Puerto Rico District-Wide Master Plan and Educational Specifications

San Juan, Puerto Rico
Puerto Rico Department of Education

As a result of devastation caused by Hurricanes Irma and Marie in 2017, the earthquake in 2020, and the pandemic, an unprecedented federal investment of $2.3 billion was put forth for the territory to rebuild its school system. Funding comes under the Bipartisan Budget Act with additional funding in process based on the more recent earthquakes and pandemic. DLR Group is developing a facilities master plan, working alongside the Puerto Rico Department of Education (PRDE), to inform future decision making and allocation of funding related to capital projects.

Workshops with educators, administrators, and community leaders served as the starting point to confirm the vision for learning connections between pedagogy and place. Assessments of all 857 schools and sites then followed and encompassed evaluating the existing infrastructure for vital learning and community connections, as well as the potential for sites to accommodate enhanced programs that align with PRDE's pillars (Montessori, STEM, Bi-Lingual, Arts, Athletics, CTE, Special Ed, and Resiliency). This data was then synthesized and used to equitably rank capital projects. Facilities were categorized by funding level and based on need: low (interventions), medium (modernizations), high (transformations/new construction).

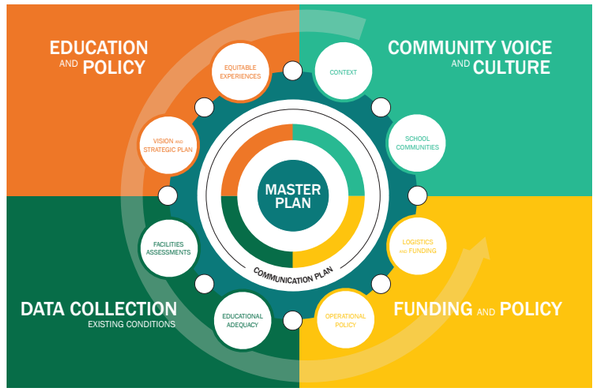
Combining architectural precedence from the existing schools with the programmatic elements from early visioning, DLR Group developed key themes to develop a "kit of parts" approach to rebuilding PRDE's facilities. This approach quantifies interventions, modernizations, transformation, and new construction elements and their respective funding levels by *Learning Connections, Community Connections, Inquiry Based Learning, Health and Wellness, Resiliency, Safety and Security, and Flexibility*. To ensure proper implementation of educational specifications and capital projects, DLR Group is also developing design guidelines integrated within the master plan.

Key Project Components

- Data Driven
- Context & Culture
- FEMA and Industry Standards

Project Duration: February 2022 - August 2022
Size: 857 facilities
Enrollment: 200,000 students
Project Value for Overall Master Plan: $8 Billion

Process and Decision-making



Key Components of the Master Planning Process

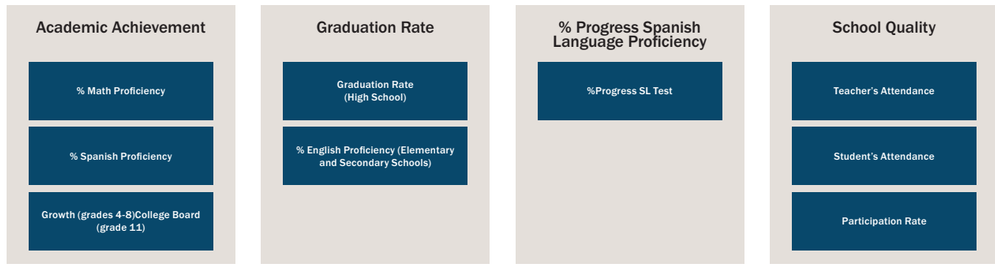
Decision-making Tree Diagram

Region	Municipality	School Code	SchoolName	Year Built	21st Century	Current Capacity from "Template School Data"	2022-23 Projected Enrollment	Current Building Capacity divided by Projected Enrollment	Current Capacity from "Template School Data"	Assume 90% Utilization for Program Capacity	2022-23 Projected Enrollment	Current Program Capacity divided by Projected Enrollment	2022-23 Projected Enrollment	Projected School size	Projected Enrollment divided by Minimum enrollment for that school size		Current Grade Level	Potential Grade Level - PK-5	Potential Grade Level - PK-6	Potential Grade Level - 6 - 8	Potential Grade Level - 6 - PK-12	Potential Grade Level - 9 - 12	Potential Grade Level - Sp - 12	COULD CURREN TLY ACCOMMODATE	COULD ACCOMMODATE IN FUTURE	Future Grade Configurations divided by Current Grade Configurations	Current Enrollment	2022-23 Projected Enrollment
ARECIBO	CAMUY	11623	ANTONIO REYES	1942	NO	558	232	139%	558	502	232	172%	232	595	43%		6-8	NO	NO	NO	NO	NO	NO	NO	1	1	0	0%	316	232
PONCE	VILLALBA	53255	FRANCISCO ZAYAS SANTANA	1974	YES	475	365	130%	475	428	365	117%	365	595	61%		6-8	NO	NO	NO	NO	NO	NO	NO	1	0	0	0%	382	365
ARECIBO	CAMUY	17327	SUPERIOR MIGUEL F SANTIAGO ECHEGARAY	1960	NO	340	247	138%	340	306	247	124%	247	595	41%		9-12	NO	NO	NO	NO	NO	NO	NO	1	0	0	0%	254	247
PONCE	VILLALBA	54862	ESCUELA ESPECIALIZADA EN CIENCIAS Y MATEMATICAS	1982	YES	310	219	142%	310	279	219	128%	219	595	37%		9-12	NO	NO	NO	NO	NO	NO	NO	1	0	0	0%	217	219
PONCE	GUANICA	57620	ALREA QUILES CLAUDIO	1992	NO	480	276	174%	480	432	276	156%	276	595	46%		9-12	NO	NO	NO	YES	YES	YES	YES	1	4	4800%	277	276
PONCE	VILLALBA	58503	CRISTINA MAGDA MARTINEZ MARTINEZ	1998	NO	520	416	125%	520	468	416	113%	416	595	69%		9-12	NO	NO	NO	YES	YES	YES	YES	1	3	3900%	416	416
PONCE	VILLALBA	58180	LYSANDER BORRERO TERRY	2002	NO	1000	583	171%	1000	900	583	154%	583	595	98%		9-12	NO	NO	NO	YES	YES	YES	YES	1	4	4800%	603	583
ARECIBO	CAMUY	17384	LUIS F CRESPO	1953	NO	1085	623	174%	1085	976	623	147%	623	595	105%		9-12	NO	NO	NO	YES	NO	YES	YES	1	3	3900%	650	623
ARECIBO	CAMUY	11080	PEDRO AMADOR	1948	YES	236	143	164%	236	212	143	148%	143	520	28%		K-5	NO	NO	NO	NO	NO	NO	NO	1	0	0%	161	143
ARECIBO	CAMUY	10367	RALPH W EMERSON	1938	YES	444	357	124%	444	400	357	112%	357	520	69%		K-5	NO	NO	NO	NO	NO	NO	NO	1	0	0%	372	357
PONCE	GUANICA	53793	MAPIA L MC DOUGALL	1953	NO	367	115	319%	367	330	115	287%	115	520	22%		K-5	NO	NO	NO	NO	NO	NO	NO	1	0	0%	131	115
PONCE	VILLALBA	56077	NORMA I TORRES COLON	1960	NO	350	167	210%	350	315	167	189%	167	520	32%		K-5	YES	YES	YES	YES	YES	YES	NO	1	5	5000%	176	167
PONCE	GUANICA	53757	JOSE RODRIGUEZ SOTO	1903	YES	547	200	273%	547	492	200	246%	200	520	38%		K-8	NO	NO	NO	NO	NO	NO	NO	1	0	0%	211	200
ARECIBO	CAMUY	10692	SU JOAQUIN VAZQUEZ CRUZ	1942	NO	537	262	205%	537	483	262	185%	262	520	50%		K-8	NO	NO	NO	NO	NO	NO	NO	1	0	0%	271	262
ARECIBO	CAMUY	11031	SU SANTIAGO ESPALMER	1970	NO	538	238	226%	538	484	238	203%	238	520	46%		K-8	NO	NO	NO	NO	NO	NO	NO	1	0	0%	246	238
PONCE	VILLALBA	53740	SU HATILLO	1962	NO	580	369	157%	580	522	369	142%	369	520	71%		K-8	YES	YES	YES	YES	YES	NO	NO	1	5	5000%	395	369
ARECIBO	CAMUY	11756	LUIS FELIPE RODRIGUEZ GARCIA	2002	NO	775	482	161%	775	698	482	145%	482	520	93%		K-8	YES	YES	YES	YES	YES	NO	NO	1	5	5000%	514	482
PONCE	GUANICA	53701	MAGUEYES II	1960	NO	152	84	229%	152	173	84	207%	84	520	16%		PK-5	NO	NO	NO	NO	NO	NO	NO	0	0	0%	88	84
PONCE	GUANICA	53830	ELSA E COUTO ARNON	1960	NO	176	105	167%	176	158	105	150%	105	520	20%		PK-5	NO	NO	NO	NO	NO	NO	NO	1	0	0%	105	105
PONCE	VILLALBA	58263	DANIEL SIERRA MC RIVERA	2000	NO	433	339	128%	433	390	339	115%	339	520	65%		PK-5	NO	NO	NO	NO	NO	NO	NO	0	0	0%	351	339
PONCE	GUANICA	53773	LUIS MUÑOZ RIVERA	1969	NO	176	64	274%	176	159	64	248%	64	520	12%		PK-5	NO	NO	NO	NO	NO	NO	NO	0	0	0%	63	64
ARECIBO	CAMUY	17467	AMALIA LOPEZ DE AVILA (NUEVA)	1998	NO	570	268	213%	570	513	268	191%	268	520	52%		PK-5	NO	NO	NO	NO	NO	NO	NO	1	0	0%	282	268
PONCE	VILLALBA	58495	RAMON LOPEZ BERRIOS	2005	NO	185	93	200%	185	167	93	180%	93	520	18%		PK-5	YES	YES	YES	YES	YES	NO	NO	1	5	5000%	92	93
PONCE	VILLALBA	54452	ISABEL AL VARADO AL VARADO	2015	NO	468	377	124%	468	421	377	112%	377	520	73%		PK-8	NO	NO	NO	NO	NO	NO	NO	1	0	0%	412	377

Methodology for Recommendations
(comprehensive collection of all input informing recommendations)

The framework for the Puerto Rico accountability system recognizes that school performance should be assessed within four overarching categories or indicators. Each indicator is described briefly below.

School Assessment Framework



U.S. Virgin Islands Master Plan & Bridging Documents

St. Croix, USVI
USVI Department of Education

The U.S. Virgin Islands (USVI) Department of Education selected DLR Group to conduct an educational facilities master plan that has set a new direction for education in the USVI. The master plan encompasses more than 2.7 million SF of educational space in 45 facilities, serving 10,700 students, across St. Croix, St. John, and St. Thomas. This portfolio of aging schools is rapidly deteriorating in the tropical environment and many buildings have been further damaged by the 2017 Category 5 hurricanes over the years. The four primary components of the master plan address spatial agility, school safety, sustainability, and community partnerships. These components are informed by a comprehensive set of guiding principles for learning environments in the USVI established by more than 45 stakeholders with multiple meetings over a 6-month duration. Participants included government officials, educational leaders, teachers, students, parents, community, and industry partners.

The scope involved the delivery of Master Plan Design Guidelines, building programs, sustainable and energy goals, and design concepts to create next generation learning environments on 18 consolidated campuses. Following a successful master planning effort, DLR Group was retained to complete design documents for the first five projects prioritized in the master plan. These bridging documents directly integrate ideas from the master plan and were issued as part of the request for proposals for design/build teams. Design and construction of new and modernized schools are phased with a target completion date of 2025.

View the completed master plan here.

View a video about our process here.

Key Project Components

- Data Driven
- Context & Culture
- FEMA and Industry Standards

Project Duration: January 2020 - June 2020
Size: 2.7 million SF, 45 facilities
Enrollment: 10,700 students
Project Value for Overall Master Plan: $2 Billion

The space curricula scores were analyzed and input to create a dashboard for every school. The dashboard indicates how well the building supports or impedes a teacher ability to deliver curriculum.

Space Curricula Alignment Scores

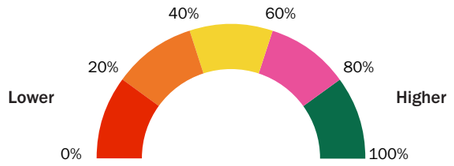
Each facility received an overall score, within a range of 0-100%.

The total score is the product of assessments in six subcategories, tied to the space curricula alignment indicators outlined at right and displayed on each of the dashboards.

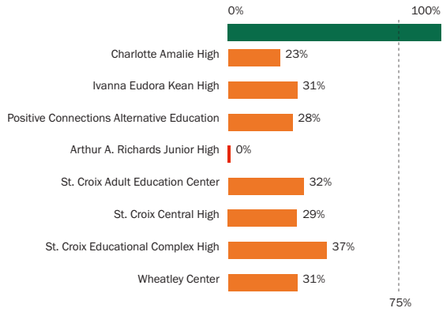
Note: If a school was completely reliant on modulars, it automatically received a score of 0%, as modulars do not provide future-facing solutions.

01. Community Resource
    Culture, Community Connections & Wayfinding
02. Stimulating Architecture
    Performance & Condition of Physical Space
03. Safe and Secure Supervision and Security
    Safety, Security & Site Functionality
04. Learning Environments that Connect
    Real-World Experiential Learning
05. Flexibility
    Flexible Space, Accommodations, Utilization & Adaptable Furniture for Day-to-Day Use and Over Time
06. Comfortable & Healthy
    Natural Day-Lighting, Adjustable Lighting, Appropriate Acoustics, Thermal Comfort, Well Being & Engagement

Space Curricula Alignment Indicator



Space Curricula Alignment Indicator Scores: VIDE Secondary



One of the guiding principles was to celebrate how culture and context should shape the architectural outcomes of the Master Plan. The architecture in the U.S. Virgin Islands has a long history of respecting the environment which became a key component of the approach to high performance design.

Vernacular Architecture - Historical Continuum

Formal Historic

Casual Vernacular

Interpretive / Revival

Transitional

Contemporary