



Luis Muñoz Marín Panoramic Route

Corridor Management Plan — Update 2021

November 2021





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LIST OF ACRONYMS

CEDETRA	Jayuya Development and Work Center (Centro de Desarrollo y Trabajo de Jayuya) (acronym in Spanish)
CMP	Corridor Management Plan
DDEC	Department of Economic Development and Commerce (Departamento de Desarrollo Económico y Comercio) (acronym in Spanish)
DNER	Department of Natural and Environmental Resources
DRD	Department of Recreation and Sports (acronym in Spanish)
DTPW	Department of Transportation and Public Works

GIS	Geographic Information System
NGO	Non-Government Organization
NRCS	Natural Resources Conservation Service
OGPe	Permits Management Office (Oficina de Gerencia de Permisos) (acronym in Spanish)
PAN	Nutritional Assistance Program (Programa de Asistencia Nutricional) (acronym in Spanish)
PEMAC	High Quality Pavement Maintenance State Program (acronym in Spanish)
PEMOC	Road Modernization State Program (Programa Estatal de Modernización de Carreteras) (acronym in Spanish)
PICA	Four-Year Capital Improvement Program (Plan de Mejoras Capitales de Cuatro Años) (acronym in Spanish)
POT	Municipal Zoning Plans (Plan de Ordenamiento Territorial) (acronym in Spanish)
PRHTA	Puerto Rico Highways and Transportation Authority
PUT	Puerto Rico Land Use Plan (Plan de Usos de Terrenos de Puerto Rico) (acronym in Spanish)
RE	Scenic Route (Ruta Escénica) (acronym in Spanish)
SREP	Specially Protected Rustic Land (Suelo Rústico Especialmente Protegido) (acronym in Spanish)
USGS	US Geological Survey
YUCAE	Yabucoa Unidos por la Cultura, Autogestión y la Ecología

Executive Summary

This document constitutes the Luis Muñoz Marín Panoramic Route (the Panoramic Route or the Route) Corridor Management Plan (CMP Update) first update. This is an initiative from the Puerto Rico Highway and Transportation Authority (PRHTA) under the Department of Transportation and Public Works (DTPW). Funds to develop this CMP Update are allocated by the Federal Highway Authority (FHWA) from the State Planning and Research (SPR) Program Task 832 SPR (1)57.

The CMP Update was developed by a technical interdisciplinary team from the PRHTA with support from different government agencies and municipalities located along the Panoramic Route and from several civic organizations and stakeholders that contributed and/or participated in the process.

The Panoramic Route is a continuous set of roads that comprise an approximate length of 267 kilometers in its total extension, linking Puerto Rico’s west and east coasts through the mountainous Central Range (Cordillera Central). The corridor is defined as one (1) mile to either side of the center line of the Panoramic Route (Corridor). The original CMP was issued by the fall of 1998 by the PRHTA (1998 CMP.)



View to Villalba and Coamo from Road PR143 boundary between Bauta Abajo Ward, Villalba and Hato Puerco Ward,

The Panoramic Route extends along 21 municipalities, from west to east starting at Mayagüez and ending at Maunabo, as described in the Panoramic Route Law (Law 71-1965) as amended¹. The following is a list of the municipalities that are located along the Route, arranged from west to east.

- | | | |
|------------------|------------------|-----------------|
| 1) Mayagüez | 8) Jayuya | 15) Aibonito |
| 2) Las Marías | 9) Juana Díaz | 16) Cayey |
| 3) Maricao | 10) Ponce | 17) Guayama |
| 4) Sabana Grande | 11) Orocovis | 18) Patillas |
| 5) Lares | 12) Villalba | 19) San Lorenzo |
| 6) Adjuntas | 13) Coamo | 20) Yabucoa |
| 7) Utuado | 14) Barranquitas | 21) Maunabo |

A CMP is a community based and flexible, “living” plan that outlines how to protect and enhance a byway’s intrinsic qualities and character that define their byway corridor (Scenic America, 2018).

The Panoramic Route was designated as a scenic byway by means of the Law Number 71-1965 (Panoramic Route Law). It is the only byway in Puerto Rico designated under the National Scenic Byways Program which was administered by the Federal Highway Administration (FHWA) and was included in the US Department of Transportation / FHWA Scenic Byways Inventory in 1991. This program is no longer funded, however local interest has remained to preserve the Panoramic Route values previously recognized under this program.

Even when the National Scenic Byways Program is no longer active its criteria to recognize Route roads as scenic byways are maintained in this CMP Update. This program identified six (6) intrinsic qualities that are considered in the byway resources inventory.

¹ Although implicitly included, the jurisdiction of the municipalities of San Germán and Yauco are within the Route.

“Intrinsic qualities are the archeological, cultural, historic, natural, recreational, and scenic resources lying along byways that provide the drawing power and interest for visitors.” (Quoted by the 1998 CMP from the Intrinsic Quality Handbook issued by the former National Scenic Byways Program.)

Symbols associated to the six (6) intrinsic qualities are shown below and used consistently along this CMP Update.



Guiding principles were delineated for the CMP Update after the revision of key documents, meetings with focal groups and preliminary inspections of Route aleatory segments.

The 1998 CMP divided the Route in seven (7) regions based on themes or story bylines that emerged from the analysis of its intrinsic qualities. The regions would later become the Route’s proposed segments for driving and interpretative purposes. These regions are representative of general current identity and therefore are maintained in this CMP Update.

The following image shows the municipalities as well as the distribution of interpretative regions along the Route. The limits of these interpretative regions are not physical but conceptual, based on their story bylines. Therefore, a given municipality may pertain to two (2) regions.



Panoramic Route Municipalities and Interpretive Regions

Potential visitors centers that would also serve as portals anchoring the different regions of the Route were identified in the 1998 CMP sites and are maintained in this CMP Update. Sites for potential vista points and scenic overlooks respectively were also identified in 1998. (A scenic overlook site is defined as a location with facilities for parking, and passive recreation such as picnic tables, where the main attraction or draw is the views from the roadside. A vista point site is defined as a safe turn off next to the road where drivers can park briefly and enjoy the view from the car or standing next to the car.) The condition of these potential sites, distributed along the Route, were evaluated in this CMP Update, as described later.

The availability of scenic overlooks and vista point sites distributed along the Route will provide a sense of continuity and the opportunity for users to appreciate the different panoramic contexts and to interpret the corresponding regions story bylines.

Description and Evaluation of Intrinsic Qualities and Analysis of Contextual Integrity

The Route occur in a physical and socioeconomical context with differences and similarities with the rest of the Island. The conditions of the Route within its Corridor context are discussed in **Chapter 4**.

The socioeconomic context of the municipalities is an important criterion to be considered in the assessment of the conditions of the Panoramic Route. Several demographic information sources have established the poverty conditions of the municipalities located in the central mountain region. According to the U.S. Census Bureau American Community Survey ² all the municipalities along the Route, except Cayey, (43.4 percent) have higher percentages of people below poverty levels than Puerto Rico (44.9 percent) as a whole for the 2013- to 2017 period.

These deprived socioeconomic conditions contrast with the great natural landscape, cultural experiences and people warmth that the central mountain region has to offer.

² The American Community Survey collects data on a rolling basis every month throughout the year, and therefore measures poverty in the previous 12 months instead of the previous calendar year.

Statistics suggest there are local and international markets opportunities to attract visitors to the Panoramic Route multiple offerings.

A field inspection was conducted during the summer of 2019, after a preliminary reconnaissance was performed at aleatory segments. Some segments were inspected on foot during walks organized by Caminata Panorámica in its 2017, 2019 and 2020 editions.

A questionnaire was administered during the field inspection in 2019 to have an idea on the awareness of the citizens about the Route. Other information was obtained such as perception of the problems along the Route, places visited and presence of community groups. Almost half of the persons interviewed did not know that the Route traverses from Island eastern to western coasts. The principal problem perceived by the interviewed citizens is the condition of the roads. The other most remarkable conditions identified were: lack of recreational areas, lack of signs identifying the Route and lack of places to stay. Different community groups with purposes aligned with the Route are present along the Route, except in the Ferns and Springs Region.

The Route description was arranged by interpretative regions as previously defined, from west to east. (As indicated before, the limits of these interpretative regions are not physical but conceptual, based on their story bylines.) The description comprises the road and its roadside as well as its Corridor or primary viewshed. The segment characterization considers the Route character, activities and recurrent problems. It also considers Corridor evaluation in terms of the programs and projects undertaken, the prevailing land uses, the threats and the opportunities in light of Panoramic Route vision as well as the needed improvements. Maps are included identifying the Corridor boundaries, location of intrinsic qualities, and zoning districts.

The following lines summarize the analysis of contextual integrity by interpretive regions.

Port Region - The Corridor at the Port Region occurs at the West Coast Valleys geographical region in the Municipality of Mayagüez. The Corridor at the Port Region is characterized for its urban land uses where its town center, the coastal boardwalk Paseo del Litoral Israel Shorty Castro (Paseo del Litoral) and the University of Puerto Rico Mayagüez Campus outstands.



Mayagüez town square (2017), Mayagüez.

Major threats to this region are mentioned below:

- Abandoned structures
- Depopulation
- Illegal signs proliferation.

The Port Region has several strengths, including:

- Potential to extend the Route by connecting it to the coastal zone
- Active cultural downtown within the Corridor
- Diverse gastronomic offer and iconic dishes like the *Brazo Gitano* (Spanish cake roll), local beers and *sangría*
- Availability of hotels at the downtown.

Stone Forest Region - This interpretative region occurs at the Western Rainy Mountains region geographical area. The Corridor within the Stone Forest Region comprises the low-density urban areas of Mayagüez Arriba and Alonso wards near Mayagüez downtown and the rural areas of Limón and Montoso wards in the eastern end of this municipality. It also includes, from west to east the rural stretch along Las Marías (Naranjales Ward), Maricao (Maricao Afuera and Indiera Fría wards) and Sabana Grande (Santana and Tabonuco wards). (Note that a Route segment, in the Maricao State Forest area, abuts the Municipality of San Germán.) Several special zoning plans,

protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Stone Forest Region.

This stretch is threatened by several situations:

- Abandoned structures
- Illegal signs
- Unserviceable vehicles and appliances in front of houses, occupying the roadside
- Lack of restaurants and *chinchorros* in the Route and within the Corridor.



View to San Germán and Lajas Valley from a bench close to the Stone House at the Maricao State Forest, Maricao.

The Stone Forest Region has several strengths, including:

- Protected natural areas including: Maricao State Forest, Forest Legacy Program acquisition Finca Busigó Maricao and Maricao River Natural Protected Area
- Prevailing zoning districts according to purposes of the CMP (agricultural and resources conservation)
- A town square in the Route: Maricao
- Warnings of the municipalities (Mayagüez and Maricao) exhorting the citizens not to throw garbage and noticing legal consequences
- Availability of places to stay in the Route or close to it (small inn, camping site and vacation center).
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Conservation Trust of Puerto Rico and Bosque Modelo Territorial Management Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.

Coffee Region - This interpretative region also occurs at the Western Rainy Mountains geographical area. The Coffee Region comprises the rural stretch along the eastern end of Maricao (Indiera Fría, Indiera Baja and Indiera Alta) and the southern ends of Lares (Bartolo) and Adjuntas (Guayo, Limaní, Guilarte, Garzas, Saltillo and Portugués), respectively, and the low-density urban areas in the Castañer village (Poblado de Castañer) in Lares, the areas surrounding the Adjuntas town center and the stretch between Garzas and Saltillo wards in Adjuntas. Special zoning plans, protected areas, or programs which orientation coincide with the purposes of the Panoramic Route are abundant at the Coffee Region.



Guayo Reservoir, viewed from Road PR-135 at Bartolo Ward in Lares

This region is threatened by several situations:

- Abandoned structures (residential and commercial)
- Neglected historical bridge (Del Treinta bridge)
- Illegal signs along the route
- Lacks restaurants and/or *chinchorros* close to the Panoramic Route or its corridor (except in the vicinity of the Adjuntas urban area)
- Unserviceable vehicles depositories on the roadside.

The Coffee Region has several strengths, including:

- Protected natural areas including La Olimpia School Forest, Forest Legacy Program Acquisition properties Finca Fraticcelli (ID 195) and Finca La Nuez Guilarte (ID 197) and the Guilarte State Forest (ID 109)
- Prevailing zoning districts according to purposes of the CMP
- A town square very close to the Route: Adjuntas
- Presence of an agriculture experimental station
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Casa Pueblo and Bosque Modelo

Territorial Management Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.

- Availability of inns to stay within the Corridor and close to it.

Highlands Region - The Western Rainy Mountains geographical area is continuous towards the Highlands Region. This interpretative region comprises the rural stretch along the southern end of Utuado (Consejo Ward) Jayuya (Pica, Jauca, Veguitas, Saliente wards) and Orocovis (Ala de la Piedra and Bauta Abajo wards), respectively, and the northern end of Ponce (San Patricio, Anón wards), Juana Díaz (Collores Ward) and Villalba (Villalba Arriba and Hato Puerco Arriba wards).

Special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route are abundant also at the Highlands Region.

The Corridor at the Highlands Region, like the Stone Forest and the Coffee Regions, respectively, is also characterized for a rural context dominated by a forested landscape. The largest protected forest area within the Corridor is the Toro Negro State Forest.

The Highlands Region is threatened by several situations:

- Abandoned structures (residential and commercial)
- Neglected iconic scenic outlook
- Illegal signs along the route
- Unserviceable vehicles on the roadside.

This region has several strengths, including:



Charco de los Suspiros (Sighs Pool) a natural pool at the recreational area of the Toro Negro State Forest, at Bauta Ward in Orocovis. Photo courtesy of Gabriel Cortés Urbina.

- Protected natural areas including Forest Legacy Program Acquisition properties and Toro Negro State Forest
- Highest peaks in the Island that constitutes landmarks
- Prevailing zoning districts according to purposes of the CMP (Resources Conservation and Forest)
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Amigos del Bosque Toro Negro, Conservation Trust of Puerto Rico and Bosque Modelo Territorial Management Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.
- Scenic overlook with potential to be improved
- Availability of inns to stay close to the Corridor, including innovative offers like glamping.

Flower Country Region - The dominant geographical region at the Flowers interpretive region is the Eastern Humid Mountains, followed by the Western Rainy Mountains. The Corridor at this interpretative region comprises rural areas of Villalba northeastern area (Caonillas Arriba), Orocovis southeastern area (Bermejas and Bauta Arriba) Barranquitas southern area (Palo Hincado and Helechal), Coamo northeastern area (Pedro García, Hayales and Pulguillas wards), Aibonito central area (Asomante, Pasto, Llanos, Robles and Cuyón wards) and Cayey southwestern area (Pasto Viejo, Matón Arriba and Sumido wards) with urban areas concentrated in Aibonito downtown and its vicinity. Along with the Ferns and Spring Region, the Flower Country Region has the most developed areas within the Corridor when compared with the remaining regions. In the Flower Country Region these areas are concentrated in Asomante and Cuyón wards, respectively in Aibonito and Pasto Viejo Ward in Cayey.



San José Church at Aibonito town square, Aibonito

Several special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Flower Country Region.

This stretch is threatened by several situations:

- Abandoned structures, including massive buildings
- Incongruent uses
- Proliferation of illegal signs
- Unnecessary visual contamination associated to light poles and guardrails painting.

The Flowers Country interpretive region has several strengths, including.

- Natural protected areas within the Corridor including: Planadas de Yeyesa Natural Reserve and San Cristóbal Canyon Natural Protected Area and extension of Bosque Modelo
- Dominant zoning districts according to purposes of the CMP (agricultural)
- Singular landmark constituted by the San Cristóbal Canyon, accessible to public through the Conservation Trust of Puerto Rico
- Potential Route extension in Aibonito that would allow users to enjoy the San Cristóbal Canyon view from road
- Active cultural downtown within the Corridor, Aibonito
- Community group was identified related to cultural heritage of Aibonito
- Scenic overlook operating and currently being improved
- Thematic routes including Flowers Route and Chicken Route, as well as eastern end of the Longaniza Route (Ruta de la Longaniza).

Ferns and Springs Region - At the Ferns and Springs interpretive region the dominant geographical region is the Eastern Humid Mountains, followed by the Southern Semiarid Hills. The Corridor at this interpretative region comprises rural areas of Aibonito (Robles and Cuyón wards), Cayey (Matón Arriba, Pasto Viejo, Pedro Ávila, Sumido, Jájome Alto, Jájome Bajo, Culebras Alto, Culebras Bajo, Farallón, Guavate), Guayama (Carite, Guamaní), Patillas (Quebrada Arriba, Muñoz Rivera and Mulas) and San Lorenzo (Espino Ward).

Along with the Flower Country Region, the Ferns and Spring Region has the most developed areas within the Corridor when compared with the remaining regions. In the Ferns and Springs Region these areas are concentrated in Pasto Viejo, Matón Arriba, Culebras Bajo, Culebras Alto and Guavate wards, respectively in Cayey and Carite Ward in Guayama.

This stretch is threatened by several situations:

- Abandoned structures, including massive buildings
- Considerable road stretch with amazing views blocked by tall grown grass in the roadsides, in instances invading the roadway and residues of burnt vehicles that contribute to a desolated impression
- Affected Carite State Forest Recreational Area as result of the impacts from hurricanes in 2017 that is currently damaged, and debris are still present giving a desolate and hazardous look to the area
- Structures of the former headquarters of the DNER rangers are abandoned, and rangers relocated to another area
- Proliferation of illegal signs
- No community group were identified related to preservation of natural resources in the Route or within the Corridor.

The Ferns and Springs region has several strengths, including.

- Considerable road stretches with amazing views to the southern coast and the forest itself
- Natural protected areas within the Corridor including: Natural Reserve; Finca Mikasobe Carite Forest Legacy Program Acquisition; Jájome, La Robleda, Culebras, Jorge Sotomayor del Toro and Ulpiano Casal Natural Protected Areas and Carite State Forest



Pink oak trees at La Robleda property at Jájome Alto Ward in Cayey. Photo courtesy of the Conservation Trust of Puerto Rico.

- Prevailing zoning districts according to purposes of the CMP (forest and resources conservation)
- Natural recreational areas including a river (Charco Azul) with public access that may be restored along with other visitors facilities.

Sea and Sugar - This interpretative region presents diverse geographical regions, making it visually rich for the visitors. The Eastern Humid Mountains Region is the dominant geographic region, extending from San Lorenzo to Yabucoa. East coast Humid Valleys and Southern Semiarid Hills, at Yabucoa and Maunabo, respectively, also occur.



View from the Punta Tuna lighthouse towards the Punta Tuna Mangrove Natural Reserve and Playa Larga, Maunabo

Sea and Sugar Region comprises rural areas of San Lorenzo (Espino Ward), Patillas (Mulas), Yabucoa (Guayabota Calabazas, Juan Martín Camino Nuevo and Barrio Pueblo) and Maunabo (Talante, Quebrada Arenas, Emajagua and Barrio Pueblo), with low-density urban areas concentrated close to the town centers in Yabucoa and Maunabo.

There are several special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Sea and Sugar Region.

This Route stretch is threatened by several situations:

- Abandoned structures
- Illegal signs
- Neglected Art Deco bridge on Road PR-181, Espino Ward, San Lorenzo
- Natural protected areas are not as abundant as other interpretive regions.

The Sea and Sugar region has several strengths, including.

- Rich diverse geographical regions
- Protected natural areas including: Natural Protected Areas Sierra la Pandura, and Natural Reserves Punta Tuna Mangrove and Inés María Mendoza, and proposed Lucía Beach Wetland Natural Reserve
- Prevailing zoning districts according to purposes of the CMP (agricultural and resources conservation)
- Two (2) town squares close or in the Route: Yabucoa and Maunabo, respectively
- Active community groups leading educational, scientific, cultural and recreational events related to environmental conservation (Comité Pro Desarrollo de Maunabo and Comité Yabucoeño Pro Calidad de Vida) which are associated to natural intrinsic qualities resources within the Corridor
- Potential to extend the Route by connecting it to the coastal zone at the Boulevard del Puerto de Yabucoa Teófilo Morales Rodríguez.

The update of the intrinsic qualities inventory (**Appendix 4**) has been an opportunity to confirm the words in the 1998 CMP in terms of the tremendous resources and beauty which exist along the Panoramic Route. As indicated before the intrinsic qualities are the resources lying along byways that provide the drawing power and interest for visitors.

Although there has been a deterioration of sections of the Route in the past decades mainly associated to the roads conditions and the depopulation patterns there is no doubt that it preserves a great natural landscape, unique cultural resources and experiences and moreover people warmth from our central mountain region.

The updated inventory clearly confirms the vast wealth of scenic, natural, recreational and historic-cultural resources that exist along the Route. The field inspection reflected

that the intrinsic qualities along the Route are still directly related to the byway story and the proposed interpretive program to be developed.

A description of the six (6) intrinsic qualities considered in the intrinsic resources inventory is included in **Chapter 4**, Description and Evaluation of the Route and its Contextual Integrity. It is based in the description provided in the 1998 CMP, while it is included, when applicable, recent data and information obtained as part of current update. An inventory update considered the resources with intrinsic qualities located in the Corridor (**Appendix 4**). These resources were identified with a unique number, consistently used in the corresponding figures to identify its physical location.

Regarding visual resources the Route offers outstanding scenic views, natural areas and broad vistas of the geographic diversity of Puerto Rico along its whole extent. The Route is by itself an invitation to the users to enjoy its most tangible attribute: its landscape. Therefore is of utmost importance to address those issues identified that affect the landscape setting like: land preservation, abandoned structures, aesthetic and maintenance, illegal dumping control, littering and control of illegal signs, among others. Just to mention an example, subtle things like illegal signs spread all over roadsides ruin even the best landscape. This CMP Update proposes strategies to address these and other deficiencies Chapter 7, Goals, Objectives and Strategies.



Fragment from the poem *The Road Not Taken* by Robert Frost (1874-1963). Art on a decorative tile. Courtesy of Poets Passage, Old San Juan

The availability of safe and appealing areas for drivers to be able to stop, for a short period or for a while is essential for the Route. When the Route program was prepared and actual roads selected, in the early 1970's 15 sites were identified with potential to be developed as scenic overlooks. The DTPW acquired land for nine (9) of these, and three (3) of the sites were developed: Mirador Maravilla, Mirador Piedra Degetau, and Mirador Villalba- Orocovis. This CMP Update keep these sites as the most significant ones along the Panoramic Route from the scenic perspective. They still represent top priority for preservation of their view sheds and for future development under this CMP Update. The figure below shows the location of existing and potential sites for vista points and scenic overlooks.



Existing and Potential Vista Points and Scenic Overlooks along the Route

Government Policies and Actions Review

This CMP identifies (**Chapter 5**) government policies and actions that are relevant to the Panoramic Route, within the local and federal framework. Governments actions should be based on approved public policies. Such actions may come not only from proposed projects, but from programs and plans, which in turn are based on corresponding laws and regulations.

It is of utmost importance that the CMP be consistent and coordinated with government policies and actions. It is a challenge due to the number of municipalities that crosses the Route, as well as the number of land use plans and regulations that may affect the Panoramic Route.

The chapter discusses:

- Laws and Regulations Relevant to the Route Including Responsible Parties and Designated Funds
- Government Actions Relevant to the Route Including Responsible Parties and Designated Funds
- Identification of funding, technical assistance, staff or other resource, currently provided or potentially available for the Route management.
- Partnership and cooperative efforts already in place to manage the Route.

Panoramic Route Vision and Mission

The vision and mission statements are foundations for the strategic management of any organized initiative of an entity, public or private.

“A vision statement focuses on tomorrow and what an organization wants to ultimately become. A mission statement focuses on today and what an organization does to achieve it. Both are vital in directing goals.”³ Clear Voice.com

The following is the vision of the Panoramic Route revised as part of this CMP Update. The revised vision substantially adheres to the original conception but separates it from the mission. The mission recognizes the potential of the Route to stimulate the economy in the municipalities that encompasses the Panoramic Route, with its multiplier effect on the rest of the Island economy.

Vision

The Puerto Rico Panoramic Route, a 163-mile corridor linking the east and west coasts by traversing the mountainous Cordillera Central, provides visitors of all ages diverse opportunities to explore the Island's cultural, historical, natural, scenic, archaeological and recreational resources as well as to experience local traditions and the rural way of life and contributing to the social and economic development for this area.

Mission

Serving as a gateway, connecting the traveler to other regions in a safe and coherent manner, and educating the user about its resources, the Route preserves and enhances

the natural beauty of the interior of Puerto Rico while becomes a source of social and economic development for this area.

Goals, Objectives, and Strategies

Goals

The goals that stem from the original vision are three (3): Preservation, Safety, and Education/Information.

The goals established by the 1998 CMP are maintained but revised to add the socioeconomic development component.

The new approach that includes four (4) main goals to develop objectives and strategies for the Route management are:

- 1- Preservation Goal - To preserve the significant quality of the Panoramic Route scenic beauty and views and the outstanding value of its, archeological, cultural, historic, natural and recreational resources for the future generations of users of the Route.
- 2- Safety Goal - To ensure the safety of the Route for all users by adopting, compatible and appropriate design standards for scenic roads, by providing adequate information, signage, and safety measures, in a way that enhances its natural and scenic qualities.
- 3- Education and Information Goal - To educate and inform Panoramic Route users about the Corridor's, archeological, cultural, historic, and recreational values, as well as the scenic and natural qualities for their enrichment and so that they engage in the Route's preservation and become satisfied tourists of the Route.

³ Difference Between Vision and Mission Statements.

<https://www.clearvoice.com/blog/difference-between-mission-vision-statement-examples/>

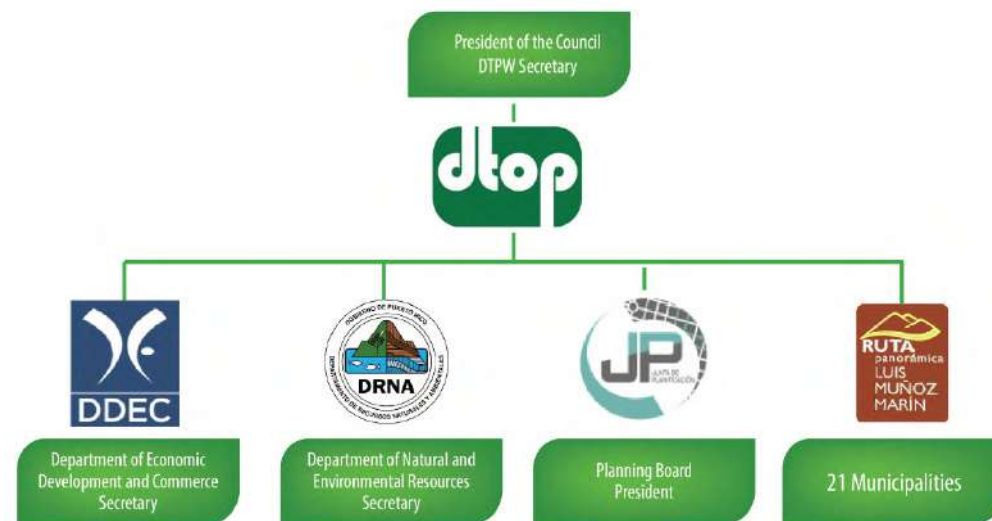
4- Socioeconomic Development Goal - To stimulate communities social and economic development along the Panoramic Route by providing the framework for investments aimed to tourism activity in agreement with Route preservation and education goals.

Objectives and Strategies

The abovementioned goals guide the objectives and strategies to meet the Panoramic Route vision and mission.

This CMP have identified several key actions for the proposed strategies implementation. These actions are:

- Short term: the effective establishment of the Council for the Protection and Management of the Panoramic Route, the administrative structure prescribed by the Panoramic Route Law (Law 71-1965 as amended) to execute the CMP; the recruitment of members to constitute a day to day managing unit and the claim of funds legally allocated for the Route



Council for the Protection and Management of the Panoramic Route as per Law 71-1965 as amended.

- Mid-term: the stakeholders involvement, including government and communities, to implement the CMP and cooperative agreements as well as enhancing the Route visibility (physically and in communication media).
- Long term: the inclusion of information and educational elements through all the strategies groups presented in this chapter and implementation of a roadside maintenance program through the concept of road workers through a “house for work program” inspired in the former road workers or *camineros* houses.

The findings of a comprehensive study performed on the outcomes of scenic byways located in 20 States of the United States are eloquent and is worth to transcribe a summary, as a reference for the strategies that are presented to accomplish proposed goals and objectives. The article “Scenic Byways A Review of Processes, Administration, and Economic Impacts” (Sipes et. al, 1997) reported that among the states reviewed, there were common elements that can be applied for an anticipated economic impact of scenic byways. The following summarizes their findings from the states that had conducted research:

- **Marketing** plays a very important role in creating positive benefits.
- **Signage** plays a very significant role in safety and “user friendly” characteristics.
- **Tourism**-related industry is ready to receive or support traffic growth for positive economic benefit to occur.
- Scenic byways programs have been met with overwhelming **approval**.
- **Positive economic benefit** is either perceived or has been measured.
- Byways must be of a **high-quality** to gain a favorable response from travelers.



Success is the sum of small efforts that are repeated every day. Wall art at La Gallina Escondida Bar & Grill, Hayales Ward, Coamo

Specific strategies are provided for each goal previously defined. Refer to **Chapter 7, Goals, Objectives, and Strategies**, which are summarized in bullets in the graphics below.

PRESERVATION STRATEGIES:

- Land use control
- Land preservation
- Aesthetic and maintenance
- Illegal dumping control
- Signs proliferation control
- Control of ruined structures

SAFETY STRATEGIES:

- Signage,
- Road erosion and landslides,
- Roadside maintenance,
- Pavement surface,
- Guardrails and barriers
- Stopping sight distance
- Design speed and speed reduction and
- Bicycle and pedestrians.

EDUCATION AND INFORMATION STRATEGIES:

- Interpretive program
- Outreach program
- Formal Education on the Values of the Panoramic Route
- Key Forums
- Education to Improve Services to Visitors

SOCIOECONOMIC DEVELOPMENT STRATEGIES:

- Marketing Program
- Strategic Alliances
- Periodic Activities Offer
- Lodging Availability
- Potential Route Extensions
- Loops to interconnect the Route from different roads to each interpretive region

Community Participation Program

Community participation is inherent to the spirit of the Panoramic Route Law. It is among the responsibilities of the Council to procure participation of communities in the different programs prescribed in the Panoramic Route Law including programs to preserve intrinsic resources of the Panoramic Route and programs for awareness and education. Other responsibilities of the Council related to public participation include to promote and facilitate participation and the creation and development of private non-profit organizations related to the Panoramic Route Law. The Council should hold public hearings, whenever necessary.

The development of this plan was initiated through meetings with two (2) key focal groups, one of them the DTPW Regional Directors (from the regions that include the roads that comprise the Route) and the other a group of agencies and NGO's relevant to the Panoramic Route including the representatives of the agencies and municipalities that constitute the Council and the cooperative agencies, designated by the Panoramic Route Law (Law 71-1965 as amended). They were convoked by the PRHTA when the preparation of this CMP Update began. The group of NGOs was that identified at that moment. This CMP Update was circulated to the agencies and NGO's that were convoked to these meetings. Comments received were evaluated and incorporated accordingly in this final edition.

This CMP Update have identified and emphasized on the multiple efforts being currently conducted by community non-for-profit groups in several scope of works that are compatible with the goals of the Panoramic Route.

Although with different visions and missions, the works of the community groups that were identified agree with the purposes of this CMP Update. It has been demonstrated and acknowledged through this CMP Update that the different community groups are considered a strength for the Route. Therefore, proposed strategies in this CMP Update are intended to promote and support their work for the benefit of the communities they serve along the Route.

Community potential stakeholders involvement to implement the CMP have been identified in this CMP as a key action for the implementation of proposed strategies. To reach cooperative agreements with potential stakeholders is another proposed key action.

“If you want to walk fast walk alone. If you want to walk far walk together.” Ratan Tata (1937-) Indian architect, engineer, industrialist, and philanthropist.

Several participation tools are recommended in the community involvement process, which should occur on a regular scheduled basis.

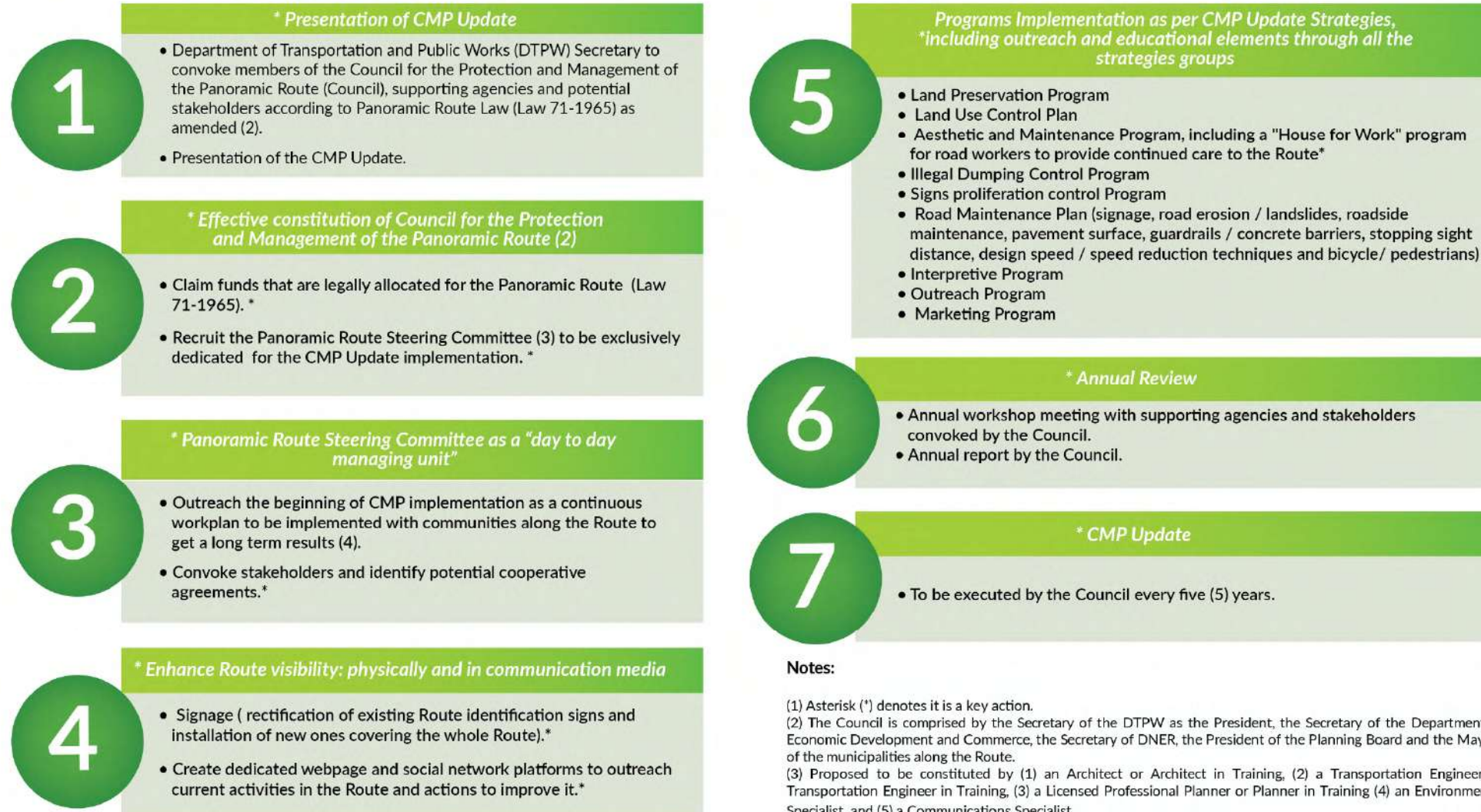
Action Plan

The Action Plan projects the steps and timeline to execute the strategies that are proposed to reach the goals that have been established to meet the Panoramic Route vision and mission. As indicated in the 1998 CMP a plan is only as effective as its implementation. Therefore, strategies must be carried out and proposed guidelines applied for the vision and goals of the CMP to become a reality. Periodic revisions should also be done to this CMP to make adjustments as necessary.

For virtue of the Panoramic Route Law (Law 71-1965 as amended), several agencies are responsible for the protection and adequate management of the Panoramic Route under the leadership of the DTPW (Section 2).

This Action Plan emphasizes on the key actions approach that is proposed for the implementation of the strategies. These key actions are proposed on the short, mid and long term, and are projected in a timeline matrix. The following scheme shows an overall idea of the proposed action plan.

Overall Action Plan for Panoramic Route CMP Update Implementation (1)



Notes:

(1) Asterisk (*) denotes it is a key action.

(2) The Council is comprised by the Secretary of the DTPW as the President, the Secretary of the Department of Economic Development and Commerce, the Secretary of DNER, the President of the Planning Board and the Mayors of the municipalities along the Route.

(3) Proposed to be constituted by (1) an Architect or Architect in Training, (2) a Transportation Engineer or Transportation Engineer in Training, (3) a Licensed Professional Planner or Planner in Training (4) an Environmental Specialist and (5) a Communications Specialist.

(4) Initial outreach through radio, press, DTPW webpage and television

“If is exciting to think it, imagine doing it” (Pícalo, 2019). (*Si emociona pensarlo, imagínate hacerlo.*)

This CMP Update was circulated for the evaluation and endorsement from the representatives of the agencies that constitute the Council, as indicated before. It was also circulated for the evaluation and endorsement from the cooperative agencies, designated by the Panoramic Route Law (Law 71-1965 as amended).

A matrix is included in **Chapter 9** identifying the responsible parties to execute the different strategies that are proposed in this CMP Update.

An annual report should be issued by the Council on the achievements in each specific objectives of this Action Plan (e.g., if the specific objective has been achieved and if it has not been achieved, describe the status of the works performed to achieve it). The CMP should be updated at least every five (5) years.

1.0 Background

This document constitutes the Luis Muñoz Marín Panoramic Route (the Panoramic Route or the Route) Corridor Management Plan (CMP Update) first update. This is an initiative from the Puerto Rico Highway and Transportation Authority (PRHTA) under the Department of Transportation and Public Works (DTPW). Funds to develop this CMP Update are allocated by the Federal Highway Authority (FHWA) from the State Planning and Research (SPR) Program Task 832 SPR (1)57.

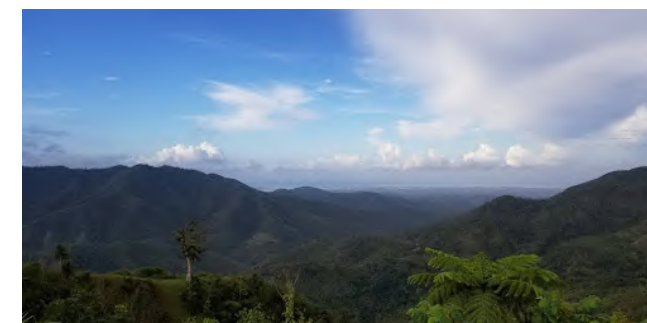
The corridor is defined as one (1) mile to either side of the center line of the Panoramic Route (Corridor). The original CMP was issued on the fall of 1998 by the PRHTA. (The original CMP is referred to hereinafter as 1998 CMP.) That year the Panoramic Route was designated with its official name, Luis Munoz Marín, by means of Law Number 79-1998.

A CMP is a community based and flexible, “living” plan that outlines how to protect and enhance a byway’s intrinsic qualities and character that define their byway corridor (Scenic America, 2018).

The Panoramic Route was designated as a scenic byway by means of the Law Number 71-1965 (Panoramic Route Law). It is the only byway in Puerto Rico designated under the National Scenic Byways Program which was administered by the Federal Highway Administration (FHWA) and was included in the US Department of Transportation / FHWA Scenic Byways Inventory in 1991. This program is no longer funded, however local interest has remained to preserve the Panoramic Route values previously recognized under this program. (While the Panoramic Route had the qualities established in the former program it did not meet the requirement of “Regional Significance” to be designated as National Scenic Byway or All-American Road. Regional Significance means: “characteristics that are representative of a geographic area encompassing two or more States.”)

The CMP Update was developed by a technical interdisciplinary team from PRHTA with support from different government agencies and municipalities located along the Panoramic Route and from several civic organizations and stakeholders that contributed and/or participated in the public process. The PRHTA technical interdisciplinary team was constituted by professionals from the following offices or divisions: Strategic Planning Office, Traffic Regulations Office and Highway Safety Improvement Projects Division and Environmental Studies Office. The FHWA funds allocated to develop the CMP Update are from the State Planning and Research (SPR) Program Task 832 SPR (1)57.

Several government agencies supported the process including the Puerto Rico Planning Board (Planning Board), Tourism Company, Department of Natural and Environmental Resources, State Historic Preservation Office (SHPO), Land Authority, Department of Agriculture, Department of Sports and Recreation and the Institute of Puerto Rican



View to southern coast (Guayama-Salinas) from Road PR-7737 at Sumido Ward, Cayey

Culture. The following Non-Government Organizations (NGO’s) also contributed with information for the preparation of this CMP Update: Caminata Panorámica Arquitecto Gabriel Ferrer Amador (former Fondo de Mejoramiento), Para la Naturaleza (a program of Fideicomiso de Conservación, Conservation Trust of Puerto Rico), Bosque Modelo Territorial Management Alliance and Casa Pueblo.

Even when the National Scenic Byways Program is no longer active its criteria to recognize Route roads as scenic byways are maintained in this CMP Update. This program identified six (6) intrinsic qualities that are considered in the byway resources inventory. Its definitions, based on the legislation that created the National Scenic Byways Program (23 U.S. Code § 162), are included below. Associated symbols are based on the 1998 CMP Scenic Overlooks and Interpretive Program, SOIP, and are described as follows.

Scenic



Scenic Quality is the heightened visual experience derived from the view of natural and manmade elements of the visual environment of the scenic byway corridor. The characteristics of the landscape are strikingly distinct and offer a pleasing and most memorable visual experience. All elements of the landscape--landform, water, vegetation, and manmade development--contribute to the quality of the corridor's visual environment. Everything present is in harmony and shares in the intrinsic qualities.

Archaeological



Archaeological Quality involves those characteristics of the scenic byways corridor that are physical evidence of historic or prehistoric human life or activity that are visible and capable of being inventoried and interpreted. The scenic byway corridor's archeological interest, as identified through ruins, artifacts, structural remains, and other physical evidence have scientific significance that educate the viewer and stir an appreciation for the past.

Cultural



Cultural Quality is evidence and expressions of the customs or traditions of a distinct group of people. Cultural features include, but is not limited to, crafts, music, dance, rituals, festivals, speech, food, special events, vernacular architecture, etc., which are currently practiced. The cultural qualities of the corridor could highlight one or more significant communities and/or ethnic traditions.

Historic



Historic Quality encompasses legacies of the past that are distinctly associated with physical elements of the landscape, whether natural or manmade, that are of such historic significance that they educate the viewer and stir an appreciation for the past. The historic elements reflect the actions of people and may include buildings, settlement patterns, and other examples of human activity. Historic features can be inventoried, mapped, and interpreted. They possess integrity of location, design, setting, material, workmanship, feeling, and association.

Natural



Natural Quality applies to those features in the visual environment that are in a relatively undisturbed state. These features predate the arrival of human populations and may include geological formations, fossils, landform, water bodies, vegetation, and wildlife. There may be evidence of human activity, but the natural features reveal minimal disturbances.

Recreational



Recreational Quality involves outdoor recreational activities directly association with and dependent upon the natural and cultural elements of the corridor's landscape. The recreational activities provide opportunities for active and passive recreational experiences. They include, but are not limited to, downhill skiing, rafting, boating, fishing, and hiking. Driving the road itself may qualify as a pleasurable recreational experience. The recreational activities may be seasonal, but the quality and importance of the recreational activities as seasonal operations must be well recognized.

2.0 Original CMP General Description and Overview of CMP Update

2.1 General Description of the Original CMP

The original CMP (1998 CMP) was prepared by an interdisciplinary group of professionals, led by the Manuel de Lemos AIA architectural firm, under PRHTA contract. The document is organized in six (6) chapters, (including the Introduction, comprising:

- Chapter 2 - Description of roadway conditions, including route transportation safety
- Chapter 3 - Assessment of the six (6) intrinsic qualities and objectives including management strategies
- Chapter 4 - Visitors needs and expectations, including future plans for visitors and a development plan
- Chapter 5 - Marketing and promotion
- Chapter 6 - Route management strategy and implementation plan.

The 1998 Corridor Management Plan is a very complete and visionary planning document that was “ahead of its time”, with spatial analysis and recommended strategies of which many are still valid.

The 1998 CMP also included a Scenic Overlooks and Interpretive Program (SOIP). The purpose of the SOIP was to establish guidelines for the interpretative program as well as for the design of future facilities, overlooks, observation points, roadside features and interpretative signage. The guidelines were concepts and recommendations. Although the SOIP itself is not part of current CMP Update, recommendations on development

and preservation of scenic overlooks and interpretative program from the SOIP are incorporated in this CMP Update.

2.2 Guiding principles for CMP Update

Guiding principles were delineated for the CMP Update after the revision of key documents, meetings with focal groups and preliminary inspections of Route aleatory segments. The following paragraphs describe such principles and their basis.

The first key document reviewed was the 1998 CMP. Special emphasis was given to the inventory of intrinsic qualities, the Route management strategies and proposed implementation plan.

Documents from the former National Scenic Byways Program were also reviewed. The content principles for the CMP Update are based on FHWA CMP content guidelines for byways designation under the former National Scenic Byways Program. These content guidelines (14 in total) are listed below.

1. A map identifying the corridor boundaries, location of intrinsic qualities, and land uses in the corridor.
2. An assessment of the intrinsic qualities and their “context” (the areas surrounding them).
3. A strategy for maintaining and enhancing each of those intrinsic qualities.
4. The agencies, groups, and individuals who are part of the team that will carry out the plan, including a list of their specific, individual responsibilities. Also, a schedule of how, when, and to what degree those responsibilities are being met.
5. A strategy of how existing development might be enhanced and future development accommodated, to preserve the intrinsic qualities of the byway.
6. A plan for on-going public participation.
7. A general review of the road’s safety record to locate hazards and poor design and to identify possible corrections.
8. A plan to accommodate commercial traffic while ensuring the safety of sightseers in smaller vehicles, as well as bicyclists, joggers, and pedestrians.

9. A listing and discussion of efforts to minimize unnecessary intrusions on the visitor's experience of the byway.
10. Documentation of compliance with all existing local, state, and federal laws about the control of outdoor advertising.
11. A plan to ensure that the number and placement of highway signs will not detract from the byway's scenic character but will still be sufficient to help tourists find their way.
12. Plans for how the byway will be published and marketed.
13. Any proposals for modifying the roadway, including an evaluation of design standards and proposed changes that may affect the byway's intrinsic qualities.
14. A description of the interpretation plan for significant byway resources so visitors can gain a full byway experience.

The documents revision was followed by two (2) meetings with key focal groups. The first meeting, held on June 20, 2017, was with the DTPW Regional Directors from the regions that include the roads that comprise the Route. The regions are: Mayagüez, Aguadilla, Arecibo, Ponce, Guayama and Humacao. (Municipalities that comprise the corresponding regions are shown in **Table 3-1**.) The meeting was held at the Centro Gubernamental Minillas, specifically at the DTPW offices.



Road PR-131 heading to Guilarte State Forest Recreational Area, Guilarte Ward, Adjuntas

The second meeting, held on June 27, 2017, was with a group of agencies and NGO's relevant to the Panoramic Route including the representatives of the agencies and municipalities that constitute the Council and the cooperative agencies, designated by the Panoramic Route Law (Law 71-1965 as amended), among others. This group was

convoked by the PRHTA when the preparation of this CMP Update began in 2017 Summer. Representatives from the following agencies, municipalities and NGO's participated: Land Authority, Tourism Company, Department of Agriculture, Institute of Puerto Rican Culture, Planning Board, State Historic Preservation Office, Para la Naturaleza (a program of Fideicomiso de Conservación, Conservation Trust of Puerto Rico), Caminata Panorámica Arquitecto Gabriel Ferrer Amador and Fundación de Protección al Patrimonio Arqueológico (Foundation for the Archaeological Heritage Protection). The following municipalities also participated: Aibonito, Barranquitas, Coamo, Villalba, Orocovis, Juana Díaz, Lares, Las Marías and Mayagüez. The meeting was held at the Aibonito Municipal Hall.

A preliminary reconnaissance of Route's aleatory segments was also performed. It included the following municipalities: Mayagüez, Maricao, Lares, Adjuntas, Jayuya, Orocovis, Villalba, Coamo, Aibonito, Cayey, San Lorenzo, Yabucoa and Maunabo. Some segments were inspected on foot during walks organized by Caminata Panorámica in its 2017, 2019 and 2020 editions, including Mayagüez, Las Marías, Maricao, Lares, Adjuntas, Utuado, Jayuya, Ponce, Orocovis, Villalba, Coamo, Aibonito, San Lorenzo, Yabucoa and Maunabo. Initial data related to intrinsic qualities was plotted over aerial photographs for the whole Route.

This CMP Update does not start from a “white canvas”. It recognizes the applicability, function and value of current planning documents applicable to the area comprised by the Panoramic Route corridor, including the 1998 CMP.

The following guiding principles were agreed with the PRHTA technical interdisciplinary team. It was subjected to the fact that findings during the field inspections may change any of them.

- Significant overall qualities identified in the 1998 CMP are still representative of the Route's most significant qualities.
- Interpretative story and segments definition established for the 1998 CMP are representative of general Route identity and are therefore still valid.

- Questions suggested by the 1998 CMP for future evaluation of Route context are still valid to define planning and management issues.
- Historical data as well as background architectural, archaeological and cultural resources baseline data from the 1998 CMP are still valid. Updates will be done by a Cultural Resources Specialist (where applicable), citing the original information source (1998 CMP).
- Descriptions will be organized from west to east, according to the Panoramic Route Law (Law 71-1065) as amended.
- The Corridor width will be maintained as originally defined by the DTPW: one (1) mile to either side of the center line of the Panoramic Route. This demarcation constitutes the primary viewshed.
- Intrinsic qualities assessment will be based on criteria established by the 1998 CMP for significance and conditions.
- 1998 CMP goals and objectives will be used as baseline and pre-evaluated by the PRHTA technical interdisciplinary team and presented to potential stakeholders in public meeting.

2.3 Methodology

The intrinsic qualities inventory update was initiated by developing a conceptual data form to collect information during the field inspection to characterize the Route, its intrinsic qualities and its context. The purpose was to assure to gather the data that represent not only the intrinsic qualities resources, but to obtain key information to understand the Route's contextual integrity, as well as to confirm if the regions continue representing the corresponding story bylines or interpretive story. The data form was divided in two (2) main components:

- **PART A** - Segment Characterization [comprises (a) road, including roadside and (b) Corridor or primary viewshed]
- **PART B** - Intrinsic Quality Assessment (point resources within Corridor or primary viewshed). Includes all qualities except landscapes (component under scenic qualities), which are evaluated in a separate data form.

Due to the long extension of the Route, it was divided into seven (7) interpretive regions. The segment characterization considers the road character, route activities and recurrent problems. It also considers Corridor evaluation in terms of the programs and projects undertaken, the prevailing land uses, the threats and opportunities in light of Panoramic Route vision as well as the needed improvements.

The inventory update considered the resources with intrinsic qualities located in the Corridor, which were identified with a unique number, consistently used in the corresponding figures to identify its physical location. The 1998 CMP resources inventory was used as a baseline. This inventory was compared with data provided by the Planning Board to include additional resources not comprised on the previous plan. The PRPB data is based on information provided by different agencies. Those resources that no longer exist were removed from the inventory. Resources that were identified in the field were also added to the inventory. The following information was gathered for each resource: intrinsic quality, type of activity, significance for the Route, conditions, resource potential, needed improvements and accessibility to the public.

A separate data form was developed for the evaluation of scenic quality of the existing and potential scenic overlooks and vista points, mainly due to the multiple criteria needed for proper assessment. This CMP Update keeps the definition of scenic overlook and vista points from the 1998 CMP, the concept of a scenic overlook site is defined as a location with facilities for parking, and passive recreation such as picnic tables, where the main attraction or draw is the views from the roadside. A vista point site is defined as a safe turn off next to the road where drivers can park briefly and enjoy the view from the car or standing next to the car. This form was adapted from a methodology developed for the National Park Service by Sullivan and Mark (2016). This data form is divided in two (2) main components:

- **Part A** - Landscape description
- **Part B** - Scenic quality evaluation

The landscape description considers the view type, the landscape character type, the elements that contribute to its singularity, view obstructions and municipalities or landmarks viewed. The scenic quality evaluation considers integrity, vividness and visual harmony factors. The assessment of scenic quality evaluates three (3) equally weighted components for each factor. Each individual component has a rating of one (1) to three (3) points, according to a predetermined scale and rating criteria. The total score indicates the scenic condition. The assessment of each factor is based on structured questions and possible responses with corresponding rating values as an aid to rate the condition of the view.

The Route evaluation considered also the conditions of the roads and roadsides during the field inspection. The following information was considered in terms of roadways needs, such as pavement repair, signs, landslides repair, safety barriers, geometry (horizontal and vertical) and pavement marking. Regarding roadside works needed the following information was considered: trimming, curb and side ditches (*encintados*) and general appeal. Note that a survey on the conditions of the roads was originally completed by the DTPW Regional Directors (for the regions that include the roads that comprise the Route) at the beginning of this CMP Update development. The data gathered is only provided as a reference point since it was collected before the impacts from hurricanes Irma and María in September 2017 (**Appendix 1**). Note that the DTPW is currently executing an aggressive island-wide roadways improvement plan through several state and federal programs, therefore roadways conditions are continuously evolving.

The field inspection was conducted by experts, including a biologist and photographer, environmental specialists and a transportation engineer. The team met to review a draft of the conceptual data forms and traveled an initial segment (Adjuntas, summer 2018) going through the items provided by the form. The conceptual data form was then revised to reflect the scenarios found.

A computer software was used to collect and organize field data, based on guidelines established in the conceptual data forms.

The field data was collected using tablet computers with a Geographical Information System (GIS) application, known as “Collector for ArcGIS”. This software allows the user to collect, upload and update information in the field and plot them into maps. It also allows to manipulate the maps and data offline to later synchronize changes when connected. This software can be used to capture and share georeferenced photos for further location analysis.

The Route inspection was conducted on different times from April 2017 to March 2020, including inspection along roadways in vehicles as well as inspection by foot, thorough participation in walks organized by Caminata Panorámica, Arquitecto Gabriel Ferrer Amador as indicated before.

A continuous inspection from the western to eastern end was conducted on the last week of July 2019 to first week of August 2019. The field team traveled along predefined Route segments, gathering the information into the Collector according to conceptual data forms. This field survey included aleatory interviews to persons, by means of a questionnaire, in public places such as *chinchorros*, *plazas*, parks, museums, or any other relevant public spaces. Interviewed persons included forest rangers. The provided questionnaire is included in **Appendix 2**.

Photographs were taken of the scenic, natural, recreational, and historic sites along or nearby the Corridor. The results were plotted on a base map at a scale of 1:90,000 which was divided according to the established interpretative regions to create a combined inventory of all qualities. The inventory of intrinsic qualities was tabulated in a matrix divided according to interpretative regions and municipalities.



View northward to Utuado from Road PR-143 between Consejo Ward, Utuado, and San Patricio Ward, Ponce

2.4 CMP Update Organization

The CMP Update is organized as follows:

Chapter 1.0	Background
Chapter 2.0	Original CMP General Description of and Overview of CMP Update
Chapter 3.0	Corridor Location and General Description
Chapter 4.0	Description and Evaluation of Intrinsic Qualities and Analysis of Contextual Integrity
Chapter 5.0	Government Policies and Actions Review
Chapter 6.0	Panoramic Route Vision and Mission
Chapter 7.0	Goals, Objectives, and Strategies
Chapter 8.0	Community Participation Program
Chapter 9.0	Action Plan (Short-, Mid-, Long-Terms)
Chapter 10	References

3.0 Corridor Location and General Description

The Panoramic Route is a continuous set of roads that comprise an approximate length of 267 kilometers in its total extension, linking Puerto Rico’s west and east coasts through the mountainous Central Range (Cordillera Central). The Route as such was designated and set aside in 1965, as result of the issuance of Law 71 -1965 (Panoramic Route Law). According to the 1998 CMP at least 65 percent of the Route roadways existed by 1965 and the rest were constructed, mainly Road PR-143, as connectors to existing segment.

The Panoramic Route extends along 21 municipalities, from west to east starting at Mayagüez and ending at Maunabo, as described in the Panoramic Route Law (Law 71-1965) as amended.

The following is a list of the municipalities that are located along the Route, arranged from west to east. The image to the right shows the Panoramic Route general alignment along the 21 municipalities.

- | | | |
|------------------|------------------|-----------------|
| 1) Mayagüez | 8) Jayuya | 15) Aibonito |
| 2) Las Marías | 9) Juana Díaz | 16) Cayey |
| 3) Maricao | 10) Ponce | 17) Guayama |
| 4) Sabana Grande | 11) Orocovis | 18) Patillas |
| 5) Lares | 12) Villalba | 19) San Lorenzo |
| 6) Adjuntas | 13) Coamo | 20) Yabucoa |
| 7) Utuado | 14) Barranquitas | 21) Maunabo |

The **Table 3-1** shows the Route’s approximate length comprised per municipality, and the regional offices of the DTPW and PRHTA to which such municipalities pertain, respectively, for administrative purposes. The municipalities with the longer road lengths in the Corridor are: Maricao, Adjuntas, Cayey and Yabucoa.



Figure 3-1 Panoramic Route Location

The 1998 CMP divided the Route in regions based on themes or story bylines that emerged from the analysis of its intrinsic qualities. The regions would later become the Route’s proposed segments for driving and interpretative purposes.

As indicated before these regions are representative of general current identity and are therefore kept in this CMP Update. The information in this CMP Update is arranged by interpretative regions. The interpretative regions are seven (7), described in the following paragraphs from west to east.

Table 3-1 Route Approximate Length and DTPW/PRHTA Jurisdiction per Corresponding Municipalities

DTPW Regions	Municipalities	Road	Length (km) (Approx.)
Mayagüez	Mayagüez	119, 339, 105	16.6
	Las Marías	120, 106	6.7
	Maricao	128, 105, 365, 366, 120	26.8
	Sabana Grande	366, 120	2.5
Aguadilla	Lares	135, 128	8.5
Arecibo	Utuado	143	3.8
Ponce	Adjuntas	143, 123, 518, 131, 525, 135	31.4
	Jayuya	143	6.8
	Ponce	143	7.6
	Juana Díaz	143	1.2
	Orocovis	143	16.7
	Villalba	143	2.3
	Coamo	723, 143	16.2
Guayama	Barranquitas	143	2.3
	Aibonito	7722, 722, 7718, 725, 14, 723	20
	Cayey	184, 179, 742, 7741, 741, 15, 715, 1, 7722	29.35
	Guayama	179, 742, 7741	13.3
	Patillas	7740, 184	3.9
Humacao	San Lorenzo	181, 7740	7.3
	Yabucoa	3, 182, 181, 901	32
	Maunabo	3, 901, 760	11.6
Total	21	--	266.85

Regions PRHTA	Municipalities	Road	Length (km) (Approx.)
Mayagüez (West)	Mayagüez	119, 339, 105	16.6
	Las Marías	120, 106	6.7
	Maricao	128, 105, 365, 366, 120	26.8
	Sabana Grande	366, 120	2.5
Manatí (North)	Lares	135, 128	8.5
	Utuado	143	3.8
	Orocovis	143	16.7
	Barranquitas	143	2.3
Ponce (South)	Adjuntas	143, 123, 518, 131, 525, 135	31.4
	Jayuya	143	6.8
	Ponce	143	7.6
	Juana Díaz	143	1.2
	Villalba	143	2.3
	Coamo	723, 143	16.2
	Aibonito	7722, 722, 7718, 725, 14, 723	20
	Cayey	184, 179, 742, 7741, 741, 15, 715, 1, 7722	29.35
Humacao (East)	Guayama	179, 742, 7741	13.3
	Patillas	7740, 184	3.9
	San Lorenzo	181, 7740	7.3
	Yabucoa	3, 182, 181, 901	32
	Maunabo	3, 901, 760	11.6
Total	21	--	266.85

The image below shows the distribution of the Panoramic Route interpretative regions. The limits of these interpretative regions are not physical but conceptual, based on their story bylines. Therefore, a given municipality may pertain to two (2) regions. The 1998 CMP identified sites for potential visitors' centers that would also serve as portals anchoring the different regions of the Route.



Figure 3-2 Panoramic Route Interpretative Regions

Port Region (Región del Puerto) – The city of Mayagüez constitutes the gateway to the Panoramic Route starting on the west coast.

A small house located in Mayagüez to dwell the road workers under the Spanish Government was proposed in the 1998 CMP as the landmark for one (1) of the proposed Route portals. This is one (1) of many small houses built under the Spanish government for road workers (*Casilla de Peón Caminero* or *Casilla de Caminero in Spanish*)⁴ This one is located at Alfonso Valdés Avenue (Road PR-2R) in the premises of the University of Puerto Rico Mayagüez Campus, where it was moved by the year 1995 to avoid its demolition when this road was expanded. This site is maintained in this CMP Update as there are several successful examples in the Island where historical ruins have been used to host new uses, in the structure itself or adjacent to it.

The Port Region only includes the Municipality of Mayagüez. For practical purposes illustrations in this CMP Update combine the Port Region and the Stone Forest Region.



Former road workers house at the premises of the University of Puerto Rico Mayagüez

⁴ The Public Works Department of the Spanish Colonial Government established a road maintenance system throughout the Island. The Spanish Government built houses for road

maintenance workers, known as *camineros*. These workers were assigned to specific segments of the road, usually five (5) kilometers (1998 CMP).

Stone Forest Region (Región del Bosque de Piedra) – This region is characterized for its stone structures, constructed by the “Civilian Conservation Corp” during the 1930’s in the Maricao State Forest.

The Civilian Conservation Corp, known as "Las Tres C" in Puerto Rico, was established during the Great Depression by then President Franklin D. Roosevelt as part of his New Deal program. It was an effort to put people back to work, while improving public lands (US Department of Agriculture, n.d.). This region includes the following municipalities:

- Maricao
- Las Marías
- Sabana Grande

Coffee Region (Región del Café) – This region is known for its coffee plantations in the vicinity of the Guilarte State Forest and the town of Castañer (*poblado de Castañer*).

This region includes the following municipalities:

- Utuado
- Adjuntas
- Lares
- Maricao



Stone Observation Tower at Maricao State Forest, Road PR-120, Maricao Afuera Ward, Maricao



Coffee beans

Highlands Region (Región de Tierra Alta) – This region characterizes by the high mountain peaks of the Cordillera Central in the Toro Negro State Forest. The Highlands Region includes the following municipalities:

- Juana Díaz
- Jayuya
- Ponce
- Orocovis
- Villalba
- Utuado

Stone observation tower in the Toro Negro State Forest (Maricao Jurisdiction). Photo courtesy of Rafael Falero.



Flower Country Region (Región de las Flores) – Characterized for the presence of flowers and fruit trees this region includes the following municipalities:

- Cayey
- Aibonito
- Barranquitas
- Coamo
- Orocovis
- Villalba



Tibouchino flowers

Ferns and Springs Region (Región de Helechos y Manantiales) – Characterized by its vegetation associated to humid areas and within island’s main rivers hydrographic basins. This region includes the Carite State Forest and comprises the following municipalities:

- Guayama
- Cayey
- Patillas
- San Lorenzo



Charco Azul (literally Blue Pond) at Carite State Forest, Patillas jurisdiction

Sea and Sugar Region (Región del Mar y el Azúcar) – Characterized by its proximity to the Caribbean Sea and remnants of XIX Century sugar plantations. Hacienda Columbia, a former sugar plantation located in Maunabo, was proposed as the landmark for one (1) of the proposed Route portals in the 1998 CMP. This site was eventually discarded as its structures were too deteriorated. Another historical sugar plantation, Central Roig, in Yabucoa, was proposed. This CMP Update neither discard these sites for the reason explained above: there are several successful examples in the Island where historical ruins have been used to host new uses, in the structure itself or adjacent to it. Then, the historical structure constitutes an attraction itself.



View to eastern coast, Playa Larga area, Maunabo

This region includes the following municipalities:

- Maunabo
- Yabucoa
- San Lorenzo

4.0 Description and Evaluation of Intrinsic Qualities and Analysis of Contextual Integrity

The Route occur in a physical and socioeconomical context with differences and similarities with the rest of the Island. The following sections discuss the conditions of the Route within its Corridor context.

4.1 Route Description and Contextual Integrity

4.1.1 Demographic Information and Market Opportunities

The socioeconomic context of the municipalities is an important criterion to be considered in the assessment of the conditions of the Panoramic Route. Several demographic information sources have established the poverty conditions of the municipalities located in the central mountain region (Instituto de Estadísticas de Puerto Rico, 2018 and El Nuevo Día, 2017). According to the U.S. Census Bureau American Community Survey ¹ all the municipalities along the Route, except Cayey, (43.4 percent) have higher percentages of people below poverty levels than Puerto Rico (44.9 percent) as a whole for the 2013- to 2017 period. Refer to **Table 4-1**.

Table 4-1 Percentage of People Below Poverty Level in the Past 12 Months for 2013-2017 as per American Community Survey Five (5) years Estimate

Interpretive Region	Geographic Area	Percentage
Not Applicable	Puerto Rico	44.9
Port Region	Mayagüez	52.0
	Maricao	65.0

¹ The American Community Survey collects data on a rolling basis every month throughout the year, and therefore measures poverty in the previous 12 months instead of the previous calendar year.

Interpretive Region	Geographic Area	Percentage
Stone Forest Region	Las Marías	57.6
	Sabana Grande	49.00
Coffee Region	Utua	53.0
	Adjuntas	64.1
	Lares	56.4
Highlands Region	Juana Díaz	47.7
	Jayuya	60.3
	Ponce	51.6
	Orocovis	56.3
	Villalba	50.0
Flower Region	Cayey	43.6
	Aibonito	49.2
	Barranquitas	60.7
	Coamo	48.3
Ferns and Springs	Guayama	55.1
	Patillas	57.3
	San Lorenzo	45.6
Sea and Sugar	Maunabo	52.6
	Yabucoa	52.4

According to the U.S. Census Bureau (2019) Puerto Rico is well above the states with the higher percentage of people below poverty levels in the United States of America. The states with higher poverty rates for 2016-2017 period are: Mississippi (19.7 percent), New Mexico (18.2 percent), Louisiana (20.8 percent) and West Virginia (17.7 percent) for 2016- 2017 period (U.S. Census Bureau, 2019 a and b, respectively).

These deprived socioeconomic conditions contrast with the great natural landscape, cultural experiences, and people warmth that the central mountain region has to offer.

The following statistics reflects interesting information that suggest there are local and international markets opportunities to attract visitors to the Panoramic Route multiple offerings:

- Statistics from the Tourism Company reflect that occupancy at nonmetropolitan area lodgings endorsed by the agency is lower (53 percent) than occupancy at metropolitan area (77 percent) for fiscal year 2018 to 2019 (July thru May) (Tourism Company, 2019).
- Statistics from the Planning Board (Planning Board, 2019) on the profile from travelers reflect that tourists that came exclusively for vacation purposes during 2017 stayed mainly in:
 - San Juan (42 percent)
 - Carolina (11.5 percent)
 - Río Grande (5.3 percent)
 - Dorado (2.4 percent)
 - Bayamón (2.3 percent)
 - Remaining municipalities (equal to or less than 0.9 percent)
- Statistics from Planning Board (Planning Board, 2019) on the profile from travelers reflect that tourists that came exclusively for vacation purposes during 2017 got mainly the following activities:
 - Walking by the area
 - Going out to restaurants and pubs



Tithonia rotundifolia (Mexican sunflower)

- Aquatic activities or beaches
- Shopping
- Visiting historic places
- Trends on preferences from travelers reflects also interesting information that suggest more opportunities to attract visitors to the Panoramic Route multiple offerings.
 - According to a recent report from Euronews (Euronews, 2019) the following top ecotourism trends for 2019 are expected, among others:
 - Female owned and run establishments and businesses are seeing an increase in bookings and visitors to developing countries are finding ways to reach out to the local women.
 - Interest in experience led travel is still increasing with participants keen to volunteer while on their next holiday.
 - Travelers are taking more responsivity opting to avoid places that have suffered due to overcrowding (e.g., Rome, Athens, etc.) and instead are heading to less known destinations.
 - According to Forbs (Forbes, 2019) the Caribbean, including Puerto Rico, is in the top travel trends for 2019.
 - Reconstruction after hits from Hurricanes Irma and María as well as the fact that more American flights to the Caribbean than ever before are being registered contribute to these projections.
 - Unique trips are trending according to Forbs (Forbes, 2019).
 - Boutique travel agencies will continue growing, offering unique tailored trips around the world. This responds in part to characteristic from Millennials that are known for wanting unique experiences. It mentioned agencies that offer academic and cultural programming in Cuba.
 - Travelers are opting for small remote islands.
 - Solo travel (exploration by visitors themselves) continues growing.

“There is still so much in the world worth fighting for. So much that is beautiful, so many wonderful people working to reverse the harm, to help alleviate the suffering. And so many young people dedicated to making this a better world. All conspiring to inspire us and to give us hope that it is not too late to turn things around, if we all do our part.”

Dr. Jane Goodall (1934-Present)². (Jane Goodall Institute, 2019)

4.1.2 Interviews

Interviews were conducted during the field inspection, as indicated in **Section 2.3, Methodology**. Persons were aleatory identified in public places such as *chinchorros*, plazas, and other public spaces, or in the roadside if a safe area was available to make the interview. Interviewed persons totaled 35 persons, and included households, maintenance employees, pedestrians, forest rangers, employees, and visitors from museums, among others. The provided questionnaire is included in **Appendix 2**.

Almost all interviewed persons (94 percent) were aware that current location at the interview point was part of the Panoramic Route. However, 86 percent were aware that the Panoramic Route traverse along several municipalities in the Central Mountain Range and only 57 percent of the interviewed persons were aware that the Route comprise a set of roads that continuously traverses from Yabucoa to Mayagüez.

Eighty-three percent (83 percent) of interviewed persons were aware that the Route offers other resources than scenic and approximately 86 percent of them have visited

some segment of the Route for recreational purposes. However, only 51 percent used to travel along some Route segment to visit tourism interest sites. Visited sites included: Villalba-Orocovis Scenic Overlook, Hacienda Juanita, El Cantinflas in Aibonito, Guilarte State Forest, Carite State Forest, Guavate roasted pork route, Toro Negro State Forest, Cerro Maravilla, road trips and *chinchorro* in Aibonito and Monte del Estado.

The purposes of the 1998 CMP were briefly introduced to interviewed persons which were questioned about their awareness on community groups that conduct efforts in agreement with these purposes. Sixty-three percent (63 percent) of interviewed persons were aware of community groups and identified them. Groups that were mentioned are included in the list below

- All Regions
 - Caminata Panorámica Arquitecto Gabriel Ferrer Amador (Former Fondo de Mejoramiento)
- Port Region
 - Rolón Community Board (Montoso Ward, Mayagüez)
- Coffee Region
 - Casa de Encuentro Madre Dominga (Madre Dominga nuns convent) (Indiera Alta Ward, Maricao)
- Highlands región
 - Jayuya Cultural Center (Downtown, Jayuya) (outside the Corridor)
 - Amigos del Bosque de Toro Negro.
- Flower Country Region
 - Aibonito Historic Archive Board (Patronato del Archivo Histórico de Aibonito) (Downtown, Aibonito)
- Ferns and Springs Region
 - Former Oak Trees Festival Group (Grupo Organizador del Festival del Roble) (Jájome Alto, Cayey)
- Sea and Sugar Region
 - Yabucoa Culture and Tourism Office (Yabucoa Downtown, Yabucoa)

² Dr. Jane Goodall is an animal rights activist from England. Considered to be the world's foremost expert on chimpanzees and named a United Nations Messenger of Peace in 2002.

- Marine Turtles Friends (Amigos de las Tortugas Marinas, ATMAR) (Emajagua Ward, Maunabo)
- Cultural center in Maunabo Downtown (Not accurate information)
- Committee for the Development of Maunabo (Comité Pro Desarrollo de Maunabo) (Punta Tuna Mangrove Natural Reserve at Emajagua Ward, Maunabo)

Although with different visions and missions, the works of these community groups agree with the purposes of the 1998 CMP and this CMP Update.

All these groups are intended to reach to general community, only one (1) of them is more specific to an area, the Rolón Community Board, at the Montoso Ward in Mayagüez. The purpose of this group is to improve the quality of life of their residents. The Rolón Community Board proposes the construction of a passive park besides the Graciano Rodríguez basketball court. Interesting to point out is that one of the interviewed persons, also from the Montoso Ward, considered himself a community representative as he had adopted the segment of the road in front of his property providing regular maintenance and landscape conditioning. It was confirmed during the interview when this citizen was trimming the area.

A set of deficiencies that had been identified in the Route were presented as part of the questionnaire to interviewed persons. It was questioned: Can you point out which of the following deficiencies do you consider to be the most remarkable in the Panoramic Route? It was specifically questioned to those that answered “Yes” to the first question (33 out of 35), that was: Are you aware that our current location is part of the Panoramic Route? Deficiencies presented included:

- a. Lack of places to stay
- b. Roads condition
- c. Lack of places to eat
- d. Lack of recreational areas

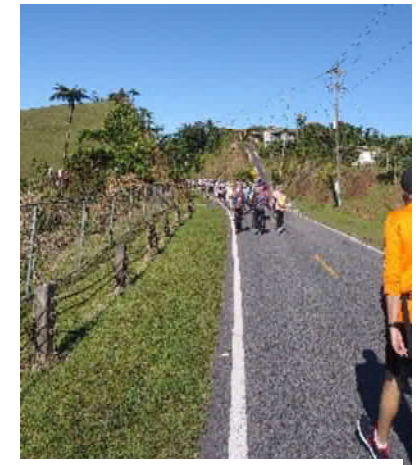
e. Condition of the areas adjacent to the roads

F. Lack of signs identifying the Route

Eighty eight percent of those persons who answered this question indicated that the most remarkable deficiency is the conditions of roads. The other most remarkable conditions identified were: lack of recreational areas (three, 3 percent), lack of signs identifying the Route (six, 6,percent) and lack of places to stay (three, 3, percent).

4.1.3 Route Description and Context

Physical descriptions below are arranged by interpretative regions as previously defined, from west to east. (As indicated before, the limits of these interpretative regions are not physical but conceptual, based on their story bylines.) The description comprises the road and its roadside as well as its Corridor or primary viewshed. The segment characterization considers the Route character, activities and recurrent problems. It also considers Corridor evaluation in terms of the programs and projects undertaken, the prevailing land uses, the threats and the opportunities in light of Panoramic Route vision as well as the needed improvements. The resources with intrinsic qualities located within the Corridor are identified with a unique number (ID) according to the inventory (**Appendix 4**) conducted as part of this CMP Update. ID numbers were consistently used in the corresponding figures along this section to identify the physical location of these resources.



Walkers from *Caminata Panorámica Arquitecto Gabriel Ferrer Amador* at PR-143 Hato Puerco Arriba Ward, Villalba

4.1.3.1 Port Region

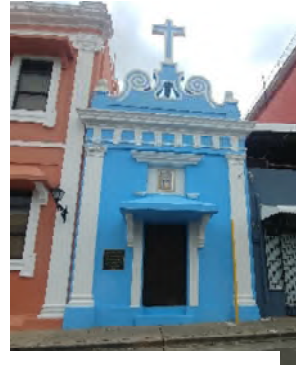
The Corridor at the Port Region occurs at the West Coast Valleys geographical region in the Municipality of Mayagüez (**Figure 4-1**). The Corridor at the Port Region is characterized for its urban land uses where its town center (ID 46), the coastal boardwalk Paseo del Litoral Israel Shorty Castro (Paseo del Litoral) (ID 209) and the University of Puerto Rico Mayagüez Campus (ID 39) outstands. The prevailing zoning districts at the Corridor in this region are listed below. Refer to (**Figure 4-2**) which shows current zoning. (Note that zoning is shown by grouping similar zoning districts for illustration purposes simplifying interpretation. A separate table is provided defining such grouped districts (**Appendix 3**):

- commercial (local to central)
- public (UP)
- residential (low density to commercial).

The prevailing zoning districts at the Route in the Port Region are (**Figure 4-2**):

- commercial (local to central)
- residential (low density to commercial) (R-05).

No special zoning plans, protected areas, or programs which orientation coincide with the purposes of the Panoramic Route were identified at the Port Region (**Figure 4-3**). There is no scenic route (RE) district along the Route in this interpretive region.



Façade of former Chapel next to Posada Hotel Colonial, Mayagüez

The town center (ID 46), even with the depopulation that have characterized the urban centers in the Island in the last decades, is still considered an important cultural center, both for the cultural activities promoted as well as for the historical and architectonical value of its constructed heritage. Worth to mention is the creative way in which new uses have been accommodated in old structures at the town center by private parties. An example of it is this successful restaurant that uses an old roofless structure that is adjacent as part of the space for guests, creating an attractive and different space, while retaining its vintage look. Cultural, social and recreational nature activities are promoted by the municipal government through its Facebook account.

Along with the cultural and social activity that the Mayagüez urban center offers, the visitor may enjoy different gastronomic experiences.

It may range from a delicious cup of coffee at the town square or municipal plaza (ID 25), to dinner at one of its restaurants or to enjoy its iconic *Brazo Gitano* (Spanish cake roll) (ID 222) or its local beer (ID 212). The town square is included in the National Register of Historic Places. Small hotels in cozy historical structures are also present close to the town square, like the Howard Johnson Inn Downtown Mayagüez (ID 44) and the *posada*³ Hotel Colonial (ID 41).

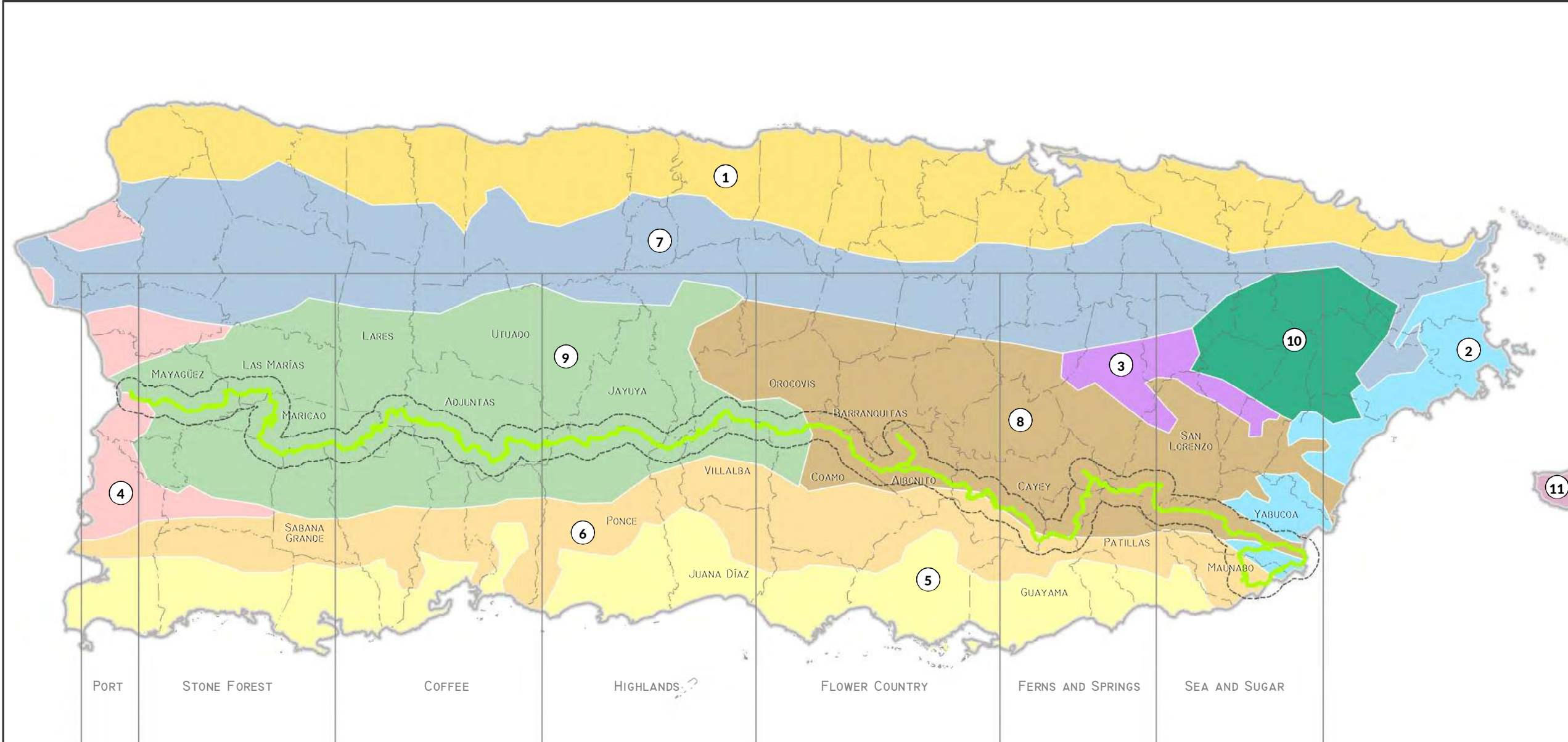


Adapted old roofless structure in a bar and grill, Mayagüez Town Center



Mayagüez town square (2017), Mayagüez.

³ Posada is the Puerto Rico Tourism Company lodging branding that promotes a network of thematic small inns through historic downtowns around the Island. The posadas express a unique cultural theme related to the history of Puerto Rico.



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- INTERPRETATIVE REGIONS
- MUNICIPAL LIMIT

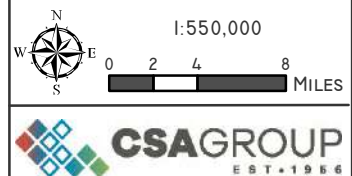
GEOGRAPHIC REGIONS

- 1 NORTHERN COASTAL PLAINS
- 2 EAST COAST HUMID VALLEYS
- 6 SOUTHERN SEMIARID HILLS
- 3 CAGUAS VALLEY

- 4 WEST COAST VALLEYS
- 5 SOUTHERN COASTAL PLAINS
- 6 SOUTHERN SEMIARID HILLS
- 7 NORTHERN HUMID HILLS

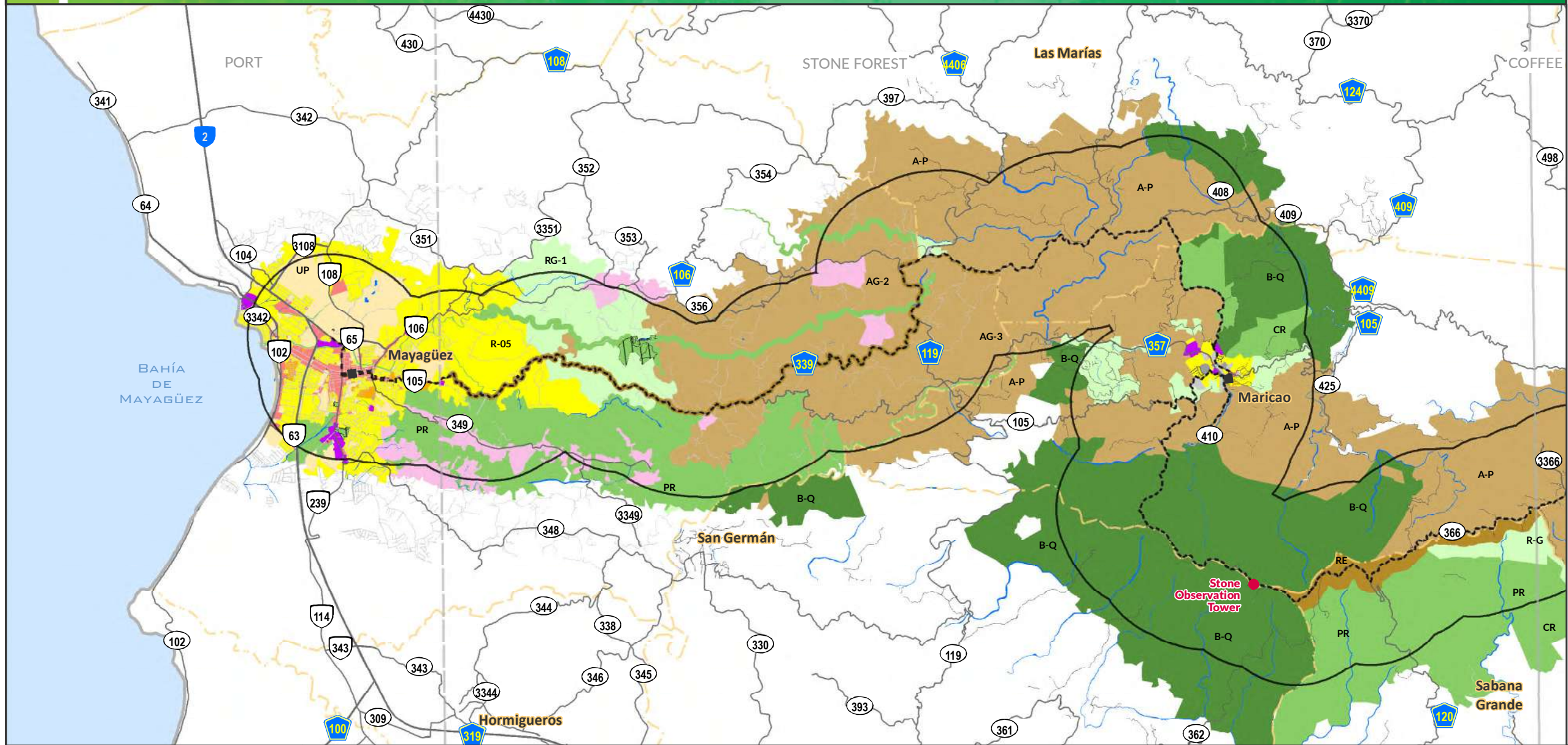
- 8 EASTERN HUMID MOUNTAINS
- 9 WESTERN RAINY MOUNTAINS
- 10 SIERRA DE LUQUILLO
- 11 VIEQUES CULEBRA AND MONA

Source: Refer to Chapter 10, References.





CMP PANORAMIC ROUTE FIGURE 4-2. SUMMARY OF CURRENT ZONING: PORT AND STONE FOREST REGIONS



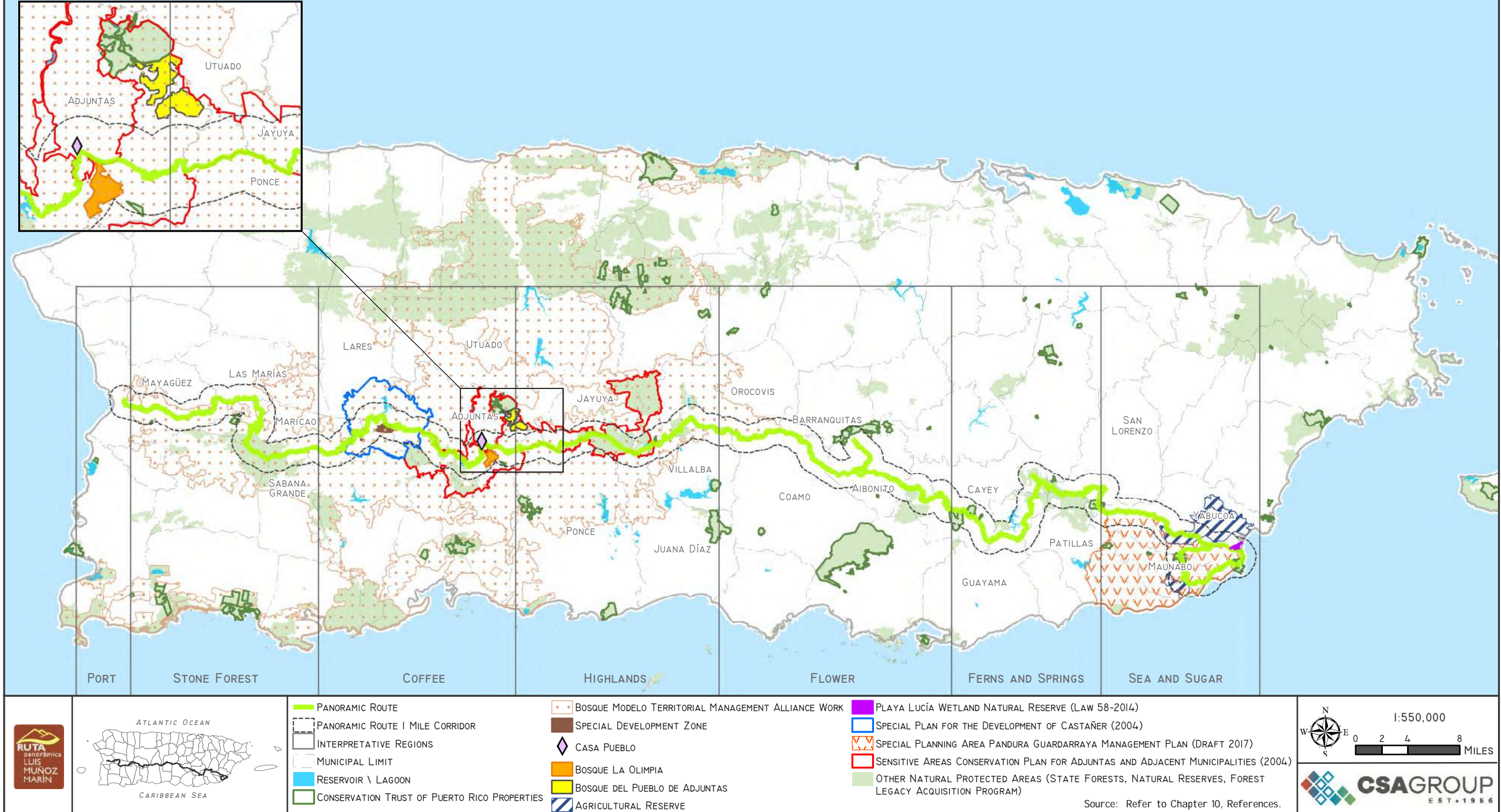
- | | | | |
|-------------------------------------------------------|--------------------------------|----------------|------------------------------------------|
| -- PANORAMIC ROUTE | COMMERCIAL (LOCAL TO CENTRAL)* | INDUSTRIAL* | RESIDENTIAL (LOW DENSITY TO COMMERCIAL)* |
| □ PANORAMIC ROUTE 1 MILE CORRIDOR | COMMERCIAL (TOURISM)* | INFRASTRUCTURE | RESOURCES CONSERVATION* |
| ZONING DISTRICTS | DEVELOPED AREA* | PARK | RURAL* |
| AGRICULTURAL* | FOR URBANIZATION | PUBLIC* | SCENIC ROUTE |
| ARCHAEOLOGICAL AND HISTORICAL RESOURCES CONSERVATION* | FOREST | PUBLIC BEACH | SPECIAL DEVELOPMENT ZONE |

NOTES: (1) ASTERISKS IN LEGEND IDENTIFY GROUP OF SIMILAR ZONING DISTRICTS. A SEPARATE TABLE (APPENDIX 5) IS PROVIDED DEFINING SUCH GROUPED DISTRICTS AND CORRESPONDING INFORMATION AS PER APPLICABLE REGULATIONS. ZONING DISTRICTS ABBREVIATIONS IN THE MAP ARE IN SPANISH, ACCORDING TO ORIGINAL LANGUAGE USED IN CORRESPONDING PLANNING DOCUMENTS, TO FACILITATE CROSS REFERENCE. (2) Source: Refer to Chapter 10, References.

1:90,000

0 0.5 1 MILES

EST. 1956



Although this region constitutes the western “gateway” to the Panoramic Route there is not any sign that reflects it. The Road Workers House (ID 40) located in the premises of the UPR Mayagüez Campus (ID 39) (**Figure 4-4A**), at Road PR-2 R was originally planned as the landmark for one of the proposed Route portals intended to be used as visitors centers to promote the Route. The structure may be considered in ruined condition. Although its beauty is still present, a structural engineering inspection should be conducted to determine the use(s) this property may serve. Its use as a visitor center should not be discarded, as there are several successful examples in the Island where historical ruins have been used to host new uses, in the structure itself or adjacent to it. An example of this have been previously mentioned in this section. (Refer also to discussion in **Section 7.3.4** Strategies for Education and Information Goal, under topic Visitors Centers and **Section 7.3.5** Socioeconomic Development Goal, under topic Lodging Availability.)

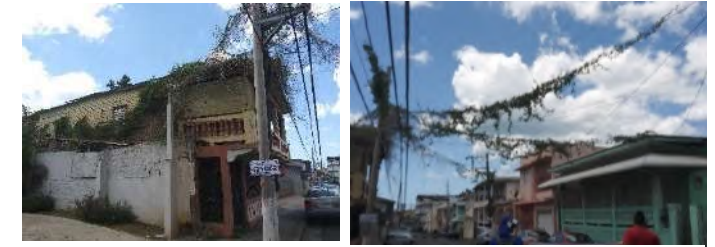


Road Workers House, UPR Mayagüez Campus

The coastal boardwalk Paseo del Litoral (ID 209) may represent an opportunity to extend the Panoramic Route on its western end. Paseo del Litoral, 1.5 kilometers away from the Route western end is considered an outstanding scenic resource that offers stunning views from the western coast and its sunset, while permanently offers sports, recreational and cultural activities. The Municipality of Mayagüez is the owner of this facility that was built for the celebration of sports, cultural and recreational activities during the XXI Central American and Caribbean Games Mayagüez 2010. Paseo del Litoral is managed by Fundación 2010, an NGO dedicated to the development of sports in Puerto Rico. Paseo del Litoral, which is approximately two (2) miles long, has varied facilities besides the boardwalk they all with beautiful views to the Mayagüez Bay. They include restaurants, plazas, outdoor amphitheater, green areas, and a skateboard park, among others. In general, the conditions of this coastal boardwalk are good. However, there was room for improvements at the moment in which the field survey was conducted like replacement of flags located at the Plaza de las Banderas, maintenance

of the outdoor amphitheater and relocation of interpretive sign close to this amphitheater.

In general, these roads are clean from garbage and illegal dumping areas. However abandoned structures, some of them dilapidated, vines growing over electrical lines and illegal signs, have negative effects on the overall look. The region may continue representing the corresponding interpretive story as Port Region.



Vines growing over electric lines, Mayagüez town center. Abandoned structure and illegal signs, Mayagüez town center

Major threats to this region are mentioned below:

- abandoned structures
- depopulation
- illegal signs proliferation.

The Port Region has several strengths, including:

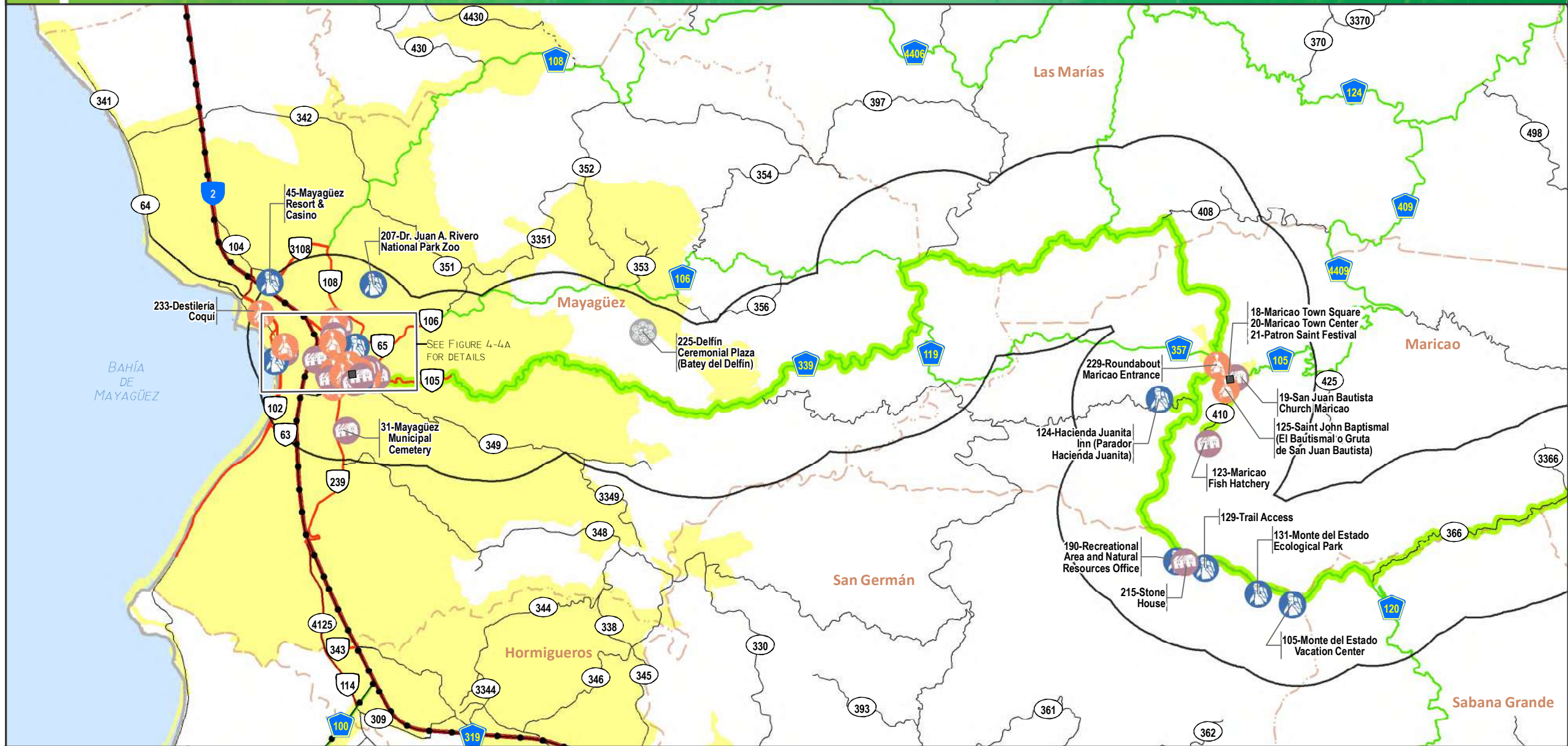
- Potential to extend the Route by connecting it the to the coastal zone
- Active cultural downtown within the Corridor
- Diverse gastronomic offer and Iconic dishes like the *Brazo Gitano* (Spanish cake roll), local beers and *sangría*
- Availability of hotels at the downtown.



CMP PANORAMIC ROUTE

FIGURE 4-4. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL

PORT AND STONE FOREST REGIONS



RESOURCES

- ARCHEOLOGICAL
- CULTURAL

- HISTORICAL AND ARCHITECTURAL
- RECREATIONAL

CULTURAL THEME ROUTES

- TAINO ROUTE (RUTA TAÍNA)
- FLOWERS ROUTE (RUTA DE LAS FLORES)
- CHICKEN ROUTE (RUTA DEL POLLO)
- SACRED ROUTE (RUTA SAGRADA)
- LONGANIZA ROUTE
- ROASTED PORK ROUTE (RUTA DEL LECHÓN ASADO)

- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- TOWN SQUARE
- URBAN ZONE
- RESERVOIR
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE

- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROUTE

Scale: 1:90,000
0 0.5 1 MILES

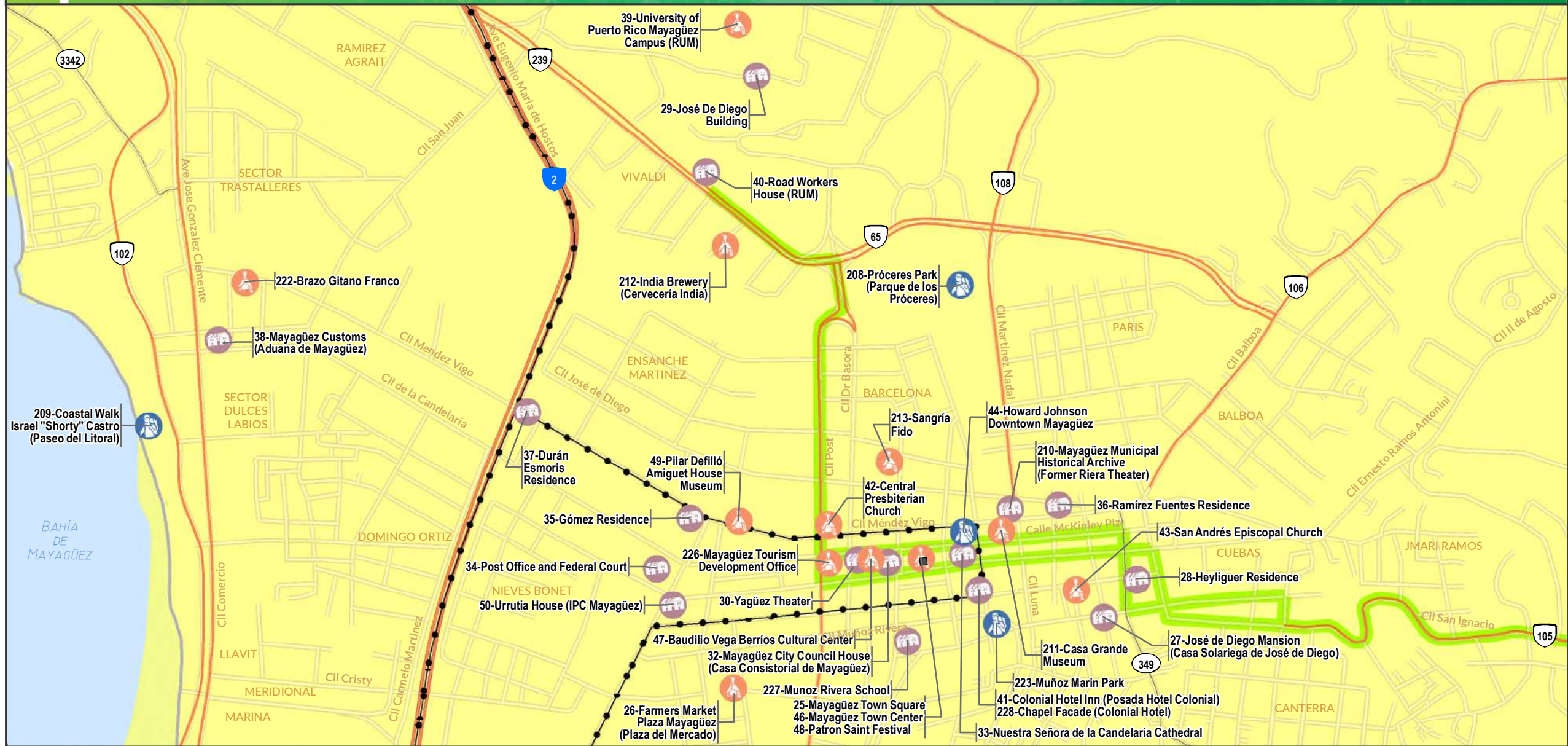
North Arrow



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



CMP PANORAMIC ROUTE
FIGURE 4-4A. INTRINSIC QUALITIES INVENTORY: ARCHAEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL
PORT AND STONE FOREST REGION - MAYAGÜEZ URBAN ZONE

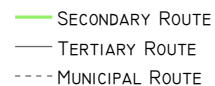
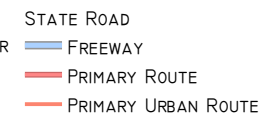
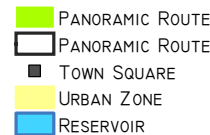


RESOURCES

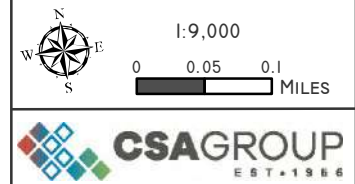


CULTURAL THEME ROUTES

- TAÍNO ROUTE (RUTA TAÍNA)
- FLOWERS ROUTE (RUTA DE LAS FLORES)
- CHICKEN ROUTE (RUTA DEL POLLO)
- SACRED ROUTE (RUTA SAGRADA)
- LONGANIZA ROUTE
- ROASTED PORK ROUTE (RUTA DEL LECHÓN ASADO)



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



4.1.3.2 Stone Forest Region

This interpretative region occurs at the Western Rainy Mountains geographical area (**Figure 4-1**). The Corridor within the Stone Forest Region comprises the low-density urban areas of Mayagüez Arriba and Alonso wards near Mayagüez downtown and the rural areas of Limón and Montoso wards in the eastern end of this municipality. It also includes, from west to east the rural stretch along Las Marías (Naranjales Ward), Maricao (Maricao Afuera and Indiera Fría wards) and Sabana Grande (Santana and Tabonuco wards). (Note that a Route segment, in the Maricao State Forest (ID 130) area, abuts the Municipality of San Germán.)

The prevailing zoning districts at the Corridor, agricultural and forest, are according to purposes of the CMP (**Figure 4-2**). Residential (low density to commercial) district zones are observed close to the Maricao downtown (ID 20). The prevailing zoning districts within the Corridor include:

- Agricultural 2 (AG-2)
- Agricultural 3 (AG-3)
- Agricultural Productive (A-P)
- Forest (B-Q)
- Resources Conservation (PR and CR).

The prevailing districts along the Route are agricultural and forest. A stretch of the Panoramic Route (PR-366) at the eastern end, between Maricao and Sabana Grande is zoned as scenic route (Ruta Escénica, RE).

The following zoning districts occur along the Route:

- Residential (low density to commercial) (R-05)
- Rural (R-G) (agricultural uses)
- Agricultural 2 (AG-2)
- Agricultural 3 (AG-3)
- Agricultural Productive (A-P)

- Forest (B-Q)
- Scenic Route (RE)
- Resources Conservation (CR).

The following special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Stone Forest Region (**Figure 4-3**), including: Natural Protected Area Cerro Las Mesas (ID 181) at Quebrada Grande Ward (Mayagüez), Maricao State Forest (ID 130) which extends over several wards in San Germán, Sabana Grande and Maricao, Maricao River Natural protected Area (ID 186) at Montoso Ward (Maricao) and Forest Legacy Program Acquisition⁴ Finca Busigó (ID 194) at Indiera Fría Ward (Maricao).

The Maricao State Forest and the Finca Busigó are administered by the DNER and the U.S. Forest Service, respectively. Las Mesas Hill (ID 181) (Cerro Las Mesas) is managed by the Conservation Trust of Puerto Rico. Properties administered by this NGO can be visited through previous reservations in which tours, special events, lectures and workshops are offered through the year. Also, within this region is the Bosque Modelo Territorial Management Alliance Work (Bosque Modelo). Refer to **Figure 4-3** for the location of these areas. The Bosque Modelo that was created by Law 182 – 2014, is a planning structure of an ample defined region (31 municipalities) that promotes its sustainable development through a coordinated management of land uses by the government and the communities. For a description of the purposes of the Bosque Modelo refer to **Section 5.2.1** Laws and Regulations that may add Attributes to the Route.

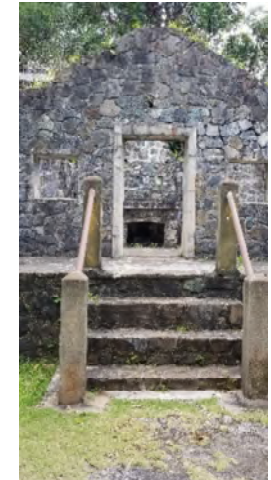
⁴ The Forest Legacy Program, administered by the U.S. Forest Service, protects privately owned forest land through the purchase of conservation easements or land in fee.

The Stone Forest Region is characterized for its natural context where a forested landscape dominates the setting in the Corridor. This context is mainly provided by the aforementioned Maricao State Forest (ID 130) (Figure 4-5), the second largest forest in Puerto Rico, after El Yunque National Forest. The Maricao State Forest extends over approximately 10,803 acres in separate areas within the municipalities of San Germán, Sabana Grande and Maricao jurisdictions in several separate polygons (DNER, 2008 a). Its height varies between 15 to 900 meters above sea level offering beautiful panoramic views of the Island interior and southwest. The high number of endemic species of flora and fauna make this forest unique. Added to these characteristics is the fact that 14 rivers originate at this state forest that contribute to the Guanajibo River and the Añasco River, both vital for the water supply in the western area (DNER, 2008 a). The forest is provided with amenities including trails (Alto del Descanso and Camino Méndez) (ID 151) and gazebos, as well as interesting historical stone structures. Although with limited personnel, the gazebos and stone house (ID 215) areas are well maintained and attractive.



View to San Germán and Lajas Valley from a bench close to the Stone House at the Maricao State Forest, Maricao.

The stone structures give the name to this interpretative region. They were built by the Conservation Civilian Corps (CCC)⁵ by 1930s including the stone house (ID 215), now roofless but its floor and walls and stairs intact, and a stone observation tower (ID 126) currently in use. Interesting as well is the fact that a historic stone pool that was constructed by the CCC is buried close to the Forest Rangers office and gazebos. Buried decades ago, allegedly for safety purposes, it is meritorious to evaluate the viability to restore this historical structure. (Photo is provided in Section 4.3.6 Recreational Intrinsic Qualities.) Another important facility constructed by the CCC is the Maricao Fish Hatchery (*Vivero de Peces de Maricao*) (ID 123). Unfortunately it was closed for visitors after hurricanes hit the Island in 2017. Only fish hatcheries operate as source to reservoirs. Although listed in the National Register of Historic Places its entrance is not appealing.



Stone House at the Maricao State Forest, Maricao

⁵ From planting trees to building roads, the **Civilian Conservation Corps**, known as the “CCC” in the U.S., and as “Las Tres C” in **Puerto Rico**, engaged in healing the natural environment on a

massive scale. Active during the Great Depression, the CCC was established in **1933** by President Franklin D (US Forest Service, 2019).

The stone structures hosted by the Maricao State Forest (ID 130) gives the name to this interpretative region, as indicated before. Particularly important is the Stone Observation Tower (ID 126) (**Figure 4-5**) as it is located on the PR-120 roadside providing a convenient opportunity to road users to enjoy a beautiful panoramic view. Moreover, it also provides the only overlook at the roadside in the Stone Forest Region.



Stone Observation Tower, Maricao State Forest, Road PR-120, Maricao Afuera Ward, Maricao

This historical stone structure continues adding great value to this segment of the Route due to the endurance of its construction materials and the maintenance of its green areas.

From this tower visitors can enjoy the view to the southwestern coast, including municipalities of San Germán, Sabana Grande, Lajas and Cabo Rojo. However, several rehabilitation works are necessary, like removing graffiti from several walls (inside and outside) and fixing interior drainage system, as water get stagnant just at the entrance promoting insanitary conditions. Interpretative sign although in good condition has holes that seems to be shootings, giving a negative impression to visitors. No interpretive signs exist to guide the views that are enjoyed from the tower.

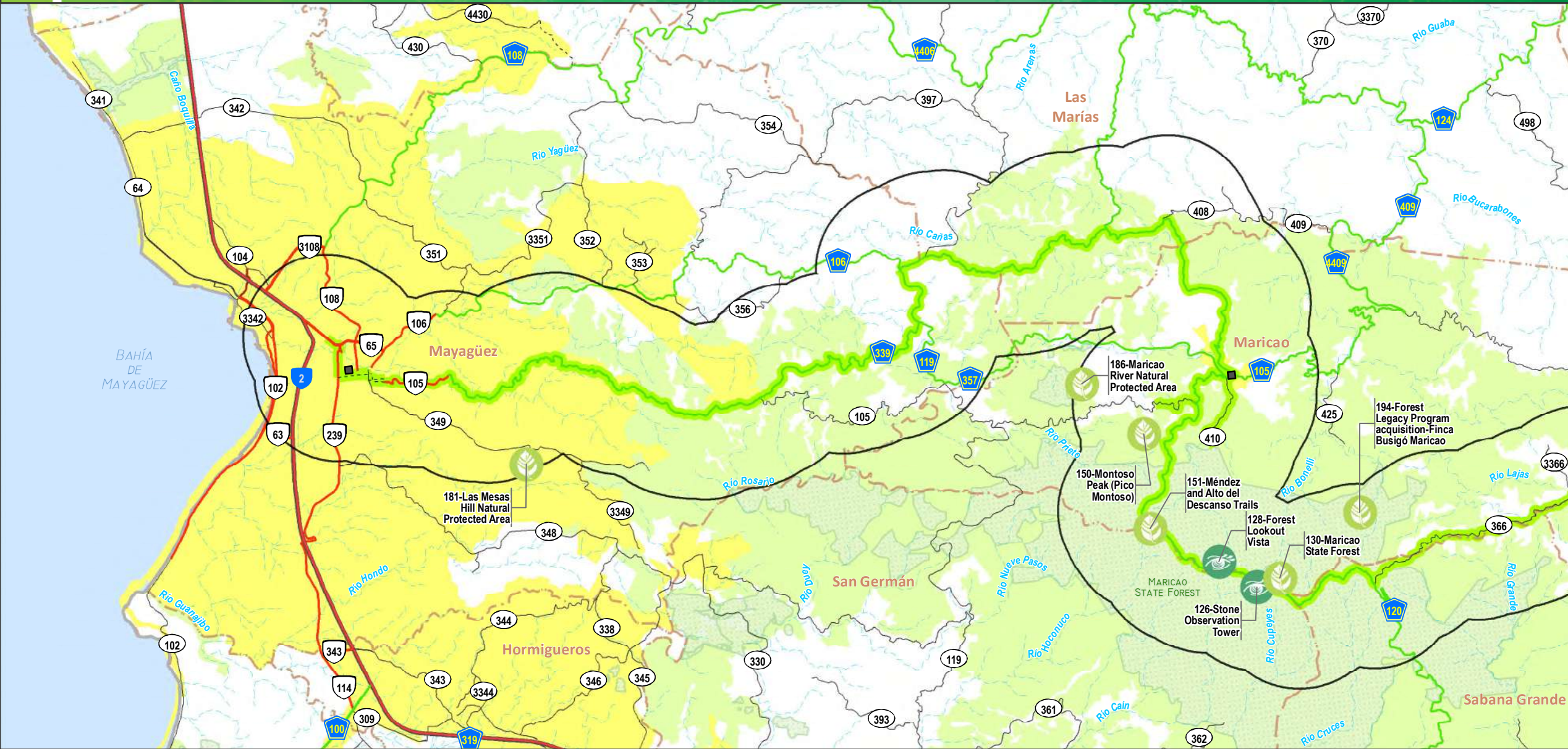
Another important issue that negatively affects this historical landmark is the location of two (2) antennas just in front of the tower, interrupting its extraordinary panoramic view. One of them seems to be out of service, thus it is recommended to identify its owner and to require its removal. This facility was formerly administered by the Puerto Rico National Parks, it is now administered by the DNER.



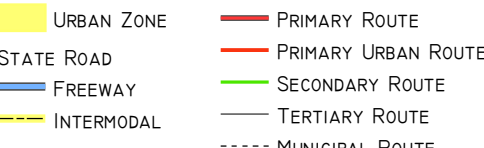
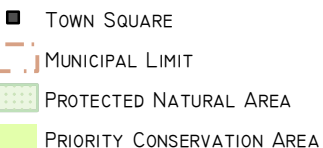
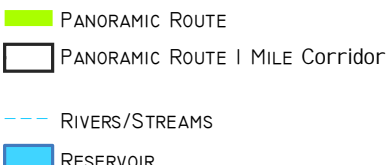
View north from road PR-105, Indiera Alta Ward, Maricao. Photo courtesy of Rafael Falero.




CMP PANORAMIC ROUTE
FIGURE 4-5. INTRINSIC QUALITIES INVENTORY: SCENIC AND NATURAL RESOURCES
PORT AND STONE FOREST REGIONS



RESOURCES




Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



1:90,000

0 0.5 1 MILES



CSAGROUP
EST. 1966

The town square of Maricao (ID 18) lies on the Route (PR-105) (**Figure 4-4**). The town square of Las Marías and Sabana Grande municipalities lie outside the Corridor, respectively. These town squares keep their charm associated to the historical and architectonical value of its constructed resources. Worth to mention among these resources is the San Juan Bautista Catholic Church (ID 19), at the town square in Maricao, that is in the National Register of Historic Places. The municipal government of Las Marías and Sabana Grande, still celebrates, respectively, its Sweet Orange Festival (*Festival de la China Dulce*) and *Petate*⁶ Festival (*Festival del Petate*) in their traditional town squares. This preserves a cozy setting for these massive activities that are celebrated every year in March and December, respectively.



San Juan Bautista Catholic Church, Maricao town square. Courtesy of Gabriel V. Hernández

The Stone Forest Region stretch, from the Juan Alonso Ward close to the Mayagüez town center to Maricao Afuera Ward in Maricao offer beautiful panoramic vistas of the western countryside, mainly forested and agricultural areas. However, no scenic overlooks on the roadside, other than the Stone Observation Tower (ID 126) exists in this region. Coffee commerce tradition is still present in this area and points where this precious bean is bought and processed as well as coffee plantations where tours are offered are seen.



Coffee *beneficiado*, Road PR-366, Maricao

Two (2) noticeable structures, non-congruent with the natural setting, are observed in the area of the Maricao State Forest, an abandoned massive concrete structure and several radio and telecommunications antennas. The concrete structure was formerly used as an activity center and summer lodging for kids from the Police Athletic League, Boys Scouts and Girls Scouts, among other youth groups.



Massive abandoned structure formerly used as activity center and summer lodging and radio antenna, Road PR-120, close to Stone Observation Tower, Maricao.

⁶ The *petate* was a woven sleeping mat made from a palm tree (*Thrinax morrisii*) that principally grows in the Susúa Forest. These mats were also used by our ancestors to dry coffee and other

grains. Today our local artisans create several crafts including rugs, house decor objects, purses, fashion accessories and more.

This region offers hospitality resources on several modalities, from a small historical inn to a camping site, they all within an exuberant forested setting.

Hacienda Juanita (ID-124) is a privately owned cozy small inn located on the highlands at Maricao Ward, in Maricao. Reopened in 2017, this 19th Century coffee hacienda managed by a private entity, offers a quiet space with features such as an outdoor heated pool and gardens, offering beautiful views of the inner western countryside. The Monte del Estado Vacation Center (*Centro Vacacional Monte del Estado*) (ID 105) is located 243 meters above sea level (Department of Natural and Environmental Resources, 2019) in the Maricao State Forest in the boundary between San Germán and Maricao. This vacation area operated by the Department of Recreation and Sports (DRD by its acronym in Spanish) offers 24 small cabins as well as facilities for active and passive recreation.



Entrance to Monte del Estado Vacation Center, Minillas_ Ward in the boundary between San Germán and Maricao (left) and Hacienda Juanita inn in Maricao Afuera Ward in Maricao (right).

Close to the Vacation Center is the Ecological Park Monte del Estado (*Parque Ecológico Monte del Estado*) (ID 131). This park offers campsites within the forest, provided with amenities that invite to enjoy amazing views and gatherings in contact with nature. The park also has trails, gazebos and a panoramic lookout from where visitors may enjoy the view to southern coastal area of the Island. An opportunity that was observed at this region is the lack of restaurants and/or *chinchorros* close to the Panoramic Route or its corridor.

Panoramic Route former signs, that may confuse the traveler, are still present in Road PR-105 and Road PR-339, Mayagüez. Note that old signs show the former Route logo which only indicates the generic form “Ruta Panorámica” instead of its proper name Ruta Panorámica Luis Muñoz Marín. The generic form may be confusing to the traveler. Due to their conditions these signs give an abandoned impression. In some instances, traffic/orientation signs may be overwhelming, as they are redundantly placed. Illegal signs are placed in some instances just beside them incrementing the overwhelming sense. There are road segmentation signs along the roads that comprise this region. They are in good conditions as they are part of a recent project conducted by the DTPW Island wide.



Panoramic Route former signs, excessive signs and illegal signs, Road PR-105 and PR-339 Mayagüez

Depopulation is a demographic condition that is also observed along the Route in several instances in the municipalities that comprise this region. Several photos of abandoned structures are included in this section. A similar abandonment impression is also perceived when unserviceable vehicles and appliances are left in front of houses, occupying the roadside. Revitalization efforts have been initiated by the Municipality of Maricao in the downtown area aimed to tourism development while trying to reactivate the agricultural activity.

Worth to mention is the improvement perceived regarding the illegal dumping on the roadsides along the segment from Mayagüez Limón Ward (Road PR-339 and PR-105) to this municipality urban center based on compared observations made by 2017 and 2019. Signs are observed (Mayagüez and Maricao) warning not to throw garbage and noticing legal consequences and/or exhorting citizens to recycle.

The region may continue representing the corresponding story bylines or interpretive story as Stone Forest Region.

This stretch is threatened by several situations:

- Abandoned structures



Abandoned structure and unserviceable vehicles and appliances left in front of houses, occupying the roadside

- Illegal signs
- Unserviceable vehicles and appliances in front of houses, occupying the roadside
- Lack of restaurants and *chinchorros* in the Route and within the Corridor.



Signs (Mayagüez and Maricao) warning not to throw garbage and exhorting citizens to recycle.

The Stone Forest Region has several strengths, including:

- Protected natural areas including: Maricao State Forest (ID 30), Forest Legacy Program acquisition Finca Busigó Maricao (ID 195) and Maricao River Natural Protected Area (ID 186)
- Prevailing zoning districts according to purposes of the CMP (agricultural and resources conservation)
- A town square in the Route: Maricao
- Warnings of the municipalities (Mayagüez and Maricao) exhorting the citizens not to throw garbage and noticing legal consequences
- Availability of places to stay in the Route or close to it (small inn, camping site and vacation center).
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Conservation Trust of Puerto Rico and Bosque Modelo Territorial Management Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.

4.1.3.3 Coffee Region

This interpretative region also occurs at the Western Rainy Mountains geographical area (**Figure 4-1**). The Coffee Region comprises the rural stretch along the eastern end of Maricao (Indiera Fria, Indiera Baja and Indiera Alta) and the southern ends of Lares (Bartolo) and Adjuntas (Guayo, Limaní, Guilarte, Garzas, Saltillo and Portugués), respectively, and the low-density urban areas in the Castañer village (Poblado de Castañer) (ID 74) in Lares, the areas surrounding the Adjuntas town center (ID 58) and the stretch between Garzas and Saltillo wards in Adjuntas.

The prevailing zoning districts within the Corridor are agricultural and resources conservation (**Figure 4-6**). These districts are according to purposes of the CMP. Prevailing Zoning districts within the Corridor in the Coffee Region include:

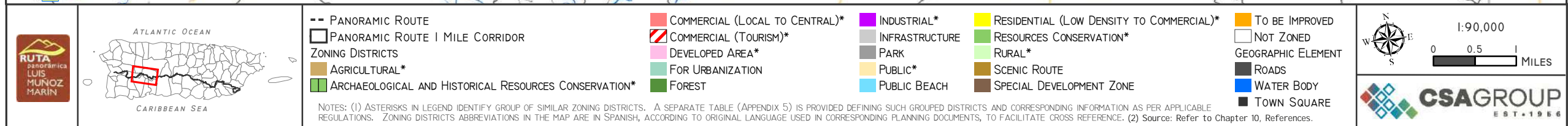
- Agricultural Productive (A-P)
- Agricultural (ZDA-1, ZDA-2 and A-G)
- Resources Conservation (ZCR-1, CR-3, CR-2 and CR-C).

A significant Route stretch (PR-525, PR-518 and PR-143) from Lares to Adjuntas is zoned as scenic route (RE). Prevailing zoning districts along the Route include:

- Agricultural Productive (A-P)
- Agricultural (ZDA-1, ZDA-2 and A-G)
- Scenic Route (RE)
- Resources Conservation (ZCR-1, CR-3, CR-2 and CR-C).

Special zoning plans, protected areas, or programs which orientation coincide with the purposes of the Panoramic Route are abundant at the Coffee Region (**Figure 4-3**). They include: the aforementioned Bosque Modelo Territorial Management Alliance Work, the Special Plan for the Development of Castañer (Castañer Ward in Lares), the Sensitive Areas Conservation Plan for Adjuntas and Adjacent Municipalities, the NGO Casa Pueblo (ID 53) in Adjuntas, the La Olimpia School Forest (Bosque Escuela La Olimpia: Ariel Massol Deyá) (ID 192) at Saltillo Ward in Adjuntas, the Forest Legacy Program Acquisition properties Finca Fraticcelli Guilarte (ID 195) at Limaní Ward in Adjuntas and Finca La Nuez Guilarte (ID 97) at Guilarte Ward in Adjuntas (**Figure 4-3** and **Figure 4-8**). The Guilarte State Forest (ID 109) also lies within this interpretive

region. (Details on the characteristics of this important natural area is included below in this section.) The purpose of the Special Plan for the Development of Castañer is to encourage the economic, social and cultural development through a joint effort from the government and the private sector. For a thorough discussion and status refer to **Section 5.1.3** Regulations that affect Land Use Along the Corridor.

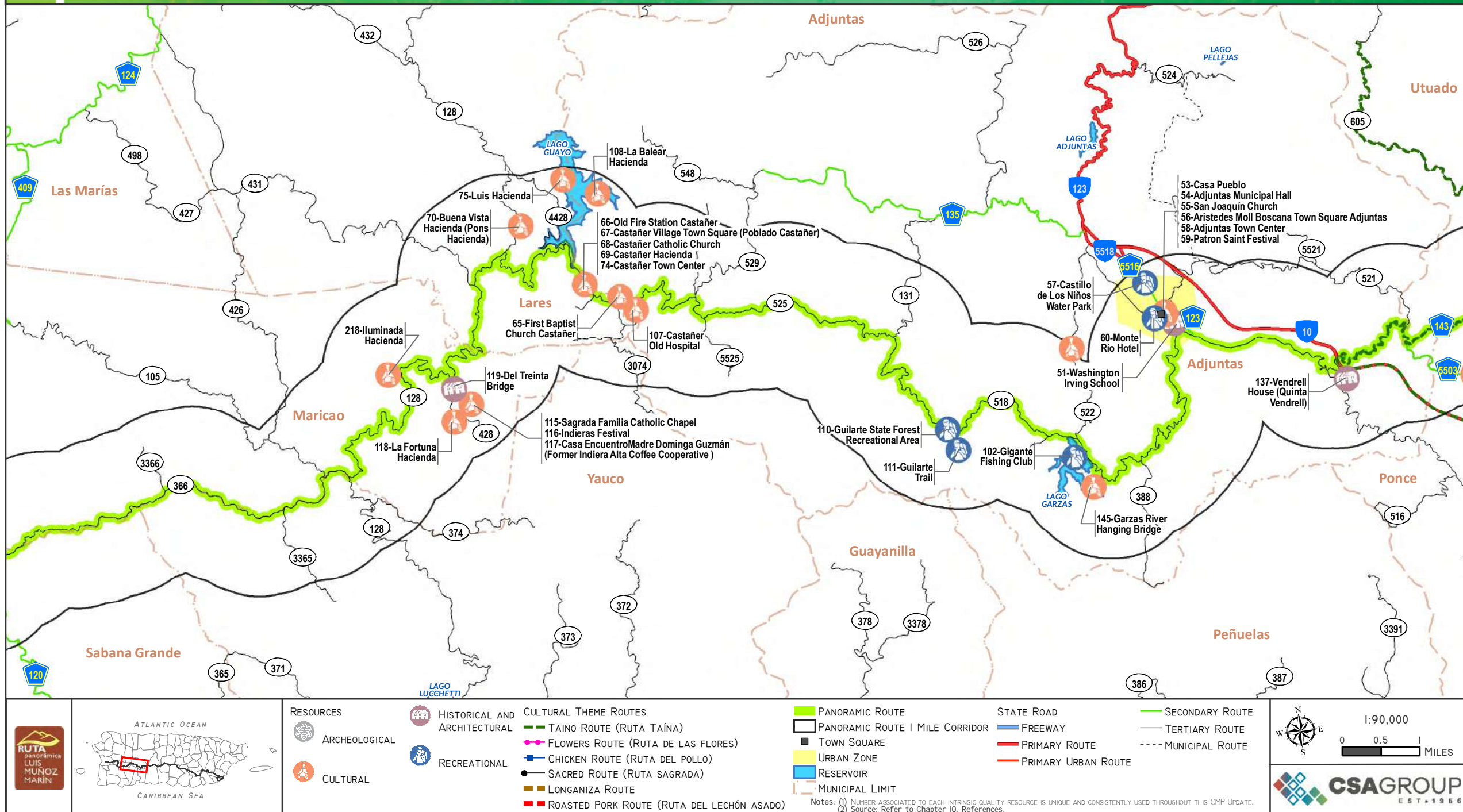




CMP PANORAMIC ROUTE

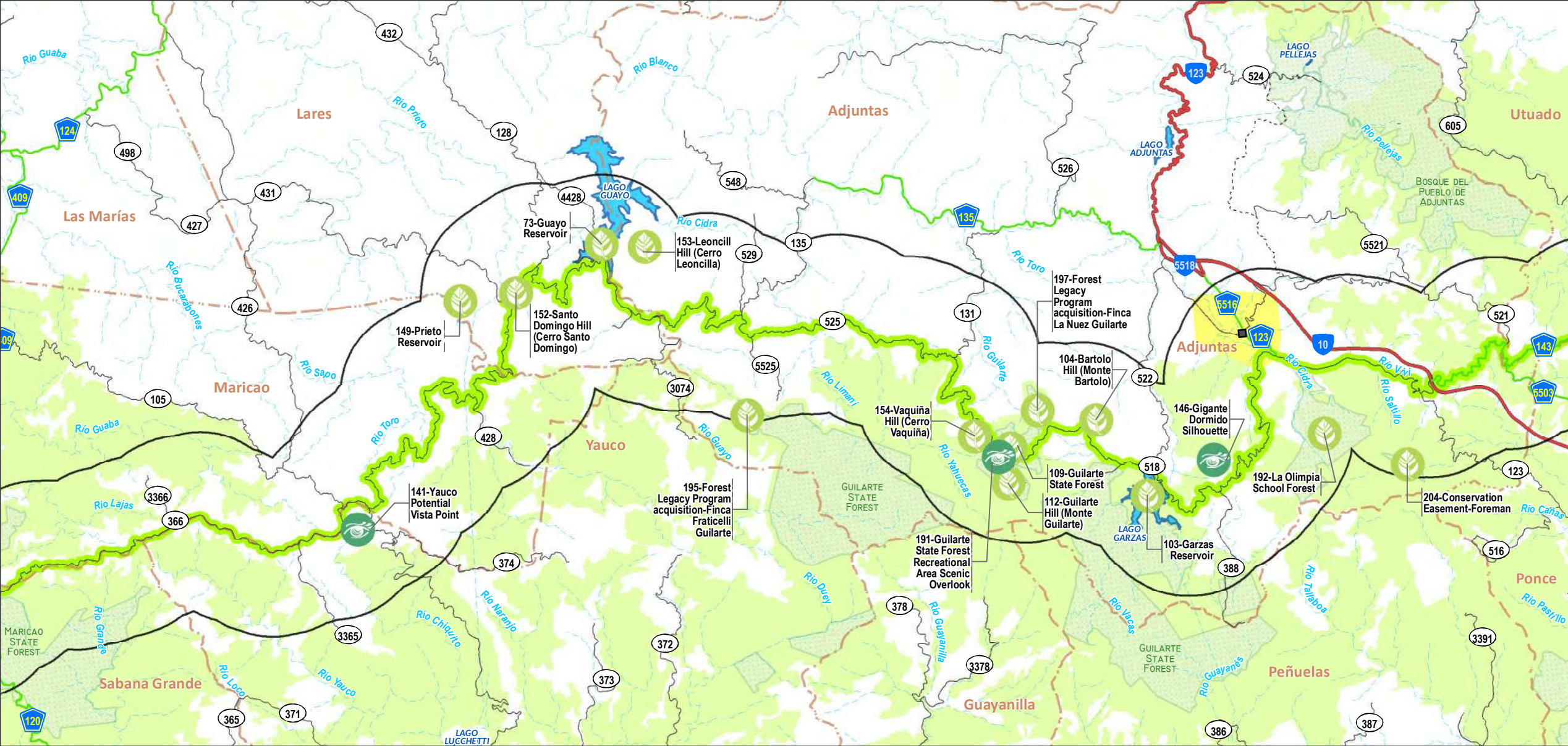
FIGURE 4-7. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL

COFFEE REGION





CMP PANORAMIC ROUTE
FIGURE 4-8. INTRINSIC QUALITIES INVENTORY: SCENIC AND NATURAL RESOURCES
COFFEE REGION



RESOURCES



NATURAL



SCENIC

PANORAMIC ROUTE

PANORAMIC ROUTE 1 MILE Corridor

RIVERS/STREAMS

RESERVOIR

TOWN SQUARE

MUNICIPAL LIMIT

PROTECTED NATURAL AREA

PRIORITY CONSERVATION AREA

URBAN ZONE

STATE ROAD

FREEWAY

INTERMODAL

PRIMARY ROUTE

PRIMARY URBAN ROUTE

SECONDARY ROUTE

TERTIARY ROUTE

MUNICIPAL ROUTE



1:90,000

0 0.5 1 MILES



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE
(2) Source: Refer to Chapter 10, References.

The Sensitive Areas Conservation Plan for Adjuntas and Adjacent Municipalities extends over ten (10) municipalities (**Figure 4-3**) in the central region and was originally proposed as a community initiative lead by Casa Pueblo and eventually approved by the Planning Board in 2004. Casa Pueblo is a community self-management (*autogestión*) project that is committed to the appreciation and protection of natural, cultural and human resources. The La Olimpia School Forest (ID 192), also managed by Casa Pueblo, lies within this conservation plan area. This is a forest area acquired in 2003 by the NGO to host La Olimpia School Forest. For details on Casa Pueblo and this environmental conservation and educational project refer to **Section 5.6.3** Key potential stakeholders. As mentioned before the Forest Legacy Program Acquisition properties are administered by the U.S. Forest Service.

The Corridor at the Coffee Region, like the Stone Forest Region, is also characterized for its rural context where a forested landscape dominates the setting. The largest protected forest area in this Corridor segment is the Guilarte State Forest (ID 109) (**Figure 4-8**), which comprises 3,600 acres approximately over areas within the municipalities of Adjuntas, Guayanilla, Peñuelas and Yauco jurisdictions in several separate polygons (DNER, 2008 b). Elevations through this state forest fluctuates between 760 to 1,200 meter above sea level. The Guilarte State Forest is home of a high number of tree species and fauna that includes threatened species like the Eneida coqui (*coquí de Eneida*) (*Eleutherodactylus eneidae*) and the sharp-shinned hawk (*falcón de sierra*) (*Accipiter striatus*). This forest is very important for the protection of the Grande de Arecibo River, Grande de Añasco River and Guayanilla River watersheds, respectively (DNER, 2008 b). The forest has trails and a recreational area with gazebos and overlooks, repaired by



Garzas Reservoir “Morning Glory” Spillway viewed from Road PR-518 at Garzas Ward in Adjuntas

their personnel after passage of Hurricane María in 2017. Two (2) trails are open: San Andrés Trail and Guilarte trail (ID 111). The Guilarte trail leads to one of the highest peaks in the Island, Monte Guilarte at 1,200 meters above sea level (**Figure 4-9**).

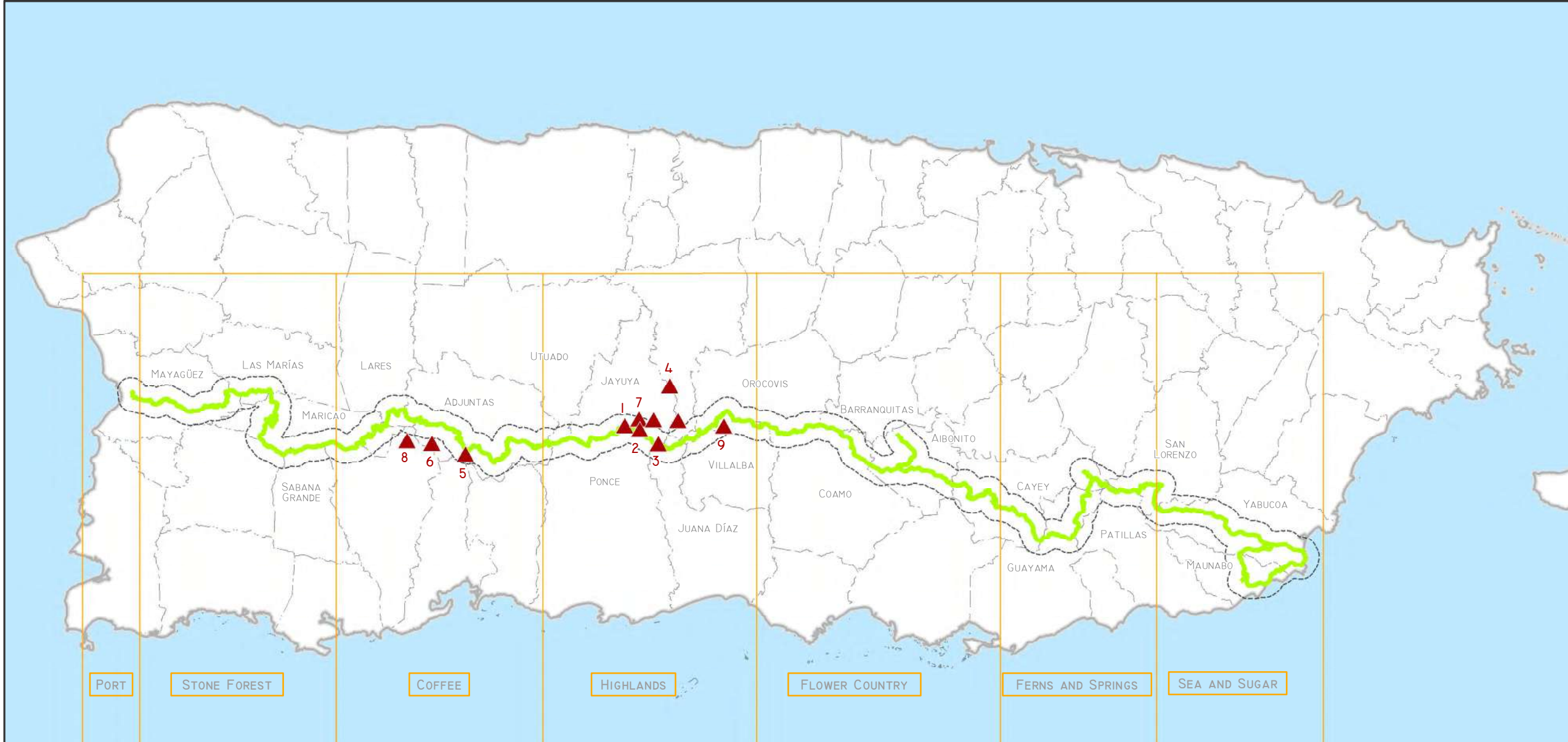
Besides the forested landscape within the Corridor this region offers the proximity to two (2) reservoirs which view can be enjoyed closely from the roadside. They are Guayo Reservoir (ID 73) at Guayo Ward in Adjuntas and Bartolo Ward in Lares and Garzas Reservoir (ID 103) at Saltillo Ward in Adjuntas. The Garzas Reservoir (ID 103) hosts a fishing club (Gigante Fishing Club) (ID 102) with facilities that can be rented for activities. The Kayaking is an activity also practiced in this beautiful reservoir. Garzas Reservoir has a suspension bridge (Saltillo Ward, Adjuntas) (ID 145) that is a popular attraction for local tourists during weekends despite the prohibited access due to potential hazards. Abundant scattered residential units adjacent to Garzas Reservoir contrasts with more natural setting observed around the Guayo Reservoir (ID 73). The morning glory spillway⁷ at Garzas Reservoir is a notable structure that is attractive for visitors because of its size, its attractive design and proximity to roadside. Even with the scenic vistas that can be enjoyed at this interpretive region, no scenic overlooks exist on the roadside.



Guayo Reservoir, viewed from Road PR-135 at Bartolo Ward in Lares

The highest peaks in the Island occur at the Central Mountain Range (Cordillera Central) (**Figure 4-9**). Three (3) of them occur at the Coffee Region: Monte Membrillo at 3,608 meters above sea level (Río Prieto Ward in Yauco), Silla de Calderón at 3,772 meters above sea level (Limaní Ward in Adjuntas) and Monte Guilarte at 3,950 meters above sea level (Guilarte Ward in Guilarte State Forest, Adjuntas).

⁷ This type of spillway is basically a giant cement funnel. high waters spill into the funnel instead of spilling over the dam.

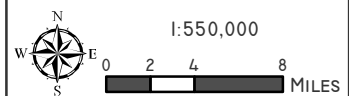


- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- MUNICIPAL LIMIT

▲ HIGHEST PEAKS (ELEVATION IN FEET)

- | | |
|-----------------------------------------------|--------------------------------------|
| 1 CERRO PUNTA, JAYUYA AND PONCE (4389) | 6 SILLA DE CALDERÓN, ADJUNTAS (3772) |
| 2 MONTE JAYUYA, JAYUYA AND PONCE (4313) | 7 CERRO PIEDRA BLANCA, JAYUYA (3740) |
| 3 CERRO MARAVILLA, JAYUYA AND PONCE (3986) | 8 MONTE MEMBRILLO, YAUCO (3608) |
| 4 LOS TRES PICACHOS, CIALES AND JAYUYA (3953) | 9 CERRO DOÑA JUANA, OROCOVIS (3540) |
| 5 MONTE GUILARTE, ADJUNTAS (3950) | |

Source: Refer to Chapter 10, References.



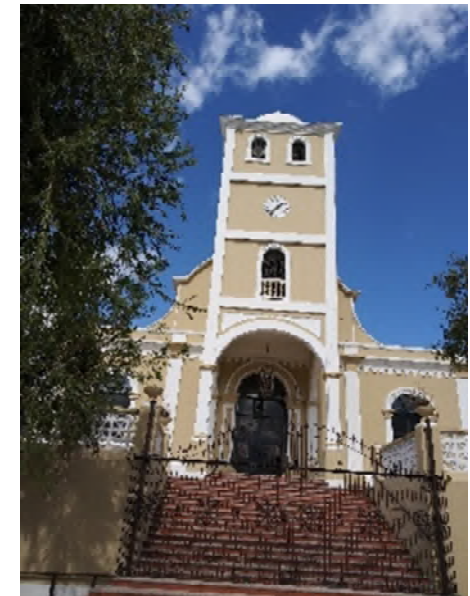
The Island central region has been historically recognized for its coffee haciendas located in Maricao, Lares and Adjuntas municipalities, within the interpretive Coffee Region, as well as in adjacent municipalities of Utuado, Yauco and Jayuya. Despite the current challenges that affect the coffee industry, such as the damages from hurricanes Irma and María in September 2017, the lack of labor and pests that affects coffee beans, it has experienced a resurgence that is notable. It is evidenced in the great variety of new brands, quality coffees, and coffee shops that have emerged in recent years. The Route hosts an Agricultural Experiment Station from the University of Puerto Rico Mayagüez Campus at Limaní Ward in Adjuntas (Road PR-525 km 2.3). Its main objective is to conduct scientific research and to develop technology to improve and innovate agriculture and the quality of life in the rural area of Puerto Rico. The station has a coffee trees nursery, among other fruit trees. Coffee beans are also processed at the station and sold grounded to the public. The experimental station is open to public. Tours are offered to visitor with previous reservation.

Although lying outside the Corridor, several coffee haciendas are relatively close in this interpretive region, some of them with coffee shops where visitors can enjoy their products as well as tours with direct experience in their plantations. The level of commitment of this important industry is observed in the number of haciendas in areas adjacent to the Coffee Region that have been certified by the Tourism Company as agricultural tourism destinations, including: Hacienda Tres Ángeles in Adjuntas, Hacienda Lealtad in Lares, Café Nativo in Jayuya, Café Lucero in Ponce, Hacienda San Pedro in Jayuya and Hacienda La Mocha also in Ponce. Coffee shops and places to buy local ground coffee are found also at the Adjuntas town square (ID 56), as discussed later in this section.

Worth to mention related to the coffee theme is the project presented by the House of Representatives by the end of 2018 to establish the Coffee Aroma Route (*Ruta Aroma de Café*) in the Island central region, Project of the House of Representatives 1564 (*P de la C 1564*) issued on April 25, 2018. The proposed route includes coffee haciendas and other tourism attractions in the municipalities covered in this interpretive region and adjacent municipalities. It was the Tourism Company opinion, during the public hearings held by the commission in charge of this project, that the thematic route should not be independently created by legislation as it represents threats of decaying and loosing

attractiveness and quality. The Tourism Company concluded its position assuring to agree with the purposes of the Project and requested the opportunity to work in a gastronomic tourism project that is being developed in the agency that includes this and other gastronomic routes. The project was approved by the House of Representatives and eventually vetoed by the Governor in August 2019.

Only the town square of Adjuntas (ID 56) lies within the Corridor (**Figure 4-7**), close to the Route through road PR-123, with a diverse offer to visitors. (This road is included in the National Register of Historic Places.) As other town squares in the central region it keeps its charm associated to the adjacent historical buildings, like its Catholic and Baptist churches and the City Hall. Conveniently located beside the *plaza* is the Municipal Tourism Office also located in a historical former town house. A distinctive piece takes place at this plaza with a carved stone from an archaeological site that shows several anthropomorphic petroglyphs. Close to this town square are casual restaurants, pizzerias, and bakeries among other places to enjoy typical dishes. Visitors may also enjoy a cup of coffee at a coffee shop in the town square or buy it ground at walking distance in Casa Pueblo. The coffee sold at this NGO is produced by a community business processing (Café Madre Isla) which is part of the economic support of the organization. The visit to Casa Pueblo (ID 53) is by itself an experience for visitors as their headquarters is a restored traditional town house which combines a cultural-community center with meeting and exhibitions rooms, library, craft shop, book store, antiques room, hydroponic system, butterfly garden and a radio station, all operated with solar energy. The silhouette of the iconic *Gigante Dormido* (literally Slept Giant) (ID 146) mountain range can also be appreciated from the window of this historical house.



Santa Ana and San Joaquín Catholic Church at the Adjuntas town square, Adjuntas.

This region offers hospitality resources close to the Route. A small inn is conveniently located in the Adjuntas downtown, Monte Río Hotel (**Figure 4-7**). Within the Corridor visitors may stay also at Hacienda Luis at Bartolo Ward (ID 75), close to Castañer in Lares with an amazing view to Guayo Reservoir (ID 73). This hacienda is also considered a dark skies area by the Caribbean Society of Astronomy (Sociedad de Astronomía del Caribe). A *parador* is also located in Adjuntas at Garzas Ward offering their guests the countryside experience, Villas de Sotomayor. Although, outside the Corridor it is close enough to it through road PR-522. This region lacks restaurants and/or *chinchorros* close to the Panoramic Route or its corridor, except in the vicinity of the Adjuntas urban zone.

There are road segmentation signs along the roads that comprise this region. They are in good conditions as mentioned before. However, in several segments along this region they are obstructed by growing vegetation.

Other conditions that affect the immediate visual shed along the Route in this region is the presence of incongruent uses like unserviceable vehicles depositories (Road PR-525 Adjuntas), abandoned gas station and municipal public works vehicles area (Road PR-123 Adjuntas) and illegal dumping areas (Road PR-131 and Road PR-518 Adjuntas). Depopulation is also observed along the Route in several instances in this region by the presence of abandoned structures (close to intersection between PR-128 and Road PR-431 toward Castañer and Road PR-131 in Adjuntas, among others).

No signs were observed warning not to litter and noticing legal consequences and/or exhorting citizens to recycle. *Adopte una Carretera Program*⁸ (literally Adopt a Road Program) signs were observed. An outstanding example of a citizen commitment to this program was observed at Road PR-518 at Garzas Ward in Adjuntas.

Outstanding example of a citizen commitment to Adopte una Carretera Program, Road PR-518 at Garzas Ward in Adjuntas



An example of a discrete area in need for maintenance improvement associated to the Route at the moment in which the field inspection was conducted is the historical Del Treinta bridge and its adjacent area at Indiera Alta Ward in Maricao. This is a rolled steel beam bridge from 1924, designed by Enrique Ortega (National Parks Service, 1995)⁹. The bridge has several paint colors and layers with mold. Del Treinta bridge is in the National Register of Historic Places and there is an excellent opportunity to return it its beauty. The bridge was under repair for structural purposes when the field inspection was being conducted in August 2019. There is not a sign identifying this historical resource.



Del Treinta bridge (1924) listed in the National Register of Historic Places.

The region may continue representing the corresponding interpretive story as Coffee Region.

⁸ Adopte una Carretera was a program created to establish an agreement between the citizens, business, community groups and the Department of Transportation and Public Works to contribute on the maintenance of green areas along state roads.

⁹ The bridge acquired its name "del treinta" (which means "of thirty") because the bridge's location corresponded to former kilometer #30 on PR-128 before 1950's.

This region is threatened by several situations:

- Abandoned structures (residential and commercial)
- Neglected historical bridge (Del Treinta bridge)
- Illegal signs along the route
- Lacks restaurants and/or *chinchorros* close to the Panoramic Route or its corridor (except in the vicinity of the Adjuntas urban area)
- Unserviceable vehicles depositories on the roadside.

The Coffee Region has several strengths, including:

- Protected natural areas including La Olimpia School Forest (ID 192), Forest Legacy Program Acquisition properties Finca Fraticcelli (ID 195) and Finca La Nuez Guilarte (ID 197) and the Guilarte State Forest (ID 109)
- Prevailing zoning districts according to purposes of the CMP
- A town square very close to the Route: Adjuntas (ID 56)
- Presence of an agriculture experimental station
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Casa Pueblo and Bosque Modelo Territorial Management Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.
- Availability of inns to stay within the Corridor and close to it.

4.1.3.4 Highlands Region

The Western Rainy Mountains geographical area is continuous towards the Highlands Region (**Figure 4-1**). This interpretative region comprises the rural stretch along the southern end of Utuado (Consejo Ward) Jayuya (Pica, Jauca, Veguitas, Saliente wards) and Orocovis (Ala de la Piedra and Bauta Abajo wards), respectively, and the northern end of Ponce (San Patricio, Anón wards), Juana Díaz (Collores Ward) and Villalba (Villalba Arriba and Hato Puerco Arriba wards). (Note that between Jayuya and Orocovis, there is an area of the Corridor that lies within the jurisdiction of Ciales.)

The prevailing zoning districts within the Corridor are resources conservation and forest (**Figure 4-10**). These districts are according to purposes of the CMP. Zoning districts within the Corridor in the Highlands Region include the following.

- Resources Conservation (CR-3, SREP-H, SREP-N and CR)
- Scenic Route (RE)
- Agricultural Productive (A-P)
- General rural (agricultural activities) (R-G)
- Forest (B-Q and B-1)
- Agricultural Productive (A-P)

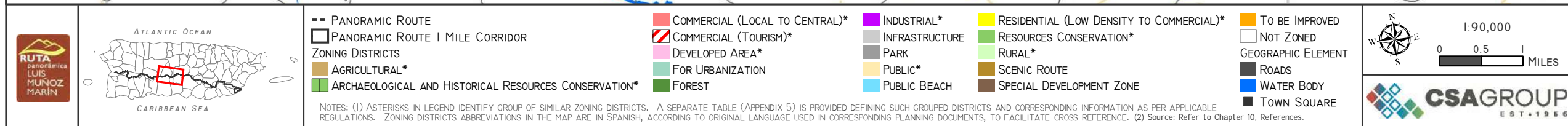
A Route stretch along PR-143 from Utuado (Consejo Ward) and Ponce (San Patricio Ward) to Jayuya (Jauca Ward) and Ponce (Anón Ward) is zoned as scenic route (RE). The prevailing zoning districts along the Route are the same as for the Corridor.



Typical farmers market (*placita*) at roadside, PR-143 heading to Jayuya



Hacienda Encantos, coffee plantation and nursery, PR-143 Jauca Ward, Jayuya



Special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route are abundant also at the Highlands Region (**Figure 4-3**). They include: the aforementioned Bosque Modelo Territorial Management Alliance Work, the aforementioned Sensitive Areas Conservation Plan for Adjuntas and Adjacent Municipalities, the Forest Legacy Program Acquisition property Finca Gripiñas Toro Negro (ID 196) at Veguitas Ward in Jayuya and Conservation Easement Finca Ledesma Moulrier (ID 203) at Ala de la Piedra Ward in Orocovis (**Figure 4-3** and **Figure 4-12**). The Toro Negro State Forest (ID 3) also lies within the Corridor at this interpretive region. Details on the characteristics of this important natural area is included below in this section.

The Corridor at the Highlands Region, like the Stone Forest and the Coffee Regions, respectively, is also characterized for a rural context dominated by a forested landscape. The largest protected forest area within the Corridor is the Toro Negro State Forest (ID 3), which approximately comprises 8,200 acres over areas within the municipalities of Orocovis, Jayuya, Ponce, Juana Díaz and Ciales jurisdictions in several separate polygons (DNER, 2008 c). Most of it is in the municipalities of Ponce and Jayuya. However, the facilities, paths and camping area are located in the Orocovis area. This state forest was established by early 1940's to protect the Toro Negro and Matrullas rivers watershed, an important ecological service that last to our days. The Toro Negro State Forest was transferred to the local government by 1961. Elevations through this state forest fluctuate between 440 meters above sea level (Salto Inabón) to 1,338 meters above sea level corresponding to Cerro Punta in Jayuya, the highest peak in the Island, now covered with telecommunication towers and structures. Nine (9) rivers drains this forest, six (6) of them flowing south (Indalecia, Guayo, Inabón, Blanco, Anón and Prieto and three (3) rivers flowing north (Saliente, Toro Negro and Matrullas). The Matrullas and Guineo reservoirs (ID 2), respectively, are also located within the limits of this state forest. These reservoirs are the highest relative to the sea level.

Diverse flora and fauna species can be observed in the Toro Negro State Forest, including threatened birds and reptiles and vulnerable amphibians. (DNER, 2008 c). The forest is provided with amenities including trails, gazebos (ID 1) a natural water pool (ID 78) currently out of service because of filtration problems and the highest overlook in the Island known as *Torre de Piedra de Toro Negro* (Toro Negro Stone Observation Tower)

(ID 77) (**Figure 4-11**). From this tower visitor may enjoy views to the Caribbean Sea as well as Toa Vaca and Matrullas reservoirs, respectively. Kiosks are also available close to the entrance to the recreational area where visitors enjoy typical dishes and refreshments. Kiosks and sanitary services are well maintained and are appealing.

The Toro Negro State Forest is co-administered by the Department of Natural and Environmental Resources and the Municipality of Orocovis. Worth to mention is the participation of a community organization which in turn administers the recreational area of this state forest as result of an agreement with the Municipality of Orocovis. It is an NGO known as *Amigos del Bosque Toro Negro* (literally Friends of Toro Negro Forest). This NGO seeks community socio-economic development through a sustainable approach to the natural resources of the Toro Negro Forest. After the passage of hurricanes in 2017 their volunteers have reconditioned the forest access and its trails. Guided tours, yoga, voluntary maintenance works and other activities are also sponsored by this NGO periodically.



Charco de los Suspiros (Sighs Pool) a natural pool at the recreational area of the Toro Negro State Forest, at Bauta Ward in Orocovis. Photo courtesy of Gabriel Cortés

The Highlands Region hosts five (5) out of nine (9) highest peaks in the Island honoring the name of this thematic region (**Figure 4-9** and **Figure 4-12**). These peaks are:

- Cerro Punta (ID 5) with approximately 1,338 meters height at the boundary between Zamas Ward in Jayuya and Anón Ward in Ponce
- Monte Jayuya (ID 156) with approximately 1,315 meters height at Saliente Ward in Jayuya and Anón Ward in Ponce
- Cerro Maravilla (ID 144) with approximately 1,214 meters height at Saliente Ward in Jayuya and Anón Ward in Ponce
- Cerro Piedra Blanca (ID 155) with approximately 1,139 meters height at Veguitas Ward in Jayuya
- Cerro Doña Juana (ID 219) with approximately 1,079 meters height at Bauta Abajo Ward in Orocovis

As indicated before, the highest peak in the Island, Cerro Punta, is located within the Toro Negro State Forest, in Jayuya (**Figure 4-9**). Another peak that is relevant, because of an historical event, is the Maravilla peak that was the scenario of events known as Cerro Maravilla in 1978 in which two (2) pro-independence young activists were killed by the police. Every year, in July 25, commemorative activities are held at a former scenic outlook that was constructed by the DTPW in the Route, at Road PR-143 Barrio Anón in the Ponce jurisdiction (Maravilla Former Scenic Overlook) (ID 4). This scenic outlook has a great panoramic view however, it was in a dilapidated condition when visited during field inspection (2019). In a later visit (June 2021) an intervention that improved the appearance was evident. Refer to **Section 4.3.5.2** Existing and Potential Scenic Overlooks and Vista Points (Maravilla Former Scenic Overlook) for details on conditions of former scenic overlook.

The *Globo de Jayuya* (the Jayuya's Globe literally) an aerostatic globe located at Mameyes Ward in Jayuya allows users a 360° view from where the aforementioned peaks can be observed. Although the aerostatic globe is outside the Corridor, it is worth the visit to enjoy an amazing view a great climate, typical dishes and a cup of coffee from an hacienda in Jayuya. The Atlantic Ocean and the northern karst physiography can be observed from the globe as well as other important landmarks. This park, owned by the Municipality of Jayuya, is supposed to open other attractions including ziplines by July 2021.

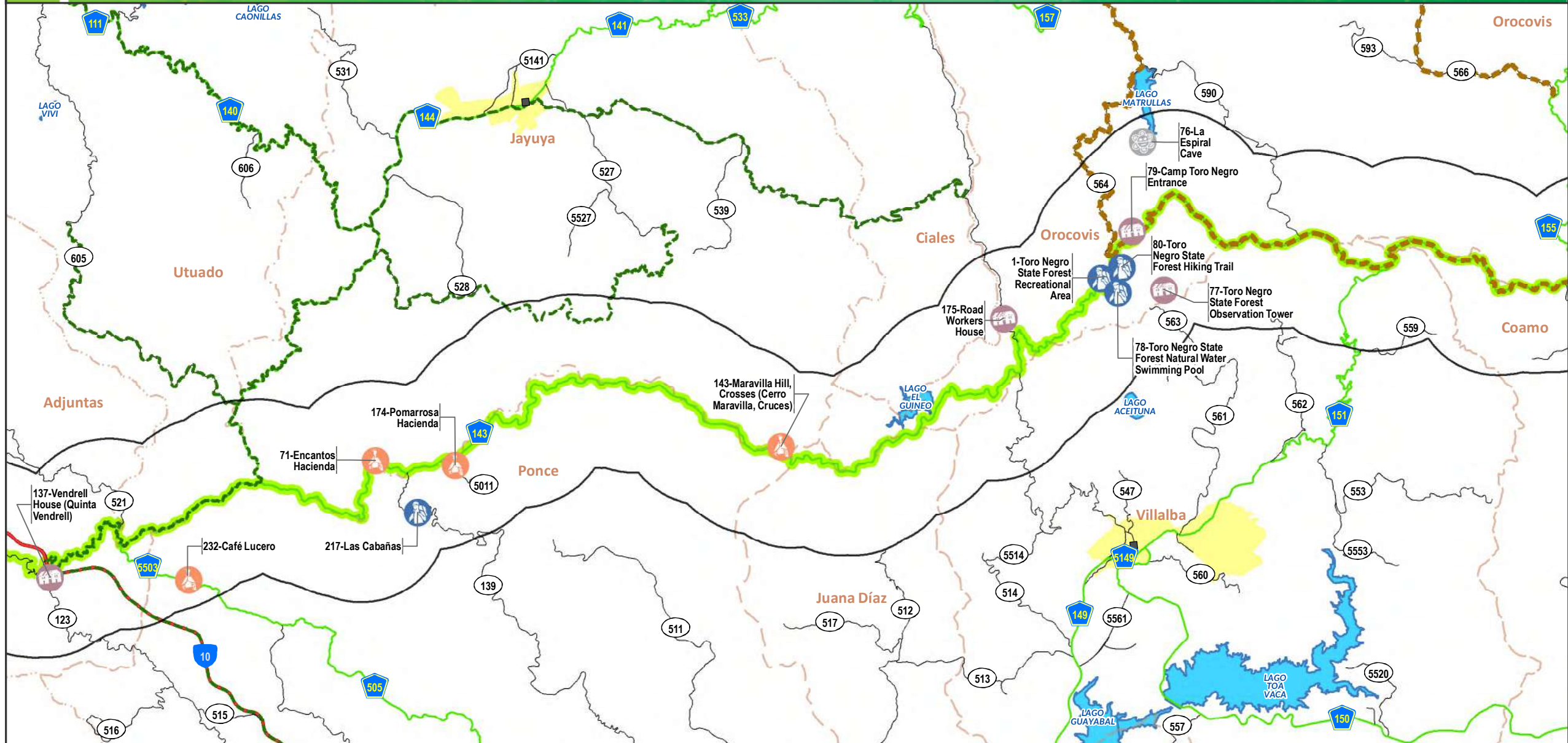


Globo de Jayuya at Mameyes Ward, Road 530, Jayuya



CMP PANORAMIC ROUTE

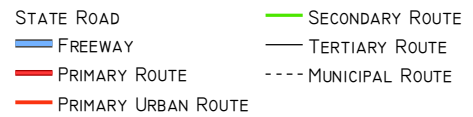
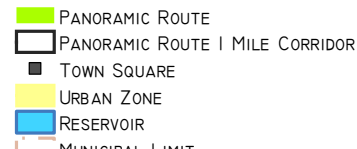
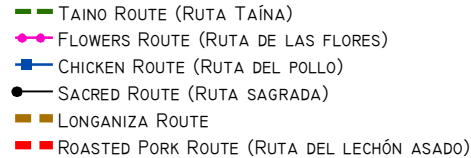
FIGURE 4-II. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL HIGHLANDS REGION



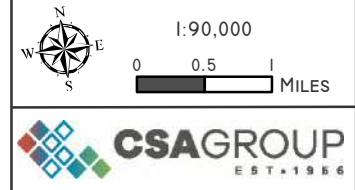
RESOURCES



CULTURAL THEME ROUTES

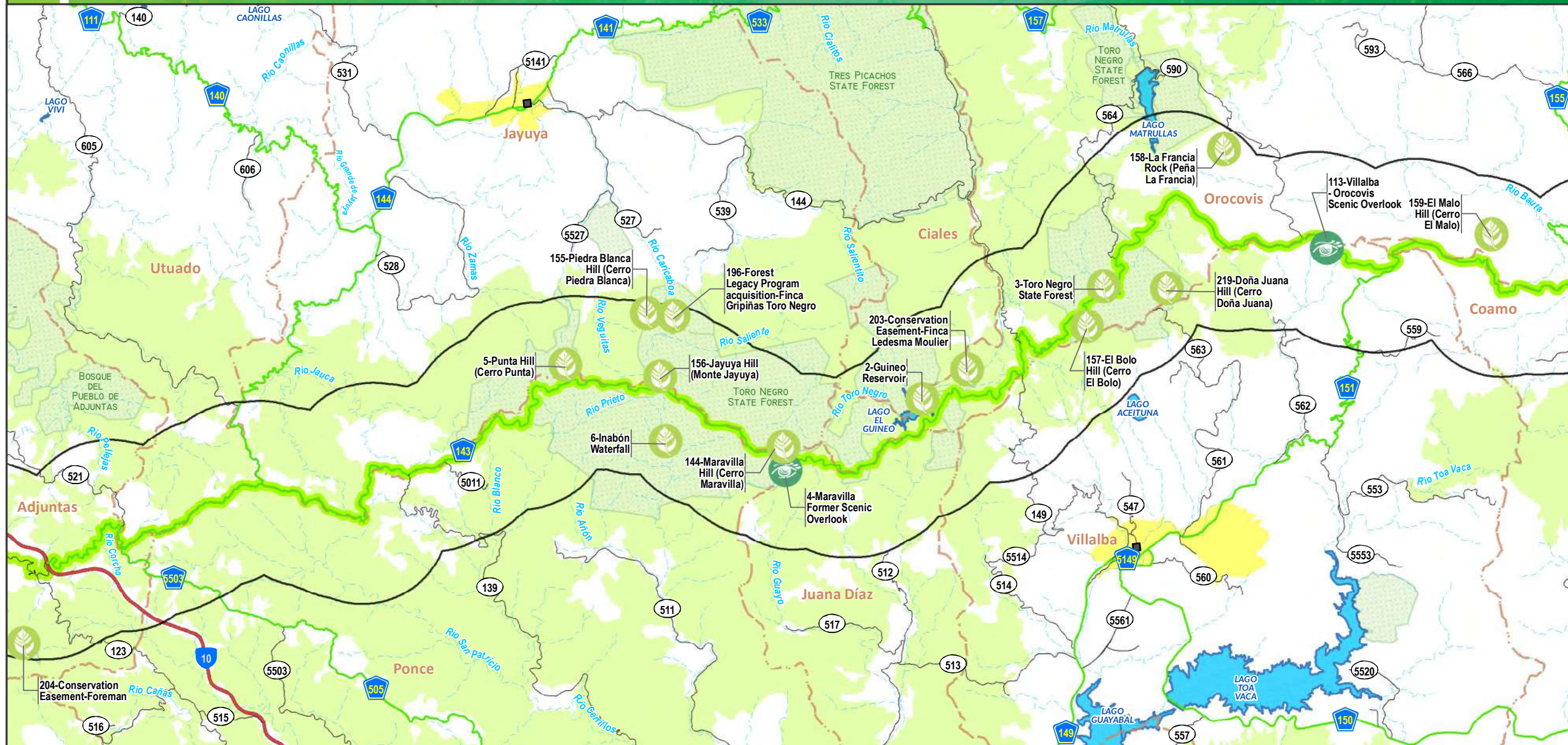


Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.





CMP PANORAMIC ROUTE FIGURE 4-12. INTRINSIC QUALITIES INVENTORY: SCENIC AND NATURAL RESOURCES HIGHLANDS REGION



RESOURCES



NATURAL



SCENIC

PANORAMIC ROUTE

PANORAMIC ROUTE 1 MILE CORRIDOR

RIVERS/STREAMS

RESERVOIR

TOWN SQUARE

MUNICIPAL LIMIT

PROTECTED NATURAL AREA

PRIORITY CONSERVATION AREA

URBAN ZONE

STATE ROAD

FREEWAY

INTERMODAL

PRIMARY ROUTE

PRIMARY URBAN ROUTE

SECONDARY ROUTE

TERTIARY ROUTE

MUNICIPAL ROUTE

Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



No town squares lie within the Corridor (**Figure 4-11**) in this region. The closest ones to the Corridor are from Jayuya and Villalba respectively. They can be reached from the Route through Road PR-140 and PR-149, respectively. As mentioned for previous regions these town squares keep its appeal associated to their adjacent historical buildings. The municipal government of Jayuya and Orocovis, still celebrates their festivals at their traditional town squares, like the Indígena Fest (*Festival Indígena*) in Jayuya celebrated in November and the *Bacalaíto*¹⁰ Fest (*Festival del Bacalaíto*) in Orocovis celebrated in July.

This region has one (1) hospitality resource within the Corridor and several others close to it, they all related to the coffee culture. The lodge within the Corridor is Hacienda Pomarrosa (ID 174), located at Anón Ward in Ponce. Outside the Corridor but close enough, visitors can find Café Nativo at Collores Ward in Jayuya, Hacienda Tres Picachos at Saliente Ward also in Jayuya and Hacienda La Mocha at San Patricio Ward in Ponce. These lodges are located within coffee plantations where tours are offered. Visitors can also taste its coffee produced at the plantations. Visitors can also find Hacienda Gripiñas a small inn located at Veguitas Ward in Jayuya. This cozy small inn owned and operated by the Municipality of Jayuya is a former coffee hacienda founded in late 1850's decade. Interesting to know is that international tourists register stays at these lodges away from the metropolitan area.

An innovative hospitality form is also offered at Orocovis (outside the Corridor) with Finca Oro Rojo Glamping at Damián Arriba Ward. This is a lodging concept that provide the camping experience with ecological sophisticated tents and amenities such as common kitchen and locally sourced food. This concept is among the hospitality offerings that this CMP promotes.

This region has restaurants and/or *chinchorros* close to the Panoramic Route or its corridor as well as important gastronomic activity outside but relatively close to the Corridor. An example of this activity is the well-known Longaniza Route (*Ruta de la Longaniza*) (**Figure 4-11**). This is a sausage typically elaborated at Orocovis and adjacent municipalities. Another exemplified are the emerging agricultural tourism with coffee plantations that offer tour experiences and respective coffee shops that can be enjoyed

in Jayuya and Ponce, as previously mentioned. Other agricultural tourism activity that is also emerging associated to another fruit with this tourism approach is a breadfruit plantation at Jayuya which offers tours, tasting and shop.

One cultural cluster that attracts tourism activity is relatively close to the Corridor. The Jayuya cultural complex administered by the Jayuya Development and Work Center (Centro de Desarrollo y Trabajo de Jayuya, CEDETRA by its acronym in Spanish) is located at Coabey Ward, in Jayuya. CEDETRA is a municipal initiative that promotes the cultural assets from Jayuya and supports the works of artisans. At this cultural complex it is located the Canales House Museum and El Cemí Museum. The first one is a replica of the original creole house built by the end of 18th Century by Rosario Canales Quintero one of the founders of the Municipality of Jayuya and its first Mayor. El Cemí Museum, built by the end of 1980's is a landmark iconic structure of a *cemí*, a triangular carved stone considered an idol by the *Taíno* Indians. The museum exposes archaeological artifacts pertaining to the *Taíno* Indian culture. Other important spaces are also hosted in this cultural complex including working areas for artisans, multiuse room for activities a restaurant and a zinc panels factory operated by an NGO.

There are road segmentation signs along the roads that comprise this region. They are in good conditions as for previous regions.

Maintenance of roadsides are not up to date, vegetation in some areas invades the roadside like in PR-143 at km 24.8 and km 27.7, approximately. In some instances, road segmentation signs are covered by vegetation. Illegal signs were observed along the Route, especially in the PR-143 segment eastward after intersection with PR-10 at Portugués Ward, Adjuntas. No signs were observed) warning not to litter and notifying legal consequences

Other conditions that affect the immediate visual shed along the Route in this region is the presence of incongruent uses like unserviceable vehicles on the roadside (PR-143) and abandoned structures reflecting depopulation trends (PR-143). Abandoned construction materials on roadside was also observed (PR-143 km 36.4).

¹⁰ Codfish fritters considered a typical dish in Puerto Rico.

An important area in need for maintenance improvement associated to the Route is the Villalba-Orocovis Scenic Overlook (*Mirador Villalba-Orocovis*) (ID 113). This important landmark located at the boundary between these two (2) municipalities was developed by the PRDTPW by early 2000's. Overlooks in the Route are very important as they provide a safe area to enjoy the view from the Route itself as well as resting areas and sanitary services for travelers. Currently this scenic overlook is operated under an agreement between the PRDTPW and the Municipality of Villalba.

Although green areas are well maintained the built areas need maintenance and rehabilitation, from sanitary services and gazebos to signs and fences. Undoubtedly the passage of hurricanes Irma and María during 2017 seriously affected this important facility. The Municipality waits for damage coverage from the Federal Emergency Management Administration (FEMA) (Primera Hora, 2019). Even with the current conditions this iconic outlook, representative of the Highlands Region, offers stunning sights to visitors, who can enjoy views to northern and southern coast. Important landmarks can be observed from this outlook like Caja de Muerto Island and the windfarm at Santa Isabel. Close to the outlook there are places to eat where visitors enjoy typical dishes and beverages. Near the outlook there is an abandoned structure.

The Highlands Region is threatened by several situations:

- Abandoned structures (residential and commercial)
- Neglected iconic scenic outlook
- Illegal signs along the route
- Unserviceable vehicles on the roadside.

This region has several strengths, including:

- Protected natural areas including Forest Legacy Program Acquisition properties and Toro Negro State Forest (ID 3)
- Highest peaks in the Island that constitutes landmarks
- Prevailing zoning districts according to purposes of the CMP (Resources Conservation and Forest)
- Active NGO groups leading educational, scientific, cultural and recreational events related to environmental conservation (Amigos del Bosque Toro Negro, Conservation Trust of Puerto Rico and Bosque Modelo Territorial Management

Alliance Work) which are associated to natural intrinsic qualities resources within the Corridor.

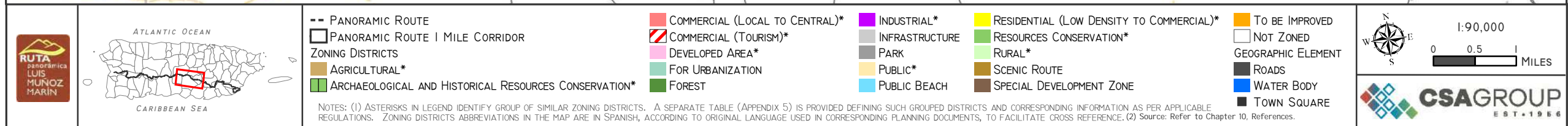
- Scenic overlook with potential to be improved
- Availability of inns to stay close to the Corridor, including innovative offers like glamping.



View north from Villalba-Orocovis Overlook

4.1.3.5 Flower Country Region

The dominant geographical region at the Flowers interpretive region is the Eastern Humid Mountains, followed by the Western Rainy Mountains (**Figure 4-1**). The Corridor at this interpretative region comprises rural areas of Villalba northeastern area (Caonillas Arriba), Orocovis southeastern area (Bermejas and Bauta Arriba) Barranquitas southern area (Palo Hincado and Helechal), Coamo northeastern area (Pedro García, Hayales and Pulguillas wards), Aibonito central area (Asomante, Pasto, Llanos, Robles and Cuyón wards) and Cayey southwestern area (Pasto Viejo, Matón Arriba and Sumido wards) with urban areas concentrated in Aibonito downtown and its vicinity. Along with the Ferns and Spring Region, the Flower Country Region has the most developed areas within the Corridor when compared with the remaining regions. In the Flower Country Region these areas are concentrated in Asomante and Cuyón wards, respectively in Aibonito and Pasto Viejo Ward in Cayey.



The dominant zoning district in the Corridor is agricultural, which is according to the purposes of the CMP (**Figure 4-13**). Prevailing districts throughout the Corridor are:

- Agricultural (A-G)
- Rural General (R-G) (agricultural uses)
- Forest (B-Q)
- Resources Conservation (CR)
- Residential (low density to commercial)

There is no scenic route (RE) district along the Route in the Flowers Country region. The prevailing zoning districts along the Route are the same as for the Corridor.

The following special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Flower Country Region (**Figure 4-3**), including: eastern end of the Bosque Modelo Territorial Management Alliance Work, Planadas de Yeyesa Natural Reserve (ID 202) at Pasto Viejo and Lapa wards in Cayey, and *Cañón de San Cristóbal* (San Cristóbal Canyon) Natural Protected Area (ID 180) at Helechal and Honduras wards in Barranquitas and Llanos Ward in Aibonito. Laying in Salinas, in the boundary of the Corridor it is the Piedras del Collado Natural Reserve at Lapa Ward (ID 200). Compared with the remaining regions it is the interpretive region with less special zoning plans, protected areas, or programs.

The Cañón de San Cristóbal Natural Protected Area (ID 180) is managed by the Conservation Trust of Puerto Rico. As has been mentioned before, protected natural areas managed by the Conservation Trust of Puerto Rico can be visited through previous reservations.

The Planadas de Yeyesa Natural Reserve (ID 202) although is not accessed through the Panoramic Route contributes to protect its natural context for its great extension (approximately 2, 500 acres). Within the Piedras del Collado Natural Reserve there is the landmark comprised by two (2) peaks known as *Las Tetas de Cayey* (literally the Cayey's woman breast), but they really lie in Salinas (outside from the Corridor). This natural reserve is contiguous to the Planadas de Yeyesa Natural Reserve.

Worth to highlight is the singularity of the San Cristóbal Canyon (ID 121) within the San Cristóbal Canyon Natural Protected Area (ID 180). At an elevation ranging from 227 meters to 652 meters the area owes its name to its most outstanding topographic feature, the San Cristóbal Canyon (Conservation Trust of Puerto Rico, 2019). Extending for approximately 9 kilometers in the heart of Puerto Rico's Cordillera Central, the San Cristóbal Canyon is a unique geomorphological phenomenon resulting from tectonic movements

that caused the rise of the superficial terrestrial crust along the region. It is one of the most spectacular and significant geological features in Puerto Rico and the Caribbean. With the erosive action of the Usabón River still sculpting its way along the canyon's bottom, the structural characteristics of the canyon have led to the establishment of exceptional and unique ecosystems and biological communities that are home to more than 749 species of plants and wildlife. However, this great natural landmark is not viewed from the road as per the current roadway alignment. An extension of the Route is proposed from Road PR-725 at Llanos Ward in Aibonito to Road PR-162 at mentioned ward. It would allow users to enjoy the view to San Cristóbal Canyon (ID 121) from the road PR-162. There is also a site at this road with abandoned structures where a potential vista point may be established. Refer to **Section 7.3.5 Socioeconomic Development Goal** where photos are included.



Waterfall at the Cañón de San Cristóbal Natural Protected Area, Barranquitas. Photo courtesy of the Conservation Trust of Puerto Rico.

The Municipality of Aibonito is known as the Town of Flowers because of its famous Flowers Festival annually celebrated in July at a park adjacent to the José “Marrón” Aponte Coliseum, Road PR-722, Robles Ward (within the Corridor). Visitors can enjoy plants nurseries year-round in Aibonito, as well as in Barranquitas. The Municipality of Aibonito has established the Flowers Route (**Figure 4-14**) identifying nurseries by specialty. This municipality has established the Flowers Promenades (Paseo de las Flores) placing picturesque giant flowers garlands, known as Paseo de las Flores, at Degetau and Rius Rivera streets, respectively in the town center (ID 16).



Colorful flowers garlands, known as Paseo de las Flores, Aibonito.

Only the Aibonito town square (ID 12) lies in the Route in the Flower Country Region offering visitors a culturally active town center. Here visitors can enjoy its traditional town square, as well as restaurants, ice cream parlor and pubs. Visitors can also take photos seated at a giant chair strategically located at the town square or under one of its colorful flower garlands. Worth to mention is that its catholic church, San José (ID 15), is included in the National Register of Historic Places since 1984. Renovation of this

Several historical well-maintained buildings can also be enjoyed at the Aibonito town center (ID 16). An outstanding one, that is accessible to public, is the Federico Degetau House Museum (ID 10), located walking distance from the town square (Road PR-162). This is an example of a municipal government property administered through a community initiative. This historical house was home of Federico Degetau¹¹ (1862-1914). The museum was inaugurated in 2012 after threat to be demolished for commercial purposes. The Federico Degetau House



San José Church at Aibonito town square, Aibonito

Museum is administered by the Aibonito Historic Archive Board (*Patronato del Archivo Histórico de Aibonito*). The board leads a program of multiple academic, social and cultural activities inspired in the Federico Degetau heritage. The board also promotes tourism activities in Aibonito and serves as an interdisciplinary investigation center.

The town center of Barranquitas is relatively close to the Corridor through road PR-719 and then PR-162. The oldest festival in the Island, the Barranquitas National Crafts Fair, is annually celebrated in July in their charm town square. This fair attracts visitor from the entire Island. Close to the town square it is the former house of Luis Muñoz Rivera, a building that is listed in the National Register of Historic Places. It is now a museum that documents his life. Close to the town square visitors may find a coffee shop, an ice cream parlor, among other commercial places.

The Flowers Country region offers diverse panoramic vistas of the central and southern central countryside. This region has a scenic overlook, Mirador Piedra Degetau developed by the PRDTPW by 1997 (ID 136) (**Figure 4-15**). This scenic resource is located at Pasto Ward (Road 7718 Km. 0.8) in Aibonito. As indicated before, scenic overlooks are very important as they provide a safe area for travelers to enjoy the view from the Route itself as well as resting areas and sanitary services. Currently this scenic overlook is operated by a private party under a subcontract with the Municipality of Aibonito.



Mirador Piedra Degetau PR-7718 at Pasto Ward, Aibonito



Barranquitas Town square, Barranquitas



Well accomplished reforestation program along streets in the Aibonito town center.

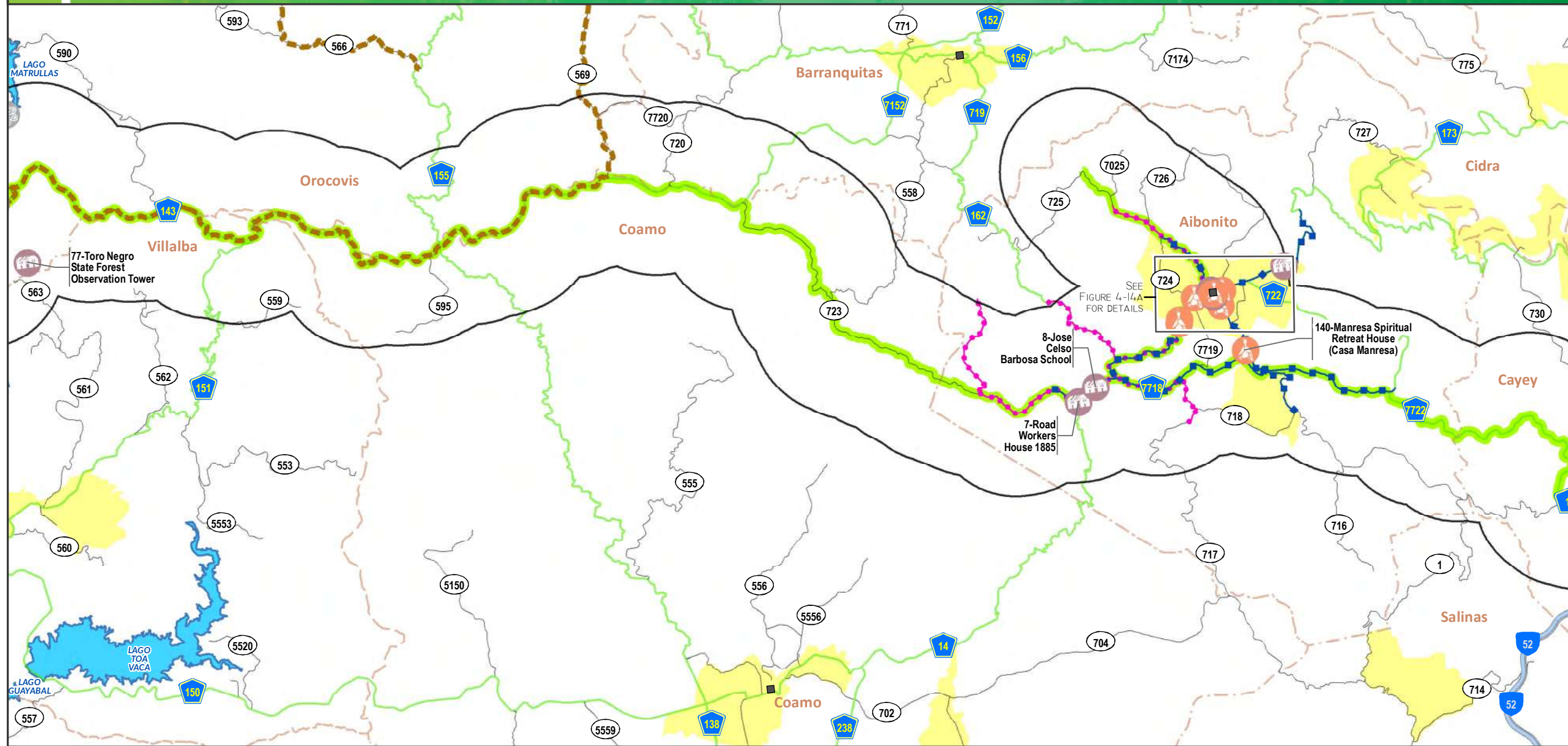
¹¹ Born in Ponce, Puerto Rico, Federico Degetau was a politician, lawyer and writer that was the first Resident Commissioner of Puerto Rico.



CMP PANORAMIC ROUTE

FIGURE 4-14. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL

FLOWER COUNTRY REGION



RESOURCES



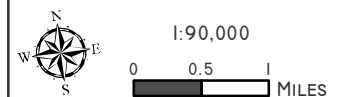
CULTURAL THEME ROUTES

- TAINO ROUTE (RUTA TAÍNA)
- FLOWERS ROUTE (RUTA DE LAS FLORES)
- CHICKEN ROUTE (RUTA DEL POLLO)
- SACRED ROUTE (RUTA SAGRADA)
- LONGANIZA ROUTE
- ROASTED PORK ROUTE (RUTA DEL LECHÓN ASADO)

- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- TOWN SQUARE
- URBAN ZONE
- RESERVOIR
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE

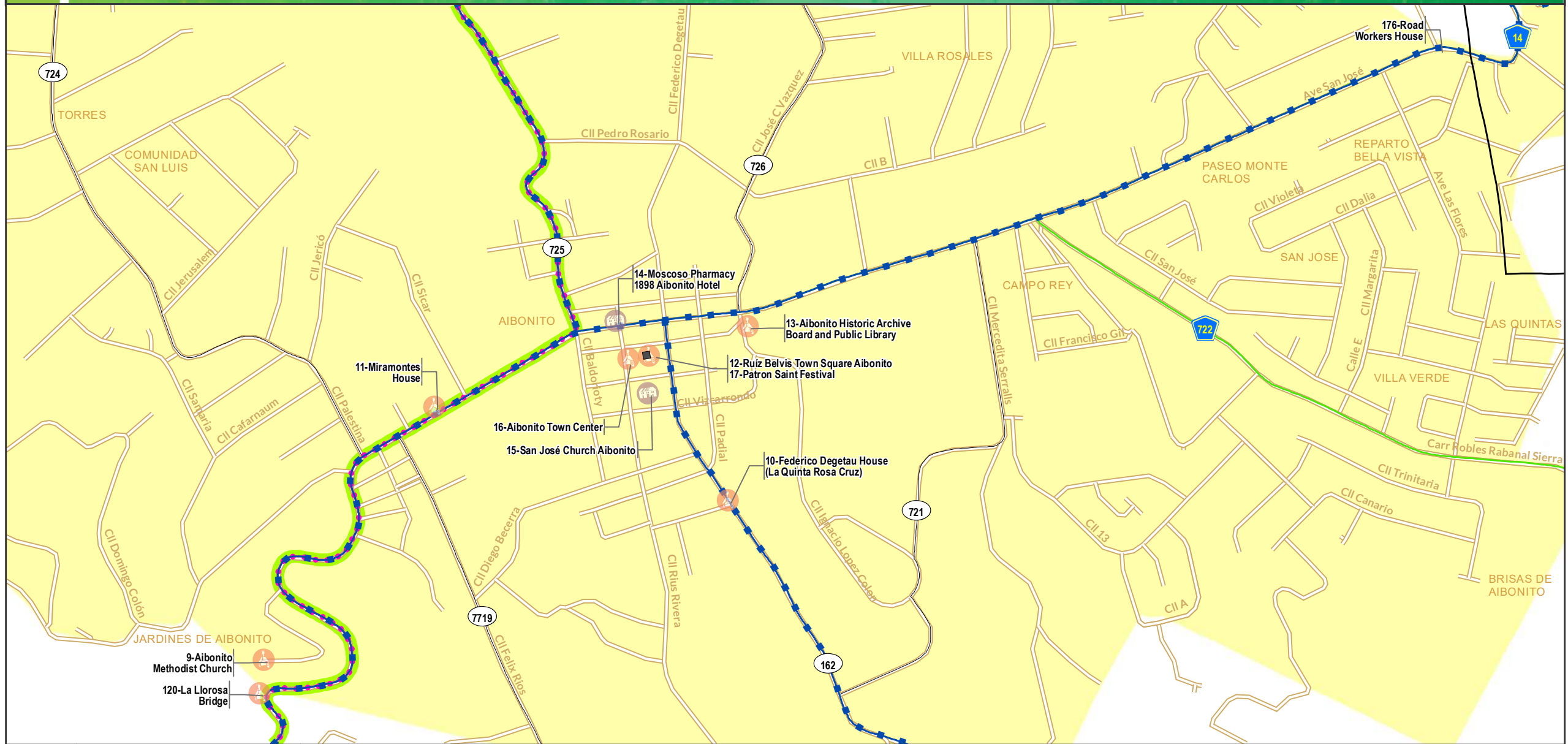
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROUTE



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



CMP PANORAMIC ROUTE
FIGURE 4-14A. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL
FLOWER COUNTRY REGION - AIBONITO URBAN ZONE



RESOURCES



ARCHEOLOGICAL



CULTURAL



HISTORICAL AND ARCHITECTURAL



RECREATIONAL

CULTURAL THEME ROUTES

— TAINO ROUTE (RUTA TAÍNA)

— FLOWERS ROUTE (RUTA DE LAS FLORES)

— CHICKEN ROUTE (RUTA DEL POLLO)

— SACRED ROUTE (RUTA SAGRADA)

— LONGANIZA ROUTE

— ROASTED PORK ROUTE (RUTA DEL LECHÓN ASADO)

PANORAMIC ROUTE

PANORAMIC ROUTE 1 MILE CORRIDOR

TOWN SQUARE

URBAN ZONE

RESERVOIR

STATE ROAD

— FREEWAY

— PRIMARY ROUTE

— PRIMARY URBAN ROUTE

— SECONDARY ROUTE

— TERTIARY ROUTE

— MUNICIPAL ROUTE

Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



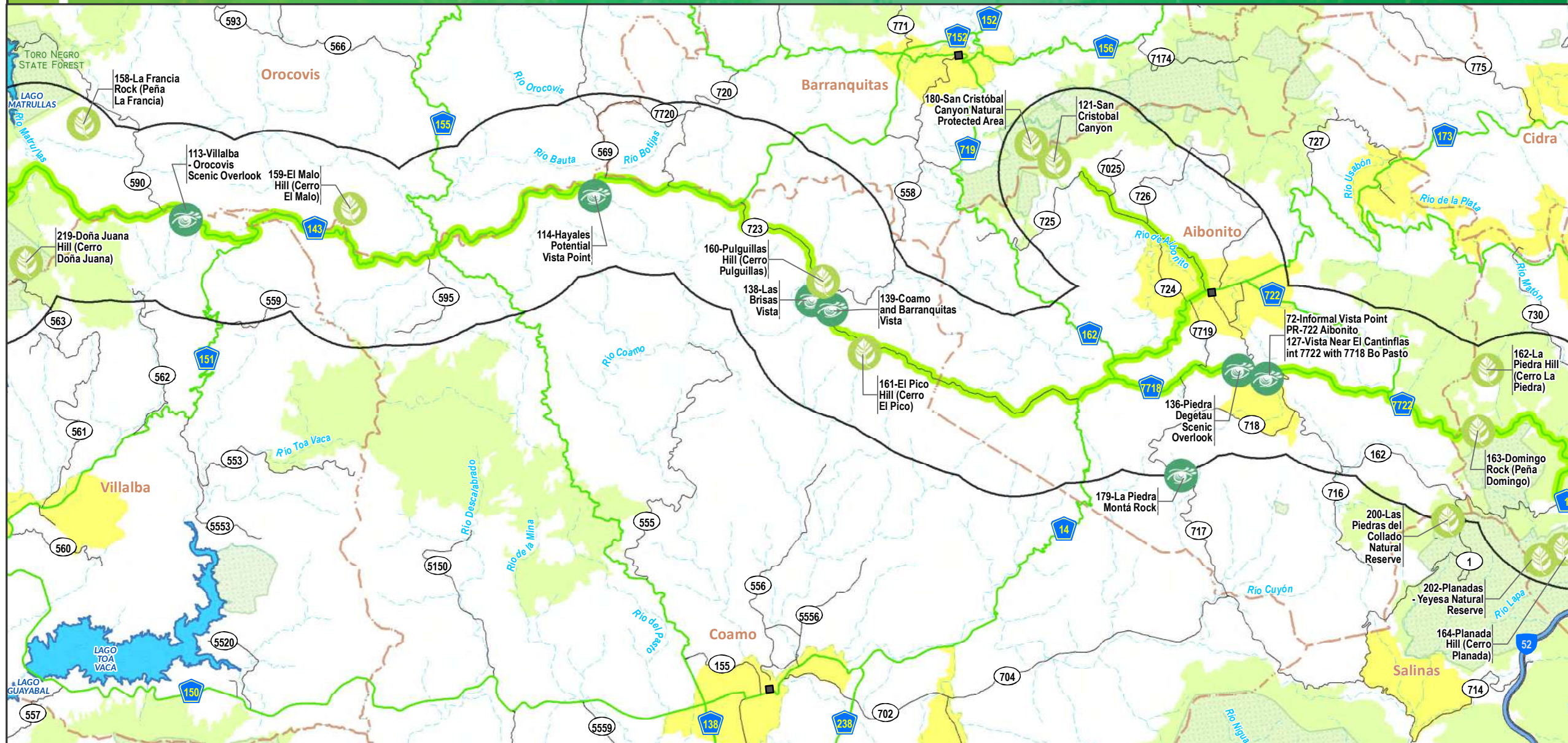
1:8,000

0 0.05 0.1 MILES





CMP PANORAMIC ROUTE FIGURE 4-15. INTRINSIC QUALITIES INVENTORY: SCENIC AND NATURAL RESOURCES FLOWER COUNTRY REGION



RESOURCES



NATURAL



SCENIC

PANORAMIC ROUTE

PANORAMIC ROUTE 1 MILE CORRIDOR

RIVERS/STREAMS

RESERVOIR

TOWN SQUARE

MUNICIPAL LIMIT

PROTECTED NATURAL AREA

PRIORITY CONSERVATION AREA

Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.

URBAN ZONE

STATE ROAD

FREEWAY

INTERMODAL

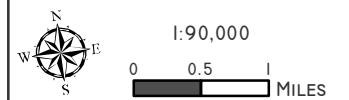
PRIMARY ROUTE

PRIMARY URBAN ROUTE

SECONDARY ROUTE

TERTIARY ROUTE

MUNICIPAL ROUTE



A casual restaurant is operated by this private entity, providing maintenance to the facilities within the Overlook. The scenic outlook provides an observation tower, gazebos and green areas. A nice view of the Aibonito town is enjoyed from the observation tower. Improvements are necessary and some were in progress during the field reconnaissance conducted by August 2019.

Like most of the other regions, no vista points exist on the roadsides for travelers to make a quick stop and safely enjoy these views. However, there is a paved area on PR-722 (ID 72) at Robles Ward near El Cantinflas Restaurant in Aibonito that functions as it. Even when a beautiful view can be safely enjoyed from this site, the paved area is deteriorated and adjacent green area is not maintained and looks neglected. Beautiful countryside views along PR-723 at Pulguillas Ward in Coamo are also blocked by vegetation.



Neglected paved area that functions as a vista point on PR-722 at Robles Ward, Aibonito

Significant stretches of the Route lack Panoramic Route signs to guide the travelers. There are recent road segmentation signs along the roads that comprise this region like in the other regions. Illegal signs are also observed in this interpretive region negatively affecting the immediate visual shed. Many of them are from alcohol beverages likely influenced by the presence of gastronomy related commerce, but others can be observed.



Abandoned school on PR-143 at Hayales Ward, Coamo

Massive abandoned buildings like schools also affect the immediate visual shed, like abandoned school close to the boundary between Coamo and Barranquitas at Hayales Ward in Coamo (PR-143) and the one at Llanos Ward in Aibonito (Road PR-725). Massive abandoned commercial structures

were also observed. One of them is located at the intersection between Road PR-7718 and Road PR-162 in front of El Cantinflas Restaurant in Aibonito, in front of the aforementioned paved area in PR-162 that functions as a scenic overlook, negatively affecting the general setting. Another massive abandoned commercial structure is also located in front to the entrance of the San Cristóbal Canyon Natural Protected Area (ID 180) managed by the Conservation Trust of Puerto Rico (Road PR-725). Scattered abandoned structures were also observed in other roads like PR-143, PR-723, PR-725, PR-722, PR-7722 and PR-1, among others.

As mentioned before other conditions that affect the immediate visual shed along the Route is the presence of incongruent uses. This is a condition that also occurs in this region. An outstanding example occur at Road PR-7718 in the boundary between Pasto and Robles wards in Aibonito where tire shops, telecommunications antennas and gas shops, among others, are observed. Unserviceable vehicles on the roadside were also observed in this region (PR-143 and PR-723).



Massive abandoned commercial structures at the intersection between Road PR-7718 and Road PR-162, Aibonito. Area also affected by telecommunications tower (right side).

In general no litter proliferation was observed in the roadside along the Route in this interpretive region. Only one (1) sign was identified warning not to throw garbage, PR- 723, Pulguillas Ward, Coamo. Although well intentioned its worth to mention the custom of several municipalities to paint street lighting poles and metal guardrails negatively affecting the immediate visual shed. This practice highlights infrastructure elements creating an unnecessary visual contamination. Moreover, paint makes the surface of lighting poles and metal guardrails prone to mold and mildew increasing this negative effect.

The region may continue representing the corresponding interpretive story as Flower Country Region.

This stretch is threatened by several situations:

- Abandoned structures, including massive buildings
- Incongruent uses
- Proliferation of illegal signs
- Unnecessary visual contamination associated to light poles and guardrails painting

The Flowers Country interpretive region has several strengths, including.

- Natural protected areas within the Corridor including: Planadas de Yeyesa Natural Reserve and San Cristóbal Canyon Natural Protected Area and extension of Bosque Modelo
- Dominant zoning districts according to purposes of the CMP (agricultural)
- Singular landmark constituted by the San Cristóbal Canyon, accessible to public through the Conservation Trust of Puerto Rico
- Potential Route extension in Aibonito that would allow users to enjoy the San Cristóbal Canyon view from road
- Active cultural downtown within the Corridor, Aibonito
- Community group was identified related to cultural heritage of Aibonito
- Scenic overlook operating and currently being improved
- Thematic routes including Flowers Route and Chicken Route, as well as eastern end of the Longaniza Route (*Ruta de la Longaniza*)

4.1.3.6 Ferns and Springs Region

At the Ferns and Springs interpretive region the dominant geographical region is the Eastern Humid Mountains, followed by the Southern Semiarid Hills (**Figure 4-1**). The Corridor at this interpretative region comprises rural areas of Aibonito (Robles and Cuyón wards), Cayey (Matón Arriba, Pasto Viejo, Pedro Ávila, Sumido, Jájome Alto, Jájome Bajo, Culebras Alto, Culebras Bajo, Farallón, Guavate), Guayama (Carite,

Guamaní), Patillas (Quebrada Arriba, Muñoz Rivera and Mulas) and San Lorenzo (Espino Ward).

Along with the Flower Country Region, the Ferns and Spring Region has the most developed areas within the Corridor when compared with the remaining regions. In the Ferns and Springs Region these areas are concentrated in Pasto Viejo, Matón Arriba, Culebras Bajo, Culebras Alto and Guavate wards, respectively in Cayey and Carite Ward in Guayama.



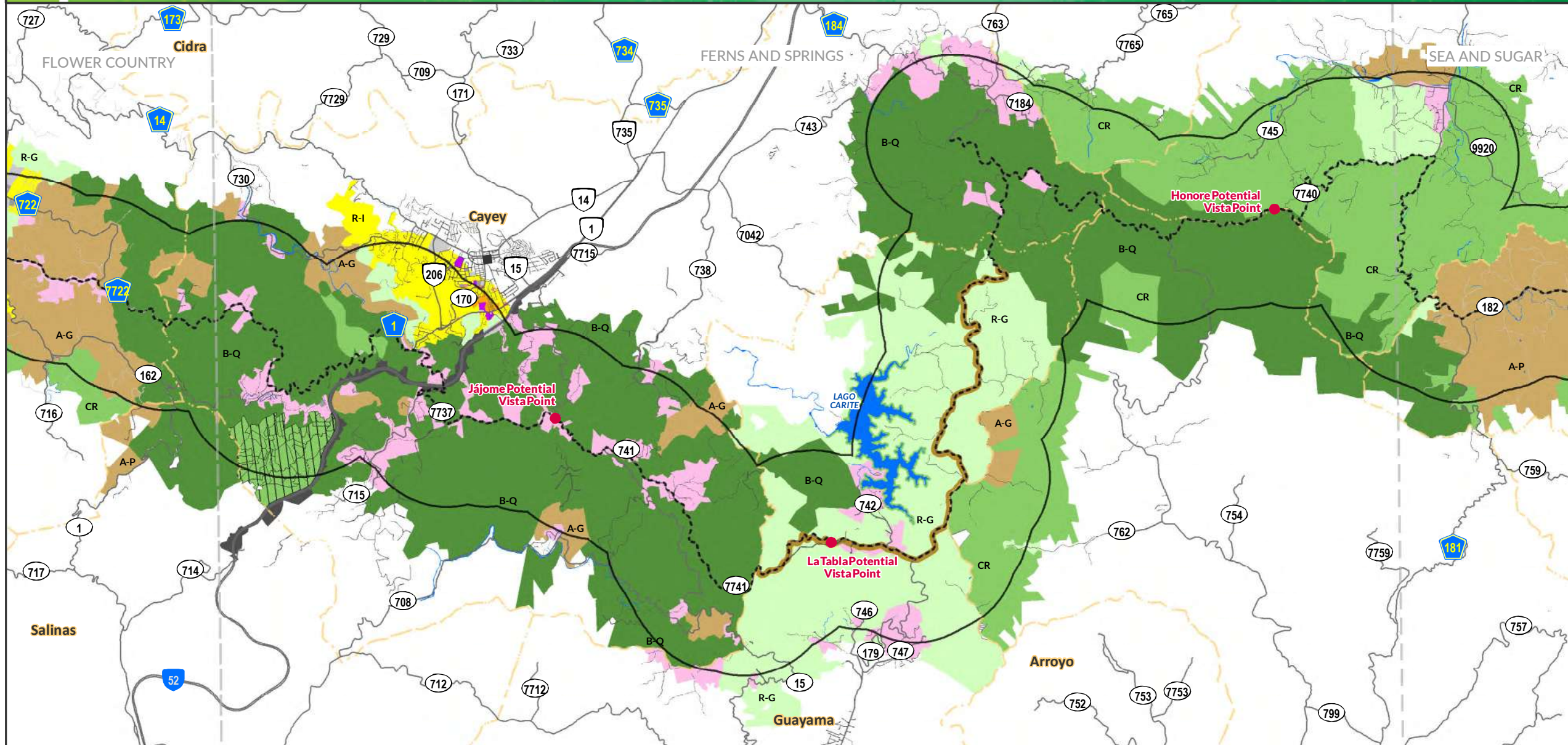
View to the southern coast from Road PR-15, Jájome Alto Ward, Cayey

The prevailing zoning districts in the Corridor, mentioned below, are almost even distributed (**Figure 4-16**). The prevailing districts within the Corridor are according to the purposes of the CMP and include:

- Forest (B-Q)
- Rural General (R-G) (agricultural uses)
- Resources Conservation (CR)



CMP PANORAMIC ROUTE FIGURE 4-16. SUMMARY OF CURRENT ZONING: FERNS AND SPRINGS REGION



- | | | | | |
|-------------------------------------------------------|--------------------------------|----------------|------------------------------------------|--------------------|
| -- PANORAMIC ROUTE | COMMERCIAL (LOCAL TO CENTRAL)* | INDUSTRIAL* | RESIDENTIAL (LOW DENSITY TO COMMERCIAL)* | TO BE IMPROVED |
| □ PANORAMIC ROUTE 1 MILE CORRIDOR | COMMERCIAL (TOURISM)* | INFRASTRUCTURE | RESOURCES CONSERVATION* | □ NOT ZONED |
| ZONING DISTRICTS | DEVELOPED AREA* | PARK | RURAL* | GEOGRAPHIC ELEMENT |
| AGRICULTURAL* | FOR URBANIZATION | PUBLIC* | SCENIC ROUTE | ROADS |
| ARCHAEOLOGICAL AND HISTORICAL RESOURCES CONSERVATION* | FOREST | PUBLIC BEACH | SPECIAL DEVELOPMENT ZONE | WATER BODY |

NOTES: (1) ASTERISKS IN LEGEND IDENTIFY GROUP OF SIMILAR ZONING DISTRICTS. A SEPARATE TABLE (APPENDIX 5) IS PROVIDED DEFINING SUCH GROUPED DISTRICTS AND CORRESPONDING INFORMATION AS PER APPLICABLE REGULATIONS. ZONING DISTRICTS ABBREVIATIONS IN THE MAP ARE IN SPANISH, ACCORDING TO ORIGINAL LANGUAGE USED IN CORRESPONDING PLANNING DOCUMENTS, TO FACILITATE CROSS REFERENCE. (2) Source: Refer to Chapter 10, References.

1:90,000

0 0.5 1 MILES

EST. 1956

There is no scenic route (RE) district along the Route in the Ferns and Springs region. The prevailing zoning districts along the Route include:

- Forest (B-Q)
- Developed Area (AD)
- Rural General (R-G) (agricultural uses)

The following special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Ferns and Springs Region, including: Jájome Natural Protected Area (ID 183) at Jájome Bajo Ward (Cayey), La Robleda Natural Protected Area (ID 185) at Culebras Bajo Ward (Cayey), Culebras Natural Protected Area (ID 182) at Culebras Bajo Ward (Cayey), Finca Mikasobe Carite Forest Legacy Program Acquisition (ID 198) at Carite Ward (Guayama), Natural Protected Area Ulpiano Casal (ID188) at Espino Ward (San Lorenzo) and Carite State Forest (ID 189) (**Figure 4-3** and **Figure 4-18**). The last one comprises several wards between Cayey, Guayama and Patillas. The aforementioned natural protected areas are managed by the Conservation Trust of Puerto Rico while the natural reserve and state forest are managed by the DNER. As indicated before, protected natural areas managed by the Conservation Trust of Puerto Rico can be visited through previous reservations. The Carite State Forest used to have facilities for visitors, however they were destroyed by Hurricanes Irma and María in September 2017.



View to the Caribbean Sea from Road PR-7737 at Sumido Ward in Cayey

These natural protected areas that take place at this interpretive region, contribute to its identity. The one with the largest area within this interpretive region is the aforementioned Carite State Forest (ID 189), that comprises approximately 6,700 acres extending in the Corridor over the municipalities of Cayey, Guayama and Patillas (DNER, 2008 d) (**Figure 4-3** and **Figure 4-18**). Contiguous is the Jorge F. Sotomayor del Toro Protected Natural Area (ID 184), approximately 60 acres, administered by the Conservation Trust of Puerto Rico. Its terrains are part of the north face of Cerro La Santa (ID 169), which at 2,952 feet high constitutes the highest peak of the Sierra de Cayey (www.paralanaturaleza.org, 2019).



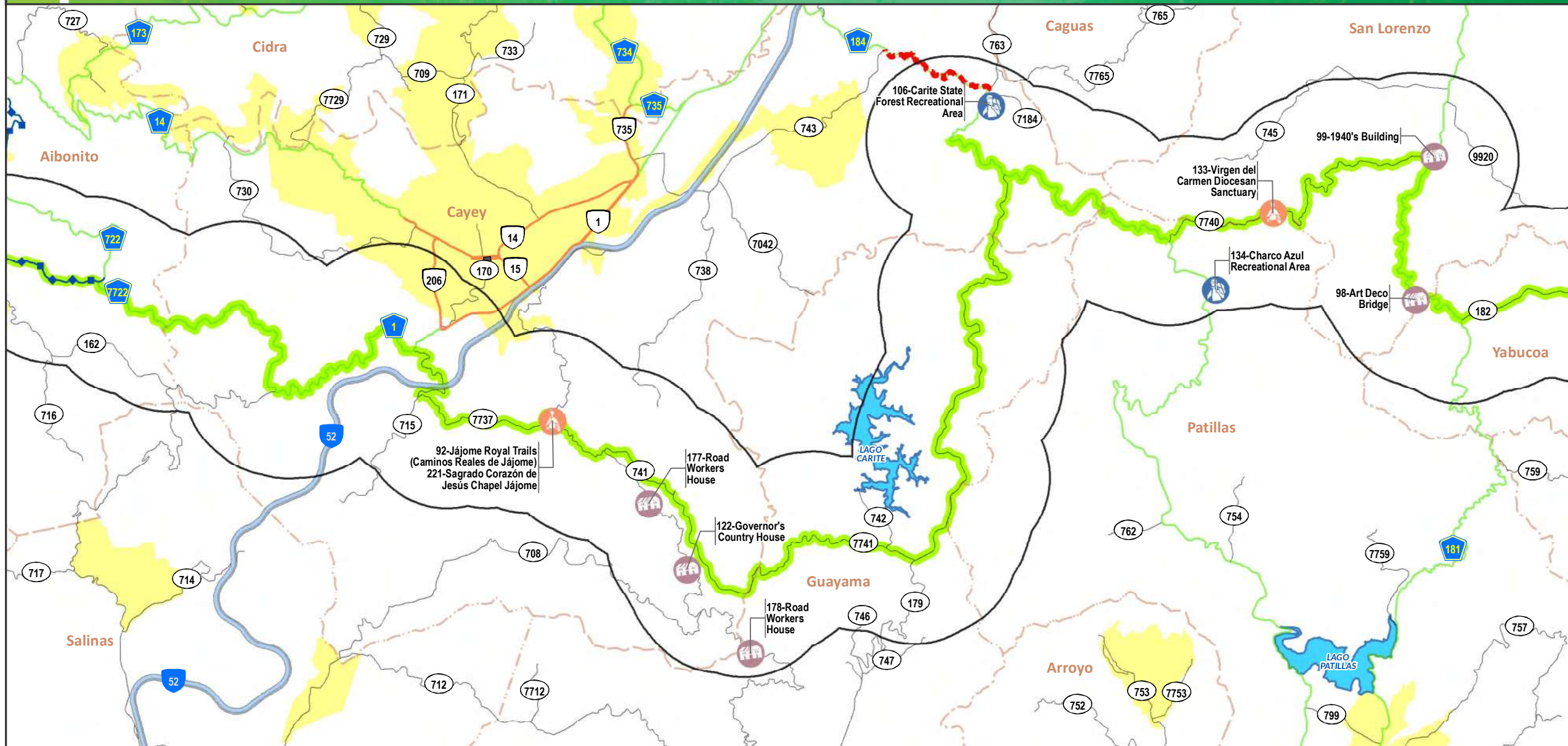
Historical House of Cayey's Music, Cayey town square, Cayey. Photo Courtesy of Historical House of Cayey's Music



CMP PANORAMIC ROUTE

FIGURE 4-17. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL

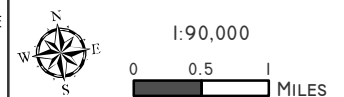
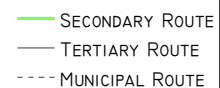
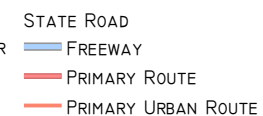
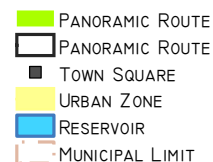
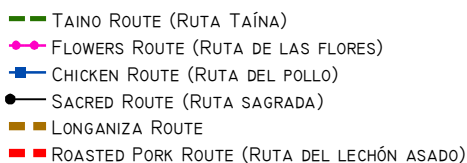
FERNS AND SPRINGS REGION



RESOURCES



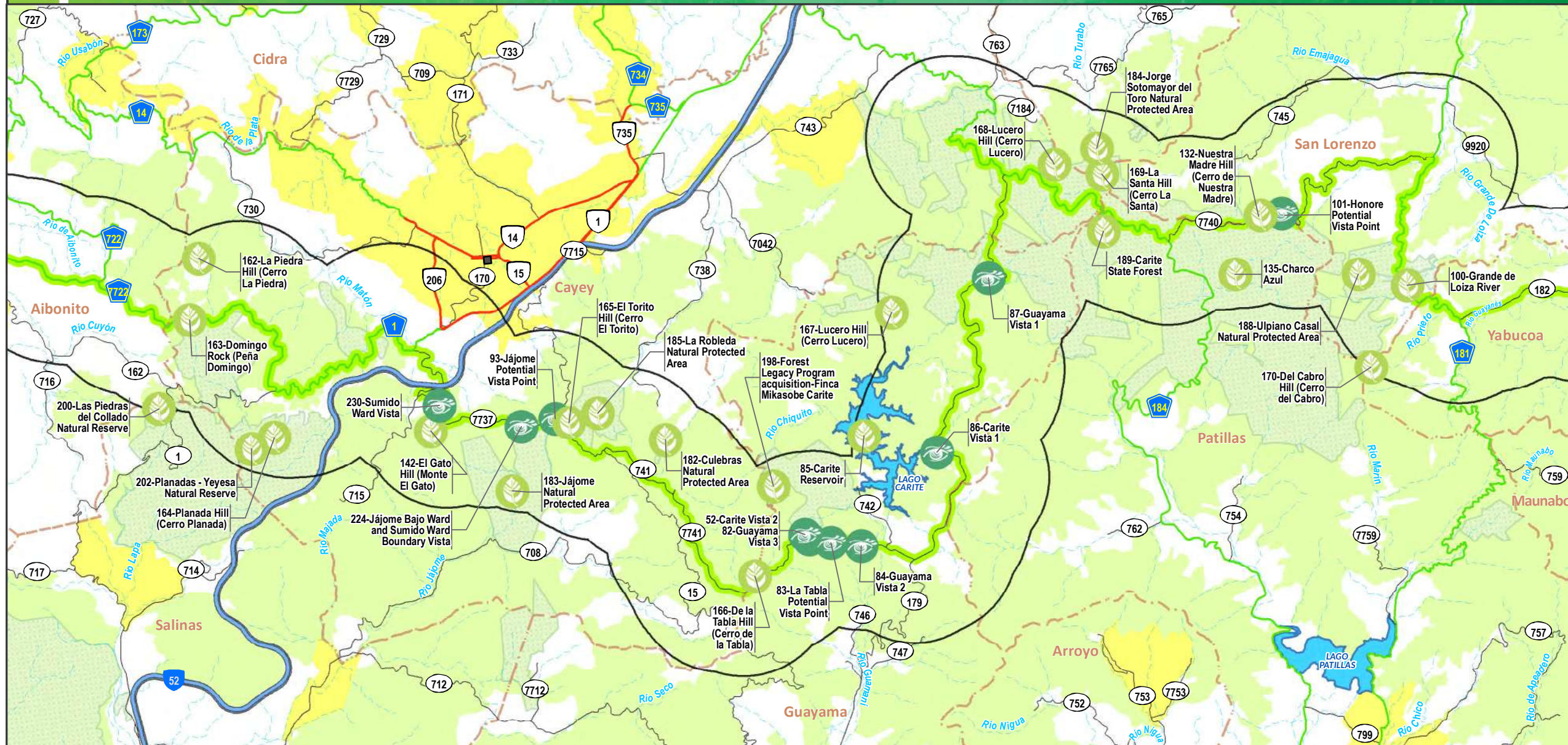
CULTURAL THEME ROUTES



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



CMP PANORAMIC ROUTE FIGURE 4-18. INTRINSIC QUALITIES INVENTORY: SCENIC AND NATURAL RESOURCES FERNS AND SPRINGS REGION



RESOURCES



NATURAL



SCENIC

PANORAMIC ROUTE



RIVERS/STREAMS

RESERVOIR

TOWN SQUARE



MUNICIPAL LIMIT



PROTECTED NATURAL AREA



PRIORITY CONSERVATION AREA



URBAN ZONE



STATE ROAD



FREEWAY



INTERMODAL



PRIMARY ROUTE



PRIMARY URBAN ROUTE



SECONDARY ROUTE

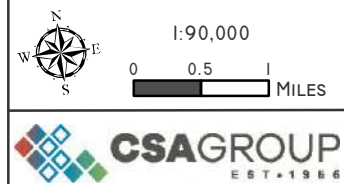


TERTIARY ROUTE



MUNICIPAL ROUTE

Notes: (1) Number associated to each intrinsic quality resource is unique and consistently used throughout this CMP update.
(2) Source: Refer to Chapter 10, References.



The Carite State Forest, established in 1935, was originally designated by the state to protect the Grande de Loíza River, the Grande de Patillas River and La Plata River, hydrographic basins, respectively. The Jorge F. Sotomayor del Toro Protected Natural Area (ID 169) is also part of an important watershed. Streams and waterfalls that are part of the head of the Turabo River flow through it. The Turabo River is a tributary of the Grande de Loíza River. This river as well as La Plata River provides water for the San Juan metropolitan area through corresponding reservoirs. Besides these important hydrological functions these forests are home of diverse flora and fauna species, several of them legally protected for its vulnerability. The Carite State Forest used to have gazebos close to the roadside (PR-184 km 26 approximately) that were accessible for visitors to have picnics and enjoy its exuberant nature. However, they were very affected as result of the impacts from hurricanes in 2017. Currently, the gazebos are damaged, and debris are still present giving a desolate and hazardous look to the area. A burnt vehicle was also abandoned at the roadside in the gazebos area during the field inspection. It also used to have trails that were also abandoned along time. The structures of the former headquarters of the DNER rangers also is abandoned, and rangers relocated to another area. All these dramatically contrast with the natural landscape beauty of this natural protected area.



Neglected gazebo at the Carite State Forest.

No town squares lie within the Corridor. The closest one corresponds to Cayey, with access to the Route through Road PR-1 (**Figure 4-17**). Although currently under reconstruction, this town center is very active from the cultural perspective. An important component of this cultural offering comes from the Historical House of Cayey's Music (*Casa Histórica de la Música Cayeyana*). This historical house, built by mid 19th Century, was acquired (2003) and restored by the municipal government. The purpose of this initiative is to rescue and document the musical history of Cayey. It is a

self-sustainable project administered by group of volunteers. The volunteers offer local music instruments classes (*cuatro*, guitar, *güiro*, *bongó* and *barriles de bomba*).

Bohemian nights also take place every weekend. The municipality offer guided tours upon request to their tourism office. Other cultural activities occur in its surrounding that can be enjoyed by the visitors including museums and gastronomy.

This interpretive region offers diverse panoramic vistas of the southern central countryside, including views to the Caribbean Sea and seasonally, on May, the spectacular view of the flowered oak trees at La Robleda (ID 185) in Culebras Bajo Ward in Cayey. Like most of the other regions, no vista points exist on the roadsides for travelers to safely enjoy these views. Although the Carite Reservoir (ID 85) is within the Corridor and relatively close to the Route from PR-7741 view is limited to a stretch at PR-179 at Carite Ward in Guayama.



Pink oak trees at La Robleda property at Jájome Alto Ward in Cayey. Photo courtesy of the Conservation Trust of Puerto Rico.

The road PR-7741 along the Jájome Alto Ward in Cayey and Carite Ward in Guayama offers amazing views to the southern coast and the forest itself, however they are blocked by tall grown grass in the roadsides, in instances invading the roadway. Residues of burnt vehicles contribute to a desolated impression in contrast to the amazing nature and views.

Worth to highlight from this interpretive region is the permanent cultural activity that is offered at the gastronomic region of Guavate better known as the Roasted Pork Route (*Ruta del Lechón*), located within the Corridor, very close to the Carite Forest (ID 189) (**Figure 4-17**). This is one of the favorite gastronomic routes of many Puerto Ricans. At this mountainous area that offers a fresh atmosphere even on summers, the visitors find several casual restaurants or *chinchorros* that offer this typical dish. Visitors will also find kiosks with handicrafts, typical desserts and souvenirs. The area is especially

appreciated during the weekends when musical groups are presented. During festivities, like Mother's Day, Father's Day and Christmas season this route is an obligated visit for both local and external visitors. A high pedestrian movement occurs during weekends and festivities. A situation to improve is the lack of sidewalks and designated pedestrian road crossings. Providing sidewalks is quite challenging due to roadway relatively narrow width. Strategies to address this kind of issue are discussed in **Section 7.3.3 Strategies for Safety Goal**.

Another important seasonal cultural activity that occur in this interpretive region is associated to the Virgen del Carmen Diocesan Sanctuary at the Espino Ward in San Lorenzo. Every year, during the Holy Friday hundreds of pilgrims walk long distances from adjacent municipalities to visit this important cultural place also known as the Holly Mountain (*Montaña Santa*). Besides the religious atmosphere, stunning views to the hilly landscape at Espino Ward are enjoyed by visitors in this place.



Vegetation invading roadsides along Road PR-7741at Jájome Alto Ward, Cayey

Significant stretches of the Route lack Panoramic Route signs to guide the travelers. Similar to other interpretive regions, old signs are still present in Road PR-179, in Guayama. As indicated before, due to their conditions these signs give an abandoned impression. There are recent road segmentation signs along the roads that comprise this region. As mentioned before, this is an asset as it contributes to the traveler orientation. Illegal signs are also observed in this interpretive region, many of them from alcohol beverages likely influenced by the presence of gastronomy related commerce.



Former Panoramic Route sign at Road PR-179 in Guayama.

Several massive abandoned structures take place in this region. As mentioned before it gives a decadent look, moreover if the structures are massive like former Guavate Correctional Campsite (*Campamento Correccional*) at Carite Ward in Cayey, former Rexford G. Tugwell School at Culebras Bajo Ward in Cayey and former Jájome Terrace Inn at Jájome Alto Ward in Cayey. The correctional campsite dilapidated structures lie within the Carite State Forest, which is a significant contrast with the natural beauty of this forest.



Dilapidated structures at former Guavate Correctional Campsite, Road PR-184 Cayey.

This interpretive region also offers a natural aquatic recreational area with a public access in the Carite State Forest, within the Corridor, Charco Azul (literally blue pond) (ID 134). However, the facilities for visitors were also severely affected by hurricanes Irma and María in 2017. A natural water body to swim is greatly appreciated by visitors and although there are many along the Route, most of them do not provide a public access. Charco Azul is a beautiful natural pool with a small waterfall that is accessed through a hike trail, on Road PR-184 at Muñoz Rivera Ward in Patillas, approximately 20 minutes from the Roasted Pork Route. However, the parking area and gazebos, which are close to the road and



Charco Azul, at Carite Forest in Patillas. Photo courtesy of Sharon Maurás.

pedestrian access to the site, are totally abandoned. The parking has no maintenance and gazebos were damaged by hurricanes Irma and María and debris are still there. Litter was also observed at the parking area in the roadside and accumulated besides trash cans close to the pond.

No signs were observed) warning not to throw garbage and noticing legal consequences.

The region may continue representing the corresponding interpretive story as Ferns and Springs Region.

This stretch is threatened by several situations:

- Abandoned structures, including massive buildings
- Considerable road stretch with amazing views blocked by tall grown grass in the roadsides, in instances invading the roadway and residues of burnt vehicles that contribute to a desolated impression
- Affected Carite State Forest Recreational Area as result of the impacts from hurricanes in 2017 that is currently damaged, and debris are still present giving a desolate and hazardous look to the area
- Structures of the former headquarters of the DNER rangers are abandoned, and rangers relocated to another area
- Proliferation of illegal signs
- No community group were identified related to preservation of natural resources in the Route or within the Corridor.

The Springs and Ferns region has several strengths, including.

- Considerable road stretches with amazing views to the southern coast and the forest itself
- Natural protected areas within the Corridor including: Natural Reserve; Finca Mikasobe Carite Forest Legacy Program Acquisition; Jájome, La Robleda, Culebras, Jorge Sotomayor del Toro and Ulpiano Casal Natural Protected Areas and Carite State Forest
- Prevailing zoning districts according to purposes of the CMP (forest and resources conservation)

- Natural recreational areas including a river (Charco Azul) with public access that may be restored along with other visitors facilities.

4.1.3.7 Sea and Sugar

This interpretative region presents diverse geographical regions, making it visually rich for the visitors. The Eastern Humid Mountains Region is the dominant geographic region, extending from San Lorenzo to Yabucoa (**Figure 4-1**). At the Sea and Sugar interpretative region it also occurs the East Coast Humid Valleys and Southern Semiarid Hills, at Yabucoa and Maunabo.



View to the Yabucoa Valley from la Pica Route at Road PR-3 km 101.3 in Yabucoa.

This interpretative region comprises rural areas of San Lorenzo (Espino Ward), Patillas (Mulas), Yabucoa (Guayabota Calabazas, Juan Martín Camino Nuevo and Barrio Pueblo) and Maunabo (Talante, Quebrada Arenas, Emajagua and Barrio Pueblo), with low-density urban areas concentrated close to the town centers in Yabucoa and Maunabo.

The prevailing zoning districts within the Corridor in the Sea and Sugar Region are according to purposes of the CMP (**Figure 4-19**). They include:

- Agricultural Productive (A-P)
- Agricultural General (AG)
- Resources Conservation (CR and PR)
- Agricultural (AR-1)

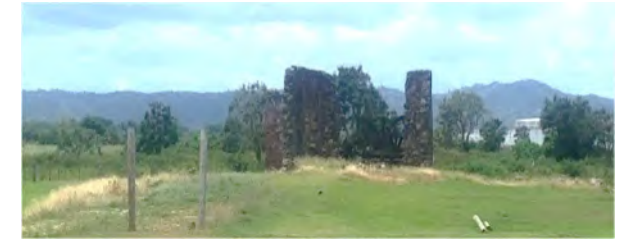
The prevailing zoning districts along the Route are the same as for the Corridor. No Scenic Route (RE) districts occur along the Route in the Sea and Sugar Region.

The following special zoning plans, protected areas or programs which orientation coincide with the purposes of the Panoramic Route occur at the Sea and Sugar Region (**Figure 4-3**), including: , Yabucoa Valley Agricultural Reserve, Maunabo Valley Agricultural Reserve, Inés María Mendoza Natural Reserve (Punta Yeguas) at Camino Nuevo Ward (Yabucoa) (ID 199), Punta Yeguas Natural Reserve marine extension (ID 193), Sierra La Pandura Natural Protected Area at Tumbao and Talante wards (Maunabo) and Calabazas Ward (Yabucoa) (ID 187) and Punta Tuna Mangrove Natural Reserve at Emajagua Ward (Maunabo) (ID 201). The natural protected areas are managed by the Conservation Trust of Puerto Rico while the natural reserve is CO-managed by the DNER and the Committee for the Development of Maunabo (*Comité Pro Desarrollo de Maunabo*). As mentioned before the protected natural areas managed by the Conservation Trust of Puerto Rico can be visited through previous reservations. Located also in Yabucoa it is the proposed Lucía Beach Wetland Natural Reserve at Camino Nuevo Ward (Yabucoa) in lands pertaining to the Lands Authority. (Located between the Teófilo Morales Rodríguez Yabucoa Port Boulevard, ID 216, and Lucía Beach Hotel, ID 91)



Natural Reserve Inés María Mendoza which host the most important population currently protected of the rare tree endemic to Puerto Rico Ortegón (*Coccoloba rugosa*). Photo courtesy of the Conservation Trust of Puerto Rico.

The Sea and Sugar Region segment, from Guayabota Ward in San Lorenzo to the western end loop in Maunabo and Yabucoa offers diverse panoramic vistas of the eastern countryside, including views of the fertile valley of the Guayanés River, protected by the designation of the Yabucoa Agricultural Reserve¹², unique massive granite rock formations that can be closely observed from the road and views of splendid blue Caribbean Sea.



Ruins of La Lucía Old Sugar Mill, Camino Nuevo Ward, Yabucoa. Photo courtesy of Archeologist Emett Jiménez.

The rural areas that characterize this region are dominated in part by adjacent forested areas east the Natural Protected Area Ulpiano Casal (ID 188), the valley of the Guayanés River and the Pandura mountain range (*Sierra La Pandura*). Stunning views to the Caribbean Sea as well as the ruins of former sugar cane centrals remains exist in this region, giving its interpretative name as the Sea and Sugar Region. Two (2) of these centrals lies in the Route or very close to it, La Lucía Hacienda Old Sugar Mill (ID 88) (1852) at Camino Nuevo Ward in Yabucoa and Columbia Old Sugar Mill (ID 81) (1900) at Calzada Ward in Maunabo, respectively. Like most of the other regions, no vista points exist on the roadsides for travelers to safely enjoy these views.

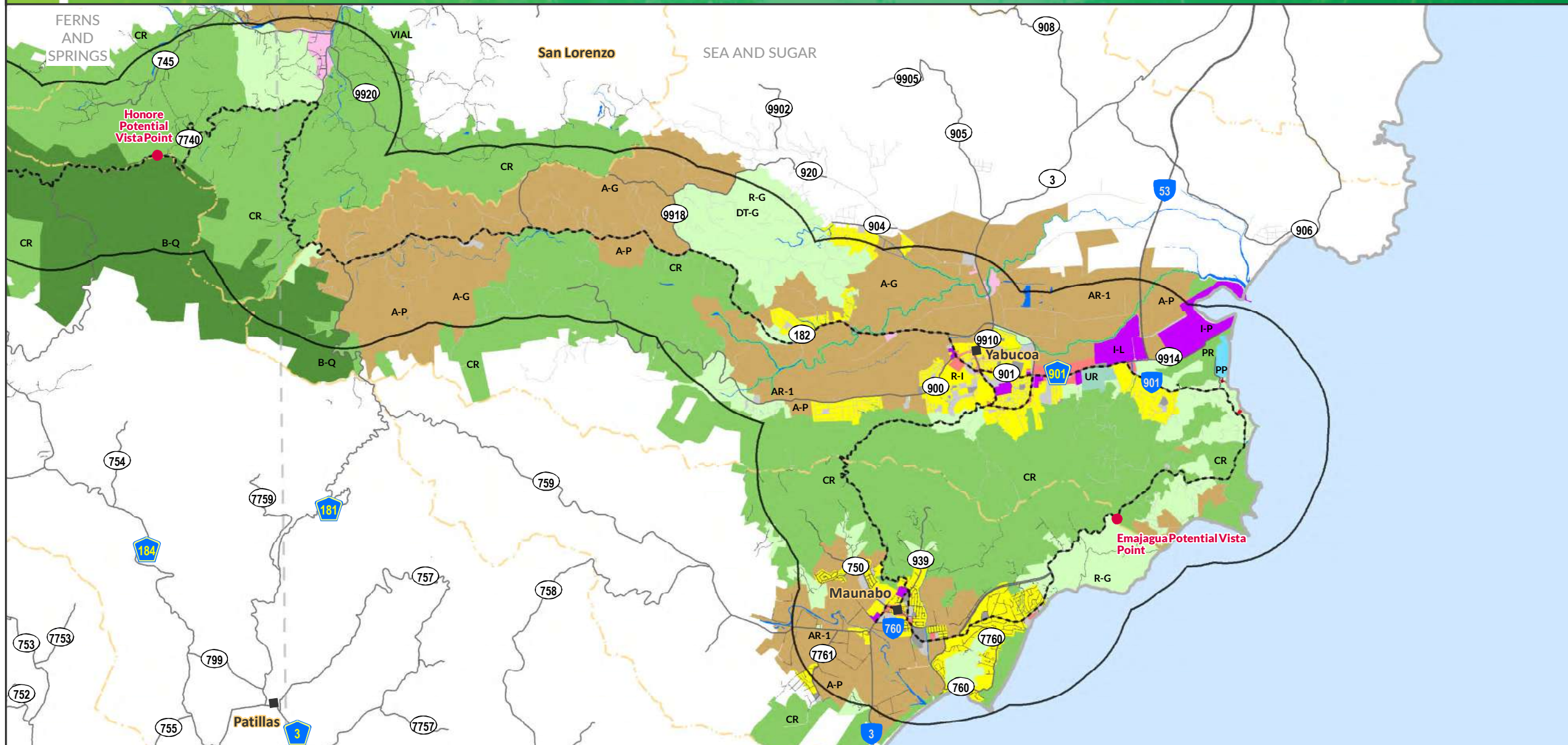


View of massive granite rock in la Pica Route at Road PR-3 Road, Yabucoa.

¹² Law 49-2009.



CMP PANORAMIC ROUTE FIGURE 4-19. SUMMARY OF CURRENT ZONING: SEA AND SUGAR REGION



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- ZONING DISTRICTS
- AGRICULTURAL*
- ARCHAEOLOGICAL AND HISTORICAL RESOURCES CONSERVATION*
- COMMERCIAL (LOCAL TO CENTRAL)*
- COMMERCIAL (TOURISM)*
- DEVELOPED AREA*
- FOR URBANIZATION
- FOREST
- INDUSTRIAL*
- INFRASTRUCTURE
- PARK
- PUBLIC*
- PUBLIC BEACH
- RESIDENTIAL (LOW DENSITY TO COMMERCIAL)*
- RESOURCES CONSERVATION*
- RURAL*
- SCENIC ROUTE
- SPECIAL DEVELOPMENT ZONE
- TO BE IMPROVED
- NOT ZONED
- GEOGRAPHIC ELEMENT
- ROADS
- WATER BODY
- TOWN SQUARE

NOTES: (1) ASTERISKS IN LEGEND IDENTIFY GROUP OF SIMILAR ZONING DISTRICTS. A SEPARATE TABLE (APPENDIX 5) IS PROVIDED DEFINING SUCH GROUPED DISTRICTS AND CORRESPONDING INFORMATION AS PER APPLICABLE REGULATIONS. ZONING DISTRICTS ABBREVIATIONS IN THE MAP ARE IN SPANISH, ACCORDING TO ORIGINAL LANGUAGE USED IN CORRESPONDING PLANNING DOCUMENTS, TO FACILITATE CROSS REFERENCE. (2) Source: Refer to Chapter 10, References.

1:90,000

0 0.5 1 MILES

EST. 1956

Similar to the Port Region, this region constitutes a “gateway” to the Panoramic Route, the eastern gateway, but there is not any sign reflecting it. Central Columbia (ID 81) was called in the original interpretive program as a major visitor's centers to anchor the eastern ends of the Route. This potential use should not be discarded. Moreover, Hacienda La Lucía (ID 88) should also be considered. As mentioned before there are several successful examples where historical structure ruins have been used to host new uses in the structure itself or adjacent to it. (Refer also to discussion in **Section 7.3.4** Strategies for Education and Information Goal, under topic Visitors Centers.) Although in ruins, these structures are not vandalized, and offer adjacent green areas. Ownership of Central Columbia is Cooperativa Asociación Azucarera Lafayette, while for Central La Lucía it was identified the Puerto Rico Land Administration as its owner. Common to these properties is the potential contamination associated to past industrial uses. Corresponding Environmental Site Assessments should be performed to discard contamination issues before any land transaction can be done.

The town squares of Yabucoa (ID 61) and Maunabo (ID 22) lies in the Route in this interpretive region. The town square of San Lorenzo and Patillas municipalities lie outside the Corridor, access to the Route is through road PR-181 for both town squares. Noticeable different to the town squares in this region is the one of Yabucoa, which has a modern character maybe associated to the fact that its main structure, the catholic church, was reconstructed by the end of 1960's decade after the passage of hurricane Santa Clara (1956). The municipal government of Yabucoa had initiated a renovation activity that includes painting of closed structures in the urban center.

Significant stretches of the Route lack Panoramic Route signs to guide the travelers. Similar to other interpretive regions, old signs are still present like in Road PR-182, in Yabucoa. As indicated before, due to their conditions these signs give an abandoned impression. A different sign (without Route logo) is also present at this road also in this municipality. There are recent road



Different sign (without Route logo) on Road PR-182 in Yabucoa / Former Route sign highly deteriorated and illegible, Yabucoa

segmentation signs along the roads that comprise this region, which contributes to the traveler orientation.

Like other regions depopulation is also observed along the Route in several instances in this region. Neglected road elements are also observed like a bridge on Road PR-181, at Espino Ward in San Lorenzo. The Grande de Loíza River flows under this bridge. This is the river with the highest flow in Puerto Rico which nourishes the main water supply for the metropolitan area, the Loíza Reservoir. However, it is not identified with a sign. The river segment at this point was very attractive and clean.



Neglected Art Deco bridge (ID 98) on Road PR-181, Espino Ward, San Lorenzo

Worth to highlight is the Punta Tuna Mangrove Natural Reserve (ID 201) for its management approach and its adaptation for persons with functional diversity. This natural reserve is comanaged by the DNER and the environmental community group Committee for the Development of Maunabo. This group continuously host educational, scientific, cultural and recreational events related to the conservation of



View from the Punta Tuna lighthouse towards the Punta Tuna Mangrove Natural Reserve and Playa Larga, Maunabo

this rich natural reserve that comprises a mangrove forest with other associated coastal wetlands and a beautiful high energy sandy beach, Playa Larga (ID 148).

Although severely affected by hurricanes Irma and María in 2017, this mangrove forest is naturally recovering. The DNER have designated (2013) this natural reserve as the first dark skies reserve in Puerto Rico. Another important quality from the management perspective from this natural reserve is the adaptation offered for persons with functional diversity such as interpretative signs with QR code ¹³that reads its contents for blinds, a special chair for tours and a documentary of the reserve in sign language.

The headquarters of this natural reserve, known as the Green House (*Casa Verde*) is a house built by 1930's through the former Puerto Rico Reconstruction Administration (PRRA) (commonly referred as "la PRA"), under President Franklin D. Roosevelt New Deal. The Green House gave support to the community after the passage of hurricanes Irma and María as center for food distribution and health care provision, among others. Recognizing this important contribution, the Conservation Trust of Puerto Rico supported these efforts by donating funds for the installation of solar panels and batteries as well as a water cistern for potable water, making this important facility more resilient for the future.

Adjacent to the natural reserve there is also a historic structure that is relevant to highlight: the Punta Tuna lighthouse (ID 94). This resource is worth to be highlighted not only for being a landmark in this region but for its historical importance and all its potential as a tourism attraction. This is a neo-



Historic Punta Tuna neo-classic lighthouse south the Punta Tuna Mangrove Natural Reserve

¹³ Machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone.

classic lighthouse, built by early 1890's, that is in the National Register of Historic Places. It has been historically damaged by the force of hurricanes, including the most recent ones in 2017. Currently the site is owned and administered by the Municipality of Maunabo, except the lighthouse mechanism that is under the jurisdiction of the Coast Guard. The access to the site, taking from PR-760 at Jardines de Bordaleza, is through local narrow road in a residential area. There is not parking area. The site has been used to celebrate activities by the Municipality of Maunabo. Worth to note is that even on the state of disrepair this lighthouse is it literally attracts hundreds of visitors every weekend as reported by personnel from the Punta Tuna lighthouse. The view from the site is amazing.

Another community contribution in one of the natural reserves in this interpretive region comes from the Yabucoa Committee for Quality of Life (*Comité Yabucoeño Pro Calidad de Vida*) through its agroecological project Yabucoa Unidos por la Cultura, Autogestión y la Ecología (YUCAE for its acronym in Spanish). The goal of the agroecological project is to promote awareness among students and collaborators about the importance of organic farming, food security and natural resources conservation. This community group collaborates with the Conservation Trust of Puerto Rico by offering tours oriented to agroecology at the Inés María Mendoza Natural Reserve.

This region provides an opportunity to extend the Panoramic Route on its eastern end through Road PR-9914 by connecting the Teófilo Morales Rodríguez Yabucoa Port Boulevard



Entrance to the Teófilo Morales Rodríguez Yabucoa Port Boulevard

(*Boulevard del Puerto de Yabucoa Teófilo Morales Rodríguez*) (ID 216). This coastal complex was developed by the Municipality of Yabucoa, offering a coastal boardwalk and related

facilities. The facility was waiting for sanitary services operation permits at the moment in which the field inspection was conducted. This appealing boardwalk offers stunning views to the Caribbean Sea, the Port of Yabucoa and the its adjacent proposed Lucía Beach Wetland Natural Reserve. Recreational and cultural activities are frequently held within this beautiful coastal setting. Portable sanitary services are provided for these activities.

No signs were observed) warning not to throw garbage and noticing legal consequences along the Route.

The region may continue representing the corresponding interpretive story as Sea and Sugar Region.

This Route stretch is threatened by several situations:

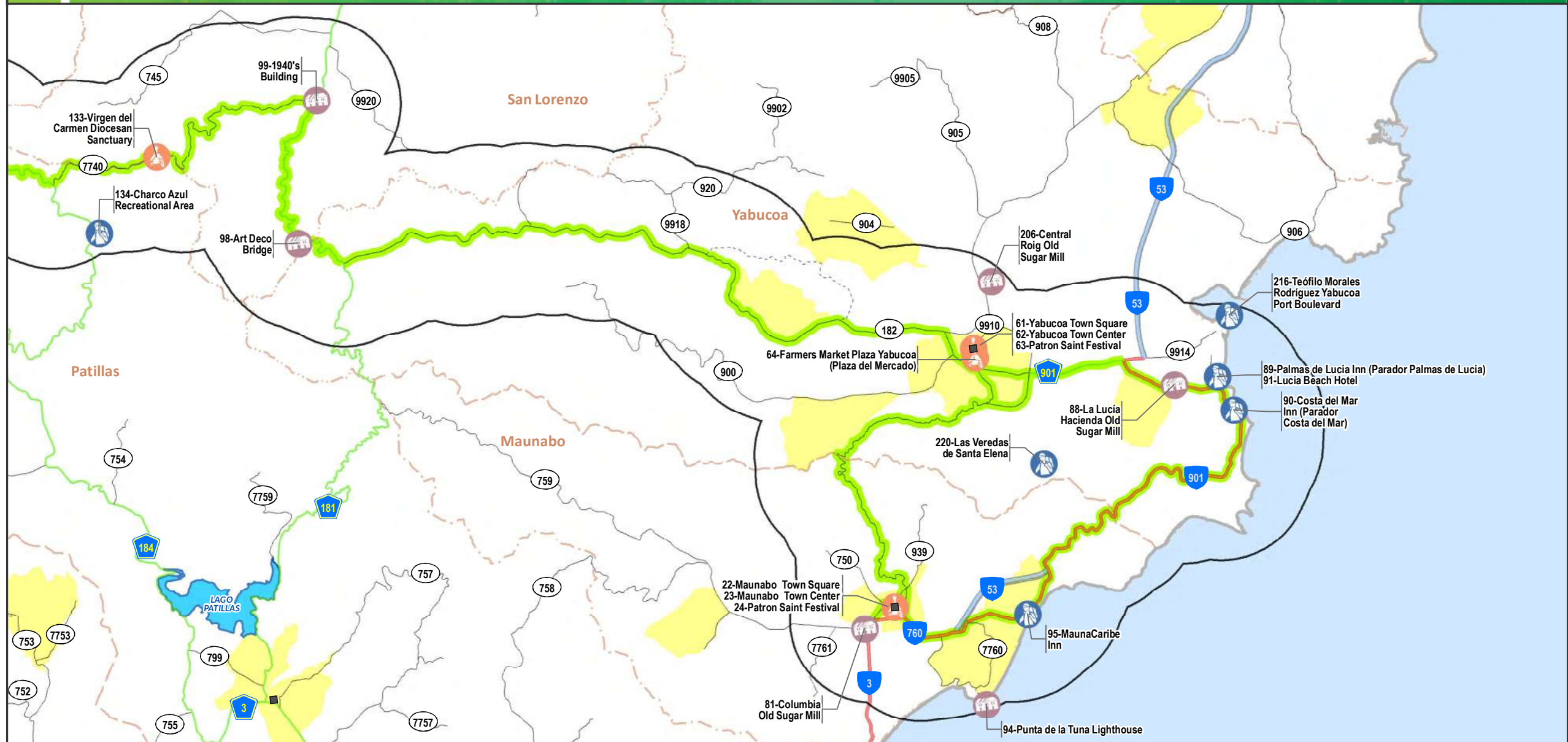
- Abandoned structures
- Illegal signs
- Neglected Art Deco bridge on Road PR-181, Espino Ward, San Lorenzo
- Natural protected areas are not as abundant as other interpretive regions.

The Sea and Sugar region has several strengths, including.

- Rich diverse geographical regions
- Protected natural areas including: Natural Protected Areas Sierra la Pandura, and Natural Reserves Punta Tuna Mangrove and Inés María Mendoza, and proposed Lucía Beach Wetland Natural Reserve
- Prevailing zoning districts according to purposes of the CMP (agricultural and resources conservation)
- Two (2) town squares close or in the Route: Yabucoa and Maunabo, respectively
- Active community groups leading educational, scientific, cultural and recreational events related to environmental conservation (Comité Pro Desarrollo de Maunabo and Comité Yabucoño Pro Calidad de Vida) which are associated to natural intrinsic qualities resources within the Corridor
- Potential to extend the Route by connecting it the to the coastal zone at the Boulevard del Puerto de Yabucoa Teófilo Morales Rodríguez.



CMP PANORAMIC ROUTE
FIGURE 4-20. INTRINSIC QUALITIES INVENTORY: ARCHEOLOGICAL, CULTURAL, HISTORICAL, AND RECREATIONAL
SEA AND SUGAR REGION



RESOURCES



CULTURAL THEME ROUTES

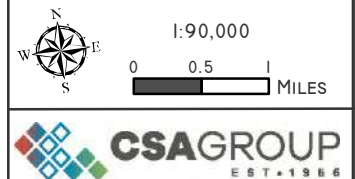
- TAINO ROUTE (RUTA TAÍNA)
- FLOWERS ROUTE (RUTA DE LAS FLORES)
- CHICKEN ROUTE (RUTA DEL POLLO)
- SACRED ROUTE (RUTA SAGRADA)
- LONGANIZA ROUTE
- ROASTED PORK ROUTE (RUTA DEL LECHÓN ASADO)

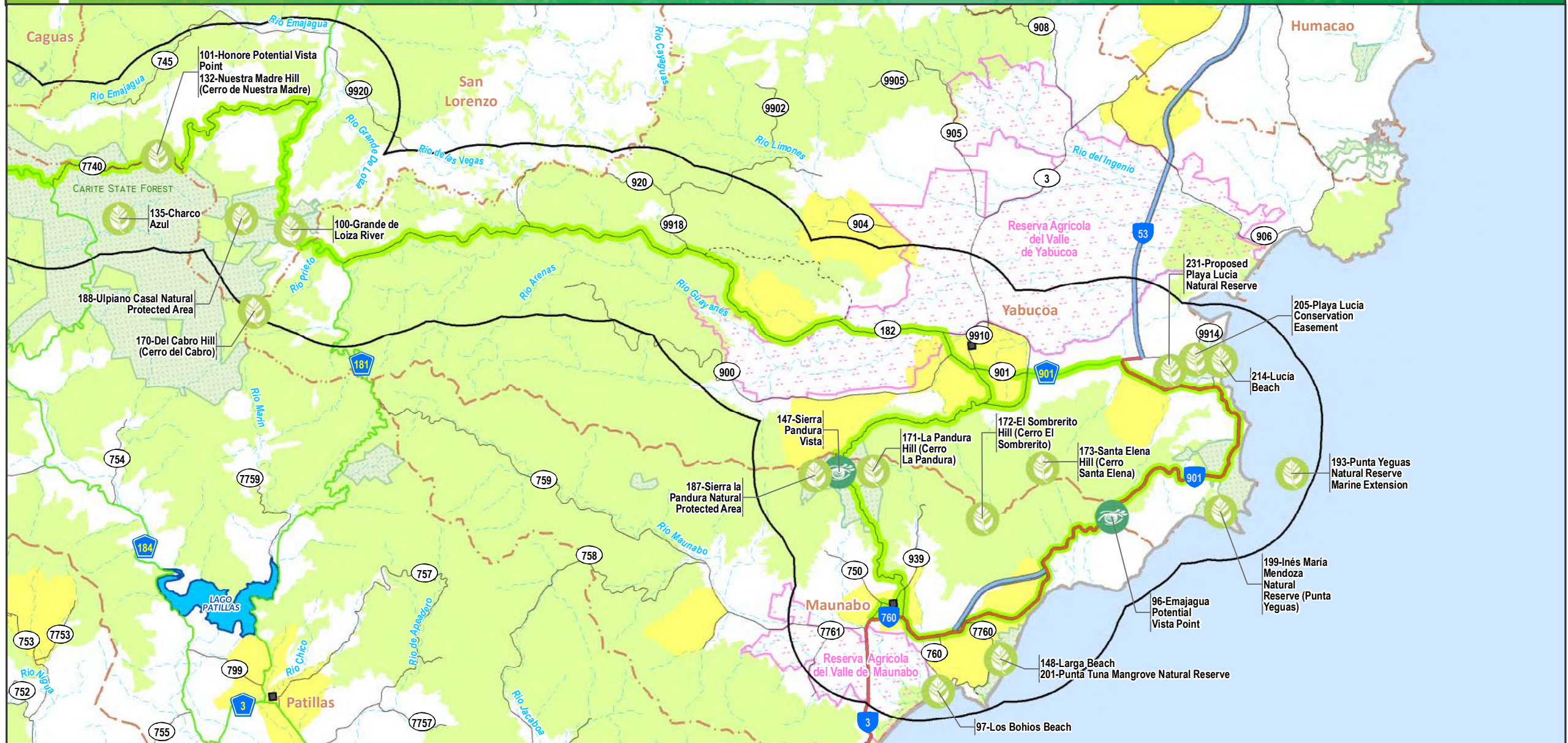
- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- TOWN SQUARE
- URBAN ZONE
- RESERVOIR
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE

- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROUTE

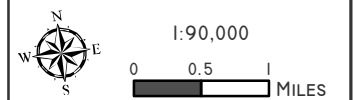
Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.



 SCENIC RESERVOIR

 FREEWAY
 INTERMODAL

----- MUNICIPAL ROUTE



Notes: (1) NUMBER ASSOCIATED TO EACH INTRINSIC QUALITY RESOURCE IS UNIQUE AND CONSISTENTLY USED THROUGHOUT THIS CMP UPDATE.
(2) Source: Refer to Chapter 10, References.

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4.2 Roadways Conditions and Transportation Safety

4.2.1 Roadway Conditions

The Puerto Rico Panoramic Route was established to provide the people of Puerto Rico and tourists a place to enjoy the natural beauty and views of the Cordillera Central and coasts of the Island, and to designate and set aside a roadway system through the countryside. The roadway is the mean by which the beauty and quality of the intrinsic values are known and appreciated. The conditions and maintenance of the road may enhance the experience and be an attraction; or, to the opposite, the road condition may be a detriment and an obstacle to its use and enjoyment.

As part of this CMP Update, an evaluation of the conditions and maintenance of the two-lane 266 kilometers (165 miles) roadway system of the Panoramic Route was completed during summer 2019. The summary of the roads that comprise the Route according to administrative jurisdiction from the DTPW and the PRHTA are included in **Table 4-2** and **Table 4-3**, respectively. The evaluation consisted of an inspection of the Route, by traveling in both directions, to document road conditions and deficiencies of the following elements: roadway alignment, traffic signage, guardrails, roadway erosion, pavement, and stopping sight distance. These elements were originally selected based upon the Highway Design Manual (HDM) and the Policy on Geometric Design of Highways and Streets published by the American Association of States Highway and Transportation Officials (AASHTO).

a. Roadway Alignment

The roadway alignments should be safe for all road users. For vehicular traffic, this means providing motorists adequate time for decision making according to the roadway design speed and stopping sight distance. There is a relationship among design speed, curvature, and super elevation (the slope and banking of the curvature), resulting in a safe or non-safe roadway condition.

According to the roadway assessment performed, the alignment conditions were found to be mainly fair to poor. Segments where the vertical alignment is very steep should be well marked with a consistent signage system to make travelers aware of such situations.

The alignment of the Panoramic Route is unlikely to be changed unless new sections are constructed or modified, which is not included in the Puerto Rico Long-Range Transportation Plan (PRHTA, 2018). A road which follows the contours of the land, rather than leveling the natural topography, is likely to be more scenic blending with natural qualities and it is the recommended option. However, the roads along the Island mountainous area are prone to landslide events, which were evident after hurricanes Irma and María in 2017. A data release produced by the United States Geological Survey (USGS) presents geospatial data describing the concentration of landslides generated by Hurricane María in Puerto Rico (Besette, E. K. et al., 2017). The USGS used post-hurricane satellite and aerial imagery collected between September 26, 2017 and October 8, 2017 to visually estimate the concentration of landslides over nearly the whole territory. Refer to **Figure 4-22**, USGS Estimated Concentration of Landslides after Hurricanes Passage in September 2017 over Puerto Rico. Landslides are concentrated along the Central Mountain Range, coinciding to a large extent with the Route and corresponding access roads.

Roads improvements and landslide control measures are currently under design, pre-construction and construction phases to increase the resiliency factor for these roads, that in many instances are the only way of access for residents and first responders during extreme weather events like hurricanes. Refer to **Section 4.2.5**, Road Improvement Programs. It is important that the road designers should be able to balance design, costs and safety criteria, including considerations of scenic relationships along the Route.

Table 4-2 Summary of Roads that Comprise the Route according DTPW Jurisdiction

DTPW Regions	Municipalities	Road	Length (kilometers)
Mayagüez	Mayagüez	119, 339, 105	16.6
	Las Marías	120, 106	6.7
	Maricao	128, 105, 365, 366, 120	26.8
	Sabana Grande	366, 120	2.5
Aguadilla	Lares	135, 128	8.5
Arecibo	Utuado	143	3.8
Ponce	Adjuntas	143, 123, 518, 131, 525, 135	31.4
	Jayuya	143	6.8
	Ponce	143	7.6
	Juana Diaz	143	1.2
	Orocovis	143	16.7
	Villalba	143	2.3
	Coamo	723, 143	16.2
Guayama	Barranquitas	143	2.3
	Aibonito	7722, 722, 7718, 725, 14, 723	20
	Cayey	184, 179, 742, 7741, 741, 15, 715, 1, 7722	29.35
	Guayama	179, 742, 7741	13.3
	Patillas	7740, 184	3.9
Humacao	San Lorenzo	181, 7740	7.3
	Yabucoa	3, 182, 181, 901	32
	Maunabo	3, 901, 760	11.6
--	21 Municipalities	--	266.85

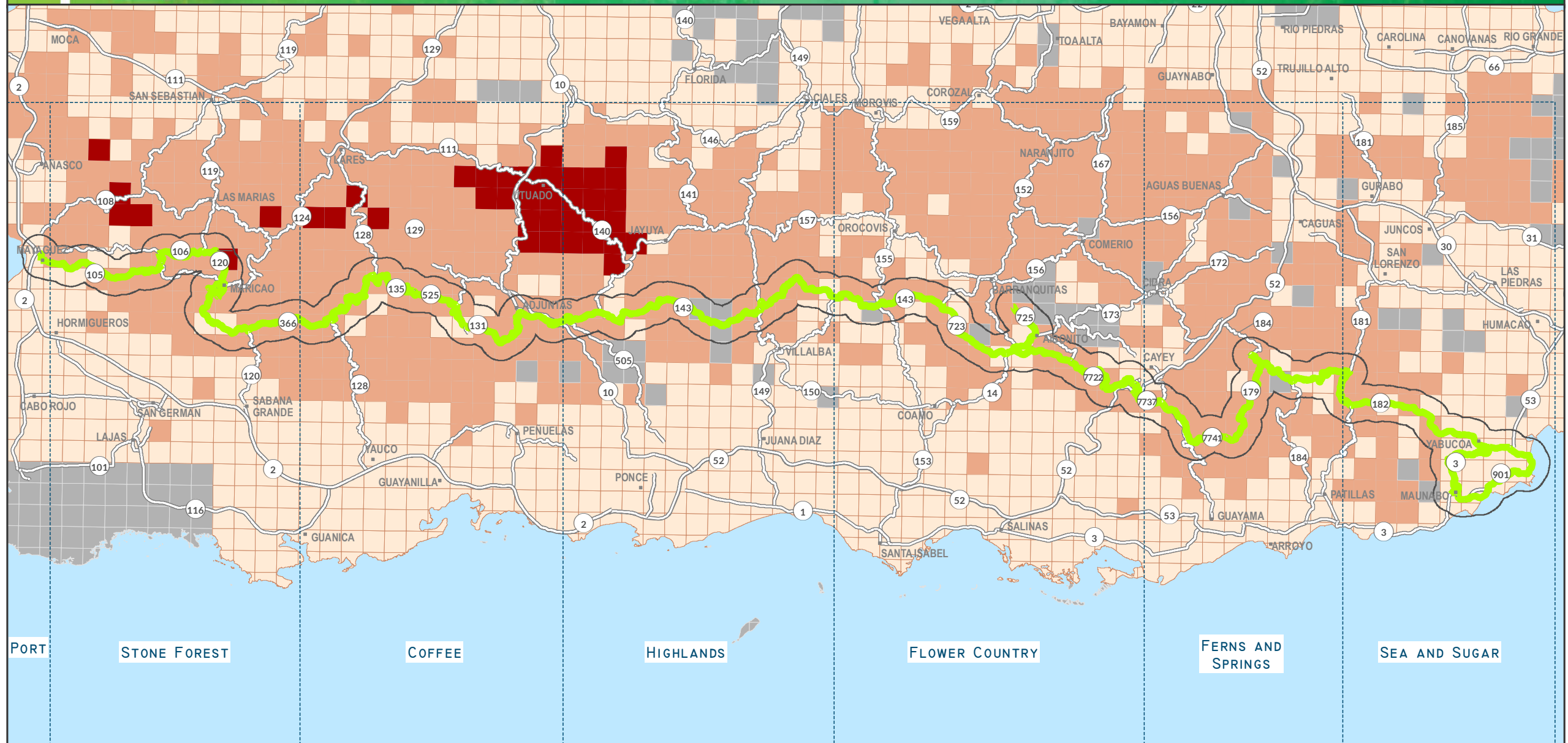
Table 4-3 Summary of Roads that Comprise the Route according PRHTA Jurisdiction

Regions PRHTA	Municipalities	Road	Length (kilometers)
Mayagüez (Oeste)	Mayagüez	119, 339, 105	16.6
	Las Marías	120, 106	6.7
	Maricao	128, 105, 365, 366, 120	26.8
	Sabana Grande	366, 120	2.5
Manatí (Norte)	Lares	135, 128	8.5
	Utuado	143	3.8
	Orocovis	143	16.7
	Barranquitas	143	2.3
Ponce (Sur)	Adjuntas	143, 123, 518, 131, 525, 135	31.4
	Jayuya	143	6.8
	Ponce	143	7.6
	Juana Diaz	143	1.2
	Villalba	143	2.3
	Coamo	723, 143	16.2
	Aibonito	7722, 722, 7718, 725, 14, 723	20
	Cayey	184, 179, 742, 7741, 741, 15, 715, 1, 7722	29.35
Humacao (Este)	Guayama	179, 742, 7741	13.3
	Patillas	7740, 184	3.9
	San Lorenzo	181, 7740	7.3
	Yabucoa	3, 182, 181, 901	32
Maunabo	Maunabo	3, 901, 760	11.6
	--	--	--
--	21 Municipalities	--	266.85

Note: Roads PR-14, PR-15 and PR-123 are included in the National Register of Historic Places.



CMP PANORAMIC ROUTE
FIGURE 4-22. USGS ESTIMATED CONCENTRATION OF LANDSLIDES AFTER
HURRICANES PASSAGE IN SEPTEMBER 2017 OVER PUERTO RICO



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- INTERPRETATIVE REGIONS
- ROADS

- LANDSLIDES CAUSED BY H. MARIA (USGS, 2017)
- LANDSLIDE DENSITY
- GREATER THAN 25 LANDSLIDES PER SQ KM
 - LESS THAN 25 LANDSLIDES PER SQ KM
 - NO LANDSLIDES
 - NOT EXAMINED

Source: Refer to Chapter 10, References.

1:430,000

0 2.5 5 MILES

CSAGROUP EST. 1956

b. Traffic Signage System

Traffic signage is of vital importance, providing information and enabling a traveler to feel confident about directional options and decisions. Furthermore, good signage will enhance the traveler's enjoyment, sense of direction and safety within the Route.

The field survey found there is no uniform traffic signage system (design, directional indicators, etc.) for the Route. The inconsistency in the traffic signs identifying the Route confuses rather than informs travelers. In addition, most of the signing system was damaged by Hurricanes Irma and Maria

The current condition of the traffic signage along the Route represents a good opportunity to standardize traffic signage along the Route as part of the ongoing reconstruction activities and according to the current local and federal regulations. The PRHTA is currently working on several signage projects to install new and updated traffic signs along the entire roadway system, including the Route.



Different signs found on the Route. Former signs found on the Route, some of them severely deteriorated, practically illegible.

The Spanish government installed a distance, location and route identification system, known as kilometer and hectometer markings. The old concrete kilometer markings have been replaced as part of an island-wide project. The new kilometer markers are made of small reflective metal panels attached to metal posts.

The lack of signage is a problem for pedestrians as well. Walkers from Caminata Panorámica Arquitecto Gabriel Ferrer Amador face the problem of losing their way due to the lack of signs, specifically at intersections with other state roads. This group formerly used to ask the PRDTPW each year to paint sets of white circles at

intersections to guide people along the Route. This system proved to be helpful for walkers as well as other users of the Route.

The 1998 CMP and SOIP documents recommended a traffic signage system using uniform graphics identifying the Route as one corridor, even when it is formed by different road segments. That included having an integral traffic signage or design concept for route entry points,

interpretive/identification signage, kilometer markings, intrinsic qualities signs at specific sites, and informational and directional signage. This CMP Update keeps this integrity concept, but recommending new icons considering the latest knowledge in graphic arts and traffic engineering elements.



Directional sign with wrong direction at intersection of PR-428 and PR-128, close to El Treinta Bridge, Indiera Alta Ward, Maricao .

Signage system findings and recommendations for the Panoramic Route, include the following:

Intersections

- Almost none of the intersections along the Route have signage identifying direction of the Route. The few signs found were either incomplete or obsolete. Many signs were damaged or missing due to Hurricanes Irma and Maria.
- Signage is needed on all the roads that comprise the Route to indicate when each individual road connects with the next one. Signage should be located before and after intersections, and all access roads.

Signage Identifying the Route and Guide Signs:

- In 2002, a logo was designed for the Panoramic Route, over a brown trapezoidal sign, consisting of three (3) mountain peaks along a road segment with the name of the Route. This is considered the current Route identification. Signs were placed in each municipality, as part of a pilot signing program. However, this project was not extended over the whole Route, and former signs were not removed. This has contributed to condition previously described. Current design should be maintained.
- Signage is of vital importance for the safety of the traveler along the Route. Signs are needed to identify sharp turns, slopes, bridges, and other areas where low speeds are a must for the traveler safety. Many of the elements are not signed.
- Location of these signs should allow ample time for speed reduction.
- Signs are needed to inform travelers of sites along or nearby, the Route with scenic, recreational, historical, natural or cultural importance. Symbols representing the intrinsic qualities, as proposed in the SOIP and used in this CMP Update, should be kept. It is considered more realistic, while appropriate, to use metal road signs with current Route sign design than stone or concrete slab with a metal infill signs proposed in the SOIP.
- Signage should also be installed to inform travelers of service locations, such as proximity of gasoline stations close to the Route and restaurants along the Panoramic Route.
- Road segmentation signs must be replaced where needed as part of the ongoing repairs associated to hurricanes Irma and Maria. In general they are in good conditions as they were part of a PRHTA island wide project. However, in several segments along the Route they are obstructed by growing vegetation.



Current Route signs design



Road segmentation sign, Road PR-143, Bauta Abajo Ward, Orocovis



Stone or concrete slab with a metal infill signs proposed in the SOIP

Placement:

- Identification and directional signage for a scenic byway should be designed so that it will be recognizable, legible and familiar in both style and location, conveying the information needed for a pleasant experience. Signs should be placed in spots which are least visually objectionable. A balance should be reached between enough signs to provide directions and a proliferation of signs.



Symbols representing the intrinsic qualities

Even in these days and age when we rely so much on technology and GPS to find our way, sometimes telecommunications systems fail. The diverse topography in Puerto Rico makes it very challenging to have telecommunications services available everywhere all the time. Road signs are a permanent and reliable way for the traveler to be guided safely through the Route. That is why consistent and accurate signage is of the utmost importance for the use and enjoyment of the Panoramic Route.

c. Guardrails and Barriers

The concept for the Panoramic Route was originally that of "Serenity". The characteristics found in the mountain (cool air, nature, views) provided the setting for city dwellers to escape into the serene environment of the mountains. The Route is characterized by its winding roads and tight curves, respecting the topography of the Cordillera Central. The primary safety hazard of the Route is the steep terrain found on one side of the road, and in some cases on both sides. Guardrails are very important for the safety of the driver, especially in areas where large amounts of rainfall and cloudiness occur. Guardrails have one principal function: to protect the safety of a wayward vehicle by preventing the car from going off the road. A secondary function is to help the driver follow the direction of the road ahead. Reflectors attached to guardrails are very helpful at night.

Guardrails are a critical problem throughout the Panoramic Route. They are lacking in many areas and they need replacement in others. The field survey showed a range from fair to poor conditions. Many guardrails observed were deteriorated and painted in different colors, which does not comply with PRHTA standards. Guardrails shall not be

painted (as it makes them prone to mold) and shall have retroreflective sheeting which helps in their visibility.

The PRHTA has an ongoing project to replace damaged or missing signs and guardrails throughout all state roads in the Island. Different types of guardrails provide different safety as well as visual characteristics. One negative aspect of the guardrails is that they visually separate the road from its adjacent landscape. They block the view from the roadway and when out of line, rusting or peeling, the road looks neglected. All must meet safety factors: lateral offset from edge of pavement and deflection distance of the barriers, terrain effects, length of need, flare rate, corner sight distance, and reflective sheeting which will aid in their visibility at night.



Customary practice of painting guardrails that creates an unnecessary aesthetic problem. Paint makes the surface prone to mold.

A variety of guardrails were noted along the Route: the steel W-shaped, the weak-post beam, and cable barriers. The W-shaped steel guardrails serve well in their ability to return wayward vehicles to the roadway and require little maintenance. They are recommended by the Traffic Safety Commission. Their disadvantage is that they are out of character with the Route's rural setting for they are designed for highway speed traffic. The weak-post beam is not as strong but is less intrusive on the view. The cable barrier is the least expensive, the most forgiving (does the least damage to the vehicle) and is the most visually transparent, but not as secure as others. It also needs constant maintenance. These last two (2) types of guardrails, although more visually transparent, are not recommended for the Panoramic Route because of the general lack of deflection distance.

Of interest are the discontinuous safety parapets or bollards dating from 19th Century Spanish road design. These barriers allow water to flow over the road in culverts or bridges, avoiding flooding on the road segment. They are considered a safety hazard in areas where faster velocity is permitted because they are so unforgiving to wayward vehicles. The CMP recommends that these barriers be preserved and/or replaced in low operating speed areas.

d. Road Erosion

The field survey revealed serious problems of erosion and landslides. During Hurricanes Irma and María, Puerto Rico experienced hurricane force winds and heavy rain which caused multiple impacts to the roads infrastructure, including flooding, washed out roads, bridges, culverts, low water crossing, landslides and mudslides as a result of high velocity water to ancillary road elements. Conditions related to drainage and runoff were classified from fair to poor. Shoulder and pavement erosion are seen throughout the Route. Landslides, often the cause of pavement erosion, are caused by several factors, including the steep and hilly terrain, high amounts of rainfall, tree cutting, vegetation removal and poor drainage maintenance. These issues correspond in one way or another to three (3) conditions on the roadside: drainage and ditches, cut and fill slopes, and deforestation.

The main problem of drainage is the lack of maintenance of the existing system. Ditches accumulate all sorts of roadside debris. Poor drainage leads to a deterioration of the pavement due to excessive runoff. Furthermore, the paved culverts increase the speed



Eroded pavement and landslide Road PR-143 boundary Consejo Ward, Utuado and San Patricio Ward, Ponce

of runoff and reduce the permeability of the ditch. This reduces groundwater recharge, and can increase peak flows, and hence downstream flooding

Paved waterways look alien to the natural environment of the Route. Flexible linings for culverts, such as mesh lining, with native vegetation growing through, creates a natural roadside feeling.

An example of note is the drainage system used in Spanish road design prior to 1898. Spanish road engineers built bridges along each location where today the cut and fill method of construction is used. The old system redirected the water under each bridge. The bridges were bordered by *discontinuous safety parapets or bollards* which allowed water to flow over the road without flooding it, as indicated before. Special care and maintenance should be given to this old system, where safe.

In cut and fill situations, current practices on the Panoramic Route are to bulldoze the earth and move it to other areas to be used in fill slopes. Slopes are left in potentially unstable conditions, including landslides. Stabilizing steep hillsides is a major structural concern and a considerable expense. The PRHTA has ongoing projects to repair landslides caused by Hurricanes Irma and María throughout all state roads in the Island, as indicated before. Refer to **Section 4.2.5, Road Improvement Programs**.

Although wider pavement and shoulders are desirable for safety reasons, they will, however, require additional cut and fill of the adjacent roadside. This increases costs as well as creating a greater negative visual impact over the Route. Pavement Surface Retroreflective thermoplastic pavement markings are of critical importance for the driver of the Panoramic Route. Edge lines, center lines, and edge markings serve as needed safety features, especially when visibility is poor due to adverse weather



Landslide Road PR-143, Portugués Ward, Adjuntas

conditions and absence of illumination. Retroreflective raised pavement markers are missing in most of the Route. These markers would greatly enhance and improve visibility of the roadway, especially when there is poor visibility.

Route pavement along the Corridor has been analyzed both for surface conditions and markings. Pavement markings are generally rated in a poor condition throughout the Panoramic Route due to their absence, or inadequate conditions. Center lines along the Route should be yellow solid lines and broken in developed areas. Solid white edge lines should always be present and in good condition on the roadway.



Recently paved Road PR-131 heading to Guilarte State Forest Recreational Area, Guilarte Ward, Adjuntas

The field survey showed in some places there is only a marking of the center line or the shoulders or edge or no markings at all. Wear and tear of the surface and the lack of maintenance combined with excessive moisture destroy the painted surface. Constant maintenance of painted markings is required.

Retroreflective raised pavement markers (*ojos de gato*) are recommended. These can be placed on the edge of the road and the center line, in accordance with PRHTA guidelines. This system is especially helpful in areas where there is a high probability of fog and tight curves. Spacing of these markers should be adjusted on curves so that several of them are always visible to the driver.

Although pavement surfaces throughout the Route system are made of asphalt, there is no consistency of the color, especially when repairs are carried out.

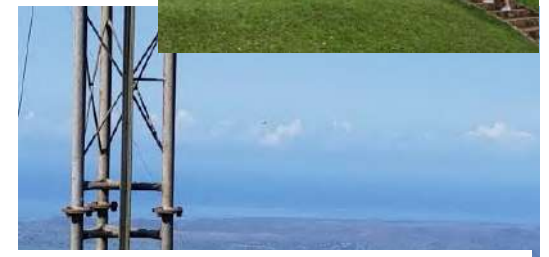
f. Stopping Sight Distance

The stopping sight distance provides the driver with a view of what lies ahead on the road. According to the field survey, the distance is inadequate along much of the Route. The principal cause of this is the topography and the road alignment along the Route. Good signage is essential to warn the traveler of intersections, curves and steep hills. Stopping sight distance is inadequate for most of the Route. The 1998 CMP proposes that the traffic speed be reduced to the minimum in critical areas, by the use of traffic calming techniques such as speed tables, speed bumps or speed humps. This recommendation is maintained.

4.2.2 Roadside Conditions

a. Transmission Wires and communication towers and antennas

Many transmission lines lie along the roadside, mainly electrical and phone lines. These can become a safety hazard. Since the Route is located in the high altitudes of the Cordillera Central, transmission lines are susceptible to high winds which frequently hit the area, not to mention the possibility of the occasional hurricanes. There are also transmission lines leading up to the top of major mountains where the government and private entities have set up antennas and satellite dishes. Antenna-saturated mountain tops are visible from the Panoramic Route, and in instances placed just in the Route (e.g. in front of the Stone Observation Tower in Maricao) creating visual contamination.



Telecommunication tower just in front of the Stone Observation Tower blocking the panoramic view, Road PR-120, Maricao

A solution could be to ground or bury transmission lines. Although more expensive, this option solves the issues of safety and aesthetics. Otherwise, a careful placement of transmission lines can avoid needless impacts on highway scenic quality. Placing lines behind hills, along valleys and at angles parallel to the roadway can greatly reduce visual impacts from transmission lines. Towers should be designed to blend in with nature both in shape and colors.

b. Billboards, advertisement signs and Pasquinades

Billboards are prohibited by law along a scenic byway if it receives funding from Federal sources. The field survey found no problem of illegal billboards along the Panoramic Route.

However there are many segments in which a proliferation of advertising signs attached to trees and poles exist, an activity that is prohibited by the Joint Regulation. Political propaganda as well as commercial advertisements can be found along the Route, which is detrimental to the beauty of the landscape. Strategies to control illegal signs proliferation are discussed in **Section 7.3.2 Strategies for Preservation Goal.**



Telecommunication tower just in the roadside at Road PR-7718 Pasto Ward, Aibonito



Proliferation of advertisement signs placed on poles and neglected islet at PR-143 and PR-503 intersection, Consejo Ward, Utuado



Customary practice of placing advertisement signs on electrical poles, Road PR-7737, Sumido Ward, Cayey

c. Abandoned cars and piled tires

Abandoned cars problem, while it does not stem from roadway design, do affect the landscape and in instances also affect the traveler's sense of security when abandoned cars are burned or vandalized. As indicated these discarded vehicles become objects of vandalism, are sometimes burned, and serve as vectors for dumping other solid wastes.

Worth to note is that the abundance of burned cars like that reported at Road 7741 in the 1998 CMP (12 burned cars in a 2-kilometer segment) was not observed during the field survey. During the field survey conducted in the 2019 summer only two (2) burned cars were observed (Road PR-143 and Road PR-184). However, the most common situation observed was abandoned cars in front of abandoned houses and rickety or unusable vehicles in the front of houses. Sort of sites with accumulated numbers of cars like junkers were also observed during the field survey in several sites.

A procedure for dealing with abandoned cars is established by Law 22 - 2000, as amended (April 29, 2017), (Law of Vehicles and Transit in Puerto Rico). (Refer to **Table 5-8** Laws that Contribute to the Route Management.) Strategies are proposed to deal with this situation. Refer to **Section 7.3.2** Strategies for Preservation Goal, Aesthetic and Maintenance Program topic.

Piled tires were also observed in several instances, all near repair shops and tire centers. This not only affects the visual setting in the Route but represents a public health issue. It is recognized that the problem stems from a recurrent and major deficiency in the current legal structure that is responsible for the management of scrapped tires with a charge that is paid by citizens when buy tires. The proposed Project of the House of Representatives 1890 creates the new "Law for the Efficient Control of the Scrapped Tires Final



Piled tires at roadside, Road PR-7718 at Robles Ward, Aibonito

Disposal" through which the responsibilities of the Government of Puerto Rico are redefined with regard to the administration, management, regulation and inspection of discarded tires in Puerto Rico. In addition, it establishes the Trust for the Efficient Control of the Final Disposal of Discarded Tires, which will be in charge of responsibilities that currently correspond to the DNER, and would repeal current Law 41-2009, as amended (Law for the Adequate Management of Tires).

d. Abandoned Structures

Abandoned structures located along any route can be an eyesore as well as add to a derelict look. Unfortunately, due to the emigration pattern experienced in the last decade in the Island, this is a common scenario observed in the Route as well as in other areas. Several strategies are proposed to deal with this situation (**Chapter 7**).

e. Maintenance Practice: The *Caminero* Tradition

The Public Works Department of the Spanish Colonial Government established a road maintenance system for the care of roads throughout the island. Road maintenance workers, known as *camineros*, were assigned to the care of specific stretches of the road, usually five kilometers. The Spanish Government also built houses for the *camineros*. The worker's houses (*casillas para peón caminero*), are described fully under the Historic Intrinsic Quality section, **Section 4.3.2**.

A program to provide house in the Route to interested workers ("house for work" program), inspired in the road workers or *camineros* houses is proposed as a strategy to guarantee the workforce that is necessary to provide the continued care that the Route and its users and inhabitants deserve. Refer to discussion in **Section 7.3.2** Strategies for Preservation Goal.

Important to mention is that many residents along the Route have "adopted" their road segment and are taking care of the landscape, which in turn helps them contribute to the safety and beauty of the area. This tradition will be promoted by CMP Update.

f. Waste Disposal

The dumping of garbage and debris is a problem, leading to visual pollution as well as an environmental problem. The CMP recommends a coordinated approach with municipalities to deal with this. Refer to discussion in **Section 7.3.2 Strategies for Preservation Goal**.

4.2.3 Highway Safety Analysis

An analysis was made of the overall safety of the Panoramic Route based on available data and field observations. The Route has characteristics that meet the standards set for a rural route with a variable design speed established according to the existing topographical conditions (levels, mountains). The horizontal and vertical alignments provide unacceptable sight distance for most of the length of the road, and at intersections as well. The older sections of the Route with narrow, curvy roads do not have shoulders for turn outs. The Route roadway system is composed of state roads, all maintained by the PRDTPW. However, municipalities also have taken the initiative to maintain this roadway system in order to address immediate needs from users.

A road that follows the contours of the land tends to have many different design speeds, especially if the road travels through different towns and mountain areas. Design speed should be adjusted for varying conditions. It is appropriate to slow down in a winding, scenic area and drive slowly through built-up areas. This is just not a safety issue. Lower speeds reduce traffic noise, and increase pleasure for the travelers and residents, allowing time to absorb community and landscape scenes.

The mountains should not be destroyed by inappropriate widening just to allow cars to travel more quickly. The topography of the Cordillera Central must not be thought of as an impediment to through traffic, but as an important part of the landscape, and a reason for the Route's existence. Speed should be kept low enough to enjoy both the scenery and the sounds of nature and accommodate turnouts (1998 CMP).

Many of the concerns of highway design and safety are directly related to the effects of development occurring along the Route. Much of the construction, mainly housing, is built right on the road, with little to no setbacks. This created a dangerous situation for travelers and those who live along the Route with traffic entering the roadway. Commercial uses, occur as well. Users park along the road even in minimum shoulder areas. Where there is greater shoulder area, cars park perpendicularly and back out into incoming traffic, especially on weekends when the Route is the most travelled.

Furthermore, where more people live along the road, there is pedestrian movement along the roadside. This is a hazardous situation because sidewalks are not available. Providing sidewalks along the Route is not always feasible due to its narrow width.

For developed areas as well as undeveloped areas, speed reduction techniques are crucial for safety reasons. The Panoramic Route consists of many curves, intersections, bridges, and slopes, which require the complete attention of the drivers. In all cases enjoyment and safety go hand in hand, especially in areas where drivers may not be paying attention to the sharp curves that lay ahead because of enjoying a scenic view.

There are several speed reduction techniques. A technique using signage and edge treatment may serve as a pre-warning of what lays ahead. Different edge treatments signal a change ahead.

Speed reducers including signs should be placed to provide ample distance for perception and reaction, allowing drivers to reduce speed sufficiently or, if necessary, to stop and let on-coming traffic pass. If a speed reducer is placed as an isolated item in the road stretch (e.g. arriving at a scenic overlook), it should be accompanied by other elements like vegetation, a change in pavement markings, pavement, interpretive signage, so that drivers approach at a suitable low speed.

A speed reducer and its surroundings should be designed so that there is a clear visual difference from the rest of the section of the road. First and foremost there must be a suitable shift in the optical guidance of the road traffic. This can be achieved by a visual shift in the road alignment, by a change of the road surfaces, the pavement markings, or by a visual narrowing of the street spaces. Planting, fences, posts, and a deliberate use of road lighting and signs are also used. In each case a shift in the optical guidance must be weighed against the wish of creating an aesthetically settled and logical roadway scene.

There should be a clear and consistent connection between the individual elements of speed reducing measures and the overall design and architectural context. Elements can be used alone or combined with more elements. The choice of speed reduction techniques should be made with reference to the function of the road, the expected traffic flow, and the topography.

Materials and techniques used for the change of pavement texture should be approved by the PRDTPW.

4.2.4 Flexible Design Criteria

The American Association of State Highway and Transportation Officials (AASHTO) built on this philosophy in the 1973 edition of its publication *A Policy on Design of Urban Highways and Arterial Streets* (also known as “Red Book”). In the preface, AASHTO encouraged a tailored approach: “Good design will not necessarily result from direct use of the policy values. To form a segment of highway that will be truly efficient and safe in operation, be well fitted to the terrain and other site controls, and be acceptably amenable to the community environment, it must be a carefully tailor-made design for the unique set of conditions along the segment.” With passage of the National Environmental Policy Act of 1969, transportation agencies began addressing the possible adverse effects of transportation projects on the environment. But it took the U.S. Congress's recognition of the need for flexibility in design and the benefits to help what would later become known as context sensitive solutions (CSS) gain traction in project development.

In the landmark 1991 Intermodal Surface Transportation Efficiency Act, Congress emphasized the Federal commitment to preserve historic, scenic, and cultural resources affected by transportation projects. The National Highway System Designation Act of 1995 went a step further, stressing the need for flexibility in highway design to promote preservation of historic and cultural resources. These legislative mandates led to the FHWA publication *Flexibility in Highway Design* (FHWA-PD-97-062), which underscored the importance of balancing the need for highway improvements with the need to integrate a project's design into the surrounding human and natural environments. Published in 1997 in partnership with AASHTO, the National Trust for Historic Preservation, and the nonprofit Scenic America, the document laid out a challenge for the highway design community: Use more innovative thinking and creativity to find and tailor design solutions to address the varied, and often conflicting, objectives of road projects. *Flexibility in Highway Design* emphasized that each project is unique, with its own distinct context, circumstances, and local characteristics. Further, the report stipulated that to balance a project's needs with its context, “designers need flexibility.”

CSS represents a departure from previous project development processes because it broadens the scope of considerations that factor into project decisions, going beyond just engineering principles and practices. As described by FHWA and AASHTO, CSS “is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting. It is an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions.”

The PRDTPW supports the concept of flexible design criteria and standards for the Panoramic Route. The PRDTPW recommends that the roadway have a width of 24 feet in the most critical areas, such as sections with tight curves.

However, the PRDTPW is aware that this width should be observed taking in consideration the aesthetic character of the Route. The PRDTPW also recommends a variable speed limit, depending upon the topography, and the conditions of the roadside. There is a favorable attitude toward the use of low shrubs and bushes in combination with guardrails in order to maintain a "green" look.

4.2.5 Road Improvement Programs

The DTPW role remains the same as in previous 1998 CMP, to be responsible for the safety features along the route, including landscape maintenance, within the right-of-way. The PRDTPW will continue operation under the same regional system organization, comprised by seven (7) regions. The Route falls within six (6) of these, as previously discussed, however is under the Regional directors responsibility to maintain road surfaces, replace guardrails, perform pavement improvements, fix washouts, coordinate mowing and vegetation management, and promote signage and road widening projects.

Currently the PRDTPW is implementing a broad roadways recovery plan supported by the FHWA as well as by state programs. One of them is through the Emergency Relief Program (ER Program), which considers, among others, repair of eroded roads and landslides in the Island roadway system¹⁴. The PRDTPW is also implementing an island wide state road improvement program through the Road Modernization State Program, PEMOC for its acronym in Spanish, and High-Quality Pavement Maintenance State Program, PEMAC for its acronym in Spanish. Slope stabilization works, and other rehabilitations works planned or ongoing on roads that comprise the Route within these programs are shown in **Figures 4-23 to 4-28**.

¹⁴ The Emergency Relief Program of the FHWA provides funds for all damages occurred to roads and bridges in the federal-aid highways as a direct result of natural disasters. The federal-aid highways are public roads that are classified as arterial, urban collectors and major rural collectors. The ER Program of the PRHTA covers the damages caused by Hurricanes Irma and

With the objective of accelerating the reconstruction efforts, the PRHTA entered into an agreement with Eastern Federal Land Highway Division to receive their support in the design review, procurement of the construction packages and construction engineering and inspection services to repair approximately 400 landslides that impacted the Island road system. .

Besides these programs, the DTPW regional directors submit their budgetary requests for upgrading and maintenance needs on a one- and two-year basis. Budget requests include guardrail replacements, pavement improvements, wash outs and road widening projects. Although they are aware of the need to respect the aesthetic qualities of the Route, they have no manual of standards for doing so. Such a manual will be proposed for the implementation stage of this CMP Update. An orientation program is also recommended so that road crews and supervisors will understand and respect the relation between improvements and aesthetics. Refer to **Section 7.3.3 Strategies for Safety Goal, Pavement Surface** topic.

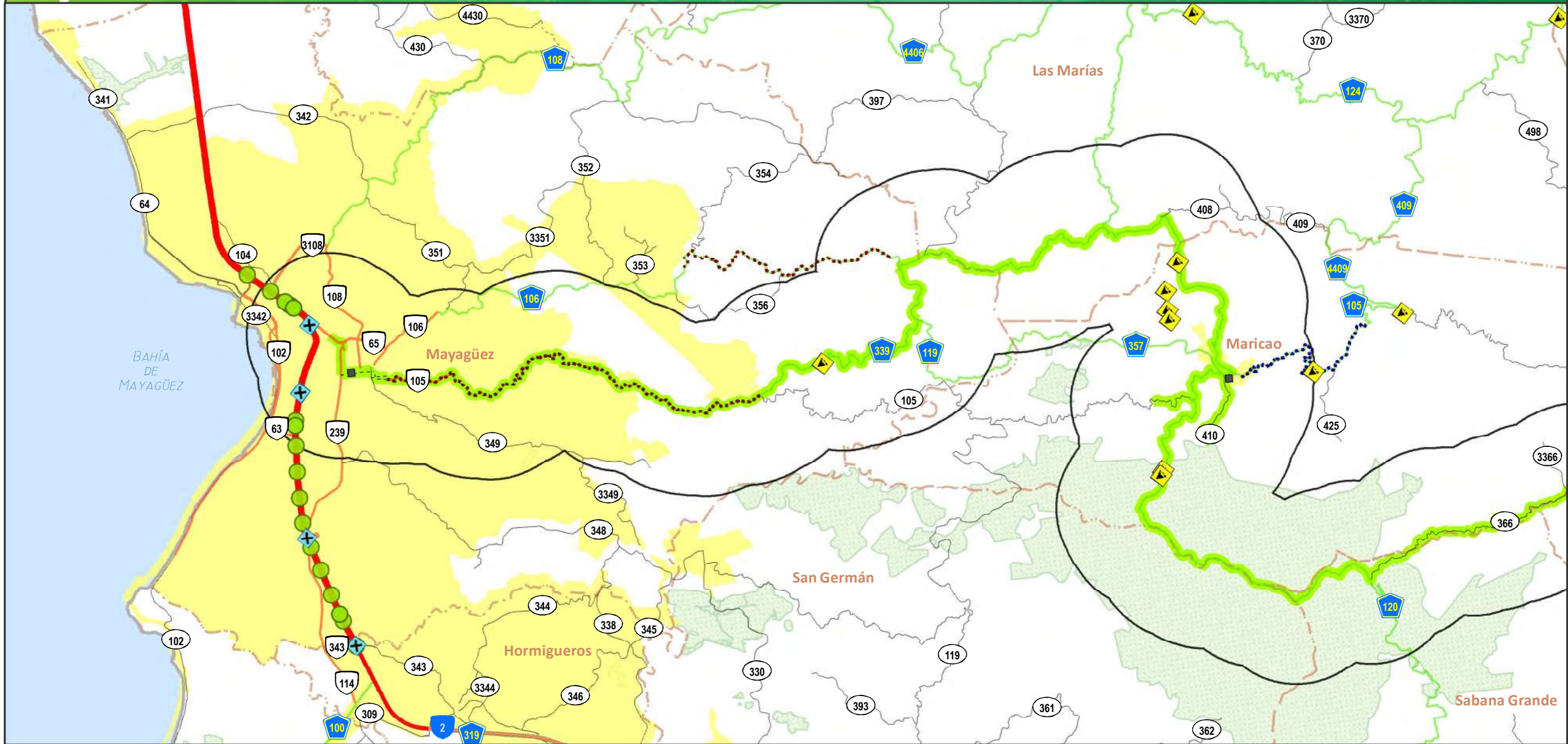
María (September 2017) on the roads within the Federal-aid highways. The ER program of projects in Puerto Rico was divided into the following categories: Bridges, Roadway Damages (erosion, landslides, scours, etc.), Signing and Safety, Lighting, Traffic Signal and Wireless Communication.



CMP PANORAMIC ROUTE

FIGURE 4-23. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE

PORT AND STONE FOREST REGIONS



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

- EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²
 - LANDSLIDE
 - ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²
 - PRE-CONSTRUCTION
 - HIGH QUALITY PAVEMENT MAINTENANCE STATE PROGRAM (PEMAC FOR ITS ACRONYM IN SPANISH)²
 - PRE-CONSTRUCTION
 - UNDER CONSTRUCTION
- NOTES: (1) PRHTA HIGH CRASH LOCATION REPORT, 2017 (FEBRUARY, 2018)
(2) PRHTA, 2019. PROJECTS STATUS AS OF JUNE 2019.
(3) Source: Refer to Chapter 10, References.

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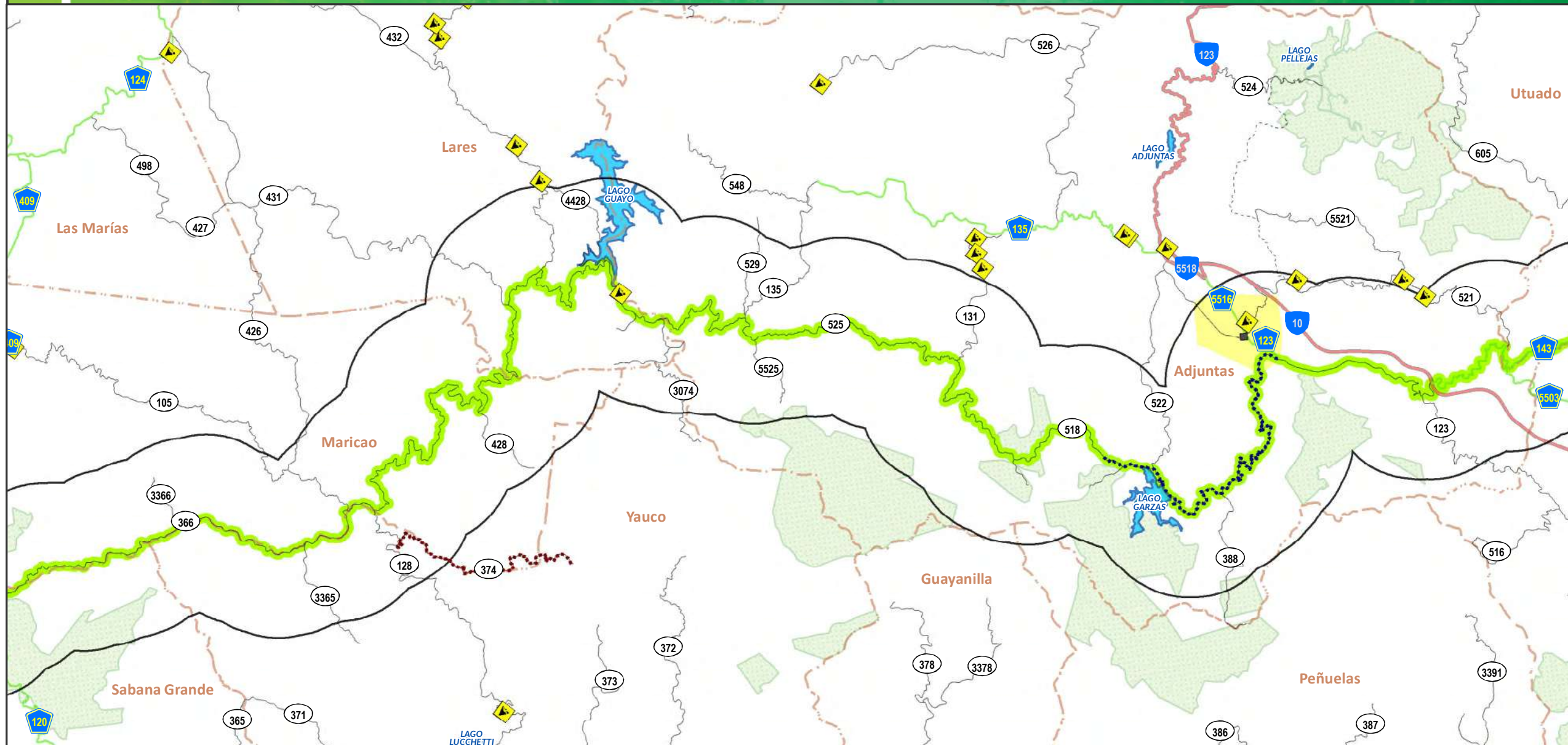
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CMP PANORAMIC ROUTE

FIGURE 4-24. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE

COFFEE REGION

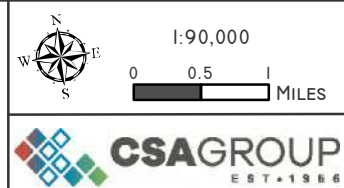


- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

- EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²
 - LANDSLIDE
 - ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²
 - PRE-CONSTRUCTION
 - HIGH QUALITY PAVEMENT MAINTENANCE STATE PROGRAM (PEMAC FOR ITS ACRONYM IN SPANISH)²
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(2) PRHTA, 2019. PROJECTS STATUS AS OF JUNE 2019.
(3) Source: Refer to Chapter 10, References.

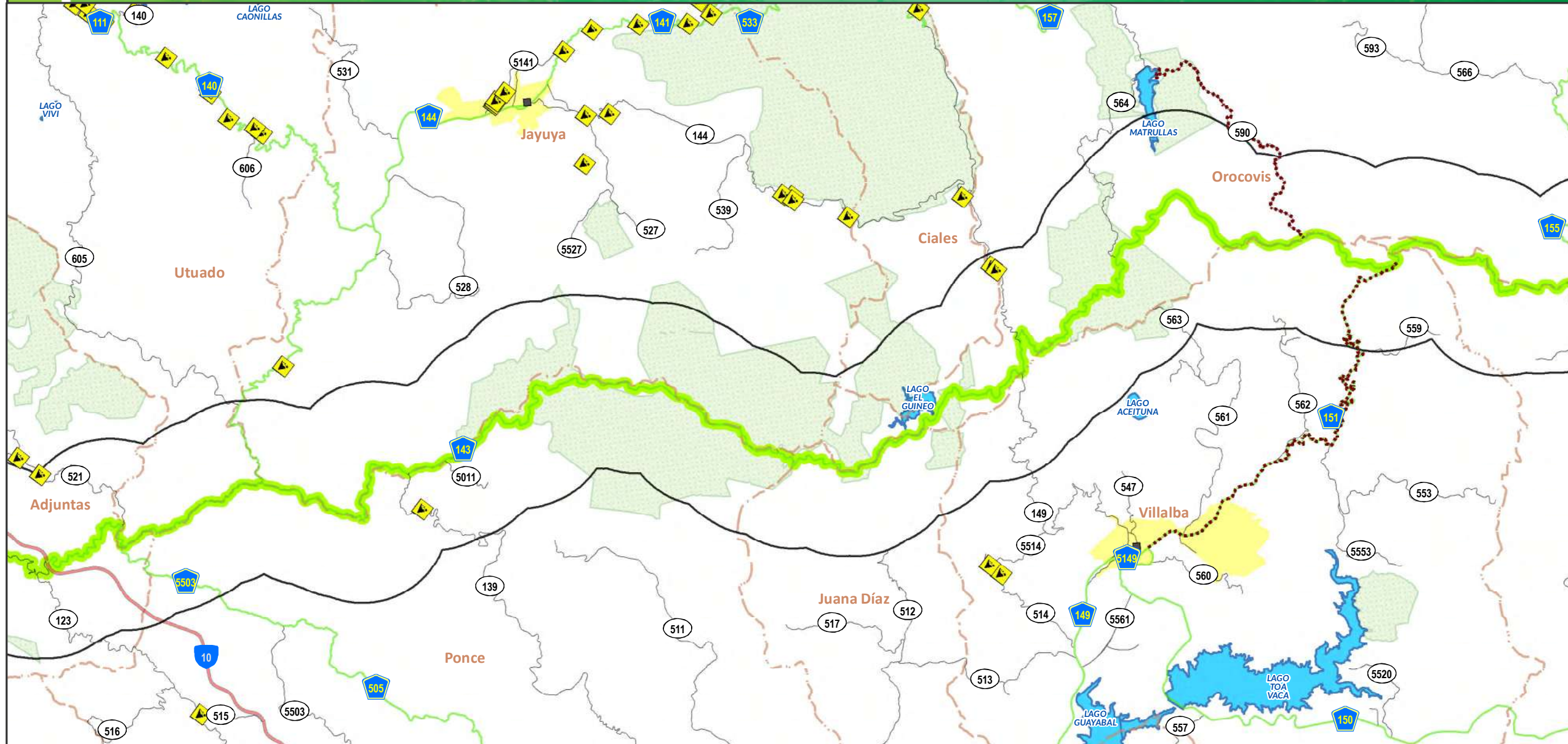




CMP PANORAMIC ROUTE

FIGURE 4-25. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE

HIGHLANDS REGION



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²

- LANDSLIDE

ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²

- PRE-CONSTRUCTION
- HIGH QUALITY PAVEMENT MAINTENANCE STATE PROGRAM (PEMAC FOR ITS ACRONYM IN SPANISH)²
- PRE-CONSTRUCTION
- UNDER CONSTRUCTION

NOTES: (1) PRHTA HIGH CRASH LOCATION REPORT, 2017 (FEBRUARY, 2018)
(2) PRHTA, 2019. PROJECTS STATUS AS OF JUNE 2019.
(3) Source: Refer to Chapter 10, References.

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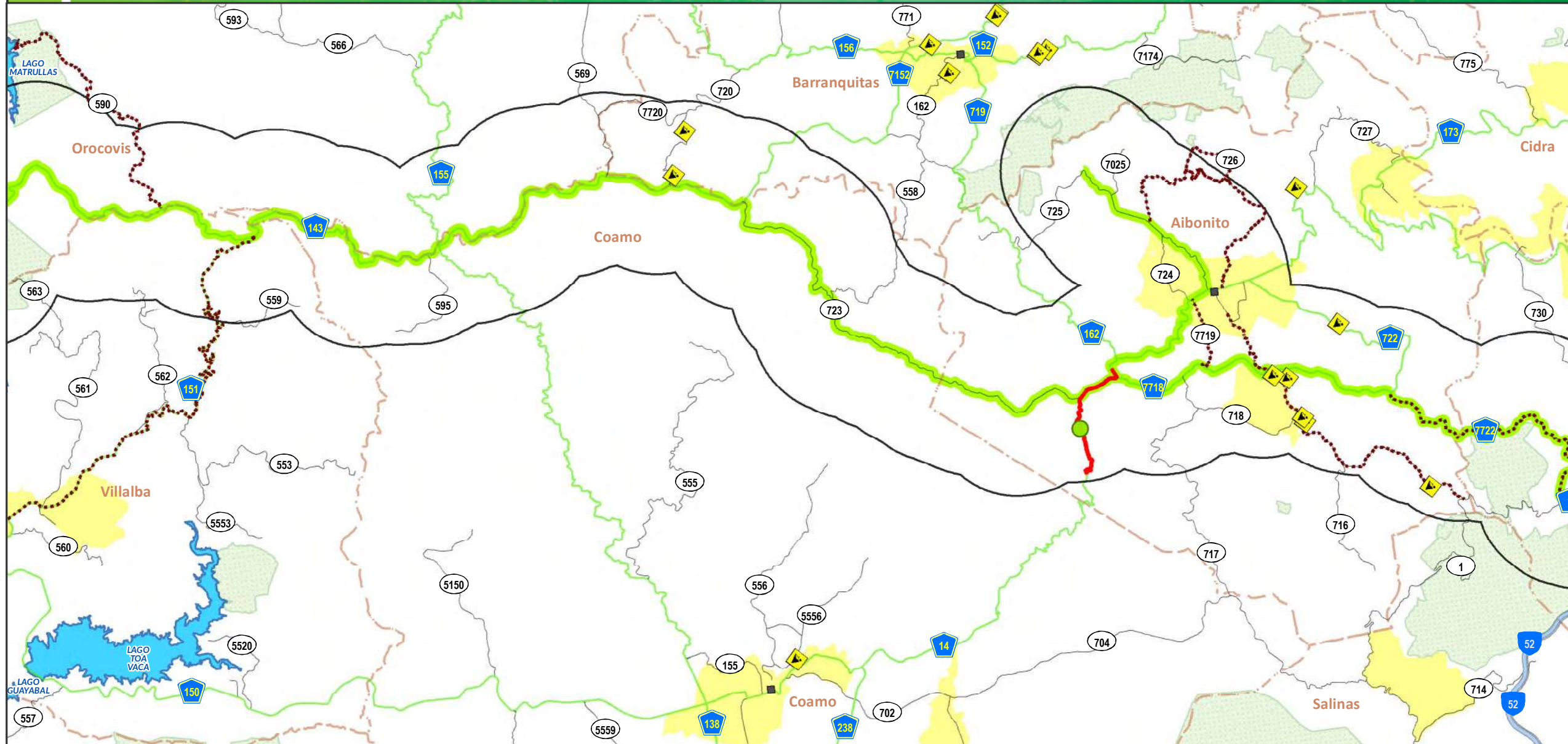
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CMP PANORAMIC ROUTE

FIGURE 4-26. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE

FLOWER COUNTRY REGION



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

- EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²
- LANDSLIDE
- ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²
- PRE-CONSTRUCTION
- HIGH QUALITY PAVEMENT MAINTENANCE STATE PROGRAM (PEMAC FOR ITS ACRONYM IN SPANISH)²
- PRE-CONSTRUCTION
- UNDER CONSTRUCTION

NOTES: (1) PRHTA HIGH CRASH LOCATION REPORT, 2017 (FEBRUARY, 2018)
(2) PRHTA, 2019. PROJECTS STATUS AS OF JUNE 2019.
(3) Source: Refer to Chapter 10, References.

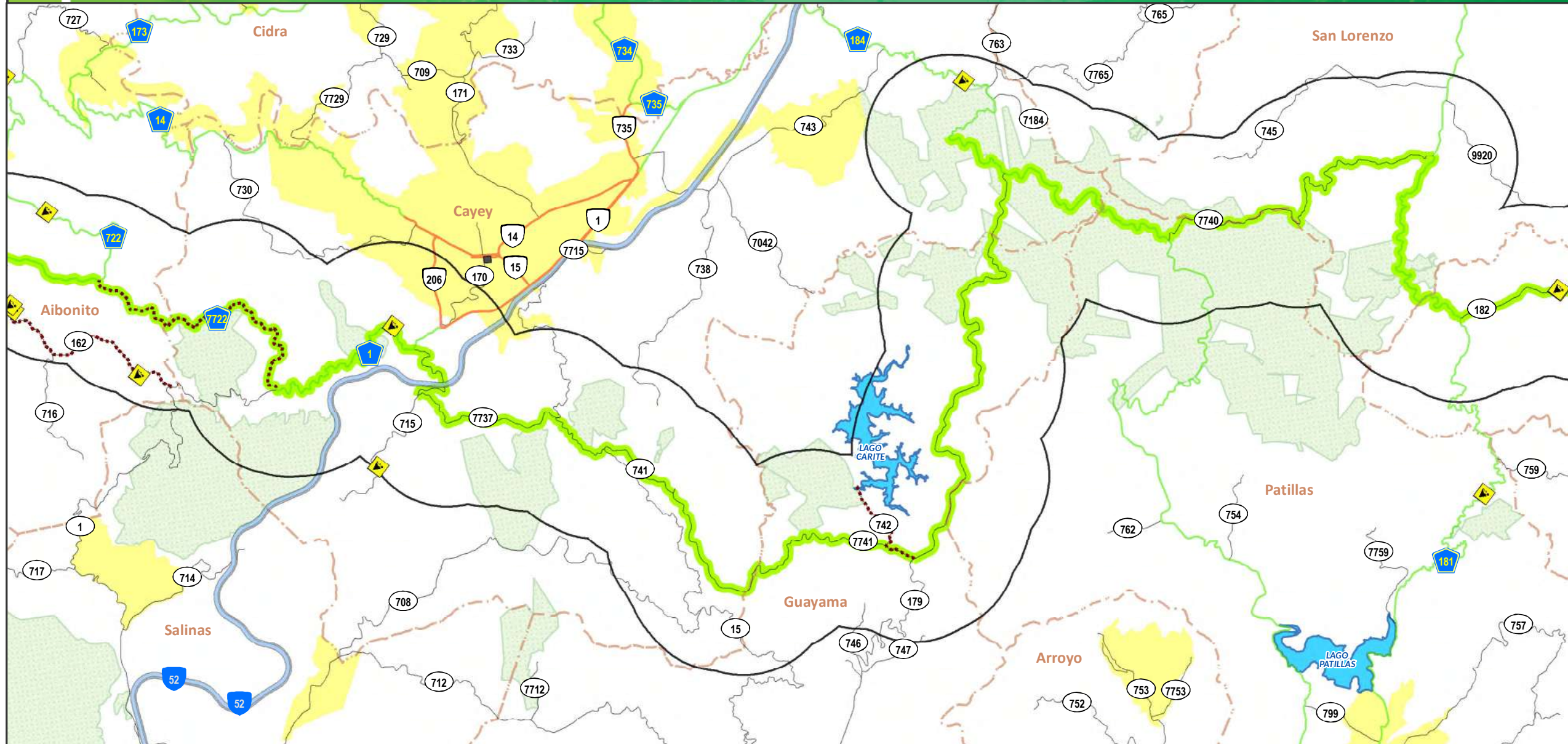
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EST. 1966



CMP PANORAMIC ROUTE
FIGURE 4-27. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE
FERNS AND SPRINGS REGION



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- ◆ INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

- EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²
 - ◆ LANDSLIDE
 - ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²
 - PRE-CONSTRUCTION
 - HIGH QUALITY PAVEMENT MAINTENANCE STATE PROGRAM (PEMAC FOR ITS ACRONYM IN SPANISH)²
 - PRE-CONSTRUCTION
 - UNDER CONSTRUCTION
- NOTES: (1) PRHTA HIGH CRASH LOCATION REPORT, 2017 (FEBRUARY, 2018)
(2) PRHTA, 2019. PROJECTS STATUS AS OF JUNE 2019.
(3) Source: Refer to Chapter 10, References.

Scale: 1:90,000
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EST. 1986



CMP PANORAMIC ROUTE

FIGURE 4-28. ROADS DESCRIPTION, SAFETY AND IMPROVEMENT PROGRAMS ALONG PANORAMIC ROUTE

SEA AND SUGAR REGION



- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 Mile Corridor
- PROTECTED NATURAL AREA
- RESERVOIR
- URBAN ZONE
- Town Square
- MUNICIPAL LIMIT

- STATE ROAD
- FREEWAY
- PRIMARY ROUTE
- PRIMARY URBAN ROUTE
- SECONDARY ROUTE
- TERTIARY ROUTE
- MUNICIPAL ROAD

- HIGH CRASH LOCATIONS¹
- INTERSECTION
- SPOT (500 METERS)
- CORRIDOR (3 KILOMETERS OR MORE)

- EMERGENCY RELIEF PROGRAM LANDSLIDE CORRECTION PROJECT²
 - LANDSLIDE
 - ROAD MODERNIZATION STATE PROGRAM (PEMOC FOR ITS ACRONYM IN SPANISH)²
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(3) Source: Refer to Chapter 10, References.

1:90,000

0 0.5 1 MILES

4.3 Intrinsic Qualities Assessment and Inventory

The update of the intrinsic qualities inventory has been an opportunity to confirm the words in the 1998 CMP in terms of the tremendous resources and beauty which exist along the Panoramic Route. As established by the former National Scenic Byways Program in its Intrinsic Quality Handbook the intrinsic qualities are the archeological, cultural, historic, natural, recreational, and scenic resources lying along byways that provide the drawing power and interest for visitors.

Byway planning should recognize these multiple values and incorporate them into appropriate management strategies that accommodate growth and positive change while protecting the intrinsic qualities from detrimental changes." Former National Scenic Byways Program Intrinsic Quality Handbook.

Although there has been a deterioration of sections of the Route in the past decades mainly associated to the roads conditions and the depopulation patterns there is no doubt that it preserves a great natural landscape, unique cultural resources and experiences and moreover people warmth from our central mountain region. The updated inventory clearly confirms the vast wealth of scenic, natural, recreational and historic-cultural resources that exist along the Route.

The field inspection reflected that the intrinsic qualities along the Route are still directly related to the byway story and the proposed interpretive program to be developed. This confirms the guiding principles for this CMP Update as described in **Section 2.2**.

This section provides a description of the six (6) intrinsic qualities considered in the byway resources inventory as a whole. It is based in the description provided in the 1998 CMP, while it is included, when applicable, recent data and information obtained as part of current update.

The inventory update considered the resources with intrinsic qualities located within the Corridor (**Appendix 4**). These resources were identified with a unique number, consistently used in the corresponding figures to identify its physical location. (Refer to Intrinsic Qualities Inventory figures for corresponding regions in Section 4.1, Route Description and Contextual Integrity.) The 1998 CMP resources inventory was used as a baseline. This inventory was compared with data provided by the Planning Board to include additional resources not comprised on the previous plan. The Planning Board data is based on information provided by different agencies. Those resources that no longer exist were removed from the inventory. Resources that were identified in the field were added to the inventory. The inventory indicates those resources for which conditions could not be verified in field, second parties or up to date internet resources.

4.3.1 Archeological Resources

The archaeological record for the Island of Puerto Rico is composed of pre-Columbian and European colonial periods. With the exception of stone-lined plazas, nearly all the archaeological sites along the Panoramic Route consist of sub-surface artifactual deposits due to the perishable nature of the majority of the construction materials. As such, most of the archaeological resources extant along the Route have been either partially investigated or remain untouched. The pre-Columbian archaeological resource base is better interpreted in the diversification of environmental settings



View to Carite Reservoir
from Road PR-179 at Carite
Ward in Guayama

visible along the Route, which reflect the development and growth of the pre-Columbian cultures of the Caribbean, rather than the actual archaeological sites themselves.

It is clear from the archaeological record that pre-Columbian peoples emigrated to the Island as long ago as 6,000 years, most likely approaching the Island from south and/ or west. Assuming that these first migrations of people would have come up the Lesser Antillean chain of islands, Puerto Rico would have constituted the first substantial land mass potentially perceptible as a "continental" shore. The vegetation of the Island would have been like the tropical lowland forests of the northern South American continent, and most likely an attractive environment for settlement.

The rich diversification of fauna and flora would have made the Island extremely productive for hunters and gatherers. The lack of large land-based animals would have easily been supplemented by fishing activities, shellfish gathering, and the abundant fruits and legumes intrinsic to the Island. The population of hunters and gatherers most likely spread throughout the Island of Puerto Rico over many centuries and provided ample resources for groups to rapidly establish stable settlements unlike continental pre-Columbian peoples who were obligated to maintain a very nomadic way of life. One can still appreciate even today, how varied the geography and plant life is within such a relatively limited landmass. For these reasons, it is thought that fishing, shellfish gathering, and harvesting



Stone showing anthropomorphic petroglyphs at the Adjuntas town square

of wild plants and fruits provided a stable natural resource base for at least 3,000 - 4,000 years.

At around the beginning of our present era (approximately 2,000 years ago), it is clear from the archaeological record that pre-Columbian people migrated from the Orinoco River northward to Puerto Rico and settled on the Island. These groups brought with them a fully developed knowledge of agricultural practices which led to the development of large villages along the coastal plains and inland.

The development of pre-Columbian cultures in Puerto Rico then began to diversify just as the Island itself is diversified. Although it is often misperceived that Puerto Rico is a homogeneous tropical island, by traversing the Panoramic Route one can begin to appreciate how heterogeneous the Island is.

Life on the coast can be warm, tropical and ocean-oriented, while the mountainous interior can provide a climactic difference which is much less tropical and oriented towards non-ocean type activities. Although this is evident to the traveler along the Panoramic Route today, these factors are long-standing environmental-geographical factors not to be confused with differences resulting from European period economic or architectural influences still visible today. Understanding these subtle but significant differences can allow the Panoramic Route visitor to better appreciate how and why the pre-Columbian cultures of Puerto Rico developed in different ways throughout the Island.

By the end of the First Millennium, a dynamic and prosperous culture had developed on the west coast of Puerto Rico, south Mayagüez, which resulted in the exportation of ideas, cultural traditions and peoples radiating out of western Puerto Rico to places possibly as far away as the southern Gulf Coast of North America. This culture, known as "Ostionoid", derived its name from their extensive use of the mangrove oyster (*Ostión* in Spanish) as a primary food staple.

As the Second Millennium progressed in Puerto Rico, there was an increasing development of the pre-Columbian societies in ceremonial practices and political

hegemony. This development of the pre-Columbian people is most visibly evident in the development of archeological sites composed of large plazas demarcated by monolithic slabs often inscribed with totemic petroglyphs. It is suspected that exist in Puerto Rico, many archaeological plazas, also referred as ceremonial plazas, untouched for over a thousand years. During this time period, up to the period of the European colonization, the pre-Columbian people established the development of chiefdoms or caciques with highly structured and sophisticated systems of secular and religious life. The first route selected for the Panoramic Route was inspired by our Indian heritage and was called the Chiefdoms Route (Ruta de los Caciques).

There are two (2) developed ceremonial plaza sites in Puerto Rico open to visitors outside the Corridor, quite near the Panoramic Route. They are considered an intrinsic quality of international importance. The Caguana Plaza in Utuado is approximately one and half hour drive from the Panoramic Route in PR-10 at Adjuntas. The Tibes Plaza, not as extensive as Caguana, is a half hour's drive from the Route in PR-10 at Adjuntas. Unfortunately, as other cultural resources in the Island, its operation run with limited financial resources. More dramatic is the condition of the Tibes ceremonial plaza with very limited resources for operation. A third archaeological plaza site is currently being developed by the Municipality of Mayagüez in the El Quemado Ward in this municipality. This archaeological site, Delfín Ceremonial Plaza (*Batey del Delfín*), have marine fauna petroglyphs including dolphins, manatees, and octopus among other animals. It is considered unique in the Caribbean as being in the mountains reflects an iconography related to the marine life. The archaeological park was supposed to be open by the end of 2019. Archaeological investigations are still ongoing.

European colonization of the Island begins in the early 16th Century. By the 17th Century, pre-Columbian cultures and ways of life had been eradicated or assimilated through European contact. By the 18th Century the indigenous populations had been decimated by European epidemic diseases, slavery, emigration, or absorptions into the European gene pool. These occurrences, together with the introduction of European economic practices, radically changed the landscapes and character of the Island from east to west.

4.3.2 Historical Intrinsic Qualities

The Route's historic features can be grouped into a thematic framework which includes "Engineering and Public Works" as the primary theme, and a number of supporting themes such as "Communications", "Agriculture and Commerce", "The Great Depression", "Conservation", "Recreation", "Education", "Defense", and "Architecture".



Customs House in Pueblo Ward, Mayagüez (1924)
in the National Register of Historic Places

"Engineering and Public Works" and "Communications" are represented by the byway itself and bridges such as the Art Deco style bridge on PR-181 at Espino Ward within the Municipality of San Lorenzo and the historic bridge Del Treinta on PR-128 at Indiera Alta Ward in the Municipality of Maricao. Worth to mention is that Del Treinta bridge was included in the National Register of Historic Places in 1995. Also directly associated with these themes is that of "Defense". Parts of the byways were built to form a road network for the tactical deployment of the military units that were to defend Puerto Rico against the expected German invasion during World War II. US

"Agriculture and Commerce" are represented by several coffee and sugar historical haciendas along the Panoramic Route: Among the historic haciendas there are: coffee hacienda La Balear available also as an AirBnB close to Guayo Reservoir in Castañer ; ruins of Hacienda Columbia, near PR-3 in the Municipality of Maunabo; the view of ruins from the Central Roig sugar processing complex from Route PR-182 at bridge over Guayanés River in the Municipality of Yabucoa; and the former Hacienda Torito near PR-15 and PR-7737 intersection at Culebras Bajo Ward (in the limit with Jájome Alto Ward) in the Municipality of Cayey. Parador Hacienda Juanita, near PR-105 in the Municipality of Maricao, is a restored Hacienda, dating from 1835, adaptively used as an Inn or *parador*. It is a good representation of the themes of "Agriculture and Commerce"

and "Recreation". The architecture is vernacular. It is a unique cultural, historical and recreational site which represents and conserves an environment which once existed with frequency in these areas. Its original building dates from 1832. Hacienda Juanita is central to the coffee story of the Panoramic Route's. It also represents a goal of the Route, that of conservation, and of the cultural qualities of the mountain region of Puerto Rico. All of the hacienda houses are also associated with "Architecture".

"The Great Depression" and "Conservation" periods are best represented by the segment of Road PR-120 which traverses the Maricao State Forest, in the Municipality of Maricao, and the Stone Observation Tower at Km. 14.1 of the same road. Both road and tower were built by the Civilian Conservation Corps during the 1930's. Another Civilian Conservation Corps built feature is the camp entrance near Route PR-143, Km.



Casa de Piedra, (stone house) located within the recreational area of the Maricao State Forest

31, in the Municipality of Orocovis. Closely associated with "Conservation", and to some extent with "Recreation", is the freshwater fish nursery, or Fish Hatchery, in Maricao, originally built by the CCC. Unfortunately it was closed for visitors after hurricanes hit the

Island in 2017. Only fish hatcheries operate as source to reservoirs.

"Conservation" and "Recreation" are also evident in the Maricao State Forest facilities (shelter, identification monument, and trails). The José Celso Barbosa School, a 1930's building at Road PR-14 at Asomante Ward in Aibonito, represents the themes of "Education" and "Architecture".

Relationship of the Historical Themes to the Byway

During the early 1940's an enemy army invasion of Puerto Rico was believed to be imminent. The U.S. Army funded the construction of several connecting roads throughout the Island, as well as the paving of most of the existing road system, so that a centrally-located motorized combined-arms team could rapidly deploy to any threatened point along the coastline. The Army's scheme consisted of a central generally east-west route, with a number of north-south roads connecting to the central route. The road through Monte del Estado, which had been built by the Civilian Conservation Corps, facilitated the construction of an aircraft warning radar station atop the mountain range. (It could not be identified in the field inspection and investigations made as part of this update.) The improvements made to the byway during World War II enhanced communications along the central mountain range, thus facilitating agricultural and commercial activity, as well as stimulating urban development and the construction of utilities and educational facilities. At least some portions of the Army's rapid-deployment road network eventually became part of the byway. Eventually additional connecting roads were built, which in turn increased vehicular traffic along the byway. Thus, the byway has, and continues to play, a vital role in the area's historical development.

Except for the components of roadway infrastructure, historic features are not evenly distributed along the byway. Coffee Haciendas still tend to be concentrated towards the western portion of the byway. In those portions of the byway in which they occur, historic features lend the byway part of its character. Around the eastern section, there are Haciendas and a Central related to the sugar industry, all of them in disuse.

Historic structures can also be observed in or close to the town squares, like former courthouse in Mayagüez (Museo Casa Grande), Quinta Rosa Cruz (house of Federico Degetau transformed into a museum) in Aibonito and Washington Irving School in Adjuntas. Some of these structures are included in the National Register of Historical Places like the Washington Irving School and the Catholic churches in the Aibonito and Maricao town squares respectively.

The status of historic resources ranges from "excellent" condition to "loss of integrity". Some haciendas are still in operation and exhibit modifications. Haciendas like Hacienda Juanita in Maricao and Hacienda La Balear in Castañer have been adapted for hospitality services (small inn and AirBnB, respectively).

In general, the byway's historic features can be linked together or related to each other through a thematic framework, rather than through physical continuity. Features, including the road, represent aspects of different periods and/or movements, and except in the case of the haciendas, they do not illustrate progression of an historic theme over a period of time.

The Government of Puerto Rico owns and manages the roadway and its infrastructure, most of the *caminero* houses, state forests and their CCC-built facilities, the freshwater fish nursery, and some of the sites suitable for historic vistas outside of the forest system.

Punta Tuna lighthouse was transferred by the U.S. Government to the municipal government of Maunabo. Many historic buildings and structures are privately-owned. As indicated before some of them have been adapted for hospitality services, museums, etc.

The agricultural wealth of Puerto Rico increased considerably during the 18th century through sugar, tobacco and coffee plantations, and by the 19th century, commercial agriculture was well-established and a major force of the local economy. As larger land plots were more frequently segregated for these major agricultural purposes, minor subsistence crop plantations became scarce. Therefore the need to import goods and commodities increased.

By mid-nineteenth century, the Spanish colonial government set out on an expensive Public Works Program. There was a great deal of construction in general, even though

strong emphasis was set on improving and/or building roads, channels, ports and lighthouses. These projects were to simplify the overwhelming logistics of internal transportation of agricultural products, as well as import and export activities at the ports and rivers. More efficient connections were needed between towns of Puerto Rico as well as improvements to the harbors and ports where shipwrecks and vandalism were frequent occurrences.

Due to the growing need for safe and improved bays and harbors for the increasing ship import, export and transport of goods to and from the Island, the Spanish Colonial Public Works Office realized by 1840 that its Harbor and Port Section had to make an inventory of all the existing ports of the Island extant. This was done not only to document their location and access, but also to assess their condition and workability. During this same period, extensive railroad systems were proposed, as well as the construction of a road network that would connect major trading cities with smaller towns of Puerto Rico.

In 1861, the Central Board of Lighthouses (*Junta Central de Faros*) started to collect information in order to develop a Plan for the Lighthouse System of Puerto Rico (*Plano de Alumbrado Marítimo de Puerto Rico*). One of the important issues stressed regarding the system as a whole was "architectural unity". This is important considering the period of economic duress when these structures were proposed. They were envisioned from the outset as permanent structures that would act as maritime aids not only for the Island of Puerto Rico but that would become part of an 'illuminated route' that major ship lines could follow from Europe to South America and eventually towards the Panama Canal (1914) and vice-versa.

The Lighthouse Plan was approved in 1869 and called for the construction of 14 buildings that would be strategically placed so that Puerto Rico's coasts would be completely illuminated at night. Between 1876 and 1885 the first seven (7) lighthouses were built; the major lights taking precedence over the secondary and tertiary lights. The minor and local lights served as intermediaries between the major ones. The goal

was that a ship would always have a guiding light in its horizon once it was approaching Puerto Rico.

The Puerto Rico Lighthouse system was very important within the Caribbean area not only because of the Island's important strategic and geographic position, but because the Island lay within the trade routes of many European countries towards South America and the then proposed (1914) Panama Canal. It was part of a larger plan that was to serve as an international coastal trade route from Europe to South America. When Puerto Rico became a United States' territory after the Spanish-American War of 1898, the complete Spanish-Colonial Lighthouse system became part of the U.S. Lighthouse Service through the Presidential Proclamation of 1903.

In plan, these structures were very similar to the Road Workers House also built by the Public Works Department of the Spanish Government. If they were for more than one family, they were rectangles divided into two (2) equal parts and usually separated by a central vestibule that led to the light tower. It all depended upon how many families or single people the buildings were to hold. There were three (3) to four-(4) different models which were adapted depending on the topographic conditions of the site. All lighthouse structures were constructed of rubble-masonry and had flat roofs or azoteas to collect the rainwater which was then directed to the cisterns and used for all the needs of the inhabitants. The facades differed in decoration and some stone and brick surfaces were left exposed for aesthetic purposes. Today all historical lighthouses in the Island are included in the National Register of Historic Places.

The lighthouse at Punta Tuna in Maunabo (ID 94), located in the Panoramic Route, was constructed as a Third Order Light in 1893. It was the most eastern primary light, working in unison with the Faro Las Cabezas (Fajardo), Puerto Ferro and Punta Mulas both in Vieques, and Culebrita on Culebritas. The structure was built to house two (2) keepers with their families. The rectangular plan which completely encases the light tower, is symmetrically divided into two (2) for these purposes. Even on the state of disrepair in which it currently is this lighthouse is literally attracts hundreds of visitors every weekend. The view from the site is amazing.

The advent of workers' houses came as a consequence of the road building and improvement period of Puerto Rico during the mid-19th century's 'sugar boom'. These structures were also built by the Public Works Department of the Spanish Colonial Government. The basic purpose of the Road Workers Houses was to host one (1) or two (2) families of road maintenance workmen or cooking areas and planting patios. The concept originated in Spain (ca. 1859) and later was established in Puerto Rico (ca. 1864). It was emphasized at the time that the buildings should be constructed to accommodate two (2) road workers with their families. This was done not only for the economy provided by housing everyone under one same roof, but because these could share facilities like wells, cisterns, bathrooms, and for security purposes, in the sometimes quite isolated locales of these houses.



Road Workers House (PRHTA, 2009) Road PR-14, Robles Ward, Aibonito (ID 176), included in the National Register of Historic Places



Road Workers House (PRHTA, 2009) Road PR-14, Asomante Ward, Aibonito (ID 7), included in the National Register of Historic Places



Road Workers House (PRHTA, 2009) Road PR-149, Ala de Piedra Ward, Orocovis (ID 175)



Road Workers House (PRHTA, 2009) Road PR-179, Guamaní Ward, Guayama (ID 178)



Road Workers House (PRHTA, 2009) Road PR-15, Jájome Alto Ward, Cayey (ID 177), included in the National Register of Historic Places



Road Workers Houses (PRHTA, 2009) Road PR-15, Jájome Alto Ward, Cayey (Governor's Country House) (ID 122)

Road Workers Houses (PRHTA, 2009) Road PR-2R premises of the University of Puerto Rico Mayagüez Campus, Mayagüez (ID 40)



In Puerto Rico in particular, the distance between two (2) towns then located on the principal roadways (Numbers 1, 2, 3, 4 and 5) was divided into more or less five (5) kilometer intervals and the necessary *camineros* or road workers to take care of this trajectory. These road workers were pivotal to the Permanent Conservation Program for Roads in Puerto Rico. Their job was to maintain one specific roadway stretch, usually five (5) kilometers in length. The purpose of their work was to facilitate vehicular and pedestrian transportation and to provide security and assistance to the road traveler.

Just as in the lighthouse layouts, it all depended upon how many families or single people the buildings were to hold as to how they were divided. They were all constructed of rubble-masonry and had flat roofs or *azoteas* to collect the rainwater which was then directed to the cisterns and used for all the needs of the inhabitants. The facades differed in decoration and some stone and brick surfaces were left exposed for aesthetic purposes. The road workers provided a service up to the 1970's when the system was changed to motorized brigades; and even though a large amount of the original late 19th buildings are still standing, most of these remain in a state of abandonment. Some of these structures have passed into private hands and are presently private residences.

There are two (2) Road Workers Houses just on the Panoramic Route or very close to it, at Mayagüez (ID 40) and Aibonito (ID 7), respectively. This CMP Update keeps the original proposal to establish a visitors and information center in the Road Workers House at the University of Puerto Rico Mayagüez Campus and Aibonito Asomante Ward, respectively. These spots are considered historical sites that can be adapted to interpretative purposes. The structure at the University of Puerto Rico Mayagüez Campus is considered in ruined condition. Although their beauty is still present, a structural engineering inspection should be conducted to determine the use(s) these properties may serve. Its use as a visitor center should not be discarded, as there are several successful examples in the Island where historical ruins have been used to host new uses, in the structure itself or adjacent to it. Ideally, the sites should host other uses like cultural or institutional.

This CMP Update proposes to resume the concept of the road workers house for maintenance activities along the roadsides in the Route as they are limitedly performed as the field inspection reflected. Refer to **Section 7.3.1 Strategies for Preservation Goal: Aesthetic and Maintenance**, for the discussion on the strategy of a “house for work” program, inspired in the road workers houses.

4.3.3 Cultural Intrinsic Qualities

The Panoramic Route offers an opportunity to traverse the traditional cultural settings of the mountain areas of Puerto Rico, visiting traditional towns with a different paced life, warm hospitable people and unique gastronomy. With the now reemerging coffee industry activity the Panoramic Route user can experience a life centered around the coffee hacienda in the towns of Maricao, Jayuya, Adjuntas and vicinities. Some of these haciendas offers tours and/or have a coffee shop where visitors may enjoy a delicious cup of coffee. Some of them combine the agricultural activity with hospitality service in the form of small inns.

During the first centuries of Spanish colonization, the majority of Puerto Ricans choose to live in the coastal areas and valleys. The central mountainous region remained sparsely populated. The main attraction for settlement of the interior was, beyond a doubt, the cultivation of coffee. The lives of the scarce population, living in isolated small towns and scattered coffee haciendas, revolved around agricultural activities. Travel was on foot and horseback. These rugged farmers or “jíbaros” and their families established the traditional cultural values of the mountain zone.



San Isidro Labrador Catholic Church at the Maunabo town square, Maunabo

The inhabitants of the interior maintained a commercial tie to the nearby coastal towns. Here they would come to ship coffee to Europe, and, in turn, barter or buy some salt and other staples. Some of the staple goods were from the Island and others were imported. The practice of bringing down products from the mountains to the port towns created in Puerto Rico a communication pattern of "mountain-coast". This was the case of Maricao-Mayagüez, Castañer-Yauco, Adjuntas-Ponce, and Utuado-Arecibo.

In contrast, the communication and interchange among the towns and communities of the interior was rare. Roads did not exist to facilitate interchange, nor were there reasons for communication.

The rapid population growth and spread of the 20th Century in Puerto Rico, facilitated by the growing use of the automobile and new roads, has brought an increased population to the mountain zone. One such road system evolved, the Panoramic Route, that tied the whole of the Cordillera Central, from east to west. The Route was intended to become the means to integrate the people and communities of the mountains. However, as perceived from the field investigation this has not been achieved because of several reasons, including:

- Lack of continuous road directional signage indicating when each individual road connects with the next one.
- Lack of vista points along the roadsides for travelers to safely enjoy the amazing panoramic views that the Route offers, being this intrinsic quality that which appeals the users by its name (Panoramic Route).
- Lack of awareness and sense of stewardship to the Panoramic Route values.

The Panoramic Route is the access and connector road to these various cultural activities. To visit and know them is to know the "soul of Puerto Rico".

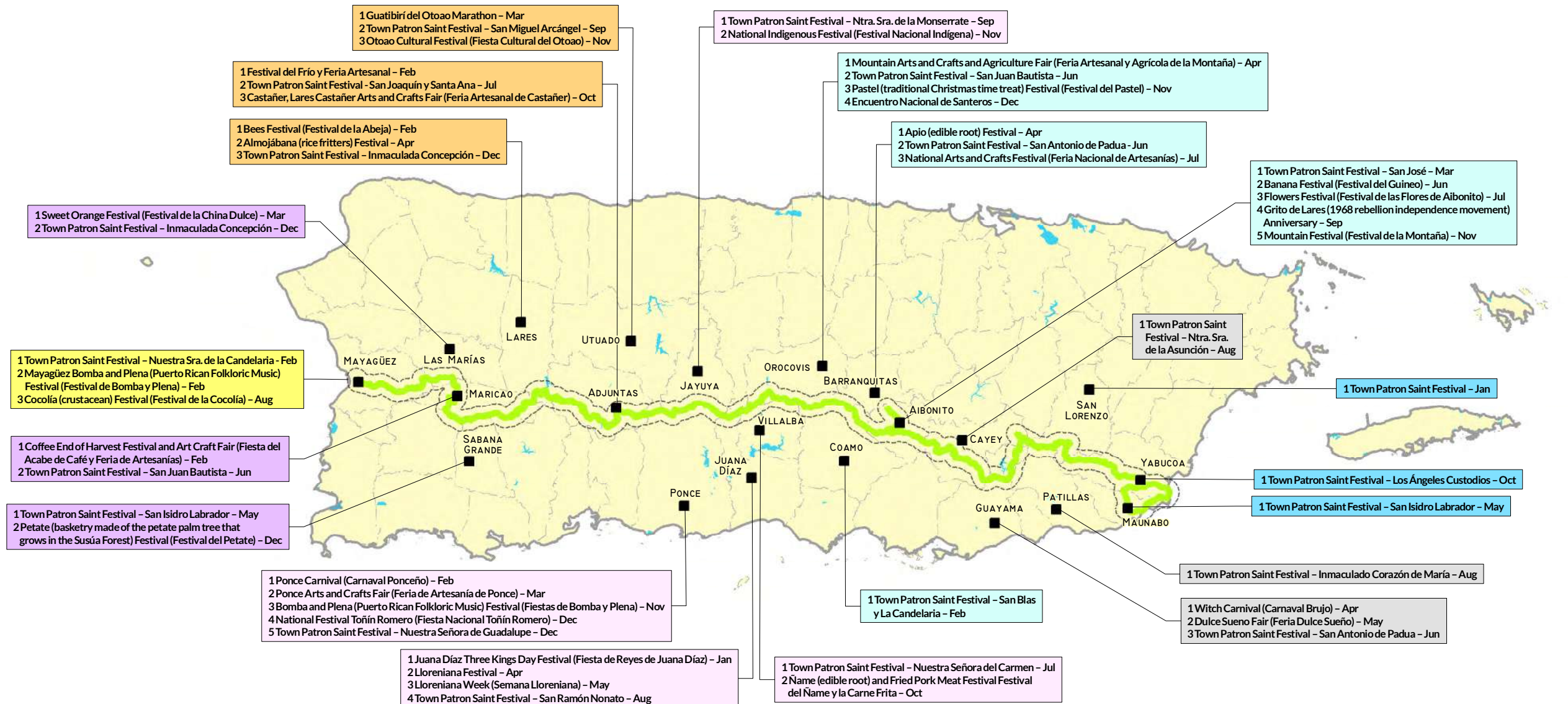
The Panoramic Route passes through the town of Maricao and the village of Castañer (*Poblado de Castañer*). Both places offer a chance to sample mountain life. Maricao has the singularity to have the historical legacy of being the last bastion of *Taíno* Indians in Puerto Rico. A festival to honor this legacy is annually celebrated by Casa Encuentro Madre Dominga a congregation of Dominican nuns in Indiera Alta Ward.

In order to further appreciate the cultural values along the Panoramic Route, the traveler may exit the Route and participate in activities in the nearby towns and communities which are celebrated year-round. They include not only the patron saint festivals, but different festivities mainly associated to agricultural products, typical from the corresponding towns (**Figure 4-29**).

The inventory of cultural elements of the Panoramic Route features activities and facilities of the towns, including patron saint festivals, carnivals, museums, cultural activities, universities, monuments, town squares, restaurants, theaters, building restorations, concerts, historic zones, literary happenings, legendary bridges, and coffee haciendas. Refer to figures included in **Section 4.1.3** Route Description and Context which show location of cultural intrinsic qualities inventory for all the interpretive regions.

4.3.4 Natural Intrinsic Qualities

The inventory of the natural intrinsic qualities focused on "those aspects of the environment that are relatively undisturbed by human activity". The former National Scenic Byways Program recommends an assessment of those "features that predate the arrival of human populations and may include geological formations, fossils, landforms, water bodies, vegetation, and wildlife. There may be evidence of human activity, but the natural features reveal minimum disturbance".



The rigor with which this definition may be applied to the Panoramic Route is questionable. Puerto Rico is a relatively small island, of less than 3,500 square miles, and densely populated. It has been heavily traveled and developed. There are relatively few "undisturbed" areas, where the hand of man has not intervened to some degree. Along the Panoramic Route only, the four (4) state forest areas, the protected natural areas and the Sierra La Pandura stay relatively free of intervention.



Sierra La Pandura Natural Protected Area. Photo courtesy of the Conservation Trust of Puerto Rico

An important contribution to land conservation in the Corridor is attributable to conservation easements and natural protected areas managed by private parties and NGO's, respectively as well as lands protected by the Forest Legacy Program, among others.

The inventory sites are those with traditionally recognized natural value, as documented in official publications and research reports. They include a variety of the Island's ecosystems and sensitive wildlife habitats, often located in highly scenic landscapes, such as forests, rivers, reservoirs, beaches, and wetlands.



View from the Punta Tuna lighthouse towards the Punta Tuna Mangrove Natural Reserve and Playa Larga, Maunabo

Many of the sites included are outstanding for observing flora and fauna and unusual and unique trees. Some of the habitats are observed from the edge of the Route. Others must be penetrated by trails, accessible from the Panoramic Route, in order to be enjoyed. The Cordillera Central and its forests are the principal natural assets of the Panoramic Route and they are of regional importance in the Caribbean. The natural qualities have been grouped around the natural reserves, forests and state forests.

The Maricao State Forest (ID 130) lies at the westernmost end of the Cordillera Central. It is divided into separate areas covering approximately 10,803 acres, in the municipalities of San Germán, Maricao and Sabana Grande. The highest elevation is near the observation tower along Road PR-120. Established in 1919, it was the first highland forest in the Cordillera Central. Over 85 percent of the soils in Maricao Forest are derived from Cretaceous serpentine, which is highly permeable and well drained. Physical properties peculiar to these soils allow them to absorb unusually large amounts of water yet cause moisture loss more rapidly than other clays in Puerto Rico, producing a unique dry condition, in spite of high rainfall.

The Maricao State Forest lies in the headwaters of Guanajibo River and Grande de Añasco, River which flow west. The headquarters of the Maricao State Forest serve as trail heads for several paths that radiate from the site. The edge of the ridge overlooks the forested valley of the Maricao River. This river feeds the Maricao Fish Hatchery, a landmark in Puerto Rico, unfortunately closed to the public after hurricanes that hit the Island in 2017. Operation is limited to hatcheries as source to seed fishes in the reservoirs for recreational purposes.

Benefits from the forests: clean water, shelter for breeding species, erosion and flood control, recreation opportunity, attractive scenery and great diversity of species

Guilarte Forest covers 3,600 acres in the municipalities of Adjuntas, Guayanilla, Penuelas and Yauco. Elevations above sea level approximately range from 760 to 1,190

meter above sea level on Monte Guilarte. Headwaters of Grande de Arecibo River, Grande de Añasco River and Guayanilla River are found in the Guilarte State Forest (ID 109). The sixth highest mountain in Puerto Rico, Cerro Guilarte is a landmark as seen across from the dam of Garzas Reservoir (ID 103). Mountain fog is experienced at this site when the conditions of moisture and temperature occur. Cerro Guilarte Trail (ID 111) at the end of Road PR-131, gives access to the peak Cerro Guilarte (ID 112).

Guilarte River and Yahuecas River drain toward the North Coast via the Grande de Arecibo River watershed; Prieto River joins Grande de Añasco River which empties into Añasco Bay off the West Coast. The headwaters of Guayanilla River and Guayanés River lie within the forest boundary and drain to Guayanilla and Tallaboa bays respectively, on the South Coast. One of several rivers with headwaters in Guilarte Forest is Blanco River. It is illustrative of the need for the protection of our mountain forest system.

Shade coffee plantations in Puerto Rico, although under cultivation, are among the most diverse wildlife habitats. These *cafetales* remained as the refuge that helped native wildlife to survive when most of Puerto Rico was deforested at the beginning of the 20th Century. Shade coffee from this reemerging agricultural activity continue supporting both endemic and migrant bird species.

The Toro Negro Forest (ID 3) consists of a complex of mountain ranges of volcanic origin that were eroded during the Cretaceous uplift and severe erosion cut the entire area into a complex series of valleys and intervening narrow ridges. The Toro Negro Forest covers 8,200 acres in the municipalities of Jayuya, Ponce, Juana Díaz, Ciales and Orocovi. Elevations through this state forest fluctuate between 440 meters above sea level (Salto Inabón) to 1,338 meters above sea level



La Francia Rock Formation (Peña La Francia) viewed from Road PR-143, Bauta Abajo Ward, Orocovi

corresponding to Cerro Punta in Jayuya, the highest peak in the Island, now covered with telecommunication towers and structures. Topography is steep-sloped with high cliffs and waterfalls. The highest reservoir in Puerto Rico, Guineo Reservoir, is located within the forest along PR-143. Foggy weather also prevails during most evenings and mornings in this forest.

Highest peaks Island wide are located within or near the Corridor of the Route, being Cerro Punta (ID 5) in Jayuya, the highest peak in the Island, as indicated before. Refer to **Figure 4-9** Islandwide Highest Peaks. More than half of them are within the Corridor (Cerro Punta, Monte Jayuya (ID 156), Cerro Maravilla (ID 144), Monte Guilarte (ID 112), Cerro Piedra Blanca (ID 155) and Cerro Doña Juana (ID 219)). Los Tres Picachos, in the municipality of Jayuya, remain as one of the last undisturbed complex of mountain peaks in Puerto Rico. They are part of the headwaters of sixteen rivers and creeks in central Puerto Rico. A high difficulty trail in Toro Negro State Forest, leads to Salto Inabón, one of the major waterfalls (200 meters) and a landmark on the southern slope of Cordillera Central (DRNA, 2015).

The entrance to the Carite State Forest (ID 189) presents a change in landscape, with the presence of forested habitat. Natural vegetation is mixed with scattered plantation growth, such as Eucalyptus trees. The Carite State Forest covers 6,7000 acres with an elevation between 820-2,963 feet above sea level. The forest is underlain by volcanic-sedimentary rocks. Intrusion of magma have caused mineralization of the host rock. The forest contains the headwaters of three (3) main rivers of Puerto Rico: Grande de Loíza River, which is the largest river on the Island, and which supplies water to the San Juan metropolitan area; La Plata River, the longest river, and Patillas River, which flows mainly to the dry southern area and is used for irrigation. Foggy weather prevails during most evenings and mornings in this forest.

The last of these main natural areas from west to east, is the Sierra Pandura (ID 5187) in the municipalities of Maunabo and Yabucoa. The Sierra Pandura is habitat to the endemic Coquí Guajón (*Eleutherodactylus cooki*), which lives in wet crevices, formed by the erosion of the soils between the granitic boulders (guajonales). Nearby is the

Guardarraya mountain range. Along with Panduras mountain range, it encloses the lower valley of Grande de Maunabo River. Feeder creeks, which flow into major rivers, form the watershed network that supply water into the ecosystem, in this case the Grande de Maunabo River.

The four (4) state forests (Maricao, Guilarte, Toro Negro and Carite) as well as the Sierra de Pandura are considered Critical Wildlife Areas that host flora and fauna endangered and vulnerable species (DNER, .2017)

- Maricao State Forest
 - Sharp-shinned Hawk (falcón de sierra) -*Accipiter striatus*
 - Broad-winged Hawk (guaragao de bosque) -*Buteo platypterus*
 - White-crowned Pigeon (paloma coroniblanca) -*Patagioenas leucocephala*
 - Puerto Rican Lizard-Cuckoo (pájaro bobo mayor) -*Coccyzus vieilloti*
 - Puerto Rican Oriole (turpial)-*Icterus portoricensis*
 - Puerto Rican Vireo (bienteveo)-*Vireo latimeri*
 - Adelaide's Warbler (reinita puertorriqueña) -*Setophaga adelaidae*
 - Elfin Woods Warbler (reinita de bosque enano) *Aetophaga angelae*
 - Puerto Rican Manac (palma de manaca) -*Calyptronoma rivalis*
 - Crescentia (higüero de sierra) -*Crescentia portoricensis*
 - Orchid-*Cranichis ricartii*
 - Gesneria (yerba Maricao de Cueva) *Gesneria pauciflora*
 - *Ottoschulzia* (Palo de Rosa) -*Ottoschulzia rhodoxylon*
- Guilarte State Forest
 - Sharp-shinned Hawk-*Accipiter striatus*
 - Puerto Rican Lizard-Cuckoo-*Coccyzus vieilloti*
 - Puerto Rican Vireo-*Vireo latimeri*
 - Key West Quail-Dove (perdiz áurea) -*Geotrygon chrysia*
 - Puerto Rican Oriole-*Icterus dominicensis*
 - Red fruit Bat-*Stenoderma rufum*
 - Cave Bat-*Brachyphylla cavernarum*
 - Eneida's Coquí-*Eleutherodactylus eneidae*

- Puerto Rican Coqui-*Eleutherodactylus portoricensis*
- Puerto Rican Boa-*Chilobotrus inornatus*
- West Indian Walnut (nogal or palo de nuez)-*Juglans jamaicensis*
- Puerto Rican manac-*Calyptronoma rivalis*
- Toro Negro State Forest (and Tres Picachos State Forest)
 - Sharp-shinned Hawk-*Accipiter striatus*
 - Puerto Rican Lizard-Cuckoo-*Coccyzus vieilloti*
 - Puerto Rican Vireo-*Vireo latimeri*
 - Puerto Rican Oriole-*Icterus portoricensis*
 - Cave Bat-*Brachyphylla cavernarum*
 - Long-tongued Bat-*Monophyllus redmani*
 - Red Fruit Bat-*Stenoderma rufum*
 - Brown Flower Bat-*Erophylla sezekorni*
 - Slippery-backed Mabuya (*culebra corredora*)-*Mabuya mabouya*
 - Treehole Coqui (*coquí de Hedrick*) -*Eleutherodactylus hedricki*
 - Ground Coqui (*coquí caoba*) -*Eleutherodactylus richmondi*
 - Eneida's Coqui-*Eleutherodactylus eneidae*
 - Camarón Palaf-*Macrobrachium carcinus*
 - Camarón-*Macrobrachium crenulatum*
 - Camarón-*Macrobrachium faustinum*
 - Camarón-*Macrobrachium heterochirus*
 - Buruquena-*Epilobocera suinuatifrons*
- Carite State Forest
 - Elfin woods Warbler-*Setophaga angelae*
 - Sharp shinned Hawk-*Accipiter striatus*
 - Broad-winged Hawk-*Buteo platypterus*
 - Key West Quail-Dove-*Geotrygon chrysis*
 - Puerto Rican Vireo-*Vireo latimeri*
 - Puerto Rican Oriole-*Icterus portoricensis*
 - Puerto Rican Boa-*Chilobotrus inornatus*
 - Golden Coqui-*Eleutherodactylus jasper*

- Puerto Rican Coqui-*Eleutherodactylus portoricensis*
- Ground Coqui-*Eleutherodactylus richmondi*
- Eneida's Coqui-*Eleutherodactylus eneidae*
- Warty Coqui (*coquí martillito*) -*Eleutherodactylus locustus*
- Tree hole Coqui-*Eleutherodactylus hedricki*
- Web footed Coqui (*coquí palmeado*) -*Eleutherodactylus karlschmidt*
- Pandura Mountainin Range
 - Brown Pelican (*pelicano pardo*) -*Pelecanus occidentalis*
 - White-crowned Pigeon-*Patagioenas leucocephala*
 - Adelaide's Warbler-*Setophaga adelaidae*
 - Puerto Rican plain Pigeon-*Patagioenas inornata*
 - Puerto Rican Vireo-*Vireo latimeri*
 - Puerto Rican Oriole-*Icterus portoricensis*
 - Puerto Rican demon (*coquí guajón*)-*Eleutherodactylus cooki*

4.3.5 Scenic Intrinsic Qualities

Being “Panoramic Route” the name of the Route, it obviously appeals to the scenic intrinsic quality and makes it probably the most tangible among the six (6) intrinsic qualities. Visual elements are those first perceived by the road users and therefore the ones that should be taken care with priority.

“Panoramic” is literally "a complete view. The etymology of this word comes from: pan "all" + Greek horama "sight", spectacle, that which is seen" from horan "to look, see". It means "comprehensive survey, complete or entire view".

Online Etymology Dictionary, 2020.

Landscape visibility addresses the relative importance and sensitivity of what is seen and perceived in the landscape (US Department of Agriculture, 1995). Landscape visibility is a function of many essential, interconnected considerations, including: context of viewers, duration of view, degree of discernible detail, and seasonal variations. The following points support the premise that landscape visibility is important.

- People view all lands from somewhere at some time. Landscape visibility is subject to many essential, interconnected considerations. These include context and experiences of viewers, expected images, position of observer in the landscape, number of people, and viewer scrutiny of the landscape caused by duration of view, viewing distance, air clarity, and visual magnitude.
- Observer position depends on location of travel routes, residences, recreational areas, and bodies of water.
- A landscape readily accessible to viewing by large numbers of people is often subject to greater scrutiny of its landscape character and scenic integrity.

4.3.5.1 Visual Setting

The Panoramic Route offers outstanding scenic views, natural areas and broad vistas of the geographic diversity of Puerto Rico along its whole extent. The Route is by itself an invitation to the users to enjoy its most tangible attribute: its landscape. Therefore is of utmost importance to address those issues identified that affect the landscape setting like: land preservation, abandoned structures, aesthetic and maintenance, illegal dumping



View from PR-143 in the boundary between Buen Consejo Ward in Utuado and. San Patricio Ward in Ponce

control, littering and control of illegal signs, among others. Just to mention an example, subtle things like illegal signs spread all over roadsides ruin even the best landscape. Refer to corresponding discussion of strategies to address deficiencies in **Section 7.3.1** Strategies for Preservation Goal.

Increasingly, the world's tourist destinations are considering the landscape as a fundamental part of the tourism offer. An example is the *Camino de Santiago* in Spain, declared a UNESCO World Heritage Site for the value of the landscape. The possibility of designating the landscape of the Panoramic Route as Heritage of Puerto Rico should not be ruled out. The Route has possibly the best scenic views on the Island, which represents a great under-utilized tourist asset.

Worth to mention is also the initiative of a group of students from the Polytechnic University of Puerto Rico Graduate School of Landscape Architecture by issuing a statement on the Puerto Rico's landscape (*Carta del Paisaje*). This initiative had the purpose of creating awareness of the value of the landscape as something fundamental for the well-being of the human being. No other efforts on this direction were identified as part of the research made for this analysis.

4.3.5.2 Existing and Potential Scenic Overlooks and Vista Points

The availability of safe and appealing areas for drivers to be able to stop, for a short period or for a while is essential for the Route. When the Route program was prepared and actual roads selected, in the early 1970's 15 sites were identified with potential to be developed as scenic overlooks. The DTPW acquired land for nine (9) of these, and three (3) of the sites were developed: Mirador Maravilla, Mirador Piedra Degetau, and Mirador Villalba-Orocovis.

This CMP Update keep these sites as the most significant ones along the Panoramic Route from the scenic perspective (**Figure 4-30**). They still represent top priority for preservation of their view sheds and for future development under this CMP Update.

Note that the ownership information was not available for all sites at the moment in which this CMP Updated was issued.

This CMP Update keeps the definition of scenic overlook and vista points from the 1998 CMP, as indicated before. The concept of a scenic overlook site is defined as a location with facilities for parking, and passive recreation such as picnic tables, where the main attraction or draw is the views from the roadside. A vista point site is defined as a safe turn off next to the road where drivers can park briefly and enjoy the view from the car or standing next to the car.

The availability of scenic overlooks and vista point sites distributed along the Route will provide a sense of continuity and the opportunity for users to appreciate the different panoramic contexts and to interpret the corresponding regions story bylines.

This CMP Update also keeps the concept proposed in the sketches presented in the 1998 CMP Scenic Overlooks and Interpretive Program. Refer to **Figure 4-31** and **Figure 4-32**. The final design should obviously comply with current design standards and building codes.

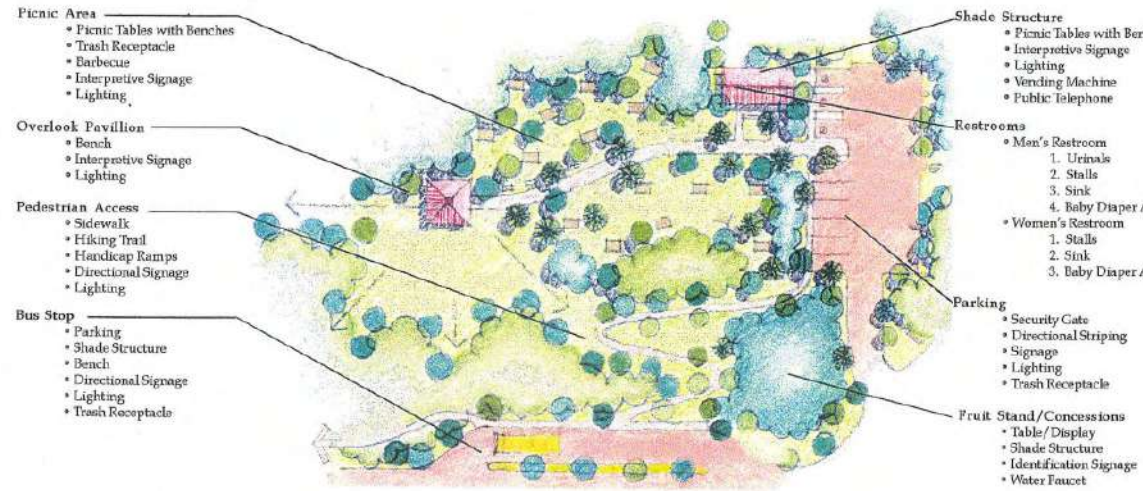


Figure 4-30 Existing and Potential Vista Points and Scenic Overlooks along the Route

Figure 4-31 Typical Overlooks Sketch and Program Elements

OVERLOOK FACILITIES

Typical Overlooks Sketch and Program Elements



Puerto Rico Panoramic Route Proj
Scenic Overlook and Interpretive Prog

PREPARED BY MANUEL DE LEMOS AIA, ARQUITECTOS

Figure 4-32 Vista Point Sketch and program Elements

VISTA POINTS

Vista Point Sketch and Program Elements

1. SHOULDER PARKING

where shoulder area is minimum, no parking area is provided

A. Parking

- Interpretive Signage
- Lighting
- Wall/Bench

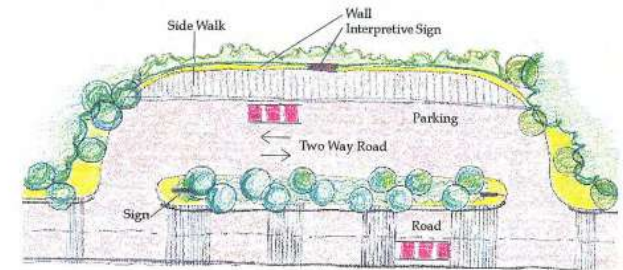
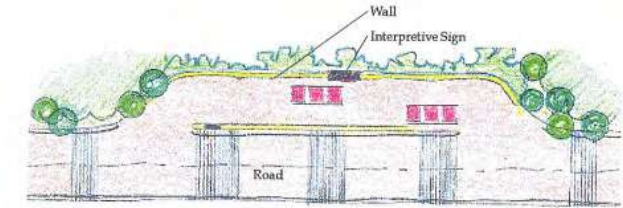
2. OFF-ROAD PARKING

A. Parking

- Interpretive Signage
- Wall/Bench
- Lighting
- Landscape Screening that does not affect visibility, such as shrubs

B. Overlook Area

- Sitting
- Interpretive/ Information Signs
- Lighting



Puerto Rico Panoramic Route Projects
Scenic Overlook and Interpretive Program

PREPARED BY MANUEL DE LEMOS AIA, ARQUITECTOS

During the field inspection phase, the team visited the existing or potential scenic overlooks/vista point sites to evaluate their viewsheds and scenic qualities following the criteria adapted from methodology developed for the National Park Service by Sullivan and Mark (2016). It includes two (2) main components:

- **Part A** - Landscape description
- **Part B** - Scenic quality evaluation

The landscape description considers the view type, the landscape character type, the elements that contribute to its singularity, view obstructions and municipalities or landmarks viewed. The scenic quality evaluation considers integrity, vividness and visual harmony factors. The assessment of scenic quality evaluates three (3) equally weighted components for each factor. Each individual component has a rating of one (1) to three (3) points according to a predetermined scale and rating criteria. The assessment of each factor is based on structured questions and possible responses with corresponding rating values as an aid to rate the condition of the view. The total score indicates the scenic condition.

- Deteriorated or Poor 9-15 points
- Regular or Fair 16-21 points
- Good to Excellent 22-27 points

Results are included in **Table 4-4**, at the end of this subsection. Information of the sites and evaluation of their landscape is included below, based on the discussed methodology. Corresponding aerial photos for the sites and its vicinity are included in **Appendix 5**.

Stone Observation Tower - PR-120, Maricao Afuera Ward, Maricao (ID 126)

Located within the Maricao State Forest, this observation tower provides a convenient opportunity to road users to enjoy a beautiful panoramic view close to the road. The building is divided into two (2) functional areas: a gathering place and an observation tower. The tower was built by the Civilian Conservation Corps in the 1930's. Its viewshed include the whole southwestern region of Puerto Rico. Highlights within its viewshed are: the southwest coastline, Lajas Valley, the Karst Region north, Rincon's

coastline on the west, and the Cordillera Central. The scenic quality of this site is considered Good to Excellent, however the close presence of telecommunication towers negatively affects the amazing view that this site offers. Zoning districts like Forest, Resources Conservation, Resources Preservation, and agriculture in these areas within the Corridor should be maintained and enforced to protect the viewshed.

This site is very attractive because of the historical stone structure, the forested immediate landscape and good road condition. However, several rehabilitation works are necessary in the structure itself, like removing graffiti from several walls (inside and outside) and fixing interior drainage system, as water get stagnant just at the entrance promoting insanitary conditions. Interpretative sign although in good condition has holes that seems to be shoots, giving a negative impression to any visitors. No interpretive signs exist to guide the views that are enjoyed from the tower.



View to San Germán and Hormigueros municipalities from Stone Observation Tower



Stone Observation Tower exterior and interior conditions

Another important issue that negatively affects this historical landmark is the location of two (2) communication towers just in front of the tower, interrupting its impressive panoramic view. One of them seems to be out of service, thus it is recommended to identify its owner through the Telecommunications Regulatory Board and to require its removal. This facility was formerly administered by the Puerto Rico National Parks, it is now administered by the DNER. The DTPW is the owner of the site.



View to San Germán and Lajas Valley, partially obstructed by communication tower just in front of the observation tower

This site is considered significant because of its combination of views depicting different lifestyles within the southwest corner of Puerto Rico, from mountain life to coastal life. The immediate viewshed is zoned as ZDA-2 and AP, agricultural zoning districts, which should be kept, specially if dedicated to shade grown coffee. The scenic quality of the viewshed is considered Good to Excellent.



Southwestern coastline on the background and Luchetti Reservoir on the middle ground view (left)

Yauco Potential Vista Point, Road PR-128, Rubias Ward, Yauco (ID 141)

Located in the Coffee Region, this possible site offers views of the coffee region and southwest coast of Puerto Rico. The site is located off the Panoramic Route, approximately 500 meters drive south. The site is clear of vegetation, at an elevated position from the road. A short dirt road lead up to the terrain which is protected with a wire fence. Electric lines negatively affect the immediate viewshed in its western side. Several landmarks are enjoyed from this site including the Luchetti Reservoir, the Guánica Bay and the Guayanilla Bay, to mention the closest bays on the southwest coastline.



Southwestern coastline on the background affected by electric lines on the site western side



Southwestern coastline on the background pointing the Guánica Bay

Guilarte State Forest Recreational Area, Guilarte Ward, Adjuntas (ID 191)

This site was originally identified as the Intersection of Road PR-131 and PR-518 making reference to the location of the entrance to the Guilarte State Forest recreational area. Within this recreational area there are several lookouts from where to enjoy amazing views to the forest. Visitors may choose other, more challenging, lookouts spots by hiking the trails that are open: Guilarte and San Andrés.

Gazebos at the recreational area offer a nice view to the town of Adjuntas and Bartolo Peak. The scenic quality of this site is considered Good to Excellent. This area is clean and appealing. No interpretive signs exist to guide the views that are enjoyed from the tower. Vegetation close to several gazebos partially obstructs free view. Selective trimming is recommended to maximize the views.

The state forest recreational area entrance is cared and appealing. A former *chinchorro* located close to this entrance was severely affected by hurricanes in 2017 and debris are still there negatively affecting this area. This *chinchorro* used to be very busy during the weekends before being hit by the hurricanes providing a service very needed in this area devoid of places to eat.

Remarkable areas in the viewshed seen from the top of Guilarte Trail includes Guilarte Peak and the mountain region as far as Toro Negro area and Maricao mountain range. No interpretive signs exist to guide the views that are enjoyed from this point. Zoning districts like Forest, Resources Conservation, Resources Preservation, agriculture and Specially Protected Rustic Lands in these areas within the Corridor should be maintained and enforced to protect the viewshed.



Entrance to the Guilarte State Forest recreational area.



View from the top of Guilarte Trail. Photo courtesy of Lydia Mejías.



Forest lookout in the recreational area at the Guilarte State Forest

Maravilla Former Scenic Overlook- Road PR-143, Ponce (ID 4)

Located in the Toro Negro State Forest, in the municipality of Ponce, this is the only scenic overlook that was developed during the early 1970's as part of the Panoramic Route Project. As indicated before, this scenic outlook has a great panoramic view however, former facilities (restrooms, gazebos and benches) were in a dilapidated condition at the moment in which the field inspection was conducted (2019). After that field inspection a community group, El Banquillo, made an intervention in this site significantly improving its appearance. The lawn was mowed, benches washed, restrooms were closed and painted, and a bench was strategically located to enjoy the view.

The viewshed provides a broad view of the central-southern coast of the Island. Some highlights of the viewshed include the City of Ponce, Cerrillos Reservoir, and *Caja de Muerto* Island (Coffin Island). The scenic quality of the viewshed is considered Good to Excellent. Zoning districts like Forest, Resources Conservation and agriculture in these areas within the Corridor should be maintained and enforced to protect the viewshed.



View from the former Maravilla scenic overlook



Abandoned structures at former Maravilla scenic overlook (2019)



Improvements made by the community group El Banquillo at former scenic overlook

Villalba-Orocovis Scenic Overlook- Road PR-143, North Bauta Abajo Ward, Orocovis and South Hato Puerto Arriba Ward, Villalba (ID 113)

This scenic overlook, originally known as Apeadero, is located just in the boundary of these municipalities and is one (1) of the original 15 sites. Located in the Highlands Region, it is considered

one of the most dramatic overlook sites on the Panoramic Route. It was developed by the PRDTPW by early 2000's and is currently operated under an agreement between this agency and the Municipality of Villalba. The overlook has gazebos, green areas, an ample parking area, decks, a basketball court and sanitary services. One of its most remarkable characteristics is that it allows view to both the Atlantic Ocean north and the Caribbean Sea south. This site offers stunning views to the Atlantic Coast, 15 miles away, and to Caribbean Sea ten (10) miles away. The viewshed includes the Cordillera Central, the Toa Vaca Reservoir and the town of Villalba, as well as landmarks like *Caja de Muerto* Island and the windfarm at Santa Isabel. No interpretive signs exist to guide the views that are enjoyed from any of the sides. Close to the outlook there are places to eat where visitors can enjoy typical dishes and beverages.



View north from the *Mirador Villalba-Orocovis* negatively affected by electric transmission wires

As previously indicated this overlook is in need for maintenance and improvements. Although green areas are well maintained the built areas need maintenance and rehabilitation, from sanitary services, basketball court and gazebos to signs and fences as observed during the field inspection (August 2019). Undoubtedly the passage of hurricanes Irma and María during 2017 seriously affected this important facility. At that moment the Municipality was waiting for damage coverage from the Federal Emergency Management Administration (FEMA) (Primera Hora, 2019).



View north from the *Mirador Villalba-Orocovis* negatively affected by the massive neglected basketball court

The scenic quality offered by this important site is considered Good to Excellent on both sides. This scenic quality is an asset which partially offsets the site conditions. Zoning districts like Forest, and agriculture areas within the Corridor, for the overlook northern side, should be maintained and enforced to protect the viewshed. The prevailing district in the southern side is Rural (R-G), which is not as stringent as those previously mentioned in terms of uses and buildings that are allowed.



View south from the *Mirador Villalba-Orocovis*

Hayales Potential Vista Point - Road PR-143 Hayales Ward, Coamo (ID 114)

This was a possible site for a scenic overlook, being one of the 15 original sites for developing a *mirador*. Currently the site is developed commercially for a sport bar. The site has a gazebo used by clients as a scenic overlook. It is a concrete structure, well maintained. View toward the southern coastline is framed by mountains east and west. Rural areas are also present.



View to the southern coastline from the Hayales vista point

Although commercially developed, it can be considered a vista point as previously defined. The DTPW may reach an agreement with the owner to provide a sort of sign to identifying the vista point as well as an interpretive sign of the viewshed. The quality of the viewshed is considered Good to Excellent. The prevailing zoning district in the viewshed is agricultural which should be maintained and enforced to protect it.



Sport bar in Hayales site

Piedra Degetau Scenic Overlook, - Road PR-7718, Pasto Ward, Aibonito (ID 136)

This site, also developed by early 2000's by the PRDTPW, is one of the 15 original sites. As indicated before, this scenic overlook is operated by a private party under a subcontract with the Municipality of Aibonito. This transaction is covered under an agreement between the municipality and the PRDTPW. A casual

restaurant is operated by this private entity, providing maintenance to the facilities within the overlook. Facilities include an observation tower, gazebos and green areas as well as interpretive signage with information about historic, cultural and scenic qualities of the area. As indicated before, improvements are considered necessary and some were in progress during the field reconnaissance conducted by August 2019.

The site is of historical and cultural quality. According to general beliefs, the beautiful views of this area, owned by Don Federico Degetau y González served as an inspiration point for many of his literary works. Degetau was a distinguished writer, eloquent orator, and patriot, as well as the first Resident Commissioner of Puerto Rico in Washington D.C from 1900 to 1904.



View from the overlook eastward to Pasto Ward, Aibonito



Telecommunication tower viewed from the scenic overlook

The site's historical and recreational qualities are linked to Aibonito's significance within Puerto Rico's cultural qualities. As a recreational resource it offers an opportunity for passive and active recreation in Aibonito and the Panoramic Route. The quality of the viewshed is considered Fair to Regular, mainly due to the closeness of scattered rural development and the close presence of a telecommunication tower.



View from the overlook north to Aibonito town center

Jájome Potential Vista Point - Road PR-7737, Boundary between Jájome Alto Ward and Culebras Bajo Ward, Cayey (ID 93)

Located in the Ferns and Springs Region, this possible site for a vista point is considered of significance because of its view of a relatively undisturbed and undeveloped land. The preservation of this view, considered representative of pre-Columbian Puerto Rico, is vital to the Panoramic Route.



View from the proposed vista point to the La Robleda Natural Protected Area

The area in this viewshed (between Road PR-15 in Quebrada Arriba Ward in Cayey and PR-738 in Quebrada Arriba in Cayey) is zoned as Forest (B-Q) and should be kept. La Robleda Natural Protected Area is also located in this area. Seasonally, in May, this protected area offers a spectacular view of the flowered oak trees. The scenic quality of the viewshed is considered Good to Excellent.

This site is especially important for athletes that use the road segment where this potential site is located as a trail for biking and jogging on weekends. Cyclists and joggers come alone or in groups to the Jájome Alto Ward and adjacent wards (roads PR-15 and PR-7737). As indicated before, some of them convoke others through blogs for walking, jogging or biking activities, and usually met at this site, which is used also for food street vending during weekends. The area is not appealing, and tents and chairs are left in the area.

This is one of the sites acquired by the PRDTPW in 1970's. An immediate landscape intervention would benefit all users that enjoy this important panoramic view, while a formal vista point is developed. Another point to remark for this site is the close location of former trails established during the Spanish domain in Puerto Rico known as Jájome

Royal Trails (*Caminos Reales de Jájome*) (ID 92). These trails were established to facilitate commerce from Cayey with ports in the southern coast in Arroyo and Guayama. The Municipality of Cayey as well as the PRHTA had envisioned a project to identify and revive these trails to develop nature and ecotourism activity to promote local economy (AC-50043).

La Tabla Potential Vista Point - Road PR-7741, Carite Ward, Guayama (ID 83)

Located in the Ferns and Springs Region, this is one of the sites acquired by the PRDTPW in 1970's. The viewshed of this possible scenic overlook includes the southern coast including the town of Guayama. The viewshed is partially blocked by vegetation.

The scenic quality of the viewshed is considered Good to Excellent.

The zoning district that prevails in the immediate viewshed is rural (R-G), which is more flexible in terms of uses and structures allowed, if compared to forest district, for example. Allowed uses in the (foreground and midground) viewshed should take into consideration the Panoramic Route.



Current aspect of Jájome Potential Vista Point



View from the proposed vista point to the southern coast

Honore Potential Vista Point - Road PR-7740, San Lorenzo (ID 101)

This potential vista point is located in front of the Virgen del Carmen Diocesan Sanctuary, also known as the Holly Mountain (*Montaña Santa*). It provides a nice view to the hilly landscape at Espino Ward. Farther, views of El Yunque, the only rainforest on U.S. territory, and the Caguas Valley are also observed.



View from the Honore Potential Vista Point

As indicated before, hundreds of pilgrims walk long distances from adjacent municipalities to visit this important cultural place every year, during the Holy Friday, giving this area a religious atmosphere. The scenic quality of the viewshed is considered Good to Excellent. Zoning districts like Forest, and Resources Conservation areas within the Corridor should be maintained and enforced to protect the viewshed. This is one of the sites acquired by the PRDTPW in 1970's.

Emajagua Potential Vista Point, Road PR-901, Maunabo (ID 96)

This site on Road PR-901 provides sweeping views north and south along the Caribbean coast of Punta Tuna and other important landmarks in this coast, according to the 1998 CMP. Apparently, this site was acquired during 1970's. Site is in a narrow, tightly closed curve which may pose transportation safety issues.

This site is currently covered with vegetation and protected by a fence. The viewshed is not clear from the road because of these reasons. According to the 1998 CMP other landmarks are observed from this point, including Punta Yegua, Inés María Mendoza Natural Reserve, Punta Guayanés, Punta Toro, the Port of Yabucoa, Maunabo Beach and the islands of Vieques and Culebra. Located on the boundary of the municipalities of Maunabo and Yabucoa, its significance lies in being the only potential overlook on the entire Route, from the original group, next to the coast. Historically it represents an area from which pirates and contraband runners operated. The zoning district that prevails in the immediate viewshed is rural (R-G). As indicated before this district is more flexible in terms of uses and structures allowed, if compared to forest or resources conservation district, for example. Allowed uses in the (foreground and midground) viewshed should take into consideration the Panoramic Route.

The following table summarizes the evaluation of the viewsheds and scenic qualities of the existing or potential scenic overlooks/vista point sites. See notes at the end of the table.

Table 4-4 Assessment of Existing and Potential Vista Points and Scenic Overlooks along the Route

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (Intensidad) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Stone Forest Region Torre de Piedra	Panoramic	Natural	Background	<ul style="list-style-type: none"> Mountains, and valley, landforms. Forested and pastureland cover. Natural areas land use prevails Communication towers structures. 	No	Whole south western region of Puerto Rico. Highlights within its viewshed are: the southwest coastline, Lajas Valley, Karst Region north, Rincon's coastline west and the Central Mountain Range (Cordillera Central)	3 / 3 / 1	3/3/3	3/3/3	25



Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Coffee Region Yauco Potential Vista Point	Panoramic	Natural	Background	<ul style="list-style-type: none">• Mountains, coastal plain and reservoir landforms• Forest, grassland, reservoir and ocean land cover• Natural area land use prevails• Residential and power related structures.	No	Southwestern region of Puerto Rico. Highlights within its viewshed are Luchetti Reservoir, southwestern coast, including the Guánica Bay, and Guayanilla Bay.	3/3/2	3/3/3	3/3/3	26

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Guilarte State Forest Recreational Area (from gazebos at recreational area)	Panoramic	Natural and rural	Background	<ul style="list-style-type: none"> Mountains landforms Forest landcover Natural areas and rural residential land use Residential structures 	No	Town of Adjuntas and Bartolo Peak	3/3/3	3/3/3	3/3/3	27
Highlands Region Maravilla Former Scenic Overlook	Panoramic	Natural	Background	<ul style="list-style-type: none"> Mountains, and valley, landforms. Forested, pasture and ocean land cover. Natural areas land use prevails. Residential and 	Yes	Central-southern coast. Some highlights of the viewshed include the City of Ponce, Cerrillos Reservoir, and Caja de Muerto Island as well as Guayabal and Toa Vaca Reservoirs	3/3/3	3/3/3	3/3/3	27



Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
				commercial structures in the City of Ponce.						
Highlands Region Villalba-Orocovis Scenic Overlook (North View – Orocovis Side) (Parking area,	Panoramic	Natural and rural	Background	<ul style="list-style-type: none">• Mountains and valley landforms• Forest land cover• Natural areas and rural residential land use• Residential and roads structures	No	Central Mountain Range (Cordillera Central) and valley toward the northern coast	3/3/1	3/3/3	2/3/3	24

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
basketball court and vista)										
Highlands Region Villalba-Orocovis Scenic Overlook (South View – Villalba Side) (Passive recreational	Panoramic	Natural and rural	Background	<ul style="list-style-type: none"> Mountains, water and valley landforms Forest and water land cover Natural areas land use, urban center or small town 	No	Central Mountain Range, the Cerrillos Reservoir, the Toa Vaca Reservoir and the town of Villalba, as well as landmarks like <i>Caja de Muerto</i> Island and the windfarm at Santa Isabel	3/3/3	3/3/3	3/3/3	27



Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
facilities area)				<ul style="list-style-type: none">• Residential/commercial and power related structures (wind farm) structures						
Flower Country Region Hayales Potential Vista Point	Framed (Massive elements such as mountains, usually at both sides of a view frame it.)	Natural and rural	Background	<ul style="list-style-type: none">• Mountains landform• Forest land cover• Natural area and rural residential land use• Residential structures	No	Southern coastline and mountains in Hayales Ward and Coamo Arriba Ward	3/3/3	3/3/3	2/3/3	26

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Flower Country Region Piedra Degetau Scenic Overlook	Panoramic	Rural and natural	Middle ground	<ul style="list-style-type: none"> Mountains landforms Forest land cover Natural area and rural residential land use Residential and communication tower structures 	No	Town of Aibonito and adjacent rural areas in the Pasto Ward	3/2/1	3/2/2	2/2/3	20

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Ferns and Springs Region Jájome Potential Vista Point	Panoramic	Natural and rural	Background	<ul style="list-style-type: none"> Mountains landforms Forest land cover Natural area and rural residential land use Residential structures 	No	Mountainous area Quebrada Abajo Ward and Culebras Bajo Ward and La Robleda Natural Protected Area. View considered representative of pre-Columbian Puerto Rico.	3/3/2	3/3/3	3/3/3	26
Ferns and Springs Region La Tabla Potential Vista Point	Canopied (Enclosed feeling in contrast of open view beyond)	Natural and urban	Background	<ul style="list-style-type: none"> Mountains landforms Forest land cove Natural area land use and urban center Not defined structures but assumed commercial, 	Yes	Southern coast including the town of Guayama	3/3/3	3/3/3	2/3/3	26



Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
				residential and industrial						
Ferns and Springs Region Honore Potential Vista Point	Panoramic	Natural and rural	Background	<ul style="list-style-type: none">• Hills landforms• Forest land cover• Natural area and rural residential land use• Residential structures	No	Hilly landscape at Espino Ward, and beyond, views of El Yunque rainforest and the Caguas Valley	3/3/3	3/3/3	2/3/3	26

Interpretive Region and Site	Landscape Description						Scenic Quality (Evaluates each question for each major criterion with a scale of 1 Don't Agree / 2 Neutral / 3 Agree /The maximum total score for each major criterion is nine (9).			
	View Type (1)	Landscape Character Type (2)	Distance from Viewed Landscape (Visibility) (3)	Elements that Contribute to Singularity (4)	Blocked Yes or No	Viewshed (Municipalities and or landmarks viewed)	Integrity (5) (How intact is its character)	Vividness (6) (<i>Intensidad</i>) (How distinct or striking it is that makes it memorable)	Visual Harmony (7) (How pleasant due to colors, patterns, scale, etc.)	Overall Scale = Condition (8)
Sea and Sugar Region Emajagua Potential Vista Point (Not accessible)	--	--	--	--	Yes	The following landmarks are viewed according to 1998 CMP: sweeping views north and south along the Caribbean coast of Punta Tuna	--	--	--	--

(1) **View Type** -panoramic, canopied, filtered, framed, focal or featured

(2) **Landscape Character Type** – natural, pastoral-(*campestre*), agricultural, rural, suburban, urban or industrial

(3) **Distance from Viewed Landscape (Visibility)** - Foreground, Middle Ground, Background

(4) **Elements that Contribute to Singularity** (a) **Landforms** – mountains, hills, valley, cliff, canyon, plain, beach or water. (b) **Land Cover** – development, barren, forest, shrub, grassland, pasture, cultivated crops, wetland, ocean, lake, river/stream or fall (c) **Land Use** - Natural area, Agriculture, Industrial, Commercial, Urban residential, Suburban residential, Rural residential, Transportation, Parks/recreation, Urban Center or Small town

(d) **Structures** – Residential, Commercial, Farm Buildings, Warehouses/Factories, Power related structures (wind, solar, plant, transmission poles), Communication tower, Local roads or Highways

(5) **Integrity** - (1) Have most or all of the key elements of landscape character present (2) Have elements that are of high quality and in the appropriate condition for the landscape character (i.e., well built, well cared for, or, for historic/rustic landscapes, appropriately worn/aged); or (3) Be relatively free of elements that are inconsistent with the landscape character

(6) **Vividness** - (1) Have one or more focal points (2) Have striking forms and/or lines or (3) Have striking colors, textures or visible motion

(7) **Visual Harmony** - (1) Landscape elements creates a recognizable structure, pattern or order (2) Landscape elements display pleasing scale relationships (3) Landscape displays pleasing color relationships

(8) **Overall Scale = Condition** (1) Deteriorated or Poor 9-15 (2) Regular or Fair 16-21 points (3) Good to Excellent 22-27 points

4.3.6 Recreational Intrinsic Qualities

Recreational resources along the Panoramic Route and its Corridor are closely linked with the natural qualities, especially the forests and watershed system. Recreational opportunities are plentiful, available year-round because of the Island tropical climate. Recreational activities are in demand by Puerto Rican residents and tourists seeking ecotourism and nature tourism and more recently countryside experiences like the *chinchorro*.



Traditional dishes including typical sausages (*longaniza*) from Orocovis

The National Parks Company (now under the Department of Recreation and Sports) prepares the Puerto Rico State Comprehensive Outdoor Recreation Plan every five (5) years (SCORP). As part of this plan the agency conducts survey on demand and preferences for outdoor recreation in Puerto Rico. As part of the 2013-2018 SCORP a survey was conducted among 661 households, from the ten (10) recreation and sports regions. The following findings show the potential of the Panoramic Route intrinsic qualities to satisfy the preferences from the public related to outdoor recreation.

- The contact with nature is the second most enjoyed aspect from the outdoor recreation by interviewed persons. The first one is to share with friends.
- The most frequent outdoor activities in which the interviewed were engaged in the last 12 months were: aquatic activities, sports, nature activities and events. In general terms the most frequent activities were nature sightseeing (76.1 percent), walking in the neighborhood (65.1 percent) and visiting festivals, fairs, attraction parks or historical places (64.2 percent).
- The second most frequent nature activity, after nature sightseeing, was nature photographing (57.9 percent).
- People had the opportunity to identify which kind of outdoor recreation facility they would like to have in their community and in their municipality. Most

participants preferred in their municipality more walking paths and more parks with trees and vegetation. A minimum number of people prefer courts or sports parks, which may indicate that there are already enough of such recreation places in the communities. When analyzing the data by gender, men would like to have sidewalks to ride bicycles and female paths to walk.

Worth to emphasize is that most participants in the survey (for all the regions) conducted for the SCORP 2013-2018 preferred in their municipalities more walking paths and more parks with trees and vegetation.

The opportunities along the Route include hiking, nature observation, camping, swimming, boating, and fishing. Existing recreation sites were assessed for their natural values, their relationship to the Route, their condition, access and maintenance. Several recreation sites, especially those in the state forests are of national significance because of the unique tropical experiences for outdoor recreation so appreciated by local and external visitors.



Sign announcing Camping Areas in Toro Negro State Forest by Amigos del Bosque Toro Negro

Beaches and Boardwalks

Proximity to the coast is an asset of the Panoramic Route as it represents a source of recreation, active and passive. However, conditions of facilities or adjacent areas at beaches contrast with their natural beauty.

Within the Sea and Sugar Region, Los Bohíos Beach (ID 97) is located on PR-7760, off road PR-901. This is a high energy sandy beach. Although not recommended for swimming it offers a beautiful view of Punta Tuna Lighthouse. The Maunabo River estuary also discharge into the Caribbean Sea at the southern end of the beach, an additional interesting point for nature lovers. However, this beautiful natural area does not have facilities for visitors. Maintenance is occasionally provided by the Municipality of Maunabo.



View from Los Bohíos Beach to the Punta Tuna Lighthouse, Maunabo

Because of the discharge from the estuary in instances trash may reach the beach from higher points. Even when the area is quite clean it looks neglected because trash cans and signs showing rules are deteriorated.

Lucía Beach (ID 214) is a high energy beach located within the Playa Lucía Natural Reserve at Camino Nuevo Ward in Yabucoa. It was a former public beach with facilities for users. However its facilities, including gazebos, bathrooms and parking area are dilapidated and with graffiti, giving an abandoned appearance to this beautiful coastal area. Both, Los Bohíos and Lucía beaches are key to the byway's story of the Sea and Sugar Region.

Larga Beach (ID 148) is a beautiful high energy sandy beach within the *Punta Tuna Mangrove Natural Reserve*. This natural reserve is comanaged by the DNER and the environmental community group Committee for the Development of Maunabo (*Comité Pro Desarrollo de Maunabo*). This natural reserve is singular for its adaptation for persons with functional diversity such as interpretative signs with QR code¹⁵ that reads its contents for blinds, a special chair for tours and a documentary of the reserve in sign language. This community group continuously host educational, scientific, cultural and recreational events related to the conservation of this rich natural reserve that also has a mangrove forest with other associated coastal wetlands.

Two (2) boardwalks are located within the Corridor, on each extreme: Coastal Walk Israel “Shorty” Castro in Mayagüez (ID 209) and Yabucoa Port Boulevard Teófilo Morales Rodríguez in Yabucoa (216). These boardwalks may represent an opportunity to extend the Panoramic Route on its western and eastern ends, respectively.

Coastal Walk Israel “Shorty” Castro – It is considered an outstanding scenic resource that offers stunning views from the coast and its sunset, while permanently offers sports, recreational and cultural activities. The Municipality of Mayagüez is the owner of this facility. Paseo del Litoral is managed by Fundación 2010, an NGO dedicated to the development of sports in Puerto Rico. Paseo del Litoral, which is approximately two (2) miles long, has varied facilities besides the boardwalk they all with beautiful views to the Mayagüez Bay. They include restaurants, plazas, outdoor amphitheater, green areas, and a skateboard park, among others. In general, the conditions of this coastal boardwalk are good. However, there is room for improvements like replacement of flags located at the Plaza de las Banderas, maintenance of the outdoor amphitheater, and relocation of interpretive sign close to this amphitheater.

¹⁵ Machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone.

Yabucoa Port Boulevard Teófilo Morales Rodríguez is coastal complex developed by the Municipality of Yabucoa, offering a coastal boardwalk and related facilities. At the field inspection (August 2019) the facility was waiting for sanitary services operation permits. This appealing boardwalk offers stunning views to the Caribbean Sea, the Port of Yabucoa and the its adjacent Playa Lucía Natural Reserve. Recreational and cultural activities are frequently held within this beautiful coastal setting. Portable sanitary services are provided for these activities.

State Forests and other Natural Areas

Four (4) state forests occur within the Corridor, as mentioned before. States forests, managed by the Department of Natural and Environmental Resources, are important not only for its natural habitat and environmental functions, previously described, but for its recreational value. As mentioned in the Statewide Comprehensive Outdoor Recreational Plan for Puerto Rico (2013-2018) forests are areas of great importance because they offer opportunities for Passive recreation such as hiking, walking, picnics and photographing the nature, as they are discussed below.

Several recreational sites exist within the Maricao State Forest, including the Vacation Center (ID 105), the Ecological Park Monte del Estado (ID 131), the Stone Observation Tower (ID 126), Recreational Area and forests trails ((ID 190).

The Vacation Center has facilities for active and passive recreation. This vacation area operated by the Department of Recreation and Sports (DRD by its acronym in Spanish) offers 24 small cabins to accommodate up to six, 6, persons, outdoor swimming pool, basketball court, natural trails, gazebos and playground for kids. There are cabins are adapted for persons with functional diversity. Close to the Vacation Center is the Ecological Park Monte del Estado (*Parque Ecológico Monte del Estado*). This park offers 12 campsites within the forest, provided with a charcoal BBQ pit, a hose bib, and a picnic table in a circular flat area formed with natural rocks perfect for entertaining gatherings between family and friends embraced by nature. The park also has trails, gazebos and a panoramic lookout from where visitors may enjoy the view to southern coastal area of the Island. The park is provided with parking area and sanitary services.

The Stone Observation Tower (**Figure 4-5**) is a passive recreation area located in Maricao Afuera Ward in Maricao on the PR-120 roadside providing a convenient opportunity to road users to enjoy a beautiful panoramic view. From this tower visitors can enjoy the view to the southwestern coast, including municipalities of San Germán, Sabana Grande, Lajas and Cabo Rojo. However, several rehabilitation works are necessary, like removing graffiti from several walls (inside and outside) and fixing interior drainage system, as water get stagnant just at the entrance promoting insanitary conditions. Interpretative sign although in good condition has holes that seems to be shootings, giving a negative impression to any visitors. No interpretive signs exist to guide the views that are enjoyed from the tower.

The forest offers trails (Alto del Descanso and Camino Méndez) (ID 151) and gazebos (ID 190), as well as interesting historical stone structures (ID-215). Although with limited personnel, the gazebos and stone house areas are well maintained and attractive. Maintenance of trails is limited, due to limited personnel for those duties.

The Casa de Piedra, (stone house) is located within the recreational area of the forest. This house was built by the Civilian Conservation Corps in the 1930's as a vacation spot for the U.S. appointed governors. Although roofless this structure is intact and the area was well maintained, creating an appealing spot to take photos. A bench is located close by with a beautiful panoramic view, which is another appealing spot.

The Maricao State Forest has great potential for a more intense use of its recreational facilities, given the attractiveness from the historical stone structures endurance and its exuberant dense forested context.

A historic stone pool that was constructed by the CCC is buried close to the Forest Rangers office and gazebos. Buried decades ago, allegedly for safety purposes, it is meritorious to evaluate the viability to restore this historical structure as has been indicated before.



Historic stone pool that was constructed by the CCC close to the Forest Rangers office and gazebos, currently buried, Maricao State Forest, Maricao. Photo courtesy of Ranger Carlos Alequín, from Maricao State Forest

The Guilarte State Forest recreational area (ID 191), located in the intersection of roads PR-131 with PR-518,

in the Municipality of Adjuntas host the Cerro Guilarte with an approximate altitude of 1,200 meters above sea level. This state forest provides a trail to this important peak, the sixth highest peak in the Island. Another trail currently open is San Andrés trail. Beside trails the forest is provided with gazebos and overlooks, repaired by their personnel after passage of Hurricane María in 2017.

Six (6) cabins are also available at this state forest. The Forest Management Official currently coordinates cabins cleaning and painting works. Community groups have also been contacted by this official for rehabilitation works to restate other trails currently closed. Presently only two (2) persons are assigned for maintenance works at the Guilarte State Forest. Visitors number during weekends is around 125 per day. The Guilarte State Forest is within the Coffee Country Region.



A *must do* photo, taken by groups when reaching the top of Cerro Guilarte at Guilarte state forest, Adjuntas. Photo courtesy of Lydia Mejías

The Toro Negro State Forest, located on PR-143 in the Cordillera Central, is subdivided in different segments located in the municipalities of Orocovis, Jayuya, Ponce, Juana Díaz, and Ciales. As has been indicated before, Cerro Punta, the highest peak in Puerto Rico, is located within this forest at 1,338 meters above sea level, approximately.



Toro Negro State Forest Entrance to Recreational Area, Villalba

This state forest offers several recreational opportunities at the Doña Juana Recreational Area (ID 1) including a camping area, hiking trails and beautiful ponds. There is also a stone observation tower and a pool that used to be feed with natural water. However, the pool it is closed because of leaking problems. The recreational areas are administered by the community group, Amigos del Bosque Toro Negro, as has been indicated before. The areas under the administration of Amigos del Bosque Toro Negro include the swimming pool, the camping area, the sidewalks, the Bolo Trail, the observation tower and several ponds. Guided tours, yoga and other recreational activities are also periodically sponsored by this NGO. Efforts are conducted by this community group to repair the pool.

The Carite State Forest, within the Springs and Ferns Region, used to provide a safe environment for outdoor recreation, however as indicated before the gazebos area were very affected as result of the impacts from hurricanes in 2017 and are currently in a dilapidated condition.

Debris are still present giving a desolate and hazardous look to the area. Its trails have been abandoned along years. This agency, by early 2000 considered the development of an ecotourism facility for overnight stays in the Carite State Forest.

The Carite State Forest also used to offer a camping area with facilities such as barbecues, bathrooms, and gazebos at Charco Azul recreational area (ID 134). Charco Azul is a beautiful natural pond with a small waterfall. However the facilities in this area were also affected by the hit from hurricanes in 2017. The trail in this area although not well maintained provides a relatively safe hike through the forest to reach the pond. The parking area and gazebos, which are close to the road are totally abandoned. The parking has no maintenance and debris are still there. Litter is also observed at the parking area in the roadside and accumulated besides trash cans close to the pond.

Even with the limited financial and human resources the rangers and employees from most of these state forests do their best to maintain facilities for visitors.

As can be deduced from previous descriptions the recreational facilities at the Carite Forest, reflects the worst conditions, it has no presence of rangers and their offices were moved from the forest. There was neither identified, during the research performed as part of this CMP update, a community group associated to this forest.

State forests may encourage tourism economy and education of the forest system. Therefore, the quality of its facilities should be a priority for the state and should be considered an investment, instead of an expenditure.

Labor from volunteers through NGO's has been key not only for preservation of natural areas but for their contribution in recreation while educating on the values of nature conservancy.

Recreational Activities Sponsored by NGOS Other recreational activities related to natural environment occur within the Corridor through NGO's as have been mentioned before (**Section 5.6.3** Key potential stakeholders). They are briefly described below.

Committee for the Development of Maunabo (*Comité Pro Desarrollo de Maunabo*) . This is a community group that comanages, with the DNER, the Punta Tuna Mangrove Natural Reserve. This group continuously host different events related to the conservation of this rich natural reserve, including educational, scientific, cultural and recreational events. This group has been very sensitive to the needs from persons with functional diversity from the recreational perspective making adaptations for them in the natural reserve. Such adaptations include interpretative signs with QR code, a special chair for tours and a documentary of the reserve in sign language.



Punta Tuna Mangrove Natural Reserve, Maunabo

Casa Pueblo (www.casapueblo.org) – Casa Pueblo is a community self-management project that is committed to the appreciation and protection of natural, cultural and human resources. The headquarters of the Project is a restored traditional town house closely located to the town square of the Municipality of Adjuntas. This headquarters is also an independent cultural-community center that has a meeting and exhibitions rooms, movie theater, library, craft shop, antiques room, hydroponic system, butterfly



Group visit at Casa Pueblo Headquarters, Adjuntas.

garden and a radio station. This cultural-community center, which operates with solar energy, is very busy during weekends receiving local and external tourist.

Casa Pueblo manages several properties with which have education, recreation and conservation among other functions. Two (2) of them are located within the Corridor. One of these properties is the Bosque Escuela La Olimpia: Ariel Massol Deyá, which is in the Saltillo ward, in Adjuntas. This is a forest area that host a school forest providing a classroom without walls, renewable electric power operation, ecological compost system and weather station for rainfall data and emergency alert. This forest has international projection as it is incorporated into the Global Model Forest Network.

The other project is the Madre Isla Ecotourism Estate (*Finca de Ecoturismo Madre Isla*) which is a project that combines community economy and volunteer work with education and ecology within an eight (8) acres of land close to Garzas Reservoir. It offers five (5) cabins capacity for 40 people. It also has a camping area. Stays of students and professors from different universities and schools from the Island and abroad are received throughout the year. The economic contribution from this project helps its maintenance as well as of Casa Pueblo.

Properties administered by this NGO, other than their headquarters at the Adjuntas town center, can be visited through previous reservations.

Amigos del Bosque Toro Negro (literally Friends of Toro Negro Forest) (<https://www.facebook.com/amigosdelbosquetoronegro/>) – This is another key NGO that contributes to the recreational resources provided in the Route. This community organization administers the recreational area of this state forest as result of an agreement with the Municipality of Orocovis, which co-administers the forest with the Department of Natural and Environmental Resources. As mentioned before this NGO seeks community socio-economic development through a sustainable approach to the natural resources of the Toro Negro Forest. The areas under the administration of Amigos del Bosque include the swimming pool, the camping area, the sidewalks, the Bolo Trail, the observation tower and several ponds. After the passage of hurricanes in 2017

their volunteers have reconditioned the forest and its trails. Guided tours, yoga and other activities are also periodically sponsored by this NGO.

The Conservation Trust of Puerto Rico–Fideicomiso de Conservación

(www.paralanaturaleza.org) – This is a non-profit organization that is aimed to protect and enhance the natural resources and beauties of Puerto Rico through its program Para la Naturaleza. The Trust carries out its mission acquiring natural areas for protection establishing conservation easements through programs of restoration of habitats and species and through the rehabilitation of historical places, among other mechanisms. As part of its mission, the organization also develops educational programs with the aim of promoting awareness and active participation from the community to achieve the goals of conservation and protection of natural areas. Among its goals it is to ensure that the percentage of protected natural areas in Puerto Rico be 33 percent by the year 2033.



Planting native trees at Jácome Natural Protected Area. Photo courtesy of The

This organization protects more than 60 natural areas, of which several locate in the Panoramic Route corridor, including the following natural properties.

Natural Protected Area	Cerro Las Mesas, Mayagüez, Mayagüez Culebras, Cayey Jácome Area, Cayey Jorge Sotomayor del Toro, Caguas La Robleda, Cayey Río Maricao, Maricao Pandura Area, Maunabo and Yabucoa Ulpiano Casal, San Lorenzo Cañon San Cristóbal, Aibonito and Barranquitas
Natural Reserve	Inés María Mendoza (Punta Yeguas), Yabucoa Finca Ledesma Moulrier, Utuado
Conservation Easement	Conservation Easement Foreman, Adjuntas

These properties administered by this NGO can be visited through previous reservations in which tours, special events, lectures and workshops are offered through the year. The organization receives visitors in several of their properties, Hacienda Buena Vista in PR-123 Ponce, is the closest one to the Corridor.

An ample variety of recreational opportunities within the natural areas are also offered in the Route, or close to it, by the private sector. An example of this is the mentioned Hacienda Juanita inn located on the highlands at Maricao Ward, in Maricao. This cozy small inn, privately owned and managed, offers opportunities for passive and active recreation as a complement to an extended stay along the Route. It reopened in 2017 bringing a XIX Century coffee hacienda that offers its visitors a quiet space with an outdoor heated pool, gardens and beautiful views of the inner western countryside.

Another example is the innovative stylish camping offered by Finca Oro Rojo, Glamping at Damián Arriba Ward (outside the Corridor). This is a lodging concept that provide the camping experience with ecological sophisticated tents and amenities such as common kitchen and locally sourced food.

Scenic Overlooks

Scenic overlooks are very important as they provide a safe area for travelers to enjoy the view from the Route itself as well as resting areas and sanitary services. One of the problems the Panoramic Route continue facing is that there are very few places where drivers can safely stop and enjoy the panoramic views. Therefore, these resources are of great importance for the Route. These sites are discussed under scenic intrinsic qualities (**Section 4.3.5**).

Fishing and Kayaking

Garzas Reservoir (ID 103), located at PR-518 where fishing is practiced, is close to the Guilarte State Forest although it is not part of the forest itself. The Garzas Reservoir hosts a fishing club (Gigante Fishing Club) (ID 102) with facilities that can be rented for activities. Kayaking is an activity also held in this reservoir. As mentioned in **Section 4.1.2.3** Coffee Region, the Garzas Reservoir has a suspension bridge (ID 145) that is a popular attraction for local tourists during weekends despite the prohibited access due to potential hazards. Recreational fishing and kayaking are also practiced at the Guayo Reservoir, located between Bartolo Ward in Lares and Guayo Ward in Adjuntas. These areas are good examples of recreational facilities for both passive and active recreation on the Route.

The Maricao Fish Hatchery (*Vivero de Peces de Maricao*) (ID 123), is currently used for fish seeding in reservoirs. This fish hatchery, located at the end of PR-410, off PR-120, in Maricao, was constructed in the 1930's as an effort to regenerate the fish population in Puerto Rico's reservoirs, ponds, and rivers for fishing purposes. Built by the CCC, and currently included in the National Register of Historic Places, it consists of a number of aquariums, arranged according to the species and growth period. Water from a nearby stream runs through the entire system. All construction is in concrete. Its relationship to the byway is part of the story of conservation. The Fish Hatchery is unique on the Island and represents the byway's conservation goals as well as the historic and natural resources. The Fish Hatchery is linked to the other CCC efforts along the byway. The Department of Natural and Environmental Resources owns and manages the Fish

Hatchery. As mentioned before this facility was closed for visitors after hurricanes hit the Island in 2017.

Walking and Hiking Trails

Hiking trails on a varied range of conditions exist in the state forests within the Corridor. Refer to discussion under State Forests and Other Natural Areas topic in this **Section 4.3.6 Recreational Intrinsic Qualities**.

Current Statewide Comprehensive Outdoor Recreational Plan for Puerto Rico (2013-2018) establishes among its objectives (Objective 4.3) to construct and maintain a trails and green trails sustainable system. It is based on its findings about the people's preference in Puerto Rico which demand more trails and green trails for walking. This plan recommends to identify financial sources to plan and develop these trails. It also indicates that a conceptual plan should be developed to interconnect these trails through a coordinated effort.

Although it is a public policy of the Government of Puerto Rico to promote outdoor recreation (e.g., hiking, mountain biking and kayaks rowing among others) the law that prescribes it (Law 314-2000) does not allocate financial resources for its implementation.

According to Law 314-2000 the departments, agencies, public corporations and instrumentalities of the Government of Puerto Rico are ordered to identify areas under their jurisdiction where there are or can be established or built trails for hiking or mountain biking. The Department of Natural and Environmental Resources is ordered to establish trails for hiking in all state forests, nature reserves and other public lands under their administration.

This law also ordered to the Department of Natural and Environmental Resources to create a registry of lands administered by this agency identifying the trails and providing useful information including allowed uses, access, etc. This registry should be available in the Department of Natural and Environmental Resources and in the Department of Recreation and Sports. A resolution from the House of Representatives (Resolution of the House of Representative 384 of May 2, 2017) ordered an investigation about the implementation of the law for outdoors recreation and trails (Law 314-2000). Public hearings were held in which several agencies participated including: the Department of Natural and Environmental Resources, the Tourism Company and the Department of Recreation and Sports. Two (2) partial reports have been issued (June 30, 2019 and October 28, 2019). According to these reports the registry of trails have not been issued but the DNER is working on an app for mobile devices to provide interactive maps with information of the outdoor recreation sites and facilities of the National Parks Program.



Hibiscus

All the agencies that participated in the hearing held as part of the House of Representative investigation agreed that outdoor recreation offer other benefits, besides the recreation itself, including economic development and tourism.

Except for the Guajataca Forest the report does not provide details on the conditions of the trails and its facilities (signs, maintenance, safety, allocation of funds etc.). It neither informed about the Trails Advisory Board that was created in 1994 and that had coordination functions stipulated in the Law 314 – 2000.

Worth to mention about the findings of this investigation is the Northeast Trail Network (*Red de Veredas del Noreste*), currently in the planning stage, that is to be considered the largest trail in the Island. It will connect the natural reserves Cabezas de San Juan and the Northeast Ecological Corridor with El Yunque National Forest, providing access to forests, beaches and rivers. The development of this trail will help users enjoy nature in the surroundings of El Yunque National Forest, raise awareness about the variety of ecosystems in the region and allow them to appreciate how they interact. This new trail also seeks to provide opportunities for human and socioeconomic development for the communities surrounding these natural areas.

In 2015, Para la Naturaleza, with the support of the Forest Service and several NGOs, obtained technical assistance from the Rivers Trails and Conservation Assistance Program (RTCA) of the National Park Service (NPS) to begin the planning processes for this regional trail. Several entities¹⁶ including NGO organizations, federal and state agencies and the municipalities of Luquillo and Fajardo formalized an alliance to collaborate in the planning, design, construction and management of this trails network. This is an initiative that can be replicated in other regions of the Island including several of the regions along the Panoramic Route positively impacting the surrounding communities. Other external entities that sponsor hiking culture like the American Hiking Society (National Trails Fund, NTF) can also be explored.

Another important resource related to walking activity is the annual walk held by Caminata Panorámica Arquitecto Gabriel Ferrer Amador. This is a recreational non-profit organization that annually organizes a hike along the Panoramic Route. The

Route is traveled in continuous segments, on consecutive weekends over a period of approximately four (4) months (from mid-January to end of May). It starts on Maunabo and finishes on Mayagüez on a closing celebration, usually sponsored by the Municipality of Mayagüez. This hike, which has been walked uninterrupted for 36 years, is not for competitive purposes, it is aimed to recreation and education on the natural, cultural and human values of the central region of Puerto Rico, while enjoying the landscapes and natural beauties. This activity requires from its organizers a huge amount of work and time for previous coordination of safety and availability of food and sanitary services for each segment to be walked. This coordination is done with the Police Department, the corresponding Municipalities and restaurants and/or *chinchorros* in the segment to be walked.

Important to mention related to hiking are groups that have been formed in Facebook (e.g. CaminAmigos en Puerto Rico and Puerto Rico Hiking Treasures). This tourism modality is a trend and the Panoramic Route and its Corridor provides opportunities for this kind of activity.



Kind gesture of families like Cintrón Roldán Family which annually offers homemade lemonade to walkers from *Caminata Panorámica Arquitecto Gabriel Ferrer Amado. Calabazas Ward, Yabucoa*

¹⁶ El Yunque National Forest, *Coalición Pro-Corredor Ecológico del Noreste*, *Vitrina Solidaria*, *Alianza Comunitaria Pro Desarrollo Sustentable de Sabana*, *Centro Cultural Multidisciplinario*

Del Barrio Juan Martín, Asociación de Acampadores de Puerto Rico, Department of Natural and Environmental Resources and the Municipalities of Fajardo and Luquillo .

Sports: Jogging and Mountain Bike

There are no special planned bike trails on or near the Panoramic Route. However, the Route, itself serves as a bike trail in some segments especially on weekends. The segment at Jájome Alto Ward in Cayey (roads PR-15 and PR-7737) is a popular site not only for biking but for joggers. Cyclists and joggers come alone or in groups. Some of them convoke others through blogs for walking, jogging or biking activities, and usually met at the site proposed as the Jájome Vista Point. (Refer to **Section 4.3.5 Scenic Intrinsic Qualities.**) The Municipality of Cayey have placed signs identifying the area as a route for long distances athletes (Ruta Fondista) and signs warning the presence of athletes in the area.



Sign identifying long distance runners route (*Ruta Fondista*) at Road PR-15, Jájome Ward, Municipality of Cayey

An important mountain bike event is also held within the Corridor, at Castañer. This event known as MTB Compadentro Castañer have been celebrated for seven (7) consecutive years by Promoviendo el Deporte, Corp (PDE). This event combines the mountain bike activity with camping within beautiful private estate agricultural lands with forested areas, and stunning views to Guayo Reservoir. This activity groups annually more than 600 cyclists.



Mofongo relleno: Puerto Rican dish of deep-fried green plantains mashed together with other ingredients and filled with meats, seafood or vegetables.

Chinchorreo and Theme Routes

Chinchorreo or *chinchorrear* comes from the word *chinchorro* (noun), which can be defined as a food kiosk, usually located in the countryside, that serves Puerto Rican fritters like *alcapurrias*,

rellenos, *piononos* and *bacalaítos*, among others. Music is usually played, in some cases live music. *Chinchorrear* is then a traditional practice of a road trip in which groups of family and friends, hop from *chinchorro* to *chinchorro* eating, drinking, and dancing on weekends, and on day weeks during Christmas holydays.

In the last years five (5) to ten (10) years the *chinchorreo* have evolved, from its structures to its dishes, by turning into a more sophisticated gastronomic culture. Now their structures are developed around a theme usually appealing to the countryside experiences and our cultural roots. Dishes have also transcended to a more varied offer but keeping our unique *criollo* taste. From being a recreational activity by locals it has recently been incorporated in tourism packages for external visitors.



Coach bus in *chinchorros* along PR-7722 Aibonito Cayey

Mass transportation vehicles have also been recently incorporated to the *chinchorreo* practice, due to the parking limitations in the countryside and the benefit of having a designated driver for those who drink alcoholic beverages during the trip. Transportation services comes from school buses rented by groups of families and friends to tourism coach buses. Some entrepreneurs in the transportation industry have modified school buses exclusively for *chinchorreo* appealing festive colorful and picturesque themes.



Coach bus in the Adjuntas town square, Municipality of Adjuntas.

The theme routes, many of which have organically emerged from the entrepreneurs of our countryside, are a favorite among those who enjoy *chinchorrear*. The following theme routes occur in the Route or within the Corridor:

- Sacred Route (*Ruta Sagrada*) – Mayagüez – Port Region (**Figure 4-4**).

- Taíno Route (*Ruta Taína*) – Jayuya – Highlands Region (**Figure 4-11**).
- Longaniza Route (*Ruta de la Longaniza*) – Orocovi – Highlands Region and Flower Country Region (**Figure 4-11** and **Figure 4-14**, respectively).
- Flowers Route (*Ruta de las Flores*) – Aibonito – Flower Country Region (**Figure 4-14**).
- Chicken Route (*Ruta del Pollo*) – Aibonito – Flower Country Region (**Figure 4-14**).
- Roasted Pork Route (*Ruta del Lechón*) – Cayey – Ferns and Springs Region (**Figure 4-17**).

Agricultural Tourism

Another recreational activity that is enjoyed at the Panoramic Route is the emerging agricultural tourism with coffee plantations that offers tour experiences and respective coffee shops that can be enjoyed in the sites. Within the Corridor we found Hacienda Iluminada at Road PR-128 (ID 218), Indiera Alta Ward in Maricao and *Hacienda Pomarrosa* (ID 174), located at PR-143 Anón Ward in Ponce. Hacienda Pomarrosa also has lodging facilities.

Outside the Corridor, there are other coffee plantations that offer tours as well as lodging facilities. In Lares it is Hacienda Lealtad (PR-128 Buenos Aires Ward, Lares) (closed as of July 2021). In Jayuya and Adjuntas visitors can enjoy Hacienda San Pedro (Road PR-144 Coabey Ward, Jayuya), Café Nativo (PR-140 Coyores Ward, Jayuya) and Hacienda Tres Angeles (PR-129 Portillo Ward, Adjuntas). In Ponce it is Hacienda La Mocha (Road PR-505 San Patricio Ward, Ponce). Both, Café Nativo and Hacienda La Mocha also offers lodging facilities.

As mentioned before, the level of commitment of the Puerto Rican coffee industry is observed in the number of haciendas, in areas adjacent to the Coffee Region, that have been certified by the Tourism Company as agricultural tourism destinations. They include: Hacienda Tres Ángeles in Adjuntas, Hacienda Lealtad in Lares, Café Nativo in Jayuya, Café Lucero in Ponce, Hacienda San Pedro in Jayuya and Hacienda La Mocha also in Ponce.

Another plantation, outside the Corridor also, for agricultural tourism is in the Municipality of Jayuya. It is associated to other agricultural product, the breadfruit. This plantation at Jayuya offers tours, tasting and a thematic shop.

A common commercial activity that may also be related to agricultural tourism within the Panoramic Route are the markets from independent farmers that place their stands along the roadsides to sell their products. At these stands our farmers sell fruits, vegetables, honey, spicy sauce (*pique*), among other products. Worth to mention also within the agricultural tourism sector are the Family Markets (*Mercados Familiares*) that are emerging in our countryside, sponsored by the Department of Agriculture and the Department of Family. These markets are usually located at the town center, sometimes in the town squares. beneficiaries from The Nutritional Assistance Program (*Programa de Asistencia Nutricional*, PAN by its acronym in Spanish) may buy products at Family Markets using their PAN card. A Family Market was observed in the Castañer town square.

Religious Tourism

Religious tourism which is also denoted as faith tourism is a segment of the cultural tourism which offers the opportunity to discover the religious, historic and cultural heritage of a destination. The Panoramic Route provides several important religious tourism attractions such as the Virgen del Carmen Diocesan Sanctuary (ID 133) at the Espino Ward in San Lorenzo. Every year, during the Holy Friday hundreds of pilgrims walk long distances from adjacent municipalities to visit this important cultural place also known as the Holly Mountain (*Montaña Santa*).



Farmer stand Road PR-143, Portugués Ward, Adjuntas.

Visitors can also enjoy other religious places like: San Juan Bautista Catholic Church (ID 19), at the town square in Maricao, that is in the National Register of Historic Places, Nuestra Señora de la Candelaria Cathedral in the Mayagüez town square (ID 33), the Aibonito Methodist Church (ID 9) and San José Church (ID 15) in the Aibonito town square. The last one is also included in the National Register of Historic Places. Worth to mention are also the different churches located in the town squares that lies within the Route, like Maunabo, Adjuntas, Yabucoa and Castañer Village. Located in town centers are also the Central Presbyterian Church (ID42) and the San Andrés Episcopal Church (43), both in Mayagüez. The first one is the oldest presbyterian church in Puerto Rico.

5.0 Government Policies and Actions Review

The purpose of this review is to identify government policies and actions that are relevant to the Panoramic Route, within the local and federal framework. Governments actions should be based on approved public policies. Such actions may come not only from proposed projects, but from programs and plans, which in turn are based on corresponding laws and regulations.

It is of utmost importance that the CMP be consistent and coordinated with government policies and actions. It is a challenge due to the number of municipalities that crosses the Route, as well as the number of land use plans and regulations that may affect the Panoramic Route.

The chapter has been arranged as follows:

- Laws and Regulations Relevant to the Route Including Responsible Parties and Designated Funds
- Government Actions Relevant to the Route Including Responsible Parties and Designated Funds
- Identification of funding, technical assistance, staff or other resources, currently provided or potentially available for the Route management.
- Partnership and cooperative efforts already in place to manage the Route

5.1 Laws and Regulations Relevant to the Route Including Responsible Parties and Designated Funds

The following sections identify and discuss the laws and regulations that are directly and indirectly related to the Route. The first ones are, among others the laws that amend the Panoramic Route Law (Law 71-1965). They also include regulations that affect the land use along the Corridor as well as legislature projects and resolutions that are related to its operation and maintenance, among others. The indirect ones are those laws that may add attributes to the Route or may contribute to its management.

Laws and regulations as well as programs and plans assign responsible parties and funds designation for the implementation of corresponding public policies.

The following topics contains information on the agencies that are responsible for public policies implementation including the funds that are designated for such purposes. It identifies the agencies and organizations that have responsibility and/or jurisdiction for the Route, including roadway, roadside, and Corridor, when applicable. It also describes the planning process, budgeting, regulatory and extent of their responsibilities pertaining to activities on the byway.



Sign in the Toro Negro State Forest. ("Turn off your radio. Listen to the music from nature.") Photo Courtesy of Yamill Castellanos from Amigos del Bosque Toro Negro.

5.1.1 Laws and Regulations that Directly affect the Route

5.1.1.1 Amendments to the Panoramic Route Law (Law 71-1965)

Law 71-1965 was enacted to establish the Panoramic Route. This law allocated \$150,000 for land acquisition to construct a Route segment. It also authorized the Planning Board to adopt maps and regulations to declare Panoramic Route borders as scenic zones. This regulation was later amended by Law 496 - 2004. As per this research, only this law has been approved to amend the Panoramic Route Law. The provisions of this amendment are summarized in **Table 5-1**.

5.1.2 Laws Related to the Route Name

As per this research, two (2) laws have been approved related to the name of the Route or a segment of it. **Table 5-2** identifies said laws.

Table 5-1 Panoramic Route Law Amendment

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Law 496 - 2004 – Amendment to the Panoramic Route Law*.	The protection and adequate management of the Panoramic Route is a public policy of the Commonwealth of Puerto Rico.	Commonwealth of Puerto Rico	Not mentioned	--
	<p>Creates the Council for the Protection and Management of the Panoramic Route (the Council) under the DTPW.</p> <p>The Council should meet at least one (1) time every two (2) months.</p> <p>A. The Council will have the following functions:</p> <p>Should prepare an annual Action Plan and will maintain an updated inventory of it resources.</p> <p>Will implement programs to preserve and conserve resources of the Panoramic Route promoting the tourism development and safety of visitors. Will develop community awareness and education programs and will procure participation of communities in the programs.</p> <p>Will establish effective systems to evaluate programs implemented.</p>	DTPW and the Council. The DTPW leads the Council.	Funds for the Council will be assigned in the Annual Resolution of the General Budget (<i>Resolución Anual del Presupuesto General de Gastos</i>) of the Commonwealth of Puerto Rico, from the DTPW allocation.	<p>The Council is comprised by the Secretary of the DTPW as President, the Secretary of the Department of Economic Development and Commerce, the Secretary of DNER, the President of the Planning Board and the Mayors of the municipalities along the Panoramic Route.</p> <p>Cooperating agencies are: Institute of Puerto Rican Culture, PRHTA, Solid Wastes Authority, National Parks Company, Department of Recreation and Sports, former Regulations and Permits Administration (now Permits Management Office, OGPe by its acronym in Spanish), Tourism Company and Department of Agriculture.</p> <p>The Council was not formally established. However, to achieve interagency participation in the implementation of strategies and actions proposed in the 1998 CMP, the DTPW/PRHTA submitted the document to the Planning Board to be included as part of</p>

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	<p>Will create the committees necessary to implement the purposes of this law and will promote participation and creation of private not-for-profit for purposes related to this law. Will hold public meetings to comply with purposes of this law.</p> <p>Will coordinate the collaboration of the different government agencies and private companies, as well as citizens participation on the execution of projects and activities associated to the Panoramic Route.</p> <p>Will establish programs to raise funds and will allocate them in a fund for the preservation and conservation of the Panoramic Route (Fondo para la Preservación y Conservación de la Ruta Panorámica Luis Muñoz Marín). This fund will be administered by the Secretary of the Treasury Department.</p> <p>Will prepare a plan for tourism development. It will divide the Route in six (6) segments with a transportation system and tour guides, each segment will have a reception area designated to provide resources (such as filmic resources, translators, and others) for tourists. These facilities should present the principal attractions (natural, cultural, recreational, etc.) of the corresponding segment.</p>			<p>the Land Use Plan. Also, a copy of the document was provided to the DNER, the Tourism Company and the municipalities along the Route, in order to include the CMP 1998 recommendations in the corresponding land use plans, and other related plans.</p> <p>Funds from the Lottery of Puerto Rico have not been allocated to the <i>Fondo para la Preservación y Conservación de la Ruta Panorámica Luis Muñoz Marín</i>.</p> <p>A regulation to serve as the base for the development of the programs to comply with this law was not issued, neither the action plan.</p>

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	<p>Will promote the adoption of architectonic development plans in the different municipalities along the Route to guarantee that the construction, remodeling and maintenance of structures in the town centers be on an ordered manner and according to the characteristics of the Route, among others. The plan should consider the acquisition and restoration of historical structures (e.g., Road Workers Houses, tobacco warehouses, etc.) to be used for the purposes of the Panoramic Route Law.</p> <p>Will procure municipal, state and federal funds to comply with the purposes of this law. Will procure that one (1) annual shot of the Lottery of Puerto Rico be allocated in the Fondo para la Preservación y Conservación de la Ruta Panorámica Luis Muñoz Marín for the Route.</p> <p>B – The Council may assign personnel and may contract professional and consulting services if necessary.</p> <p>C – Within 90 days from the issuance of this law, the Council should issue a regulation that will serve as the base for the development of the programs to comply with this law. Within 180 days the Council will issue the initial Action Plan which will define the programs to</p>			

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	be developed, the strategies and the responsible parties. This plan is to be revised annually.			
	<p>Authorizes the Planning Board to establish as panoramic zones the lands along edges of the Route, as well as those unpopulated areas of the Route. These areas will be considered as scenic routes (<i>Ruta Escénica</i>, RE).</p> <p>This agency should adopt regulation to establish design parameters for structures as well as for signs and announcements.</p>	Planning Board	Not mentioned	<p>Partially implemented: several segments along the Route are designated as RE. Refer to Section 4.1.3. Draft Zoning Maps Amendment Island wide (<i>Enmienda a los Mapas de Calificación a Nivel Isla</i>) were issued by the Planning Board in 2019. The period for public comments was extended until September 23, 2019. PRHTA obtained the GIS files from Planning Board confirming that the RE district was applied essentially along the whole Route, in compliance with the Panoramic Route Law.</p> <p>Joint Regulation for the Evaluation and Permits Issuance Related to Development, Land Use and Businesses Operation¹ (2021) (Joint Regulation) establishes design parameters for structures in RE district. Signs are not covered in the RE district, but in the general section dedicated to this topic.</p>
	The Planning Board should adopt maps declaring the panoramic zones.	Planning Board	Not mentioned	Refer to previous line.
	Creates a staff of road workers (<i>Cuerpo de Camineros</i>), under the PRHTA, for the maintenance of the Route, including the conservation and protection of all intrinsic	PRHTA	Funds for the staff of road workers will be assigned in the Annual Resolution of the General Budget (<i>Resolución</i>	Funds were not allocated. The staff of road workers was not established.

¹ Reglamento conjunto de Permisos para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	<p>resources. Should also procure the compliance of laws that aim the control of junk, signs and trash. The law orders specific functions to the <i>Cuerpo de Camineros</i>. Such functions will comprise aspects that range from the maintenance of the physical characteristics along the roads, up to educational aspects and relations with the community.</p> <p>The PRHTA should implement a regulation for the organization and administration of the responsibilities of the <i>Cuerpo de Camineros</i>. Will also procure the funds necessary for the function of the <i>Cuerpo de Camineros</i>.</p> <p>The PRHTA should coordinate with the related local and federal agencies to make effective the efforts of the <i>Cuerpo de Camineros</i> for the conservation and protection of the resources of the Route.</p> <p>The PRHTA may accept economic contributions in the form of money, technical services, equipment from individuals, entities, nonprofit organizations, government of the United States, among others. The PRHTA may also hold covenants or contracts with natural or juridical persons, public or private, and with federal, state or municipal agencies.</p>		<p><i>Anual del Presupuesto General de Gastos</i>) of the Commonwealth of Puerto Rico, from the PRHTA allocation.</p>	

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	Orders the intensive patrol of the Route by the DNER forest rangers. This will be in coordination with the <i>Cuerpo de Camineros</i> . Facilities will be conditioned, personnel will be assigned and equipment provided to the DNER.	DNER, including forest rangers from Carite, Toro Negro, Guilarte, and Monte del Estado Forests.	\$500,000 for the DNER	Not implemented.

Table 5-2 Laws Related to the Panoramic Route Name

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Law 179 - 1998* - Law to name the Panoramic Route	To name the Panoramic Route as Ruta Panorámica Luis Muñoz Marín.	Denominator Commission of Public Structures and Roads of the Government of Puerto Rico, DTPW and PRHTA	N/A	Implemented.
Law 62 - 2016 to name a segment of the Route in honor of the former mayor of the Municipality of Aibonito, Julio Francisco Santos Vázquez.	To name a segment of the Route in Aibonito as Paseo Don Julio Francisco Santos Vázquez. The segment is comprised by the PR-7718 from its intersection PR-14 up to its intersection with PR-162, in Pasto Ward of this Municipality.	Denominator Commission of Public Structures and Roads of the Government of Puerto Rico, and DTPW	N/A	Implemented.

* Law 179 - 1998 does not amend the Law that established the Panoramic Route (Law 71 - 1965).

5.1.3 Regulations that affect Land Use Along the Corridor

Land use should ideally be according to the existing planning regulations, which should in turn be in agreement with strategic land use public policies established by the state or country for the areas under their jurisdiction. These regulations for land use are implemented by the regulatory agencies, establish zoning districts to basically place essential rules on how and where the different economic and social activities should take place. Each zoning district establishes specific provisions on the type of land use that is allowed and on the structures construction parameters that are permitted. The planning agencies may also establish special planning areas to protect special features of a landscape or to guide the development of a strategic sector or area. In Puerto Rico, the agency with ultimate jurisdiction on land use planning is the Planning Board, per the powers granted by the law that created this agency (Law 75-1975) (Ley Orgánica de la Junta de Planificación).

This section describes those land use regulations and special plans that affect the Panoramic Route and its Corridor². These regulations are implemented through zoning plans and maps, which arranged in a hierarchical way, include:

- Puerto Rico Land Use Plan (*Plan de Usos de Terrenos de Puerto Rico*, PUT by its acronym in Spanish)
- Special Plan for the Development of Castañer (applicable to specific area in Castañer)
- Municipal Zoning Plans or *Planes de Ordenamiento Territorial*, or POT's by its acronym in Spanish and Planning Board's Zoning Maps and Municipal Zoning Maps (*Mapa de Calificación de Suelos*)

Before getting into the description of the Land Use Plan and its relevance to the Panoramic Route, it is important to point out the general land planning framework

² Two (2) proposed special zoning areas are proposed in areas within the Corridor. The Management Plan for the Sierra de Pandura Guardarraya Draft is in progress by the DNER.

established by the Autonomous Municipalities Law (Law 81 - 1991), as amended, and the Planning Board Law (Law 75 - 1975), as amended. The Autonomous Municipalities Law allowed the Municipalities to prepare their own land use plans (Municipal Zoning Plans or *Planes de Ordenamiento Territorial*). Such plans should be adopted by the Planning Board and approved by the Governor of Puerto Rico to be according to the regional and island wide public policies, without disrupting the powers of the Planning Board. The POT's are implemented through municipal zoning maps (*Mapa de Calificación*) to regulate allowed uses. Before the issuance of the Autonomous Municipalities Law, the land use plans, implemented through Zoning Maps, were issued by the Planning Board based on the powers granted to this agency by Law 75-1975. These maps are still the planning tool for those municipalities that have not completed the process to issue their POT's.

The Land Use Plan, issued by the Planning Board, was approved on November 19, 2015. As of the issuance of this CMP Update the Land Use Plan is in force, but as it was challenged in the Supreme Court of Puerto Rico, it is under court review and has not become final. This plan designates Land Classifications (*Clasificaciones de Suelos*), which establish general categories to order the land use according to its characteristics and values (existing and potential). Based on the Land Use Plan, both the Planning Board and the Municipalities should update the different planning tools, like the Zoning Maps and the POT's, respectively. The update



Punta Tuna Natural Reserve comanaged by the Committee for the Development of Maunabo, Emajagua Ward, Maunabo

The Playa Lucía Wetland Natural Reserve Sector Plan draft was issued by the Planning Board for public hearings (2016).

process should comply with the due process regarding the public participation and the Uniform Administrative Procedure Law (Law 170-1988, as amended).

The Specially Protected Rustic Land (SREP by its acronym in Spanish) classification is relevant for the purposes of the Panoramic Route. The Land Use Plan created subcategories of protection under this classification. One of the most representative for the purposes of the Panoramic Route is the special protected rustic land (SREP by its Acronym in Spanish) for the value of the landscape (*Suelo Rústico Especialmente Protegido por valor de Paisaje*, SREP-P by its acronym in Spanish) which include sites with scenic value, or unique landscape and that are associated with areas of special richness, natural agricultural and/or cultural or those places that require protection. This and the other subcategories under the special protected rustic land are included in **Table 5-3**.

Table 5-3 Subcategories Under the Special Protected Rustic Land Classification

Specially Protected Rustic Land (SREP)	Subcategory
Ecological	E – Ecological Value
	EA - Ecological and Agricultural Value
	EP - Ecological and Landscape Value
	EH - Ecological and Hydric Value
Agricultural	A – Agricultural Value
	AE – Agricultural and Ecological Value
	AP – Agricultural and Landscape Value
	AH – Agricultural and Hydric Value
Hydric	H – Hydric Value
Landscape	P – Landscape Value

³ The areas of landscape value considered are:

- ii. El Yunque in the Mountains Range of Luquillo, and zones in Canóvanas, Río Grande, Luquillo, Fajardo, Ceiba, Naguabo, Las Piedras and Juncos
- ii. El Cemí hill (*Cerro el Cemí*) in Utuado.
- iii. Cliffs of Playuela, also known as Playa Sucia, in the State Forest of Boquerón in Cabo Rojo.
- iv. Pelados Hills (*Montes Pelados*) in Salinas.

It is important to note that the Panoramic Route is not among the sites considered in the areas of landscape value (SREP-P)³ in the Land Use Plan.

The Land Use Plan recommends the preparation of specific plans according to each thematic area or Sector Plans (*Planes Sectoriales*). The Land Use Plan recognizes that there are issues that cannot be solved at that planning level due to the absence of more detailed studies or for which a special coordination is necessary. The topic of landscape and archaeological resources is among the prescribed Sector Plans. The Land Use Plan identifies the responsible parties, as well as schedule for its preparation.

The objective of the Landscape and Archaeological Sector Plan is to protect the rustic lands that have a landscape value and resources of archaeological value. This plan should identify those places or landmarks that have scenic or unique landscape value or have resources of archaeological value present or that are associated with places of special richness, natural, agricultural and / or cultural. It also identifies those places in need of protection. The sector plans use the mechanisms of development rights transfer (*transferencia de derechos de desarrollo*), and land dedication to preserve areas with certain landscape or archaeological value. The agencies responsible for this Sector Plan are the Institute of Puerto Rican Culture, Tourism Company and Department of Natural and Environmental Resources (DNER).

Special Plan for the Development of Castañer

This plan establishes a special zoning plan for the area of Castañer, which is defined by Law 14-1996, as amended. According to this law the area of Castañer is comprised by the Poblado de Castañer, Río Prieto, Mirasol and Bartolo wards in the Municipality of Lares, and Guayabo Dulce, Guayo and Limaní wards in the Municipality of Adjuntas, the

- v. The cliffs and bays in Luna Bay in Vieques.
- vi. The Guánica Dry Forest, in Guánica, Yauco and Guayanilla.
- vii. The mountains that border the community of La Parguera in Lajas.
- viii. Bermeja Mountain Range in Lajas and Cabo Rojo.
- ix. Cliffs of Quebradillas and Camuy

Río Prieto ward (with its areas of Arbela, Cerrote and Grillasca) in the Municipality of Yauco and El Treinta sector in the Municipality of Maricao.

The purpose of this law is to encourage the economic, social and cultural development through a joint effort of the government and the private sector; to provide special incentives to attract and maintain economic activities in Castañer that contribute to improve the quality of life of their residents and the economic activity, the adoption of tools for the economic development in accordance with the protection of the social, ecologic and cultural integrity of the area, among others.

Resolution 964 of the Puerto Rico Senate (September 29, 2014) ordered to the Senate Rural Development Commission and the Agriculture, Food Security and Sustainability of the Mountain Commission to conduct a comprehensive investigation of the status of the Special Plan for the Development of Castañer. The report of this investigation was issued on November 12, 2015, after a site visit and a public hearing with participation of mayors of the municipalities that comprise the special zone, community members and representatives of different agencies, including the Department of Agriculture, Planning Board, Puerto Rico Industrial Development Company, and the PRHTA.

The Commissions concluded that the government is making efforts in different areas in order to bring economic development to the Castañer area (e.g., Castañer Hospital wastewater treatment plant, removal of scrap dumping, financial support to agricultural tourism projects, among others). The investigation reflected that even when development initiatives are carried out, these are often the product of isolated proposals from different agencies or departments and not part of a coordinated or concerted action, as pursued by the law. The effect of this lack of coordination is that some initiatives are not known by entities or agencies that could benefit most from them. It should be mentioned that effective interagency initiatives have been undertaken, like the proposal for the development of the Coffee Route, an initiative of agricultural tourism that brings together the intergovernmental effort of at least two (2) agencies: the Department of Agriculture and the Tourism Company. The commissions concluded that it is necessary that the agencies that have an express mandate in Law 14-1996, *supra*, give priority to Castañer and offer greater disclosure to the alternatives

offered by the government for the neighborhoods and sectors that comprise this economic region.

Planning Board Zoning Maps and Municipal Zoning Maps

The allowed land uses, in accordance with the public policies, are implemented through Planning Board and Municipalities zoning maps, respectively, as previously explained in this section.

Such maps show designated land uses in the form of zoning districts (*i. e. Distritos de Calificación and Distritos de Zonificación, for the Planning Board and the Municipalities, respectively*). Current zoning along the lands that comprise the Corridor is discussed within the context of the Corridor for each region (**Section 4.1.2** Route Description and Context).

One of the most representative categorization districts for the purposes of the Panoramic Route is the Scenic Route district (*Ruta Escénica*, RE by its acronym in Spanish).

The **Table 5-4** identifies the wards in which there are segments that are categorized as RE district along the Corridor.

Table 5-4 RE Districts along the Corridor

Municipality	Wards	Municipality	Wards
Mayagüez	Juan Alonso	Jayuya	Collores
	Limón		Jauca
	Mayagüez Arriba		Pica
	Montoso		Veguitas
	Naranjales		Zamas
Sabana Grande	Santana	Orocovis	Ala de la Piedra
	Tabonuco		Bauta Abajo
Adjuntas	Garzas		Bauta Arriba
	Guilarte		Bermejales
	Portugués	Villalba	Caonillas Arriba

Municipality	Wards	Municipality	Wards
	Saltillo		Hato Puerco Arriba
	Vegas Arriba		Villalba Arriba
Utado	Consejo	Guayama	Carite
			Guamaní

5.1.4.2 Law Projects that Affect Current Definition of the Route

The **Table 5-6** summarizes law projects presented by the legislature that may affect the current definition of the Panoramic Route.

5.1.4 Panoramic Route Related Laws Projects and Resolutions

The following law projects and resolutions issued by the legislature include those related to operation and maintenance activities for the Panoramic Route. Among the law projects, there is one (1) that affect the current physical definition of the Route.

5.1.4.1 Related to Operation and Maintenance

The **Table 5-5** summarizes law projects and resolutions related to Panoramic Route operations and maintenance.

Table 5-5 Law Projects and Resolutions Related to Panoramic Route Operations and Maintenance

Law Project or Resolution	Summary of Relevant Statements of the Project or Resolution	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Resolution of the House of Representative 2759 of February 20, 2003	Requests maintenance of green areas, right of way and road segment of PR-182 of the Panoramic Route in the Municipality of Yabucoa. Referred to the Treasury Commission of the House of Representatives.	DTPW	\$0	Inconsequent due to the time that has passed since the order.
Resolution of the House of Representative 3098 of April 10, 2003 for maintenance works	Orders to paint curbs and pavement marking along PR-179 and PR-7741 of the Panoramic Route.	DTPW	\$0	Inconsequent due to the time that has passed since the order.
Resolution of the Senate 3249 of July 14, 2003 to eliminate parking restrictions	Orders an investigation on the viability and convenience to eliminate parking restrictions in the street Catalina Morales (PR-182 of the Panoramic Route in the Municipality of Yabucoa). Referred to the Commissions of Municipal Government, Public Corporations and Urban Affairs of the Senate, respectively) (July 14, 2003).	Commissions of Municipal Government, Public Corporations and Urban Affairs of the Senate, respectively.	\$0	Report not yielded by the referred commission.
Resolution of the House of Representative 109 of January 10, 2013 and 264 of March 9, 2017, respectively ordering investigation of the status of the Panoramic Route	Both resolutions, respectively, order the Commission of Transportation and Infrastructure of the House of Representatives to investigate the condition of the Panoramic Route, the operation of the Council and the performance of the <i>Cuerpo de Camineros</i> .	Commission of Transportation and Infrastructure of the House of Representatives	\$0	A report was generated for the Resolution 109 that reflected that 3 out of 21 municipalities issued the information that was requested. The report also indicated that neither the Council nor the <i>Cuerpo de Camineros</i> were constituted.

Law Project or Resolution	Summary of Relevant Statements of the Project or Resolution	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
				Resolution 264 was referred to the Commission of Schedules (<i>Comité de Calendarios</i>) of the House of Representatives by May 22, 2017 to assign the investigation task.

Table 5-6 Law Projects that Affect Current Route Definition

Law Project	Summary of Relevant Statements of the Project of Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Project of the House of Representatives 550 (<i>P de la C 550</i>) issued on January 13, 2017 to add road segments to the Panoramic Route.	Proposes to amend the Law 71 - 1965 to add road segments to the Panoramic Route in the municipalities of Patillas and San Lorenzo to connect the Route with the urban centers of these municipalities. Proposed segments comprise roads PR-181 in the Municipality of San Lorenzo and roads PR-184, PR-181 and PR-3 in the Municipality of Patillas. Referred to the Commission of Comprehensive Development of the Eastern Region (House of Representatives) (January 13, 2017).	Proposed responsible parties: not indicated.	\$0	Under evaluation of the Commission for Integrated Development of the Eastern Region (<i>Comisión de Desarrollo Integrado de la Región Este</i>).

5.2 Laws and Regulations that Indirectly Affect the Route

5.2.1 Laws and Regulations that may add Attributes to the Route

The following laws may add attributes to the Panoramic Route by creating thematic routes or by designating tourism regions. This classification includes also designation of historical sites. Laws projects and resolutions are also considered in this section. Refer to **Table 5-7**.

5.2.2 Laws that Contribute to the Management of the Route

The laws that provide mechanisms that may contribute to the control of conditions and issues that may affect negatively the Panoramic Route are summarized in **Table 5-8**. Such issues may include public nuisances and abandoned vehicles, among others.

5.3 Route Relevant Government Actions, Responsible Parties and Designated Funds

Topics below discuss both the proposed projects as well as the programs that affect or may affect the Panoramic Route corridor. Even private projects are considered in this topic, as the Planning Board and the OGPe have the responsibility of evaluating proposals from private entities by means of Site Approval's Applications (*Consultas de Ubicación*) in light of public policies.

5.3.1 Proposed Projects Along the Panoramic Route Corridor

5.3.1.1 Site Approvals

Both the Planning Board and the OGPe, respectively, have the responsibility to evaluate Site Approval Applications, which is a mechanism for citizens to request a land use or density in a zoning district in which is not permitted by the current regulation. This is a discretionary determination from the Planning Board and the OGPe, respectively. These agencies, as part of their evaluation, consider the existing land uses, the specific location of proposed projects, sustainable development policies, land use policies, regional plans, and infrastructure availability, among other factors.

Site Approval's Applications data was obtained from Planning Board and OGPe, respectively, as part of this analysis. Applications filed since the last five (5) years (from August 2017) in the Corridor were identified. Five (5) applications have been filed in the Planning Board while 216 have been filed in the OGPe. The following project types have been filed through this mechanism in the referred area, for the indicated period in the above-mentioned agencies:

Planning Board

- Land transactions
- Office building
- Photovoltaic systems
- Land plot subdivision

OGPE

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Land plot subdivision • Warehouse • Medical related businesses • Communication projects (cell phone related businesses) • Esthetics related businesses • Signs related businesses • Food services | <ul style="list-style-type: none"> • Churches • Commercial buildings • Hacienda • Guest House • Photovoltaic projects • Tinsmith shop legalization • Restaurant • Sewing shop • Auto repair shop |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

In general, the type of project that prevails in the Planning Board jurisdiction are related to land transaction (*Consultas de Transacción*) (60 percent). Under the OGPe jurisdiction, land plots subdivision (*Segregaciones* and *Lotificaciones*) prevails (91 percent).

Table 5-7 Laws that May Add Attributes to the Panoramic Route

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Law 254 - 2006 to establish the development of sustainable tourism in Puerto Rico	Creates the public policy for the development of sustainable tourism, establish mechanism for its development and creates the Office of Sustainable Tourism under the Tourism Company	Tourism Company	The Executive Director of the Tourism Company (based on the 2007-2008 budget) will set aside a budget of no less than \$500,000 to establish the Sustainable Tourism Program. \$1,000,000 will also be allocated from the General Fund for the implementation of this law.	Tourism Company has developed the Program of Green Certification, that includes Sustainable Tourism Facilities (Green Hotels) program and guidelines, Agro-Tourism Program, and Ecotourism Program. The agency also created the Blue Flag (Bandera Azul) Program to certify beaches and marinas. The agency also offers workshops on sustainable tourism directed to different audiences (new or future entrepreneurs, businesspersons, university students, and middle and high school students).
Law 14 - 1999 to link several state forests	This law is intended to establish biological corridors between the following state forests: Maricao, Susúa, Guánica, Toro Negro, Gularte and Bosque del Pueblo.	Two (2) biological corridors and buffer zones should be established one for Maricao, Susúa and Guánica forests and other for Guilarte, Pueblo and Toro Negro forests. The area would be formed by forested lands between mentioned forests.	Funds will be obtained from contributions from private companies, non-profit entities, and the Special Forestry Development Fund, established according to Law 133 - 1975, as amended, known as "Puerto Rico Forest Law".	The DNER is actively identifying funds for the acquisition of lands that allow the establishment of biological corridors between protected natural areas. Through Forest Legacy Program (<i>Programa de Legado Forestal</i>) priority areas have been identified for the conservation and acquisition of land in all the areas mentioned in this law. In addition, through the division of Natural Heritage (<i>Patrimonio Natural</i>) efforts have also been made to establish biological corridors.
Law 183 - 2001 for the establishment of	This law establishes a mechanism through which a property owner can agree, with a government agency or non-profit	Voluntary	The incentive consists of a tax deduction to the person who donates said easement to a	Conservation easements are present along the Corridor.

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
conservation easements in Puerto Rico	organization, a conservation easement over an area of natural or cultural value with the intention of protecting it in perpetuity. To increase the efficiency and usefulness of this law, a tax incentive is created so that donations of conservation easements can be produced.		governmental entity or to a non-profit organization dedicated to the conservation of the environment. The tax incentive for these donations is created through an amendment to the Internal Revenue Code.	The NGO Para la Naturaleza promotes this mechanism as part of its goals to increase natural protected areas in the island. Their goal is to reach 33% of the island as natural protected lands by year 2033.
Law 267 - 2004 to establish the policy of the Commonwealth of Puerto Rico for its sustainable development	The purpose of this law is the establishment of a public policy that promotes the achievement of a desirable and convenient quality of life for Puerto Ricans; promoting the harmonization of government policies, programs and activities related to social, economic and environmental aspects, among others; directing Puerto Rico towards the achievement of its sustainable development.	All the agencies, departments, municipalities and corporations of the Government should revise its policies.	\$0	Current update of the CMP is part of the efforts from the PRHTA for the implementation of this public policy. Tourism Company has developed guides for ecotourism and sustainable tourism, among other efforts. Refer to comments on Law 254 – 2006. No evidence that this Commission is active.
	Orders the establishment of the Commission for the Sustainable Development of Puerto Rico.	Former Environmental Quality Board* (See note at the end of this table.)	The EQB may provide consulting services and get paid for such services.	
Law 158 - 2005 to create the tourism destination Porta del Sol	Establishes the regional destination comprised by the following municipalities (only mentioning those included in the Route): Las Marías, Maricao, Mayagüez, Lares and Sabana Grande. Orders to these municipalities to provide an inventory of existing and potential tourism attractions as well as need of infrastructure. A list of	Municipalities mentioned		Marketing plan has been established by the Tourism Company. An office for this tourism region is located in Cabo Rojo (Road PR-100 km 6.6).

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	handcrafters, and cultural festivities is also required.			Signs have been installed by the DTPW on main highways indicating entrance to this region.
	Orders to prepare a strategic tourism development and marketing plan.	Tourism Company	\$0	
	Order specific responsibilities to the different agencies (PR Aqueduct and Sewers Authority, PR Electric Power Authority, Institute of Puerto Rican Culture, among others.)	Agencies mentioned in the Law	\$0	No dedicated principal area in the webpage of the Tourism Company.
	Order to develop a public financing plan for Porta del Sol.	Bank of Economic Development of Puerto Rico	\$0	
	Order the installation of signs identifying the zones in the roads that comprise the destination.	DTPW	\$0	
Regulation 7140, Regulation to Establish Rural Tourism (2006)	The purpose of this regulation is to promote the establishment of facilities and lodging for visitors in an agricultural operation where the educational experience is combined with the benefit of producing incomes from tourism and agricultural activity in a complementary manner.	Voluntary	This regulation allows <i>bona fide</i> farmers to take advantage of the incentives and benefits offered by the Tourism Company and the Department of Agriculture.	
Law 54 - 2009 to create and establish the Special Tourism District of the Mountain (<i>Distrito Especial Turístico de la Montaña</i>). Amended by Law 41 - 2010 to include elements related to	Comprised by the following municipalities (only mentioning those included in the Route): Adjuntas, Aibonito, Barranquitas, Cayey, Jayuya, Lares, Orocovis and Utuado). Orders to these municipalities to provide an inventory of existing and potential tourism attractions as well as need of infrastructure. A list of handcrafters, and cultural festivities is also required.	Municipalities mentioned	\$0	Marketing plan has been established by the Tourism Company. There is a division in Tourism Company headquarters in Old San Juan dedicated to this tourism district. No signs have been installed by the DTPW on main highways indicating entrance to this region.

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
agricultural tourism and/or rural tourism	Note: Law 125 - 2016 amended this law removing Lares from this district. This municipality pertains to Porta del Sol region as per data provided by the Tourism Company.			No dedicated principal area in the webpage of the Tourism Company.
	Orders to prepare a strategic tourism development and marketing plan.	Tourism Company	\$0	
	Order specific responsibilities to the different agencies (PR Aqueduct and Sewers Authority, PR Electric Power Authority, Institute of Puerto Rican Culture, Department of Agriculture, among others.)	Agencies mentioned in the law	\$0	
	Order to develop a public financing plan for the Special Tourism District of the Mountain	Tourism Company and Bank of Economic Development of Puerto Rico	\$0	
	Orders to create a Public-Private Commission for the Development of the Special Tourism District of the Mountain to guarantee the implementation of the proposals of this law in an expedited manner.	Public-Private Commission (integrated by Director of the Tourism Company, President of the Planning Board, Secretary of the Department of Natural and Environmental Resources, Mayors from the Municipalities of the Region, among others.	\$0	
Law 203 - 2009 to create the Artisans Route	Orders to identify the municipalities to be included in the Puerto Rico Artisan Trail (<i>Ruta de los Artesanos</i>).	Tourism Company	\$0	
	Orders to prepare a plan to post signs and distribute maps to identify roads and places of interest.	Tourism Company, PRHTA and DTPW	\$0	

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	Orders to create a website.	Tourism Company	\$0	
Law 64 - 2013 to include the remnants of the old Hacienda La Lucía in Yabucoa in the National Registry of Historical Places.	Declared as place of historical value. Orders to declare the remnants of the old Hacienda La Lucía as a historical monument.	Planning Board, in coordination with the Institute of Puerto Rican Culture and the State Historic Preservation Office	\$0	The Planning Board declared the site as an historical site by the end of year 2016. Hacienda La Lucía is located on the Route (PR-901, Yabucoa).
	Orders to make the coordination necessary to conserve, preserve and custody the structures of the Hacienda.	Municipality of Yabucoa	\$0	
Law 182 - 2014 to create the model forest (<i>Bosque Modelo</i>)	This law creates a planning structure of an ample defined region that promotes its sustainable development through a coordinated management of land uses by the government and the communities. This law conceives a common vision of sustainable development where different uses and activities coexist and where the forest ecosystems play an important role but in harmony, considering existing development such as residential, commercial, industrial agricultural and tourism among others.	DNER, Office of Model Forest (public corporation), Trust of Model Forest (for perpetuity public end) and Multisector Roundtable (<i>Mesa Multisectorial</i>) (integrated by public agencies, academy, agricultural parties, environmental entities, and communities among others.		The following forests located in the Corridor are within the Bosque Modelo jurisdiction area: Toro Negro, Tres Picachos, La Olimpia and Guilarte. Model Forest Office was consolidated with the DNER (February 2018, as part of the government reorganization process). The Model Forest integrative approach agrees with the Vision of the CMP.
Law 18 - 2015 for the conservation and development of Central Roig in Yabucoa for cultural and tourism purposes.	Orders a collaboration agreement between Land Authority and the Municipality of Yabucoa. Land and facilities will be transferred, after cleaning, to the Municipality of Yabucoa. Both entities should issue an annual progress report.	Land Authority and the Municipality of Yabucoa	0\$	Central Roig is located in the Corridor. It has not been declared historical zone.
	To coordinate for the establishment of the Central Roig as an historic zone or site.	Municipality of Yabucoa	\$0	

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
Law 57 - 2016 to establish a gastronomic zone in the Municipality of Barranquitas.	Orders to establish Road PR-143 (among others) in the Municipality of Barranquitas as a zone of gastronomic tourism.	Tourism Company	\$0	
	Orders to prepare a comprehensive development plan, including trainings to the owners of businesses. Orders also to prepare a regulation to comply with this law.	Tourism Company	\$0	
Law 86 - 2016 to establish a gastronomic zone in the Municipality of Cayey and Guayama.	Orders to establish as a zone of gastronomic tourism the following roads: Road PR-184, PR-715 and PR-7741R (among others) in the Municipality of Cayey and PR-179 in the Municipality of Guayama.	Tourism Company	\$0	
	Orders to prepare a comprehensive development plan, including trainings to the owners of businesses. Orders also to prepare a regulation to comply with this law.	Tourism Company	\$0	
Law 125 - 2016 of Tourism Regions	Seeks to unify dispositions of separate Executive Orders that created the different tourism regions. Orders to revise the Master Plan for the Sustainable Development of Tourism in Puerto Rico, to consider the classifications of the tourism regions.	Tourism Company	\$0	<p>Panoramic Route is affected by two (2) regions:</p> <p>Porta Caribe: Patillas, Guayama, Coamo, Villalba, Ponce and Juana Diaz</p> <p>Porta del Este: Maunabo, Yabucoa and San Lorenzo</p> <p>Marketing plan has been established by the Tourism Company.</p>
	Creates the following Tourism Regions: Porta Caribe, Porta Atlántico, Porta del Este and Metropolitan Region.	Tourism Company	\$0	
	Regional offices may be established for regions that do not have them.	Tourism Company	\$0	

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation	Comments
	Requires to the Municipalities mentioned (Article 3 of the Law)** to prepare a detailed inventory of resources including: hospitality infrastructure, tourist attractions, festivities, cultural activities, among others. It also requests a list of handcrafters in the municipalities.	Municipalities mentioned in the Article 3 of the law	\$0	No dedicated principal area in the webpage of the Tourism Company. There is an office dedicated to Porta Caribe district at Vila Street in Ponce.
	Order specific responsibilities to the different agencies (PR Aqueduct and Sewers Authority, PR Electric Power Authority, Institute of Puerto Rican Culture, among others.)	Agencies mentioned in the law	\$0	No signs have been installed by the DTPW on main highways indicating entrance to Porta del Este and Porta Caribe regions.
	Order the installation of signs identifying the zones and roads in the tourism regions.	DTPW	\$0	
Project of the House of Representatives 1564 for the creation of the Route Aroma de Café	Orders the creation of a tourism route that includes the municipalities of Jayuya, Utuado, Adjuntas, Lares, Yauco and Maricao and any other municipalities that participate in the coffee industry and culture.	Tourism Company, DTPW and other agencies that may be convoked by the Tourism Company	\$0	Public hearing scheduled for September 20, 2018.

*Act No. 171 of August 2, 2018, created to implement the "Reorganization Plan of the Department of Natural and Environmental Resources of 2018", transfers the powers and functions previously delegated to the Environmental Quality Board to the Department of Natural and Environmental Resources by means of Law 416-2004, as amended, known as the "Environmental Public Policy Law". In addition, the law establishes in its Section 92 that any reference to the Environmental Quality Board, contained in any law, regulation or official document of the Government of Puerto Rico, shall be understood as amended to refer to the DNER that shall be understood as its successor. for all corresponding legal purposes.

**Municipalities applicable to the Panoramic Route per Tourism Region: (1) Porta Caribe: Coamo, Guayama, Juana Díaz, Patillas, Ponce, and Villalba and (2) Porta del Este: Maunabo, San Lorenzo and Yabucoa.

Table 5-8 Laws that Contribute to the Route Management

Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation
Law 22 - 2000, as amended (April 29, 2017), known as Law of Vehicles and Transit in Puerto Rico	Article 10.19 prohibits abandoned, rickety or unusable vehicles in the public roads or adjacent areas, neither public nor private. A vehicle is considered abandoned if it is unattended for a period of more than 24 hours. If the vehicle is not removed by the owner in 24 hours, it may be removed by the State or Municipal Police, as well as by the staff (<i>Cuerpo de Ordenamiento de Tránsito</i>) of the DTPW. A place to temporarily locate these vehicles should be provided by the Municipality or the Police. The owner of the abandoned vehicle is subject to fines and can be reported. If the owner of the vehicle does not claim it within a 60-day period after notification, the Police or the corresponding municipal government may sell it on public auction to cover expenditure. (Article 6.28).	State or Municipal Police and <i>Cuerpo de Ordenamiento</i> of the DTPW	\$0
	Article 6.28 orders the municipalities and the Police to adopt the regulations that be necessary to implement the aforementioned provisions of this law.	State or Municipal Police	\$0
Law 31 - 2012 - Law to enable the restoration of communities	<p>This law provides for the municipalities to use their authority to execute forced expropriation in real estate that have been declared public nuisances to be transferred, by purchase, to people who intend to rehabilitate these properties. The purpose of the law is to encourage the restoration of communities.</p> <p>Article 10.1 of this law was amended later (by Law 157 - 2016) to empower municipalities to sell, assign, donate or lease these properties, according to the Autonomous Municipalities Act (Law 81 - 1991).</p>	Municipalities	\$0



Law	Summary of Relevant Statements of the Law	Responsible Parties	Assigned Funds or Incentives for Implementation
Law 157 - 2016 to amend the Civil Code of Puerto Rico related to properties without inheritors and the Law 31 - 2012, Law to enable the restoration of communities	In the absence of people who have the right to inherit a property, the Government of PR will inherit the assets which are allocated for the University of Puerto Rico Fund. However, if there is a property declared as a public nuisance, it will be allocated to the Municipality in whose jurisdiction the property is located. This may occur after the University of Puerto Rico, within the term of 5 months after formally notified has expressed its lack of interest.	University of Puerto Rico and Municipalities	\$0

5.3.1.2 Infrastructure Projects

The Four-Year Capital Improvement Program (*Plan de Mejoras Capitales de Cuatro Años*, PICA by its acronym in Spanish) is a short- and medium-term planning tool aligned with the Plan for Puerto Rico, and with the provisions of the Puerto Rico Oversight Management and Economic Stability Act of 2016 and its Title VI, which provided for the alignment of a negotiation restructuring and consensus between the Government of Puerto Rico and the Fiscal Oversight Board.



Landslide correction project Road PR-143 boundary between Consejo Ward, Utuado and San Patricio Ward, Ponce

This document integrates the investment considered by the Government of Puerto Rico, for capital improvements through the different programs developed by government agencies. These investments are aimed to reach the goals and objectives outlined for the period of 2017-2018 to 2020-2021.

The PRHTA is part of the Transportation and Communications sector which along with other sectors comprise the structure of the government to address the Economic Development Area. This document provides a list of the improvement projects proposed by the PRHTA to the Island roadway system, which include rehabilitation work of several state primary, secondary and tertiary roads. The work will include but is not limited to: scarification and application of new asphalt, pavement marking, installation of safety rails and terminals, construction of gabion walls, restoration of slopes, reconstruction of pavement structure, cleaning of sewage systems, among others. Proposed improvements include roadways in all the municipalities located along the Panoramic Route. Refer to **Section 4.2.5 Road Improvement Programs** for specific improvement programs from the PRHTA.

Regarding the Tourism area, this document indicates that the development of programs aimed at ecotourism, cultural tourism, sports, agriculture and medical tourism will be promoted. In addition, the continuous and effective marketing efforts of the Island will be focused on its total extension and not merely on the traditional attractions offered by the Metropolitan Area. These are some of the initiatives mentioned in the Tourism area: Puerto Rico as Caribbean Tourism Leader, the creation of the Destination Marketing Organization, the creation of Tourism Interest Districts and the development of Ecotourism in State Forests and Nature Reserves. Regarding Tourism Interest Districts and the development of Ecotourism please refer to **Table 5-7 (Laws that May Add Attributes to the Panoramic Route)**. All these initiatives positively contribute to the mission of the Panoramic Route.

5.4 Programs that affect or may affect the Corridor of the Panoramic Route

5.4.1 Federal Plans and Programs

5.4.1.1 Moving Ahead for Progress in Century 21 (MAP-21)

MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 provides needed funds and transforms the policy and programmatic framework for investments to guide the growth and development of the country's vital transportation infrastructure. MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include:

- improving safety,
- maintaining infrastructure condition,
- reducing traffic congestion,
- improving efficiency of the system and freight movement,
- protecting the environment, and
- reducing delays in project delivery.

MAP-21 builds on and refines many of the highway, transit, bike, and pedestrian programs and policies established by previous legislations. The jurisdiction of Puerto Rico in general is affected by the provisions of this law related to the highways, transit,

bike and pedestrian programs and policies. This summary by the FHWA⁴ reviews the policies and programs administered by this agency.

- Strengthens America's highways - MAP-21 expands the National Highway System (NHS) to incorporate principal arterials not previously included. Investment targets the enhanced NHS, with more than half of highway funding going to the new program devoted to preserving and improving the most important highways -- the National Highway Performance Program.
- Establishes a performance-based program - Under MAP-21, performance management will transform Federal highway programs and provide a means to more efficient investment of Federal transportation funds by focusing on national transportation goals, increasing the accountability and transparency of the Federal highway programs, and improving transportation investment decision making through performance-based planning and programming.
- Creates jobs and supports economic growth - MAP-21 authorizes funds for road, bridge, bicycling, and walking improvements. In addition, MAP-21 enhances innovative financing and encourages private sector investment through a substantial increase in funding for the Transportation Infrastructure Finance and Innovation Act (TIFIA) program⁵. It also includes a number of provisions designed to improve freight movement in support of national goals.
- Supports the Department of Transportation's (DOT) aggressive safety agenda - MAP-21 continues the successful Highway Safety Improvement Program, doubling funding for infrastructure safety, strengthening the linkage among modal safety programs, and creating a positive agenda to make significant progress in reducing highway fatalities. It also continues to build on other aggressive safety efforts, including the Department's fight against distracted driving and its push to improve transit and motor carrier safety.

- Streamlines Federal highway transportation programs - The complex array of existing programs is simplified, substantially consolidating the program structure into a smaller number of broader core programs. Many smaller programs are eliminated, including most discretionary programs, with the eligibilities generally continuing under core programs.
- Accelerates project delivery and promotes innovation - MAP-21 incorporates a host of changes aimed at ensuring the timely delivery of transportation projects. Changes will improve innovation and efficiency in the development of projects, through the planning and environmental review process, to project delivery.

MAP-21 eliminated several discretionary programs, including Scenic Byways Program. It assumes that many of the eligibilities are covered in other programs.

5.4.1.2 Fixing America's Surface Transportation Act (FAST)

On December 4, 2015, President Barack Obama signed the Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery and, for the first time, provides a dedicated source of federal funds for freight projects.

Under the FAST there is the Territorial and Puerto Rico Program. Its purpose is to allocate funds for the highway program in the Commonwealth of Puerto Rico. The following amounts (**Table 5-9**) are reported under this program for Puerto Rico for the years 2016 to 2020⁶:

⁴ MAP-21 A summary of Highway Provisions. (2017, November 10). Retrieved from: <https://www.fhwa.dot.gov/map21/summaryinfo.cfm>

⁵ The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program provides Federal credit assistance to eligible surface transportation projects, including highway, transit,

intercity passenger rail, some types of freight rail, and intermodal freight transfer facilities. The program is designed to fill market gaps and leverage substantial private co-investment by providing projects with supplemental or subordinate debt.

⁶ <https://www.fhwa.dot.gov/fastact/factsheets/territorialprhighwaysfs.cfm>

Table 5-9 Fixing America’s Surface Transportation Act (FAST) Funds Allocation

Fiscal Year	2016	2017	2018	2019	2020
\$158 M	\$158 M	\$158 M	\$158 M	\$158 M	\$158 M

5.4.1.3 FHWA Livability Initiative

According to the FWHA, livability is about tying the quality and location of transportation facilities to broader opportunities such as access to good jobs, affordable housing, quality schools, and safer streets and roads. The FHWA supports livable communities through funding transportation related projects and sponsoring activities that help, enable people to live closer to jobs, save households time and money, and reduce pollution.

As part of the Department of Transportation's Livability Initiative, FHWA works within the Interagency⁷ Partnership for Sustainable Communities to coordinate and leverage Federal housing, transportation, water, and other infrastructure policies and investments. The Partnership for Sustainable Communities developed the following principles to guide efforts:

- Provide more transportation choices.
- Promote equitable, affordable housing.
- Enhance economic competitiveness.
- Support existing communities.
- Coordinate policies and leverage investment.
- Value communities and neighborhoods.

This livability approach can be extended to transportation in rural areas. Livability in rural areas focuses on the towns, villages, working lands and natural resources that surround and connect them. "Rural" can describe farming, destination, gateway,

resource-based, recreational, or other types of communities, they all represented in the Panoramic Route and its corridor.

Transportation investments that support rural livability also vary depending on location and context. For rural areas between towns, livability can mean safer highways and intersections, context-sensitive roadway design, multi-purpose trails, or rural on-demand transit and carpool information linked to smartphones. In small towns and villages, livability can mean a revitalized main street, sidewalks and improved crossings, a gateway entry, senior housing in walking distance to a redeveloped shopping district, or new neighborhoods built on the town's existing walkable street network. Transportation choices and connections in the rural area can make it easier to get around, while encouraging more social interaction, and supporting local businesses. Effective strategies identified by the FWHA include:

- Add sidewalks, curb extensions, crosswalks, parking, and landscaping to make small towns more walkable and economically viable.
- Build and connect bicycling and trail networks.
- Link ridesharing, rural on-demand transit vans, and commuter buses to regional employment centers and services.
- Improve connections between neighborhoods and Main Streets, schools and parks, housing and services.
- Coordinate town and county plans and infrastructure investments with a regional vision for growth and resource protection.
- Incorporate community design and land use planning, mobility and accessibility, public health, environmental protection, and economic development.

The FHWA highlights the benefits of rural livability when incorporated into coordinated plans and investments at the local and regional level.

- Focusing new growth in and around existing communities can protect fields, farms and forests, and reduce consumption of open land and rural landscapes.

⁷ The other agencies in this interagency agreement are: U.S. Department of Housing and Urban Development, the Department of Transportation and the Environmental Protection Agency (EPA).

- It can help to protect water quality and preserve treasured resources and community character.
- Developing in and around existing towns can also reduce infrastructure and operating costs for new roads, water and sewers, schools, and services.
- Making rural downtowns more convenient, accessible, and walkable encourages everyday exercise and social interaction, improving individuals' health and strengthening communities.

5.4.1.4 National Scenic Byways Program

The National Scenic Byways Program is part of the programs administered by the U.S. Department of Transportation, Federal Highway Administration to recognize, protect, and promote America's most outstanding roads. Established in 1991 this is a voluntary program that allow communities, through their state departments of transportation, to apply for designation as a State or National Scenic Byway for funding from the FHWA. The FHWA's May 18, 1995 interim policy provides the criteria and procedures for the designation by the U.S. Secretary of Transportation of certain roads as

- National Scenic Byways and
- All-American Roads



Punta Tuna Light House viewed from Los Bohíos Beach, Maunabo. Photo courtesy of Rafael Falero.

Such designation is based on six (6) qualities referred as Intrinsic Qualities, which include:

- Archaeological
- cultural
- historic
- natural
- recreational, and
- scenic

There are designated byways in 46 states. FHWA promotes the collection as America's Byways. The designation as a National Scenic Byways or an All-American Roads is based on the criteria met.

- National Scenic Byways designations recognize those roads across the country that exhibit one of more six cores intrinsic qualities -- scenic, natural, historic, recreational, archaeological, or cultural -- contributing towards a unique travel experience. To be considered for designation as a National Scenic Byway, a road must possess characteristics of regional significance within at least one of the intrinsic quality categories. In addition, the byway must demonstrate strong community support and develop a corridor management plan that describes in detail the preservation, marketing, and improvement strategies for the byway.
- All-American Roads are the very best of the National Scenic Byways. An All-American Road must meet the same criteria as a National Scenic Byway but possess multiple intrinsic qualities that are of national significance and the byway must be considered a destination and reason for travel unto itself.

The Panoramic Route was included in the USDOT/FHWA Scenic Byways Inventory in 1991. The Panoramic Route is the only officially designated as scenic byway in Puerto Rico.

This policy also specifies the type of projects eligible for funding and lists the funding priority for grants. However, at the time of writing, the National Scenic Byways Program is no longer funded⁸. Therefore, the FHWA is no longer soliciting grant applications. According to the official webpage of the agency, without funding for the Program, FHWA will not be moving forward with another round of designations of America's Byways at this time.

The purposes and criteria established by the National Scenic Byways Program provided the framework for the CMP of the Panoramic Route, an approach that is maintained in this update. Even when the National Scenic Byways Program is no longer funded by the FHWA, as indicated before, its purposes and criteria for designation of byways are considered a proven standard to pursue in any byway. The main contribution of this approach are the social, economic and environmental benefits associated to roadways that are managed according to the criteria of this program. Roadways are a transportation infrastructure and at the same time extensions of local communities. This program, although implemented for roadways, takes into consideration its physical context which helps communities balance economic development and resource conservation.

5.4.1.5 PR Long Range Transportation Plan (2045)

The Island Wide 2045 Long Range Transportation Plan (2045 LRTP) is the global 28-years plan that would guide the collaborative efforts of the DTPW/PRHTA and the various stakeholder agencies throughout the Commonwealth as they pursue the transportation planning process intended to improve and integrate the interdependent transportation modes. The purpose of the Island Wide 2045 Long Range Transportation Plan (LRTP) is to assess trends, conditions, and changes in factors that affect the transportation system: demand for its use, funding available for its maintenance and improvement, priorities for system management, new requirements on how the system relates to land use and the environment, and other concerns.

Long range transportation plans must be prepared, and adopted at least every five years, with a 20-year (minimum) planning horizon.

Based on these plans, every year the Metropolitan Planning Organization (MPO) defines the use of yearly federal funding allocations through a Transportation Improvement Programs (TIP). In general, without an appropriate, updated long range transportation plan for a region, no federal funds may be programmed for improvements to its transportation system (PRHTA Unified Planning Work Program 2016-2017). This CMP Update was ongoing when the current 2045 LRTP was issued. It recognizes the Panoramic Route as well as the 1998 CMP vision and objectives, which do not contravene those of the CMP Update. The recommended strategies and actions that will come from the CMP Update will be incorporated into the 2050 LRTP.

5.4.1.6 Puerto Rico Strategic Highway Safety Plan

The main objective of the Puerto Rico Strategic Highway Safety Plan (SHSP) is to reduce fatalities and serious injuries in our state roadway system. The SHSP 2014-2018 was prepared in partnership with the Puerto Rico Traffic Safety Commission (PRTSC), the Puerto Rico Police Department, the Puerto Rico Health Department, and the Puerto Rico Highway and Transportation Authority, among other important safety stakeholders representing the government, academia, non-profit organizations, and other private sector partners. During the development process of the SHSP, assistance was received from federal government, such as the Federal Highway Administration (FHWA), National Highway Safety Transportation Administration (NHSTA), and the Federal Motor Carrier Safety Administration (FMCSA). The basic element of the SHSP is the continuous assessment of crashes trends in the Puerto Rico roadway system, combined with the collaborative and participative approach between the 4Es of highway safety (Engineering, Education, Enforcement, and Emergency Medical

⁸ National Scenic Byways Program. (2017, November 10). Retrieved from https://www.fhwa.dot.gov/hep/scenic_byways/

Services). This is the reason why one of the first steps in developing the SHSP was to define its Emphasis Areas, which include:

- Traffic Records and Information Systems,
- Alcohol Impaired Driving
- Vulnerable Road Users
- Emergency Medical Response
- Aggressive Driving
- Roadway Departure
- Occupant Protection
- Young Drivers (15 to 20 years), and
- Intersections

The PRHTA, as part of the Highway Safety Improvement Program (HSIP) evaluated the need to identify high risk rural roads within the State highway system. The list of high-risk rural roads (HRRR) will be generated after identifying the roadway segments within rural areas and rural federal roadway functional classifications (rural major, rural minor collector, and rural local roads). PRHTA will report this list according to their federal roadway functional classification as this element becomes available through the Puerto Rico Highway Performance Monitoring System (HPMS) database (accessed through the GIS layer). The PRHTA will define safety assessments, Road Safety Audits (RSA), safety improvement projects design, or any other engineering evaluation to develop specific projects or actions intended to improve safety along the HRRR identified. This process will require to identify and program PRHTA funds.



Church at Road PR-143, Bermejales Ward, Orocovis

As a participatory and collaborative plan, it is recommended that a member of the Council participate in the Emphasis Area teams meetings and other events of the Puerto Rico Strategic Highway Safety Plan.

Most of the above-mentioned emphasis areas are applicable to the purposes of the Panoramic Route. The SHSP establishes in each one of the areas the strategic goals, performance measures and objectives. The high-risk rural roads assessment may also be a significant contribution to the purposes of the Panoramic Route.

5.5 Additional Funding, Technical Assistance, Staff or Other Resources

The management, administrative, and fiscal responsibilities required for the government to maintain infrastructure and operate projects and programs is a significant financial burden. During a time of economic constraints at the local level and limited federal funds availability, the government must consider alternative ways to support their initiatives. This section is dedicated to identifying financial funding currently provided or potentially available for the Route management, as well as other resources including technical assistance, real estate properties, staff or other resources.

5.5.1 Potential Funding Activities

It is evident from the research made on the laws and regulations related to the Panoramic Route as part of this chapter, that practically most of the mandates ordered by them are not supported by an allocation of funds to be implemented. Therefore, it is important to identify possible actions from the Council that could generate potential funding for the Route management. The Council is responsible for procuring municipal, state and federal funds to comply with the purposes of the Amendment to the Law of the Panoramic Route (Law 496-2004), as indicated before.

The first coordination that should occur to allocate funds for the management of the Route are those related to provisions that come from the Amendment to the Law of the Panoramic Route (Law 496-2004). One of them is the assignment of funds in the Annual Resolution of the General Budget (*Resolución Anual del Presupuesto General de Gastos*) of the Commonwealth of Puerto Rico, from the DTPW allocation. The other one is the provision that establishes that the Council will procure that one (1) annual draw of the Lottery of Puerto Rico be allocated for the Route in the Fund for the Preservation and Conservation of the Panoramic Route Luis Muñoz Marín (*Fondo para la Preservación y Conservación de la Ruta Panorámica Luis Muñoz Marín*) (the Fund of the Panoramic Route). Since the Council has not been constituted, such procurement of funds has not been performed. Therefore, the constitution of the Council and the execution of this, among other tasks ordered by Law 496-2004, is of prime importance for the implementation of this CMP.

In addition to the aforementioned resources provided by the Amendment to the Panoramic Route Law this amendment provides powers to the Council to establish programs to raise funds for allocation in the Fund of the Panoramic Route.

In general, funds can be collected from direct donors as well as from grants offered by federal government and by non-government organizations that support initiatives that are related with the purposes of the Panoramic Route. The support necessary for the management of the Panoramic Route, including conservation and preservation of lands, may come in other forms than financial funds. These include technical assistance, staff, estates donations, and conservation easements, among others. State and municipal governments are not considered in this discussion for financial support purposes because of their current fiscal conditions. However, these governmental entities can

support the efforts of the Council in other ways, in accordance with the purposes of the Panoramic Route. A list of potential actions to procure by the Council is included below.

- Fund raising campaigns - It is the recommendation of this CMP to designate particular projects or improvements as the targets of such funds collections, which should be published in the different social media to motivate donors, as well as in a website dedicated to the Panoramic Route⁹. The purposes of the particular projects or improvements, as well as the outcomes of donations and the status of their implementation should be part of the information to be published. Fund raising campaigns should be in parallel to an effective educational campaign that emphasizes in the economic and social benefits associated to the recreational and cultural activities, among others.
 - A year-round fund-raising campaign can be instituted. Support can be in the form of giving through the will or payroll deduction from donors, and through stocks, bonds or mutual funds, among others.
 - A special annual campaign can also be instituted to collect funds in a fest like cultural activity that invites people to enjoy while contributing to the Panoramic Route Fund. This is a production that will require the invitation of commercial sponsors, as well as the Municipalities and non-government organizations. Each year it could be celebrated in a different municipality.
- Grants - The Council should seek funds through grants offered by federal government and by non-government organizations for purposes aligned with those of the Panoramic Route. Refer to the next section which identifies potential sources of funds.
- Conservation easements - Other forms of donations may be conservation easements in perpetuity, for lands located in the Corridor. There is a law that support this kind of donations, Law 183-2001, the Puerto Rico Conservation Easement Law. This mechanism can help in the effort to rescue areas of natural, cultural or agricultural value. This legal mechanism, of proven success in jurisdictions such as the United States and Costa Rica, establishes a means by

⁹ Details of the recommendation to dedicate a website to the Panoramic Route are discussed in the Section 7.3.5 Socioeconomic Development Goal.

which a property owner can agree, with a government agency or a non-profit organization, a conservation easement over an area of natural or cultural value with the intention of protecting it in perpetuity. To increase the effectiveness and usefulness of this law, a contributory incentive is created for the establishment of conservation easements. The incentive consists of a tax deduction for the person who is donating said easement to a governmental entity or a non-profit organization dedicated to the conservation of the environment. The tax incentive for these grants is created through an amendment to the Internal Revenue Code.

- Agreements with State Agencies and Municipalities – The Council should enter into agreements with state agencies and municipalities, as well as public private partnership and non-government organizations to provide support. Refer to the discussion in **Section 5.6.1**, Resources or Programs in the form of Interagency Agreements.

5.5.2 Potential Funding Sources

The following table (**Table 5-10**) includes sources of potential funding for purposes of the Panoramic Route. Note that citations and other information may be subject to changes. Dates for submission of applications are only included for reference purposes. Specific programs Instructions should be obtained before submission of applications to any of these entities.

5.6 Existing and Potential Partnerships and cooperative efforts to manage the Route

This topic is dedicated to identifying existing and potential partnerships and cooperative efforts to manage the Route. The results of meetings and interviews held with public, private and non-government organizations potential stakeholders have been incorporated into the discussion.

Table 5-10 Potential Funding Sources

Funding Sources	Scope	Elegibility	Links	Funding
Surface Transportation Program (STP)	The Surface Transportation Program (STP) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.	State and local governments	https://www.fhwa.dot.gov/map21/factsheets/stp.cfm https://www.fhwa.dot.gov/specialfunding/stp/	By apportionment
Urbanized Area Formula Grant Program	FTA awards Urbanized Area Formula Program funds to urbanized areas (UZAs) and to Governors for public transportation capital and operating assistance and for transportation-related planning.	Urbanized areas of 50,000 in population and over. (Juana Díaz, Ponce, Mayagüez)	https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/	By apportionment
TIGER (Transportation Investment Generating Economic Recovery) Grants	This year's awards focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for communities, both urban and rural.	Eligible Applicants for TIGER Discretionary Grants are State, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning	https://www.transportation.gov/tiger	Urban areas: >= \$5 MM Rural areas: >= \$1 MM



Funding Sources	Scope	Elegibility	Links	Funding
		organizations (MPOs), and other political subdivisions of State or local governments.		
FAST (Fixing America's Surface Transportation) Act	The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs.	State and local governments	https://www.fhwa.dot.gov/fastact/funding.cfm	FY 2017: \$158 MM
NHTSA: Highway Safety Grant Programs**	NHTSA provides grants to states to conduct effective highway safety programs.	States and territories	https://www.nhtsa.gov/highway-safety-grants-program/fy-2017-grant-funding-table	By apportionment
Rural Community Development Initiative (RCDI)	These grants will be made to qualified intermediary organizations that will provide financial and technical assistance to recipients to develop their capacity and ability to undertake projects relating to housing, community facilities, or community and economic development that will support the community.	City or township governments, public housing authorities, state governments, small businesses, for profit organizations other than small businesses, special district governments, Nonprofits having	https://www.gpo.gov/fdsys/pkg/FR-2017-05-26/pdf/2017-10776.pdf	\$50,000-\$250,000
			https://grants.gov	Opportunity Number: USDA-RD-HCFP-RCDI-2017



Funding Sources	Scope	Elegibility	Links	Funding
		a 501(c)(3) status with the IRS, other than institutions of higher education, county governments		
Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning - 5303, 5304, 5305	Funds are available for planning activities that (A) support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; (B) increase the safety of the transportation system for motorized and nonmotorized users; (C) increase the security of the transportation system for motorized and nonmotorized users; (D) increase the accessibility and mobility of people and for freight; (E) protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns; (F) enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; (G) promote efficient system management and operation; and (H) emphasize the preservation of the existing transportation system.	State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs). Federal planning funds are first apportioned to State DOTs. State DOTs then allocate planning funding to MPOs.	https://www.transit.dot.gov/funding/grants/	Formula based on census data
			https://www.transit.dot.gov/sites/fta.dot.gov/files	

Funding Sources	Scope	Elegibility	Links	Funding
Accelerated Innovation Deployment (AID) Demonstration	The AID Demonstration provides incentive funding for eligible entities to accelerate the implementation and adoption of innovation in highway transportation	Entities eligible to apply (“Applicants”) are State DOTs, Federal Land Management Agencies, State governments, and tribal governments.	https://www.grants.gov/web/grants/search-grants.html	\$50,000-\$1,000,000
			https://www.fhwa.dot.gov/innovation/grants/	Opportunity Number: FHWA-2013-0048
Archaeological Institute of America - Site Preservation Grant	The AIA is targeting projects that not only seek to directly preserve archaeological sites, but those that also emphasize outreach, education, and/or best practices intended to create a positive impact on the local community, students, and the discipline of archaeology as a whole.	Unknown	https://www.archaeological.org/grants/706	\$25,000
National Geographic - Standard Grant	This entity invests in bold people and transformative ideas in the fields of conservation, education, and research among others. The applicants should have clear records of successful completion of similar projects with measurable and/or tangible results.	Individual persons or organizations worldwide.	https://www.nationalgeographic.org/grants/	\$30,000
Natural Resources Conservation Service (NRCS) – Caribbean Area Conservation	CIG is a voluntary program to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG,	Non-Federal governmental or nongovernmental organizations, Tribes, or individuals	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/pr/p rograms/financial/cig/?cid=nrcs141p2_037229	\$75,000 in FY 2017

Funding Sources	Scope	Elegibility	Links	Funding
Innovation Grants (CIG)	<p>Environmental Quality Incentives Program funds are used to award competitive grants to non-Federal governmental or nongovernmental organizations, Tribes, or individuals.</p> <p>CIG allows NRCS to work with other public and private entities to accelerate technology transfer and adoption of promising technologies and approaches to address some of the Nation's most pressing natural resource concerns. CIG will benefit agricultural producers by providing more options for environmental enhancement and compliance with Federal, State, and local regulations.</p>			
US Department of Agriculture – Rural Development - Community Facilities Direct Loan & Grant Program in Puerto Rico Program 101	<p>This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings. Examples of these facilities are: Public safety services such as fire departments, police stations, police vehicles, fire trucks, public works vehicles or equipment, educational services such as museums, libraries or private schools, and public facilities such as town halls, courthouses, airport hangars or street improvements, among others.</p>	<p>Public bodies and community-based non-profit corporations, among others.</p>	<p>https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program/pr</p>	<p>Information not available</p>

Funding Sources	Scope	Elegibility	Links	Funding
US Department of Agriculture – Rural Development - Water & Waste Disposal Loan & Grant Program in Puerto	This program provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.	Most state and local governmental entities and private nonprofits, among others.	https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/pr	Information not available
US Department of Agriculture – Rural Development - Mutual Self-Help Housing Technical Assistance Grants in Puerto Rico	Provides grants to qualified organizations to help them carry out local self-help housing construction projects. Grant recipients supervise groups of very-low- and low-income individuals and families as they construct their own homes in rural areas. The group members provide most of the construction labor on each other's homes, with technical assistance from the organization overseeing the project.	Government non-profit organizations and private non-profit organizations, among others.	https://www.rd.usda.gov/programs-services/mutual-self-help-housing-technical-assistance-grants	Information not available
US Department of Agriculture – Rural Development - Solid Waste Management Grant Program	The Solid Waste Management (SWM) Grant Program has been established to assist communities through free technical assistance and/or training provided by the grant recipients. Qualified organizations will receive SWM grant funds to reduce or eliminate pollution of water resources in rural areas and improve planning and management of solid waste sites in rural areas.	Most state and local governmental entities, nonprofits, and academic institutions, among others.	https://www.rd.usda.gov/programs-services/solid-waste-management-grants	1,000,000

Funding Sources	Scope	Elegibility	Links	Funding
National Endowment for the Humanities - Sustaining Cultural Heritage Collections	Cultural institutions, including libraries, archives, museums, and historical organizations, face an enormous challenge: to preserve humanities collections that facilitate research, strengthen teaching, and provide opportunities for life-long learning. This program helps cultural institutions meet the complex challenge of preserving large and diverse holdings of humanities materials for future generations by supporting sustainable conservation measures that mitigate deterioration, prolong the useful life of collections, and support institutional resilience: the ability to anticipate and respond to natural and man-made disasters.	Private institutions of higher education, special district governments Native American tribal governments (Federally recognized), Public and State controlled institutions of higher education, county governments city or township governments, state governments and nonprofits	https://www.neh.gov/grants/preservation/sustaining-cultural-heritage-collections	Information not available
Economic Development Administration - FY 2016 – FY 2019 EDA Planning Program and Local Technical Assistance Program	Assists eligible recipients in developing economic development plans and studies designed to build capacity and guide the economic prosperity and resiliency of an area or region. The Planning program helps support organizations and other eligible recipients, with Short Term and State Planning investments designed to guide the eventual creation and retention of high-quality jobs, particularly for the unemployed and underemployed in the Nation’s most economically distressed regions. The Local	Nonprofits, special district governments, city or township governments, county governments, state governments, public and state controlled institutions of	https://www.grants.gov/web/grants/view-opportunity.html?oppld=280447	\$300,000

Funding Sources	Scope	Elegibility	Links	Funding
	<p>Technical Assistance program strengthens the capacity of local or State organizations, institutions of higher education, and other eligible recipients to undertake and promote effective economic development programs through projects such as feasibility studies and impact analyses.</p> <p>Applicants must apply to their respective EDA regional office.</p>	higher education, among others.		
American Hiking Society - National Trails Fund (NTF)	Offers Micro-Grants to active organizations of their Alliance of Hiking Organizations. Once a year, Alliance Organization Members have the opportunity to apply for a Micro-Grant (value between \$500 and \$3,000) in order to improve hiking access or hiker safety on a particular trail.	Alliance Organization Members	https://americanhiking.org/national-trails-fund/	Between \$500 and \$3,000
National Trust Preservation Fund	The National Trust Preservation Fund was first launched by the National Council for Historic Sites and Buildings in 1947. Currently, it is funded entirely by the private sector. Matching grants provide qualifying agencies with up to \$5,000, which may be used for preservation and educational projects. Intervention funds may be for larger amounts and are designed to offer help and provide professional expertise during preservation emergencies.	Nonprofit organizations and public agencies	https://savingplaces.org/grants	Up to \$5,000

Funding Sources	Scope	Elegibility	Links	Funding
Financial Support for Disaster Recovery	<p>Include funds from FEMA Public Assistance Grants, FHWA Emergency Relief Assistance, HUD Community Development Block Grant for Disaster Recovery, Liquidity Funds: Treasury Disaster Loans and Disaster Recovery and Emergency Relief. The first three (3) are briefly described below.</p> <p>The Central Office of Recovery, Reconstruction and Resiliency (COR3) was created to coordinate all sources of federal funding approved for Hurricane María recovery. It estimates that the reconstruction process will take around 10 years.</p> <p>FEMA Public Assistance Grants - Public Assistance funds are intended to be applied to restore facilities to their pre-disaster state and function, and only allow for upgrades where necessary to meet applicable codes and standards.</p> <p>FHWA Emergency Relief Assistance - Provides emergency relief (ER) assistance for repair of roads and bridges on federal-aid highways.</p> <p>HUD Community Development Block Grant for Disaster Recovery (CDBG-DR) – Addresses unmet housing needs, economic development, and infrastructure repair (including bridges and roads). Funds can be applied only to address needs created as a direct result of a disaster, not for general improvements.</p>	<p>Government and private non-profit</p> <p>States, political subdivisions</p> <p>Government, non-profit organizations and private non-profit organizations, among others.</p>	<p>https://www.fema.gov/assistance/public</p> <p>https://www.fhwa.dot.gov/programadmin/erelief.cfm</p> <p>https://www.hudexchange.info/programs/cdbg-dr/</p>	<p>\$59.5M Authorized (LRTP, 2045)</p> <p>\$142.5M (LRTP, 2045)</p> <p>\$55M (LRTP, 2045) (Allocation for infrastructure repair)</p>

Funding Sources	Scope	Elegibility	Links	Funding
	<p>Under the CDBG there is a city revitalization program to promote reurbanization, ecologic rehabilitation and restoration of natural resources. Examples of projects are: rehabilitation of eligible buildings, improvement to public infrastructure, improvements to urban landscape (sidewalks, lighting, parking, etc.), restoration of cultural and historic structures when feasible, etc.</p> <p>Another program under the CDBG is the Whole Community Resiliency Planning Program (WCRP). This program support community-led resilience plans that protect life and property from future hazards and promote an inclusive and participatory recovery process. The WCRP Program wants all residents, especially those in the most vulnerable and impacted neighborhoods, to experience the benefits of revitalized communities. The funding will support local planning efforts to develop Community Resilience Plans.</p>	<p>Municipalities and other eligible organizations</p> <p>Non-profits, Municipalities, and Community-Based Development Organizations</p>	<p>https://cdbg-dr.pr.gov/revitalizacion-de-la-ciudad/</p> <p>https://cdbg-dr.pr.gov/programa-de-planificacion-integral-de-la-resiliencia-comunitaria/</p>	<p>\$1,298M (City Rev Program)</p> <p>\$37.5M (WCRP)</p>

5.6.1 Interagency Agreements

Cooperative efforts to manage the Route can be accomplished by the Council entering into agreements with state agencies and municipalities to provide support in accordance with the purposes of the Route. This recommendation is extensive for public private partnership and non-government organizations as well.

Note that the Council is constituted¹⁰ by agencies and municipalities that are crucial for the effective support of the Route purposes. Therefore, DTPW entering into agreements with these agencies, as well as with the agencies designated as cooperative agencies as per the Law 496-2004, is practically implied. An educational approach should be used to emphasize in the economic and social benefits associated to the outdoor recreation activities, supported with current statistical data.

The CMP recommends that the Council consider the aforementioned agencies and municipalities in the process of raising funds to support their activities for the benefit of the Route. This includes full support in the completion of applications for grants, technical assistance and/or trainings, among others.

The agreements with these agencies should be aimed at supporting the Council by providing staff and by aligning their projects and activities with those of the Panoramic Route purposes. These may include, among others:

- Maintenance and enhancement of landscape at strategic areas – Municipalities.
- Maintenance of roads – DTPW Regions.
- Enforcement and amendments to regulations related to waste disposal and junk vehicles – Municipalities, Solid Wastes Management Authority, DTPW Regions, Police Department (State and Municipal) and DNER (Environmental Quality Board).

¹⁰ The Council is constituted by the mayors of the 22 municipalities that comprise the Panoramic Route as well as by representatives from important state agencies, such as the Secretary of the Department of Economic Development and Commerce, the Secretary of DNER, and the President of the Planning Board. The cooperative agencies are: Institute of Puerto Rican Culture, PRHTA, Solid Wastes Management Authority, Company of National Parks, Department of Recreation and Sports, OGPe, Tourism Company and Department of Agriculture.

- Enforcement and amendment of regulations related to illegal constructions, including illegal installation of signs – OGPe and Municipalities
- Enforcement an amendment of regulations related to illegal earth moving and tree cutting – DNER.
- Improvement of recreational facilities in state forests (e.g. provision of interpretive trails, maintenance of existing trails and gazebos etc.) - DNER
- Extending their recreational activities to areas along the Panoramic Route Corridor – Department of Sports and Recreation.
- Extending their cultural activities to areas along the Corridor – Institute of Puerto Rican Culture.
- Promoting agricultural markets and supporting farmers – Department of Agriculture.
- Enforcement and amendment of regulations related to public nuisances - Municipalities
- Outreach and educational efforts – Tourism Company.
- Marketing – Discover Puerto Rico Destination Market Organization (DMO)¹¹ (Puerto Rico DMO, 2018).

Other agencies that are not mentioned in the Law 496-2004 as cooperative agencies, but may act as them, may be involved in the following activities:

- Enforcement of regulations related to food hygiene in restaurants and other food locations – Department of Health

There are also agreements that have taken place between the DTPW and some Municipalities. The DTPW have entered into an agreement with municipalities for the operation of the two (2) scenic overlooks of the Panoramic Route: Piedra Degetau in Aibonito and Mirador Villalba-Orocovis. The first one was transferred by the DTPW to

¹¹ Discover Puerto Rico is the official name of the Puerto Rico DMO. A DMO is a not-for-profit entity charged with promoting a destination and enhancing the long-term economic development of communities through travel and tourism. DMOs exist globally and every major destination relies upon the organization to grow its visitor economy.

the Municipality of Aibonito. Currently a restaurant is established in this place, which is administered through a public private agreement with the Municipality of Aibonito. The second one is currently operated and maintained by the Municipality of Villalba.

Public private partnership agreements may also be held with entities related to the Panoramic Route. Along the Panoramic Route there is a vast number of public properties that may be of interest to be administered in this type of agreement. The Piedra Degetau Scenic Overlook mentioned above is an example of these agreements.

Agreements with non-government organizations may yield more contributions to the Panoramic Route. There are several non-government organizations that are considered key potential stakeholders, as they are representative of the values of the Panoramic Route: Caminata Panorámica, Casa Pueblo, Amigos del Bosque Toro Negro, Committee for the Development of Maunabo (*Comité Pro Desarrollo de Maunabo*) and Para la Naturaleza, among others. Such agreements may include providing information about the Route at their headquarters, co-management of protected areas, among others. Refer to the discussion about these key potential stakeholders in **Section 5.6.3**.

5.6.2 Results of strategic meetings

The following potential cooperative efforts resulted from initiative ideas expressed by participants in the meeting held for the preparation of this CMP on June 27, 2017.

The representative of the Tourism Company, emphasizing on the potential for the Route's tourism market, oriented on the resources of this agency for training its stakeholders. This agency offers free workshops to private and public entities that work on the tourism market, including courses aimed at educating on the quality of services to tourists. Other topics include conversational English and gastronomy, among others. The representative of the Tourism Company expressed its willingness to offer this workshop specially for stakeholders of the Route, with previous coordination from the PRHTA.

Another participant in this meeting, Archaeologist Marisa Torres, represents an NGO that supports community groups initiatives by providing investigation and education related to the different issues that are addressed by such groups. Archeologist Torres expressed the willingness of the organization to support community groups related to the Panoramic Route.

5.6.3 Key potential stakeholders

Several organizations are considered potential key stakeholders for the Panoramic Route, because their objectives are closely related with the purposes of the Panoramic Route.

They are considered potential key stakeholders also because of their uninterrupted work for the last 30 years, their presence and their recognition factor among the citizens.

Committee for the Development of Maunabo (*Comité Pro Desarrollo de Maunabo*)

This is a community group that comanages, together with the DNER, the Punta Tuna Mangrove Natural Reserve. This group continuously hosts different events related to the conservation of this rich natural reserve, including educational, scientific, cultural and recreational events. This group has been very sensitive to the needs from persons with functional diversity from the recreational perspective making adaptations for them in the natural reserve. Such adaptations include interpretative signs with QR code, a special chair for tours and a documentary of the reserve in sign language.



Reforestation project by middle school students at Punta Tuna Mangrove Natural Reserve

Caminata Panorámica Arquitecto Gabriel Ferrer Amador

- This is a recreational non-profit organization that annually organizes a hike along the Panoramic Route. The Route is traveled in continuous segments, on consecutive weekends over a period of approximately four (4) months (from mid-January to end of May). It starts on Maunabo and finishes on Mayagüez on a closing celebration, usually sponsored by the Municipality of Mayagüez. This hike, which has been walked uninterrupted for 36 years, is not for competitive purposes, it is aimed to recreation and education on the natural, cultural and human values of the central region of Puerto Rico, while enjoying the landscapes and natural beauties.



Walkers at Caminata Panorámica, Road PR-142 Hayales Ward, Coamo

The President of this non-profit organization attended the meeting held for this CMP Update (June 27, 2017). Among several needs and recommendations for better operation of the Route, this representative indicated that previously the group was supported in part by government funds that help to cover liability insurances. Current lack of this support has required an increase in the cost of inscriptions to cover such insurances. It continues being the organization with the most extensive knowledge and use of the Panoramic Route in Puerto Rico.

Casa Pueblo - Casa Pueblo is a community self-management (*autogestion*) project that is committed to the appreciation and protection of natural, cultural and human resources. This project began in the 1980s as part of the activism against the mining of copper in the municipalities of Utuado, Adjuntas and Lares. The headquarters of the Project is a restored traditional town house closely located to the town square of the Municipality of Adjuntas which was acquired in 1985 by the organization. This headquarters is also an independent cultural-community center that has a meeting and exhibitions rooms, library, craft shop, antiques room, hydroponic system, butterfly garden and a radio station. This cultural-community center operates with solar energy. Part of the economic support of the organization comes from their community business of coffee processing *Café Madre Isla*.



El Triunfo Trail at *Bosque Escuela La Olimpia*: Ariel Massol Deyá, Saltillo ward, Adjuntas

Casa Pueblo manages two (2) properties with relevance to the Panoramic Route, which have education, conservation and research functions. The following two (2) projects described below are in the Corridor.

One of these properties is the *Bosque Escuela La Olimpia*: Ariel Massol Deyá, which is in the Saltillo ward, in Adjuntas. This is a forest area acquired in 2003 by the organization to host a school forest. This forest with a 150 acres area, includes the following elements: protection of native, endemic and endangered species; scientific investigation, management of the watershed of the Grande de Arecibo River¹², classroom without walls, renewable electric power operation, ecological compost system and weather station for rainfall data and emergency alert. This forest has international projection as it is incorporated into the Global Model Forest Network.

The other property managed by this NGO, *Madre Isla Ecotourism Estate (Finca de Ecoturismo Madre Isla)* is a project that combines community economy and volunteer

¹² This watershed supplies the North Coast Aqueduct that serves approximately 600 thousand persons from eight (8) municipalities including part of the Metropolitan area.

work with education and ecology. It consists of five (5) cabins with double bunk beds and bathrooms, with capacity for 40 people. It also has dining room, activities and camping area in eight (8) acres of land close to Lake Garzas. Stays of students and professors from different universities and schools from the Island and abroad are received throughout the year. The economic contribution from this project helps its maintenance as well as of Casa Pueblo.

Other project managed by this organization, although out but near the Corridor have relevance to the Panoramic Route. This is Bosque del Pueblo, which is located between the Vegas Arriba, Vegas Abajo and Pellejas wards in the Municipality of Adjuntas and Consejo ward in the Municipality of Utuado. This forest, with a 760 cuerdas area pertains to the state and is managed by Casa Pueblo under a community agreement. The purpose of the management plan, with a community-scientific approach is the protection, conservation and recovery of the Bosque del Pueblo, which was proposed for mining exploitation towards the 1980s. This forest is among 3 designated forests: Guilarte, Río Abajo and Toro Negro. The management includes: a forest house which provides lodging for scientists, meeting room and room without walls; recreational areas, interpretive trails and ecological sanitary services.

Amigos del Bosque Toro Negro - This community organization administers the recreational area of the Toro Negro State Forest as result of an agreement with the Municipality of Orocovis, which co-administers the forest with the Department of Natural and Environmental Resources. This NGO seeks community socio-economic development through a sustainable approach to the natural resources of the Toro Negro Forest. The areas under the administration of Amigos del Bosque include the swimming pool, the camping area, the sidewalks, the Bolo Trail, the observation tower and several ponds. After the passage of hurricanes in 2017 their



Entrance to Toro Negro State Forest
Recreational Area comanaged by the Amigos
del Bosque Toro Negro

volunteers have reconditioned the forest and its trails. Guided tours, yoga and other activities are also periodically sponsored by this NGO.

Fideicomiso de Conservación (Conservation Trust of Puerto Rico) – This trust is a non-profit organization that is aimed to protect and enhance the natural resources and beauties of Puerto Rico through its program Para la Naturaleza. The Trust carries out its mission acquiring natural areas for protection establishing conservation easements through programs of restoration of habitats and species and through the rehabilitation of historical places, among other mechanisms. Among its goals it is to ensure that the percentage of protected natural areas in Puerto Rico be 33 percent by the year 2033. This organization protects more than 60 natural areas, of which several locate in the Panoramic Route corridor. Refer to the list in **Section 4.3.6 Recreational Intrinsic Qualities**

As part of its mission, the organization also develops educational programs with the aim of promoting awareness and active participation from the community to achieve the goals of conservation and protection of natural areas. The organization receives visitors in several visitor centers, including Hacienda Buena Vista in Ponce, Hacienda La Esperanza in Manatí and Cabezas de San Juan Lighthouse in Fajardo, among others.



Sierra La Pandura Protected Natural Area. Photo
courtesy of Conservation Trust of Puerto Rico,
Maunabo-Yabucoa

6.0 Panoramic Route Vision and Mission

The vision and mission statements are foundations for the strategic management of any organized initiative of an entity, public or private. The following is the Panoramic Route Vision as per the 1998 CMP.

“The Puerto Rico Panoramic Route, a 163-mile corridor linking the East and West coasts by traversing the mountainous Cordillera Central, provides visitors of all ages diverse opportunities to explore the Island's cultural, historical, natural, scenic, and recreational resources as well as to experience local traditions and the rural way of life. Serving as a gateway, connecting the traveler to other regions in a safe and coherent manner, and educating the user about its resources, the Route preserves and enhances the natural beauty of the interior of Puerto Rico.”



Entrance to Guilarte State Forest Recreational Area, intersection Road PR-131 and PR-518, Guilarte Ward, Adjuntas

“A vision statement focuses on tomorrow and what an organization wants to ultimately become. A mission statement focuses on today and what an organization does to achieve it.

Both are vital in directing goals.”¹³ Clear Voice.com

The following is the vision of the Panoramic Route revised as part of this CMP Update. The revised vision substantially adheres to the original concept but separates it from the mission. The mission recognizes the potential of the Route to stimulate the economy in the municipalities that encompass the Panoramic Route, with its multiplier effect on the rest of the Island economy.

VISION

The Puerto Rico Panoramic Route, a 163-mile corridor linking the East and West coasts by traversing the mountainous Cordillera Central, provides visitors of all ages diverse opportunities to explore the Island's cultural, historical, natural, scenic, archaeological and recreational resources and to experience local traditions and the rural way of life while contributing to the social and economic development of this area.

MISSION

Serving as a gateway, connecting the traveler to other regions in a safe and coherent manner, and educating the user about its resources, the Route preserves and enhances the natural beauty of the interior of Puerto Rico while becoming a source of social and economic development of this area.

¹³ Difference Between Vision and Mission Statements.

<https://www.clearvoice.com/blog/difference-between-mission-vision-statement-examples/>

7.0 Goals, Objectives, and Strategies

7.1 Goals

The goals that stem from the original vision are three (3): Preservation, Safety, and Education/Information. The goals established by the 1998 CMP are maintained but revised to add the socioeconomic development component. The new approach that includes four (4) main goals to develop objectives and strategies for the Route management are:

1- Preservation Goal - To preserve the significant quality of the Panoramic Route scenic beauty and views and the outstanding value of its, archeological, cultural, historic, natural and recreational resources for the future generations of users of the Route.

2- Safety Goal - To ensure the safety of the Route for all users by adopting, compatible and appropriate design standards for scenic roads, while providing adequate information, signage, and safety measures, in a way that enhances its natural and scenic qualities.

3- Education and Information Goal - To educate and inform Panoramic Route users about the Corridor's, archeological, cultural, historic, and recreational values, as well as the scenic and natural qualities for their enrichment, so that they engage in the Route's preservation and become satisfied tourists of the Route.

4- Socioeconomic Development Goal - To stimulate communities social and economic development along the Panoramic Route by providing the framework for investments aimed to tourism activity in agreement with Route preservation and education goals.

7.2 Objectives

The abovementioned goals guide the objectives and strategies to meet the Panoramic Route vision and mission. Several objectives are based on authorizations and mandates that come from the Panoramic Route Law.

Objectives aimed to **Goal 1: PRESERVATION**

Objectives:

- Promote the Panoramic Route corridor inclusion as a planning unit for Municipal Land Use Plans decisions and the preservation of natural resources through the DNER and OGPe regulatory process.
- Enforce existing authorization to declare as panoramic zones the lands along Route edges, as well as those unpopulated areas, as per Panoramic Route Law mandate. These areas will be considered as scenic routes (*Ruta Escénica*, RE).
- Enforce existing authorization to adopt corresponding maps declaring the panoramic zones.
- Enforce existing land use controls that are compatible with the Panoramic Route goals (e.g., zoning and land categorization districts such as Forest, B-Q; Productive Agricultural, AP and Archaeological Resources Conservation, CR-A, among others).
- Enforce existing order to create a staff of road workers (*Cuerpo de Camineros*), under the PRHTA, for Route maintenance, including all intrinsic resources protection and conservation.
- Promote denuded areas reforestation along the corridor, using native/endemic tree species.
- Control public nuisances and illegal dumping.
- Control illegal advertisement signs.
- Encourage individual landowners to make improvements to the landscape consistent with the CMP and design guidelines. This includes developed areas, such as front yards and undeveloped parcels.
- Establish strategies to expand the state forest lands through land acquisitions, easements, zoning, and municipal plans.

Objectives aimed to **Goal 2: SAFETY**

This goal faces the challenge of harmonizing two (2) purposes: To provide a safe roadway while maintaining the Route scenic beauty and cultural experience.

Objectives:

- To adapt Route specific design criteria to assure users safety, along roadway and roadside, while maintaining the scenic beauty and cultural experience of the Route.
- To guarantee the Route is signed and marked for safety, providing adequate information to travelers, on the Route, heading to the Route, or from the Route.
- Use proven speed reduction countermeasures compatible with scenic routes, procuring a traffic flow rates under 45 mph, usually. Provide special attention to pedestrians and bicyclists' routes, according to the DTPW Comprehensive Bicycle and Pedestrian Plan for Puerto Rico (Bicycle and Pedestrian Plan).
- Make road improvements where necessary to ensure public safety, consistent with policy directives and regulations.
- Use edge treatments that are compatible with the scenic byway concept and complying with safety requirements.
- Promote the use of alternative vegetative ground covers along the roadside edges free of tall grass to keep adequate sight distances with minimal or no maintenance.
- Keep original trees and bushes in their natural form, except for necessary trimming to retain adequate visibility and reduce the risk of hazards associated with falling limbs and trees.
- Integrate all design elements within the Route as a whole. Consistency in the design is crucial to create the desired Route's identity and provide adequate services for the user.

Objectives aimed to **Goal 3: EDUCATION AND INFORMATION**

Objectives:

- Inspire the people of Puerto Rico and tourists to visit, and learn about the Cordillera Central countryside, and its inhabitants.
- Promote the Route intrinsic resources interpretation.

- Provide the Panoramic Route visitor and user with a range of information from detailed to the broad story that nurture the interactive program.
- Design an educational and orientation program that meets the following criteria:
 - creates awareness of the Panoramic Route values
 - stimulates a sense of pride among the inhabitants
 - stimulates a sense of ownership
 - promotes advocates for Route preservation
- Provide a variety of interpretive practices that will impact the largest amount of Route users and visitors audience.
- Develop a promotional program that will include the use of multiple communication tools.

Objectives aimed to Goal 4: **SOCIOECONOMIC DEVELOPMENT**

Objectives:

- Create a high-quality byway with a consistent image that gives it an identity to obtain a favorable response from travelers.
- Market the Panoramic Route to outgrowth tourism activity and associated economic development opportunities.
- Implement effective signage to gain confidence from travelers and therefore to promote its repeated use.
- Create awareness among the Route residents and municipal governments about the potential economic development opportunities and quality of life improvement.
- Create awareness among the Route tourism related business owners about training workshops offered by the Tourism Company.

7.3 Strategies

7.3.1 Key Actions

This CMP has identified several key actions for the proposed strategies implementation. These actions are:

Short term: the effective establishment of the Council for the Protection and Management of the Panoramic Route, the administrative structure prescribed by the Panoramic Route Law (Law 71-1965 as amended) to execute the CMP; recruitment of day to day managing unit and claim funds legally allocated for the Route.

Midterm: the stakeholder's involvement, including government and communities, to implement the CMP and cooperative agreements as well as enhancing the Route visibility, physically and in communication media.

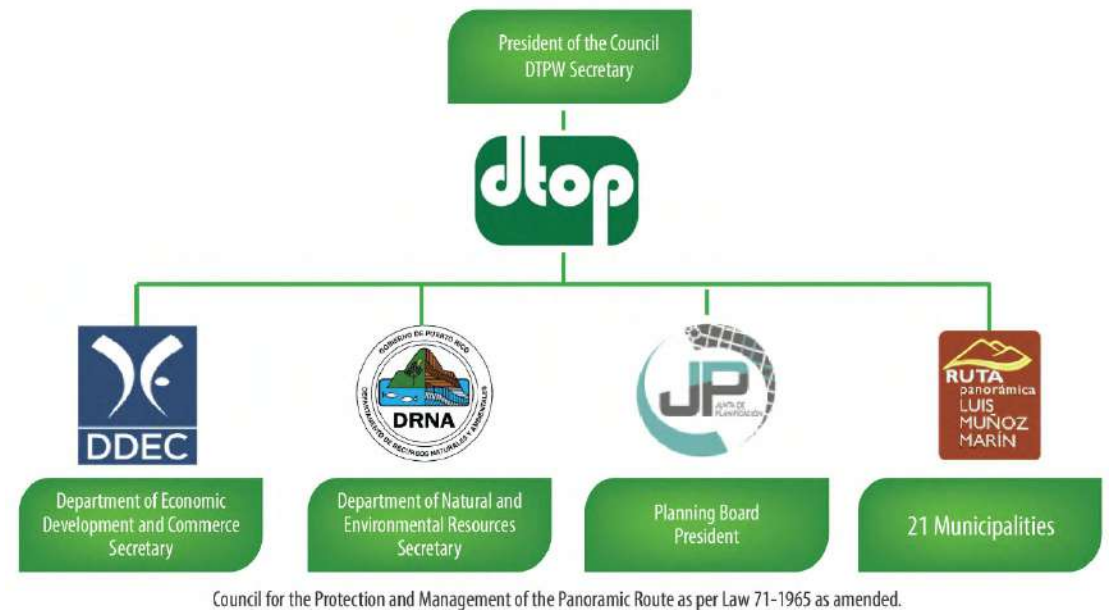
Long term: the inclusion of information and educational elements through all the strategies groups presented in this chapter and implementation of a roadside maintenance program through the concept of road workers.

The first of these key actions is the constitution of the Council for the Protection and Management of the Panoramic Route (the Council) under the DTPW lead, as prescribed by the Panoramic Route Law Amendment (Law 496 - 2004) (**Section 5.1.1.1**). Note that all proposed strategies require close coordination and continuous, day to day follow up for its effective implementation. According to the mentioned law, the Council is authorized to implement programs, create committees and coordinate the collaboration of the

KEY ACTIONS:

- Effective establishment of the legal administrative structure, with a day to day managing unit
- Claim legally allocated funds
- Involvement of stakeholders
- Cooperative agreements
- Making the Route Visible
- Educational elements through the strategies presented in this chapter
- Road workers program

different government agencies, private entities, and NGO's. The Council is also authorized to claim funds as prescribed in the Panoramic Route Law Amendment. It is also authorized to raise funds to be allocated in a designated fund (Fondo para la Preservación y Conservación de la Ruta Panorámica Luis Muñoz Marín) to be administered by the Secretary of the Department of the Treasury. Specific strategies to allocate funds are discussed in **Section 5.5** Additional Funding, Technical Assistance, Staff or Other Resources.



The Council should designate a managing unit to be exclusively dedicated to the execution of the CMP (Steering Committee). Note that any members of the Council may designate a representative from their own agency or municipality with decision-making power to replace him or her in the tasks that the Council has to perform, according to the Panoramic Route Law Amendment (Law 496 - 2004 Section 2).

However, the recommendation from this CMP Update is aimed at having an entity exclusively dedicated to the Panoramic Route. This steering committee should coordinate with the Council and the DTPW regional directors, as well as with community stakeholders, to implement the strategies that are proposed in this CMP Update, including pursuing funds to support such strategies to preserve and manage the Route. The Steering Committee should be constituted by (1) an Architect or Architect in Training, (2) a Transportation Engineer or Transportation Engineer in Training, (3) a Licensed Professional Planner or Planner in Training (4) an Environmental Specialist and (5) a communications specialist. All recruited persons should be able to prepare grant proposals. The communication specialist is intended to draft media statements, answer inquiries from stakeholders, compile publications, plan events, keep social networks and website updated and conduct press conferences.

The participation of the Panoramic Route Steering Committee as part of the Puerto Rico Metropolitan Planning Organization (MPO)¹⁴ meetings is highly recommended. This, to present the Panoramic Route progress and needs in CMP development and implementation process, as well as to receive the members' feedback, in part constituted by the municipal mayors. Other MPO members that are relevant for the Panoramic Route purposes includes environmental resources administrative and regulatory agencies such as the Department of Natural and Environmental Resources and the Permits Management Office (OGPe by its acronym in Spanish). Also, is worth to mention the MPO's Public Participation Committee (MPO PPC), as it is pertinent to the Panoramic Route community approach. This Public Participation Committee is responsible for promoting and facilitating the participation of private agencies representatives, community organizations, and general public, as well as to assure that

the interests and social, economic and environmental concerns of the community are being considered in the planning process.

As it comes from its definition a CMP is intended to outline strategies to protect and enhance a byway's intrinsic qualities and character that define their byway corridor, through a community base approach.

Fortunately, there are several potential stakeholders whose objectives are closely related to the Panoramic Route values (**Appendix 6**). Some of them are considered key potential stakeholders due to their uninterrupted work for the past 30 years, their presence and their recognition factor among citizens. As previously mentioned (**Section 5.6.1**) they are: Caminata Panorámica Arquitecto Gabriel Ferrer Amador, Casa Pueblo, Amigos del Bosque Toro Negro and Para la Naturaleza. These NGOs should be convoked to start pilot cooperative agreements that can be applied with other valuable community based Panoramic Route potential stakeholders. Note that the Panoramic Route ties into NGO's working areas., and in this context, the Route would become a connector for these organizations. Their valuable knowledge of the Route, proven experience and trajectory contributes to this interactive process.

Cooperative efforts to manage the Route can be accomplished by the Council, with help from the Panoramic Route Steering Committee entering into agreements with state agencies and municipalities to provide support in accordance with the Route's purposes. This recommendation is extensive for private partnership and non-government organizations as well. As indicated on **Section 5.6.1** (Interagency Agreements), the

¹⁴. The Puerto Rico MPO is the federally designated transportation planning authority charged with implementing the transportation planning process, to serve the mobility needs of the population. MPO responsibilities include the planning and programming of federal funds through the Long-Range Transportation Plan (LRTP) and the State Transportation Improvement Program (STIP), respectively, and the approval of highway, transit, and non-motorized transportation-related projects across the Island. Federal regulations require that Island wide LRTP be coordinated with the MPO,

nonmetropolitan officials, and other partner Commonwealth, regional and local agencies. The MPO coordinates the transportation planning activities for each of the seven identified transportation planning regions across the Island, that is, the five non-metropolitan transportation planning regions (TPRs) -- North, Southwest, South, Southeast, and East -- that share a common LRTP and the two transportation management areas (TMAs) -- San Juan and Aguadilla -- that each have their own LRTPs

Council is constituted by agencies and municipalities that are crucial to effectively support the Route purposes. Therefore, the DTPW entering into agreements with these agencies, as well as with the agencies designated as cooperative agencies as per the Law 496-2004, is practically implied. The leadership of the DTPW Secretary, as Council President, will be important in convoking and involving all potential stakeholders, including agencies and municipalities members. An educational approach should be used to emphasize in the economic and social benefits associated to outdoor recreation activities, supported with current statistical data, as indicated in the mentioned section.

The Council should consider including these agencies and municipalities in the process of fund raising to support their activities aligned with the purposes of the Route. This includes full support in the completion of applications for grants, technical assistance and/or trainings, among others, as indicated in the above-mentioned **Section 5.6.1**. The agreements with these agencies should be aimed at supporting the Panoramic Route purposes by providing staff and by aligning their projects and activities with those of the Council. Specific examples are provided in **Section 5.6.1**.

Another key action that is proposed is to enhance the Route visibility both physically as well as in the communication media. Physical visualization is proposed to be accomplished through signage along the whole Route. (For Signage Plan refer to **Section 7.3.3 Strategies for Safety Goal**). This task requires to rectify some existing Route identification signs which are incorrectly placed and install new ones covering the whole Route. To enhance the Route visibility to a broader audience it is necessary to create a dedicated webpage and social network platforms to outreach current activities in the Route including efforts to improve it.

CMP Update implementation progress should be outreached. (For example, segments of the Route using the proposed signage and appropriate road improvements. A priority of the demonstration projects will be to improve the pavement conditions, including markings and reflectors, and install information and interpretive signage.)

Although it is considered a long-term measure, one of the most effective ways to guarantee awareness and sense of stewardship to the Panoramic Route values is through educational processes, as they generate a change in behaviors and attitudes. Note that effective CMP execution, as any other planning document, requires both awareness and stewardship to the values of the area that are subject of planning, in this case the Panoramic Route. Therefore, the strategies presented below include educational tools aimed at all audiences, from government institutions and public employees in charge of road maintenance activities to kids, young and old people that are Route inhabitants and users. As indicated before, educational elements through all the strategic groups are presented in this chapter.

The concept of road workers is proposed as a key strategy for the maintenance of the roadsides.

A “House for work” program is proposed Inspired in the road workers or *camineros* houses. Detailed discussion is included in **Section 7.3.2 Strategies for Preservation Goal: Aesthetic and Maintenance Program**.

The findings of a comprehensive study performed on the outcomes of scenic byways located in 20 States of the United States are eloquent and it is worthy to transcribe a summary, as a reference for the strategies that are presented to accomplish proposed goals and objectives. The article “Scenic Byways A Review of Processes, Administration, and Economic Impacts” (Sipes et. al, 1997) reported that among the states reviewed, there were common elements that can be applied for an anticipated economic impact of scenic byways. The following summarizes their findings from the states that had conducted research:

- **Marketing** plays a very important role in creating positive benefits.
- **Signage** plays a very significant role in safety and “user friendly” characteristics.
- **Tourism-related** industry is ready to receive or support traffic growth for positive economic benefit to occur.
- Scenic byways programs have been met with overwhelming **approval**.
- **Positive economic benefit** is either perceived or has been measured.
- Byways must be **high-quality** to gain a favorable response from travelers.



Success is the sum of small efforts that are repeated every day. Wall art at La Gallina Escondida Bar & Grill, Hayales Ward, Coamo

7.3.2 Strategies for Preservation Goal

The preservation goal involves many stakeholders associated to the intrinsic quality resources. Therefore, the information and involvement processes from the proposed Panoramic Route Steering Committee with stakeholders in preservation efforts is important. The preservation goal is transcribed below, highlighting the intrinsic qualities for practical purposes:

Preservation Goal - To preserve the significant quality of the Panoramic Route scenic beauty and views and the outstanding value of its, archeological, cultural, historic, natural and recreational resources for the future generations of users of the Route.

The importance of offering a **high-quality byway** should be emphasized to gain favorable response from travelers (Sipes et. al, 1997), as previously mentioned in this chapter. Consequently, the various sectors that represent the Route intrinsic qualities should be aligned to provide the best possible offerings. Tools should also be provided to these sectors, with the help of the Panoramic Route Steering Committee, to implement effective and efficient conservation strategies, trying to maximize available resources.

The proposed strategies consider that land uses along the Corridor are diverse and should serve all the inhabitants needs while preserving and enhancing the Panoramic Route values. The proposed measures should not be in detriment of its inhabitants, but moreover, should be for their socioeconomic benefit and improvement of their quality of life.

The strategies to accomplish the Preservation Goal are as follows:

- Land use control
- Land preservation
- Aesthetic and maintenance
- Illegal dumping control
- Control of signs proliferation
- Control of ruined/abandoned structures

PRESERVATION STRATEGIES:

- Land use control
- Land preservation
- Aesthetic and maintenance
- Illegal dumping control
- Signs proliferation control
- Control of ruined structures

It is worthy to put into perspective the importance of land preservation and development of green infrastructure for socioeconomic development before full discussion.

The following statement that comes from a paper issued by Rails to Trails Conservancy¹⁵ best reflects this finding.

“Like a magnificent gem on display, trails and greenways attract visitors from near and far. Many communities realize the economic potential of these highly desirable recreation destinations. Trails and greenways bring job growth in construction and maintenance as well as tourism-related opportunities like river rafting tours, bike rentals, restaurants and lodging. A National Park Service study revealed that the economic impact of a trail involves a combination of newly created trail-related jobs and the expansion of existing businesses related to travel, equipment, clothes, food, souvenirs and maps. That is only the beginning of the importance these amenities can have for a community’s economy. The ecological benefits of greenways can help communities mitigate costs associated with the control of water and air pollution and flood management. Dedicated trail and greenway corridors can also play a valuable role in preserving linear space for future infrastructure needs. Trails and greenways can increase perceived quality of life in a community, and consequently attract new businesses.”

Land Use Control Plan - The Panoramic Route Law (Law 496 – 2004) Amendment provides for the implementation of scenic route zoning districts (RE district) and maps declaring the panoramic zones according to the Panoramic Route purposes. Currently most of the zoning districts along the Route and its Corridor, although not specifically designated as scenic route districts (**Section 4.1.3 Route Description and Context**), are

compatible with the purposes of the Panoramic Route. These districts, for example, are: Forest (B-Q), Resources Conservation (CR and PR), and Agricultural (AG-2, AG-3, A-P).

Also note that several special land use plans and conservation areas favorably converge in the Corridor area, including (**Figure 4-3**): Special Plan for the Development of Castañer, Bosque Modelo Territorial Management Alliance Work, La Olimpia Forest and Bosque del Pueblo, among others. These plans should not only be maintained but enforced and expanded to all merited areas, within or adjacent to the Corridor.

The Panoramic Route Law prescribes the execution of several mechanisms for the preservation and adequate management of the Route, including, among others:

- The Council will Issue a regulation that would set the base for the programs to be established according to the Panoramic Route Law.
- The Council will Issue an action plan to define programs objectives, the strategies to execute them and the responsible parties.
- The Planning Board will designate as Scenic Route district (*Ruta Escénica*, RE by its acronym in Spanish) the margins of the Route. Zoning districts should be enforced by the OGPe and corresponding municipalities.
- The Planning Board will adopt regulation providing construction parameters for structures as well as for signs and announcements.

As previously indicated (**Section 5.1.1.1 Amendments to the Panoramic Route Law**) these mechanisms have not been fully executed. This CMP Update is an effort from the DTPW, through the PRHTA, to implement the provisions of the Panoramic Route Law.

The Joint Regulation for the Evaluation and Permits Issuance Related to Development, Land Use and Businesses Operation¹⁶ (2021) (Joint Regulation) currently provides construction parameters for structures to be located in the RE-District. However, most of the Route is not zoned as RE, even when many segments have zoning districts that are

¹⁵ Rails-to-Trails Conservancy (RTC) is a nonprofit organization dedicated to creating a nationwide network of trails from former rail lines and connecting corridors to build healthier places for healthier people.

¹⁶ *Reglamento conjunto de Permisos para la Evaluación y Expedición de Permisos Relacionados al Desarrollo, Uso de Terrenos y Operación de Negocios*

compatible with the purposes of the Panoramic Route, as indicated before. The RE district requires that proposed tourism facilities (including ecotourism and agricultural tourism facilities) comply with the Design Guidelines for Ecotourism Facilities and Sustainable Tourism and Green Design Guidelines. The Joint Regulation does not provide rules to control public nuisances structures in this zoning district. The Joint Regulation currently establishes parameters for location of signs and announcements. However, specific parameters should be established for the Route. For all the above, it is proposed to amend the corresponding RE district section in the Joint Regulation to incorporate these and any other preservation incentives necessary to ensure the conservation of the Route.

It should be mentioned that draft zoning maps amendment were issued Island wide (*Enmienda a los Mapas de Calificación a Nivel Isla*) by the Planning Board in 2019. The period for public comments was extended until September 23, 2019. The PRHTA obtained the GIS files from the Planning Board confirming that the RE district was applied essentially along the whole Route, in compliance with the Panoramic Route Law (Law 71-1965 as amended, Section 3).

The following municipal zoning plans (*Planes de Ordenamiento Territorial*) are next to be developed or revised, according to information provided by the Planning Board: Mayagüez, Sabana Grande, Adjuntas, Jayuya, Orocovis, Villalba, Utuado and Guayama. The Planning Board will ensure that the RE district be implemented along the Route. The municipal zoning plan for Orocovis, being developed, is already including this district along the Route.

The use of effective mechanisms is key for the enforcement of land use public policies. As indicated before (**Section 5.1.3**) a given space land use should ideally be according to the established planning regulations, as they represent the land use public policies established by the state or country for areas under their jurisdiction.

A proven mechanism for agencies to identify land use regulated areas is the use of the GIS application *MIPR*¹⁷, available at the Planning Board website. This application is used by the agencies when evaluating site approval (*consultas de ubicación*) applications, environmental planning documents (such as Environmental Assessments and Environmental Impact Statements), construction permits, and use permits among others. By identifying the corresponding land use zoning districts and related regulations, the involved regulatory agencies receive notification and can comment and enforce their respective requirements accordingly.

However, this useful application does not include a layer for scenic resources in the main menu, it is included within Cultural Resources topic. The Panoramic Route is not identified among scenic resources. It is neither included under the Regulatory topic in the main menu. Therefore the presence of the Route is not visible for technicians that evaluate the projects in site approval and permits processes, and the Route is irreversibly affected by the location of massive and incongruent structures like telecommunication towers, gas stations, dealers and repair shops as observed during the field survey (summer 2019). Therefore, it is necessary that the MIPR data base be revised by the Planning Board in order to include scenic resources in the main menu of MIPR as well as the Panoramic Route among these resources.

In parallel to the aforementioned strategy, it is recommended to set up an annual education and orientation session for the members of the Council and the OGPe to review the material related to the Panoramic Route, provide a background on its significance, information as to the existing regulations, and the importance of their enforcement. It should include input to the municipalities land use planning areas (municipalities within the Corridor) to promote the Route's integration as a planning unit in municipal zoning plans (*Planes de Ordenamiento Territorial*) (new ones as well as partial and comprehensive revisions).

The Puerto Rico Land Use Plan, should also incorporate the Panoramic Route, make reference to this CMP and be binding to this and the other mentioned special land use

¹⁷ (<http://jp.pr.gov/>)

plans that converge with the Route Corridor, and that are compatible with Route purposes.

Other recommendations associated to the zoning strategies are:

- Strengthen coordination among planning and regulatory agencies through periodic meetings and follow up as a way to promote that proposed actions from both public and private parties, can adjust to preservation goals and timetables, and make modifications of proposed new or rehabilitation projects at early stages.
- To periodically (e.g. annually) review the zoning and other plans relevant to the Panoramic Route conservation and preservation, with Planning Board representatives and involved municipalities., including but not limited to: State Comprehensive Outdoor Recreation Plan (SCORP), municipal zoning plans, and Puerto Rico Land Use Plan. The purpose is to include and consider the Panoramic Route Corridor.

Land Preservation Program - The following strategies although currently implemented as part of separate efforts, also contribute to the preservation goal, and should continue being promoted and financially supported by the Council.

A preservation program should be implemented by the Council by promoting and financially supporting current preservation programs. Allocation of funds by the Council should consider land preservation purposes among its goals. Specific strategies to allocate funds are discussed in **Section 5.5** Additional Funding, Technical Assistance, Staff or Other Resources.

“According to the Trust for Public Land, one dollar invested in public lands generates four dollars in private investment and community economic activity” (Scenic America, 2017).

Priority Conservation Areas - The DNER promotes the acquisition of the most ecologically sensitive lands through the identification of Priority Conservation Areas.

(**Figure 4-5, Figure 4-8, Figure 4-12, Figure 4-15, Figure 4-18 and Figure 4-21**). These areas are considered as high priority as part of mitigation compensation requirements associated to land use permits based on the Puerto Rico New Wildlife Law (*Nueva Ley de Vida Silvestre de Puerto Rico*) (Law 241-1999).

Route scenic areas coincide in many instances with natural areas and may qualify as Priority Conservation Areas. This information should be considered by the DNER for their designation.

Biological Corridors - The DNER is actively identifying funds for the acquisition of lands that allow the establishment of biological corridors between protected natural areas. Through the Forest Legacy Program (*Programa de Legado Forestal*) priority areas have been identified to be acquired for land conservation in areas adjacent to Maricao, Susúa, the Guánica forests, Guilarte, Pueblo and Toro Negro forests. This is according to Law 14 – 1999, aimed at establishing biological corridors between these forests. In addition, efforts have been made through the Natural Heritage Division (*División de Patrimonio Natural*) to establish biological corridors.

Voluntary Conservation Easements - The Conservation Easements Law (Law 183-2001) establishes tax incentives, under certain conditions to those property owners that constitute conservation easements, among other provisions. This resource should be actively promoted specially over lands where acquisition is not possible, whether for cost reasons or other restrictions. Actively promoting means, the owner’s identification and direct encouragement to adhere to these incentives. Those owners who agree to enter into this voluntary agreement could be publicly recognized, with their prior consent.



Entrance to Toro Negro State Forest
Recreational Area, Road PR-143, Villalba

Aesthetic and Maintenance Program – Note that additional maintenance and aesthetics strategies for roadsides are discussed under the Safety Goal topic (next).

Wild vegetation associated to natural areas and well-maintained agricultural plantations provide pleasant views characteristic of the Panoramic Route. Vegetative cover maintenance should be promoted along roadsides (grasses and small shrubs) and adjacent areas (native trees) as they contribute to the Route aesthetic appeal. However, this should not be confused with developing complex landscape gardens that require intensive maintenance with the high demand for human and financial resources they entail.

A maintained lawn is preferred over an unmaintained garden, as it gives an abandoned look that contravene the Panoramic Route purposes.

The practice of cutting mature trees, especially in the coffee plantations has been previously documented by the 1998 CMP. It resulted from the practice change of shade-grown to sun-grown coffee plantation. The Caribbean Area Natural Resources Conservation Service (NRCS) is helping Puerto Rico 's farmers to convert their sun-grown coffee plantations to shade-grown plantation to protect, enhance and conserve soil, water and wildlife habitat (NRCS, 2018). The Shade Grown Coffee Initiative is a partnership between NRCS, the United States Fish and Wildlife Service and Enviro Survey Inc. an NGO. This initiative extends through a priority area that comprises the Maricao State Forest and includes the municipalities of Maricao, Mayagüez, Las Marías, San Sebastián and Yauco.

The NRCS leads other coffee and soil conservation initiatives as well as landscape restoration initiatives. Recommendations may well be congruent with other agricultural sectors and other activities, including general community. The Panoramic Route Steering Committee should establish communication with NRCS representatives to support and promote these efforts in such a manner that other farmers get informed of these programs and may adhere to them.

Maintenance activities along the roadsides are limitedly performed by the DTPW and by the corresponding municipal public works departments, with the limited Municipalities resources. As previously indicated the DTPW landscape brigade from the Landscape Division (*Division de Ornato*) has been substantially reduced in the last ten (10) years. During the field inspection significant stretches along the Route lacking maintenance were noted.

“House for work” program - Inspired in the road workers or *camineros* houses, is proposed as a program to provide housing in the Route to interested workers as a strategy to guarantee the workforce that is necessary to provide the continued care that the Route and its users and inhabitants need and deserve.

Legal dispositions provided by Law 31 – 2012, Law to Enable the Restoration of Communities, should be enforced as part of the necessary elements to implement this strategy. This law provides for the municipalities to use their authority to execute forced expropriation in real estate that have been declared public nuisances to be transferred, by purchase, to people who intend to rehabilitate these properties. Law 157 – 2016, Law to Amend the Civil Code of Puerto Rico Related to Properties without Inheritors, may also provide legal dispositions for the implementation of this strategy.

The “House for Work” program should be implemented as a pilot program, designating at least two (2) houses for one Route interpretative region. A minimum of 45 linear kilometers should be assigned to a couple of road workers or Route caretakers (*cuidador*). (The whole Route is approximately 266 kilometers, 165 miles. Twelve road workers would be necessary to cover the seven, 7, regions, considering Ports and Stone Forest as one, 1, region. This segment length may be eventually revised according to results from this pilot program.) The idea is to replicate it along the Route.

Abandoned houses are a repeated scenario along the Route, and opportunities are available for these purposes. These structures, that should be structurally secure, should be acquired and rehabilitated by the DTPW in compliance with construction standards and required permits from the OGP. The renovated houses should have enough space for a family of four (4) and area for garden. The renovated structure should be appealing.

Ideally, former *camineros* houses should be rehabilitated and adapted to be used as part of this program. The *caminero* house that is located on road PR-14 at Toíta Ward in Cayey currently serves housing purposes while conserving its historic character and beauty. Worth to mention is that this structure is in the National Register of Historic Places by the State Historic Preservation Office. It represents a great example of the potential of this proposed use.



Caminero house that is located on road PR-14 at Toíta Ward in Cayey

The recruitment process for this pilot program should start before rehabilitation works, with the purpose that road workers get involved in the construction process to promote stewardship and sense of belonging.

This pilot program will require the following tasks:

- Request information from the Municipalities on their inventory of abandoned residential structures and check their plans if any with structures.
- Identify funds to acquire structures.
- Identify abandoned residential structures in the Route (in one interpretive region) for two (2) road workers and their families, respectively.

- Acquire structures.
- Request for Proposals (RFPs) for design and permits of acquired residential structures.
- Design structures renovation and secure corresponding permits.
- Recruit road workers.
- Issue an RFP for renovation of houses acquired.
- Prepare a manual establishing the procedures associated to tasks to be performed by the road workers for: -abandoned cars -abandoned buildings, illegal constructions, roadside maintenance, report of sudden roadways conditions incidences (e.g., landslide), planting local vegetation.

The route caretaker should represent the best of the hospitality and friendliness culture represented in the inhabitants of our Island center countryside. The performance should be periodically evaluated and the term for the caretaker's position should not exceed 8 to 10 years.

The following tasks should be considered as part of their job description:

- Roadside maintenance (trimming and control of littering). The municipalities should provide trimmers and other gardening implements/supplies and designate points to place collected litter. Each municipality should haul and dispose collected litter.
- Maintenance of the house they will inhabit with their family as well as its garden.
- Communication with forest rangers of corresponding forests along the Route, police, and representatives from strategic offices from municipalities in their

corresponding regions when necessary. This may include report of situations under their jurisdictions.

- Be able to provide basic information to Route visitors and its main resources in their corresponding regions.
- Basic skills to maintain and repair gardening tools.
- Removal of illegal advertisement signs and announcement material.
- Report and follow up complaints of abandoned vehicles and/or illegal junkers according to Law 22 - 2000, as amended, (Law of Vehicles and Transit in Puerto Rico, Article 10.19).

Note that the roadside usually borders the private properties frontal area, and its appeal also affects the roads' appeal. Thus, educational tools and empowerment of communities are important to reach a co-management approach. Resources provided by the NRCS related to landscape restoration initiatives are suitable and should be promoted if available.

An inventory improvement program should be implemented. A priority list should be developed based on the conditions identified in the inventory of intrinsic qualities resources conducted as part of this CMP. Note that inventoried intrinsic quality resources are public and privately administered. This priority list should be limited to public resources. The Panoramic Route Steering Committee should establish close communication with public stakeholders and facilitate resources like consultation on management and funding sources. The Panoramic Route Steering Committee should set up a system to annually



Road PR-143 at Pedro García Ward, Coamo

review the inventory of resources along the Panoramic Route and their conditions, using as baseline the inventory conducted in this CMP.

Small discrete projects to improve conditions of sites administered by public stakeholders (e.g., facilities from the National Parks Company, *Compañía de Parques Nacionales* like Monte del Estado Vacation Center) can be performed along the Route by the Department of Education vocational program. Other small projects that improve general roadside appeal may include construction of uniform adequate trash receptacles, mailboxes, etc. This could be achieved through high school programs, while more complex projects may be executed as special projects by students from the University of Puerto Rico (e.g., rendering drawings showing potential improvement of neglected areas, conceptual design for rehabilitation of structures, cultural resources assessment of historical properties, etc.). This may provide a valuable experience opportunity while improving resources conditions. The Department of Education vocational program comprises agricultural disciplines, including landscaping, industrial arts, commercial education, marketing and industrial arts, including refrigeration and electromechanics. The Panoramic Route Steering Committee should coordinate these efforts with representatives from the Department of Education and the University of Puerto Rico campuses. Two (2) public higher education campuses are located at municipalities within the Panoramic Route, the Mayagüez and Utuado campuses. Private universities also present in municipalities along the Route (e.g., Jayuya and Barranquitas), may also be interested. The Panoramic Route Steering Committee should also coordinate identification of funds with the corresponding public stakeholders where improvement projects are to be performed.

A survey may be conducted among residents to assess their interest in learning disciplines within these vocational programs. This envisions potential training programs to improve their own housing conditions.

As reflected by the analysis of existing conditions it is evident that the Route is also affected by the previous approval of uses that are non-congruent with the purposes of the Panoramic Route designation (e.g., public works vehicles and equipment maintenance area, solid wastes transfer stations, gas stations, tire shops, etc.).

The Panoramic Route Steering Committee should conduct an inventory of these non-congruent uses. The administrators in charge of these properties should be encouraged to make interventions that can mitigate the visual effects posed by these, such as modification of signs in compliance with the Joint Regulation. Another potential mitigation alternative is to partially screen view through dense shrubs lines along fences and to provide solid gates.

Illegal Dumping Control Program –Illegal dumping is a worldwide problem, a situation that occur in several areas of the Island, and the Panoramic Route is not an exception. Note that dumping not only includes the events that occur intentionally, but it can also happen due to the carelessness while transporting solid wastes and may include a property owner who accumulates waste on their own property. Therefore, increasing awareness of littering and illegal dumping is key to solve this problem.

Strategies implemented by other countries to deal with illegal dumping and littering should be studied.

As an example, the following bullets summarize the strategies proposed by the New South Wales Environment Protection Authority, the primary environmental regulator for New South Wales in Australia to run an effective illegal dumping prevention program:

- Understand the illegal dumping problem before acting
- Use a mix of six (6) approaches:
 - Make doing the right thing easier
 - Engage partners
 - Targeted communication
 - Clean-up
 - Reduce access – This is especially important after cleaning up. Access could be reduced by creating barriers with massive rocks or earth mounds.
 - increase enforcement

- Know how you will measure your projects effectiveness (an evaluation plan)
- Find partners to help
- Celebrate achievements

An illegal dumping prevention program should be implemented by the Panoramic Route Steering Committee. It should be based on the mentioned mix of six (6) approaches. Ideas to expand on some of these approaches are included below.

Through this CMP Update it was evident that this problem occurs at several sites. Note that some of the incidences reflect the lack of provisions of an effective system to dispose some special handling items like scrap tires, abandoned cars, lead-acid batteries, appliances, etc. In order to “make doing the right thing easier” Municipalities should provide a punctual and efficient collection systems that include periodic special handling items collection (e.g., electronics, appliances, discarded furniture, etc.). Some municipalities have programs to collect these wastes (except scrap tires), which include previous announcement to citizens. However predetermined periodic schedules may gain more engaged citizens. A survey must be conducted by the Panoramic Route Steering Committee through the municipal public works directors to know their solid wastes programs.



Scrap tires on the roadside at PR-7718
Robles Ward, Aibonito

“If we do not start by imagining the perfect society, how we will create it?” Isabel Allende (1942-), Chilean writer.

Several strategies may be implemented for the cleanup at discrete sites along the Route by convoking volunteers. Partnering with environmental groups dedicated to the environment preservation and/or solid wastes management and reduction activities

(e.g., Basura Cero Puerto Rico, Para La Naturaleza, Brigadas Comunitarias PR and Scuba Dogs, among others) is key to convoke volunteers through Panoramic Route potential stakeholders. Commerce sectors of the targeted area may also be invited to support by providing the necessary supplies for collection purposes, drinking water and/or food for volunteers, etc. Municipal governments support is strictly necessary to provide safety to volunteers from traffic flow as well as by hauling collected wastes to corresponding recycling and sanitary landfills.

The following strategies are proposed after sites clean ups:

- Planting attractive flowering vegetation (e.g., *Heliconia*) after clean ups can be established as a subtle message while improving areas: *flowers instead of a dumping site*. Tight clumpers varieties should be preferred instead of "runners" in order to keep maintenance at a minimum.
- Reduce access by creating barriers with massive rocks or earth mounds, measures that have proven to be effective in controlling illegal dumping at other rural areas in the Island.
- Disclose the achievements made through the press and television, among other media, to motivate and educate others.

As a final comment, also note that the mere continued presence of the Route caretakers may also dissuade persons from littering and dumping wastes on the roadsides. This is another reason to affirm that the effective implementation of the functions of the Route caretakers may bring noticeable positive results.

Signs proliferation control Program- As reflected by the existing conditions analysis, it was observed that the Route is affected in many areas due to the proliferation of advertisement signs and announcement material. The Joint Regulation have regulatory provisions to control signs and announcements placement (Chapter 8.7, Signs and Announcements).

The most commonly observed sign placement modality along the Route is on trees, telephones poles, light poles or on the right of way of public roadways, modality which is forbidden by the Joint Regulation. However, this regulation allows placement of

temporary signs and announcements, in any zoning district or not zoned areas without a permit upon the compliance of several rules in the Joint Regulation (Section 8.7.1.5). It includes location in the right of way of public roads, sidewalks and poles in public utilities structures with previous authorization of the DTPW or the Municipality.

The Joint Regulation does not provide jurisdiction in terms of signs removal, although they are on instances removed by the municipal public works employees and DTPW employees, respectively. The Joint Regulation neither provide for a requirement of an identification number to reflect that temporary allowed signs have the corresponding permit. Therefore, it is not clear for the authorities to enforce regulation.

The placement of signs and announcements in trees, telephones poles, light poles or on the right of way of public roadways negatively affect the visual setting. It is fair to mention that previous version of the Joint Regulation (2010) established more limited provisions for some districts including Scenic Route (RE) and other districts some of which are found in the Corridor (Joint Regulation 2010, Rule 29.8), They include: Developed Areas (AD), Productive Agriculture (A-P), General Agriculture (A-G), Forest (B-Q), Resources Conservation (CR and CR-4), Watershed Conservation (CR-C), General Rural (R-G), Archeological Resources Conservation (CR-A), Historical Sites (S-H and CR-H), Selective Development (DS), Selective Tourism Development (DTS), Public Beaches (PP), Resources Preservation (PR), Sustainable Ecotourism Development (DES).



Sign proliferation at La Cuchilla in the PR-143 and PR-155 intersection at the boundary between Orocovis and Coamo

The Council should bring these issues to the Planning Board to produce guidelines that help authorities to enforce current regulation and to address them in future amendments to Joint Regulation. The Council should coordinate with the Planning Board to produce material orienting commerce and sign related industries on current regulation to avoid proliferation of signs.

Program to Control Abandoned/Ruined Structures -

Ideally, abandoned ruined structures with no historic or aesthetic value, should be eliminated. There was evidence that some municipalities, like Cayey, has a program to execute forced expropriation in real estate that have been declared public nuisances to be transferred, by purchase, to people who intend to rehabilitate these properties, as per authority given by law. There is also a program aimed at removing and demolishing damaged structures as consequence of Hurricane María. This program is part of a mutual agreement between the Puerto Rico Infrastructure Financing Authority (AFI) with the Central Office for Recovery, Reconstruction and Resiliency (COR3) that may help private property owners with debris removal and/or demolition of damaged structures at their properties, as a consequence of Hurricane María. The Program, called Private Property Debris Removal and Demolition (PPDR), is administered by the Federal Emergency Management Agency (FEMA). This program is active at the time in which this CMP Update is being produced.



Ruined structures at road PR-179 in the boundary between Guayama and Patillas at Quebrada Arriba and Carite wards, respectively

National and local NGOs related to land reuse are resources that should also be consulted by the Steering Committee to be promoted among the municipal governments of the municipalities along the Route. These NGOs are: Center for Creative Land Recycling and Center for Habitat Reconstruction (*Centro para la*

Reconstrucción del Hábitat). The first one is dedicated to transform abandoned or vacant commercial and industrial properties to assets that benefit the community, create jobs, and generate new tax revenues. This NGO helps transformations happen by educating and convening communities, government agencies and the private sector to create optimal conditions for reinvestment. The second one, is based in Puerto Rico. This NGO is dedicated to stop the problem of abandoned and neglected properties with a comprehensive multisector approach.

The following activities are proposed to be performed by the Steering Committee:

- To request from municipalities an inventory of structures in need to be demolished.
- To identify those structures in the Route.
- To identify and inform the property owners of the availability of PPDR program to check eligibility (associated to Hurricane María)
- To share information about land reuse opportunities through the Center for Creative Land Recycling and Center for Habitat Reconstruction.

7.3.3 Strategies for Safety Goal

A key recommendation is proposed for the safety goal before any other. It is recommended that a designated member of the Steering Committee participate in the Emphasis Area team meetings and other Puerto Rico Strategic Highway Safety Plan (SHSP) events. This is a participatory and collaborative plan, that provides ample space for this consideration.

Safety Goal - To ensure the safety of the Route for all users by adopting, compatible and appropriate design standards for scenic roads, by providing adequate information, signage, and safety measures, in a way that enhances its natural and scenic qualities.

As indicated in **Section 5.4.1.6**, Puerto Rico Strategic Highway Safety Plan, most of the SHSP emphasis areas are applicable to the Panoramic Route purposes, including:

- Traffic Records and Information Systems,
- Alcohol Impaired Driving
- Vulnerable Road Users
- Emergency Medical Response
- Aggressive Driving
- Roadway Departure
- Occupant Protection
- Young Drivers (15 to 20 years), and
- Intersections

The SHSP establishes, for each area, strategic goals, performance measures and objectives. Besides these emphasis areas, the SHSP proposes to conduct a high-risk rural roads assessment. This may also be a significant contribution to the Panoramic Route safety goal (refer to **Section 5.4.1.6** for details). The purpose is to design safety improvement projects, or any other engineering evaluation to develop specific projects or actions intended to improve safety along the high-risk rural roads identified. This process will require identifying and programming of PRHTA funds, as indicated in the aforementioned section. Special priority should be given to the municipalities that comprise the Route; thus, keeping close communication with their mayors should be of positive impact for the Route.

Eight (8) main transportation safety strategies are proposed to reach the safety goal and divided into the following topics: signage, road erosion/landslides, roadside maintenance, pavement surface, guardrails/concrete barriers, stopping sight distance, design speed/speed reduction techniques and bicycle/pedestrians.

Some of the proposed safety strategies are consistent with the 1998 CMP and still valid. They are intended to address the conditions documented during the field evaluation, considering proposed objectives to reach the safety goal. Additional transportation safety strategies can be considered as may be identified eventually as part of the proposed SHSP high-risk rural roads assessment or by another specific safety assessment for the Route.

Signage - An effective signage is highly important to provide information for travelers to feel safe about directional decisions and options. The provision of an effective signage enhances the traveler's enjoyment and sense of direction regardless the current Geographical Positioning System (GPS) applications.

SAFETY STRATEGIES

- Signage,
- Road erosion and landslides,
- Roadside maintenance,
- Pavement surface,
- Guardrails and barriers
- Stopping sight distance
- Design speed and speed reduction and
- Bicycle and pedestrians.

Signage is necessary to identify the roads that comprise the Route as well as its intrinsic qualities sites. The goal should be for the traveler to assure he/she is on the Route, even without GPS access or connection, and to feel comfortably guided along the Route.

The 1998 CMP and SOIP documents recommended the implementation of a signage system that would provide uniform graphics to identify all roads as one (1) integrated Route, a recommendation that is still valid. The PRHTA designed a signage system for the Route that is recognizable, legible, and familiar in style. Design included entry points, interpretive/identification signage, intrinsic qualities signs and directional signage. The proposed signage system does not replace the official DTPW signage, only the signage particular to the Route interpretation. Kilometer markings, recently installed island wide, are neither proposed to be replaced.

Signs placement is needed on all the roads that comprise the Route to indicate when each individual road connects with the next one. Lack of Route directional signs is among the deficiencies found during the field evaluation.

- Signs should be located, where missing, before and after intersections, and along all access roads. Existing signs should be checked, along the whole Route, to corroborate that the direction reflected is correct.
- Signs are also needed to inform travelers along or nearby the Route scenic, recreational, historical, natural or cultural important sites. The bikes network proposed by the PRHTA in the Comprehensive Bicycle and Pedestrian Plan (2018) should also be informed to travelers through signs placement in the areas where the network and the Route coincide.
- Signs should be placed in spots which are least visually objectionable. Vegetation maintenance is also necessary to allow proper signs vision. Priority should be given to these areas during mowing maintenance.

- Note also that a balance should be reached between adequate number of signs to provide directions and avoid a proliferation of signs.
- Pavement markings could also be added to compliment road signage when needed to avoid signage saturation.

Transportation safety signage is needed to identify sharp turns, slopes, bridges, pedestrian crossings, bike network, and other areas where low speeds are a must for user's safety. Many of these elements are not currently signed. Additional recommendations for signage are:

- Signs location should allow ample time for speed reduction.
- Signage should also be installed to inform travelers of service locations, such as gasoline stations, restaurants, and lodgings along the Panoramic Route.
- Symbols representing the intrinsic qualities, as proposed in the SOIP and used in this CMP Update, should be kept. It is considered more realistic, while appropriate, to use metal road signs with current Route signs design than stone or concrete slab with a metal infill signs proposed in the SOIP.



Panoramic Route official sign design

An interim and complementary measure to offset the lack of directional signs along the Route is to place pavement markings at intersections. This measure was first implemented by the former Fondo de Mejoramiento, now Caminata Panorámica Arquitecto Gabriel Ferrer Amador. The markings consist of sets of three white circles (colloquially known by the group as *migas de Pulgarcito*) at intersections guiding users along the Route, pedestrian in their case. However, this system has proven to be very helpful for other Route users.

A low-cost recommendation with immediate positive effect is the removal of old signs that were designed for the Panoramic Route by late 1970's (consisting of the Island outline and three, 3, mountain peaks along its center). Still few of them are found along

the Route, confusing users as whether there is another panoramic route, because it is a different logo. These signs look deteriorated, giving also an abandoned appearance.

A road maintenance plan (Road Maintenance Plan) is recommended to implement road safety strategies presented in this section.

This plan should include a detailed inspection and inventory of signs. The inspection should include the identification of points where corresponding signs are missing. The inventory should identify outdated Panoramic Route signs to be removed. The inspection should verify adequate direction of the Route. The Road Maintenance Plan including previous recommendations for signage program, should be approved and adopted by the PRHTA Transit Engineering and Operations Area. Funds and responsible parties should also be identified for recommended actions.

Road Erosion and Landslides - Road erosion and landslides, including shoulder and pavement erosion were documented in the 1998 CMP as recurrent problems. Note that this area (Island's central zone) is characterized by steep topography and high precipitation rates which makes the Route prone to these conditions. Tree cutting, vegetation removal, and poor drainage maintenance also contribute to these conditions.

This situation got worse after passage of Hurricanes Irma and María, respectively, in the year 2017, as previously mentioned. Currently the DTPW is implementing a broad roadways recovery plan supported by the FHWA and local programs, as discussed in **Section 4-2.5**

The participation of the Panoramic Route Steering Committee in the MPO is important to follow up completion of all road rehabilitation projects in progress along the Route as



Landslide at road PR-143
Portugués Ward, Adjuntas

well as to present other needed road improvement projects that are not currently being addressed.

As part of the Road Maintenance Plan it is recommended to perform a detailed inspection and inventory of roads conditions including road erosion and landslides that may be out of current repair and improvement programs. Funds and responsible parties should also be identified for recommended actions.

Although wider pavement and shoulders are desirable for safety reasons it would require additional cut and fill of the adjacent roadside and is therefore dissuaded. This alternative increases costs as well as creates a greater negative visual and environmental impact, therefore should be limited where strictly necessary.

Vegetated swales and ditches are recommended instead of paved culverts which increase the speed of runoff reducing groundwater recharge and increasing peak flows and downstream flooding. Flexible linings for culverts, such as mesh lining, with native vegetation growing through, creates a natural roadside feeling while controlling runoff. Paved waterways although its unnatural look, are necessary in some instances. Runoff attenuation devices should be provided at the discharge point.

Roadside maintenance - As mentioned before, the vegetative cover maintenance, including grasses, shrubs and trees, should be promoted as it provides ground cover and soil stability, while contributing to the aesthetic appeal of the roads. Refer to discussion on this topic under the strategies for the Preservation Goal.

The maintenance activities on the roadsides are essential for road safety, therefore the economic and human resources necessary to guarantee them must be provided.

Roadside maintenance activities are essential to prevent road erosion and landslides. Engineering control features include culverts and ditches, cut and fill slopes, and planting. On the other hand, poor maintenance leads to pavement deterioration due to accumulated debris on culverts, which leads to runoff along pavement. Excessive

vegetation growth along roadsides also diverts runoff into pavement and affects visibility.

As mentioned before, the “house for work” program should be implemented as a strategy to guarantee the necessary workforce to provide the continued maintenance that the Route inhabitants and users deserve.

Note that the roadside usually bounds with the frontal area of private properties, therefore, the landslides conditions affect not only the road users but the properties owners. Educational tools and communities empowerment is important to reach a co-management approach. Resources provided by the NRCS related to landscape restoration initiatives are suitable and should be promoted.



Bahia grass. Source: NRCS, 2018.

The indiscriminate use of herbicides for weed controls along Route roadsides should also be mentioned. This is a practice commonly observed along many Route segments. Note that the application of herbicides is done over overgrown grasses, therefore the herbicide “burns” the grasses creating an abandoned appearance, without solving the maintenance issue. This practice which requires a significant investment associated to the herbicides and manpower needed for application, cause an aesthetical problem and does not solve the main issue, which is the presence of high height grasses excessive growth.



Indiscriminately herbicide application to weeds on the roadside, PR-143 from Adjuntas to Jayuya.

Planting low-maintenance ground covers or short endemic vegetation along roadsides with ability to control soil erosion is recommended. An example for this recommendation could be the commonly distributed Peanut Grass (*Arachis pintoii*) known as *maní* or *maní forrajero* in Spanish. Besides its attractive appearance, the peanut grass is low height growing and its tap root system is also recognized for its properties to reduce soil erosion. This perennial legume can cover wide areas relatively rapidly and is resistant to high moisture, prolonged drought, grazing and high traffic. Additionally, it takes little maintenance to reproduce once established.



Peanut Grass (*Arachis pintoii*) known in Spanish as *maní* or *maní forrajero* (PCAARRD, 2019).

As per consultation to the NRCS Caribbean Area Office the use of different species of *Arachis* (*maní*) has been evaluated for conservation covers locally. *Mani* performance will depend on the soil texture and the species of *Arachis* (*pintoii*, *glabrata*, *kretschmeri*). *Arachis pintoii* is a rhizomatous species and beside climate, its establishment will mostly depend on soil texture, being clay soils more difficult to establish. As the texture become sandier, the better the performance. *Arachis kretschmeri* another species, is stoloniferous. This species is better adapted to clay soils but grows taller (about 12 inches).

There are other potential plant species that will control soil erosion in road shoulders that have been evaluated locally with great results. In specific *Paspalum notatum* (bahia grass) is a rhizomatous grass of easy establishment that can be planted using hydroseeding techniques and the seed is commercially available, as per consultation to the already mentioned NRCS office. This species is also a relatively low height growing grass (leaves 8 to 20 inches in length and stems 8 to 30 inches tall). It is also known as *highway grass* in the southern areas of United States where it is planted extensively along roadsides for erosion control (Better Lawn Care.com, 2018).

Pavement Surface - Pavement markings are critical to keep road users aware of the lane limits. In addition, the prevailing absence of illumination along the Route and characteristic high precipitation occurrence along the Central Mountain Range make it crucial for delineating the way.

Existing route pavement along the Corridor was evaluated for markings and surface conditions. As indicated before (**Section 4.2** Roadways Conditions and Transportation Safety) pavement markings are in a poor condition throughout the Route due to their absence, or inadequate conditions.

Pavement conditions are very poor along many segments of the roads that comprise the Route, situation that got worse after passage of Hurricanes Irma and María in September 2017. As indicated before, the DTPW is currently implementing a broad roadways recovery and improvement federal and state programs. These programs also consider pavement repairs among other recovery works. Refer to **Figure 4-23 to Figure 4-28**, Roads Description, Safety and Improvements Programs along Panoramic Route (**Chapter 4**).

The following recommendations from the 1998 CMP are still valid:

- Yellow Center lines along the Route should be provided (solid or broken, as applicable according to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). Solid white edge lines should always be present and in good condition on the roadway. Constant maintenance of painted markings is required.
- The use of raised reflective pavement markers (*ojos de gato*), is highly recommended for the lane edge, center line, and where needed. In addition, reflective object markers on guard rails and other raised objects are recommended in order to aid visibility. These safety features are especially helpful in areas where there is a high probability of fog and tight curves. Spacing of the reflectors should be adjusted on curves so that several of them are always visible to the driver, as established in PRHTA standards.

The pavement repairs, rehabilitations, reconstruction, and preservation projects along the Route should prospectively be considered as a whole into the PRHTA TAMP (Transportation Asset Management Plan). The PRTAMP is a planning tool used by the PRHTA to keep the executive officials informed about the roads condition, annual budget, and programed improvements. This strategy allows that the roadway inventory and the Panoramic Route pavement condition be performed as one (1) corridor, not several roadway segments belonging to other roads. Doing this will help to manage the roadway condition and improvement projects more efficiently, maximizing available budget.

An orientation program is recommended to review and have hands on examples of repair projects so that road crews and supervisors, and contractors will understand and respect the relationship between improvements and aesthetics. This may have a multiplier effect if these good practices are implemented not only on the Panoramic Route but on the other PRHTA roadways. These orientations may be extensive to public works departments from the corresponding municipalities. This would address the fact that no quality control seems to be applied in a consistent manner regarding pavement repair terminations. A manual should be prepared to support this orientation program.

A recommendation to provide good rideability along the Route is to implement pavement surface treatment such as slurry seal where the existing pavement condition permits its application. In poor pavement conditions, a good repair or rehabilitation should be implemented as soon as possible. This would enhance the experience of external road users and inhabitants along the Route.

As part of the Road Maintenance Plan it is recommended to perform a detailed inspection and inventory of roads conditions including pavement surface conditions that may be out of current repair and improvement programs. Funds and responsible parties should also be identified for recommended actions.

Guardrails and Concrete Barriers –These safety devices are intended to keep the vehicle from leaving the road on a crash event. The Route is characterized by the presence of winding roads and tight curves, as well as steep terrain, in some cases on

both sides. Therefore, guardrails and concrete barriers are very important for safety purposes, especially in areas prone to rain and fog, respectively. Placement of reflectors on these devices are very helpful considering lack of luminaries along the Route.




Different types of safety barriers provide diverse safety levels as well as visual characteristics. One negative aspect of these safety devices is the visual blockage which creates a road separation from its adjacent landscape, obstructing the view from the roadway. In addition, the customary practices of painting them adds an unnecessary aesthetic problem. Note that paint makes the surface of lighting poles and metal guardrails prone to mold and mildew increasing this negative effect.

Guardrails and concrete barriers are still a critical issue throughout the Panoramic Route, because they are not existing in some areas or in poor conditions in others. The same variety of guardrails still exist along the Route: steel W-shaped, weak-post beam, cable barriers, and concrete barriers or bollards, known as *dientes de perro* and dating from XIX Century Spanish road design. Of interest are the *dientes de perro* barrier. They are considered a safety hazard in areas where faster speed is allowed because they are so unforgiving to running-off-the-road vehicles, as well as its low height. The original recommendation to preserve and/or replace bollards in low-speed operating areas is maintained. Painting these barriers shall be in accordance and coordination with the PRHTA, avoiding usage of indiscriminatory use of colors and type of paints that do not comply with required standards.

As part of the Road Maintenance Plan it is recommended to perform a detailed inspection and inventory of roads including guardrails and concrete barriers conditions that may be out of current repair and improvement programs. Funds and responsible parties should be identified for recommended actions.

The use of rough stone masonry guardrails, concrete barriers with aesthetic surface treatment, high tension cable barrier or aesthetic longitudinal metal barriers could be considered for future interventions (e.g., road rehabilitations), in order to provide safety and keep Route's aesthetic. The recommended barriers take into consideration the average design speed allowed on the roads that comprise the Panoramic Route (20 - 40 mph). Note that several roads that comprise the Route belongs to the National Highway System (NHS) and future interventions that affect its safety devices should meet the required Manual for Assessing Safety Hardware (MASH) standards or approved through design exceptions. Refer to **Table 7-1**, Aesthetic Barriers. On the long term, all guardrails to be installed along the Route should meet aesthetic quality.

Table 7-1 Aesthetic Barriers

Barrier		Highlights
High Tension Cable Barrier		<ul style="list-style-type: none"> • All systems are propriety (meaning that design and construction pertains to particular providers.). • Blends in with surrounding environment and reduces visual impairment. • Steel posts are typically galvanized. Coating alternatives are available to enhance aesthetic appearance, • Use in medians and along edge of roadways.
Rustic-appearance Metal Beam Guardrail		<ul style="list-style-type: none"> • Blends in with the surrounding environment • Propriety treatments to achieve rustic appearance on both post and rail • elements: acid-etched, powder coated and weathered steel
Rough Stone Masonry Guardwall		<ul style="list-style-type: none"> • Stone facing blends into the surrounding environment. • No crashworthy end terminal is currently available; acceptable end treatments include anchoring in a backslope or flaring the barrier to the edge of the clear zone.

Source: Aesthetic Barrier, 2015.

Stopping Sight Distance - The stopping sight distance provides the driver with a view of what lies ahead on the road. A short stopping sight distance is a condition that has been documented along several Route segments, mainly as result of its topography which leads to winding roads.

The implementation of geometrical improvements is desirable to improve safety conditions. However these should be limited to highly unsafe areas as they would require construction activities leading to greater negative visual and environmental impact that may compromise the character of the Route. Effective measures should be implemented to offset this condition. Strategic signage is essential to warn the traveler about intersections, curves and steep hills as an effective alternative to geometrical improvements. Traffic speed should also be reduced to the minimum in critical areas, by using traffic calming techniques, consistent with the 1998 CMP recommendations. Speed management is crucial for minimizing the lack of stopping sight distances. The following topic delves into discussion about speed management technics.

As part of the Road Maintenance Plan it is recommended to perform a detailed inspection and inventory of Route geometric qualities in order to identify points where strategic signage must be installed to warn conditions as well as to control traffic speed. Funds and responsible parties should also be identified for recommended actions.

Design Speed and Speed Reduction Techniques - Several safety issues may be addressed by implementing design speed and speed reduction techniques. These technics may also enhance the drivers experience along Route scenic segments and daily life of its inhabitants. These safety issues refer to the roadway segments that are narrow and winding along the Route, with unacceptable sight distance in some areas and no shoulders for turn outs. These conditions are a direct result of the topography associated to the central area, characteristic of mountainous conditions.

Another related relevant characteristic is the entry and exit to and from the houses, commerce and institutions (e.g., churches) built right on the road, with little to no setbacks. This creates a safety issue for the owners of these properties as well as for the users of the roadway. Parking along the road even in minimum shoulder areas and

parking activities perpendicularly where there is greater shoulder area also contribute to worsen this safety issue, especially on weekends when the Route is most travelled. Pedestrian safety should also be considered, as it is common to see persons walking along the roadside in areas where houses exist. In general, sidewalks are not available and providing these is not always feasible due to roadways narrow width.

The topography of the Cordillera Central must not be thought of as an impediment to through traffic, but as an important part of the landscape, and a reason for the Route's existence. Speed should be kept slow enough to enjoy both the scenery and the sounds of nature and accommodate turnouts (1998 CMP).

As indicated before, the geometrical improvements implementation although desirable for safety reasons should be limited to strictly necessary areas as the construction activities lead to greater negative effects that may compromise the character of the Route. Instead, design speed should be adjusted for varying conditions (e.g., to slow down in a winding, scenic area as well as on built-up areas where pedestrians walk). Concurring with the 1998 CMP, this is just not a safety issue, lower speeds reduce traffic noise, and increase pleasure for the travelers and residents, allowing time to absorb community and landscape scenes.

As part of the Road Maintenance Plan it is recommended to perform a detailed inspection and inventory of roads including geometrical characteristics that may require adjustment of design speeds. Funds and responsible parties should be identified for recommended actions.

Bicyclist and Pedestrians - The Comprehensive Bicycle and Pedestrian Plan (2018) identified the bicycle network, by MPO regions, and provide recommendations for high priority improvements. Some of the bicycle network segments proposed by the Comprehensive Bicycle and Pedestrian Plan for Puerto Rico (2018) coincide with roads comprised by the Route **Figure 7-1**. Due to the constrained available space and roadway geometry, the Bicycle and Pedestrian Plan recommends signage and ongoing maintenance to support safer cycling practices. The plan recommends on the short term to provide maintenance to keep the roadway and shoulder clear of debris. As a short or medium term recommends signage indicating the presence of cyclists in the area.

As indicated before, in general, sidewalks are not available and providing these is not always feasible due to roadways narrow width. Strategies to address this issue, as well as road crossings are particularly important in areas where commercial activity is undertaken, like in *chinchorros*, where high pedestrian movement occurs, areas close to urban centers or places of interests. The Bicycle and Pedestrian Plan sets out the design guidance and desired facilities for pedestrians and cyclists, as well as specific multi-modal solutions for rural contexts. To address the missing sidewalks issue, the plan recommends, on the short term, to identify areas where high pedestrian movement occurs. On the long term, it recommends sidewalks construction (if possible) on at least one side of the road.



Pedestrians during annual walk organized by *Caminata Panorámica Arquitecto Gabriel Ferrer Amador*, Road PR-143 Hayales Ward, Coamo

The Puerto Rico Complete Streets: Plan & Design Guidelines (2018), (Complete Streets Plan) recommends the use of planters and bollards to reclaim space for and to protect pedestrians.

As indicated by the Complete Streets Plan, the reclaimed roadway space should be defined with a strong boundary to communicate to all what is roadway and what is pedestrian space. This can be done using striping and large fixed objects such as planters or stone blocks. Bollards can also be used but strategically located. Street furniture, planters, or other landscape items are preferable as they provide amenity value.

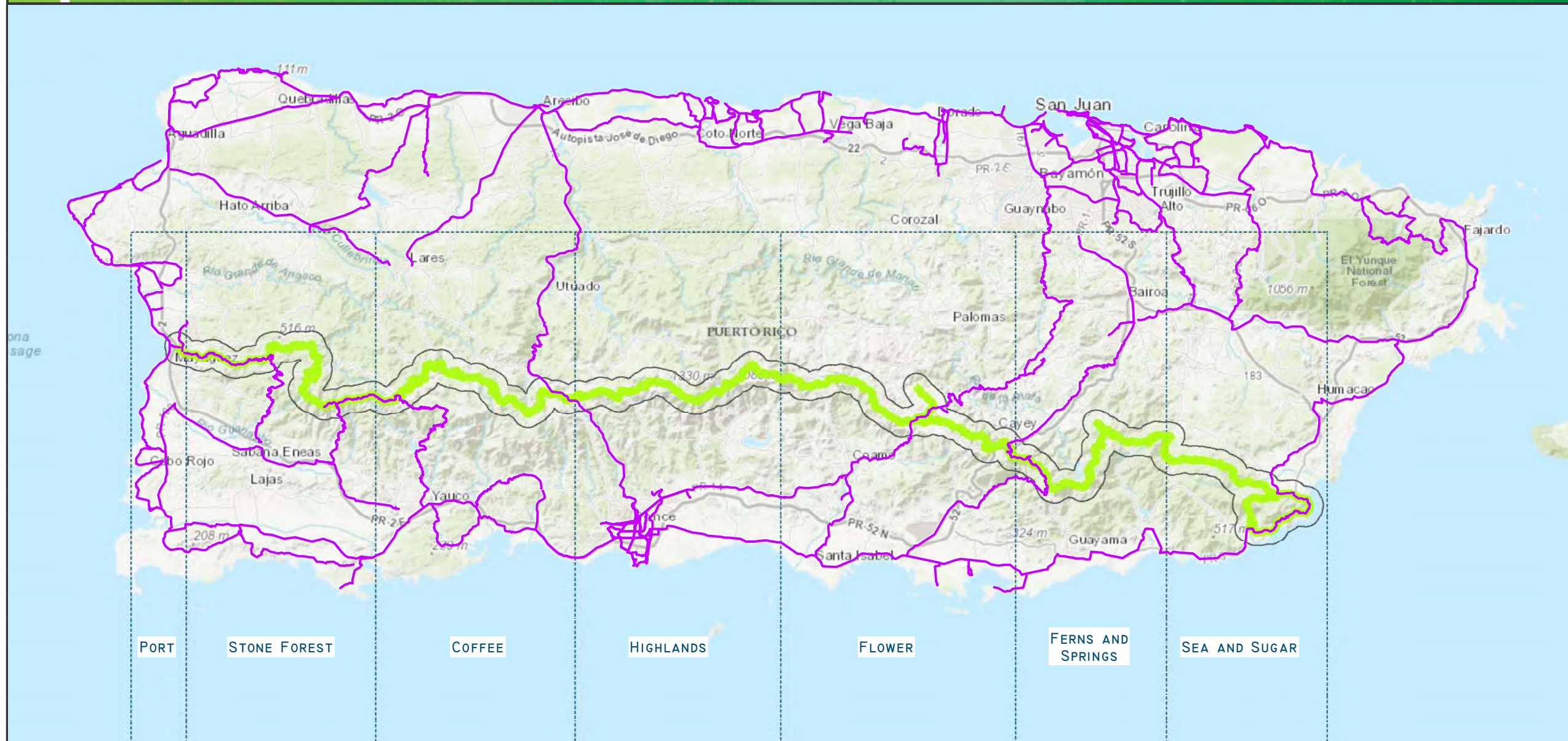
The recommendations of the Bicycle and Pedestrian Plan are not specific regarding crossings for rural areas. The following facilities are recommended for crossing at these areas where high pedestrian movement occur: pavement marked crossing, raised tables or pedestrian signals. These facilities should be considered as guidance that will require further detailed design and approval processes for each individual project (DTPW, 2018 a).



The recommended Road Maintenance Plan should also identify areas where cyclist and or pedestrian activity occurs in which corresponding signs and or pedestrian facilities are missing. Funds and responsible parties should also be identified for recommended actions.



Note that high pedestrian movement in attractive areas like *chinchorros*, in addition to limited and /or informal parking spaces, bring sometimes delay in normal traffic flow. This is a situation that is also observed during festivities. In these instances, the owners/administrators of these places should provide for traffic management with personnel that direct/control vehicles flow. Enforcement should be provided through regulatory provisions (e.g., revision of the Law 22 - 2000, as amended known as Vehicles and Transit Law).



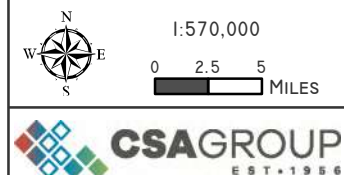
CMP PANORAMIC ROUTE
FIGURE 7-1. PROPOSED BICYCLE NETWORK AS PER COMPREHENSIVE BICYCLE
AND PEDESTRIAN PLAN FOR PUERTO RICO (2018)



 PANORAMIC ROUTE
 PANORAMIC ROUTE 1 MILE CORRIDOR

 INTERPRETATIVE REGIONS
 PROPOSED BICYCLE NETWORK

Source: Refer to Chapter 10, References.



Although not considered bicycling or pedestrian, all terrains vehicles (ATV's) or four tracks(4-tracks) are in many instances illegally used in public roads of rural areas, including the Panoramic Route, especially during weekends and festivities. Strict enforcement should be observed and educational campaign should be issued through television, radio and social networks to aware users about hazards associated to the use of these vehicles in roads. Legal consequences as per provisions of the Vehicles and Transit Law should also be exposed including confiscation (Law 22-2000 as amended, Article 10.16). Should be aligned with Police Department.

7.3.4 Strategies for Education and Information Goal

One of the most effective ways of ensuring awareness and sense of stewardship to the Panoramic Route values is through educational processes, as they generate a change in behaviors and attitudes, as indicated before. The education and information goal strategies are directed to general public as well as to public and private administrators of the intrinsic quality resources, including municipal governments administrators.

Education and Information Goal - To educate and inform Panoramic Route users about the Corridor's, archeological, cultural, historic, and recreational values, as well as the scenic and natural qualities for their enrichment and so that they engage in the Route's preservation and become satisfied tourists of the Route.

Strategies to accomplish the Education and Information Goal have been divided as follows:

- Development of an interpretive program
- Formal Education on the Panoramic Route Values
- Identify and Reach Key Forums

- Education to Improve Visitors Services

Interpretive Program - In general, to inspire people requires to establish a “connection”. It is one of the objectives of the Education and Information Goal to inspire the people of Puerto Rico and external tourists to visit, enjoy and learn about the Cordillera Central countryside, and its inhabitants.

The interpretation is more than providing information, it is to create connections between people and places to reveal deeper meanings. As stated in the 1998 CMP, those connections ultimately enrich the visitor, and sustain the place.

“Interpretation tells the story behind the scenery or history of an area. It helps people see beyond their capabilities.” 1998 CMP.

Still there is not a formal cohesive interpretation program for the Route, however opportunities for interpretation are abundant along the Route corridor and its vicinity. These opportunities come from its resources, as reflected by the description and evaluation of intrinsic qualities and analysis of contextual integrity (Section 4.0). These include amazing scenic views, archeological resources of importance at the West Indies level like the over 800 years old Delfín Ceremonial Plaza (Batey del Delfín), indigenous ceremonial center in El Quemado Ward in Mayagüez, and agricultural festivals like the Coffee Harvest Festival (*Festival del Acabe*) in Maricao or the Sweet Orange Festival (*Festival de la China Dulce*) in Las Marías, among others. Historic intrinsic quality is very well represented in every municipal plaza or town square that lie in or close to the Corridor. Natural intrinsic qualities are represented as well in the exuberant state forest located along the Route (Maricao, Guilarte, Toro Negro and Carite) and the Sierra de Pandura where endangered birds, amphibians and plants species inhabit. Recreational facilities are also present at the Corridor and its vicinity and can range from

EDUCATION AND INFORMATION STRATEGIES:

- Interpretive program
- Outreach program
- Formal Education on the Values of the Panoramic Route
- Key Forums
- Education to Improve Services to Visitors

relaxing trails at state forest like Toro Negro in Orocovis to world class zip lines park like Toro Verde (out but close to the Corridor) in the same municipality.

Recent trends in offerings from entrepreneurs enhance the interpretation opportunities that exist at the Route. An example is the turnaround given to agricultural practices like coffee plantation by means of combining it with tours for visitors and sale of their products, either ground packed or brewed at their coffee shops. Other have added remarkable cozy lodging facilities at former coffee haciendas with excellent restaurant facilities. Another example of the offerings from entrepreneurs are the recent trend to provide private mass transportation services to local and external tourist to enjoy *chinchorros* located in the Island rural areas including sites along the Panoramic Route.

An interpretive program has different methods or means for presentation. These could include, but are not limited to: visitor information centers, publications, byway signing, guided tours, social media and interactive websites, kiosks, exhibitions, interpretive vista points, scenic overlooks, museums, nature centers, environmental education centers, and trails, among others.

The 1998 CMP included a guidelines document for the interpretive program which objectives, major interpretative stories and strategies are sound and valid at present. These guidelines were presented to complement the 1998 CMP and are contained in the Scenic Overlooks and Interpretive Program (SOIP) as indicated in **Chapter 2** of this CMP Update. The SOIP purpose was to establish interpretative program guidelines as well as for the design of future facilities, overlooks, observation points, roadside features and interpretative signage.

“Intrinsic qualities are the archeological, cultural, historic, natural, recreational, and scenic resources lying along byways that provide the drawing power and interest for visitors.” (1998 CMP from the Intrinsic Quality Handbook issued by the former National Scenic Byways Program.)

The byway story and interpretative program to be developed is directly related to its intrinsic qualities. As indicated in **Section 2.2**, Guiding principles for CMP Update, the interpretative story and segments definition established for the 1998 CMP are representative of general Route identity and therefore are still valid. Both, original interpretative story and regions definitions (**Chapter 3**) are proposed for the envisioned interpretative program.

Note that the first strategy for the Education and Information Goal is the development of an interpretive program. It is essential for the formal education on the Route values, as the Route interpretation would nourish it.

The advantages identified in the 1998 CMP associated to organized planning for interpretation are mentioned below:

- Provides a cohesive system of interpretive facilities and services within a geographic region or management unit.
- Encourages continuity of interpretive principles.



Intersection at Road PR-143 at Hayales Ward in Coamo to Road PR-155 heading to Toro Verde ziplines park

- Promotes orderly development as opposed to haphazard (random) and uncoordinated growth.
- Serves as guide and stimulus for public, ideological and financial support.
- Offers a supporting document to justify legislative and budget support for a complete interpretive program.
- Encourages economic development and increases tourism.
- Guides a program of land acquisition and facility development for interpretive use.
- Empowers local community incentives for planning and development.

The following lines summarize the guidelines for the interpretive program implementation as per the SOIP and update several of its areas.

The objectives of the interpretive plan are still valid and reproduced in the bullets below:

- To invite visitors of all ages to explore and enjoy the cultural, historical, natural, scenic and leisure opportunities of the towns and resources along the Panoramic Route.
- To enrich local traditions and initiatives—from Maunabo in the east to Mayagüez in the west—through the creation of a coordinated design, management and economic plan.
- To transform the concept of a 163-mile linear scenic highway into a series of regional gateways that offers half day, one (1) day, or two (2) to three (3) days itineraries for a diverse population of travelers: coffee haciendas, local festivals and cuisine for the tradition-seeker; state forests for the hiker and nature lovers; beaches and freshwater resources for the recreational advocate; and scenic vistas for all.
- To inspire the people of Puerto Rico and the tourists to experience Governor Luis Muñoz Marín's original concept—preservation of the Island's rural, serene Cordillera Central region.

- To engage the residents and visitors in the natural resources and environmental realities of the island, as represented by the Panoramic Route, so that they may participate in the Route's preservation.

The following key stories are proposed by the SOIP as the basis for the interpretive program development and the different experiences will be developed around the major themes of the Panoramic Route. Fully discussed in the SOIP, these include:

- A Route of Traditions - The 163-mile Panoramic Route provides diverse opportunities to view the traditional agrarian lifestyles and work-styles of Puerto Rico.
- A Route of Many Uses - Segments along the Route reveal the many human relationships with the land and water.
- The Green Lungs and Spine Across Puerto Rico - The Panoramic Route stretching from east to west hold the past and future of the island.
- A Route we Must Care For - All living things — plants, animals, humans, — are interdependent.

Interpretive experiences on, or adjacent to the Panoramic Route corridor must encourage users to experience the sites, views, smells, sounds, tastes, and textures of the natural and cultural history of the Island central mountain range. Interpretive facilities, materials and technologies will be designed to help secure the objectives described above.

Anchored by interpretive centers, the Panoramic Route encompasses a series of experiences both on and immediately adjacent to the Road. Visitors will use the sites along the highway-spine for active investigation of natural resources and qualities, while the cultural and historic qualities will be explored in the adjacent and nearby towns (SOIP, 1998).

Planned interpretive experiences envisions two main (2) visitors centers that anchor the Route, one at each end of the Corridor, as well as several vista points and scenic overlooks along the Route.

Visitors Centers The original interpretive program called for two (2) major visitor's centers to anchor the ends of the Route. Potential locations originally proposed were the road workers House in Mayagüez, located on Route PR-2 adjacent to the main entrance of the University of Puerto Rico Mayagüez Campus, and Hacienda Columbia on Road PR-3 in Maunabo.



Ruins of Columbia Hacienda, Road PR-3, Calzada Ward, Maunabo

This vision of establishing the visitors centers at rehabilitated existing buildings, is adopted by this CMP Update. These spots are considered historical sites that can be adapted to interpretative purposes. These structures are considered in ruined condition. Although their beauty is still present, a structural engineering inspection should be conducted to determine the use(s) the properties may serve. Its uses as a visitor center should not be discarded, as there are several successful examples in the Island where historical ruins have been used to host new uses, in the structure itself or adjacent to it. Then, the historical structure constitutes an attraction itself, and lends the site a historical aura creating a special energy.



Ruins of La Lucía Old Sugar Mill, Camino Nuevo Ward, Yabucoa. Photo courtesy of Archeologist Eminett Jiménez.

The visitors center of *Corporación Mabodomaca*, located besides the ruins of the Old Hermitage San Antonio de Padua de la Tuna in Isabela is a great example of a visitor center adjacent to a historical ruin.

This NGO founded in 1988 made of this hermitage a tourism, educational and cultural site that enhances the value of this site in the historical context of the Municipality of Isabela. The visitors center is a small modern structure that harmoniously complement the historical site providing an exposition of related antique objects and offering interesting guided tours by their volunteers.



Ruins of Old Hermitage San Antonio de Padua de la Tuna in the Coto Ward in Isabela. Brochure of *Corporación Mabodomaca*. (*Corporación Mabodomaca*, 2020)



Refer also to discussion in **Section 7.3.5 Socioeconomic Development Goal**, under topic Lodging Availability where other similar successful projects are provided as example.

Hacienda La Lucía, located on Road PR-901 at Camino Nuevo ward in Yabucoa, should also be considered. Although in ruins, these structures (La Lucía and Columbia former haciendas) are not vandalized and offer adjacent green areas. Ownership of Central Columbia was not clear at the time in which this CMP Update was being prepared, while for Central La Lucía, the Land Authority was identified as its owner. Common to these properties is the potential contamination associated to past industrial uses. Corresponding Environmental Site Assessments should be performed to discard contamination issues before any land transaction can be done.

Other potential site which viability should be considered is the road workers House located on the Road PR-14 Asomante ward in Aibonito. This structure has served several uses including shelter during hurricanes and jail. It was intended to be used as visitors center for the Panoramic Route in 1990's, as it is located very close to the Route. A sign was installed in its front area with the Route symbols. This structure was

rehabilitated in 2000 and used as museum by the Municipality of Aibonito for a short period. It is currently closed and structure looks recently painted.

Additional information centers were proposed by the 1998 CMP through agreement with other entities. One of them, Casa Pueblo, involved an agreement to provide information about the Panoramic Route. As indicated before, Casa Pueblo is a community self-managed project that is committed to the appreciation and protection of natural, cultural and human resources. Casa Pueblo headquarters are in Adjuntas close to the town square, at a restored historic house. This organization is considered among potential key stakeholders because their objectives closely relate with the purposes of the Panoramic Route, and due to their uninterrupted work for the last 30 years. Casa Pueblo constantly receives an important number of visitors at their headquarters (open 7 days a week) and at the project sites which this ONG administers like the Bosque Escuela (School Forest) and the Bosque del Pueblo (People's Forest). The agreement with Casa Pueblo should be confirmed and validated with representatives of Casa Pueblo. Products from the interpretive program should be provided to Casa Pueblo like Route proposed brochure and link to their webpage (www.casapueblo.org) at the website to be created for the Panoramic Route. (Refer below to the discussion of these strategies as part of the interpretive and marketing programs respectively.

“Interpretive venues on, or adjacent to, the Panoramic Route must encourage users to get out of their cars and experience the sites, smells, sounds, tastes and textures of the natural and cultural history of Puerto Rico.” (SOIP, 1998)

Vista Points - Vista points are "quick stops" on the road to admire the view, as defined previously. These are opportunities for visitors to get out of their vehicles and enjoy a beautiful viewshed. Signage would describe location of vistas, what is being seen, local intrinsic qualities and a welcome from the local community. Worth to note is that these sites should be completely viewed from the road, to avoid cars to hide propending to illegal or criminal activities.

Scenic Overlooks - Two (2) scenic overlooks are located throughout the Panoramic Route, as indicated before: Piedra Degetau at Aibonito and Villalba - Orocovis, at the boundary of both municipalities. These sites were originally selected for its location, viewsheds and natural resources. The purpose of scenic overlooks is to encourage visitors to spend an extended period enjoying the area. Overlooks are landscaped to include viewsheds as well as parking, signage, picnic tables and benches, a shaded pavilion, restrooms, and interactive experiences or trails.

The scenic overlooks are operated under agreements with the host municipalities. The DTPW has entered into an agreement with municipalities for the operation of the two (2) scenic overlooks of the Panoramic Route: Piedra Degetau and Villalba - Orocovis. The first one was transferred by the DTPW to the Municipality of Aibonito. Currently a restaurant is established in this place, which is administered through a public private agreement with the Municipality of Aibonito. The second one is currently operated and maintained by the Municipality of Villalba.



Villalba-Orocovis Scenic Overlook, view southward (2017)

The principles that guided the development and design of the scenic overlooks should be mentioned: While the scenic overlook facilities serve a variety of visitors' needs, the interactive experiences should transform the overlook from a passive to an active

experience. Using all their senses, families and individuals should have direct contact with the cultural landscape and natural resources of the Island. Creating personal connections between the visitor and the landscape, these encounters should foster additional exploration along the Route and instill a sense of stewardship for these resources. The following points were considered:

- Brevity: Families unfamiliar with these opportunities may not have planned a lengthy detour.
- Fun: Why not?
- Low-tech, low maintenance: these short encounters should require little staff time.
- Interactive.
- Site-specific: Addressing the local intrinsic qualities found on the site.
- Based on the key elements and attractions of the Panoramic Route.
 - water/watershed: canals, waterfalls, streams, springs coffee, trails through different types of vegetation flora and fauna: nature walk
 - sound playground: sound of prevailing winds and running water
 - greenhouses: walkthrough indigenous plants
 - sensory trails: walking trails to explore textures and scents of vegetation
 - vista walks: featuring different nature observation techniques and equipment

Location of existing and potential sites for vista points and scenic overlooks along the Route are shown in **Figure 4-30**. A description of these sites is included in **Section 4.3.5.2 Existing and Potential Scenic Overlooks and Vista Points**. This CMP Update keeps the concept proposed in the sketches presented in the 1998 CMP Scenic Overlooks and Interpretive Program. Refer to **Figure 4-31** and **Figure 4-32**. The final design should obviously comply with current standards and building codes.

The following actions are proposed to develop the interpretive program, including interpreting facilities and services, developing marketing media based on interpretive stories and publications.

Interpretive Cohesive Facilities and Services (following guidelines from SOIP)

- Rehabilitation of existing scenic overlooks: Villalba-Orocovis and Maravilla
 - Identify funds to rehabilitate existing scenic overlooks (Villalba-Orocovis, Maricao Stone Observation Tower and Maravilla)
 - Request for Proposals (RFP) for design and permits for rehabilitation works at Maravilla Scenic Overlook and Maricao Stone Observation Tower.
 - Design renovation and get corresponding permits for Maravilla.
 - Issue an RFP for rehabilitation works for Maravilla and Maricao Stone Observation Tower. The RFP may include that contractor should make a recruitment offer among residents of adjacent communities.
 - Issue an RFP for renovation works at Villalba-Orocovis Scenic Overlook. RFP should include that contractor should make a recruitment offer among residents of adjacent communities.
- Make agreements with NGO potential stakeholders with headquarters along the Route to provide information about the Panoramic Route, through brochures as well as through links to the proposed website.
- In coordination with NGO potential stakeholders in corresponding municipalities make an evaluation of potential visitors' center on or adjacent to historical structures (Hacienda La Lucía in Yabucoa or Hacienda Columbia in Maunabo and Road Workers House in Mayagüez. These visitors' centers should have a dual function: current NGO's potential stakeholders community activities and Panoramic Route visitors centers.
 - Identify funds to certify property owners and to conduct Environmental Site Assessments in each potential site (Yabucoa or Maunabo and Mayagüez).
 - Request for Proposals (RFP) for design and permits of visitors' centers.
 - Design structures and get corresponding permits.

- Issue an RFP for construction works. The RFP should include that contractor should make a recruitment offer among residents of adjacent communities.
- Development of potential scenic overlook or vista point sites (sites identified in **Section. 4.3.5.2 Scenic Overlooks and Vista Points**)
 - Identify funds to certify property owners of potential overlooks or vista point sites.
 - Identify funds to develop scenic overlooks or vista points. A vista point may constitute a first phase of an eventual scenic overlook.
 - Perform basic maintenance (trimming and clearing view if blocked) and place sign identifying site.
 - Eventual development as scenic overlook or vista point should be consulted with adjacent communities and identify potential NGO stakeholders to co-administer.

Developing marketing media based on interpretive stories

Closely related to the interpretive program are formats and media related to marketing. They include the use of brochures, podcast tours and a weekly updated website and social media networks. Strategies for these tools are discussed in **Section 7.3.5 Socioeconomic Development Goal**.

Publications

The Panoramic Route Steering Committee should contact professors from the University of Puerto Rico to have them use the Panoramic Route theme as potential object of the design and investigation projects performed by students. The purpose is to nurture the diverse components of the interpretive program. Private universities may as well be interested. Potential departments to participate in this are: history, anthropology, geography, natural sciences, tourism and education. Learning and investigations projects should be based on the key stories proposed in the SOIP:

- A Route of Traditions
- A Route of Many Uses

- The Green Lungs and Spine Across Puerto Rico
- A Route we Must Care For

Although key stories are proposed as a starting point, others may arise as part of the student's creative stories. The Tourism Company has proposed: A sustainable Destination, A Hidden Treasure, A Hidden Diamond, A Window to Puerto Rico, The Colors of Puerto Rico and Puerto Rican Landscape. Publications will be published on the website and students and professors acknowledged in it.

Outreach Program

The following strategies are recommended as part of an outreach program, to be implemented by the Council and the Panoramic Route Steering Committee.

- Provide press kits to the media in order to provide the background for current issues and topics that assist journalists when reporting on events occurring as part of the implementation of this CMP, as required.
- Notification to the media about the opportunities for participation of various sectors of the community in activities of different nature that would take place as part of the implementation of this CMP.
- Press conferences that bring together media representatives and editors on events to be held and significant issues as part of the implementation of this CMP.
- Invite representatives of the press to a field trip to obtain first-hand knowledge of specific topics on the Panoramic Route.
- Radio and television appearances by key Council members and Panoramic Route Steering Committee to publicize the discussion of various topics related to the Panoramic Route, which may include threats to their resources, and initiatives to protect them. Video production for these same purposes.

Formal Education on the Values of the Panoramic Route - The material to be developed as part of the interpretative program should be presented to the Department of Education as a resource to incorporate into the content of current curriculum at different school grades.

“Education is a natural process carried out by the child and is not acquired by listening to words but by **experiences** in the environment.” María Montessori (1870-1952) Italian educator and originator of the educational philosophy that bears her name.

Living experiences should be provided to the students as part of the tools to implement this area of the curriculum. This is additional to the other educational ideas proposed for the Department of Education vocational program and the University of Puerto Rico as part of the strategies under the Preservation Goal, Aesthetic and Maintenance topic.

Note that the webpage will be focused to different types of users. Private schools can also benefit from the curricular material developed that can be posted in the webpage.

Students can also be exposed to educational material related to the visual environment. An interactive tool worth mentioning is the ViewFinders program, an interactive tool developed by the Dunn Foundation and Scenic America (<http://www.view-finders.org>). This tool exposes the user to the concept of visual pollution in a simple but eloquent and dynamic manner. Note that this tool can also be presented to key forums. A hyperlink to the ViewFinders program may also be provided in the webpage.

The Panoramic Route Steering Committee should contact representatives from the Department of Education, Academic Affairs Office, to inform about these resources when available. Associations of private schools should also be informed.

Identify and Reach Key Forums – The Panoramic Route Steering Committee should identify current key forums where existing or potential stakeholders coincide as opportunities to increase awareness on the Panoramic Route. Examples of such forums are the meetings from the Mayors Association, Mayors Federation, and Inns Owners Association (*Asociación de Dueños de Paradores*), among others.

The Panoramic Route Steering Committee should contact representatives from these key forums, to incorporate the Panoramic Route theme opportunely in any of their meetings. These expositions should be short and motivating.

These opportunities may also help to expose the CMP implementation progress and may also serve to share criteria, management tools, experiences and resources to manage roadsides and intrinsic quality resources. On the government sector, this may benefit Panoramic Route municipalities and others that are not part of it, as strategies for the Route may well apply to any other municipalities in the Island rural areas.

“The love of one’s environment is the secret of social evolution.” María Montessori (1870-1952).

Education Program to Improve Services to Visitors - The Tourism Company offers free workshops to private and public entities that work on the tourism market, including courses aimed at educating on the quality of services to tourists. Other topics include conversational English and gastronomy, among others. The Tourism Company representative at the second meeting held for this CMP Update expressed its willingness to offer these workshops specially for Route stakeholders, with previous PRHTA coordination (**Section 5.6.2**, Results of Strategic Meetings). The Panoramic Route Steering Committee should contact representatives from the Tourism Company to offer workshops aimed to improve the quality of services to tourists.



Interior of Maricao Observation Tower, Maricao Afuera Ward, Maricao

7.3.5 Socioeconomic Development Goal

The archeological, cultural, historic, natural, recreational, and scenic resources located along our Panoramic Route provide the attractiveness for visitors to develop a robust community tourism economy. Besides these resources, the Panoramic Route offers a wide variety of possible experiences for visitors of all generations. Currently, the primary visitors to the Panoramic Route continue being local and metropolitan area residents, with highest concentration during the weekends. Worth mentioning is a recent trend of using private mass transportation services to tour *chinchorros* located in the rural areas of the Island, including sites at the Panoramic Route.

Socioeconomic Development Goal - To stimulate communities social and economic development along the Panoramic Route by providing the framework for investments aimed at tourism activity in accordance with Route preservation and education goals.

The Panoramic Route existing features are certainly attractive to international tourists as well. The following statistics from the Traveler Profile 2017, provided by the Planning Board, reflects interesting data that supports this potential. This publication presents the information collected through the "Travelers Survey questionnaire" provided to a population sample that includes travelers visiting Puerto Rico and residents of Puerto Rico when traveling to another location.

A Visitor Profile results from the analysis of the data. This is used as a tool to measure a few aspects of Puerto Rico's economic behavior.

- During 2017, the main purpose of most visitors surveyed on their trip to Puerto Rico was for vacations.
- These visitors came to Puerto Rico for vacations and stayed mostly in hotels and in the homes of family and / or friends. Approximately 50 percent stayed in hotels while around 25 percent stayed in the homes of family and / or friends. Approximately 2 percent stayed in bed and breakfast.
- In 2017, visitors who came to the Island on vacation stayed mainly in San Juan, 42.0 percent; Carolina, 11.5 percent; Río Grande, 5.3 percent; Fajardo, 3.6 percent; Dorado, 2.4 percent; and Bayamón, 2.3 percent.

SOCIOECONOMIC DEVELOPMENT STRATEGIES:

- Marketing Program
- Strategic Alliances
- Periodic Activities Offer
- Lodging Availability
- Potential Route Extensions
- Loops to interconnect the Route

Certainly, the current pandemic status associated to Corona Virus is affecting tourism trends in Puerto Rico and in the rest of the world. According to an international dialog sponsored by the Puerto Rico Outdoor Recreation Industry Association (PRORIA) tourism industry in any country becomes more vulnerable as it depends on international markets. Therefore, we may see a global trend for further growth in domestic tourism. The Route offers a great diversity of attractions that allow the enjoyment of open natural spaces according to recognized suggested measures to avoid contagion by Corona Virus.

The current audience, mainly local based, can be expanded through an enhanced and coordinated interpretation, transportation safety, accessibility, and the implementation of marketing plans. All these are strategies that have been delineated as part of the previous topics in this chapter: preservation, safety, education and information. A potential market segment for that expansion may be the Puerto Ricans living outside the Island. As highlighted by the 1998 CMP, the Route provides an important gateway to a "return to your roots" experience for those Puerto Ricans who come to the Island on vacation or to visit relatives. An enhanced Panoramic Route (preserving its surroundings and providing its natural and historic interpretation) provides that desired welcome.



Allamanda (Canario) flowers

“Visitors economy offers an important platform for individuals, family groups, small businesses, and even communities; while embarking on different business activities such as cuisine, technology, lodging, etc. - located in different regions of the Island, and implemented according to an economic strategy that creates a large ecosystem.” (Foundation for Puerto Rico, 2019)

Tourism has been promoted by the Department of Economic Development and Commerce (DDEC by its acronym in Spanish) as one of the strategic sectors for the Island economic development. Independent entities, like Foundation for Puerto

Rico¹⁸, an NGO dedicated to promoting visitors economy, believe that a strong visitor economy is the most precise strategy for the short-term development of Puerto Rico. As summarized by this NGO, the economic activity generated by the visitor economy contributes to many different sectors of the economy, beyond tourism. Its impact has a multiplying effect, with a large-scale potential, prompted by the visitor, that is distributed throughout the economy, and thus supports the creation of jobs, infrastructure development, and community development.

Culture, as a fundamental part of the tourism offer, is also recognized as a key resource for a sustainable economic development. The United Nations System has recognized culture as a fourth pillar of sustainable development, along with economic, social and environmental (*Instituto de Estadísticas de Puerto Rico*, 2016). According to the United Nations World Tourism Organization (UNWTO) (Chwez Traveller. 2019), cultural tourism accounts for 37 percent of global tourism and it will continue growing at a rate of 15 percent each year.

“Puerto Rico can use its enormous cultural wealth to expand the possibilities of the sector as an engine of development. For this, the sector needs to be strengthened, its markets expanded and synergy with other sectors promoted.” (*Instituto de Estadísticas de Puerto Rico*, 2016)

Investment in culture and creativity has proven an excellent means for revitalize the economy of cities according to the United Nation System Task Team on the United Nations Development Agenda. Today, many cities use cultural heritage and cultural events and institutions to improve their image, stimulate urban development, and attract visitors and investments. According to this source, most middle-income

countries are developing vibrant culture sectors and initiatives and request assistance in this area. The following words are quoted from this report:

“Culture-led development also includes a range of non-monetized benefits, such as greater social inclusiveness and rootedness, resilience, innovation, creativity and entrepreneurship for individuals and communities, and the use of local resources, skills, and knowledge. Respecting and supporting cultural expressions contribute to strengthening the social capital of a community and fosters trust in public institutions. Cultural factors also influence lifestyles, individual behavior, consumption patterns, values related to environmental stewardship, and our interaction with the natural environment.”

A small-scale example of culture and creativity to revitalize the economy of a city has been experienced in the Municipality of Cayey, with its cultural initiative at the Cayey Music Historical House (Casa Histórica de la Música Cayeyana). This house, built by mid XIX Century, was acquired (2003) and restored by the municipal government. The purpose of this initiative is to rescue and document the musical history of Cayey.

This self-sustainable project is administered by its volunteers. Local music instruments classes (*cuatro*, guitar, *güiro*, *bongó* and *barriles de bomba*) and guided tours among other free services are provided by this group of volunteers. Bohemian nights are offered every Fridays and Saturdays. However, it is not a unilateral presentation, at this place its guests feel like a visitor in a friend’s house, where



Cayey Music Historical House (Casa Histórica de la Música Cayeyana). Original cement tiles in the Cayey Music Historical House. Photo courtesy of Volunteers from Cayey Music Historical House

¹⁸ Foundation for Puerto Rico (FPR) is a 501(c)(3) public charity founded in 2011 that promotes opportunities for social and economic development in Puerto Rico mostly focused on promoting the visitor economy and transforming Puerto Rico as a destination for the world.

visitor musicians share their talents. The volunteers sell refreshments, cocktails and appetizers as well as memorabilia to economically sustain the project. Even when the historical house was inaugurated (2017) with the town square closed and under construction, this initiative may have influenced other economic activities in its surrounding (gastronomic and nightlife) as well as renovation of commercial/residential structures.

The keys of this successful initiative are:

- Commitment and passion of their volunteers
- Quality and maintenance of the physical facilities
- Reliability on their offerings (music classes, cultural center and bohemian nights among others) are periodically offered, on a weekly basis
- Cultural offerings nourished also by the talents of its visitors
- Historical structure constitutes an attraction itself and provides a special energy to the site.

According to Haghkhah *et, al* (2011) the community tourism industry is, quite simply, the collection of local businesses and people that create and sell a variety of goods and services to visitors. However, it is also stated by this author that the quality of the places and services are important to develop a tourism industry in a region. The following paragraph summarizes the study conducted by Haghkhah *et, al* (2011) on the impact of service quality on the tourism industry.

The main purpose of this study was to investigate the impact of service quality on tourism industry' satisfaction and revisit on tourism industry. The importance of the tourism industry and the concept and dimensions of service quality was reviewed initially and then the impact of service quality in tourism and customer satisfaction was studied specifically. Finally, the theoretical model of the research indicating the dimensions of quality in tourism was provided. The results from the research showed that such dimensions as quality of accessibility, accommodation, venue and their components contribute directly to the satisfaction of tourists, their intend to return and

eventual development of tourism industry in a region, which should be considered highly by managers of this industry.

Based on the above discussion, the sites and services quality are key to attract visitors (internal and external) to the Route destinations and to promote their return. This is consistent with the finding previously discussed from Sipes *et. al*, (1997), which states that scenic byways must be of **high-quality** to gain a favorable response from traveler. Worth mentioning are other elements that contribute to this favorable response, all considered on previous strategies:

- **Marketing** plays a very important role in creating positive benefits.
- **Signage** plays a very significant role in safety and “user friendly” characteristics.
- **Tourism**-related industry is ready to receive or support traffic growth for positive economic benefit to occur.

The successful implementation of the previous goals and objectives (Preservation, Safety and Education/Information) is key to secure the quality of the Route, and is the main strategy proposed to meet the CMP Socioeconomic Development Goal.

Note that an improved Panoramic Route is what represents the potential for socioeconomic development. As conceived by the 1998 CMP an improved Panoramic Route would provide significant social, commercial and recreational opportunities for the adjacent communities. It is important that local residents develop an owner relationship with the Route and can easily use its resources, because in many ways the local communities are not only the users, but also the “providers” of the Puerto Rican experience (CMP, 1998). With appropriate coordination and communication along the Route, the residents along the Route will develop augmented audiences for their own

programs, sites and festivities and patron saint festivals. The enhanced Panoramic Route (with its expanded visitors) will offer to its residents a new forum and a new voice for their stories of coffee, sugar, sea, and forests (CMP, 1998).

The concept of tourism routes is increasingly being developed in world tourism destinations. Tourist routes are a way of organizing an area and developing a concept or theme (eg gastronomic route, agrotourism route, hiking route, etc.). The Panoramic Route constitutes itself a "route" (scenic) with tourism value. The Panoramic Route can be considered the oldest "route" concept in Puerto Rico. Within the Route there are municipalities that also have other tourism routes, predominantly gastronomic. Due to its great extension and number of attractions, the Route has the potential to become a destination (supra regional) that can be explored to discover other destinations within the Route (concept of destinations within the destination) of smaller scales (municipalities, tourism routes or attractions).

Marketing Program - The following marketing tools are proposed as part of the marketing program to promote the Route: brochure, podcast tours and website/social networks. They all should be based on the interpretive program as discussed in **Section 7.3.4 Strategies for Education and Information Goal**. They should as well be sensitive to language and culture, as it is directed not only to our local audience but to an international audience.

Brochure – Print media is an effective strategy to reach prospect visitor in today's digital era, in which market has become saturated with online advertisements and email marketing (Modern Litho, 2019). The Panoramic Route Brochure will serve as a description and an advertisement for the Panoramic Route.

It should be available at the visitor centers, overlooks, inns and hotels and other local tourist sites (e.g., strategic recreational sites), The Brochure will introduce visitors to the Route and its major themes. It should include a map which outlines the regions and serve as a trip planner. Several versions should be prepared emphasizing on specific regions.

Podcast Tours – A podcast is a digital audio or video file or recording that can be downloaded from a website to a media player or computer. Podcasts have been

successfully used in different tourism attractions worldwide. As they can be produced as themed series, different aspects of the interpretive plan could be provided as guided tours related to its intrinsic qualities (i.e., scenic, archaeological, cultural, historic, natural and recreational).

Website and social networks – There is no doubt that the World Wide Web (WWW) is the most cost-effective way to promote any enterprise or initiative. This is an essential tool to promote the Route and its intrinsic resources to a myriad of users that ranges from visitors and students to Route inhabitants and stakeholders. The following points should be considered in the development and maintenance of this website:

- Designed to look nice.
- Be easy to navigate.
- Fast web hosting to navigate and download documents quickly.
- Responsive web design that adjusts to multiple device types (e.g., mobile phone, desktop computer, tablet etc.).
- Be updated weekly (activities) to keep it relevant and useful.
- Should appeal different kind of users (e.g., elemental, middle and high school grades students, municipal representatives, agencies representatives, visitors, Route inhabitants and university students, among others).

The webpage content should at least provide:

- The byway story and interpretation of its resources in the context of the defined regions (e.g., Stone Forest Region, Highlands Region) in an interactive, simple and attractive manner.
- Weekly updates on activities (e.g., cultural, recreational, etc.) at sites on the Corridor and adjacent areas along the municipalities that comprise the Route.

- Updates on improvements works along the roads that comprise the Route and its Corridor.
- Call for public participation.
- CMP implementation progress.
- Interactive maps of the Panoramic Route and its loops.
- Educational resources aimed to the diverse audience it will have (e.g., elemental, middle and high school grades students, municipal representatives, agencies representatives, Route inhabitants and university students, among others)
- Restricted link to interact with stakeholders.

Related to the last point in the previous list, a restricted special area on the website should be dedicated to the partners or stakeholders. The purpose is to address topics related to the Route improvement, resources available for stakeholders and other that are transparent to the Route visitors. Examples of this may include educational tools, and opportunities for grants applications, technical assistance and/or trainings relevant to the Panoramic Route purposes. Hyperlinks to other websites related to the topics relevant to the Route can also be provided.

Social networks platforms (e.g., Facebook, Instagram etc.) should also be updated weekly to keep them relevant and useful.

Activities at sites on the Corridor and adjacent areas along the municipalities that comprise the Route, should be shared as well as updates on improvements works along the roads that comprise the Route and its Corridor.

The Panoramic Route Steering Committee should open a competition among university students to design the brochure and website. The selected designs should be

acknowledged and outreached. Students should also be compensated economically. The website will be updated by the Panoramic Route Steering Committee.

Marketing initiatives like brochure and podcast tours should start after key milestones are reached on Preservation and Safety goals. This should be agreed with corresponding responsible members of the Panoramic Route Protection and Management Council.

It is important to coordinate the proposed marketing initiatives with Puerto Rico Destination Marketing Organization (DMO). A DMO is a non-profit entity in charge of promoting a destination while enhancing the long-term economic development of nearby communities through travel and tourism. DMOs exist globally and every major destination relies upon these organizations to grow its visitor economy. Discover Puerto Rico is the official name of the Puerto Rico DMO, and it is responsible to internationally promote leisure travel, meetings, conventions, and events through an integrated strategy. Through synergistic efforts and an aligned vision for the destination, the DMO intend to accelerate our visitor economy as a key driver to the Island's economic growth.

Panoramic Route Steering Committee should establish a close coordination with Puerto Rico DMO to market the Route to outgrowth tourism activity and associated economic development opportunities compatible with the goals of the Route.

Additional approaches are proposed to contribute to the quality of the Route, the main strategy proposed to meet the CMP Socioeconomic Development Goal: strategic alliances, periodic activities offer and lodging availability.

Strategic Alliances – Strategic alliances should be established with other initiatives aligned with the goals of the Route, as indicated in **Section 7.3.1** key Actions. The

Panoramic Route Steering Committee should identify ongoing community initiatives aligned with the goals of this CMP Update to provide tools to identify grants, human resources and/or other resources that may support their enterprises. These initiatives could be, for example, on ecotourism, agriculture and heritage tourism, just to mention a few. The purpose is to strategically knit together the community and private efforts aligned with the goals of the Route. Priorities shall be given to projects which integrate preservation of buildings and/or lands. For example, the following proven entities engaged with projects that are compatible with the Route like Foundation for Puerto Rico, Bosque Modelo, Casa Pueblo, Caminata Panorámica Arquitecto Gabriel Ferrer Amador, Fideicomiso de Conservación, and Amigos del Bosque de Toro Negro among other important initiatives in municipalities along the Route. These alliances and their projects should be promoted in the proposed webpage and social networks.

Note that different policies from current laws and regulations, as reviewed in **Chapter 5** (Government Policies and Actions Review), promote maintenance, improvement and development of different resources from natural and constructed infrastructure that should contribute to the enhancement of the visitors experience, as well as improvement to the residents quality of life. Therefore, the enforcement of such policies is fundamental to reach its purposes.

Periodic Diverse Activities Offer - Promote diverse cultural activities inviting resources as professors and students from cultural related departments of the University of Puerto Rico and other universities in the Island (e.g., the Theater Department Music Department, Fine Arts Department and other). More than making performances, recitals, or exhibitions it should involve workshops to interested persons through current community groups. Resources may organize performances, recitals and/or exhibitions with the new talents. Scientific NGO's is another group that may be involved, like the Puerto Rico Ornithologist Society (Sociedad Ornitológica de Puerto Rico) (e.g. bird watching activity - Pajareando) or the Astronomy Society of Puerto Rico (e.g. observation of stars and planets in dark sky areas - Observation Nights).

These activities should take place at sites along the Route. Other similar ongoing periodic cultural initiatives can also be identified and supported through the proposed

webpage. The quality as well as the reliability in terms of its periodicity are important to establish a constant support from the public. (Refer also to the previous example from the Cayey Music Historical House which weekly offers local music instruments classes and guided tours in the house as well as bohemian nights.) Note that these activities may also include other fields of knowledge like science and agriculture. The Panoramic Route Steering Committee should identify human resources as well as funds to support this initiative.

Lodging Availability - Lodging availability is mandatory for the audience being “invited” to the Panoramic Route. More than new construction, the purpose is to encourage enterprises that reuse/rehabilitate existing buildings. There are successful rehabilitation project examples in sites that are out but close to the Corridor. One of them is the

rehabilitation of Hacienda La Mocha at San Patricio Ward in Ponce, a former coffee plantation that was transformed into a small inn and restaurant while restarting the agricultural activity. Municipal enterprises are also ongoing to rehabilitate existing structures for lodging like the Posada San Blás and Casa Efrén Bernier in the town square of the Municipality of Coamo. This project combines the rehabilitation of a former town Puerto Rican house with a new structure. The rehabilitated house will be used for a restaurant and activities center and the new structure will host a 19 rooms posada. This project was under construction at the time in which this CMP Update was being prepared.



Hacienda la Mocha Inn before and after, San Patricio Ward, Ponce. Photos by Job Bonilla (2014) and Hacienda La Mocha Face Book page.

Alternate hospitality is compatible with this vision, like AirBNB. This is a privately held global company headquartered in San Francisco that operates an online marketplace and hospitality service which is accessible via its websites and mobile apps. Members can use the service to arrange or offer lodging, primarily homestays, or tourism experiences. This program lets people rent out their

properties or spare rooms to guests. People can also offer tourism experiences. It is accessible to customers via its websites and mobile apps. There are photos of the property, and the hosts/guests, with full map and listing.



Posada San Blás and Casa Efrén Bernier in the town square of the Municipality of Coamo. Rendering by GA+NIF Arquitectos, Coamo, courtesy of the Municipality of Coamo Projects Construction Office, Coamo

The webpage of the Panoramic Route should have links from lodges within the Corridor to support this important service component. Their administrators may also benefit from the workshops that are proposed to be offered by the Tourism Company.

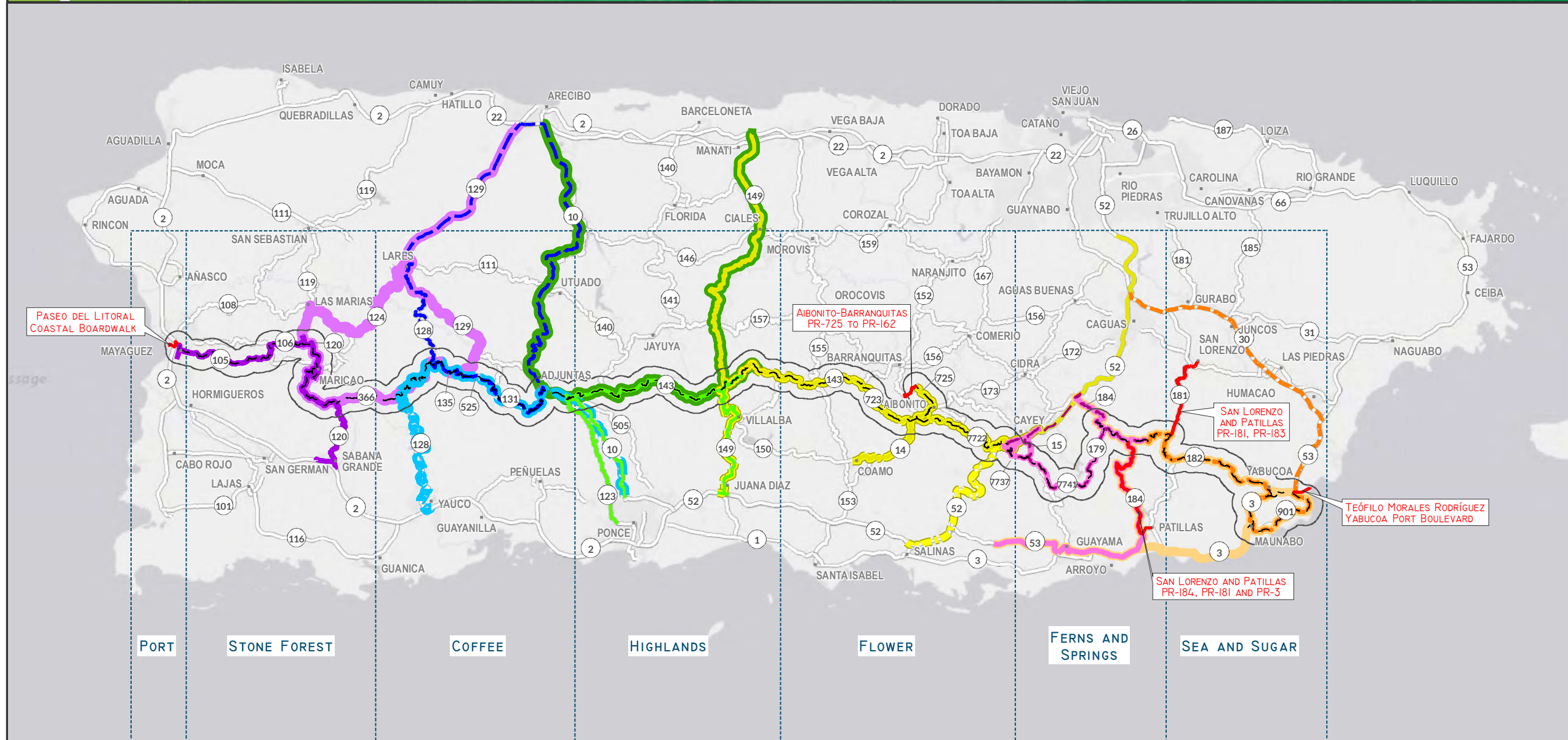
Panoramic Route Loops –This CMP Update keeps the strategy proposed by the 1998 CMP establishing road loops to approach the Route different interpretive regions from major feeder roads from north and south, respectively. The strategy proposes the preparation of brochures (virtual and hard copies) with maps illustrating half and full day visits to the Route for each interpretive region. These trips should be designed so that users may approach the Route from major feeder roads, enjoy the resources, stop at a restaurant(s) or *chinchorro(s)* and exit the Route to return to the point of origin (**Figure 7-1**).

As indicated before this CMP Update have kept the initial analysis of the Route and its intrinsic qualities that led to the planning decision to work with the Route by segments, or interpretive regions. The inventory update reflected that the intrinsic qualities resources and the story by-lines are still representative of these interpretive regions as summarized in the following bullets.

- The Stone Forest Loop focuses on by the Maricao State Forest and region.
- The Coffee Country Loop features the Guilarte State Forest and the area of Castañer.
- The Highlands Loop contains the Toro Negro Forest and Puerto Rico tallest mountains.
- The Flower Country Loop which includes the towns of Cayey, Aibonito, Coamo, Barranquitas, Villalba and Orocovis, with the highest concentration of cultural thematic routes, including the Flowers Route.
- The Springs and Ferns Loop of which the Carite State Forest (ID 189) forms part.
- The Sea and Sugar Loop which encompasses the eastern portion of the Route with views to valleys where former sugar mills were located and views to the Caribbean Sea.



CMP PANORAMIC ROUTE
FIGURE 7-2. ROAD LOOPS TO REACH THE ROUTE AND PROPOSED PANORAMIC ROUTE EXTENSIONS



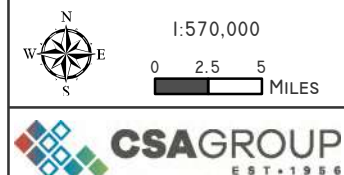
- PANORAMIC ROUTE
- PANORAMIC ROUTE 1 MILE CORRIDOR
- INTERPRETATIVE REGIONS
- ROADS

- PORT AND STONE FOREST NORTHERN LOOP
- PORT AND STONE FOREST SOUTHERN LOOP
- COFFEE NORTHERN LOOP
- COFFEE SOUTHERN LOOP

- HIGHLANDS NORTHERN LOOP
- HIGHLANDS SOUTHERN LOOP
- FLOWER COUNTRY NORTHERN LOOP
- FLOWER COUNTRY SOUTHERN LOOP

- FERNS AND SPRINGS NORTHERN LOOP
- FERNS AND SPRINGS SOUTHERN LOOP
- SEA AND SUGAR NORTHERN LOOP
- SEA AND SUGAR SOUTHERN LOOP
- ROUTE POTENTIAL EXTENSIONS

Source: Refer to Chapter 10, References.



An analysis of use of the Route by feeder roads produced a pattern of access to the Route. Thus, for management and interpretive purposes the Route was also divided into regions reached by six (6) different North/South loops. Each loop takes approximately a day to complete.

The proposed website and social networks may be tools to propose the challenge to users to complete the different regions of the Route and to share their photos. Both the Route as its loops should be available in interactive maps applications like Google Maps and Waze among others. The Steering Committee should make the coordination necessary to provide Route information to these applications providers.

Route Potential Extensions – The following potential extensions of the Route are proposed as part of the socioeconomic development strategies.

- Mayagüez - The coastal boardwalk Paseo del Litoral (ID 209) may represent an opportunity to extend the Panoramic Route on its western end. Paseo del Litoral, 1.5 kilometers away from the Route western end is considered an outstanding scenic resource that offers stunning views from the western coast and its sunset, while permanently offers sports, recreational and cultural activities. **Refer to Section 4.1.3.1 Port Region**
- Yabucoa – The Teófilo Morales Rodríguez Yabucoa Port Boulevard (*Boulevard del Puerto de Yabucoa Teófilo Morales Rodríguez*) (ID 216) represents another opportunity to extend the Route on the eastern end. This coastal complex was developed by the Municipality of Yabucoa, offering a coastal boardwalk and related facilities. This appealing boardwalk offers stunning views to the Caribbean Sea, the Port of Yabucoa and its adjacent Playa Lucía Natural Reserve.
- Aibonito-Barranquitas –Segment from Road PR-725 at Llanos Ward in Aibonito to Road PR-162 at mentioned ward allows users to enjoy the view to San Cristóbal Canyon (ID 121) from Road PR-162. There is also a site on Road PR-162 with abandoned structures where a potential vista point may be established. Worth mentioning is that this great natural landmark is not viewed

from the road as per the current roadway alignment. Therefore, this extension will add value to the Route making visible this natural beauty.

- San Lorenzo and Patillas – The proposed amendment to Law 71 – 1965 calls to add road segments to the Panoramic Route in the municipalities of Patillas and San Lorenzo to connect the Route with the urban centers of these municipalities. Proposed segments comprise roads PR-181 in the Municipality of San Lorenzo and roads PR-184, PR-181 and PR-3 in the Municipality of Patillas.

The Steering Committee should consult the municipalities involved.

Note: Although implicitly included the jurisdiction of the municipalities of San Germán and Yauco are within the Route. Road PR-120 at Guamá Ward and Minillas Ward, close to the Monte del Estado (ID 105) is within San Germán jurisdiction while Road PR-366 at Rubias Ward close to Yauco Potential Vista Point (ID 141) is within Yauco jurisdiction. Therefore, these municipalities should be mentioned and be part of the municipalities within the Council.



View from potential vista point at Road PR-162, Llanos Ward, Aibonito. View of abandoned houses at potential vista point at Road PR-162, Llanos Ward, Aibonito.
Photo courtesy of Rafael Falero.

8.0 Community Participation Program

Community participation is inherent to the spirit of the Panoramic Route Law. It is among the responsibilities of the Council for the Protection and Management of the Panoramic Route (the Council) to procure participation of communities in the different programs prescribed in the Panoramic Route Law (Section 2(A)2) to promote the tourism development and safety of visitors. They include:

- Programs to preserve resources of the Panoramic Route, including intrinsic qualities
 - natural
 - recreational
 - scenic
 - cultural
 - historical
 - archaeological.
- Awareness and education program

Other responsibilities of the Council related to public participation include to promote and facilitate participation and the creation and development of private non-profit organizations such as committees, associations, foundations or trusts for purposes related to the Panoramic Route Law (Section 2(A)4). The Council should hold public hearings anywhere in Puerto Rico, whenever necessary (Section 2(A)5).

The development of this plan was initiated through meetings with two (2) key focal groups, one of them the DTPW Regional Directors (from the regions that include the roads that comprise the Route) and the other a group of agencies and NGO's relevant to the Panoramic Route including the representatives of the agencies and municipalities that constitute the Council and the cooperative agencies, designated by the Panoramic Route Law (Law 71-1965 as amended). They were convoked by the PRHTA when the preparation of this CMP Update began. The group of NGOs were those identified at that moment. Refer to details on **Section 2.2** Guiding principles for CMP Update. A questionnaire was also circulated to the agencies and municipalities to obtain

information on their intrinsic qualities resources, activities and initiatives regarding the Panoramic Route.

This CMP Update was circulated to the agencies and NGO's that were convoked to these meetings, Comments received were evaluated and incorporated accordingly in this final edition.

This CMP Update have identified and emphasized on the multiple efforts being currently conducted by community not for profit groups in several scope of works that are compatible with the goals of the Panoramic Route (**Section 5.6.3** Key potential stakeholders). Although with different visions and missions, the works of the community groups that were identified agree with the purposes of this CMP Update. It has been demonstrated and acknowledged through this CMP Update that the different community groups are considered a strength for the Route. Therefore, proposed strategies in this CMP Update are intended to promote and support their work for the benefit of the communities they serve along the Route.



Bougainville (*Trinitaria*) at Road PR-143
boundary between Consejo Ward, Utuado and
San Patricio, Ponce

As it comes from its definition a CMP is intended to outline strategies to protect and enhance a byway's intrinsic qualities and character that define their byway corridor, through a community base approach.

Community potential stakeholders' involvement to implement the CMP have been identified in this CMP as a key action for the implementation of proposed strategies. To reach cooperative agreements with potential stakeholders is another proposed key action. Groups should be convoked by the Council, through the Panoramic Route Steering Committee. The role of this steering committee, which is another key action, is to coordinate with the Council and the DTPW regional directors, as well as with community stakeholders, to implement the strategies that are proposed in this CMP Update, which includes among others to pursue funds to support such strategies to preserve and manage the Route. Refer to discussion in the Strategies Section (Chapter 7) Section 7.3.1 Key Actions.

“If you want to walk fast walk alone. If you want to walk far walk together.” Ratan Tata (1937-) Indian architect, engineer, industrialist, and philanthropist.

The following tools are recommended, without limiting, in the community participation and involvement process, which should occur on a regular scheduled basis.

- One to one meetings and calls to stakeholders
- Public Workshops
- Public Survey about community values and concerns
- Stakeholders Focus Groups
- Online tools to provide regular updates and status of projects as they are completed.

9.0 Action Plan

This section proposes the action plan for the implementation of the CMP Update. It basically projects the steps and timeline to execute the strategies that are proposed to reach the goals that have been established to meet the Panoramic Route vision and mission.

As indicated in the 1998 CMP a plan is only as effective as its implementation. Therefore, strategies must be carried out and proposed guidelines applied for the vision and goals of the CMP to become a reality. Periodic revisions should also be done to this CMP in order to make adjustments as necessary.

If is exciting to think it,
imagine doing it (Pícalo,
2019). (*Si emociona pensarlo,
imagínate hacerlo.*)

**PANORAMIC ROUTE
VISION:**
**The Puerto Rico Panoramic
Route, a 163-mile corridor
linking the East and West
coasts by traversing the
mountainous Cordillera
Central, provides visitors of
all ages diverse
opportunities to explore the
Island's cultural, historical,
natural, scenic, and
recreational resources while
experiencing local traditions
and the rural way of life and
contributing to the social
and economic development
for this area.**

By virtue of the Panoramic Route Law (Law 71-1965 as amended), several agencies are responsible for the protection and adequate management of the Panoramic Route under the leadership of the DTPW (Section 2).

This Action Plan emphasizes the key actions approach that is proposed for the implementation of the strategies, as discussed in **Section 7.3.1** Key Actions. These key actions are proposed on the short, mid and long term, but are more specifically projected in the timeline matrix. The scheme in **Figure 9-1** shows an overall idea of the proposed action plan.

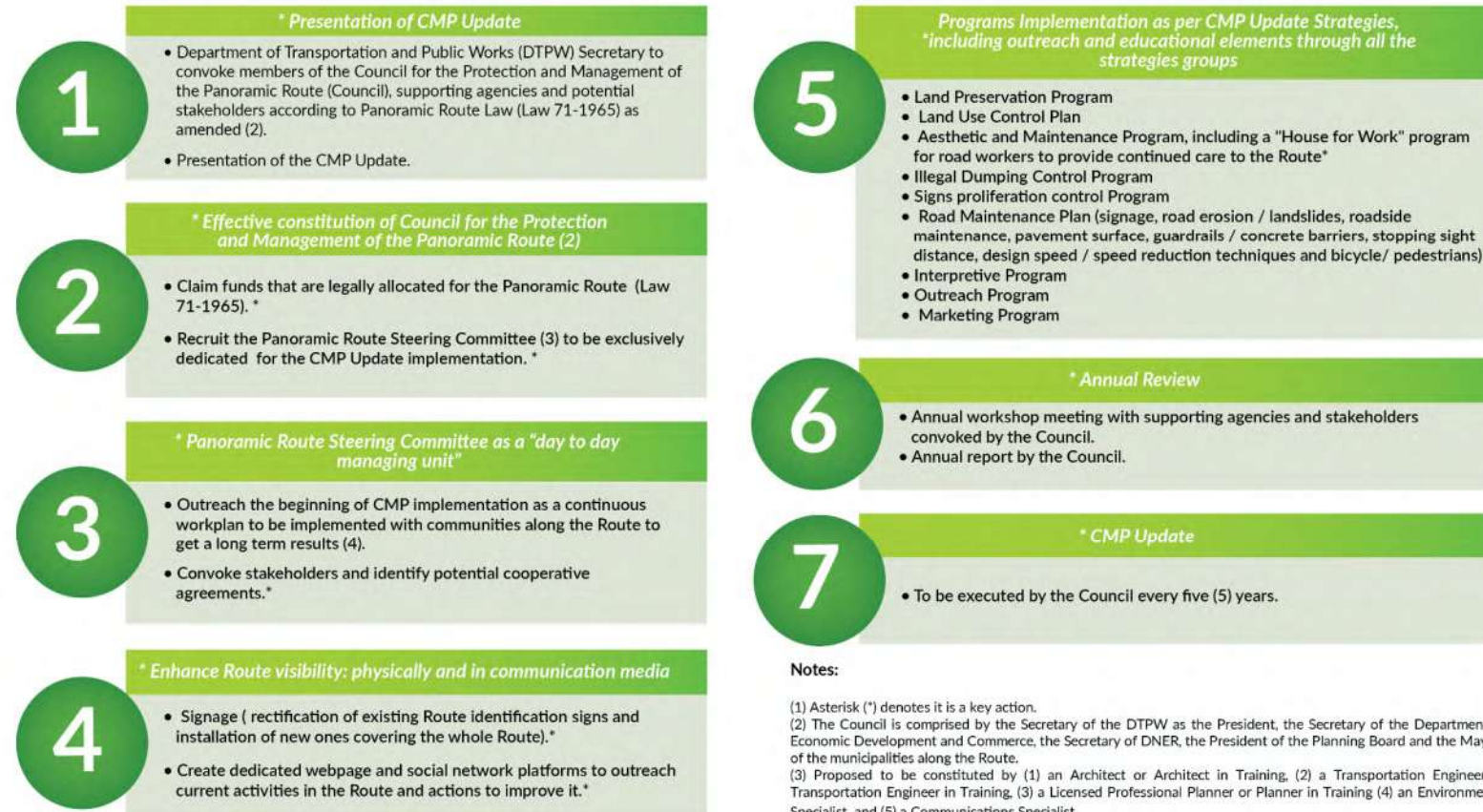
This CMP Update was circulated for the evaluation and endorsement from the representatives of the agencies that constitute the Council, as indicated before. The Council includes:

- Secretary of the DTPW as President
- Secretary of the Department of Economic Development and Commerce
- Secretary of the DNER
- President of the Planning Board
- Mayors from municipalities along the Route.

**PANORAMIC ROUTE
MISSION:**
**Serving as a gateway,
connecting the traveler to
other regions in a safe and
coherent manner, and
educating the user about
its resources, the Route
preserves and enhances
the natural beauty of the
interior of Puerto Rico
while becoming a source
of social and economic
development for this
area.**

Figure 9-1 Overall Action Plan Scheme

Overall Action Plan for Panoramic Route CMP Update Implementation (1)



Notes:

- (1) Asterisk (*) denotes it is a key action.
 (2) The Council is comprised by the Secretary of the DTPW as the President, the Secretary of the Department of Economic Development and Commerce, the Secretary of DNER, the President of the Planning Board and the Mayors of the municipalities along the Route.
 (3) Proposed to be constituted by (1) an Architect or Architect in Training, (2) a Transportation Engineer or Transportation Engineer in Training, (3) a Licensed Professional Planner or Planner in Training (4) an Environmental Specialist and (5) a Communications Specialist.
 (4) Initial outreach through radio, press, DTPW webpage and television

This CMP Update was also circulated for the evaluation and endorsement from the cooperative agencies, designated by the Panoramic Route Law (Law 71-1965), as amended.

A matrix is included in **Table 9-1** identifying the responsible parties to execute the different strategies that are proposed in this CMP Update.

An annual report should be issued by the Council on the achievements for each specific objectives of this Action Plan (e.g., if the specific objective has been achieved and if it has not been achieved, describe the status of the works performed to achieve it). The CMP should be updated at least once every five (5) years.

Table 9-1 CMP Implementation Matrix

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
Key Strategies	Establishment of the Council for the Protection and Management of the Panoramic Route (Council). The Council is comprised by the Secretary of the DTPW as President, the Secretary of the Department of Economic Development and Commerce, the Secretary of the DNER, the President of the Planning Board and the Mayors of the municipalities along the Route (21).	X	Secretary of the DTPW	2 nd Sem				
	Claim funds that are legally allocated to the Panoramic Route as per the Panoramic Route Law (Law 71-1965).	X	Secretary of the DTPW	2 nd Sem				
	Recruit the Panoramic Route Steering Committee to be exclusively dedicated for the CMP Update implementation. Proposed to be constituted by (1) an Architect or Architect in Training, (2) a Transportation Engineer, (3) a Licensed Professional Planner or Planner in Training (4) an Environmental Specialist and (5) a Communications Specialist. (Steering Committee should also participate in the Metropolitan Planning Organization (MPO's) meetings.	X	Secretary of the DTPW		1 st Sem			
	Convoke stakeholders and identify potential cooperative agreements with community groups and Municipalities.	X	Panoramic Route Steering Committee - Communications Specialist and Environmental Specialist		1 st Sem			
	Outreach the beginning of CMP implementation as a continuous workplan to be implemented with communities along the Route to get long-term results. Initial outreach through radio, press, DTPW webpage and television.	X	Panoramic Route Steering Committee - Secretary of the DTPW and Communications Specialist			1 st Sem		
	Enhancing Route visibility - Signage Plan. Entails adoption of signage plan proposed in this CMP Update by the PRHTA Traffic Engineering and Operations Area, detailed inspection and inventory of signs along the Route,	X	Panoramic Route Steering Committee - Transportation Engineer		2 nd Sem			

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	rectification of existing Route identification signs, removal of former signs and installation of new ones covering the whole Route, one region at a time. Two (2) regions should be completed by semester. Signage Plan is part of the proposed Road Maintenance Plan, detailed under Strategies for Safety Goal.							
	Enhancing Route visibility - Create dedicated webpage and social network platforms to outreach current activities in the Route and actions to improve it. Create brochure. Entails the following: identify funds, identify universities with programs related to webpage design and open a competition among university students for designs. CMP Update implementation progress should be outreached. For example, segments of the Route using the proposed signage and appropriate road improvements. A priority of the demonstration projects will be to improve the pavement conditions, including markings and reflectors, and install information and interpretive signage.	X	Panoramic Route Steering Committee - Communications Specialist and Environmental Specialist		1 st Sem			
	House for Work Pilot Program for roadside maintenance. Entails inventory of abandoned residential structures per municipality in one (1) interpretive region, identification of funds, acquisition of at least two, 2, properties in selected region, RFP for design and permits, recruit road workers and RFP for rehabilitation work.	X	Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect, Transportation Engineer with support from DTPW secretary		2 nd Sem			
	House for Work Program for roadside maintenance for remaining interpretive regions. Entails inventory of abandoned residential structures per municipality in each region, identification of funds, acquisition of at least two, 2,		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect				2 nd Sem	2 nd Sem

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	properties in each region, RFP for design and permits, recruit road workers and RFP for rehabilitation work.							
Preservation Goal – Land Use Control Plan	Issue a regulation that would set the base for the programs to be established according to the Panoramic Route Law.	X	Panoramic Route Steering Committee – All members with support from secretaries of the DTPW, DNER, Planning Board and Department of Economic Development and Commerce, respectively		1 st Sem			
	Follow up effective designation of the RE district along the margins of the Route (current proposed zoning maps amendment under Court consideration).		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from the Planning Board secretary		1 st Sem			
	Request amendments to RE district design parameters in current Joint Regulation (2021).		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from the Planning Board secretary		1 st Sem			
	Request modification of Planning Board MIPR application to include the scenic issues in the main menu and to include the Panoramic Route as one of the resources in this topic.		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from the Planning Board secretary		1 st Sem			
	Set up an annual education and orientation session for the members of the Council, including municipalities, and the OGPe to review the material related to the Panoramic Route, provide a background on its significance, information as to existing regulations, and the importance of their enforcement.	X	Panoramic Route Steering Committee		2 nd Sem			

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	Annual review of relevant zoning plans to include and consider the Panoramic Route Corridor.		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect		2 nd Sem	2 nd Sem	2 nd Sem	2 nd Sem
Preservation Goal – Land Preservation Program	Identify funds for land preservation for current inventory of lands that have been identified by the DNER under existing programs: Priority Conservation Areas and Forest Legacy Program (<i>Programa de Legado Forestal</i>) that lie within the Corridor,		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from secretary of DNER		2 nd Sem	2 nd Sem	2 nd Sem	2 nd Sem
	Private landowners identification and direct encouragement to adhere to incentives from the Conservation Easements Law (Law 183-2001). (Properties within the Corridor.)		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect		2 nd Sem	2 nd Sem	2 nd Sem	2 nd Sem
Preservation Goal – Aesthetic and Maintenance Program	Establish communication with NRCS representatives to support and promote their efforts for soil conservation and landscape restoration initiatives in such a manner that other farmers get informed of these programs and may adhere to them. Check if this program is extensive to other sectors (private nonagricultural property owners).		Panoramic Route Steering Committee – Environmental Specialist		2 nd Sem			
	House for Work Pilot Program (refer to Key Strategies section.)	--						
	Prepare a manual establishing the procedures for: abandoned cars, abandoned buildings, construction permits, roadside maintenance, report of sudden roadways conditions incidences (e.g., landslides), planting local vegetation. Share this information, as well as annual trainings for DTPW regional directors and mayors to share techniques and experiences.		Panoramic Route Steering Committee – Environmental Specialist and Architect					

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	Inventory improvement program (public intrinsic resources such as state forest recreational areas, etc.). Identify priority list, identify funds, contact potential human resources by means of agreements with vocational schools and universities.		Panoramic Route Steering Committee – Environmental Specialist and Architect		2 nd Sem	2 nd Sem	2 nd Sem	2 nd Sem
	Annual intrinsic resources inventory update.		Panoramic Route Steering Committee – Environmental Specialist and Architect			1 st Sem	1 st Sem	1 st Sem
	Survey among residents interested on trainings related to structures maintenance and improvement of landscape and facilities, to improve their own housing/commerce conditions.		Panoramic Route Steering Committee – Communication Specialist			2 nd Sem	2 nd Sem	2 nd Sem
	Inventory of non-congruent uses previously approved and proposal to public and private entities for mitigation actions.	X	Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect				2 nd Sem	
Preservation Goal – Illegal dumping prevention program	Coordinate an illegal dumping prevention program based on the mix of six (6) approaches suggested in Section 7.3.2 Strategies for Preservation Goal. Start by understanding the status of each municipality through their public works directors. Following tasks include engaging partners, identify areas in need of clean up, organize clean ups.		Panoramic Route Steering Committee – Planner, Communication Specialist, Environmental Specialist and Architect			2 nd Sem		
Preservation Goal – Control of illegal signs	Coordinate with the Planning Board to produce guidelines that help authorities to enforce current regulation. Coordinate with the Planning Board to produce material orienting commerce and sign related industries on current regulation to avoid proliferation of signs. Coordinate with the Planning Board to address issues identified in Section		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from secretary of Planning Board			2 nd Sem		

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	7.3.2 (Strategies for Preservation Goal) in future amendments to Joint Regulation.							
Preservation Goal – Program to Control Abandoned/Ruined Structures	Request inventory of structures in need to be demolished to municipalities and identify those structures in the Route. To identify and inform the property owners of the availability of Private Property Debris Removal and Demolition program. To share information to municipalities about land reuse opportunities through Center for Creative Land Recycling and Center for Habitat Reconstruction.	X	Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect		1 st Sem			
Safety Goal – Key Strategy – Participation in Strategic Highway Safety Plan and other events	Participation in the Emphasis Area team meetings and other Puerto Rico Strategic Highway Safety Plan (SHSP) events.		Panoramic Route Steering Committee – Transportation Engineer		1 st Sem			
Safety Goal – Route as a whole in PRTAMP	Propose to consider the Route as a whole into the PRHTA Transportation Asset Management Plan (PRTAMP) as indicated in Section 7.3.3 (Pavement Surface). This is a planning tool used by the PRHTA to keep the executive officials informed about road conditions, annual budget, and programed improvements.	X	Panoramic Route Steering Committee – Transportation Engineer					
Safety Goal – Signage Plan, Road Erosion and Landslides, Pavement Surface, Guardrails and Concrete Barriers, Stopping Sight	Road Maintenance Plan should start with a detailed inspection and inventory of roads conditions and geometry, considering all parameters identified in the corresponding strategies. Funds and responsible parties should also be identified for recommended actions in the Road Maintenance Plan. Regarding Signage Plan, Refer to Key Strategy: Enhancing Route visibility - Signage Plan.		Panoramic Route Steering Committee – Transportation Engineer		2 nd Sem	2 nd Sem	2 nd Sem	2 nd Sem



Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
Distance and Design Speed								
Safety Goal – Roadside Maintenance	(Refer to Key Strategies section.)	X	--					
Safety Goal – Orientation Program	To conduct an orientation program to review and have hands on examples of repair projects so that road crews, supervisors and contractors will understand and respect the relationship between improvements and aesthetics. Prerequisite to initiating pavement repair and reconstruction projects.		Panoramic Route Steering Committee – Transportation Engineer		1 st Sem	1 st Sem	1 st Sem	1 st Sem
Safety Goal – Bicyclist and Pedestrians	Road Maintenance Plan should also identify areas where cyclist and/or pedestrian activity occurs in which corresponding signs and or pedestrian facilities are missing. Refer to Strategies for Safety Goal – Road Erosion and Landslides.		--					
Safety Goal – Road Maintenance Plan	Annual update		Panoramic Route Steering Committee with support from all Council members			1 st Sem	1 st Sem	1 st Sem
Safety Goal – Bicyclist and Pedestrians	Request amendment to the Law 22 - 2000, as amended known as the Vehicles and Transit Law in order to require traffic management during high volume generating activities (festivities, clusters of <i>chinchorros</i> , etc.).		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from Secretary of DTPW		2 nd Sem			
	Educational campaign about illegal use of 4-tracks in public roads.		Panoramic Route Steering Committee – Communication Specialist (Emphasis Area team meetings and other Puerto Rico Strategic Highway Safety Plan events) with support from Police			1 st Sem		

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
			Department and Municipalities					
Education and Information Goal – Interpretive Program	Rehabilitation of Existing Villalba-Orocovis Scenic Overlook, Maravilla Scenic Overlook and Maricao Stone Observation Tower (identify funds, RFP for design and permits, design and permits, RFP for rehabilitation works)		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from the Secretary of the DTPW, Institute of Puerto Rican Culture and corresponding municipalities			1 st Sem		
	Agreements with NGOs to provide information / brochure of the Route and links to webpage.		Panoramic Route Steering Committee – Communication Specialist		2 nd Sem			
	Establishing visitors centers. This entails the following tasks: identify NGOs potential stakeholders for potential visitors centers on or adjacent to historical structures, identify funds for Environmental Site Assessments, RFP for design and permits, design and permits, and RFP for construction work. Historical structures being considered: Hacienda La Lucía in Yabucoa, Hacienda Columbia in Maunabo and road workers House in Mayagüez.		Panoramic Route Steering Committee – Planner, Environmental Specialist and Architect with support from the Secretary of the DTPW, Institute of Puerto Rican Culture and corresponding municipalities			2 nd Sem		
	Perform basic maintenance at potential scenic overlook or vista point sites (trimming and clearing view if blocked) and place sign identifying site. Entails to identify funds, coordinate maintenance and coordinate signs. Sites: Hayales, Jájome, La Tabla and Honore. Signs should be according to SOIP. Requires previous ownership information.	X	Panoramic Route Steering Committee – Environmental Specialist and Transportation Engineer, Panoramic Route road workers and with support from Municipalities		2 nd Sem			
	Development of potential scenic overlook or vista point sites. Entails the following tasks: identifying funds to certify property owners of potential sites, identifying funds		Panoramic Route Steering Committee – Planner, Environmental Specialist and			1 st Sem		

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
	to develop scenic overlooks or vista points, consult adjacent communities and identifying potential NGO to co-administer. Develop one per year.		Architect with support from the Secretary of the DTPW					
	Marketing media implementation is discussed in this table under Socioeconomic Development section.		--					
	Contact universities professors to use the Route theme as potential object of design and investigation projects by students.		Panoramic Route Steering Committee – Communication Specialist				1 st Sem	
	Prepare press kits for media on status of work. These should be periodically issued.		Panoramic Route Steering Committee – Communication Specialist		2 nd Sem			
Education and Information Goal – Outreach Program	Radio and television appearances and press conferences, as needed, on significant issues as part of implementation.		Panoramic Route Steering Committee – Communication Specialist	As needed	As needed	As needed	As needed	As needed
Education and Information Goal – Formal Education on the Values of the Panoramic Route	Prepare information kits for the Department of Education, Academic Affairs Office, on resources available about the Route, including webpage and related tools (e.g., ViewFinders program).		Panoramic Route Steering Committee – Communication Specialist and Environmental Specialist with support from Secretary of Department of Education					1 st Sem
Education and Information Goal – Identify and Reach Key Forums	Identification of potential stakeholders as opportunities to increase awareness on the Panoramic Route (e.g., meetings from the Mayors Association, Mayors Federation, and Inns Owners Association). Participation will be dependent on schedule of meetings by these institutions.		Panoramic Route Steering Committee – Communication Specialist		2 nd Sem			
Education and Information Goal – Education Program to Improve Services to Visitors	Educational courses on quality of services tourism services providers. Entails contact and coordination with Tourism Company and identifying interested potential stakeholders. Educational services should also include potential benefits/programs available for lodging entrepreneurs.		Panoramic Route Steering Committee – Communication Specialist with support from Tourism Company			1 st Sem		

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
Socioeconomic Development Goal – Marketing Program	Marketing plan (brochure, podcast tours, website and social networks). Entails: identifying funds, one on one meeting with DMO representatives to coordinate an aligned vision, open a competition among university students for design of media. Note: Website and social networks should be updated weekly, highlighting activities ongoing in the Route. The proposed website and social networks may be tools to propose the challenge to users to complete the different regions of the Route and to share their photos.		Panoramic Route Steering Committee – Communication Specialist			2 nd Sem		
Socioeconomic Development Goal – Strategic Alliances	One on one communication should be established with community groups and Municipalities with initiatives aligned with the goals of this CMP Update to identify alliances. Refer to Key Strategies in this table (cooperative agreements).	X	Panoramic Route Steering Committee – Communication Specialist and Environmental Specialist		1 st Sem			
Socioeconomic Development Goal- Periodic Diverse Activities Offer	Inviting resources, such as universities professors and students from cultural related departments. Entails: identifying funds and contacting municipalities to identify potential venues for performances, workshops, among other activities.		Panoramic Route Steering Committee – Communication Specialist and Permits Specialist with support from the Institute of Puerto Rican Culture and Municipalities				1 st Sem	
Socioeconomic Development Goal- Lodging Availability	Include links from lodges within the Corridor in the Panoramic Route webpage to support this important service component. Lodge managers can be involved in the Education Program to improve services for visitors, as well as to get potential benefits/programs available for lodging entrepreneurs. Refer to Education and Information Goal.		Panoramic Route Steering Committee – Communication Specialist			2 nd Sem		
Socioeconomic Development Goal — Panoramic Route Loops	Coordinate availability of both the Route as its loops in interactive maps applications like Google Maps and Waze among others.		Panoramic Route Steering Committee – Transportation Engineer			2 nd Sem		

Strategies	Task	Key Milestone	Responsible Party	Dates (Starting Tasks)				
				2022	2023	2024	2025	2026
Socioeconomic Development Goal — Route Potential Extensions	Consult involved municipalities for potential Route extension (Mayagüez, San Germán, Yauco, Aibonito-Barranquitas, San Lorenzo, Patillas and Yabucoa). Request the amendment of the Panoramic Route Law accordingly.		Panoramic Route Steering Committee – Transportation Engineer and Planner with support from the Secretary of Planning Board and Municipalities			1 st Sem		
Annual Review	Annual review of the CMP preceded by a meeting workshop attended by state agencies, the Route's municipalities, and stakeholders.		Panoramic Route Steering Committee – Transportation Engineer and Planner with support from the Secretary of the DTPW, Secretary of Planning Board, Secretary of DNER and the Secretary of the Department of Economic Development and Commerce		1 st Sem	1 st Sem	1 st Sem	1 st Sem
CMP Update (every 5 years)	Comprehensive CMP Update. Entails: budget allocation, RFP, CMP Update preparation, revision by agencies and stakeholders and final CMP Update.		Secretary of the DTPW with support from the PRHTA Strategic Planning Office					1 st Sem

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Figures References

Figure 3 1 Panoramic Route Location

- Municipal Limit - Puerto Rico Planning Board (2015)
- Panoramic Route - Puerto Rico Highways and Transportation Authority (2016), and CSA Group (2018)

Figure 3 2 Panoramic Route Interpretive Regions

- Interpretative Regions - Panoramic Route Corridor Management Plan (1998)
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- Panoramic Route 1 Mile Corridor – CSA Group (2018)
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Figure 4 2, Figure 4-6, Figure 4-10, Figure 4-13, Figure 4-16 and Figure 4-19 Summary of Current Zoning

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Figure 4 3 Special Zoning Plans, Programs and Projects that Affect Municipalities along the Panoramic Route

- Conservation Trust of Puerto Rico Properties, Bosque La Olimpia, Bosque del Pueblo de Adjuntas, and Other Natural Protected Areas - Caribbean Landscape Conservation Cooperative (2016)
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- Reservoir\Lagoon - Puerto Rico Planning Board (no date)
- Municipal Limit - Puerto Rico Planning Board (2015)

Figure 4 4, Figure 4-7, Figure 4-11, Figure 4-14, Figure 4-17 and Figure 4-20 Intrinsic Qualities Inventory: Archeological, Cultural, Historical and Recreational

- Resources - Panoramic Route Corridor Management Plan (1998), Municipality of Aibonito (2017), Municipality of Las Marías (2018) Department of Agriculture (2018 and 2021), Land Authority (2018), Tourism Company (2018 and 2021) and CSA Group (2019)
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Figure 4 5, Figure 4-8, Figure 4-12, Figure 4-15, Figure 4-18 and Figure 4-21 Intrinsic Qualities Inventory: Scenic and Natural Resources

- Reservoir - Puerto Rico Planning Board (no date)
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Figure 4 9 Highest Peaks Islandwide

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Figure 4 22 USGS Estimated Concentration of Landslides after Hurricanes Passage in September 2017 over Puerto Rico

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- Municipal Limit - Puerto Rico Planning Board (2015)
- State Road - Puerto Rico Highways and Transportation Authority (2018)

Figure 4 29 Annual Cultural activities in Municipalities along the Panoramic Route

- Institute of Puerto Rican Culture, Program of Cultural Promotion and Popular Arts (January 2019)
- Panoramic Route - Puerto Rico Highways and Transportation Authority (2016), and CSA Group (2018)
- Panoramic Route 1 Mile Corridor – CSA Group (2018)
- Municipal Limit - Puerto Rico Planning Board (2015)
- Reservoir - Puerto Rico Planning Board (no date)

Figure 4 30 Existing and Potential Vista Points and Scenic Overlooks along the Route

- Town Square - Puerto Rico Planning Board (2017)

Figure 4 31 Typical Overlooks Sketch and Program Elements

- Existing and Potential Vista Points and Scenic Overlooks and Interpretative Regions - Panoramic Route Corridor Management Plan (1998)
- Panoramic Route - Puerto Rico Highways and Transportation Authority (2016), and CSA Group (2018)
- Panoramic Route 1 Mile Corridor – CSA Group (2018)
- Municipal Limit - Puerto Rico Planning Board (2015)

Figure 4 32 Vista Point Sketch and program Elements

- 1998 CMP Scenic Overlooks and Interpretive Program

Figure 7 1 Proposed Bicycle Network as per Comprehensive Bicycle and Pedestrian Plan for Puerto Rico (2018)

- 1998 CMP Scenic Overlooks and Interpretive Program

Figure 7 2 Road Loops to Reach the Route and Proposed Panoramic Route Extensions

- PRHTA Comprehensive Bicycle and Pedestrian Plan for Puerto Rico (2018)
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- Basemap Service Layer Credits - Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
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