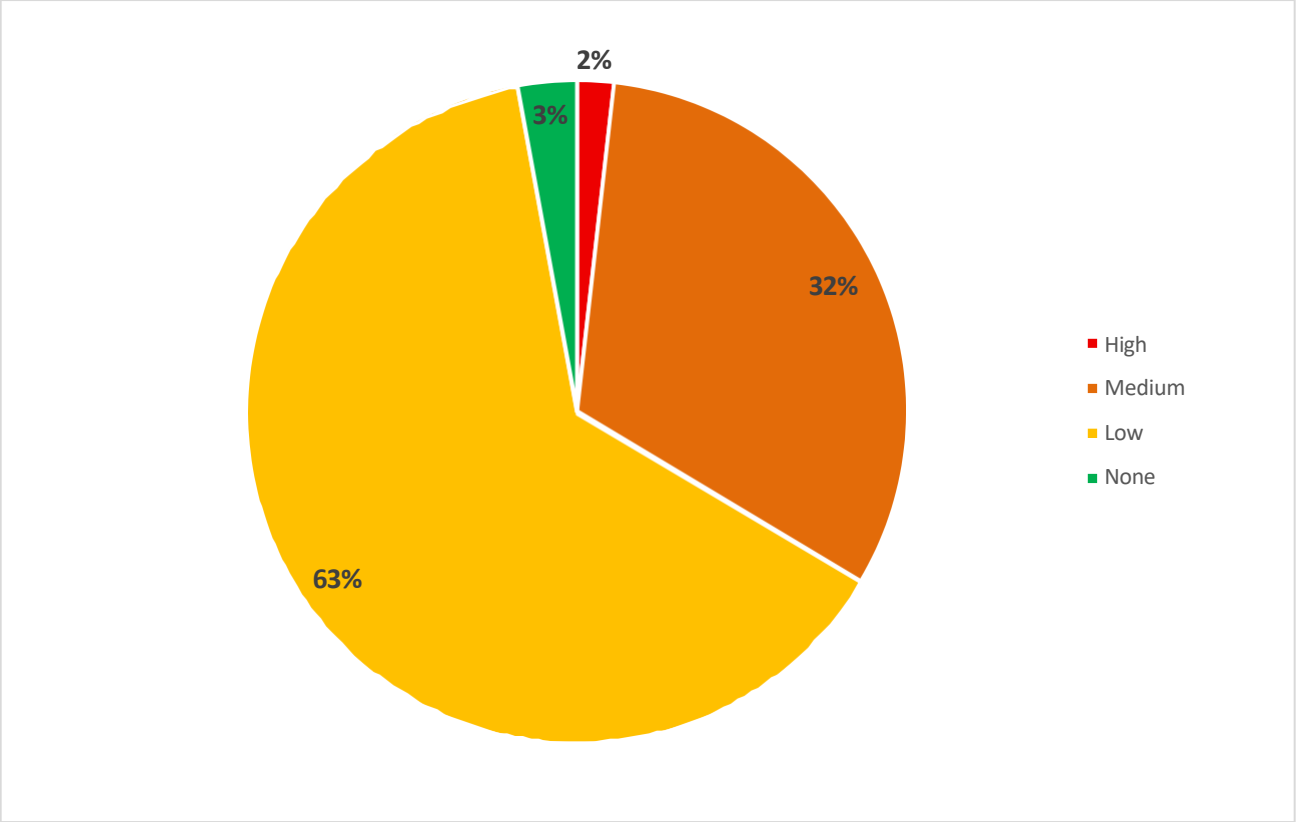
Figure 2-13: City Council District 2 Curb Ramp Summary Map



City Council District 3

District 3 is located in the southwest area of the city. The district is home to the Santa Fe Airport, city government offices, major retail destinations, and a number of residential areas. As seen in Figure 2-14, the overall condition of curb ramps in District 3 is very good with approximately 67% of curb ramps a low priority or ADA compliant. Figure 2-15 displays the location of curb ramps with District 3 and priority level.

Figure 2-14: District 3 Curb Ramp Deficiency Rating

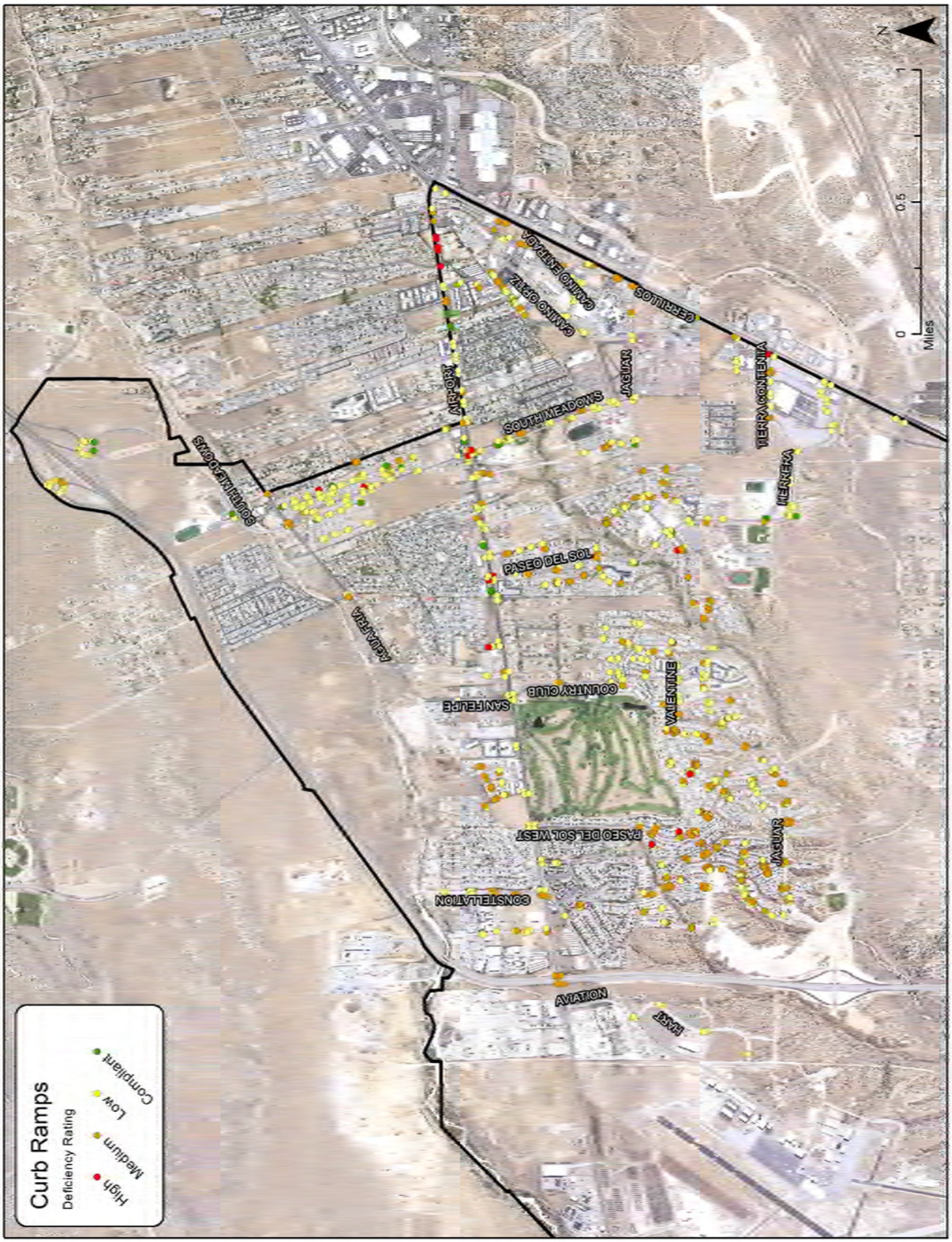


District 3 has the lowest concentration of high priority curb ramps with 1.8%. High priority ramps are mostly found along Airport Road with a few others located throughout the surrounding neighborhoods.

Medium priority ramps represent 31.8% of the curb ramps in District 3. While medium priority ramps are spread across the district, relative concentrations exist in the residential neighborhoods along Paseo del Sol and Paseo del Sol West.

District 3 has the highest concentration of low priority curb ramps with 63.5%. These ramps are located throughout the district; however, there is a large cluster of low priority ramps in the neighborhoods along South Meadows Road between Agua Fria Street, and Airport Road.

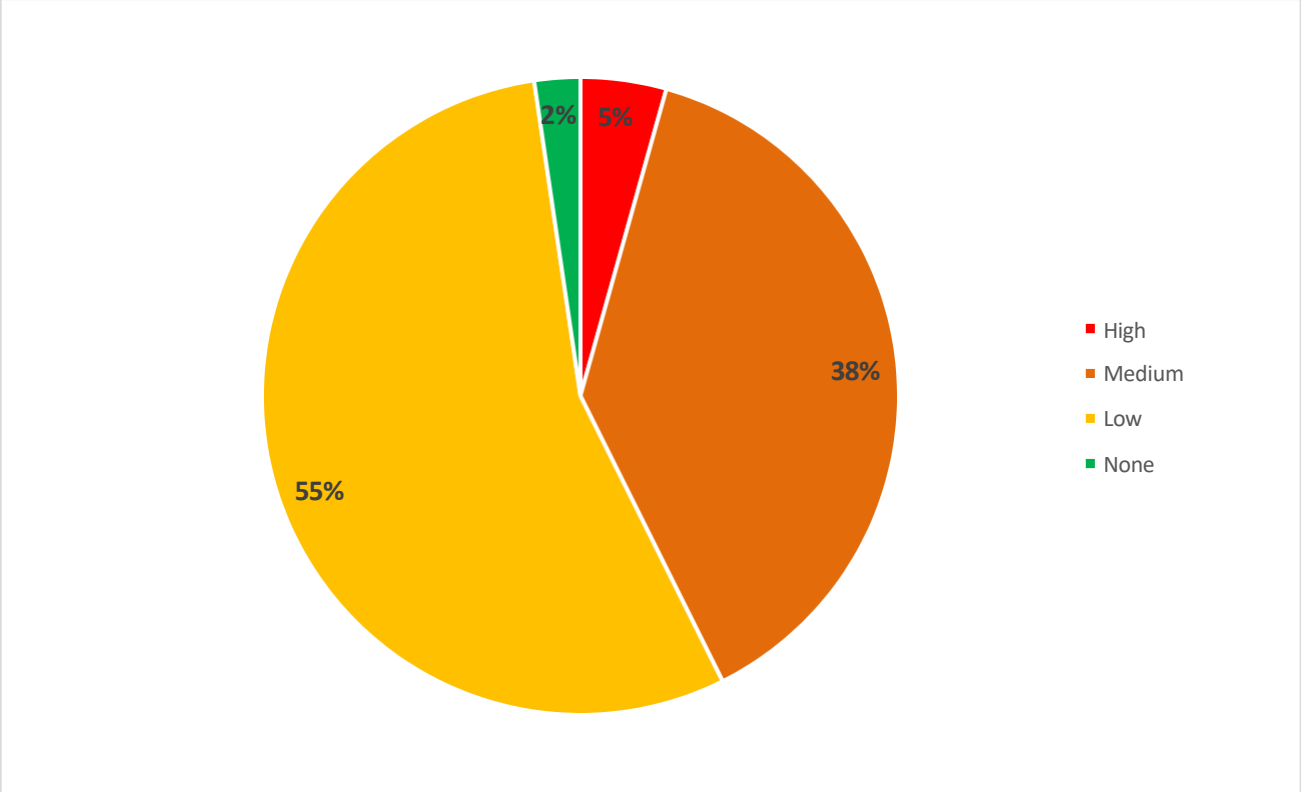
Figure 2-15: City Council District 3 Curb Ramp Summary Map



City Council District 4

Council District 4 surrounds the southern portion of the city stretching from the Santa Fe University of Art and Design to the Interstate 25 corridor. District 4 includes a large number of retail shopping outlets including the Santa Fe Place Mall, the Fashion Outlets and the shopping centers along Cerrillos Road. As seen in Figure 2-16, the overall condition of curb ramps in District 4 is good. Figure 2-17 displays the location of curb ramps with District 4 and priority level.

Figure 2-16: District 4 Curb Ramp Deficiency Rating

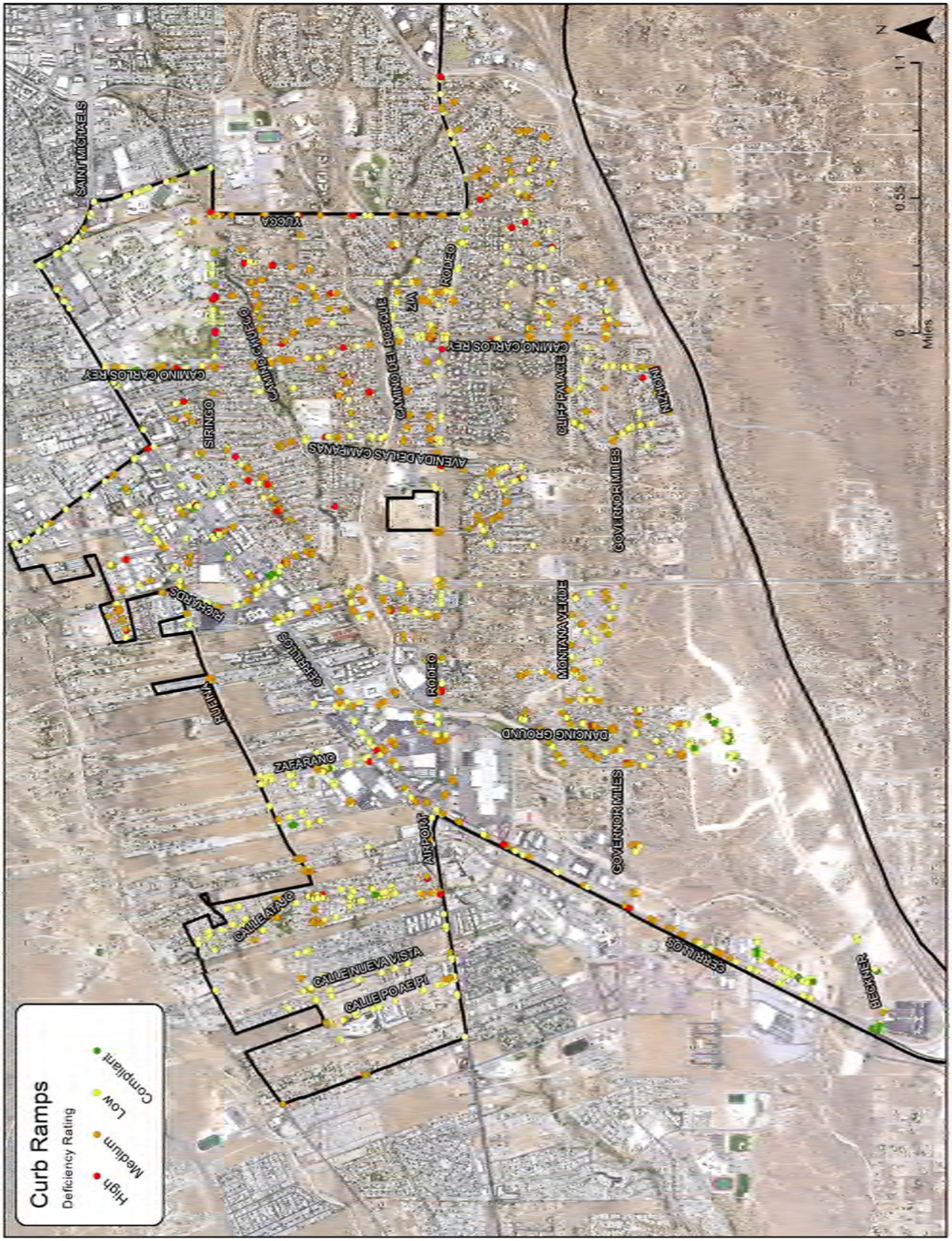


High priority curb ramps make up 4.4% of District 4's ramps; this is the second lowest after District 3. High priority ramps are spread across the district but there is an agglomeration of ramps in the eastern portion of the district located throughout the residential areas.

Medium priority ramps make up 38.3% or the ramps in District 4. While these ramps are spread across the district there appears to be somewhat of a higher concentration of medium priority ramps on the east side of Cerrillos Road.

Low priority curb ramps make up the majority of the ramps in District 4 at 55.0%. These ramps are heavily dispersed across the area.

Figure 2-17: City Council District 4 Curb Ramp Summary Map



INTERSECTION EVALUATION AND METHODOLOGY

Every intersection within the study area was assessed based on attributes related to pedestrian crossings. Only intersections with pedestrian improvements were included in the final inventory. For the purposes of this study pedestrian improvements were defined as the presence of curb ramps, crosswalks, sidewalks, and pedestrian signals. Each intersection segment (4,810 in total) was evaluated independently in order to maintain a high degree of detail. Figure 2-18 provides an overview map of the intersections in the City of Santa Fe.

The following attributes of intersections were surveyed and recorded:

- Crosswalk
- Curb ramp connections
- Barriers and obstructions
- Medians and side islands
- Pedestrian signal
- Pedestrian button accessibility

Similar to the curb ramp assessment, categories were developed for each intersection element in accordance with ADA Guidelines. Each of the intersection elements with their associated categories are shown in Table 2-6.

Figure 2-18: Overview of Intersections in Santa Fe

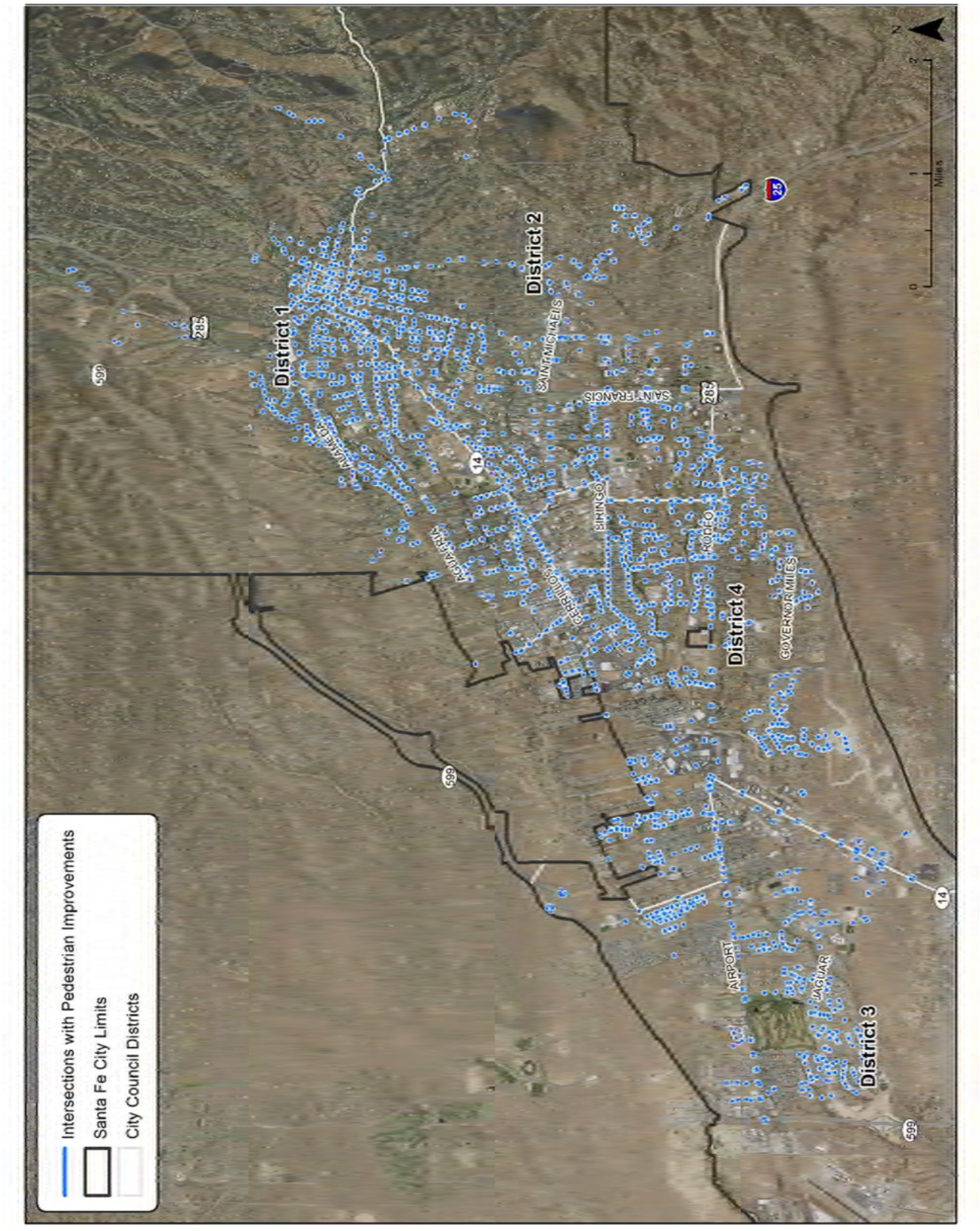


Table 2-6: Intersection Categorical Documentation

Intersection Element	Category	Count	Percent
Status	Active	4,779	99.4%
	Signed "Do Not Cross"	26	0.5%
	Under Construction	5	0.1%
Marked Crosswalk	Yes (Compliant)	750	15.6%
	No (Non-Compliant)	4,060	84.4%
Curb Ramp Connection	Yes (Compliant)	2,826	59.7%
	No (Non-Compliant)	1,288	27.2%
	Curb Ramp to Driveway	621	13.1%
Median Barrier	Yes (Non-Compliant)	87	1.8%
	No (Compliant)	4,723	98.2%
Side Island Barrier	Yes (Non-Compliant)	11	0.2%
	No (Compliant)	4,799	99.8%
Obstruction	Yes (Non-Compliant)	2	0.0%
	No (Compliant)	4,808	100.0%
Surface Gap	Yes (Non-Compliant)	72	1.5%
	No (Compliant)	4,738	98.5%
Vertical Discontinuity	Yes (Non-Compliant)	314	6.5%
	No (Compliant)	4,496	93.5%
Uneven Pavement	Yes (Non-Compliant)	373	7.8%
	No (Compliant)	4,437	92.2%
Grade Break	Yes (Non-Compliant)	25	0.5%
	No (Compliant)	4,785	99.5%
Vehicle Barrier	Yes (Non-Compliant)	19	0.4%
	No (Compliant)	4,791	99.6%
Median / Side Island Cut Through	Present	168	3.5%
	Not Present	4,642	96.5%
Median / Side Island Length	Less than 6'	45	24.1%
	6' and Over	142	75.9%
Median / Side Island Width	Less than 48" (Non-Compliant)	18	9.6%
	48" to 59" (Non-Compliant)	39	20.9%
	60" and Over (Compliant)	130	69.5%
Tactile Surface (if required)*	Yes (Compliant)	78	54.9%
	No (Non-Compliant)	64	45.1%

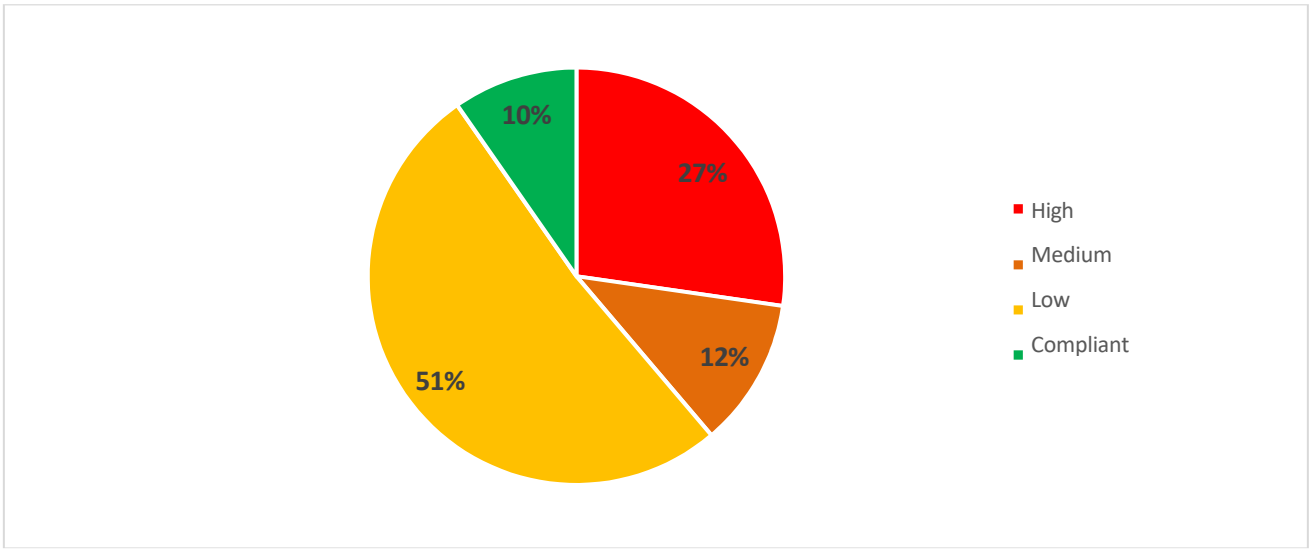
Intersection Element	Category	Count	Percent
Pedestrian Signal	Automatic	14	0.3%
	Manual	394	8.2%
	None	4,402	91.5%
Countdown Timer	Yes	406	99.5%
	No	2	0.5%
Audible Countdown	Yes (Best Practice)	8	2.0%
	No	400	98.0%
Button Accessible	Yes (Compliant)	542	68.8%
	No (Non-Compliant)	246	31.2%
Button Height	Less than 15” (Non-Compliant)	1	0.1%
	15” to 48” (Compliant)	749	95.1%
	Over 48” (Non-Compliant)	38	4.8%

*Tactile surfaces are required on medians if the median is 6 feet or over in length – in the direction of pedestrian travel

Intersection Rating

For the purposes of this report, the study team developed a three-tier rating system for intersections in need of repair or modification to meet ADA guidelines. Intersections that were not ADA compliant were designated as either “High Priority,” “Medium Priority,” or “Low Priority.” This tiered system is meant to demonstrate the level of non-compliance for each intersection. Figure 2-19 provides the overall results of the intersection rating process. Appendix C provides more information on the rating system.

Figure 2-19: Intersection Priority Rating



High Priority Deficiency

The categorization of high represents intersections that are not compliant with ADA guidelines and present major obstacles for pedestrians with disabilities. Attributes that render an intersection non-functional include obstructions that limit the passage to less than 48 inches in width and the absence of one or more curb ramps. Table 2-7 shows the number of high priority intersections for each of the four districts. From the 4,810 intersections surveyed, 1,312 or 27.3% are high priority.

Table 2-7: High Priority Intersection Deficiency by Council District

City Council District	Total Intersections	High Priority Intersections	High Priority Percentage
District 1	1307	420	32.1%
District 2	1246	330	26.5%
District 3	649	103	15.9%
District 4	1608	459	28.5%
Totals	**4,810**	**1,312**	**27.3%**

Intersection Segment Obstructed

Intersection obstructions largely consist of medians in Santa Fe; however, other obstructions include light poles, bollards, and street sign poles. Of the 4,810 intersections surveyed, 106 (2.2%) have some type of obstruction. Figure 2-20 shows the median at the entrance to the Santa Fe Place Mall which extends nearly to the first lane of traffic. Figure 2-21 illustrates how a median has extended into a crosswalk forcing pedestrians into the intersection.

Figure 2-20: Median Obstruction

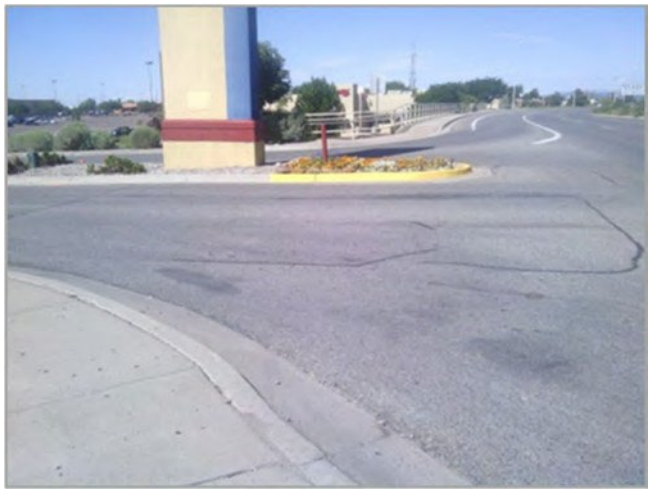


Figure 2-21: Median Obstructing Crosswalk

Intersection Segment with Missing Curb Ramps

An intersection segment that lacks one or more curb ramps is non-compliant and non-functional for persons in wheelchairs. The curb acts as both an extreme example of a vertical discontinuity and as an obstruction to a continuous sidewalk. Of the 4,810 intersections surveyed, 1,288 (26.8%) do not have a curb ramp connection. Examples of intersections lacking curb ramp connections are shown in Figures 2-22 and 2-23.

Figure 2-22: Missing Curb Ramp

Figure 2-23: Missing Ramp and Sidewalk

Medium Priority Deficiency

The medium priority categorization represents intersection segments that do not meet two or more of the ADA compliance guidelines but remain functional for a majority of persons with disabilities. Intersection deficiencies in this category include surface gaps and vertical discontinuities. In instances where pedestrian signals are located at the intersection, this category captures pedestrian buttons that are not accessible (in a level 30-inch by 48-inch space) or are not at the appropriate height from the sidewalk (between 17 inches and 48 inches). Also, included in this section are intersections with medians and side islands that do not provide a clear passage of at least 60 inches or wider and, if required, lack tactile surfaces (required if the refuge area is 6-feet or over in length).

The medium priority category includes 554 of the 4,810 intersections, or 11.5%.

Table 2-8: Medium Priority Intersections by Council District

City Council District	Total Intersections	Medium Priority Intersections	Medium Priority Percentage
District 1	1307	175	13.4%
District 2	1246	160	12.8%
District 3	649	56	8.6%
District 4	1608	163	10.1%
Totals	**4,810**	**554**	**11.5%**

Low Priority Deficiency

The low priority category features intersections that were found to be non-compliant with only one guideline. The single deficiency may have originated from any of the deficiencies listed in the medium priority deficiency section. This category makes up the lion's share of the intersections in Santa Fe with 2,478 of the 4,810 intersections, or 51.5%.

Table 2-9: Low Priority Intersections by Council District

City Council District	Total Intersections	Low Priority Intersections	Low Priority Percentage
District 1	1307	558	42.7%
District 2	1246	658	52.8%
District 3	649	403	62.1%
District 4	1608	859	53.4%
Totals	**4,810**	**2,478**	**51.5%**

Fully Compliant Intersections

Fully compliant intersections meet each of the ADA accessibility guidelines. In Santa Fe, 466 intersections or 9.7% of the total were found to be fully compliant.

Table 2-10: Compliant Intersections by Council District

City Council District	Total Intersections	Compliant Intersections	Percentage
District 1	1307	154	11.8%
District 2	1246	98	7.9%
District 3	649	87	13.4%
District 4	1608	127	7.9%
Totals	**4,810**	**466**	**9.7%**

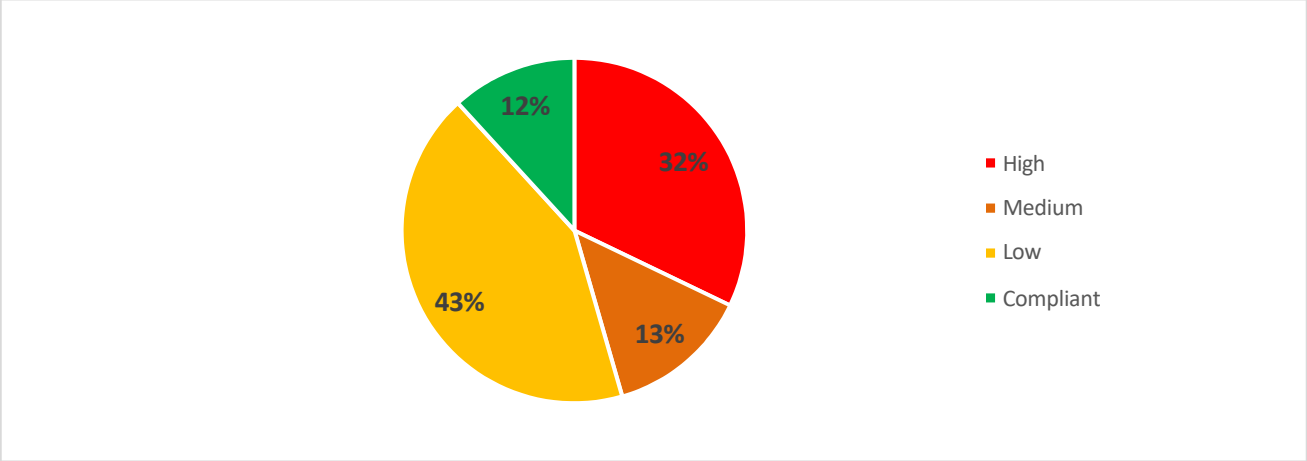
Intersection Results Overview

City Council District 1

District 1 contains the highest percentage of high priority intersections (32.1%). Many of which are located along Agua Fria Street, Alameda Street, and the neighborhoods to the west of St. Francis Drive and north of Alameda Street. Medium and low priority intersections are fairly dispersed throughout the area. Compliant intersections are primarily found in the downtown area and along St. Francis Drive. As seen in Figure 2-24, the overall condition of intersections in District 1 is varied with a large percentage falling into the high and medium

priority categories. Figure 2-26 displays the location of intersections within District 1 and their priority level.

Figure 2-24: District 1 Intersection Priority



City Council District 2

District 2 has a low percentage of compliant intersections (7.9%). However, over half (52.8%) of the district's intersections have low priority compliance issues. High priority intersections make up 26.5% and can be primarily found in the neighborhood south of Paseo de Peralta and north of Cordova Road with clusters also located in the southern portion of the district. Medium priority intersections are mostly found in the northwest portion of the district around downtown and near Cerrillos Road. Low priority intersections are spread throughout and compliant intersections are predominately in the downtown portion of the district and along St. Michaels Drive. Figure 2-25 shows the overall condition of intersections in District 2 and Figure 2-27 displays the location of intersections within District 2 and their priority level.

Figure 2-25: District 2 Intersection Priority

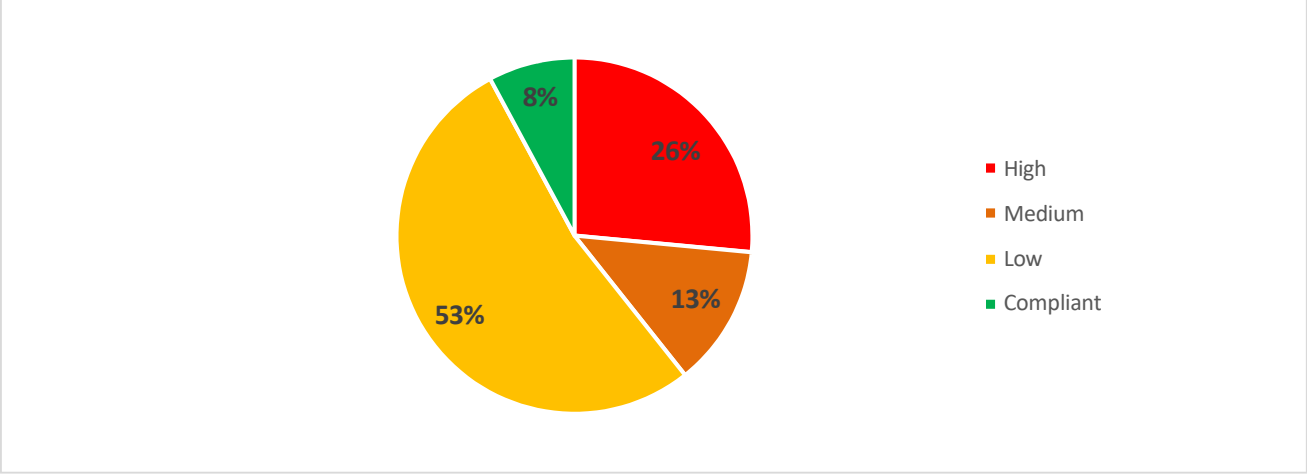


Figure 2-26: City Council District 1 Intersection Summary Map

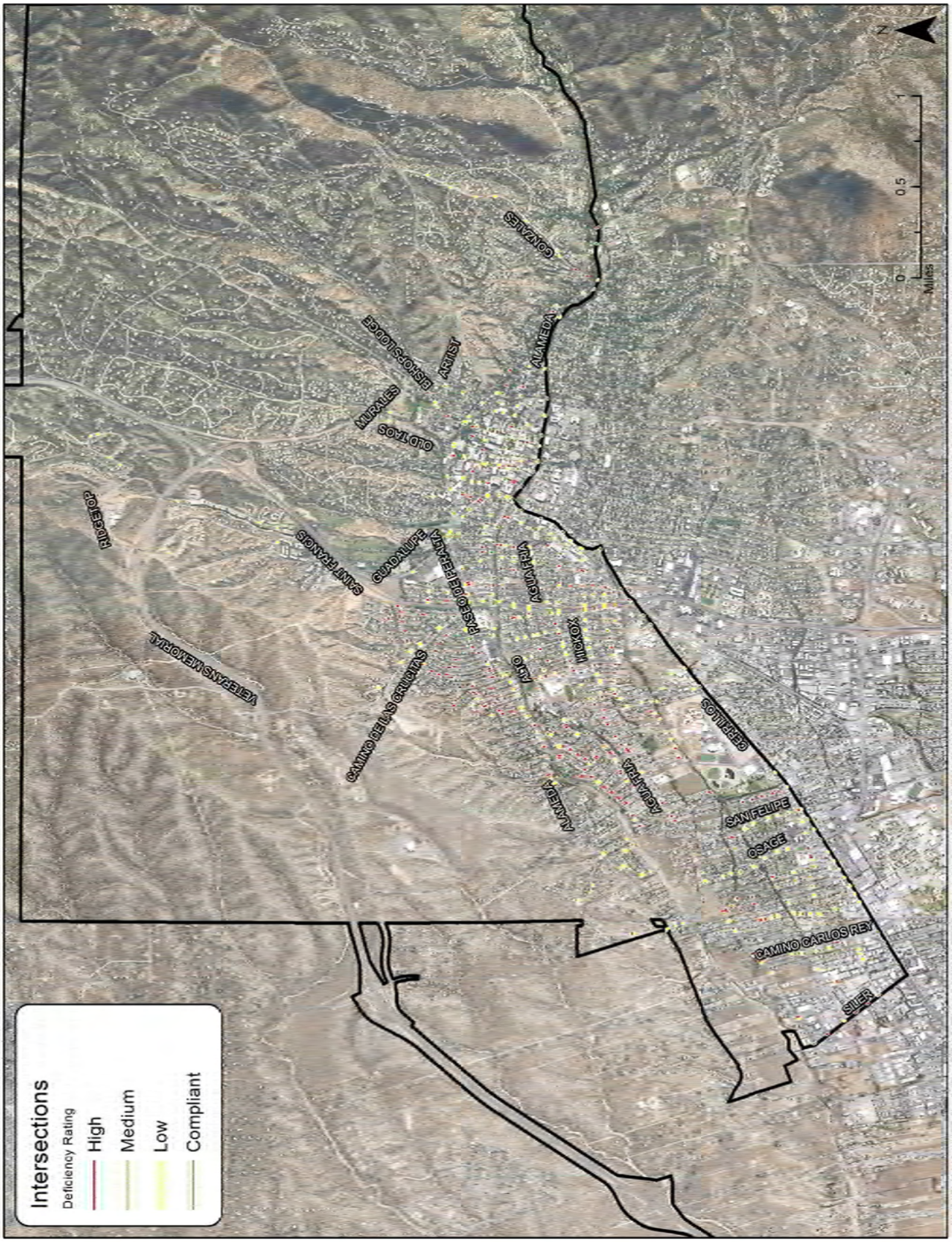
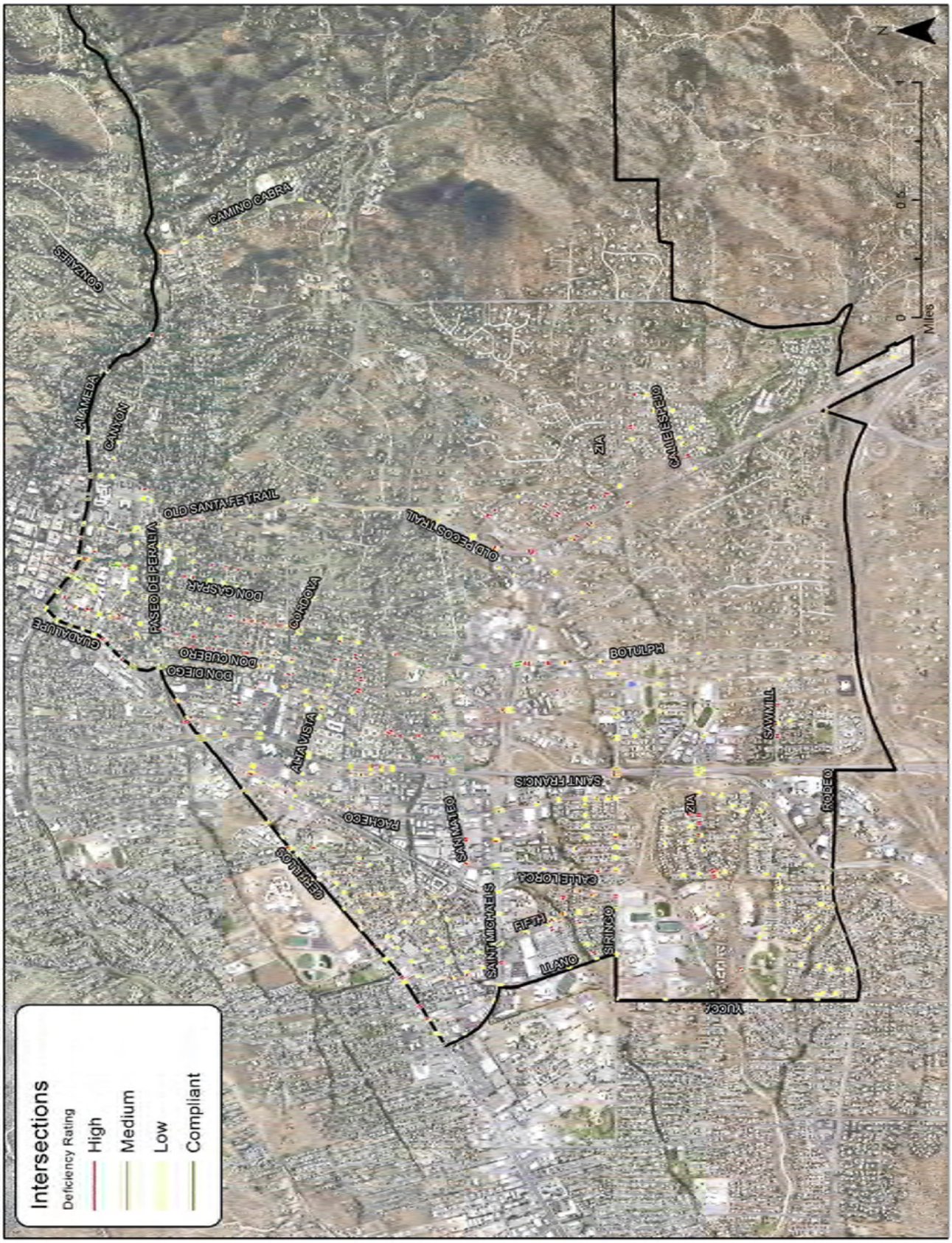


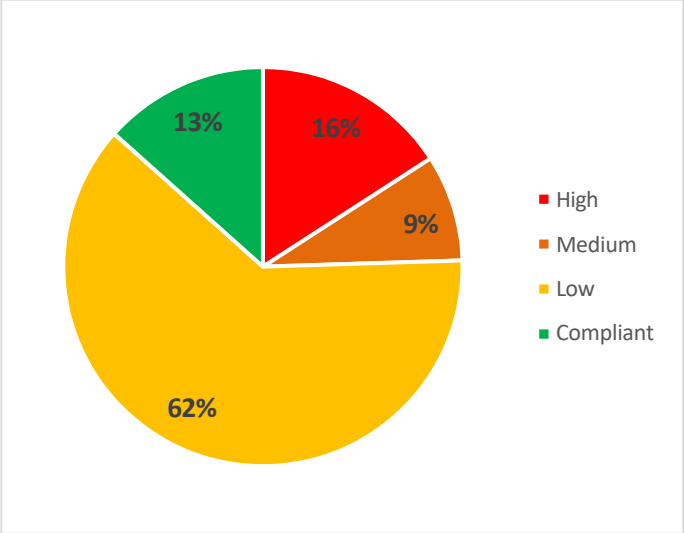
Figure 2-27: City Council District 2 Intersection Summary Map



City Council District 3

As seen in Figure 2-28, City Council District 3 has the highest percentage of low priority intersections (62.1%) and in turn the lowest percentage of medium and high priority intersections at 8.6% and 15.9% respectively. High priority intersections can be found along South Meadows Road, in the neighborhoods in the vicinity of Paseo del Sol and Paseo del Sol West. Medium and low priority intersections are evenly dispersed around the district while compliant intersections are mostly located along Airport Road, Jaguar Drive, and the northern area of South Meadows Road. Figure 2-30 displays the location of the intersections in District 3 and their priority level.

Figure 2-28: District 3 Intersection Deficiency Rating



City Council District 4

The average conditions of intersections in District 4 fall within the general ranges seen in the other districts. As seen in Figure 2-29, high priority intersections make up 28.5% of the total intersections. High priority intersections are largely found along the corridor roads in District 4 such as Airport Road, Alamosa Road, northern Cerrillos Road, and Siringo Road. Similar to other districts, medium and low priority intersections are spread throughout the district. Compliant intersections are generally found along Cerrillos Road, Rodeo Road, and the newly developed areas in the southern portion of the district. Figure 2-31 displays the location of intersections within District 4 and their priority level.

Figure 2-29: District 4 Intersection Deficiency Rating

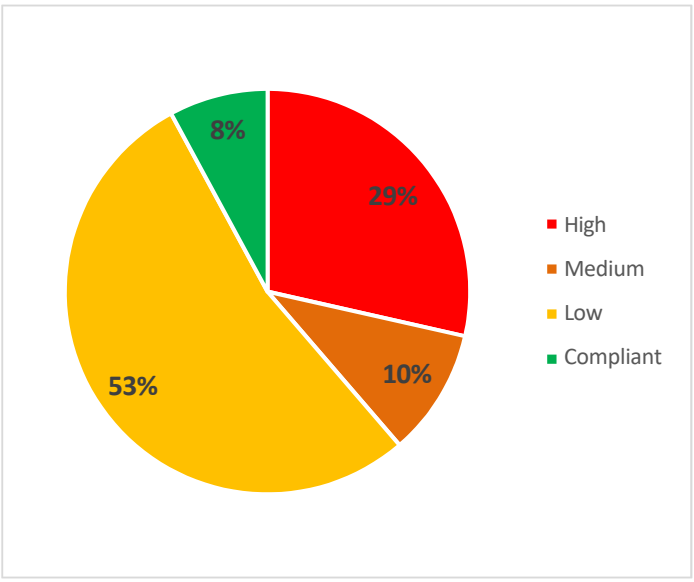
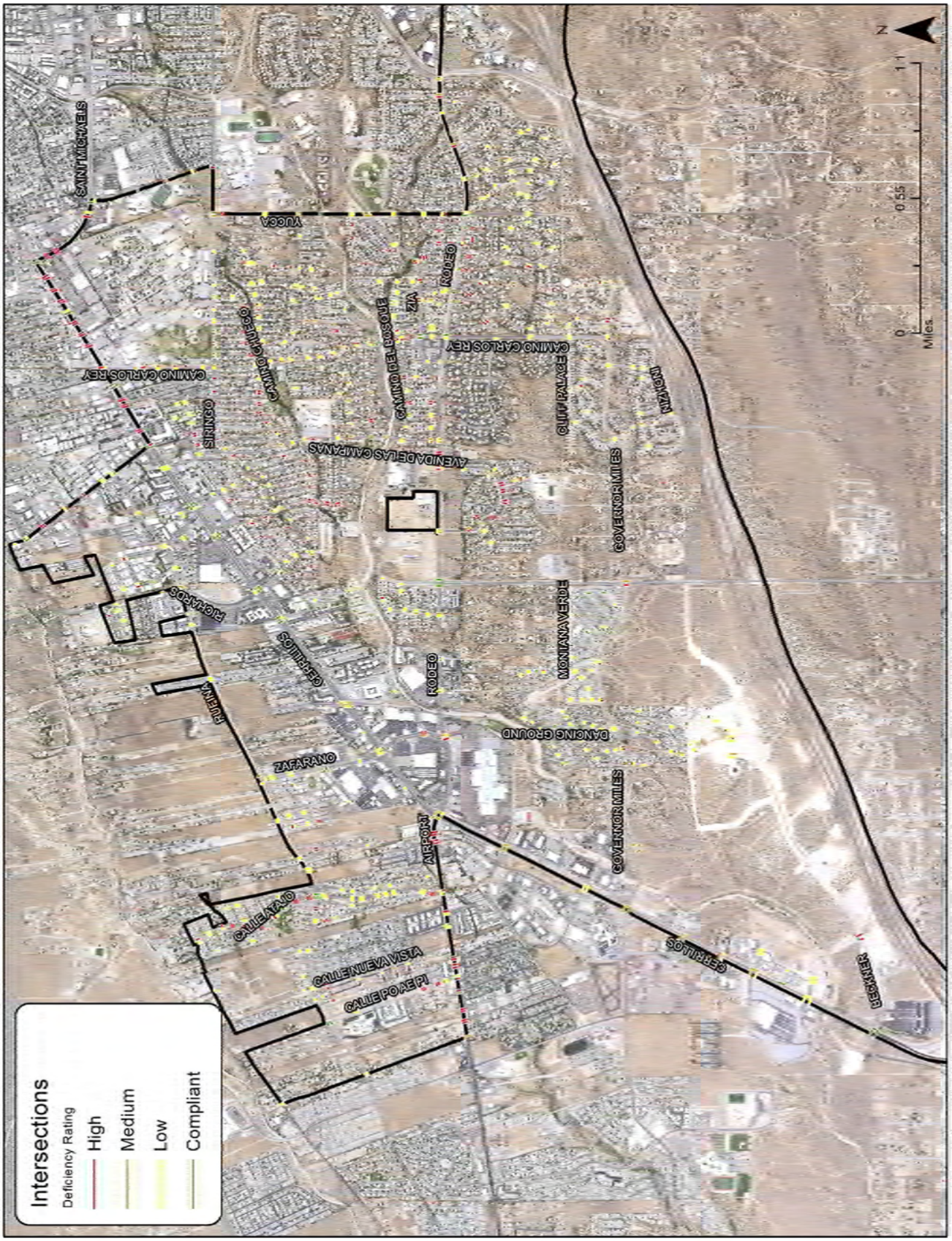


Figure 2-30: City Council District 3 Intersection Summary Map

Figure 2-31: City Council District 4 Intersection Summary Map



SIDEWALK EVALUATION AND METHODOLOGY

Sidewalks within the study area were broken into segments separated by intersections and occasionally mid-block crossings. A total of 4,686 sidewalk segments were surveyed and evaluated for ADA compliance. Figure 2-32 provides a map of sidewalk segments in the City of Santa Fe. Table 2-9 provides a statistical breakdown for the information collected on the attributes of each sidewalk.

Table 2-9: Sidewalk Categorical Documentation

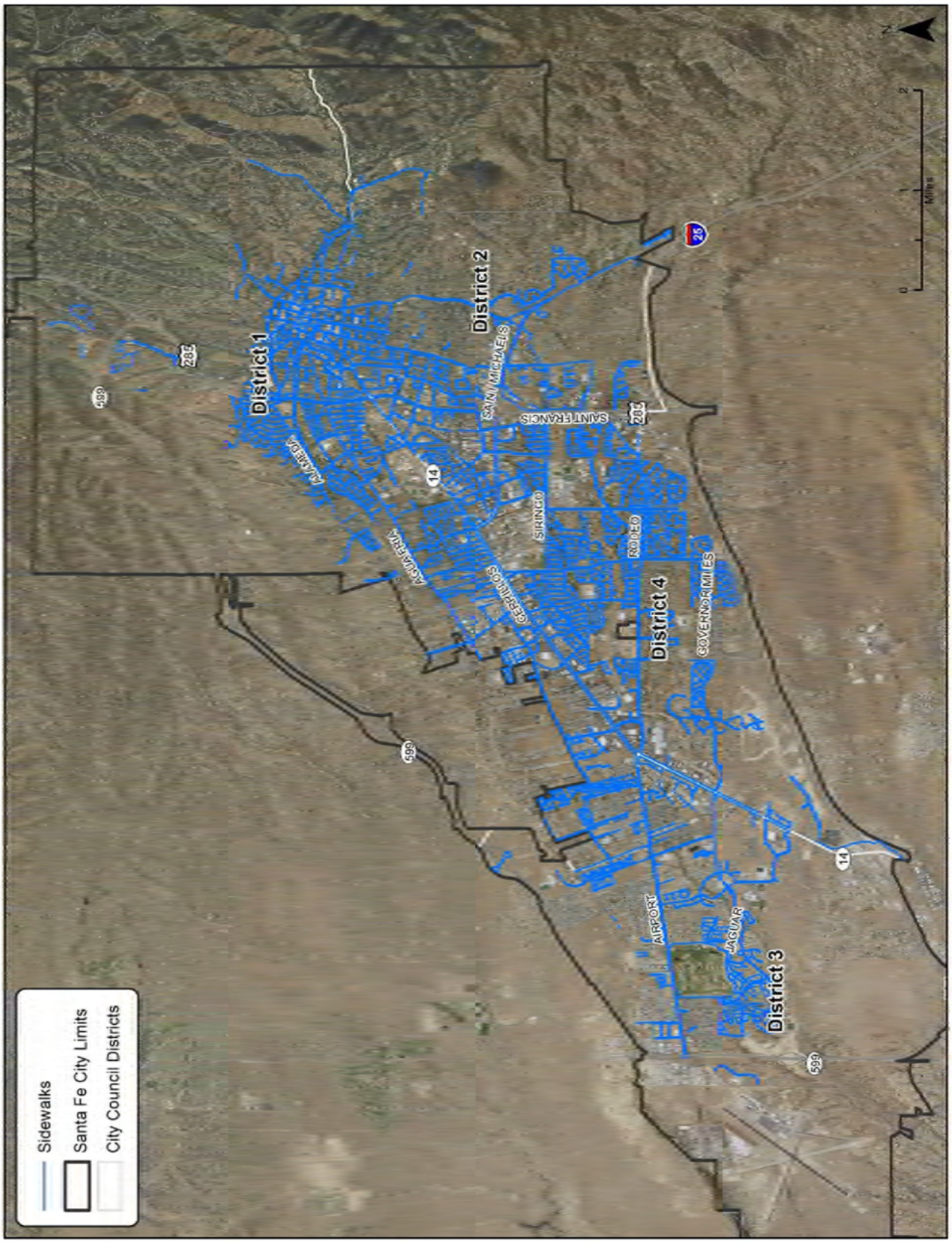
Sidewalk Element	Category	Count	Percent
Sidewalk Continuous	Yes	4,014	85.7%
	No	672	14.3%
Surface Material	Asphalt	30	0.6%
	Brick	78	1.7%
	Concrete	4,573	97.6%
	Other	5	0.1%
Sidewalk Width	Less than 36” (Non-Compliant)	70	1.5%
	36” to 47” (Non-Compliant)	1,279	27.3%
	48” to 59” (Compliant)	2,442	52.1%
	60” and Over (Compliant)	895	19.1%
Sidewalk – Street Buffer	Yes	2,837	60.5%
	No	1,849	39.5%

In addition to the general characteristics, the following types of deficiencies were also recorded; these are further detailed in the following sub-sections:

1. Cross slopes
2. Driveways
3. Obstructions
4. Protrusions
5. Removable barriers
6. Running slopes
7. Surface obstructions

Similar to the prior assessments, categories were developed for each sidewalk element in accordance with ADA Guidelines.

Figure 2-32: Sidewalk Assessment Summary Map



Sidewalk Deficiencies

The following section details each of the seven possible sidewalk deficiencies.

Cross Slope

For the purposes of this study, field surveyors noted any cross slope greater than 2% for three feet or longer. A total of 3,214 cross slope issues were documented. As seen in Table 2-10, these deficiencies are mostly minor with a combined total of 57.1% falling into the 2.1% to 4% slope range. Figure 2-33 below provides images of the severe cross slope issues.

Figure 2-33: Non-Compliant Cross Slopes

Table 2-10: Cross Slope Breakdown

Cross Slope	Category	Count	Percentage	Distance	
				Feet	Miles
Local Areas	2.1% to 4%	1,294	40.3%	63,039	11.9
	4.1% to 6%	697	21.7%	35,359	6.7
	Greater than 6%	362	11.3%	14,881	2.8
Entire Length	2.1% to 4%	542	16.9%	273,087	51.7
	4.1% to 6%	240	7.5%	110,616	21.0
	Greater than 6%	79	2.5%	31,431	6.0

Driveways

Driveway crossings should be designed so that both pedestrians and drivers are able to use them effectively. As detailed in Chapter 1, the ADA approves of driveway crossings that maintain a level surface for the pedestrian and, where possible, rise to meet the pathway. If there is not enough space for a level surface, the ADA recommends using parallel ramped driveway crossings. During the field survey, surveyors only recorded driveways that do not meet these guidelines.

Survey results revealed that a total of 10,466 driveways in Santa Fe are not currently compliant with ADA guidelines. Figure 2-34 provides two images of non-compliant driveways.

Figure 2-34: Non-Compliant Driveways

Obstructions

Obstructions are objects that reduce the walk path to less than 48-inches in width, rendering the walk path unusable to those with mobility impairments. As seen in Table 2-11, common obstructions in Santa Fe include utility poles, street sign poles, and mailboxes. Common sidewalk obstructions are shown in Figure 2-35.

Figure 2-35: Sidewalk Obstructions

Table 2-11: Obstruction Break Down

Obstruction	Count	Percentage
Utility Pole	650	24.6%
Street Sign Pole	320	12.1%
Mailbox	224	8.5%
Vehicle	193	7.3%
Street Light	180	6.8%
Wall	175	6.6%
Fire Hydrant	153	5.8%
Parking Meter	146	5.5%
Utility Box	115	4.3%
Fence	102	3.9%
Guy Wire	92	3.5%
Bollard	53	2.0%
Traffic Light Pole	31	1.2%
Bench	18	0.7%
Bus Stop Pole	14	0.5%
Planter Box	13	0.5%
Trash Can	11	0.4%
Pedestrian Signal Pole	4	0.2%
Bus Shelter	3	0.1%
Other	150	5.7%

Protrusions

Protrusions were the least common sidewalk deficiency with 153 recorded instances. Common protrusions are shown in Figure 2-36. Table 2-12 shows that protrusions were most commonly mailboxes (64.1%) followed by street sign edges (17.0%).

Table 2-12: Protrusion Breakdown

Protrusion	Count	Percentage
Mailbox	98	64.1%
Street Sign	26	17.0%
Other	17	11.1%
Window	9	5.9%
Planter Box	3	2.0%

Figure 2-36: Sidewalk Protrusions

Removable Barriers

The removable barrier classification essentially draws from the previously mentioned obstruction and protrusion deficiencies; the key difference is that removeable barriers may be easily removed without extensive engineering work or coordination with property owners. Figure 2-37 shows some of the common removable barriers in Santa Fe including overgrown vegetation, erosion debris, and a "sandwich" board. Table 2-13 highlights the types of removable barriers that were cataloged during the field survey. Out of a total of 8,382 recorded instances, overgrown vegetation was the biggest issue being documented in 93.8% of the noted instances.

Figure 2-37: Common Removable Barriers

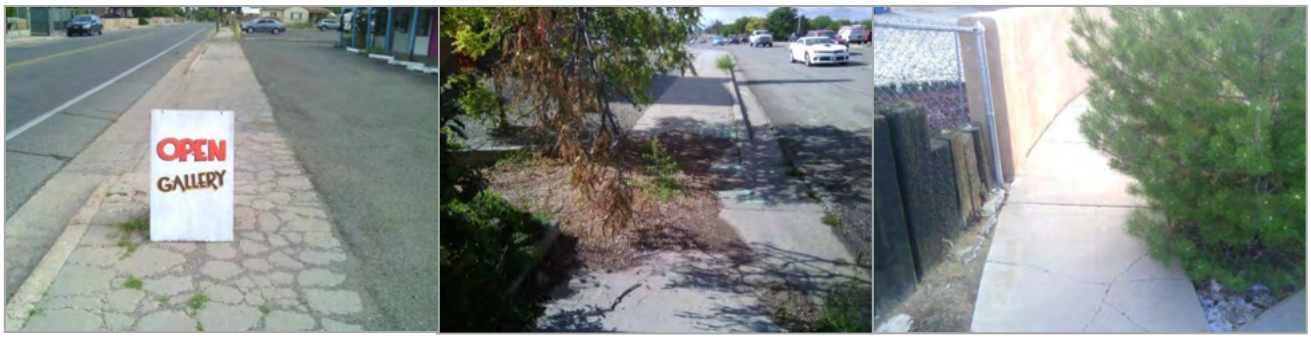


Table 2-13: Removable Barrier Breakdown

Removeable Barriers	Category	Count	Percentage	Distance	
				Feet	Miles
Local Area	Debris	1,805	21.5%	74,882	14.2
	Vegetation	7,410	88.4%	235,378	44.6
	Newspaper Boxes	7	0.1%	65	0.0
	Sandwich Board	29	0.3%	769	0.1
	Other	198	2.4%	4,898	0.9
Entire Segment	Debris	240	2.9%	120,163	22.8
	Vegetation	453	5.4%	220,468	41.8
	Newspaper Boxes	0	0.0%	0	0.0
	Sandwich Board	0	0.0%	0	0.0
	Other	4	0.0%	3,751	0.7

Running Slope

Under ADA guidelines, the sidewalk's running slope is required to match that of the road or not deviated beyond 5% of the road's slope. During the field survey, a total of 220 running slope issues were noted. As seen in Table 2-14, nearly two-thirds of the running slope issues were between 5.1% and 10% with the other third accounting for more severe slopes over 10%. Figure 2-38 shows some examples of running slope deficiencies.

Figure 2-38: Non-Compliant Running Slopes

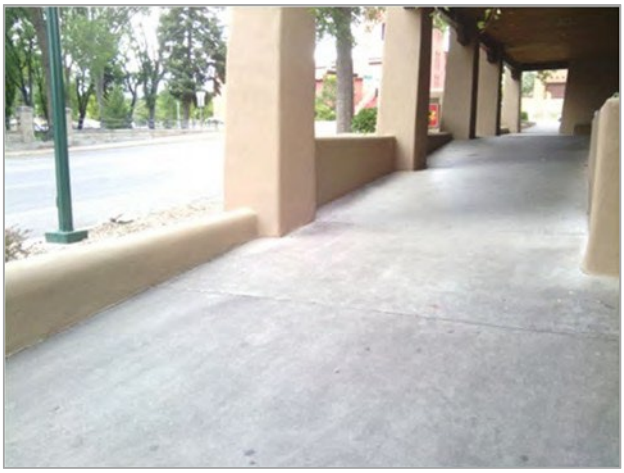


Table 2-14: Running Slope Breakdown

Running Slope	Count	Percentage	Distance	
			Feet	Miles
5.1% to 10%	140	63.6%	2,013	0.4
Greater than 10%	80	36.4%	781	0.1

Surface Obstructions

The final sidewalk deficiency is surface obstructions. Surface obstructions are a catch all for surface issues including grade breaks, surface gaps, uneven pavement, and vertical discontinuities; these are all shown in Figure 2-39. During the field survey a total of 14,663 surface obstructions were recorded; this represents the single largest category of sidewalk deficiencies. As seen in Table 2-15, the most common surface obstruction was vertical discontinuities noted on 63.4% of the recorded obstructions. However, the most impactful surface obstruction is uneven pavement which accounts for approximately 28 miles of sidewalk.

Figure 2-39: Surface Obstruction Types

Grade Break

Surface Gap – Flangeway Gap

Uneven Sidewalk

Vertical Discontinuity

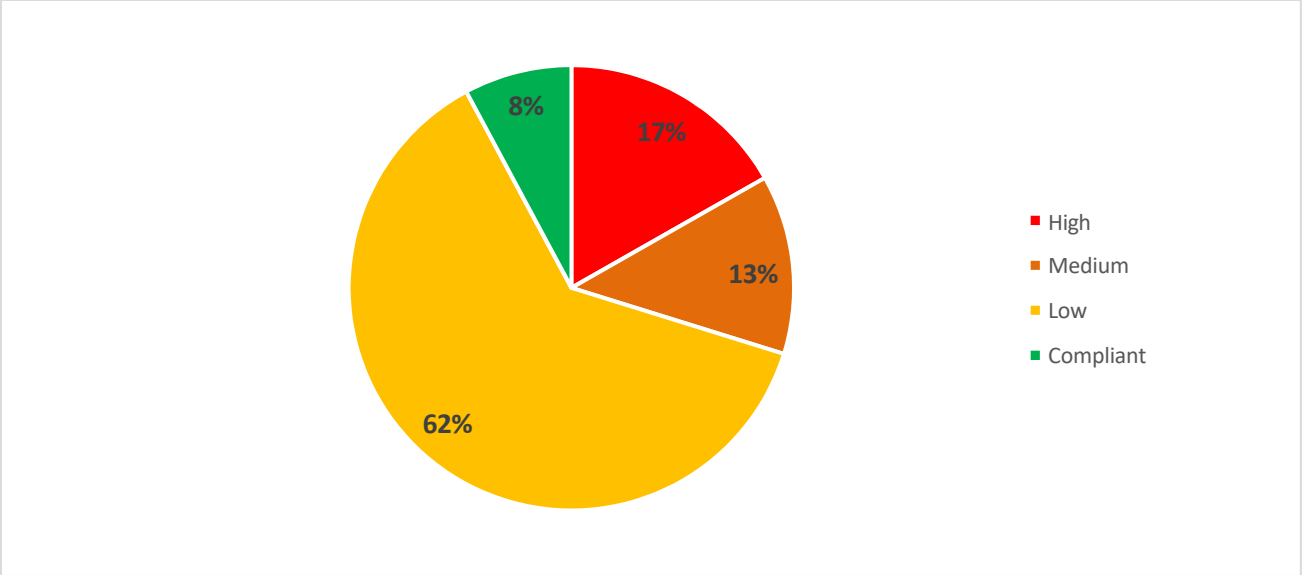
Table 2-15: Surface Obstruction Breakdown

Surface Obstructions	Count	Percentage	Distance	
			Feet	Miles
Grade Break	1,136	7.7%	19,321	3.7
Surface Gap	1,352	9.2%	18,477	3.5
Uneven Pavement	5,711	38.9%	146,661	27.8
Vertical Discontinuity	9,302	63.4%	107,083	20.3

Sidewalk Rating

For the purposes of this report, the study team developed a three-tier rating system for sidewalks in need of repair or modification to meet ADA guidelines. Sidewalks that were not ADA compliant were designated as either "High Priority," "Medium Priority," or "Low Priority." This tiered system is meant to demonstrate the level of non-compliance for each sidewalk. Figure 2-40 provides the overall results of the sidewalk rating process. Additional information may be found in Appendix C.

Figure 2-40: Sidewalk Deficiency Rating



High Priority Deficiency

The high priority category represents sidewalks that do not meet ADA guidelines and are extremely difficult if not impossible to navigate with a mobility impairment. High priority sidewalks are those that are not continuous from crossing to crossing and have a width of less

than 36-inches. These attributes are discussed below. High priority sidewalks make up 16.8% of all sidewalks surveyed. The percentages of high priority sidewalks in each council district are provided in Table 2-16.

Table 2-16: High Priority Deficiency Sidewalk Segments by Council District

City Council District	Total Sidewalk Segments	High Priority Sidewalk Segments	High Priority Percentage
District 1	1,338	296	22.1%
District 2	1,240	320	25.8%
District 3	626	61	9.7%
District 4	1,482	109	7.4%
Totals	**4,686**	**786**	**16.8%**

Sidewalk Non-Continuous

When performing the field survey, sidewalk segments were drawn from intersection to intersection and occasionally to mid-block crossings. If the sidewalk segment did not connect from one street crossing to another it was noted as non-continuous. Of the 4,686 sidewalk segments that were surveyed, 672 were not continuous; this accounts for 14.3%. As Figure 2-41 illustrates, when a sidewalk abruptly ends before an intersection it is not a complete link and becomes non-functional.

Figure 2-41 Non-Continuous Sidewalk Ends Mid-Block

Sidewalk Width Less than 36 Inches

Sidewalks that are less than 36-inches in width are not only non-compliant (any sidewalk less than 48-inches in width is non-compliant) but are also non-functional for persons using mobility devices. As seen in Figure 2-43, this sidewalk along Canyon Road is less than 36-inches in width and is un-useable for a wheelchair user. Two percent of Santa Fe's sidewalks fall within this category. As Figure 2-42 shows, 71% of the city's sidewalks are 48-inches or greater in width.

Figure 2-42: Sidewalk Width

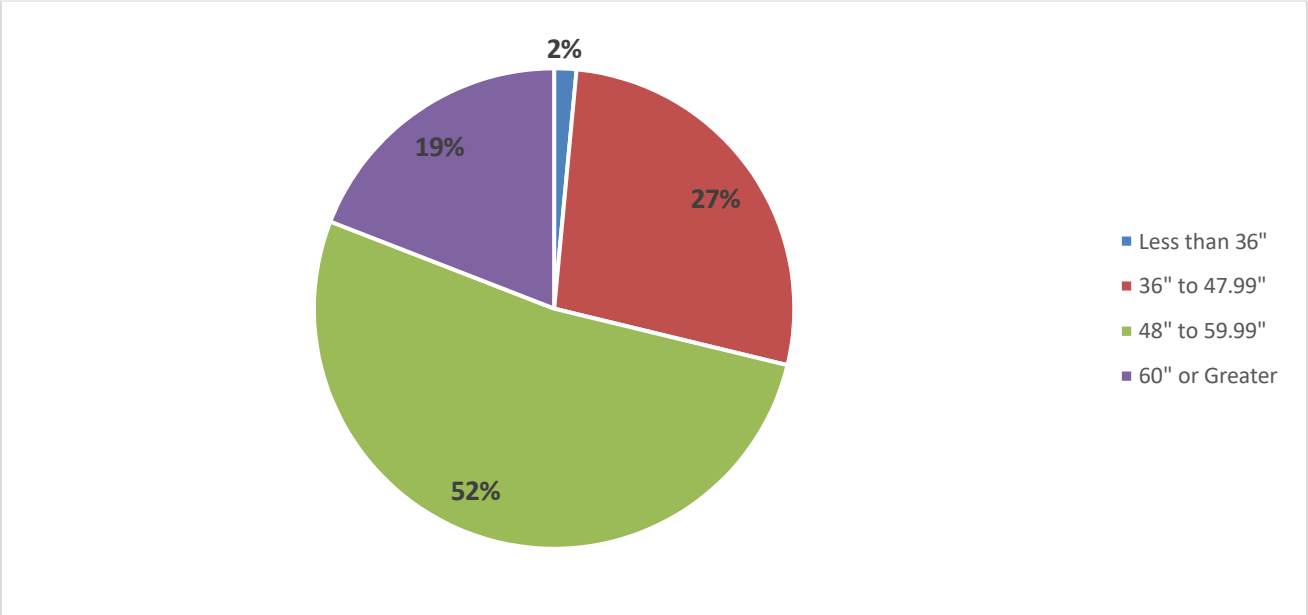


Figure 2-43: Less than 36-Inch-Wide Sidewalk

Medium Priority Deficiency

Medium priority deficiencies represent sidewalk segments that do not meet ten or more ADA compliance guidelines. Sidewalk deficiencies in this category include cross slopes, driveways, protrusions, running slopes and surface obstructions. Also included in this category are sidewalks that are less than 48-inches in length. Thirty-three percent of Santa Fe's sidewalk segments are medium priority. Table 2-17 provides a breakdown of medium priority sidewalks by council district.

Table 2-17: Medium Priority Deficiency Sidewalk Segments by Council District

City Council District	Total Sidewalk Segments	Medium Priority Sidewalk Segments	Medium Priority Percentage
District 1	1,338	296	22.1%
District 2	1,240	180	14.5%
District 3	626	9	1.4%
District 4	1,482	125	8.4%
Totals	**4,686**	**610**	13.0%

Low Priority Deficiency

The low priority category for sidewalks includes segments which have a below average priority score. Sidewalks in this category typically feature fewer issues and are primarily functional. The low priority category averages the highest number of segments (62.4%). The low priority breakdown by Council District is shown in Table 2-18.

Table 2-18: Low Priority Deficiency Sidewalk Segments by Council District

City Council District	Total Sidewalk Segments	Low Priority Sidewalk Segments	Low Priority Percentage
District 1	1,338	685	51.2%
District 2	1,240	682	55.0%
District 3	626	451	72.0%
District 4	1,482	1105	74.6%
Totals	**4,686**	**2,923**	62.4%

Fully Compliant Sidewalks

Compliant sidewalks meet each of the ADA guidelines and provide a safe and accessible path for pedestrian travel. A total of 7.8% of sidewalks are compliant city-wide. As Table 2-19 shows, District 3 has the largest percentage (16.8%) of compliant sidewalks when compared to other Council Districts.

Table 2-19: Compliant Sidewalk Segments by Council District

City Council District	Total Sidewalk Segments	Compliant Sidewalk Segments	Percentage
District 1	1,338	61	4.6%
District 2	1,240	58	4.7%
District 3	626	105	16.8%
District 4	1,482	143	9.6%
Totals	**4,686**	**367**	7.8%

Sidewalk Results Overview

City Council District 1

District 1 contains slightly less high priority sidewalks than District 2; however, it does contain a higher percentage of high and medium priority combined (44.2%). Figure 2-44 provides the sidewalk priority breakdown for District 1. As shown in Figure 2-45, high priority sidewalks are predominately located along Alameda Street, Agua Fria Street, Alto Street, and select portions of Cerrillos Road. Medium priority sidewalks are mostly found in the neighborhood areas to the west and southwest of downtown with low priority sidewalks fairly dominate downtown. Compliant sidewalks are spread around the District with notable locations along Cerrillos Road, Gonzales Road, and the downtown area.

Figure 2-44: District 1 Sidewalk Deficiency Rating

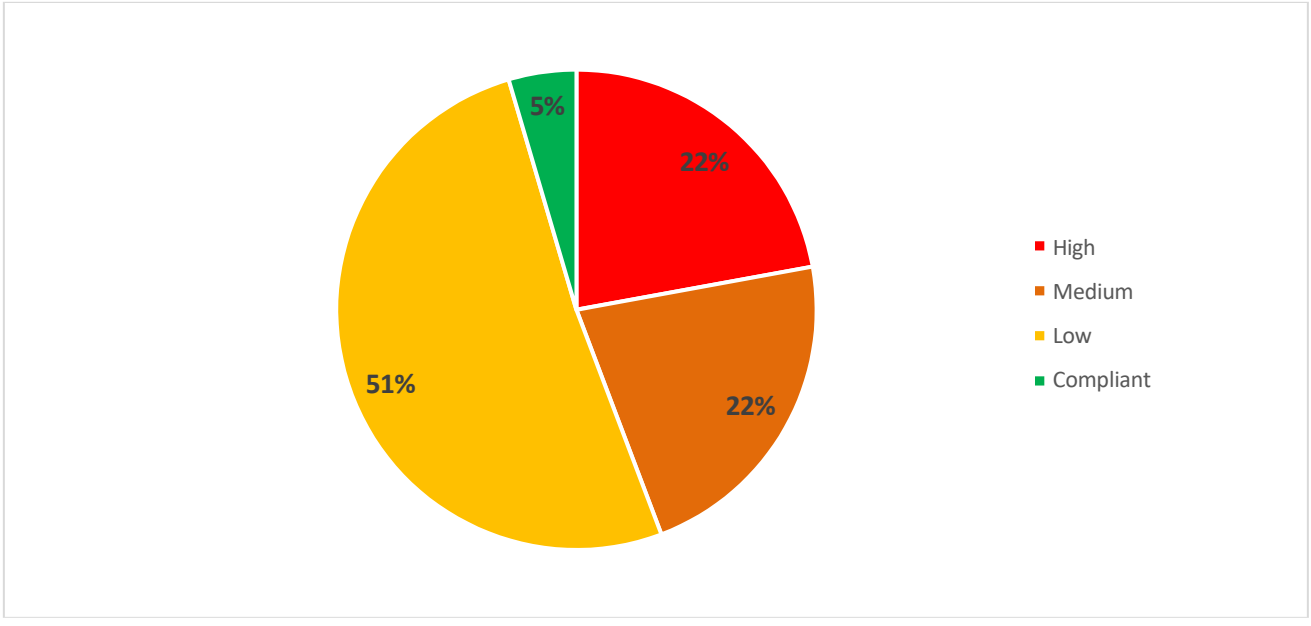
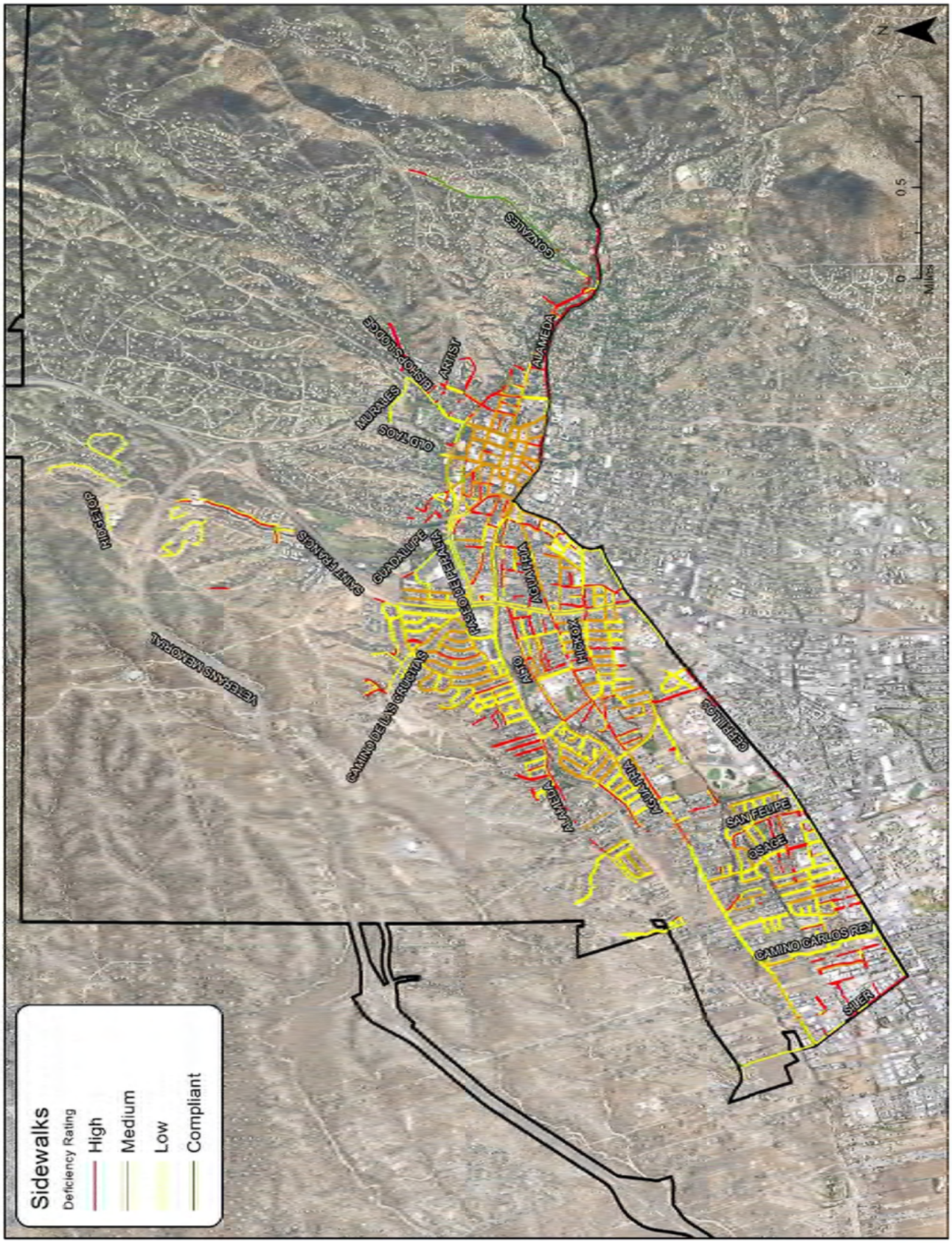


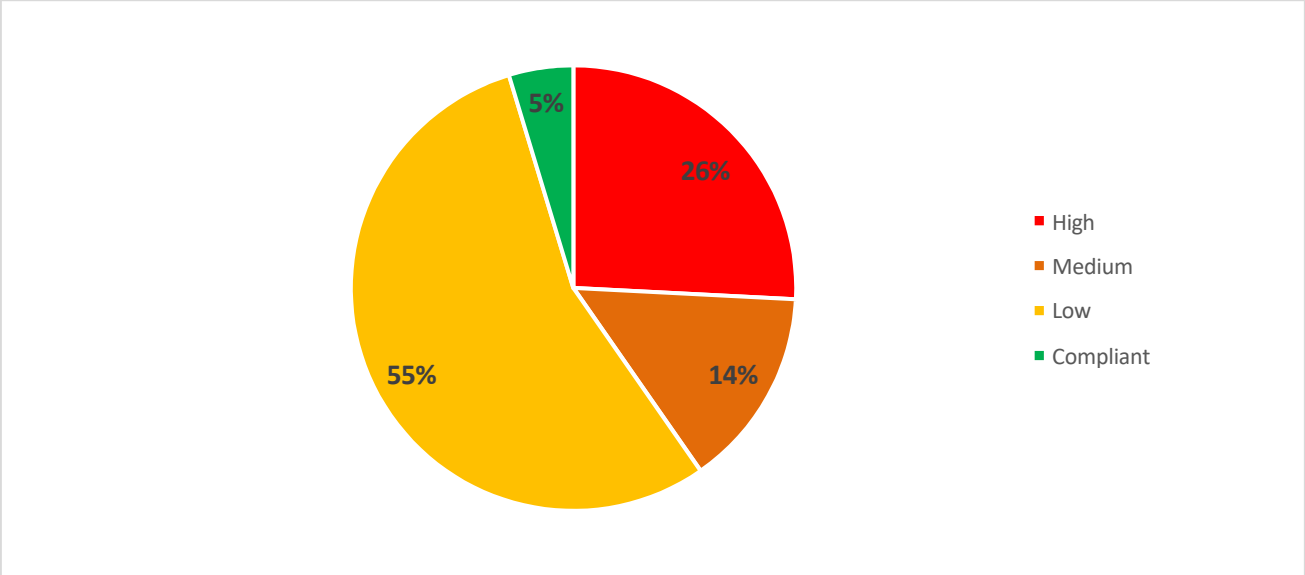
Figure 2-45: City Council District 1 Sidewalk Summary Map



City Council District 2

District 2 contains the highest percentage of high priority sidewalks with 25.8%. Figure 2-46 provides the breakdown of sidewalk priority levels. High priority sidewalks can be found along Canyon Road, the neighborhoods south of Paseo de Peralta and north of Cordova Road, and the neighborhood bound by Cerrillos Road, St. Michaels Drive, and the Rail Runner Train Tracks. Medium and low priority sidewalks are dispersed throughout the district. Compliant sidewalks are mostly found in the downtown area and along the St. Francis Drive corridor. Figure 2-47 displays the location of sidewalks within District 2 and their priority level.

Figure 2-46: District 2 Sidewalk Deficiency Rating



City Council District 3

District 3 has the highest percentage of compliant sidewalk (16.8%). As Figure 2-49 shows, the District also has the second highest percentage of low priority sidewalks (74.6%). Only 11.2% of District 3 sidewalks are in the high or medium priority categories. High priority sidewalks are predominately found along Airport Road and the neighborhood in the far eastern portion of the district. Medium and low priority sidewalks are evenly spread across the district. Compliant areas include the neighborhoods surrounding South Meadows Road and portions of Airport Road and Cerrillos Road. Figure 2-48 provides the location of sidewalks and their priority level in District 3.

Figure 2-47: City Council District 2 Sidewalk Summary Map

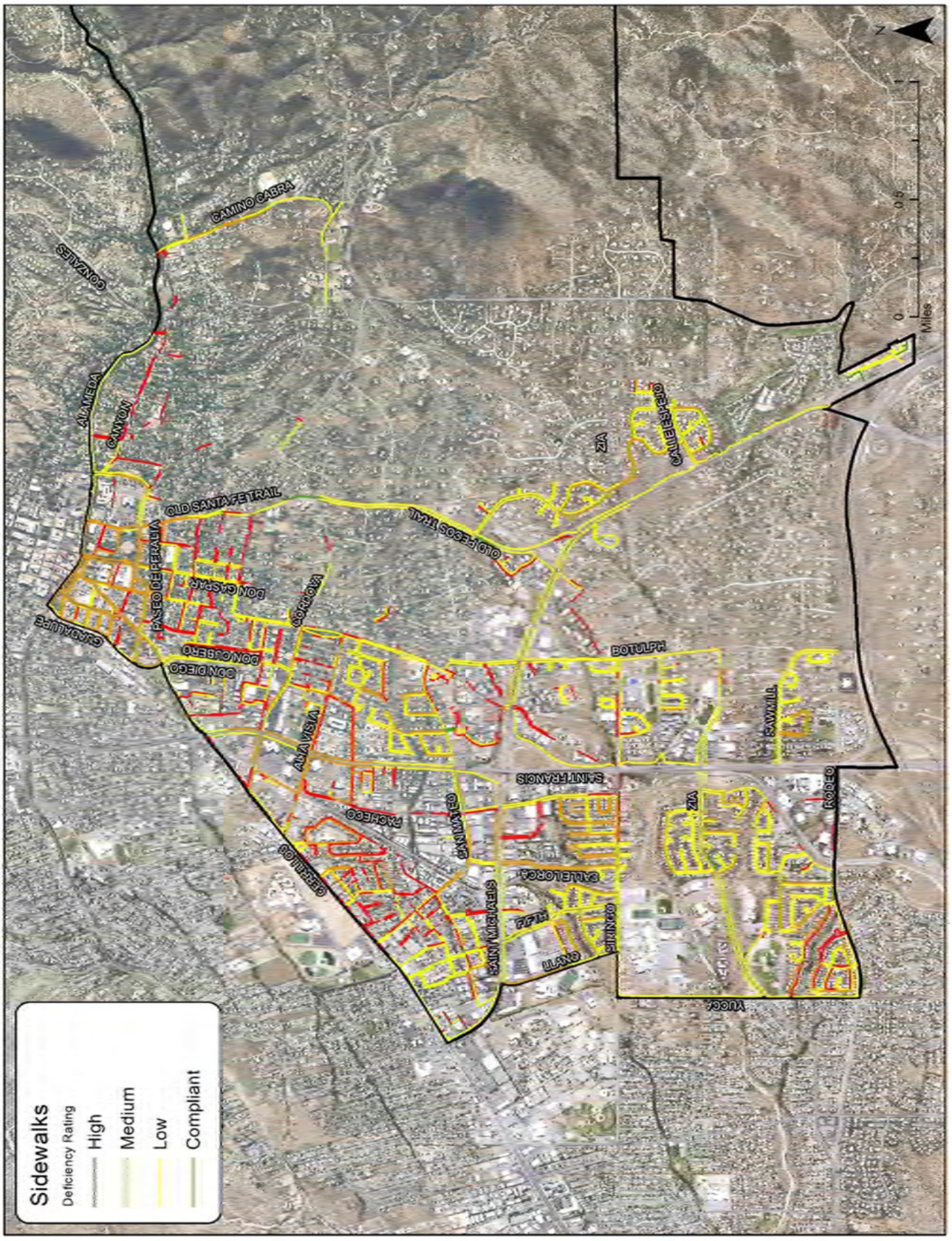


Figure 2-48: City Council District 3 Sidewalk Summary Map

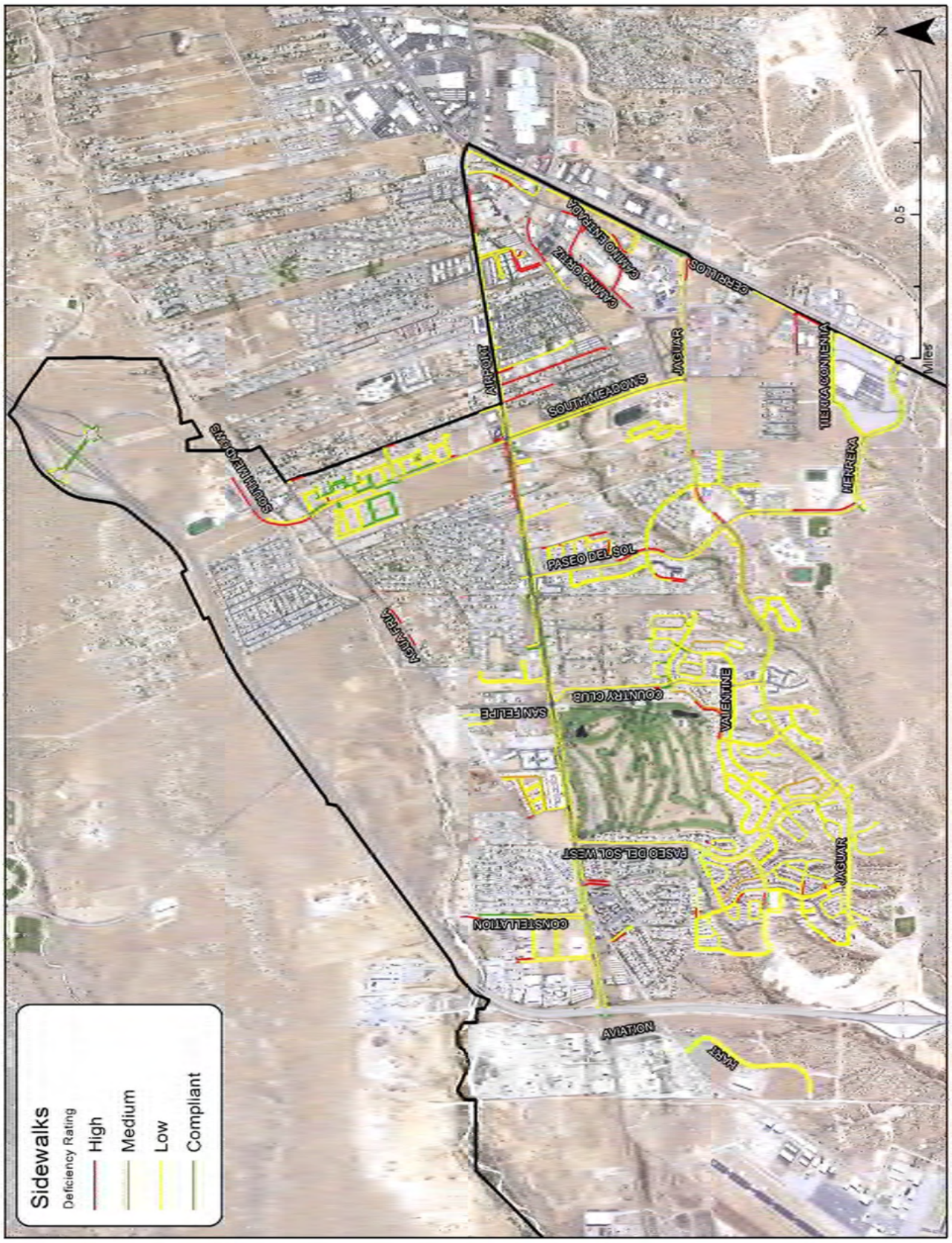
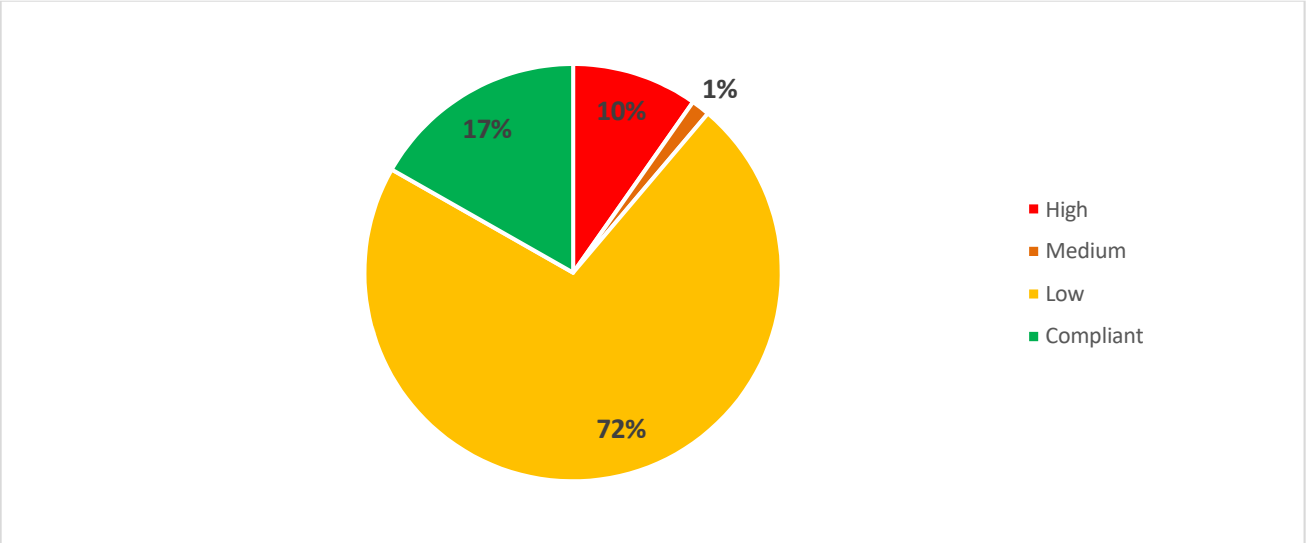


Figure 2-49: District 3 Sidewalk Deficiency Rating



City Council District 4

The condition of sidewalks in District 4 is good overall. As shown in Figure 2-50, 9.6% of sidewalks are compliant with 74.6% falling into the low priority category. District 4 has the lowest number of high priority sidewalks (7.4%). As seen in Figure 2-51, high priority sidewalks are spread throughout the neighborhoods of the district with few clusters. Medium priority sidewalks are clustered in the neighborhoods of Alamosa Drive, Siringo Road, and Camino del Bosque. Compliant sidewalks may be found along Cerrillos Road, Rufina Street, and the newly developed areas in the southern portion of District 4.

Figure 2-50: District 4 Sidewalk Deficiency Rating

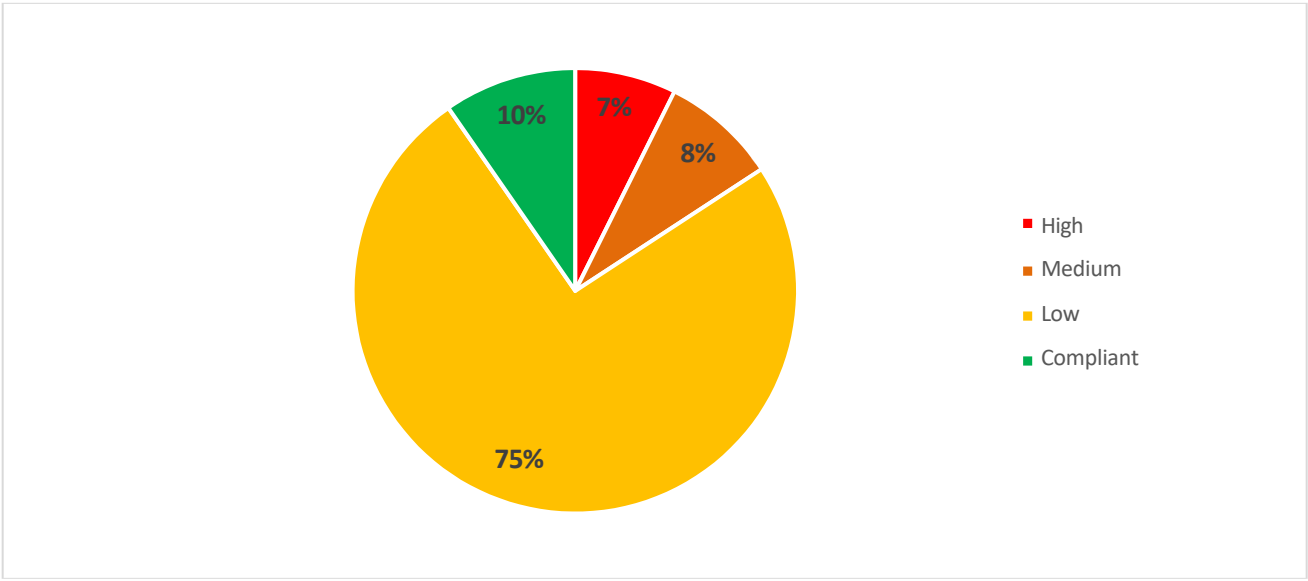
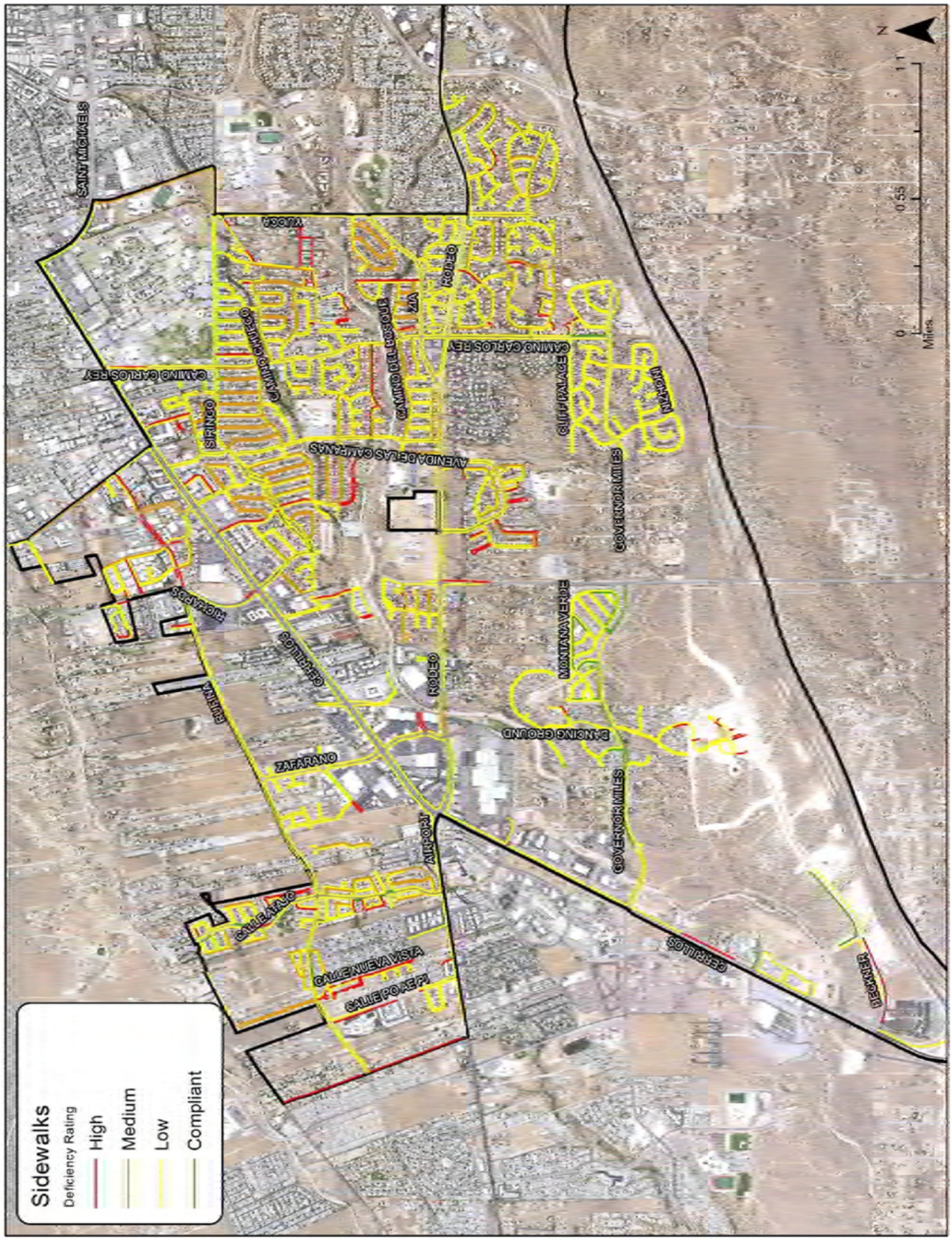


Figure 2-51: City Council District 4 Sidewalk Summary Map



Chapter 3
Prioritization Strategies

INTRODUCTION

Currently, the City of Santa Fe utilizes a range of approaches in prioritizing the removal of pedestrian barriers and obstructions from the City's PROW. These include:

- Proactively identifying barriers or obstructions
- Responding to public comments and complaints
- Confirming that construction and improvement projects meet ADA compliance

This chapter of the Transition Plan will cover prioritization strategies used by other jurisdictions and will provide recommended prioritization strategies to supplement the City of Santa Fe's current prioritization process. The recommended prioritization strategy is based on the standards set forth by the 2011 ADA Accessibility Guidelines. Establishing a prioritization process will increase the likelihood of attaining additional funding since funding agencies generally award capital funds based on local assessments of need.

REVIEW OF PRIORITIZATION STRATEGIES USED IN OTHER AREAS

As part of developing the prioritization strategies to upgrade the City's pedestrian infrastructure, a brief review was conducted of other national examples which have been recognized as best-practices. The review identified the following ADA Transition Plans; the frame work behind their prioritization processes is summarized below:

City of Austin, Texas – *Sidewalk Master Plan*

The City of Austin, Texas completed their ADA Transition Plan, termed the Sidewalk Master Plan, in 2009. The authors of the plan have developed a prioritization matrix to rank potential improvement projects based on three scores including:

1. Pedestrian Attractor Score (accounts for 50% of base score)
    - Proximity to schools, transit stops, government offices, etc.
    - Median household income (areas at or below the median income)
    - Population
    - Existing facilities
    - Citizen/organization requests for improvements
    - Transit corridor
    - Bicycle lanes

2. Pedestrian Safety Score (accounts for 40% of base score)
    - Street characteristics (number of lanes, speed limit and traffic counts)
    - Public health data
    - Pedestrian and automobile incidents
3. Fiscal Availability Score (accounts for 10% of base score)

City of Bellevue, Washington – *Toward Universal Access: Americans with Disabilities Act Sidewalk and Curb Ramp Self-Evaluation Report*

The City of Bellevue, Washington's ADA Self-Evaluation Report, completed in 2009, is perhaps on the most noteworthy reports to date due the City's unique technological approach to surveying in the PROW. The City partnered with FHWA on the research and development of an ultra-light, slow-speed, inertial profiler (ULIP), based on existing light detection and ranging (LIDAR) technology. The ULIP unit was mounted on a Segway Human Transporter which was used to inventory sidewalks and curb ramps throughout the City.

The report developed two separate scores in its prioritization process. The first is an impedance score, based on curb ramp and sidewalk deficiencies, and the second is an activity score based on specific land uses, including:

- Concentrations of Persons with Disabilities (based on Metro Access rider home addresses)
- Higher Volume Streets
- Places of public accommodation (community centers, social services, libraries, hospitals, and government offices)
- High density housing
- Concentrations of Seniors (U.S. Census data)
- Transit Stops
- Employment centers
- Park Facilities
- Schools
- Retail stores

The combination of the activity and impedance scores provided the overall barrier ranking priority listing.

City of Eugene, Oregon – *Transition Plan for Accessibility in the Public Rights-of-Way*

The City of Eugene's ADA transition plan, completed in 2015, has established a three-tier prioritization strategy for addressing barrier removal in the PROW. Acknowledging limited funding for improvements, the plan's tiered approach reflects the adjacent land uses that

generate higher levels of pedestrian trips which would respond to the network needs of pedestrians. Lower priority areas may be addressed over time with an end goal of complete barrier removal. The plan's structured priority land uses are as follows:

- Priority 1 – State/Local Government and Public Use Facilities
  - State/Local Government Buildings
  - Hospitals/Medical Clinics
  - Schools
  - Public Parks
  - Public Transit Systems
  - Access to Shared Use Paths
  - High Use Areas or Facilities that service Alternatively-Abled Populations

- Priority 2 – Places of Public Accommodation and Employment
  - Major Commercial and Retail Sites
  - Major Employment Sites; e.g. Downtown
  - High-Density Multi-Family Housing Developments
  - Places of Public Assembly

- Priority 3 – Other Considerations
  - Individual Service Requests
  - Geographic Connectivity
  - Project/Funding Requirements

City of Rancho Cordova, California – *ADA Transition Plan*

The City of Rancho Cordova's ADA Transition Plan was completed in 2005 and is recognized by the FHWA as a best practice for municipalities. The plan prioritizes public input requests as the first line of priority; these requests come from community members who wish to access a range of facilities to accommodate their activities of daily living. Beyond individual, or group, requests, the City uses the following three priority areas:

1. Priority 1: State and Local Government and Public Use
   - State, county and local government buildings
   - Public hospitals, health clinics, medical clinics
   - Public housing projects and public homeless shelters
   - Sheriff neighborhood service centers
   - CalWorks offices and Employment Training Agency facilities
   - City parks
   - Public schools
   - State and local district offices with high public traffic (e.g. DMV)

2. Priority 2: Public Accommodations

- Private hospitals, doctor's offices, and medical and mental health offices
- Senior facilities
- Major shopping malls
- Large housing complexes
- Major employment sites
- Supermarkets
- Retail strip centers
- Small apartment facilities
- Service sites of disability organizations
- Rehabilitation facilities

3. Priority 3: Low-Density and Other Uses
    - Single-family residential areas
    - Industrial areas
    - Areas that have not fallen into the above groups

In addition to the three priorities listed above, Rancho Cordova has also developed evaluation factors called condition properties. Condition properties are based on the physical condition of an existing curb ramp, intersection, or sidewalk. The combination of priority areas and condition properties determine where improvement projects should be planned should additional funds be available once public requests have been satisfied. Condition properties are ranked one through five and are as follows:

1. Condition Property 1: Locations where existing conditions may cause a safety hazard including deteriorated conditions and vertical displacements
2. Condition Property 2: Locations where there is no existing pedestrian infrastructure
3. Condition Property 3: Locations where there is no safe path of travel across an intersection
4. Condition Property 4: Improvement of a location with difficult physical conditions such as major utility conflicts, physical barriers, or other constraints
5. Condition Property 5: Existing infrastructure that is functional for most persons but does not meet current accessibility standards (e.g. slopes, lack of detectable warnings, etc.)

RECOMMENDED PRIORITIZATION STRATEGY

The recommended prioritization strategy draws from the above examples from other municipalities across the country in addition to input that has been obtained from City staff and the Santa Fe Mayor's Committee on Disability. The goal of this strategy is to make improvements to curb ramps, intersections and sidewalks that will meet current ADA accessibility guidelines at locations which will benefit the greatest number of users. The recommended prioritization strategy is based on three main categories:

- Public requests
- PROW deficiency
- Priority areas

Public Requests

The highest priority for improvements to the PROW should be based on public comments or requests. These requests are typically submitted by community members with disabilities who wish to access priority areas (defined in the following Priority Areas section). The City of Santa Fe currently operates an ADA Grievance Procedure program; additional information is available at (http://www.santafenm.gov/grievance_policy_and_procedure).

Once requests are received by the City's ADA Coordinator they should be evaluated to determine the scope of the issue and the feasibility of constructing ADA compliant curb ramps, intersections, or sidewalks. When determining the scope of the issue, the entire pedestrian network should be considered. For example, if the removal of a barrier is requested the entire block and adjacent intersections should be evaluated.

Following the evaluation and feasibility assessment, these projects should be ranked by priority and programmed into the following capital improvement cycle when funding is available.

PROW Deficiency

The PROW deficiency category takes into account the severity of the problem at each location. Severe deficiencies that render a block or area completely inaccessible should have higher priority over other problems which render a location non-compliant without making it non-functional. To differentiate these types of deficiencies the following high to low priority list has been developed.

High Priority Deficiency

High priority deficiencies are defined as locations that do not meet ADA compliance guidelines and are non-functional for persons with mobility or visual impairments. These areas may be difficult or impossible to traverse even for able-bodied persons. Contributing attributes include:

- Curb ramps and sidewalks that are less than 36 inches in width
- Obstructions
- Non-continuous sidewalks

Medium Priority Deficiency

Medium priority deficiencies represent areas which do not meet one or more of the ADA's guidelines but can remain functional, or accessible. This category largely includes:

- Curb ramps and sidewalks that are less than 48 inches in width
- Cross-slope issues
- Run-slope issues
- Surface gaps
- Vertical changes
- Protrusions

Low Priority Deficiency

Lower priority deficiencies are non-compliant with ADA guidelines but are functional (traversable by persons in mobility devices).

- Minor slope issues
- Minor surface obstructions

Priority Areas

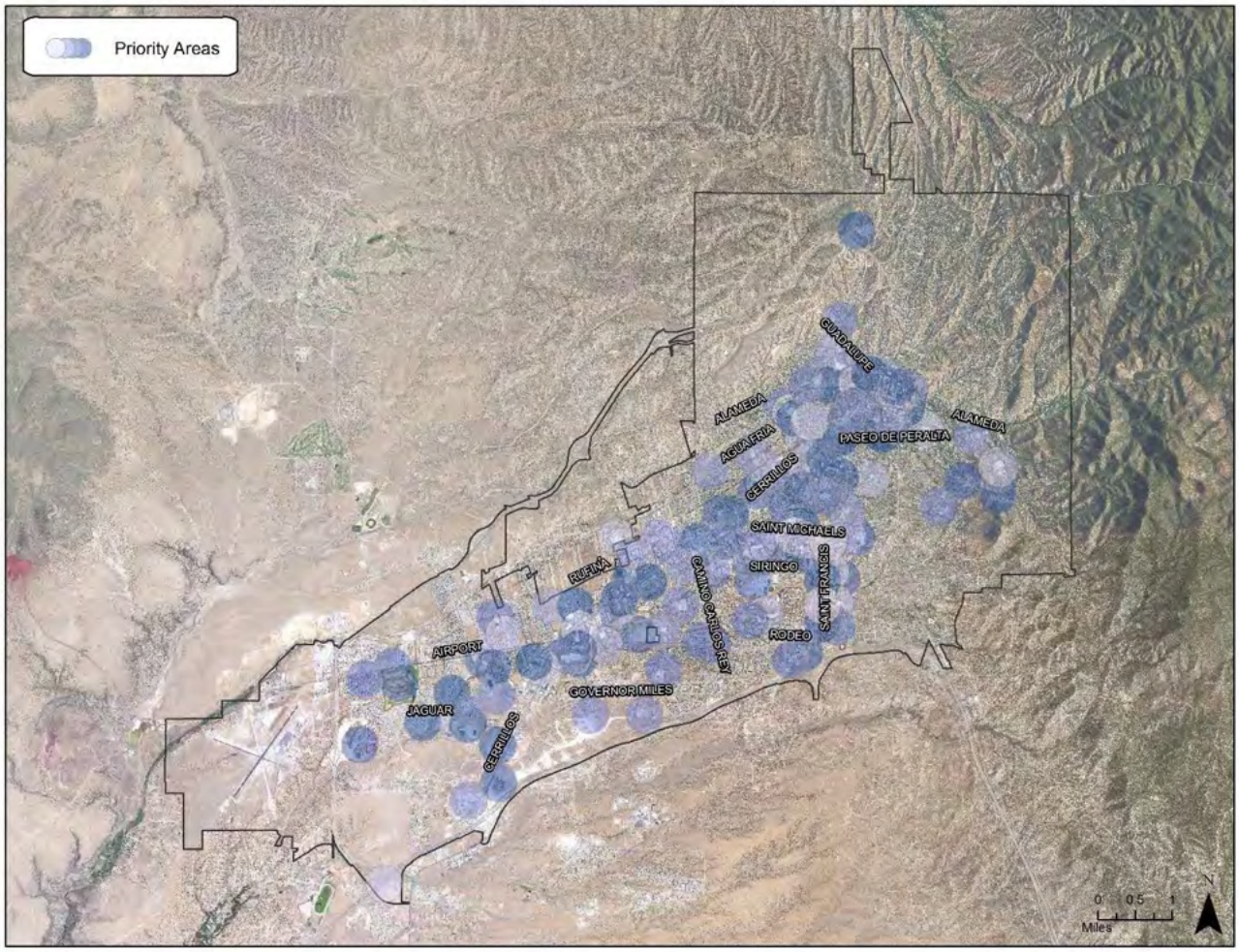
The priority area category identifies locations that are likely to attract the highest number of persons with disabilities as well as having generally high overall pedestrian activity, therefore identifying where improvements will have the greatest impact. The specific land uses and attributes that will be included in the prioritization strategy include:

- City parks
- Disabled population (U.S. Census data)
- Government office buildings
- Hospitals, medical clinics, and mental health clinics
- Large apartment complexes
- Major employment sites
- Major shopping destinations
- Museums and other cultural attractions
- Public housing and homeless shelters
- Schools; public, private, colleges and universities
- Senior centers
- Supermarkets/grocery stores

Figure 3-1 provides a map with the location of priority areas throughout the City of Santa Fe. The priority areas shown on the map are colored in varying gradients of blue to show the

amount of overlapping. The majority of priority areas are surrounding downtown and are also located along the City's major transportation corridors; including Cerrillos Road, St. Francis Drive, and St. Michaels Drive among others.

Figure 3-1: Priority Area Locations



Overlapping Priorities

Identifying locations that meet multiple criteria will ensure that improvements will benefit the greatest number of people. In turn, funding for improvements will be more likely. The recommended priorities generally mimic the priorities set forth in the Santa Fe MPO's Pedestrian Master Plan and comply with federal guidance for developing local ADA Transition Plans. Improvement projects stemming from this prioritized list should be further reviewed and coordinated with existing or planned sidewalk/road resurfacing, rehabilitation, or replacement efforts.

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Chapter 4
Prioritization Results

INTRODUCTION

Chapter 4 provides the results of the prioritization process described in Chapter 3 and incorporates the deficiency data displayed in Chapter 2 to create an overall priority scoring index and identify potential high priority projects.

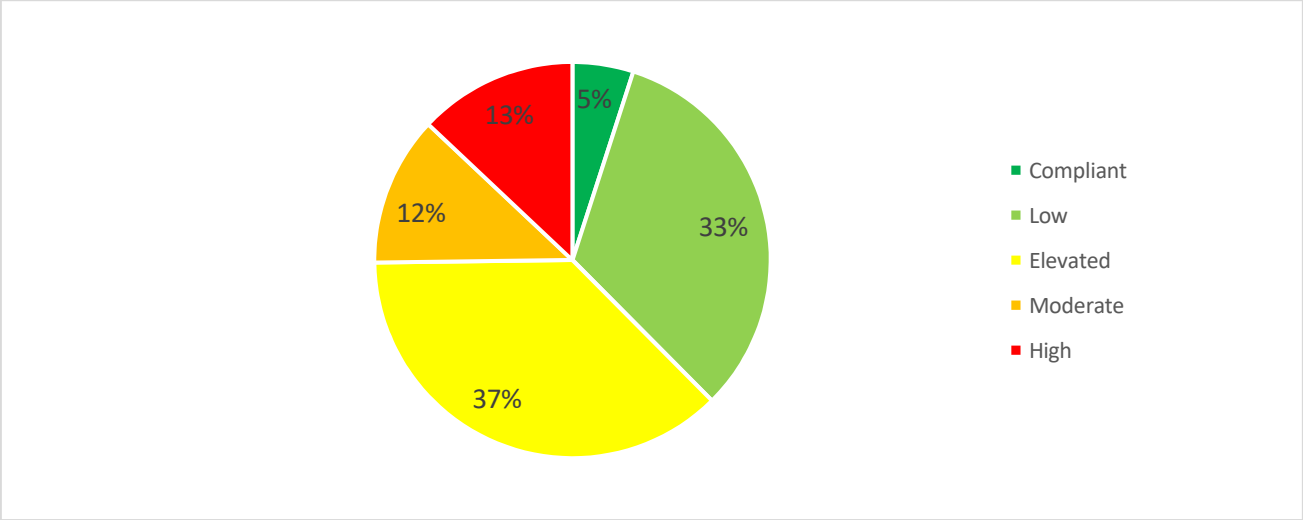
This chapter includes a description of the implementation of the prioritization process and an overview of the scoring index. Similar to Chapter 2, the prioritization analysis section presents the overall priority score by City Council District. The chapter concludes with the top ten high priority pedestrian areas which should be assessed by the City of Santa Fe for inclusion in upcoming capital improvement plans.

PRIORITIZATION PROCESS

The prioritization process included separate scoring of deficiencies and priority areas. Once these assessments were completed, a score was developed where both deficiencies and priority areas received a factored score on a scale of 0 to 50. These two scores were combined to create the prioritization score with a possible score range of 0 to 100 where the higher the score, the higher the priority ranking. If the deficiency score was zero and the asset had a priority area score, then the prioritization score was zeroed out.

The combined priority score breakdown can be seen in Figure 4-1. The percentages shown in the pie chart represent all curb ramps, intersections, and sidewalk segments. While the "compliant" category represents the lowest percentage, this does not expressly mean that only two percent of the city's pedestrian assets are ADA compliant. The method in which assets were selected only accounted for the number of instances and not the mileage or distance. As seen in the chart, the largest prioritization category was "elevated" totaling 37% of the surveyed elements. In general, the majority (75%) of pedestrian assets fall into the "elevated," "low," or "compliant" categories.

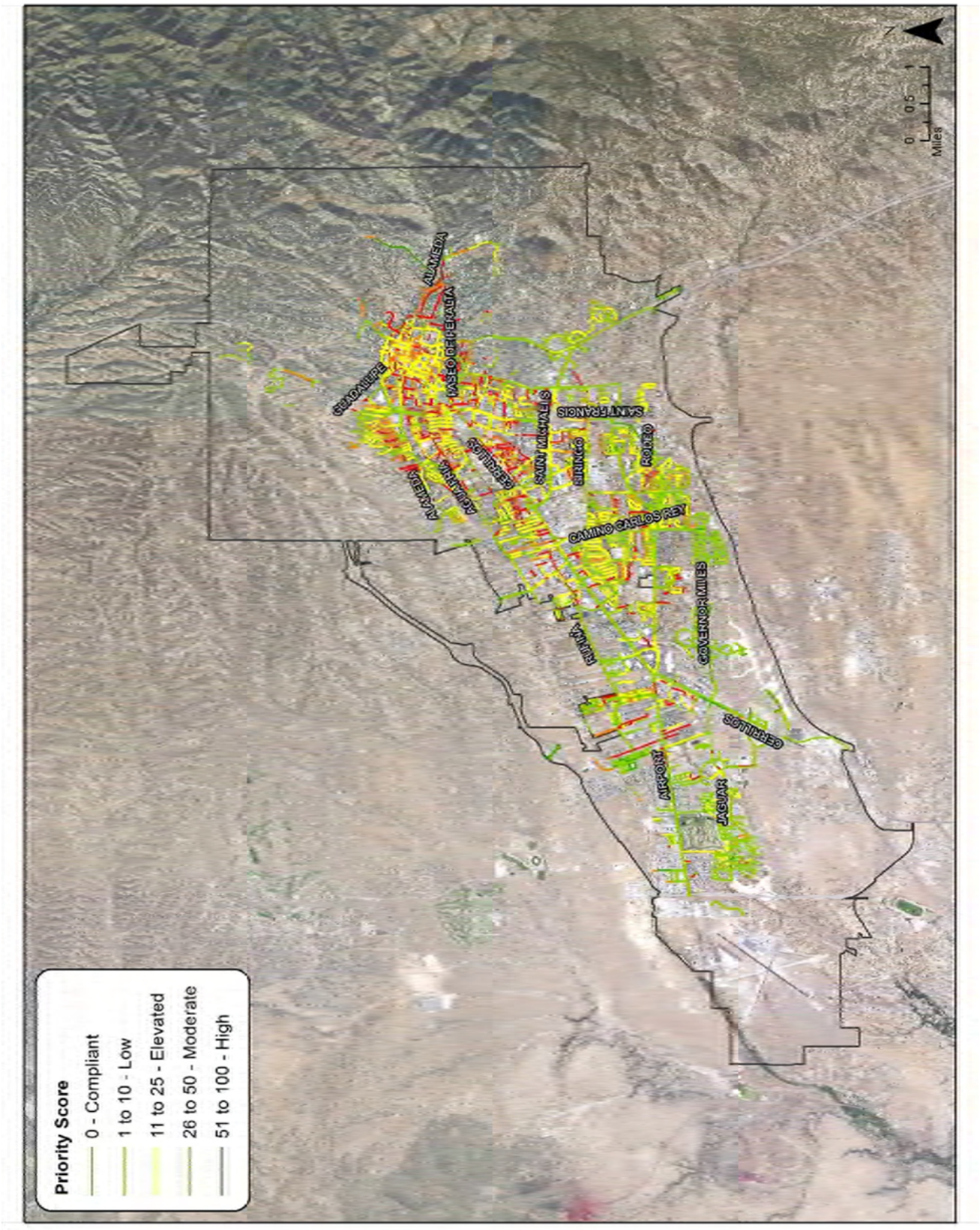
Figure 4-1: Overview of Prioritization Scoring



PRIORITIZATION ANALYSIS

The overall results of the prioritization process may be seen in Figure 4-2. The map shows a relatively significant rise in priority levels in the northern portions of the city, including downtown, and increased levels in the central city along Cerrillos Road. Much of the southern portions of the city are low priority, representing very few ADA compliance issues.

Figure 4-2: Overview of Prioritization Results



District 1

District 1 has the highest percentage of high priority assets at 19%. District 1 also has the highest percentage of elevated priority assets, 39%. Figure 4-3 provides the complete prioritization breakdown. The district encompasses large portions of the historic downtown area and surrounding suburbs. Many sidewalks and curb ramps within this district are relatively old in comparison to the rest of the city. Many issues found in District 1 include narrow sidewalks (less than 48 inches wide), non-continuous sidewalks, and obstructions.

High priority areas are located across the district. Some notable areas include Agua Fria Street, E. Alameda Street and Cerrillos Road. Many neighborhoods also have high priority areas. These areas can be seen in greater detail in Figure 4-4.

Figure 4-3: District 1 Prioritization Scoring

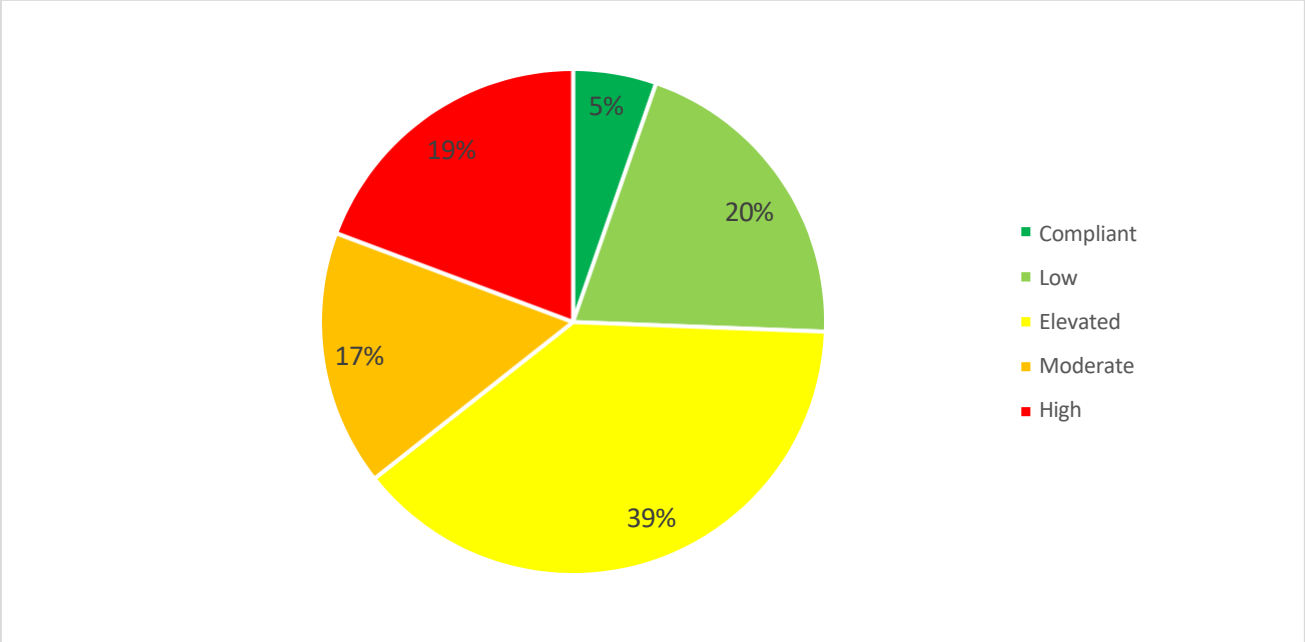
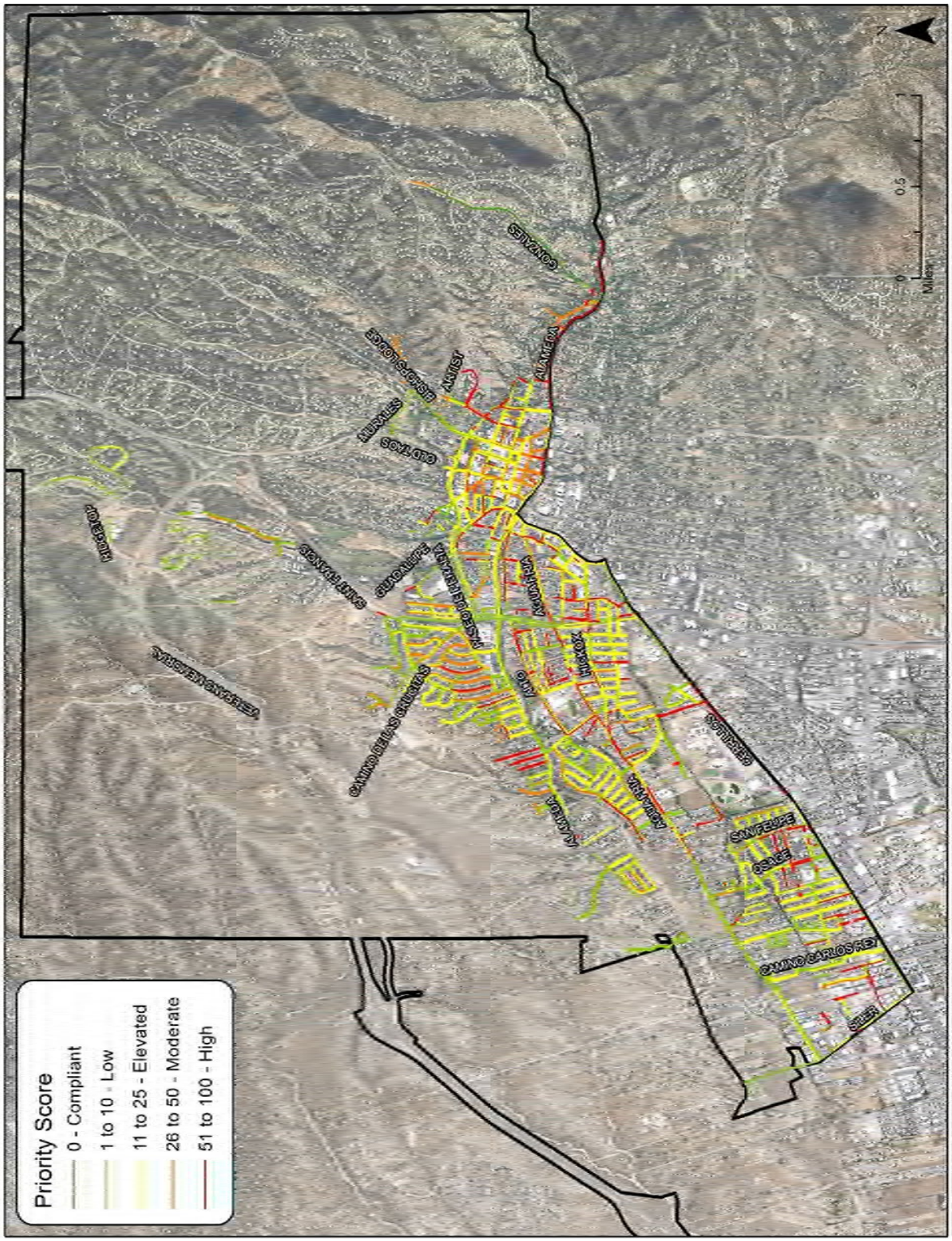


Figure 4-4: District 1 Prioritization



District 2

District 2 makes up the southern portion of downtown and surrounding suburbs. Overall the condition of pedestrian assets in District 2 is mid-range. The district contains the highest percentage of moderate priority areas with 18%. As seen in Figure 4-5, high priority assets make up 16% of the total. Similar to District 1, this district also features older curb ramps and sidewalks which have deteriorated over time. As seen in Figure 4-6, many of the streets in District 2 do not contain curb ramps or sidewalks.

High priority areas in District 2 include Alta Vista Street, Canyon Road, and Cerrillos Road. Many neighborhoods close to downtown and along Cerrillos Road also contain high priority areas.

Figure 4-5: District 2 Prioritization Scoring

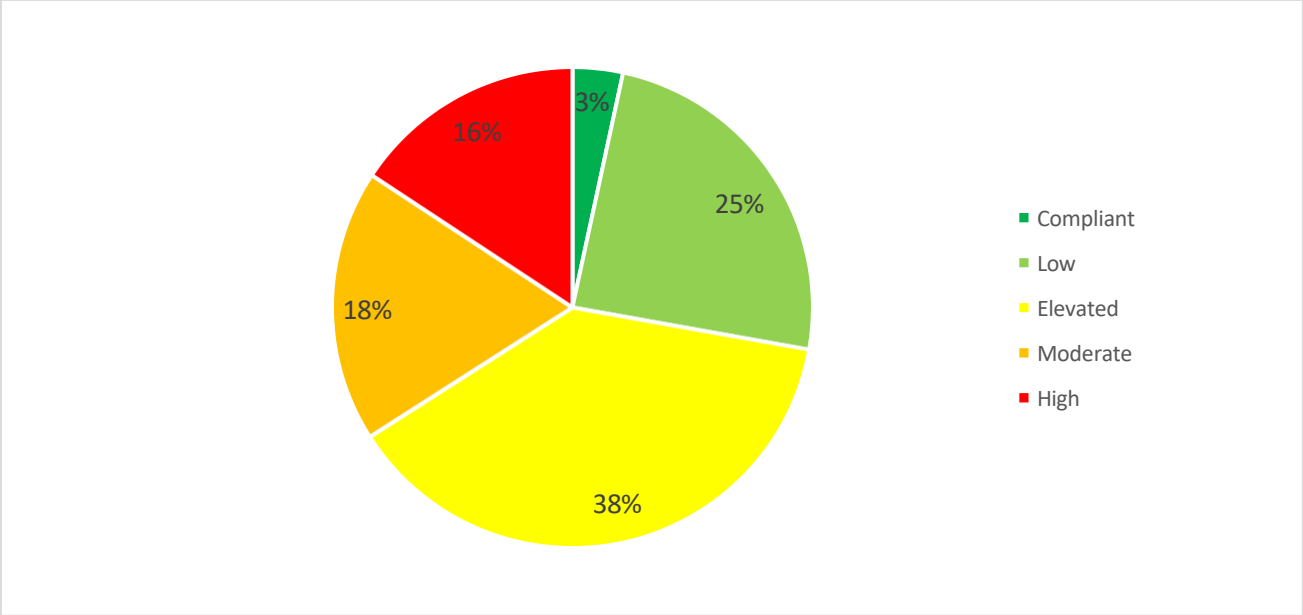
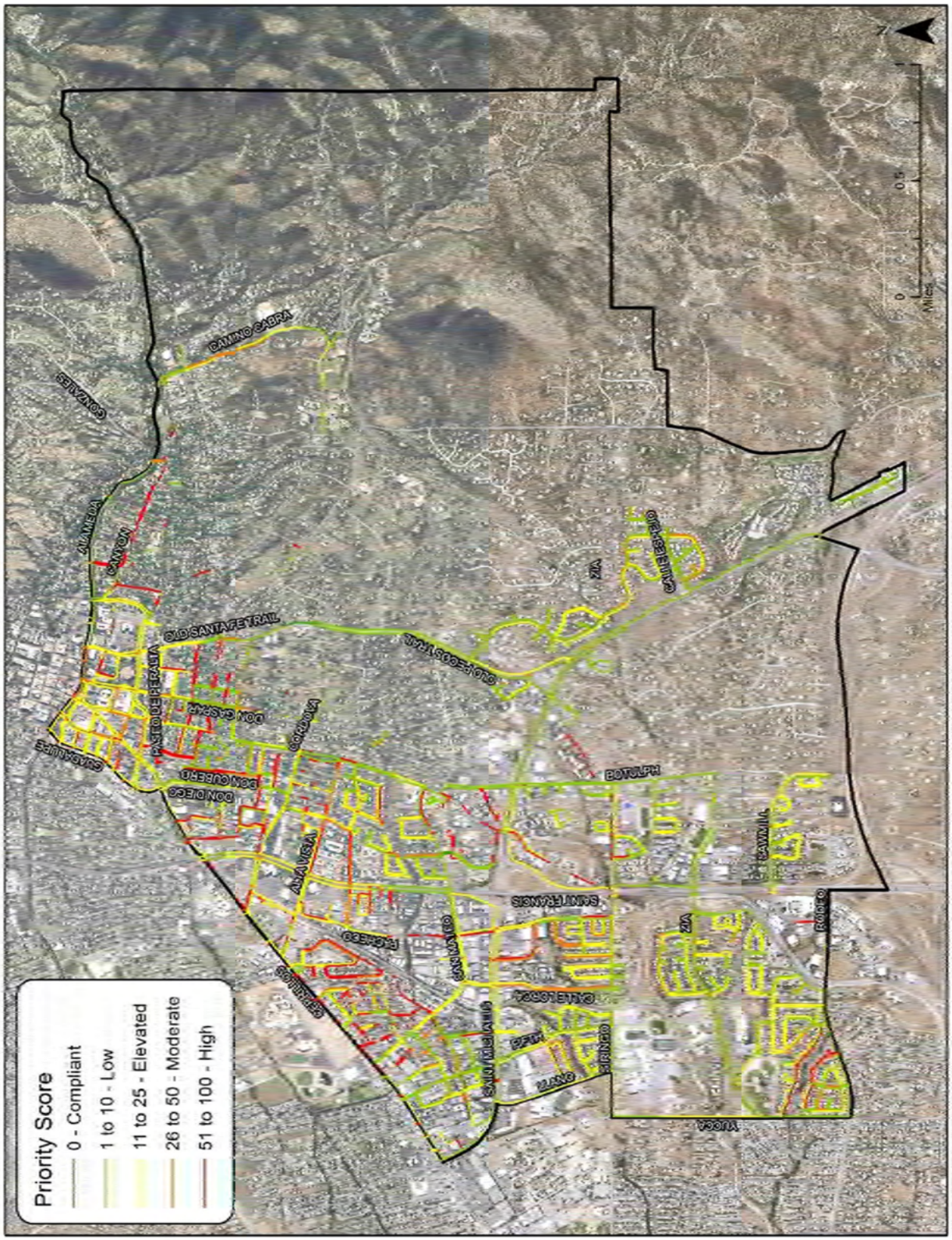


Figure 4-6: District 2 Prioritization



District 3

District 3 has the highest percentage of compliant and low priority assets with 8% and 51% respectively. Additionally, as seen in Figure 4-7, only 4% of the assets in District 3 are high priority. When compared to the city's three other districts, District 3's pedestrian infrastructure is the best in Santa Fe with very few ADA compliance issues. This trend is likely due to newer commercial and residential developments which have brought new and compliant pedestrian infrastructure to the area.

While District 3 has the best overall prioritization scoring, there are high priority areas in the district that should be addressed. The highest priority area in District 3 is along the eastern corridor of Airport Road. many of the streets running perpendicular to Airport Road are also ranked as high priority. Figure 4-8 provides a detailed view of prioritization scoring in District 3.

District 3 is also home to a large number of private communities which were not included in the PROW survey. While sidewalks and curb ramps do exist within these communities they are not maintained by the City of Santa Fe and are the responsibility of the property owner.

Figure 4-7: District 3 Prioritization Scoring

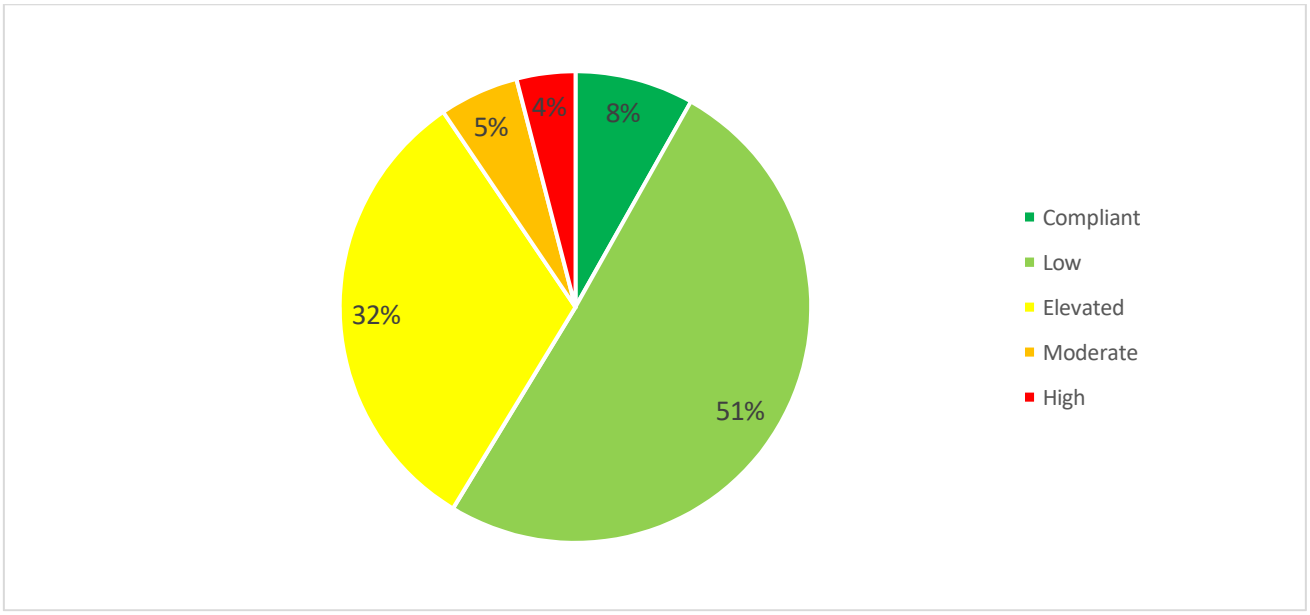
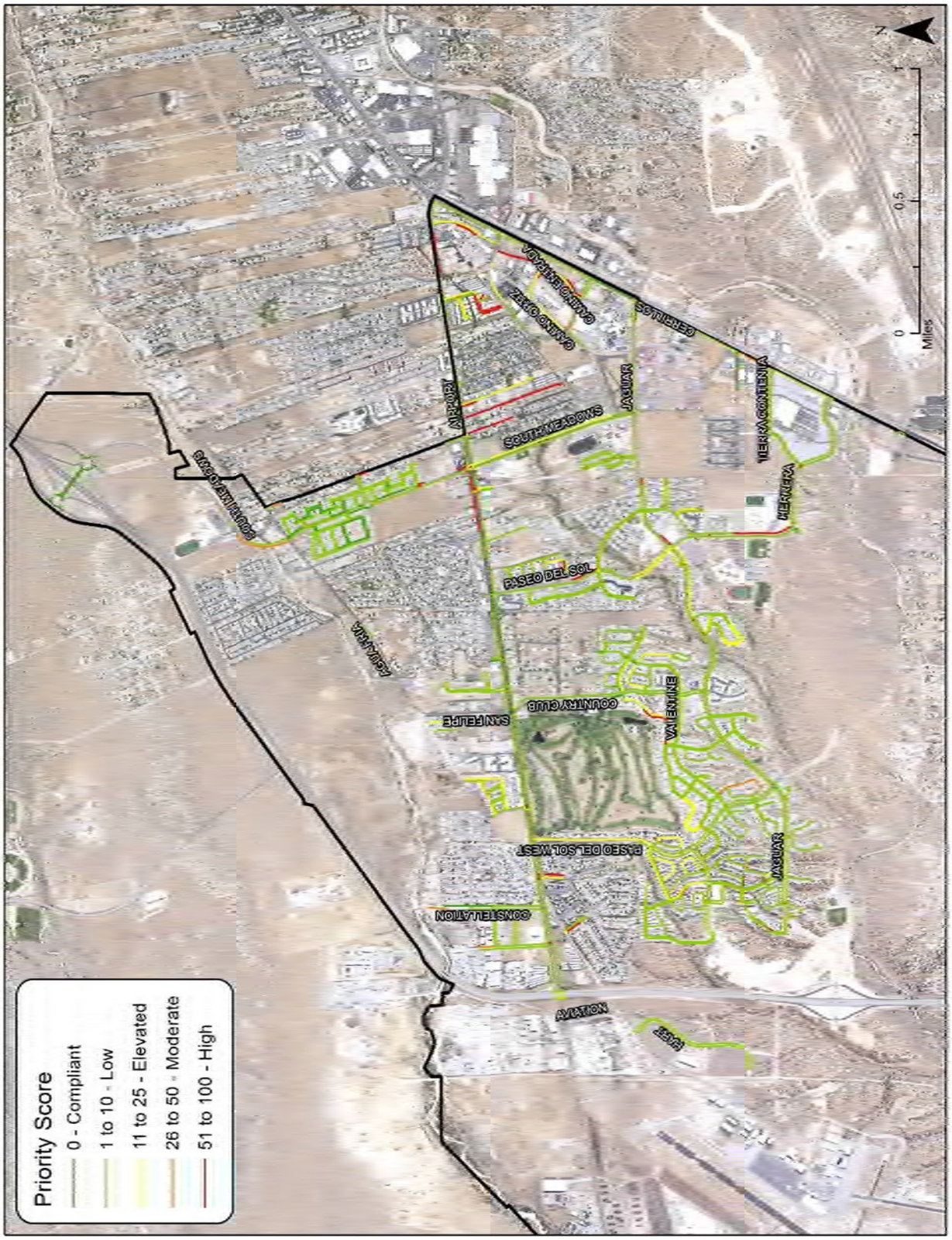


Figure 4-8: District 3 Prioritization



District 4

District 4 has the second highest percentage of compliant and low priority assets; 4% and 42% respectively. As seen in Figure 4-9, District 4 also has the second lowest percentage of high priority assets at 9%. District 3 and 4 priority trends are very similar due to their geographic location in the southern portion of city. The map presented in Figure 4-10 shows a stark divide in the condition of the city's infrastructure. New commercial and residential developments in the southern portion have very few ADA compliance issues; whereas the northern portion exhibits far more issues.

District 4's high priority areas largely include Bellamah Drive, Camino Consuelo, and Rufina Street. Many of the high priority areas are dispersed throughout local neighborhood streets.

Figure 4-9: District 4 Prioritization Scoring

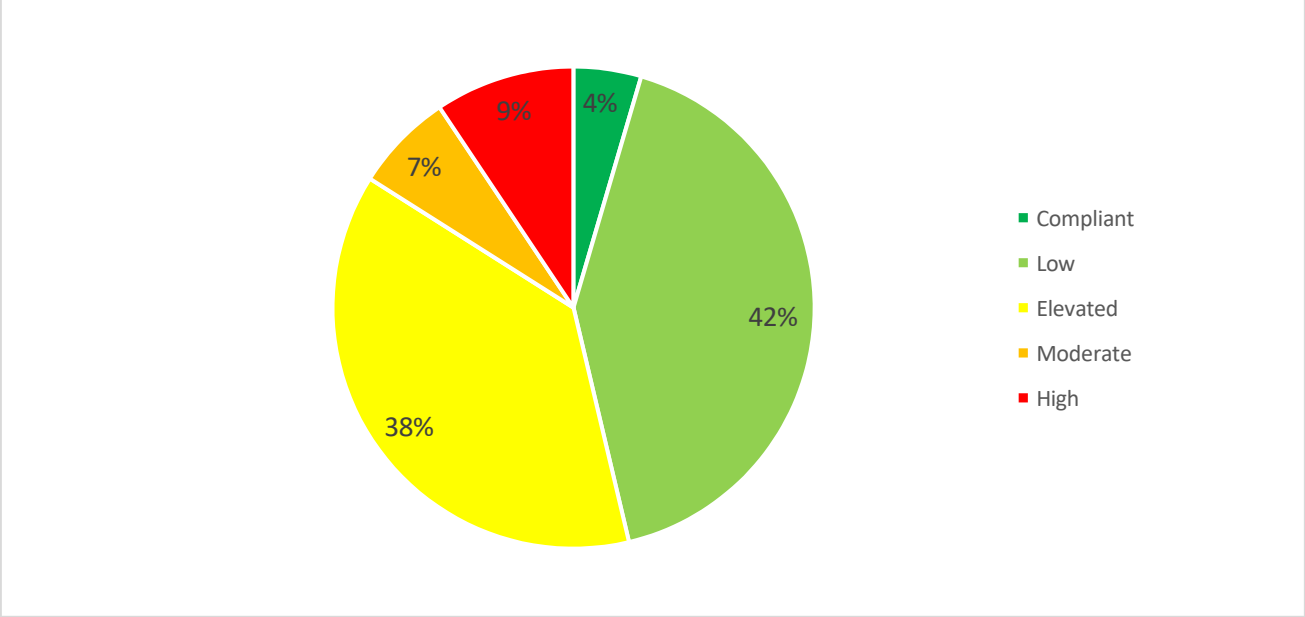
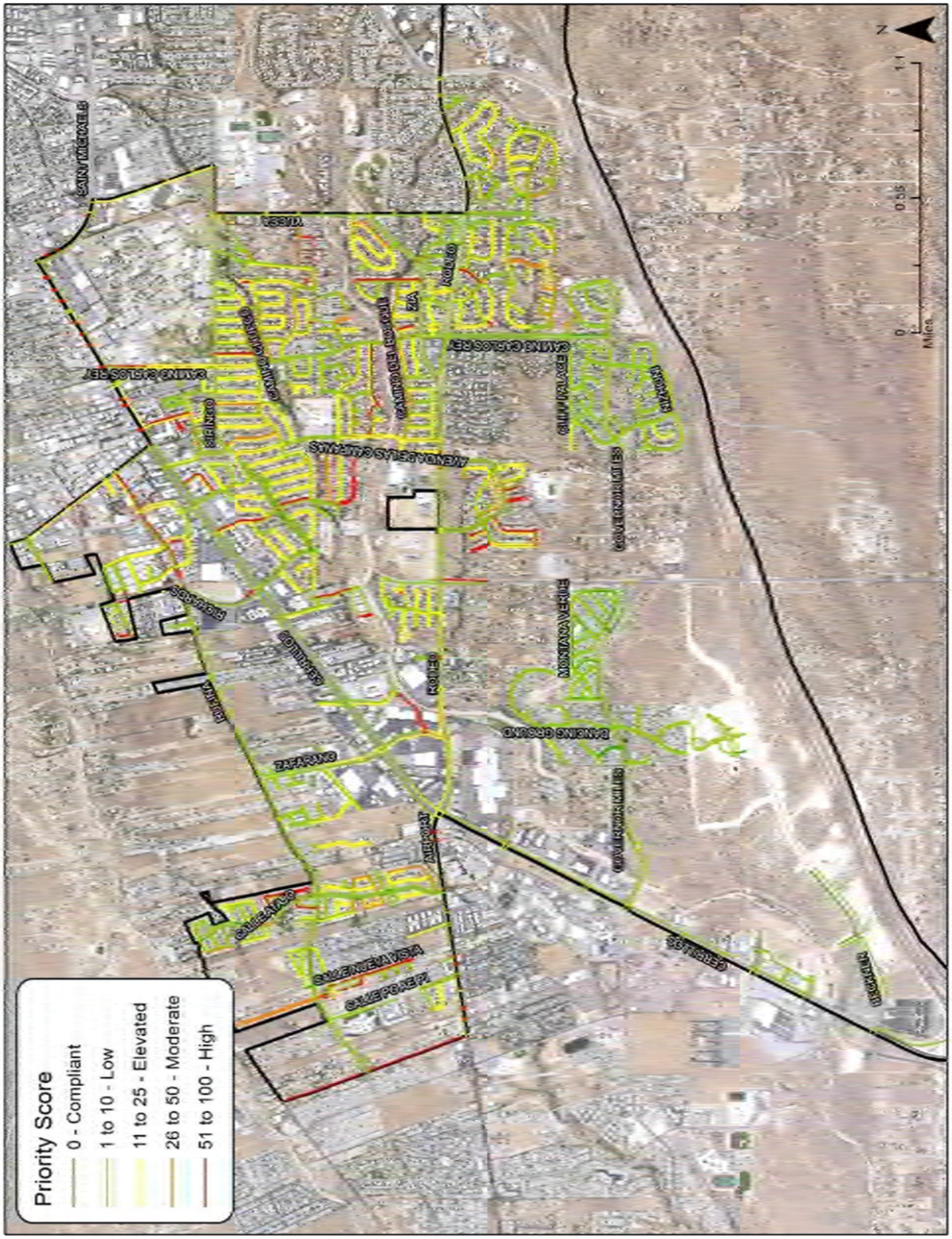


Figure 4-10: District 4 Prioritization



PRIORITIZED LISTING OF IMPROVEMENTS

Targeted Prioritization

While high priority areas can be found throughout the City of Santa Fe, many of the very top tier areas are located in low-density single-family neighborhoods. While those areas are extremely important in the makeup of Santa Fe's pedestrian network, the first projects to be addressed should benefit the largest number of pedestrians. This is not meant to simply single out major corridors, but rather to provide a meaningful connection from neighborhood streets to the city's major arterial roads. For the purposes of this report, the following major travel corridors were identified (also shown in Figure 4-11):

- Agua Fria Street
- Airport Road
- Alameda Street
- Camino Carlos Rey
- Cerrillos Road
- Governor Miles Road
- Guadalupe Street
- Jaguar Drive
- Paseo de Peralta
- Rodeo Road
- Rufina Street
- Siringo Road
- St. Francis Drive
- St. Michaels Drive

Table 4-1 provides a breakdown of the projects required to correct moderate and high priority deficiencies located along Santa Fe's major travel corridors. As seen in the table, the potential improvements range from providing curb ramp and intersection improvements to repairing miles of sidewalks.

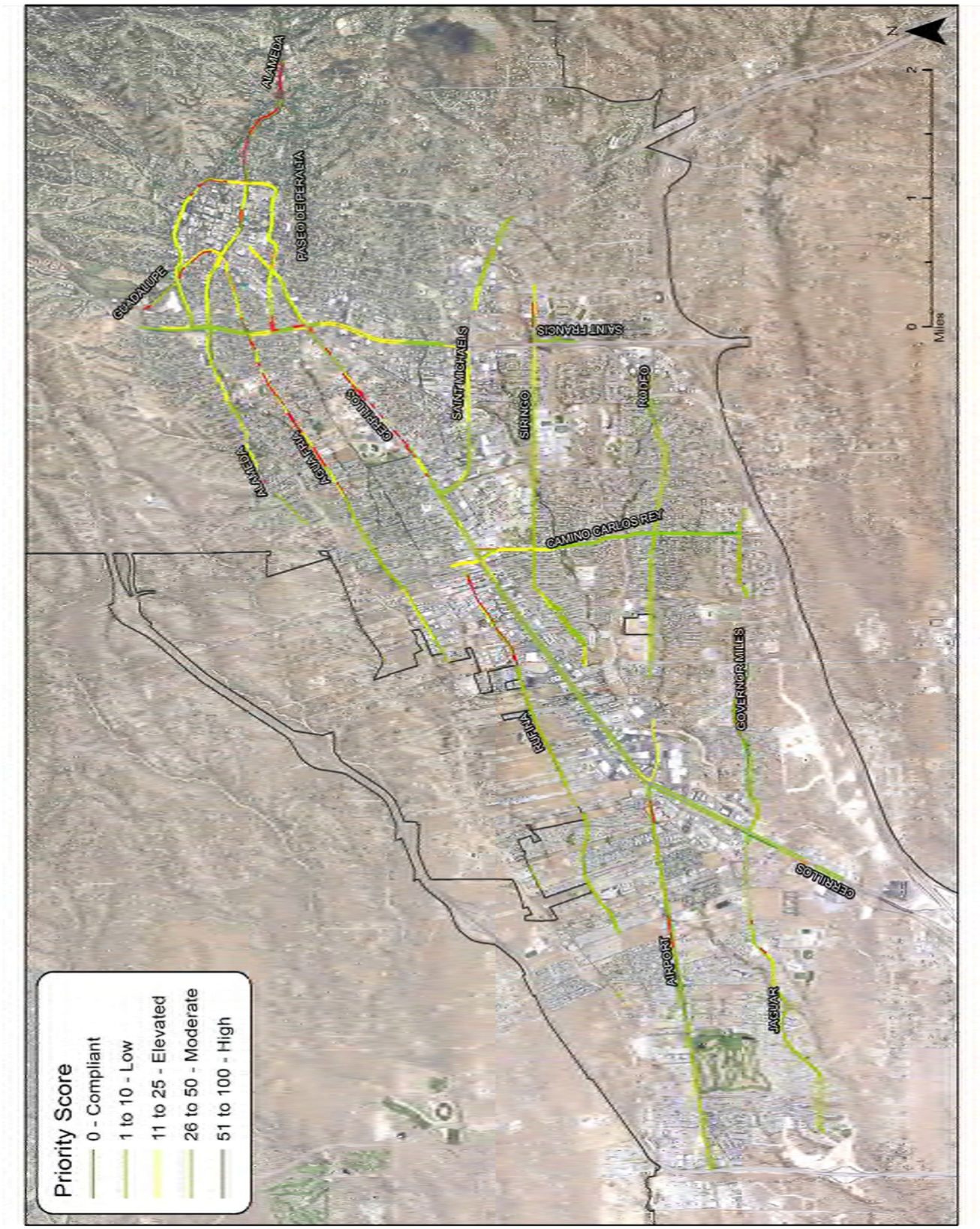
Table 4-1: Major Travel Corridor Improvement Areas

Major Travel Corridor *Improvement Area*	**Linear Sidewalk Feet***	**Intersection Improve-ments**	**New or Improved Curb Ramps**	**Total Estimated Cost****
Agua Fria Road/Street				**$1,296,000**
De Fouri to Barela Lane	22,000	36	72	$1,296,000
Airport Road				**$321,500**
Country Club Gardens to South Meadows Road	2,700	4	7	$152,000
Calle Atajo to Camino Entrada	2,600	7	12	$169,500
Alameda Street				**$895,500**
Huddleson Street to Solana Drive	0	12	29	$119,500
Intersection of St. Francis Drive	0	3	8	$32,500
Water Street to Old Santa Fe Trail	5,400	31	32	$401,500
Paseo de Peralta to Palace Avenue	4,000	9	16	$249,500
Gonzales Road to Camino Pequeno	1,500	5	5	$92,500

Major Travel Corridor *Improvement Area*	Linear Sidewalk Feet*	Intersection Improve-ments	New or Improved Curb Ramps	Total Estimated Cost**
Camino Carlos Rey				**$260,000**
Cerrillos Road to Siringo Road	3,600	7	25	$260,000
Cerrillos Road				**$1,084,000**
St. Francis Drive to St. Michaels Drive	18,000	15	50	$1,007,500
Ocate to Tierra Contenta	1,400	2	3	$76,500
Governor Miles				-
Guadalupe Street				**$520,000**
Alamo Drive to Sabino Street	500	2	5	$43,000
Paseo de Peralta to Solona Street	600	6	8	$64,000
Catron Street to San Francisco Street	2,000	13	19	$176,000
Alameda Street to Cerrillos Road	0	18	60	$237,000
Jaguar Drive				**$31,500**
Paseo del Sol to Avenida Contenta	700	0	0	$31,500
Rodeo Road				**$8,500**
Entrance to Santa Fe Place Mall	0	1	2	$8,500
Paseo de Peralta				**$689,500**
Grant Avenue to Washington Avenue	0	7	19	$77,000
Otero Street to Palace Avenue	2,500	15	16	$191,000
Old Santa Fe Trail to Manhattan Avenue	0	13	19	$86,000
Galisteo Street to St. Francis Drive	4,000	8	41	$335,500
Rufina Street				**$558,000**
Richards Avenue to Harrison Street	9,000	18	36	$558,000
Siringo Road				**$469,500**
Calle Florinda to Velarde Road	0	19	22	$105,500
Pacheco Street to Botulph Road	6,000	16	20	$364,000
St. Francis Drive				**$237,000**
Paseo de Peralta to Cerrillos Road	2,400	3	19	$179,000
Intersection of Siringo Road	0	2	8	$31,000
Intersection of Sawmill Road	0	4	6	$27,000
St. Michaels Drive				**$46,500**
Fifth Street to Pacheco Street	0	3	12	$46,500
Totals	**88,900**	**279**	**571**	**$6,417,500**

*Sidewalk costs were determined based on the average improvement cost per linear foot
**The estimated costs incorporate the addition of new sidewalk where segments are non-continuous

Figure 4-11: Major Travel Corridors



Potential Top Ten High Priority Projects

The following section outlines the top ten potential high priority projects. These projects have been compiled based on data collected through the survey process. Before the following projects are undertaken the city should perform an independent assessment on the suggested project area. In some cases, compliance might not be attainable due to limited right-of-way access. The data that was collected did not account for many of the nuances associated with attaining additional right-of-way or correcting accessibility issues which are the responsibility of the property owner.

The top ten priority improvement areas include:

1. E. Alameda Street near Downtown
2. Cerrillos Road near the Santa Fe Indian School
3. Paseo de Peralta's Northeastern Corner
4. Agua Fria Street near Aspen Community School
5. Guadalupe Street between Paseo de Peralta and W. Alameda Street
6. Alta Vista Street and Columbia Street
7. Canyon Road
8. Monterey Drive, San Juan Drive and Santa Cruz Drive
9. Manhattan Avenue, Market Street and Montezuma Avenue
10. Chapelle Street, Johnson Street, McKenzie Street and Staab Street

The following subsections provide a brief description of potential projects areas, an overview of the major ADA compliance issues for each project and a small area map highlighting areas requiring improvement.

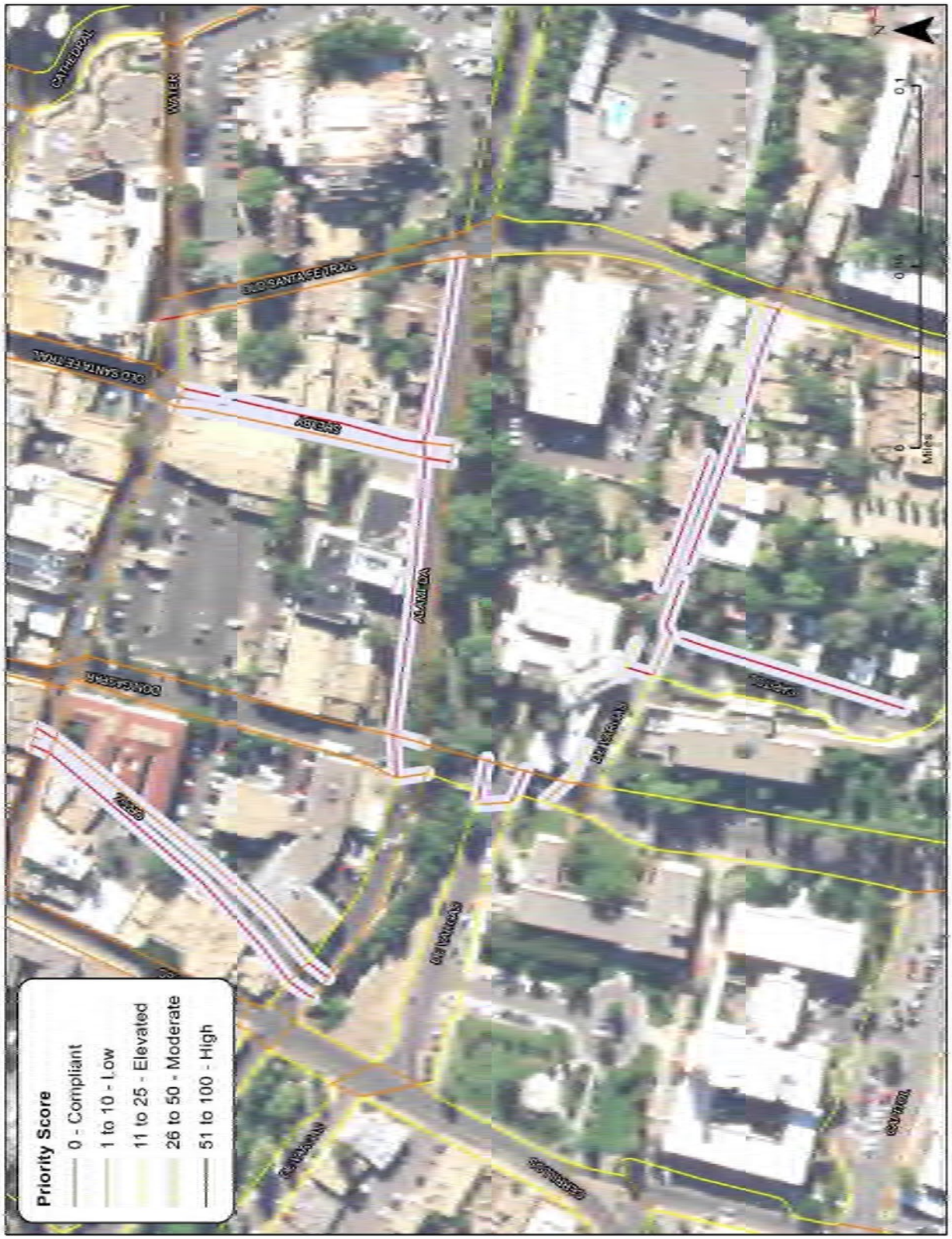
Priority #1: E. Alameda Street

One of the potential top priority projects is a downtown section of E. Alameda Street and surrounding sidewalks and curb ramps. Other streets in this potential project include Capitol Street, De Vargas Street, Ortiz Street, and Shelby Street. Figure 4-12 provides an overview of the proposed improvement area. Given the proximity of the area to downtown attractions and government offices, providing accessibility improvements will benefit a diverse population group.

This project will require constructing or replacing approximately 4,600 linear feet of sidewalk, intersection improvements, and up to 29 new curb ramps. Improvements are needed along De Vargas Street and Shelby Street to provide continuous sidewalks. Other major issues include relocating multiple street light pole obstructions along E. Alameda Street and repairing various moderate surface obstructions and slope issues.

Estimated Cost: $210,000+

Figure 4-12: Potential Downtown Alameda Street Improvement Area



DISTRIBUTION LIST
Ernest Archuleta
Anthony Lujan
Loren Hatch

NORTH REGIONAL DESIGN DIVISION
Richard Pena
Juan Rael/Eunice Cazares/Tobias Suazo
Stephan Bach/Johnny Herrera
Victor Martinez/David Barboza
Lawrence Lopez/Daniel Maes

CENTRAL REGIONAL DESIGN DIVISION
Priscilla Benavides
Mark Fahey/Rudy Rudhwan
Rais Rizvi/ Jeremy Salazar
Steve Lopez/Carlos Castaneda
Isaac Chavez/Leroy Jaramillo
Ray Chavez/Sandra Chavez

SOUTH REGIONAL DESIGN DIVISION
Gabriela Contreras-Apodaca
Michael Smelker
Jessica Hunter/Larissa Armendariz
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Refugio Perea

PAVEMENT MANAGEMENT BUREAU
Jeff Mann
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Gary Kinchen
Robert Crossno
Ben Najera

DRAINAGE BUREAU
Ted Barber
Hashem Faidi/Nicole Friedt
David X.Trujillo
Manuel Maestas

TRAFFIC TECHNICAL SUPPORT BUREAU
Afshin Jian
Brad Julian

OFFICE OF INFRASTRUCTURE/PROGRAM MANAGEMENT DIVISION
Elias Archuleta
Antonio Jaramillo

STIP/PROJECT SCHEDULING UNIT
Rebecca Maes

PS&E BUREAU
Jeff Martinez/Yolanda Roybal
Daniel Bustamante/Christine Griego/Jeri Romero
Norbert Baca/James Mexia/Mario Lucero

STATE CONSTRUCTION BUREAU
Armando Armendariz
Sally Reeves/Rhonda Lopez
Eric Ulibarri/Tisha Lujan
Travis Johnson/Gabriel Lucero
Denise Peralta

STATE MAINTENANCE BUREAU
Rick Padilla/Michael Vigil

ENVIRONMENTAL DESIGN SECTION
Blake Roxlau

ENVIRONMENTAL GEOLOGY SECTION
Audrey Moore

OFFICE OF STRATEGIC PLANNING & ASSET MANAGEMENT
Tamara Haas

PLANNING DIVISION
Mike Sandoval
Frank Sharpless
Anne McLaughlin

SURVEY & LANDS DIVISION
Mark Marrujo

ROW/UTILITIES DIVISION
Ron Noedel
Clyde Archibeque/Chris Vigil
Shawn Chafins

DISTRICT ENGINEERS
1/Trent Doolittle
2/Ralph Meeks
3/Timothy Parker
4/David Trujillo
5/Miguel Gabaldon
6/Larry Maynard

ASSISTANT DISTRICT ENGINEERS
1/Filiberto Castorena/Gene Paulk
2Isadora Fanning/Mohamad Assaad
3/Ken Murphy/Thomas Kratochvil
4/Steve Hemphill/Adam Romero
5/Paul Brasher/David Martinez
6/Lisa Vega/Ron Romero

ENGINEERING SUPPORT
1/Harold Love
2/Louis Matta (Acting)
3/Greg Clarke
4/Heather Sandoval
5/Habib Abi-khalil
6/Jeff Sanchez

DISTRICT TECH SUPPORT ENGINEERS
1/Aaron Chavarria
2/Louis Matta
3/Justin Gibson
4/MS Jawadi
5/David Quintana
6/Bryan Peters

DISTRICT TRAFFIC ENGINEERS
1/Maria Hinojos
2/Francisco Sanchez
3/Nancy Perea (Acting)
4/Adam Romero
5/Javier Martinez
6/Jan Niclas

STATE MATERIALS BUREAU
James Gallegos (Acting)
Parveez Anwar
Michelle Mann

FHWA
Frank Lozano
Thiet Nguyen
Rodolfo Monge-Oviedo
Robert Bency
Max Valerio
Jolena Palau
Marilyn Valdez

ACTIVE CONSULTANTS
Joe Sanchez, AIO, LLC
Dan Kwiecinski, AMEC
Howard Cake, ASCG, Inc.
Albert Thomas, Bohannan-Huston, Inc.
Ross Lujan, CH2MHILL
Steven Vasquez, Chavez-Grieves
Dave Maxwell, Engineers Inc.
David Wilson, Souder Miller & Associates
Peter Brakenhoff, HDR Engineering Inc.
Kim Kemper, Huitt Zollars, Inc.
Lawrence Ortega, Lawrence Ortega
Ivan Trujillo, Louis Berger Group
Kent Freier, Molzen-Corbin & Associates (Albuquerque)
John Montoya, Molzen-Corbin & Assoc. (Las Cruces)
Joann English, North Sound Consulting, Inc.
Clay Koontz, OCCAM Consulting Engineers, Inc.
Hal Byrd, Parsons Brinckerhoff Quade & Douglas
Fernando Quiroga, Quiroga-Pfeiffer Engr.Corp.
Carlos Padilla, Radian Engineering
Joseph Chato, REM-Santa Fe Engineering LLC
Steven Harris, Renaissance Engineering LLC
Elvidio Diniz, Resource Technology
Robert Smith, Smith Engineering Co. (Albuquerque)
Scott Hicks, Smith Engineering Co. (Roswell)
Jim Smith, Souder Miller & Associates
Lester Cisneros, Tampa Bay Engineering
John Andrews, The Larkin Group
Mike Nielson, TransCore ITS, Inc.
Peter Hinckley, URS Greiner Woodward Clyde
Chris Baca, Vector Engineering
William Ventry, VE Group, LLC.
Scott Perkins, Wilson & Company

METROPOLITAN/REGIONAL PLANNING
Dave Pennella, MRCOG
Valerie Hermanson, MRRPO
Joe Delmagori, FMPO
Andy Hume, LCMPO
Keith Wilson, SFMPO
Michael Medina, EPMPO
Renee Ortiz, EPCOG
Lesah Sedillo, NERPO
Nick Pappas, NWRTPO
Tony MacRobert, SCRPO
Linda Lanham, SCRPO
Jay Armijo, SCRPO
Mary Ann Burr, SERPO
Sandy Chancey, EPRPO
Traci Burnsed, SWRPO

ACONM
Mike Beck

SUMMARY
=FILENAME=

GENERAL NOTES{

1. NMDOT IS RECOGNIZED AS A TITLE II PUBLIC ENTITY UNDER THE AMERICANS WITH DISABILITIES ACT (ADA}, OF 1990 (PUBLIC LAW 101-336). A TITLE II ENTITY IS DEFINED AS ANY STATE OR LOCAL GOVERNMENT ENTITY AND PROHIBITS DISCRIMINATION ON THE BASIS OF DISABILITY. THE ADA EXTENDS THE PRINCIPLES OF SECTION 504 OF THE REHABILITATION ACT, OF 1973, AS AMENDED, TO PROTECT PERSONS WITH DISABILITIES IN ALL PUBLIC FACILITIES AND PROGRAMS IRRESPECTIVE OF THE FUNDING SOURCE.
2. THESE DRAWINGS PROVIDE GUIDANCE FOR COMPLIANCE WITH THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG}, JULY 26, 2011, OR LATEST EDITION. THESE GUIDELINES SHALL APPLY TO ALL NEW AND ALTERED PEDESTRIAN ACCESS ROUTES (PAR}.
3. REFER TO CONSTRUCTION PLANS FOR THE DETAILED LAYOUTS AND DETAILS.
4. PEDESTRIAN ACCESS ROUTES (PAR} SHALL BE FIRM, STABLE, AND SLIP RESISTANT. PROVIDE SLIP RESISTANT TEXTURE ON SIDEWALKS AND CURB RAMPS BY BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP AND /OR PERPENDICULAR TO PEDESTRIAN TRAVEL. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING SIDE FLARES. DO NOT SCORE OR MAKE GROOVES IN SLOPED SURFACE LINES SHOWN ON STANDARD DETAILS ARE FOR ILLUSTRATIONS ONLY.
5. VERTICAL SURFACE DISCONTINUITIES SHALL BE 0.5 INCHES MAXIMUM. VERTICAL DISCONTINUITIES BETWEEN 0.25 INCHES AND 0.5 INCHES SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 50 PERCENT. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE VERTICAL SURFACE DISCONTINUITY.
6. HORIZONTAL OPENINGS IN GRATINGS AND JOINTS SHALL NOT PERMIT PASSAGE OF A SPHERE MORE THAN 0.5 INCHES IN DIAMETER. ELONGATED OPENINGS IN GRATES SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
7. PROVIDE EXPANSION JOINT MATERIAL 0.5 INCHES THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT. SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
8. SEAL ALL JOINTS WITH AN APPROVED SEALING MATERIAL.
9. INSTALL JOINTS WHERE CURB RAMPS, TURNING SPACES, FLARES, AND SIDEWALKS ABUT. ALL JOINTS AND TRANSITIONS SHALL BE FLUSH.
10. VERTICAL WALLS OR HEADER CURBS ARE PERMITTED WHEN ADJACENT TO NON-WALK AREAS OR ELEVATION DIFFERENCES CANNOT BE ACCOMMODATED BY CURB RAMP FLARES OR GRADING. GRADE NON-WALK AREAS AT 3:1 OR FLATTER.
11. CONSTRUCTION TOP I BOTTOM OF CURB TO BE FLUSH WITH ADJACENT SURFACES (CURB RAMPS, SIDEWALKS, AND FLARES). VERTICAL LIPS NOT PERMITTED AT THE BOTTOM OF CURB RAMP WHERE THE RAMP MEETS STREET LEVEL.

SIDEWALKS

12. SIDEWALK, AND CURB AND GUTTER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SERIAL 609-01-111.
13. SIDEWALK CROSS SLOPE IS RECOMMENDED TO BE CONSTRUCTED FOR CROSS SLOPE OF 1.5% TYPICAL, BUT SHALL NOT EXCEED 2.0% CROSS SLOPE ON THE PEDESTRIAN ACCESS ROUTE (PAR}.
14. SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 5.0 FT, EXCLUSIVE OF THE WIDTH OF THE CURB RETURN.
    EXCEPTION: WHERE SIDEWALK WIDTH NEEDS TO BE REDUCED TO NO LESS 4.0 FT, PASSING SPACES SHALL BE PROVIDED AT INTERVALS OF 200 FT MAXIMUM. PASSING SPACES SHALL BE 5.0 FT MINIMUM BY 5.0 FT MINIMUM.
15. ANY SIGNS POSTS, UTILITY POLES, FIRE HYDRANTS, TRAFFIC SIGNALS, STREET FURNITURE, AND OTHER OBJECTS SHALL NOT REDUCE THE CLEAR WIDTH TO LESS THAN 4.0 FT.
16. THE CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTES (PAR} WITHIN MEDIANS AND PEDESTRIAN REFUGE ISLANDS SHALL BE 5.0 FT MINIMUM.

CURB RAMPS

17. FOR NEW CONSTRUCT/ON AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE FEASIBLE. THE MAXIMUM SLOPE ALLOWABLE IS INDICATED IN NOTE 18 OF THE CURB RAMP STANDARD DETAILS. SLOPES THAT EXCEED THOSE INDICATED IN THE CURB RAMP STANDARD DETAILS, OR CONSTRUCT/ON PLANS, WILL NOT BE ACCEPTED AND WILL BE REMOVED AND RECONSTRUCTED.
18. RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.3 % MAX (RECOMMENDED 7.0%} BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15.0 FT TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYiNG THE 15 FOOT MAX LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE EXTENDED AS FLAT AS MAXIMUM EXTENT PRACTICABLE.
19. CONSTRUCT THE CLEAR WIDTH OF CURB RAMP RUNS (EXCLUDING ANY FLARED SIDES}, BLENDED TRANSITIONS, AND TURNING SPACES AS TYPICAL 5.0 FT X 5.0 FT AND MINIMUM 4.0 FT X 4.0 FT CLEAR SPACE BEYOND THE CURB FACE, WITHIN THE WIDTH OF THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.
20. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
21. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.3%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP RUNS, TURNING SPACE OR BLENDED TRANSITION IS NOT TO EXCEED 5.0%.
22. CONSTRUCT CURB RAMPS FLUSH TO ADJACENT ROADWAY. GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL TURNING SPACES BEHIND CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.
23. GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE CURB RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF CURB RAMP RUNS AND TURNING SPACES. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.
24. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF CURB RAMP IS NOT SOLELY DEPENDENT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 6" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 6.0 FT FOR AN 8.3% SLOPE}.

CROSSWALKS

25. PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED CROSSWALK. CURB RAMP LOCATIONS SHALL BE PLACED WITHIN THE WIDTH OF THE MARKED OR UNMARKED CROSSWALK AS SHOWN IN THE CONSTRUCT/ON PLANS.

DETECTABLE WARNING

26. DETECTABLE WARNING SURFACES (DWS} CONSISTING OF TRUNCATED DOMES SHALL BE UTILIZED WHERE CURB RAMPS, BLENDED TRANSITIONS, OR TURNING SPACE PROVIDE A FLUSH PEDESTRIAN CONNECTION TO THE STREET OR WHERE THE PEDESTRIAN ACCESS ROUTE (PAR} CROSSES A STREET, ALLEY, TRAFFIC ISLAND, MEDIAN, OR RAILROAD. DETECTABLE WARNING SURFACES (DWS} WILL NOT BE INSTALLED AT RESIDENTIAL DRIVEWAYS. DETECTABLE WARNING SURFACE MUST BE PROVIDED AT THE JUNCTION BETWEEN THE PAR AND COMMERCIAL DRIVEWAYS THAT ARE STOP OR YIELD CONTROLLED OR ARE CONTROLLED BY A SIGNAL.
27. DETAILS OF DETECTABLE WARNING SURFACE ARE SHOWN IN CONTRACT PLANS AND SHEET 608-001-8/12 OF THE STANDARD DRAWINGS.

ACCESSIBLE PEDESTRIAN SIGNALS (APS) AND PEDESTRIAN PUSHBUTTONS

28. FOR ALTERATION PROJECTS, PROVIDE ACCESS TO EXISTING PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT PRACTICABLE. INSTALL PEDESTRIAN STUB POLES, WHERE APPLICABLE, SO AS NOT TO CREATE PEDESTRIAN OBSTRUCTIONS. REFER TO THE MUTCD FOR FURTHER GUIDANCE.
29. PEDESTRIAN SIGNAL PUSH BUTTONS SHALL COM.PLY WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD} AND LOCATED WITHIN A HORIZONTAL REACH OF O"TO 10" AND SHALL BE WITHIN 36"TO 46"ABOVE THE SIDEWALK SURFACE.
30. PEDESTRIAN SIGNAL SHALL HAVE 4FTx4FT MIN TURNING SPACE TO PROVIDE ACCESS TO PUSH BUTTONS.

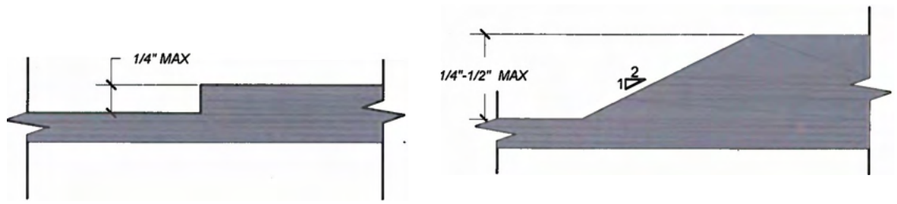
ALTERATIONS TO EXISTING FACILITIES - GENERAL NOTES:

ADDITIONS OR ALTERATIONS TO ANY FACILITY SHALL CONFORM TO THE REQUIREMENTS OF THE NEW CONSTRUCTION STANDARDS WITHIN THE NM.DOT PEDESTRIAN ACCESS STANDARDS AND PROWAG 2011 OR LATEST EDITION. ANY DESIGN I CONSTRUCT/ON DEVIATION THAT IS DEEMED AN VARIANCE OR TECHNICALLY INFEASIBLE BY THE DEFINITION BELOW SHALL REQUIRE SUBMITTAL ANO APPROVAL OF ADA DESIGN VARIANCE PROCEDURES.

31. EXCEPTION: IN ALTERAT/ON WORK, IF COMPLIANCE IS TECHNICALLY INFEASIBLE, THE ALTERATION SHALL PROVIDE ACCESSIBILITY TO THE MAXIMUM EXTENT PRACTICABLE. ANY ELEMENTS OR FEATURES OF THE BUILDING OR FACILITY THAT IS BEING ALTERED ANO CAN BE MADE ACCESSIBLE SHALL BE MADE ACCESSIBLE WITHIN THE SCOPE OF THE ALTERATION.

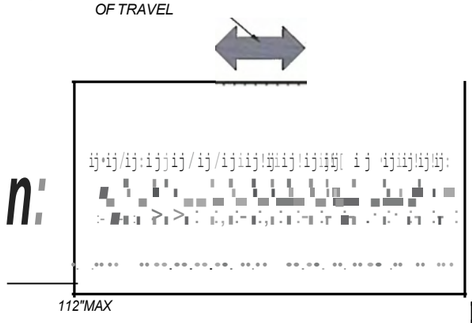
32. TECHNICAL INFEASIBILITY: MEANS, WITH RESPECT TO AN ALTERATION OF A BUILDING OR A FACILITY, THAT IT HAS LITTLE LIKELIHOOD OF BEING ACCOMPLISHED BECAUSE EXISTING STRUCTURAL CONDITIONS WOULD REQUIRE REMOVING OR ALTERING A LOAD-BEARING MEMBER WHICH IS AN ESSENTIAL PART OF THE STRUCTURAL FRAME; OR BECAUSE OTHER EXISTING PHYSICAL OR SITE CONSTRAINTS PROHIBIT.

33. IN ALTERATIONS WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT COMPLIANCE TO PROVOE A CURB RAMP FOR EACH PEDESTRIAN CROSSING A SINGLE DIAGONAL CURB RAMP SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.



VERTICAL SURFACE DISCONTINUITIES
SCALE:NONE REFER TO NOTES

DOMINANT DIRECTION OF TRAVEL



HORIZONTAL OPENINGS
SCALE:NONE REFER TO NOTE 6

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS (OR CHANGE NOTICES

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

PEDESTRIAN ACCESS ROUTE
GENERAL NOTES

APPROVED: DESIGN ENGINEER 1-13-15 DATE

608-001-1 608-1 of 12

DRAWING SCALE = NOT TO SCALE

file path

SUMMARY
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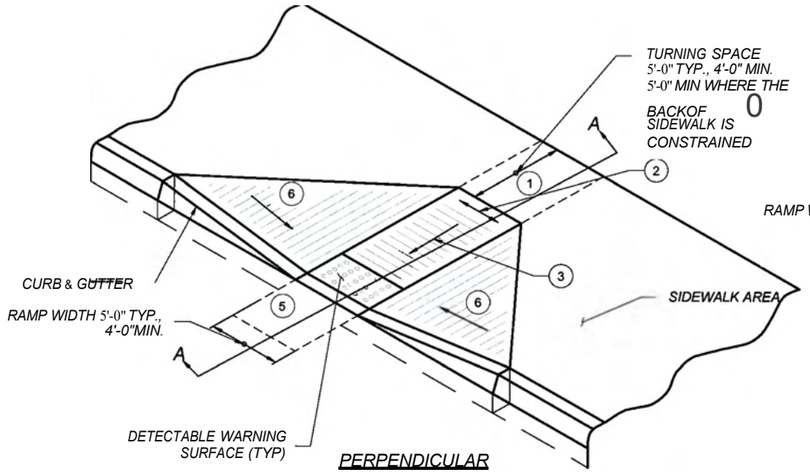
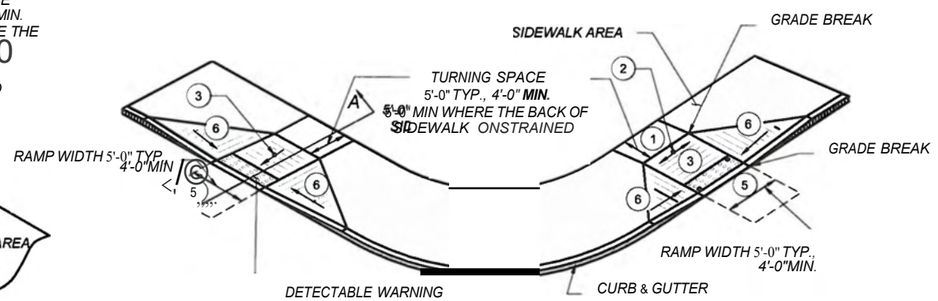
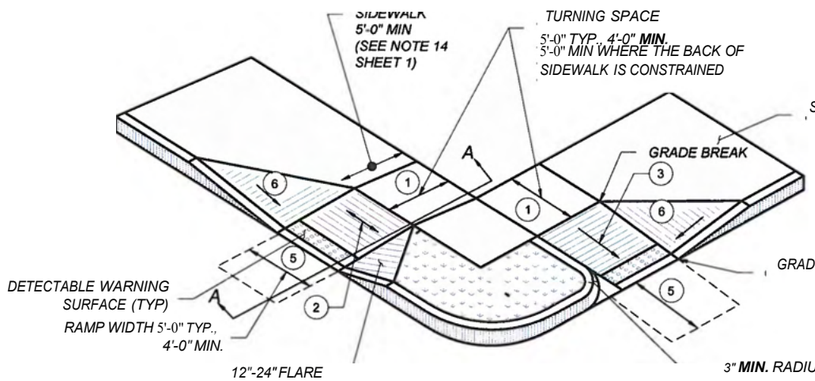


PERPENDICULAR
CURB RAMP
SCALE NONE



DUAL PERPENDICULAR
CURB RAMP
(PREFERRED INSTALLATION)
SCALE NONE



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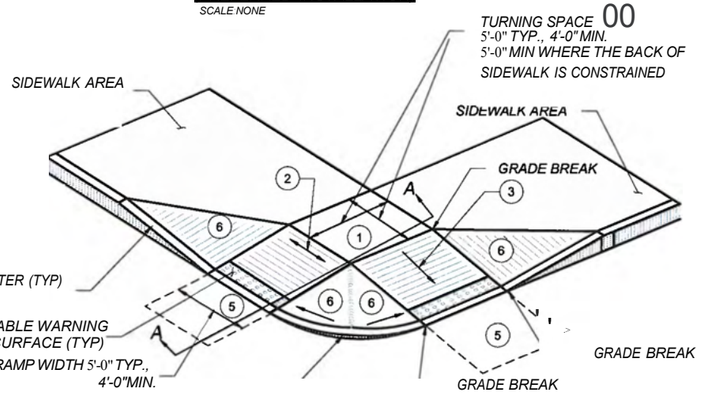
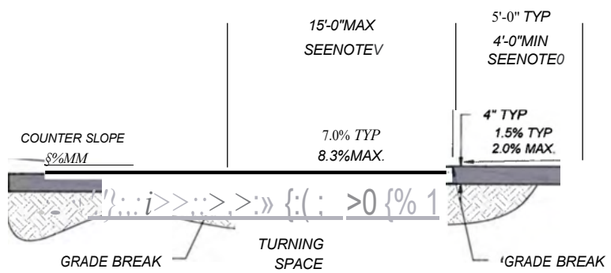


CURB & GUTTER (HEIGHT VARIES
CURB REVEAL DETERMINED BY
FLARE SLOPE)

PERPENDICULAR
CURB RAMPS
WITH SHARED TURNING SPACE
SCALE:NONE



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SCALE:NONE

KEYED NOTES

0 TURNING SPACE SHALL HAVE MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.0% (RECOMMEND 1 5'¼). TURNING SPACE SHALL BE 4.0 FT BY 4.0 FT MIN (RECOMMEND 5.0 FT BY 5.0 FT) AT THE TOP OF THE CURB RAMP AND SHALL BE PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4.0 FT MIN BY 5.0 FT MIN. THE 5.0 FT SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.

0 CROSS SLOPE SHALL BE 2.0'¼ MAX (RECOMMENDED 1.5'¼). EXCEPTION. THE CROSS SLOPE OF CURB RAMPS AT PEDESTRIAN STREET CROSSING WITHOUT YIELD OR STOP CONTROL, TRAFFIC SIGNALS DESIGNED FOR THE GREEN PHASE, AND AT MIDBLOCK PEDESTRIAN STREET CROSSING, THE CROSS SLOPE IS PERMITTED TO MATCH STREET OR HIGHWAY GRADE.

© RUNNING SLOPE OF THE CURB RAMP SHALL BE 8 3'¼ MAX (RECOMMENDED 7.O"¼) BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15.0 FT TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAX LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE EXTENDED AS FLAT AS MAXIMUM EXTENT PRACTICABLE.

0 GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF RAMP RUNS AND TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.

© COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5'¼ MAX.

0 FLARED SIDES ARE TO HAVE A SLOPE OF 10% MAX (RECOMMEND 9'¼), MEASURED PARALLEL TO THE BACK OF THE CURB, UNLESS THE FLARED SIDES ARE PROTECTED FROM CROSS TRAVEL BY LANDSCAPING, STREET FURNITURE, CHAINS, FENCING, OR RAILINGS.

NOTES:

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® CONCRETE HEADER CURBS CONSTRUCTED AS PART OF THE CURB RAMP WILL BE CONSIDERED INCIDENTAL TO ITEM NUMBER 608004 AND NO SEPARATE PAYMENT WILL BE MADE.

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
1-13-15

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS (OR CHANGE NOTICES

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

PERPENDICULAR
CURBR MPS

APPROVED: DESIGN ENGINEER — DATE 1-13-15

608-001-2

608- 2 of 12

DRAWING SCALE = NOT TO SCALE

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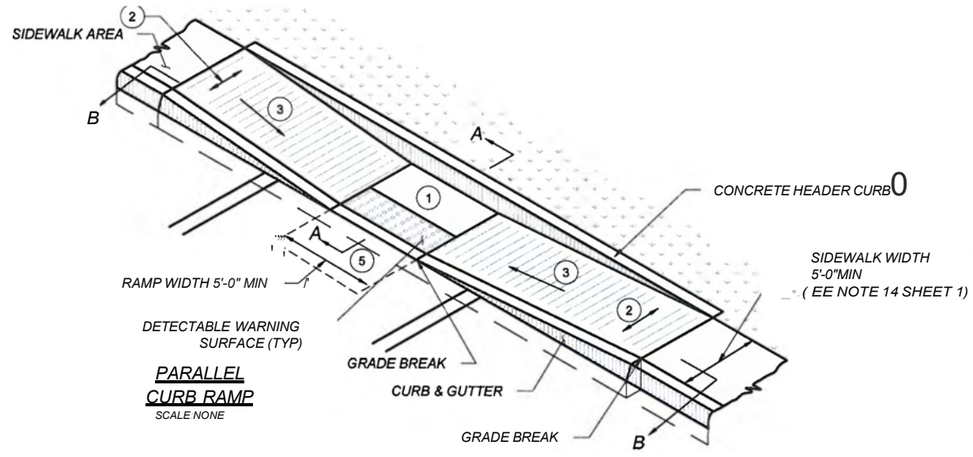

PARALLEL CURB RAMP
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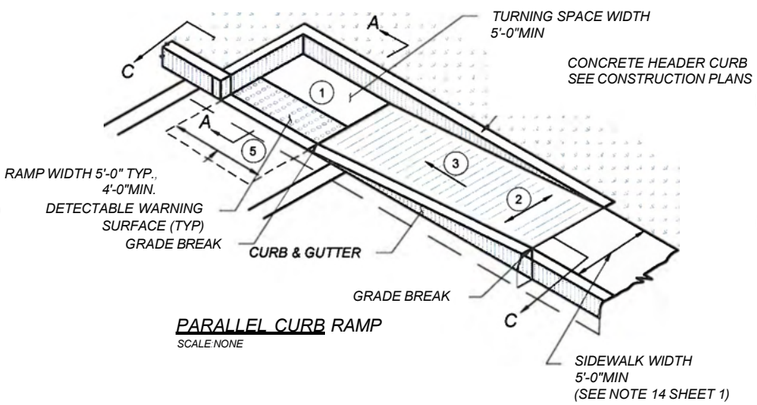

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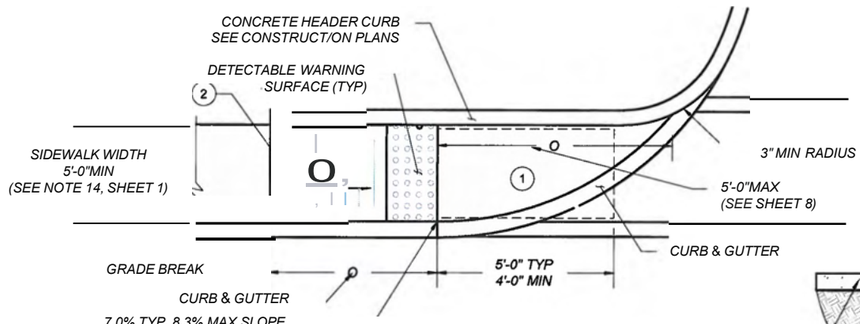

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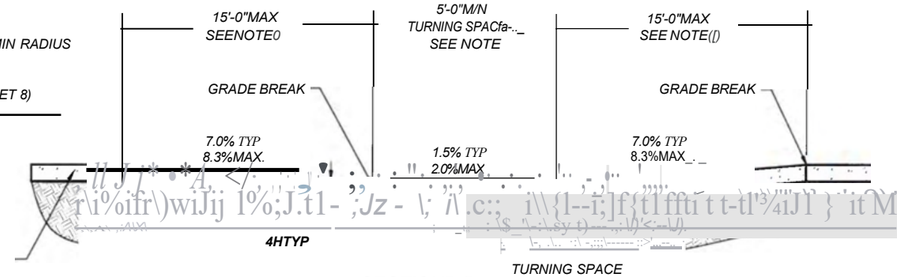

SECTIONB-B
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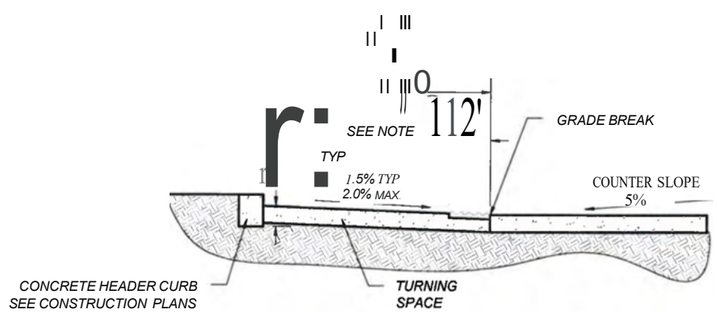
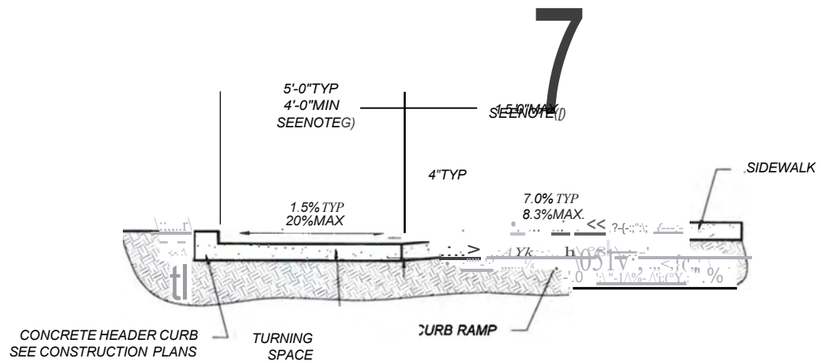


SECTION A-A
SCALE:NONE



SECTION C-C
SCALE NONE

KEYED NOTES

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0 COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5% MAX.

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© IN ALTERAT/ONS WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT COMPLIANCE TO PROVIDE A CURB RAMP FOR EACH PEDESTRIAN CROSSING A SINGLE DIAGONAL CURB RAMP SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.

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DRAWING SCALE = NOT TO SCALE

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
1-13-15

NO.	DATE	REVISIONS / CHANGE NOTICES	BY	DESCRIPTION

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

PARALLEL
CURB RAMPS

APPROVED _____ DESIGN ENGINEER 1-13-15 DATE

608-001-3

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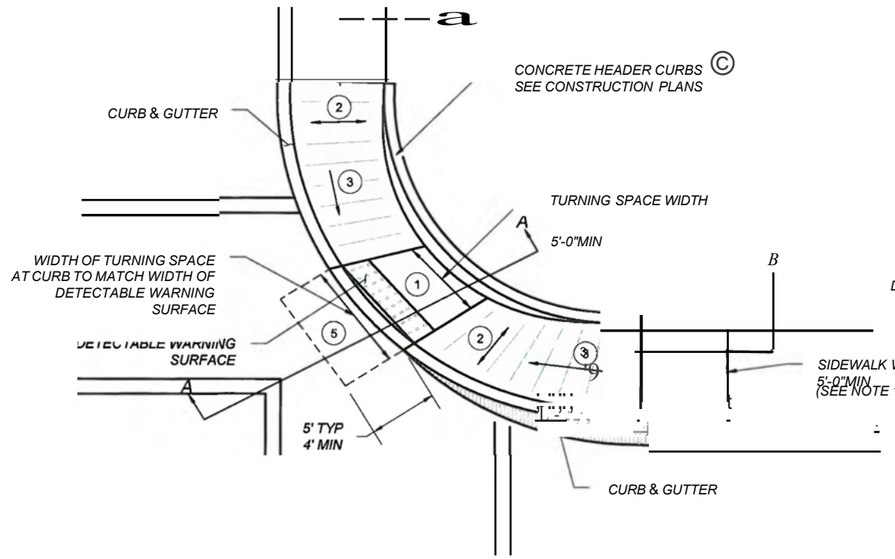
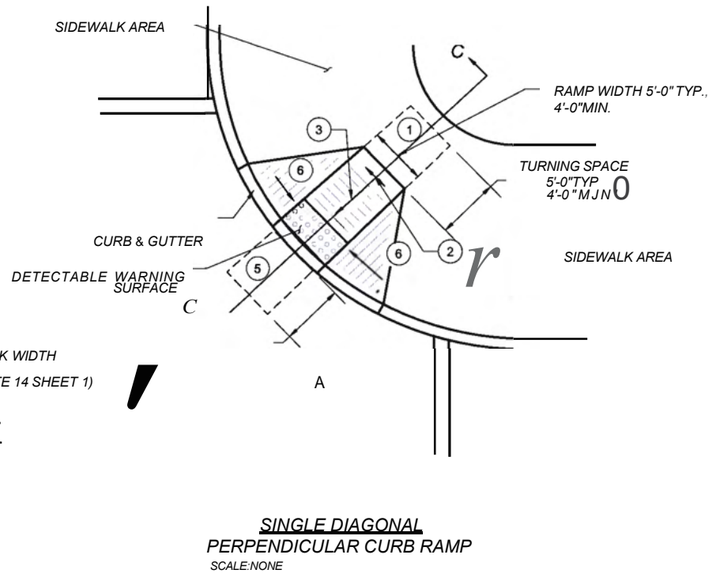


SINGLE DIAGONAL
PARALLAL CURB RAMP
SCALE NONE



SINGLE DIAGONAL
PERPENDICULAR CURB RAMP
SCALE:NONE

KEYED NOTES

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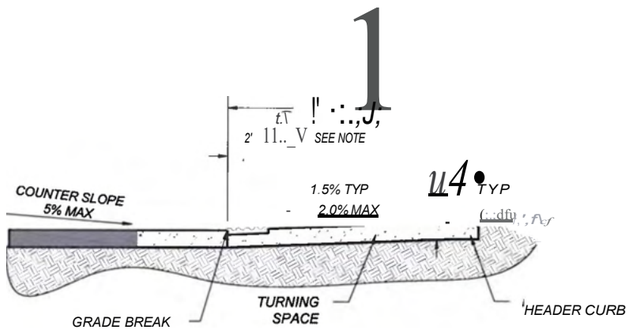

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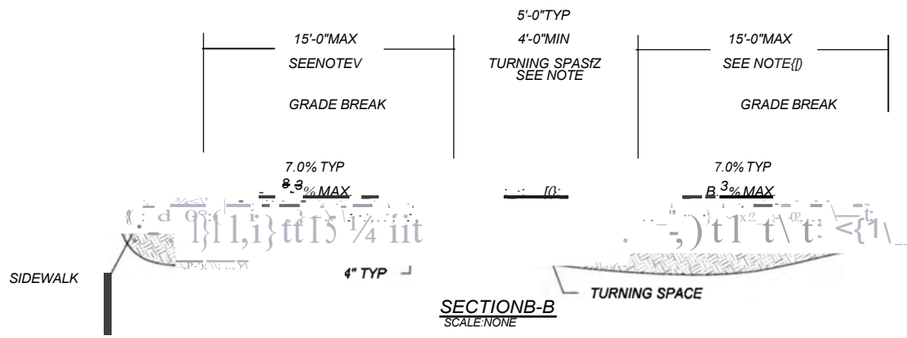

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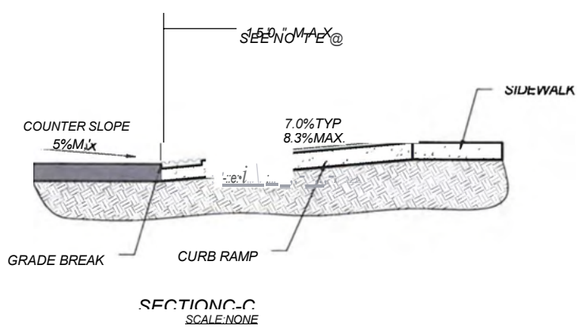

SECTIONC-C
SCALE:NONE

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
7-13-15

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS (OR CHANGE NOTICES)

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

DIAGONAL
CURB RAMPS

APPROVED _____ DESIGN ENGINEER 6-18-15 DATE

608-001-4

DRAWING SCALE = NOT TO SCALE

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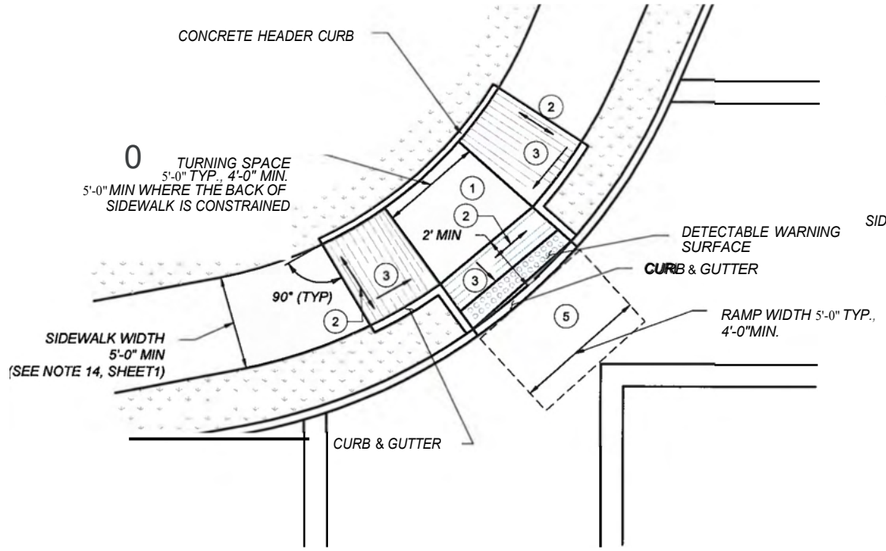
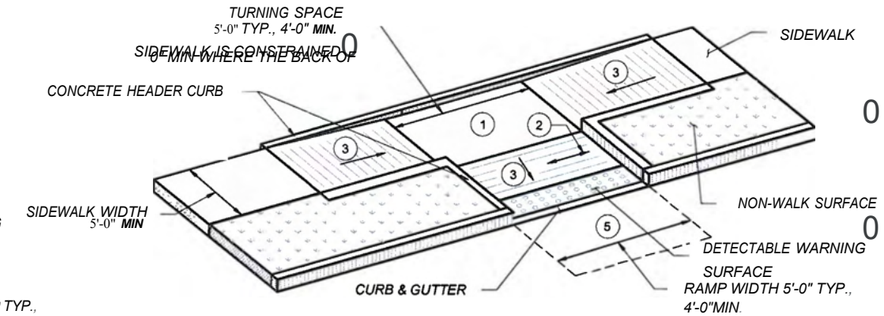


COMB/NATION CURB RAMP (A)
DIAGONAL

SCALE:NONE



COMBINATION CURB RAMP (B)

SCALE:NONE

KEYED NOTES

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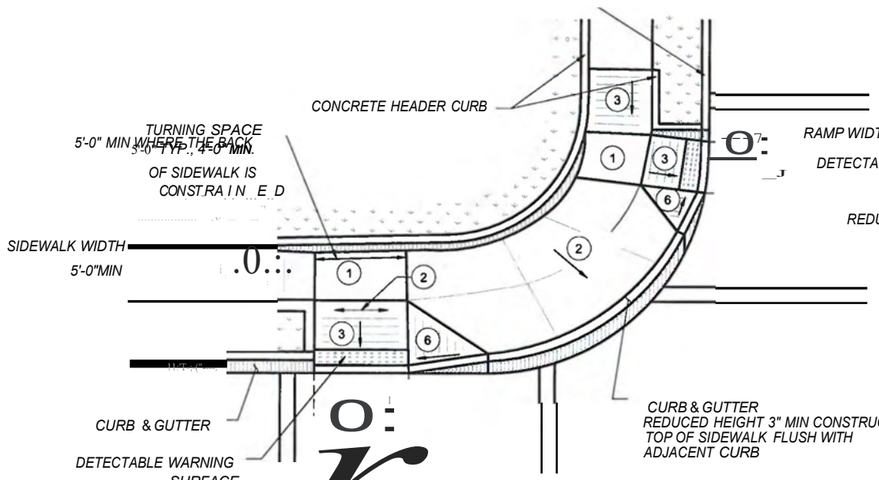
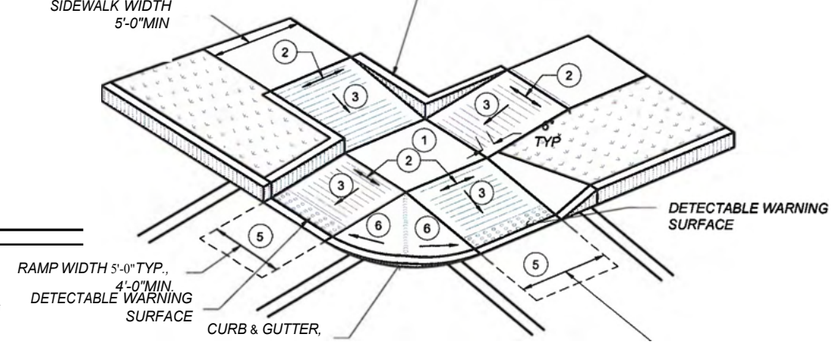
© IN ALTERATIONS WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT COMPLIANCE TO PROVIDE A CURB RAMP FOR EACH PEDESTRIAN CROSSING A SINGLE DIAGONAL CURB RAMP SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.

® CONCRETE HEADER CURBS CONSTRUCTED AS PART OF THE CURB RAMP WILL BE CONSIDERED INCIDENTAL TO ITEM NUMBER 608004 AND NO SEPARATE PAYMENT WILL BE MADE.



COMBINATION CURB RAMP {9_

SCALE:NONE



COMBINATION CURB RAMP (D)
WITH SHARED TURNING SPACE

SCALE:NONE

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
1-13-15

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NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

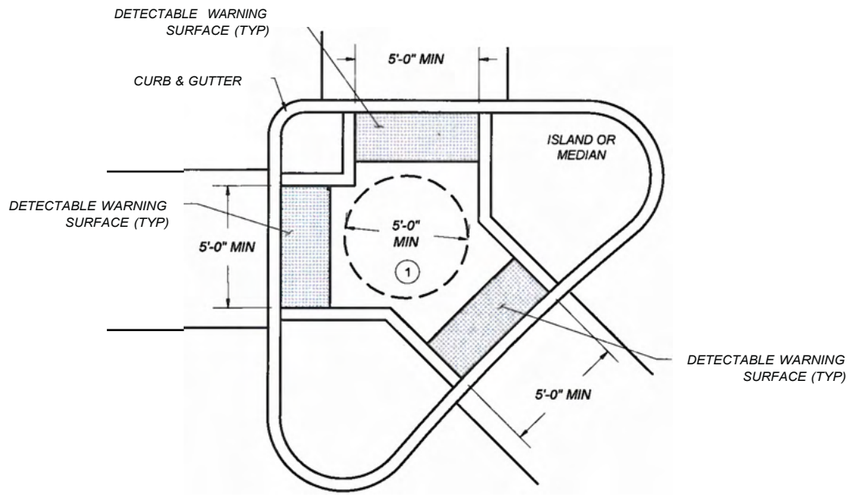
COMBINATION
CURB RAMPS

APPROVED DESIGN ENGINEER -13-15 DATE

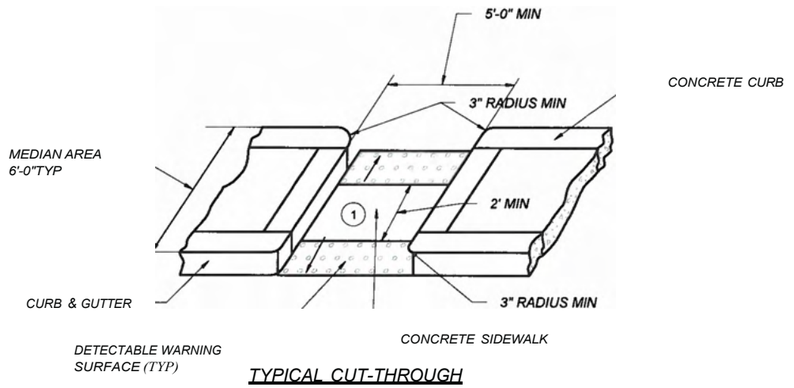
608-001-5

DRAWING SCALE = NOT TO SCALE

file path



PEDESTRIAN REFUGE ISLAND
CURB RAMP
SCALE:NONE



TYPICAL CUT-THROUGH
PEDESTRIAN REFUGE ISLAND
OPENING WITH CURB SIDES
SCALE:NONE

KEYED NOTES

0 TURNING SPACE SHALL HAVE MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.0% (RECOMMEND 1.5%). TURNING SPACE SHALL BE 4.0 FTBY 4.0 FTMIN (RECOMMEND 5.0FTBY 5.0FT) AT THE TOP OF THE CURB RAMP AND SHALL BE PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4.0 FT MIN BY 5.0 FT MIN. THE 5.0 FT SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.

0 CROSS SLOPE SHALL BE 2.0% MAX (RECOMMENDED 1.5%). EXCEPTION: THE CROSS SLOPE OF CURB RAMPS AT PEDESTRIAN STREET CROSSING WITHOUT YIELD OR STOP CONTROL, TRAFFIC SIGNALS DESIGNED FOR THE GREEN PHASE, AND AT MIDBLOCK PEDESTRIAN STREET CROSSING, THE CROSS SLOPE IS PERMITTED TO MATCH STREET OR HIGHWAY GRADE.

0 RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.3 % MAX (RECOMMENDED 7.0"/4) BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15.0 FT TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAX LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE EXTENDED AS FLAT AS MAXIMUM EXTENT PRACTICABLE.

0 GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF RAMP RUNS AND TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE ***BREAKS*** SHALL BE FLUSH.

0 COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5% MAX.

0 FLARED SIDES ARE TO HAVE A SLOPE OF 10"/4 MAX (RECOMMEND 9%), MEASURED PARALLEL TO THE BACK OF THE CURB, UNLESS THE FLARED SIDES ARE PROTECTED FROM CROSS TRAVEL BY LANDSCAPING, STREET FURNITURE, CHAINS, FENCING, OR RAILINGS.

NOTES:

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@) IN ALTERATIONS WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT COMPLIANCE TO PROVIDE A CURB RAMP FOR EACH PEDESTRIAN CROSSING A SINGLE DIAGONAL CURB RAMP SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.

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STANDARD DRAWING

PEDESTRIAN REFUGE ISLAND

APPROVED _____ DESIGN ENGINEER 1-13-15 DATE

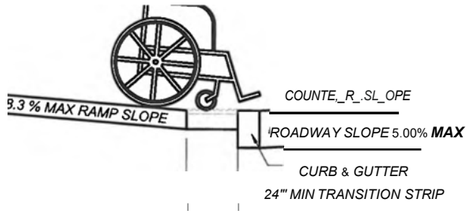
608-001-6

file path

DRAWING SCALE = NOT TO SCALE

ALGEBRAIC DIFFERENCES BETWEEN ROADWAY SLOPE

AND CURB RAMP.$LOPE GREATER THAN 13.3% NOT PERMITTED.



PROVIDE A 24" MIN TRANSITION STRIP
IF ALGEBRAIC DIFFERENCES BETWEEN ROADWAY SLOPE AND CURB RAMP SLOPE ARE GREATER THAN 13.33%.

TRANSITION STRIP SLOPE NOT TO EXCEED 5.00%

CHANGE OF GRADE LIMITATIONS

SCALE:NONE

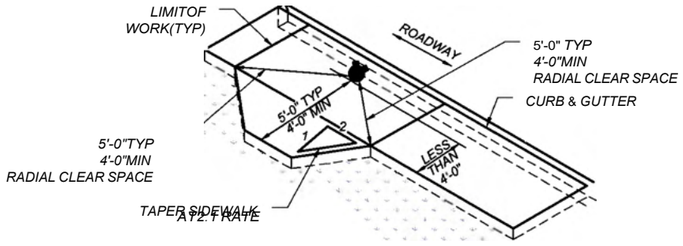
RAMP CROSS SLOPE TRANSITION TO MATCH ROADWAY PROFILE SLOPE

• SLOPES SHOWN ARE FOR ILLUSTRATION ONLY.

NOTE:

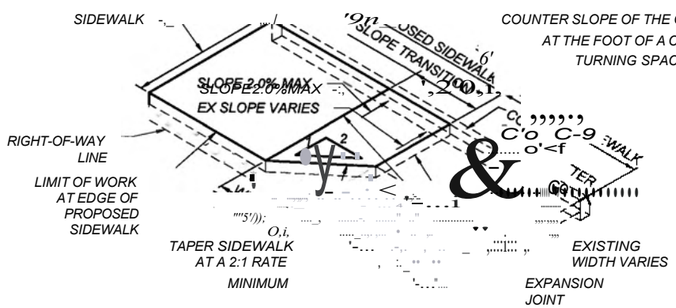
1) CROSS SLOPE OF CURB RAMP AT PEDESTRIAN STREET CROSSING WITHOUT YIELD ON STOP CONTROL, AND AT MID BLOCK PEDESTRIAN STREET CROSSING, THE CROSS SLOPE ARE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.

2) CROSS SLOPE IF CURB RAMP IS AT YIELD OR STOP CONTROL REQUIRES 2% **MAX** CROSS SLOPE AT CURB LINE



SIDEWALK ADDITION DUE TO OBSTRUCTIONS

SCALE:NONE



TRANSITION TO EXISTING SIDEWALK DETAIL

SCALE:NONE

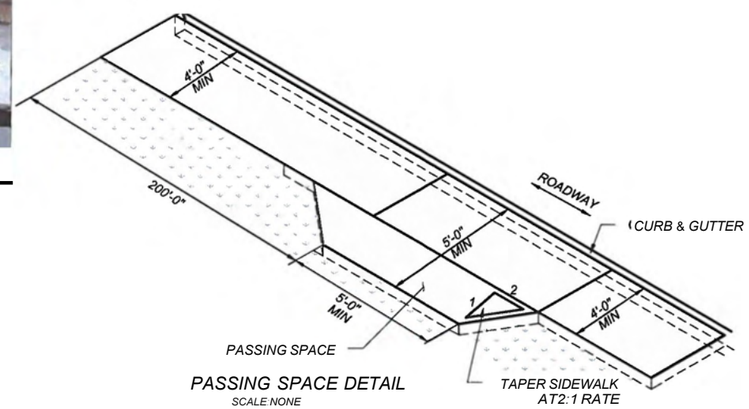
COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5% MAX.

1. MINIMUM SLOPE TRANSITION LENGTH BASED ON THE DIFFERENCE OF PROPOSED SIDEWALK CROSS SLOPE AND EXISTING SIDEWALK CROSS SLOPE AT THE LOCATION OF TIE IN. THIS MINIMUM LENGTH TO BE D'ETERMINED BY THE FOLLOWING FORMULA: DELTA% SLOPE X 0.5' OR MIN WIDTH OF 1 FT.

2. THE MINIMUM WIDTH TRANSITION SHALL BE CALCULATED USING THE FOLLOWING FORMULA:CHANGE INWIDTHX2.

3. DEPENDING ON WHICH IS LONGEST, EITHER THE SLOPE TRANSITION OR WIDTH TRANSITION WILL CONTROL THE LENGTH OF SIDEWALK TRANSITION.

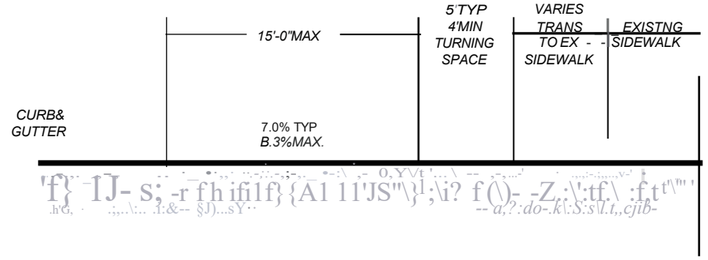
4. TRANSITION AREAS SERVE AS TEMPORARY CONNECTIONS OF THE PEDESTRIAN ACCESS ROUTE. FUTURE IMPROVEMENTS TO THE REMAINING PORTION OF EXISTING SIDEWALK SHALL INCLUDE REMOVING THE TRANSITION AREA AND CONSTRUCTING A FULLY COMPLIANT SIDEWALK.

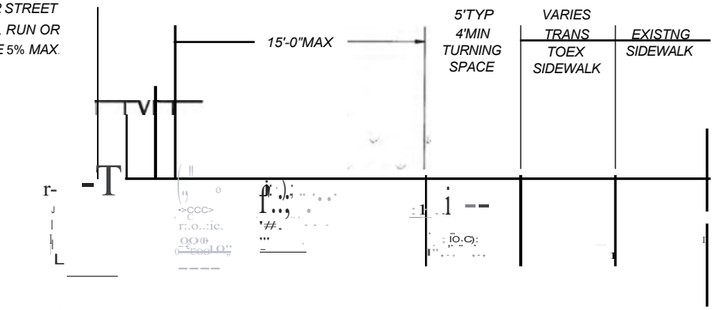


PASSING SPACE DETAIL

SCALE NONE

1. WHERE THE CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTES IS GREATER THAN 4ft AND LESS THAN 5ft, PASSING SPACES SHALL BE PROVIDED AT INTERVALS 200ft MAXIMUM.
2. PASSING SPACES ARE PERMITTED TO OVERLAP PEDESTRIAN ACCESS ROUTES.





CURB RAMP TRANSITION TO EXISTING SIDEWALK DETAIL

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS / OR CHANGES

NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

CURB RAMP AND
SIDEWALK
TRANSITION DETAILS

APPROVED _____ DESIGN ENGINEER 1-13-15 DATE

608-001-7

DRAWING SCALE = NOT TO SCALE

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SUMMARY
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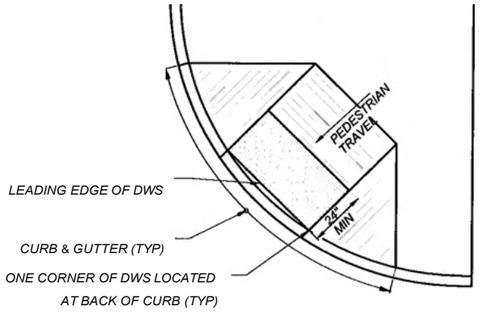
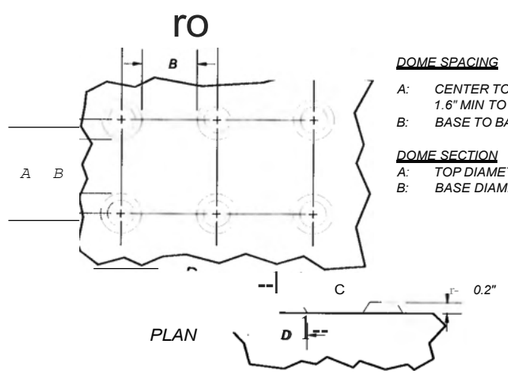




DOME SPACING

A: CENTER TO CENTER SPACING 1.6" MIN TO 2.4" MAX

B: BASE TO BASE SPACING 0.65" MIN

DOME SECTION

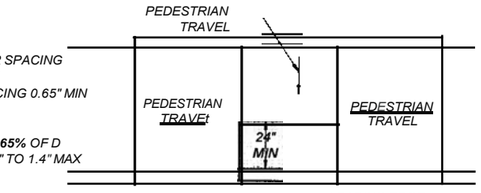
A: TOP DIAMETER **50%-65%** OF D

B: BASE DIAMETER 0.9" TO 1.4" MAX

SECTIOND-D

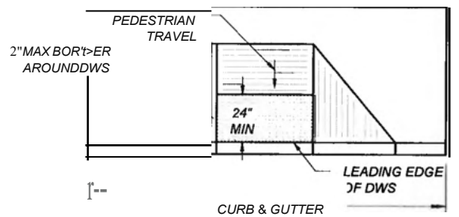
DETECTABLE WARNING SURFACE (DWS) TRUNCATED DOME DETAILS

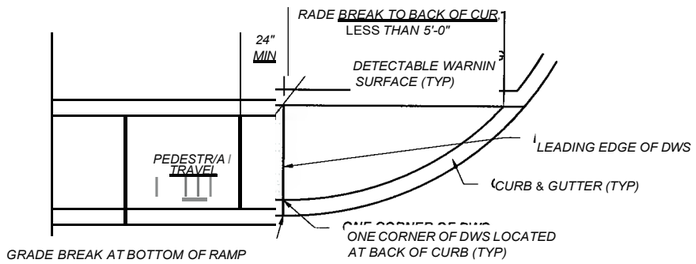
SCALE-NONE



DETECTABLE WARNING SURFACE

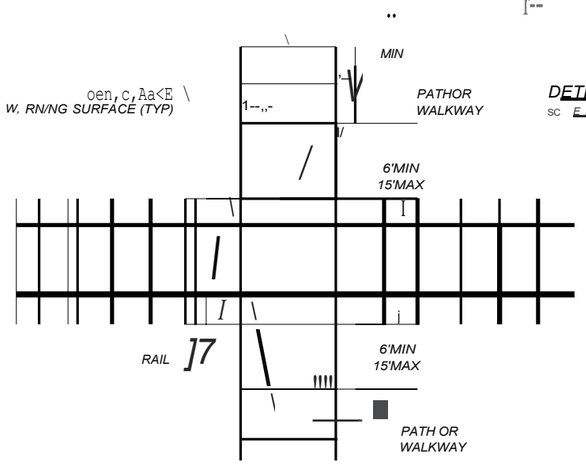
SCALE:NONE





GRADE BREAK AT BOTTOM OF RAMP

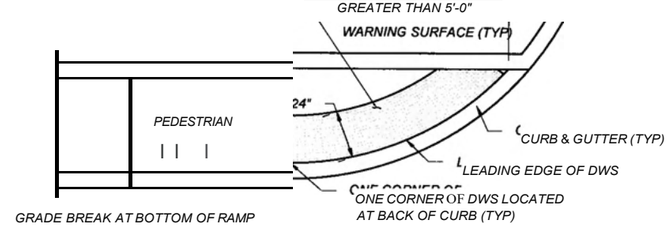
WIDTH OF CURB RAMP,



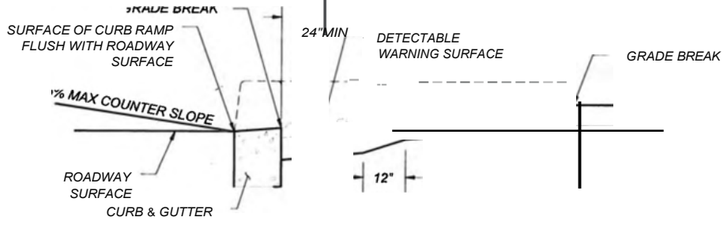
oen,c,Aa<E \
W, RN/NG SURFACE (TYP)

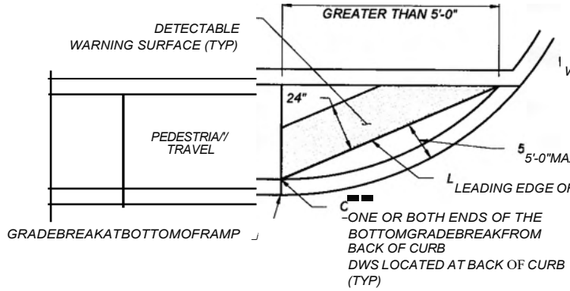
DETECTABLE WARNING SURFACE

SC E NONE



GRADE BREAK AT BOTTOM OF RAMP



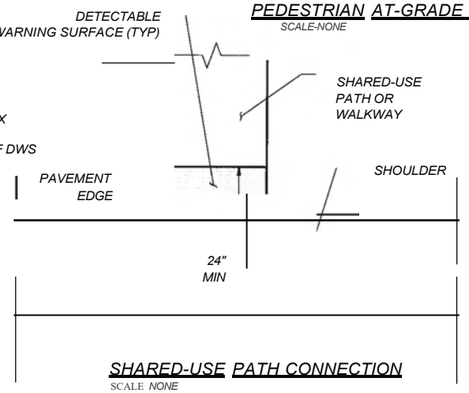


GRADEBREAKATBOTTOMOFRAMP

DETECTABLE WARNING SURFACE

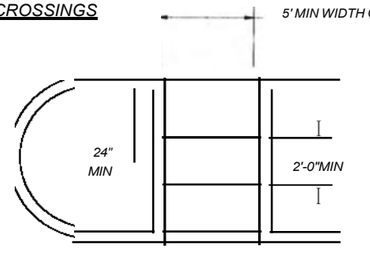
'DWS)ON CURVED SURFACES

SCALE NONE



PEDESTRIAN AT-GRADE RAIL CROSSINGS

SCALE-NONE



MEDIAN CUT-THROUGH

SCALE NONE

EXCEPTION: IF THE LENGTH BETWEEN TWO DWS SURFACE IS LESS THAN 2' THEN DETECTABLE WARNING SURFACE WILL NOT BE INSTALLED

SHARED-USE PATH CONNECTION

SCALE NONE

DETECTABLE WARNING SURFACE

SCALE NONE

DETEC ItBLE WARINQ SURFACE (DWSJ:

A STANDARDIZED TRUNCATED DOME GRID SURFACE BUILT IN OR APPLIED TO THE PEDESTRIAN ACCESS ROUTE TO WARN VISUALLY IMPAIRED PEOPLE OF HAZARDS. THE SURFACE IS PLACED WHERE DETECTABLE WARNING SURFACE (DWS): A STANDARDIZED TRUNCATED DOME GRID SURFACE BUILT IN OR APPLIED TO THE PEDESTRIAN ACCESS ROUTE TO WARN VISUALLY IMPAIRED PEOPLE OF HAZARDS. THE SURFACE IS PLACED WHERE PEDESTRIANS WILL ENCOUNTER THE PRESENCE OF HAZARDS IN THE LINE OF TRAVEL, SUCH AS THE EDGE OF ROADWAY AND AT-GRADE RAIL CROSSINGS, IND/CATING THEY SHOULD STOP AND DETERMINE THE NATURE OF THE HAZARD BEFORE PROCEEDING

LOCATION:

1. *THE DETECTABLE WARNING SURFACE (DWS) SHALL BE 2.0 FT MINIMUM WIDTH AND EXTENDED THE FULL WIDTH OF THE CURB RAMP RUN, TURNING SPACE, BLENDED TRANSITION, AN EXCLUDING ANY THE FLARED SIDES*
2. *THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BACK OF THE CURB.*
3. *THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PARALLEL TO THE DIRECTION OF TRAVEL.*
4. *IF CURB AND GUTTER ARE NOT PRESENT, SUCH AS A SHARED-USE PATH CONNECTION, THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE PAVEMENT EDGE.*
5. *PEDESTRIAN REFUGE ISL.ANDS SHALL HAVE DETECTABLE WARNINGS. DETECTABLE WARNINGS AT CUT THROUGH ISLANDS SHALL BE SEPARATED BYA 24 INCH MINIMUM LENGTH OF THE WALKWAY WITHOUT MARKINGS.*

EXCEPTION: DETECTABLE WARNINGS SHALL NOT BE REQUIRED ON CUT THROUGH ISLANDS WHERE THE CROSSING IS LESS THAN 6 FT IN THE DIRECTION OF PEDESTRIAN TRAVEL

NOTES:

1. *DETAILS SPECIFIED ON THIS PL.AN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PR/VATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.*
2. *DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP.*
3. *ALL PRODUCTS USED FOR DETECTABLE WARNING SURFACES SHALL BE ON THE DEPARTMENrS APPROVED PRODUCT LIST.*

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
1-13-15

NO.	DATE	REV. BY	DESCRIPTION
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NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

DETECTABLE WARNING SURFACE

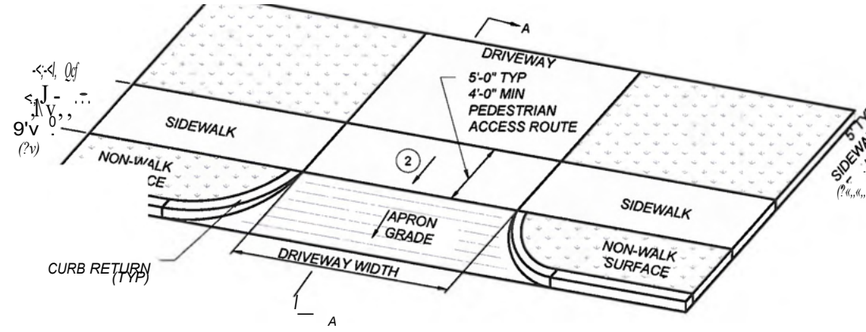
APPROVED: DESIGN ENGINEER DATE 1-13-15

608-001-8

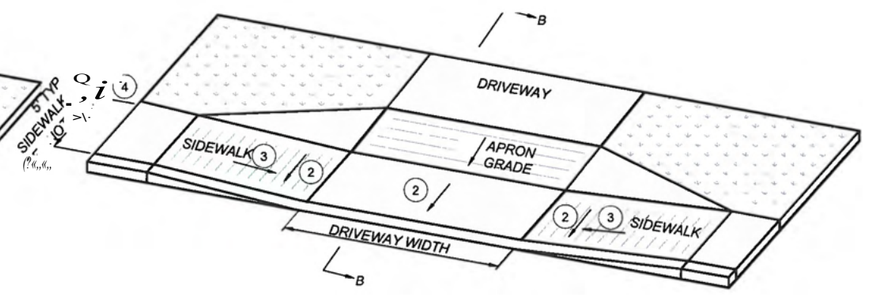
RAWING SCALE = NOT TO SCALE

file path

SUMMARY
FILENAME



TYPE2
DRIVEWAY APRON



TYPE 3A
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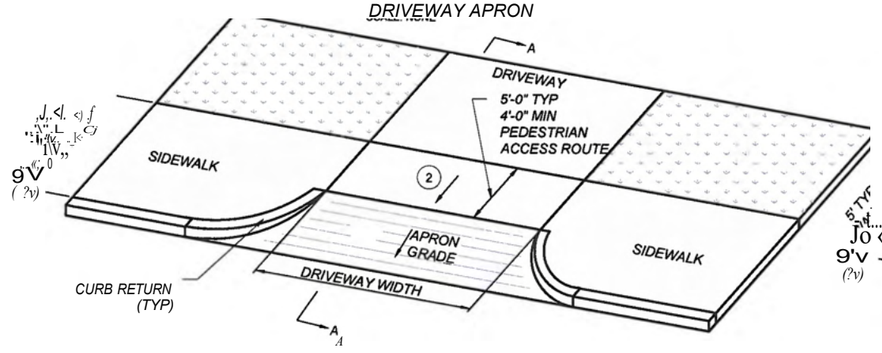
SCALE:NONE



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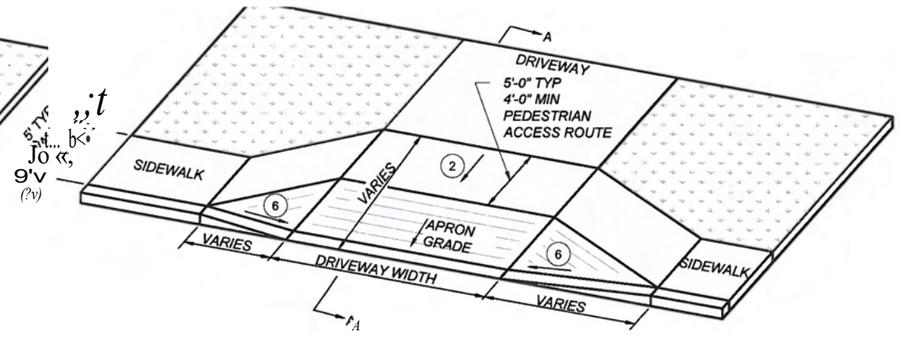

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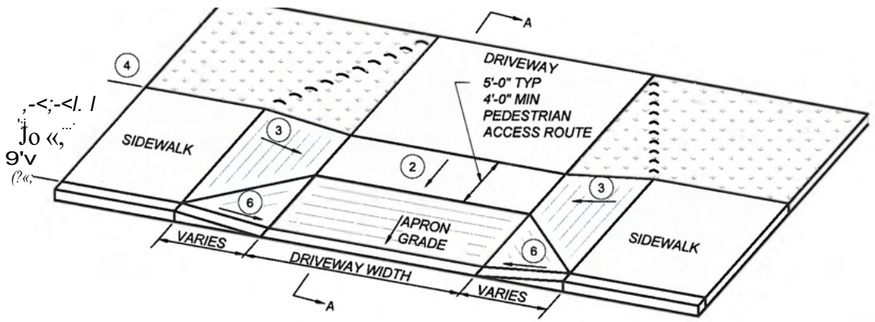
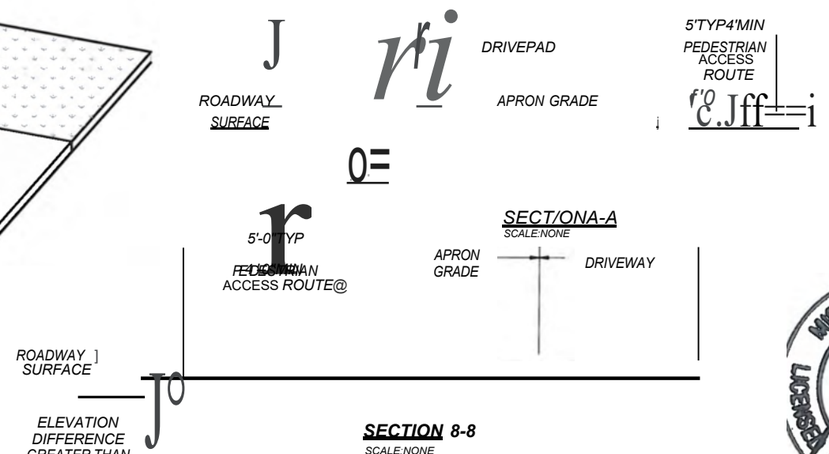


TYPE28
DRIVEWAY APRON
SCALE:NONE



SECTION 8-8
SCALE:NONE

KEYED NOTES

0 TURNING SPACE SHALL HAVE MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00/4 (RECOMMEND 1.5%). TURNING SPACE SHALL BE 4.0 FT BY 4.0 FT MIN (RECOMMEND 5.0 FT BY 5.0 FT) AT THE TOP OF THE CURB RAMP AND SHALL BE PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4.0 FT MIN BY 5.0 FT MIN. THE 5.0 FT SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.

0 CROSS SLOPE SHALL **BE** 2.00/4 MAX (RECOMMENDED 1.5%). EXCEPTION: THE CROSS SLOPE OF CURB RAMPS AT PEDESTRIAN STREET CROSSING WITHOUT YIELD OR STOP CONTROL, TRAFFIC SIGNALS DESIGNED FOR THE GREEN PHASE, AND AT MIDBLOCK PEDESTRIAN STREET CROSSING, THE CROSS SLOPE IS PERMITTED TO MATCH STREET OR HIGHWAY GRADE.

0 RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.3 % MAX (RECOMMENDED 7.0%) BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15.0 FT TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAX LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE EXTENDED AS FLAT AS MAXIMUM EXTENT PRACTICABLE.

0 GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF RAMP RUNS AND TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.

0 COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5% MAX

© FLARED SIDES ARE TO HAVE A SLOPE OF 100/4 MAX (RECOMMEND 9%), MEASURED PARALLEL TO THE BACK OF THE CURB, UNLESS THE FLARED SIDES ARE PROTECTED FROM CROSS TRAVEL BY LANDSCAPING, STREET FURNITURE, CHAINS, FENCING, OR RAILINGS.

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@ CONCRETE HEADER CURBS CONSTRUCTED AS PART OF THE CURB RAMP WILL BE CONSIDERED INCIDENTAL TO ITEM NUMBER 608004 AND NO SEPARATE PAYMENT WILL BE MADE.

MICHAEL J. SMELKER
NEW MEXICO
15350
REGISTERED PROFESSIONAL ENGINEER
1-18-15

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NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

DRIVEWAY APRONS

APPROVED _____ ENGINEER DATE 1-18-15

608-001-9

DRAWING SCALE = NOT TO SCALE

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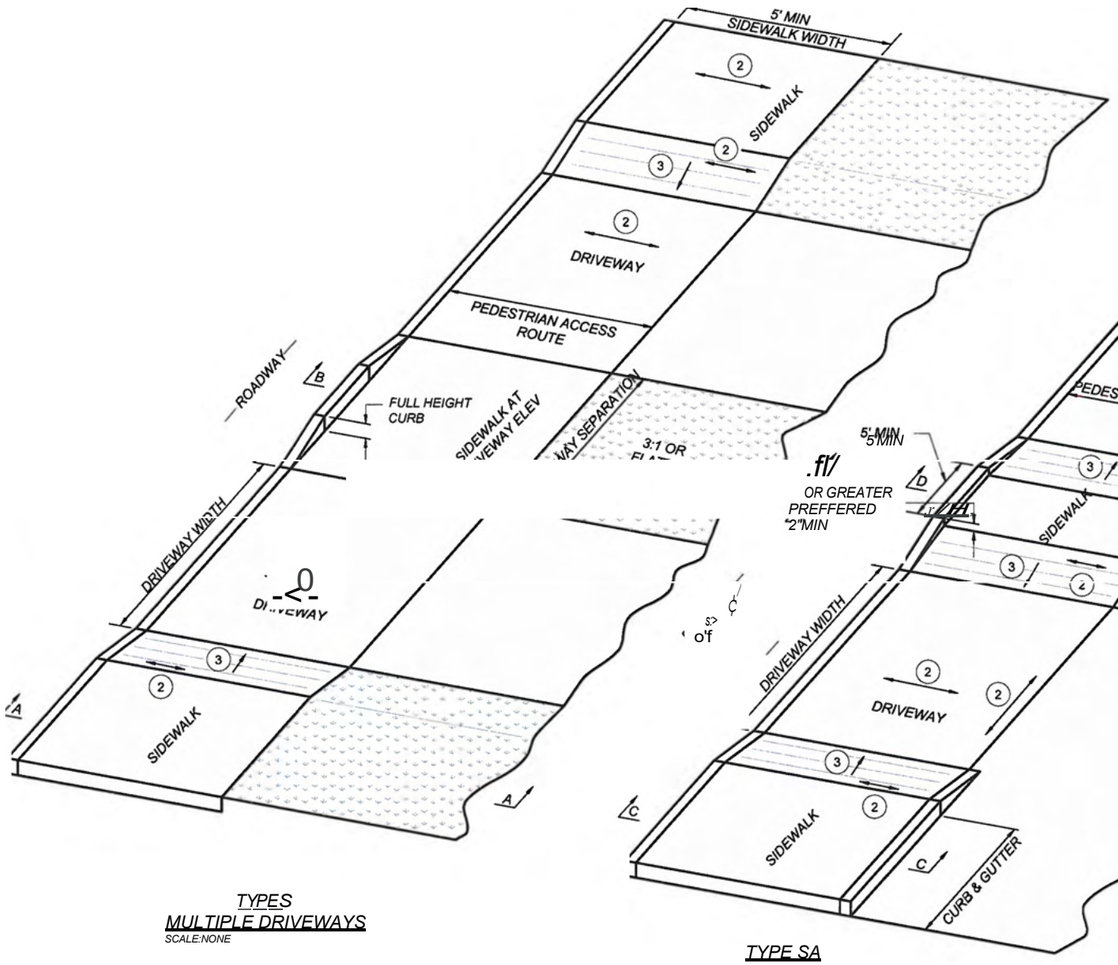

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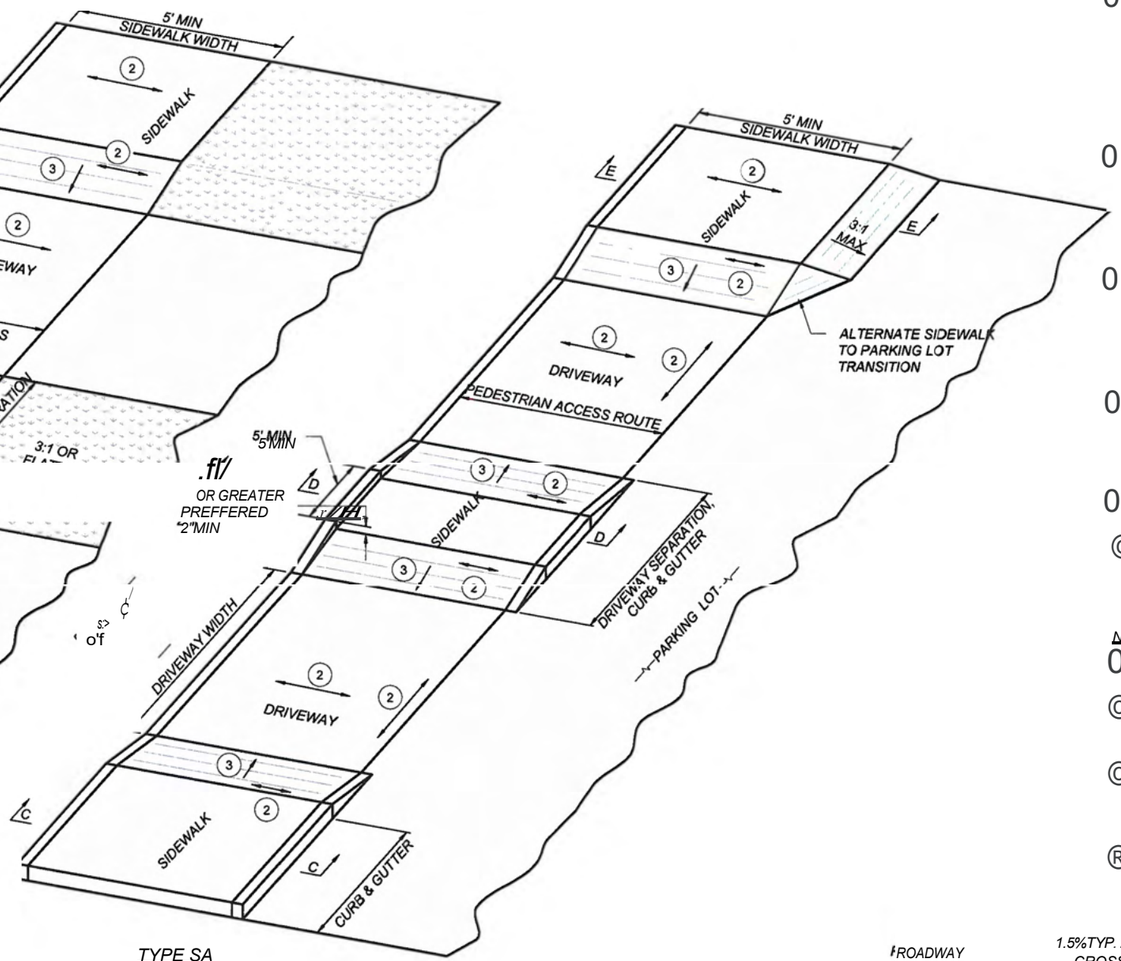

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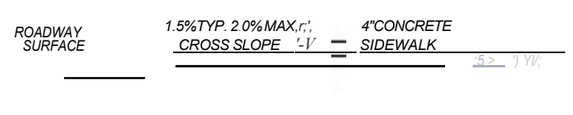

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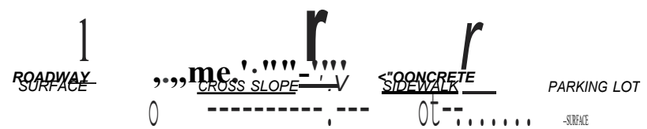

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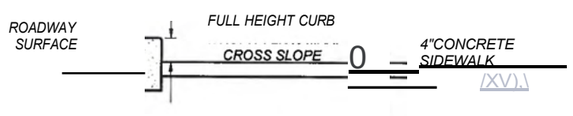

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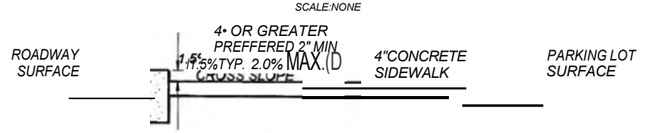

SECTIOND-O
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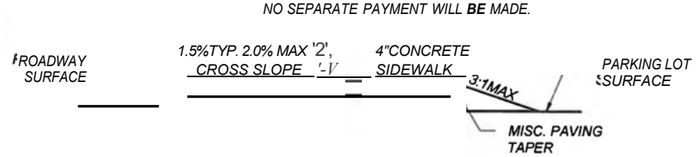

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KEYED NOTES

0 TURNING SPACE SHALL HAVE MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.0"A. (RECOMMEND 1 5%). TURNING SPACE SHALL BE 4.0 FT BY 4.0 FT MIN (RECOMMEND 5.0 FT BY 5.0 FT) AT THE TOP OF THE CURB RAMP AND SHALL BE PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. WHERE THE TURNING SPACE JS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4.0 FT MIN BY 5.0 FT MIN. THE 5.0 FT SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.

0 CROSS SLOPE SHALL BE 2.0% MAX (RECOMMENDED 1.5%). EXCEPTION: THE CROSS SLOPE OF CURB RAMPS AT PEDESTRIAN STREET CROSSING WITHOUT YIELD OR STOP CONTROL, TRAFFIC SIGNALS DESIGNED FOR THE GREEN PHASE, AND AT MIDBLOCK PEDESTRIAN STREET CROSSING, THE CROSS SLOPE IS PERMITTED TO MATCH STREET OR HIGHWAY GRADE.

0 RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.3% MAX (RECOMMENDED 7.0%) BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15.0 FT TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAX LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE EXTENDED AS FLAT AS MAXIMUM EXTENT PRACTICABLE.

0 GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS RUNS SHALL **BE** PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF RAMP RUNS AND TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.

0 COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, RUN OR TURNING SPACE SHALL BE 5% MAX.

© FLARED SIDES ARE TO HAVE A SLOPE OF 10"A. MAX (RECOMMEND 9"A.), MEASURED PARALLEL TO THE BACK OF THE CURB, UNLESS THE FLARED SIDES ARE PROTECTED FROM CROSS TRAVEL BY LANDSCAPING, STREET FURNITURE, CHAINS, FENCING, OR RAILINGS.

NOTES:

0 DO NOT SCORE OR MAKE GROOVES IN SLOPED SURFACE. LINES SHOWN ON STANDARD DETAILS ARE FOR ILLUSTRATION ONLY.

© DETAILS OF THE DETECTABLE WARNING SURFACE ARE SHOWN IN THE CONSTRUCTION PLANS AND SHEET 608-001-8/12 OF THE STANDARD DRAWINGS.

© IN ALTERATIONS WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT COMPLIANCE TO PROVIDE A CURB RAMP FOR EACH PEDESTRIAN CROSSING A SINGLE DIAGONAL CURB RAMP SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.

® CONCRETE HEADER CURBS CONSTRUCTED AS PART OF THE CURB RAMP WILL BE CONSIDERED INCIDENTAL TO ITEM NUMBER 608004 AND NO SEPARATE PAYMENT WILL **BE** MADE.

NO.	DATE	REV. BY	DESCRIPTION

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NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

DRIVEWAY APRONS

APPROVED _____ 7-13-15
DESIGN ENGINEER DATE

608-001-10

MICHAEL J. SMELKER
NEW MEXICO
15350
LICENSED PROFESSIONAL ENGINEER
7-15-15

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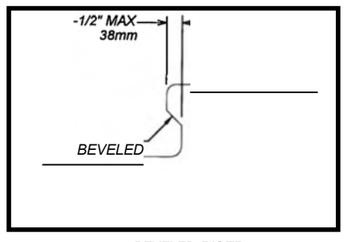
SUMMARY
J'ILENAME:

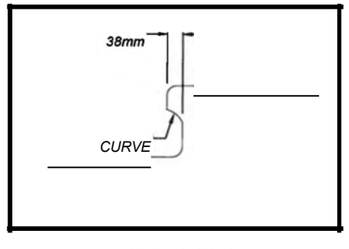
STAIRWAY REQUIREMENTS

1. STAIRWAYS SHALL BE 4 FT WIDE MINIMUM BETWEEN HANDRAILS.
2. ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISER HEIGHTS AND UNIFORM TREAD DEPTH. RISERS SHALL BE 4 INCHES {100mm) HIGH MINIMUM AND 7 INCHES {180mm) MAXIMUM. TREADS SHALL BE 11 INCHES {280mm) DEEP MINIMUM MEASURED FROM RISER TOR/SER.
3. OPEN RISERS SHALL NOT BE PERMITTED.
4. STAIR TREADS SHALL BE STABLE, FIRM, AND SLIP RESISTANT.
5. THE RADIUS OF CURVATURE AT THE LENDING EDGE OF THE TREAD SHALL BE ½ INCH {13mm) MAXIMUM. NOSINGS THAT PROJECT BEYOND RISERS SHALL HAVE THE UNDERSIDE OF THE LANDING EDGE CURVED OR BEVELED. RISERS SHALL BE PERMITTED TO SLOPE UNDER THE TREAD AT AN ANGLE OF 30 DEGREES MAXIMUM FROM THE VERTICAL. THE PERMITTED PROJECTION OF THE NOSING SHALL BE 1 INCHES {38mm) MAXIMUM BEYOND THE TREAD BELOW.
6. HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS.
7. OUTDOOR STAIRS AND OUTDOOR APPROACHES TO STAIRS SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.

VERTICAL RISER



BEVELED RISER



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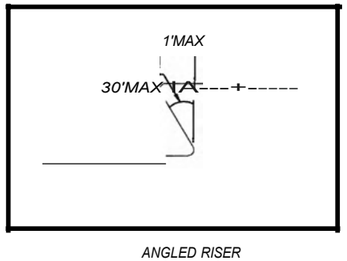
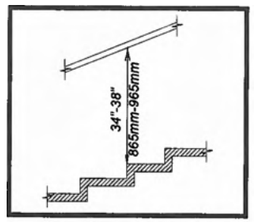


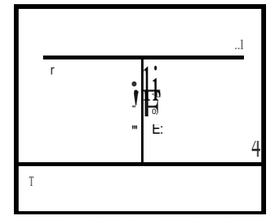
ANGLED RISER

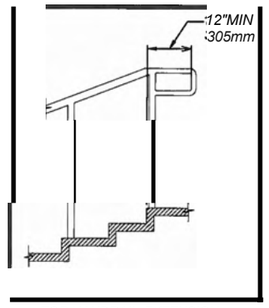
HANDRAIL REQUIREMENTS

1. HANDRAILS SHALL BE PROVIDED ON BOTH SIDES OF STAIRS AND RAMPS.
2. HANDRAILS SHALL BE CONTINUOUS WITHIN THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCH BACK OR DOGLEG STAIRS OR RAMPS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS.
3. TOP GRIPPING SURFACES OF HANDRAILS SHALL BE 34 INCHES {865mm) MINIMUM AND 38 INCHES {965mm) MAXIMUM VERT/CALLY ABOVE STAIR NOS/NGS AND RAMP SURFACES. HANDRAILS SHALL BE AT A CONSISTENT HEIGHT ABOVE STAIR NOSINGS AND RAMP SURFACES.
4. CLEAR SPACE BETWEEN HANDRAIL AND WALL SHALL BE 1 INCH (38mm) MINIMUM
5. GRIPPING SURFACES SHALL BE CONTINUOUS WITHOUT INTERRUPTION BY NEW POSTS OTHER CONSTRUCTION ELEMENTS, OR OBSTRUCTIONS.
   EXCEPTION:
   HANDRAIL BRACKETS OR BALUSTERS ATTACHED TO THE BOTTOM SURFACE OF THE HANDRAIL SHALL NOT BE CONSIDERED OBSTRUCTIONS PROVIDED THEY COMPLY WITH THE FOLLOWING CRITERIA:
   A. NOT MORE THAN 20 PERCENT OF THE HANDRAIL LENGTH IS OBSTRUCTED.
   B. HORIZONTAL PROJECTIONS BEYOND THE SIDES OF THE HANDRAIL OCCUR 2 INCHES {64mm) MINIMUM BELOW THE BOTTOM OF THE HANDRAIL AND
   C. EDGES HAVE 11 INCH {32MM) MINIMUM RADIUS.
6. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION WITH AN OUTSIDE DIAMETER OD 1·114" or 1.25" INCH {32mm) MINIMUM AND 2 INCH {51mm) MAXIMUM OR SHALL PROVIDE EQUIVALENT GRASPABILITY.
   EXCEPTION: HANDRAILS WITH OTHER SHAPES SHALL BE PERMITTED PROVIDED THEY HAVE A PERIMETER DIMENSION OF 4 INCH {100mm) MINIMUM AND A 6.25 INCH{160mm) MAXIMUM AND PROVIDED THEIR LARGEST CROSS SECTION DIMENSION IS 2.25 /NCH {57mm) MAXIMUM.
7. HANDRAILS AND ANY WALL OR OTHER SURFACES ADJACENT TO THEM, SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE 1 INCH {32mm) MINIMUM RADIUS.
8. HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
9. HANDRAILS FOR STAIRS AND RAMPS SHALL HAVE EXTENSIONS.
   EXCEPTIONS:
   A. EXTENSIONS ARE NOT REQUIRED FOR CONTINUOUS HANDRAILS AT THE INSIDE TURN OF STAIRS AND RAMPS
   B. IN ALTERATIONS FULL EXTENSIONS OF HANDRAILS SHALL NOT BE REQUIRED WHERE SUCH EXTENSIONS WOUW BE HAZARDOUS OR IMPOSSIBLE DUE TO PLAN CONFIGURATION.
10. RAMP HANDRAILS SHALL EXTEND HORIZONTALLY 12 INCHES {305mm) MINIMUM BEYOND OF RAMP RUNS SUCH EXTENSION SHALL RETURN TO WALL GUARD OR THE WALKING SURFACE OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT RAMP RUN.
11. AT THE TOP OFA STAIR FLIGHT HANDRAILS SHALL EXTEND HOR/ZONTALL Y ABOVE THE LANDING FOR 12 /NCHES (305mm) MINIMUM BEGINNING DIRECTLY ABOVE THE FIRST RISER NOSING. SUCH EXTENSIONS SHALL RETURN TO A WALL, OR THE WALKING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT STAIR FLIGHT.
12. AT THE BOTTOM OF THE STAIR FLIGHT HANDRAILS SHALL EXTEND AT THE SLOPE OF THE STAIR FLIGHT FOR A HORIZONTAL DISTANCE AT LEAST EQUAL TO ON TREAD DEPTH BEYOND THE LAST RISER NOSING. EXTENSIONS SHALL RETURN TO A WELL, GUARD, OR THE LANDING SURFACE, OR SHALL BE CONTINUOUS TO THE HANDRAIL OF AN ADJACENT STAIR FLIGHT.

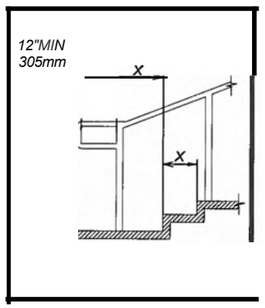


STAIR HANDRAIL HEIGHT

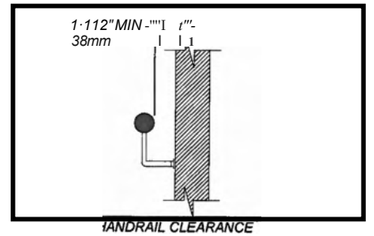

RAMP HANDRAIL HEIGHT



TOP HANDRAIL EXTENSION AT STAIRS



BOTTOM HANDRAIL EXTENSION AT STAIRS



HANDRAIL CLEARANCE

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NEW MEXICO
DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

PEDESTRIAN ACCESS DETAILS
STAIRWAY ANQ. HANDRAILS

APPROVED DESIGN ENGINEER 1-13-15 DATE

608-001-11

608-11of12

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SUMMARY
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ACCESSIBLE ROUTES:

ACCESSIBLE EXTERIOR ROUTES SHALL BE PROVIDED FROM TRANSPORTATION STOPS, ACCESSIBLE PARKING AND ACCESSIBLE PASSENGER LOADING ZONES AND PUBLIC SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCE THEY SERVE. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE OR FACILITY

ACCESSIBLE PARKING REQUIREMENTS:

1. EACH FACILITY SHALL PROVIDE ACCESSIBLE PARKING SPACES IN COMPLIANCE WITH THE FOLLOWING TABLE:

NUMBER OF ACCESSIBLE PARKING SPACES

TOTAL PARKING SPACES	TOTAL REQUIRED ACCESSIBLE PARKING SPACES	NUMBER REQUIRED TO BE VAN ACCESSIBLE
1-25	1	1
26-35	2	1
36-50	3	1
51-100	4	1
101-300	8	2
301-500	12	2
501-800	16	3
801-1000	20	4
OVER 1,000	20 SPACES PLUS 1 SPACE FOR EVERY 100 SPACES, OR FRACTION THEREOF, OVER 1,000	1 OF EVERY 6 ACCESSIBLE PARKING SPACES, OR FRACTION THEREOF

2. CAR SPACES SHALL BE 96 INCHES (2440 mm) WIDE MINIMUM AND VAN PARKING SPACES SHALL BE 132 /NCHES AND SHALL HAVE AN ADJACENT ACCESS AISLE.

3. ACCESS AISLES SERVING PARKING SPACES SHALL CONNECT TO THE BUILDING OR FACILITY ENTRANCE BY AN ACCESSIBLE SIDEWALK. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. THE VAN ACCESS AISLE JS PREFERRED TO BE AT THE RIGHT SIDE (PASSENGER SIDE) OF THE PARKING SPACE. (AN ACCESSIBLE SIDEWALK IS 60 INCHES (1525mm) MINIMUM CLEAR WIDTH, 50:1 MAXIMUM CROSS SLOPE WITH A RUNNING SLOPE OF 20:1 MAXIMUM OR THE RUNNING SLOPE MAY FOLLOW THE ADJACENT ROAD PROFILE GRADE.) PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE MINIMUM 48 /NCH CLEAR WIDTH OF AN ACCESSIBLE ROUTE.

4. ACCESS AISLES SERVING CAR PARKING SPACES SHALL BE 60 INCHES (1525mm) WIDE MINIMUM. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96 INCHES (2440mm) WIDE MINIMUM.

5. ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACES THEY SERVE.

6. PARKING SPACES AND ACCESS AISLES SHALL HAVE SURFACE SLOPES NOT STEEPER THAN 50:1. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACES THEY SERVE.

7. PARKING SPACES FOR VANS SHALL HAVE A VERTICAL CLEARANCE OF 98 INCHES (2490mm) MINIMUM AT THE SPACE AND ALONG THE VEHICULAR ROUTE THERETO.

8. EACH ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN ON A POST. SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. THE CLEARANCE TO THE BOTTOM OF THE SIGN (R7-8) SHALL BE AT LEAST 7 FEET (2100mm), LOCATED AT THE HEAD OF THE PARKING SPACE. VAN ACCESSIBLE PARKING SPACES SHALL HAVE AN ADDITIONAL SIGN (R7-8A) MOUNTED BELOW THE INTERNATIONAL SYMBOL OF ACCESS IDENTIFY/NG THE SPACE AS "VAN ACCESSIBLE." SIGNS MUST INCLUDE THE LANGUAGE "VIOLATORS ARE SUBJECT TO A FINE AND/OR TOWING .

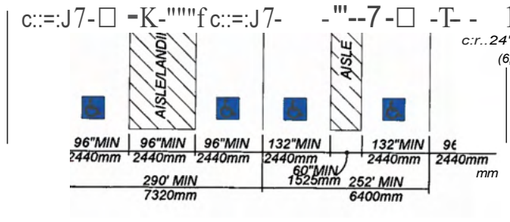
9. PARKING SPACE AND ACCESS AISLES SHALL HAVE OSHA SAFETY BLUE STRIPING. STRIPING SHALL BE 4 INCHES (100mm) WIDE. ACCESS AISLES STRIPING SHALL BE 30 INCHES (760mm) ON CENTER ACCESS AISLE SHALL HAVE THE WORDS "NO PARKING" IN CAPITAL LETTER OF WHICH SHALL BE AT LEAST ONE FOOT HIGH AND AT LEAST TWO INCHES WIDE PLACED AT THE REAR OF THE PARKING SPACE SO AS TO BE CLOSE TO WHERE AN ADJACENT VEHICLES REAR TIRES WOULD BE PLACED.

10. EACH ACCESSIBLE PARKING SPACE SHALL INCLUDE, CENTERED AT THE FOOT, A PAVEMENT MARKING OF THE INTERNATIONAL SYMBOL OF ACCESSIBILITY TO BE CLEARLY VISIBLE WHEN THE SPACE IS OCCUPIED.

SEE NOTE 9 -----

DIMENSIONS OF PARKING SPACES

(ACCESSIBLE ROUTE AND PARKING SPACES SAME ELEVATIO)



ACCESSIBLE PASSENGER LOADING ZONE REQUIREMENTS:

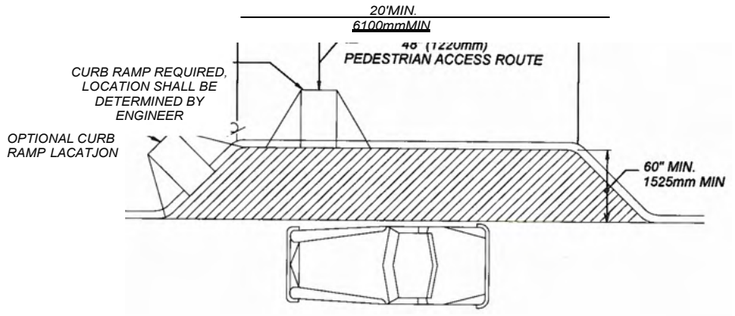
1. PASSENGER LOADING ZONES SHALL PROVIDE A 60 INCH (1525mm) WIDE ACCESS AISLE ADJACENT AND PARALLEL TO A VEHICLE PULL-UP SPACE. ACCESS AISLES SHALL BE 20 FEET (6100mm) LONG MINIMUM.

2. ACCESS AISLES SHALL BE PART OF THE ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE, AND MARKED TO DISCOURAGE PARKING.

3. VEHICLE PULL-UP SPACES IN PASSENGER LOADING ZONES AND ACCESS AISLES SHALL HAVE SURFACE SLOPES NOT STEEPER THAN 50:1. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE VEHICLE PULL-UP SPACE THEY SERVE.

4. VERTICAL CLEARANCE OF 114 INCHES (2895mm) MINIMUM SHALL BE PROVIDED AT PASSENGER LOADING ZONES AND ALONG VEHICLE ACCESS ROUTES TO SUCH AREAS FROM SITE ENTRANCES.

5. EACH ACCESSIBLE PASSENGER LOADING ZONE SHALL BE IDENTIFIED BY A SIGN ON A POST. SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.



ACCESSIBLE PASSENGER LOADING ZONE

PLAN VIEW

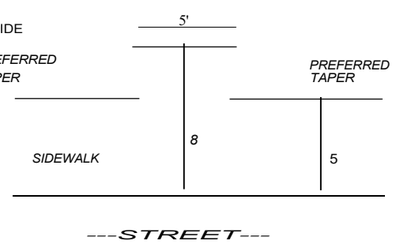
TRANSIT STOP REQUIREMENTS

1. TRANSIT STOPS SHOULD BE LOCATED SO THAT THERE IS A LEVEL AND STABLE SURFACE FOR BOARDING VEHICLES.

2. LOCATING TRANSIT STOPS AT SIGNALIZED INTERSECTIONS INCREASE THE USABILITY FOR PEDESTRIANS WITH DISABILITIES.

3. WHERE SECURITY BOLLARDS ARE INSTALLED AT TRANSIT STOPS, THEY MUST NOT OBSTRUCT THE CLEAR SPACE AT BOARDING AND ALIGHTING AREAS OR REDUCE THE REQUIRED CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTES.

4. TRANSIT STOPS SHALL COMPLY WITH PRO.WAG SECTION R 308 TRANSIT STOPS AND TRANSIT SHELTERS.



TRANSIT STOP

PLAN VIEW

RAMP REQUIREMENTS:

1. RAMP RUNS SHALL HAVE A RUNNING SLOPE GREATER THAN 1:20 AND NOT STEEPER THAN 1:12. THE EXCEPTION SHALL REMAIN AS SHOWN, INCLUDING THE TABLE FOR EXISTING BUILDINGS AND FACILITIES.

2. RAMP PUNS SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 12:1. EXCEPTION: RAMPS IN OR ON EXISTING BUILDINGS OR FACILITIES SHALL BE PERMITTED TO HAVE SLOPES STEEPER THAN 12:1 AND SHALL COMPLY WITH THE FOLLOWING TABLE WHERE SUCH SLOPES STEEPER THAN 8:1 SHALL NOT BE PERMITTED.

TABLE FOR EXISTING SITES. BUILDING$ AND FACILITIES

SLOPE	MAXIMUM RISE
STEEPER THAN 10:1 BUT NOT STEEPER THAN 8:1	3 INCHES (75mm)
STEEPER THAN 12:1 BUT NOT STEEPER THAN 10:1	6 INCHES (150mm)

3. CROSS SLOPE OF RAMP RUNS SHALL NOT BE STEEPER THAN 50:1.

4. FLOOR OR GROUND SURFACES OF RAMP RUN SHALL BE STABLE, FIRM, AND SLIP RESISTANT.

5. THE CLEAR WIDTH OF A RAMP RUN SHALL BE 48 INCHES (915mm) MINIMUM MEASURED BETWEEN HANDRAILS.

6. THE RISE FOR ANY RAMP RUN SHALL BE 30 INCHES (760mm) MAXIMUM.

7. RAMPS SHALL HAVE LANDINGS AT THE BOTTOM AND TOP OF EACH RUN. LANDINGS SHALL COMPLY WITH THE FOLLOWING:
   A. LANDINGS SHALL HAVE A SOPE NOT STEEPER THAN 50:1.
   B. CLEAR WIDTH OF LANDINGS SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING.
   C. LANDING LENGTH SHALL BE 60 INCHES (1525mm) MINIMUM CLEAR.
   D. RAMPS THAT CHANGE DIRECTION AT LANDINGS SHALL HAVE A 60 INCH BY 60 INCH (1525mm) MINIMUM LANDING.
   E. WHERE DOORWAYS ARE ADJACENT TO A RAMP LANDING, MANEUVERING CLEARANCES SHALL COMPLY WITH *2010 AMERICANS WITH DISABILITIES ACT STANDARDS* FOR *ACCESSIBLE DESIGN* (2010 ADA) SECTION 404.

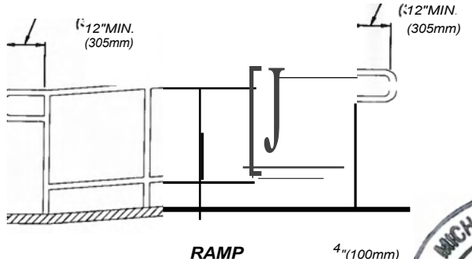
8. RAMPS WITH A RISE GREATER THAN 6 INCHES (150mm) SHALL HAVE HANDRAILS. HANDRAILS SHALL NOT REDUCE THE REQUIRED CLEARANCES OF A RAMP RUN OR LANDINGS.

9. EDGE PROTECTION SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS AND AT EACH SIDE OF RAMP LANDINGS.

   EXCEPTIONS:
   A. RAMPS NOT REQUIRED TO HAVE HANDRAILS WHERE SIDE FLARES ARE PROVIDED.
   B. SIDES OF RAMP LANDINGS SERVING AN ADJOINING RAMP RUN OR STAIRWAY.
   C. SIDES OF RAMP TURN SPACE HAVING A VERTICAL DROP-OFF OF 112 INCH (13mm) MAXIMUM WITHIN 10 INCHES (255mm) HORIZONTALLY OF THE MINIMUM LANDING AREA.

10. EDGE PROTECTION MAY BE PROVIDED BY EXTENDING A FLOOR OR GROUND SURFACE, OF THE RAMP RUN OR LANDING, 12 INCHES (305mm) MINIMUM BEYOND THE INSIDE FACE OF A HANDRAIL OR AN EDGE PROTECTION CURB OR BARRIER SHALL BE PROVIDED THAT PREVENTS THE PASSAGE OF A 4-/NCH (100mm) DIAMETER SPHERE BELOW A HEIGHT OF 4 INCHES (100mm).

11. OUTDOOR RAMPS AND APPROACHES TO RAMPS SHALL BE DESIGNED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES.



RAMP

NO.	DATE	REVISIONS / OR CHANGE NOTICES	DESCRIPTION

NEW MEXICO

DEPARTMENT OF TRANSPORTATION
STANDARD DRAWING

PEDESTRIAN ACCESS DETAILS PARKING AND PASSENGER LOADING ZONES

APPROVED _____ DESIGN ENGINEER

DATE

608-001-12

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Appendix B

Elements of 2011 Proposed PROW Guidelines that Apply to Curb Ramps, Crosswalks, and Sidewalks

Elements of 2011 Proposed PROW Guidelines that Apply to Curb Ramps, Crosswalks, and Sidewalks

Table B-1: Summary of Chapter R2 – Scoping Requirements

Chapter/ Section	Element	Summary of Proposed Guideline
R2	**R2 - Scoping Requirements**	
R204	Pedestrian Access Routes	Required to comply with R302: • Within sidewalks and pedestrian circulation paths located in public right-of-way • Connecting to accessible elements, spaces, facilities and accessible routes • Within pedestrian street crossings, including medians and pedestrian refuge islands, and pedestrian at-grade rail crossings • Connecting departure and arrival sidewalks • Within overpasses, underpasses, bridges, and similar structures that contain pedestrian circulation paths
R206	Pedestrian Street Crossings	Required to comply with R306
R207	Curb Ramps and Blended Transitions	Required to comply with R304: • Shall connect pedestrian access routes at each pedestrian street crossing • Ramp (excluding flared sides) or blended transition shall be contained wholly within width of pedestrian street crossing served • In alterations where existing physical constraints prevent one ramp for each crossing, a single diagonal curb ramp can serve both crossings.
R208	Detectable Warning Surfaces	Required to comply with R305: • Curb ramps and blended transitions at pedestrian street crossings • Pedestrian refuge islands • Pedestrian at-grade rail crossings not located within a street or highway • Boarding platforms at transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards • Boarding and alighting areas at sidewalk or street level transit stops for rail vehicles where side of the boarding and alighting areas facing rail vehicles is not protected by screens or guards. Not required at pedestrian refuge islands that are cut-through at street level and less than 6 feet in length in direction of pedestrian travel.
R209	Accessible Pedestrian Signals and Pedestrian Pushbuttons	Where pedestrian signals are provided at pedestrian street crossings, they shall include accessible pedestrian signals and pedestrian pushbuttons complying with sections 4E.08 through 4E.13 of the MUTCD. Shall comply when signal controller and software are altered, or signal head is replaced.
R210	Protruding Objects	Required to comply with R402. Cannot reduce the clear width required for pedestrian access routes.

Chapter/ Section	Element	Summary of Proposed Guideline
R213	Transit Stops and Transit Shelters	Required to comply with R308.

* Not addressed in ADAAG, or differs from ADAAG

Table B-2: Summary of Chapters R3 and R4 Technical Requirements

Chapter/ Section	Element	Summary of Proposed Guideline
R3	**R302 - Pedestrian Access Routes**	
	Components*	R302.2 Components. Pedestrian access routes shall consist of one or more of: • Sidewalks and other pedestrian circulation paths, or portion of, complying with R302.3 through R302.7 • Pedestrian street crossings and at-grade rail crossings complying with R302.3 through R302.7, and R306 • Pedestrian overpasses and underpasses and similar structures complying with R302.3 through R302.7 • Curb ramps and blended transitions complying with R302.7 and R304 • Ramps complying with R407 • Elevators complying with sections 407 or 408 of Appendix D to 36 CFR part 1191 • Platform lifts complying with section 410 of Appendix D to 36 CFR part 1191 • Doors, doorways, and gates complying with section 404 of Appendix D to 36 CFR part 1191
	Continuous Width – In general*	R302.3 Minimum Continuous Width: 4 feet *(In 2004 ADAAG, minimum 3 feet; allowed to be reduced to 32 inches for a length of 24 inches maximum provided that reduced width segments are separated by segments that are minimum 48 inches long and 36 inches wide)*
	Clear Width - Medians and Pedestrian Refuge Islands*	R302.3.1 Medians and Pedestrian Refuge Islands Minimum: 5 feet *(In 2004 ADAAG, minimum clear width is not defined differently for medians/islands, thus minimum: 3 feet)*
	Clear Width - Passing Spaces*	R302.4 Passing Spaces - required where route width is less than 5 feet Minimum: 5 feet by 5 feet, at intervals of maximum 200 feet *(In 2004 ADAAG, at T-shaped intersection of two walking spaces, minimum 4 feet by 4 feet. 2011 Proposed Guidelines do not make an exception for T-shaped intersection.)*

Chapter/ Section	Element	Summary of Proposed Guideline
	Grade (Slope)*	R302.5 Grade • In general, maximum: 5 percent • Pedestrian access routes contained within street or highway right-of-way (except street crossings) can be general grade established for adjacent street or highway • Pedestrian street crossings, maximum: 5 percent *(2004 ADAAG only addressed in general, with no allowance for street slope)*
	Cross Slope*	R302.6 Cross Slope • In general, maximum: 2 percent • Pedestrian street crossings without yield or stop control, maximum: 5 percent • Midblock crossings can equal street or highway grade *(2004 ADAAG only addressed in general, with no allowance for street slope)*
	Surfaces – In general	R302.7 Surfaces. Surfaces of pedestrian access routes and elements and spaces required to comply with R302.7 that connect to pedestrian access routes shall be firm, stable, and slip resistant
	Surfaces – Vertical Alignment*	R302.7.1 Vertical Alignment • Shall be generally planar within pedestrian access routes. • Grade breaks shall be flush. • At rail crossings: outer edges: level and flush with top of rail • At rail crossings: between rails: aligned with top of rail *(Not addressed in 2004 ADAAG)*
	Surfaces – Vertical Surface Discontinuities	R302.7.2 Vertical Surface Discontinuities • Maximum: 0.5 inch • Between 0.25-0.5 inch, shall be beveled with maximum 50 percent slope
	Surfaces – Horizontal Openings	R302.7.3 Horizontal Openings • Maximum: 0.5 inch • Elongated openings shall be placed so that long dimension is perpendicular to dominant direction of travel
	Surfaces – Flange Way Gaps at Pedestrian At-Grade Rail Crossings	R302.7.4 Flange Way Gaps • Maximum 2.5 inches on non-freight rail track • Maximum 3 inches on freight rail track *(2004 ADAAG did not make an allowance for freight rail track)*
R3	**R304 - Curb Ramps and Blended Transitions**	
	General*	Advisory R304.1 defines perpendicular, parallel, and combination ramps, as well as blended transitions. Perpendicular can be provided where sidewalk is at least 12 feet wide, parallel where at least 4 feet wide, and combination at least 6 feet wide. *(2004 ADAAG only addressed perpendicular and diagonal ramps)*

Chapter/ Section	Element	Summary of Proposed Guideline
	Perpendicular Curb Ramps – Turning Space at Top of Ramp*	R304.2.1 Turning Space • Minimum: 4 feet by 4 feet • Shall be permitted to overlap other turning spaces and clear spaces • Where constrained by back-of-sidewalk: minimum: 4 feet by 5 feet, with 5-foot dimension in direction of ramp run *(In 2004 ADAAG, minimum: 3 feet by 3 feet, at least as wide as curb ramp. In alterations, allowed instead of top landing flares with maximum slope 1:12 (8.3 percent))*
	Perpendicular Curb Ramps – Ramp Running Slope*	R304.2.2 Running Slope • Minimum: 5 percent • Maximum: 8.3 percent *(2004 ADAAG did not indicate minimum running slope, and permitted in existing sites, buildings, and facilities, to have running slopes steeper than 1:12 (8.3%) complying with below where such slopes are necessary due to space limitations:* • *8.3%-10% for rise up to 6 inches* • *10%-12.5% for rise up to 3 inches)*
	Perpendicular Curb Ramps – Ramp Running Slope Direction in Relation to Curb*	R304.2.2 Running Slope Shall cut through or be built up to curb at right angles or meet gutter grade break at right angles where curb is curved *(Not addressed for perpendicular ramps in 2004 ADAAG; however required diagonal or corner type curb ramps with returned curbs or other well-defined edges to have edges parallel to direction of pedestrian flow.)*
	Perpendicular Curb Ramps – RAMP RUNNING SLOPE DIRECTION in RELATION to Curb	R304.2.2 Running Slope Shall cut through or be built up to curb at right angles or meet gutter grade break at right angles where curb is curved
	Perpendicular Curb Ramps – Ramp Length*	R304.2.2 Running Slope Maximum: 15 feet *(No maximum length for curb ramps specified in 2004 ADAAG, but allowed ramps in general to rise up to 30 inches, which translates to 30 feet for 8.3% slope, longer for a shallower slope)*
	Perpendicular Curb Ramps – Turning Space Running Slope*	R304.2.2 Running Slope Maximum: 2 percent *(2004 ADAAG did not indicate running slope for curb ramp turning areas, but allowed maximum 1:48 (2.08%) for landing areas for other types of ramps)*
	Perpendicular Curb Ramps – Flared Sides Slope	R304.2.3 Flared Sides Where a pedestrian circulation path crosses the curb ramp, maximum: 10 percent, measured parallel to the curb line

Chapter/ Section	Element	Summary of Proposed Guideline
	Parallel Curb Ramps – Turning Space at Bottom of Ramp – General*	R304.3.1 Turning Space • Shall be provided at the bottom of the curb ramp • Permitted to overlap other turning spaces and clear spaces • Minimum: 4 feet by 4 feet • Where constrained by 2 or more sides: minimum: 4 feet by 5 feet, with 5-foot dimension in direction of pedestrian street crossing *(2004 ADAAG did not address parallel curb ramps; however, for ramps in general, required landing areas at least as wide as widest ramp run leading to landing with minimum 5 feet clear length.)*
	Parallel Curb Ramps – Ramp Running Slope*	R304.3.2 Running Slope • Minimum: 5 percent • Maximum: 8.3 percent *(2004 ADAAG did not indicate minimum running slope, and did not address parallel curb ramps. Permitted in existing sites, buildings, and facilities, to have running slopes steeper than 1:12 (8.3%) complying with below where such slopes are necessary due to space limitations:* • *8.3%-10% for rise up to 6 inches* • *10%-12.5% for rise up to 3 inches)*
	Parallel Curb Ramps – Ramp Running Slope Direction in Relation to Curb*	R304.3.2 Running Slope Shall be in-line with the direction of sidewalk travel *(Not in 2004 ADAAG)*
	Parallel Curb Ramps – Ramp Length*	R304.3.2 Running Slope Maximum: 15 feet *(No maximum length for curb ramps specified in 2004 ADAAG, but allowed ramps in general to rise up to 30 inches, which translates to 30 feet for 8.3% slope, longer for a shallower slope)*
	Parallel Curb Ramps – Turning Space Running Slope*	R304.3.2 Running Slope Maximum: 2 percent *(2004 ADAAG did not indicate running slope for curb ramp turning areas, but allowed maximum 1:48 (2.08%) for landing areas for other types of ramps)*
	Blended Transitions – Running Slope	R304.4.1 Running Slope Maximum: 5 percent *(2004 ADAAG did not address blended transitions)*
	Common Requirements – General	R304.5 Common Requirements. Curb ramps and blended transitions shall comply with R304.5.
	Common Requirements – Width*	R304.5.1 Width Minimum: 4 feet (excluding any flared sides) *(2004 ADAAG: minimum 3 feet)*

Chapter/ Section	Element	Summary of Proposed Guideline
	Common Requirements – Grade Breaks*	R304.5.2 Grade Breaks • Shall be perpendicular to direction of ramp run at top and bottom of curb ramp runs • Not permitted on ramp runs and turning spaces • Surface slopes that meet at grade breaks shall be flush. *(2004 ADAAG did not address direction, flush meeting, advised against compound slopes)*
	Common Requirements – Cross Slope	R304.5.3 Cross Slope • Maximum: 2 percent • At pedestrian street crossings without yield or stop control and at midblock pedestrian street crossings, permitted to equal the street or highway grade *(2004 ADAAG only addressed in general, allowed up to 1:48 (2.08%), with no allowance for street slope)*
	Common Requirements – Counter Slope - of Gutter or Street at Foot of Curb Ramp Runs, Blended Transitions, and Turning Spaces	R304.5.4 Counter Slope Maximum: 5 percent
	Common Requirements – Clear Space - Beyond the Bottom Grade Break*	R304.5.5 Clear Space Minimum: 4 feet by 4 feet, provided within width of pedestrian street crossing and wholly outside parallel vehicle travel lane *(2004 ADAAG: Curb ramps and flared sides shall be located to not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within markings, excluding flared sides. Diagonal curb ramps require minimum 4 feet by 4 feet. Diagonal ramps with flares require with segment of curb 24 inches long minimum located on each side of curb ramp and within marked crossing)*
R3	**R305 - Detectable Warning Surfaces**	
	Visual Contrast	R305.1.3 Contrast Shall contrast visually with adjacent gutter, street or highway, or pedestrian access route surface, either light-on-dark or dark-on-light

Chapter/ Section	Element	Summary of Proposed Guideline
	Size*	R305.1.4 Size Depth: Minimum: 2 feet in direction of pedestrian travel Width: • At curb ramps and blended transitions, shall extend full width of ramp run (perpendicular ramp), blended transition, or turning space (parallel ramp) • At pedestrian at-grade rail crossings not located within street or highway, shall extend full width of crossing • At boarding platforms for buses and rail vehicles, shall extend full length of public use areas of platform • At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, shall extend full length of transit stop *(2004 ADAAG specified, at curb ramps, either the full depth of the curb ramp or 24 inches deep minimum measured from the back of the curb on the ramp surface. Did not address at-grade rail crossings or street-level transit stops)*
	Placement – Perpendicular Curb Ramps*	R305.2.1 Perpendicular Curb Ramps Where ends of bottom grade break are: • in front of back of curb, shall be placed at the back of curb • behind back of curb and distance from either end of bottom grade brake to back of curb is 5 feet or less, shall be placed on ramp run within one dome spacing of bottom grade break • behind back of curb and distance from either end of bottom grade brake to back of curb is over 5 feet, shall be placed on lower landing at back of curb *(2004 ADAAG indicated, in reference to depth measurement, placement at back of curb, without variation)*
	Placement – Parallel Curb Ramps*	R305.2.2 Parallel Curb Ramps Shall be placed on turning space at flush transition between street and sidewalk *(2004 ADAAG indicated, in reference to depth measurement, placement at back of curb; did not address parallel ramps)*
	Placement – Blended Transitions*	R305.2.3 Blended Transitions Shall be placed at back of curb. Where level pedestrian street crossings are provided (e.g. raised pedestrian street crossings, depressed corners), shall be placed at flush transition between street and sidewalk *(2004 ADAAG indicated, in reference to depth measurement, placement at back of curb; did not address blended transitions or level pedestrian crossings)*
	Placement – Pedestrian Refuge Islands – Cut-Through*	R305.2.4 Pedestrian Refuge Islands Shall be placed at edges of pedestrian island, separated by 2 feet minimum length of surface without detectable warnings *(2004 ADAAG did not address pedestrian island cut-throughs)*

Chapter/ Section	Element	Summary of Proposed Guideline
	Placement – Pedestrian At-Grade Rail Crossings – Not Located Within a Street or Highway*	R305.2.5 Pedestrian At-Grade Rail Crossings Shall be placed on each side of rail crossing • Edge nearest rail crossing shall be 6 to 15 feet from centerline of nearest rail • Where pedestrian gates are provided, detectable warning surfaces shall be placed on side of gates opposite rail. *(2004 ADAAG did not address at-grade rail crossings)*
	Placement – Boarding Platforms for Buses and Rail Vehicles	R305.2.6 Boarding Platforms Shall be placed at boarding edge of platform
	Placement – Boarding and Alighting Areas at Sidewalk or Street Level Transit Stops for Rail Vehicles*	R305.2.7 Boarding and Alighting Areas Shall be placed at the side of boarding and alighting area facing rail vehicles *(2004 ADAAG did not address street-level transit stops)*
R3	**R306 - Pedestrian Street Crossings**	
	Roundabouts – Separation Where Sidewalks Are Flush Against Curb And Pedestrian Street Crossing is Not Intended*	R306.3.1 Separation • A continuous and detectable edge treatment shall be provided along street side of sidewalk. • Detectable warning surfaces shall not be used for edge treatment. • Where chains, fencing, or railings are used for edge treatment, shall have bottom edge 15 inches maximum above sidewalk *(2004 ADAAG did not address roundabouts)*
	Pedestrian Activated Signals at Roundabouts with Multi-Lane Crossings, and Roundabouts and Other Signalized Intersections with Channelized Turn Lanes*	R306.3.2 Pedestrian Activated Signals R306.4 Channelized Turn Lanes at Roundabouts R306.5 Channelized Turn Lanes at Other Signalized Intersections • Shall comply with R209 • At roundabouts: Shall be provided for each multi-lane segment of each pedestrian street crossing, including splitter island • At roundabouts: Shall clearly identify which pedestrian street crossing segment signal serves *(2004 ADAAG did not address roundabouts or channelized tune lanes)*
R3	**R308 - Transit Stops and Transit Shelters**	
	Boarding and Alighting Areas - Dimensions	R308.1.1.1 Dimensions • Parallel to street or highway, minimum 5 (60 inches) feet • Perpendicular to curb or street or highway edge, minimum 8 feet (96 inches)

Chapter/ Section	Element	Summary of Proposed Guideline
	Boarding and Alighting Areas - Grade	R308.1.1.2 Grade • Parallel to street or highway, the same as street or highway, to extent practicable • Perpendicular to street or highway, maximum 2 percent *(2004 ADAAG allows up to 1:48 (2.08 percent) perpendicular to street highway)*
	Boarding Platforms - Platform and Vehicle Floor Coordination	R308.1.2.1 Platform and Vehicle Floor Coordination Shall be positioned to coordinate with vehicles in accordance with applicable requirements in 49 CFR parts 37 and 38
	Boarding Platforms - Slope	R308.1.2.2 Slope • Maximum 2 percent in any direction • Where boarding platforms serve vehicles operating on existing track or existing street or highway, slope of platform parallel to track or street or highway is permitted to be equal to grade of track or street or highway *(2004 ADAAG allows up to 1:48 (2.08 percent))*
	Common Requirements - Surfaces	R308.1.3.1 Surfaces Shall comply with R302.7
	Common Requirements - Connection	R308.1.3.2 Connection Shall be connected to streets, sidewalks, or pedestrian circulation paths by compliant pedestrian access routes
	Transit Shelters - Connection	R308.2 Transit Shelters Shall be connected to boarding and alighting areas or boarding platforms by compliant pedestrian access routes
	Transit Shelters – Clear Space*	R308.2 Transit Shelters • Shall provide a clear space within shelter that complies with R404, including: minimum 2.5 feet (30 inches) by 4 feet (48 inches), adjoining a pedestrian access route or other clear space, with additional maneuvering space if confined on three sides. • If seating is provided in shelter, shall be either at one end of seat or at least 1.5 feet (18 inches) from front edge of seat. *(2004 ADAAG did not address clear space placement in relation to seating)*
R4	**R402 - Protruding Objects**	
	Protrusion Limits*	R402.2 Protrusion Limits Objects with leading edges between 2.25 feet (27 inches) and 6.7 feet (80 inches) above finish surface shall protrude 4 inches maximum horizontally into pedestrian circulation paths. *(2004 ADAAG allows handrails to protrude up to 1.5 inches)*

Chapter/ Section	Element	Summary of Proposed Guideline
	Post-Mounted Objects – Mounted on Free-Standing Posts or Pylons*	R402.3 Post-Mounted Objects • Objects mounted between 2.25 feet (27 inches) and 6.7 feet (80 inches) above finish surface shall overhang pedestrian circulation paths 4 inches maximum measured horizontally from post or pylon base. Base dimension shall be 2.5 in thick minimum. • Where mounted between posts or pylons and clear distance between posts or pylons exceeds 1 foot, lowest edge of object shall be between 2.25 feet (27 inches) and 6.7 feet (80 inches) above finish surface. *(2004 ADAAG does not require sloping handrails serving stairs and ramps to comply)*
	Reduced Vertical Clearance*	R402.4 Reduced Vertical Clearance Guardrails or other barriers to pedestrian travel shall be provided where vertical clearance is less than 6.7 feet (80 inches) high. Leading edge of guardrail or barrier shall be located 2.25 feet (27 inches) maximum above finish surface *(2004 ADAAG allows door closers and door stops to be 78 inches minimum above finish floor or ground)*
R4	**R403 - Operable Parts**	
	Clear Space	R403.2 Clear Space Shall provide a clear space at operate parts that complies with R404
	Height	R403.3 Height Shall be placed within one or more of reach ranges specified in R406
	Operation	R403.4 Operation Shall be operable with one hand and not require tight grasping, pinching, or twisting of wrist. Force required to activate: 5 pounds (22 N) maximum.
R4	**R404 - Clear Spaces**	
	Surfaces	R404.2 Surfaces. Shall comply with R302.7, with running slope consistent with grade of adjacent pedestrian access route and cross slope of 2 percent maximum. *(2004 ADAAG allows up to 1:48 (2.08 percent) slope)*
	Size	R404.3 Size Minimum 2.5 feet (30 inches) by 4 feet (48 inches)
	Knee and Toe Clearance	R404.4 Knee and Toe Clearance Unless otherwise specified, shall be permitted to include knee and toe clearance complying with R405
	Position	R404.5.Position Unless otherwise specified, shall be positioned for either forward or parallel approach to an element

Chapter/ Section	Element	Summary of Proposed Guideline
	Approach	R404.6 Approach One full unobstructed side of clear space shall adjoin pedestrian access route or another clear space
	Maneuvering Space	R404.7 Maneuvering Space Where clear space is confined on all or part of three sides, additional maneuvering space shall be provided: • Forward Approach: minimum 3 feet wide where depth exceeds 2 feet • Parallel Approach: minimum 5 feet wide where depth exceeds 1.25 feet (15 inches)
R4	**R406 - Reach Ranges**	
	Unobstructed Forward Reach	R406.2 Unobstructed Forward Reach Between 1.25 feet (15 inches) and 4 feet (48 inches) above finish surface
	Unobstructed Side Reach	R406.3 Unobstructed Side Reach Between 1.25 feet (15 inches) and 4 feet (48 inches) above finish surface (An obstruction with depth maximum 10 inches shall be permitted between clear space and element.)
	Unobstructed Side Reach	R406.3 Unobstructed Side Reach Between 1.25 feet (15 inches) and 4 feet (48 inches) above finish surface (An obstruction with depth maximum 10 inches shall be permitted between clear space and element.)
R4	**R407 – Ramps**	
	Running Slope*	R407.2 Running Slope Minimum: 5 percent Maximum: 8.3 percent *(2004 ADAAG did not specify a minimum, and allowed ramps in existing sites, buildings, and facilities, to have the following running slopes where necessary due to space limitations: 8.3%-10% for rise up to 6 inches, 10%-12.5% for rise up to 3 inches.)*
	Cross Slope	R407.3 Cross Slope Maximum: 2 percent *(2004 ADAAG allows up to 1:48 (2.08 percent))*
	Width	R407.4 Width Minimum: 3 feet (including clear width between hand rails where provided)
	Rise	R407.5 Rise Maximum: 2.5 feet (30 inches)
	Landings – Location	R407.6 Landings Shall be at top and bottom of each ramp run
	Landings – Slope	R407.6.1 Slope Maximum: 2 percent in any direction *(2004 ADAAG allows up to 1:48 (2.08 percent))*
	Landings – Width	R407.6.2 Width Minimum: as wide as widest ramp run leading to landing

Chapter/ Section	Element	Summary of Proposed Guideline
	Landings – Length	R407.6.3 Length Minimum: 5 feet
	Landings – Change in Direction between Runs	R407.6.4 Change in Direction Minimum: 5 feet by 5 feet
	Surfaces	R407.7 Surfaces Shall comply with R302.7
	Handrails	R407.8 Handrails Ramp runs with rise greater than 6 inches shall have handrails complying with R409

* Not addressed in ADAAG, or differs significantly from ADAAG.

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Appendix C

Rating System

Rating System

INTRODUCTION

To aide in categorizing the non-compliant assets, a rating system was developed for curb ramps, intersections and sidewalk segments. This appendix provides the scoring system for each pedestrian element and the scoring results.

CURB RAMP RATING SYSTEM

As referenced in Chapter 2, non-compliant curb ramps have been rated in priority as high, medium, or low. Curb ramps included in the high priority category have a deficiency that render the ramp unusable for a mobility device user. The medium and low priority curb ramps were delineated based on the following rating system.

The curb ramp rating system was developed based on a simple point system which can be seen in Table C-1. For each non-compliant element, one point was assessed. The more severe the non-compliant element, the more points assessed. For example, if the ramp running slope has a measurement of less than 8.3% no points are recorded, if the running slope ranges between 8.3% and 12.5% one point is recorded, and if the running slope is greater than 12.5%, two points are recorded. A surveyed curb ramp that meets all ADA guidelines will receive a score of zero. The more points a curb ramp earns the more deficiencies the curb ramp contains.

Table C-1: Curb Ramp Scoring System

Curb Ramp Element	Categorical Rating Score		
Ramp Width	>= 48” = 0	< 48” = 1	
Ramp Running Slope	< 8.33% = 0	8.3% to 12.5% = 1	> 12.5% = 2
Ramp Cross Slope	< 2% = 0	2% to 4% = 1	> 4% = 2
Flare Slope	<= 10% = 0	> 10% = 1	
Top Landing Size	>= 48”x48” = 0	< 48”x48” = 1	
Top Landing Run Slope	< 2% = 0	2% to 4% = 1	> 4% = 2
Top Landing Cross Slope	< 2% = 0	2% to 4% = 1	> 4% = 2
Lower Landing Depth (Parallel Only)	>= 48” = 0	< 48” = 1	
Lower Landing Width (Parallel Only)	>= 60” = 0	< 60” = 1	
Lower Landing Run Slope (Parallel Only)	< 2% = 0	2% to 4% = 1	> 4% = 2
Lower Landing Cross Slope (Parallel Only)	< 2% = 0	2% to 4% = 1	> 4% = 2
Sidewalk Connection	Yes = 0	No = 1	
Tactile Surface	Yes = 0	No = 1	

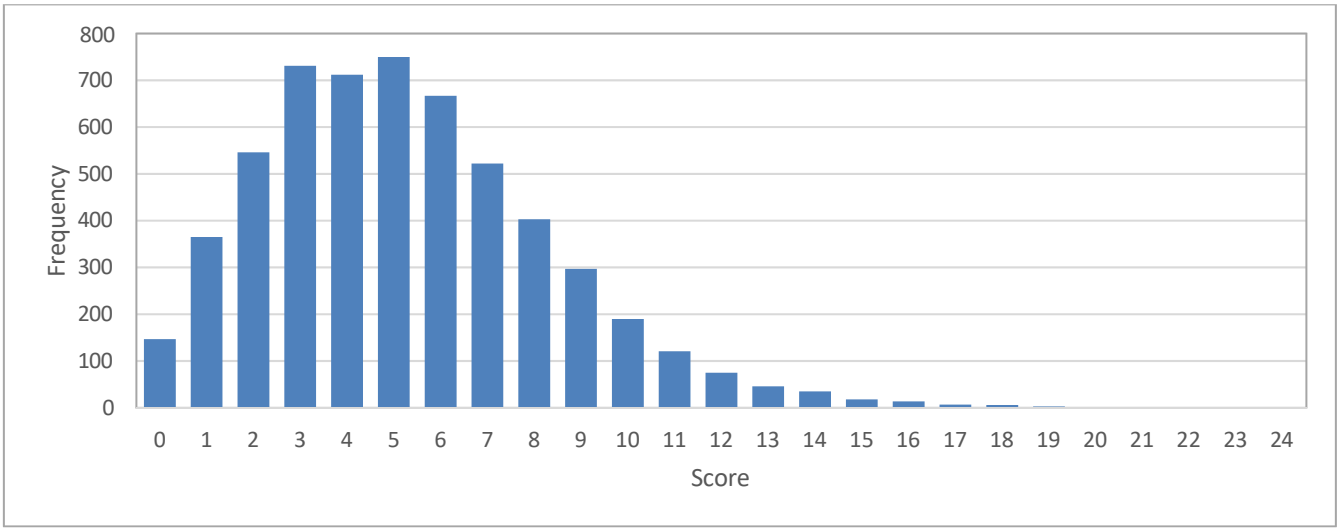
Curb Ramp Element	Categorical Rating Score		
Tactile Surface Correctly Installed	Yes = 0	No = 1	
Within Crosswalk*	Yes = 0	No = 1	
Barrier or Obstruction**	No = 0	Yes = 1	
Bottom Counter Slope	<= 5% = 0	> 5% = 1	
Top Landing Transition	Flush = 0	Not Flush = 1	
Bottom Landing Transition	Flush = 0	Not Flush = 1	
Top Landing Perpendicular	Yes = 0	No = 1	
Bottom Landing Perpendicular	Yes = 0	No = 1	

*If marked crosswalk is present

**Points assigned per instance (maximum of 3)

The rating system provided a minimum score of zero and a maximum score of 28. The score totals and results for all curb ramps are displayed below in Figure C-1.

Figure C-1: Curb Ramp Categorical Rating System Results



The results show a scoring range of zero to 24 with an average score of 5.27 and a median and mode of five. Curb ramps with a score of five or less were included in the low priority category and curb ramps with a score of six to 24 were included in the medium priority category.

INTERSECTION RATING SYSTEM

Non-compliant intersections were also rated in priority levels of high, medium, and low. High priority intersections were selected based on major accessibility issues such as obstructions and missing curb ramps. The medium and low priority ratings are based on the following rating system.

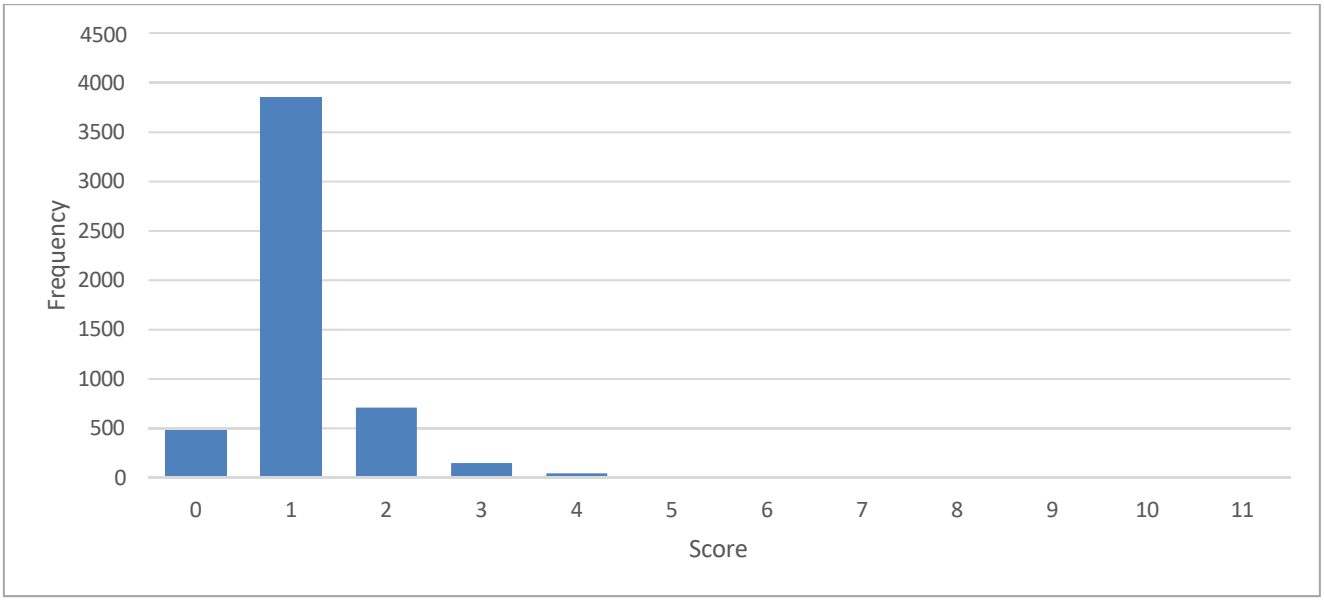
The intersection rating system is based on a point system which can be seen in Table C-2. Each non-compliant element received a score of one. A fully compliant intersection will receive a score of zero. The more compliance issues, the higher the intersection rating score. The highest possible intersection score, assuming the intersection has two side islands and a median, is 18.

Table C-2: Intersection Scoring System

Intersection Element	Categorical Rating Score	
Marked Crosswalk	Yes = 0	No = 1
Barrier or Obstruction	No = 0	Yes = 1
Median Width	>= 60” = 0	< 60” = 1
Median Tactile Surface (Only If Median is >= 6’ in Length)	Yes = 0	No = 1
Median Tactile Surface Correctly Installed	Yes or N/A = 0	No = 1
Side Island Width	>= 60” = 0	< 60” = 1
Side Island Tactile Surface (Only If Side Island is >= 6’ in Length)	Yes = 0	No = 1
Side Island Tactile Surface Correctly Installed	Yes = 0	No = 1
Pedestrian Signal Countdown	Yes = 0	No = 1
Pedestrian Button Accessible	Yes = 0	No = 1
Pedestrian Button Height	15” to 48” = 0	< 15” or > 48” = 1

The rating system provided a minimum score of zero and high score of 11. The results of the scoring system are shown in Figure C-2.

Figure C-2: Intersection Categorical Rating System Results



The results show a scoring range of zero to eleven with an average score of 1.13 and a median and mode of one. Curb ramps with a score of one were included in the low priority category and curb ramps with a score of two to 11 were included in the medium priority category.

SIDEWALK RATING SYSTEM

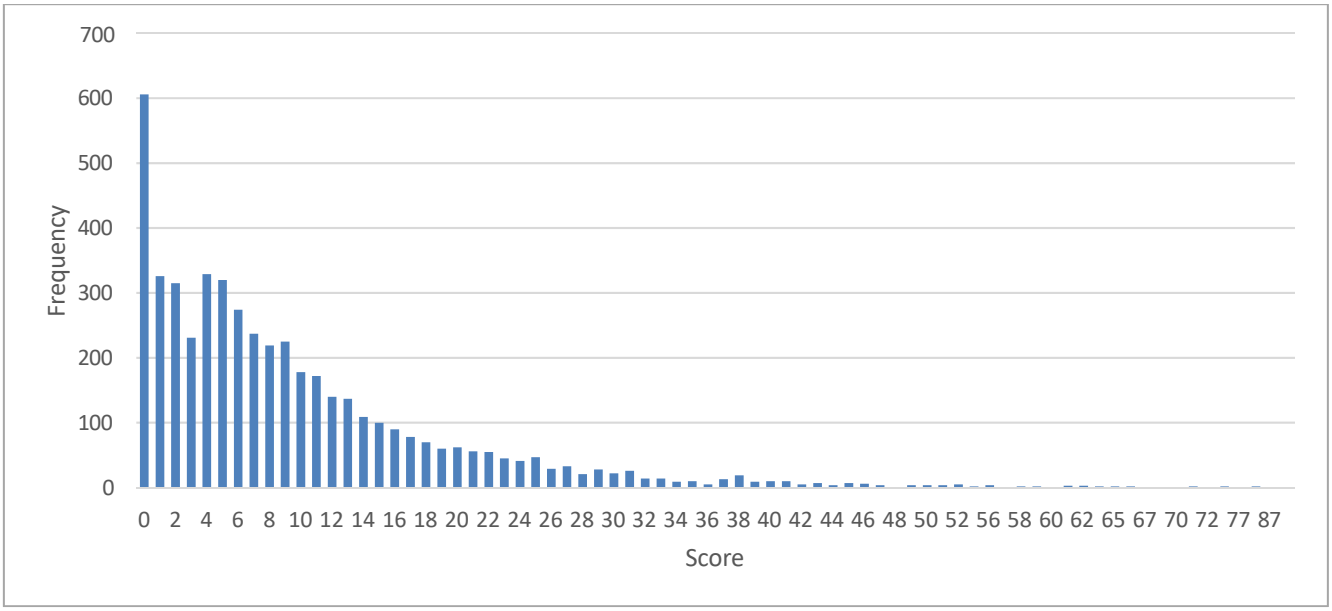
The sidewalk rating system used the three tiers of high, medium, and low priority for non-compliant sidewalk segments. High priority sidewalks were selected based on significant compliance issues such as extremely narrow sidewalks and non-continuous sidewalk segments. Both medium and low priority sidewalks were based on the scoring system seen in Table C-3.

Table C-3: Sidewalk Scoring System

Sidewalk Element	Categorical Rating Score	
Sidewalk Width	>= 48" = 0	< 48" = 1
Sidewalk Continuous	Yes = 0	No = 1
Running Slope	Matches Street = 0	Does Not Match St. = 1
Obstruction	None = 0	Each Instance = 1
Surface Obstruction	None = 0	Based on Percentage of Length 0-25% = 1 26-50% = 2 51-75% = 3 76-100% = 4
Removable Barrier	None = 0	Based on Percentage of Length 0-25% = 1 26-50% = 2 51-75% = 3 76-100% = 4
Cross Slope	<= 2% = 0	Based on Percentage of Length 0-25% = 1 26-50% = 2 51-75% = 3 76-100% = 4
Driveway	<= 2% = 0	> 2% (Each Instance) = 1 Signalized w/o Tactile (Each Instance) = 1
Protrusion	None = 0	Each Instance = 1

The rating system provided a minimum score of zero and high score of 88. The results of the scoring system are shown in Figure C-3.

Figure C-3: Sidewalk Categorical Rating System Results



The results show a scoring range of zero to 88 with an average score of 9.67, a median score of seven, and a mode of zero. Sidewalk segments with a score of one to nine were included in the low priority category and curb ramps with a score of ten to 88 were included in the medium priority category.

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Appendix D

Prioritization Grid Maps of Curb Ramps, Intersections and Sidewalks