



CAPARRA INTERCHANGE SYSTEM A SUCCESS EXPERIENCE

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Outline

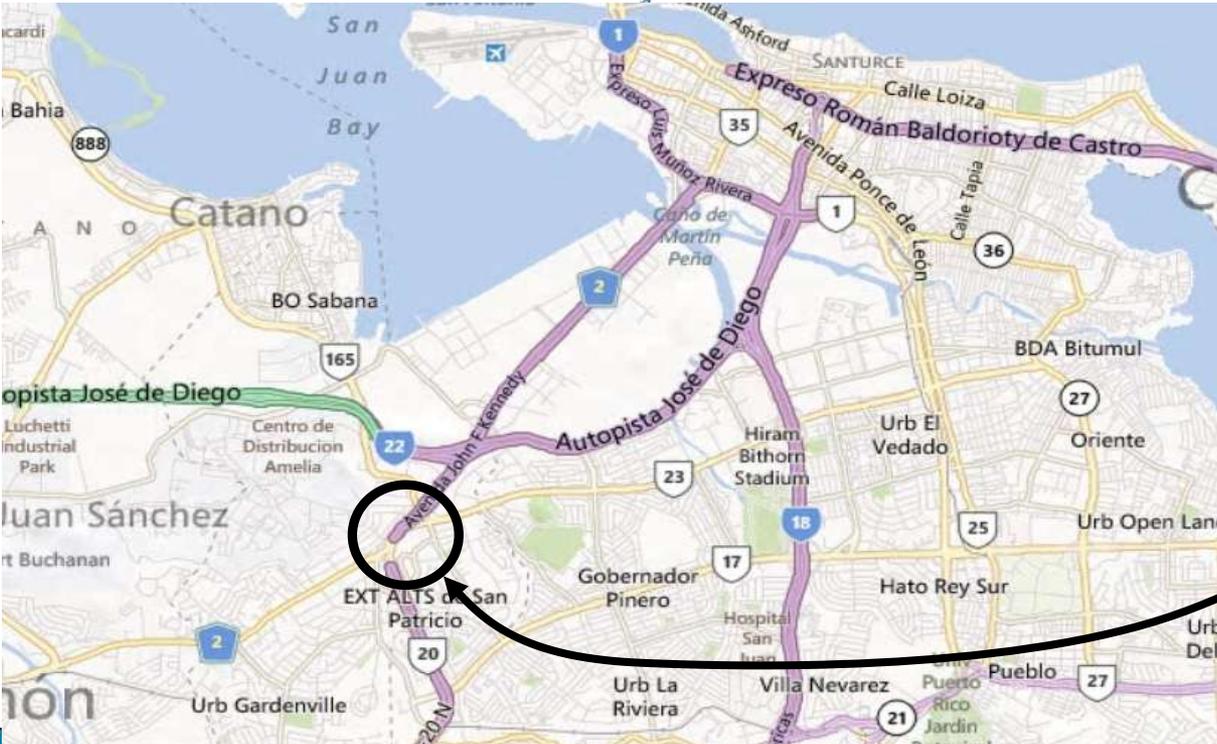
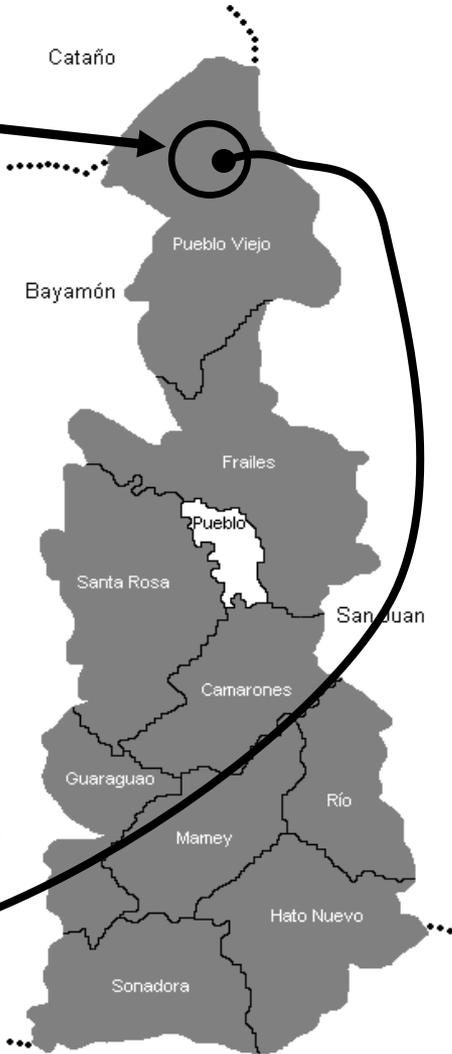
- **Relevance & Location**
- **Problem & Solution**
- **Guaynabo City as a Grantee**
- **Brief Status Report of the Project**
- **The Learning Process**

Relevance of the Interchange

The Caparra Interchange System (CIS) is one of the most important interchanges in Puerto Rico:

- It is located in the Municipality of Guaynabo as part of the **San Juan Metropolitan Area (SJMA)**
- Manages more than 91,000 vehicles per day
- The **CIS** includes the **PR-2-** which is part of the **National Highway System**
- Critical component of the road system that facilitates connectivity between the principal highways of SJMA as PR-22 and PR-20 with PR-2, PR-23 and PR-165 between the municipalities of Bayamón, Guaynabo, Toa Baja, Cataño and San Juan

Location



The Problem

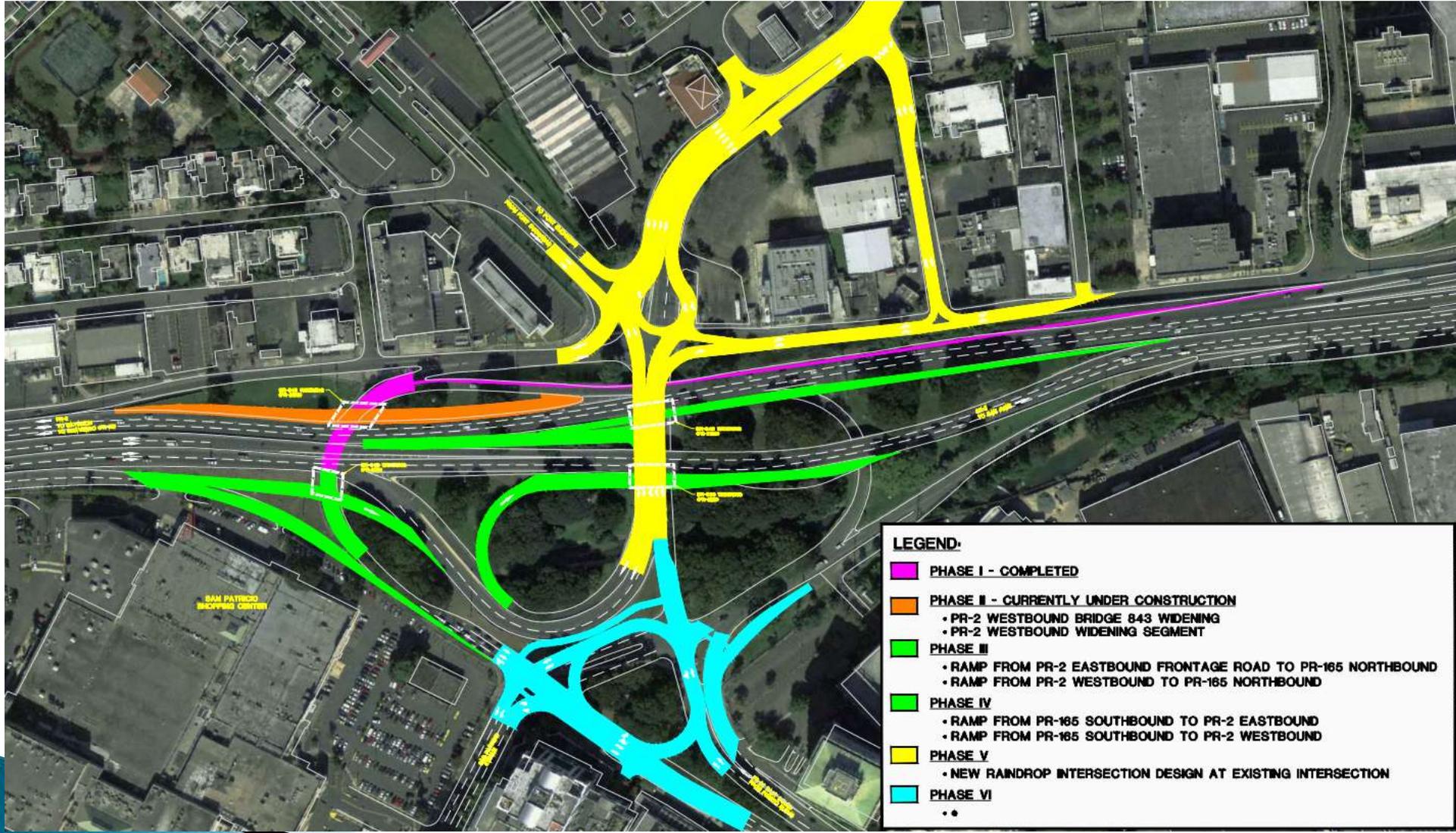
- The current system's conditions are inefficient and unsafe. Vehicles from PR-2 West/East and some from PR-20 transiting towards PR-23 and PR-165 end up at the signalized intersection of San Patricio Avenue and PR-23 F.D. Roosevelt Avenue
 - Due to the high traffic volumes crossing this intersection, traffic queue lengths extend back to PR-2 west, resulting in long traffic delays, making this particular signalized intersection the most deficient of this system.
 - Significant traffic congestion on the PR-2 Mainline are due to the bottleneck effect between PR-20 and PR-22 interchanges.

Possible Solutions

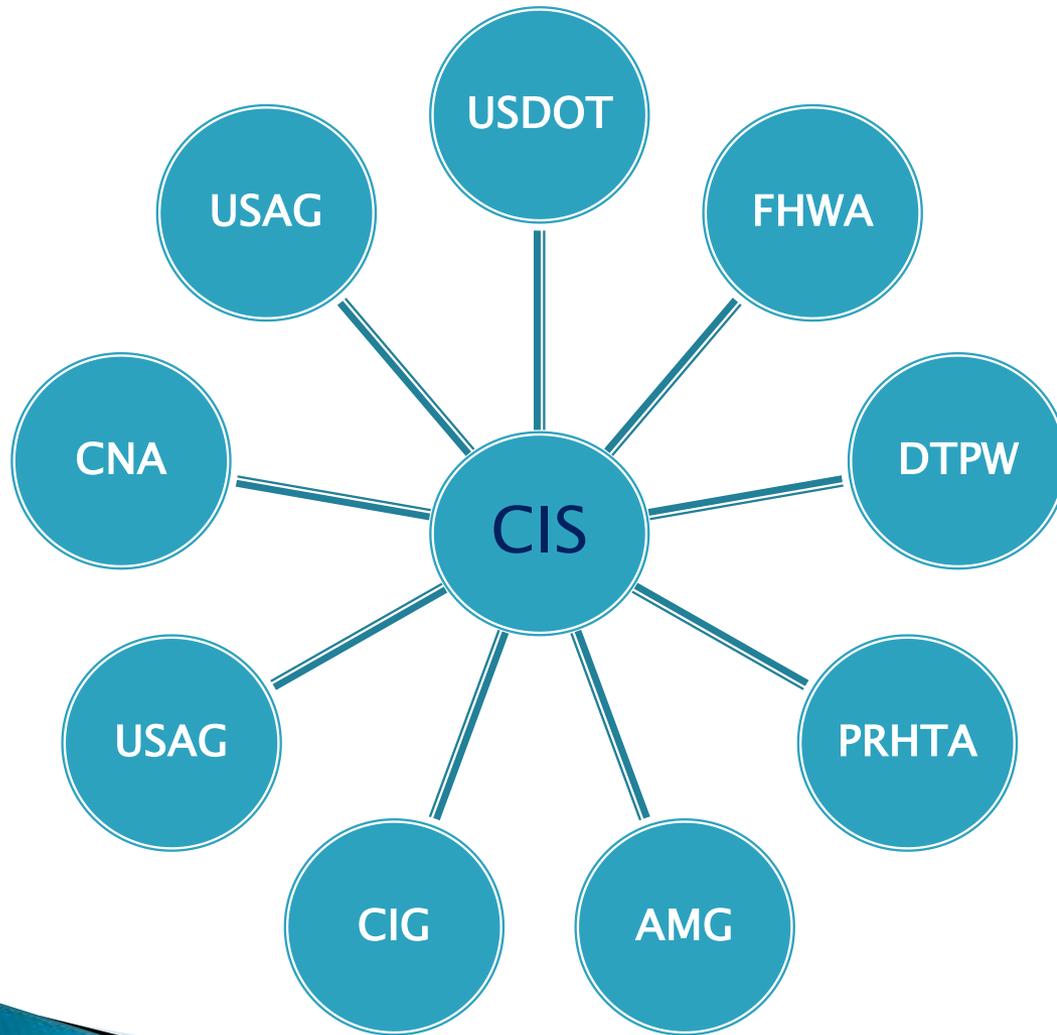
- Existing **traffic signals** requires a technological update and to be synchronized for a better traffic coordination
- PR-23 and PR-165 and its surroundings are used by **cyclists and pedestrians** who are affected by lack of or deteriorated sidewalk and unsafe crossings
- Enhance traffic capacity due to additional lanes and reduces the traffic bottleneck effect
- Restoration of traffic movements to San Juan and Bayamon from PR-165
- It provides back a full direct access from US Army Garrison Fort Buchanan to state roads PR-2, PR-165 & PR-23



Project Description

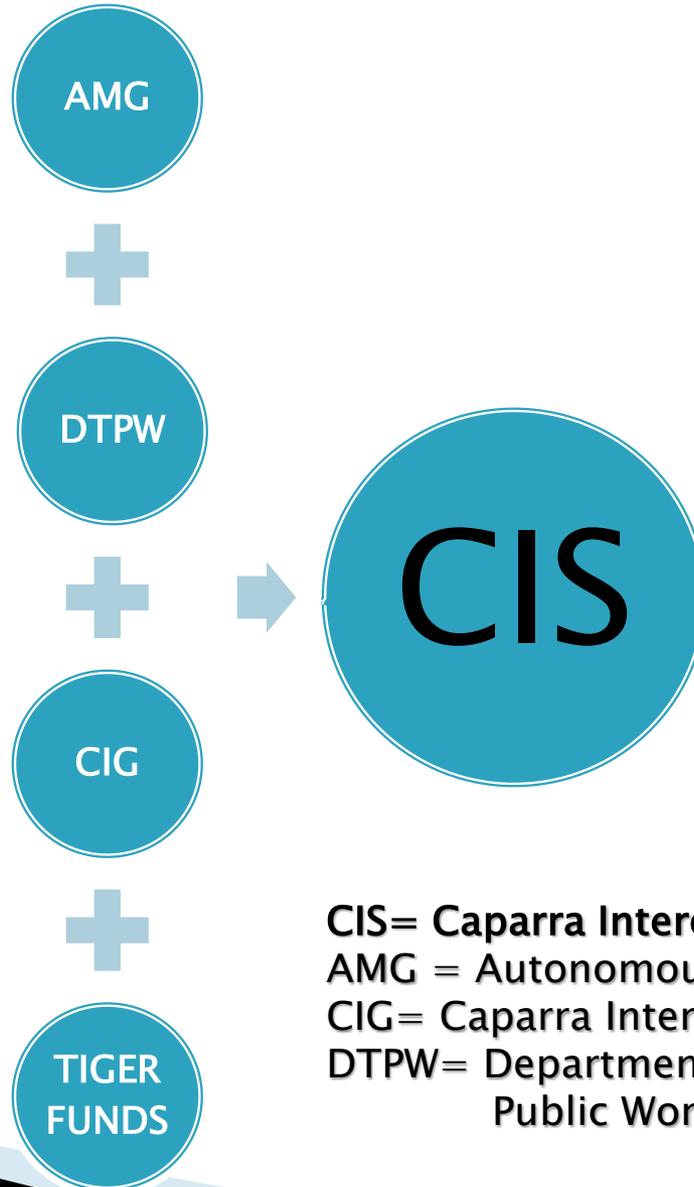


Identification of the Stakeholders



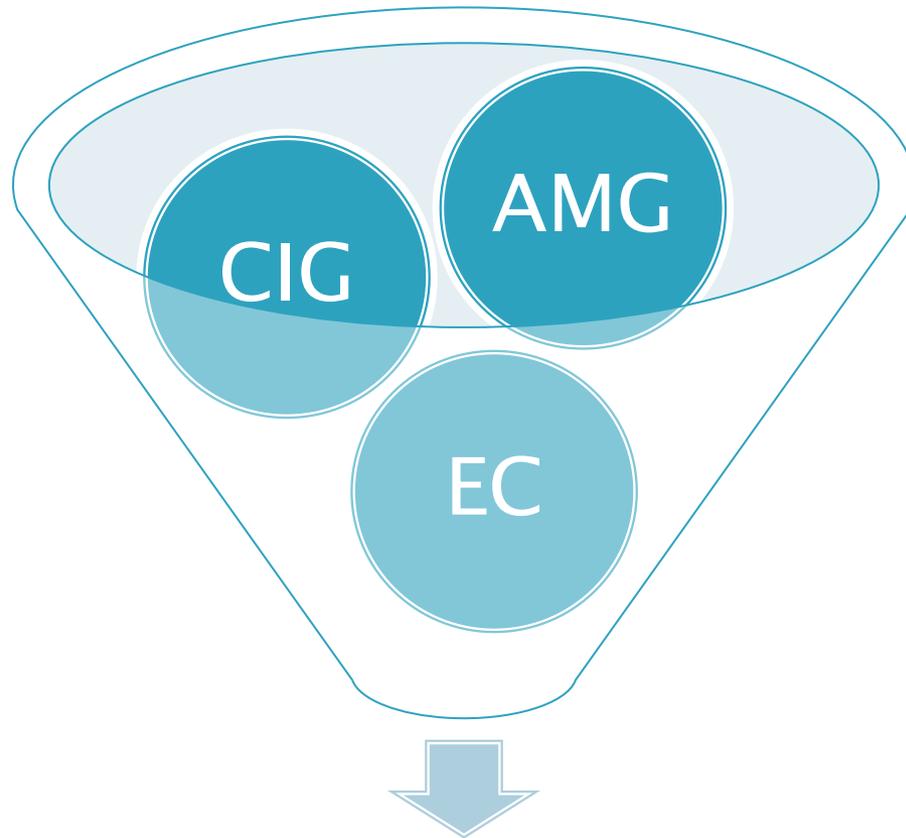
CIS= Caparra Interchange System
AMG = Autonomous Municipality of Guaynabo
CIG= Caparra Interchange Group
EC= External Consultants
USDOT= US Department of Transportation
FHWA= Federal Highway Administration
DTPW= Department of Transportation and Public Works
PRHTA=Puerto Rico Highway Transportation Agency
USAG= US Army Garrison Fort Buchanan
CNA= Caparra Neighborhoods Associations

Identify Possible Fund Parties



CIS= Caparra Interchange System
AMG = Autonomous Municipality of Guaynabo
CIG= Caparra Interchange Group
DTPW= Department of Transportation and Public Works

Establish the “Dream Team”



Caparra Interchange System

AMG = Autonomous Municipality of Guaynabo
CIG = Caparra Interchange Group
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Guaynabo City as Grantee

The Municipality as Grantee:

- First ever in Puerto Rico for Tiger Funds
- Leadership should be at the level with the main interest and commitment in the project



Guaynabo City as Grantee

Successful Actions:

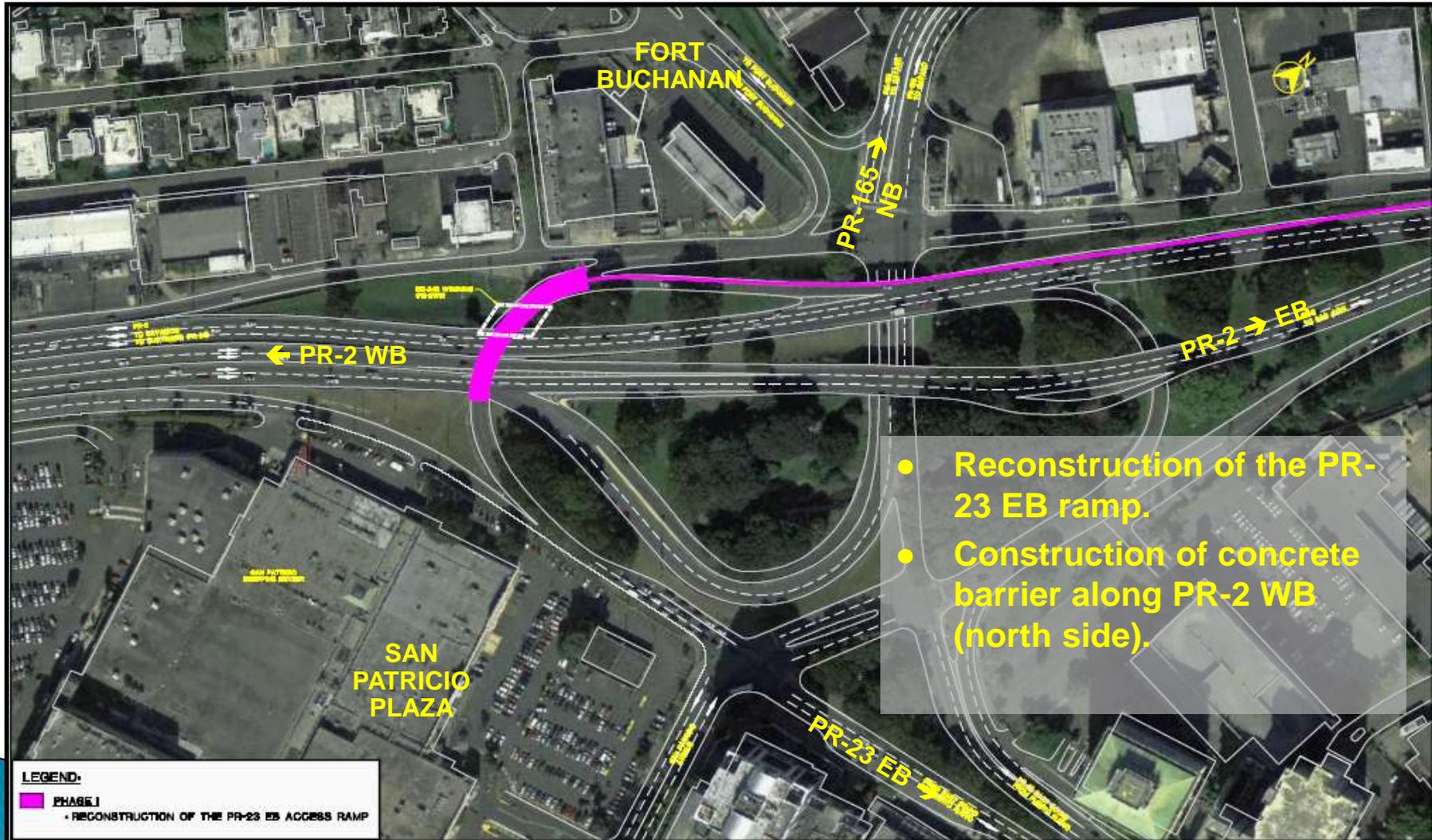
- ▶ Municipality management and execution capabilities
 - ▶ Close coordination with the State, the Federal Government and the Private Sector
 - ▶ Consultants with experience in this type of projects
 - ▶ Quick solutions to resolve problems that arise during implementation
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Brief Status Report of the Project

CONSTRUCTION PHASES

PHASE # 1- COMPLETED



CONSTRUCTION PHASES

Construction at a Glance: Phase I

Description	Amount	Comment
Original Cost	\$939,721.00	
Final Cost	780,287.70	
Change in Cost	(159,433.30)	Net was negative. Some increases due to improvements in MOT. Decreases due to retaining wall substitution by embankment and simplifications to the drainage system
% Change in Cost	(17.0) %	
Notice to Proceed	3-Mar-13	
Duration	90 days	
Original Completion	1-Jun-13	
Time Extension	42 days	Mostly due to extreme rain events.
% Change in Duration	46.7 %	
Final Completion	13-Jul-13	

CONSTRUCTION PHASES

PHASE I : PICTURES



CONSTRUCTION PHASES

PHASE I : PICTURES



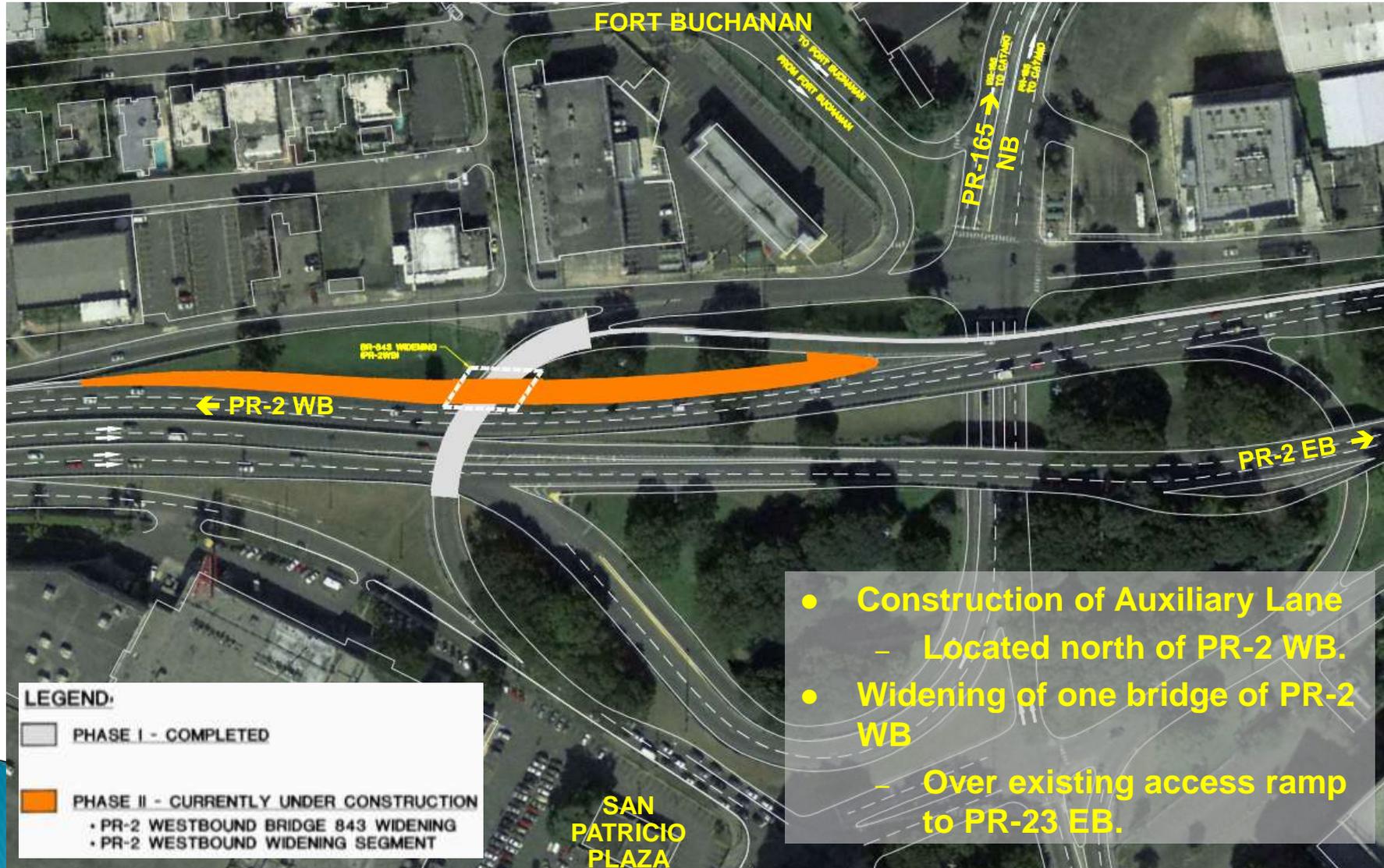
CONSTRUCTION PHASES

PHASE I : PICTURES



CONSTRUCTION PHASES

PHASE II - CONSTRUCTION



CONSTRUCTION PHASES

Construction at a Glance: Phase II

Description	Amount	Comment
Original Cost	\$2,001,566.00	
Final Cost	1,992,164.22	
Change in Cost	(9,401.78)	Net was negative Increased items (most significant): drainage, traffic signs, borrow and piling Deductive items (most significant): asphalt, concrete barriers and removal of contaminated material.
% Change in Cost	(0.45) %	
Notice to Proceed	8-Sep-13	
Duration	147 days	
Original Completion	2-Feb-14	
Time Extension	56 days	
% Change in Duration	38 %	
Final Completion	18-Apr-14	

CONSTRUCTION PHASES

PHASE II : PICTURES



CONSTRUCTION PHASES

PHASE II : PICTURES

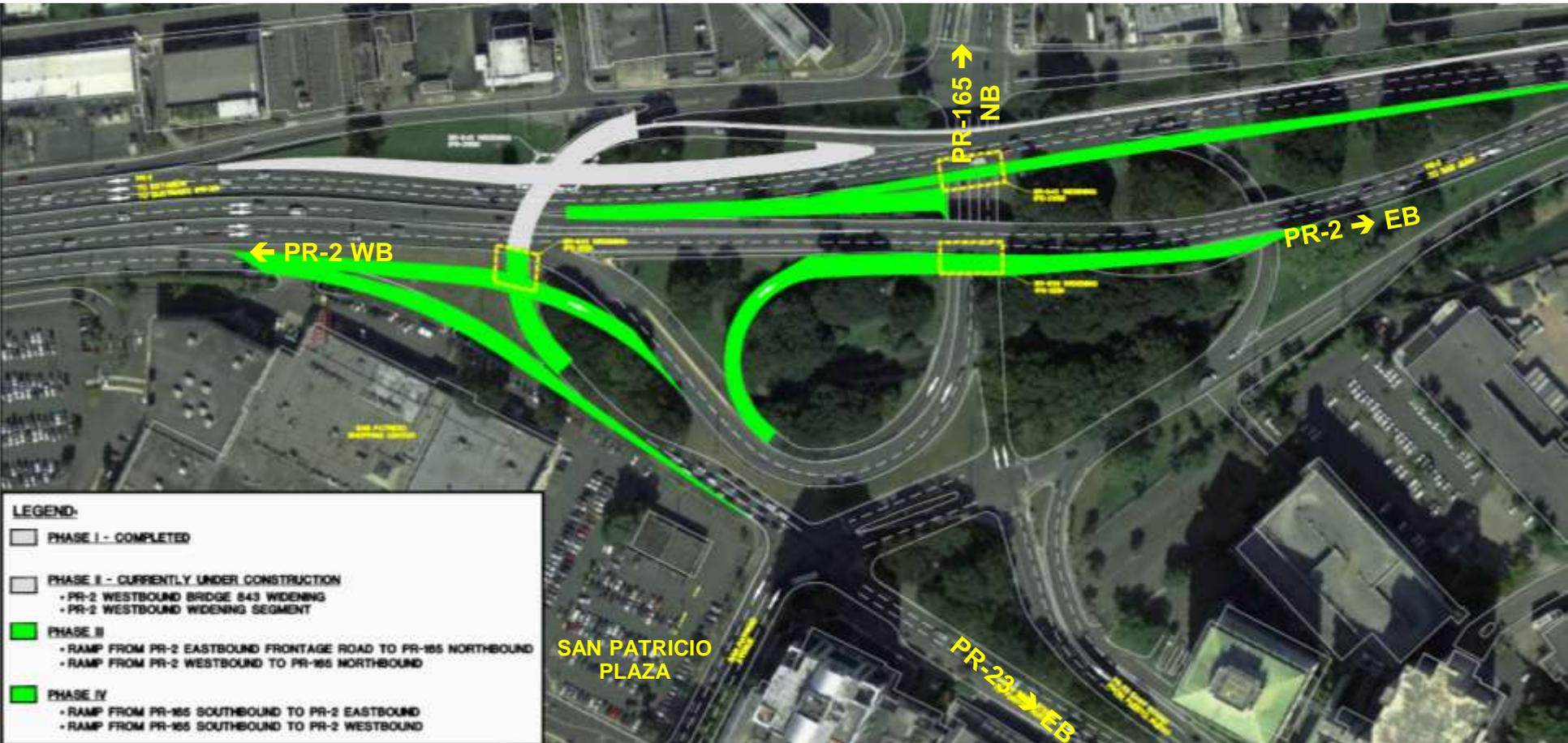


CONSTRUCTION PHASES

PHASE II : PICTURES



CONSTRUCTION PHASES PHASES III & IV - DESIGN



- Construction of two access ramps; From PR-2 EB Frontage Road to the existing ramp of PR-165 NB & From PR-2 WB Frontage Road to PR-165.
- New bridge construction, Auxiliary lanes located to the east of PR-2 EB and west of PR-2 WB, Widening of two bridges of PR-2 over PR-23. New ramp from PR-165 southbound to PR-2 WB.

CONSTRUCTION PHASES

Construction at a Glance: Phase III & IV

Description	Amount		Comment
Original Cost	\$8,012,903.25		
Cost to Date	8,211,029.25		
Change in Cost	198,126.00		Lead removal, additional erosion control, additional length of piles, footing changes BR-3
% Change in Cost	2.5	%	
Notice to Proceed	22-Sep-14		
Duration	510	days	
Original Completion	14-Feb-16		
Time Extension	-	days	
% Change in Duration	-	%	
Expected Final Completion	14-Feb-16		
% Time	27.25%		As of Jan. 31, 2015
% Work	9.61%		As of Jan. 31, 2015

CONSTRUCTION PHASES

PHASE III & IV : PICTURES



The Learning Process

- Selecting the right project with the adequate solution
 - Identify the stakeholders and potential source of Funds
 - The importance of putting together the right team
 - Understanding the Objectives and Public Policies related to the Grant Process
 - Perseverance and Tenacity
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