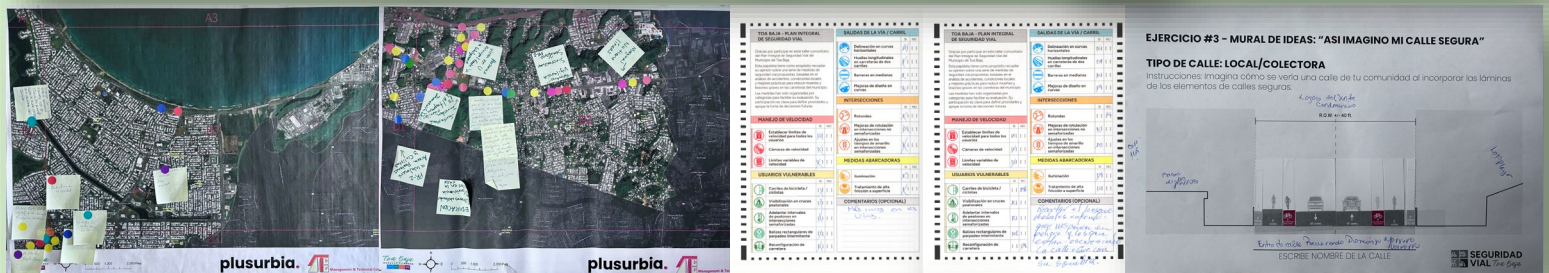
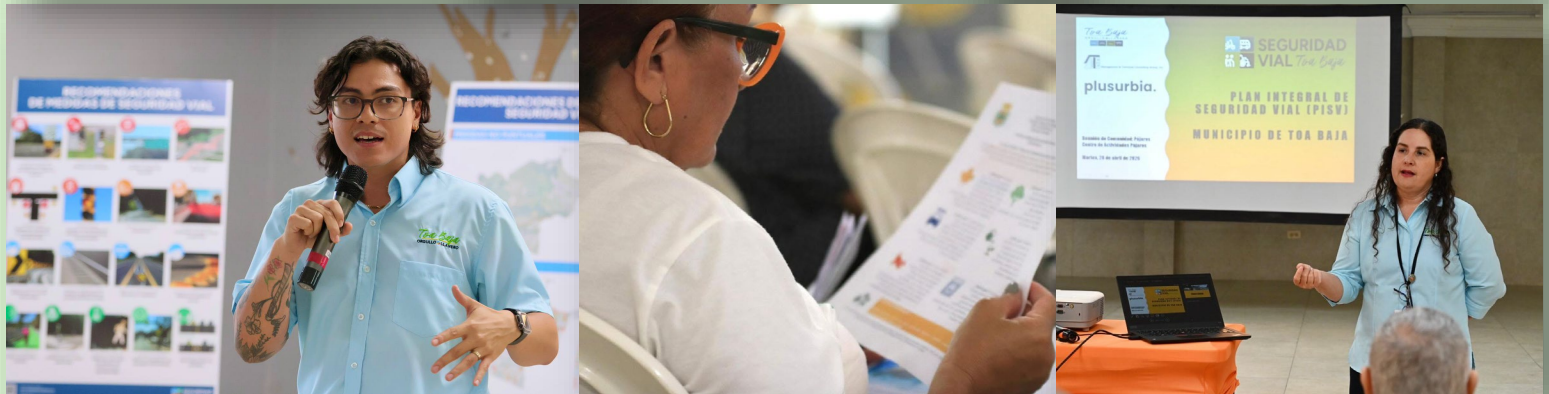


PHASE 3 REPORT:

COMPREHENSIVE SAFETY ACTION PLAN

MUNICIPALITY OF TOA BAJA

MANAGEMENT AND TECHNICAL CONSULTING GROUP



The Toa Baja Comprehensive Safety Action Plan (CSAP) has a strong and central focus on community empowerment and participation to ensure a just and participatory process of roadway and transportation safety. The Third Phase of the project is designed from and with communities from the municipality of Toa Baja. While Phase 1 Report organized project structure and Phase 2 Report provided a rigorous engineering analysis of the 17,869 collisions in the municipality, this Report encompasses and presents a crucial component: a description of how the communities of Toa Baja were involved in the planning process.

Through an open, inclusive, transparent, and participative process, residents from all five (5) wards which include Toa Baja Pueblo, Media Luna, Candelaria, Sabana Seca, and Palo Seco had the opportunity to visualize how they envisioned roadway and transportation safety, empowering themselves to transform their streets into safer environments. This report documents the story of how community participation transformed roadway hazards into concrete recommendations and countermeasures to promote safety in the streets of Toa Baja.

The Third Phase of the CSAP for the Municipality of Toa Baja is characterized by public engagement, active participation, and community empowerment. It is imperative to mention that the proposed countermeasures were briefed and explained in detail, keeping community understanding at the forefront. The purpose

of this report is to document and describe the community participation and involvement process in the selection of the proposed countermeasures to solve and address the identified safety hazards and issues in the transportation network of Toa Baja. This report details four major areas and activities:

- *Preparation and public engagement strategies through community meetings and an interactive web portal;*
- *The execution of community meetings and workshops throughout all five wards of Toa Baja;*
- *Risk identification and community responses to the proposed engineering and safety countermeasures; and*
- *Analysis and next steps for the implementation of the CSAP in the Municipality of Toa Baja.*

The information and results presented in this report stem from the active participation and collaboration of planners, architects, transportation engineers, the municipal government, and most importantly, the communities of Toa Baja.

The report is divided into four chapters:

- 1. Our Connection Tools**
- 2. Initial Round of Community Meetings – Identifying the Risks**
- 3. From Risks to Solutions – The Story of Each Community**
- 4. Conclusions and Next Steps: A Safety Network Built by and for Everyone**

Our Connection Tools

Defining a clear groundwork before visiting communities is crucial for the success of a community-driven Comprehensive Safety Action Plan. The preparation phase was centered on establishing a clear and understandable data framework, focusing on identifying, analyzing, and sharing data in a complete and accessible way. Central to this approach is also an equity-focused outreach strategy that considers every potential user of the transportation network and their level of exposure to known local and systemic risks. In addition, considering that the community is the end user, highly interactive and accessible tools were designed to contribute to the empowerment and transparency of the project.

The community engagement strategy employed was to shift away from traditional, passive public hearings, moving instead towards an active co-design and participatory framework. This chapter details the four main tools and strategies developed to bridge the gap between technical engineering, planning data, and local community knowledge.

Project Branding

As part of the project's branding strategy, our team developed a logo that highlights its mission and objective. The logo for the project is centered on road safety and mobility. The graphic language combines modern typography with mobility-inspired

visual elements that evoke movement, connectivity, and safer streets for all users, including pedestrians and cyclists. Its visual character reinforces the project's mission to create safer, more equitable, and people-centered streets throughout the municipality of Toa Baja.

Figure 1 Project branding



The colors of the brand align with the ones used by the municipal administration, ensuring consistency with the municipality's activities.

CallesSegurasToaBaja.com

To promote transparency and accessibility to the public, an official project website was designed: CallesSegurasToaBaja.com. The website serves as a digital engagement and communications tool, enabling the project team to share the project's goals, objectives, schedule, and updates with a broader audience. The website's visitors can access relevant information about the road safety project of Toa Baja, as well as literature on the Safe Streets and Roads for All (SS4A) program. Figure 2 illustrates the online platform portal.

Figure 2 CallesSegurasToaBaja.com portal



The digital platform has the capacity to bridge the gap in three vital areas during the preparation phase:

1. *Communicate complex spatial data in an easily accessible and comprehensible form:* The platform presents complex engineering metrics from the Phase 2 Safety Analysis, such as the High Injury Network (HIN) and the locations of unlit roadway segments, by translating them into user-friendly, visual formats. This allowed communities to easily identify and understand specific hazards affecting them. Figure 3 illustrates the section in which the public can find the information described above.
2. *Educational Modules:* The website integrates educational resources from the Federal Highway Administration (FHWA) and the US Department of Transportation (DOT). These videos present countermeasures like roundabouts, Rectangular Rapid Flashing Beacons (RRFBs), and centerline rumble strips. Figure 4 demonstrates an example of multimedia

educational content available on the portal.

3. *Easily accessible information and outreach:* The web portal provided citizens with easy access to information and status updates on how the CSAP was developing. The website also included a section so that people could contact the planning team with questions or comments. This facilitated the education and data dissemination process in a transparent and timely way. Figure 5 shows the “Contact Us” section.

Figure 3 Documents section of the website CallesSegurasToaBaja.com.



Figure 4 Multimedia educational content available on CallesSegurasToaBaja.com



Figure 5 Contact Us section of the CallesSegurasToaBaja.com.

The initial launch of CallesSegurasToaBaja.com included an online survey focused on road safety and mobility topics, described in the next section of this report.

Public Engagement and Outreach Strategies

The public engagement and outreach framework was executed through three strategic components:

1. *Community-Based and Multi-Channel Communication:* The planning team balanced social media with traditional communication. This included distributing flyers at local businesses and community centers. Additionally, mobile sound trucks with loudspeakers drove through neighborhoods to announce the community meeting events. Figures 6 to 8 show examples of some of the promotional materials employed. The Municipality of Toa Baja also contacted community leaders as part of the outreach efforts.

Figure 6 Promotional flyer for Round 1 community meetings



Figure 7 Promotional flyer for the public participation survey for the CSAP.



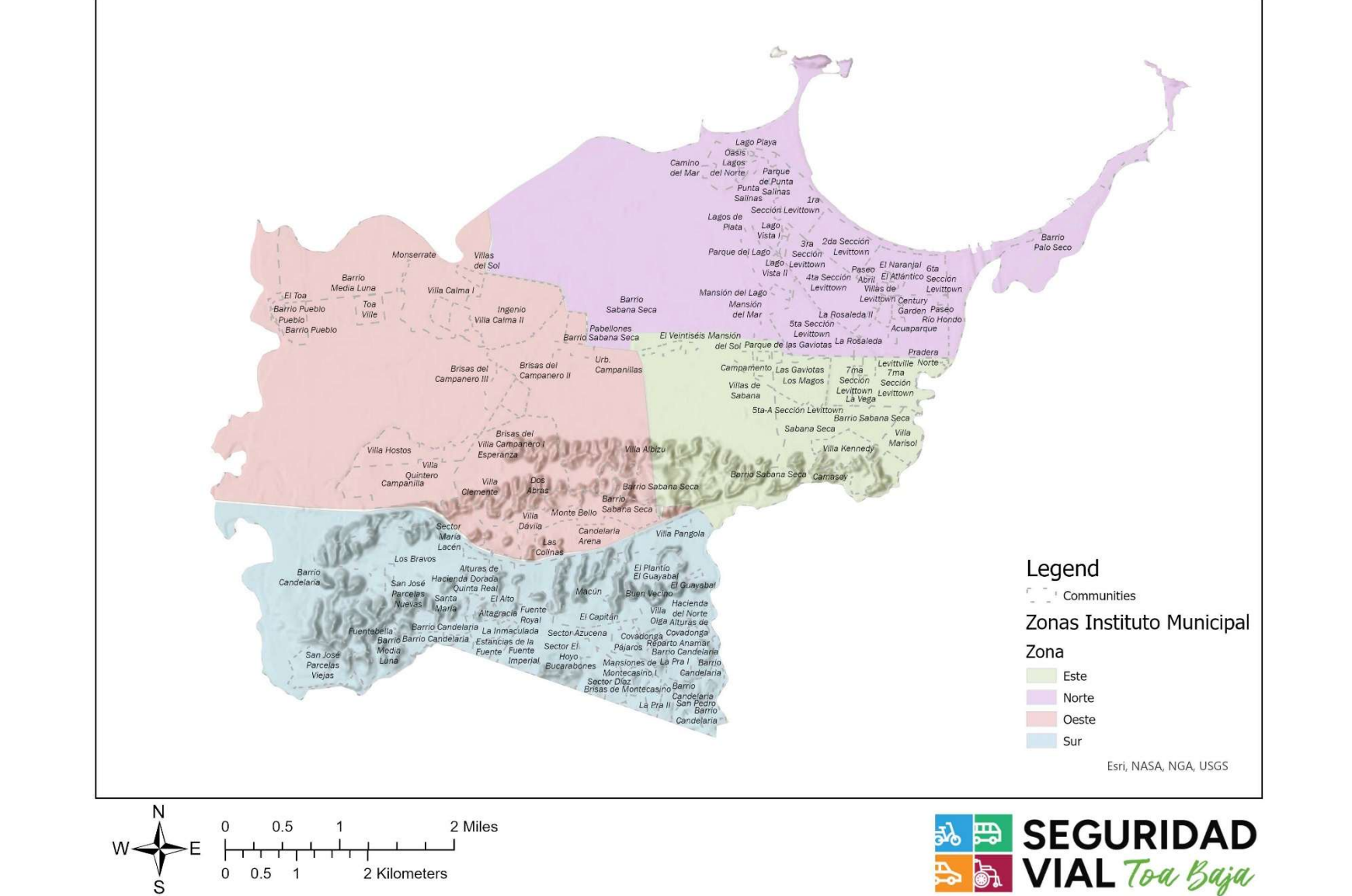
Figure 8 Promotional flyer for the second round of community meetings.



2. *Institutional and Grassroots Coordination:* As part of the coordination and preparation required prior to the public engagement process, a series of briefing rounds were conducted with municipal directors and local community leaders. Engaging these stakeholders allowed the road safety team to build institutional trust and tailor communications to the specific needs and contexts of each community.
3. *Strategic Workshop Logistics:* To maximize public attendance and engagement, community meetings were hosted directly within or near the local neighborhoods at familiar community centers and public spaces. This decentralized approach provided communities with accessible spaces to voice safety concerns and co-design potential solutions.

4. *Workshop Layouts and Activities:* Meeting spaces were divided into three areas to help the public navigate the community events. The first space provided the public with a visual reasoning for the preparation of a Comprehensive Safety Action Plan based on statistical information on severe collisions and fatalities in recent years and a call to action. The second space was intended to provide direct engagement between the public and the development team. The third space provided a workshop area where the public shared their input, whether through mapping safety risks, envisioning their safe roads, or voting on countermeasures.
5. *Geographic Distribution of Public Outreach:* The public outreach effort has been intended to be as close as possible to the communities that are disproportionately impacted by road hazards or collision events. Sixteen (16) community events were held across two (2) rounds of engagement. The meetings were held across the four (4) regions defined by the Municipal Institute:
 - a. *East*
 - b. *North*
 - c. *West*
 - d. *South*

Figure 9 shows the regions and the communities within each region.



Online Survey

The online survey was launched in tandem with the website CallesSegurasToaBaja.com. Figure 10 shows the splash screen for the survey, which was launched in August 2025.

Figure 10 Road safety online survey



The survey received 424 responses and provided valuable insight into residents' perceptions, mobility patterns, and roadway safety concerns throughout the municipality. Most of the survey participants were adults in age groups between 45–54 years old (30.7%) and 55–64 years old (27.9%).

Table 1 Distribution of Responses by Age Group

AGE	RESPONSES	% OF RESPONSES
18-24	4	0.9%
25-34	33	7.8%
35-44	80	18.9%
45-54	130	30.7%
55-64	117	27.6%
65 OR OLDER	55	13.0%

Most respondents were residents of Toa Baja (81.6%). A crosstabulation of age of respondents and their relationship to the municipality reveals that the younger

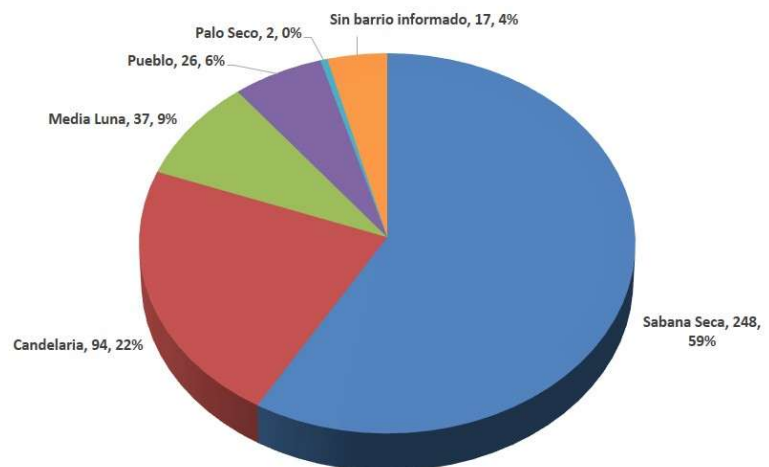
participants are more likely to be residents, while middle-aged adults were group most likely to be workers commuting to the municipality.

Table 2 Age of Survey Participant and Relationship to Municipality

AGE	RESIDENT	WORK	VISITOR	OTHER
18-24	100.0%	0.0%	0.0%	0.0%
25-34	93.9%	6.1%	0.0%	0.0%
35-44	85.9%	12.8%	1.3%	0.0%
45-54	72.8%	21.6%	4.0%	1.6%
55-64	87.2%	9.4%	3.4%	0.0%
65+	85.2%	5.6%	5.6%	3.7%

Responses were geographically distributed across numerous communities, with most responses provided by residents of Sabana Seca ward (59%), followed by Candelaria (22%), then Media Luna (9%), as shown in Figure 11.

Figure 11 Distribution of responses by place of residence



There were responses from 71 different communities in Toa Baja. The community with the most survey participants was Levittown Cuarta Sección, accounting for

7.8% of the responses, followed by El Plantío (6.6%) and Pueblo (6.1%).

Survey results indicate that Toa Baja remains heavily dependent on private vehicles as the primary mode of transportation, with approximately 98% of respondents identifying private automobiles as their main means of travel. Walking and bicycling were reported at significantly lower rates, although many residents indicated they frequently walk within their communities. The communities with the most responses in this respect were Levittown Cuarta Sección (42), Pueblo (25), Levittown Quinta Sección (23) and Levittown Sexta Sección (23).

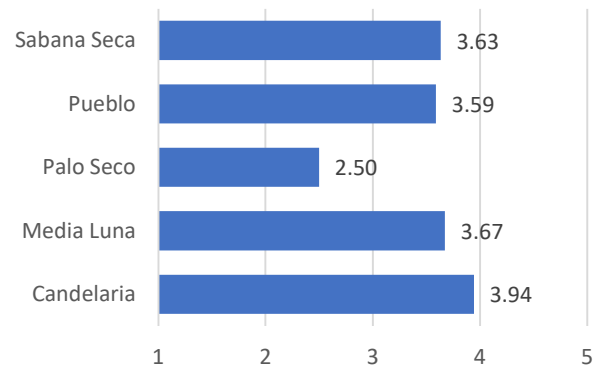
Public transportation usage was minimal, with only 7.9% of respondents reporting use of the municipal trolley system. Transit riders were reported from the communities shown in Table 3.

The survey also revealed significant concerns regarding pedestrians, cyclists, and transit safety. Respondents rated their experience on a series of roadway interactions on a scale from 1 to 5, with 1 being the most dangerous/hazardous and 5 representing the safest. Respondents rated their sense of safety while walking at an average of 2.9 out of 5, while perceptions of safety at trolley stops averaged 1.9 out of 5. Safety ratings for bicycling and other non-motorized transportation modes averaged 2.1 out of 5, reflecting widespread concern regarding the lack of safe infrastructure and protection for vulnerable road users.

Table 3 Public Transit User Responses by Community

COMMUNITY	RESPONSES
CAMPANILLA	4
CANDELARIA ARENAS	2
EL 26	1
EL TOA	1
LAGO DE PLATA	1
LEVITTOWN CUARTA SECCIÓN	2
LEVITTOWN PRIMERA SECCIÓN	2
LEVITTOWN QUINTA SECCIÓN	1
LEVITTOWN SECCIÓN QUINTA A	2
LEVITTOWN SEGUNDA SECCIÓN	1
LEVITTOWN SEXTA SECCIÓN	2
LEVITTOWN TERCERA SECCIÓN	2
PÁJAROS	1
PUEBLO	5
PUNTA SALINAS	1
SABANA SECA	5
PARCELAS NUEVAS SAN JOSÉ	3
SANTA MARÍA	4
VILLA KENNEDY	1
VILLA MARISOL	2
VILLA OLGA	3
VILLA PANGOLA	2

Figure 12 Perception of pedestrian safety
(1: most dangerous, 5: safest)



When asked about roadway safety concerns, the most frequently identified issues included excessive speeding (56.4%), lack of roadway lighting (43.6%), distracted driving (41.0%), poor roadway and crosswalk maintenance (36.8%), and aggressive driving behavior (35.8%).

Additional comments highlighted concerns related to abandoned vehicles, obstructed sidewalks, deteriorated road conditions, insufficient pedestrian infrastructure, poor enforcement of traffic laws, and limited bicycle facilities. Many respondents also emphasized the need for greater police presence, improved roadway lighting, safer school crossings, and better accessibility for older adults and pedestrians.

concerns raised by residents across the municipality.

Residents prioritized roadway maintenance and improved lighting and signage as the most important solutions for improving roadway safety. Other highly ranked priorities included stronger traffic law enforcement, improved pedestrian crossings, and the construction of protected sidewalks and bicycle facilities. Survey participants also expressed interest in broader community improvements, including public transportation enhancements, environmental stewardship initiatives, traffic calming measures, and educational campaigns promoting roadway safety and shared street responsibility.

Overall, the survey findings demonstrated strong community support for comprehensive roadway safety improvements and highlighted the importance of investing in safer, more accessible, and better maintained streets throughout Toa Baja. The results also underscore the need for a balanced transportation system that supports pedestrians, cyclists, transit users, and drivers alike, while addressing the specific

Initial Round of Meetings

– Identifying the Risks

Through the participatory exercises, residents identified key roadway safety concerns affecting their daily lives, including missing or obstructed sidewalks, inadequate lighting and signage, speeding hotspots, dangerous intersections, and gaps in bicycle and pedestrian infrastructure. Concerns were especially concentrated near schools, churches, and areas frequently used by children and older adults.

Figure 13 Attendee at initial community meetings



North Region

The meetings in the North Region were held at the Club de Leones of Levittown, located on Avenida del Lago.

The community meeting drew a crowd of 32 residents from the communities of Levittown. The meeting participants described their roads as:

- Dark

- Unsafe
- Speeding

Road lighting issues were the most mentioned hazard across this region.

Figure 14 Initial community meeting at Levittown



East Region

The meetings of the East Region were held in Sabana Seca at the Jesusa Matías Montañez Community Center.

Residents of the East region described their roads as dangerous. They also felt that their roads lack sufficient lighting and needed resurfacing.

Figure 15 Initial community meeting at Sabana Seca



The East Region meetings were characterized by concerns of heavy vehicles using route PR-866 as a truck route despite the presence of schools and churches in the Sabana Seca section of the road. Another road with documented safety hazards was Avenida Ramón Ríos Román.

Figure 16 Mapping of road safety hazards at Sabana Seca



concerned about road lighting and speeding on route PR-2, and Pájaros being concerned more about road conditions.

Pájaros

At Pájaros, the communities described their roads as dangerous. Other characterizations were unsafe and congested.

Specific mentions about road hazards at Pájaros include:

- Collisions are attributed to speeding motorists.
- Aggressive driving on route PR-2 and on PR-863.
- Speeding on Calle Las Flores.
- Water ponding on route PR-863 near Iglesia Pentecostal M.I.
- Lack of roadway lighting on Carretera Candelaria and on Calle La Victoria.

South Region

Meetings at the South Region were held at San José, Pájaros and Las Colinas. The nature of safety hazards varied across communities, with Las Colinas being

Figure 17 Mapping of road safety hazards at Pájaros



San José

The meeting at San José drew participants concerned about the following road hazards:

- Speeding by motorists.
- Lack of roadway lighting.
- Obstructed sidewalks.
- Issues with roadside safety barriers.
- Flooding problems.

Figure 18 Initial community meeting at San José



Aside from the roadway lighting issue, the community was especially concerned

about the lack of guardrails on route PR-8865 considering the curving nature of the road and the presence of trees and a riverbank on the wayside.

Figure 19 Mapping of road safety hazards at San José



Las Colinas

The meeting at Las Colinas drew more than 30 participants from Las Colinas, Altagracia, La Fuente and nearby communities.

There are many representations about roads at and around Las Colinas, meaning that there was no consensus on how roads are within their communities. The most common characterizations of roads within their communities were:

- Conflicting
- Calm
- Dark
- Speed bumps

Figure 20 Initial community meeting at Urb. Las Colinas



The communities also voiced opinions with respect to several road concerns. Some individuals identified sidewalk blockages on Avenida Don Pelayo by vehicles from a dealership encroaching on the public space. Others highlighted issues with the operation of a traffic signal that controls the intersection of route PR-2 and Calle Colina Real. Others suggested installing reflective markers on the edge lines of the travel lanes to improve nighttime visibility of the road.

West Region

The West Region of the municipality includes the communities of Ingenio, Toaville, Campanilla, Brisas del Campanero, Villa Esperanza, Toa Baja Pueblo, and Candelaria Arenas. There were three community meetings in this region.

Ingenio / Pueblo

At Ingenio, the lack of appropriate lighting was one of the most common ways in which the residents described their streets. There were also contradicting descriptions of

roads in Ingenio, such as calm, noisy, dangerous, and passive.

Figure 21 Initial community meeting at Ingenio



Campanilla

The second meeting of the West Region was held in Campanilla. The community of Campanilla experiences road safety problems due to lack of lighting on local roads, speeding on main roads and poor infrastructure.

Bicyclists are dangerously exposed to safety hazards within the community and in connecting roads to other communities. Avenida Campanilla, despite the speed bumps, is a road with speeding problems.

Despite being a two-lane road, many pedestrians have been killed while crossing route PR-865.

Figure 22 Mapping of road safety hazards at Campanilla

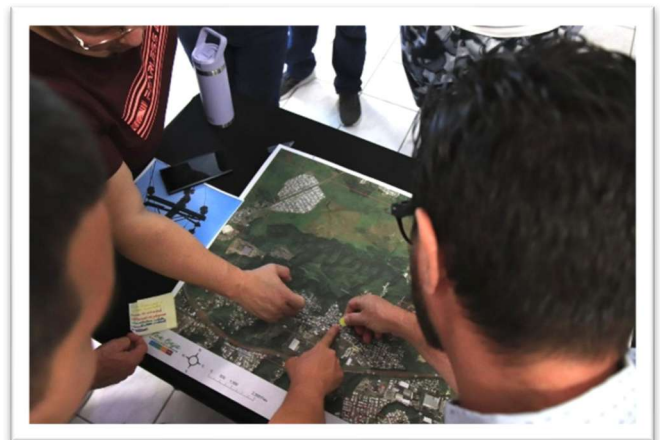


- Sidewalks along route PR-865 on Villa Pangola.

Figure 23 Initial community meeting at Candelaria Arenas



Figure 24 Mapping of road safety hazards at Candelaria Arenas



Candelaria Arenas

At Candelaria Arenas, participants characterized their community roads as dangerous. They also described their roads in the following ways:

- Obstructed sidewalks.
- High traffic volumes.

Some specific requests made by participants at Candelaria Arenas were:

- Speed mitigation measures on Calle Flores, Villa Albizu.
- Removal of utility poles in Calle Pomarrosa

Summary of the Initial Round

Community discussions consistently emphasized speeding, aggressive driving behavior, insufficient nighttime lighting, and the need for stronger traffic enforcement, with many residents expressing discomfort and safety concerns while walking or biking throughout the municipality because sidewalks are obstructed by vehicles and fixed infrastructure.

Lighting

One of the overarching issues was the lack of lighting. Areas along route PR-867 near Toaville and Ingenio were identified by their lack of lighting on the western region of Toa Baja. In the north region, Avenida Boulevard and route PR-165 were highlighted as areas in need of roadway lighting. In the east region, route PR-866 and several local roads around Villa Marisol were identified. In the south region, route PR-8865 to San José and local roads in Covadonga, Pájaros, Las Colinas and Villa Olga were noted by communities by their lack of lighting.

Speeding

Speeding was a common concern across all areas of the municipality. Major roads in Sabana Seca, Pájaros, Campanilla and Ingenio stood out as having speeding issues. Speeding is also considered by residents of Toa Baja as being a major contributor to collisions.

Signage

The lack of signage of all kinds was another common concern. There are insufficient speed limit signs installed across most major arterials, minor arterials and collectors across Toa Baja. Appropriate signage across the municipal roads is key to helping road users find their way within the municipality, alert of potential hazards and intersection approaches, and reinforcing the rules of the road.

Signage issues were largely concentrated on the southern communities of the

Municipality, including Campanilla, Candelaria and San José.

Pedestrians

Pedestrian safety hazards were noted along urban roads with a mix of commerce and residences. Pedestrian hazards were noted along Avenida Boulevard, Avenida del Lago, Avenida Ramón Ríos Román, route PR-865 along Campanilla and Candelaria Arenas, within Villa Olga, Avenida Don Pelayo, and within the city center (Pueblo) near El Toa Public Housing.

Bicyclists

Hazards affecting cyclists were identified across the South, East and North regions of the Municipality. The main roads with identified bicycle hazards were PR-865, Avenida Juan “Picolino” Hernández Ferrer, Avenida Boulevard, route PR-863 and route PR-8865.

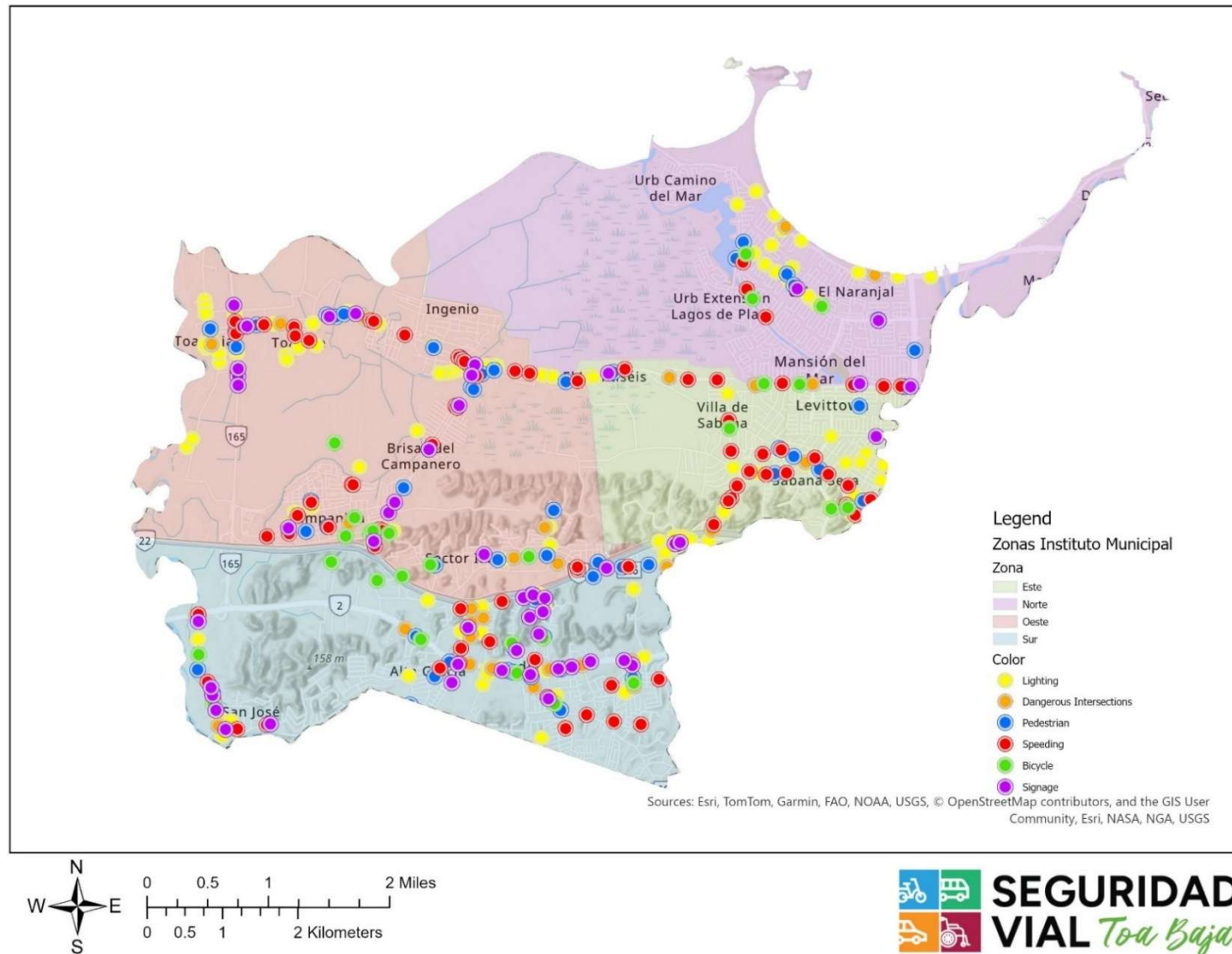
Dangerous Intersections

A dozen intersections were highlighted as particularly hazardous to motorists, or to pedestrians and cyclists. Intersections that were deemed dangerous share one or more of the following characteristics:

- High volume of traffic
- Significant crossing lengths
- Inappropriate sight lines
- Lack of signage
- Unclear yielding conditions

Figure 25 shows the outcome of the mapping exercise.

Figure 25 Hazards identified in the initial round of community meeting

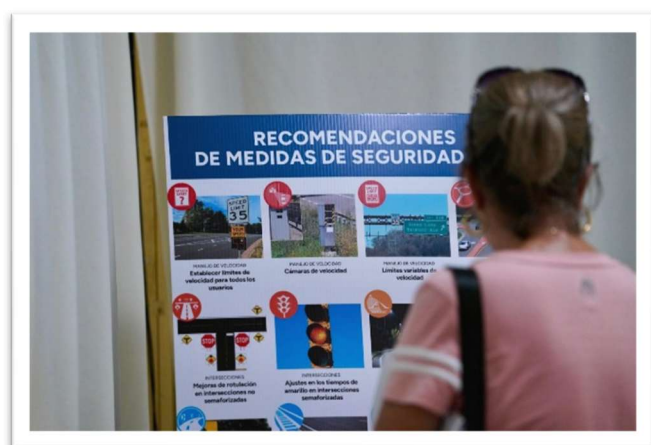


Second Round of Meetings: Solutions to Documented Hazards

From April 21 through May 7, 2026, the project team conducted the second round of community engagement events, focused on presenting the proposed roadway safety recommendations and gathering public feedback regarding the suggested improvements.

During each session, the project's leads delivered a 30- to 60-minute presentation outlining the various roadway safety strategies and improvement categories. The presentations were followed by a voting exercise in which participants completed evaluation sheets indicating "Yes" or "No" responses to each recommendation, allowing the consultant team to measure community support and level of acceptance across the participating neighborhoods.

Figure 26 Meeting attendee looking at safety countermeasures



Participants were welcomed with exhibits displaying maps illustrating both punctual and corridor-wide recommendations, along with sample images of the proposed roadway safety strategies (see Figure 27). This information was also summarized in a brochure distributed to attendees at the beginning of each meeting.

Figure 27 Board of countermeasures



North Region

The meeting in the North Region was held at Levittown at the Club de Leones. The second meeting was characterized by having the highest attendance of all the meetings in the second round. The

community demonstrated strong overall support for the proposed roadway safety recommendations, particularly those related to speed management, pedestrian visibility, roadway lighting, and traffic operations. Recommendations such as establishing speed limits, variable speed limits, pedestrian crossing visibility improvements, curve delineation, curve design improvements, improved signage at unsignalized intersections, signal timing adjustments, lighting improvements, and high-friction surface treatments each received 91% support. Pedestrian leading intervals, flashing beacons, roadway reconfigurations, rumble strips, and median barriers also received strong support at 82%.

Speed cameras and roundabouts received moderate support at 73%, while bicycle lanes received the lowest support at 55%, reflecting mixed opinions regarding cycling infrastructure within the community. Public comments focused on concerns related to roadway safety near route PR-165, Avenida Dr. Álvarez Chanca, Avenida Lago de Plata, and intersections near Walgreens, AutoZone, McDonald's, and Burger King. Residents emphasized the need for improved lighting, traffic calming, sidewalk accessibility, ADA enforcement, vegetation maintenance, safer school crossings, and careful evaluation of proposed roundabouts to avoid worsening congestion or creating unsafe traffic conditions.

Figure 28 Second community meeting at Levittown



East Region

At the East Region, the community meeting was held at Sabana Seca at the site of the initial round. The Sabana Seca community expressed strong support for nearly all proposed roadway safety recommendations, particularly measures related to speed management, pedestrian safety, roadway visibility, and traffic calming. Recommendations receiving unanimous support (100%) included establishing speed limits, variable speed limits, pedestrian visibility improvements, pedestrian leading intervals, flashing beacons, roadway reconfigurations, curve delineation, rumble strips, curve design improvements, improved signage at unsignalized intersections, signal timing adjustments, lighting improvements, and high-friction surface treatments. Speed cameras and median barriers also received strong support at 83%.

Figure 29 Second community meeting at Sabana Seca



Bicycle lanes and roundabouts received moderate support at 67%, reflecting some differing opinions regarding these strategies. Community comments focused on concerns related to heavy truck traffic and speeding along route PR-866 between Mi Pan and Farmacia Receta y Más, including areas near Escuela Francisca Dávila. Residents recommended additional speed signage, traffic calming measures, traffic studies, and increased police presence and traffic enforcement at key intersections.

Figure 30 Presentation of countermeasures by type



South Region

The second round of meetings included two (2) meetings in the South Region. Meetings were held at Pájaros and at San José.

Pájaros

The Pájaros community expressed strong support for roadway safety improvements focused on speed management, roadway visibility, and pedestrian safety. Recommendations receiving unanimous support (100%) included establishing speed limits for all users, variable speed limits, improved signage at unsignalized intersections, and lighting improvements. High levels of support (83%) were also expressed for pedestrian crossing visibility improvements, roadway reconfigurations, curve delineation, median barriers, curve design improvements, and signal timing adjustments. Measures such as speed cameras, pedestrian intervals, flashing beacons, rumble strips, and high-friction surface treatments received moderate support (67%).

Bicycle lanes received limited support (33%), while roundabouts received mixed opinions with a 50% approval rate. Community comments focused on speeding concerns, dangerous curves and intersections, abandoned vehicles obstructing roadways, lane striping, traffic calming near schools, and improving conditions at key locations including Villa Olga, Calle Luquillo, Calle Acacia, PR-863, PR-862, Avenida Don Pelayo, and the

pedestrian crossing near Academia Cristiana de Candelaria.

Figure 31 Second community meeting at Pájaros



San José

The San José community expressed very strong support for nearly all proposed roadway safety recommendations, particularly those related to speed management, pedestrian safety, roadway visibility, and traffic operations. Recommendations receiving unanimous support (100%) included establishing speed limits, variable speed limits, pedestrian crossing visibility improvements, pedestrian leading intervals, flashing beacons, curve delineation, rumble strips, median barriers, curve design improvements, improved signage at unsignalized intersections, signal timing adjustments, and lighting improvements. Speed cameras, roadway reconfigurations, roundabouts, and high-friction surface treatments also received high support (88%).

Bicycle lanes received moderate support at 75%, reflecting some community concerns

regarding implementation. Community comments emphasized the need for additional roadway lighting, improved lane markings, vegetation maintenance and tree trimming, and safer conditions at key locations including the San José access points, the Walmart exit toward Bayamón, and the Cuesta del Guano area in Campanilla. Residents also highlighted concerns regarding roads lacking striping and nighttime visibility.

Figure 32 Second community meeting at San José



West Region

There were four (4) meetings held at the West Region of Toa Baja. Meetings were held at Toa Baja Pueblo, Candelaria Arenas, Campanilla, and Ingenio.

Pueblo

The Toa Baja Pueblo (traditional city center) community expressed strong support for nearly all proposed roadway safety strategies, particularly measures related to speed management, roadway visibility, pedestrian safety, and lighting improvements. Recommendations

receiving unanimous support (100%) included establishing speed limits, speed cameras, variable speed limits, bicycle lanes, pedestrian crossing visibility improvements, curve delineation, rumble strips, curve design improvements, improved signage at unsignalized intersections, signal timing adjustments, and lighting improvements. Pedestrian leading intervals, median barriers, and high-friction surface treatments also received strong support at 83%.

Moderate support (67%) was expressed for flashing beacons, roadway reconfigurations, and roundabouts. Community comments emphasized the need for additional speed limit signage and speed cameras along PR-854 in Media Luna, as well as improved sidewalks and roadway lighting within the town center and along the PR-854 corridor.

Figure 33 Presentation of countermeasures at Toa Baja Pueblo



Candelaria Arenas

The Candelaria Arenas community expressed strong support for most proposed roadway safety strategies, particularly speed management, pedestrian visibility, and roadway lighting improvements. Measures receiving unanimous support (100%) included speed limits, speed cameras, variable speed limits, pedestrian crossing visibility improvements, pedestrian leading intervals, and curve delineation. Lighting, improved signage, and rumble strips also received high support (83%).

Figure 34 Second community meeting at Candelaria Arenas



Moderate support (67%) was expressed for roadway reconfigurations, median barriers, roundabouts, curve improvements, and high-friction surface treatments, while bicycle lanes received the lowest support at 50%. Community comments focused on speeding, damaged vehicles obstructing sidewalks, improved signage, relocating a stop sign from PR-865 to PR-866, and increasing municipal and state police presence in the area.

Figure 35 Voting of countermeasures at Candelaria Arenas

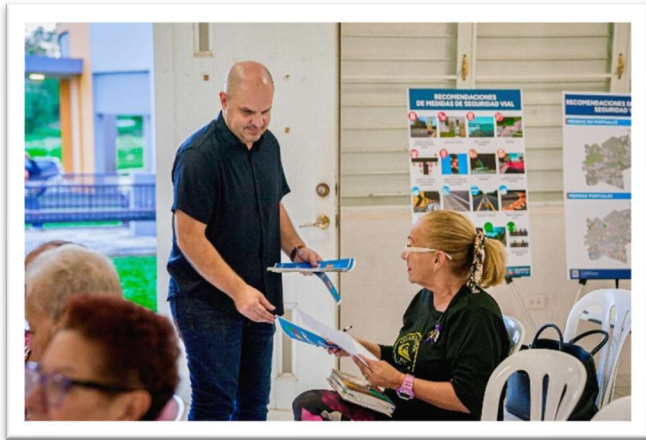


Figure 36 Second community meeting at Campanilla



Campanilla

The Campanilla community expressed unanimous support for nearly all proposed roadway safety recommendations, including speed management measures, bicycle infrastructure, pedestrian safety improvements, roadway reconfigurations, lighting, signage, roundabouts, and traffic calming strategies. Recommendations such as speed limits, speed cameras, variable speed limits, bicycle lanes, pedestrian visibility improvements, flashing beacons, roadway reconfigurations, rumble strips, median barriers, signal timing adjustments, and high-friction surface treatments all received 100% support. Curve design improvements received slightly lower support at 80%.

Community comments highlighted concerns regarding traffic circulation and safety near the Walmart access points toward PR-165, Dorado, Cataño, and Bayamón, as well as the need for improved signage identifying dead-end streets. Overall, the results demonstrate very strong community support for comprehensive roadway safety and traffic management improvements.

Ingenio

At Ingenio, the community expressed strong support for most roadway safety recommendations, particularly measures related to pedestrian visibility, lighting, roadway signage, curve safety improvements, and speed management. Recommendations receiving unanimous support (100%) included establishing speed limits, pedestrian crossing visibility improvements, curve delineation, rumble strips, curve design improvements, improved signage at unsignalized intersections, lighting, and high-friction

surface treatments. Most other recommendations, including speed cameras, bicycle lanes, pedestrian intervals, flashing beacons, and roadway reconfigurations, received 80% support.

Median barriers received moderate support (60%), while roundabouts received no support (0%), with several residents expressing concerns regarding their feasibility and need. Community comments emphasized the need for additional lighting, sidewalk construction and repairs in areas such as Villas del Sol, Villa Calma, Ingenio, and Monserrate, as well as concerns regarding cyclist safety and roadway conditions along key curves and corridors.

Figure 37 Second community meeting at Ingenio



Summary of the Second Round

The public voting exercise demonstrated strong overall community support for the proposed roadway safety recommendations, with most strategies receiving approval ratings above 80% (see Figure 38 on the next page). The highest levels of acceptance were for establishing

speed limits for all users (98%), variable speed limits (96%), enhanced pedestrian crossing visibility (96%), roadway lighting improvements (96%), curve delineation (96%), and improved signage at unsignalized intersections (96%). Other highly supported measures included pedestrian leading intervals at signalized intersections (89%), high-friction surface treatments (87%), speed cameras (85%), roadway reconfigurations (83%), median barriers (83%), and rectangular rapid flashing beacons (83%).

Recommendations related to bicycle infrastructure and roundabouts received comparatively lower, though still majority, support, with bicycle lanes receiving a 68% acceptance rate and roundabouts receiving 66%. Overall, the results indicate broad public support for traffic calming, visibility improvements, roadway lighting, and safety-focused roadway design interventions aimed at reducing speeding and improving conditions for pedestrians and all roadway users.

Community feedback focused on the need for improved roadway signage, removal of abandoned or damaged vehicles obstructing sidewalks, and increased municipal and state police presence in neighborhoods such as Candelaria Arenas. Residents consistently identified the need for enhanced street lighting, clearer lane markings, speed limit signage, traffic calming measures, and safer pedestrian crossings, particularly near schools, churches, parks, school bus pick-up areas,

and high-crash curves and intersections. Several comments expressed concerns regarding the implementation of roundabouts, with some residents opposing them altogether while others suggested they may be appropriate only at select locations, provided that traffic operations and safety impacts are carefully evaluated.

Overall, the comments highlighted priorities related to pedestrian accessibility, roadway lighting, pavement markings, traffic calming, enforcement, vegetation maintenance, ADA compliance, and the careful assessment of proposed roadway interventions prior to implementation.

Figure 38 Approval rating of safety countermeasures



Conclusions and Next Steps: A Safety Network Built by and for Everyone

The Phase 3 Report has presented the methodology behind the public participation process, a description of the public facing activities and the results from two (2) rounds of engagement on the theme of roadway safety.

Community Participation as Pillar for Planning Success

The development of the Toa Baja Comprehensive Safety Action Plan (CSAP) demonstrates that community and public involvement is key to having a successful and effective planning process. While technical collision data and engineering metrics establish baseline groundworks, the integration of local knowledge and empowerment ensures a just, participatory, and effective safety framework. Engaging residents across all four (4) regions of Toa Baja and the communities within each, promoted the community to co-design and visualize safer streets. This transition from traditional, passive public hearings to a proactive framework allowed citizens to proactively participate in their own process, transforming local roadway hazards into community-supported, concrete engineering countermeasures.

Municipal Institute of Cooperativism and Citizen Participation Outreach Impact

The collaboration with the Municipal Institute of Cooperativism and Citizen Participation was a crucial and pivotal institutional mechanism for the project's logistics and community outreach. By coordinating meetings across the Institute's four (4) defined geographic regions (East, North, West, and South), the project established a decentralized engagement approach which allowed for the engagement of neighborhoods disproportionately affected by traffic hazards. This grassroots approach strengthened institutional trust, facilitated communication through tailored communication strategies, and promoted public attendance at community meetings during evening hours.

Digital Engagement

The launch of the official web portal, CallesSegurasToaBaja.com, served as an indispensable digital communication tool to encourage transparency and public accessibility. Rather than limiting the availability of technical information, the platform successfully bridged the communication gap by presenting complex metrics such as the High Injury Network (HIN) and unlit roadway segments into user-friendly visual representations. The page also contained multimedia educational content from federal entities and direct

communication channels, allowing the public to easily understand road safety countermeasure designs in an accessible and timely manner.

The launch of an online survey tool early in the project provided a base for understanding local experiences as communicated by the over 400 survey participants.

Community Hearing Outcomes

The hosting of 16 distinct community events across two (2) engagement rounds was a significant factor in promoting public interaction. The community hearings functioned as a collaborative forum where residents translated shared collective issues regarding excessive speeding, dark corridors, and deficient pedestrian infrastructure into a collective diagnostic. This approach empowered the community to move beyond individual problems, promoting a shared ownership and a collective vision for a long-term road safety network.

Community Evaluation of Second-Round Countermeasures

The second round of community participation provided direct feedback through an interactive voting exercise to measure community acceptance of proposed countermeasures. The public demonstrated strong consensus for visibility and physical design interventions. Setting appropriate speed limits led

acceptance at 98%, followed by variable speed limit (VSL) signs (96%), crosswalk visibility improvements (96%), and roadway lighting enhancements (96%). On the other hand, bicycle lanes (68%) and roundabouts (66%) received lower to moderate support, letting the municipality know that a more detailed analysis is needed for placement and monitoring of these measures.

Exceeding Federal Engagement Benchmarks

The comprehensive public participation framework implemented for this project aligns with and builds upon the public engagement expectations established under the *Safe Streets and Roads for All* (SS4A) program. While federal benchmarks require general community collaboration and a focus on underserved areas, the planning team went a step further with a grassroots co-design strategy. By conducting 16 community-based workshops directly within the communities, the project significantly reduced geographic barriers by bringing community meetings directly within neighborhoods impacted by road hazards instead of offering the meetings on centralized municipal offices. Additionally, the creation of the CallesSegurasToaBaja.com portal successfully translated complex spatial engineering metrics into accessible formats for easy access and comprehension of the communities. Most importantly, the participation process transformed traditional, passive public engagement by

establishing a hands-on participatory model.

Community members voiced concerns in the first round of community engagement, and they actively evaluated, voted on, and validated engineering countermeasures during a second round of community meetings. This intentional and robust public participation on crucial phases of the development of the project ensures that the final safety recommendations are transparently identified and validated through community consensus, establishing a superior, federally aligned benchmark for inclusive transportation planning.

Sustainability: Long-Term Engagement and Mobility

The public participation process has laid the groundwork for empowered and engaged communities in Toa Baja. By establishing this multi-channel outreach approach, ranging from traditional sound vans to interactive mapping, the municipality has given its residents the tools to actively participate in the development of a comprehensive safety action plan for their transportation network. Moving forward, this collaborative approach will be essential as Toa Baja implements the CSAP, guaranteeing a balanced, well-maintained, and equitable safety road network that protects drivers, cyclists, transit users, and pedestrians.