
Chapter Five

Engaging Operative Practice to Achieve Lasting Change

“The designed environment is a reflection of who we are and who we want to be, as individuals and as a society; thus, it is an important component of the cultural and economic well-being of a community and can act as a powerful catalyst for change. As Winston Churchill once said, ‘We shape our buildings; thereafter, they shape us.’”

- Design as Activism



Five • Quantitative Program

• Introduction

The development of the program for the design of the community complex involves looking in great detail to the existing structures and communal gathering spaces currently available within the Bateys, Barrios and Barahona. This is important because it is necessary to develop a complex design that suits the users. The creation of spaces that become too small, will discourage use by the people, just as the creation of spaces that become too large, will also discourage use. The approach taken for the development of the programmatic requirements within each of the ten buildings begins with analysis and continues through comparison. The analysis of the existing 'Children of the Nations' structures shows that these spaces are sometimes too small for the large functions and the number of people served in one area. The analysis of the homes within the Bateys and Barrios also shows the cramped and small interior spaces that become unused. The main reasoning why the interior spaces of the Batey and Barrio homes become unused is purely due to the fact that these interior

spaces are uncomfortable to be within, due to heat and the number of people living in one house. People tend to gather outside in garden-like spaces, in the streets or under shaded open air structures located in the schools. Taking into consideration all of these observations it becomes clear that the sizing of interior spaces need to be designed correctly within the design of the complex in order to create a successful live, work and educational environment for all users. The comparison of programmatic spaces begins with looking fourth to the American Building Code Standards. This allows for the understanding of how we design interior spaces allowing our users to be sometimes more than comfortable. Taking the median approach which is between the current building spaces of Barahona and the United States, allows for defined and reasoned spaces to be developed enabling the evolution of the interior spaces for the ten buildings within the community complex. In figure 5.1 each building is detailed with the maximum and minimum square footages according to American Building Code Standards.



Fig. 5.1_ Space comparison analysis in the United States

Name of Space	Building Number	Number of Spaces	Number of Occupants	NSF Per Person	Min. NSF Per Space	Max. NSF Per Space	Min. NSF Total Area	Max. NSF Total Area
Kitchen	One	1	5-10	200 sq.ft	1000 sq.ft	2000 sq.ft	1000 sq.ft	2000 sq.ft
Dining Area	One	1	100-400	15 sq.ft	1500 sq.ft	6000 sq.ft	1500 sq.ft	6000 sq.ft
Assembly Area	One	1	400-500	7 sq.ft	2800 sq.ft	3500 sq.ft	2800 sq.ft	3500 sq.ft
Bldg. Total							5300 sq.ft	11500 sq.ft
Conference Room	Two	1	20-30	15 sq.ft	300 sq.ft	450 sq.ft	300 sq.ft	450 sq.ft
Office	Two	4	1-2	100 sq.ft	100 sq.ft	200 sq.ft	400 sq.ft	800 sq.ft
Assembly Area	Two	1	20-50	15 sq.ft	300 sq.ft	750 sq.ft	300 sq.ft	750 sq.ft
Bldg. Total							1000 sq.ft	2000 sq.ft
Dormitories	Three	33	420	50 sq.ft	600 sq.ft	600 sq.ft	19800 sq.ft	19800 sq.ft
Bldg. Total							19800 sq.ft	19800 sq.ft
Education Pods	Four	5	20-30	15 sq.ft	300 sq.ft	450 sq.ft	1500 sq.ft	2250 sq.ft
Bldg. Total							1500 sq.ft	2250 sq.ft
Library	Five	1	20-30	50 sq.ft	1000 sq.ft	1500 sq.ft	1000 sq.ft	1500 sq.ft
Reading Room	Five	1	5-10	50 sq.ft	250 sq.ft	500 sq.ft	250 sq.ft	500 sq.ft
Bldg. Total							1250 sq.ft	2000 sq.ft
Clinic Space	Six	1	20-30	80 sq.ft	1600 sq.ft	2400 sq.ft	1600 sq.ft	2400 sq.ft
Office	Six	1	2-5	100 sq.ft	200 sq.ft	500 sq.ft	200 sq.ft	500 sq.ft
Bldg. Total							1800 sq.ft	2900 sq.ft
Chapel	Seven	1	30	7 sq.ft	210 sq.ft	210 sq.ft	210 sq.ft	210 sq.ft
Bldg. Total							210 sq.ft	210 sq.ft
High School	Eight	8	25	15 sq.ft	375 sq.ft	375 sq.ft	3000 sq. ft	3000 sq. ft
Bldg. Total							3000 sq.ft	3000 sq.ft
Gym	Nine	1	20-30	15 sq.ft	300 sq.ft	450 sq. ft	300 sq.ft	450 sq.ft
Therapy Room	Nine	1	10-20	15 sq.ft	150 sq.ft	300 sq.ft	150 sq.ft	300 sq.ft
Assembly Area	Nine	1	20-50	7 sq.ft	140 sq.ft	350 sq.ft	140 sq.ft	350 sq.ft
Office	Nine	4	2-5	100 sq.ft	200 sq.ft	500 sq.ft	800 sq. ft	2000 sq. ft
Bldg. Total							1390 sq.ft	3100 sq.ft

Five • *Analysis of Indoor Spaces of COTN Buildings*



Fig. 5.2_ Classroom at the school within the Batey Algodon



Fig. 5.4_ Classroom at Barrio Pueblo Nuevo



Fig. 5.3_ Venture Team living quarters at Casa Bestesda



Fig. 5.5_ Operation within the Clinic

Five • *Analysis of Indoor Spaces within the Bateys*



Fig. 5.6_ Interior of Batey home in los Robles



Fig. 5.8_ Pool table used as a bed



Fig. 5.7_ Interior of church at the Batey Los Robles



Fig. 5.9_ Interior of kitchen in a Batey home in Altigracia

Five • *Analysis of Outdoor Communal Space*



Fig. 5.10_ Family gathering outside in the shade



Fig. 5.12_ Man feeding his child



Fig. 5.11_ People gathering to collect food at the Batey Algodon



Fig. 5.13_ Outdoor communal space at the Batey Altagracia

Five • Analysis of Outdoor Communal Space



Fig. 5.14_ Outdoor communal building at Barrio Don Bosco



Fig. 5.15_ Playground at the school in the Batey Algodon



Fig. 5.16_ The Haitian market area



Fig. 5.17_ Basketball court at the school in the Batey Altagracia

Five • *Structural Analysis*



Fig. 5.18_ CMU block construction with wood frame roof



Fig. 5.19_ Siding of Batey house in Algodon



Fig. 5.20_ Rebar extending out of finished roof



Fig. 5.21_ Concrete school building

Five • *Structural Analysis*

Fig. 5.22_ Nail attachment of siding to wooden frame



Fig. 5.24_ Rebar to roof connection



Fig. 5.23_ Wooden framing of traditional Batey home



Fig. 5.25_ Rubber sole used as door hinge

Five • *Structural Analysis*



Fig. 5.26_ Interior siding and window shutter



Fig. 5.28_ Covered Entry to a Batey house



Fig. 5.27_ Exterior CMU block with site cast concrete for playground



Fig. 5.29_ Mud and concrete floor in a traditional Batey house

Five • *Structural Analysis*



Fig. 5.30_ Toilet in the Batey Altagracia



Fig. 5.31_ Interior siding of Batey home; wood and metal



Fig. 5.32_ Elevated structure used for toilet



Fig. 5.33_ Wood Siding brightly painted, metal added in areas needed

Five • *Structural Analysis*



Fig. 5.34_ CMU block



Fig. 5.36_ Rebar used in wall construction



Fig. 5.35_ Site cast concrete flooring for exterior playground



Fig. 5.37_ Cracks due to lack of expansion joints

Five • *Structural Analysis*

Fig. 5.38_ Uneven loading condition on column design



Fig. 5.39_ Rebar extending from roof of school



Fig. 5.40_ Wooden truss



Fig. 5.41_ Rebar to roof connection

Five • *Structural Analysis*



Fig. 5.42_ Metal roofing on uneven wooden framing system



Fig. 5.44_ Cardboard used as roofing material



Fig. 5.43_ Two toilets in one bathroom area



Fig. 5.45_ Metal window shutter used in school design

Five • *Structural Analysis*



Fig. 5.46_ New wooden frame construction in the Batey Algodon



Fig. 5.47_ Water collector



Fig. 5.48_ New wood framing in Batey house



Fig. 5.49_ Corrugated metal roofing nailed on wooden truss

Five • *Structural Analysis*



Fig. 5.50_ Water distribution Units on Roof



Fig. 5.51_ Rebar and stirrups extending out of concrete beam



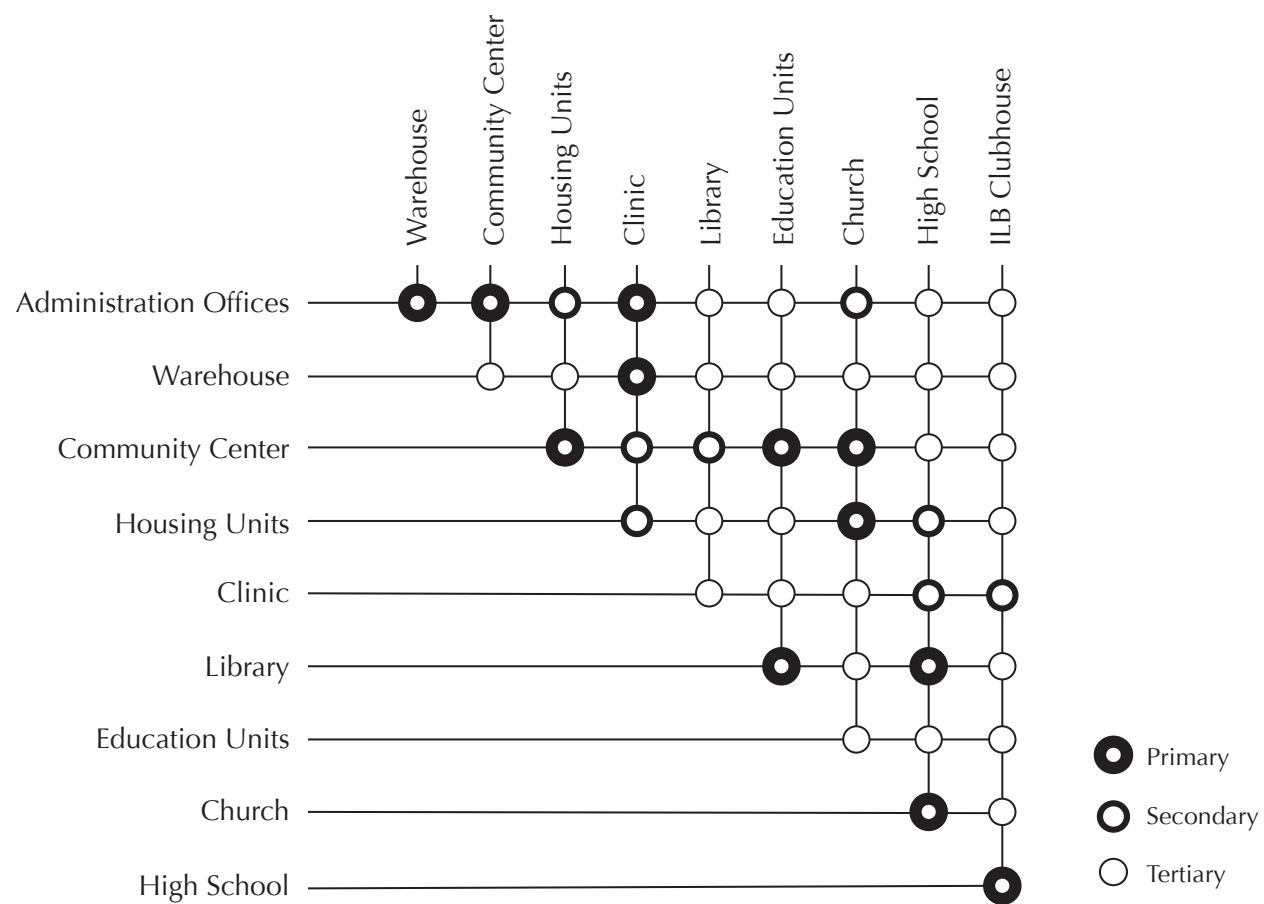
Fig. 5.52_ Rebar extending from concrete stairs



Fig. 5.53_ CMU block wall construction

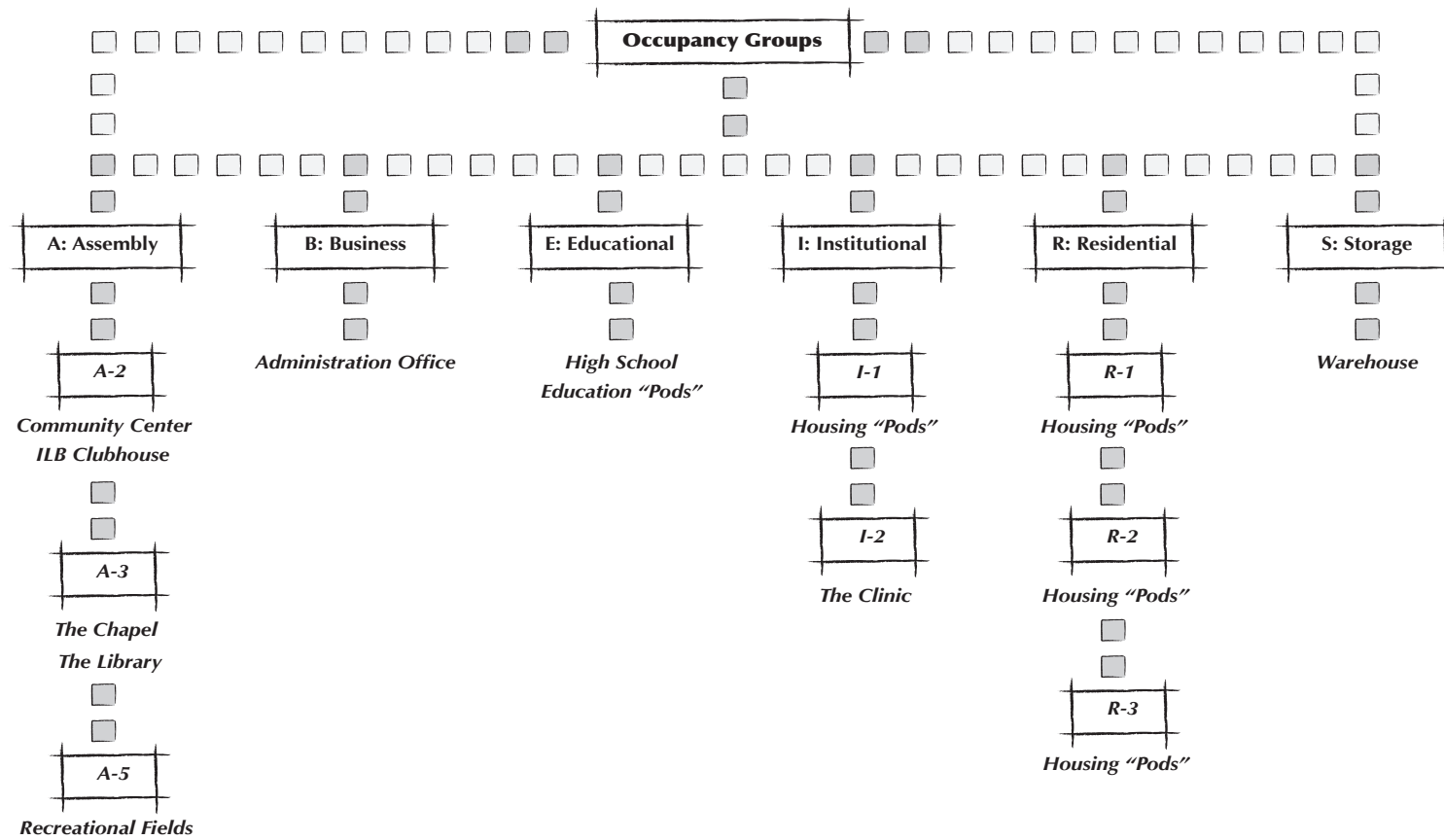
Five • Building Matrix

Fig. 5.54



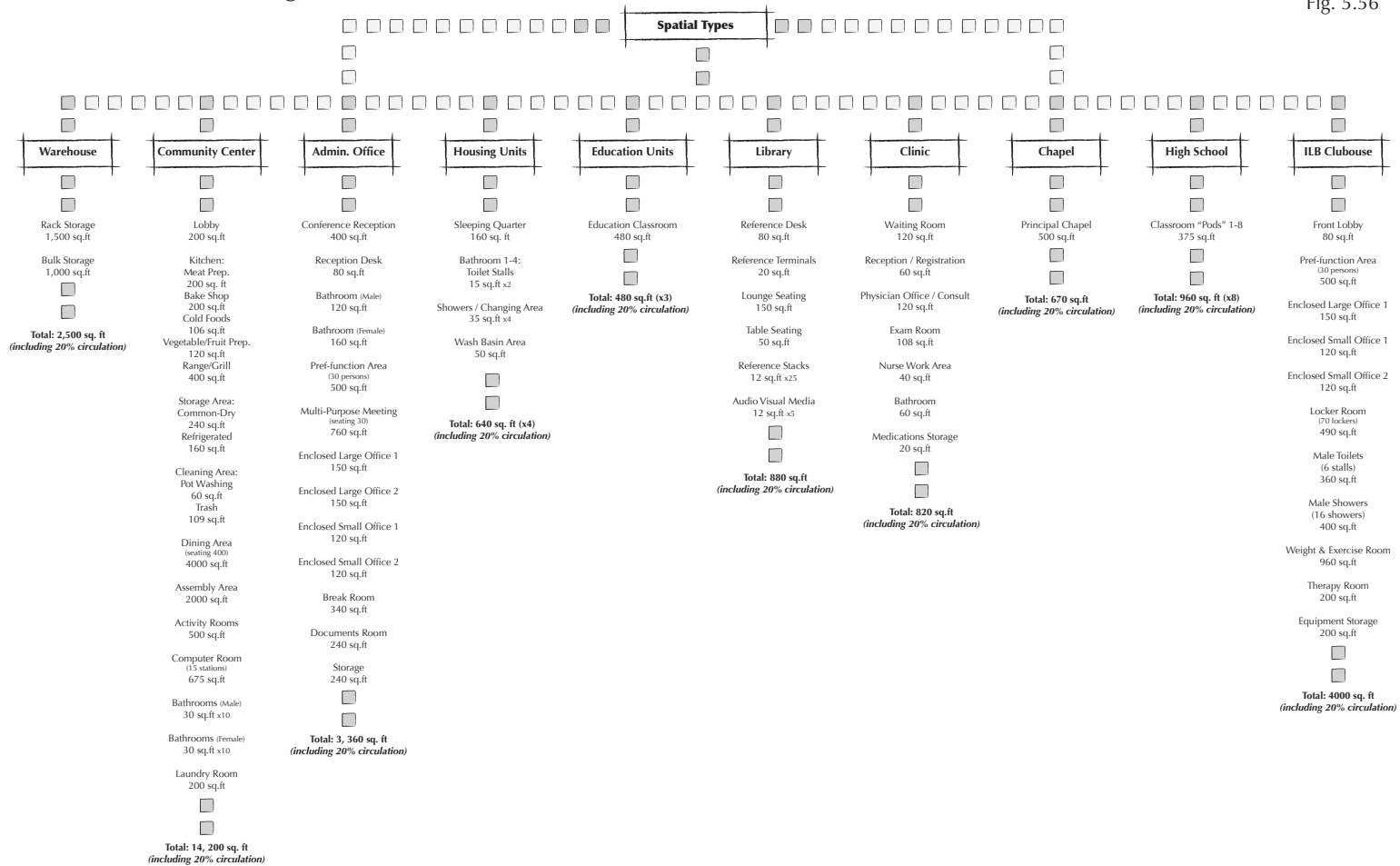
Five • Flow Chart: Occupancy Groups

Fig. 5.55



Five • Flow Chart: Program 01

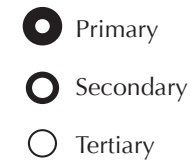
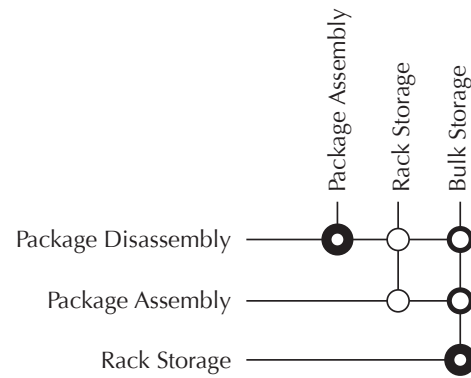
Fig. 5.56



Five • *Building Matrix*

Fig. 5.57

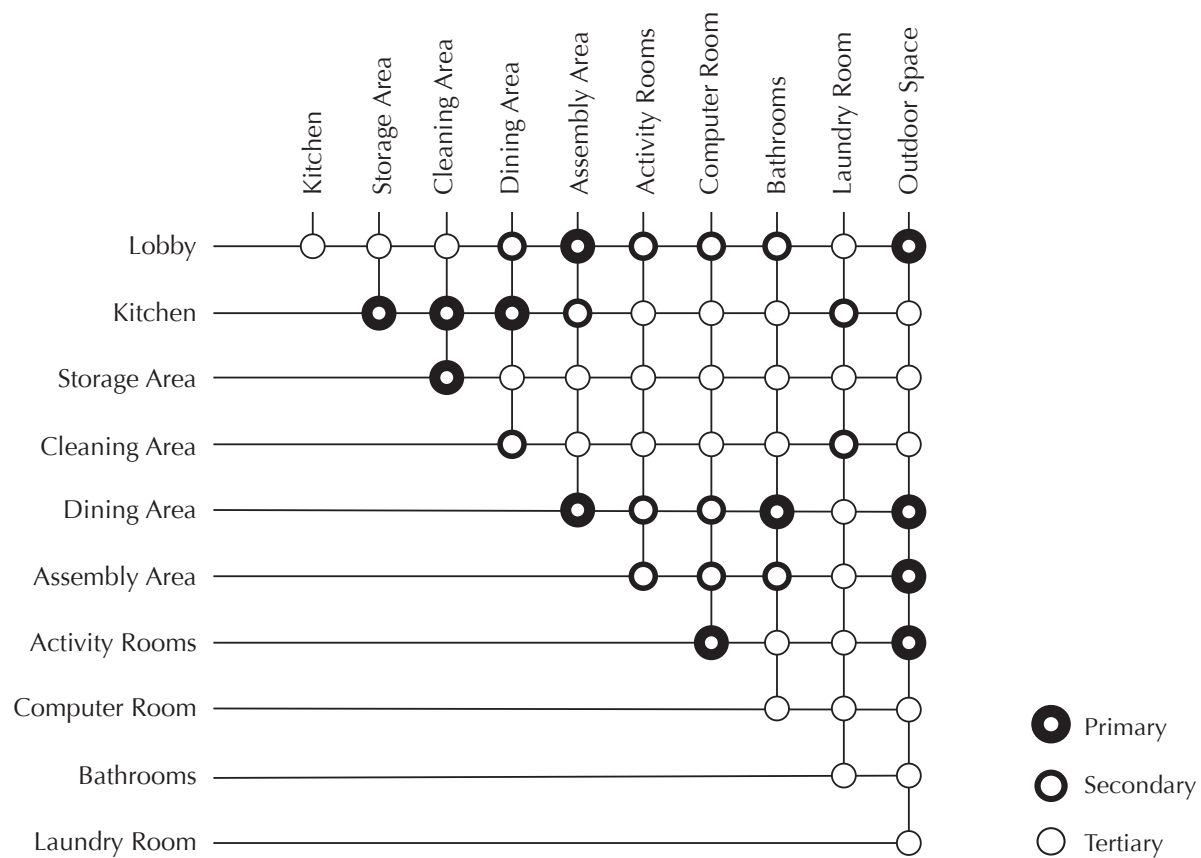
• **Warehouse**



Five • Flow Chart: Program

Fig. 5.58

• Community Center



Five • Building Matrix

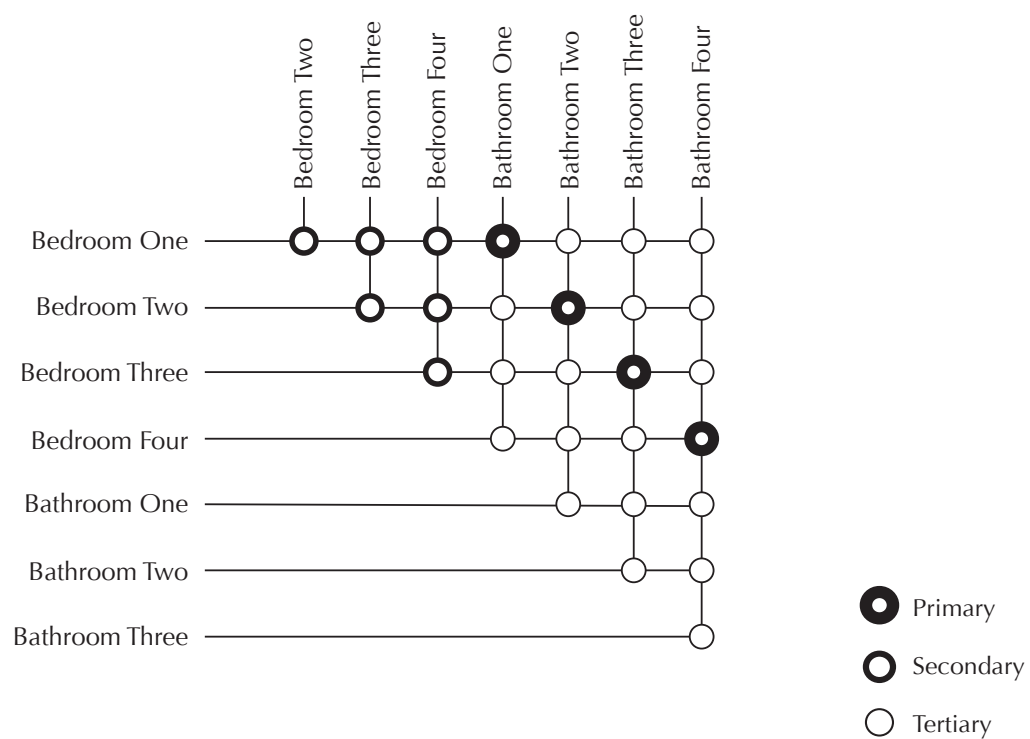
Fig. 5.59

• Administration Offices



Five • Flow Chart: Program

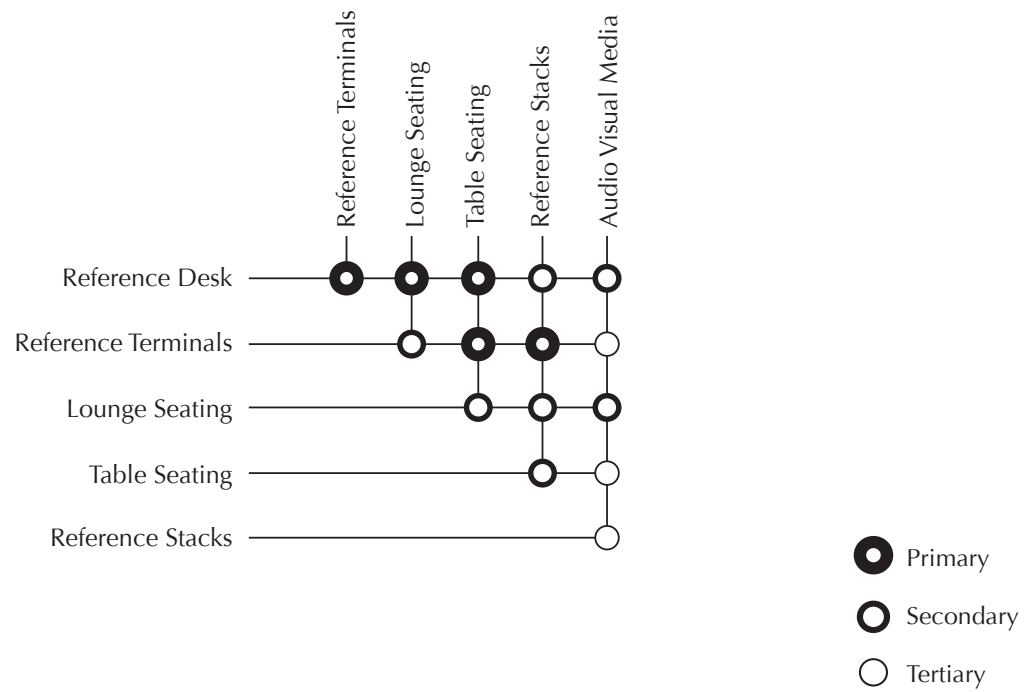
Fig. 5.60

• Housing Units

Five • *Building Matrix*

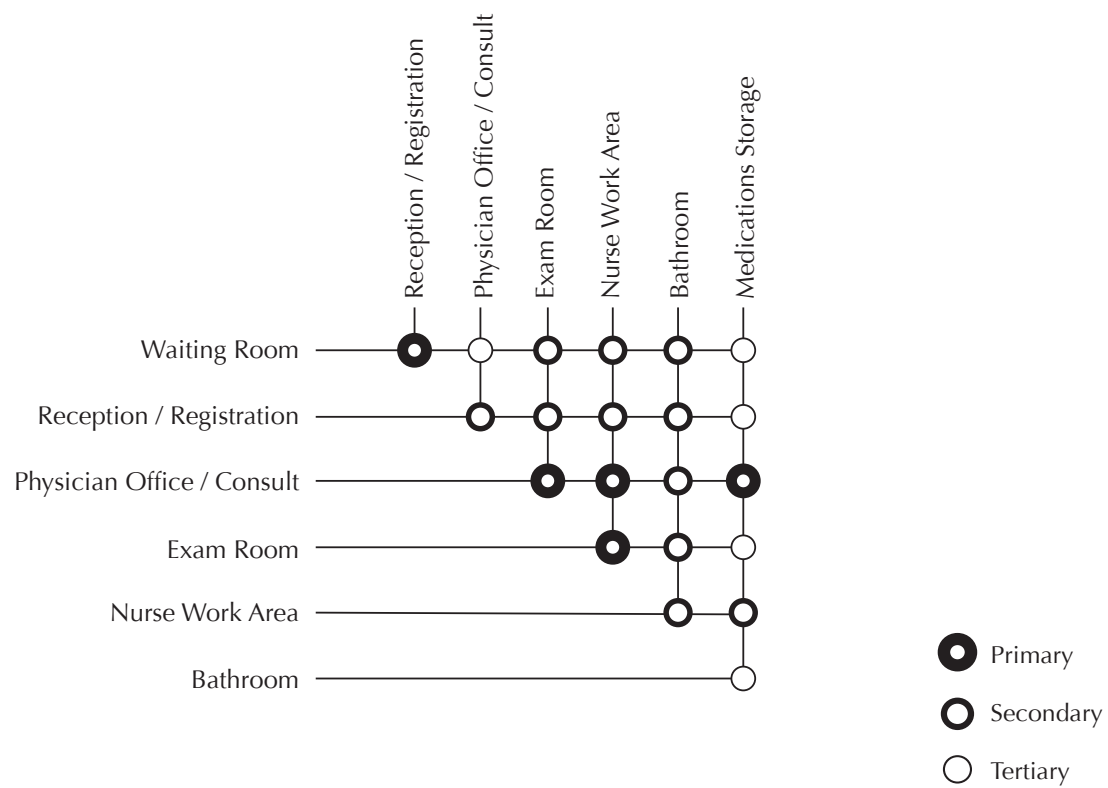
Fig. 5.61

• **Library**



Five • Flow Chart: Program

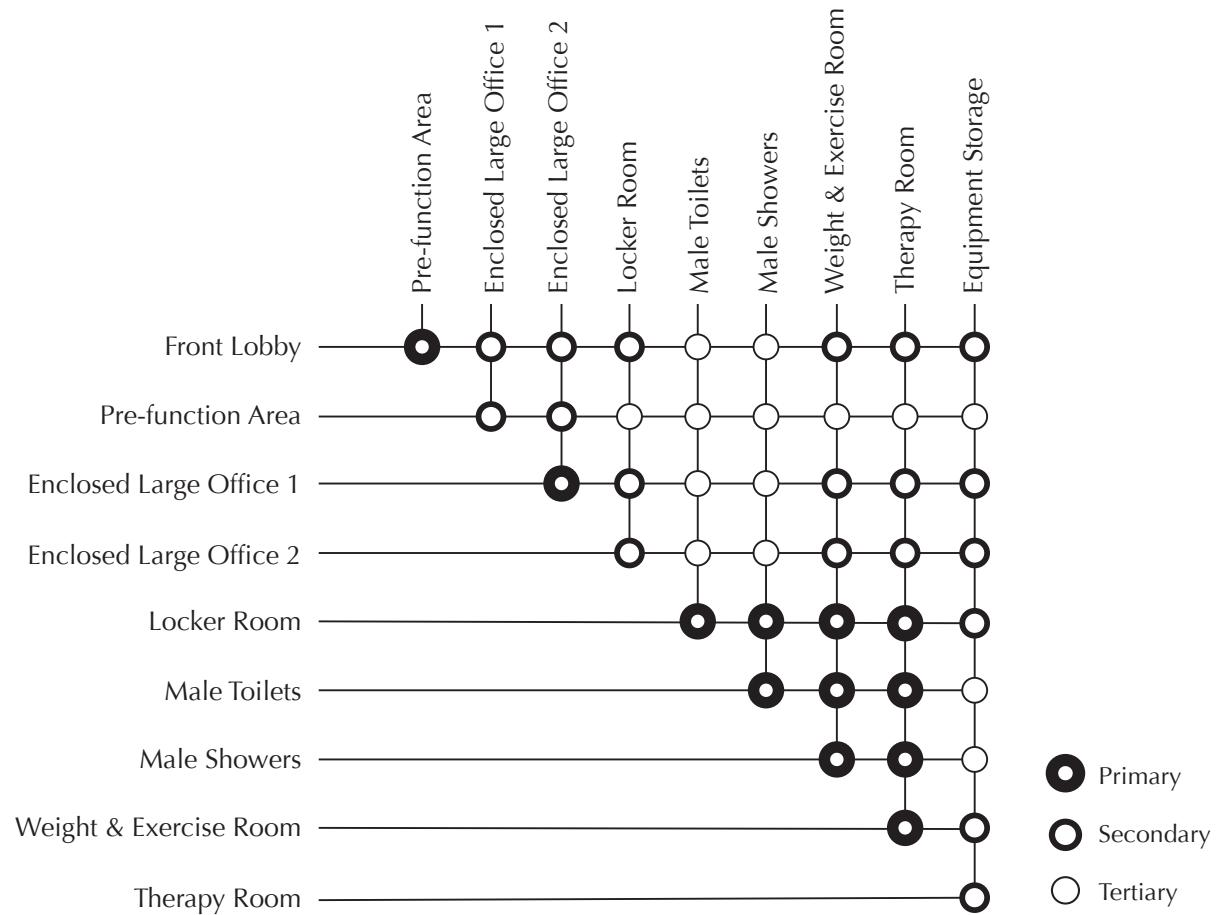
Fig. 5.62

• Clinic

Five • Building Matrix

Fig. 5.63

• **ILB Clubhouse**



Five • Summary Statement

Through the analysis of indoor and outdoor spaces within the Bateys, Barrios and buildings owned by 'Children of the Nations', it seems clear that there is a need to further the design opportunities for the people of Barahona. Outdoor spaces become very important within the design of the community complex as the use of outdoor shaded spaces within the Bateys and Barrios are spaces of communal gathering, activities and the daily conversations. Creating a natural environment where children and adults may feel comfortable to dwell is extremely important in the ultimate success of creating a new built environment.

Spaces have been fully considered and decided upon for square footages for all ten buildings. This will help in the schematic design develop of the building forms, leading fourth into the detailed interior spaces. The building matrix's show the primary, secondary and tertiary relationships of the buildings in location and proximity to one another, as well as the individual spaces within each of the buildings. These matrix's will continue to develop through the schematic design process in order to show that the spatial relationships within each building are being carefully considered and designed according to what

'Children of the Nations' and the people ultimately need and want within the complex.

Chapter Five looks analytically at the factors that directly affect the numerous design making decisions. This information presented serves as the support in order to move forward into schematic design and to become successful in creating a new common ground.

