CITY OF PLEASANT HILL
ADA TRANSITION PLAN

May 2018
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Chapter 1: Introduction and Purpose

The Americans with Disabilities Act (ADA), enacted on July 26, 1990, provides comprehensive civil rights protections to persons with disabilities in the areas of employment, state and local government services, access to public accommodations, transportation, and telecommunications.

The City of Pleasant Hill, Iowa, developed this Transition Plan in accordance with requirements stemming from ADA. There are five titles or parts to the ADA, Title II is of most concern to the City. This Transition Plan is intended to address the most recent ADA policies and rules.

Summary of Law

Title II of the ADA prohibits state and local governments from discriminating against persons with disabilities by requiring them to make all programs, services, and activities accessible to persons with disabilities. Title II requires that a public entity must evaluate its services, programs, policies, and practices to determine whether they are in compliance with the nondiscrimination requirements of the ADA.

The ADA requires that a Transition Plan be prepared, to describe any structural or physical changes required to make facilities accessible. The Transition Plan is intended to outline the methods by which physical or structural changes will be made to affect the nondiscrimination policies described in Title II.

ADA Transition Plan for Pleasant Hill

Commensurate with the ADA requirements for inventory and self-evaluation, the City of Pleasant Hill targeted a significant portion of the overall planning effort to complete a walking inventory of the entire, street-side pedestrian system within the city’s existing boundaries.

The Transition Plan for Pleasant Hill follows the Federal Highway Administration (FHWA) and Iowa DOT guidance on developing such a plan. FHWA defines the purpose & scope as conducting a self-evaluation to determine existing conditions and needs, then setting forth steps necessary to complete modifications identified through self-evaluation, including a schedule for completing modifications.

To achieve this, a comprehensive data collection effort included identification of conditions within public right-of-way within the existing city limits of Pleasant Hill. More than 50 miles of existing sidewalks and more than 60 miles of estimated missing sidewalks. Nearly 600 curb ramps were inventoried and assessed as part of Pleasant Hill’s self-evaluation. Documenting the location, type and condition of sidewalks and curb ramps is an important step in the pedestrian planning effort.

Transition Plan Content

- Identify physical obstacles
- Describe the methods to make facilities accessible
- Specify the schedule for achieving completion (if longer than 1 year, identify steps to be taken each year but as expeditiously as possible)
- Identify official responsible for implementation of plan
- Estimate cost of modifications
- Incorporate public input
- Status column to record completion date

Source: FHWA
Using this information, the consultant team hired by the City of Pleasant Hill to conduct the Transition Plan organized this data into clusters of projects or program-level investments based on prevailing land uses within Pleasant Hill. Access to land uses such as government offices, public spaces such as parks, transit and medical care are considered high priority, per ADA, for transition plan investments.

Beyond an inventory of conditions, the Transition Plan efforts also included:

- One-day ADA Transition Plan Workshop and Field Tour with City staff to build capacity for understanding ADA-related needs in Pleasant Hill;
- Review of City’s existing design standards and specifications to ensure contractors and construction crews know the intent and various technical elements of achieving ADA compliance;
- Identification and documentation of development practices for accessibility requirements including subdivision, roadway and right-of-way dedicated processes;
- Field review with City staff of recently-constructed projects to determine how well these design standards translate to in-the-field applications related to ADA compliance;
- Understanding ADA responsibilities as they relate to existing maintenance agreements in areas of Iowa DOT jurisdiction; and
- Review of construction and maintenance practices, including temporary traffic controls and snow removal.

Iowa DOT Guidance for Municipalities

Iowa DOT serves as a resource for cities across the state on ADA compliance and procedures to help ensure uniform application and understanding. The City of Pleasant Hill works in conjunction with Iowa DOT on pedestrian facilities along or crossing University Avenue (State Highway 163). The following guidelines issued by Iowa DOT helped guide the content and format of the Transition Plan and references relevant sections of Iowa DOT’s Design Manual pertaining to ADA compliance.

- **New Construction and Alterations:** All new construction and alteration projects shall follow the requirements set forth in Chapter 12A for sidewalks and Chapter 12B for Bicycle Facilities of the Iowa DOT Design Manual. Accessibility improvements that are outside the scope of the alteration project may be deferred to a later date. For more information, refer to the discussion of transition plans below.
- **Maintenance Activities:** Routine maintenance activities are not considered an alteration, and therefore do not require simultaneous accessibility improvements to pedestrian facilities.
Maintenance activities are actions that are intended to preserve the system, retard future deterioration, and maintain the functional condition of the facility.

- **Maintenance of Pedestrian Facilities:** Where pedestrian facilities are provided, they must be maintained so that they are readily accessible and useable by persons with disabilities. Therefore, the local planning agency (LPA; the city in this case) should adopt policies that ensure sidewalks and other pedestrian facilities are properly maintained and free of obstructions.

- **Documenting Exceptions:** If an LPA receives any type of funding assistance from the Iowa DOT or the project is let through the Iowa DOT; and if an LPA determines that a pedestrian facility cannot be made fully compliant because the accessibility improvements are structurally impracticable, technically infeasible, or there are safety issues, as defined in Section 12A-2 of the Design Manual, it shall provide the Iowa DOT Administering Office with an Accessibility Exceptions Certification (Form 517118)...If full compliance with Chapter 12 of the Iowa DOT Design Manual, is technically infeasible, compliance is required to the extent that is not technically infeasible. For all other projects, the same type of documentation should be prepared and retained by the LPA.

**ADA and Pleasant Hill Context**

Beyond the federal requirements for an ADA Transition Plan, the City of Pleasant Hill feels that achieving a system that is accessible to all residents and visitors bolsters the city’s adopted vision. The Vision for Pleasant Hill, as adopted in its Comprehensive Plan states:

“In 2030… Pleasant Hill has emerged as the jewel of the east Des Moines region. **Responsible growth, bikeability and walkability, thriving environmental areas, recreation**, and its agricultural heritage make Pleasant Hill the embodiment of a healthy community. The high quality of life for residents is a result of quality housing, scenic natural features, quality schools, and a strong sense of community. The City has embraced community health and wellness, which are evident in the many trails, community gardens, and agricultural urbanism initiatives. The range of community amenities continues to draw new residents and businesses to Pleasant Hill to **live, work, and play.**”

The highlighted words in the vision statement have a direct relationship to effectively implementing the ADA Transition. While requirements for ADA compliance in public right-of-way stem from a detailed understanding of the needs for people with disabilities, they are also the type of design treatments that allow for a system that is navigable by people of all ages and abilities. Children and seniors have physical and cognitive limitations that make them more vulnerable when navigating a street system on foot. And many people are likely to experience some type of temporary disability in their life.

A demographic breakdown of Pleasant Hill supports this goal to achieve a fully compliant system. The data below identifies some community demographic characteristics stemming from the 2010 Census and the 2015 American Community Survey:

- 6.5% of Pleasant Hill’s working age population (age 16 and older) report having a disability.
- 12.2% of the city’s population is over the age of 65 in 2015, up from 11.3% in 2010. This indicates the population is aging, which means increased consideration for an all ages and abilities system.
2.7% of Pleasant Hill households report having no access to a vehicle. 30.4% report having access to one vehicle. These households may be more dependent on walking as a mode of transportation, thus reliant on a safe and accessible system.

The population pyramid of Pleasant Hill’s population, Figure 2, shows a young city in terms of average age, but as noted above, it has an increasing population of older adults. Achieving a system that is ADA compliant will help households remain in place as they age. With nearly 1 in 5 residents under the age of 14, an ADA compliant system also helps ensure youth are able to navigate the system with relative ease and remain visible to motorists.

![Population Pyramid for Pleasant Hill, Iowa](image)

**Figure 2. Population pyramid for Pleasant Hill, Iowa**

**Next Steps**

A Transition Plan is meant to be a living document that serves to help the City transition the system to compliance. It serves as a monitoring tool to document upgrades to public right-of-way and report on them on an annual basis to document progress in implementing the plan. It should be updated as design standards and requirements change. As city boundaries grow, so does the need to incorporate acquired facilities into the self-evaluation and transition plan process. Ensuring that new facilities built by the City, Iowa DOT, and new development are ADA-compliant allows greater attention to be paid to addressing existing deficiencies and guarding against new facilities becoming a future liability. Once adopted, Pleasant Hill should incorporate an annual investment program for ADA upgrades along with continued efforts to upgrade facilities as roads are resurfaced and opportunities arise to improve the system.
Chapter 2: Methodology

The steps to develop the Pleasant Hill ADA Transition Plan are outlined in this chapter and generally conform to recommendations contained in the National Cooperative Highway Research Program’s 2009 publication *ADA Transition Plans: A Guide to Best Management Practices, NCHRP Project 20-7 (232)*.

These steps are intended to ensure:

- The City’s existing design standards and specifications are detailed enough to ensure contractors and construction crews know the intent and various technical elements of achieving ADA compliance;
- Any design exceptions where full ADA compliance cannot occur is documented and built to the maximum extent feasible.
- Development practices for accessibility requirements including subdivision, roadway and right-of-way dedication processes, are consistent with ADA requirements;
- There is a consistent understanding of ADA responsibilities as they relate to existing maintenance agreements in areas of Iowa DOT jurisdiction;
- The City is responding to specific requests and complaints from disabled residents; and
- Construction and maintenance practices, including temporary traffic controls and snow removal, are following ADA requirements.

After two days of on-site review, as well as evaluation of current practices employed by the City of Pleasant Hill, it was determined that the City’s current design and construction practices conform to ADA requirements. The City performs appropriate inspection of projects, particularly projects built by developers, and provides acceptable documentation of design exceptions.

Review of Design Standards and Practices

A first step in an ADA Transition Plan is gaining an understanding of what is being built and how it conforms to prevailing ADA requirements. This is accomplished through a review of existing design standards adopted and followed by the City.

**SUDAS:** Pleasant Hill adopts by reference the *Statewide Urban Design and Standards Manual* (SUDAS) as its design guide for infrastructure in the public right-of-way. SUDAS includes instructions on construction of sidewalks, curb ramps and shared use paths. Based on a review of SUDAS Division 7 – *Streets and Related Work, Section 7030 – Sidewalks, Shared Use Paths, and Driveways*¹, it was determined that the level of specificity and diagrams contained in the Design Manual are of adequate detail to provide ADA compliance guidance for use by contractors and designers. One exception to this is the transition of shared use paths to sidewalks along streets and the corresponding curb ramp dimensions that are required (see section below on shared use pathways).

¹ Statewide Urban Design and Standards Manual (SUDAS), Division 7, Section 7030.
**Iowa DOT:** For work along and crossing University Avenue, design standards established by the Iowa DOT and contained in the agency’s *Design Manual* are applied. Chapter 12 of the Design Manual pertains to sidewalk construction, specifically Section 12A on Sidewalks, Section 12B on Bicycle Facilities (including Shared Use Pathways), and Section 12C on Detailed Design Criteria for ADA Compliance. While sections 12A and 12C are directly related to sidewalks, Section 12B contains information on Shared Use Pathways, which also require ADA consideration. Based on a review of the Design Manual, it was determined that the level of specificity and diagrams contained in the Design Manual are of adequate detail to provide ADA compliance guidance for contractors and designers.

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**Figure 12A-2.07: Curb Ramp Turning Spaces**

![Diagram showing curb ramp turning spaces](image)

**Figure 3. Sample drawing from Iowa DOT Design Manual, Chapter 12A**

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2 Iowa DOT Design Manual. [https://iowadot.gov/design/design-manual](https://iowadot.gov/design/design-manual)
**Shared Use Pathway Ramps:** Since nearly all shared use paths are used by pedestrians, they fall under the accessibility requirements of ADA. Existing language and figures in SUDAS and Iowa DOT’s Design Manual do not clearly spell out what this means for dimensions of shared use paths and associated ramps. Several pathway ramps around Pleasant Hill have the same width as the adjoining pathway, which is the correct treatment.

It is advised that Pleasant Hill request SUDAS and Iowa DOT to develop a set of curb ramp design standards for shared use pathway ramps, as well as pathway width requirements. Designers may be challenged to accommodate a pathway width through the entirety of the intersection, including ramp width, landing area, and how it intersects with a sidewalk.

Use of the AASHTO Guide for the Development of Bicycle Facilities (2012) is advised as a starting point. Chapter 5 of this manual has several shared use path design recommendations. Section 5.3.5 on Curb Ramps and Aprons states:

> “The opening of a shared use path at the roadway should be at least the width as the shared use path itself. If a curb ramp is provided, the ramp should be the full width of the path, not including any side flares if utilized.”

Ensuring that curb ramps for shared use paths are the same width as the path helps provide for safe, two-way travel by pedestrians, bicyclists, people in wheelchairs, joggers, and other pathway users. Other features of the ramp, including landing, slopes, and detectable warnings apply.

SUDAS contains no specific language on width requirements for shared use paths or ramps for paths to provide an accessible route across a street or other vehicular travel way.

Section 12A-2 of Iowa DOT’s manual, page 11 notes the “minimum width of a curb ramp is 4 feet, excluding curbs and flares. If the sidewalk facility is wider than 4 feet, the target value for the curb ramp is equal to the width of the sidewalk.”

Section 12B-2 on shared use pathways references this section of 12A-2 for curb ramps. However, this language could be strengthened by specifying that ramps for shared use pathways must be equal to the width of the pathway (e.g. 10-foot wide ramp for a 10-foot pathway) as the 12A-2 language refers only to sidewalks, which could confuse designers and contractors.
Two-Day Workshop
City staff participated in a two-day workshop on ADA and public rights-of-way on June 28 and 29, 2017. The workshop addressed:

- How ADA compliance relates to overall walkability;
- What ADA compliance means for public-rights-of-way;
- Field review of existing conditions in Pleasant Hill; and
- Preliminary testing of the ADA Transition Plan data dictionary to prepare the City for data collection.

The workshop was held at City Hall but included trips to an intersection of Oakwood Drive and Pleasant Hill Boulevard where a new curb ramp retrofit project was under construction. City staff also experienced the area’s facilities in a wheelchair and with “low vision goggles” meant to emulate the experience of people with vision impairments.

The presentation modules depicted best practices in ADA compliance aligned with ADA requirements. It also included a series of “Do This/Not This” images to show how elements such as curb ramps, push buttons, and construction detour routes should be implemented to comply with ADA (several of these are included in the Appendix).

Attendees at the workshop included:

- Benjamin Champ, City Manager
- Madeline Sturms, Community Development Director
- Gary Patterson, Public Works Director
- Russ Paul, Assistant Public Works Director
- Heath Ellis, Parks and Recreation Supervisor
- Mike Sporleder, Senior Building Inspector
- Larry Workman, Building Inspector
- Marty Van Houten, Equipment Operator

The goal of the workshop was to immerse City staff in what it means to have an ADA compliant system and how ADA compliance relates to Pleasant Hill’s context. The workshop also helped understand how
projects and areas may be prioritized within the Transition Plan and identification of which corridors or areas are most important to focus on ADA compliance.

For example, while many signalized crossings of University Avenue (State Highway 163) do not have existing sidewalks that reach the intersection, or corresponding ramps and crosswalks, the highway is a major barrier for people on foot and those with disabilities. The need to add crossings and other upgrades to these intersections is something that is not always evaluated in an ADA Transition Plan that focuses only on existing facilities. However, this is likely to be a high priority project for the City as the highway crossings provide access to transit, medical services, grocery stores, and other public facilities such as parks and government buildings.

**Data collection**

City staff collected infrastructure data from June to October, 2017 with the goal of capturing accurate information about the quality and characteristics of pedestrian facilities in the Pleasant Hill. The complete inventory benchmarks the city’s existing infrastructure. It notes deficiencies that the City should address through this transition plan’s recommendations.

City staff walked every street in Pleasant Hill to assess the following infrastructure features:

- Curb ramps
- Crosswalks
- Driveways
- Pedestrian push buttons
- Sidewalks

Additionally, staff noted maintenance needs and obstructions that they discovered during fieldwork. City staff used mobile devices to create a map of all pedestrian features in Pleasant Hill. Data were entered directly into an online map portal to reduce time spent digitizing hand drawn data. The data collection exercise was extensive and was based on auditing the following features per infrastructure category. The table on the following page titled Table 1. Data Collected per Infrastructure Feature summarizes the features collected. The Appendix shows the complete data dictionary.
Table 1. Data Collected per Infrastructure Feature

<table>
<thead>
<tr>
<th>Infrastructure Feature</th>
<th>Data Collected</th>
</tr>
</thead>
</table>
| **Curb Ramps**         | • Location information (intersection, corner, ramp direction)  
                          • Ramp type  
                          • Ramp condition  
                          • Detectable warning (presence, condition, whether the warning covers the entire ramp)  
                          • Landing (presence and slope)  
                          • Entry slope  
                          • Flare slope  
                          • Ramp cross slope  
                          • Transition to gutter (quality and cross slope)  
                          • Presence of clear space at bottom of ramp  
                          • Other notes |
| **Crosswalks**         | • Location information (intersection vs. midblock, intersection leg, crossing direction)  
                          • Crosswalk type  
                          • Crosswalk alignment  
                          • Condition notes (pavement marking quality, cross slope) |
| **Driveways**          | • Location information (address)  
                          • Cross slope  
                          • Crossing characteristics (presence of ramps)  
                          • Other notes |
| **Pedestrian Push Buttons** | • Location information (intersection, corner, crossing direction)  
                                   • Presence of audible warning  
                                   • Distance from back of curb  
                                   • Distance from other push button  
                                   • Distance from edge of crosswalk  
                                   • Landing characteristics (width, slope)  
                                   • Push button height  
                                   • Accessibility from flat landing  
                                   • Presence of Pedestrian Access Route (PAR)  
                                   • Other notes |
| **Sidewalks**          | • Location information (street name, side of street, segment extents)  
                          • Width  
                          • Condition  
                          • Running slope (including whether this value is the same as the street)  
                          • Cross slope  
                          • Other notes |
An additional in-person training was held after the June 2017 workshop to further educate City staff about the data collection process. Collected data were regularly reviewed throughout the data collection process. Quality assurance and quality control were performed at selected locations throughout the city after all infrastructure features were collected.

**Priority Zone and Corridor Maps**
Maps showing priority zones and streets show the City of Pleasant Hill where to prioritize investments. Prioritization guidelines were created following national best practice. These criteria are rated as follows, with the highest level (Level 4) shown as the most important:

- Level 4: Serving areas where a specific accessibility request or need has been identified by persons with disabilities.
- Level 3: Serving facilities such as public service facilities, transportation hubs, hospitals, rehabilitation facilities, schools, public housing, parks, and areas with a high concentration of disabled citizens
- Level 2: Serving facilities such as shopping malls, supermarkets, strip retail centers, major employment sites and multi-housing complexes
- Level 1: Serving industrial areas, single family residential areas, and other areas not classified as high priority
The resulting map is shown in Figure 7. Dark blue areas of the city indicate priority areas.

Figure 7. Priority areas for ADA improvements (dark blue areas)

Priority areas were used to identify deficient or poor-quality ramps and other infrastructure located on streets within these areas. Chapter 4 describes the results of the analyses in greater detail. Priority corridors were identified based on two primary criteria. First, streets were identified based on their location within a priority area. Forty-two streets were identified based on this initial definition (approximately 20 miles). These streets are referred to throughout this report as Priority Streets. The list of priority streets can also be sorted based on functional classification. This helps the City target resources along streets that may be more discouraging to pedestrian travel due to higher traffic volumes and speed limits. Narrowing in on the list of priority streets to identify major roadways identified as priority streets resulted in twelve streets totaling approximately 12 centerline miles. These streets are referred to as Major Priority Streets throughout this report. Major priority streets include:

- 12th Avenue
- Benjamin Boulevard
- Constitution Boulevard
- Hickory Boulevard
- Liberty Bell Boulevard
- Parkridge Avenue
- Pleasant Hill Boulevard
- Schafer Boulevard
- Shadyview Boulevard
- Sherry Lynn Boulevard
- University Avenue
- Walnut Boulevard
Project Phasing and Priority Locations

It is likely that Pleasant Hill will address ADA improvements on major priority and priority streets as one grouping, given the total sum of centerline miles identified as major priority and priority streets. Moreover, although the aforementioned priority street analysis helps identify where to focus initial ADA improvement efforts, streets and locations not included in the priority list were nonetheless audited for needed improvements.

The City is currently working on conceptual designs, including cost estimates, to improve two signalized intersections and one grade-separated crossing along the University Avenue corridor. There are few existing “facilities” to assess for ADA compliance at most of the University Avenue crossings, however the absence of facilities at these crossing poses what is probably the highest priority set of investments for Pleasant Hill when considering the broader needs for universal accessibility in the city. University Avenue is managed by Iowa DOT, thus meaning it will require the state to work with Pleasant Hill to pursue creating safe, accessible and convenient crossings so people who walk, especially those with disabilities, can overcome this major community access barrier. The ADA Transition Plan identifies this as a top priority for the city to pursue with Iowa DOT and the cost to provide this community access is of a scale that greatly exceeds the city’s annual investment program for ADA improvements. Further, since this barrier to access is within state right-of-way, that duty to provide universal access should be supported by the state DOT—both for allowing improvements and helping the city identify funding sources.

Aside from University Avenue, Pleasant Hill should focus near-term efforts on improving infrastructure features on priority arterial and collector roadways on priority streets (“Major Priority Streets”) through its annual investment program, after which Pleasant Hill can focus on defining and improving neighborhood zones to improve local streets.

Priority Project Corridor and Intersection Case Studies

The following corridors are examples of defined projects along major priority and priority corridors. ADA improvements could be addressed along one of these corridors at a time and be defined as a specific project within the City budget. Addressing multiple projects at once would decrease the timeline during which improvements are constructed:

- 56th Street from northern City boundary to Oakwood
- Maple Drive from Pleasant Hill Boulevard to Shadyview Boulevard
- Oakwood Drive from western City boundary to Pleasant Hill Boulevard
- Pleasant Hill Boulevard from Parkridge Avenue to Kimberly Lane
- Pleasant Hill Boulevard from Ash Drive to Little Fourmile Creek Drive

Although a priority corridor, University Avenue is not included in this list due to ongoing projects involving this corridor. City staff may decide to include ADA improvements on portions of adjacent corridors within one of the corridor projects listed above. For instance, curb ramp or sidewalk replacements located on cul-de-sacs or other intersecting streets located near a corridor project may be grouped within one project so that construction crews can make these improvements when they are working on the main street. This should be decided when setting the project approach and budget.
Data Analysis
Data resulting from the data collection phase of the project are stored in a geographic information systems (GIS) database. These data were analyzed within the cartographic software and were exported to Excel for additional analysis.

Data were summarized according to infrastructure type. For example, all catalogued curb ramps were assessed according to ADA compliance and condition. Collected data were then summarized according to number of deficiencies, percent of features found to be deficient compared to the total catalogued, number of deficient features in a high priority area, and percent of high priority deficient features compared to the total number of features. Curb ramps, crosswalks, driveways, obstructions, maintenance needs, and pedestrian push buttons were analyzed using this method. Pleasant Hill sidewalks were catalogued as lines created in the mapping software. These data were analyzed in a similar fashion. However, estimates were created for total sidewalks and deficient sidewalks according to mileage.

Infrastructure features were also analyzed according to whether one feature— one ramp, for example— was catalogued with multiple flaws. Identifying these features helps the City further develop priority locations and project phasing.
Plan Development
The plan document was developed over a series of months between June 2017 and February 2018. Beyond the steps identified already related to workshops and data collection, additional plan development steps included:

- **City Staff Update:** December 4, 2017 meetings with City staff to review preliminary data collection findings, including a summary of the total number of obstructions, and curb ramp needs across the city.
- **Planning & Zoning Commission:** The P&Z Commission included the ADA Transition Plan on its December 4, 2017 agenda. The Commission heard a presentation on the progress of the plan as well as a summary of common elements of accessible design.
- **Data Validity Check:** On December 5, 2017, Alta Planning + Design staff conducted a field review of 12 locations subject to data collection to help ensure consistent and correct methods of data collection were followed.

Record of Opportunity to Participate
The citizens and businesses of Pleasant Hill were given opportunities to participate through an online survey and a December 4, 2017 public meeting at City Hall. The goal of this outreach was to compile location-specific barriers to accessibility experienced by people with disabilities and other citizens of Pleasant Hill. Participants were also allowed to provide information on other areawide needs related to accessibility. The City advertised the online survey and public meeting through its various online and social media channels Figure 8.

Three (3) people attended the public open house and four (4) people provided survey input. The three who attended the open house consisted of a newly-elected councilmember and two members of the local economic development commission. They provided no comments. The four survey inputs were incorporated into the analysis for determining priority investments in the Transition Plan. The four survey responses are included in the Appendix. Figure 9 shows locations mentioned in the public survey.
Public Open House and Online Survey: Americans with Disabilities Act Transition Plan

The City of Pleasant Hill will host a public open house on Monday, December 4 from 4:00 PM to 6:00 PM at City Hall to gather input from individuals on the City’s Americans with Disabilities Act (ADA) Transition Plan. The City’s planning consultants will be on-site to engage in discussions with all residents to learn about the needs of those with disabilities or caregivers of those with disabilities to understand specific locations or barriers to access along the sidewalk system. Everyone is invited to participate in person or via the online survey available on the City website at the following link: https://www.surveymonkey.com/r/FTN37BZ

This ADA Transition Plan seeks to address barriers in public rights of way (along/adjacent to streets and intersections) along streets and highways within the boundaries of the city limits of Pleasant Hill. The city has collected data for all of its streets and will, in combination with public input, prioritize investments to transition its sidewalk system to ADA compliance over a series of years.

While the ADA Transition Plan is focused on the needs of persons with disabilities, the City also recognizes that providing a system of sidewalks and curb ramps that are accessible to those with disabilities creates a system that is accessible to people of all ages and abilities.

For more information, please contact City Hall at 515-262-9368.
Chapter 3: Policies and Procedures
This chapter contains recommended policies and procedures to help the City of Pleasant Hill ensure that its day-to-day practices are aligned with the requirements of ADA and ensure that public rights-of-way assets as managed in a way to provide the most feasible methods of providing an accessible route in a variety of policy, maintenance, and operational practices. With adoption of its ADA Transition Plan, the City endorses these methods and may determine which of the sections of this chapter are endorsed independently through resolution as the city begins implementing the plan.

ADA Coordinator and ADA Coordinating Committee
The Pleasant Hill City Clerk is currently the designated ADA Coordinator. Through this designation, the Clerk serves as the point person for any ADA-related request or complaint as they may range from requests related to human resources, code compliance, building access, and public right-of-way. It is recommended that Pleasant Hill codify this designation in its ordinances, Chapter 18, which outlines the duties of the City Clerk. Simple code language may designate the Clerk as holding this position as ADA Coordinator, and refer to the ADA Transition Plan and other ADA-related policies of the city.

For specific public right-of-way requests, the ADA Transition Plan recommends a documented procedure by which any public right-of-way request be routed to the Public Works Director for consideration of potential mitigation measures. For requests related to sidewalk cracks and heaves, or other minor barriers to accessibility, the City’s existing practices are established to address these in a timely manner (see section on Sidewalk Repair under Development of Internal Standards and Policies). More complex requests may require convening of a larger group, either in person or through e-mail, to develop a strategy to address the request.

It is recommended that Pleasant Hill establish an ADA Coordinating Committee to handle more complex requests, as well as provide updates and guidance on Transition Plan progress and any future updates of the ADA Transition Plan. Given the small population base and roadway system, it is not likely that the City of Pleasant Hill warrants a regular meeting of this group or appointing a group of individuals to the committee. Rather, it is recommended that, through adoption of the ADA Transition Plan, an ADA Coordinating Committee be established consisting of the following members (or their designees, if a city department head):

- City Clerk
- Public Works Director
- Community Development Director
- Parks & Recreation Director
- Resident(s) of Pleasant Hill with a disability

The City may call on other community organization representatives to assist in the Coordinating Committee. These may include representatives from the school district, health department, senior center, assisted living facility, and medical care centers.
Providing Notice and Establishing Grievance Procedures

Grievance Procedures

The following set of grievance procedures was modified directly from the procedures established by Iowa DOT to ensure consistency with other agencies’ public right-of-way procedures.

1. Initial Contact: The City Clerk will provide complainants with:

- An explanation of their filing options.
- The discrimination complaint procedures.
- The Title II Discrimination Complaint Form (Reference Iowa DOT form: 131103).

2. The Complaint Review Process

   a. The ADA Coordinator (or designee) reviews the complaint upon receipt to ensure that relevant information is provided, the complaint is timely, and is appropriate for investigation. If the complaint is not appropriate for investigation the complainant will be notified in writing and is provided with his/her rights under Title II.

   b. The complaint shall be investigated unless:

      - The complaint is withdrawn.
      - The complainant fails to provide required information being requested.
      - The complaint is not filed within prescribed timelines stated in city policy.
      - Any issues that do not involve discrimination or are not based on a protected category will be directed to the appropriate entity. Under no circumstances is the complainant to be discouraged from filing a complaint.

   c. Upon determination that the complaint warrants an investigation, the complainant is sent a letter acknowledging receipt of the complaint, the name of the investigator and is provided with his/her rights under Title II and related statutes.

   d. The respondent is notified by mail that a Title II complaint has been filed against the subrecipient. The letter also reveals the name of the investigator and informs the respondent that the recipient will be contacted for an interview.

3. The ADA Work Request Process - Title II/ADA

   a. When a complaint of an ADA violation is received by the ADA Coordinator, the action to be taken will be determined in order to resolve the complaint. If the complaint is a request for services or modifications to facilities, then the ADA Coordinator will forward the request to the appropriate Department (primarily Public Works) for handling.

   b. Upon receipt of an ADA-related work request, the ADA Coordinator will forward the request to the appropriate department for handling and will log the request in a city file.

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3 Iowa DOT Discrimination Complain Form (#131103).
https://www.iowadot.gov/civilrights/documents/ADATitleVIComplaintForm131103.pdf
c. Consideration of all reasonable alternations must be exhausted in the review of the grievance and determination of mitigation steps. A detailed cost estimate must be made and kept on file. If the cost of mitigation is deemed too costly, the ADA Coordinating Committee should convene to review the scope of the work to determine what modifications should be made to ensure compliance is achieved to the maximum extent feasible. A modification can be determined to be unduly burdensome and, therefore, not be provided. However, all reasonable accommodations must be made. Any design exceptions should be documented via the Iowa DOT Accessibility Exceptions Certification form and included in the project file. The city should inform the applicant of the accommodation and any exceptions made.

d. When an ADA-related work request is not completed by the city within a reasonable amount of time and the person making the complaint believes their civil rights have been violated, then a complaint may be filed in accordance with the federal complaint procedures under the ADA.

**Investigation Process**

1. Investigation Plan

The investigator (Public Works) shall prepare a written plan which includes but is not limited to the following:

- Names of the complainant(s) and respondent(s);
- Basis for the complaint;
- Issues, events or circumstances that caused the person to believe that he/she has been subjected to discrimination;
- Information needed to address the issue;
- Sources necessary to obtain the information;
- Identification of key people;
- Estimated Investigation timeline;
- Remedy sought by complainant(s)

2. Conducting the Investigation

- The investigation shall address only those issues relevant to the allegations in the complaint.
- Confidentiality shall be maintained.
- Interviews will be conducted to obtain facts and evidence regarding the allegations in the complaint.
- Interviews may be tape recorded with the interviewees’ consent.
- A chronological contact sheet is maintained in the case file throughout the investigation.

3. Investigation Reporting Progress - Title II/ADA

- Within 15 calendar days of receiving the complaint, the ADA Coordinator or his/her designee may meet with the complainant to discuss the complaint and the possible resolutions.
- Within 15 calendar days of the meeting, the ADA Coordinator or his/her designee will respond in writing, and where appropriate, in a format accessible to the complainant, such as large print, Braille, or audio tape. The response will explain the positions of the city and offer options for substantive resolution of the complaint.
If the response by the ADA Coordinator or designee does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision to the Highway Division Director within 15 calendar days after receipt of the response.

Within 15 calendar days after receipt of the appeal, the ADA Coordinator or his/her designee may meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the ADA Coordinator or his/her designee will respond in writing, and, where appropriate, in a format accessible to the complainant, with a letter of finding to the complainant.

Reporting Requirements
A copy of the complaint, together with a copy of the report of investigation, is forwarded to the appropriate federal agency (FHWA or FTA) within 60 days of the date the complaint was received.

Records
All records and investigative working files are maintained in a confidential area within the City’s files. Records will be kept for three years internally then archived for a period of ten years.

Development of Internal Standards and Policies
This section contains a summary of review and recommendations on a variety of city policies and procedures, inclusive of:

- Code of Ordinances;
- Sidewalk Repairs;
- Snow Management;
- Documenting Design Exceptions; and
- Maintaining Accessibility during Construction.

The City may pursue more detailed policies related to these different subject areas. Ordinance updates should be made as concurrent to adoption of the ADA Transition Plan as possible, or during the next regular update of the Code of Ordinances (if updated annually).

Code of Ordinances
The table on the following page, Table 2, includes a summary of current language and recommended changes pertaining to Chapter 136, 143 and 175 of the Code of Ordinances. These chapters were determined to be those that pertain to accessibility in the public right-of-way.

It is recognized that citations related to the US Access Board’s Guidelines for Pedestrian Facilities in the Public Right-of-Way are in reference to the draft guidelines. It is advised the City of Pleasant Hill consider them as the best practice by which to base its current policies. The US Department of Justice has noted that these guidelines are expected to become federal law within the next one to three years. Additionally, upon initial release of draft guidelines in 2006, the Federal Highway Administration issued a memorandum stating the draft guidelines “are the currently recommended best practices, and can be considered the state of the practice that could be followed for areas not fully addressed by the present” standards.

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<table>
<thead>
<tr>
<th>Current Language</th>
<th>Recommended Change</th>
<th>Reason/Citation</th>
</tr>
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<tbody>
<tr>
<td><strong>Chapter 136: Sidewalk Regulations</strong></td>
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<td></td>
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<tr>
<td><strong>136.02 Definitions:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sidewalk Defect</td>
<td>Modify ¾ of an inch to be ½ inch to comply with forthcoming ADA requirements.</td>
<td>US Access Board: Guidelines for Pedestrian Facilities in the Public Right-of-Way</td>
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<tr>
<td>Section 4:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“A. Vertical separations equal to three-fourths (3/4) of an inch or more;”</td>
<td></td>
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<tr>
<td>“B. Horizontal separations equal to three-fourths (3/4) of an inch or more;”</td>
<td></td>
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<tr>
<td>“C. Holes or depressions equal to three-fourths (3/4) of an inch or more;”</td>
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<td></td>
<td>R302.7.2 Vertical Surface Discontinuities. “Vertical surface discontinuities shall be 13 mm (0.5 in) maximum. Vertical surface discontinuities between 6.4 mm (0.25 in) and 13 mm (0.5 in) shall be beveled with a slope not steeper than 50 percent. The bevel shall be applied across the entire vertical surface discontinuity.”</td>
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<tr>
<td><strong>136.08 Sidewalk Standards</strong></td>
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<tr>
<td>“Sidewalks repaired, replaced or constructed...shall be constructed in accordance with the Americans with Disabilities Act (ADA) standards.”</td>
<td>Change current language to: “...shall be constructed in accordance with the United States Access Board’s Guidelines for Pedestrian Facilities in the Public Right-of-Way.”</td>
<td>US Access Board: Guidelines for Pedestrian Facilities in the Public Right-of-Way</td>
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<tr>
<td><strong>136.09 Barricades and Warning Lights</strong></td>
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<td>Current Language</td>
<td>Recommended Change</td>
<td>Reason/Citation</td>
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<tr>
<td><strong>136.17 Merchandise Display</strong></td>
<td>“...in no case shall more than three (3) feet of the sidewalk next to the building be occupied for such purposes.”</td>
<td>Add: “A clear, consistent pedestrian access route of at least 4 ft wide must be maintained through the area of display.”</td>
</tr>
</tbody>
</table>

**Chapter 143: Right-of-Way Management**

| **143.03 Right-of-way Permits** | Add language under Part 5. Permit Applications specifying the need for traffic control plans if sidewalks, curb ramps, and/or crosswalks are obstructed during the work. | Manual on Uniform Traffic Control Devices, Part 6, Temporary Traffic Control, specifically 6D: Pedestrian and Worker Safety. See Chapter Three section entitled, “Maintaining Accessibility During Construction” beginning on page 28. |

| **Section 9. Administrative Penalties** | Specify that the Public Works Director may also impose penalties for failure to provide pedestrian traffic control. | Manual on Uniform Traffic Control Devices, Part 6, Temporary Traffic Control, specifically 6D: Pedestrian and Worker Safety. |

| **Section 12 Restoration Required** | Specify that pavement markings, such as crosswalks, and others, must be replaced within a timeframe consistent with other policy requirements. | US Access Board: Guidelines for Pedestrian Facilities in the Public Right-of-Way. |

| **Section 19 Traffic Control Devices, Lighting and Plating** | Specify that code refers to SUDAS for sidewalk closure standards for traffic control devices and refers to PROWAG for detour guidance. Specify that this also includes guidance on pedestrian detour routing. | Manual on Uniform Traffic Control Devices, Part 6, Temporary Traffic Control, specifically 6D: Pedestrian and Worker Safety. |
### Current Language | Recommended Change | Reason/Citation
---|---|---
**Chapter 175: Subdivision Regulations**

<table>
<thead>
<tr>
<th>175.05 Subdivision Design Standards</th>
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</table>
| **Section 4: Improvements:**  
Section states “sidewalks shall be constructed in accordance with ADA standards...” | Change current language to: “...shall be constructed in accordance with the United States Access Board’s *Guidelines for Pedestrian Facilities in the Public Right-of-Way.*” | US Access Board: *Guidelines for Pedestrian Facilities in the Public Right-of-Way.* |
| **Section 5: Approval of Final Plat...:**  
“D: The subdivider shall file a sidewalk bond...to ensure that all sidewalks in the development will be built.” | Pursue changes to policy to require bond payment for incomplete sidewalks to fill gaps and complete the system to logical termini (e.g. limits of existing development or nearest intersection). | US Access Board: *Guidelines for Pedestrian Facilities in the Public Right-of-Way.* |

### Sidewalk Repairs
The City of Pleasant Hill current procedure for addressing sidewalk repairs is satisfactory and should be adopted via resolution as the policy of the city. The current procedure requires property owners to pay for sidewalk repairs stemming from cracking or heaving of the sidewalk. Property owners are also required to keep the sidewalks clear of debris and landscaping, as well as snow. The City of Pleasant Hill regulates sidewalk construction and maintenance through Chapter 136 of Code of Ordinances. It is recommended that this policy, however, modify the existing ¾ inch standard to ½ inch to be consistent with the accessibility guidelines. This recommendation is explained in Table 2, above.

In the City’s current documented procedures, a sidewalk is in violation if any of the “defects” below are present:

- A. Vertical separations equal to three-fourths (3/4) of an inch or more
- B. Horizontal separations equal to three-fourths (3/4) of an inch or more
- C. Holes or depressions equal to three-fourths (3/4) of an inch or more
- D. Spalling of over fifty (50) percent of any individual panel with one or more depressions equal to one-half (1/2) inch or more
- E. A single panel cracked in such a manner that no part thereof has a piece greater than one (1) square foot, or is cracked in such a manner that it constitutes danger or potential danger to the public
- F. A sidewalk with any part thereof missing to the full depth
- G. A deviation from the staked and constructed grade so as to constitute danger or potential danger to the public.
City of Pleasant Hill ADA Transition Plan

It notes that “Maintenance/repair of sidewalks is the responsibility of the abutting property owner. Construction of all sidewalks shall require a permit and shall follow the standards of City Code, Americans with Disabilities Act (ADA), and Iowa Statewide Urban Designs and Specifications (SUDAS).”

If the abutting property owner fails to maintain the sidewalk, the City may order violation abatement using the following procedure:

1. Notice of violation issued to property owner via mail allowing 30 days to repair or make arrangements to repair.
2. If violation is not addressed within 30 days, a 2nd notice shall be issued via Certified Mail allowing an additional 30 days to repair or make arrangements to repair.
3. If violation is not addressed within 30 days after the 2nd notice, the City may arrange repairs to be completed. Costs of said repairs shall be assessed against the abutting property for collection in same manner as a property tax.

Snow Management
Snow removal is a challenging part of managing an accessible sidewalk system. The variability of snowstorms as well as fixed resources for cities to maintain streets during winter weather all impact the system. Pleasant Hill requires property owners to clear the sidewalks along their frontage of “natural snow,” snow that falls on the surface. Where snow removal becomes challenging is when plows move snow from streets to mound it behind the curb to get it out of the road prism. When sidewalks are buffered from the street, as they are throughout almost all of Pleasant Hill, the occurrence of snow plowed from the street onto the sidewalk is minimized and the buffers can handle the load from typical snow events. Figure 10 shows an example curb ramp, pedestrian push button, crosswalk, and sidewalk cleared of snow.

Figure 10. Examples of curb ramps, push buttons, and crosswalks cleared of snow
FHWA’s Office of Civil Rights notes “a public agency must maintain its walkways in an accessible condition, with only isolated or temporary interruptions in accessibility. (28 CFR §35.133). Part of this maintenance obligation includes reasonable snow removal efforts.” Snow removal is considered part of maintenance operations, which are covered by ADA requirements.

Additionally, the “pedestrian access route” requirements established by the Access Board are defined as sidewalks and other pedestrian circulation routes. The pedestrian access route shall be provided within sidewalks and other pedestrian circulation paths located in the public right-of-way. Pedestrian street crossings, including medians and pedestrian refuge islands, and pedestrian at-grade rail crossings, are considered pedestrian access routes and circulation paths.

Stemming from this, there are three notable priority areas for the city to consider with regard to snow management and pedestrian access routes:

1. Actively enforce snow removal responsibilities of property owners, while also educating them on best practices to ensure snow is not shoveled or plowed so it block access to a curb ramp or crosswalk.
2. Ensure city snow plows do not create blockages of curb ramps, crosswalks, and push buttons with snow still mounded in the street but obstructing access to these areas.
3. Ensure city crews are clearing sidewalks along the frontage city-owned properties (e.g. parks, public buildings, shared use paths), as well as city-maintained infrastructure (e.g. bridges with sidewalks).

The reality of snow plowing practices often means that cities deploy plows as the snow is falling and immediately after it stops in order to clear the streets of snow to allow for safe passage of emergency vehicles and for other public and traffic safety reasons. An approach that conforms to FHWA’s notation on “reasonable snow removal” efforts may include sending plows or smaller equipment around on streets to clear blocked ramps and crosswalks after the initial street plowing operations are complete.

Some cities identify priority sidewalk routes that city crews clear regardless of property owner-related policies. The City of Nashua, New Hampshire, (pop. 87,000) clears approximately 50 miles of sidewalks and has a policy that these will be cleared within 72 hours of the end of the storm. Their priority routes include main roads, transit routes, and school walk routes. Pleasant Hill could consider a similar program and use the priority maps created for the ADA Transition Plan as a first step in identifying these routes.
Finally, Federal Highway Administration provides additional requirements for sidewalks that were constructed with federal funds. FHWA stated in 2008 that “current maintenance provisions require pedestrian facilities built with Federal funds to be maintained in the same manner as other roadway assets.”

Pleasant Hill should consider incorporating any facilities, including pathways, constructed with federal funds be cleared of snow via the same methods as the street system. These may be incorporated into any priority routes, as mentioned above.

**Documenting Design Exceptions**

The city is required to document when factors dictate that accessibility requirements cannot be met through the construction of sidewalks, curb ramps, and other public right-of-way features. Iowa DOT’s 2013 memorandum to cities and counties on ADA requirements spells out these requirements:

> “If an [Local Public Agency] LPA receives any type of funding assistance from the Iowa DOT or the project is let through the Iowa DOT; and if an LPA determines that a pedestrian facility cannot be made fully compliant because the accessibility improvements are structurally impracticable, technically infeasible, or there are safety issues, as defined in Section 12A-2 of the Design Manual, it shall provide the Iowa DOT Administering Office with an Accessibility Exceptions Certification (Form 517118). The certification shall include supporting documentation that identifies the specific locations and lists the specific reasons why full compliance cannot be achieved. The certification shall be prepared and signed by a registered Professional Engineer or Landscape Architect licensed in the State of Iowa. Whenever alterations are made to the pedestrian circulation path, the pedestrian access route shall be made accessible to the maximum extent feasible within the scope of the project. If full compliance with Chapter 12 of the Iowa DOT Design Manual, is technically infeasible, compliance is required to the extent that is not technically infeasible.”

Pleasant Hill practices conform to the requirements stipulated by Iowa DOT to ensure ADA compliance (see Figure 12, next page). This may become more complex as the city embarks on its Transition Plan implementation. The city should work with the city engineering firm of record to develop a methodology to fulfill these requirements, recognizing that several curb ramp upgrades along a street or within a sector of the city may require completion of this form due to terrain.

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Figure 12. Accessibility Exceptions Certification in Pleasant Hill
Maintaining Accessibility during Construction

Figure 13 depicts examples of closures that maintain accessibility. MUTCD, Section 6D.01 notes “To accommodate the needs of pedestrians, including those with disabilities, the following considerations should be addressed when temporary pedestrian pathways in TTC zones are designed or modified:

- Provisions for continuity of accessible paths for pedestrians should be incorporated into the TTC plan.
- Access to transit stops should be maintained.
- A smooth, continuous hard surface should be provided throughout the entire length of the temporary pedestrian facility. There should be no curbs or abrupt changes in grade or terrain that could cause tripping or be a barrier to wheelchair use. The geometry and alignment of the facility should meet the applicable requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" (see Section 1A.11).
- The width of the existing pedestrian facility should be provided for the temporary facility if practical. Traffic control devices and other construction materials and features should not intrude into the usable width of the sidewalk, temporary pathway, or other pedestrian facility. When it is not possible to maintain a minimum width of 60 inches throughout the entire length of the pedestrian pathway, a 60 x 60-inch passing space should be provided at least every 200 feet to allow individuals in wheelchairs to pass.
- Blocked routes, alternate crossings, and sign and signal information should be communicated to pedestrians with visual disabilities by providing devices such as audible information devices, accessible pedestrian signals, or barriers and channelizing devices that are detectable to the pedestrians traveling with the aid of a long cane or who have low vision. Where pedestrian traffic is detoured to a TTC signal, engineering judgment should be used to determine if pedestrian signals or accessible pedestrian signals should be considered for crossings along an alternate route.
- When channelization is used to delineate a pedestrian pathway, a continuous detectable edging should be provided throughout the length of the facility such that pedestrians using a long cane can follow it.
- Signs and other devices mounted lower than 7 feet above the temporary pedestrian pathway should not project more than 4 inches into accessible pedestrian facilities.”

Figure 13. Left: Construction Zone with defined edges to channel pedestrians. Middle: Sign covers full width of ramp and barriers are detectable to people with vision disabilities. Right: Sidewalk Closed sign covers the full width of the closure, with marked detour route.
Short-Term Closure
Short-term closures are confined to a single work day and are located within a single block. These closures occur when barricades are used to close sidewalks, sidewalks are removed, or some other blockage prevents access to sidewalks. The effects of short-term closures can be mitigated by:

1. Providing ADA compliant barricades to mark the closure
2. Requiring contractors to assist pedestrians, particularly those with disabilities, through the construction zone. This is primarily recommended on low speed, low volume streets. Arterials may require additional consideration.

MUTCD Section 60.01 justifies this approach to short-term closures: “If establishing or maintaining an alternate pedestrian route is not feasible during the project, an alternate means of providing for pedestrians may be used, such as adding free bus service around the project or assigning someone the responsibility to assist pedestrians with disabilities through the project limits”

Closures Lasting Multiple Days
Multiple day closures occur when construction work requires sidewalk and/or ramp closures that last longer than one day and less than two weeks to complete. Similar to short-term closures, closures that last over multiple days occur when sidewalks, crosswalks, or curb ramps are barricaded, removed, or blocked. These effects can be mitigated by:

1. Providing ADA compliant barricades to mark the closures
2. Defining and signing a detour route of comparable accessibility features and distance (e.g. can’t have a one-mile detour), including advance warnings of closure at nearest legal crossing point
3. If work closes a route where accessible (audible) pedestrian signals are present, then temporary accessible (audible) pedestrian signals must be included to announce the detour route
4. The accessible conditions along the detour route should mirror the conditions along the route that is being detoured (e.g. if it has curb ramps, then the detour route must have curb ramps; if it has audible signals, then the detour route must have audible signals).
5. Short segment closures may allow for personnel to assist people through the construction area provided no obstructions or gaps remain when workers leave the site.

MUTCD Section 60.01 provides the following guidance:

- If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided.
- If the TTC zone affects an accessible and detectable pedestrian facility, the accessibility and detectability shall be maintained along the alternate pedestrian route.

Closures Lasting Multiple Months
Major construction work may require full, long-term closure of a pedestrian access route. The City of Pleasant Hill should follow the same approach as multiple day closures, with additional considerations:

1. Condition and location of intersection crossings and distance between crossings. If signalized intersection is closed to pedestrians, care should be given to not close all corners or legs of the intersection.
2. Detour routes must not be onerous in length compared to the existing route. This is difficult in more modern areas where street connectivity is not preserved at a scale smaller than a one-mile grid.

3. Special care should be given to not close all four corners of an intersection at one time because it restricts movement of pedestrians.

4. Detour routes may require temporary construction easements on adjacent property or through parking lots to provide access when detour routes are lengthy. Protection should be provided through parking lots via jersey barriers or other substantial temporary barriers (cones and tape are not sufficient).

5. The city should consider if sidewalk closures is absolutely necessary. If the project requires only road work, perhaps temporary closures will be sufficient.

MUTCD Section 60.01 provides the following guidance:

- If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided.
- If the TTC zone affects an accessible and detectable pedestrian facility, the accessibility and detectability shall be maintained along the alternate pedestrian route.

MUTCD Section 60.02 also details advice regarding long-term closures:

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Where pedestrians with visual disabilities normally use the closed sidewalk, a barrier that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
Chapter 4: Summary of Field Work Findings | ADA Self-Evaluation

This chapter summarizes the self-evaluation of existing facilities phase of the ADA Transition Plan effort. The self-evaluation forms the bulk of an ADA Transition Plan effort. It provides the basis by which Pleasant Hill can work to transition the system to ADA compliance and identify program-level investment goals, based on investment priorities. Pleasant Hill’s self-evaluation audits all existing pedestrian facilities in the City as of fall 2017. The self-evaluation methodology is described in Chapter 2. This section discusses the importance of specific types of pedestrian infrastructure, with regards to the self-evaluation.

**Crucial Infrastructure Features**

Curb ramps and sidewalks are identified as especially crucial infrastructure features to evaluate within the ADA Transition Plan. These elements form the “building blocks” of an accessible pedestrian landscape. Curb ramps and sidewalks

**Curb Ramps**

All curb ramps that lead from a sidewalk to street grade were cataloged and evaluated. Curb ramps are one of the most important features to audit during a self-evaluation. They play an important role in allowing pedestrians to travel out of the street and onto the sidewalk, away from passing motor traffic. The curb ramps’ landing, slope angle, flares, detectable warning pad, and transition to gutter were all evaluated. Of these features, standards related to overall ramp condition, landing, running slope, and cross slope are most important to the self-evaluation. Failure to meet these standards resulted in ramps evaluated as having major deficiencies. These ramps should be replaced. Missing or non-compliant detectable warning pads should be added, where needed. Minor issues involve ramps with flare and/or gutter features that do not meet standards. These ramps should be field checked for opportunities to repair these features. In some cases, ramp replacement may be necessary.

**Sidewalks**

All existing sidewalks in Pleasant Hill were evaluated for general condition and ADA compliance. Attributes that were of particular importance to the assessment included deficiencies related to width, running slope, cross slope, and condition. Sidewalk width is important so that wheelchair users can navigate easily, especially in situations where objects such as hedges or posts are positioned along sidewalk edges. Additional width makes it easy for pedestrians to pass one another. Sidewalk that are flat, without any cross slope, are easiest for people of all abilities to traverse. Running slope and cross slope, therefore, were important to analyze to understand where sidewalks could potentially be reconstructed to have lower cross slope and running slope values. Given Pleasant Hill’s topography, reconstruction to reduce sidewalk slope may be more difficult in some locations, rather than others.
Other Infrastructure Features

Bus Stops
All signed bus stops along Des Moines Area Regional Transit Authority (DART) Route 10 were evaluated to determine whether they meet current standards. Of the features studied, the evaluation of the quality of the bus stops’ connection from the edge of curb to the sidewalk/concrete bus pad is especially important. A concrete path enables wheelchair users to travel from the sidewalk to the bus entrance without maneuvering through a grass buffer. Reviewers were also interested in the dimensions of existing bus pads. Bus pads that meet standards allow wheelchair users adequate space to easily board and exit the bus.

Crosswalks
All marked crosswalks were evaluated for ADA compliance. The self-evaluation is especially interested in crosswalk striping condition and their alignment with curb ramps. High quality crosswalk striping helps ensure motorists see pedestrians as they cross the street. Clearly delineated, white crosswalk markings also provide visual contrast against pavement, helping people with low vision successfully navigate from one side of the street to the other. Furthermore, the evaluation noted whether crosswalks are aligned with curb ramps. This design cue assist pedestrians to cross the street.

Commercial Driveways
All commercial driveways were included in the self-evaluation to audit the quality of the pedestrian walkway as it travels across the driveway. The evaluation looks for whether the pedestrian access route continues unimpeded, or whether the driveway interrupts the walkway. The pedestrian access route should be level and continuous; it should not be slanted like the driveway.

Pedestrian Push Buttons
Pedestrian push buttons are not very common in Pleasant Hill. Nonetheless, all pedestrian push buttons were included in the self-evaluation. It is especially important for pedestrians to be able to reach push buttons from a level surface. The optimal height is placed such that wheelchair users can easily reach the button.

Top Three Findings
The self-evaluation presents a wealth of information related to walking conditions in Pleasant Hill. Despite the vast database created during the ADA Transition Plan, self-evaluation does not have to be overwhelming. Three top findings summarize actions that the City should prioritize to bring pedestrian features into ADA compliance.

1. Replace curb ramps that fail to meet standards
2. Replace detectable warning pads that fail to meet standards
3. Begin corridor-level improvements along high priority streets classified as arterials and collectors

Focusing on these areas will enable Pleasant Hill to quickly begin addressing ADA compliance issues. Chapter 5 assigns detailed cost information to these and other suggested actions. Refer to the content in subsequent sections of Chapter 4 for detailed information regarding ADA compliance issues cataloged during field work.
Number and Location of Features Cataloged During the ADA Self Evaluation

The self-evaluation cataloged 824 unique pedestrian features and 58 miles of sidewalk. As explained in Chapter Three, the entire Pleasant Hill street network was divided into ‘priority’ (including local streets and collector/arterial roadways) and ‘other’ streets. This approach helps the City prioritize investments for bringing pedestrian infrastructure features into compliance.

Number

Table 3, below, presents a summary of pedestrian features cataloged during Pleasant Hill’s ADA self-evaluation. In total, over 800 unique features were cataloged and nearly 60 sidewalk miles.

Table 3. Pedestrian features cataloged in Pleasant Hill

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<thead>
<tr>
<th>Feature</th>
<th>Number Cataloged</th>
<th>On Priority Streets</th>
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<td>Curb Ramps</td>
<td>599</td>
<td>209</td>
</tr>
<tr>
<td>Bus Stops</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Crosswalks</td>
<td>38</td>
<td>19</td>
</tr>
<tr>
<td>Driveways</td>
<td>150</td>
<td>139</td>
</tr>
<tr>
<td>Pedestrian Push Buttons</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>TOTAL FEATURES CATALOGED (excluding sidewalk miles)</td>
<td>819</td>
<td>443</td>
</tr>
<tr>
<td>Sidewalks (miles)</td>
<td>58</td>
<td>18</td>
</tr>
</tbody>
</table>

Location

Table 4, illustrates the number of non-ADA compliant features on all streets and on priority streets. Deficient features on priority streets are also shown as a percent of all features cataloged.

Table 4. Summary of deficient features

<table>
<thead>
<tr>
<th>Deficient Features</th>
<th>Number of Deficient Features</th>
<th>Major Deficiencies, Priority Streets</th>
<th>Major Deficiencies, Priority Streets (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb Ramps (Detectable Warning Issue or Major Deficiency)</td>
<td>470</td>
<td>170</td>
<td>28%</td>
</tr>
<tr>
<td>Sidewalks (miles)</td>
<td>9</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>Bus Stops</td>
<td>8</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>Crosswalks</td>
<td>9</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td>Driveways</td>
<td>43</td>
<td>40</td>
<td>27%</td>
</tr>
<tr>
<td>Pedestrian Push Buttons</td>
<td>21</td>
<td>21</td>
<td>83%</td>
</tr>
</tbody>
</table>
Summary of Field Work Findings: Curb Ramps

Number and Location

Curb ramps were analyzed according to their general condition, landing, flares, detectable warning pad, running slope, cross slope, and transition to the gutter. A full description of criteria used to audit these characteristics is provided in the Appendix. Of the 599 total curb ramps cataloged, 573 have some type of ADA compliance issue (96% of all curb ramps). These features’ issues vary in type and severity. 17% of these are issues related to minor issues that may be correctable through modifications to existing ramps, while 57% are estimated to require a full rebuild. It is recommended that the City focus first of rebuilding ramps on priority streets. Ramps requiring a full rebuild on priority streets represent 21% of all ramps cataloged. Table 5 summarizes curb ramps cataloged and suggested actions for bringing them within ADA compliance.

Table 5. Summary of cataloged curb ramps

<table>
<thead>
<tr>
<th>All Ramps Cataloged</th>
<th>Total Number</th>
<th>Total Number on Priority Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersections</td>
<td>203</td>
<td>66</td>
</tr>
<tr>
<td>Curb Ramps</td>
<td>599</td>
<td>209</td>
</tr>
<tr>
<td>Ramps without Any Known Flaws</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Ramps with Minor Issue (Field Check)</td>
<td>103</td>
<td>30</td>
</tr>
<tr>
<td>Ramps with Detectable Warning Issue (Replace Detectable Warning and Field Check)</td>
<td>125</td>
<td>43</td>
</tr>
<tr>
<td>Ramps with Deficiencies or Poor Condition: To Be Replaced</td>
<td>345</td>
<td>127</td>
</tr>
</tbody>
</table>

Figure 14 shows the location of curb ramps cataloged on priority and other streets. Of all curb ramps cataloged, 209 are located on priority streets. Curb ramps on trails were included in the self-evaluation analysis. For instance, curb ramps located along the Gay Lea Wilson Trail are visible in Figure 14.
Figure 14. Curb ramps cataloged during field work
Suggested Actions

Ramps to Replace on Priority Streets

One hundred and twenty-seven (127) curb ramps had major ADA compliance issues and were located on priority streets (21% of all curb ramps). These major deficiencies include one or more of the following issues:

- Poor condition: Crumbling concrete, major heaves
- Landing issues: Ramps without landings, ramps with landings whose dimensions do not meet ADA compliance, and ramps with landings that have cross slope issues
- Non-compliant running slope: Ramps with slopes in excess of ADA standards
- Non-compliant cross slope: Ramps with steep cross slopes in excess of ADA standards

Due to these findings, the 127 ramps on priority streets are suggested for replacement. Ramp running and cross slopes were carefully recorded while conducting fieldwork. Through these data, we know 101 curb ramps have non-compliant running slopes greater than 10% (two percent greater than the maximum allowable running slope) or cross slopes greater than 4% (cross slope shall not exceed 2%). Table 6 distinguishes between ramps with deficiencies that are suggested for replacement.

Table 6. Ramps with deficiencies to be replaced

<table>
<thead>
<tr>
<th>Ramps with Deficiencies: To Replaced</th>
<th>Number on Priority Street (N=599)</th>
<th>Percent of All Ramps Cataloged</th>
<th>Total Number on All Streets (N=599)</th>
<th>Percent of All Ramps Cataloged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Ramps with Deficiencies to Replace</td>
<td>127</td>
<td>21%</td>
<td>345</td>
<td>58%</td>
</tr>
<tr>
<td>Most egregious:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-compliant running or cross slope (greater than 10% or 4%, respectively), poor condition, or non-compliant landing</td>
<td>101</td>
<td>17%</td>
<td>278</td>
<td>46%</td>
</tr>
<tr>
<td>Deficient:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-compliant running or cross slope (but not greater than 10% or 4%, respectively), fair or better condition, or compliant landing</td>
<td>26</td>
<td>4%</td>
<td>67</td>
<td>11%</td>
</tr>
</tbody>
</table>
Priority Streets and Functional Classification
Filtering priority streets by functional classification gives the City an additional tool by which to prioritize investments toward upgrading pedestrian facilities. The City may choose to first rebuild curb ramps needing replacement that are located on major priority streets. This approach focuses on arterial and collector streets that are vital transportation corridors. Two hundred and nine (209) ramps were cataloged on priority streets, of these 111 are located on major priority streets, and 74 require reconstruction due to major deficiencies. Ramps to replace on major priority streets account for 12% of all ramps cataloged. Additionally, there are 23 ramps with detectable warning pad issues to replace or resolve (4% of all ramps cataloged) and 14 ramps with minor issues to resolve (2% of all ramps cataloged). Table 7 shows suggested actions for improving curb ramps on major priority streets.

Table 7. Ramps on major priority streets

<table>
<thead>
<tr>
<th>Ramps on Major Priority Streets</th>
<th>Total Number</th>
<th>Percent of All Ramps Cataloged (N= 599)</th>
<th>Percent on Priority Street of Any Classification (N= 599)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Ramps on Major Priority Streets</td>
<td>111</td>
<td>19%</td>
<td>53%</td>
</tr>
<tr>
<td>Ramps to replace</td>
<td>74</td>
<td>12%</td>
<td>35%</td>
</tr>
<tr>
<td>Field Check Needed</td>
<td>14</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Issues incl. detectable warning replacement</td>
<td>23</td>
<td>4%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Detectable Warning Pad Replacement on Priority Streets

Another 43 ramps on priority streets of all functional classifications have non-compliant or missing detectable warning pads. These ramps represent eight percent of all ramps in Pleasant Hill. Detectable warning pad issues were occasionally found in tandem with issues involving the ramp’s flare or transition to the gutter. Due to these deficiencies, it is recommended to replace the detectable warning pads on these ramps. Although the City may choose to first focus on the 43 detectable warning pads needing replacement on priority streets, over time, all 125 ramps with detectable warning issues across the city on nonpriority streets should receive replacement detectable warning pads. Ramps with detectable warning pad issues, on all streets, comprised almost one quarter of all ramps added to the Pleasant Hill database (21%). Table 8 summarizes the detectable warning pad issues found during fieldwork.

Table 8. Detectable warning pad issues

<table>
<thead>
<tr>
<th>Detectable Warning Pad Issues</th>
<th>Number on Priority Street</th>
<th>Percent of All Ramps Cataloged</th>
<th>Total Number on All Streets (N=599)</th>
<th>Percent of All Ramps Cataloged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Ramps</td>
<td>43</td>
<td>8%</td>
<td>125</td>
<td>21%</td>
</tr>
<tr>
<td>Ramp with Noncompliant Detectable Warning (ramp otherwise compliant)</td>
<td>10</td>
<td>2%</td>
<td>29</td>
<td>5%</td>
</tr>
<tr>
<td>Ramp with Detectable Warning and Gutter Transition Issues (ramp otherwise compliant)</td>
<td>1</td>
<td>0.2%</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Ramp with Detectable Warning and Flare Issues (ramp otherwise compliant)</td>
<td>31</td>
<td>5%</td>
<td>88</td>
<td>15%</td>
</tr>
<tr>
<td>Ramp with Detectable Warning, Flare, and Gutter Transition Issues (ramp otherwise compliant)</td>
<td>1</td>
<td>0.2%</td>
<td>5</td>
<td>1%</td>
</tr>
</tbody>
</table>
Field Check Minor Issues

Thirty (30) curb ramps have a minor non-compliance issue on priority streets involving the ramp flare and/or gutter transition. These features should be made ADA compliant, but their needs are not as pressing as ramps requiring full replacement or detectable warning pad replacement. Eventually, 103 ramps throughout the city should be field checked for gutter and/or flare issues. Gutter and flare issues may be fixed with spot treatments rather than full ramp reconstruction. Table 9 shows ramps with transition and gutter issues.

Table 9. Ramp transition and/or gutter transition issues

<table>
<thead>
<tr>
<th>Ramp Flare and/or Gutter Transition Issues</th>
<th>Number on Priority Street</th>
<th>Percent of All Ramps Cataloged</th>
<th>Total Number on All Streets (N=599)</th>
<th>Percent of All Ramps Cataloged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Ramps</td>
<td>30</td>
<td>5%</td>
<td>103</td>
<td>17%</td>
</tr>
<tr>
<td>Ramp with Noncompliant Gutter (ramp otherwise compliant)</td>
<td>3</td>
<td>1%</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Ramp with Noncompliant Flare Slope (ramp otherwise compliant)</td>
<td>25</td>
<td>4%</td>
<td>96</td>
<td>16%</td>
</tr>
<tr>
<td>Ramp with Gutter and Flare Issues (ramp otherwise compliant)</td>
<td>2</td>
<td>0.3%</td>
<td>2</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Figures 15 and 16 show the location of ramps on priority streets and major priority streets, respectively, categorized according to the suggested actions for bringing these features to ADA compliance. The University Avenue, Pleasant Hill Boulevard, Hickory Avenue, Shadyview Boulevard, and Sherry Lynn Boulevard corridors are noteworthy for the ramps located along these corridors in need of improvements.
Figure 15. Suggested actions for curb ramps on priority streets
Figure 16. Suggested actions for curb ramps on major priority streets.
Summary of Field Work Findings: Sidewalks

Number and Location

In total, 58 miles of sidewalk were cataloged in Pleasant Hill. Sidewalks were studied according to their condition, running slope, cross slope, and width. The majority of sidewalks in the city meet standards for condition and characteristics. Deficient sidewalks include those in poor condition, less than four feet wide, with a running slope greater than 8.3%, and with a cross slope greater than 2%. Of all sidewalks cataloged, 8.7 miles of sidewalk are deficient, representing 15% of total linear miles of sidewalk cataloged. Just under three (2.6) miles of deficient sidewalk are located on priority streets.

This section recommends two actions for bringing Pleasant Hill sidewalks to compliance:

- Construct sidewalks where gaps exist
- Replace sidewalks that do not meet standards

Table 10 summarizes cataloged sidewalk mileage and suggested actions for bringing them within ADA compliance. Figure 17, on the following page, shows where cataloged sidewalks are located on priority and other streets.

Table 10. Sidewalks cataloged in Pleasant Hill

<table>
<thead>
<tr>
<th>All Sidewalks Cataloged</th>
<th>Total Mileage</th>
<th>Total Mileage on Priority Street (Rounded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sidewalk Cataloged</td>
<td>58</td>
<td>18</td>
</tr>
<tr>
<td>Sidewalks without Any Known Flaws</td>
<td>50 (rounded)</td>
<td>15</td>
</tr>
<tr>
<td>Sidewalks to Replace:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Poor condition</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>-Less than four feet wide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Running slope greater than 8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Cross slope greater than 2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 17. Sidewalks cataloged during field work
Suggested Actions

Missing Sidewalk

Based on GIS data provided by the City, Pleasant Hill contains 60 centerline miles of roadway within City boundaries. US 65 is excluded from this analysis because pedestrians are prohibited. Based on existing centerline mileage, 62 miles of roads in Pleasant Hill are missing sidewalks. Table 11 shows that the estimated roadway mileage in the city was calculated by doubling the total centerline miles. This results in a figure that represents estimated miles that could have sidewalk on both sides. Field work and more extensive review is necessary to verify the feasibility of constructing these sidewalks. Nonetheless, they provide the City with an estimate of the effort required to provide sidewalks on every street where pedestrians are allowed. It should also be noted that sidewalks will not likely be provided on both sides of every local street in residential areas. Previous planning documents, such as the Comprehensive Plan, provide guidance for planned active transportation network improvements.

Table 11. Roadway miles and missing sidewalk

<table>
<thead>
<tr>
<th>Roadway Miles and Missing Sidewalk</th>
<th>Total Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Miles of Missing Sidewalk</td>
<td>62</td>
</tr>
<tr>
<td>Total Existing Sidewalk</td>
<td>58</td>
</tr>
<tr>
<td>Estimated Roadway Miles (x2 to represent sidewalk on both sides of the street)</td>
<td>120</td>
</tr>
<tr>
<td>Total Centerline Miles</td>
<td>60</td>
</tr>
</tbody>
</table>
Sidewalks to Replace
Nine (9) miles of sidewalks are recommended for replacement due to their failure to meet condition, width, and slope standards. Due to Pleasant Hill’s topography, field technicians were asked to note whether a sidewalk’s slope roughly matches the adjacent roadway. If a sidewalk has a slope outside of ADA compliance (i.e., greater than 8%), yet this slope matches the roadway slope (i.e., the roadway is in a hilly area and has a slope that is also greater than 8%), than the sidewalk is considered to meet standards. This was true for only 0.11 miles of sidewalk with a running slope greater to eight (8) percent. Table 12 shows sidewalks with deficiencies in miles. These estimates are used in Chapter 5 to determine resources needed to reconstruct deficient sidewalks.

Table 12. Deficient sidewalks

<table>
<thead>
<tr>
<th>Sidewalks to Replace</th>
<th>Miles Adjacent to Priority Streets</th>
<th>Percent of Total Sidewalk Mileage</th>
<th>Total Mileage on All Streets (N=58)</th>
<th>Percent of Total Sidewalk Mileage</th>
</tr>
</thead>
</table>
| Sidewalk with at Least One Deficiency:  
- Poor condition  
- Less than four (4) feet wide  
- Running slope greater than 8%  
- Cross slope greater than 2% | 3 | 6% | 9 | 15% |

Figures 18 and 19 show sidewalks requiring reconstruction adjacent to priority and other streets.
Figure 18. Sidewalks to replace located on priority streets
Figure 19. Sidewalks to replace on priority and other streets
Summary of Field Work Findings: Bus Stops

Number and Location

Eight (8) bus stops were cataloged in Pleasant Hill along DART Route 10. Each bus stop features a sign to indicate the stop. Each bus stop cataloged featured some kind of ADA compliance issue involving bus pad width or connection from the sidewalk to the edge of curb. Six (6) of the eight (8) bus stops cataloged (75%) are located on priority streets.

Table 13. Bus stop deficiencies

<table>
<thead>
<tr>
<th>Deficiencies Noted</th>
<th>Total Number of Bus Stops Affected (N=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instances of Bus Stops Requiring Wider Bus Pad</td>
<td>4</td>
</tr>
<tr>
<td>Instances of Bus Stops Requiring Connection through Grass Buffer</td>
<td>8 (all cataloged bus stops)</td>
</tr>
</tbody>
</table>

Suggested Action

Add Connection from Sidewalk through Grass Buffer

No bus stop featured a concrete connection from the bus stop/sidewalk area through the planted buffer to the bus loading area.

This means that people boarding the bus in a wheelchair must navigate the grass surface before reaching the bus. Certain types of transit vehicles utilize a foldable ramp to assist wheelchair users during boarding. For buses using this type of bus, adequate bus landing pad width would minimize issues that could arise from a lack of pedestrian access route through the sidewalk buffer strip.

Widen Bus Pad Landings

Bus pad landing dimensions are important to help wheelchair users navigate into and out of the bus. Each of the eight bus stops cataloged utilize existing sidewalks as the bus pad landing area. The bus stop’s landing pad width was ADA compliant when the pad width was five feet wide or greater. Half of all bus stops have ADA compliant landing widths. Figure 20 shows bus stop landing widths according to accepted standards.
Figure 20. Bus stop landing width
Summary of Fieldwork Findings: Crosswalks

Thirty-eight (38) crosswalks were cataloged in Pleasant Hill. The field work found that 61% of all crosswalks are located on priority streets. Crosswalks are located at 17 different intersections. Of all intersections with crosswalks, 9 are intersections involving priority streets. Table 14 shows crosswalks cataloged on all streets and priority streets. Figure 21 shows crosswalks cataloged in Pleasant Hill.

Table 14. Cataloged crosswalks

<table>
<thead>
<tr>
<th>All Crosswalks Catalogued</th>
<th>Total Number</th>
<th>Total Number on Priority Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crosswalks</td>
<td>38</td>
<td>19</td>
</tr>
<tr>
<td>Intersections</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Crosswalks without Any Known Flaws</td>
<td>29</td>
<td>15</td>
</tr>
<tr>
<td>Crosswalks to Replace</td>
<td>9</td>
<td>4</td>
</tr>
</tbody>
</table>
Figure 21. Crosswalks cataloged on priority and other streets
Suggested Action
Crosswalks to Replace
Of all crosswalks cataloged, nine crosswalks are in poor condition or are not aligned with the curb ramp. Predominant ADA non-compliance issues for deficient crosswalks include those in poor condition and crosswalks that are not aligned with the receiving curb ramps on either side of the crosswalk. Faded crosswalks are not as easy for people with low vision to detect. Faded crosswalks are also less visible to motorists. For these reasons, the deficient crosswalks are suggested for replacement. The nine (9) deficient crosswalks found during field work represent 24% of all crosswalks cataloged. Four deficient crosswalks are located on priority streets. Deficient crosswalks on priority streets represent 11% of all crosswalks cataloged. Table 15 shows the number of crosswalks to replace by type of street.

Table 15. Crosswalks to replace

<table>
<thead>
<tr>
<th>Crosswalks with Deficiencies: To Replace</th>
<th>Number on Priority Street</th>
<th>Percent of All Crosswalks Cataloged</th>
<th>Total Number on All Streets (N=38)</th>
<th>Percent of All Crosswalks Cataloged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Crosswalks to Replace</td>
<td>4</td>
<td>11%</td>
<td>9</td>
<td>24%</td>
</tr>
</tbody>
</table>

Among the nine (9) crosswalks suggested for restriping, eight (8) are in fair to good condition, but are not aligned with their respective curb ramps. One (1) crosswalk was marked as deficient due to faded striping. Figure 22 shows six crosswalks on priority streets with deficiencies. Priority intersections with deficient crosswalks include:

- Copper Creek and the Little Fourmile Creek Drive
- Maple Drive (midblock)
- Parkridge Avenue and Pleasant Hill Boulevard (NOTE: two crosswalks to restripe are noted at this location. However, the close proximity of the crosswalks on the map makes the two crosswalks appear as one icon.)
- University Avenue and 56th Street
Figure 22. Crosswalks in poor condition or not aligned with curb ramp. Note: two crosswalks are located at Parkridge Avenue and Pleasant Hill Boulevard.
Summary of Field Work Findings: Commercial Driveways

Number and Location

Commercial driveways were analyzed according to the presence and quality of a pedestrian walkway across the driveway. Data were not collected at residential driveways. These locations were cataloged as sidewalks. Table 16 shows all commercial driveways cataloged in the city. Ninety-three percent (93%) of all driveways were found to be on priority streets. The majority of these locations are clustered near the University Avenue corridor, due to the prevalence of commercial land uses in this area of Pleasant Hill. The majority of Pleasant Hill commercial driveways were found to be in compliance with standards. Twenty nine percent (29%) of all driveways were marked as deficient, the vast majority of these are located on priority streets (93% of deficient driveways). Reasons for failure to meet standards include pedestrian routes across driveways with cross slopes greater than two percent and/or a walkway in poor condition. Driveways with steep cross slopes are more difficult or uncomfortable to cross, especially for people in wheelchairs or strollers or people with limited mobility. Of all commercial driveways noted in Pleasant Hill, 27% are deficient and located on a priority street. Figure 23 shows the location of cataloged driveways in Pleasant Hill. The following sections present action items for improving compliance throughout the city.

Table 16. Cataloged commercial driveways

<table>
<thead>
<tr>
<th>All Commercial Driveways Cataloged</th>
<th>Total Number</th>
<th>Total Number on Priority Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Commercial Driveways</td>
<td>150</td>
<td>139</td>
</tr>
<tr>
<td>Commercial Driveways without Any Known Flaws</td>
<td>109</td>
<td>107</td>
</tr>
<tr>
<td>Commercial Driveways to Replace</td>
<td>43</td>
<td>40</td>
</tr>
<tr>
<td>Commercial Driveways for Spot Repairs</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
Figure 23. Commercial driveways on priority and other streets
Suggested Actions

Driveways to Replace During Redevelopment

Of all driveways cataloged, 41 have noted deficiencies on priority streets. These issues include cross slope greater than two percent, poor condition, or a maintenance issue. Cross slope issues are the most common deficiency along commercial driveways. Overall, commercial driveways with deficiencies represent 29% of all cataloged driveways in Pleasant Hill. The following priority corridors are noteworthy for their presence of driveways with several deficiencies:

- Maple Drive from Hickory Boulevard to Shadyview Boulevard
- 56th Street from Metro East Drive to Jennifer Drive
- Metro East Drive (loop from/to 56th Street)

Table 17. Commercial driveways with deficiencies

<table>
<thead>
<tr>
<th>Commercial Driveways with Deficiencies</th>
<th>Number on Priority Street</th>
<th>Percent of All Driveways Cataloged (N=150)</th>
<th>Total Number on All Other Streets</th>
<th>Percent of All Driveways Cataloged (N=150)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Driveways with Deficiencies to Replace</td>
<td>40</td>
<td>27%</td>
<td>43</td>
<td>29%</td>
</tr>
<tr>
<td>Total Number of Driveways to Repair with Spot Improvements</td>
<td>1</td>
<td>2%</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

Figure 24 shows the location of deficient driveways on priority streets.

Suggested Spot Improvements

Staff noted driveways with condition or maintenance issues independent of slope issues. These driveways could be repaired independent of full reconstruction during redevelopment or other construction projects. Examples include:

- 1500 Edgewater Drive
- 4825 Copper Creek Drive
- 1240 Copper Creek Drive (repair broken concrete prior to full replacement)
Figure 24. Driveways with deficiencies on priority streets
Summary of Field Work Findings: Pedestrian Push Buttons

Data were collected for pedestrian push buttons in Pleasant Hill according to the landings upon which they are situated, their location from the curb, push button height, and pedestrian access route (PAR). These features impact the push button’s accessibility for people of all ages and abilities. In total, 24 pedestrian push buttons were cataloged in the city. All pedestrian push buttons are located on streets that are priorities for ADA improvements. Table 18 shows pedestrian push buttons with deficiencies.

Table 18. Pedestrian push buttons with deficiencies

<table>
<thead>
<tr>
<th>Pedestrian Push Buttons with Deficiencies</th>
<th>Number on Priority Street</th>
<th>Percent of All Push Buttons Cataloged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Push Buttons Cataloged</td>
<td>24</td>
<td>100%</td>
</tr>
<tr>
<td>Pedestrian Push Buttons with one or more of the following issues:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Farther from curb/crosswalk than 10 feet/5 feet</td>
<td>21</td>
<td>88%</td>
</tr>
<tr>
<td>-Landing deficiencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Placed above four feet high</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-PAR less than five feet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian Push Buttons: No Known Deficiencies</td>
<td>3</td>
<td>13%</td>
</tr>
</tbody>
</table>

Note: All are located on a priority street.

Figure 25 shows the location of pedestrian push buttons in Pleasant Hill. This map is centered around the area bounded by Pleasant Hill Boulevard, Maple Drive, 56th Street, and NE 12th Avenue, since this is the area where existing pedestrian push buttons are currently located. Figure 26 shows the location of pedestrian push buttons with deficiencies.
Figure 25. Location of cataloged pedestrian push buttons (all on priority streets)
Figure 26. Pedestrian push buttons with deficiencies
Obstructions and Maintenance Issues

Obstructions, including tripping hazards, and features in need of maintenance were cataloged during the ADA transition plan data collection process. The mapped locations and accompanying tables allow the City and utility companies to fix these issues. In total, 167 maintenance issues were cataloged, 81 of which were located on priority streets (48% of all maintenance issues). Seventy-three (73) obstructions were found throughout Pleasant Hill, 30 of which are on priority streets (41% of all obstructions). Forty-three (43) obstructions were related to utility caps under the responsibility of Des Moines Water Works. Maintenance issues and obstructions are summarized in Table 19.

Table 19. Infrastructure maintenance issues and obstructions

<table>
<thead>
<tr>
<th>Maintenance Issues</th>
<th>Number</th>
<th>Percent of All Maintenance Issues Catalogued</th>
<th>Number on High Priority Streets</th>
<th>Percent of Obstructions on High Priority Streets Compared to All Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cataloged Issues</td>
<td>167</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total on Priority Street</td>
<td>81</td>
<td>48%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Obstructions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number</td>
<td>73</td>
<td>N/A</td>
<td>30</td>
<td>N/A</td>
</tr>
<tr>
<td>Public Property</td>
<td>68</td>
<td>93%</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>Tripping Hazard</td>
<td>69</td>
<td>95%</td>
<td>30</td>
<td>41%</td>
</tr>
</tbody>
</table>

Figure 27 shows all obstructions cataloged in Pleasant Hill. Figure 28 shows all obstructions classified as utility caps. A digital copy of the map will be provided to Des Moines Water Works to rectify these issues.
Figure 27. Obstructions in Pleasant Hill
Figure 28. Water caps obstructing sidewalks
Chapter 5: Methods to Remove Barriers and Make Facilities Accessible

This chapter formulates an improvement plan consisting of investment types for upgrading Pleasant Hill’s pedestrian facilities to ADA compliance. Recommendations detailed here include:

- Annual curb ramp replacement program
- University Avenue project summary
- Priority area/corridor infrastructure replacement
- Street resurfacing and other projects

Improvements should be made over time and prioritized according to location and available budget. This chapter provides planning level costs. However, the City must individually scope street upgrades and other projects. This chapter is meant to give the City a general idea of the level of effort needed to improve pedestrian infrastructure across the city.

Cost Estimates for Top Three Recommended Improvements

1) Replace Curb Ramps Require Upgrades to Meet Standards

The City of Pleasant Hill has identified $50,000 per year to upgrade curb ramps that do not currently meet ADA standards. Based on estimated per unit costs, this budget would result in the following upgrades:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Number of Features on Priority Streets</th>
<th>Cost Estimate (Low End to High End)</th>
<th>Years to Complete Upgrades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb Ramps to Replace: Priority Streets</td>
<td>127</td>
<td>$381,000 to $444,500</td>
<td>8 to 9 years</td>
</tr>
<tr>
<td>Curb Ramps to Replace: All Streets</td>
<td>345</td>
<td>$1,035,000 to $1,207,500</td>
<td>21 to 24 years</td>
</tr>
</tbody>
</table>

2) Replace Detectable Warning Pads that Fail to Meet Standards

The City currently replaces curb ramp throats or passage ways to replace detectable warning pads. The cost to perform this procedure on all ramps that fail to meet detectable warning standards is estimated at double the cost of per unit detectable warning costs. Per unit costs originated from previous construction costs for projects in the city. Replacing detectable warning pads on priority streets will cost an estimated $53,900. Replacing detectable warning pads on all streets with cataloged deficiencies will cost an estimated $137,500.

3) Begin Corridor-level Improvements along High Priority Streets Classified as Arterials and Collectors

Sorting necessary improvements by their location on major priority roadways will help the City institute the most impactful programs in the shortest amount of time. The City has begun this work on University Avenue. Estimated costs to improve the intersections of University Avenue at Hickory Avenue and 60th Street, respectively, total $1.19 million and 1.15 million, including ADA improvements. This section also presents cost estimates for improving Maple Avenue.
Order of Magnitude Costs for Recommended Investments

Based on planning level estimates, the table below summarizes the cost of upgrades to address the needs identified in the Transition Plan. The $50,000 annual investment program focused on ramp replacements and upgrades appears reasonable given the timeframe for implementing changes on priority routes and systemwide. Other specific upgrades can be addressed through other annual budget allocations to supplement the $50,000.

Two corridors—University Avenue and Maple Avenue—are recommended to be addressed as standalone, corridor projects. University will require Iowa DOT coordination and most likely some degree of federal funding, as the barriers to access relate more to lack of facilities rather than compliance of existing ones. The costs will greatly exceed the City’s annual investment program amounts, which should remain focused on the local street system managed by the city rather than being diverted to barriers associated with the system of roadways owned by the State.

Maple Avenue may be addressed through a one-time budget allocation to be incorporated in a future action by the City. Given Maple Avenue’s location and access it provides to nearby pedestrian trip generators, another funding method may be to designated one year of curb ramp funding ($50,000) to this project and supplement it with the funds required to complete the rest of the project (Note: The estimate is based on planning level evaluation and will require more detailed scoping once it is ready to be funded).

Given these cost estimates, the City may work with Iowa DOT, Des Moines Area MPO and DART to identify other funding sources that could be applied. If federal funds are pursued, the City is advised to package more ramps or priority areas together in order to reduce the likely increase in costs incurred by going through a federal funding process. For example, coupling Maple Avenue with all other curb ramps in the general vicinity, as well as bus stop upgrades, may be more competitive in federal funding grant cycles than Maple Avenue as a standalone project.
### Table 21. ADA improvement costs

<table>
<thead>
<tr>
<th>Suggested Improvement (All Streets)</th>
<th>Estimated Cost</th>
<th>Likely Funding Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Suggested Improvements (Rounded to Nearest $100,000)</strong></td>
<td><strong>$10,600,000</strong></td>
<td></td>
</tr>
<tr>
<td>University Avenue Crossing Improvements (Hickory Avenue and 60th Street)</td>
<td>$2,271,000</td>
<td>Corridor-based project</td>
</tr>
<tr>
<td>Maple Avenue Corridor Improvements</td>
<td>$95,000</td>
<td>Corridor-based project</td>
</tr>
<tr>
<td>Curb Ramp Replacement Program: All Streets</td>
<td>$1,207,500 (high end estimate)</td>
<td>Annual budget item</td>
</tr>
<tr>
<td>Detectable Warning Replacement/Additions</td>
<td>$137,500</td>
<td>Zone-based/ priority corridor-based funds</td>
</tr>
<tr>
<td>Sidewalk Reconstruction</td>
<td>$843,000</td>
<td>Zone-based/ priority corridor-based funds</td>
</tr>
<tr>
<td>Sidewalk Construction</td>
<td>$6,014,000</td>
<td>Zone-based/ priority corridor-based funds</td>
</tr>
<tr>
<td>Crosswalk Restriping</td>
<td>$8,700</td>
<td>Zone-based/ priority corridor-based funds</td>
</tr>
<tr>
<td>Commercial Driveway Reconstruction</td>
<td>Pursued in tandem with redevelopment</td>
<td></td>
</tr>
<tr>
<td>Pedestrian Push Button Improvements</td>
<td>$15,500</td>
<td>University Avenue corridor upgrades; other priority corridor projects</td>
</tr>
<tr>
<td>Bus Stop Pad Improvements</td>
<td>$2,640</td>
<td>Partnership with DART</td>
</tr>
</tbody>
</table>
Summary of Needed Improvements

Table 22 summarizes needed improvements to the City’s infrastructure, as catalogued during data collection in summer and fall 2017. Detailed descriptions of these features are found in Chapter Four and the Appendix.

Table 22. Summary of needed improvements

<table>
<thead>
<tr>
<th>Feature</th>
<th>Number of Deficient Features</th>
<th>Major Deficiencies on Priority Streets</th>
<th>Major Deficiencies on Priority Streets (Percent of Features Cataloged)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb Ramps (with Detectable Warning Issue or Major Deficiency)</td>
<td>470</td>
<td>170</td>
<td>28%</td>
</tr>
<tr>
<td>Sidewalks (miles)</td>
<td>9</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Bus Stops</td>
<td>8</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>Crosswalks</td>
<td>9</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td>Driveways</td>
<td>46</td>
<td>40</td>
<td>26%</td>
</tr>
<tr>
<td>Pedestrian Push Buttons</td>
<td>20</td>
<td>20</td>
<td>83%</td>
</tr>
</tbody>
</table>
Curb Ramps

Annual Curb Ramp Replacement Program

The City of Pleasant Hill is currently working to commit at least $50,000 per year toward curb ramp replacement. The City can concurrently fix obstructions when construction crews work to replace curb ramps. It is recommended that the City focus first on replacing curb ramps on priority streets that are in most need of repair. Figure 29 shows the location of ramps to replace on major priority streets.

Figure 29. Curb Ramps to replace on major priority streets
Deficient Curb Ramp Replacement Costs and Schedule
Estimated high and low unit costs were created based on unit prices from Iowa DOT bid tabs and prices from recent City projects. Replacement curb ramps would cost an estimated $3,000 to $3,500 per unit. The estimated time to complete the improvements is based on Pleasant Hill’s goal of budgeting $50,000 per year on replacement curb ramps. Table 23 shows the estimated cost and schedule of replacing curb ramps.

Table 23. Cost and schedule to replace curb ramps

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Cost Range (Per Curb Ramp)</th>
<th>Estimated Cost</th>
<th>Estimated Time to Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb Ramp Replacement: Priority Streets</td>
<td>$3,000 to $3,500</td>
<td>$474,000 to $553,000</td>
<td>9 to 11 years</td>
</tr>
<tr>
<td>Curb Ramp Replacement: All Streets</td>
<td></td>
<td>$1,035,000 to $1,207,500</td>
<td>21 to 24 years</td>
</tr>
</tbody>
</table>

Detectable Warning Pad Replacement Costs and Schedule
Estimated unit costs were developed based on figures provided from previous City projects. Cost estimates provided by the City for replacement detectable warning pads were doubled to estimate the cost of reconstructing the throat of the ramp, which is how the City currently replaces detectable warning pads. These costs do not include the non-ADA compliant ramps described in the previous section. Table 24 shows estimated costs.

Table 24. Cost to replace detectable warning pads

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Cost (Per Curb Ramp)</th>
<th>Estimated Cost (Rounded to Nearest $500)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detectable Warning Pad Replacement/Addition: Priority Streets</td>
<td>$1,100</td>
<td>$54,000</td>
</tr>
<tr>
<td>Detectable Warning Pad Replacement/Addition: All Streets</td>
<td></td>
<td>$137,500</td>
</tr>
</tbody>
</table>
Sidewalks

Cost to Improve All Non-Compliant Sidewalk

Fifty-eight (58) miles of sidewalk were cataloged in Pleasant Hill. Of the total cataloged, approximately nine (9) miles have features that are not compliant. Three (3) of these miles are located on priority streets. Sidewalks in poor condition and/or with running slope and cross slope values greater than standard are included in sidewalks that are suggested for replacement. Non-standard cross slopes appear frequently. Seven of the nine miles have cross slopes out of compliance. Table 25 shows estimated material costs to replace deficient sidewalks. Table 26 documents assumptions used to develop this estimate. Unit costs represent City estimates from December 2017.

Table 25. Estimated cost to replace deficient sidewalks

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Cost (Per Mile of Sidewalk)</th>
<th>Estimated Length (Mi)</th>
<th>Estimated Cost (Rounded to Nearest $1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Deficient Sidewalks</td>
<td>$97,000</td>
<td>9</td>
<td>$843,000</td>
</tr>
<tr>
<td>Deficient Sidewalks on Priority Streets</td>
<td></td>
<td>3</td>
<td>$324,000</td>
</tr>
</tbody>
</table>

Table 26. Sidewalk cost assumptions

<table>
<thead>
<tr>
<th>Estimated Cost</th>
<th>One Sidewalk Panel (Two Sq. Yards)</th>
<th>One Panel (Length in Ft)</th>
<th>One Mile of Sidewalk (Ft)</th>
<th>Number of Panels in One Mile</th>
<th>Cost for One Mile of Sidewalk (Rounded to Nearest $1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Cost</td>
<td>$110</td>
<td>6</td>
<td>5280</td>
<td>880</td>
<td>$97,000</td>
</tr>
</tbody>
</table>

Cost to Construct New Sidewalk

Based on the current roadway mileage in Pleasant Hill, there are an estimated 62 miles of roadway that do not have sidewalks on either side. Using the cost estimates described above, constructing new sidewalks would require approximately $6.01 million in total investment. This assumes that new sidewalk would be constructed on both sides of the streets that currently lack sidewalks. Exact mileage and cost estimates are subject to City scoping of projects to upgrade specific zones of the City at a time. Table 27 shows estimated sidewalk gap construction costs.

Table 27. Estimated cost to construct new sidewalk

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Cost (Per Mile of Sidewalk)</th>
<th>Estimated Length (Mi)</th>
<th>Estimated Cost (Rounded to Nearest $1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct Missing Sidewalks</td>
<td>$97,000</td>
<td>62</td>
<td>$6,014,000</td>
</tr>
</tbody>
</table>
Crosswalks

Cost to Restripe All Deficient Crosswalks

Nine crosswalks, out of 38 total cataloged, need to be restriped in Pleasant Hill. Costs will vary based upon crosswalk style (i.e., standard vs. high visibility) and material (i.e., paint vs. thermoplastic). Table 28 shows the estimated per unit cost and estimated cost to restripe crosswalks. These cost estimates are based on Federal Highway Administration (FHWA) unit costs. Cost estimates assume that the style of crosswalk suggested for restriping matches the crosswalk style currently used at that location. Additional study is needed to determine whether to change the crosswalks’ style or other characteristics.

Table 28. Cost to restripe deficient crosswalks

<table>
<thead>
<tr>
<th>Feature</th>
<th>Estimated Cost (FHWA Average)</th>
<th>Estimated Number to Restripe</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restripe High Visibility Crosswalk: All Streets</td>
<td>$2,540</td>
<td>1</td>
<td>$2,540</td>
</tr>
<tr>
<td>Restripe Standard Crosswalks: All Streets</td>
<td>$770</td>
<td>8</td>
<td>$6,160</td>
</tr>
<tr>
<td>Total Cost</td>
<td></td>
<td></td>
<td>$8,700</td>
</tr>
</tbody>
</table>

Pedestrian Push Buttons

Cost to Replace Landing Panels and Reposition Push Buttons

Strategies to improve pedestrian push buttons are sorted into two categories: landing improvements and push button position improvements. The former requires reconstructing the sidewalk panel, or panels that forms the push button’s landing. Landing panel costs assume at least one sidewalk panel will be reconstructed. Additional costs are needed for more substantial retrofits. Push button position improvements require repositioning the push button in a new housing on the existing traffic signal pole or in a standalone post. The cost estimate to reposition a push button uses FHWA and Pedestrian and Bicycle Information Center (PBIC) costs per pedestrian push button. Table 29 summarizes these costs.

Table 29. Cost to replace landing panels and to reposition push buttons

<table>
<thead>
<tr>
<th>Feature</th>
<th>Estimated Cost (FHWA Average)</th>
<th>Estimated Number</th>
<th>Estimated Cost (Rounded to Nearest $500)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruct Landing Panel</td>
<td>$110 per sidewalk panel</td>
<td>8 new landing panels</td>
<td>$1,000</td>
</tr>
<tr>
<td>Reposition Push Buttons</td>
<td>$1,100 per pedestrian push button</td>
<td>13 push buttons to reposition</td>
<td>$14,500</td>
</tr>
<tr>
<td>Total Cost</td>
<td></td>
<td></td>
<td>$15,500</td>
</tr>
</tbody>
</table>
Bus Stops

Cost to Widen Non-Standard Bus Pad Landing Widths and Create Connection from Sidewalk to Edge of Curb

Bus stops in Pleasant Hill require two main upgrades for ADA compliance. First, four bus stops require wider bus pad landings. Secondly, bus stops require improved connections from the sidewalk to the edge of curb. Table 30 shows estimated costs, obtained from the City’s sidewalk construction estimates.

Table 30. Cost to Improve Bus Pads

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Cost (per new sidewalk panel)</th>
<th>Estimated Number</th>
<th>Estimated Cost (Rounded to Nearest $1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Deficient Landings</td>
<td>$110</td>
<td>16 panels needed (add four new panels at four bus stops)</td>
<td>$1,760</td>
</tr>
<tr>
<td>All Sidewalk Connections to Curb</td>
<td></td>
<td>8 panels needed (add one new panel per eight bus stops)</td>
<td>$880</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td></td>
<td></td>
<td><strong>$2,640</strong></td>
</tr>
</tbody>
</table>

University Avenue Corridor Improvement Project

The City of Pleasant Hill is currently working on intersection crossing designs that would improve pedestrian travel across University Avenue. Despite an absence of facilities to assess for ADA compliance, the University Avenue corridor is the city's greatest barrier to mobility and universal access. The barriers to access relate to a lack of connectivity across the corridor within Iowa DOT right-of-way. In some cases, sidewalks end at the right-of-way line with no connection to the intersection or a crossing (despite these being legal crosswalks under Iowa law). The estimates for these crossings will greatly exceed Pleasant Hill's annual ADA investment program and should not rest solely on the city to address since they are within state-maintained right-of-way. Discussions with Iowa DOT should help drive solutions for providing these crossings and updating facilities of existing crossings, including funding options. Cost estimates for improving University Avenue at Hickory Avenue and 60th Street are provided in Table 31, below.

Pedestrian push buttons are located on University Avenue or on adjacent streets. As such, the University Avenue intersection projects give the City an opportunity to improve pedestrian push button accessibility.

Table 31. University Avenue project costs

<table>
<thead>
<tr>
<th>Location</th>
<th>Cost Estimate (Rounded to Nearest $1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Avenue and Hickory Avenue</td>
<td>$1,120,000</td>
</tr>
<tr>
<td>University Avenue and 60th Street</td>
<td>$1,151,000</td>
</tr>
</tbody>
</table>
Priority Area or Corridor Infrastructure Replacement
The priority corridor discussed here is meant to provide guidance for scoping ADA improvement projects along priority corridors.

Maple Drive: Pleasant Hill Boulevard to Shadyview Boulevard
This priority corridor was reviewed in the field during this project’s ADA training. The corridor faces challenges due to elevation changes, particularly at the Hickory Boulevard intersection. City Hall and the library are located between Hickory Boulevard and Shadyview Boulevard.

This priority corridor example includes intersection features within the cost estimate, as well as “spurs” Pleasant Hill Boulevard, Hickory Boulevard, and Shadyview Boulevard, since these locations route people to Maple Drive. A map of the corridor is shown in Figure 30. Note that sidewalk and other improvements suggested as part of University Avenue crossing improvement projects are not included with cost estimates for Maple Drive.

Figure 30. Maple Drive corridor map
Table 32 shows efforts needed to update existing features’ ADA compliance at this intersection. Total estimated costs for upgrading these features along Maple Drive is estimated at $95,000.

**Table 32. Maple Drive corridor improvement costs**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Suggested Actions</th>
<th>Number of Features to Replace</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Stops</td>
<td>Replace sidewalk with wider bus pads. This would mean replacing four panels of sidewalk per bus stop, or eight panels total.</td>
<td>8 sidewalk panels</td>
<td>$880</td>
</tr>
<tr>
<td></td>
<td>Add at least one sidewalk panel from the new bus pad to the existing curb. Two panels total.</td>
<td>2 sidewalk panels</td>
<td>$220</td>
</tr>
<tr>
<td>Curb Ramps</td>
<td>Construct new curb ramps to replace existing.</td>
<td>6 curb ramps</td>
<td>$21,000</td>
</tr>
<tr>
<td></td>
<td>Replace detectable warning pad (replace throat of ramp).</td>
<td>1 detectable warning</td>
<td>$1,100</td>
</tr>
<tr>
<td>Crosswalks</td>
<td>Restripe misaligned crosswalks. This assumes a standard crosswalk is used to match the existing crosswalk.</td>
<td>1 standard crosswalk</td>
<td>$770</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>Replace three push buttons’ non-standard landing pads.</td>
<td>3 sidewalk panels</td>
<td>$330</td>
</tr>
<tr>
<td>Push Buttons</td>
<td>Add new post, if possible within space. Price accounts for an audible/tactile response push button, based on rounded Pedestrian and Bicycle Information Center/FHWA database cost estimates.</td>
<td>7 push buttons</td>
<td>$7,700</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>Reconstruct sidewalk with cross slope and condition issues (0.38 mi); construct missing sidewalk to fill gap (0.26 mi)</td>
<td>0.65 mi of new/reconstructed sidewalk</td>
<td>$62,851</td>
</tr>
<tr>
<td><strong>Rounded Preliminary Cost Estimate (Rounded to Nearest $500)</strong></td>
<td></td>
<td></td>
<td><strong>$95,000</strong></td>
</tr>
</tbody>
</table>

---

Street Resurfacing and Other Projects
The City of Pleasant Hill routinely resurfaces streets and makes spot improvements. Spot repairs to concrete streets give the City a chance to add ADA improvements to routine maintenance activities. Figure 31 illustrates three scenarios for improving sections of concrete street in need of repair.

Figure 31. Concrete street and intersection layout
Chapter 6: Documenting Progress and Updating the Plan

The Transition Plan sets the basis by which Pleasant Hill can evaluate its system from the time of adoption of the plan. Beyond utilizing the Transition Plan in yearly programming of projects, and the Transition Plan must be periodically reviewed for compliance and validity. The City will continue to add new centerline miles of sidewalks and many curb ramps as new subdivisions are approved and upgrades are made to existing streets.

The positive side of this is that the inventory conducted and mapped for this Transition Plan represents a complete evaluation of the existing system, making it so future updates to the databases only need to incorporate the progress made in annual investment programs and the addition of new facilities. Eventually, the full Transition Plan should be updated as facilities deteriorate over time and new design requirements emerge.

This chapter outlines the recommended steps for documenting annual progress on the Transition Plan and identifying milestones for when the plan should be updated.

Annual Documentation to Track Progress

It is important to provide an annual update to the Transition Plan so progress is documented. This helps the City measure its progress and provides a public record to illustrate how the City is working toward upgrading of the system for compliance. It is also important for the City to document the year a specific improvement was made in the event of a grievance.

The documentation of progress does not have to be complex but should be officially adopted by the City Council as an Amendment to the original Transition Plan. Given that construction season in Iowa spans the June 30/July 1 end and start dates of a fiscal year, it is recommended that the annual update be generated based on a calendar year in order to fully account for that construction season’s improvements.

The progress report can be produced in memo or staff report format and added as an Appendix element to the Transition Plan. Public notice should be given as to the City’s intent to adopt the progress report via action of the City Council.

The Transition Plan Progress Report should be divided into three sections, summarized below:

- **Projects**: This includes upgrades made by the city and a summary of new sidewalks and curb ramps constructed by developers or other agencies. Project documentation includes:
  - Summary of the estimated annual budget allocation by the City and magnitude of upgrades (e.g. 60 curb ramps, 2 pedestrian buttons, 30 sidewalk segments);
  - Listing of project upgrades identifying specific locations (either by table or by map) and a short description;
  - Summary of number of obstructions remedied by property owners;
  - Identification of projects that required design exceptions for ADA compliance; and
  - Number of new curb ramps and sidewalk centerline miles (either by table or by map) of facilities added by developers and other agencies (e.g. bus stop upgrades).
• **Policies:** The primary policy changes should occur on the heels of Transition Plan adoption and documented in the first year report. After that, the City should identify any policy changes it made to pertinent ordinances or department processes to improve ADA compliance and overall pedestrian safety. For example, the change of policy to require 6-foot wide sidewalks would be worth noting as a policy change had the city changed its policy to require 6-foot wide sidewalks after adoption of the Transition Plan. If no changes are made, then state this in the progress report.

• **Programs:** Re-stating the City’s grievance process in the progress report or providing links to it is a good practice in case people are accessing it for the first time. Other ADA-related programs may be limited, such as any training of staff that occurred or specific outreach to the disabled community on things such as a specific project design, bus route changes, and the like. A paragraph describing the process will suffice.

Documentation examples are provided in the Transition Plan Appendix. These include:

- City of Las Vegas, Nevada: A detailed, 25-page report from Year 1 of implementation.\(^7\)
- Ada County Highway District, Boise, Idaho: 3-page memo combined with a detailed listing of agency-led sidewalk and ramp upgrades, as well as a listing of new subdivision facilities.\(^8\)
- City of Corona, California: A 16-page memo primarily consisting of a detailed listing of upgrades.\(^9\)
- California State University, Chico, California: A short memo listing improvements.\(^10\)

### Addressing PROWAG Updates

The United States Access Board’s *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way* remain in draft form. Based on feedback from the US Access Board on January 30, 2018, they expect there is still no set timeline for adoption as regulatory processes are under review at all levels of the Federal government due to Executive Orders from the President.

As noted previously in this plan, the evaluation of facilities in Pleasant Hill is based on these draft guidelines, which are deemed valid by the US Department of Justice as the current best practice. It is not anticipated that changes will be made to the technical requirements (e.g. slopes, widths, etc.) when these are finalized. It is recommended that Pleasant Hill denote in its annual progress report the year these are finalized and conduct a cursory review of final guidelines to ensure no major changes were made.

Case law indicates the US Department of Justice will deem a city compliant in its practices if they are consistent with these guidelines. They have also stated that in the future they expect to be able to deem a city in compliance if they have a record of when improvements were made in relation to the prevailing guidelines of that year. For example, if Pleasant Hill builds a curb ramp in 2018 that complies with every technical element of the draft guidelines of 2018 and the city has documentation (via its annual progress report) that it was built in 2018, the US Department of Justice would not process a claim against the City.

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\(^9\) [https://www.coronaca.gov/home/showdocument?id=4905](https://www.coronaca.gov/home/showdocument?id=4905)

on that curb ramp if ADA standards were changed in 2024. It would instead be likely to deem that ramp in compliance since it is documented to have followed the standards in place the year it was constructed.

**Shared Use Pathway Guidelines.** The United States Access Board has stated its intentions to develop separate guidelines for shared use pathways at some point in the future. This stems from comments received during the public right-of-way guidelines updates to address access to shared use paths since they are distinct from sidewalks and trails. The Board proposes to apply these and other relevant requirements to shared use paths with supplementary rulemaking that would be inserted into the rights-of-way guidelines. The City should inquire about the status of this with the Iowa DOT and/or the Access Board on an annual basis. No timeline has been set for development of these standards.

The Federal Highway Administration’s Designing Sidewalks and Trails for Access and AASHTO’s Guidelines for Development of Bicycle Facilities are generally viewed as the main set of guidelines for accessible shared use pathway design features. The City should consult this guidance in the meantime if design challenges arise on shared use pathways and their interface with public streets.

**Recommended Schedule for Updates**

With annual progress reports, the Transition Plan update process should be simple. Three factors could dictate the timing of Pleasant Hill updating its Transition Plan. It is up to the City to determine which set of changes would make an update necessary:

1. **Rapid Growth:** If the pace of growth continues at a rapid pace in Pleasant Hill, it is possible that the city could add substantial centerline miles of streets. An update to this plan may be warranted when growth adds more than 25% to the existing centerline miles of streets in the city. Incremental GIS database updates are recommended to catalog new and improved infrastructure features as they are installed.

2. **Moderate or Low Growth:** If development patterns slow down and few centerline miles are added, then the City could wait 10 years to perform a full update to this plan. This would likely be necessary due to weathering of the system, which would create compliance problems related to cracking/heaving and slopes. GIS cataloging should continue according to when new projects are added.

3. **Changes to US Access Board’s Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way:** If the Access Board changes its guidelines or when it adopts Shared Use Pathway guidelines, the City should update the full plan by evaluating the existing GIS database or facilities that may not be in compliance with new standards. If the City’s progress reports and GIS database are kept up-to-date on an annual basis, then the magnitude of this update would be limited to those facilities identified as being out of compliance with the new guidelines.
GIS Database Recommendations

Database Maintenance Recommendations

This project represents a significant time and resource investment to create base data showing the presence and condition of pedestrian infrastructure in Pleasant Hill. Periodic updates to these data will allow the City to 1) monitor progress toward ADA compliance and 2) accurately catalog new pedestrian facilities. Due to the scale of this data collection effort, data were collected using a mobile mapping application. For subsequent updates to this data set, use of desktop GIS software is sufficient. By completing updates at regular intervals, City staff can update base data using the recommended sources below and should not need to rely on extensive field data collection to catalog new facilities. At least one employee should be responsible for updating the geodatabase.

Recommended Use of GIS Desktop Software to Maintain Geodatabase

City staff should add new pedestrian facilities to the City geodatabase as projects are completed. One possible mechanism for tracking this is to coordinate the digitizing process with the City’s permit or project reporting structure. By integrating database updates into the project construction process, the city may be able to reduce the staff time associated with site visits following project completion. This approach simplifies ongoing data collection processes by mapping pedestrian features as they are built. This approach to project tracking reassures the City that the geodatabase matches the pedestrian infrastructure found in the field. The process below describes a recommended reporting mechanism for a typical project:

- Construction permit is obtained.
- City Planner, or other staff person, obtains permit and construction details.
- City Planner creates new point or line data within the relevant GIS feature class to represent where the new/updated facilities are located.
- City Planner adds data to new point/line data attribute tables to describe the new facility (e.g., running slope, cross slope).

Recommended Fields to Add to GIS Attribute Tables

Adding new fields to existing GIS attribute tables will help the City track updates over time. The following list shows recommended fields to create within attribute tables in advance of adding new/reconstructed infrastructure to the geodatabase; however, the city is encouraged to modify this list as needed to capture relevant project details, enhance project tracking, or aid in use of data for future projects:

- “EditedBy”: Create a new field set to automatically update based on the employee adding/revising an attribute within a feature class.
- “EditedOn”: Create a new field set to automatically update based on the latest revision to the attribute table.
- “PermitNumber”: Create a new field to input a permit number related to the project’s construction.
- “DateConstructed”: Create a new field based on the new or reconstructed infrastructure construction date.