

ADA Self Evaluation and Pedestrian Accessibility Study

San Juan, Puerto Rico

Stantec Consulting Services Inc.



Prepared for:
Municipality of San Juan

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1 Introduction

The City of San Juan is the capital city of Puerto Rico. San Juan has pedestrian infrastructure consisting of approximately 1,047 miles of sidewalk containing 9,012 curb ramps which allow the population of over 338,000 people to connect and traverse throughout San Juan's historic, commercial, and residential neighborhoods.

1.1 Background

In May of 2024, the Municipality of San Juan retained Stantec to conduct an inventory and assessment of both sidewalks and pedestrian curb ramps to understand accessibility in San Juan. From the first meeting with the Municipality of San Juan (MSJ), ADA Task force, it was clear that the MSJ is committed to improving accessibility City-wide.

This inventory and assessment by Stantec were undertaken to support the development of a comprehensive pedestrian sidewalk and ramp database describing locations and conditions of current pedestrian accessibility infrastructure across San Juan. The work will inform City-wide repair policies, expenditure priorities and development of an ADA Transition Plan for implementation by the MSJ.

Stantec conducted a city-wide boots-on-the-ground, walking inventory and assessment. This inventory and assessment were conducted utilizing web-based data collection software having geographic information systems (GIS). The assessment included detailed sidewalk and ramp measurements that were used to determine ADA conformity and provide network-level information for planning and prioritization of sidewalk and ramp assets for future construction programming, survey, and engineering. This inventory is recommended to be used in tandem with the City's other asset planning on roadways and stormwater and result in improved multi-modal accessibility and connectivity throughout the Municipality.

This report is designed to be a network level planning tool intended to provide insight into existing accessibility conditions and to be the foundation to develop a successful ADA implementation plan by combining professional engineering expertise, local knowledge and technology. Our approach to assessment of the sidewalks and ramps follows in Section 1 below.



Cobblestone street with cement concrete sidewalk in Old San Juan.



1.2 Sidewalk and Ramp Inventory Approach

Using iPhones with the ArcGIS Online Field Maps App, the Stantec inspection team conducted a City-wide pedestrian sidewalk and ramp inventory and assessment that was downloaded and combined with GIS integration to build a comprehensive database. Stantec in collaboration with MSJ during the field assessment included providing MSJ with access to a live dashboard that tracked the team progress of the data collection phase.

1.2.1 Sidewalk Inventory

Beginning in June 2024, our team of inspectors inventoried and collected eight (8) primary types of sidewalk field data:

1. Sidewalk Surface Material
2. Sidewalk Width
3. Estimate of Damaged Area (%)
4. Sidewalk Cross Slope
5. Sidewalk Running Slope
6. Esplanade Surface Material
7. Esplanade Width
8. Parking Obstruction

In addition to these 8 primary types of data, the team also gathered and located data on a variety of types of trip hazards, pinch points encountered, notes/comments of unusual observations along sidewalks, the initials of the inspector, photographs, and a timestamp with the date of the field inspection. Note that pinch points can be generally summarized as locations at which the sidewalk width is less than three (3) feet due to obstructions such as street furniture, trees, utility poles, etc.



Trip hazard due to tree root damage

See Appendix A for full listings and detailed descriptions of sidewalk and hazard/obstruction data gathered.

1.2.2 Ramp Inventory

Beginning in June 2024, our team of inspectors inventoried and collected up to twenty-two (22) primary types of data attributes associated with overall curb ramp compliance. These data attributes were collected on a series of passes beginning with basic ramp attribute data such as landing existence, apron measurements, and flare slope measurements. Subsequent data attributes for roadway gutter slopes were measured and collected based on compliance of the previous basic data. Inspectors then proceeded with measuring and collecting all the remaining attributes based on compliance of the previous roadway attributes. This approach helped with maximizing efficiency of the inspector's time during the field work.

1. Type of Ramp
2. Position of Ramp
3. Ramp Surface Material
4. Ramp Surface Condition
5. Level Landing Existence
6. Threshold Opening Width
7. Landing Running and Cross Slope
8. Apron Running and Cross Slope
9. Right and Left Flare Slope
10. Obstructed Flare Path
11. Gutter Slope and Counter Gutter Slope
12. Detectable Warning Panel (DWP) Material
13. Condition of the DWP
14. DWP \leq 2" from end of panel to end of ramp opening
15. Lip Present?
16. Crosswalk Existence and Alignment
17. Condition of the Crosswalk
18. Surface Condition of the 4' Paved Safe Zone
19. APS Existence
20. Obstruction of Path Within Ramp
21. Suggested Ramp Alteration
22. Program

The inspection phases and data attributes are further explained in greater detail within Appendix A.



2 Existing Conditions

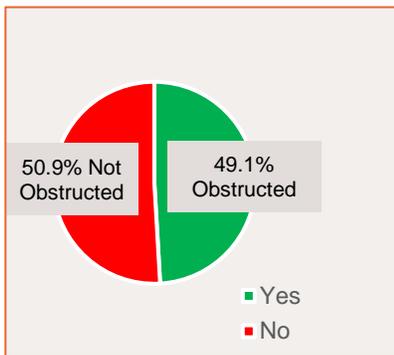
2.1 Sidewalk Conditions

A total of 1,047 sidewalk miles (15,179 block-to-block sidewalk segments) were inventoried and assessed throughout San Juan.

Parking Obstructions - While collecting the basic sidewalk attributes and measurements, Stantec also determined whether the sidewalk

segment had a parking obstruction. A parking obstruction was noted when vehicle(s) was observed as parked on the sidewalk and obstructing the flow of pedestrian path of travel. Parking obstructions are considered a barrier to accessibility for both the disabled and the abled population. Figure 1 to the left shows nearly 50% of City-wide sidewalks had a parking obstruction at the time of inspection.

Figure 1: Percentage of sidewalk with Parking Obstructions



Parked vehicle obstruction on sidewalk along Calle Cali

Condition/Distress Level - The estimate of damaged area by percent damaged for each block-to-block segment was used to categorize sidewalk conditions into a repair category scheme, based on a 0 to 100% sidewalk damaged or distressed area.

Based on the percentage of damaged areas, three (3) repair treatment bands were established and categorized:

1. 0-20% = Low Distress - Do Nothing/Continue to Monitor
2. 21-50% = Moderate Distress - Localized Sidewalk Repairs
3. 51-100% = High Distress – Full Sidewalk Reconstruction

The photos below show the visual difference between the three categories:



Low distress sidewalk



Moderate distress sidewalk



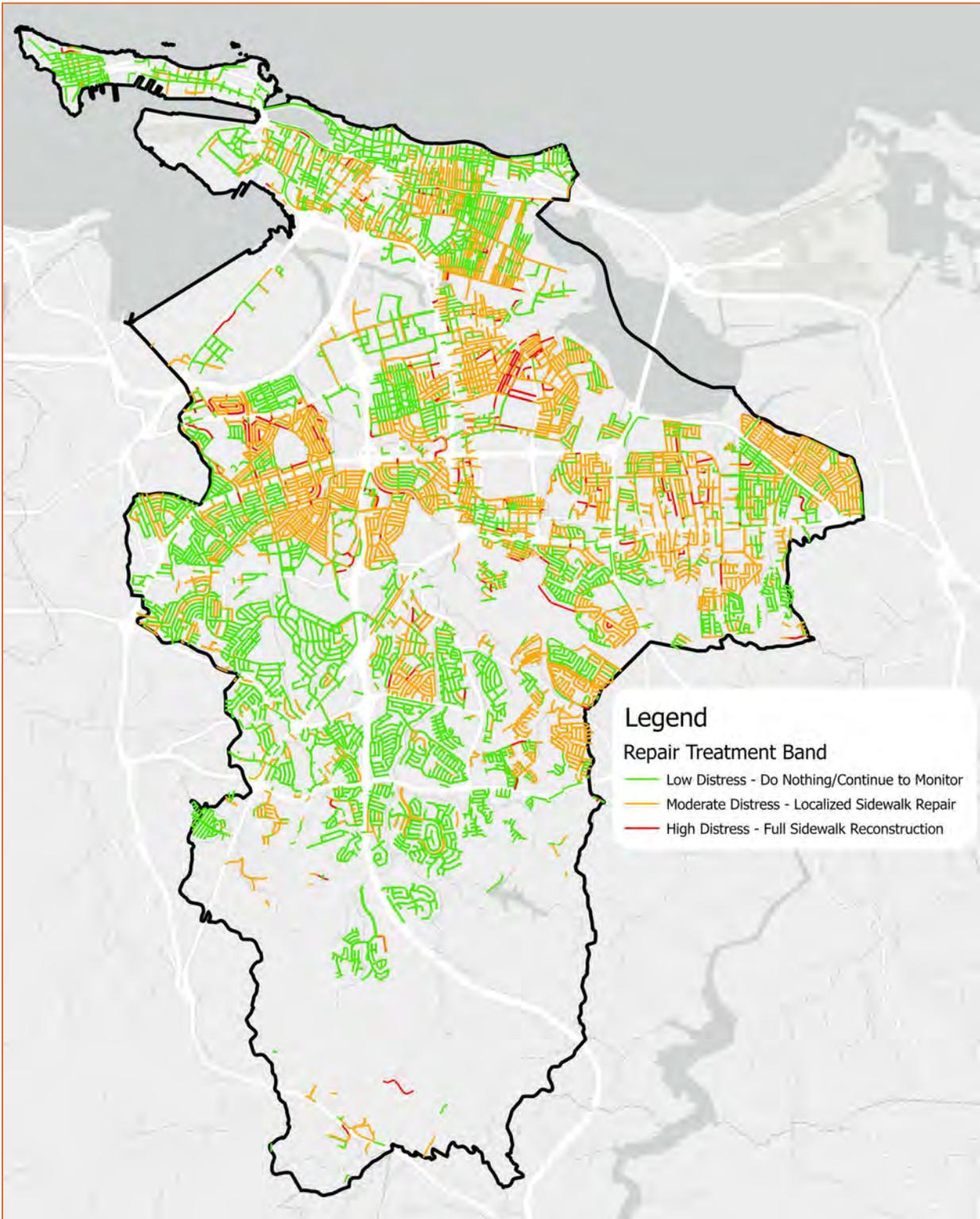
High distress sidewalk



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Bird's eye view showing municipal-wide distribution of sidewalks categorized by the three (3) repair treatment bands.

Map 1: Sidewalk Conditions



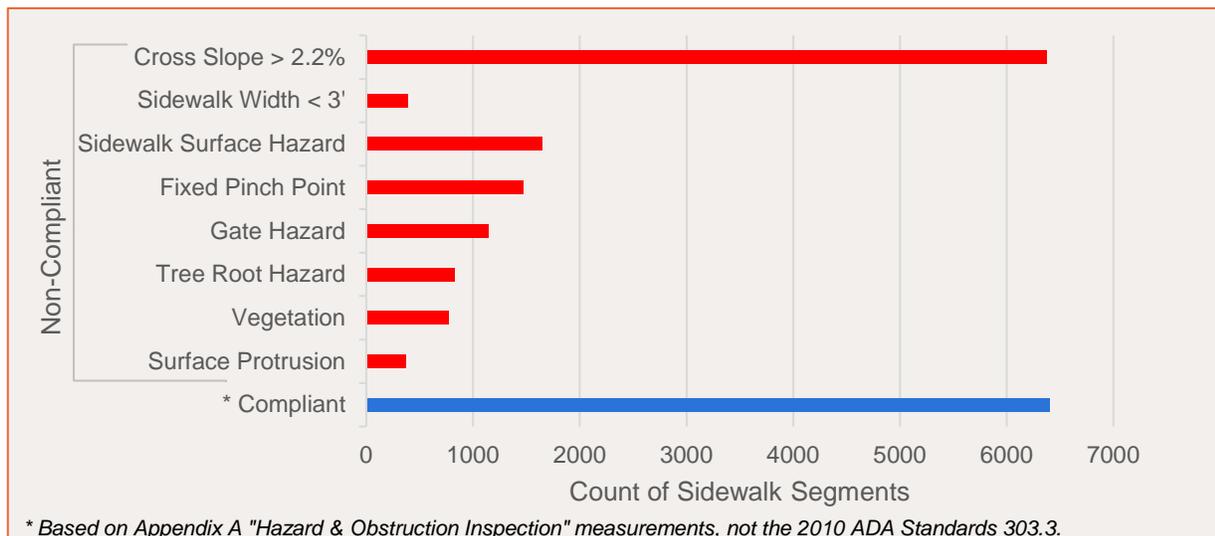
2.2 Sidewalk Accessibility

To determine if a sidewalk meets ADA standards, the cross-slope, the sidewalk width, and the presence of hazard and obstructions value were examined. To be determined as an ADA compliant sidewalk, the sidewalk segment cross-slope measurement is required to be less than 2.2% (2.08% plus 0.1% smart level tolerance - rounded to 2.2%), a three (3) feet minimum sidewalk width (not counting curb width), and free of hazard(s) and obstruction(s). Note, level tolerance accuracy could vary from brand of level being used.

Figure 2 displays minimum ADA sidewalk standard measurements from the MSJ field observations where the blue bar represents compliant sidewalk segments, and red bars represent non-compliant sidewalk segments. It can be seen from Figure 2 that the primary reason for non-compliance in San Juan is the sidewalk cross-slope since most sidewalk widths surpass the 3-foot threshold and many sidewalks are free of hazards and obstructions. It can also be seen that of measured severe hazards and obstructions, sidewalk surface hazards impact the most sidewalk segments, followed by fixed pinch points and gate hazards.

If the sidewalk is considered compliant, it is assumed for the purposes of this assessment that the sidewalk is free of major trip hazards, obstructions and accessible. However, being “compliant” does not mean that the sidewalk is ADA compliant and further verification is required to confirm complete compliance. An example of this would be a sidewalk segment that may include non-standard driveways and/or small sidewalk deviations not measured.

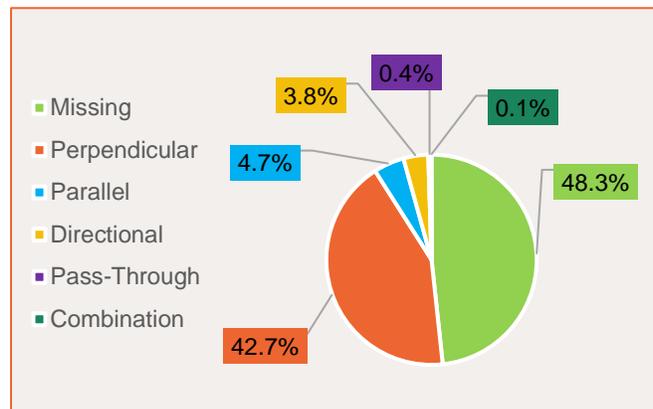
Figure 2: Sidewalk Accessibility Attributes



2.3 Ramp Conditions

17,430 pedestrian ramps were inventoried throughout the MSJ. These included ramps that were deemed as “missing” at locations where opposing sidewalks had no curb ramp access, missing reciprocal curb ramps, and where existing crosswalk markings are leading to vertical curb face(s) with no curb cut to access the sidewalk and where no access on/off to adjacent sidewalk is provided. A categorization of the inventoried pedestrian ramps, as seen in Figure 3, shows the distribution of ramps by type of ramp. The “perpendicular” ramp type or style is the most common curb ramp found in the MSJ.

Figure 3: Distribution of Ramps by Type of Ramp



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Missing ramps are considered barriers to both the disabled and the abled population. While the MSJ has a robust walking sidewalk network of nearly 1,100 miles, almost half of the present sidewalk network is inaccessible and does not provide access and connections to adjacent and opposite sidewalks.

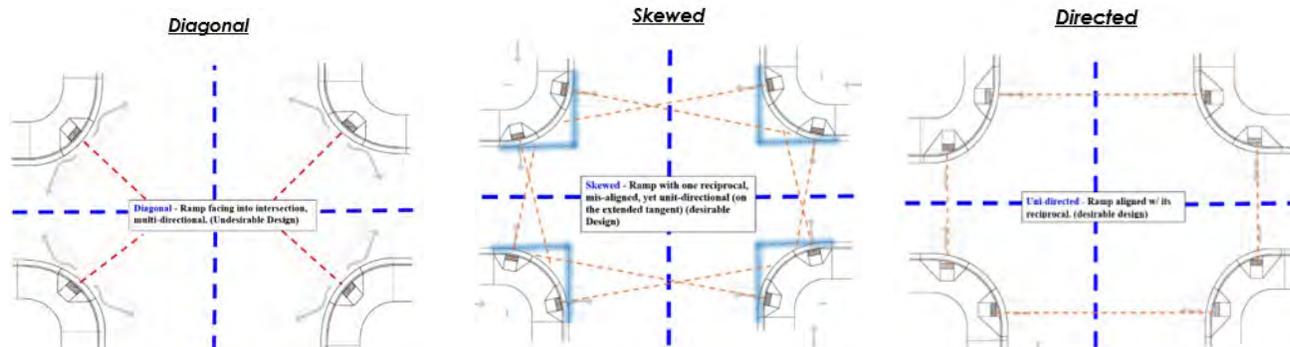
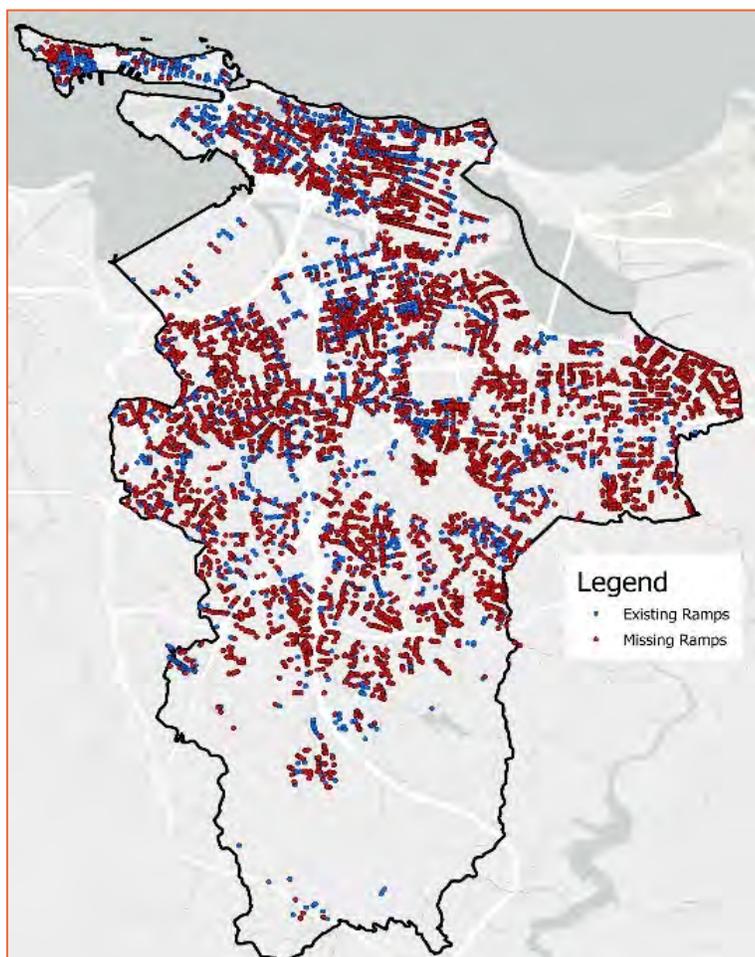
Installing ADA-compliant ramps serves people who use wheelchairs, walkers, or other mobility aids. They also assist parents with strollers, workers transporting goods, and more, making them an integral part of an inclusive community and work environment.

The position of existing curb ramp at an intersection is an important attribute to be considered during planning and design. There are three (3) positions which a curb ramp can face:

1. Diagonal – these face toward the middle of the intersection and are known to direct visually impaired persons towards the middle of the intersection.
2. Skewed – these face slightly skewed from their opposing reciprocal ramp.
3. Directed – these face directly toward their reciprocal ramp.

Note: at each of the above 3 positions, crosswalk markings are known to help direct non-visually impaired persons however provide limited guidance for visually impaired persons.

Map 2: Existing and Missing Ramps



Of the 9,012 existing ramps, 38% (3,436) are diagonal, 20% (1,778) are skewed, and 42% (3,798) are directed. Based on these numbers, since skewed and directed position ramps commonly have one opposing or reciprocal ramp, and they account for 62% of existing ramps, it can be assumed that these intersections have two (2) ramps on each corner whereas a diagonal ramp there would be one (1) ramp per corner. [Diagonal ramps](#) should be clearly marked with pavement markings or striping to direct flow and direction of pedestrian traffic.

While directed or skewed ramps are preferred, exceptions can be made. The preference for pedestrian crossing is that at an intersection, each corner has two (2) directed ramps. However, where directed ramps are not feasible, a single diagonal ramp at a corner is an acceptable alternative. It is far more desirable to have a single ramp than no ramp at all.

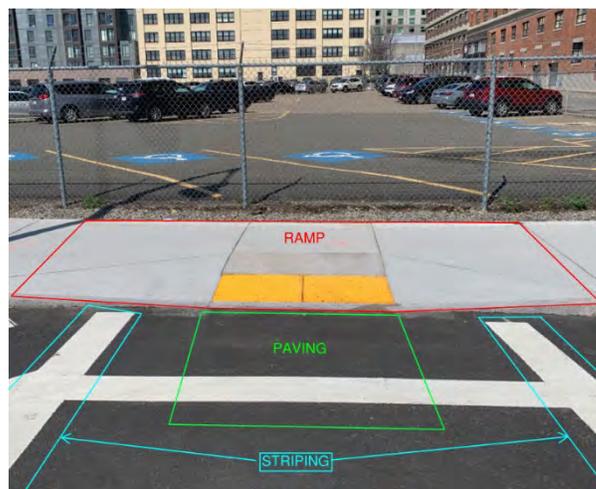


2.4 Ramp Accessibility

Overall curb ramp ADA compliance is based on three (3) components: ramp (on the sidewalk), paving (safe zone), and striping (crosswalk markings) all being correct. The overall curb ramp is considered ADA compliant when:

1. 'Ramp' meets all-related attributes (landing existence, landing slopes, apron slopes, etc.) are compliant.
2. 'Paving' meets all paving attributes (gutter slopes, lip existence, etc.) are compliant.
3. 'Striping' ADA compliant if crosswalk attributes are compliant.

Note: In cases where the ramp is considered likely compliant. The ramp's Detectable Warning Panel (DWP) or ramp obstruction details weren't measured, as a result of the phased inspection approach (see Appendix A, page 19), yet all other remaining 'ramp' attributes are found ADA compliant. When measurements were part of a latter inspection phase, attributes were indeterminate.



Ramp components that go into overall curb ramp compliance.

Table 1: ADA Compliance by Component

Component	Compliant	Likely Compliant	Non-Compliant	N/A (Missing)	N/A (Indeterminate)	Total
Ramp ADA Compliance	195	210	8,607	8,418	0	17,430
Paving ADA Compliance	136	0	288	8,418	8,588	17,430
Striping ADA Compliance	176	0	33	8,418	8,803	17,430
Overall Curb Ramp Compliance	104	0	8,908	8,418	0	17,430

One of the most important components of a curb ramp is the existence of the level landing zone. The level landing allows a resting point as one navigates the ramp and allows a wheelchair to pivot comfortably in a different direction. Table 2 to the right shows general ramp accessibility relative to the presence of an existing ramp with or without a level landing.

Approximately 85% (7,632) of the existing ramps inventoried have a level landing present, 8% (712) of the existing ramps inventoried were found to have no level landing present, and the remaining 7% (668) of existing ramps inventoried were "directional" style/type ramps where a landing is not required due to the continuous direction not requiring directional change along the ramp.

Table 2: Ramp Accessibility

Ramp Accessibility	Count of Ramps
Existing Ramp w/ landing	7,632
Existing Ramp w/ no landing present	712
Existing Ramp where landing not required AKA "Directional" ramp	668
Missing Ramp	8,418
Total	17,430

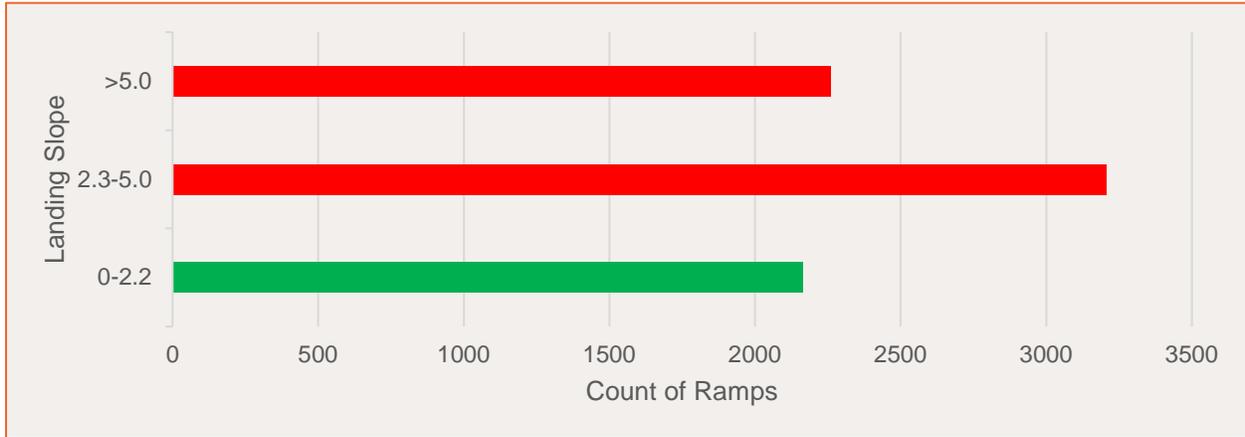
However, to get a further in-depth analysis of ADA compliance beyond the presence of a ramp and if the ramp has a 'landing', pedestrian ramp - landing and apron slopes were measured. Similarly to the landing, the apron is also an integral component of a ramp, as it provides access from the roadway to the landing, and should not be too steep. ADA maximum slope for landing and aprons is 2.08% and 8.33% respectively.



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Figures 4 and 5 show the range of distributions for both attributes, with green bars showing range to compliant standards, and red showing non-compliant standards.

Figure 4: Distribution of Landing Slope



Note: Figure 4 excludes ramps where no level landing was present. The distribution of landing slopes is not desirable as a significant portion of the ramps have landing slopes above the maximum ADA compliant slope. There are also a significant number of ramps which have landing slopes exceeding 5% (as can be seen by the top red bar in Figure 4), which significantly impedes accessibility. Below is an example of this instance. Though in some cases, throughout the City there are challenges to accommodate a complaint level landing with topographic constraints along the back of sidewalk such as wall, step, fence or driveway impacting third party property rights.

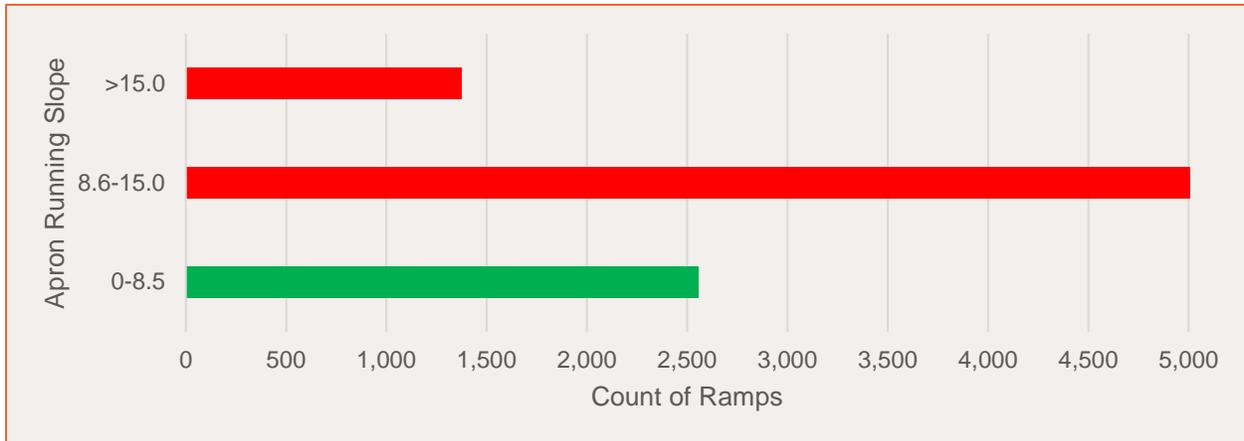


8.2% Landing Cross Slope

When the landing slope is out of compliance, especially over 5%, the ramp will typically require full reconstruction. As the adjoining sidewalk and ramp planes (apron, flare, etc.) cannot be retained without creating a lip/trip hazard at the interface of adjoining plane surfaces.



Figure 5: Distribution of Apron Running Slope



Note: Figure 5 apron running slopes include left- and right-side apron slopes, as recorded on “parallel” and “combination” types of ramps. The distribution of apron slopes city-wide are not desirable as many ramps have slopes greater than the allowable maximum 8.33% compliant ADA slope. While ramps are provided, those with non-compliant apron slopes present a challenge to individuals with mobility disabilities. There are also a significant number of ramps which have apron slopes exceeding 15% (as can be seen by the top red bar in Figure 5). These significantly impede accessibility. Below are some examples of these instances.



23.5% Apron Slope



18.3% Apron Slope

In determining overall curb ramp (ramp, paving, and striping) ADA compliance, several attributes/measurements were utilized:

- Ramp Surface Condition
- Landing Existence
- Landing Slopes
- Apron Slopes
- Flare Slopes
- Gutter Slopes
- DWP Condition
- DWP Width
- Lip Presence
- Crosswalk Existence and Alignment
- Pavement Condition
- Obstruction of Path within Ramp

In using these, it was determined that **less than 1%** of the existing ramps in San Juan are in compliance with today’s ADA standards.



3 Existing Conditions Repair Cost

3.1 Sidewalk Repair Costs

Having established a detailed inventory, assessment and determination of condition and ADA compliance for existing sidewalks, financial costs were estimated for future budget planning. MSJ provided Stantec their current construction unit costs for executing repairs. Consideration of the municipal-wide sidewalk repair cost was given based on current sidewalk repair costs, material classification, and sidewalk damage area. Costs were broken down into four (4) categories: sidewalk; esplanade (if present); curb and gutter; and presence of hazard and obstruction(s). These costs are seen in Tables 3 thru 6 below. Note that the unit costs incorporate the cost of both demolition and construction.

Table 3: Sidewalk Material Unit Costs

Sidewalk Material	Unit Cost
Cement Concrete	\$27.17 per Square Foot
Bituminous Concrete	\$27.17 per Square Foot
Pavers	\$34.45 per Square Foot
Other	\$27.17 per Square Foot

Table 4: Esplanade Material Unit Costs

Esplanade Material	Unit Cost
None	\$0 per Square Foot
Grass	\$0 per Square Foot
Cement Concrete	\$27.17 per Square Foot
Bituminous Concrete	\$27.17 per Square Foot
Pavers	\$34.45 per Square Foot
Other	\$27.17 per Square Foot

Table 5: Curb & Gutter Unit Costs

Curb & Gutter	Unit Cost
Curb & Gutter	\$89.18 per Linear Foot

Table 6: Sidewalk Hazard & Obstruction Unit Costs

Hazard/Obstruction	Unit Cost
Fixed Pinch Point	\$5,000 per Each
Sidewalk Surface Hazard	\$2,200 per Each
Gate Hazard	\$500 per Each
Tree Root Issue	\$2,500 per Each
Vegetation	\$300 per Each
Surface Protrusion	\$1,225 per Each



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Each of the damaged area treatment bands, which were established in Section 2.1, use different combinations of costs. Below are the treatment band categories and a description of which unit costs are included for each.

- **Do Nothing:** Includes repair costs for the presence of all inspected sidewalk hazards and obstructions only.
- **Localized Repair:** Includes the cost to repair the sidewalk and esplanade based on measured damaged area. In addition, overall costs include the cost of fixing the following hazards and obstructions: fixed pinch points, gate hazards, and tree root issues. It does not include the cost to remove and replace the curb & gutter.
- **Full Reconstruction:** Includes the cost of complete sidewalk, esplanade, and curb & gutter replacement for the entire sidewalk segment.

3.2 City-wide Sidewalk Repair Cost

Repair cost is defined as the cost of repairing all city-wide sidewalks, partial panel replacement, and full replacement - sidewalk reconstruction within one year bringing all the sidewalks to near perfect condition. Repair cost is a “snapshot” or relative measure of outstanding repair work. The repair cost represents the MSJ sidewalk network in terms of its condition and can also become a basis for comparison of future and/or past year’s cost(s) to determine if the Municipality is maintaining, catching up or falling behind. Repair cost dollars do not include related repair costs for relocation and installation of utilities that are impacted by sidewalk work such as street lighting, traffic signal apparatus, or landscaping.

Utilizing the sidewalk damaged area treatment band distribution as found in Section 2.1 and sidewalk reconstruction costs in Tables 3 through 6, Stantec determined MSJ’s municipal-wide sidewalk repair cost work to be **\$168,979,198** as of July 2025.

Table 7 is a breakdown of the total municipal-wide sidewalk repair cost, this breakdown is not only by treatment band, but also by sidewalks impacted due to hazards and obstructions. Sidewalks containing hazards and obstructions, in general are more expensive to repair than those without and may require additional time for interdepartmental and utility coordination prior to executing repairs. Note, there are many sidewalks that are not impacted by hazards and obstructions and that have only low distress.

Table 7: Sidewalk Repair Cost Breakdown

Treatment Band	Damaged Area Range	Miles	% Miles	Sidewalk Dollars	Haz/Obstr Dollars	Total Dollars	% Total Dollars
Low Distress – Do Nothing	0 – 20	417.5	39.9%	\$0	\$0	\$0	0%
Low Distress – Do Nothing w/ Haz/Obstr	0 – 20	117.4	11.2%	\$0	\$5,559,575	\$5,559,575	3.3%
Moderate Distress – Localized Sidewalk Repair	21 – 50	326.1	31.1%	\$78,425,797	\$0	\$78,425,797	46.4%
Moderate Distress – Localized Sidewalk Repair w/ Haz/Obstr	21 – 50	159.0	15.2%	\$43,182,944	\$8,650,500	\$51,833,444	30.7%
High Distress – Full Sidewalk Reconstruction	51 – 100	27.1	2.6%	\$33,160,382	\$0	\$33,160,382	19.6%
Total		1,047.1		\$154,769,123	\$14,210,075	\$168,979,198	



3.3 Ramp Repair Costs

In a similar manner to estimating sidewalk repair costs, ramp repair costs were estimated for financial determination and future budgeting and planning. Utilizing the inventory of existing and missing ramps, financial costs were established for ramps based on MSJ’s current construction unit costs.

To estimate the municipal-wide ramp cost, Stantec calculated the estimated cost for the most common type of ramp in San Juan - the “perpendicular” ramp and its typical size. From the estimated typical “perpendicular” ramp unit cost, Stantec extrapolated unit costs for the remaining other types of ramps based on the typical size in comparison to a “perpendicular” ramp. See Appendix B for typical ramp cost calculation and assumptions for breakdown cost for each ramp type.

Some other types of ramps are smaller in nature due to no flares, wings or transition repair and others are larger due to increased size and/or multiple ramps being impacted, as in the case of “tuck-back 1 or 2 ramps” which in both cases requires two (2) ramps. “Tuck back 1” we are reconstructing the existing ramp and constructing a new ramp tucked back and for “tuck back 2” we are constructing two (2) new ramps, both tucked back.

Note: All estimated ramp repair costs include a 10% contingency for associated drainage improvements and safe zone paving improvements.

3.4 Ramp Cost

Using the costs in Table 8, we determined San Juan’s cost of ramp repair work is **\$184,057,700** as of July 2025.

Table 8: Ramp Unit Costs

Ramp Type	Unit Cost
Perpendicular	\$9,000
Parallel	\$6,000
Tuck-back 1 ramp	\$16,500
Tuck-back 2 ramps	\$16,500
Combination	\$9,000
Directional	\$3,000
Flat Corner	\$6,000
Close current ramp	\$3,600
Pass-through	\$3,000
Relocate ramp from driveway	\$9,000
Bump-out	\$15,800
Diagonal	\$9,000
Blended transition	\$12,000

Table 9: Ramp Cost Breakdown

Ramp Type	Ramp Count	Ramp Cost Dollars	% Ramp Cost Dollars
Perpendicular	6,795	\$61,155,000	33%
Parallel	1,678	\$10,068,000	5%
Tuck-back 1 ramp	416	\$6,864,000	4%
Tuck-back 2 ramps	5,169	\$85,288,500	46%
Combination	1,202	\$10,818,000	6%
Directional	1,001	\$3,003,000	2%
Flat Corner	481	\$2,886,000	2%
Close current ramp	168	\$604,800	<1%
Pass-through	143	\$429,000	<1%
Relocate ramp from driveway	136	\$1,224,000	<1%
Bump-out	88	\$1,390,400	<1%
Diagonal	30	\$270,000	<1%
Blended transition	19	\$57,000	<1%
Overall Compliant Curb Ramp	104	\$0	<1%
Total	17,430	\$184,057,700	100%



4 Prioritization Criteria for Future Programming

Upon establishing the city-wide cost of repairs for current sidewalks and ramps, the MSJ now has metrics to begin capital programming, by selecting and scheduling projects to develop a future long-term repair plan. Recognizing there are annual financial constraints, and the repair cost would need to be addressed over multiple years, the MSJ and Stantec developed prioritization criteria to firstly focus on high priority repairs.

Three (3) key criteria that were developed and scored separately to assist with priority project selection. The first of these is infrastructure, the second is people, and the third is places. In general, infrastructure conditions ascertain the severity of non-compliance ADA infrastructure and the need for additional infrastructure; people determine which infrastructure is important to them; and places establish which infrastructure is highly used by citizens of San Juan.

Each of the (17,430) ramps and (15,179) sidewalk segments were individually scored based on key criteria such that they could be sorted from high to low on an individual score basis or collectively used in a combination with various weight from 1 through 100% being applied. For example, 50% towards Infrastructure, 25% towards People and 25% towards Places. MSJ expressed the desire to expand and use their GIS system to better visualize and assist with future project programming and planning.

After establishing prioritization criteria, Stantec developed a web-based GIS tool for the MSJ to easily screen and identify priority projects on a GIS map to begin formulating a schedule and plan to address the cost of sidewalk and ramp repair work.

Below is a detailed description of each key criteria and sub-criterion weighting.

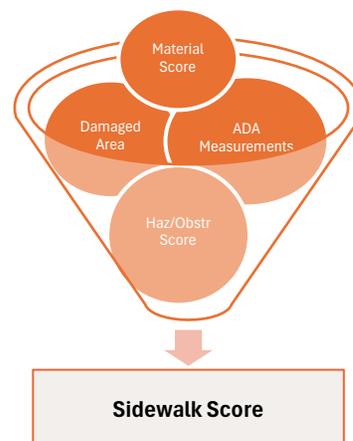
4.1 Infrastructure Score

The first key criteria that was analyzed was Infrastructure. Both sidewalk and ramp infrastructure assets have an independent condition score which were broken down by various sub-criterion components.

4.1.1 Sidewalks

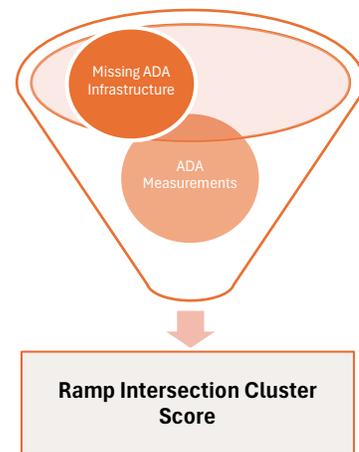
Sidewalk segments were assigned infrastructure scores based on field measurements, conditions, hazards and obstructions observed within the sidewalk. Below is the sub-criterion which was used to assign sidewalk infrastructure scores.

- **ADA Measurements:**
 - Cross Slope – Sidewalks with non-compliant cross slopes were assigned weight based on the degree or severity of non-compliance.
 - Cross Slope >2.2%: a weight of 50 points was applied.
 - Cross Slope > 5%: a weight of 100 points was applied.
 - Width – Sidewalks with non-compliant widths were assigned weight based on the magnitude of non-compliance.
 - Width <4 feet: a weight of 50 points was applied.
 - Width <3 feet: a weight of 200 points was applied.
- **Damaged Area:** During the sidewalk inventory, inspectors were tasked with determining an estimate of damaged area (%) on a scale of 0 to 100 percent for the sidewalk segment. These damaged areas were then prioritized into three (3) categories based on the type of repair needed.



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- **Missing ADA Infrastructure:** Missing ramps were assigned a weight of 200 points. Missing ramps between opposite sidewalks serve as a barrier to seniors and disabled population.
- **ADA Measurements:** Several ADA measurements taken during ramp inspection were utilized to prioritize ramp intersection clusters.
 - Landing Existence – Ramps with insufficient or missing landings were assigned a weight of 100 points where no landing exists.
 - Apron Running Slope (max) – Ramps with steep apron running slopes (including left- and right-side aprons) were assigned a weight of 25 points if the slope was >8.5%, and 50 points if the slope was >15%.
 - Landing Slope (max) – Ramps with a maximum landing slope were assigned a weight of 25 points if the slope was >2.2%, and 50 points if the slope was >5%.
 - Ramp Position – Ramps were assigned weights based on their positioning. Diagonally facing ramps (those facing toward the middle of the intersection) were given a weight of 50 points. Skewed ramps (those facing slightly skewed from their reciprocal ramp) were given a weight of 25 points.



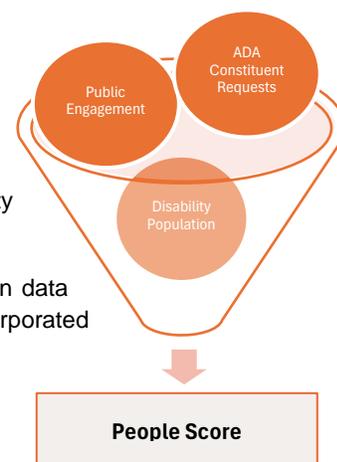
4.2 People Score

The second key prioritization criteria category that was utilized was People. This category focuses on recent public engagement feedback from the community, pending current curb ramp and sidewalk repair requests, and areas of social equity, regions of the City with the highest density of disabled individuals.

Three (3) sub-criterion - public engagement feedback, public requests and disability population data support the technical assessment by providing qualitative and location-based information incorporated into the prioritization methodology for the People Score.

Below is the prioritization framework used to categorize the People Score:

1. **Public Engagement Survey:** Spatial results of the public survey input applied to either ramps, sidewalks, or both.
 - Sidewalk – a buffer of 200' was used and a score of 150 points was applied to the sidewalks.
 - Ramp or intersection cluster – a buffer of 200' was used and a score of 150 points was applied to the ramp or related intersection clusters along a street due to generalized street or neighborhood comment.
2. **Constituent Requests:** Pending curb ramp and sidewalk requests were mapped using a smaller buffer based on specific location and detailed description, such as repairing a ramp at a street corner.
 - Sidewalk pending requests – a buffer of 100' was used and a score of 200 points was applied to the sidewalks.
 - Ramp pending requests – a buffer of 100' was used and a score of 200 points was applied to the ramp intersection clusters.
Note: In cases where requests for repairs of the entire road, ramp intersection clusters along the road were manually selected, and scores (200 points) were applied.
3. **Disability Population:** The percentage of the population with a disability was split into three (3) priority ranges. Below are the priority ranges and their corresponding scores.
 - Low (<15% disabled population within tract) – 25 points
 - Medium (15-25% disabled population within tract) – 50 points
 - High (>25% disabled population within tract) – 100 points



To prevent overweighing of the People, a combined maximum score or cap of 300 points was established.



4.2.1 MSJ Public Engagement

The public engagement process for the ADA Self Evaluation and Pedestrian Accessibility Study was designed to gather meaningful input from residents, especially individuals with disabilities and caregivers who experience accessibility barriers directly. Engagement consisted of a public meeting and an online survey.

- **Public Meeting Summary:** The Municipality of San Juan hosted a public meeting on November 12th, 2025, to present the findings of the ADA Self Evaluation and Pedestrian Accessibility Study. The meeting provided an overview of ADA requirements, the scope and methodology of the citywide inventory, and the extent of non-compliance documented across sidewalks and curb ramps. The Stantec project team explained the prioritization framework and presented the categories that guide the scoring of infrastructure needs. See Appendix C for public engagement presentation slides and survey results.

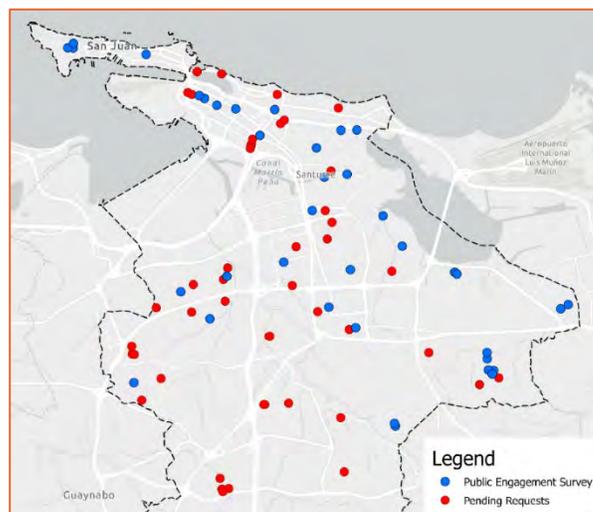


Attendees at the November 12th public engagement meeting

Attendees were invited to provide comments and complete an online survey during and after the meeting. The meeting created an opportunity to validate technical findings with lived experiences and allowed residents to identify additional barriers not captured through fieldwork.

Attendance was recorded through a five-page sign-in sheet that included names, emails, phone numbers, and signatures. Approximately forty-five individuals signed in. Entries indicate participation from municipal staff, consultants, residents, caregivers, and community stakeholders. The attendance count reflects only those who signed in and does not capture individuals who may have participated without registering. While public engagement provided meaningful insights, participation was limited and may not fully represent all community groups.

- **Online Survey Summary:** The online survey was available in English and Spanish and structured to collect location-specific, qualitative insights on accessibility barriers. The survey included five primary questions and an optional demographic question. Respondents were asked to describe their biggest accessibility challenges, identify specific locations with barriers, classify the type of barrier, place a pin on a map, and provide additional comments. The optional question allowed participants to identify themselves as a person with a disability, caregiver, a resident, or another role.



Survey data and public meeting feedback were integrated into the People Score.

4.2.2 MSJ ADA Constituent Requests

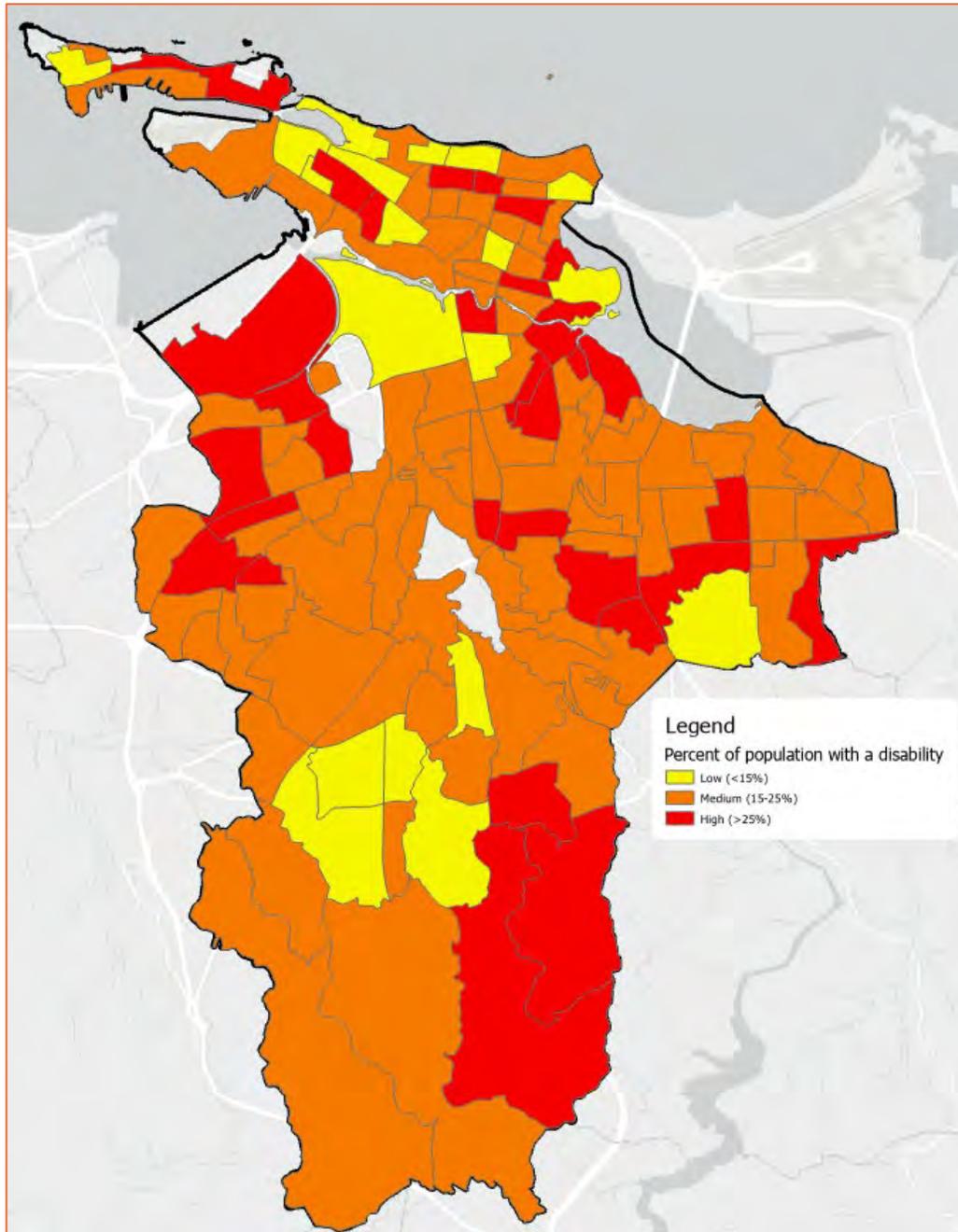
The MSJ provided Stantec two (2) list pertaining to curb ramp and sidewalk repair requests from San Juan's ADA barrier reporting process. Stantec utilized this data to develop additional sub-criterion for prioritization based on location of pending ramp and sidewalk requests under review and pending project implementation.



4.2.3 Population with Disability

This sub-criterion category looks at San Juan's population tracts, as obtained from *U.S. Census Bureau's American Community Survey (ACS) 2019-2023 5-year estimates*. These tracts contain census population data based on a variety of attributes; for this analysis we were most interested in the disability population. The percentage of the population with a disability was split into three (3) priority ranges. Below are spatial locations and priority ranges for corresponding scores. Map 4 below shows the tracts of the percentage of population with a disability, with yellow being low priority, orange being medium priority, and red being high priority.

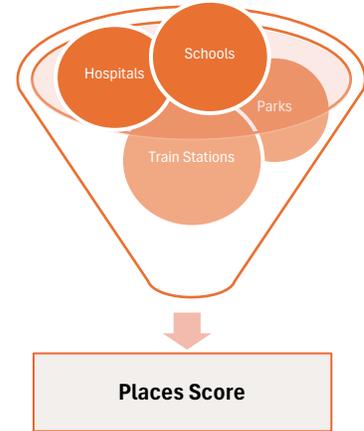
Map 4: Percent of Population with a Disability



4.3 Places Score

The last key prioritization criteria category is Places. This category considers the proximity to important locations and destinations, such as schools, train stations, and recreational areas. Most of the places were assigned buffers to prioritize based on walking distance. Below are the places which were used, their buffer size, and the weight applied:

- Healthcare Institutions
 - Hospitals – A buffer of 0.25 miles was used and a weight of 200 points was applied.
 - Dialysis Centers – A buffer of 0.25 miles was used and a weight of 200 points was applied.
 - Health Centers – A buffer of 0.50 miles was used and a weight of 200 points was applied.
- Senior Communities
 - Elderly Homes – A buffer of 0.50 miles was used and a weight of 200 points was applied.
 - Nursing Homes – A buffer of 0.25 miles was used and a weight of 200 points was applied.
- Educational Centers
 - Schools, Head Start & Universities
 - Low priority – A buffer of 0.75 miles was used and a weight of 50 points was applied.
 - Medium priority – A buffer of 0.50 miles was used and a weight of 100 points was applied.
 - High priority – A buffer of 0.25 miles was used and a weight of 200 points was applied.
- Public Transportation Stops
 - Train Stations
 - Low priority – A buffer of 0.75 miles was used and a weight of 50 points was applied.
 - Medium priority – A buffer of 0.50 miles was used and a weight of 100 points was applied.
 - High priority – A buffer of 0.25 miles was used and a weight of 200 points was applied.
 - Bus Stops – A buffer of 0.25 miles was used and a weight of 200 points was applied.
- Recreational Public Spaces
 - Parks – A buffer of 0.50 miles was used and a weight of 100 points was applied.
 - Plazas – A buffer of 0.50 miles was used and a weight of 100 points was applied.
 - Beaches – A buffer of 0.50 miles was used and a weight of 100 points was applied.
- Government and Public Service Offices
 - Dependencies – A buffer of 0.25 miles was used and a weight of 100 points was applied.
 - Courts – A buffer of 0.25 miles was used and a weight of 100 points was applied.
- Zones
 - Residential Zones – A buffer of 30 feet was used and a weight of 50 points was applied.
 - Commercial Zones – A buffer of 30 feet was used and a weight of 100 points was applied.
- Other
 - Fatal Crashes – A buffer of 150 feet was used and a weight of 100 points was applied.



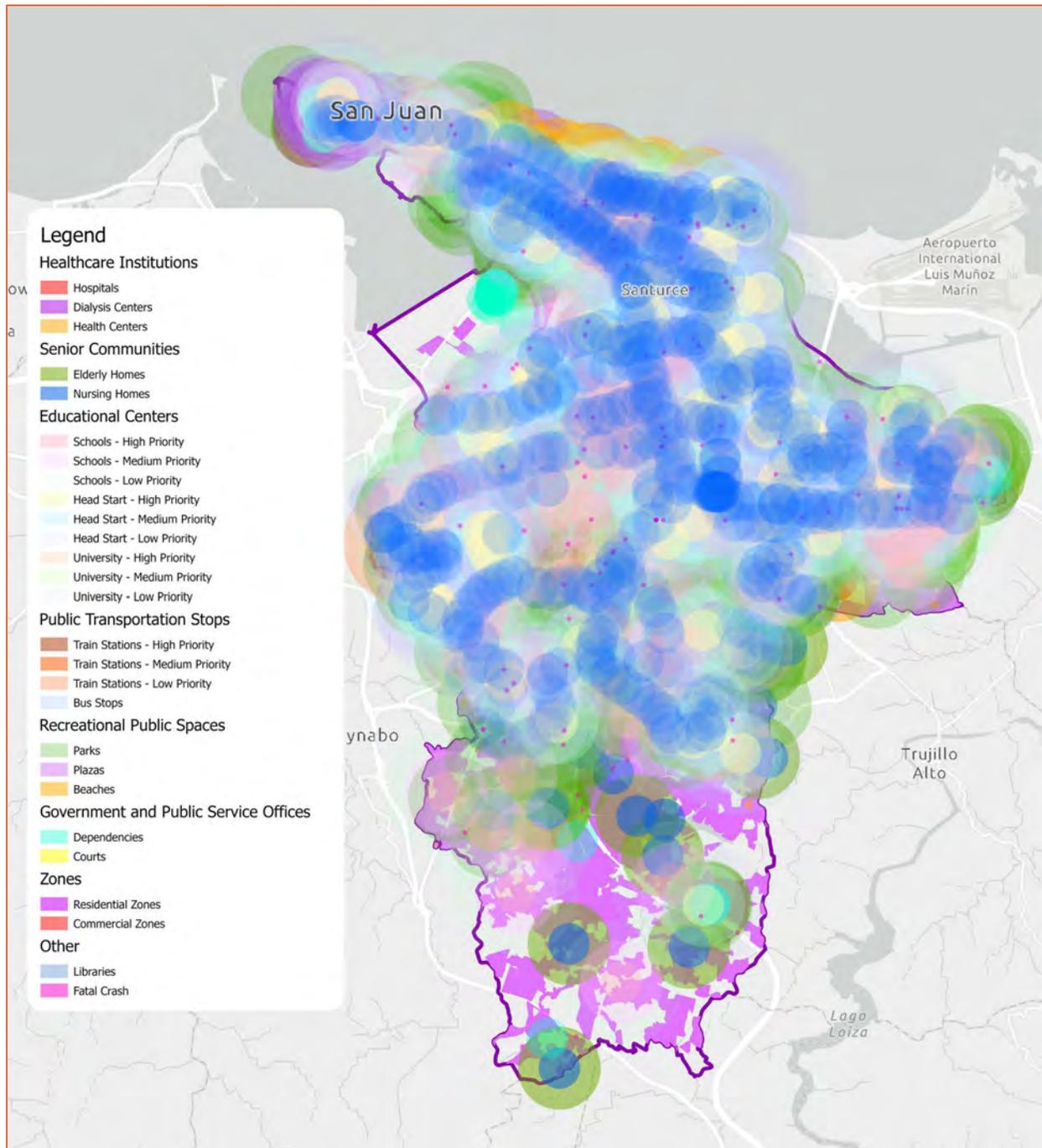
Sagrado Corazón train station on Avenida Borinquen



ADA Self Evaluation and Pedestrian Accessibility Study

Map 5 below shows the areas and distance buffers of the places.

Map 5: Places Prioritization



5 Conclusion

5.1 Overview

The overall pedestrian sidewalk network in the Municipality of San Juan is extensive and provides essential connectivity to where people live, work and play. While there are few entirely missing sidewalks, areas of the existing sidewalk network is in disrepair. Poor sidewalk conditions alongside the large number of missing or non-ADA compliant ramps throughout the city hinder the MSJ sidewalk network, making it very difficult for the disabled and senior population to navigate. This condition is further compounded by parked vehicles on sidewalks in addition to a mix of other sidewalk ‘hard pinch points’ throughout the municipal sidewalk network makes access challenging for all pedestrians.

The self-evaluation data gathered from this study shows with a “high probability” that only 1% of San Juan’s existing curb ramps (excluding missing ramps) are in compliance with today’s ADA standards. The estimated cost of improving missing and non-compliant ramps throughout the city is approximately \$184 million.

Additionally, while localized sidewalk upgrades are not required under the ADA, it is recommended that when doing curb ramp repair(s) that sidewalk deficiencies and barriers are addressed, especially between intersections with ADA compliant ramps. The cost of bringing San Juan’s sidewalk network to a state of good repair is an estimated additional \$168 million.

The prospect of repairing both ramps and sidewalks across the entirety of MSJ presents significant fiscal, policy, and construction challenges. However, progress towards greater accessibility within the public right of way can be made through thoughtful planning outlined in an ADA transition schedule, which establishes achievable interim goals and allows for incremental progress. The following content highlights noted best practices and considerations for MSJ for ADA transition planning.

5.2 Recommendations

The following sections present a comprehensive set of strategies—ranging from establishing a detailed ADA transition schedule, to addressing sidewalk parking behaviors, to prioritizing curb ramp repairs, to integrating accessibility upgrades into the annual resurfacing program. Together, these recommendations will systematically expand accessible pedestrian infrastructure.

Improving ADA accessibility across the Municipality of San Juan requires a long-term, coordinated effort that extends far beyond isolated construction projects. Implementing the full suite of recommendations outlined in this study will demand sustained funding, interdepartmental collaboration, careful sequencing of work, and ongoing engagement with residents and stakeholders. The final component of this section provides some milestones and sequencing as a roadmap for the City to follow and communicate to stakeholders as it moves toward implementation.

5.2.1 Ramp Prioritization

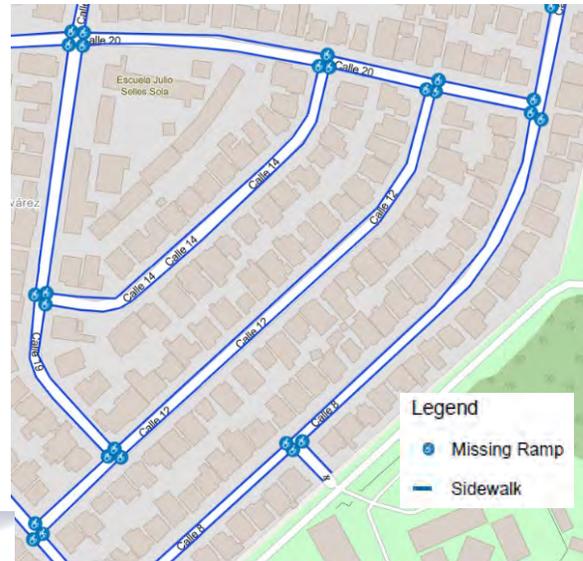
This study found that there are a significant quantity of missing and non-compliant ramps; while this is a significant mobility barrier, the sheer number of ramps will require a phased approach. As the MSJ works towards improving ADA accessibility, defining a prioritization schedule for determining which ramps get improved when is a key consideration.



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Given that abled persons may cross an intersection with missing ramps to access opposite sidewalks, curb ramps at all intersections should be considered to provide equal accessibility. There are many instances of intersections, followed by one another, with no ramp or connection point(s) which leave disabled persons 'stuck on an island' and unable to navigate across the street or intersection.

Installing ramps at intersections without any current ramps present is one of the most critical ways for the city to increase its accessible pedestrian network. There will be cases where curb cuts cannot be installed – such as locations with steep topography, long crossings (unsafe due to high-speed vehicles), and narrow site distance around corners.



Example intersections and 'sidewalk islands' with missing ramps.



Easy to construct 'Maintenance' type ramps in Reparto Universitario

To assist the MSJ with smart long-term curb ramp backlog repair planning and programming, during the field assessment Stantec identified which curb ramps (both missing and non-compliant) were 'complicated' to repair under a typical maintenance contract as they may require survey, engineering and design. It is recommended that MSJ begin work on ramps that could be repaired under what is involved under a typical contract.

Ramps requiring to be 'Engineered' should be removed from the construct in the field workflow and moved to the responsibility of a design team to produce engineered plans prior to construction.

Ramps requiring engineering should be programmed as long-term items under an ADA transition plan schedule. These ramps require more time for budgeting, procuring services of design professionals, permitting, surveying, and other complex elements, which inflate costs further than what has been described in this report. More so, some

engineered ramps may be technically infeasible or constructed to the maximum extent practical. The higher costs of these more complex engineered ramps is not included in the cost estimate for ADA ramp repairs.



'Engineered' ramp due to near proximity of driveway and drainage inlet



5.2.2 ADA Implementation Plan

Extensive logistics and pre-planning go into developing a comprehensive ADA transition or implementation plan schedule. The Municipality should begin by utilizing the prioritization GIS dashboard and key criteria strategy as outlined in this study to identify high priority ramp clusters to formulate a ramp repair plan that will improve accessibility in areas of greatest impact.

A detailed project matrix including project year, type of project, and list of ramp IDs should be outlined as a commitment list and maintained by the municipality. This matrix schedule should begin with the highest priority (ramp intersection clusters) and continue down the priority ranking as technically practical. The location of every missing and non-compliant ramp would be examined to determine if it falls within a scheduled project. Some ramps and projects may need to be deferred, coordinated and reflected in the plan.

This schedule is one piece of the overall implementation puzzle, which is described in more detail in section 5.2.5.

5.2.3 Integrating Ramp Repair into Resurfacing Program

A municipality's annual resurfacing program (ARP) is essential for maintaining and improving municipal-wide pavement conditions. Commonly, this program drives a large percentage of ramps impacted for repair, as a new curb-to-curb pavement overlay constitutes as a 'major alteration' and triggering ramps to be brought into compliance with today's ADA standards.

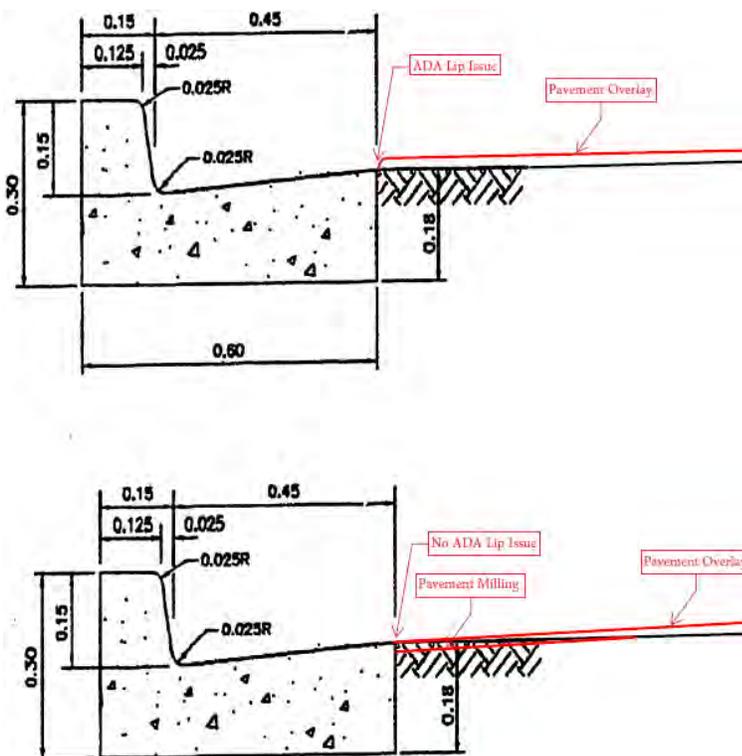
However, a resurfacing project may include both 'maintenance' and 'engineered' types of curb ramps and should be strategically thought out for construction sequencing. Perhaps only a subset of the ramps along the resurfacing corridor limits are done under the ARP, while more complex ramps are scheduled the following year or two due to engineering complexity and repaired under a separate program. If this is the case, this should be reflected in the ADA transition plan schedule or otherwise adjust the resurfacing project limits according to the program.

Another factor during ARP construction is the need to avoid installing just pavement overlays and rather include curb to curb pavement milling or scarification as allowed to maintain a smooth transition from curb ramp to the roadway. MSJ may consider gutter milling to avoid creating a lip along the concrete gutter, however when doing this, it has the effect of increasing the counter gutter slope measurement and cost if milling concrete road base.

Pedestrian Ramp Repair Schedule

Year	Ramps to be Replace/Retro-fitted	Missing Ramps	Total Number of Ramps Installed	Running Balance by Year	Estimated Total Cost
2019 Status	169	62	-	231	\$694,800
2020	17	11	28	203	\$84,218
2021	16	12	28	175	\$86,324
2022	3	23	26	149	\$82,162
2023 *	0	15	16	133	\$51,825
2023 *	11	0	11	122	\$35,630
2024	25	0	25	108	\$83,001
2025	25	0	25	83	\$85,076
2026 *	22	0	22	61	\$76,739
2026 *	3	0	3	80	\$10,464
2027	24	0	24	56	\$85,808
2028	23	0	23	33	\$84,288
	169	62			\$765,534

Sample summary of a curb ramp implementation schedule with high and moderate priority locations identified at the beginning of plan.



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It's Stantec's understanding that the MSJ has a 'backlog' of curb ramps that the DOJ deems high priority to repair. This 'backlog' is associated with streets that have been recently overlaid. The curb ramps along these street limits include both 'maintenance' and 'engineered' ramps. However, the overlay(s) have created new drainage patterns making most of these ramps more complicated to repair, without milling and re-paving the whole street over.

Now that the self-assessment has been completed, consider trading off 'backlog' ramps with 'maintenance' ramps elsewhere, particularly in high priority areas of intersections with missing curb ramps, for increased ramp production and efficiency based on the current construction workflow for Contractors in place.

During construction of curb ramps, particularly a maintenance program or contract where there are only ramps and no paving or sidewalk work, it's rather common that the ramp components (ramp, pavement & markings) are not completed under the same contract or within the same construction season. Therefore, when certifying a curb ramp, all three (3) phases or components should be completed before recognizing a curb ramp's complete compliance with the Municipality's ADA transition plan. Alternatively, the transition plan could include an explanation of details about the phased construction approach before bringing a ramp(s) into the fully compliant column of your ADA transition schedule.

5.2.4 Sidewalk Parking

Parking on the sidewalk is a nuanced issue and addressing it may require a balanced approach of policy efforts, public engagement, and creative street design. However, vehicles parked on the sidewalk forces both disabled and abled bodied people out into oncoming vehicular traffic, creating an unsafe condition particularly along the 'Avenidas'.

Designing and constructing grade separated sidewalks with a vertical curb from the road travel way is a highly effective way to discourage car drivers from pulling up and parking on the sidewalks. However, there are significant costs associated with this type of corridor reconstruction which go beyond the costs already enumerated in this report. More so, corridor reconstruction is not applicable across the city, especially in commercial neighborhoods. In these more sensitive environments, discussions with business owners and other



Grade separated sidewalk allows parking and pedestrian access along Calle 10 Noreste

stakeholders may be required, which could lead to a well-balanced solution that achieves both adequate parking for patrons while providing a safe accessible path of travel for pedestrians.

MSJ could still work towards separation

of vehicular traffic from pedestrians without expensive corridor reconstruction. For example, the Municipality could invest in dedicated markings and signage to discourage people from parking their cars on sidewalks. The Municipality could also consider structured penalties and fees, and increased enforcement in key areas. However, measures should be paired with thorough public outreach to ensure the MSJ's goal to create more pedestrian accessibility is accepted and understood.



Off street parking on sidewalk along Avenida Jose de Diego



5.2.5 ADA Transition Action Plan

It is important to note that progress will occur incrementally as resources, design capacity, and construction opportunities align. Some short-term improvements may be possible while the design and engineering of more complex ramps, intersections, and potential 'Avenidas' roadway and sidewalk reconstruction projects are underway. Other longer-term improvements will require coordination, funding, outreach, and planning.

The below provides short, medium, and long-term steps, as well as ongoing processes to be established.

Short-Term

- Develop standard ADA design guidelines, construction details and standards for future construction of ADA infrastructure. This will define construction expectations between DOO and Contractors.
- Provide ADA construction standards education training sessions internally and externally, especially with Contractors not familiar with stringent ADA measurements and specialty requirements.
- Given the MSJ does not have a lot of experience with reconstruction of complicated ramps or complex situations requiring engineering, begin to pilot new construction approaches and workflows to expedite installation and certification of new curb ramps.
- Identify a single individual who will act as a custodian of the maintenance and upkeep of the curb ramp and sidewalk GIS layer/database.
- Start to build out a 1-to-3-year curb ramp commitment list for goal setting and transparency.
- Identify any territory/federal funding grants to pursue funding efforts to improve the MSJ's ADA infrastructure, such as Community Challenge, Safe Streets and Roads for All (SS4A), Safe Routes to School (SRTS) and Better Utilizing Investments to Leverage Development (BUILD).
- Start to build simple prospective future contracts to address ADA infrastructure improvements:
 - Integrate ramp repair into Neighborhood ARP – only 'maintenance' ramps associated to paving limits, including new ramps where missing. Ramps that are skipped should be documented for legitimate reasons and, if they are to be done, stated when they will be brought into compliance. Schedule and plan should be reasonable.
 - Priority Ramps – Construct Ramps only, focus mostly on 'maintenance' missing ramps, and address priority ramps critical to disabled persons through the MSJ's constituent request center.
 - Neighborhood Sidewalks – No curb-to-curb paving. Sidewalks with ramps only. Including localized sidewalks repairs and removal of pinch points and barriers as possible – includes adding ramps where missing.

Mid-Term:

- Develop a formal and acceptable determination process where curb ramp and/or sidewalk may be technically infeasible to construct or allowable to build to the maximum extent practical under the ADA standards i.e. to construct a curb ramp on a hill, it may be necessary to redo the whole sidewalk. Rather than do so, set curb transition length to 15 feet maximum.
- Actively utilize the City's constituent request management system to streamline complaints from disabled constituents. Requests could be evaluated for insertion in near-term programs or contracts and/or used to maintain a current People Score by applying fresh, new requests.
- Post all curb certified ramp and sidewalk compliant improvements into the GIS database.
- Pursue grant funding for design and construction
- As funding allows, pursue design/bid process to hire contractors to support larger investments in infrastructure.



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- Invest in more complex ramp repair and installation.

Long-Term:

- Consider follow up public engagement, additional spatial data validations, and coordination with policy, enforcement, and engineering teams to address the recurring barriers identified by residents.

Ongoing:

- Implement a sound departmental quality control/assurance program, with a particular focus on ADA construction standards. Offer incentive/disincentive(s) based on new, in-place ramp construction not requiring re-work.
- Construct new ramps with Portland cement concrete materials, as this material is easier to achieve compliant slopes versus bricks and pavers.
- Inspect newly constructed sidewalks and ramps during all phases of construction, especially critical phases: field layout of ramp, grading, form work /pre-pour, and pouring of concrete. Track all 3 components or phases for compliance certification.
- Utilize the new curb ramp ID numbering system for program identification, tracking construction progress, and compliance certification.
- Add any new ramps and sidewalks to the database as soon as the Municipality accepts them. Curb ramp and sidewalk data can be added/modified as it becomes available.

In summary, this pedestrian accessibility study and the GIS database should serve as a valuable tool to the MSJ's decision-makers to work towards implementing an ADA transition schedule as they proactively work towards improving mobility for all pedestrians across San Juan.



APPENDIX A

ADA Curb Ramp and Sidewalk Inspection Manual

Municipality of San Juan

1/7/26

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ACKNOWLEDGMENTS

DEFINITIONS

1. **AAC:** ADA Advisory Council – Municipality of San Juan team members to advise and guide development of San Juan’s PROW ADA Assessment and Plan.
2. **ABA:** See Architectural Barriers Act.
3. **ADA:** See Americans with Disabilities Act.
4. **ADA Transition Plan:** Municipal transportation system plan that identifies accessibility needs, the process to fully integrate accessibility improvements into the Municipal-wide transportation capital plan and ensures all transportation facilities, services, programs, and activities are accessible to all individuals.
5. **ADAAG:** See Americans with Disabilities Act Accessibility Guidelines.
6. **Accessible Route:** A continuous, unobstructed path connecting all accessible elements and spaces from a building or facility to the PROW.
7. **Accessible Pedestrian Signal (APS):** A push button or automatic device that communicates information about the WALK phase in audible and vibrotactile formats.
8. **Alteration:** A change to a facility in the public right-of-way that affects or could affect access, circulation, or use. An alteration must not decrease or have the effect of decreasing the accessibility of a facility or an accessible connection to an adjacent building or site.
9. **Americans with Disabilities Act (ADA):** The Americans with Disabilities Act; Civil rights legislation passed in 1990 and effective July 1992. The ADA sets design guidelines for accessibility to public facilities, including sidewalks and trails, by individuals with disabilities.
10. **Americans with Disabilities Act Accessibility Guidelines (ADAAG):** contains scoping and technical requirements for accessibility to buildings and public facilities by individuals with disabilities under the Americans with Disabilities Act (ADA) of 1990.
11. **APS:** See Accessible Pedestrian Signal.
12. **Architectural Barriers Act (ABA):** Federal law that requires facilities designed, built, altered or leased with Federal funds to be accessible. The Architectural Barriers Act marks one of the first efforts to ensure access to the built environment.
13. **Blended Transition:** A wraparound connection at a corner, or a flush connection where there is no curb to cut through, other than a curb ramp.
14. **Crosswalk:** That part of a roadway that is located at an intersection included within the connections of the lateral lines of the pedestrian circulation paths on opposite sides of the highway measured from the curbs, or in the absence of curbs, from the edges of the traversable roadway, and in the absence of a pedestrian circulation path on one side of the roadway, the part of

a roadway included within the extension of the lateral lines of the pedestrian circulation path at right angles to the center line; or at any portion of a roadway at an intersection or elsewhere distinctly indicated as a pedestrian crossing by pavement marking lines on the surface.

15. **Cross Slope:** The slope that is perpendicular to the direction of pedestrian travel.
16. **Curb:** A raised feature along the side of a street that delineates the edge of the roadway or pedestrian circulation path.
17. **Curb Line:** A line at the face of the curb that marks the transition between the curb and the gutter or street.
18. **Curb Ramp:** A sloped connection that is cut through or built up to a curb. Curb ramps may be perpendicular or parallel to the curb or to the street they serve or be a combination thereof.
19. **Detectable Warning Surface:** A standardized surface feature built in or applied to pedestrian circulation paths and other pedestrian facilities to warn of hazards.
20. **Esplanade:** a strip of groundcover consisting of grass or garden plants, and sometimes also shrubs and trees, located between a roadway and a sidewalk.
21. **Flush:** No vertical discontinuities greater than $\frac{1}{4}$ ".
22. **Grade:** See Running slope.
23. **Gutter Curb:** Concrete monolithic drainage gutter and curb. This element is typically part of the safe/landing zone at the bottom of a curb ramp.
24. **Level, or Flat:** Slopes that are equal to or less the 2%.
25. **Parallel Curb Ramp:** A curb ramp with a running slope that is parallel to the curb or street it serves.
26. **Path of Travel:** See Accessible Route.
27. **Pedestrian:** A person on foot, travelling by wheelchair or other mobility device, on skates, or on a skateboard.
28. **Pedestrian Access Route:** An accessible, continuous, and unobstructed path of travel for use by pedestrians with disabilities within a pedestrian circulation path.
29. **Pedestrian Refuge Island:** A defined area in the direction of pedestrian travel located between traffic lanes for pedestrian refuge within a median, splitter island, or channelizing island.
30. **Perpendicular Curb Ramp:** A curb ramp with a running slope that is perpendicular to the curb or the street it serves.
31. **PROWAG:** An acronym for the Guidelines for Accessible Public Rights-of-Way issued in 2023 by the U. S. Access Board. This guidance addresses roadway design practices, slope, and terrain related to pedestrian access to walkways and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.
32. **Public Right-of-Way (PROW):** Public land acquired for or dedicated to transportation purposes, or other land where there is a legally established right for use by the public for transportation purposes.

33. **Ramp:** A sloped walking surface with a running slope steeper than 1:20 (5.0%) that accomplishes a change in level and is not part of a pedestrian circulation path that follows the roadway grade. A curb ramp is not a ramp.
34. **Running Slope:** The slope that is parallel to the direction of pedestrian travel.
35. **Shared Use Path:** A multi-use path designed primarily for use by bicyclists, pedestrians, and other authorized motorized and non-motorized users, for transportation purposes, and that may also be used for recreation. Shared use paths are physically separated from motor vehicle traffic by an open space or barrier and are either within the highway or other public right-of-way.
36. **Sidewalk:** That portion of a highway between the curb line, or the lateral line of a roadway, and the adjacent property line, or on easements of private property, that is paved or improved and intended for use by pedestrians.
37. **Transitional Segment:** The portion of a pedestrian circulation path that connects adjacent surfaces with different slopes or dimensions to provide a smooth transition.
38. **United States Department of Justice (DOJ):** The United States Department of Justice (often referred to as the Justice Department or DOJ), is the United States federal executive department responsible for the enforcement of the law and administration of justice

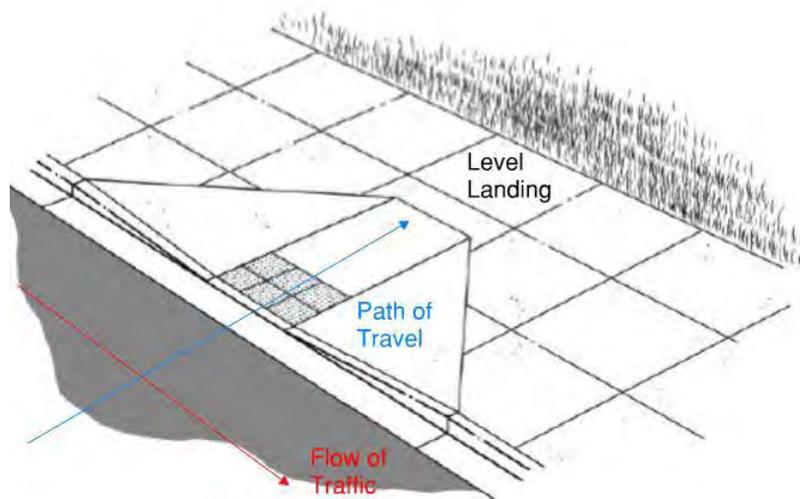
CURB RAMP GEOMETRY TYPES

Within the Municipality of San Juan there are several types of curb ramps utilized. In the pages that follow herein, there is brief description, several examples, slope design and ADA compliance criteria followed by pros and cons for each geometric ramp type.

It is important to understand where to measure to get the relevant slopes of curb ramps, several design configurations for each ramp type with smart level locations have been added on the next page.

Perpendicular Ramp

A ramp which consists of one running slope (apron) going up to a level landing.

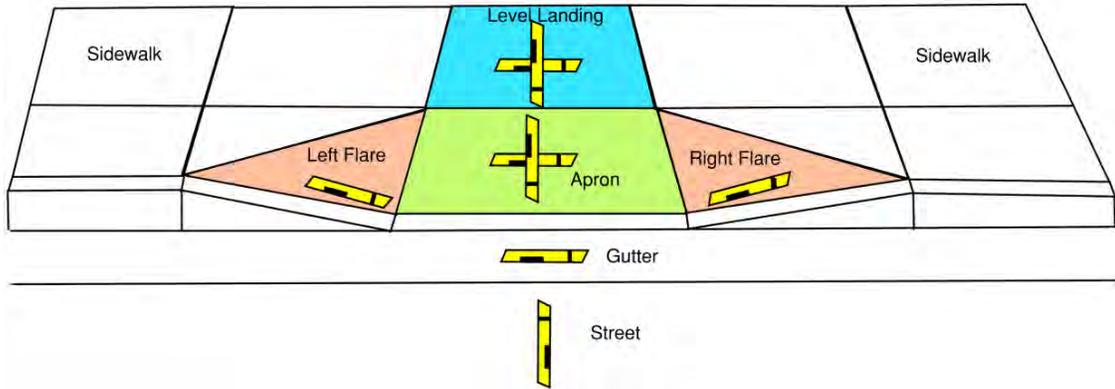


The term perpendicular in the name refers to how the path of travel the pedestrian must take to the level landing compares to the flow of traffic. The path of travel is determined by the direction of the ramp transition which for perpendicular ramps is perpendicular to the flow of traffic, as seen below. Perpendicular

ramps can come in a few different styles or designs. Below are examples of perpendicular ramps in San Juan.

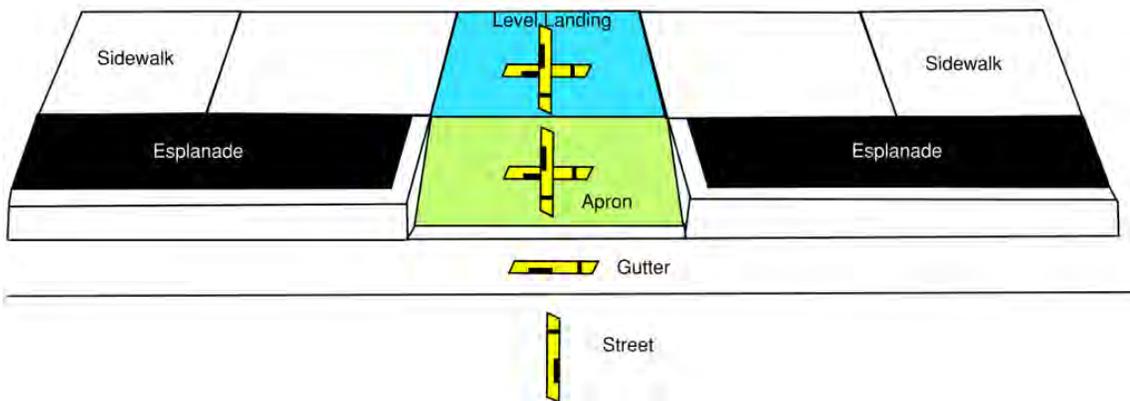


Perpendicular Ramp - Type A

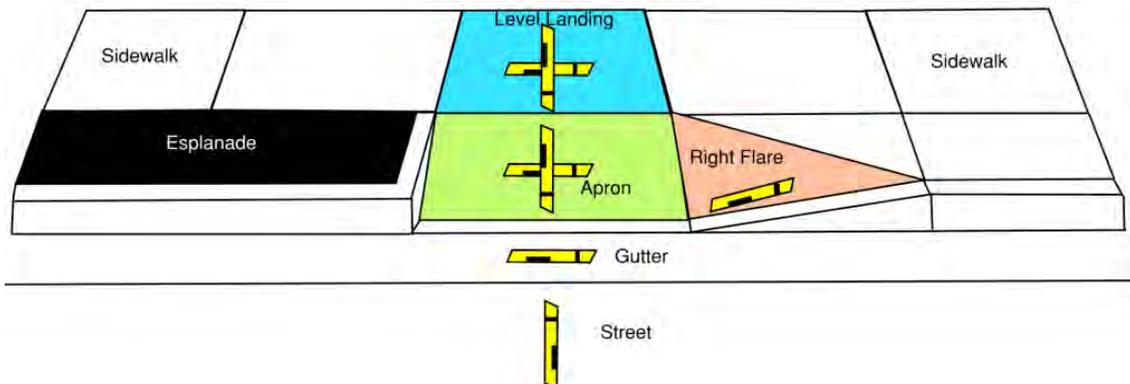


Notice perpendicular ramp – Type B does not have flares and Type C only has 1 flare. Subsequently no smart level flare measurements are taken in these situations. If there is an area of the ramp that is non-walkable or not traversable by pedestrians, then the flare should not be measured and shall receive a value of zero (0%).

Perpendicular Ramp - Type B



Perpendicular Ramp - Type C



Ramp Slope Design Considerations and ADA Compliance Criteria

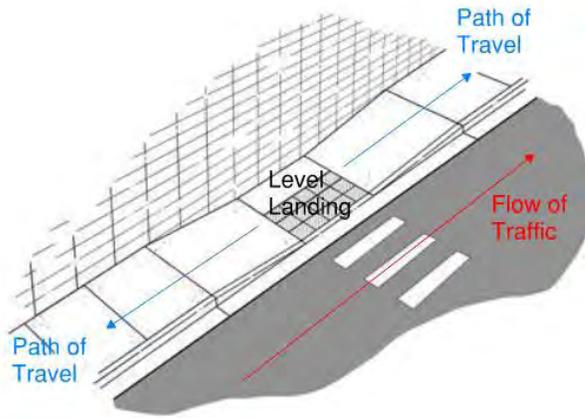
Ramp Component	Design Slope	2010 ADA Slope
Landing	1.5%	≤ 1:48 (2.08%)
Apron Running	7.5%	<1:12 (8.33%)
Apron Cross	1.5%	≤ 1:48 (2.08%)
Flare	9.0%	<1:10 (10.0%)
Gutter	1.5%	≤ 1:48 (2.08%)
Counter Gutter	4.0%	≤ 1:20 (5.00%) ≤ 1:48 (2.08%) *

* Diagonal ramp position

Pros	Cons
<ul style="list-style-type: none"> • Pedestrians' cross perpendicular to flow of traffic and oriented in the direction of crossing. • Makes it easier for motorists to determine direction pedestrians intend to cross. 	<ul style="list-style-type: none"> • Ramps and landings require more space than other ramp types. • Harder to provide a straight path of travel or unidirectional on corners with a larger radius.

Parallel Ramp

A ramp which consists of two running slopes going down to a level landing.

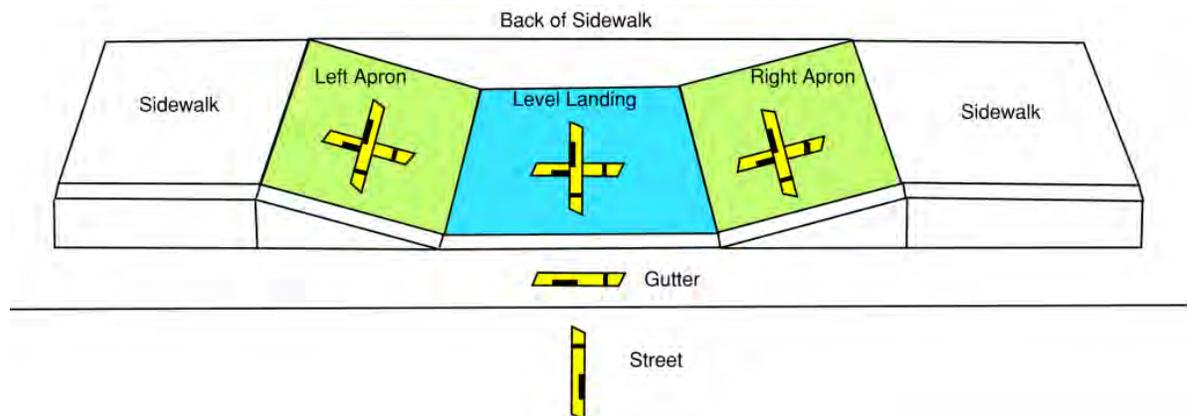


The term parallel in the name refers to how the path of travel the pedestrian must take to the level landing compares to the flow of traffic. When the pedestrian enters the ramp from the crosswalk, the landing is level with the edge of road. Then the pedestrian must enter the path of travel by making a turn on the level landing to go up either side of the ramp run. The path of travel is determined by where

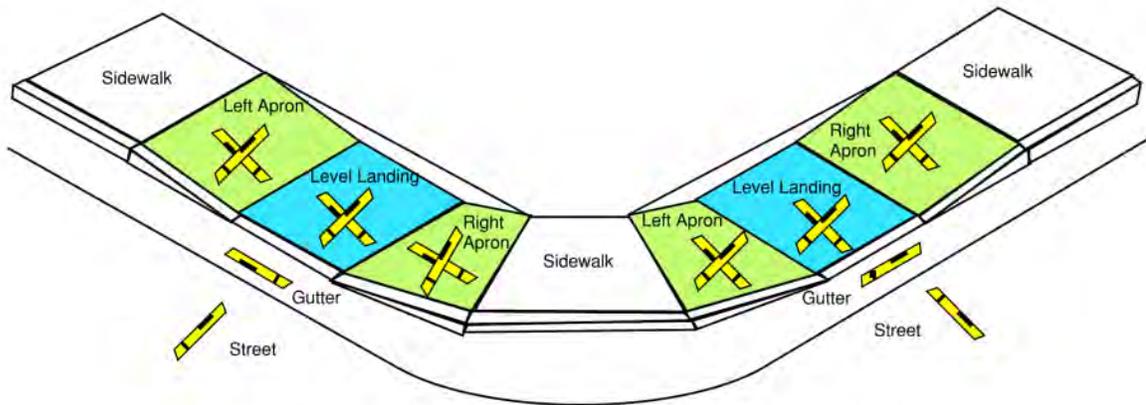
the pedestrians pass through the transitions of the ramp. Below are some examples of parallel ramps in San Juan.



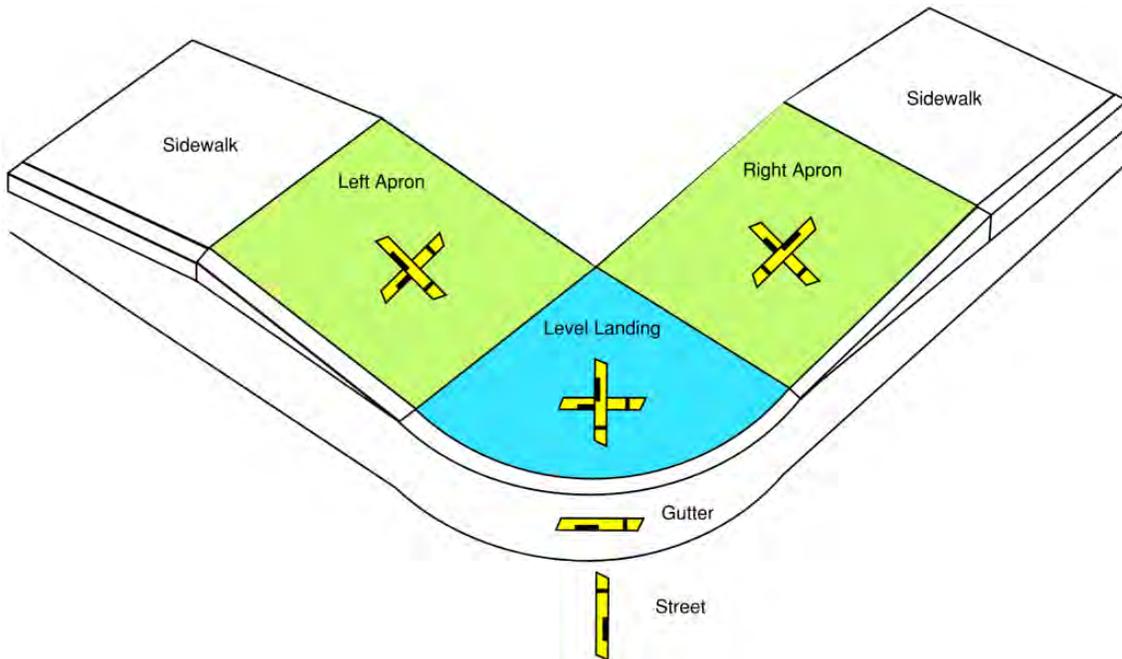
Parallel Ramp - Type A



Parallel Ramp - Type B



Parallel Ramp - Type C (AKA Flat Corner)



Ramp Slope Design Considerations and ADA Compliance Criteria

Ramp Component	Design Slope	2010 ADA Slope
Landing	1.5%	≤ 1:48 (2.08%)
Apron Running	7.5%	<1:12 (8.33%)
Apron Cross	1.5%	≤ 1:48 (2.08%)
Flare	N/A	N/A
Gutter	1.5%	≤ 1:48 (2.08%)
Counter Gutter	4.0%	≤ 1:20 (5.00%) ≤ 1:48 (2.08%) *

* Diagonal ramp position

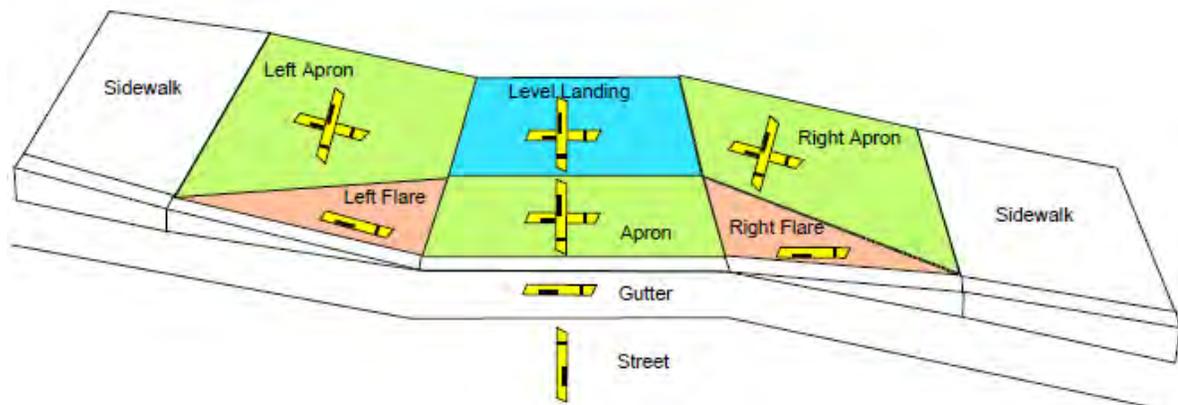
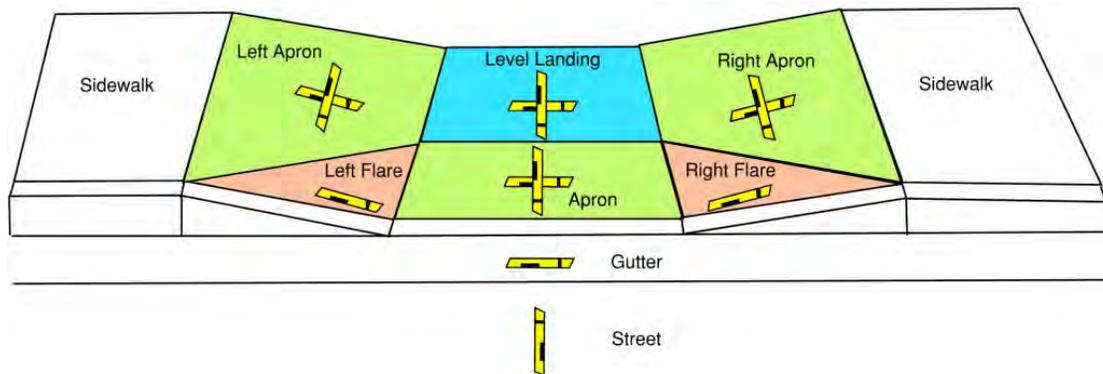
Pros	Cons
<ul style="list-style-type: none"> • Requires less room and constraints than perpendicular design. • Easier to hit required grade on approach slopes. 	<ul style="list-style-type: none"> • Requires pedestrians to traverse multiple ramp runs using the sidewalk. • Can easily accumulate debris and/or water if drainage and grades are not constructed carefully.

Combination Ramps

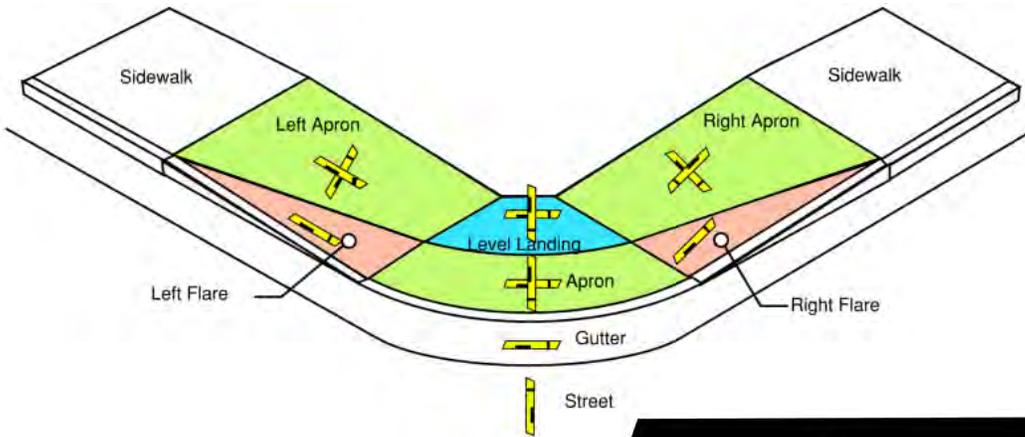
A ramp that is a combination of two ramps, typically perpendicular and/or parallel. The combined curb ramp breaks the elevation change between the sidewalk and the street into two parts and uses a separate ramp to link each part. Below is an example of a combination ramp in San Juan.



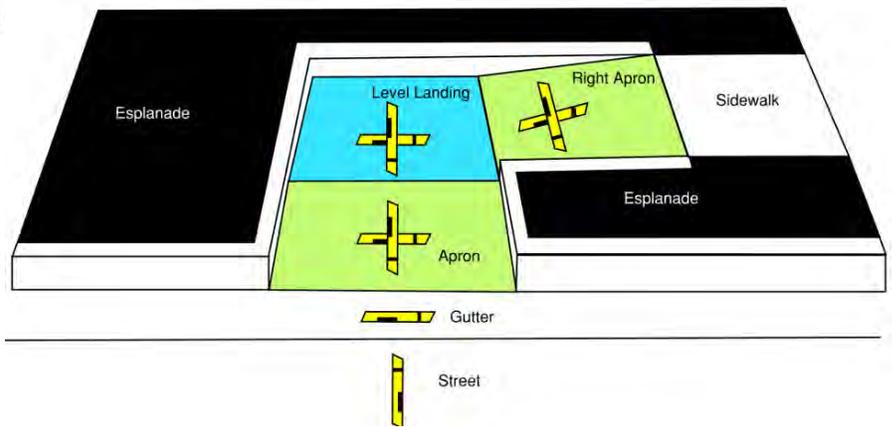
Combination Ramp - Type A



Combination Ramp – Type B (AKA Blended Transition)



Combination Ramp – Type C



Ramp Slope Design Considerations and ADA Compliance Criteria

Ramp Component	Design Slope	2010 ADA Slope
Landing	1.5%	≤ 1:48 (2.08%)
Apron Running	7.5%	<1:12 (8.33%)
Apron Cross	1.5%	≤ 1:48 (2.08%)
Flare	N/A	N/A
Gutter	1.5%	≤ 1:48 (2.08%)
Counter Gutter	4.0%	≤ 1:20 (5.00%) ≤ 1:48 (2.08%) *

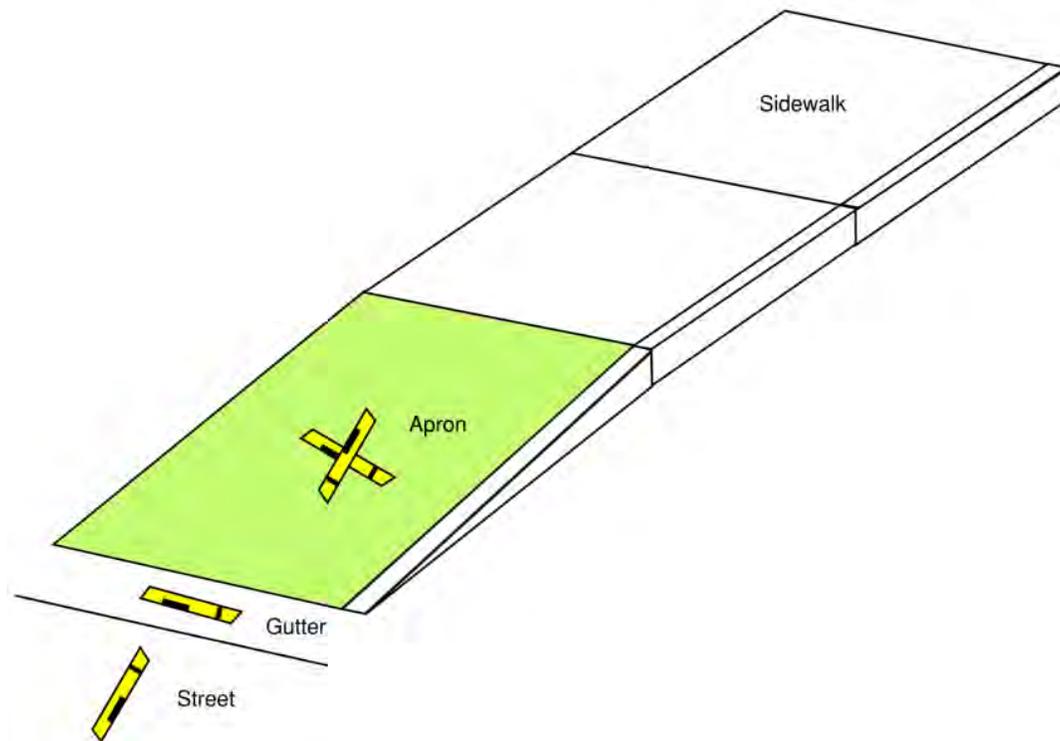
* Diagonal ramp position

Pros	Cons
<ul style="list-style-type: none"> Versatile designs that can help accommodate difficult areas for compliance. 	<ul style="list-style-type: none"> Design can take up a lot of space. Only available turn location is the level landing.

Directional/End

This ramp consists of one running slope going up to the sidewalk. There is no level landing as there is only one direction for pedestrians to travel, there is no need to provide an area for pedestrians to make turns as the user is traveling in one direction. However, at the bottom of the ramp there must be a level approach. Below are some examples of directional ramps in San Juan.

Directional Ramp - Type A



Ramp Slope Design Considerations and ADA Compliance Criteria

Ramp Component	Design Slope	2010 ADA Slope
Landing	N/A	N/A
Apron Running	7.5%	<1:12 (8.33%)
Apron Cross	1.5%	≤ 1:48 (2.08%)
Flare	NA	NA
Gutter	1.5%	≤ 1:48 (2.08%)
Counter Gutter	1.5%	≤ 1:48 (2.08%) *

* Level Approach

Pros	Cons
<ul style="list-style-type: none"> • No level landing required 	<ul style="list-style-type: none"> • Limits pedestrians to one path of travel if area requires two

Pass-Through/Island

This ramp is typically one level landing carried through an obstruction in a pedestrian crossing. Below are some examples of pass-through/island ramps in San Juan.

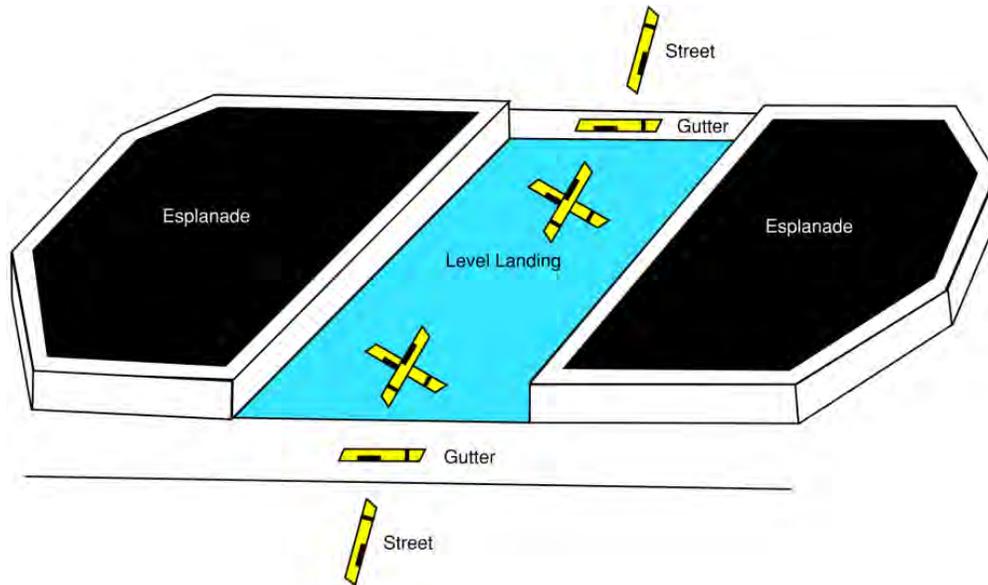
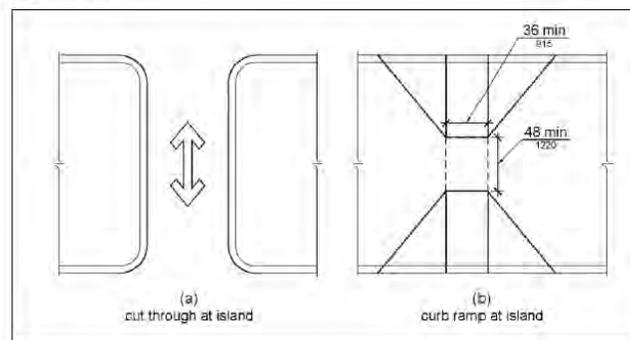


Figure 406.7



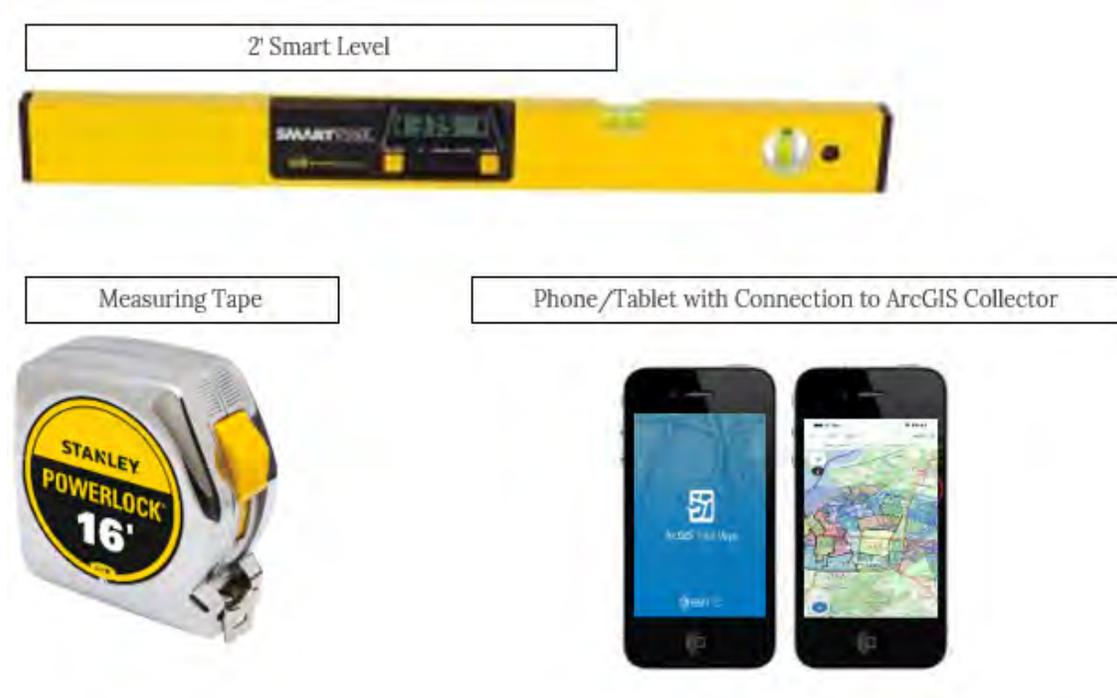
Ramp Slope Design Considerations and ADA Compliance Criteria

Ramp Component	Design Slope	2010 ADA Slope
Landing	1.5%	≤ 1:48 (2.08%)
Apron Running	1.5%	≤ 1:48 (2.08%)
Apron Cross	1.5%	≤ 1:48 (2.08%)
Flare	N/A	N/A
Gutter	1.5%	≤ 1:48 (2.08%)
Counter Gutter	4.0%	≤ 1:48 (2.08%)

Pros	Cons
<ul style="list-style-type: none"> Allows pedestrians to safely pass through crossings with obstructions 	

REQUIRED INSPECTION TOOLS

A two-foot smart level is required to take slope measurements on the curb ramps. A tape measure is required to take measurements of ramp and sidewalk widths. A mobile device with internet access is required to be able to record and upload ramp and sidewalk inspection information.



Placement of Smart Level

When taking any measurements using the smart level the inspector must do the following:

1. Ensure that the smart level is making readings in % and not degrees. Note depending on the level brand, accuracy tolerance will vary.
2. Place the smart level on solid surfaces only on the surface intended to be measured.
3. Clean away any debris between the smart level and the surface being measured.
4. Follow the guidelines for proper smart level placement which include:
 - a. Ensuring that the smart level is not placed between control joints.
 - b. Ensuring that the smart level is not placed between separate surfaces including separate ramp components.

CURB RAMP INSPECTION

There are many elements to evaluate and measure for curb ramps. Inspectors will first assess the basics such as landing size requirements, apron, landing, and flare slopes. If these elements initially pass, then the gutter and counter slopes are then measured, if any of these slopes don't comply with ADA, the ramp is determined to be non-compliant, and the inspector moves to assess the next ramp. Otherwise, the following attributes will be documented and recorded.

Type of Ramp

When performing your inspection of ramps, you will select one of six (6) options that best describes the current curb ramp type you are inspecting. This attribute field is intended to identify the existing type of ramp that is here today.

1. Perpendicular
2. Parallel
3. Combination
4. Directional
5. Pass-Through
6. Missing

In cases where there are no ramps at an intersection, you will add prospective location of 'Missing' ramps. This ramp type is for when there is an intersection that does not have the required number of ramps and/or there is a pedestrian path of travel that is obstructed or does not provide access to opposite sidewalks. Below are a few examples of locations in San Juan that have pedestrian ramps missing.



Intersections with Missing Ramps

It is important to note the locations of missing ramps during the preliminary inspection phase or self-evaluation process as it allows the Municipality to assess which areas may be of higher priority for attention. Although the sidewalk will not

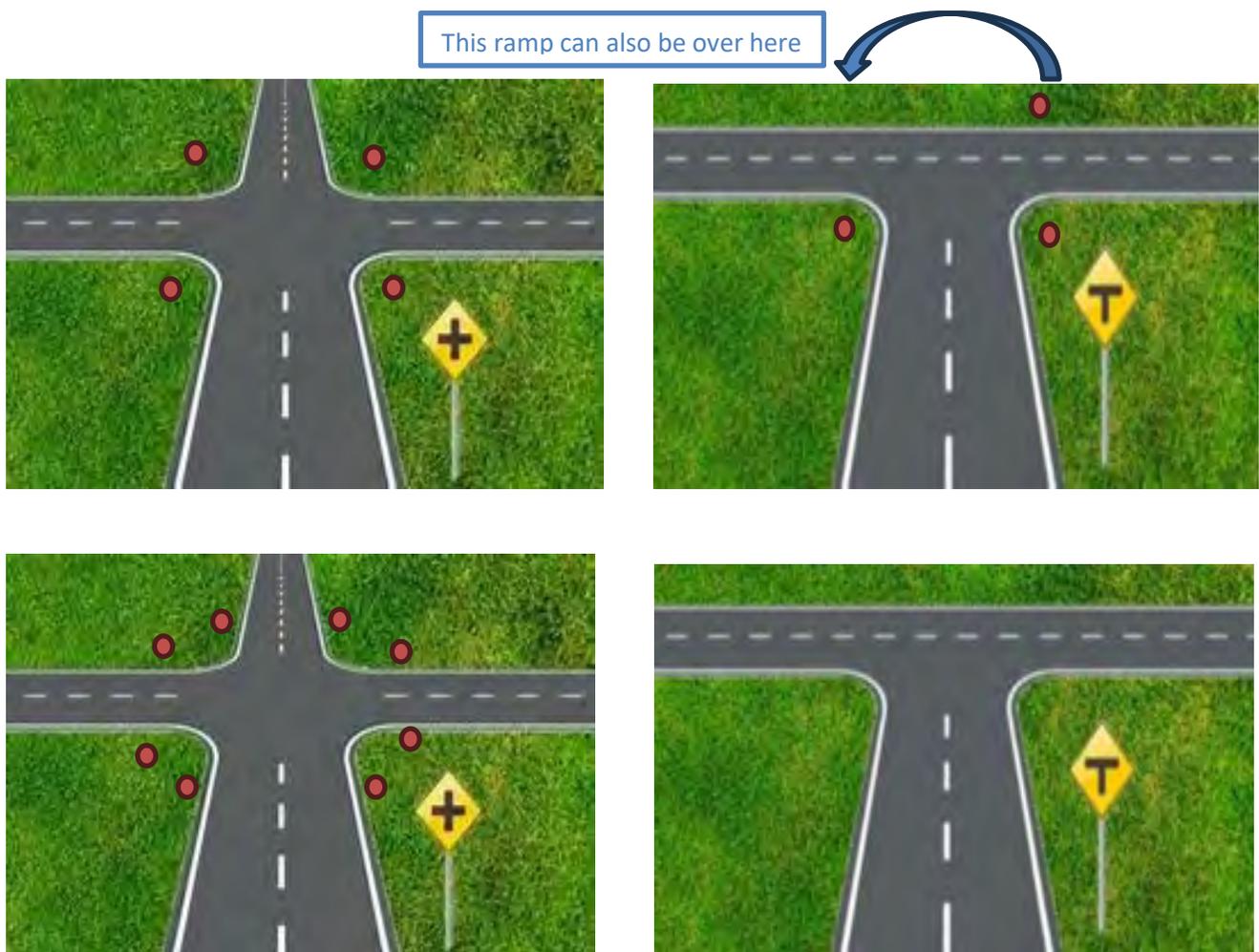
be accessible for pedestrians until ramps are installed, missing ramp(s) provide an opportunity to ensure future ramps are identified and designed accordingly.

In the field you will only be required to identify the minimal amount of ramp points on Field Maps to signify these ramp locations.

4-way intersections should have a minimum of four (4) ramps and a maximum of eight (8) ramps. A minimum of four ramps is required because pedestrians must have a safe path of travel to each side of the road. Similarly to 4-way intersections, 3-way intersections must have a minimum of 3 ramps and a maximum of 6 ramps to ensure a safe path of travel to each side of the road.

4-Way Intersection

3-Way Intersection



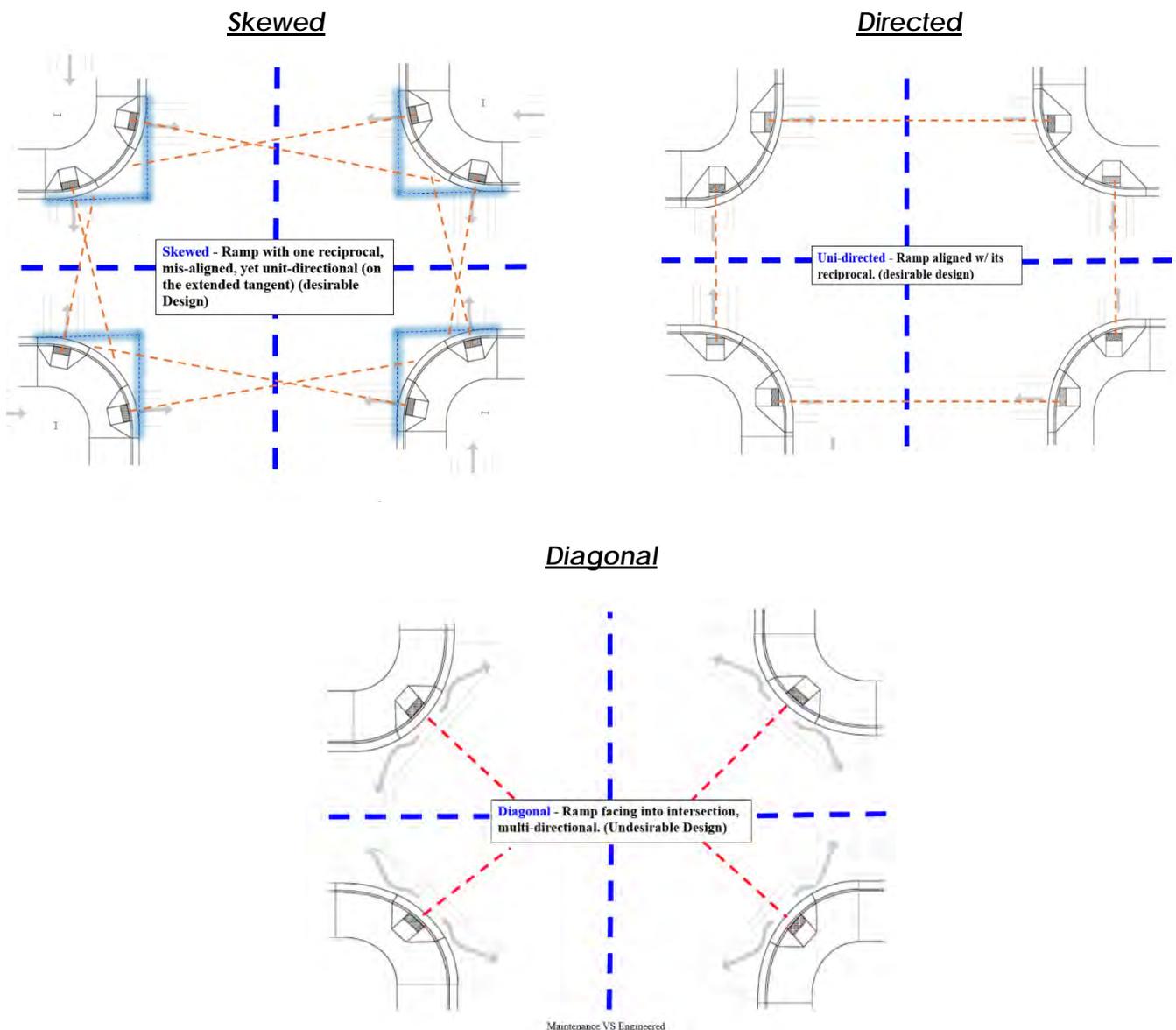
After you have selected the curb ramp type, it is time to record other attributes and start taking measurements.

Position of Ramp

When performing ramp inspection, it is important to take note of the position of the ramp/warning detectable panel orientation with respect to the reciprocal ramp within the roadway intersection as this will help determine the accessibility, and compliance. Below are the three (3) options for ramp positions.

1. Directed – A ramp that is aligned with its reciprocal.
2. Skewed – A ramp with one intended reciprocal, mis-aligned, intended to be uni-directional.
3. Diagonal – A ramp that is facing into the intersection, multi-directional.

Examples include:



Ramp Surface Material

This attribute field is intended to identify the current material used for the ramp. There are five (5) options for this attribute:

1. Cement Concrete
2. Bituminous Concrete
3. Brick
4. Pavers
5. Other – inspector to describe surface in notes section

Cement Concrete



Brick



Pavers



Ramp Surface Condition

This attribute field is intended to document the existing surface conditions of the ramp. There are three (3) options for this attribute:

1. Excellent - These ramps have been recently constructed and have no surface damage and good skid resistance.
2. Fair - These ramps show wear but only have insignificant damage such as hairline cracking which has no impact on the overall accessibility of the ramp and fair skid resistance.
3. Poor - These ramps have significant cracks, spalling, or any other damage which affect accessibility of the ramp. Surface has poor skid resistance, probable to slip during wet weather – likely overpainted.

Excellent



Fair

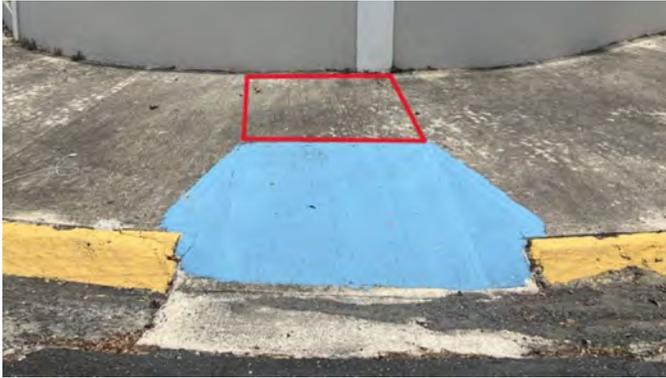


Poor



Level Landing Existence

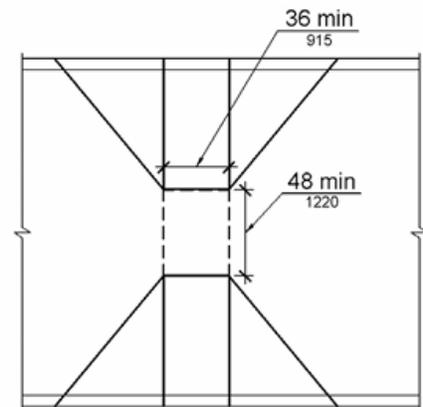
This attribute field is intended to document whether the ramp being inspected meets the minimum level landing dimension requirements. The inspector is to use a tape measure for this attribute to measure the level landing area. The minimum level landing area varies based on the ramp configuration examples as shown below.



This attribute field has two (2) options, which are shown below:

1. Yes (the ramp has a minimum 3' by 3' level landing area)
2. No (the ramp does not have a 3' by 3' level landing area)

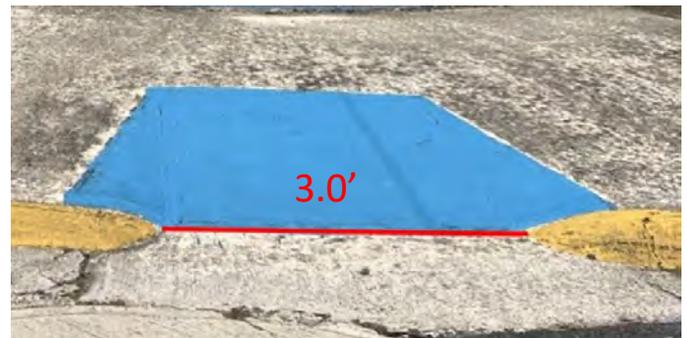
Note: Landing shall be minimum 3' by 4' for curb ramp at island.



(b)
curb ramp at island

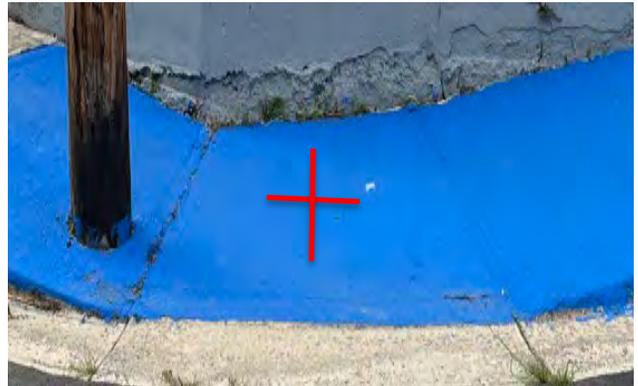
Threshold opening width

Inspectors are to use their tape measure to record the width of the threshold opening to the nearest half foot.



Landing Running & Cross Slope

Inspectors are to use a 2' smart level for this measurement and record the slope has shown within the designated level landing area. Below are examples of ideal smart level placements for measurement. It is important to note that these level placements are the starting point(s) and it is up to the inspector's discretion to modify these placements if there are any obvious areas of the landing where there is visual steepness. Examples with level placements can be seen below.



Apron Running & Cross Slope

Inspectors are to use a 2' smart level for this measurement and record the maximum slope anywhere within the designated apron. Below are examples of ideal level placement for apron on perpendicular and parallel ramp:



Right & Left Flare Slope

Inspectors are to use a 2' smart level for this measurement and record the maximum slope within the designated flares. Below is an example of where to place the smart level for both the left and right flares. The inspector should designate "left" and "right" directionality when standing directly in front of the ramp from the street. An example of where to place your smart level is shown below.



Obstructed Flare Path

This attribute is intended to indicate whether there are any objects or barriers within the flares which are obstructing the pedestrian's path of travel. There are four (4) lookup fields associated with this attribute which are shown below:

1. No (the flares are not obstructed)
2. Yes, non-walkable right flare (only the right flare is obstructed)
3. Yes, non-walkable left flare (only the left flare is obstructed)
4. Yes, both flares are non-walkable (both flares are obstructed)

Below are some examples of obstructed flares:



Gutter Slope & Counter Gutter Slope

Inspectors are to use a 2' smart level for this measurement and record the gutter and counter-gutter slopes. These measurements should be made in concrete gutter curb and roadway pavement at the midline of the ramp opening. The gutter slope measurement should be parallel to the ramp threshold and within the concrete gutter, and the counter gutter slope measurement should be perpendicular on the roadway pavement as shown below.



Material of the DWP Panel

This attribute field is intended to document the existing detectable warning panel (DWP). Below are seven (7) options for this attribute:

1. None (no panel)
2. Plastic-yellow
3. Plastic-red
4. Plastic-gray
5. Cast Iron
6. Powder Coated Cast Iron
7. Other (inspector to describe in notes)

Condition of the DWP Panel

This attribute field is intended to document the condition of the existing detectable warning panel. If there is no detectable warning panel present this field can be skipped. There are three (3) options for this attribute:

1. Excellent (like new)
2. Fair (panel shows some wear but still functional without sheared domes)
3. Poor (panel is damaged, or domes are sheared off, and need to be replaced)

DWP \leq 2" from end of panel to end of ramp opening?

This attribute field is intended to determine whether the detectable warning panel extends the entire width of the ramp. For this attribute, the inspector is to use a measuring tape to check if there is more than 2" between the edge of the detectable warning panel and the control joint representing the width of the ramp. There are two (2) options for this attribute:

1. Yes (Detectable Warning Panel extends width of ramp, less than 2" between panel and width)
2. No (Detectable Warning Panel does not extend to width of ramp, greater than 2" between panel and width)

Examples can be seen below:



Yes



No

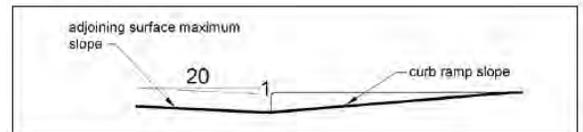
Lip Present?

This attribute is used to measure the existence of a $\frac{1}{4}$ " lip or a $\frac{1}{2}$ " sloped lip presence which exists anywhere on the ramp where there is a vertical edge tolerance. These areas include interface from the roadway pavement to the



concrete gutter curb, from the detectable warning panel to surrounding concrete, and between joints throughout ramp components. Interface or inflection point between the roadway shall be flush (no lip) throughout the width of curb ramp threshold opening.

Figure 406.2



Counter Slope of Surfaces Adjacent to Curb Ramps

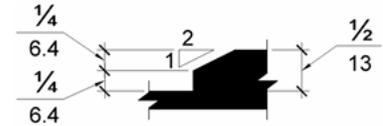


Figure 303.3
Beveled Change in Level

Crosswalk Existence and Alignment

This attribute is intended to designate whether there are existing crosswalks and whether they are aligned properly. For directed or skewed ramps, the ramp opening must be within the crosswalks to be considered properly aligned. For diagonal ramps, there must be a (4' by 4') clear safe zone in front of the ramp threshold within the marked crosswalks and must extend 24" (2 feet) beyond flares to be considered properly aligned.

There are four (4) options for this attribute:

1. No crosswalk
2. Crosswalk aligned
3. Crosswalk misaligned
4. Crosswalk misaligned (multi-direction must pass 2' beyond the edge of flares on each side)

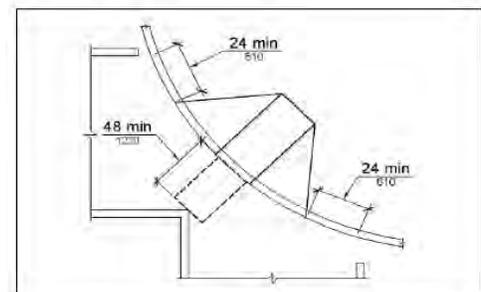
Examples can be seen below



Aligned Crosswalk



Misaligned Crosswalk



Diagonal or Corner Type Curb Ramps

Condition of the Crosswalk

This attribute is intended to assess the conditions of the crosswalk. There are three (3) options for this attribute which are shown below:

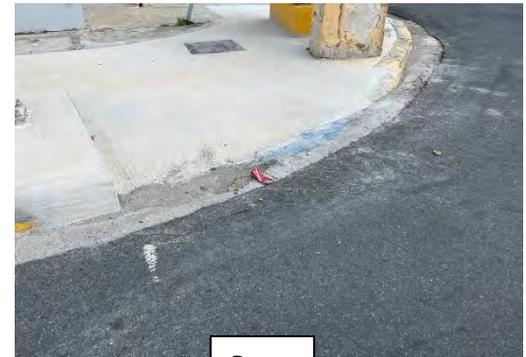
1. Excellent Condition (like new crosswalks with no sign of wear)
2. Fair Condition (crosswalks show wear but are visible)
3. Poor Condition (crosswalks are faded and have low visibility)



Excellent



Fair



Poor

Surface Condition of the 4' Paved Safe Zone

This attribute is intended to assess the condition of the pavement within the 4' by 4' area directly in front of the ramp. There are three (3) options for this attribute shown below along with examples:

1. Very good (pavement in this area is non-distressed)
2. Fair (pavement in this area shows wear, but has no distresses which hinder accessibility)
3. Poor (pavement in this area has distresses which hinders accessibility)



Very Good



Fair

APS Existence

This attribute field is intended to indicate whether there is an accessible pedestrian signal (APS) located at the ramp. There are two (2) options associated with this attribute which are shown below:

1. Yes (there is an APS located at the ramp)
2. No (there is no APS located at the ramp)



Yes



No

Obstruction of Path Within Ramp

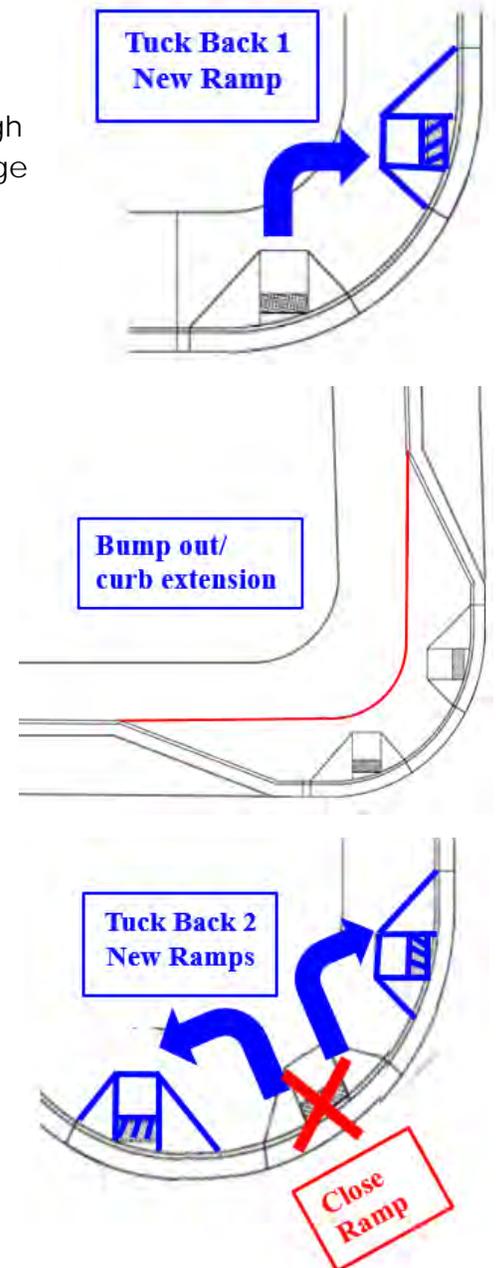
This attribute is intended to indicate whether there are any objects or barriers which are obstructing the pedestrian's path of travel (excluding the wing or flares). There are two (2) options associated with this attribute which are shown below:

1. Yes (there is an obstruction within the ramp)
2. No (there is no obstruction within the ramp)

Suggested Ramp Alteration

Inspectors should consider the type of ramp that should be put back in place, perhaps the existing design is functional and needs to be upgraded, or perhaps there is missing ramp on the corner and new ramp(s) need to be constructed. Select the best design consideration from the following thirteen (13) options.

1. Perpendicular – See Perpendicular Ramp in in Curb Ramp Geometry Types.
2. Parallel – See Parallel Ramp in in Curb Ramp Geometry Types.
3. Blended Transition – Generally associated with high pedestrian traffic flow and wide sidewalk with large radius. See Combination Ramp in Curb Ramp Geometry Types.
4. Flat Corner – Generally associated when building corner is very close to road and sidewalk width is minimal. See Parallel Ramp in in Curb Ramp Geometry Types.
5. Pass-through – See Pass-Through Ramp in Curb Ramp Geometry Types.
6. Directional – See Directional Ramp in in Curb Ramp Geometry Types.
7. Combination – See Combination Ramp in Curb Ramp Geometry Types.
8. Bump-out – Bump out the curb to allow more room to fit a new ramp.
9. Tuck-back 1 ramp – Maintain existing ramp and create one (1) new uni-directional ramp.
10. Tuck-back 2 ramps – Close existing ramp and create two (2) new uni-directional ramps.
11. Relocate ramp from driveway – Driveways cannot serve as a curb ramp. Curb ramp must be relocated.
12. Close current ramp – Current ramp is not needed and should be closed off.
13. Diagonal – See Diagonal in Ramp Position.



Program (Engineered vs Maintenance)

Based on the suggested ramp alteration, intersection topography, drainage structures, and back of sidewalk constraints like steps, driveways, entrances, etc. The inspector must make a good-faith judgement as to which type of municipal repair program would be required for each ramp. There are two (2) options:

1. Maintenance: Ramps likely could be brought into compliance by repair and/or construction through a maintenance contract, i.e. no survey or engineered plan needed. Construction can start soon. No physical constraints that would require utility relocation, curb modifications, or intersection improvements to be made.
2. Engineered: Ramps have physical constraints, likely would require relocation, extensive curb/sidewalk modification, or intersection improvement. This work would require specialized plan including full survey and design to properly construct and meet with ADA standards. Construction would be part of a long-term plan or project. Below are examples of ramps that are likely needing engineering.



ADA Compliance

This attribute field is auto calculated and intended to indicate whether the inspected ramp is ADA compliant or not based on inputted values.

SIDEWALK INSPECTION

This inspection form is designed to quantify the overall damage and compliancy of sections of sidewalks. There are eight attribute fields that are required, they are as follows:

Sidewalk Surface Material

This attribute field is intended to document the surface material of the sidewalk segment. There are seven lookup fields for this attribute:

1. Cement Concrete
2. Bituminous Concrete
3. Pavers
4. Other



Cement Concrete



Bituminous Concrete



Pavers

Average Width of Sidewalk

Inspectors are to use measuring tape for measurement and record the average width of the sidewalk segment. Measuring tape is to be placed from the inside of the curb to the back of sidewalk, along the width of the sidewalk. If an esplanade exists, the measurement should be taken from the inside of the esplanade edge to back of the sidewalk, along the width of the sidewalk. The measurement should be recorded to the nearest half foot, rounding upward.



Estimate of Damage Area (%)

The inspector must make a good faith estimate as to the percentage of damaged sidewalk within each sidewalk segment. This value should be divisible by 5 or 0. The estimated damage is based on surface distresses such as Cracking, Fractured Panels, Faulting, Distortion, Scaling/Raveling, Utility Cuts/ patches, Potholes/Missing Sidewalk Material, Alligator Cracking, Distortion, etc.

Damaged Area	Description
0 – 25%	Sidewalk in Excellent to Good condition. Little to no surface distresses. May have slight hairline cracks, scaling and/or other minor distress, but no effect on wheelchair. Pedestrians could easily use this sidewalk.
25 – 50%	Sidewalk in Fair Condition. May contain fractured panel, faulting, tree root damage, or other trip hazards. Minor maintenance efforts would be required to correct this problem. May require localized panel replacement. Pedestrians could use this sidewalk with little to some difficulty.
50 – 75%	Sidewalk in Poor Condition. Sidewalk structure is failing, multiple fractured panels and faulting is present, multiple trip hazards and/or tree root damage. Major maintenance efforts would be required to repair sidewalk. May require partial reconstruction. Pedestrians would have difficulty using this sidewalk and may instead opt to use road.
75 – 100%	Sidewalk in Failure Condition. Sidewalk has extensive distresses, multiple faults, hard pinch points, severe tree root damage, and other trip hazards. Sidewalk structure has failed and requires full reconstruction. Portions of sidewalk are missing. Pedestrians are unable to use the sidewalk and are instead forced to use road.

Sidewalk Running & Cross-Slope

Inspectors are to use a 2' smart level for measurement and record the average running and cross-slope (%) of the sidewalk segment. The running slope of the sidewalk is parallel to the path of travel, and the cross-slope is perpendicular to the path of travel. The smart level is to be placed along a panel of the sidewalk and should not be placed on the distresses. To the right is an example of where to take the measurements.



Esplanade Surface Material

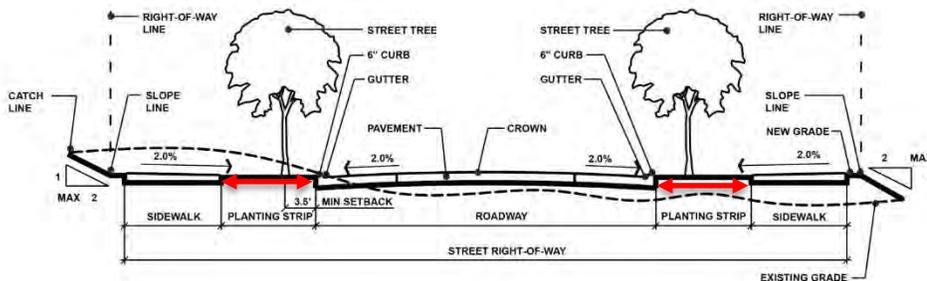
This attribute field is intended to document the surface material of the esplanade. There are four (4) options for this attribute:

1. Grass
2. Pavers
3. Cement Concrete
4. Bituminous Concrete



Esplanade Average Width

Inspectors are to use measuring tape for this measurement and record the average width of the esplanade. The measurement should be recorded to the nearest half foot, rounding upward. To the right, is an example of where the measurement should be taken:



Parking Obstructions within Sidewalk

This attribute field is intended to document whether the inspected sidewalk contains parking spaces/obstructions blocking the pedestrian path of travel. There are two (2) options for the field:

- Yes – there are obstructions in the path of travel caused by parked vehicles.
- No – the path of travel is free from any obstruction related to parked vehicles.

HAZARD & OBSTRUCTION INSPECTION

During the sidewalk inspection the inspector will note severe tripping hazards, barriers, and obstructions located within the accessible path of travel of the sidewalk. The following types of hazards and obstructions will be noted:

1. Tree Root Hazard – Distorted, faulted, and buckled sidewalk with ≥ 1 " lift/displacement of panel that is at least 50% of sidewalk width due to tree root uplift. Panels need to be replaced and/or the tree needs to be removed.
2. Sidewalk Surface Hazard – Trip Hazards not due to Tree Roots:
 - a. Potholes – Parts of sidewalks material missing ≥ 1 " depth.
 - b. Faulting ≥ 1 " lift/displacement of concrete panel(s) that is at least 50% sidewalk width.
 - c. Drainage grooves
3. Fixed Pinch Point – where sidewalk width is < 36 ". Any barrier/object within the sidewalk that reduces the path of travel < 36 " wide. This also includes protrusions > 6 " in height that span full width of sidewalk. Inspector will also record the pinch point clearance width in inches (0" clearance signifies – i.e. depressed driveways, full curb reveal that are > 6 ", etc.)
4. Gate Hazard – Any utility structure hazard posing a tripping hazard. ≥ 1 " or greater, missing/damaged cover, etc.
5. Public Comment – Any meaningful public comments gathered during the field assessment pertaining to ADA improvements.
6. Vegetation – Any kind of plant growth that impacts travel by impeding or displacing the path of travel. Repairs would include removal, chainsaw work, pruning, and/or stripping off surface vegetations from sidewalk.
7. Surface Protrusion – > 1 " and < 6 ". Mostly due to drainage pipes and dams, some instances of walls and built-up driveways and/or steps into homes.

It is possible for more than one hazard/obstruction to occur at a given spot. For example, a pinch point could be caused by a tree root.

Note: This inspection methodology differs from 2010 ADA Standards 303.3 as it is intended for the PROW Self-Evaluation.

Tree Root Hazard – distorted/faulted/buckled with $\geq 1"$ lift for at least 50% of width



Sidewalk Surface Hazard – $\geq 1"$ faulting on at least 50% sidewalk width, drainage grooves, and/or potholes/missing materials.



Fixed Pinch Point – path of travel is $< 36"$ wide due to hard obstruction.



Gate Hazard – any ≥ 1 " surface related hazards due to gates and/or other utility structures.



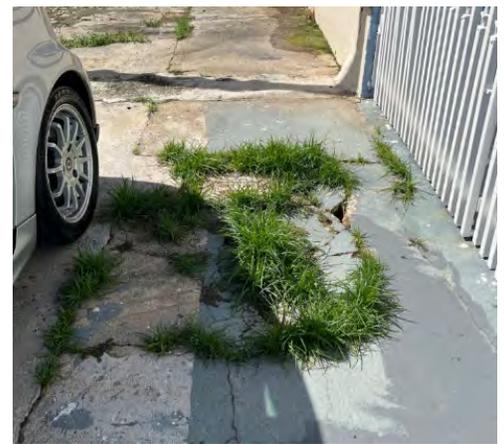
Public Comment – Public comments from field related to accessibility and ADA compliance



Comment: Homeowner has fallen due to changes in slope.



Comment: Homeowners use this sidewalk to get to the hospital, needs maintenance and signs of do not park/block.



Comment: Elizabeth Santiago Silva says she has a problem in the sidewalk which municipality has not worked on.

Vegetation – any vegetation barriers that could be corrected with



maintenance.

Surface Protrusion – any ≥ 1 " surface protrusions. Note protrusions >6 " along full width of sidewalk are recorded as pinch point.



PARKED VEHICLES ON AVENUES

Parked Vehicles

This evaluation form/attribute is intended to determine the limits of how much of a given sidewalk is used for vehicle parking along all Avenues. The inspector determines how much of the sidewalk is occupied by parked vehicles then creates a polyline on Field Maps to show limits of where parked vehicles are blocking the sidewalk or primary accessible path of travel.



References

[Design Cross Section: Seattle Streets Illustrated](#)

APPENDIX B



May 7, 2025

Jessica Colon
DUDP

Raul Garcia
Director

SIDEWALK AND ACCESSIBLE RAMP SCOPE OF WORK

The Municipality of San Juan is committed to improving its urban infrastructure to better serve its residents and visitors. In alignment with this mission, a comprehensive project plan has been developed for the construction and reconstruction of sidewalks and accessible ramps throughout the city, based on compliance with the Americans with Disabilities Act (ADA).

This letter outlines the scope of work, technical components, and project priorities that will guide implementation and ensure long-lasting, inclusive impact.

PROJECT SCOPE AND IMPLEMENTATION

The project is structured into the following phases:

Assessment of Existing Infrastructure

The Municipality has engaged Stantec to conduct a detailed evaluation of sidewalks and ramps citywide, identifying ADA compliance deficiencies through field inspections and data analysis.

Community Engagement

Stantec will also lead the community engagement process, including public meetings and workshops, with particular attention to the needs and perspectives of individuals with disabilities.

Design and Planning

The Municipality will oversee the development of technical design documents for the construction and reconstruction of sidewalks and ramps. This includes specifying materials, construction methodologies, and incorporating stakeholder feedback to meet ADA standards.

Funding and Resource Allocation

Funding will be secured through federal and state grants, municipal budgets, and potential private partnerships. A comprehensive project budget will be developed to ensure feasibility and effective execution.

Construction Phase

Sidewalk and ramp improvements will be implemented with minimal disruption, and with clear communication to the public. Accessibility for all pedestrians will be maintained throughout.

Monitoring and Evaluation

Ongoing inspections and feedback mechanisms will track progress, measure compliance, and identify areas for adjustment using key performance indicators (KPIs).

Technical Considerations

Compliance with ADA and applicable codes

Prioritization of deteriorated, raised, or hazardous sidewalks and ramps

Use of mechanized tools and standardized methods for efficiency

Coordination between demolition, formwork, pouring, and finishing

Supervision based on linear-footage targets to ensure productivity

Project Team Structure

The work will be executed and monitored by specialized teams:

Project Management Unit – Coordination, data collection, reporting, and planning

Construction Management – Oversight of field operations, logistics, and materials

Inspection Unit – Ensures regulatory and design compliance

Legal Unit – Manages documentation, contracts, and regulatory adherence

Execution will involve both private contractors and internal municipal brigades, divided into specialized crews for demolition, debris collection, forming, concrete work, and utility adjustments.

PRIORITY AREAS FOR ADA SIDEWALK AND RAMP CONSTRUCTION

To maximize the effectiveness and equity of this initiative, the Municipality has established a **priority framework** for selecting construction areas. This framework ensures

that improvements are directed first to areas serving the most vulnerable populations and critical public services:

Healthcare Institutions (e.g., public hospitals, dialysis centers)
Essential for safe access to medical services for persons with disabilities.

Senior Communities (e.g., elderly housing, care centers)
Support for mobility-limited populations requiring daily services.

Educational Centers (e.g., schools, Head Start, universities)
Mandated safe access for students, staff, and visitors with disabilities.

Public Transportation Stops (e.g., AMA, SITRAS stations)
Ensure inclusive access to essential mobility networks.

Recreational Public Spaces (e.g., parks, plazas, accessible beaches)
Promote social inclusion and community well-being.

Government and Public Service Offices (e.g., city halls, courts)
Guarantee civic participation and equal access to services.

General Residential Zones
Improves safety and connectivity, addressed after high-priority zones.

This prioritization strategy is integral to project planning and resource allocation, ensuring that construction efforts are directed where they will have the most immediate and lasting impact on accessibility, safety, and equity.

CONSTRUCTION COSTS

To ensure informed decision-making and responsible resource allocation, the Municipality has developed a structured approach to evaluating construction cost estimates submitted by various contractors. This framework supports transparency, allows for fair comparison, and ensures that selected proposals align with project goals, budget constraints, and community priorities. Please refer to the table below for a detailed breakdown of the received estimates.

ITEM	DESCRIPTION	UNIT MEASUREMENT	COST ESTIMATES
1	DEMOLITION AND DISPOSAL - SIDEWALKS	SqM	\$91.00
2	DEMOLITION AND DISPOSAL - RIGID PAVEMENT CONCRETE ROAD	SqM	\$104.00
3	DEMOLITION AND DISPOSAL - CURB	LnM	\$91.00
4	DEMOLITION AND DISPOSAL - CURB & GUTTER	LnM	\$91.00
5	DEMOLITION AND DISPOSAL - GUTTER	LnM	\$91.00
6	DEMOLITION AND DISPOSAL - SWALE	LnM	\$91.00



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DEPARTAMENTO DE
OPERACIONES Y ORNATO

7	DEMOLITION AND DISPOSAL EXISTING CATCH BASINS FROM 4'X3'X2.5'UP TO APROX 4'3'4'1N SIZE	CuM	\$123.50
8	EXCAVATIONS AND DISPOSAL	CuM	\$45.50
9	PLACEMENT AND COMPACTION OF FILL MATERIAL A-2-4	CuM	\$58.50
10	PLACEMENT AND COMPACTION OF CRUSHED STONE BASECOURSE (MOGOLLA)	CuM	\$71.50
11	PLACEMENT AND COMPACTION OF BEDDING MATERIAL FOR DRAINAGE PIPES	CuM	\$58.50
12	PLACEMENT AND COMPACTION OF BACKFILL MATERIAL FOR TRENCH EXCAVATIONS	CuM	\$58.50
13	CONCRETE PLACEMENT - SIDEWALKS (3,000 PSI)	SqM	\$201.50
14	CONCRETE PLACEMENT - ENTRANCE RAMPS (6,000 PSI)	SqM	\$214.50
15	CONCRETE PLACEMENT - SIDEWALK WITH INTEGRAL COLOR (3,000 PSI)	SqM	\$240.50
16	CONCRETE PLACEMENT-SIDEWALK WITH EXPOSED AGGREGATE FINISH (3,000 PSI)	SqM	\$240.50
17	CONCRETE PLACEMENT - RIGID PAVEMENT (6,500 PSI)	SqM	\$227.50
18	CURB & GUTTER CONSTRUCTION, TYPES A (3,000 PSI)	LnM	\$201.50
19	CURB & GUTTER CONSTRUCTION, TYPES B (3,000 PSI)	LnM	\$201.50
20	CURB & GUTTER CONSTRUCTION, TYPES C (3,000 PSI)	LnM	\$201.50
21	CURB & GUTTER CONSTRUCTION, TYPES D (3,000 PSI)	LnM	\$201.50
22	CURB & GUTTER CONSTRUCTION, TYPES F (3,000 PSI)	LnM	\$201.50
23	HANDICAP RAMP CONSTRUCTION (3,000 PSI)	Each	\$975.00
24	PLACE IN CONCRETE OF WIRE MESH 6x6 #10 (OR EQUIVALENT)	SqM	\$26.00
25	SHALLOW CONCRETE GUTTER CONSTRUCTION TYPE 1 (3,000 PSI)	LnM	\$195.00
26	SHALLOW CONCRETE GUTTER CONSTRUCTION TYPE 2 (3,000 PSI)	LnM	\$195.00
27	CONCRETE BARRIER CONSTRUCTION	LnM	\$520.00
28	SUPPLY AND INSTALL STEEL GRATE STORM SEWER INLET	Each	\$650.00
29	SUPPLY AND INSTALL STEEL FRAME AND GRATE	Each	\$650.00
30	SUPPLY AND INSTALL STEEL FRAME FOR STORM SEWER INLET	LnM	\$975.00
31	CONSTRUCTION OF CATCH BASIN 4'X3'X2.5'	Each	\$3,900.00
32	SUPPLY AND INSTALL CATCH BASIN 4'X3'X2.5'	Each	\$5,200.00



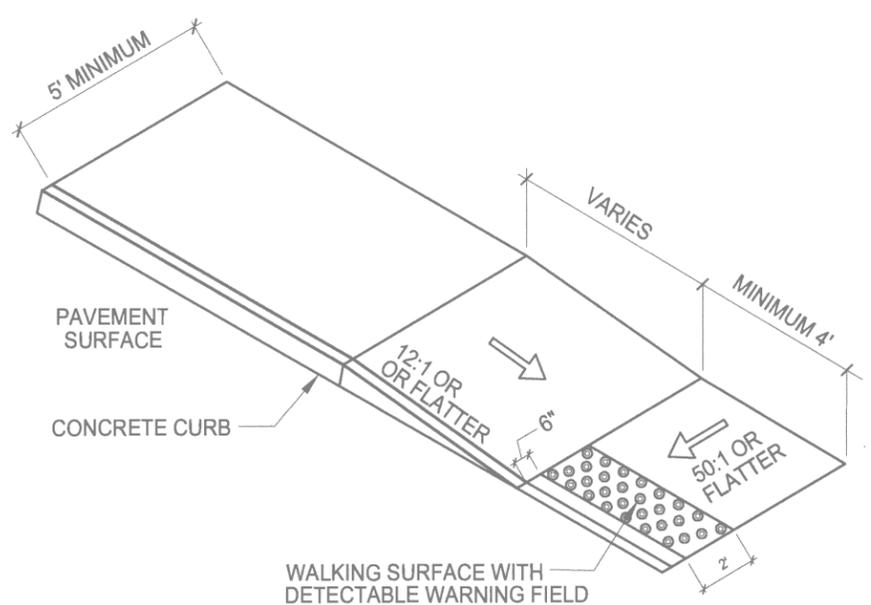
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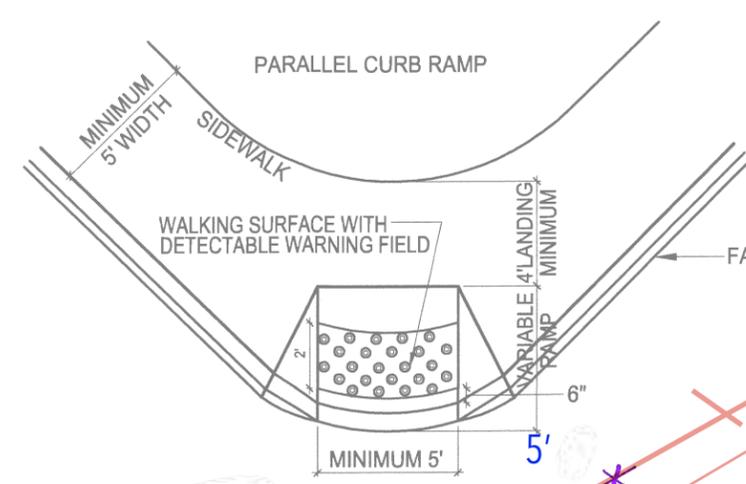
33	CONSTRUCTION OF CATCH BASIN 4'X3'X3'	Each	\$4,550.00
34	SUPPLY AND INSTALL CATCH BASIN 4'X3'X3'	Each	\$5,850.00
36	SUPPLY AND INSTALL CATCH BASIN 4'X3'X4'	Each	\$6,550.00
38	SUPPLY AND INSTALL RCP PIPE (8 diam)	LnM	\$0.00
41	SUPPLY AND INSTALL RCP PIPE (12" diam)	LnM	\$0.00
44	SUPPLY AND INSTALL RCP PIPE (18" diam)	LnM	\$422.50
45	SUPPLY AND INSTALL HIGH DENSITY POLYETHYLENE (HDP) PIPE (24" diam)	LnM	\$520.00
46	SUPPLY AND INSTALL RCP PIPE (24" diam)	LnM	\$520.00
47	SUPPLY AND INSTALL HIGH DENSITY POLYETHYLENE (HDP) PIPE (36" diam)	LnM	\$715.00
48	SUPPLY AND INSTALL RCP PIPE (36" diam)	LnM	\$780.00
49	PROJECT SIGN 4'X8' CONSTRUCTION AND INSTALLATION	Each	\$2,600.00
51	CLEANING AND REINSTALLATION OF EXISTING CONCRETE PAVERS	SqFt	\$13.00
52	SUPPLY AND INSTALL CONCRETE PAVERS (4"X8"X4")	SqFt	\$26.00
53	SUPPLY AND INSTALL CONCRETE PAVERS (12"X 12")	SqFt	\$26.00
54	TILE INSTALLATION	SqFt	\$13.00
56	PAVEMENT MARKINGS (THERMOPLASTIC)	LnM	\$16.25
57	PAVEMENT MARKINGS (TRAFFIC PAINT)	LnM	\$13.00
58	PAINING OF CURBS (TRAFFIC PAINT)	LnM	\$13.00
59	PAINING OF HANDICAP RAMPS (TRAFFIC PAINT)	SqM	\$162.50
60	SUPPLY AND INSTALL STEEL GRATES FOR STREET PLANTERS	SqFt	\$260.00
61	REMOVAL OF STUMPS AND ROOT	Each	\$1,300.00

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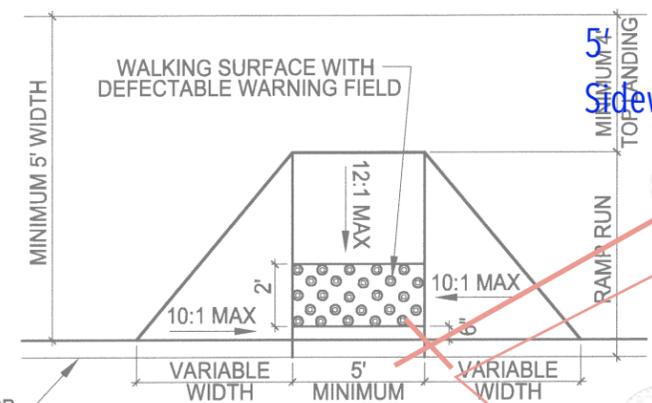
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PARALLEL CURB RAMP

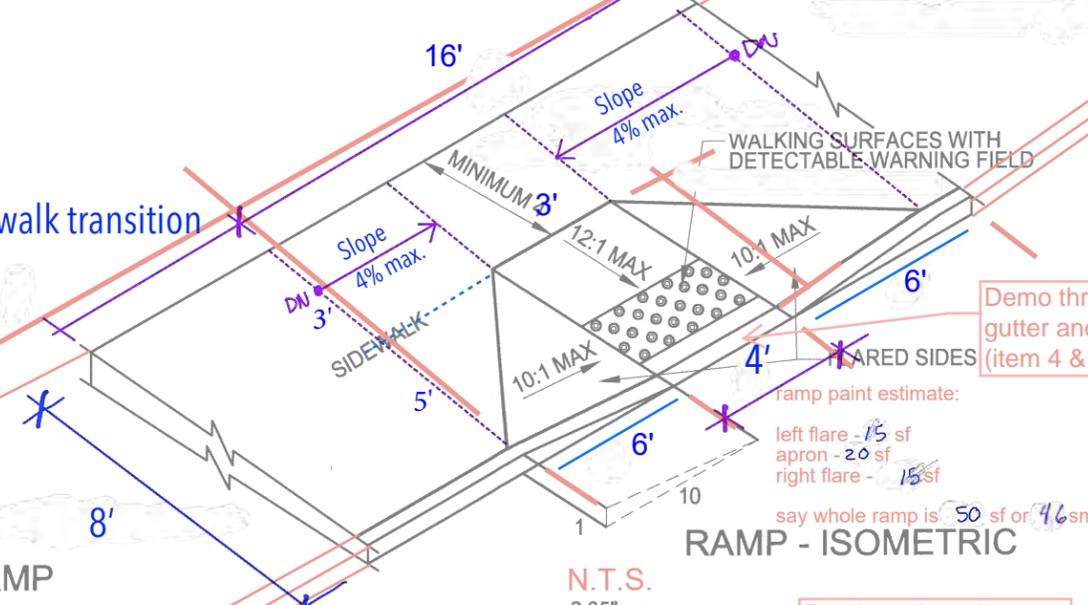


Sidewalk transition

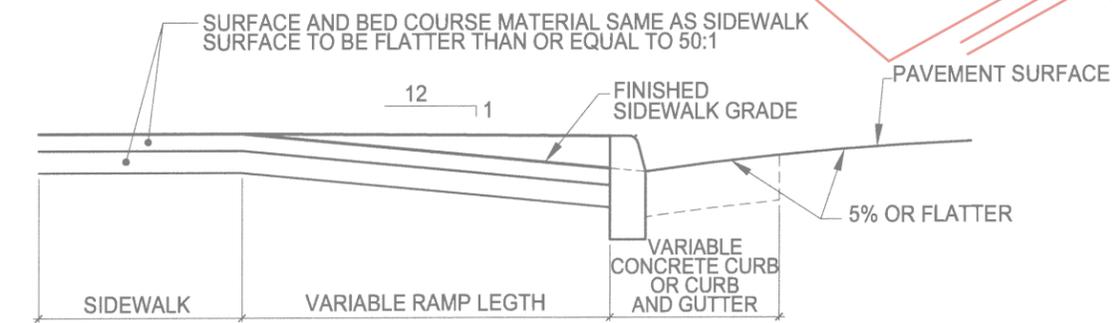


PERPENDICULAR CURB RAMP

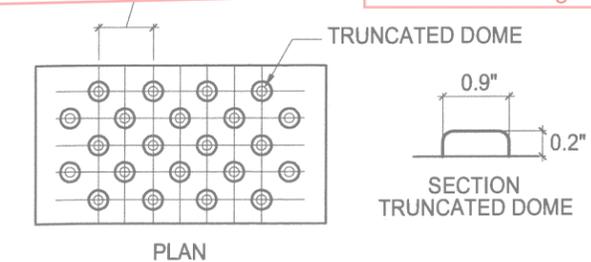
Sidewalk transition



RAMP - ISOMETRIC



RAMP - TYPICAL SECTION



DETECTABLE WARNING FIELD WITH TRUNCATED DOMES

1. Assume each ramp includes left and right sidewalk transition panels
2. Assume sidewalk demolition of 26' x 8' = 208 sf or 19.3 sm (item 1 \$91.00/sm) - concrete esplanade
- 2a. Sidewalk demolition with grass esplanade 208 sf - 50 sf = 158 sf or 14.7 sm
3. Assume curb and gutter demolition for ramp, threshold and flares, 16' or 4.9 lm (item 4 \$91.00/lm)
4. Assume 4.9 lm for new curb and gutter construction (item 20 \$201.50/lm)
5. Assume concrete material for sidewalk and ramp & each ramp area is 19.3 sm (item 13 \$201.50/sm)
- 5a. Concrete for sidewalk and ramp 14.9 sm
6. Assume item 23 \$975/ea.
7. Assume surface area of each ramp to be painted is 4.6 sm (item 59 \$162.50/sm)
8. Assume a 10% contingency for associated drainage improvements or safe zone paving improvements.

Perpendicular Ramp w/ Grass Esplanade	Perpendicular Ramp w/ Concrete Esplanade
2a. Swk Demo \$1,337.10	2. Swk Demo \$1,756.30
3. Curb and gutter demo \$445.90	3. Curb and gutter demo \$445.90
4. New curb and gutter \$987.35	4. New curb and gutter \$987.35
5a. New concrete \$3,002.35	5a. New concrete \$3,888.95
6. Ramp \$975	6. Ramp \$975
7. Paint \$747.50	7. Paint \$747.50
Sub total = \$7,495.20	Sub total = \$8,801.00
10% Contingency \$749.52	10% Contingency \$880.10
Total = \$8,244.72	Total = \$9,681.10

NOTES:

1. THE MAXIMUM CROSS SLOPES OF RAMPS MUST NOT EXCEED 2% IN ANY DIRECTION.
2. USE A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE TO CREATE A SLIP RESISTANT SURFACE ON CONCRETE RAMP SURFACES, EXCLUSIVE OF THE DETECTABLE WARNING. Retain curb and gutter
3. CONSTRUCT CURB RAMP PERPENDICULAR TO THE CURB. AVOID SKEWING THE RAMP FACE.
4. CONSTRUCT RAMP TRANSITIONS BETWEEN WALKS, GUTTERS, OR STREET THAT ARE OF ABRUPT VERTICAL TO EXCEED 2.5 INCHES. Demo threshold, left and right curb and gutter and install new curb and gutter (item 4 & 20)
5. LOCATE DRAINAGE INLETS AND MANHOLES OUTSIDE OF RAMP WALKING SURFACES OR LANDINGS.
6. LOCATE DETECTABLE WARNING FIELD 6 INCHES BEHIND BACK OF CURB.
7. WALKING SURFACE WITH DETECTABLE WARNING FIELD (TRUNCATED DOMES) SHALL BE A SUBSIDIARY OBLIGATION TO THE CONTRACTOR AND PAID UNDER SPEC 608.

Assume \$9.0k for average perp ramp

Parallel - assume -33% for no transition panels	\$6.0k
1 tuck back - assume 2 perp -17% reduction for 1 less 5'x9' transition panel	\$16.5k
2 tuck back - assume 2 perp -17% reduction for 1 less 5'x9' transition panel	\$16.5k
Combination - same as perp	\$9.0k
Directional - assume -50% of parallel	\$3.0k
Flat Corner - assume same as parallel	\$6.0k
Close current ramp - assume 16' curb & gutter, 16'x5' concrete removed and replaced	\$3.6k
Pass-through - assume same as directional	\$3.0k
Relocate ramp from driveway - assume same as perp	\$9.0k
Bump-out - assume +75% for 7.5' wider	\$15.8k
Diagonal - assume same as perp	\$9.0k
Blended transition - assume +33% for 15' extra length	\$12.0k

ADA RAMP DETAILS

	COMMONWEALTH OF PUERTO RICO DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS HIGHWAY AND TRANSPORTATION AUTHORITY	STANDARD DRAWING APPROVED BY:		ADA RAMP DETAILS	ADA-1
		DATE: 2/11/09	DEPUTY EXECUTIVE DIRECTOR FOR INFRASTRUCTURE		

b:tecnico@act.dtop.gov.pr ENGINEERING STANDARDS OFFICE ENGINEERING SERVICES AREA

APPENDIX C

ADA Self-Evaluation for Public Rights of Way Public Outreach

Municipality of San Juan, Puerto Rico
Wednesday, November 12th, 2025





Agenda

1. Introduction and Background

- a. Legal Context
- b. Project Overview

2. Self-Evaluation Findings

- a. Summarization of Key Findings
- b. Prioritization Methodology

3. Public Feedback via Online Survey



Legal Context

Americans with Disabilities Act

The **Americans with Disabilities Act (ADA)** was signed into law on July 26, 1990.

The ADA is one of America's most complete pieces of civil rights legislation **prohibiting discrimination** and **guarantying people with disabilities the same opportunities** as every citizen.



Self-Evaluation Methodology

1. City-Wide Assessment

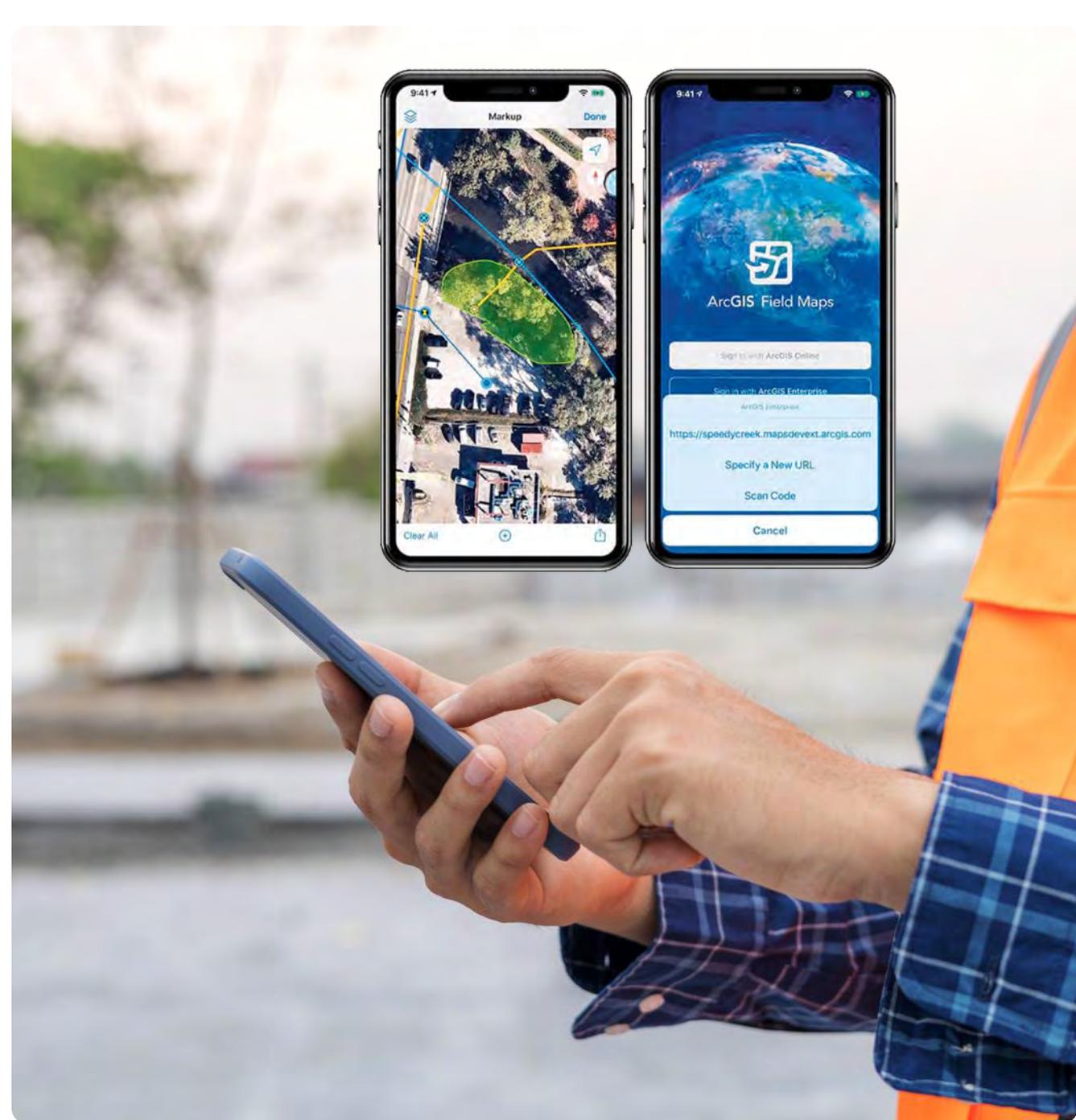
- Conducted by Stantec using Field Map Application (iPhone-based geolocation)

2. Detailed Condition Evaluation

- **Photographed** each asset (sidewalks and ramps)
- **Measured slopes** of sidewalk and ramp components with 2' Smart Level
- **Recorded hazards:** severe trip hazards and pinch points
- **Checked cross slopes** of ramps and sidewalks (2' Smart Level)

3. Data Management

- Compiled comprehensive database
- Developed prioritization methodology for improvements



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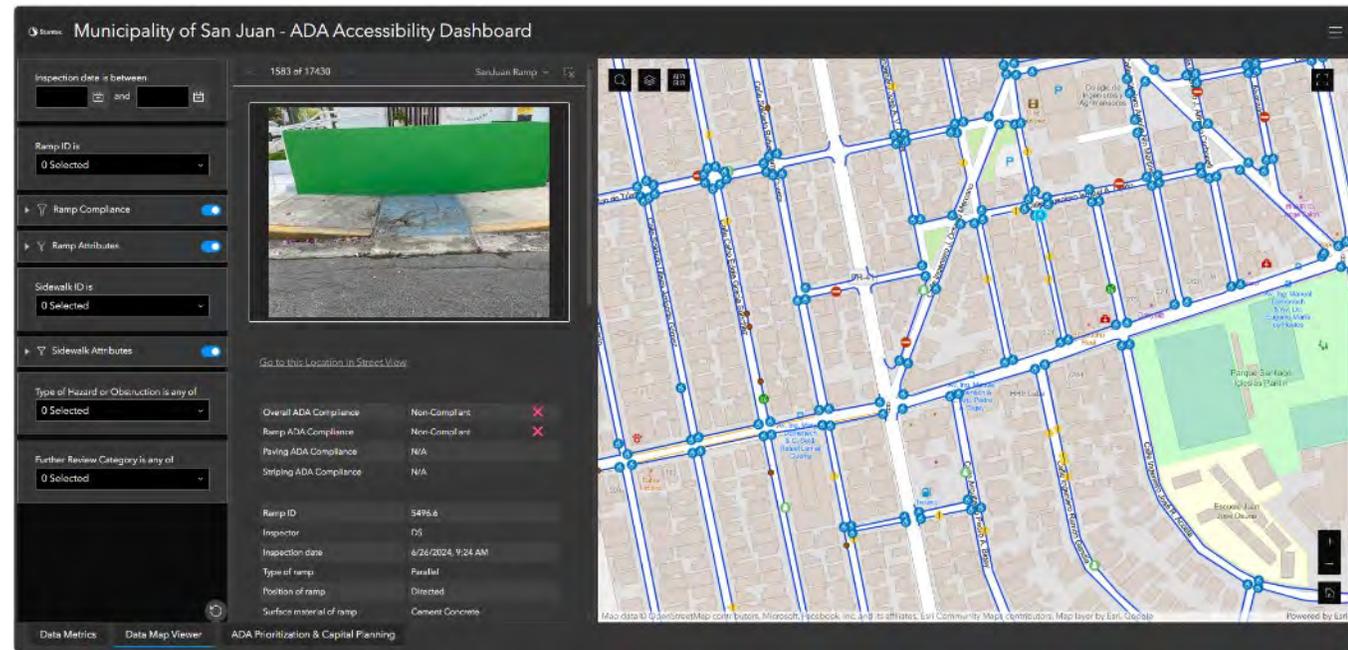
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- Compiled comprehensive database
- Developed prioritization methodology for improvements



Existing Ramp Conditions

1. Total Ramps Assessed:

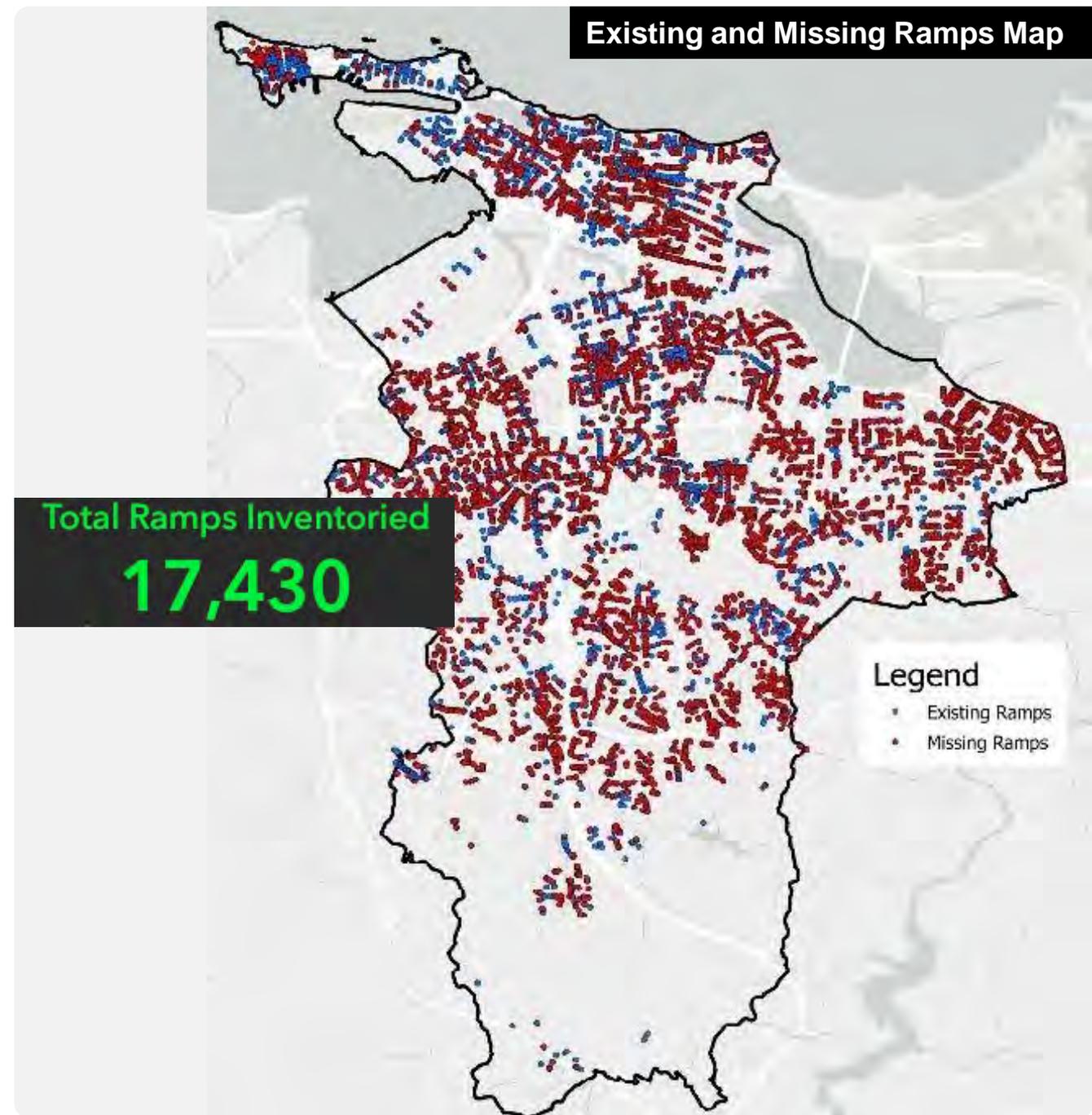
- **17,430** pedestrian ramps inventoried and evaluated
- **9,012** existing curb ramps
- **8,418** “missing” ramps

2. Categorization Process:

- Each ramp (including missing ones) classified by the most suitable design style for reconstruction at sidewalk corners

3. Examples:

- Common ramp types observed in **San Juan**:
- **Perpendicular** ramp
- **Parallel** ramp
- **Diagonal** ramp





Existing Ramp Conditions

1. Total Ramps Assessed:

- **17,430 pedestrian ramps** inventoried and evaluated
- **9,012 existing curb ramps**
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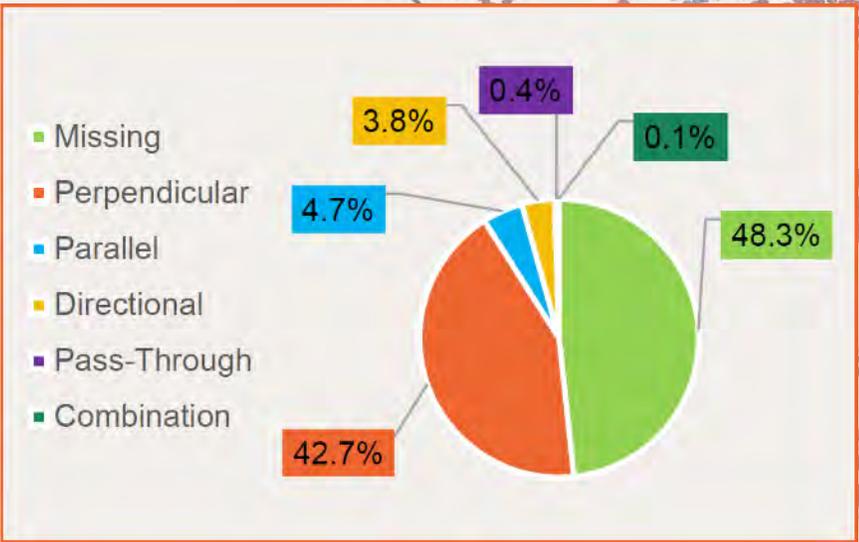
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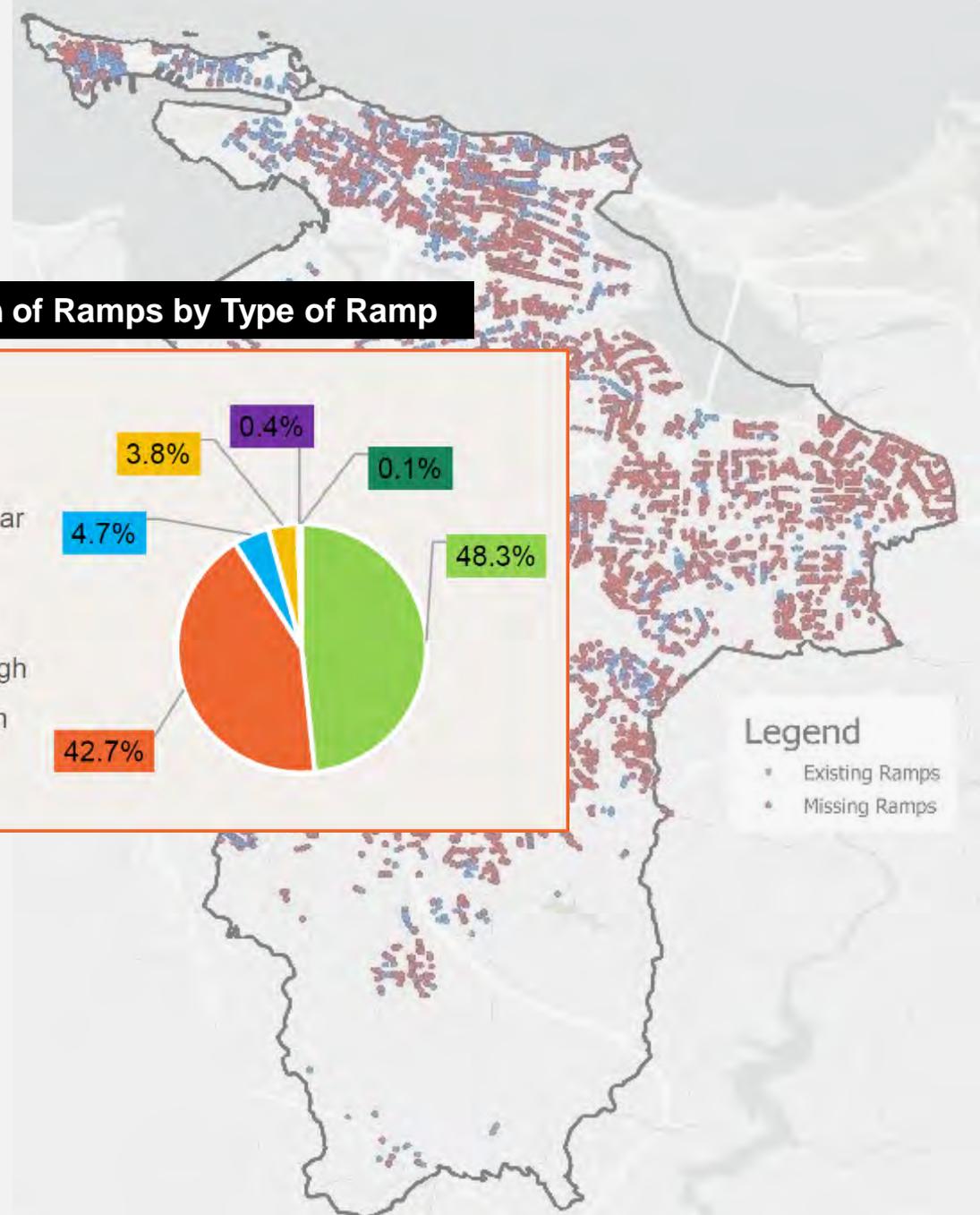
3. Examples:

- Common ramp types observed in **San Juan**:
- **Perpendicular** ramp
- **Parallel** ramp
- **Diagonal** ramp

Distribution of Ramps by Type of Ramp



Legend
 • Existing Ramps
 • Missing Ramps





Existing Ramp Conditions

1. Total Ramps Assessed:

- **17,430 pedestrian ramps** inventoried and evaluated
- **9,012 existing curb ramps**
- **8,418 “missing” ramps**

2. Categorization Process:

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3. Examples:

- Common ramp types observed in **San Juan:**
- **Perpendicular** ramp
- **Parallel** ramp
- **Diagonal** ramp



Perpendicular ramp



Parallel ramp



Diagonal ramp





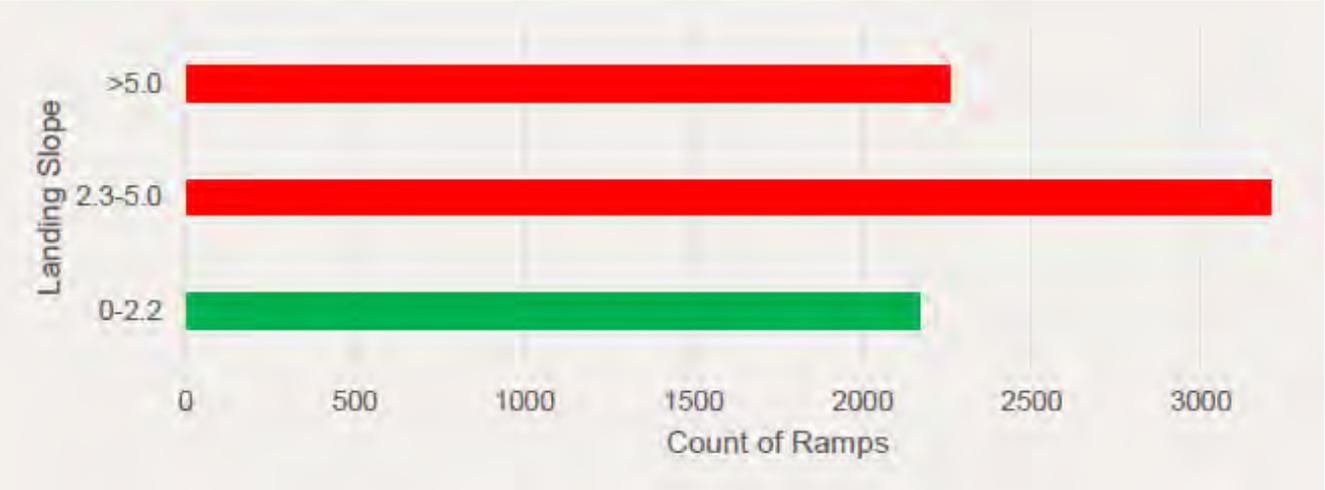
Existing Ramp Accessibility

1. Level Landing Zone:

- Critical component for accessibility
- **85%** of existing ramps include a level landing
- However, **72%** of those were **out of compliance**



Distribution of Landing Slope



Level Landing Present





Existing Ramp Accessibility

1. Level Landing Zone:

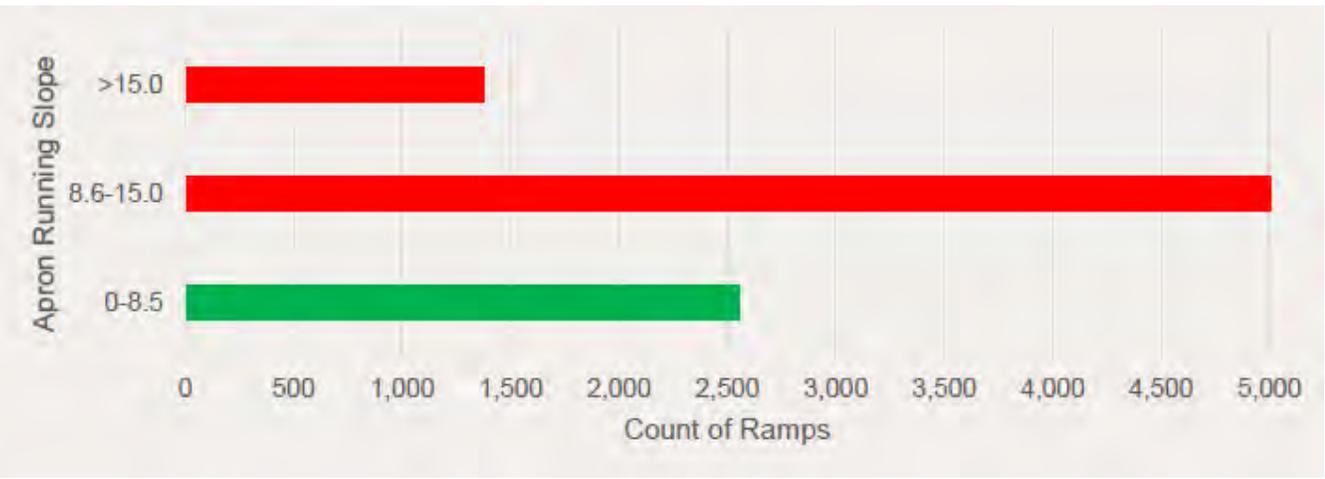
- Critical component for accessibility
- **85%** of existing ramps include a level landing
- However, **72%** of those were **out of compliance**

2. Apron Slope:

- **Frequent issue:** aprons too steep
- **71%** of ramps failed compliance standards

99% Looking at all the measured ramp components, Stantec determined **99%** of ramps do not comply with ADA regulations.

Distribution of Apron Slope



23.5% Apron Slope



18.3% Apron Slope





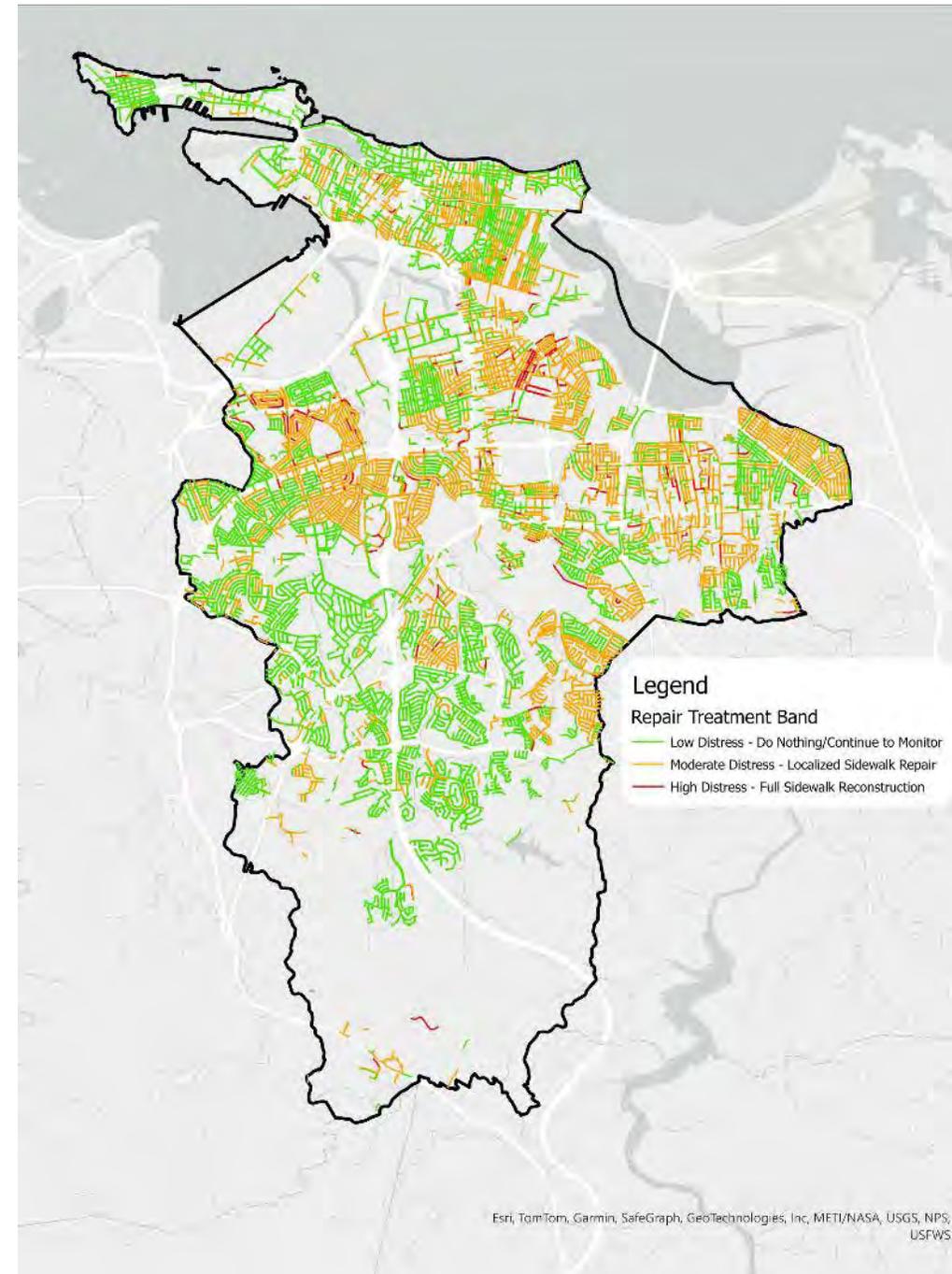
Existing Sidewalk Conditions

1. Scope of Work

- 1,047 miles of public sidewalks assessed
- Equivalent to 15,179 block-to-block segments

2. Condition Evaluation

- Estimated percentage of damaged area recorded for each segment



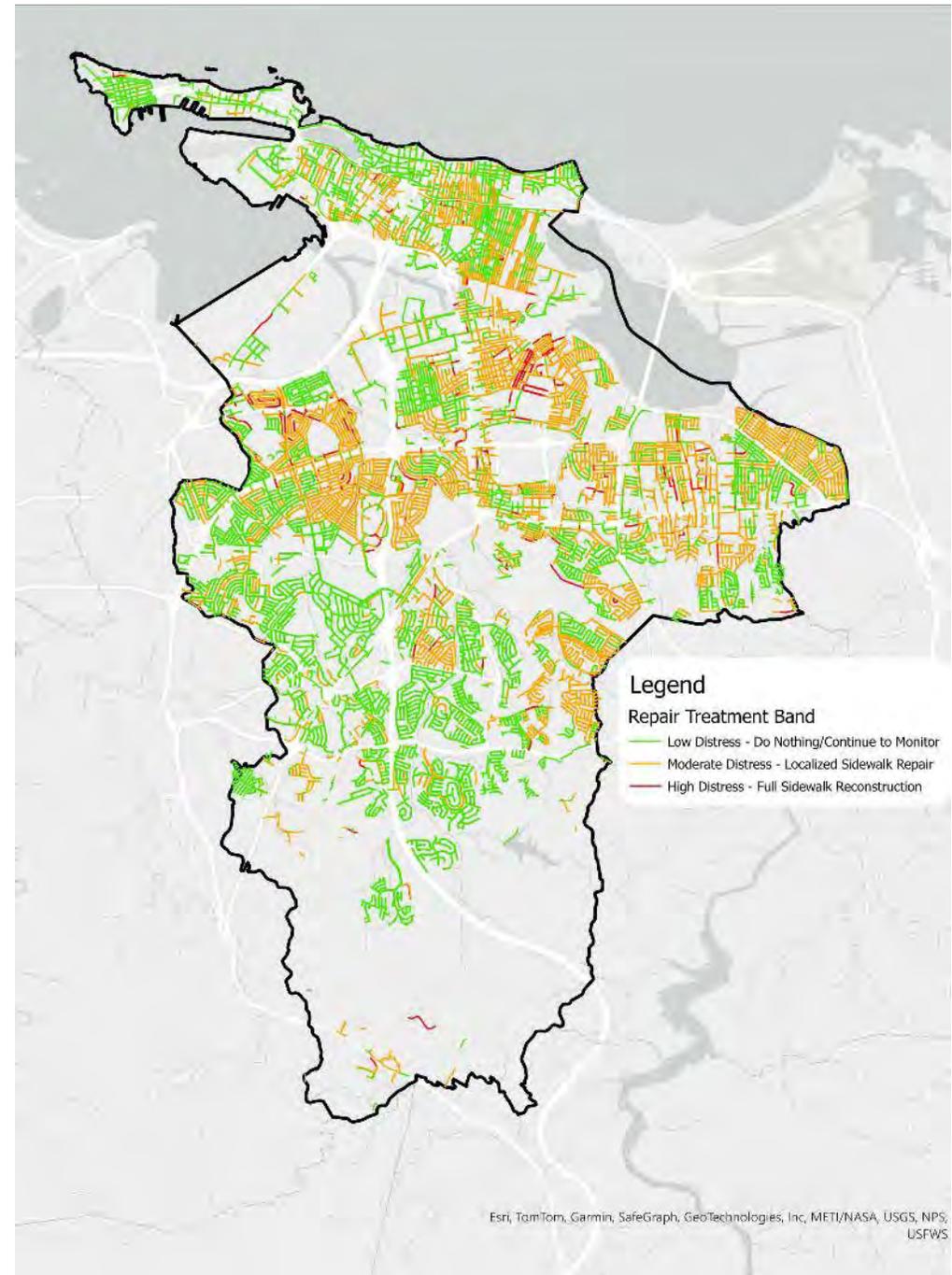
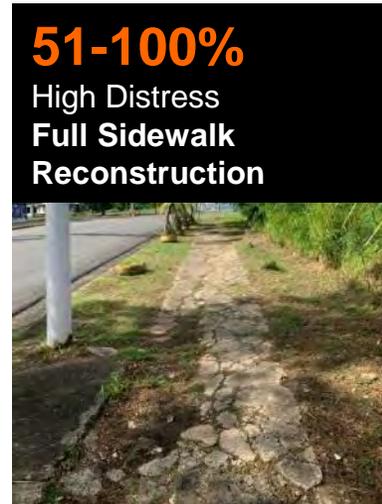
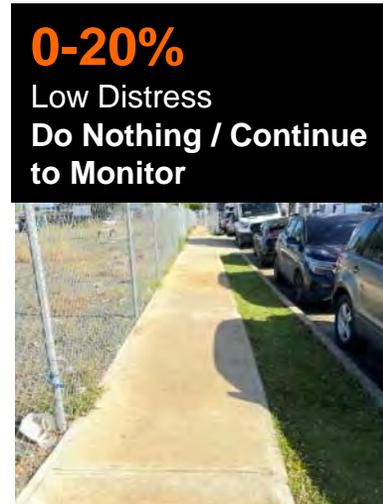
Existing Sidewalk Conditions

1. Scope of Work

- 1,047 miles of public sidewalks assessed
- Equivalent to 15,179 block-to-block segments

2. Condition Evaluation

- Estimated percentage of damaged area recorded for each segment





Existing Sidewalk Accessibility

1. Parking Obstructions

- Documented instances where vehicles blocked sidewalks
- **Nearly 50%** of sidewalks had parking obstructions

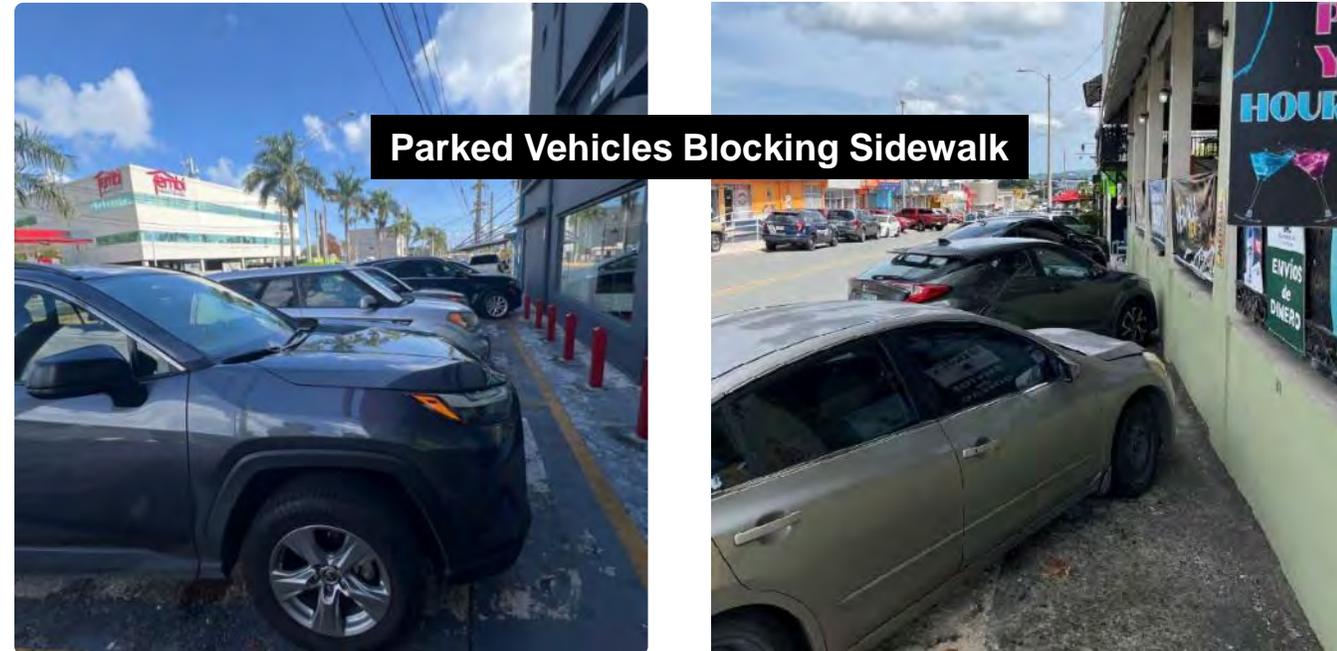
2. Severe Trip Hazards & Pinch Points

- **8,001 hazards** (<36") identified, measured, and mapped

3. Compliance Assessment

- Evaluated using:
- **Sidewalk cross-slope**
- **Sidewalk width**
- **Presence of pinch points and trip hazards**

Non-Compliant Sidewalk Accessibility Attribute	Count of Sidewalk Segments
Cross Slope >2.2%	6,375
Sidewalk Width <3'	383
Fixed Pinch Point	1,469
Gate Hazard	1,142
Sidewalk Surface Hazard	1,650
Surface Protrusion	369
Tree Root Hazard	821
Vegetation	771



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Fixed Pinch Point: Path of Travel is < 36" wide due to hard obstruction





Existing Sidewalk Accessibility

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60%

Stantec determined at least **60%** of total sidewalks do not comply with ADA regulations.





Curb Ramp & Sidewalk Repair Costs

Using recent MSJ bid prices, Stantec developed a rough order-of-magnitude estimate for sidewalk and curb ramp repairs.

Sidewalk Repair Cost Breakdown

Treatment Band	Damaged Area Range	Miles	% Miles	Sidewalk Dollars	Haz/Obstr Dollars	Total Dollars	% Total Dollars
Low Distress – Do Nothing	0 – 20	417.5	39.9%	\$0	\$0	\$0	0%
Low Distress – Do Nothing w/ Haz/Obstr	0 – 20	117.4	11.2%	\$0	\$5,559,575	\$5,559,575	3.3%
Moderate Distress – Localized Sidewalk Repair	21 – 50	326.1	31.1%	\$78,425,797	\$0	\$78,425,797	46.4%
Moderate Distress – Localized Sidewalk Repair w/ Haz/Obstr	21 – 50	159.0	15.2%	\$43,182,944	\$8,650,500	\$51,833,444	30.7%
High Distress – Full Sidewalk Reconstruction	51 – 100	27.1	2.6%	\$33,160,382	\$0	\$33,160,382	19.6%
Total		1,047.1		\$154,769,123	\$14,210,075	\$168,979,198	

Ramp Repair Cost Breakdown

Ramp Type	Ramp Count	Ramp Cost Dollars	% Ramp Cost Dollars
Perpendicular	6,795	\$61,155,000	33%
Parallel	1,678	\$10,068,000	5%
Tuck-back 1 ramp	416	\$6,864,000	4%
Tuck-back 2 ramps	5,169	\$85,288,500	46%
Combination	1,202	\$10,818,000	6%
Directional	1,001	\$3,003,000	2%
Flat Corner	481	\$2,886,000	2%
Close current ramp	168	\$604,800	<1%
Pass-through	143	\$429,000	<1%
Relocate ramp from driveway	136	\$1,224,000	<1%
Bump-out	88	\$1,390,400	<1%
Diagonal	30	\$270,000	<1%
Blended transition	19	\$57,000	<1%
Overall Compliant Curb Ramp	104	\$0	<1%
Total	17,430	\$184,057,700	100%

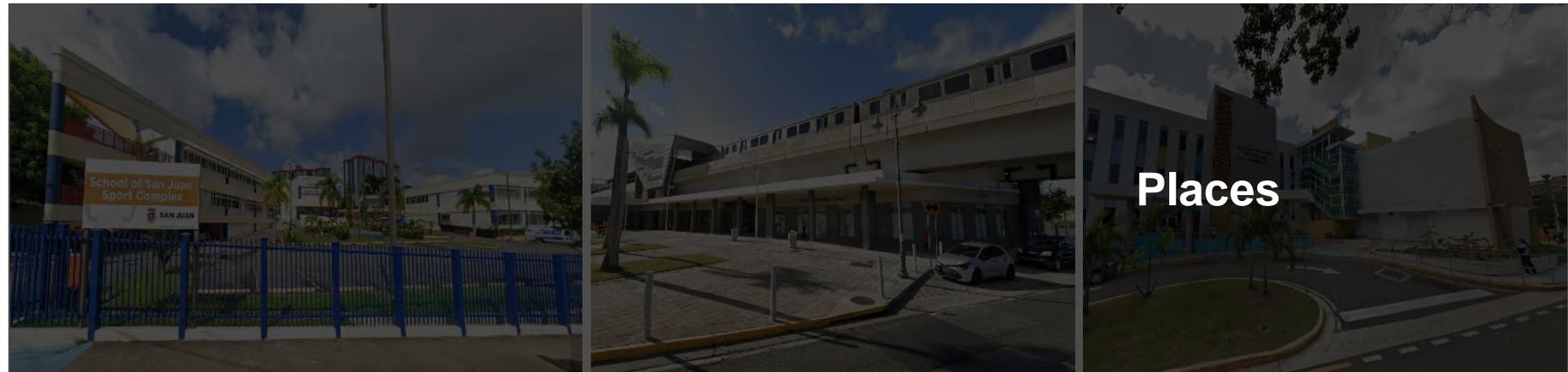
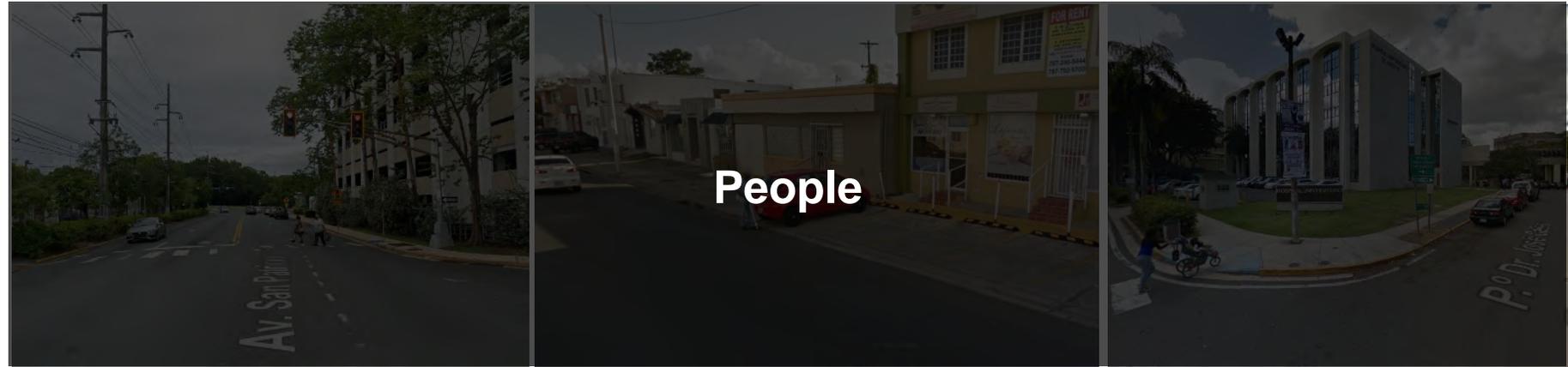
Stantec determined that approximately **\$169M** is needed to address identified sidewalk repairs

Stantec determined that approximately **\$184M** is needed to fix all curb ramps.



Prioritization Methodology

1. Infrastructure
2. People
3. Places





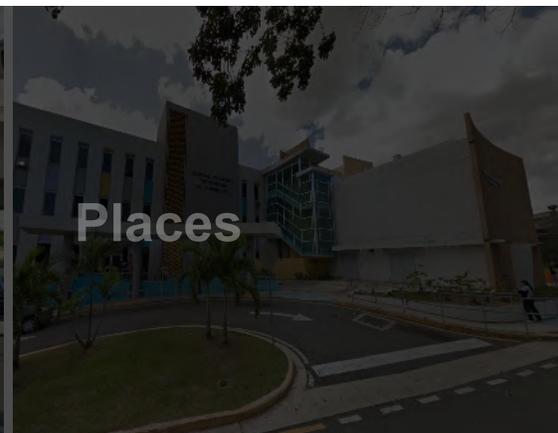
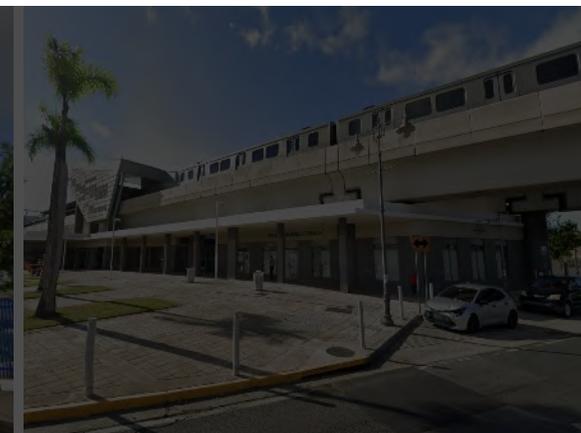
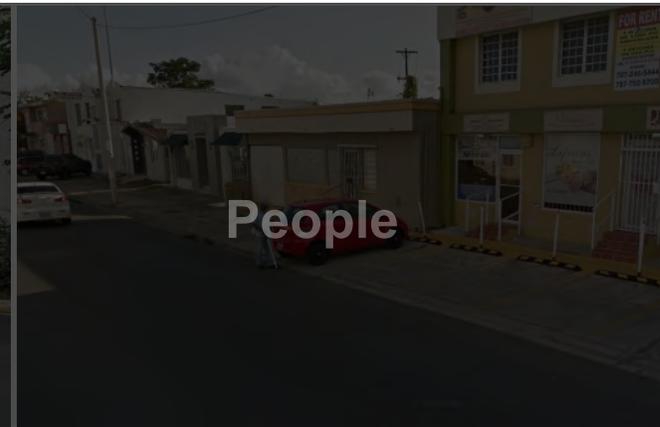
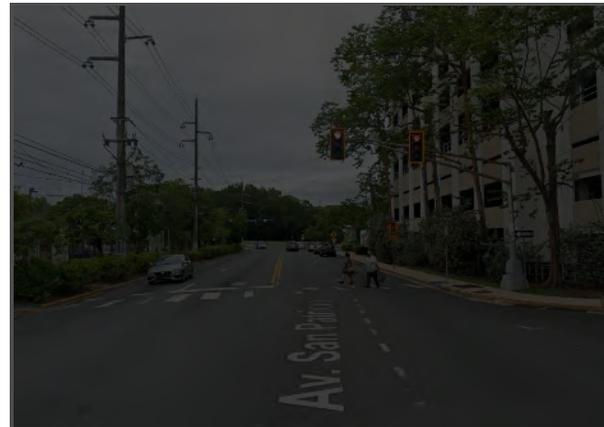
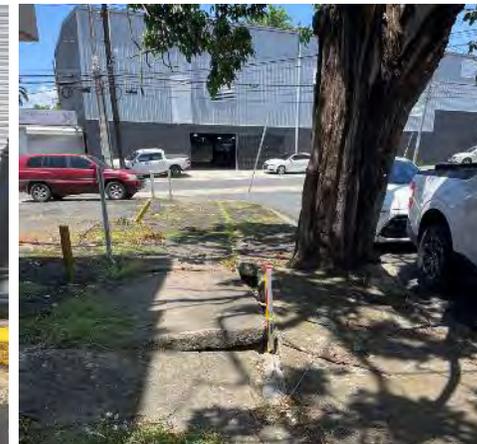
Prioritization Methodology

1. Infrastructure

- Physical condition of sidewalks and curb ramps
- Degree of compliance with **ADA standards**

2. People

3. Places





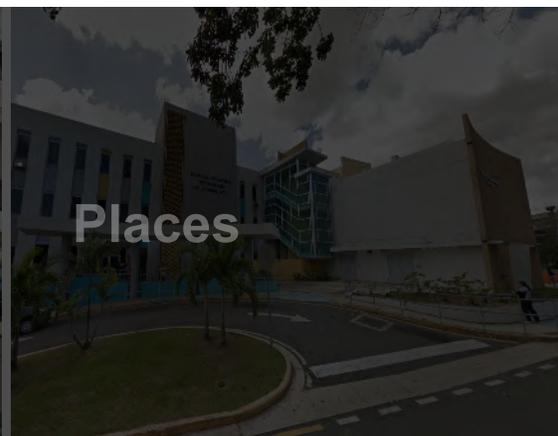
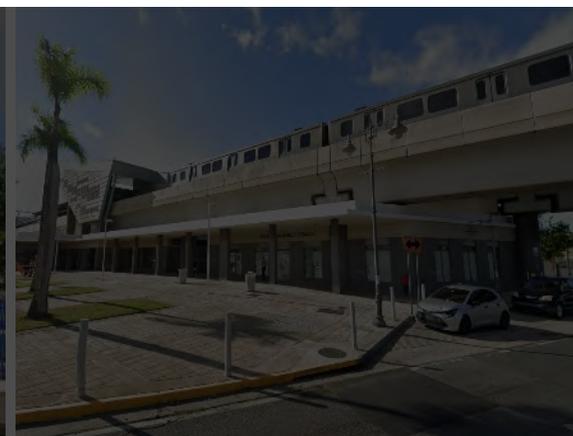
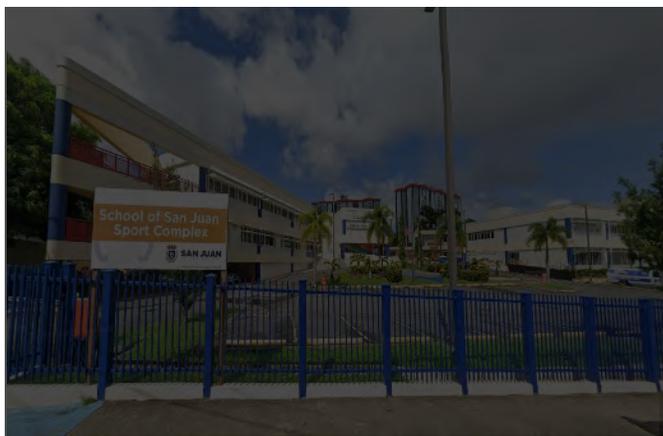
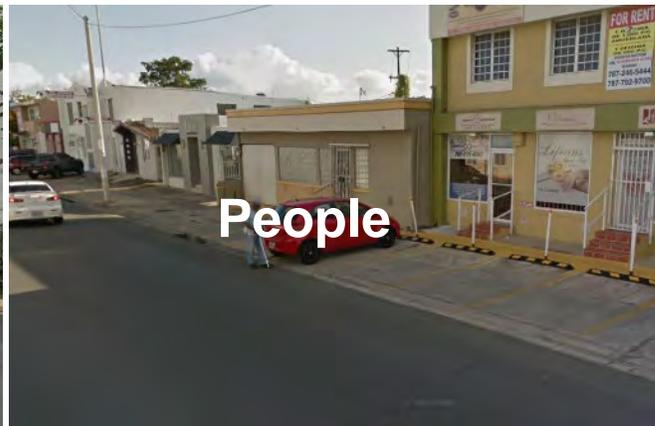
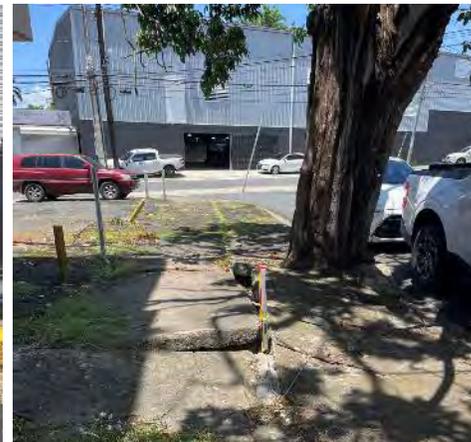
Prioritization Methodology

1. Infrastructure

2. People

- Community members who rely on these facilities:
- Residents with disabilities
- Seniors
- Parents with strollers
- Pedestrians
- Data sources: **Census data + online survey feedback**

3. Places



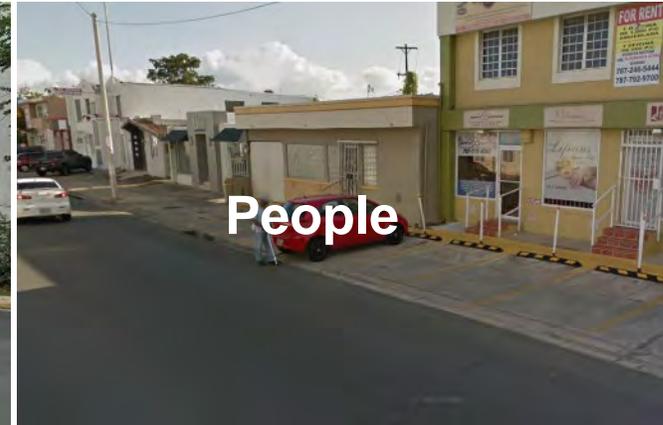
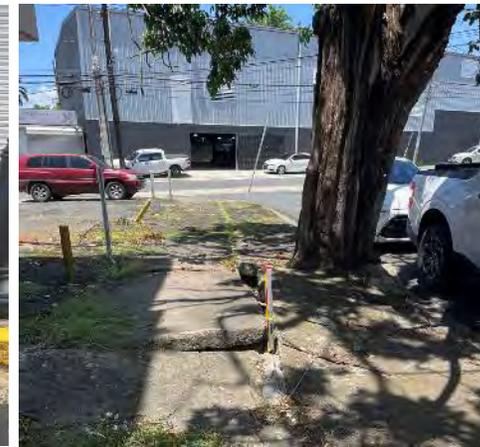
Prioritization Methodology

1. Infrastructure

2. People

3. Places

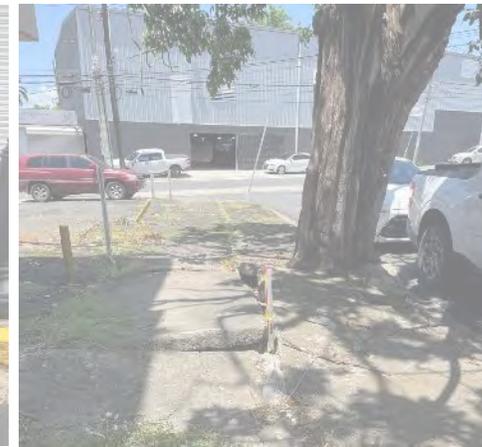
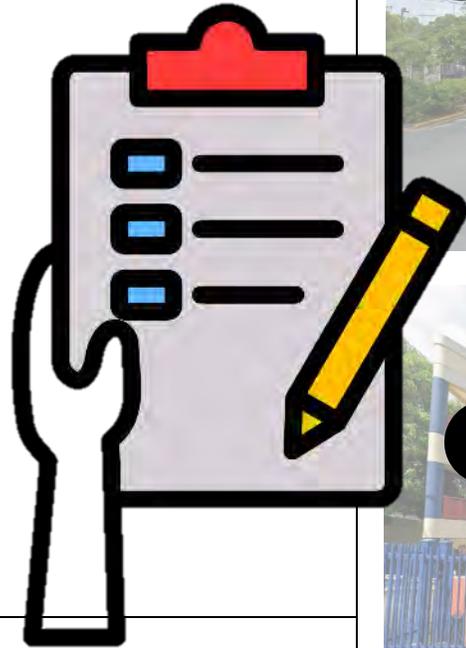
- Key destinations that increase priority:
- **Bus stops, schools, hospitals, senior centers, parks, community facilities**





Prioritization Criteria

- 1. Infrastructure
- 2. People
- 3. Places





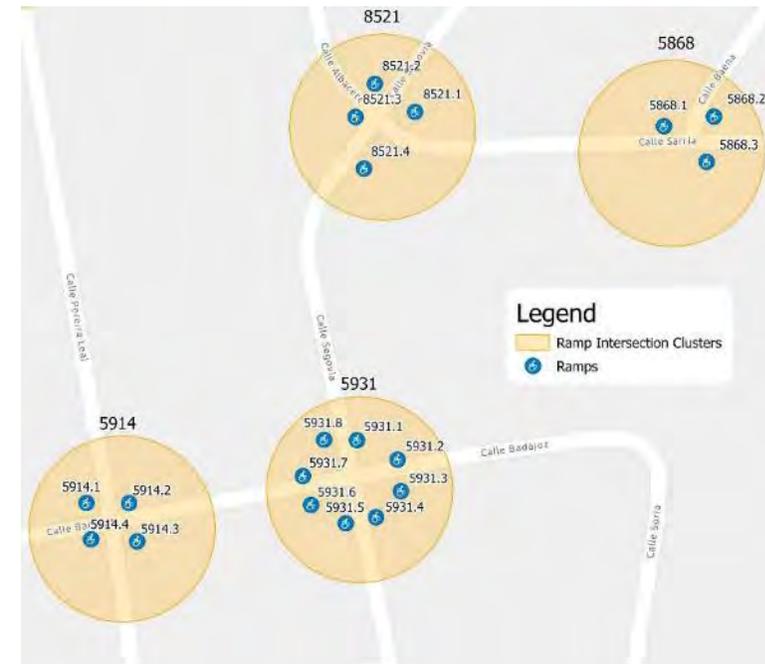
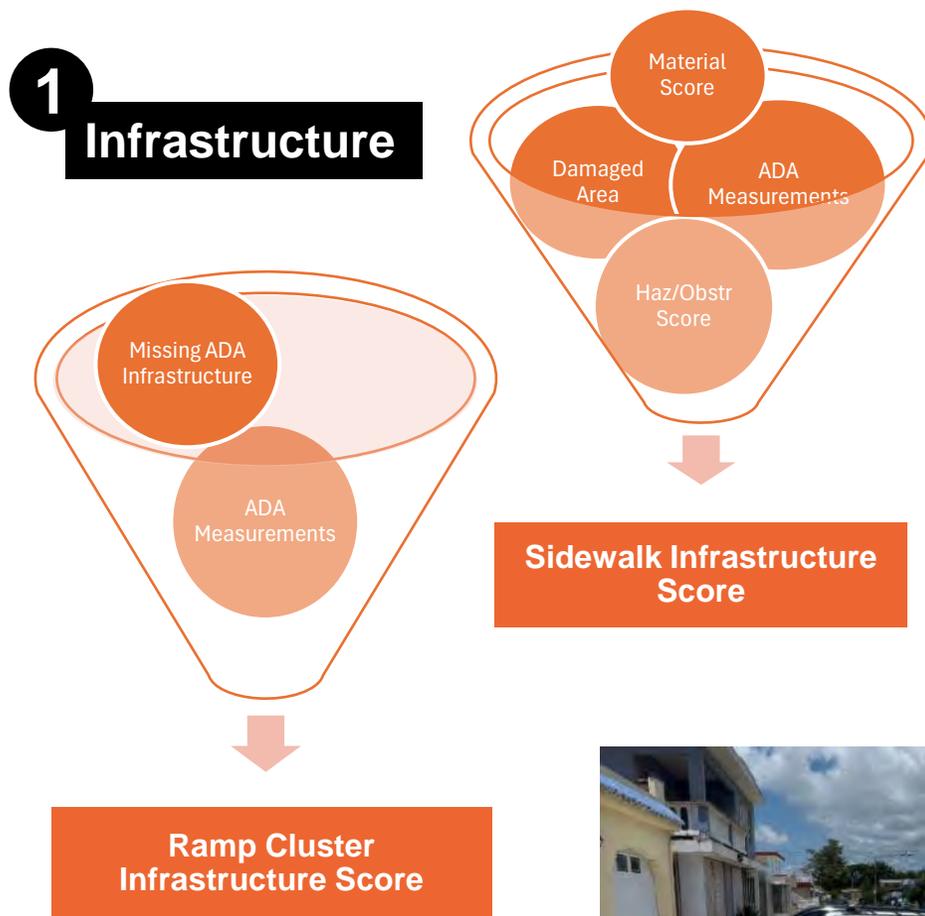
Prioritization Criteria

1. Infrastructure

- Two infrastructure classes:
- **Ramp Clusters**
- **Sidewalks**

2. People

3. Places



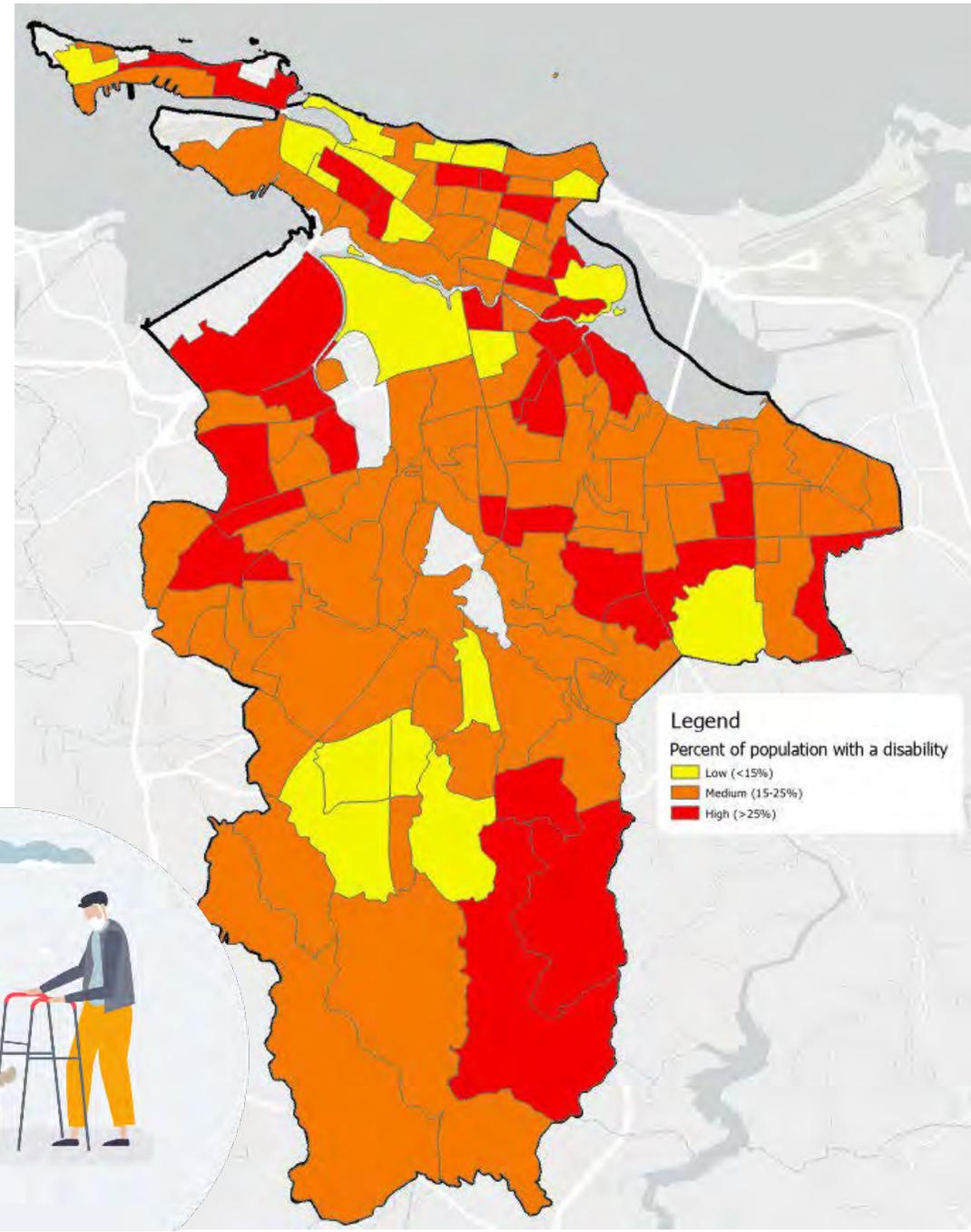
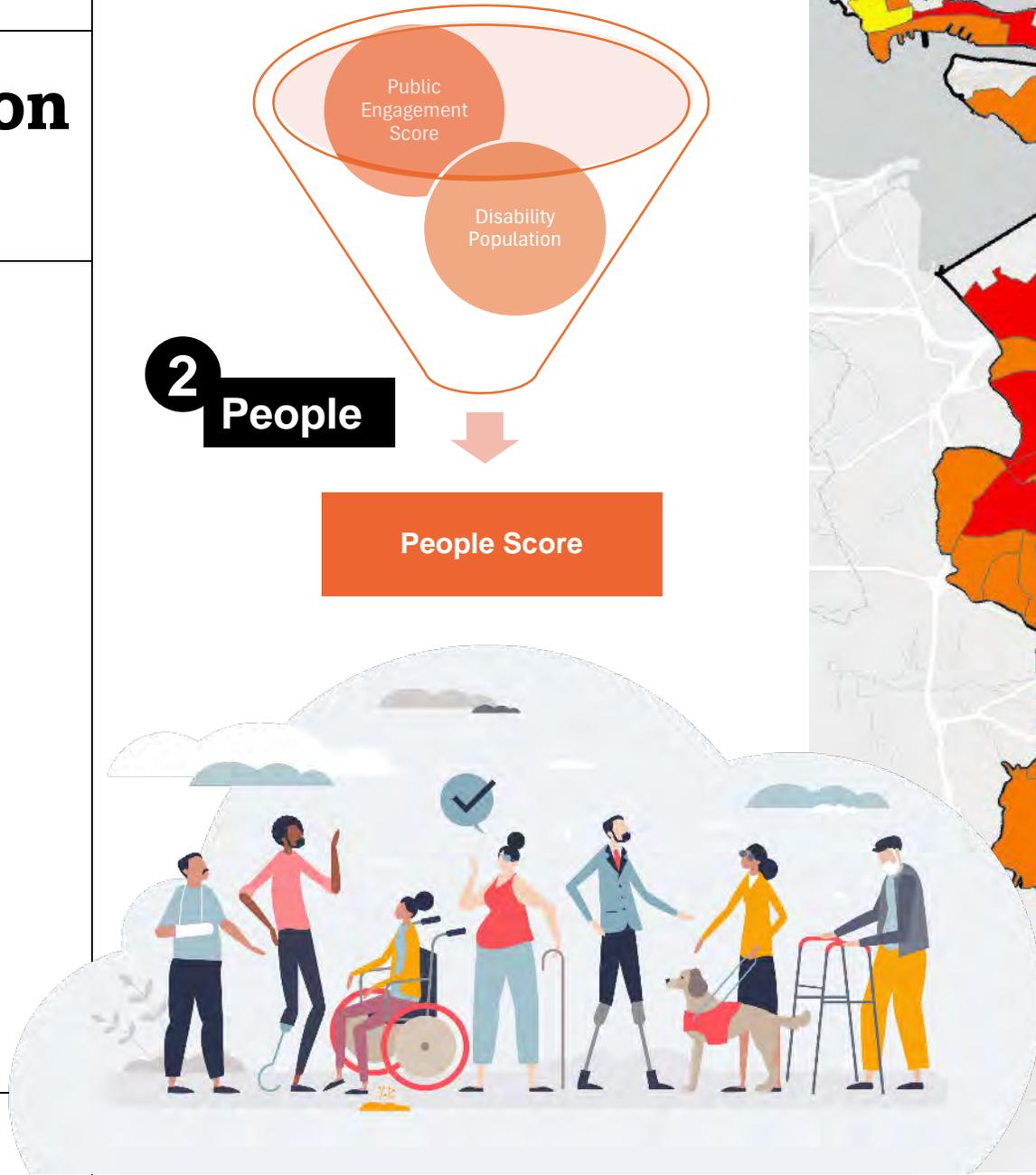
Prioritization Criteria

1. Infrastructure

- Two infrastructure classes:
- Ramp Clusters
- Sidewalks

2. People

3. Places





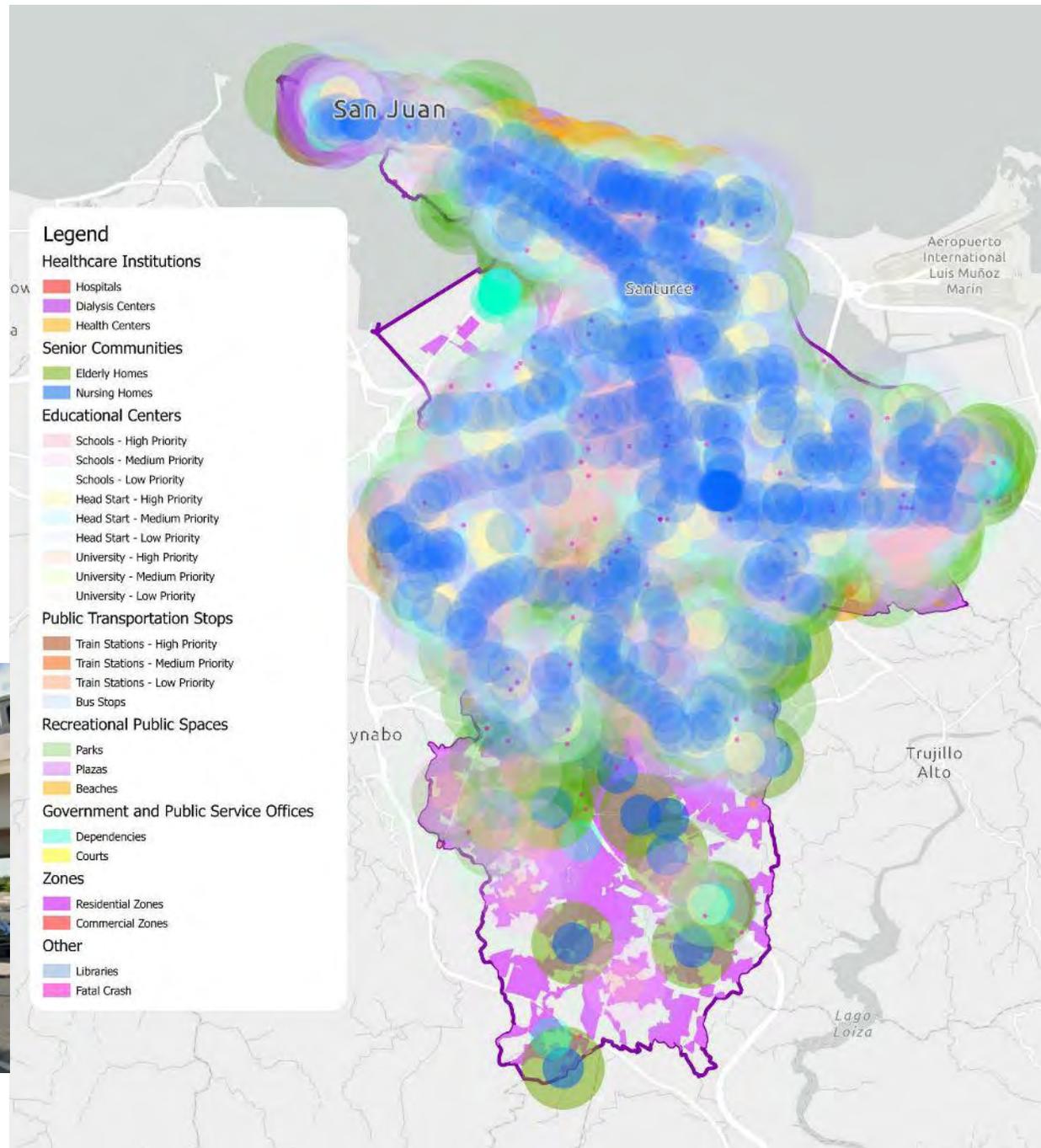
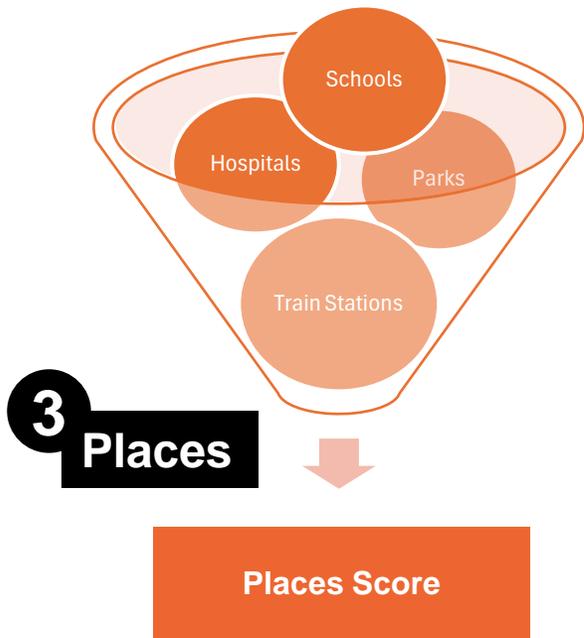
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1. Infrastructure

- Two infrastructure classes:
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- **Sidewalks**

2. People

3. Places





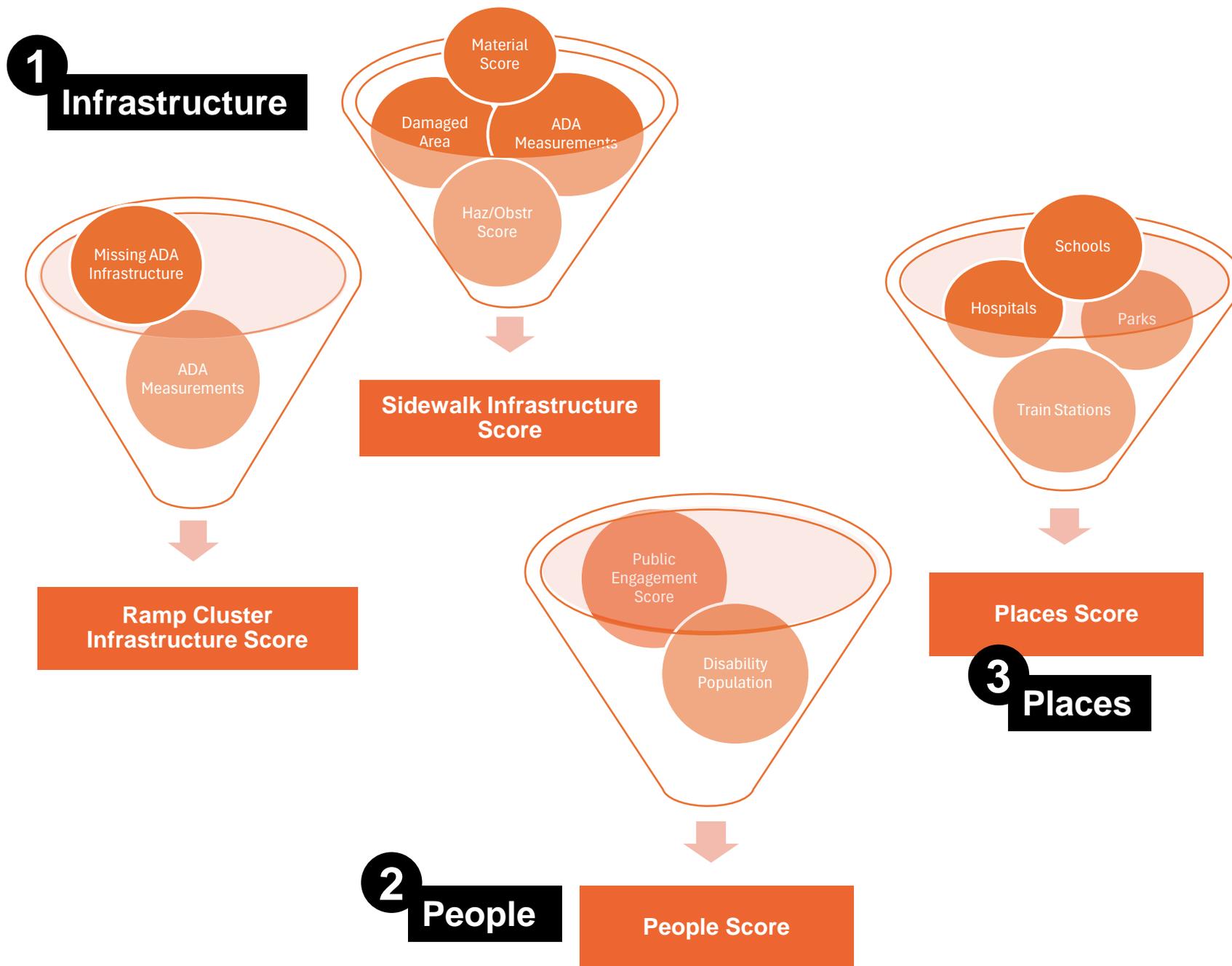
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3. Places



On-line Survey & Comments

<https://arcg.is/TGTfe1>





<https://arcg.is/TGTfe1>



Thank you



MSJ ADA Accessibility Public Survey

Welcome! The Municipality of San Juan is conducting this public survey as part of its ADA Accessibility and Self-Evaluation Study.

Your feedback will help identify the most important areas for future improvements to sidewalks and curb ramps across the city.

Please answer the short questions below.

1. What is the biggest challenge you experience when walking or moving along the streets and sidewalks of San Juan?*

(For example: broken or narrow sidewalks, missing ramps, cars parked on sidewalks, steep slopes, or unsafe crossings.)

1000

2. Please tell us a specific location where it is difficult for a person with a disability to move safely or comfortably.*

(For example: a missing ramp, a sidewalk in bad condition, or a steep crossing.)

1000

3. Where is the barrier located?*

(Select all that apply.)

Sidewalk (damaged, narrow, blocked, or uneven)

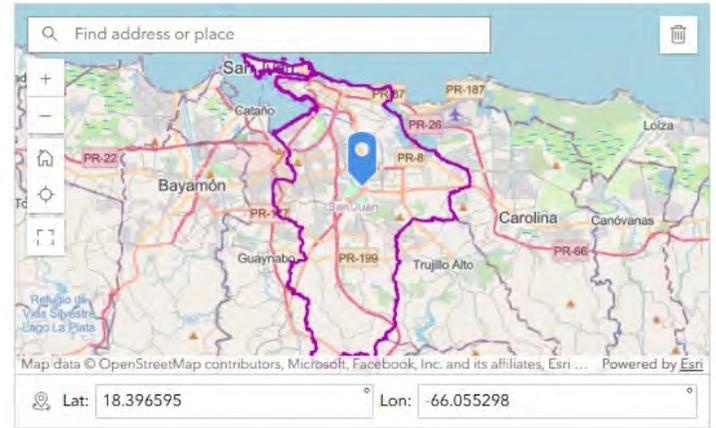
Missing or inaccessible curb ramp

Street crossing or intersection

Other (please describe)

4. Please place a pin on the map at or near the location you described.*

(You can zoom in or search for a nearby address to find the exact spot.)



5. Do you have any additional comments, questions, or suggestions about accessibility in your community?*

(For example: locations you'd like to see improved, or ideas to make walking safer and easier for everyone.)

1000

6. (Optional Question) Which of the following best describes you?

(Select all that apply.)

Person with a disability

Caregiver or family member of a person with a disability

Resident of San Juan

Visitor / commuter / worker

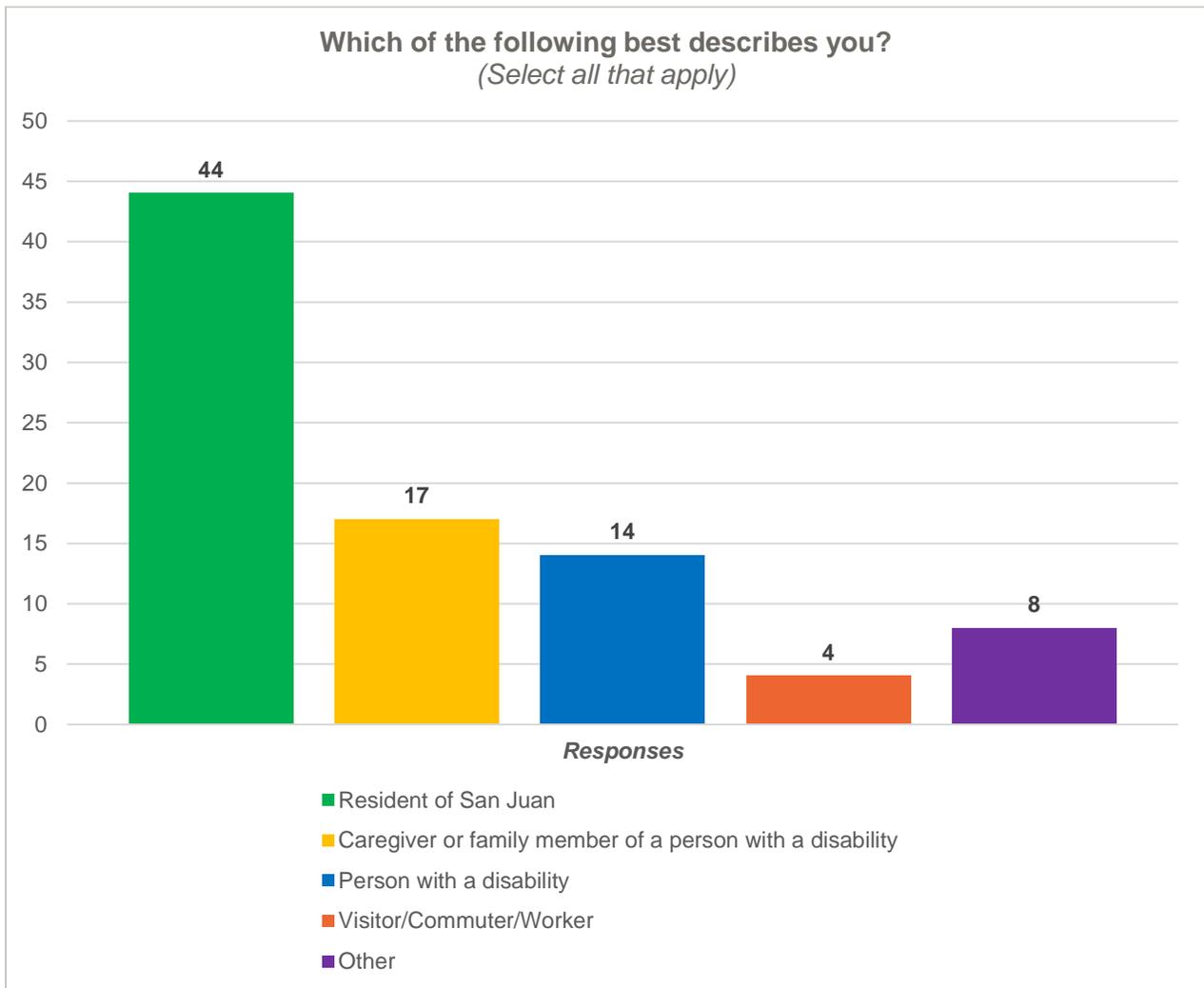
Other

Submit

1.1.1 Survey Results

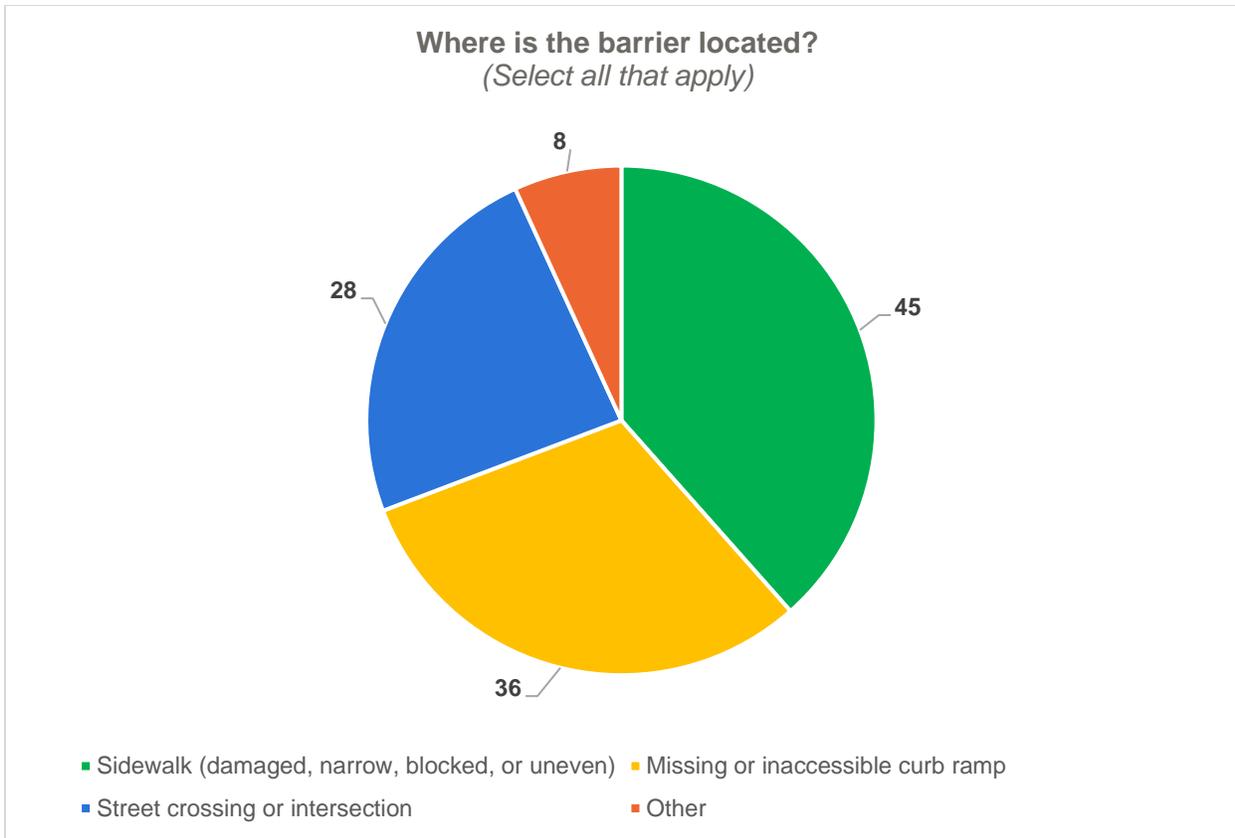
A total of fifty survey responses were received, each containing both narrative text and geolocated map pins. Respondent represented a broad cross-section of the community:

- 44 identified as ***‘Resident of San Juan’***
- 17 identified as ***‘Caregiver or family member of a person with disability’***
- 14 identified as a ***‘Person with a disability’***
- 4 identified as a ***‘Visitor, commuter, or worker’***
- 8 identified as ***‘Other’***



Participants identified multiple types of barriers:

- 45 responded ***‘Sidewalk damage, narrowness, obstruction, or uneven surfaces’***
- 36 responded ***‘Missing or inaccessible curb ramps’***
- 28 responded ***‘Street crossing or intersection issues’***
- 8 responded ***‘Other’*** barriers

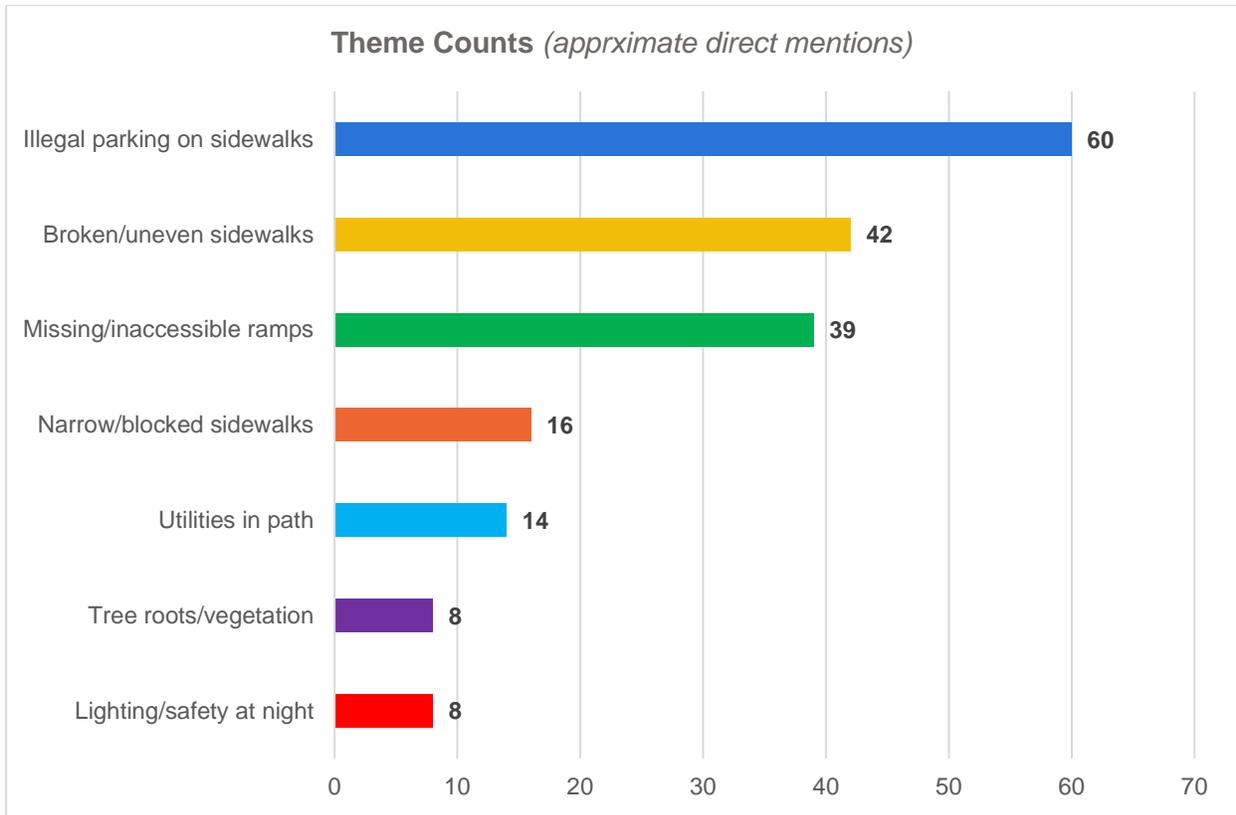


These responses confirm that **sidewalk conditions** and **missing or inaccessible curb ramps** are the most prevalent challenges for pedestrians.

1.1.2 Key Themes

A thematic review of open-ended responses identified clear trends:

1. **Illegal parking on sidewalks was the most frequently cited concern.** Respondents noted vehicles blocking sidewalks, ramps, and crossings, and described business encroachments and residential overflow parking.
2. **Broken or uneven sidewalks were widely reported.** Causes included tree roots, utility cuts, missing slabs, and uneven pavers.
3. **Missing or inaccessible ramps were cited throughout the city.** Respondents described steep aprons, misalignment with drains, and a lack of paired ramps.
4. **Narrow or blocked sidewalks** were linked to utility poles, hydrants, mailboxes, planters, trash bins, and vegetation.
5. **Lighting concerns were noted in several neighborhoods,** particularly along walking routes used at night.
6. While fewer respondents used explicit terminology for crossings, narrative descriptions identified **issues such as wide turning radii, faded markings, and inadequate signal timing.**



Several respondents proposed solutions such as lane reductions, utility placement standards, consistent paired ramps at intersections, improved lighting, and stronger enforcement of sidewalk parking violations.

1.1.3 Spatial Insights

All fifty survey responses included map coordinates, allowing for geographic pattern analysis. Several corridors and neighborhoods were mentioned repeatedly:

- **Santurce and Miramar**
- **Old San Juan**
- **Monte Carlo and Venus Gardens**
- **Puerto Nuevo**
- **De Diego Avenue**
- **Baldorioty feeders**
- **Rio Piedras town center**
- **Parque de los Salseros, Villa Olimpica, and other community facilities**

These clusters align with the **Places** criteria in the prioritization framework and show where respondents experience persistent and overlapping barriers.

1.1.4 Implications for Prioritization

Survey feedback directly informs the **People Score**, which incorporates census data and public input. The following implications emerged:

- Areas with multiple independent submissions should receive higher People Scores.
- Feedback from individuals with disabilities and caregivers should be weighted to reflect lived-experience urgency.
- Corridors with frequent references, such as Santurce, Miramar, Ponce de Leon Avenue, and Rio Piedras, present consistent accessibility issues that support corridor-based improvements.
- Respondents identified systemic barriers that require combined interventions such as enforcement against illegal parking, standardized utility placement, ramp continuity, drainage adjustments, and lighting improvements.

Survey themes validate the project's **prioritization framework** and indicate where initial **ADA Transition Plan** actions may have the greatest impact.

1.1.5 Limitations

The engagement process provides valuable qualitative insights but has limitations:

- The sample size of fifty responses is not statistically representative of the entire city.
- Respondents self selected into the survey, which may increase participation from individuals with strong views or direct accessibility needs.
- Some map pins represent corridors rather than precise points, requiring buffered analysis.
- Crossing concerns are present in narratives but are less detectable through keyword analysis.

These limitations **do not diminish the value of the dataset** but should be acknowledged when interpreting results.