City of Long Beach
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Memorandum

Date: March 11, 2019

To: Mayor and Members of the City Council

From: Patrick H. West, City Manager

Subject: **Public Outreach for ADA Self Evaluation & Transition Plan: Pedestrian Facilities – SUMMARY OF FINDINGS**

Pursuant to the memorandum dated February 26, 2019, regarding the public hearings scheduled for this week, attached is the ADA Self-Evaluation Summary of Findings. We will present this information at both hearings.

If you have any questions, please contact Heather Blackmun, Accessibility Coordinator, at (562) 570-6257 or heather.blackmun@longbeach.gov.

ATTACHMENT

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CITY OF LONG BEACH

ADA SELF-EVALUATION SUMMARY OF FINDINGS *for Public Outreach*

March 2019

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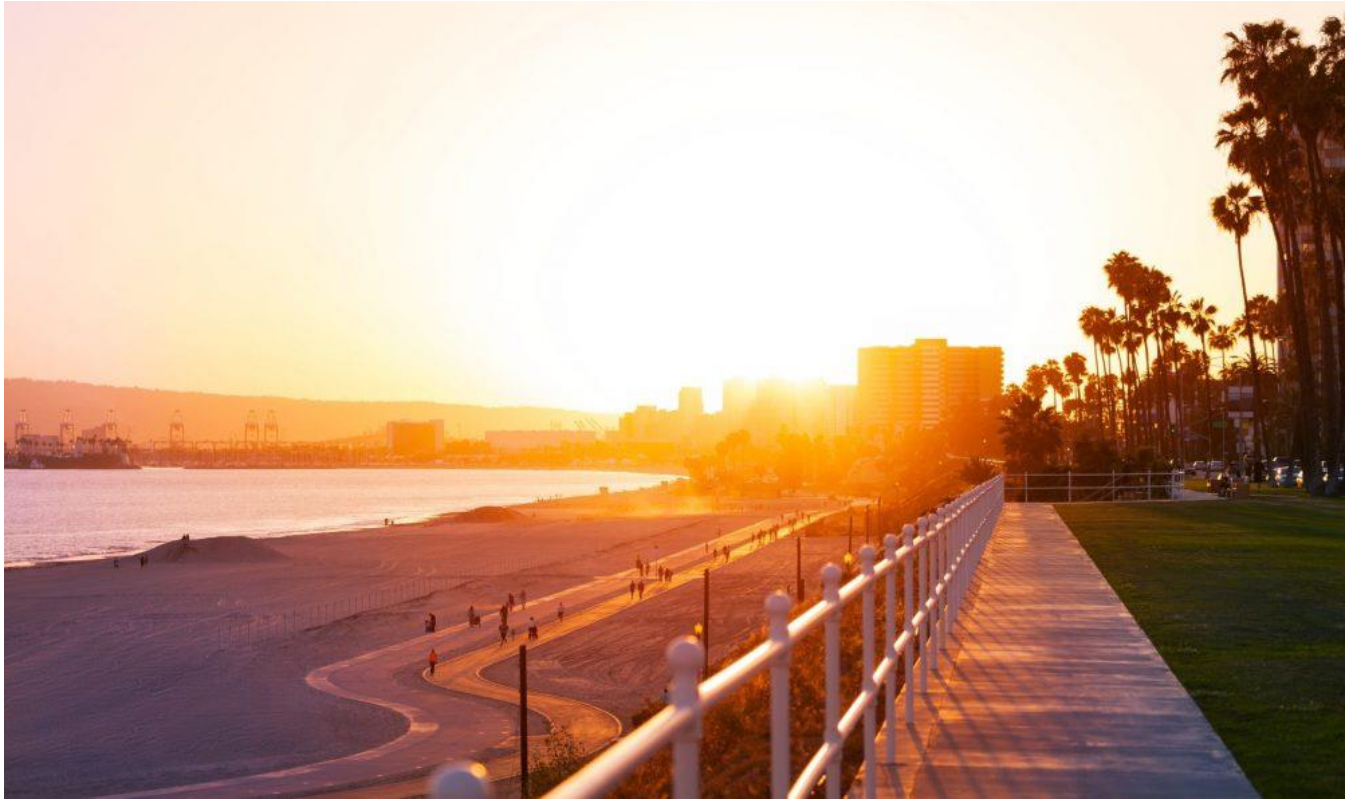


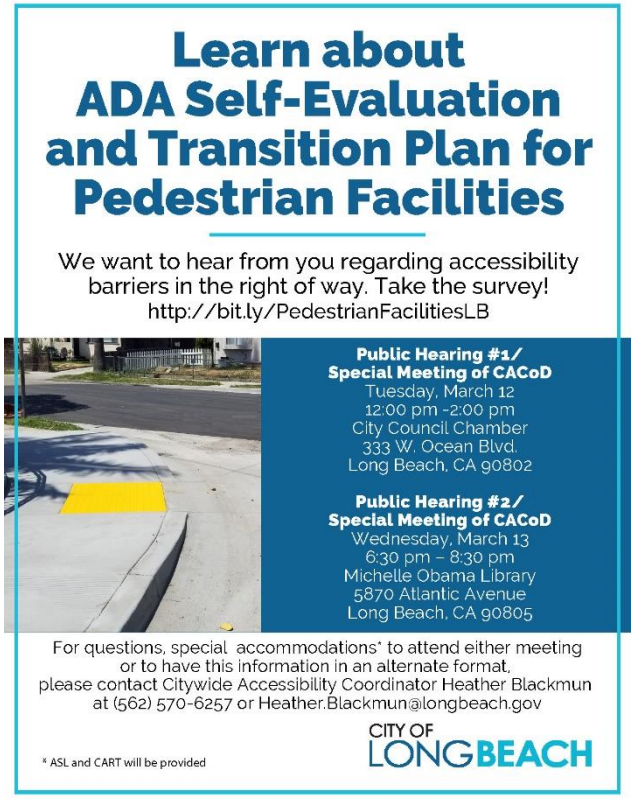
1. Introduction

The City of Long Beach is a thriving community located in the Los Angeles metropolitan area. It has a population of over 462,257 people and the City takes pride in providing access to its many community members not only through vehicular access, but also through its connected sidewalk network, pedestrian and bike trails, on-street parking facilities, and an extensive transit system. The City ensures equal opportunity for residents and visitors to the City of Long Beach. As a result, the City has conducted an evaluation of its sidewalks, curb ramps and other pedestrian paths of travel to determine the extent to which individuals with disabilities may be restricted to access to City facilities. This information, with public input, will allow the City to update its ADA Transition Plan and further the City's ongoing commitment to all residents, employers, businesses and visitors to creating an inclusive and accessible place to live, work and play.

2. Report Overview / Public Outreach & Next Steps

This report provides an overview of the ADA Self-Evaluation process and a high-level review of findings. The Table of Contents provides an outline of the content included in the ADA Self-Evaluation process and this Summary of Findings Report. The self-evaluation process creates the opportunity for public entities to identify barriers to accessibility and develop action plans to remove existing barriers and mitigate future barriers. This process will assist the City of Long Beach staff in identifying physical barriers to accessibility and in developing barrier removal solutions that will facilitate the opportunity of improved access to all individuals within the City of Long Beach.

The next step in the process will allow the City to gain valuable feedback from the public. The City will be making the findings of the ADA Self-Evaluation available for public comment through this report and also through Public Hearings on March 12th-13th of 2019. A public survey is available for citizen response. Public comment via the survey will be accepted through March 22, 2019 in an effort to gain valuable feedback from interested citizens as the City prepares to prioritize needs for barrier removal and update the City's ADA Transition Plan. Once the public comment period has closed, the City will be ready to prioritize the data collected and develop an implementation plan for improvements.



The ADA issues found during the self-evaluation will be assigned a prioritization for remediation. Curb ramp and sidewalk prioritization will take into account the severity of barriers through the City, combined with the level of pedestrian activity, especially among those with disabilities. The public input obtained will be utilized in the development of remediation priorities. This information will be used to develop an implementation strategy that will be communicated through the ADA Transition Plan.

This report describes the overall scope of the project, the methodology used to assess facilities and public right- of-way and an overview of the findings. All the information collected, after public input, will be utilized to develop final prioritization, schedules for implementation for areas of the City requiring improvement, and costs involved in such improvements. These action items will be reported through the ADA Transition Plan. Once complete, the Self-Evaluation and Transition Plan will be combined into a formal report, which will be adopted by the City.

Future phases may be deemed appropriate to complete or update any necessary evaluation of remaining city – owned assets or infrastructure within the City of Long Beach.

3. Project Scope Summary

In 2017 & 2018, Psomas, along with Cole Design Group, performed a thorough ADA self-evaluation of the sidewalks, curb ramps and other pedestrian paths of travel within a defined public right-of-way boundary. An ADA Self-Evaluation involves collecting data and analyzing it for ADA compliance per various federal and state standards. This scope includes:

Data Collected:

- Sidewalks
- Curb Ramps

  See Exhibit A on the next page for the boundary map of sites collected.

Information Collected on Sidewalk:

- Cross slopes
- Run slopes
- Driveway cross slopes
- Gaps in sidewalk connectivity
- Heaves in concrete
- Obstructions (utility poles, light poles, vegetation, movable obstructions, etc.)

Information Collected on Curb Ramps:

- Types of curb ramps
- Curb ramp elements
  - Cross slope
  - Gutter slope
  - Gutter lip
  - Detectable Warning
  - Run slope
  - Landings
  - Obstructions
  - Flares

The inventory included a total of 1,214.7 miles of sidewalk and 12,091 curb ramp locations. An overview of the analysis of the data collected for sidewalks and curb ramps is found later in this report.

Data collected from this assessment enables City staff to:

1. Determine if sidewalks and curb ramps comply with the federal and state standards for ADA compliance
2. Identify portions of sidewalks or curb ramps requiring modifications
3. Quantify the extent of the work required
4. Assign planning level budget factors
5. Include the data in the City's Geographic Information Systems (GIS) database

The City of Long Beach's approach to this project, described in 'Methodology' will assist the City in determining the barrier rankings of non-standard pedestrian facilities documented in the self-evaluation inventory report to identify corrective measures. The City is seeking public input prior to ranking the various sidewalk segments and curb ramp locations in order to determine the highest priorities for barrier removal and remediation. Recognizing that the City of Long Beach cannot and is not required to immediately make all sidewalks and curb ramps fully accessible, and the City will need to replace or install many pedestrian facilities over time, public input is a vital to the decision-making process. Once prioritization is completed, the City will generate an implementation schedule to align with the highest priorities first. An updated ADA Transition Plan will be developed and approved by the City. This Plan will communicate an action plan for making access modifications, over time.

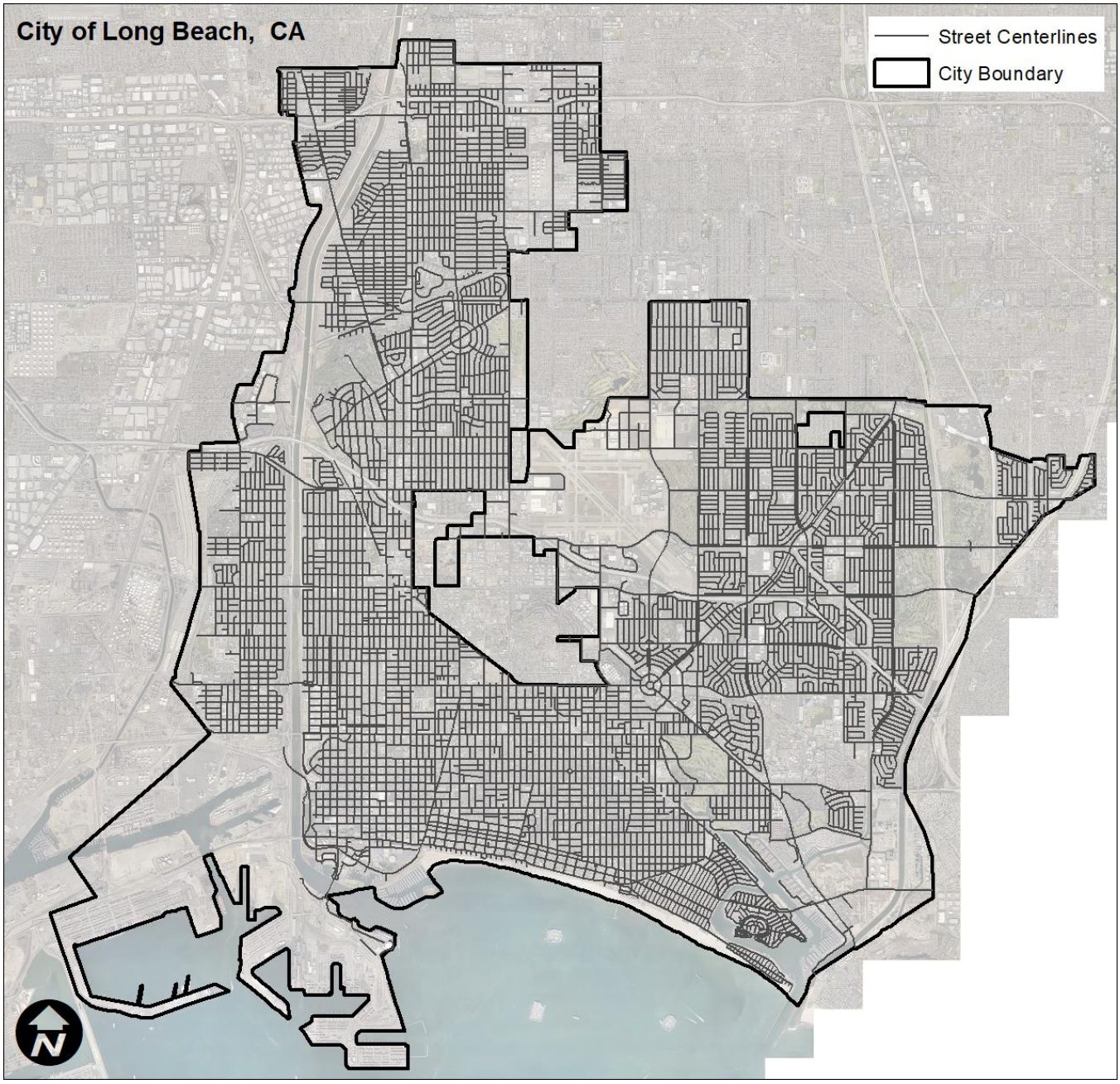


Exhibit A - Boundary Map

4. Methodology of the Assessment

4.1 Accessibility Standards and Guidelines

The method of conducting the self-evaluation for the City of Long Beach is dictated by the accessibility laws which are all the state and federal laws and regulations requiring or promoting equal or improved access for people with disabilities. These laws include:

- The Americans with Disabilities Act of 1990
- The Rehabilitation Act of 1973, specifically Section 504
- California Government Code
- California Health & Safety Code
- California Building Standards Code

The sidewalks and curb ramps were analyzed to determine compliance with the following standards and guidelines of the accessibility laws:

- 2010 ADA Standards for Accessible Design
- Public Right-of-Way Accessibility Guidelines, 2011 (PROWAG)
- Title 24 of the California Code of Regulations

The United States Access Board provides standards and guidance documents for the design and alteration of accessible pedestrian facilities. These guidelines, are known as 2010 ADA Standards and the proposed Public Rights-of-Way Access Guidelines (PROWAG). PROWAG guidelines have not yet been adopted as an enforceable Standard, but are recognized by the Federal Highway Administration (FHWA) as guidance and best practice for pedestrian facilities within the public right-of-way. The FHWA and the US Department of Justice have also issued a joint memorandum that provides guidance on the effect of street alterations on the installation of curb ramps, and requires curb ramps upgrades when a street undergoes defined resurfacing activities. A combination of the standards and guidelines noted above are used for compliance evaluation to ensure compliance with adopted & enforceable Standards and recognized best practices. These documents also provide guidance to define the methods used to make facilities accessible.

4.2 Approach to Sidewalk and Curb Ramp Inventory Collection

The traditional accessibility inventory process in the public right-of-way can be labor intensive while still offering inexact information. Many public entities rely on collection methods that provide limited information or assess barriers intermittently. This does not offer precise data or allow for accurate cost estimates for barrier removal. City of Long Beach indicated an interest in utilizing a technology that would quickly and accurately document the type, severity, and location of sidewalk and curb ramp barriers within the scope boundary. The City contracted with Psomas and Cole Design Group to utilize an exclusive technology called the ULIP-ADA to allow for an efficient and effective process to complete the City's assessment for pedestrian infrastructure within the public right-of-way.

The technology was originally developed through a pilot program funded by the Federal Highway Administration. The Ultra-Light Inertial Profiler (ULIP) is mounted on a Segway. The device's displacement laser, three accelerometers, optical trigger, distance measurement instrument, and gyroscope are designed to measure the sidewalk surface at a rate of 10,000 records per second. Together, these devices capture highly accurate information about cross and running slope and small surface variations. A mounted computer offers an interactive display during data collection. The technical precision offered by this technology was identified as a best practice in *ADA Compliance at Transportation Agencies: A Review of Practices* (NCHRP 20-07 Task 249), a National Cooperative Highway Research Program study.

Field Data Specialists also collected the required information for the curb ramps throughout the defined project area. Field Specialists entered data directly into the data collectors, based on inspection and measurements of the existing features ensuring that all relevant characteristics were recorded, photos and video were properly linked, and accurate location data was logged into the database, described in the next section.

Throughout the collection process, data collection, data validation, and linking to location and digital photo files happens automatically as the Field Data Specialists enter data and move from point to point. The Field Data Specialists then access the data entry, validation forms and aerial orthophoto images along with right-of-way, utility, topographic, or other feature data sets that were preloaded and appeared on the data collectors for easy reference in the field. Digital photos were automatically logged for location and linked to the database, based on synchronized time and date stamps.

4.3 Geographic Information System (GIS) Database Analysis

The Consultant team created and utilized a geodatabase using the ESRI ArcGIS system. The customized fields for Geodatabase include location, directions, size, features and obstruction size. Data structure was pre-programmed for data collection, as described above. Data was then logged into a project database and analyzed for compliance.

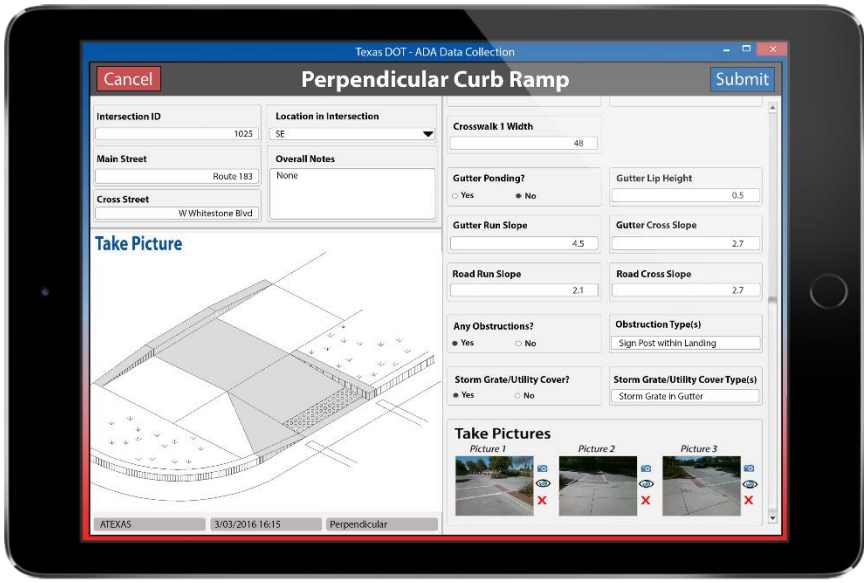
City of Long Beach's sidewalk and curb ramps data provides staff geographic data with:

- Positional accuracy, the digital representation of a barrier conforms to the actual location found in the field;
- Attribute accuracy, the digital representation of a barrier is represented in a manner that best represents actual conditions found in the field (% running slope, % cross-slope, inches of vertical separation, etc.).

Guidance for public right-of-way facilities in defining the method with which to assess the data was found in Designing Sidewalks and Trails for Access (FHWA, 1999). This report advises that grade and cross-slope "should be measured over 2 ft. intervals, the approximate length of a wheelchair wheelbase, or a single walking pace."

Adherence to FHWA's interpretation of features in the data set provided quality assurance in the attribute accuracy of the resulting database.

Once the field data collection and validity checks were performed, the raw data was processed so it could be stored in the City's centralized GIS database for analysis and reporting. GIS played a pivotal role in the project from data acquisition (organizing the millions of data points generated during the study) to creating an ArcPad user interface for asset management and compliance monitoring. Additional available data point attributes can be used for compliance tracking. Compliance reporting capabilities are available to deploy and to track progress.



5. Self-Evaluation - Summary of Findings

5.1 Introduction

The Summary of Findings provides a high-level overview of the City's sidewalks and curb ramps analysis. Please see Section 3 for information regarding the scope included; please see Section 4 for details on the methodology used to complete the assessments for ADA compliance. All of the data collected has detailed compliance reports. Due to the magnitude of the reports and data, the Summary of Findings provides an overview of the results evaluated. More detailed reports are available upon request.

The City of Long Beach sidewalk and curb ramp assessment generated a significant amount of information regarding the accessibility within the defined boundaries. A total of 1,214.7 miles of sidewalk and 12,091 curb ramps-were evaluated.

The following tables represent a summary of observations regarding the information gathered.

5.2 Sidewalk Inventory Data

The sidewalk corridors were evaluated for:

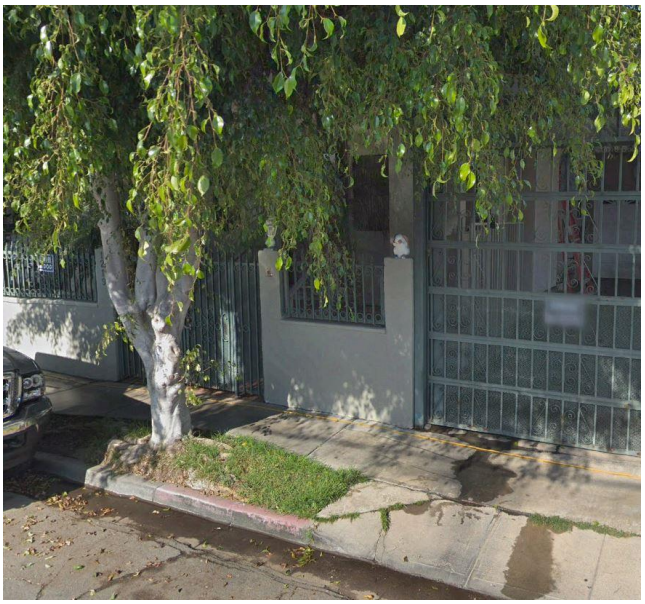
- run slope
- cross slopes
- obstructions
- joint heaving
- driveway crossings
- driveway cross slope
- gaps in connectivity
- missing sidewalk

Observations showed that although many sidewalks are in compliance with the accessibility standards and guidelines, there are some common issues that are outlined throughout the report. For each of these elements assessed, findings are summarized in tables on the following pages.

a. Sidewalk Obstructions

Obstruction Type	Count
Uneven Heaving	3,724
Vegetation Overhead	3,014
Vegetation Side	2,816
Light Pole	1,370
Tree	847
Sign	543
Power Pole	500
Transit	180
Miscellaneous	164
Fire Hydrant	119
Traffic Signal	105
Electrical Box	92
Other	36
Mailbox	22
Parking Meter	20
Water Meter/Vault	20
Misc. Utility	8
RR Crossing	4
Commercial	1
Total	**13,585**

Sidewalk Obstruction



Sidewalk Obstruction - Vegetation Overhead

Common Issues:

- Uneven heaving in the sidewalk concrete comprises the majority of obstruction counts.
- Vegetation growing overhead or on the sidewalk represent the next two highest factors in barriers to the sidewalk.
- These top three factors are more easily addressed than some of the other obstructions identified.
- Light Poles and Power Poles represent 1870 locations combined, and these types of obstructions are costly to relocate and/or require challenging design solutions. In some cases, obstruction removal may be the responsibility of other agencies (such as CalTrans, a utility company, etc.) and these must be coordinated in order to remediate effectively.

b. Sidewalk Changes in Levels (Heaves)

% Slope	Count
¼ – ½”	53,855
½” – ¾”	13,539
¾” – 1”	5,574
1”+	4,716
Total	**77,684**

Change in Level at Sidewalk Joint

Common Issues:

- Changes in level, or heaves, are common issues found in sidewalks for every community.
- Heaves are caused by many factors, to include tree root growth, and changing soil conditions over time.
- Uneven heaving in the sidewalk concrete is the majority of obstruction counts, as previously reported.
- Heaves of a certain dimension can often be addressed by cutting or grinding sidewalks.
- Only 6% of heaves are 1” or higher.
- Over 69% of the heaves measured fall between ¼” and ½”, which often represent an opportunity for remediation without replacing an entire sidewalk segment. While not compliant, these are also found to be less severe.

c. Sidewalk Heaving Clusters

Count	Square Feet
5,185	149,149

Common Issues:

- Heaving Clusters are multiple measurements of vertical displacement in close proximity, consistent with broken/cracked panels, spalling or other surface roughness.
- Heaving clusters are distinguished from panel joint heaves, where remediation can be grinding.
- Remediation of this type of accessibility issue is typically sidewalk replacement.

d. Sidewalk Cross Slope

% Slope	Miles	Status
0-2.00	602.9	Compliant
2.01-3.00	357.1	ADA Concerns
3.01-4.00	153.5	ADA Concerns
4.01-5.00	50.7	ADA Concerns
5.01-6.00	18.9	ADA Concerns
6.01-7.00	9.6	ADA Concerns
7.01-8.00	6.3	ADA Concerns
8.01-9.00	4.5	ADA Concerns
9.01-10.00	3.5	ADA Concerns
10.01-12.00	4.7	ADA Concerns
12.01-25.00	3	ADA Concerns
Total	1214.7	

Sidewalk Cross Slope, as depicted by arrows

Common Issues for Slope:

- 58% of the cross slope issues fall into the 2-3% cross slope violation range and many of these fall to just above the 2% maximum allowable standard. This is considered a less severe violation, unless additional compliance issues are present.
- 25% of cross slope violations fall in the 3-4% range, and 16.5% of the remaining violations are above 4% cross slope, where the slope may become very visible.
- Driveways are a common issue seen in the sidewalk cross slope violations.
- Run slope violations were less common, at 26.2 miles of compliance concerns, compared to cross slope.
- 8.8 miles, or 33% of the violations fell above 8.33% run slope grade, which are considered more severe than the 17 miles at 5-8.3% grade.

e. Sidewalk Run Slope

% Slope	Miles	Status
0-5.00	1,188.5	Compliant
5.01-8.33	17.4	ADA Concerns
8.34-10.00	2.5	ADA Concerns
10.01-12.00	3.6	ADA Concerns
12.01-25.00	2.7	ADA Concerns
Total	1214.7	

Sidewalk Run Slope, as depicted by the arrow

f. Sidewalk Gaps

Inches	Total
½" – ¾"	29
¾" – 1"	41
1"+	42
Total	**112**

Sidewalk Gap

g. Sidewalk Connectivity

Sidewalk	Miles
Connectivity Gaps	27.21

h. Driveways

Driveway Type	Surveyed	ADA Issues
Commercial	11,245	9,821
Residential	54,004	36,429
Total	**65,249**	**46,250**

Common Issues:

- Sidewalk gaps create mobility challenges in similar ways to sidewalk heaves, but gaps are horizontal instead of vertical. Wheelchairs, canes, or other devices may be hindered by these gaps. While gaps represented only 112 instances across all mileage collected, 74% were ¾" or greater.
- Driveway Crossings: Cross slopes of driveway crossings often exceeded the 2% maximum allowable per the standards for cross slope.
- Driveways are a common reason for cross slope violations, unless the sidewalk is built through the driveway to keep a continuous slope, while a ramp extends from the sidewalk continuing to the street.

Sidewalk built through a driveway

5.3 Curb Ramp Evaluation

The consultant teams evaluated 12,091 curb ramp locations. Numerous types of curb ramps were identified, as shown. At the bottom of this section, the report identifies the types of curb ramps collected, the total number of surveyed, the number reported as compliant and the number reported as having ADA issues.

The curb ramps were evaluated for many different elements of compliance. The following highlights the major elements evaluated:

- run slope
- cross slope
- length
- width
- obstructions
- surface conditions
- landing measurements
- gutter slope/gutter lip
- detectable warning surface (DWS)
- flare slope

Observations showed that although many curb ramps are in compliance with the accessibility standards and guidelines, and there are some common issues that are outlined throughout the report. The findings are summarized in tables on the following pages.

a. Curb Ramp Run Slope

% Slope	Count	Status
0.00 - 5.00	1,298	Compliant
5.01-8.33	7,013	Compliant*
8.34-10.00	2,703	ADA Concerns
10.01-12.00	806	ADA Concerns
12.01-25.00	271	ADA Concerns
Total	12,091	

Curb Ramp Run Slope

Common Issues:

- 68% of Run Slope in Curb Ramps were compliant
- Of the 7,013 compliant ramps, *408 of these were Blended Transition ramps with run slopes not compliant, measuring over the 5% allowable slope for this type of ramp.
- 31% of all curb ramps failed compliance on run slope alone.

b. Curb Ramp Cross Slope

% Slope	Count	Status
0.00 - 2.00	9,557	Compliant
2.01 - 3.00	1,418	ADA Concerns
3.01 - 4.00	572	ADA Concerns
4.01 - 5.00	313	ADA Concerns
5.01+	231	ADA Concerns
Total	**12,091**	

Curb Ramp Cross Slope

Common Issues:

- 79% of Curb Ramps were compliant in Cross Slope.
- 2,523 ramps failed on cross slope related issues.
- 56% of those that failed on cross slope fell into a 2-3% cross slope range, generally considered less severe than higher ranges.
- These are clear indications that more than one issue within the curb ramp systems created overall compliance concerns.

c. Detectable Warning Surfaces (DWS)

Type	Count
Compliant	4,524
Non-Compliant	238
Missing	2,467
Failed Initial Test, not collected	4,862*
Total	**12,091**

Curb Ramp Detectable Warning Surface

Common Issues:

- Detectable Warning Surfaces were most often not the full width of the ramp
- 20% of the DWS were missing altogether
- For ramps where the only compliance issue is a missing DWS, an installation of compliant DWS can help a ramp system achieve ADA compliance.
- * Of the 4,862 ramps not assessed, these ramp systems failed at an early Initial Pass/Fail scenario and therefore will require full replacement.

d. Missing Curb Ramp

Missing Ramp	Non-Compliant	Percentage
Not T-Intersection	2,852	32.8%
In T-intersection	5,832	67.2%
Total	**8,684**	**100.0%**

Missing Curb Ramp

Common Issues:

- Missing Curb Ramps, are ramps that are not present where required.
- A very high percentage, 67%, of missing ramps are represented in areas identified as "T-Intersections". In these locations, some missing ramps may be remediated with signage and physical barriers eliminating an unmarked pedestrian crossing. Other design solutions may be found to address these areas and the City will be evaluating these locations.

Missing Curb Ramp – T-Intersection

e. Curb Ramp Type and Compliance

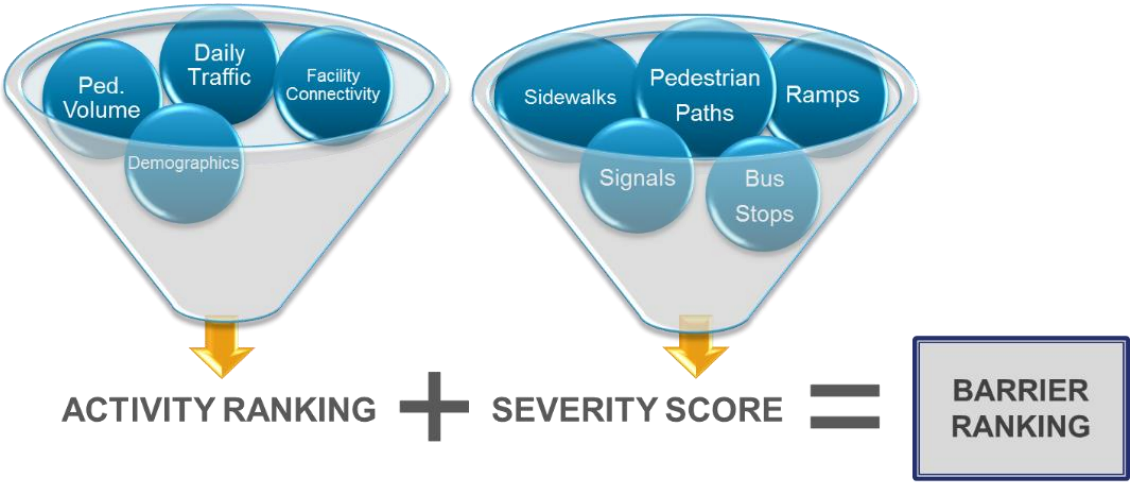
Curb Ramp Type	Count	ADA Issues	Compliant
Perpendicular	795	763	32
Parallel	198	195	3
Combination 1	74	70	4
Combination 2	47	47	0
Blended Transition 1	382	342	40
Blended Transition 2	76	66	10
Directional 1	603	599	4
Directional 2	113	109	4
Median Perpendicular	40	33	7
Island Perpendicular	23	22	1
Island Parallel	7	7	0
Diagonal (Any type)	9,733	8,875	858
Totals	**12,091**	**11,128**	**963**

Curb Ramp Type – Parallel Ramp

The individual components of the ramps showed varying degrees of compliance and, in some cases, many factors of low severity compliance issues. 92% of all the curb ramp systems showed some type of ADA Issue that would cause the ramp system to lack full compliance. A curb ramp cannot be evaluated by individual components alone to determine its level of compliance. A cross slope or run slope may be compliant, but a gutter lip may be present or a detectable warning surface missing. Some remediation approaches to bring a ramp system into full compliance may be simple, such as an installation of a detectable warning surface, while others require full ramp system replacement. This issue demonstrates itself to the importance of the prioritization process, to ensure that severe compliance issues and/or those in highest use are fixed first.

5.4 Prioritizing the Findings

As depicted in this report, some compliance issues are more severe than others. The sidewalks and curb ramps are reviewed in their entirety in determining the level of compliance and the degree of severity for all the various elements of compliance collected and analyzed. It is important to consider not only the level of non-compliance and severity of issues with the pedestrian facilities, but also the level of use by persons with disabilities. The City plans to utilize a sophisticated quantitative ranking system to review the severity of each of these locations, combined with the level of activity or use. All of these factors will be considered, along with specific public input from people with disabilities within the City of Long Beach, to understand priorities when prioritizing remediation.



Public input from the disability community, prior to the prioritization of the data collected, is a priority for the City of Long Beach.