ATTACHMENT 20

COPY OF FORECASTING AND TRAFFIC ANALYSIS REPORT FOR PR-10

Report
May 2021

PR-10 Forecasting Demand and Traffic Analysis

BHA
Our ref: 23864601
Client ref:

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PR-10 Forecasting Demand and Traffic Analysis

Prepared by:

Steer
1225 Ave. Ponce de León, VIG Tower, Suite MZ-1
San Juan Puerto Rico 00907

+1 (787) 721 2002
www.steergroup.com

Prepared for:

BHA
Calle del Parque #207, San Juan, 00912

Client ref:
Our ref: 23864601

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1 Introduction

Overview

Steer (Steer Davies & Gleave Limited) was commissioned by BHA to support with a traffic analysis study as part of the Environmental Impact Statement (EIS) process for the PR-10 Project on behalf of the Puerto Rico Highway and Transportation Authority (PRHTA).

The methodology proposed for the PR-10 Forecasting Demand and Traffic Analysis study includes three main activities:

- Data Collection;
- Model Development; and
- Traffic Forecasts.

Project Summary

PR-10 is a principal arterial that connects Arecibo in the north and Ponce in the south, passing through the municipalities of Adjuntas and Utuado. The existing PR-10 north segment begins in the interchange with PR-2 and ends in the intersection of PR-123 over the Cidra River at km 49.5. The PR-10 south segment begins in the PR-9 interchange and ends in the intersection with PR-123 at km 38.1. In its current state, it is a freeway only in the completed portions.

Figure 1.1: PR-10 Location

Source: Steer

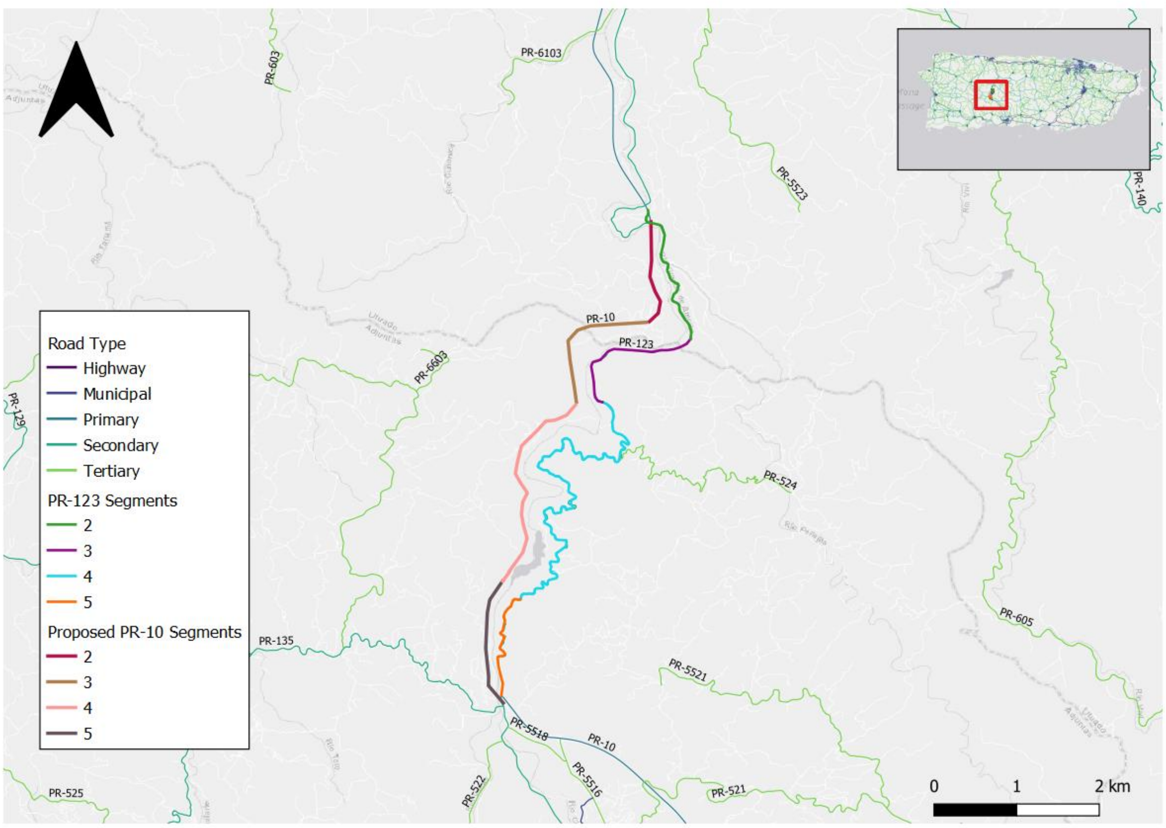
The PRHTA is planning to connect both north and south segments of PR-10. AS a result, a traffic study for the proposed connector is needed to understand the possible demand that this new connection would generate. The proposed PR-10 connector, as shown in Figure 1.2, would compete mainly with the existing segment of highway PR-123.

The PR-123 is classified as a minor arterial with typical collector characteristics as it provides various direct access points for residential purposes. The segment of the PR-123 competing with the proposed PR-10 connector currently offers one lane per direction with mountainous terrain and capacity restrictions as a result of landslides from Hurricane María.

The proposed connector of the PR-10 includes two lanes in the southbound direction and one lane in the northbound direction. The speed limit is 35 mph due to the topography and terrain type. For the purposes of this study, this new connector will not be tolled and is expected to open in 2025.

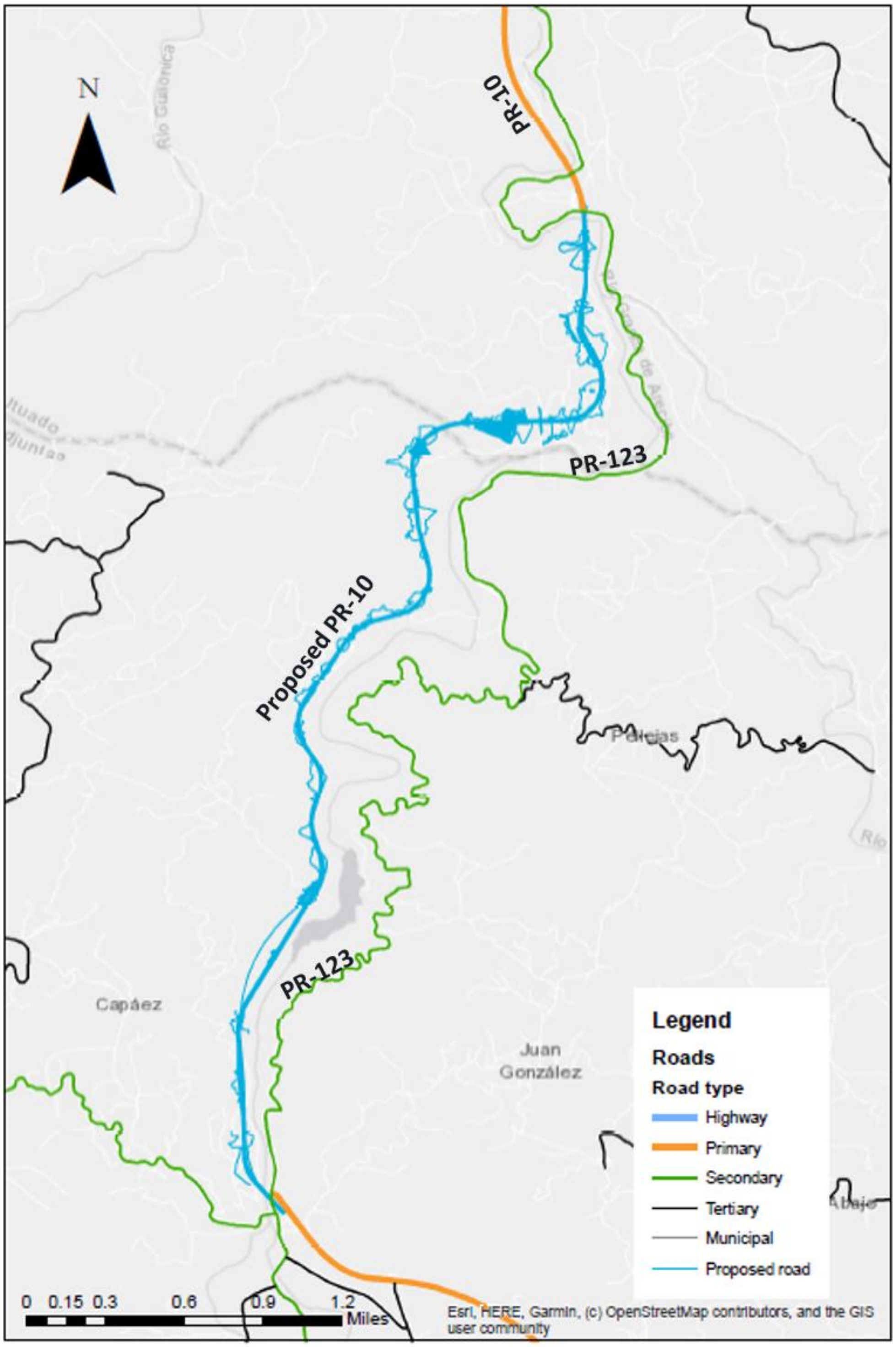
Figure 1.2 and Figure 1.3 show the PR-10 study area and the four (4) segments to be constructed. The segment codification showed in Figure 1.2 is the one used by PRHTA in the design project. The different analyses presented throughout this report uses this designation.

Figure 1.2: PR-10 Study Area and Corresponding Segment



Source: Steer

Figure 1.3: Proposed PR-10 Connector



Source: Steer

2 Current Traffic Conditions in the Study Area

Overview of Data Collection

2.1 In order to understand the current traffic patterns in the area, Steer designed a data collection program.

The data collection included three main elements:

- Traffic Data;
- Travel Time and Speed; and
- Crash Data.

Once the data collection was completed, the data was analyzed and validated to ensure it is representative of current conditions and useful for modeling purposes. This chapter presents the traffic data analysis performed and includes summaries of the traffic counts profile and journey times graphics for the corridor.

Traffic Data

Data Collection

The traffic data collected served as the main source of information for the construction and calibration of the traffic demand model developed for the PR-10 connector. Automatic traffic counts were collected for 24 hours for one full week and manual counts for a 12 hours period on a typical weekday at two locations: PR-123 at its intersections with PR-10 north and south segments. Given COVID-19 and atypical travel patterns, it was critical to collect historically observed data for periods before the pandemic. PRHTA's *Oficina de Recopilación de Datos y Análisis de Tránsito* provided traffic count data for a period before March 2019.

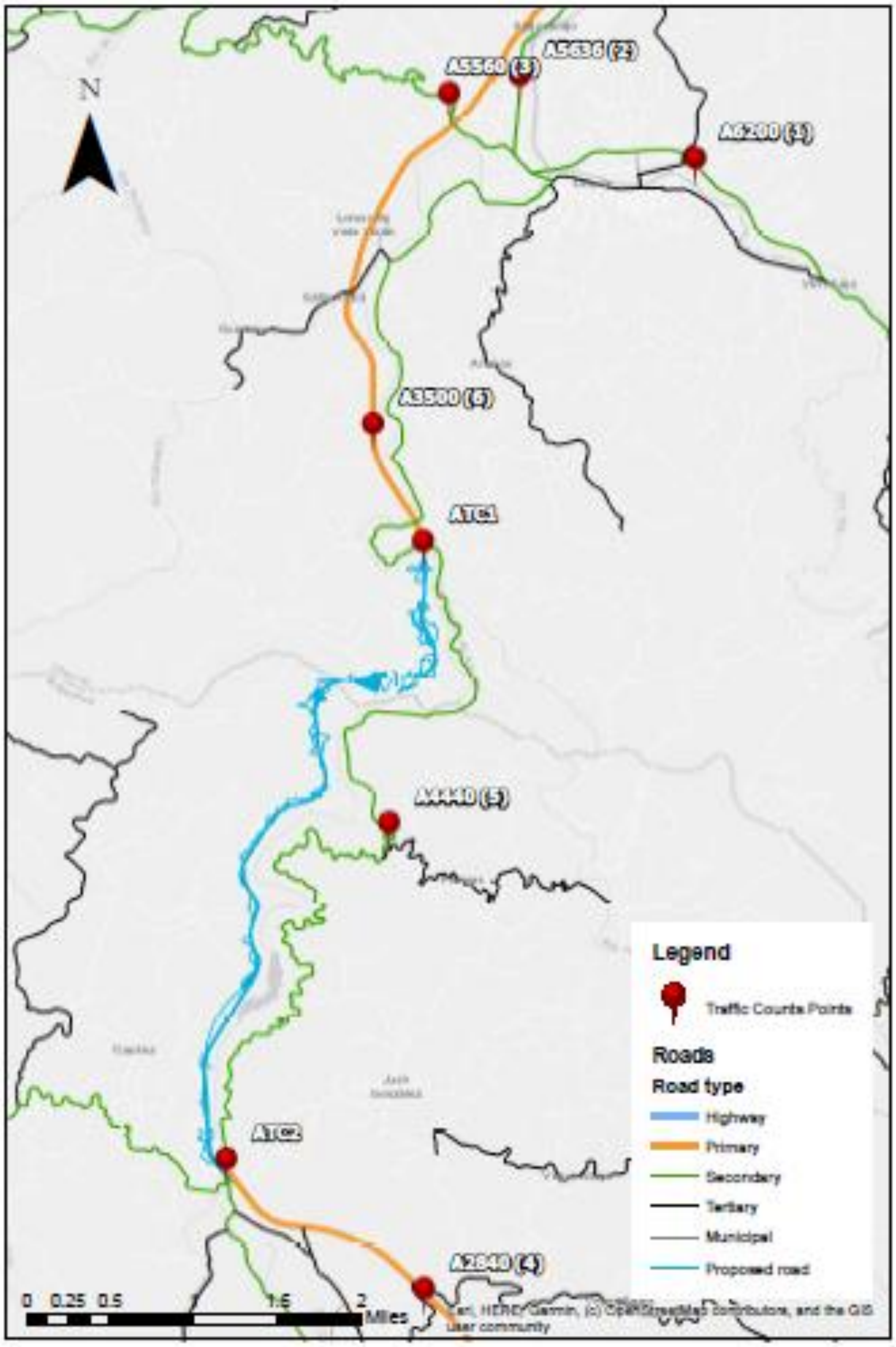
Table 2.1 presents a summary of the traffic count data collected as part of this exercise.

Table 2.1: Location of Traffic Count, Type, and Dates

ID	Location of Traffic Count	Date	Interval of Data Collection	Source
ACT1	PR-123, km 38.2	November 11, 2020 – November 18, 2020	7 days	Steer
ACT2	PR-123, km 49.4	November 11, 2020 – November 18, 2020	7 days	Steer
A6200	PR-11 Km 6.2	April 23, 2019-April 24, 2019	2 days	PRHTA
A5636	PR-123, Km 56.50	April 23, 2019-April 24, 2019	2 days	PRHTA
A5560	PR-111, Km 59.50	April 23, 2019-April 24, 2019	2 days	PRTHTA
A2840	PR-10, Km 28.40	May 28, 2019-May 30, 2019	2 days	PRHTA
A4440	PR-123, Km 45.20	May 28, 2019-May 30, 2019	2 days	PRHTA
A3500	Km 39.40	December 3, 2019-December 4, 2019	2 days	PRHTA

Source: Steer

Figure 2.1: Traffic Counts Locations

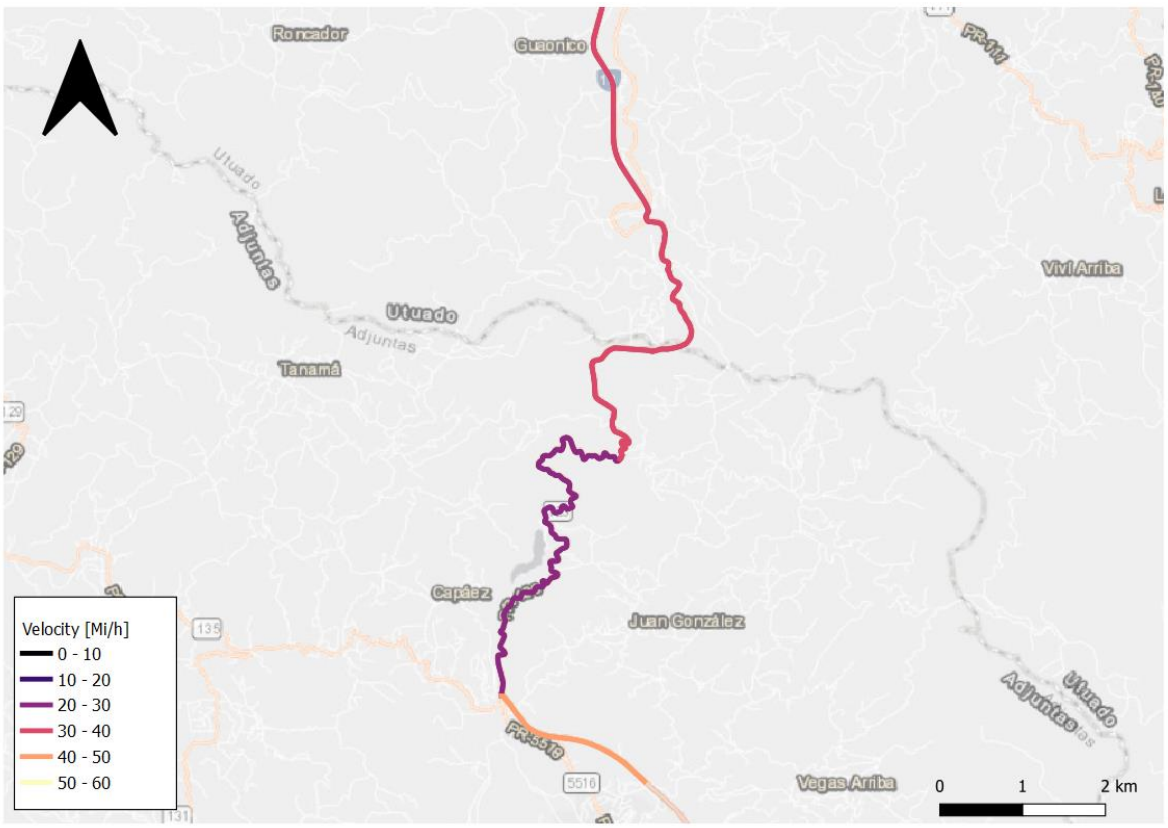


Source: Steer

Travel Time and Speed

Travel times and speed are another variable used to calibrate and validate traffic models. For this purposes, we analyzed travel times using data from the 2019 National Performance Management Research Data Set (NPMRDS). This data was extracted by Traffic Message Channel (TMC) code, which is a unique coding system used to differentiate every segment on the roadway system. From this analysis, we estimated weekday average speed for PR-123 and PR-10 north and south segments. PR-10 North segment experiences an average speed between 30 and 40 mph, 40 to 50 mph for PR-10 south segment, and between 20 and 30 mph for PR-123.

Figure 2.2: Weekday Average Speed



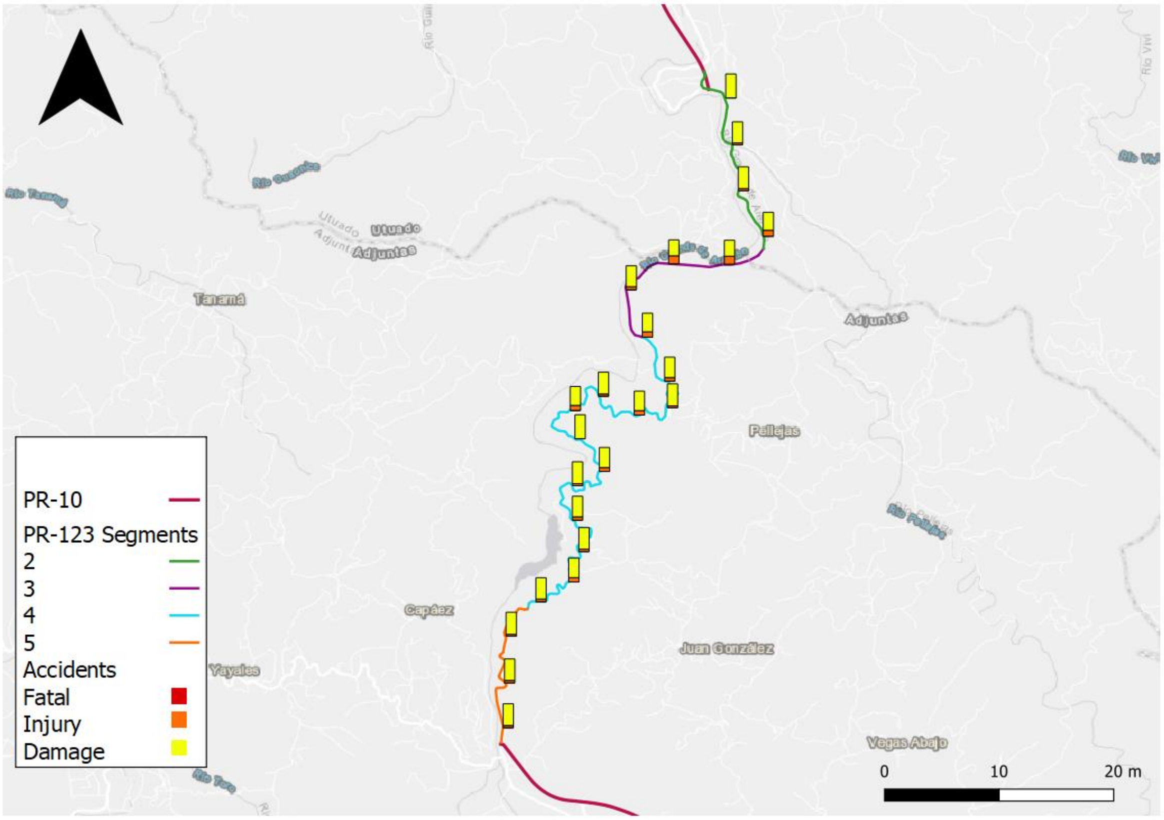
Fuente: Steer, 2020

Crash Data

In addition to traffic counts and speed, this report includes traffic crash trends for this corridor. The PRHTA and the Traffic Safety Commission (TSC) maintain crash information on the roads of Puerto Rico. The PRHTA in collaboration with their consultant for the Strategic Highway Safety Plan provided Steer information on all types of crash for the PR-123 corridor between 2014 to 2018.

Figure 2.3 illustrates a summary of the crashes by type and by location along PR-123 with heat map. The figure illustrated the number and proportion of crashes that resulted in the corridor. For PR-123, no fatalities have been reported with most crashes categorized 'damage'.

Figure 2.3: Crash Data along PR-123



Source: Steer

This data was also used to estimate crash rates for the different segments. Crash rates analysis typically uses exposure data in the form of traffic volumes or roadways mileage. This information can be useful to the design team when performing the benefit cost analysis.

The crash rate for the road segment was calculate using the following formula:

$$R_{segment} = \frac{C * 10^6}{365 * N * V * L}$$

Where:

- *R*: Crash rate for the road segment expressed as crash per million vehicle-miles of travel (VMT)
- *C*: total number of crashes in analyzed period
- *N*: number of years of available data
- *V*: Number of vehicles per day (both direction)
- *L*: Length of the roadway segment in miles

Table 2.2 summarizes the number of crashes per segment and the crash rate according the information provided.

Table 2.2: Crash Rate per Segment

Segment	Fatal	Injury	Damage	Total	AADT	Miles	Crash Rate
1	0	3	33	36	4,800	2.14	2.40
2	0	11	42	53	3,765	4.12	2.34
3	0	84	504	588	11,292	18.06	1.98
4	0	14	141	155	13,800	3.19	2.41

Source: Steer

3 Construction of the Traffic Model

Overview

3.1 The transportation modeling process begins with the development and use of computational tools to adequately represent the conditions of the existing transportation system, by constructing what is known as the baseline scenario. The objective of the baseline scenario model is to represent, within margins of error, the reality of the operation of the existing system. In that sense, it is necessary to represent the supply, demand, and the relationships that govern the processes of balance in the trip consumption.

3.2 To achieve this, we use a model that is conceptual, physical, or mathematical and provides a simplified representation of the reality with methodological approximations that support decision making processes.

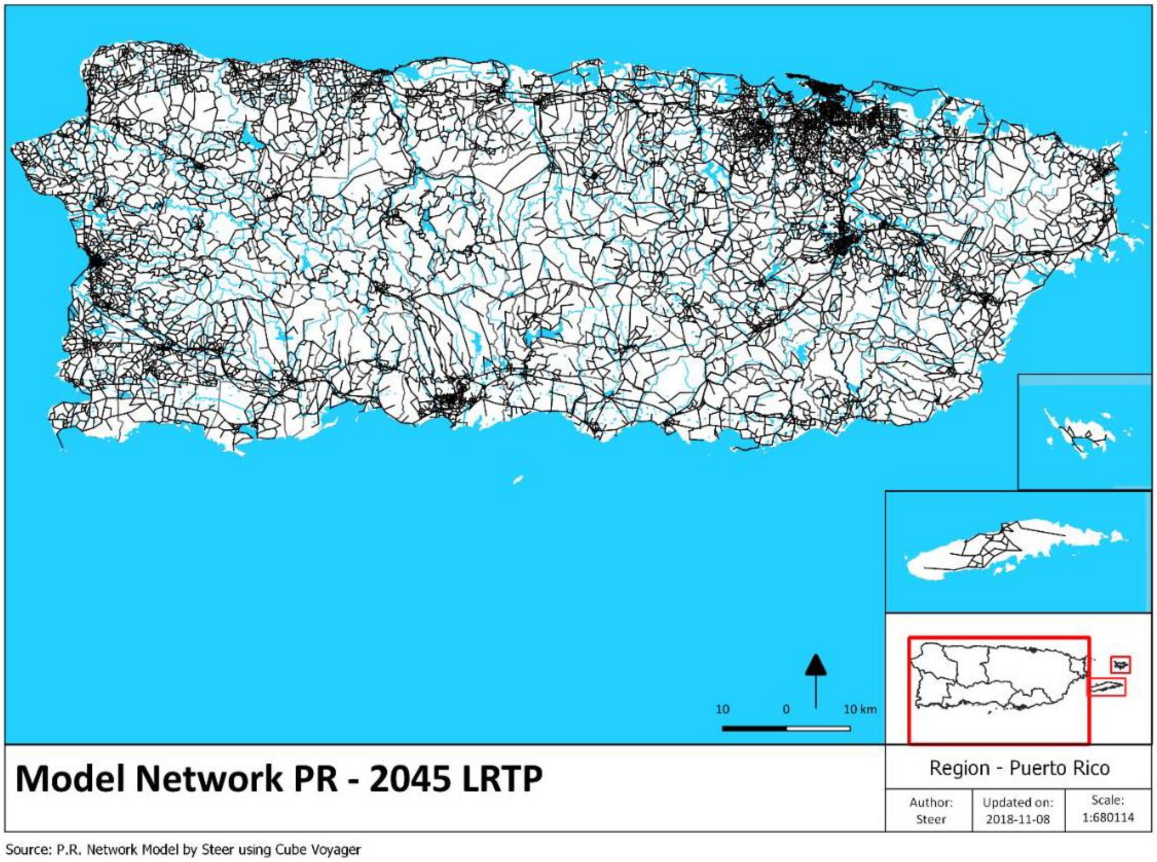
3.3 The model created for this study was prepared based on site visits and the data collection presented in Chapter 2. The model was calibrated and validated against the traffic counts and travel time information to ensure the model is accurately representing current conditions.

Model Construction

3.4 Steer's approach was to use the existing 2045 Puerto Rico Long Range Transportation Plan (PR LRTP)[1] network model, implemented in the software CUBE Voyager, as the starting point to extract the study area model (see Figure 3.1). For the purpose of this analysis, we extracted a subarea to represent the area of interest, obtaining the corresponding highway network and trip matrices. From there, we constructed a simple traffic assignment model.

[1] Written permission was required from the PRHTA Strategic Planning office to use the LRTP model for this study.

Figure 3.1: 2045 Puerto Rico Long Range Transportation Plan (LRTP) Model Network



Source: Steer

Model Base and Future Year

The PR-10 model assumes a base year of 2019, an opening year for the connector of 2025, and a future year of 2045.

Road Network

3.5 A highway network for the study area was defined with an adequate level of detail to simulate the route selection of the main travel patterns within the influence area. The network used to simulate the travel demand was created by Steer using the 2045 LRTP Model. The model was updated with information from site visits, literature review of road network upgrades, and available cartography.

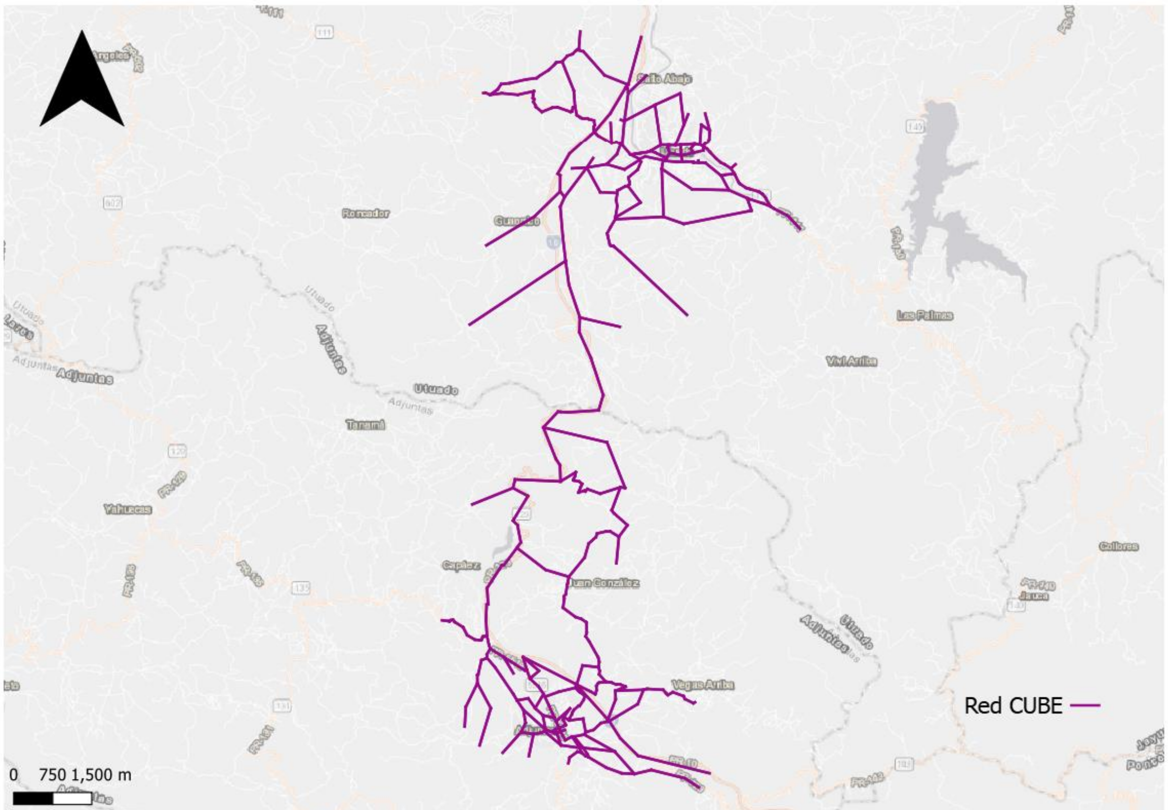
3.6 Each link in the network is described by a set of attributes that were entered into the model after verification. The following elements were considered:

- Origin-destination nodes;
- Link length;
- Number of lanes per direction;
- Relationship of demand-speed specific to each section;

- Capacity of each section; and
- Functional classification of roads (freeways, arterials, corridors, local; urban, rural).

3.7 Figure 3.2 illustrates the road network considered in the base scenario.

Figure 3.2: Existing PR-10 Study Area Subarea Road Network



Source: Steer

Demand

3.8 Trip demand, in the form of matrices, were also obtained from the PR LRTP Model and were later adjusted as part of the calibration process to reflect current conditions (see Model Calibration section).

3.9 Four different matrices for each modeling year were extracted from the LRTP Model and the same time periods assumed in the LRTP were used for the PR-10 model:

- AM Peak: 7:00 am to 9:00 am
- Midday: 9:00 am to 3:00 pm
- PM Peak: 3:00 pm to 6:00 pm
- Night: 6:00 pm to 7:00 am

3.10 The LRTP Model also includes six (6) trip tables:

- Single Occupant Vehicles (SOV)
- Two Person Shared Ride Vehicles (SR2)

- Three-or-more Person Shared Ride Vehicles (SR3)
- Commercial Vehicles (COM)
- Medium Trucks (MTRK)
- Heavy Trucks (HTRK)

3.11 These trip tables were aggregated in the PR-10 model to reflect three (3) vehicle types: auto (SOV, SR2, and SR3), commercial vehicles, and trucks (medium and heavy trucks).

Base Data of Existing Conditions

3.12 As mentioned, we used the 2045 LRTP Model which was developed under a local context that was affected by the economic situation and the effect on local mobility and socioeconomic trends after Hurricane María:

- In 2016, the Financial Oversight and Management Board for Puerto Rico was created under the Puerto Rico Oversight, Management and Economic Stability Act. The Board consists of seven members appointed by the President of the United States and one ex officio member designated by the Governor of Puerto Rico. The Board is tasked with working with the people and Government of Puerto Rico to create the necessary foundation for economic growth and to restore opportunity to the people of Puerto Rico. The PRHTA was required to issue a Fiscal Plan for the approval of the Oversight Board by end of 2017.
- The 2045 LRTP based its short-term projections, capital improvement plan and funding assumptions on the approved Fiscal Plan.
- Hurricane María affected Puerto Rico on the 20th of September, 2017. This powerful Category 4 hurricane with 150 mph winds bisected the entire island having catastrophic effects on the entire island. The PRHTA has prepared an inventory of the effect on the transportation infrastructure.

3.13 The conditions after the hurricane did not allow for traffic counts and surveys to be undertaken to develop the 2045 LRTP Model. Therefore, data from 2015-2016 was used as the base year for the plan and were updated using the projections from the fiscal plan.

3.14 Given the above, the LRTP Model has a base year of 2016 and forecasting year of 2045. Trip tables for 2016 were adjusted to reflect 2019 patterns as described in the Model Calibration section.

Behavioral and Assignment Parameters

3.15 The PR-10 model uses the same behavioral and traffic assignment parameters as the LRTP Model which include:

- **Equilibrium Convergence**: equilibrium solutions are found using Cube Voyager's Bi- Conjugate Frank-Wolfe algorithm with closure achieved at a relative gap of 0.001.
- **Period Capacity Factors**: hourly capacities converted to an appropriate period capacity to be consistent with the period demands. Period capacity factors were calculated to represent both the highest one-hour in each period and the highest two hours in each period. Both cases returned the same factors, because there is very little difference between the highest and second highest hourly shares. Factors are presented in Table 3.1.

Table 3.1: Period Capacity Factors

Period	Hours	Capacity Factors
AM Peak (AM)	2	2
Midday (MD)	6	5.8
PM Peak (PM)	3	2.9
Night (NT)	13	6.2

Source: Puerto Rico's 2040 Long Range Multimodal Transportation Plans Model Documentation

- **Passenger Car Equivalents (PCE):** medium and heavy trucks have a greater impact on highway capacity than smaller vehicles; medium trucks PCE is equivalent to 1.5, while heavy trucks PCE is equal to 2.0.
- **Volume Delay Function (VDF):** functions were developed using the traditional Bureau of Public Roads (BPR) formulation, with modified alpha (α) and beta (β) coefficients. The BPR formula is most commonly shown and used in time forms. Separate curves were used for limited access roads (freeways/toll roads) and other roads. Special beta parameters were also used when the volume/capacity ratios exceeded the volume delay function takes the following form:

$$T_c = T_f * \left(1 + \alpha * \left(\frac{V}{C}\right)^{\beta}\right)$$

Where

- T_c = congested travel time
- T_f = free-flow travel time
- α, β = alpha and beta coefficients
- V = traffic volume in PCE
- C = period capacity

Table 3.2: BPR Formula VDF Parameters

Facilities	Alpha	Beta (V/C <= 1.0)	Beta (V/C > 1.0)
Limited access highways	1.78	6.0	4.0
Other highways and roads	1.5	5.0	4.0

Source: Puerto Rico's 2040 Long Range Multimodal Transportation Plans Model Documentation

3.16 A summary of these parameters is shown in Table 3.3.

Table 3.3: Decision Model Parameters Summary

Parameter	Value
Equilibrium Convergence	Bi-Conjugate Frank-Wolfe, 0.001
Period Capacity Factors	AM Peak: 2 Midday: 5.8 PM Peak: 2.9 Night: 6.2
Passenger Car Equivalents (PCE)	Medium trucks = 1.5 Heavy trucks = 2.0
Volume Delay Function (VDF)	Limited access & toll roads: alpha = 1.78, beta varies by V/C Other roads: alpha = 1.5, beta varies by V/C

Source: Puerto Rico's 2040 Long Range Multimodal Transportation Plans Model Documentation

Model Calibration

3.17 represent the actual traffic condition on the main roads. The level of calibration required is then reflected in the structure and purpose of the model. We followed standard procedures to calibrate the model and set the targets consistent with the intended use of the network model. We provided the volume calibration in terms of the GEH (Geoffrey E. Havers) statistic, which is a common measure calculated to determine how well forecasted traffic matches observed traffic.

3.18 The model was built based on the data of the existing conditions presented earlier and calibrated and validated against observed data to ensure it properly replicates the existing conditions in the field.

3.19 GEH indicators are used in practice when it is required to validate planning models and it is necessary to have clarity of whether the differences "hidden" in the results or in the percentage differences are significant according to the magnitude of the values. In other words, large percentage differences in small values are irrelevant, compared to small differences in large values.

3.20 This GEH statistic (formula shown below) is an indicator that takes into account the order of magnitude of the compared values. Corresponds to an approximation of a statistic that follows a Chi-square distribution. Values between 0 and 5 indicate a good fit; between 5 and 10 are acceptable; and greater than or equal to 10 require adjustment.

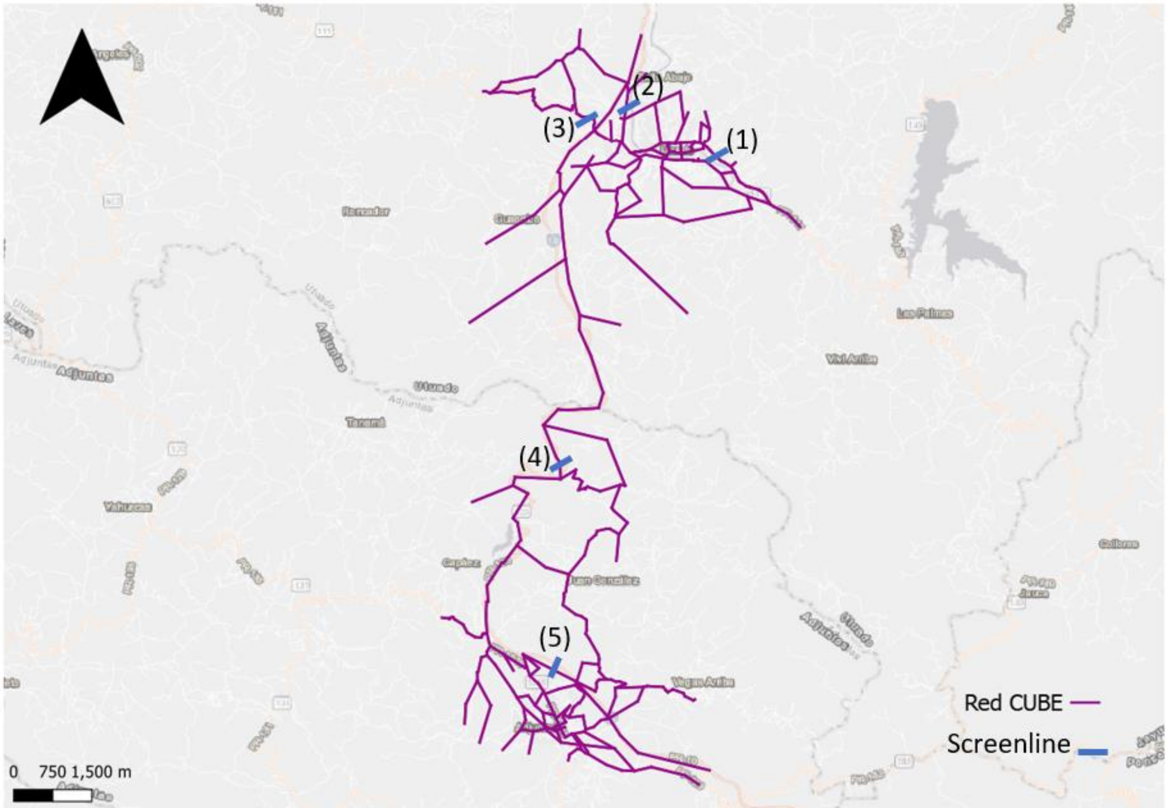
$$GEH = \sqrt{\frac{(M-C)^2}{0.5*(M+C)}}$$

Where:

- *M*: is the volume measured in the model
- *C*: is the volume measured in the field

3.21 To compare modeled volumes versus observed traffic counts, a set of screenlines were defined. The screenline location is presented in Figure 3.3.

Figure 3.3: Screenlines Locations



Source: Steer

Calibration Results

The model trip tables were adjusted and calibrated using a set of factors and updates to the network to reflect current conditions. Table 3.4 through Table 3.8 illustrate the results from this exercise by time periods for each segment and traffic count location. As observed, all locations exhibit a GEH below 5, which indicates a good model fit.

Table 3.4: GEH Indicator Distribution for the AM Period

Screenline ID	ID	Direction	Observed Volumes	Modeled Volumes	% Diff.	GEH
1	A6200	EB	481	517	7%	**1.1**
1	A6200	WB	553	516	-7%	**1.1**
2	A5636	NB	195	198	2%	**0.2**
2	A5636	SB	181	177	-2%	**0.2**
3	A5560	EB	213	182	-14%	**1.6**
3	A5560	WB	409	408	0%	**0.0**
4	A2840	NB	464	464	0%	**0.0**
4	A2840	SB	693	649	-6%	**1.2**
5	A4440	NB	249	231	-7%	**0.8**
5	A4440	SB	178	179	0%	**0.0**
6	A3500	NB	244	272	11%	**1.2**
6	A3500	SB	254	329	30%	**3.1**

Source: Steer

Table 3.5: GEH Indicator Distribution for the MD Period

Screenline ID	ID	Direction	Observed Volumes	Modeled Volumes	% Diff.	GEH
1	A6200	EB	1,663	1,652	-1%	**0.1**
1	A6200	WB	1,671	1,633	-2%	**0.4**
2	A5636	NB	525	529	1%	**0.1**
2	A5636	SB	595	665	12%	**1.2**
3	A5560	EB	662	647	-2%	**0.2**
3	A5560	WB	625	610	-2%	**0.2**
4	A2840	NB	1,300	1,242	-4%	**0.7**
4	A2840	SB	1,649	1,301	-21%	**3.7**
5	A4440	NB	467	466	0%	**0.0**
5	A4440	SB	516	516	0%	**0.0**
6	A3500	NB	614	775	26%	**2.5**
6	A3500	SB	647	696	8%	**0.8**

Source: Steer

Table 3.6: GEH Indicator Distribution for the PM Period

Screenline ID	ID	Direction	Observed Volumes	Modeled Volumes	% Diff.	GEH
1	A6200	EB	700	749	7%	**1.1**
1	A6200	WB	872	890	2%	**0.3**
2	A5636	NB	360	358	-1%	**0.1**
2	A5636	SB	285	347	22%	**2.0**
3	A5560	EB	520	620	19%	**2.4**
3	A5560	WB	288	255	-12%	**1.2**
4	A2840	NB	1,052	995	-5%	**1.0**
4	A2840	SB	777	779	0%	**0.0**
5	A4440	NB	317	318	0%	**0.0**
5	A4440	SB	333	290	-13%	**1.4**
6	A3500	NB	521	644	24%	**2.9**
6	A3500	SB	341	399	17%	**1.8**

Source: Steer

Table 3.7: GEH Indicator Distribution for the NT Period

Screenline ID	ID	Direction	Observed Volumes	Modeled Volumes	% Diff.	GEH
1	A6200	EB	735	655	-11%	**0.8**
1	A6200	WB	668	723	8%	**0.6**
2	A5636	NB	333	334	0%	**0**
2	A5636	SB	316	318	0%	**0**
3	A5560	EB	438	420	-4%	**0.2**
3	A5560	WB	483	472	-2%	**0.1**
4	A2840	NB	1,304	1,285	-1%	**0.1**
4	A2840	SB	843	983	17%	**1.3**
5	A4440	NB	349	348	0%	**0.0**
5	A4440	SB	347	296	-15%	**0.8**
6	A3500	NB	497	659	33%	**1.9**
6	A3500	SB	316	410	30%	**1.4**

Source: Steer

Table 3.8: GEH Indicator Distribution for Daily

Screenline ID	ID	Direction	Observed Volumes	Modeled Volumes	% Diff.	GEH
1	A6200	EB	3,578	3,573	0%	0.0
1	A6200	WB	3,764	3,762	0%	0.0
2	A5636	NB	1,413	1,419	0%	0.0
2	A5636	SB	1,376	1,507	10%	0.7
3	A5560	EB	1,832	1,868	2%	0.2
3	A5560	WB	1,804	1,744	-3%	0.3
4	A2840	NB	4,120	3,986	-3%	0.4
4	A2840	SB	3,961	3,712	-6%	0.8
5	A4440	NB	1,381	1,363	-1%	0.1
5	A4440	SB	1,374	1,281	-7%	0.5
6	A3500	NB	1,876	2,349	25%	2.1
6	A3500	SB	1,557	1,834	18%	1.4

Source: Steer

4 Demand Forecast

Overview

4.1 This chapter describes the methodology applied to estimate future growth rates to forecast traffic on the PR-10 connector. The future growth rates were estimated based primarily on changes in total population and employment using projections from the 2045 LRTP.

2045 LRTP Forecast

4.2 The 2045 LRTP population and employment forecast follows standard practice in regional economic forecasting by focusing on the relationship between population growth (or decline) and economic growth (or decline). The LRTP also takes into account the interaction between population, employment, and cost of doing business, measured by regional wage rates.

4.3 The analysis considered several factors in relation to the island current situation:

- A significant decline in birth rates;
- A decline in manufacturing employment, tied to changes in federal taxation policy, international competition and the fact that manufacturing productivity growth with tend to decrease employment through automation;
- An increase in the rate of out -migration to the rest of the United States
- The recent Hurricane María that disrupted economic activity; and
- A long-running fiscal imbalance that culminated in the declaration of quasi-bankruptcy appointment of the federal oversight board in 2017.

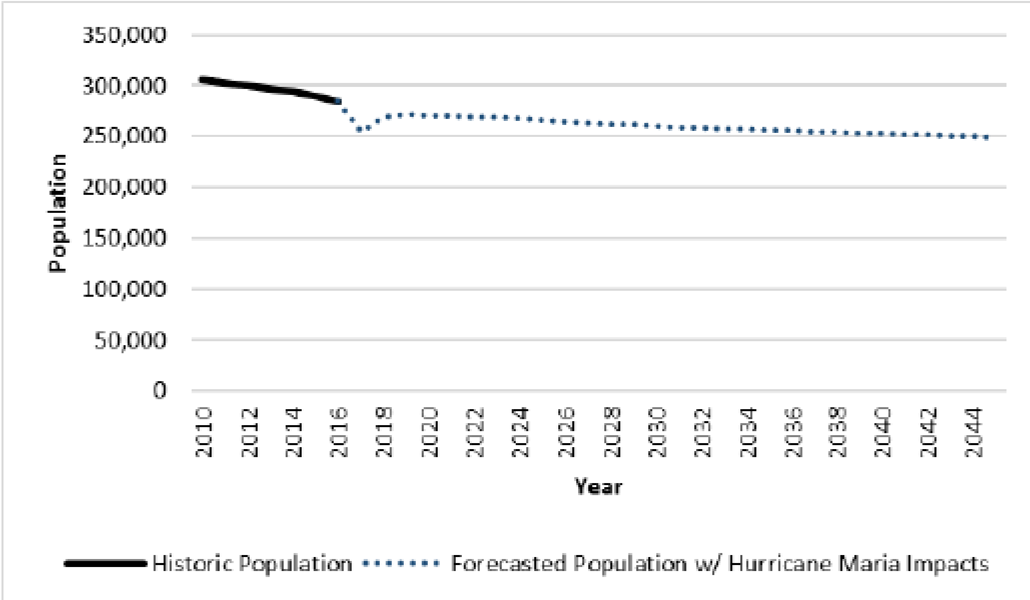
4.4 The main forecast results to highlight is that Puerto Rico is expected to lose nearly 520,000 persons and over 90,000 jobs by 2045, equivalent to a 15.2 % decline in population and 10.4% decline in employment.

Region 7: North Forecast

4.5 The 2045 forecast was estimated at the regional level; PR-10 study area belongs to Region 7: North.

Region 7 North is within the regions expected to show slightly lower rates of decline across the island, losing under 15% of their respective population by 2045 as presented in Figure 4.1.

Figure 4.1: Population Forecast: Region 7 North



Source:2045 Long Range Transportation Plan, PRHTA

4.6 In line with island trends, the employment growth rates are expected to show a decrease of almost 10% by 2045, as presented in Table 4.1.

Table 4.1: Employment Forecast Growth Rates – Region 7: North

Year	Employment	Percentage change from 2016	CARG from 2016
2016	53,688	-	-
2020	52,175	(2.8%)	(0.7%)
2025	51,296	(4.5%)	(0.5%)
2040	49,086	(8.6%)	(0.4%)
2045	48,372	(9.9%)	(0.36%)

Source: 2045 Long Range Transportation Plan, PRHTA

PR-10 Connector Forecast

4.7 As mentioned before, for the PR-10 model the 2045 LRTP model was used as a starting point. Similar to the baseline scenario, future networks and matrices from the LRTP Model were used for the subarea.

Road Network

Using the future 2045 network, 2025 and 2045 networks were developed with the proposed alignment (see Figure 1.3: Proposed PR-10 Connector). PR-10's new segment includes two lanes in the southbound direction with a lane capacity of 1430 vehicles per hour (vph) each, and one lane in the northbound direction with a lane capacity of 1640 vph. The free flow speed assumed was 35 mph.

Demand

4.8 Given the decline in population and employment described above, total travel demand in the subarea declines in future years. For the purposes of this study, the 2045 LRTP matrices where increased by 12% to avoid a decrease in travel demand in the study area, which is in line with the decrease forecasted. However, while this safety factor was applied to 2045 LRTP matrices, the distributions and relative magnitude of changes by origin-destination pair in the study area were kept form the original matrices.

4.9 A PR-10 final 2045 matrix was then estimated by adding to the calibrated 2019 matrix the difference between the LRTP 2016 matrix and the expanded 2045 matrix. The 2025 matrix is the interpolation of the 2019 calibrated matrix and the final 2045 matrix. Table 4.2 presents the compounded annual growth rates (CAGR) for the existing north segment of PR-10 and the proposed segments.

Table 4.2: Traffic CAGR

CARG	PR-10 North Segment	Segment 1-2	Segment 3-4
2019-2025	1.0%	-	-
2025-2045	0.9%	1.2%	1.0%
2019-2045	0.9%	-	-

Source: Steer

4.10 Table 4.3 presents the traffic volumes on the existing and proposed segments of the PR-10 corridor.

Table 4.3: PR-10 Daily Volume

Year	Direction	Existing Segment	Segment 1-2	Segment 3-4
2019	NB	2,349	-	-
2019	SB	1,834	-	-
2019	**2-way**	**4,183**	**-**	**-**
2025	NB	2,479	1,436	1,946
2025	SB	1,951	1,363	1,862
2025	**2-way**	**4,430**	**2,799**	**3,808**
2045	NB	2,914	1,796	2,335
2045	SB	2,341	1,760	2,299
2045	**2-way**	**5,254**	**3,556**	**4,633**

Source: Steer

The traffic forecast applied in this study was a conservative estimation. Traffic increase in segment 1-2 and segment 3-4 was 750 vehicles and 830 vehicles respectively, representing 1% and 1.2 % CARG between 2025 and 2045.

Control Information

Prepared by	Prepared for
Steer 1225 Ave. Ponce de León, VIG Tower, Suite MZ-1 San Juan Puerto Rico 00907 +1 (787) 721 2002 www.steergroup.com	BHA Calle del Parque #207, San Juan, 00912

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LRB, JGA, JCH	APG, LVA

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