

adaptive **mixology**

a direction for transforming Chicago's shuttered schools

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I would like to thank my advisory board and colleagues for providing their thoughts and expertise throughout this project, my family and friends for their support, and my wife, Gephine, for her guidance and to whom I dedicate this.

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Abstract

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In May of 2013, the Chicago Board of Education voted to close a total of 49 school programs and shuttering 44 school buildings, the largest in United States history. With the closure of the schools, children were forced to relocate to surrounding schools, increasing the demand on those schools. These closures inevitably create a void in the neighborhoods and communities. What was once a hub for education and community for the immediate neighborhoods is now dismantled and distributed to other neighborhoods. With timely renovation, these schools could be fully functioning buildings, providing programs to the children as well as the rest of the neighborhood and reestablishing the community hub that is lost today.

This thesis project explores the potential of a mixed-use education program that utilizes the old school building. The closed school program will be reimplemented back into the building but reflecting upon 21st century pedagogy rather than current outdated practices in the public school system and sized accordingly to the current populations of the chosen neighborhood. A community center and market-rate housing is proposed in conjunction with the school to fill the unused space in the shuttered school and provide services for both the school and surround neighborhood. The mixing of these variable programs yields an opportunity for a holistic approach to integrating the community with its school as well as the building as a civic entity.

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1 INTRODUCTION

In May of 2013, the Chicago Board of Education voted to close a total of 49 schools by the end of the school year due to underutilization and financial burdens. The result of the rearrangement of resources and students produced a stock of 44 closed school buildings without immediate plans for reuse. The majority of the closed schools are located in Chicago's south and west sides,

neighborhoods that are predominantly African American and Hispanic.¹ The school board hoped to redirect funds from those schools to other schools and learning programs. Affected communities responded with outrage at the decision to close, even filing lawsuits against Chicago Public Schools to delay or block the closings altogether.² The majority of the buildings were constructed in the late



FIGURE 1.01
“Don’t Close Our Schools”

Fierce opposition by teachers, parents, and community leaders to the decision of the Chicago Public Schools to close 49 schools.

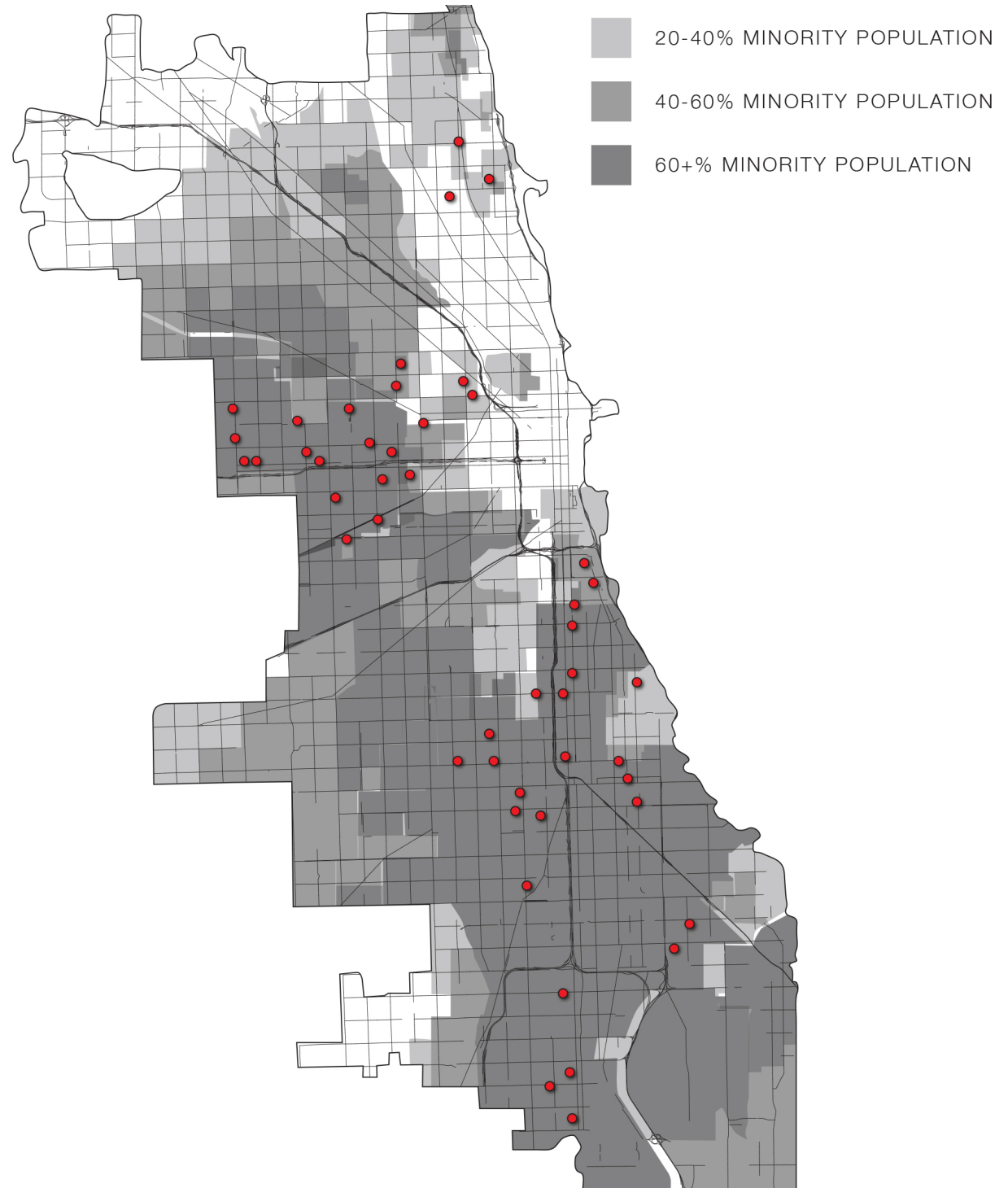


FIGURE 1.02

Overall map of Chicago showing the location of all 50 schools affected by the mass closing in 2013 by the Chicago Public Schools.

19th and early 20th century and, with timely renovations, could be fully functioning school buildings.

With the closure of the schools, children were forced to relocate to the nearest school, increasing the demand on those schools. These closures inevitably create a void in the neighborhood and community. What was once a hub for education and community for the immediate neighborhoods is now dismantled and distributed to other neighborhoods.

CHICAGO IS NOT ALONE

The mass closing of school buildings is not limited to only Chicago; the tendency for this type of decision by a school board is a nationwide practice. The U.S. Department of Education listed 1,929 school closures nationwide in the 2010-11 school year. Some of the mass school closures that made national attention were in New York (17 schools), Philadelphia (23 schools), and Washington D.C. (15 schools), alongside Chicago's 49.³

The decisions for the closures have been primarily based on the underutilization of the school buildings. The Chicago Public Schools reported that within its school system, only 400,000 seats are being used of the total 500,000 spaces, or 20 percent⁴, but many of the schools

slated for closing had utilization rates of less than 50 percent.⁵ Two trends are associated with these levels of underutilization, seen across several cities throughout the nation: the number of school-age children has been decreasing despite overall population growth, and a privately-run charter school system has been increasing⁶—both temporal trends that could easily shift in the future.

ONGOING PLAN

Since the decision to close the schools, current Chicago Mayor Rahm Emanuel created the Advisory Committee for School Repurposing and Community Development. The group consists of independent community and civic leaders who are charged with developing a framework and implementation plan for repurposing the vacant schools.⁷ The priorities of the committee lie within the scope of advancing both community and citywide interests, considering the most efficient uses for the current facilities, and promoting future uses that are the most financially viable. Since its creation, the committee has organized a three-phase plan for the repurposing process: 1. immediate reuse, 2. competitive redeployment, and 3. development through a revitalization partner.⁸ At the time of this writing, phase one was yet

to be completed, although different organizations have already found new uses for a few schools.

NOW WHAT?

Even if new uses are found for all the vacant school buildings, some questions still remain: What happens to the schools that are displaced? Will the students have to deal with a neighborhood stripped of its educational institution? This thesis aims to address questions such as these by introducing a new methodology that goes beyond the typical approach to adaptive reuse. Instead of merely replacing the use with another that may or may not incorporate the surrounding context, the thesis posits that the shuttered schools should reestablish the school program while also providing other programs that can benefit the school, the neighborhood, or both simultaneously. Rather than focusing primarily on a short term turn-around to these buildings, this thesis proposes a model for the long-term sustainability of the school as a public entity, both for the sake of the building and for the communities surrounding them. The goal is to shift from a typical adaptive reuse of Chicago's shuttered schools into an adaptive mixed-use education building.

To accomplish this goal, the investigations of

key concepts in the adaptation of the shuttered Chicago Public Schools is necessary, including the shuttered school buildings as a typology, the adaptability of those schools, and the implementation of twenty-first century school ideologies.

THESIS RATIONALE

The rationale for this thesis is threefold. The more obvious reason of the three is the sustainability of the adaptive reuse model in architecture. The inherent nature of the re-use of the existing built environment is one that respects the ongoing efforts to save materials, cost, and energy. Studies show that a new energy-efficient building can take up to 80 years to overcome the negative effects to the environment from the construction process.⁹ This magnitude of avoided consumption of energy would alone make building re-use a considerable option.

The second rationale is more about the inclusion of a broader context in the development of a public institution. The architects who designed the Chicago Public School buildings took into great consideration the state of affairs at the time of their buildings' construction. However, reflected in the act of closing of 49 schools due to low utilization rates, the concepts of fluctuating

population and their needs were not considered. Adapting these now shuttered Chicago Public Schools to a variety of uses and users can help them become more cognizant of the changing needs of public school system and the people who are served by it.

Thirdly, this thesis opens the discussion about the state of the current education system that inevitably leads to mass school closings such as the one Chicago experienced. The children that are attending elementary school today will live beyond this current generation. An education system based upon the needs of people from over a century ago is undoubtedly flawed. Both the school system and the school building must have the capacity to adapt to the struggling student body today as well as to a future unknown to the current generation.

This thesis document will begin with exploring the designs of the shuttered schools and how they came to be. Next, the concept of mixed-use education buildings will be considered as a general concept. Ideologies in education reform from the past century will also be considered to develop a sense of the needs for the students of today's generation and potential needs of future generations. One of the 44 shuttered school buildings was chosen to demonstrate the potential for the reimplementation of the

educational institution with a focus on future adaptability. The project was given a set of program spaces catered to the community around it to help aid the implementation of the school back into the building. A design was adapted for that building, evaluated against its adaptability for a fluctuating school population.

2 THEORETICAL FRAMEWORK

EVOLUTION OF CHICAGO'S PUBLIC SCHOOL SYSTEM

The genesis of the Chicago Public Schools began with the sale of a piece of land in 1832 that yielded the public school system financial fund and a twelve-student schoolhouse.¹⁰ Over the course of forty years, Chicago underwent substantial growth in population and city resources, although very little funneled into the public school system.¹¹ The Board of Education was established in 1872 to standardize curriculum and teaching and to manage the affairs of the school system as a whole.¹² By the end of the 19th and early 20th century, the population of Chicago had grown six-fold and major school reforms were under way. Curriculum changes were geared toward more progressive teaching techniques and physical development, with a goal of combating monotonous reading drills and memorization. However, at a student population of 400,000--a number held steady today--challenges of supplying new school buildings and resources took tolls on the public school system's finances.¹³ Overcrowded classrooms and teacher shortages were commonplace throughout the city's schools.

Only during the post-World War II years--with an increased population and stable economy--did the public school system gain a steady foothold. Class sizes

were decreasing, allowing for more focused teaching, many special programs, such as free lunches and guidance counseling, were added to the services of the public school system, and its budgets were stable, allowing for steady salaries for teachers. The enrollment peaked to nearly 600,000 students during this time.¹⁴ With such success, however, also came downfalls. Issues of racial inequality entered the picture during the 1960s as Chicago's African American population grew from 14 percent to 25 percent. This population was primarily segregated in the city's south and west side, in increasingly overcrowded blighted ghettos as more well-off families took advantage of civil rights legislation to relocate to better neighborhoods. With schools also becoming overcrowded in these particular neighborhoods, the buildings fell into disrepair.

Over the past few decades, the student populations became further and further fragmented. This course became a reflection of the city's segregation that has been and is still apparent today. The end of the 20th century Chicago was full of school reforms, advisory councils, parent committees, and further political intervention, but the process was slow in improving the quality of the public school system while the private counterparts in the suburbs continued to shine.

Despite the evolution of Chicago's public school system, the present image of the state of the school system is clear. Private and suburban schools lead in performance with large advantages over urban schools due to the higher financial stability of middle- and upper-class Chicagoans, many of whom are white. The city's public schools are charged with serving the large majority of low-income minority populations, primarily African American and Hispanic, with three-quarters of the city's public school serving low-income or poor families.

DESIGN OF THE NOW-SHUTTERED SCHOOL BUILDINGS

Currently, Chicago Public Schools operate a total of 664 schools, a mixture of elementary and high schools under both traditional and charter policies. All of the shuttered schools are elementary schools that are not charter schools. Although the repertoire school types in CPS vary in age, style, and size, the 44 shuttered schools can be generalized into two eras: pre-war (WWII) and post-war.

The now-shuttered Chicago Public Schools that were built in the late 19th and early 20th century (pre-war) were constructed in a time period of dramatic growth in the city's population. At the turn of the century, Chicago

had become the second largest city in the country due to being the country's railroad hub and the home to some of the nation's largest industrial plants.¹⁵ The massive migration of immigrant workers of primarily European- and African-descent developed around the core of the city, primarily to the west and south side. Dozens of new school buildings--many of them now a part of the stock of shuttered schools--were constructed to serve these growing populations.

Facility planners, both in Chicago and nationwide, struggled to understand how to design school buildings to promote learning. In the late 19th century, health concerns and exterior aesthetics were the focus of the design, with influence coming from Europe. English architect Edward Robert Robson in the United Kingdom advocated for improving the health and comfort of both students and teachers primarily through ventilation and daylight, especially softer north light.¹⁶ Many of Chicago Public School architects incorporated those ideas into the design of the new schools.

The architectural style of the pre-war public schools in Chicago was the responsibility of the Board of Education architects that oversaw them opposed to a committee of school board members and designers.



FIGURE 2.01

William Ray Elementary
School, ca. 1914

Although twenty official architects were employed by the Chicago Board of Education up until the 1950s, a large number of the schools built in the city were under the handful of architects working at the turn of the century. John J. Flanders, Board of Education architect from 1884-1893, was responsible for the designs of close to 50 new schools along with other additions to older school buildings. Flanders was known for his Romanesque style of design, but followed the Beaux-Art aesthetic common of the late 19th century schools.¹⁷

William Bryce Mundie, board architect from 1898 to 1904, and Dwight Heald Perkins, serving from 1905 to 1910, were some of the more notable names from the list of architects.¹⁸ Mundie was appointed during times of education reform and worked largely in response to the reforms.¹⁹ Many of his designs were classically-inspired with decorative cornices and limestone façades, and most are still occupied today. Dwight Perkins played an even larger role for the development of the Chicago school building style. He was known to implement the functionality of the “Chicago School” architecture with aesthetics from the Arts and Crafts Movement.²⁰ He paid close attention to site conditions, providing large open spaces and making the school building itself simplistic in



decoration. Additionally, Perkins instituted the ideas of a broader purpose to the school buildings, opening them to the neighborhood around them as community centers. Many of his designs implemented auditoriums with direct access to the street to allow for extended use of the building during off-school hours.²¹ Perkins resisted the Classical Revival and Beaux-Art aesthetics and incorporated the functionality of the Chicago School architecture.²²

As with the rest of the American schools system, post World War II called for the reinvention of the school

FIGURE 2.02

Portrait of architect William
Bryce Mundie



FIGURE 2.03

James Ward Elementary
School, ca. 1930

building in Chicago. Population increased from the Baby Boom generation and the production of schools needed reached peak efficiency. The ornamentation was stripped away in lieu of clean lines and cheaper material. Monotonous brick masonry or hardie panel over steel construction was the norm of the postwar era. The benefit was seen in the fact that the schools can be built quickly and meant the immediate housing of new students. Additionally, with lingering fears from the war, a reduction of schools to lower levels, many times only one or two floors, was less hazardous and allowed for easier building evacuations.²³ The school buildings still sat on large

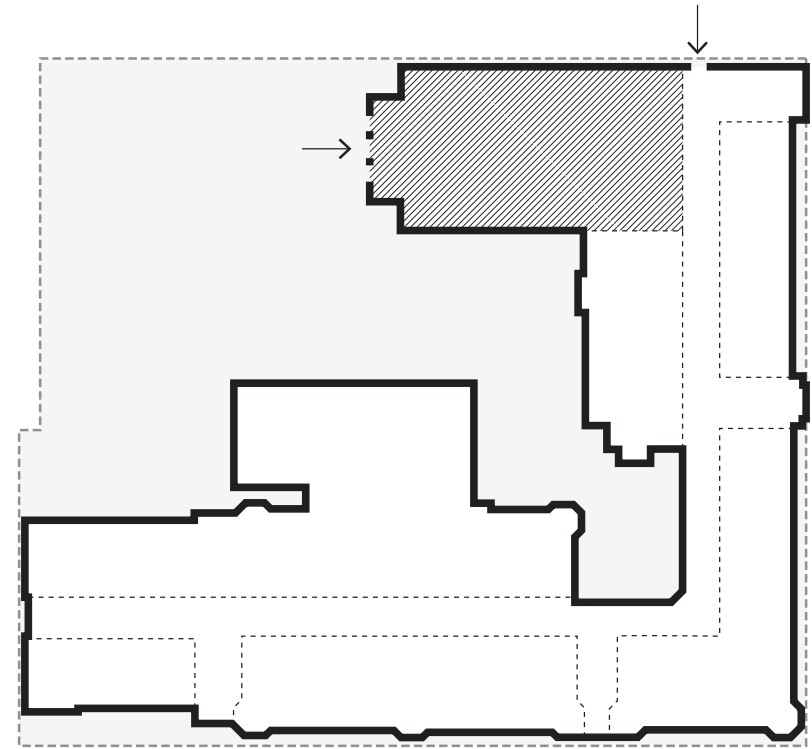


FIGURE 2.04
Lafayette Elementary School
diagram

The auditorium located at the northern most portion of building can be isolated outside of school hours for use. Entrances and exits are located with direct access from the street.



FIGURE 2.05
George Leland Elementary
School, ca. 2011

properties with open space, but lacked the monumentality of their pre-war counterparts.

ADAPTABILITY OF NOW-SHUTTERED CHICAGO PUBLIC SCHOOL BUILDINGS

While it is possible to reuse the existing interior layouts of the schools, the adaptation of the entire school for various types of programs, even education, requires significant interior reconstruction. The nature of schools today are much different than the schools that the shuttered buildings were designed for. A fundamental rehabilitation of the building would be necessary to develop the necessary physical framework for an adaptable reuse. However, as mentioned earlier, the exterior condition of the school, its grandiose aesthetic and detailing, and its generous surrounding site gives the schools its symbolic nature and requires sensitivity. The preservation of these conditions is critical to the preservation of its character and its image to the surrounding community.

The designs of the now-shuttered schools in Chicago vary but have similarities that allow them to be adapted to future uses. The schools can be generally subdivided into three primary sections: the classrooms, the large multi-use space (typically an auditorium or

gymnasium), and the support space (such as bathrooms, stairwells and administrative space). Classrooms are organized in single- or double-loaded corridors with relatively shallow sections that allow maximum light penetration. This shallow section of the overall building makes a desirable conditions for program such as housing, which require similar sectional qualities and access to light. Auditoriums or gymnasiums provide multi-level spaces and large open areas optimal for gathering and event spaces. The support spaces are often organized vertically throughout the building and utilize leftover space throughout the building. The organization of these support spaces can be reused with the same functionality.

The general qualities of the school buildings such as large open spaces and shallow cross sections exemplify a level of ambiguity that is right for flexible programs. With past design emphasis on the quality of light, large array of windows populate the exterior walls of most schools, allowing for ample opportunity to provide natural light. Generally, the double loaded corridors of classrooms meant that the building section is relatively shallow and interior spaces benefit more from the perimeter windows. For most programs, the ample light is a precious benefit.

The gymnasium or auditorium, present in many

of the historic shutter schools offer for new uses large multi-story spaces for different types of adaptation. The space can be used as intended as a gathering space for various functions or as an open plan for building new infrastructure (floors, walls, etc). Typically, gymnasium/auditorium is not integrated into the general mass of the building in the same manner as classrooms or administrative space, which allows it to be detached and used separately.

The school buildings are sited on large properties with large open exterior spaces. These spaces, usually designated for parking or playlots can be flexible in allowing gathering spaces such as gardens and park space. The large site can be configured to support the programs within the school or used by the community around it.

SCHOOLS AS COMMUNITY SYMBOLS

Historically, the most essential buildings that made a town or settlement include the city hall, the hospital, the bank, post office, church, and the school. The school played one of the most important roles in establishing identity, community, and place. Many times the school was built as the most lavish building in comparison to its context as a symbolic gesture. Schools of the late 19th and early 20th century were large, multi-story brick buildings with detailed



façades and lavish ornamentation. The surrounding campus gave space for parks, playgrounds, and a generous entrance. Within the scope of a single neighborhood, the school grounds were immense, taking over full square blocks. The school represented a community's “prosperity and integrity”²⁴ and a projection of its future generations.

A school building's exterior expression played a large role in both the symbolism for the community in which it was built and as a symbol of pride for the students.

FIGURE 2.06

Façade ornament detail,
Von Humboldt Elementary
School



Chicago architect John Donovan asserted that one of the functions of school architecture was to “sell education to the public” by creating a certain sense of prestige through the composition of the building’s exterior.²⁵ Sir Geoff Hampton, the head teacher at the Northcote School in Wolverhampton, England described a situation in which the appearance of a school actually reduced vandalism of school property:

“Within 12 months the smashing of windows, which had been a nightly problem, totally ceased. Something made the kids think before picking up that brick and

throwing it. It’s about pride. Having a school that looks good is about telling children they’re worth something.”²⁶

In Chicago, school buildings of this era were deeply embedded in the residential fabric and served a critical role in its neighborhood. The inclusions of design decisions such as Perkins’ auditoria that exited to the street turned the typical school building into a community school.²⁷ This level of integration fed the notion that the school was a public building and solidified its symbolic significance in its neighborhood.

FIGURE 2.07
Aerial satellite, Earle
Elementary School

Surrounded by residential fabric, schools typically occupy a substantial site in relation to the scale of the neighborhood.

The focus of community in the life of schools was both integral to the educational program and the buildings' functionality. The very nature of a school--the gathering of children from the surrounding neighborhood--was about instilling a sense of community. A collective growth of individuals alongside their fellow friends represented what it meant to have a school to learn in. This relatedness of students to each other addressed the primal need for feeling connected with others and experiencing self-worth and respect. The school building became a context in which students could experience this belonging.²⁸ Furthermore, the same experience was projected outward toward the community, where the building provided a context for the community to relate to the larger city around it.

As the notion of community became more important in the idea of the school building, the functional design of the school shifted to allow more community involvement. A major question of consideration was:

“Whether schools should be open for a small part of the population for seven hours a day and for two hundred days a year only or should they be accessible for the total community, in many different groupings, with different purposes for, perhaps, 24 hours a day?”²⁹

If the community as a whole was not considered, the school

would become an “educational ghetto”³⁰, which would strip the surrounding neighborhood of the potential for complete integration.

In 2002, Chicago Public School established the Community School Initiative, a program designed to expand current school services outside of the typical school period and extend them to students and the surrounding community. The initiative, which is employed in over 200 schools citywide, provide resources such as enriched education classes for students and adults, health services, technology training, among other activities, as a way to build a community partnership at the school outside of school hours.³¹ Although the program does not include all schools--only a few were in the now-shuttered schools--the program represents the concept of the school as a community hub.

THE TWENTY-FIRST CENTURY SCHOOL

The “traditional” school design, evident in most of the schools in the Chicago Public School system, reflects upon the systematic, rationalized notion of how learning happens. School buildings were organized into compartments (classrooms) controlled by a central entity (the administration). Within the classrooms, students

are lined up in grid, all forward-facing, listening to the teacher “tell” the information to the students. The absorption of that information is tracked based on test-scores and performance criteria. The addition of the academic sorting system categorized students based on that performance and sorted out to various career paths.³² The school process can, then, be equated to the analogy of the factory: the production of individuals tailored to the “needs of the emerging economic order”.³³ This ideology of linear progression was fitting to the industrial revolution of the 19th century where rationalization and efficiency was prized.

With the massive rise in population following World War II, debates on education reform became increasingly significant. The demand for more school buildings and overall educational capacity developed large concern from governmental bodies, school board members, teachers and parents on proper methodology of education the masses. This postwar renewal of the education system gave way to new progressive ideas on what education should be, from policy to architectural design. The psychologist and philosopher John Dewey proposed ideas during the early 20th century on the advancement of the education system, which influenced much of the postwar reform efforts.³⁴

The reforms pointed toward education to be student-centered rather than teacher-centered and freed the student from the desk to free exploration. This progression opened education to the popular term “flexibility” in both the design of the curriculum and the learning space.

One of the more radical and popularized ideas that embraced this flexibility was the philosophy of “open education”. Open education was the notion that vaguely represented an idea of freeing education from its traditional restraints and barriers to a freer practice of learning. Kieran Egan explains the characterization of open education as “a family of variously related elements”: individualization, freedom of exploration, rich environments for learning flexible scheduling, among many others.³⁵ The underlying principle of the practice was to allow students to freely choose their path of learning while the teacher oversees their process. This method of education was seen as radically different and reacted against the tradition education process and the norms associated with it: rooms were opened where there would be rows of desks, cooperation where there was competition, and the emphasis on the affective in place of the cognitive.³⁶ The lack of the regimented process allowed for education to become more “humanized” and increased its social



FIGURE 2.08
Change in arrangement

The open education movement looked to open the classroom both in the physical sense and in the way children were learning.

importance in society.³⁷ This resulted in the translation of “open education” to “open school” where ample flexible open space allows for an unpredictable learning process.

The less radical reforms relied on the architectural form of the school to progress the ideas. The embrace of flexibility called for developments in materials, light, and strategic planning of school spaces. Similarly to the open school phenomenon, the classroom was reexamined to make a better environment for the students. Instead of fixed layouts, the classroom furniture can be arranged to suit different activities and moods. Walls were only partitions that came down or put up depending on the learning environment. Group activities took the place of individual work, while the teacher was the guide to the learning, rather than the dictator. These practices generalized into a small movement of “modern” teaching, which counted on the flexibility of both the classroom to become “living rooms of learning”.³⁸

The major criticisms of these progressive educational ideas were that they lacked well-defined goals. Dewey’s hope, along with other education reformers during the postwar era, was to promote democracy in the education process. However, questions were continually asked whether or not the progressive approaches to reform

had any effect. Skeptics asserted that the very nature of the demand on creativity of the school children thwarted its development.³⁹ The “open school” movement in particular, with the multitude of experiences through unrestricted exploration, lacked “hierarchy of educational value”.⁴⁰ The debate continued between the balance of the creative learning process and teaching the traditional disciplines of education.

The struggles of establishing a new idea of education for the growing population in the 20th century provides potential inspiration for reform in the twenty-first century. The current emphasis on standardized testing and performance tracking is reminiscent of the same ideologies that catalyzed the need for reform after World War II. The emphasis on these trackable results requires a methodology based around test-taking and hard results, which is exemplified by the compartmentalized, teacher-centered classrooms that exist today, dominant in the Chicago Public School system. When considering the needs of the twenty-first century, test results create small potential for critical problem-solving and innovation. Education author Sir Ken Robinson explains that intelligence has three characteristics: it is diverse (experienced through all of our sense), dynamic (interaction between multitudes of

disciplines), and distinct (unique between people).⁴¹ If the purpose of education is to develop intelligence, the school environment must be flexible enough to encompass the diversity, the dynamism, and the distinction apparent in education. Group collaboration, inside and outside the classroom, foster diversity in learning. The engagement between learning for students, teachers, and the broader community can nurture dynamism in thoughtfulness. The variety of space and program in the school can provide opportunity for students to venture into distinct areas of exploration. The twenty-first century school must balance between the disciplines of traditional education (math, science, literature) and creativity within the arts in order to provide the holistic learning experience.

MIXED-USE EDUCATION

The concept of mixed-use education refers to the notion of combining a school with other non-educational uses, such as housing, retail, or commercial. At a national scale, this concept is fairly rare as many schools are designed in a campus setting where the school is isolated from the surrounding context. This happens through land use requirements for sports fields, parking lots, and open park space. The typical suburban elementary school

easily falls into this description because of ample open land. In the urban setting, where land is more scarce, one would expect more instances of mixed-use buildings with education involved. In Chicago, for public schools, this is not the case. Because a majority of the schools were built fifty or more years ago, they have acquired land that have been zoned primarily for school use and have remained that way since.

In New York, however, examples of mixed-used education are becoming more apparent when building developers are utilizing some of the free air rights that exist in a school's land use and zoning policy. One very recent example, still under construction, is a 715-foot residential tower managed by developer World-Wide Group and designed by SOM in Manhattan. At the podium of the tower are two new schools, P.S. 59 and the High School of Art and Design, along with a Whole Foods Market.⁴² The developers worked with the city to establish a plan to build on the site of the school the new residential tower and in return offer new spaces for the school. The mixed-use program allows for diverse neighborhood amenities for the residents and the school students.

Another example, also in New York, is the Azure Condominiums that used the same concept. The 59-story

development rebuilt the middle school adjacent to the high-rise podium into a new facility. The benefit in this development is that no city tax dollars were spent to rebuild the school. The project was financed by the developers and the New York City Education Construction Fund. The developers are leasing the land and acquiring the air rights to build the tower, but will pay a percentage of its maintenance fees from the condominiums to the city, which is turned around to pay for other schools and student services.⁴³ The agreement is proving to be a beneficial to all parties, public and private.

The benefits of the mixed-use education model can go beyond economics. The University Academy Charter High School in Jersey City, NJ is an example where the benefits of the mixed-use development with the school provide benefits for the high school students, faculty, and community. The high school is situated in conjunction with a business incubator where the students can have direct interactions with business owners and community members that use the same building. The school facilities are shared with the community for uses such as community meetings and adult education classes.⁴⁴

While the outlook of embedding schools into the dense fabric of the city seems attractive in theory, many

concerns are brought to light. Security and student privacy is a major issue that requires attention. Embedding the school into a variety of mixed-uses exposes the students to environments that may not project safety. Also, increased foot and automobile traffic to feed the school may become a nuisance for the daily operations of certain neighborhoods. Despite these difficulties, a quote by architect Christopher Alexander:

“...when you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole...”⁴⁵

The challenge of making successful mixed-use education developments would be establishing a harmonious relationship between all the parties involved.

3 M E T H O D S

SCOPE

This thesis intends to explore a methodology for reusing the large number of schools that have been recently decommissioned in Chicago. It posits that not only can the redevelopment of these existing buildings help build a relationship between the building and its community, but by reestablishing the school program in the building, community can be involved in that development.

This thesis will examine a single school to demonstrate the implementation of the mixed-use framework and the relationships that would need to exist between the site, building, and user groups. It will select the school by analyzing the shuttered school building types and choosing one that best allows the reimplementa-tion of the school function along with supporting programs for the school and the surrounding neighborhood. One must recognize that the needs of different neighborhoods will inevitably change and require different programs or varied ratios of the proposed program elements. By looking in-depth into one school, guiding principles can be developed throughout the process to arrive at conclusions about the feasibility of adopting a mixed-use development into Chicago's other shuttered schools.

DATA COLLECTION METHODS

The data that is being collected for the purpose of this thesis rely heavily on secondary sources. These include archival information on Chicago Public Schools, relevant site maps that correlate with various school buildings, published historical information on the neighborhoods and the schools within them, and historic and contemporary photographs. This thesis will not provide information from sources such as interviews with community members or employees at Chicago Public Schools, due to limitations in the accessibility to the appropriate sources. The analysis of various communities and their school buildings will be done at a broader scope with a generally speculative lens. Assumptions will be made based on the available information and the overall investigation will develop on that information as a neutral party.

THE SITE

To best formulate the solution and accompanying design guidelines, the school site for this project should have three key characteristics: lie in a neighborhood with relatively high population density, have adequate space to

accommodate a variety of new program uses, and show a high need for school reimplementation and the new programs. The need for a population to utilize the new programs of the project is significant. The population density ensures that the school and accompanying programs are supported by enough people as well as being able to provide services to a larger mass. To provide needed services and a variety of programs, the building must also have the capacity to host the programs, especially the school program.

Given that most of the neighborhoods affected by the school closings, the need for action is ubiquitous across the list of potential sites. However, the level in which neighborhoods need the change varies. On one hand, some of the closed schools are in close proximity to the receiving school for the affected children so new travel distances are short and other schools have already found new uses by Chicago Public Schools. On the other hand, several schools in a neighborhood closed, creating an educational ghetto. By making sure to consider neighborhoods of greater need, there is more potential for the revitalized school to make an impact.

CITY NEIGHBORHOOD: HUMBOLDT PARK

The site chosen for study is located in the Chicago neighborhood of Humboldt Park, 5 miles northwest of the city's downtown area. The neighborhood is known for its adjacency to the famous 207-acre park for which the neighborhood was named. The city of Chicago set the ordinance boundaries of Humboldt Park with the park to east and North Cicero Avenue to the west. To the east of the park is the large neighborhood known as West Town, which is recognized more as a culmination of various smaller neighborhoods.⁴⁶ The Humboldt Park neighborhood was of particular interest because of its rich history in the city as well as its community density. Additionally, Humboldt Park was home to a small cluster of the shuttered schools which affected a larger student population, making the thesis project seem more valuable in its implementation.

The specific area of concern is locally known as East Humboldt Park, a half mile square area directly east of the park, bounded by four arterial streets: North Avenue to the north, Western Avenue to the east, Division Street to the south and California Avenue to the west. Although East Humboldt Park is technically a part of West Town, it is associated with Humboldt Park because of its proximity to the park. Within this half mile square are primarily

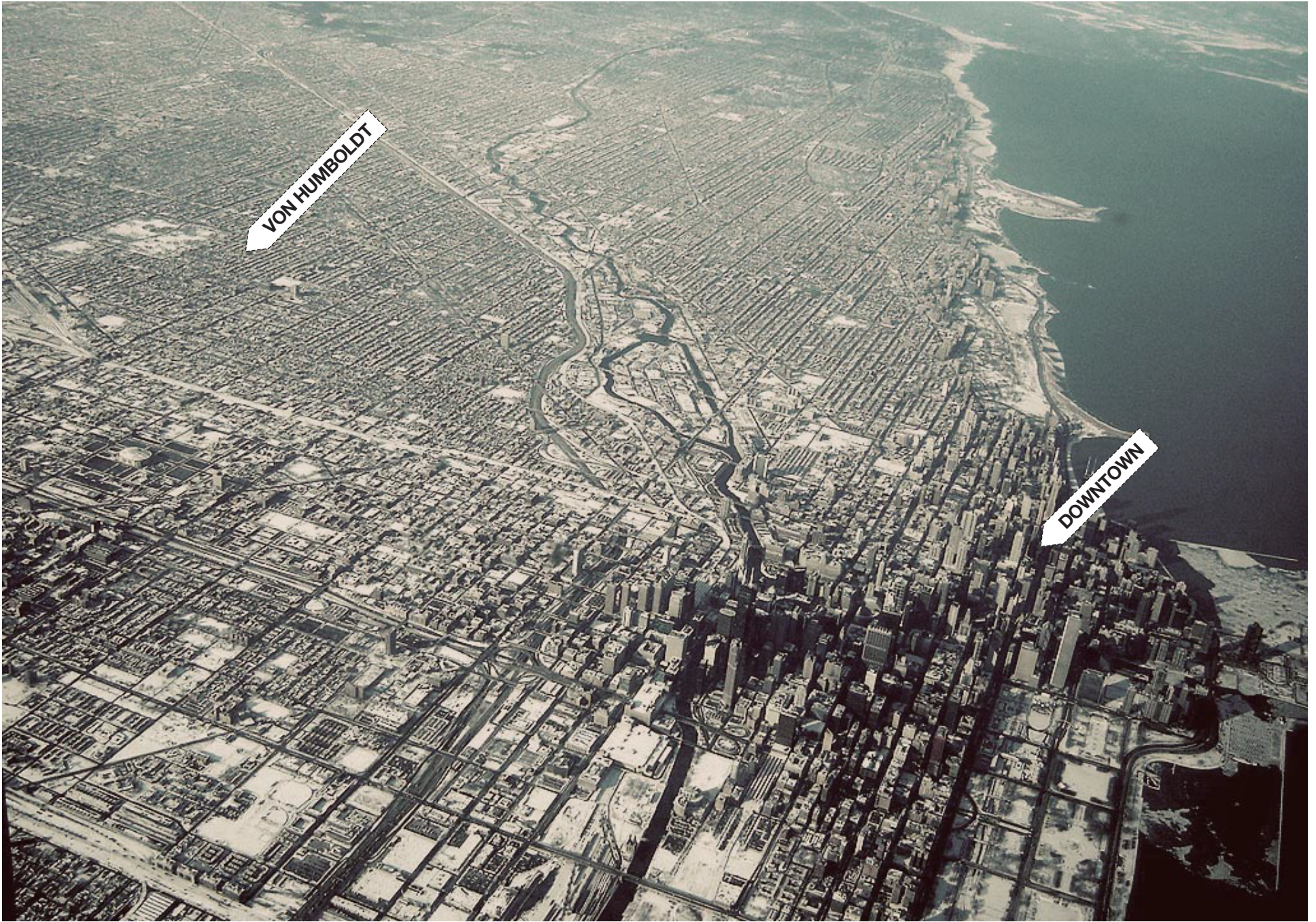


FIGURE 3.01

Chicago aerial



FIGURE 3.02

Chicago neighborhood site map

residential buildings, consisting of two- and three-story flats and bungalows, with a litter of churches spread throughout. Retail programs are concentrated on the outskirts of East Humboldt Park lining the arterial streets. Smaller home businesses can also be found within the residential fabric along with a co-op garden and few playgrounds.

THEN AND NOW

The Humboldt Park neighborhood was originally annexed into Chicago in 1869 as populations spilled into the area and land values rose. The park that is at the core of the neighborhood was named after Alexander von Humboldt, a naturalist and explorer who lived between the eighteenth and 19th century. With the arrival of the street railway in the neighborhood and the expansion of the downtown area, large populations of people began to settle in Humboldt Park. The Danish and the Norwegians made up the majority of the Humboldt Park communities. However, as the popularity of the large park for recreational activities grew and larger apartment homes were being developed, the neighborhood quickly included the Germans, Polish, Russians, and Italians.⁴⁷

In the 1950s and 1960s, Humboldt Park experienced a massive migration of Puerto Rican



communities from the neighboring West Town. The park and the outlying streets became the hub of many different ethnic stores, restaurants, and activities. Division Street, in particular, became the primary thoroughfare of the ethnic heritage that is still present today.

The Humboldt Park neighborhood today is home to approximately 60,000 people, a majority of them Hispanic and African American (52 percent and 41 percent

FIGURE 3.03

East Humboldt Park, small unofficial neighborhood directly east of the city park.

respectively).⁴⁸ A large portion of this population (33 percent) are living under the poverty level, with a median income of about \$30,000.⁴⁹

East Humboldt Park, with its proximity to West Town--a neighborhood with a median income level at \$67,000 and a large white population⁵⁰--is in the crossroads between two different populations. Only 17 percent of the residents in East Humboldt Park are living under poverty. The population in East Humboldt Park is more multicultural in comparison to West Town, with the Hispanic population making up 42 percent of this neighborhood, African Americans making up 16 percent, and whites making up 33 percent. However, vacant housing is more than apparent in East Humboldt Park, along with West Town and West Humboldt Park, with nearly 13 percent of housing stock empty and abandoned.⁵¹

THE CLOSING OF SCHOOLS

One of the largest group of students affected by the closings is in the Humboldt Park neighborhood. A total of three schools, all within one mile from each other, were closed before the start of the 2013 school year. Nearly 800 students were slated for different schools and longer commutes. The students from Von Humboldt Elementary,



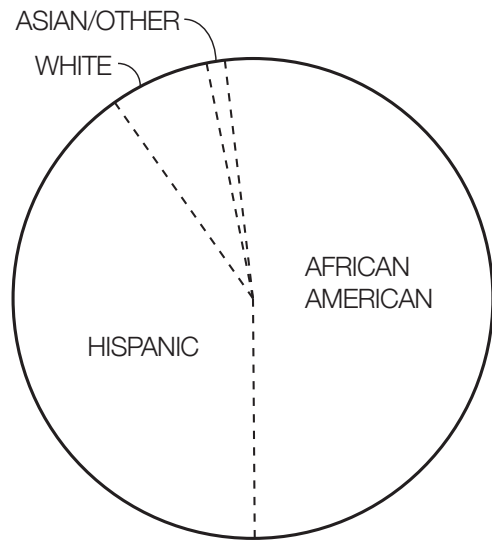
Duprey Elementary, and Lafayette Elementary, were forced to commute to the nearest school: Jose De Diego Community Academy on the east side of Western Avenue. Many parents were outraged at the idea that the children would cross gang territories that surround the new school and were associated with the nearby Roberto Clemente High School.⁵²

THE SCHOOL: VON HUMBOLDT ELEMENTARY SCHOOL AND ITS VICINITY

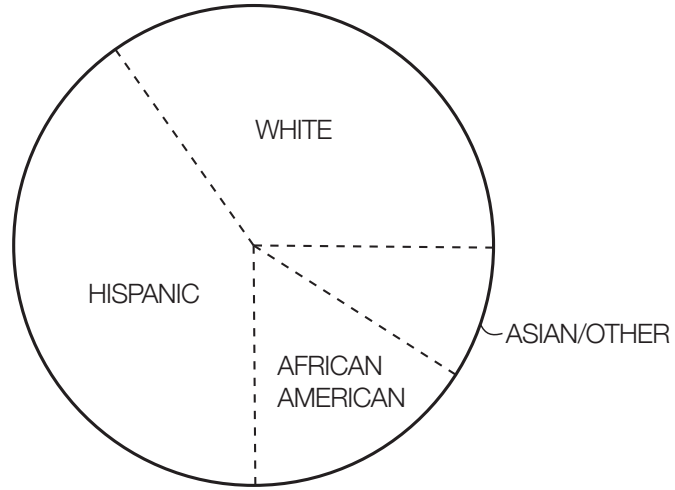
Because the multiple school closings strongly affect East Humboldt Park, the Von Humboldt Elementary School was chosen as the building and site for this thesis exploration. Within the half mile square of East Humboldt

FIGURE 3.04

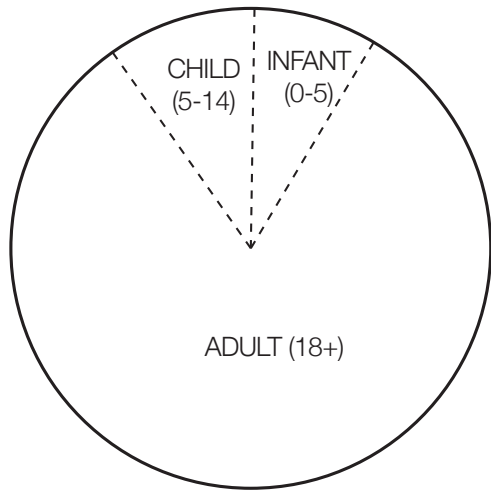
The walk from Von Humboldt Elementary School to Jose De Diego Community Academy is approximately 0.5 miles.



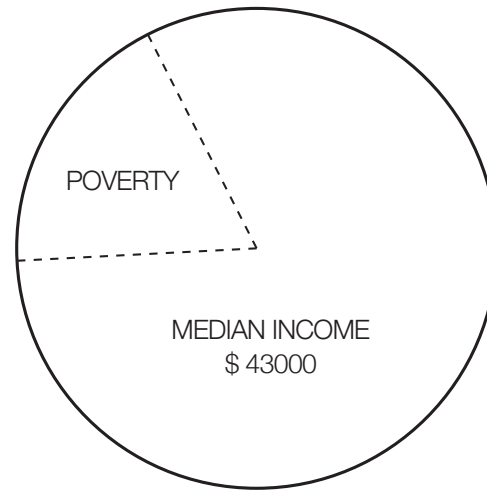
Ethnicity (Humboldt Park)



Ethnicity (East Humboldt Park)



Age



Income Level

FIGURE 3.05

Demographic charts (2010) exhibiting the change in ethnicities between neighborhoods and general population make-up



FIGURE 3.06

Location of community and public services



FIGURE 3.07

Locations of education facilities



FIGURE 3.08

Location of open green spaces



FIGURE 3.10

Location of public transportation lines

Park, the school lies at the center-most intersection, granting the most accessibility to the surrounding neighborhood. Additionally, the school represents the stylistic nature of the typical school buildings built during the late 19th and early 20th century and the size and scale is appropriate for the implementation of a down-sized school program.

The urban fabric that surrounds the school is relatively monotonous in character. The residential homes are primarily two- and three-flat masonry townhomes or small apartment complexes. Many of these homes are simple masonry exteriors and wood framing on the interior with either flat or gable roofs built during the late 19th and early 20th century.⁵³ A few newer homes are sprinkled throughout the neighborhood that follow the same organization of the vintage two-flat, but with simplified front façades. In the immediate vicinity around the Von Humboldt Elementary School are a mix of new and old two- and three-flat structures, with empty lots mixed in.

The school was originally built in 1884, designed by the CPS-designated architect, John J. Flander, in an Italianate style. The original building only housed 15 classrooms and was situated at the corner of Rockwell Street and Hirsch Street. With the major increase in population in the area at the turn of the century, Von

Humboldt grew to be more and more crowded. This prompted construction of a second school building on the site, freestanding from the original school, completed in 1896. This additional building, designed by Flander's successor at CPS, W. August Fiedler, used much of the same material--red brick and limestone--as the original building but incorporated different types of details such as a three-sided protruding bay windows and Italian Renaissance inspired arched windows.⁵⁴

Weeks after the new building opened, which added a large number of new classrooms, the neighborhood continued to complain about overcrowding. The problem persisted until another expansion was put into works by the head architect at the time, Arthur Hussander. This second expansion, still aligning with the aesthetics of the existing buildings, looked to combine the two separate structures into a single complex. The expansion had two masses, one that connected the two existing buildings and one that extended the Fiedlers 1896 building to the north. Hussander provided a continuation of the brick masonry, limestone base, and window bays to unify the aesthetics of all of the building parts.⁵⁵

Today, this expanded school building remains relatively unchanged. The Chicago Public School's



FIGURE 3.11

Von Humboldt Elementary
School building site



FIGURE 3.12

Typical residential typology
from two & three story flats
to apartment buildings

Capital Improvement Program--an initiative started to manage improvement projects to the stock of public school buildings--has done a number of renovation and improvement projects to maintain the school building, such as repointing the exterior brick and restoring building details. The detail work on the façades has been preserved as part of another program: the CPS Historic Schools Initiative.⁵⁶



FIGURE 3.13

Von Humboldt Elementary
School, ca. 1896

GOALS AND OBJECTIVES

The program for the reuse of Von Humboldt Elementary seeks to fill hole in the neighborhood fabric. There are three main objectives for this design proposal are:

1. Reimplement the school into the building at an appropriate scale for current populations.
2. Design for 21st century learning environments.
3. Fill the rest of the building with a mix of mutually beneficial programs.

The closing of Von Humboldt Elementary, along with Duprey Elementary and Lafayette Elementary, brings forth the need to reestablish the education programs that have been shuttered with the schools. The goal is to provide the community with a local school and prevent the need to travel far to attend classes. The objective is to reinstate a smaller facility that utilizes a smaller portion of the school, negating the issues of building utilization rate initially brought up by Chicago Public Schools. This reduction of scale will allow for Chicago Public Schools to comfortably maintain the education program. In addition, as education pedagogy are constantly changing and the current learning

environments are outdated, the school will be redesigned congruent with 21st century learning environments. To update the school, space planning and design must be reconsidered.

Humboldt Park, including East Humboldt Park, is known for its rich cultural roots and community activities that generally exist. In East Humboldt Park specifically, there is a lack of locally accessible space to nurture the community's activities. Another goal is to provide opportunities for community engagement and promote the school as the community hub. The offering of open, flexible community spaces in the form of classrooms, meeting rooms, and open auditorium spaces, among others, can facilitate a further sense of place and community at the school. Furthermore, the community spaces can extend to the surrounding site and utilize the open space around the school to create community gardens and open outdoor gather spaces.

The recognition of community needs within the building can preserve the school as an important landmark for the present day and also for future generations. The incorporation of flexibility in the program can make the framework transferable to other shuttered schools around the city with varying community conditions.

THE PROGRAM

This series of programs feature a mix between market-rate housing, community space, fitness development space, and public school spaces. The size and scale of these program spaces will vary, depending on the specific needs of the neighborhood at a given time, allowing for the whole building's functionality to fluctuate with the community's needs.

This initial program explores a set of ideas regarding the appropriateness of the varying functionalities in a single entity. The mixed-use concept for the program can help to gauge the priorities within specific neighborhoods and can propose future developments based on those findings. At Von Humboldt Elementary, the division of the program also needs to respond to the existing architecture. Prior to closing, the utilization rate of the school was at 40 percent. Sizing the school program to that scale would allow the education portion to operate at maximum capacity. Because the housing portion of the program can use portions of the buildings that were classrooms, 30 percent can be allocated for affordable housing. The remaining 30 percent of the building would be used by the flexible community multi-use spaces. At the

school's exterior the community gardens will use a portion of the grounds while the rest will be used for playground space and parking for school teachers and community center users.

PUBLIC SCHOOL - 71,500 SF

The public school will be reestablished into a smaller portion of the building to maximize the utilization rate. The new smaller facility will include 17 classrooms, numerous group and common spaces for gathering and collaboration, art and music rooms, a cafeteria, and library. The reimplementation of the school is an opportunity to rethink how the school can operate with respect to the current generation as well as future generations.

HOUSING - 41,700 SF

The housing portion of the program will provide a variety of living conditions from studios to two-bedrooms units and townhouses. This organization will allow the chance for different sized resident groups to interact with each other within the same environment and develop relationships. Additionally, this configuration allows for the mobility of residents to upgrade or downgrade their living situation--in situations such as growing or shrinking

families--while remaining in the same location.

The residential housing can also be separated into the units for rental and ownership. By designing a variety of living units in this matter, the housing can incorporate both settling families and individuals with more transient community members. This allows for a stable community to exist while short-term people can flow in and out of the neighborhood.

COMMUNITY FLEX SPACES - 34,600 SF

The community spaces intend to be the most flexible of the different program spaces. The goal for the community spaces is to provide a flexible place where the neighborhood to engage in a myriad of activities that can range from dance rehearsals to neighborhood meetings to after-school recreation. These flexible spaces can be rented out to organizations outside of the neighborhood as a means to integrate a diversity of users. Furthermore, the spaces can change over time to allow for more permanent activities to exist as others are used temporarily.

In addition to the flexible community spaces, various specific programs can help support the concept of engagement, such as classrooms, a technology center, and a small auditorium. These program elements normally

require extensive travel outside of the neighborhood to have. By incorporating them into a community building embedded in the residential neighborhood, the community is encouraged to partake in the variety of activities that are offered.

COMMUNITY GARDENS AND PARK

The site has a large amount of space around the school, which can be utilized for community gardens and park space, especially given the lack of large open public space in the immediate neighborhood. The school's existing playground lots will be combined into a single playground area that allows for a larger user base and promotes the interaction between many different people. The community gardens will be in proximity to playgrounds in order to unify the major open spaces and provide logistical support of gardening adults with children playing being in the same vicinity.

PROGRAM	#	AREA (SF)	TOTAL (SF)
PUBLIC SCHOOL			71,500
CLASSROOMS	17		20,000
COMMON/GROUP SPACES			9,400
ART/MUSIC ROOMS	2	3,200	6,400
GREEN HOUSE			1,000
LIBRARY			3,100
ENTRY HALL			6,000
CAFETERIA			1,500
GYMNASIUM			7,300
ADMINISTRATIVE OFFICES			1,250
TEACHER'S LOUNGE			650
OUTDOOR SPACE			12,100
RESTROOMS			2,800
HOUSING			41,700
UNITS	28	500 - 1200	18,300
Studio			
1-Bedroom			
2-Bedroom			
TOWNHOUSES	12		15,000
MISC AMENITIES			7,150
TRASH			1,250
COMMUNITY CENTER			34,600
MULTI-USE ROOMS	10		10,000
COMMUNAL KITCHEN/DINING			3,400
LOBBY			4,850
DAYCARE			2,500
AUDITORIUM			10,000
ADMINISTRATIVE			1,350

FIGURE 3.14

Program distribution table

DELIMITS AND LIMITS

The thesis has a number of limitations regarding the approach to this project. The city of Chicago has already formed the Advisory Committee for School Repurposing and Community Development which aims to propose reuse plans for the shuttered schools across the city. The committee has created a multi-phase process to identify opportunities for immediate reuse at select schools and formulate strategies to revitalize others. The terms of repurposing proposed through this advisory council will be disregarded in the scope of this thesis.

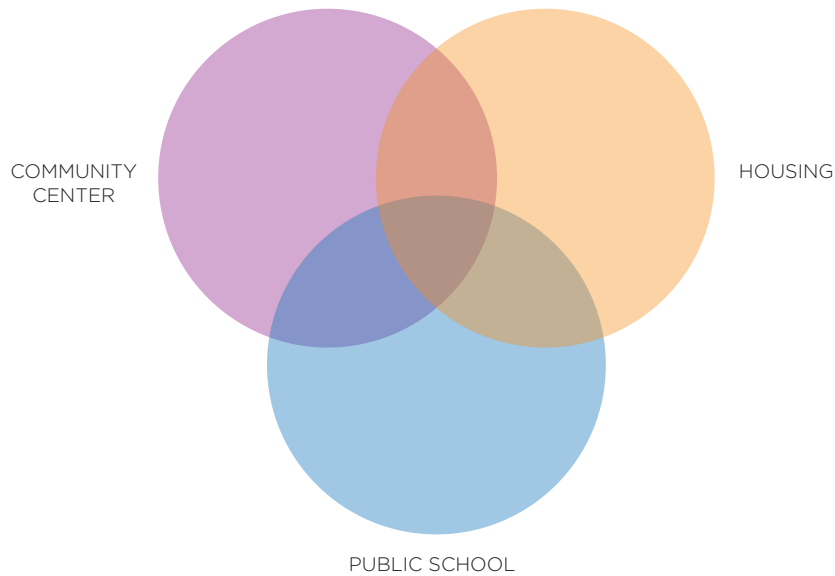
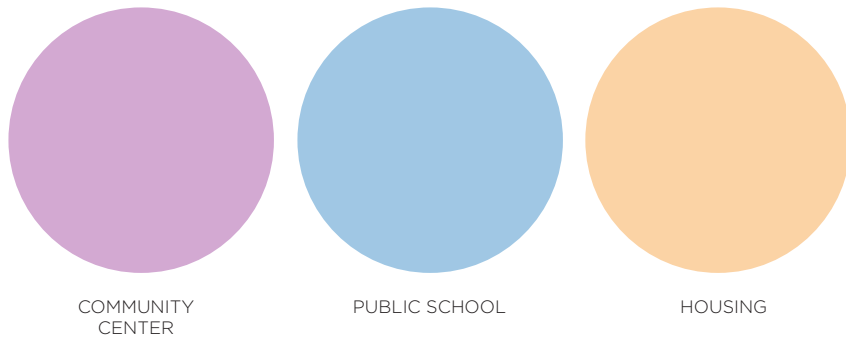
Given the existing infrastructure of the school, the simplest solution with the least of amount of effort would be to recreate the school in the building. Because CPS cannot afford to host a public education program in the school, a common solution is for a privately-operated charter school system to reuse the building. Some current plans are underway for such a strategy, such as the Chicago High School for the Arts occupying the closed Lafayette Elementary School near Von Humboldt Elementary. Although the solution is viable and allows for immediate reuse of these buildings, it leaves little room for exploring alternative directions of use. The purpose of this thesis study is not to find the easiest solution. Rather, this is

meant to be an exploratory project to test new pedagogy in existing buildings while associating other mixed-use functions within the same building framework. Moreover, with the limited time for completing this thesis study, the primary focus will be on the school design. The other two programs will only be preliminary studies for supporting the overall goals of the thesis.

Further limitations of this study are that the physical accessibility of the school for on-site inspection may continue to be impossible. Because of this kind of limitation, the inside conditions of the school can only be speculated upon and assumptions would need to be made. Furthermore, the lack of archival building information such as plans, elevations, and modifications done to the building limits knowledge of the existing conditions of the building. The information that has been gathered will be assumed to be the current conditions and the project will respond to those conditions.

This thesis will only be an explorative study in which a direction of approach for all of the shuttered schools can come as a result. The hope is to propose a potential solution that can enhance the current discussions between the community and the Chicago Public Schools.

4 DESIGN



The proposed design seeks to find an underlying harmony between the three programs outlined previously for the existing school building. The design intervention looks to find the mutual relationship between each program and organizes the program to that respect. The existing building will be utilized to its fullest along with an addition to expand on the existing building infrastructure. This design proposal celebrates the existing building as a valuable asset to the neighborhood's built environment as well as propose a new intervention to be seen as a development for the future.

FIGURE 4.01

Diagram representing the combining the three programs into a single entity that mutually benefit each other.

PROGRAM ORGANIZATION

Each program is situated to receive the most benefit from the dynamics of the existing building and site conditions. A balance had to be achieved regarding the advantages and disadvantages to where to place each program. Some sacrifices were made in order to achieve equal benefits to all programs.

SCHOOL

Although the existing building was designed as a school, the requirements of 21st century learning environments presented some limitations to how the existing structure can be used. The emphasis on collaborative work and fluid classroom spaces may not have exactly fit into the dimensions restricted by the existing building. This design proposes that the school program be situated at the top of the building. The roof plane can be utilized as a way to break free from the existing building structure and propose new structure that can be more adaptable to the types of spaces required in the new learning environments. By proposing a rooftop addition, the existing structure can be more carefully manipulated without significant overhaul.

While the roof allows for a large amount of space,

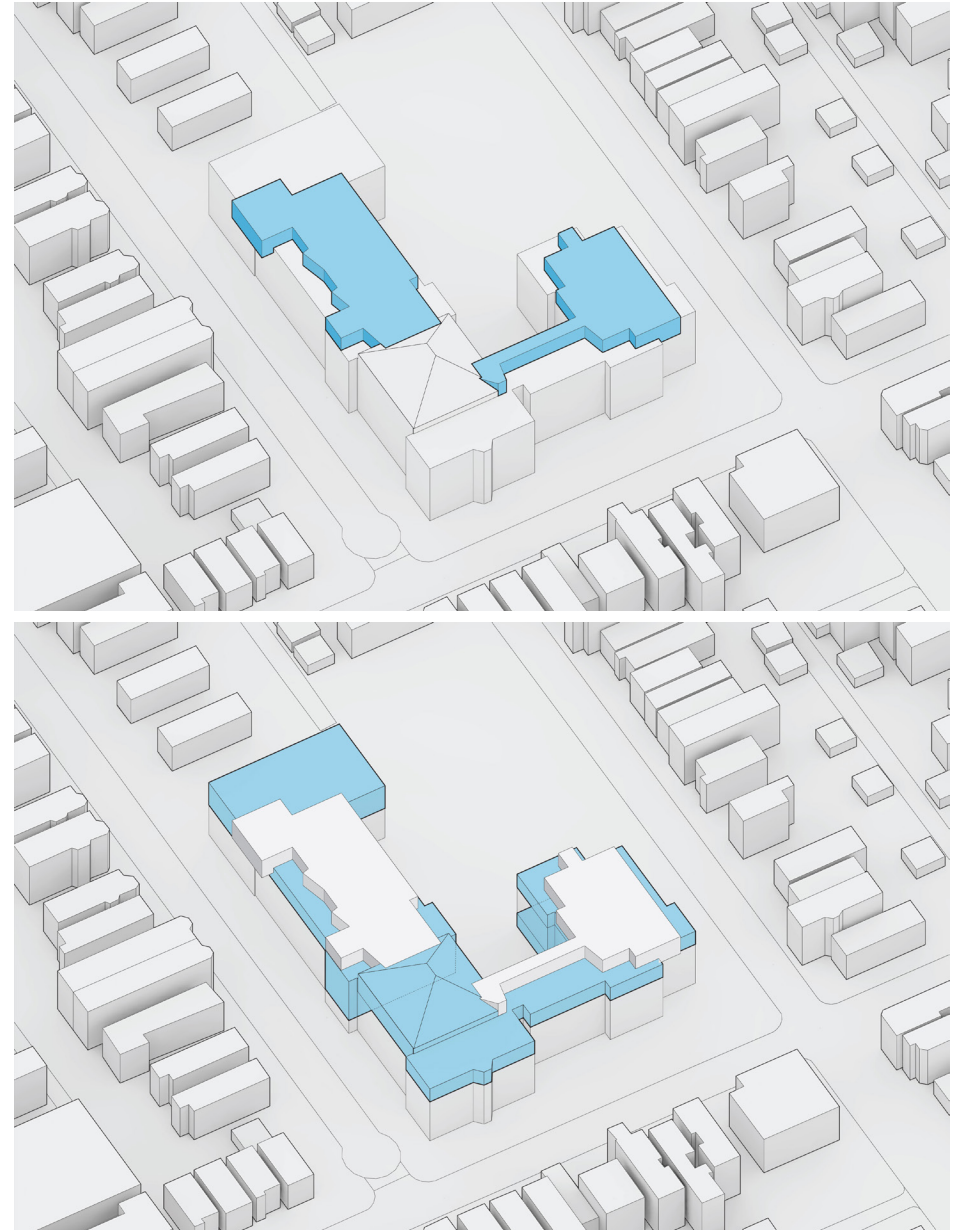


FIGURE 4.02

Above: Diagram of rooftop addition
Below: Diagram of permeation into the existing building

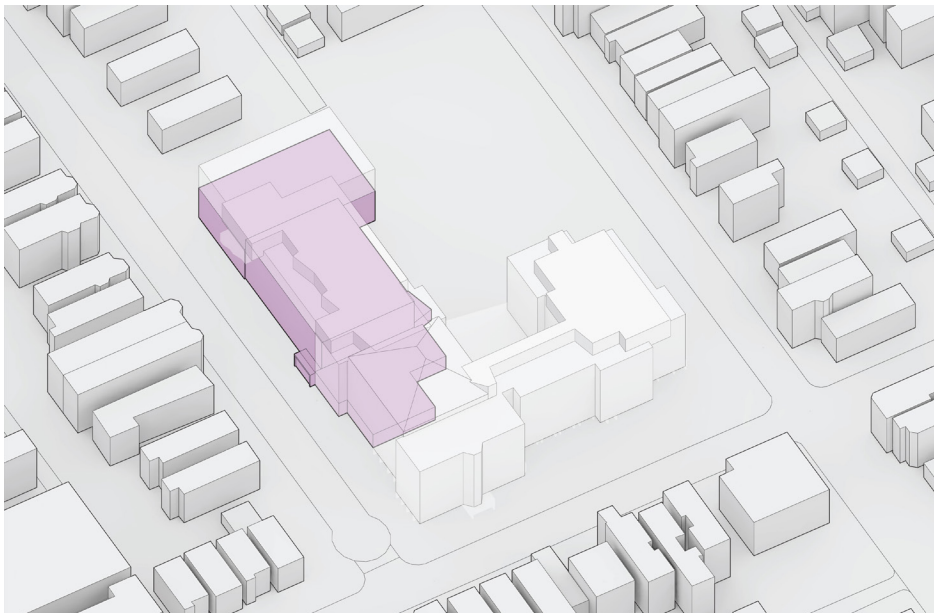
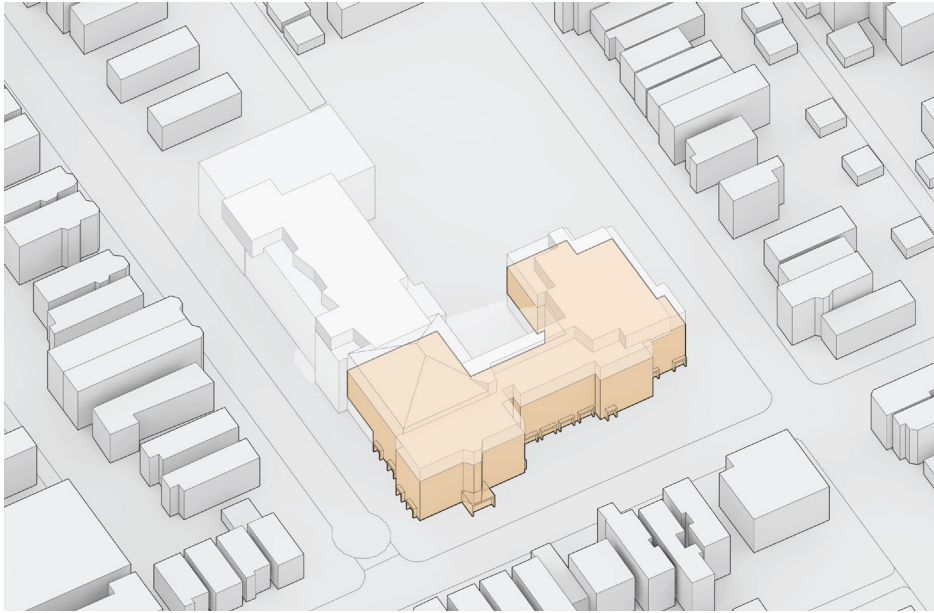


FIGURE 4.03

Above: Location of the housing program

Below: Location of the community center program

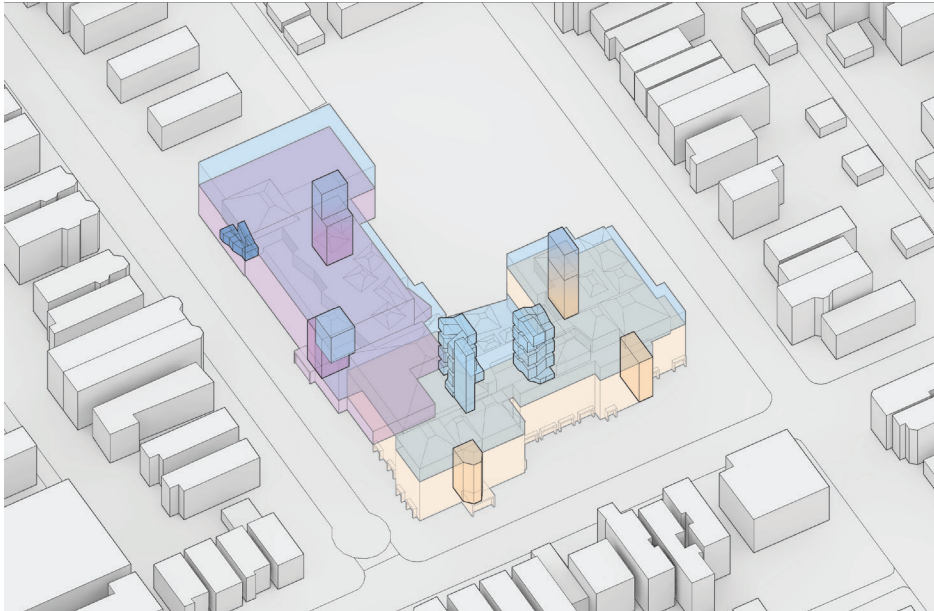
the fourth level of the existing building is required to fulfill the needs of the school's current size, as well as provide a connection to the existing amenities and infrastructure, such as the gymnasium and stairs for egress. Because the school is elevated to the fourth level and roof, an entry hall is situated at the ground level to connect with the existing playground and provide a secure entrance to the school.

HOUSING

The housing is the most flexible of the three programs and was utilized the remaining space at the south end of the building. This allowed for a level of separation with the school as well as the street face that it can respond to.

COMMUNITY CENTER

The requirements of the multi-use spaces for the community center allows the program to be rather flexible to the existing classroom spaces of the school building. However, the school auditorium present an opportunity to incorporate that space into the functionality of the community center. Although the school program can utilize the auditorium, it presented more potential as an element of the community center. Therefore, the community



center is programmed adjacent to the auditorium and permeates into the upper levels of school to utilize the existing classroom spaces as multi-use rooms.

CIRCULATION

The orientation of the programs allows for the use of the existing stairwells as primary circulation for the community center and housing programs. The school, however, requires more private and secure circulation. New stairwells are added to connect the ground level entry hall with the rest of the school on the fourth and roof levels. These stairwells are exterior to the existing building to avoid interfering with the existing structure and showcase the verticality of the progression of circulation. Two of the stairwells that serve the community center and housing will also be shared with the school as emergency egress only, with one-way access in the direction of egress.

FIGURE 4.04

Circulation diagram

SITE DESIGN

The organization of the programs within the building requires coordination with how the programs are situated outside. Each program needs separate entrances and other levels of separation, but also allows for a relationship between each on the site. The exterior space around the building is kept completely public to allow free movement for multiple parties on the site. The goal, however, is to suggest a primary use of certain spaces and creating a hierarchy between these spaces in relation to the programs within the building.

GENERAL SITE INTERVENTION

Around the perimeter of the site, new trees are planted in conjunction with the existing trees on the site and the pattern continued to create a unified experience. Between the sidewalk and the other site programs (school playground, basketball court, gardens, townhouse entrances), is a swale to act as a physical buffer. The swale continues around the perimeter of the whole site and requires walkways across. This limits access to the different parts of the site to certain controlled points.

SCHOOL

The school's entrance hall is located at the ground level in direct relationship with the playground space immediately north of the entrance. The playground space serves as an activity area for the school children to play before and after school and as the preliminary staging area for parents to drop off students. The primary use of this space is not entirely restricted to the school children, but will be the primary use of the space before and after school sessions.

A tree at the center of the playground serves as a focal point and marker for the play area and provides needed shade during the sunnier months. The ground material is an asphalt playtop typical of other urban school sites in Chicago. The hardscape allows for flexibility in use even during times of wet weather. The maintenance of this play surface is meant to be minimal in comparison to soft grass surfaces. A dedicated play structure is situated west of the central tree to allow a space for younger children to play as well as a space for parents to sit and watch.

A fenced basketball court is to the east of the playground that can serve as both an extension of the playground for the children or as a public space for residents of the community. The basketball court also plays the role

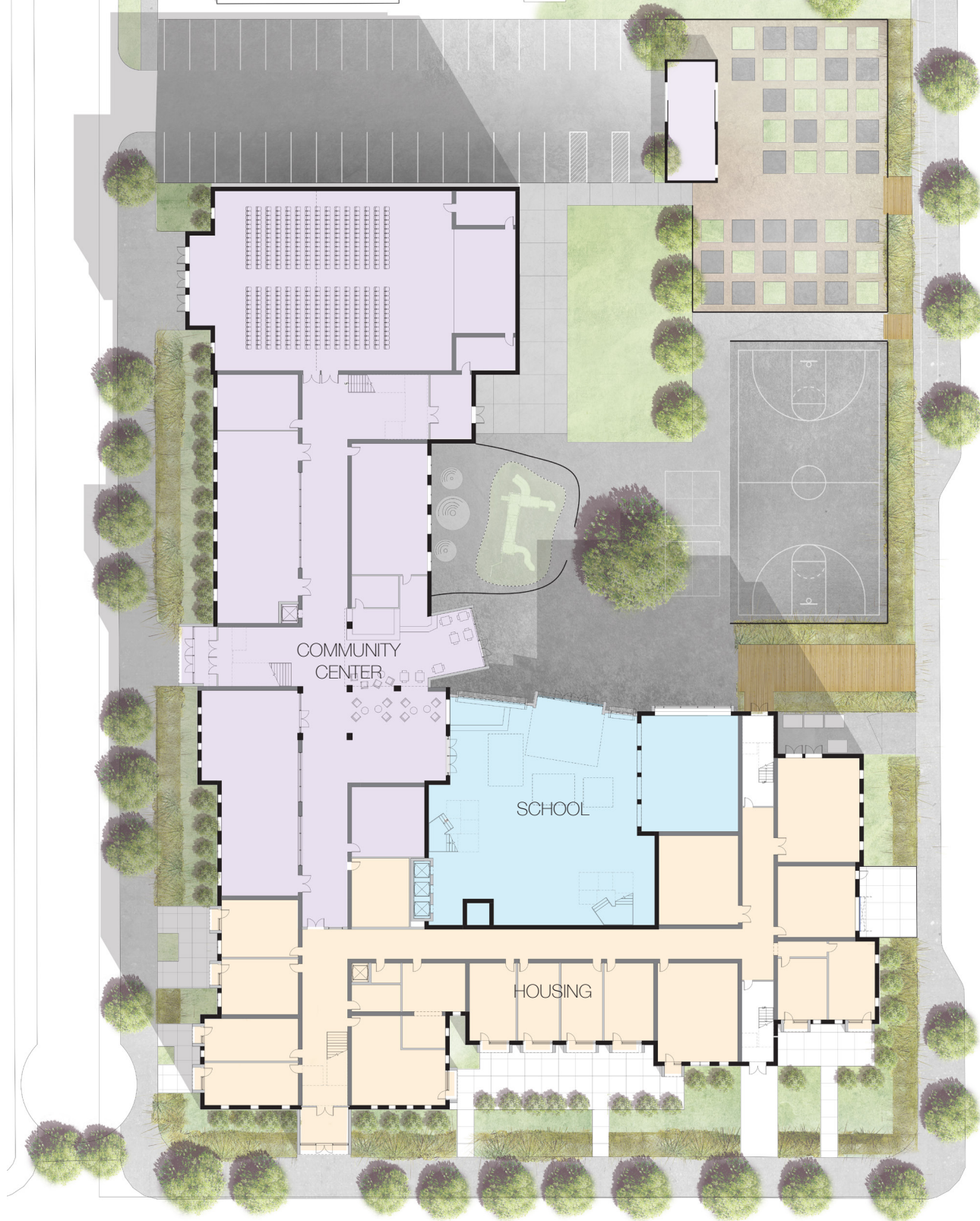


FIGURE 4.05
Ground level site plan



FIGURE 4.06

Perspective of the proposed
playground space.

of a buffer between the sidewalk and playground.

North of the playground is a open green space that is included as a play area in contrast to the asphalt play area. The softscape encourages different types of play such as soccer or football that work better on soft scape. Additionally, the space can be used by other community residents as a soft lounge area or pet play space.

COMMUNITY CENTER

At the northeast corner of the site, a space is given for community gardens. The gardens are fenced off from but situated adjacent to the sidewalk. The fence provides a small buffer from the public but still allows for a connection with the pedestrian traffic. A garden shed is offered for community users and is positioned adjacent to the parking lot for vehicular access and material deliveries for the gardens. A pathway connects the community gardens with one of the entrances to the community center portion of the building at the north end.

The main entrance of the community center contains an extension into the playground space that houses a small café space. The protruding portion of the entrance plays the role of announcing the connection of the community center with the greater outdoor space. The

objective is to provide an amenity for the parents while creating a visual connection with the children playing.

HOUSING

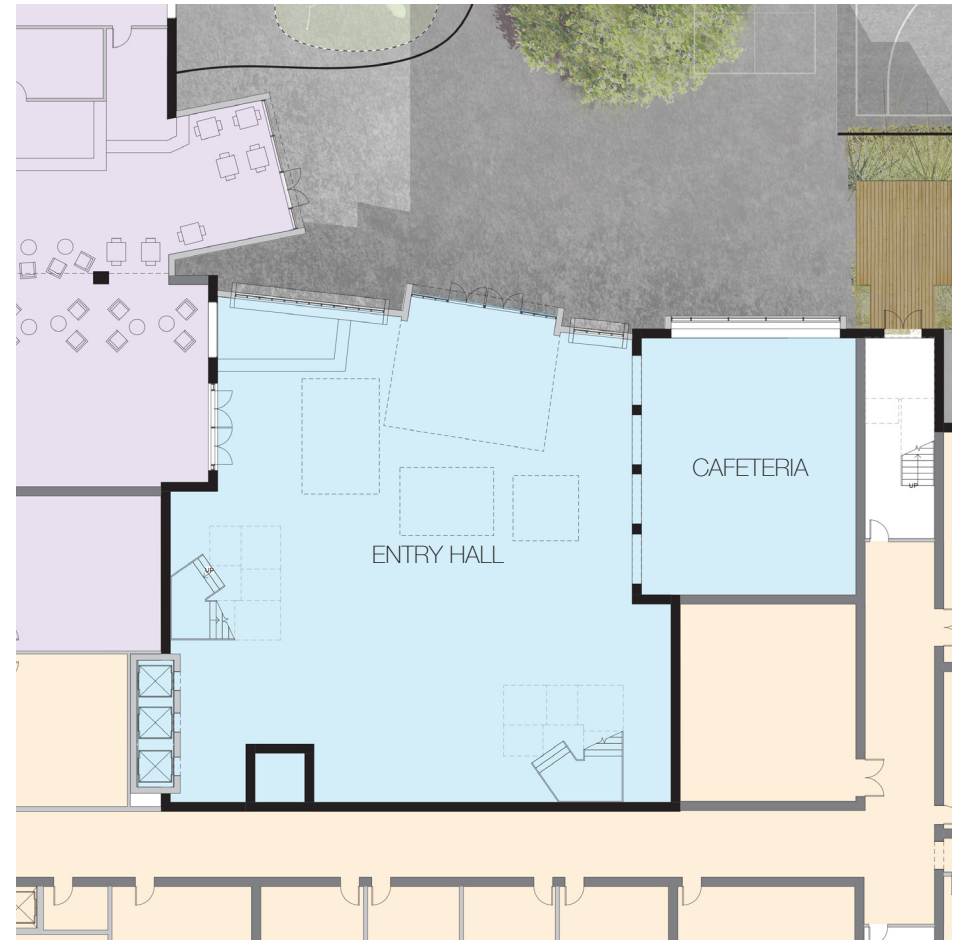
The townhouses at the ground level make up the majority of the site conditions relating to the housing program. Because the existing building is partly setback from the site boundary, the townhouse entrances are set back as well. This setback allows for the townhouse to create small semi-private porches in the inherent buffer space. The walkways connecting the sidewalk and the porches cross over the proposed swale at few locations to limit access to the semi-private spaces. The collection of these townhouse porches creates a site condition at the south end of the building reflective of the residential fabric surrounding the site.

BUILDING INTERVENTION

The interventions to the existing school building include both the programming of different portions of the building as described earlier and the new roof addition for the school. The program organization sought to fully utilize the various existing amenities and develop upon the mutual benefits that each program offers each other. The choreography of the programs within the building looks for the balance in function throughout the course of a day, considering the availability of space and providing the appropriate access to that space for the various parties.

GROUND LEVEL

The new addition to the existing building at the ground level is the entry hall of the school. From the playground space, the entry hall accepts students into a large foyer. The entry hall acts as a secondary staging area for the students to gather at the beginning and end of the school day. When the playground is not accessible for play, such as times of rainy or snowy weather, the entry hall becomes the main staging area for gathering. Adjacent to the large gathering space is the cafeteria space, which serves as a designated space for eating breakfast and



lunch, although the ability to expand into the entry hall is a possibility. Two stairways and an elevator bank are positioned to allow multiple circulation paths up to the school.

The north wing of the building is dedicated to the community center with primary access to the auditorium space. The entrance to the community center is located

FIGURE 4.07

School entry hall plan.

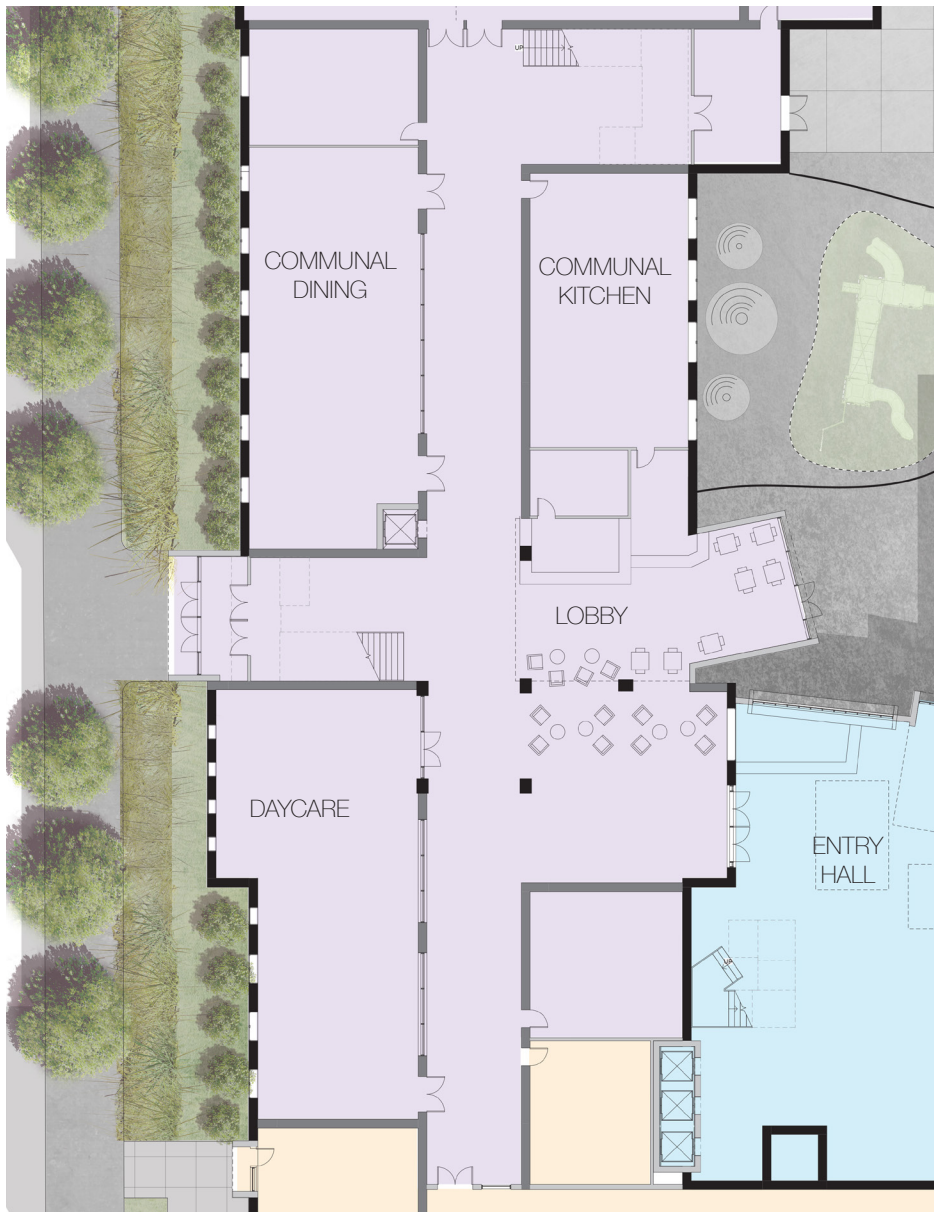


FIGURE 4.08

Partial community center
ground level plan

at one of the existing entrances to the school on the west side. The existing entrance is replaced with a new intervention that conceptually penetrates the width of the building, providing access to both the street to the west and the open playground to the east. In this entry space, the existing stairway provides access to the upper levels of the community center. The reception desk is located at the intersection of the entry corridor and the main circulation corridor.

The café and public gathering space is arranged adjacent to the reception and the east entry door assuming the qualities of a lobby space. The intent is to allow the intersection of multiple parties, whether community center users, parents of the school children, or residents of the housing.

Multiple entries and access points are offered at the ground level at the community center. Aside from the main entry corridor, a secondary entry and egress is located adjacent to the auditorium on the north end to provide access to the community gardens and ease of entry during use of the auditorium. A shared entry with the school is adjacent to the lobby space for access to the larger entry hall for delivery of food from the communal kitchen to the cafeteria and access to the entry hall for the use of the



FIGURE 4.09

Perspective at community center lobby space.

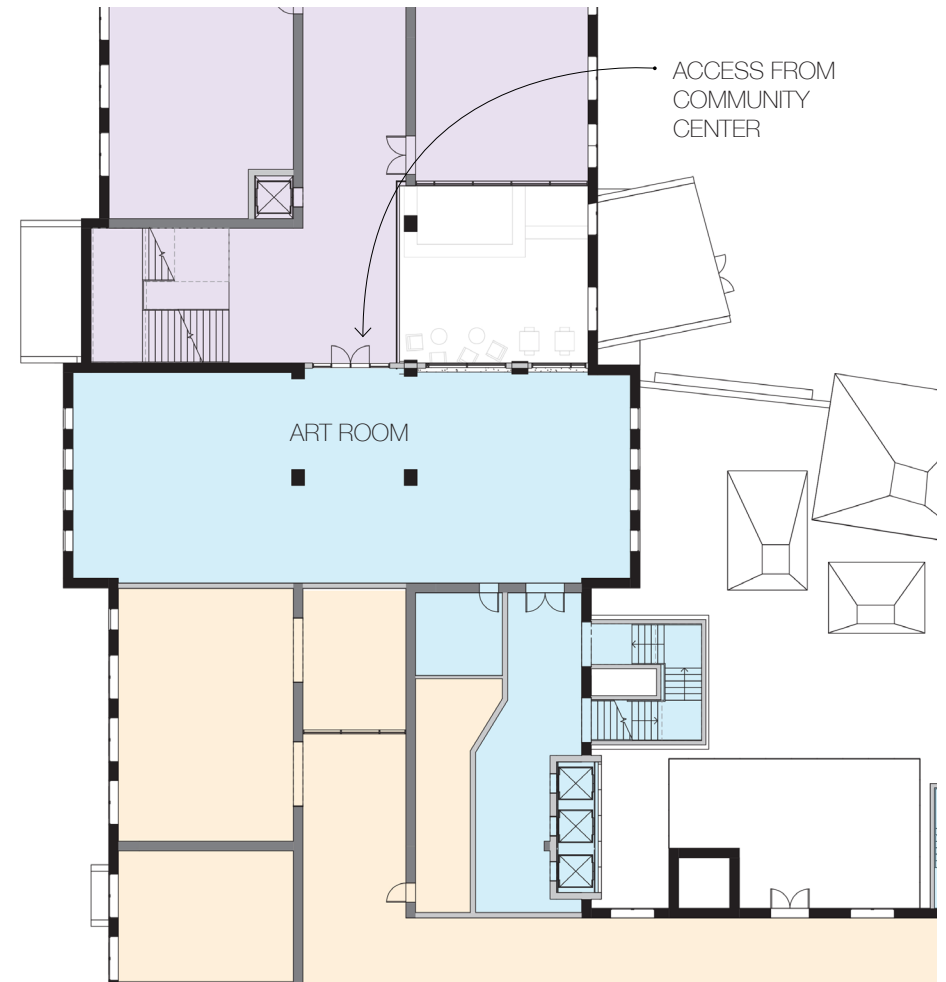
open space during after school hours. The housing also has a private entrance at the south entrance to provide a convenience access point for use of the daycare, café, and other community center amenities.

On the south end of the building, the main housing entry utilizes one of the other existing school entries. An existing stairway at the entrance provides access to the upper level apartment units. Housing amenities are placed at the east wing, such as the communal bike workspace and storage space. The trash area is also located on the east wing for relatively easy access to the street and proposed drop-off inlet for garbage trucks.

SECOND & THIRD LEVEL

At the second and 3rd level, the housing departs from the connectivity with the other two program. The existing classroom spaces of the school provides appropriate dimensions for the general planning of units and is kept secure from the other programs.

The community center and school continue their mutuality through the two levels. The art and music rooms for the school are adjacent to the new west circulation stair and elevators for primary access for the school. During after-school hours, an access point at the north side of the



rooms allow for access through the community center to utilize the space and equipment.

Access to other community center amenities are located at the second and 3rd level along with the multi-use rooms that make up the program. Access to the balcony above the auditorium is on the 2nd level, and access to the gymnasium is on the 3rd level for after school hours. A

FIGURE 4.10

Enlarged partial plan at art room on 2nd level.

private and isolated entrance to the gymnasium is provided at the west side and is exterior of the existing building envelope.

THE SCHOOL

The 4th floor and roof addition are given to the school program. The spatial needs of the school program technically does not require additional floor area and can simply use the existing floor area. However, this thesis looks to explore the design of 21st century learning environments with new spaces and the roof addition begins to think about those spatial requirements. At the 4th floor, the design intervention does respect the existing structure and explores variations on manipulating that structure for the benefit of new school pedagogy.

Generally, the school is organized into clusters of classrooms based on grade level. Kindergarten and first grade students are grouped in the roof addition. Second through fourth grade levels are clustered, fifth and sixth grade together, and seventh and eighth grade are grouped. Between each grade cluster are different other school requirements such as restrooms, library, administration space, and a teacher's lounge.

The new classrooms were designed around a

major focus on providing space for collaborative group work. The older grade levels (5-8) utilize a shared group space between two or more classrooms, fostering community building connecting a larger array of students. The early grade level classrooms (K-4) were designed to have a designated space for group work as part of the overall classroom space. With the designated spaces built into the classroom layout, furniture would not need to move in order for students to break away from the whole class into small groups. The objective was to offer a more flexible model to adapt to changes from day to day in learning methods.

The new classroom element is celebrated as a new form. Where the group space only serves one classroom, the walls around the group space protrude into the hallway and are canted from the orthogonal. This creates a textural configuration and new type of language for the hallway, a large contrast to the existing hallways of the building. Additionally, all of the group spaces feature bi-folding glass wall panels that allow for the rooms to open out into the hallway. This feature pushes for the use of the hallway as part of the classroom, not only for additional space but also to make the classroom instruction more open to the larger community within the school.

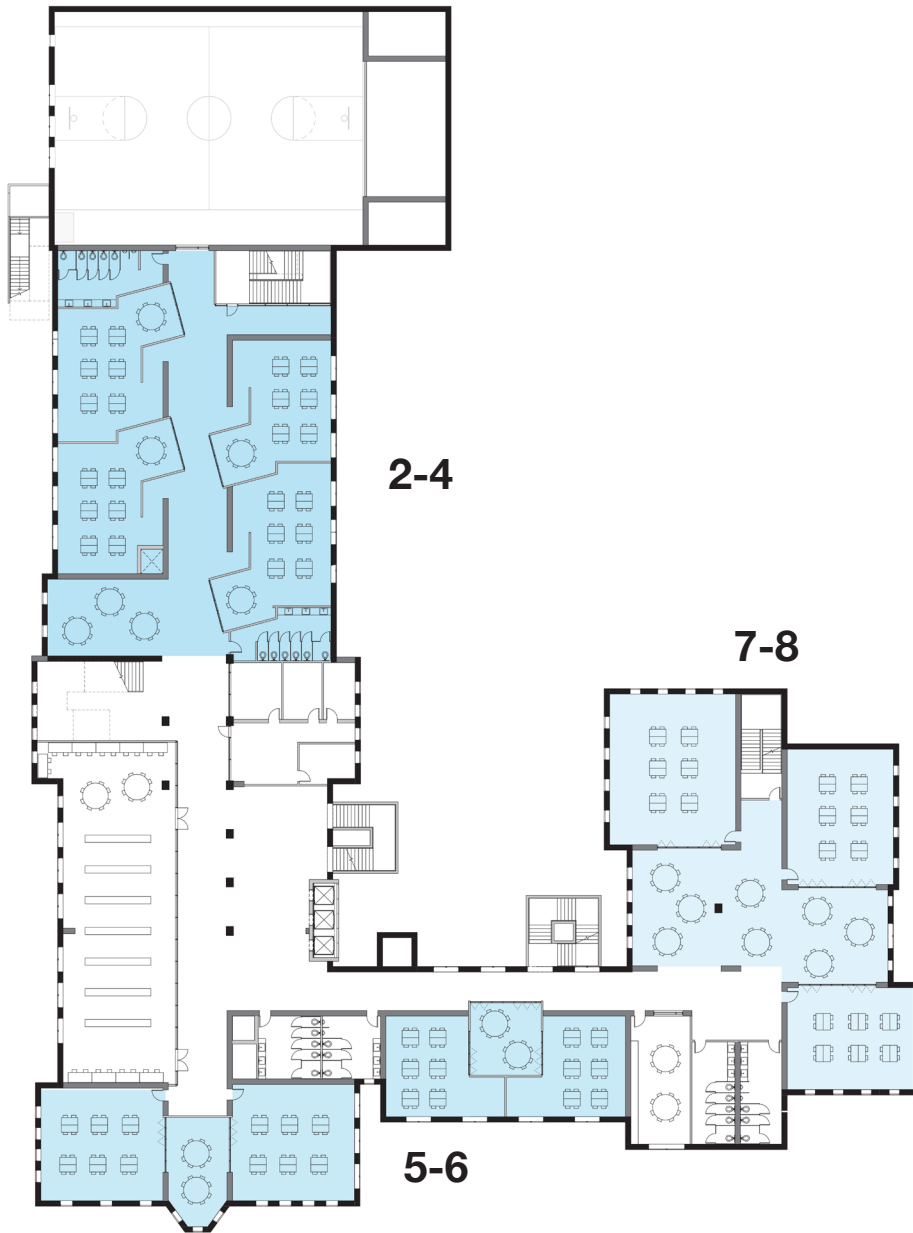


FIGURE 4.11

Proposed fourth level plan, highlighting grade clusters.

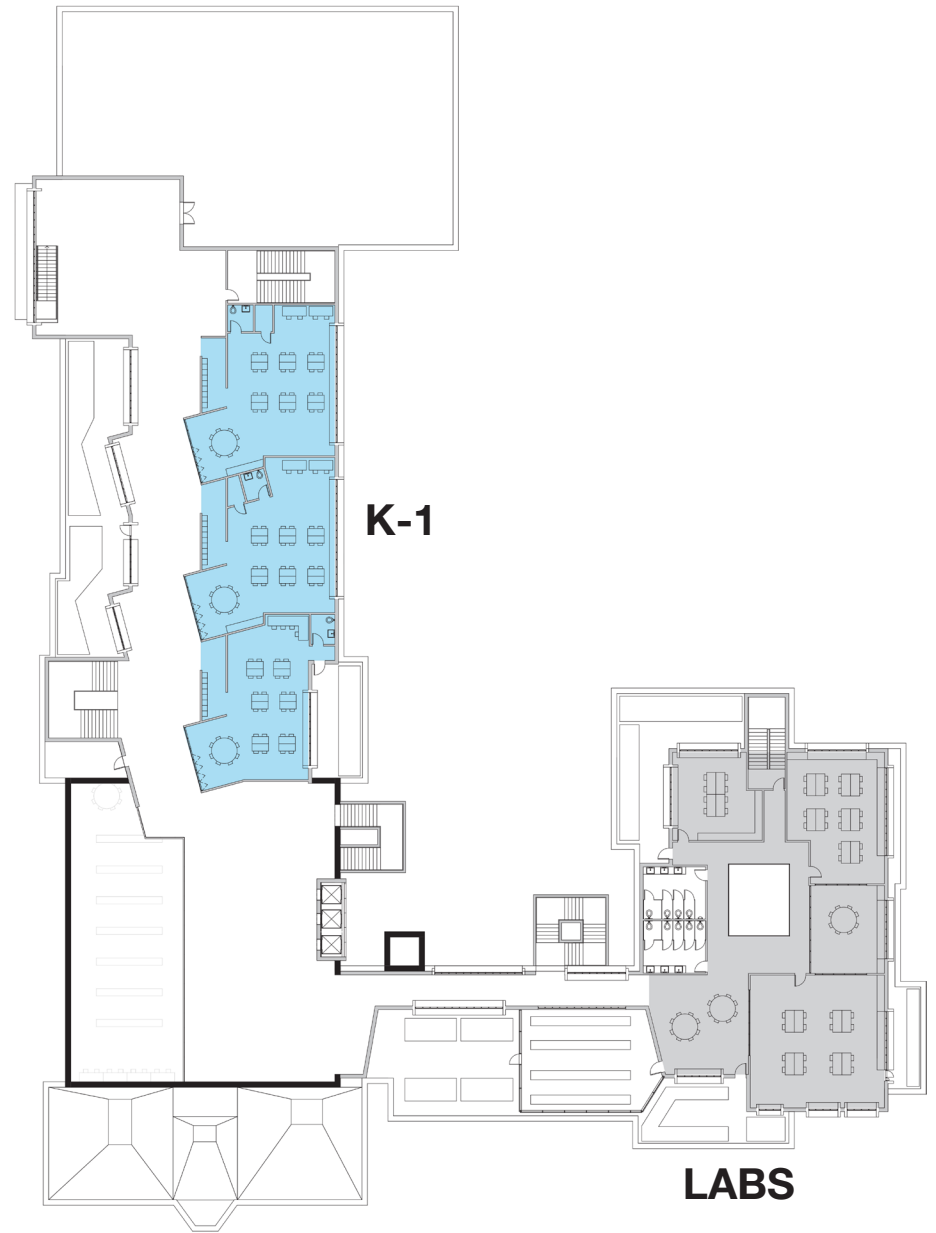


FIGURE 4.12

Proposed roof level plan, highlighting grade clusters.



FIGURE 4.13

Perspective of proposed hallway scheme.

THE ROOF ADDITION

The roof addition scheme attempts to depart from the configurations of the existing school. Although the addition is generally respectful of the boundaries of the existing building, the space planning looks for a different perspective on the use of space. Rather than a double-loaded corridor, the edge of the addition is set off from the edge of the roof to make a single loaded corridor. The deliberate offset allows for outdoor space to be created for the education program. A series of variably sized spaces are created outside of the classrooms and hallways around the addition and access given to them.

The focus of the general configuration of the addition is to provide adequate space for the classroom and the hallway for circulation and impromptu classroom expansion. This particular layout is made primarily available for the kindergarten and first grade classes--the students that would make use of the flexibility in space.

At the very north end of the addition is a large common space that serves as a staging space for the outdoor play area above the gymnasium. The outdoor play area is more private and secure and compliments the playground on the ground level. The common space can be used as the play area during days of bad weather, as well

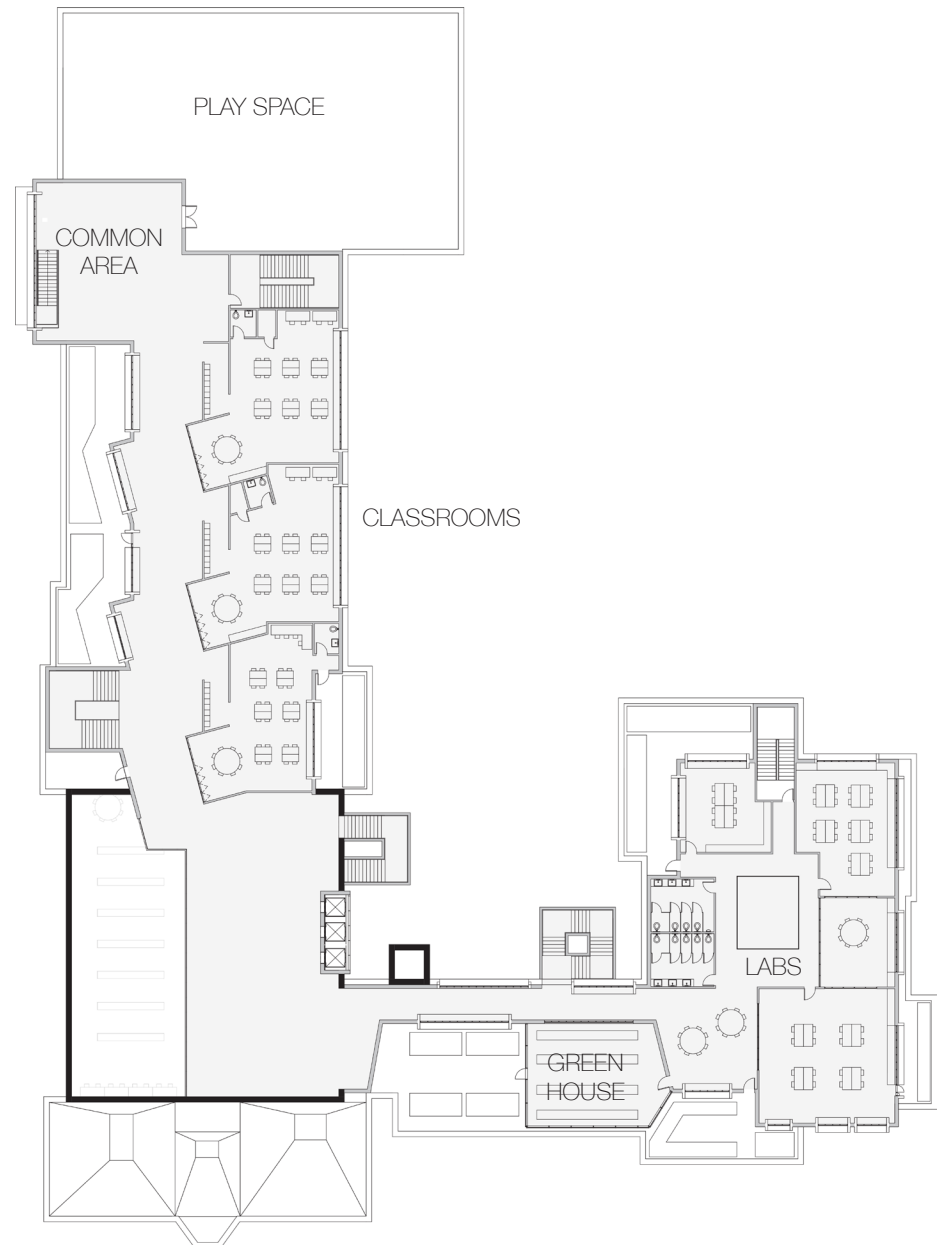


FIGURE 4.14

Proposed roof plan.

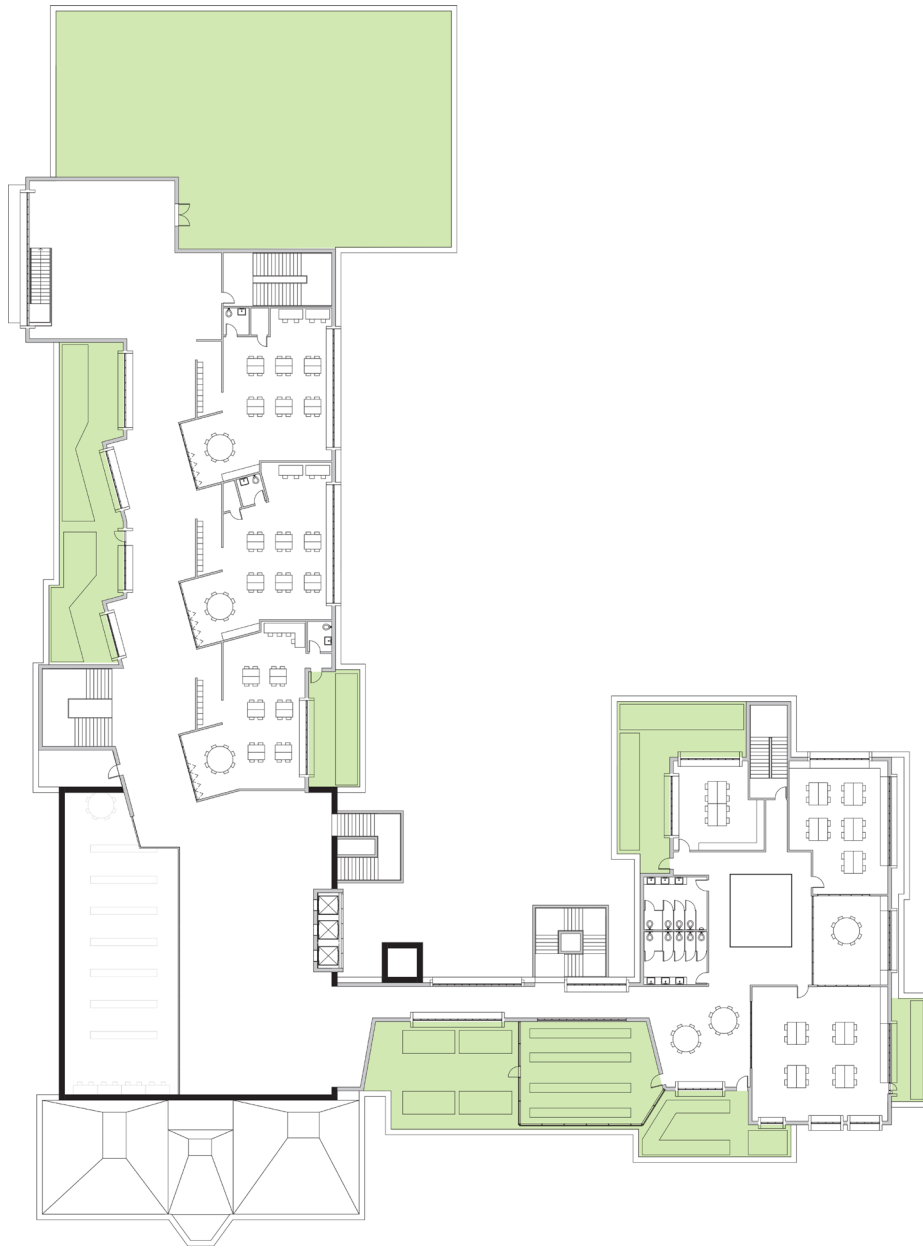


FIGURE 4.15

Proposed roof plan,
highlighting exterior spaces.

as serve to be a gathering space for other activities. A large window is designed on the west façade to allow views out eastward to the neighboring Humboldt Park. Additionally, a new exterior stair connects from this common space to the gymnasium below as a convenient circulation element and avoids conflict with the shared egress stairs and the community center.

At the southeast wing of the addition are the science labs that are shared with all of the grades. These science labs are set apart from the grade clusters to form its own cluster of classrooms. Around the science labs are open outdoor spaces that promotes the use of the outdoors as a part of the classroom. Additionally, a green house is situated adjacent to the labs on the south side to utilize the solar exposure. An expanded green roof space is designed in conjunction with green house to, again, strengthen the use of the outdoor space.

The exterior expression of the roof addition features a number of elements to contrast with the existing school building. The exterior walls, constructed of metal stud framing and typical rainscreen, is clad in a black metal panel. The dark shade will stand off from the existing building as well as the other colors on the façade. Around each window fenestration is a framed extrusion that both

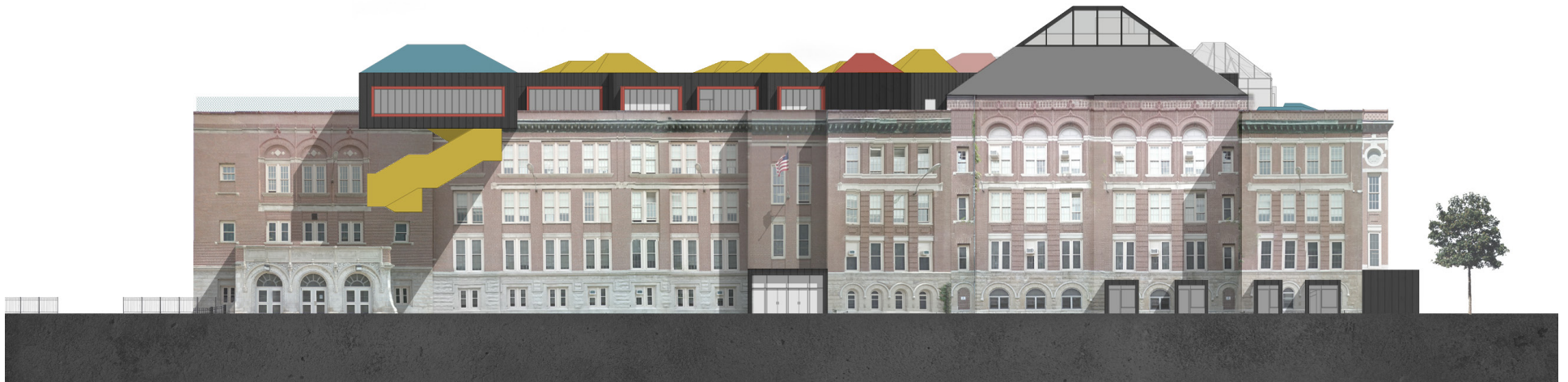


FIGURE 4.17

Above: Proposed west elevation



FIGURE 4.16

Below: Proposed south elevation

highlights the windows with colors, but also creates a partial shading element.

Even though the existing school rooftop is being used for a new purpose, the roof addition presents a new roof plane with its own potential. Because the addition is on the roof, there is opportunity for design the roof to provide natural daylight. Drawing inspiration from the hip roof on the existing building, the roof form of the addition used a mixture between a hip roof and mansard roof. At the top of the roof slope is an opening that allows light into the space below. These rooftop elements are positioned over common spaces and classrooms to bring in the natural light to the most critical spaces. A field of these skylights litter the roof and is clad with brightly colored cladding panels to accentuate their presence and contrast, both, with the dark metal panels and the existing building's materiality. Where there were no skylights on the roof, a green roof is provided to help with insulation during the colder months and water retention after rainfall.

Despite the challenges of elevating a school from the ground four stories, it can be seen as a symbolic gesture of what the building's mixed program represents. The school children are at approximately 54 feet above the ground plane below when on the existing school roof.



FIGURE 4.18

Proposed upper roof plan.



FIGURE 4.19

Perspective of proposed classroom and skylight feature at the roof.



At that elevation, one can see out to the Chicago skyline. More importantly, that elevation allows the school children to look back at the new school that they attend as well as the surrounding context. By bringing the school up off of the ground plane, where the students can be safe and secure, they can visually reflect upon the physical relationship of the old school, the new school and the community that

comes together to use the facilities. The vantage points at the roof can be an enlightening experience for the children and present to them the idea that new can come from the old and that the community as a whole has a large role in that emergence.

FIGURE 4.20

Perspective of playground from the new proposed rooftop play area.

5 C O N C L U S I O N S



FIGURE 5.01

Section perspective of
proposed design

This thesis investigation began as an exploration in ways to reuse shuttered school buildings in Chicago. Although the Chicago Board of Education has actively responded by creating an advisory council for this problem, it seems the solution is simply to sell to the highest bidder. This fix would solve the problem of unused school buildings, but would leave unresolved the issue of a neighborhood's missing school. This thesis attempts to take head-on that problem, not only proposing that the school return to the building but also that the school be transformed into something more for the community around it.

The mere idea of combining mixed-uses with education can have a large number of complications and resistance. Security and privacy are among some of the major concerns revolving the idea. However, this idea of implanting the school with other community building programs is a rather utopian concept and this thesis accepts that. It is presented as a stepping stone toward that idea. The fact that schools are designed and isolated from a potentially enriching neighborhood context is flawed and may not be in the best interest of the school children. Learning methods of the 21st century encourages the development of creativity through collaboration, but collaboration cannot exist when students are individualized

with standardized testing and disconnected from the community around. Adaptive mixology celebrates the importance of community, cooperation, and their part as an educational force.

This thesis is only the beginning to a larger discussion of adaptive mixed-use education. The next steps for this project is to go much further and develop into a true model that can be shaped and reworked for a variety of the different shuttered school around Chicago. The site conditions of the other schools vary immensely and the idea presented in this thesis only addresses one of them. The process can continue by performing a more in-depth analysis of all site conditions to gauge whether this adaptive mixed-use concept is viable as a model for all of the shuttered schools in Chicago. The basis of this investigation puts forward that the concept is adaptable per the needs of the different neighborhoods of the city. In the end, the adaptive mixed-use education theory can be considered well beyond Chicago.

The adaptive mixology concept is, ultimately, a strategy for education. It rethinks our current notions of what education is and can be. This thesis suggests that the concept of "community" be scaled from the classroom between individual students to the neighborhood between

residents and even to the level of the city between city officials and community members to establish a cohesive and optimistic future.

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