

## ABSTRACT

Title of Thesis: BUILDING COMMUNITY FROM WITHIN AND WITHOUT: A RETURN TO SMALL URBAN SCHOOLS

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The school environment is an opportunity to inspire learning and instill a sense of curiosity in children. The design of the environment can communicate to students the value our society places on education, teachers, and the students themselves. Despite the overwhelming evidence that points to the academic and social benefits of small schools, most schools today are much larger buildings as a result of perceived economies of scale. These large, impersonal schools are failing to provide an adequate learning environment for students, in spite of numerous studies that show the effects school facilities have on academic achievement. Small schools, located within the students' neighborhood, not only foster stronger interpersonal relationships within the school setting, but also encourage a symbiotic relationship between the school and its community, who both benefit from the resources each has to offer.

BUILDING COMMUNITY FROM WITHIN AND WITHOUT:  
A RETURN TO SMALL URBAN SCHOOLS

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## Dedication

Thank you to everyone who has helped me through this degree program and thesis project, with special thanks to my parents, my brother and sister, my classmates, and especially Payne.

Thank you to my committee, Ralph Bennett, Brian Kelly, and Tom Schumacher, and also to Gary Bowden, for all of your input and support.

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## **Introduction**

The Northwest One neighborhood in Washington, D.C. is home to two of the worst performing schools in the District. The low levels of student achievement, in part, can be attributed to a number of socio-economic factors, compounded by the dilapidated condition of both schools, both of which have been identified by the District as priority candidates for demolition and reconstruction. Additionally, the entire neighborhood, located less than a mile north of the U.S. Capitol and characterized by high concentrations of poverty and crime, has been selected by the District as the first candidate for redevelopment under its *New Communities Initiative*. The 2005 mayoral initiative seeks to revitalize distressed neighborhoods through the introduction of mixed-income development. One of the highlights of the proposed master plan is the construction of a new consolidated K-8 school in the neighborhood. This thesis will explore alternative small school, community-based strategies for the new facility.

In 2004, students at the two schools, Walker Jones Elementary and Terrell Middle School, achieved a 25.98% and 16.48% level of reading proficiency, respectively, compared with a 45.78% level of reading proficiency in elementary schools District-wide. In math, 35.83% of Walker Jones students and 16.30% of Terrell students were proficient, compared with 55.01% of students District-wide.<sup>1</sup> Low education levels are prevalent throughout the neighborhood. According to a 2005 neighborhood survey of adults in Northwest One, 38% have no high school degree, while 42% have attained a high school degree or GED as their highest level of education.<sup>2</sup>

Another significant problem facing the two schools, and D.C. Public Schools in general, is a declining student population. The decline can be attributed to a number of

factors, the most significant of which is school choice. Families and students who are dissatisfied with their neighborhood schools are choosing alternative schools such as charter schools, of which there are a growing number in D.C., and private or parochial schools for those who can afford them. These alternative schools, though usually located beyond the bounds of the student's neighborhood, typically are smaller in size and offer either a specialized or more rigorous academic curriculum. In Northwest One, there are approximately 1,000 school-age children, 10% of whom have opted out of neighborhood schools, with the number steadily increasing.<sup>3</sup> With so many students leaving the public schools, either by moving out to the suburbs or through alternate school options, the District is actually in the process of closing and consolidating a number of schools in the name of economic efficiency. Up to ten schools will be closed or consolidated by the beginning of the 2006-2007 school year, in response to the decline by nearly 10,000 students in the past ten years.<sup>4</sup> Decisions based on economic data and political maneuvers, as opposed to sound educational research, will result in large schools located beyond the students' home neighborhoods.

## **Chapter One: Theoretical Underpinnings**

### *A Return to Small Schools*

*“All learning begins when our comfortable ideas turn out to be inadequate.”*

*-John Dewey*

*“There is a natural predilection in American education toward enormity, and it does not serve schools well.” -William Fowler*

As early as 1869, large schools began to appear in the United States, largely the result of “the belief that large schools [could] deliver education with major economies of scale” coupled with both the “lack of available sites and population growth in central cities.”<sup>5</sup> In order to accommodate larger-scale schools, education facilities were often located away from the neighborhoods of its students, resulting in a disconnect between schools and the communities they served. In 1967 then-president of Harvard University, James Bryant Conant, published research in which he concluded, “larger schools (over 750 students) can offer more comprehensive instructional programs of greater quality at lower costs than small schools.”<sup>6</sup> Today, a school is considered small if it enrolls fewer than 400 students, while schools of 200 students or less are the ideal.<sup>7</sup>

The preference for large school sizes prevails today, despite their association with a number of negative outcomes, many of which become particularly pronounced when the school enrolls high percentages of disadvantaged students from a lower socio-economic status. Studies reveal that on average, large schools have lower attendance rates, lower rates of student involvement in extra-curricular activities, lower grade averages, lower standardized test scores, higher dropout rates, higher violence rates, higher rates of drug abuse, and require increased security.<sup>8</sup> Although “small is not synonymous with successful,” research has consistently demonstrated that small schools “offer many advantages for learning and supporting communities” that rapidly disappear

as the scale of the facility increases. Despite the preponderance of data showing the many benefits associated with small schools, there is a general perception that it is “politically and financially impractical to build new public schools as small as desired.”<sup>9</sup>

A recognition that large schools are failing their students, coupled with the perceived political and economic impracticalities of limiting schools to their optimum size, has led to the emergence of a new type of school, the school-within-a-school. This relatively new type of school is defined as

...a separate and autonomous unit formally authorized by the board of education and/or superintendent. It plans and runs its own program, has its own staff and students, and receives its own separate budget. Although it must negotiate the use of common space (gym, auditorium, playground) with a host school, and defer to the building principal on matters of safety and building operations, the school-within-a-school reports to a district official instead of being responsible to the building principal. Both its teachers and students are affiliated with the school-within-a-school as a matter of choice.<sup>10</sup>

The school-within-a-school model “replicates a small school more closely than the other forms of downsizing,” such as house plans, mini-schools, learning communities, clusters, and charters, it is the model most likely to “produce the positive effects of a small-scale educational institution.”<sup>11</sup> Researchers have conducted numerous studies on the recent wave of schools-within-schools and have concluded that there are a number of benefits associated with the model, including academic, social, attendance, graduation, safety, discipline, and even financial benefits. For example, students in small schools generally have higher test scores than their large-school counterparts, improved attendance and graduation rates, and greater self-esteem.<sup>12</sup> Furthermore, some studies suggest, “a school-within-a-school can contribute to a greater feeling of ‘community’ among participants,” which, in turn, “facilitates student attainment.”<sup>13</sup> The heightened sense of

community results in increased “social commitment” both among students and between students and teachers, “thereby increasing their personal investments in school.”<sup>14</sup> Proponents of the school-within-a-school model herald the movement as a way to personalize education through smaller schools, while still reaping the economic benefits of the shared facilities of a common school.

One of the biggest criticisms of small schools is the perceived economic inefficiency of have many small buildings, each with its own discrete set of facilities. However, recent studies suggest the large schools carry economic costs of their own. Furthermore, it is important to take into account intangible costs, such as social cost of failing to provide a decent education to a generation of students. A recent study on the cost-effectiveness of good, small schools demonstrated through the analysis of more than 3,000 construction projects that “smaller schools are no more expensive to build than larger schools.”<sup>15</sup> Additionally, researchers for the report analyzed the budgets of 25 of the top rated small schools in the United States and found that “on average they spend less per student on educational program, maintenance, and operations than the per-pupil expenditure in their districts, yet they achieve results that are equal to or better than schools in the same area.”<sup>16</sup> Below is a summary of some of the cost saving highlights of smaller schools:<sup>17</sup>

- *Attracting students*, a problem that is currently plaguing D.C. Public Schools, and the money that comes with each student
- *Saving on transportation costs*, one of the largest financial burdens on a school, by catering to neighborhood children, while creating closer bonds between the school and families
- *Sharing community resources* such as indoor and outdoor recreational facilities, playing fields, and even the public library

- *Smaller school sites cost less to purchase and maintain*
- *Smaller buildings also cost less to maintain*
- *Potential reductions in square footage per student due to smaller class sizes (20 or less)*
- *Reduced need for security staff and equipment as small size is a built-in security features because of the personal relationships it fosters*

Furthermore, the social costs of lower levels of student achievement in large schools are most clearly pronounced for students of lower socio-economic status and for African-American students, the two demographics most heavily represented in the current schools in Northwest One.

### *Community Schools*

Another important trend in school design is an effort to integrate support spaces into the program to house neighborhood services, such as mental and physical health, family support, early childhood education, adult education, dental and tutoring services, and even office space for local non-profit groups. Community schools, as they are called, can “play an important role in a broader strategy to stabilize the neighborhood,”<sup>18</sup> and are especially prevalent in urban neighborhoods undergoing revitalization. Chicago-based architect, Carol Ross Barney emphasizes, “As the focus of neighborhood activities, an educational facility creates identity for the entire community. We think that identity should be as unique and diverse as the community it serves.”<sup>19</sup>

One example of a community school is the John A. Johnson Achievement Plus Elementary School, located in Saint Paul, Minnesota. The award-winning K-6 school, an adaptive-reuse of an abandoned high school, opened in 2000 and is co-located next to a new YMCA recreation center. The complex is the result of a partnership between the

city, the school district, the county, the YMCA, and several other local non-profit groups.<sup>20</sup> The services offered by the school include extended learning opportunities for students, in addition to a variety of education and health support services that are available to the broader community surrounding the school.<sup>21</sup> According to city officials, since the opening of the co-located community school and recreation center, Johnson students are performing better in school, as evidenced through increased standardized test scores, and the complex has become “the hub of the community”<sup>22</sup> with opening hours seven days a week from early in the morning until 9 o’clock at night.

### *Community-as-Text Approach to Learning*

As many urban schools strive to make themselves centers of their community through extended building hours and the provision of neighborhood support services, some schools have taken the notion of a community school a step further. According to recent studies, “40-60% of students are chronically disengaged from schools” and asserts “soaring dropout rates and low literacy rates” result “not from inferior ability but from low student interest in the content and value of what is being taught.”<sup>23</sup> Sadly, more and more schools across the nation are reducing the curriculum to a strict regimen of reading, math, and physical education, in a desperate effort to boost performance on the mandatory standardized tests of the Bush Administration’s controversial *No Child Left Behind Act*. “Narrowing the curriculum has clearly become a nationwide pattern,” said Jack Jennings, the president of the center, which is based in Washington.<sup>24</sup> For example, “At Martin Luther King Jr. Junior High School in Sacramento, about 150 of the school’s 885 students spend five of their six class periods on math, reading and gym, leaving only one 55-minute period for all other subjects...[and] about 125 of the school’s lowest-

performing students are barred from taking anything except math, reading and gym.”<sup>25</sup>

According to the New York Times,

The increasing focus on two basic subjects has divided the nation's educational establishment. Some authorities, including Secretary of Education Margaret Spellings, say the federal law's focus on basic skills is raising achievement in thousands of low-performing schools. Other experts warn that by reducing the academic menu to steak and potatoes, schools risk giving bored teenagers the message that school means repetition and drilling.<sup>26</sup>

The alarming reduction in school subjects, coupled with the repetitive and monotonous nature of the school day, are leading some educators to seek other ways to spur student interest. “If we are serious about leaving no child behind, we must present the content that young people need to meet high standards in a context that has meaning and relevance in their everyday lives.”<sup>27</sup> The community-as-text approach to learning recognizes that “local communities and neighborhoods, whether rich or poor, provide a rich context for learning that matters to children...they use local resources and issues to meet challenging curricular standards and motivate students – right in their own backyards.”<sup>28</sup> The methods that the community-as-text approach encourages include hands-on learning, service learning, environmental education, civic education, work-based learning, and youth development.<sup>29</sup> Richard Sennet, in his book, *The Conscience of the Eye*, argues,

A city ought to be a school for learning how to lead a centered life. Through exposure to others, we might learn how to weigh what is important and what is not. We need to see differences on the streets or in other people neither as threats nor as sentimental invitations, rather as necessary visions. They are necessary for us to learn how to navigate life with balance, both individually and collectively.<sup>30</sup>

Sennet’s notion relates the way of life in Ancient Greek cities to the way cities ought to operate today. The city as a campus for learning is the basis of the community-as-text approach. Education researchers have also looked to the Greeks, invoking the image of

the Greek agora as a way to re-conceptualize urban education facilities as “a place where students and adults can interact with the community, share resources, and learn from one another.”<sup>31</sup>

There are myriad purported benefits of employing a community-as-text approach, the most essential of which is a heightened level of student motivation at a time when low motivation is a chronic problem in poorly performing schools. Civic engagement is another important result as “identifying and taking action on real issues shows young people that their voice, when informed by knowledge and diverse perspectives, can make a difference.”<sup>32</sup> Students are not the only ones who benefit from the approach; teachers and staff members have new opportunities to collaborate with the community in ways that can broaden and deepen subject matter in the curriculum. Finally, a community-as-text approach actively engages all members of the community by building relationships that help foster a mutual respect. As a result, “community residents better understand school needs and are more willing to support them.”<sup>33</sup>

## Chapter Two: Precedent Studies

### *Chicago Public School (Winning Competition Entry), Chicago, IL Marble Fairbanks*

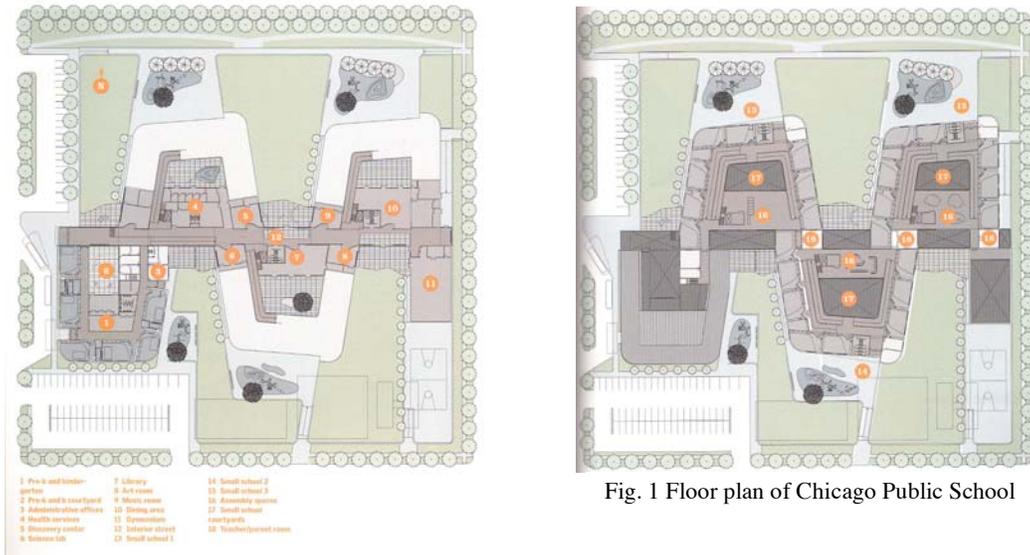


Fig. 1 Floor plan of Chicago Public School

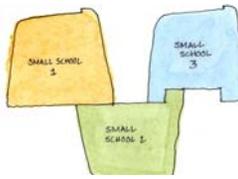
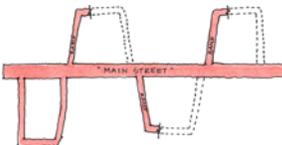


Fig. 2 Diagram of small schools



Fig. 3 “Main Street” concept



In 2000, the City of Chicago held an open competition entitled, “Big Shoulders, Small Schools,” as a way to stimulate thinking about the design of new schools for city.

Marble-Fairbanks, won first prize with an entry for a design based on the typology of a school-within-a-school, in an attempt to scale down the organization of the school. The project “takes an 800-student elementary school and provides four smaller schools within one building.”<sup>34</sup> Although each of the small schools “share certain resources and facilities,” each has “adequate autonomy to generate individual identities and cultures within their own precincts.”<sup>35</sup> The school is organized

along a central spine that the architects call the “main street” of the building. The main street is several times wider than a standard hallway and it varies width along its path in order to provide informal gathering and pausing spaces. The small schools occur off of the main street, each with its own assembly space, outdoor classroom, play area, and courtyard. Shared facilities, including the administration, health services, cafeteria, gymnasium, library, science lab, art room, and music room, are all located on the ground floor level. The small schools are accessed via ramps to the second level.

The school also incorporates several interesting sustainability strategies. The first is the building’s ability to accommodate a growing student population through the linear addition of classrooms to each small school. Planning for future growth ensures that the building will continue to be able to serve its purpose as the needs of the school change, without necessitating a whole new building. Second, the building demonstrates a strong connection to the outdoors, with multiple green spaces provided for each small school. Third, the building has a green roof that, although inaccessible, helps the building integrate into the landscape, while reducing the impact of the buildings large footprint as a low, horizontal organization on storm water runoff.

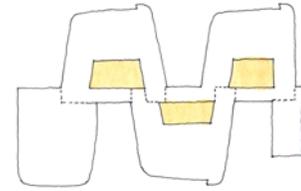


Fig. 5 Assembly spaces

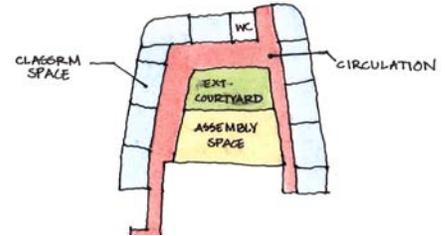


Fig. 6 Typical small school arrangement

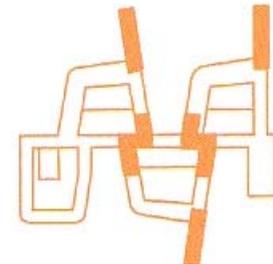


Fig. 7 Potential for expansion

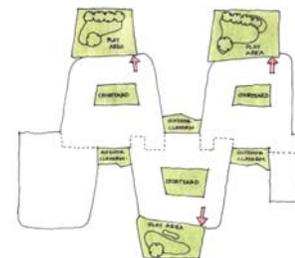


Fig. 8 Green spaces



Fig. 9 Green roofs

*Little Village Academy, Chicago, IL*  
*Ross Barney and Jankowski*

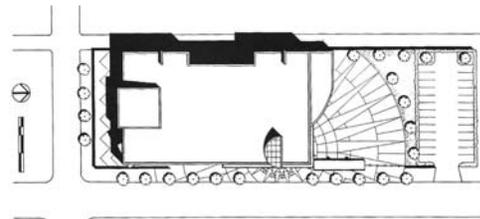
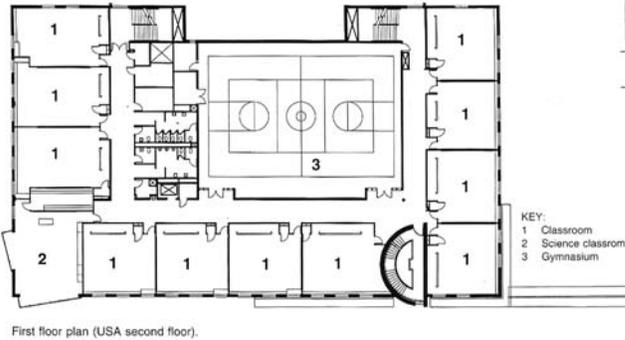


Fig. 10 Site plan, Little Village Academy

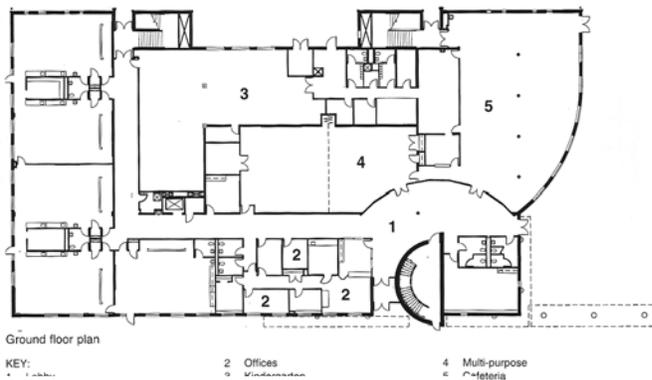


Fig. 11 Floor plans, Little Village Academy

The Little Village Academy is a relevant precedent both for the programmatic organization and its urban context. The facility is a 688-student combined elementary and middle school serving children in grades kindergarten through eighth grade.<sup>36</sup> Because of the dense urban location in downtown Chicago, the

site was extremely constrained, measuring approximately 7,750 ft<sup>2</sup>. Therefore, the architects at the Chicago-based firm of Ross Barney and Jankowski chose a vertically stacked organization for the multi-level school. The three-storey school is built directly against the street-edge in keeping with its urban context. Both the main staircase and the library volume are expressed entities that help give variety and hierarchy within the rectangular building. Because the school has multiple levels, the vertical circulation, in the form of a grand semi-circular stair, becomes an important element. The building is a steel frame with masonry infill and pre-cast concrete floors.<sup>37</sup> In order to enliven the façade, while celebrating the surrounding Latino community, the architects used both

brightly colored mosaic tiles in geometric patterns. The theme continues with the use of a sun motif, important to the Aztec culture, on the pavement of the school's entry plaza.<sup>38</sup> One of the main shortcomings of the design is the reliance on interior hallways for the horizontal circulation. The double-loaded corridors sit deep within the building, and in contrast to the “main street” in the Marble Fairbanks school, are strictly for the function of circulating, without invitation to pause or gather.

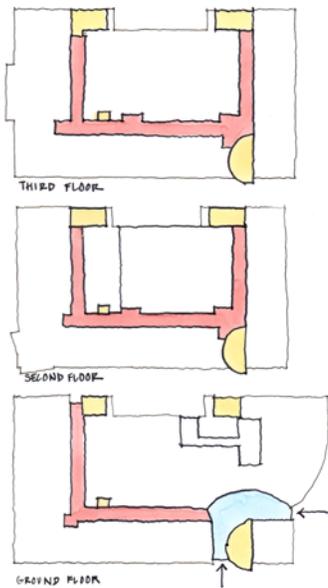


Fig. 12 Circulation diagram

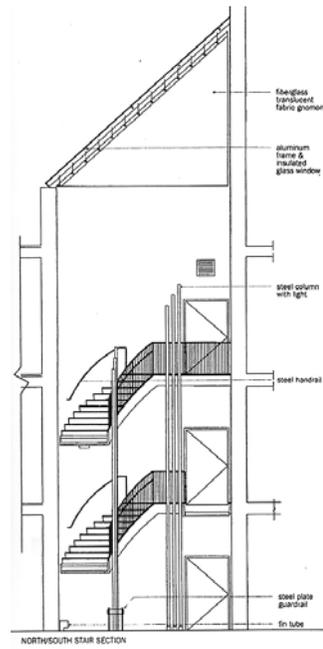


Fig. 13 Section through stair

*Orphanage, Amsterdam, Netherlands*  
*Aldo Van Eyck*

Van Eyck's orphanage is an interesting precedent, both for the architect's attitudes towards the dialogue between architecture and urbanism, and for the experiential qualities of the spaces he creates.



Fig. 14 Slight changes in level occur along the interior main street



Fig. 15 Interior street lighting

Van Eyck writes, “tree is leaf and leaf is tree—house is city and city is house—a tree is a tree but it is also a huge leaf—a leaf is a leaf but it is also a tiny tree—a city is not a city unless it is also a huge house—a house is a house only if it is also a small city.”<sup>39</sup> To this end, van Eyck feels it is important to “anchor the children’s large house—little

city—to the street,” which is the interior hallway in the building.<sup>40</sup> To further emphasize the metaphor of the street, van Eyck uses lighting made to look like street lighting to illuminate the walls. The play of dark and light narrates the transition from one space to the next.



Fig. 16 Floor Plan, Orphanage

The highly asymmetrical nature of the plan shows an organic organization that is tailored to each specific age group within the orphanage. Within each age-based module, the sizes of the spaces and the detailing are related to the size and maturity of the average child. Furthermore, van Eyck incorporates details at the eye level of the children to engage their imagination through the play of

light, reflection, and color. Because “concrete, brick, and white surfaces do not sparkle—and something always should—there are, here and there, tiny mirrors embedded in concrete slabs and some large ones on the street floor that distort.” Small depressions in the exterior ground surface catch rainwater, becoming shallow reflecting pools after a

shower, and narrow gaps between vertical surface materials are in filled with translucent pink glass that glows in the sunlight.



Fig. 17 Elements are sized for children



Fig. 18 Play of light on the floor



Fig. 19 Pink translucent glass inserted within slots in the vertical surface

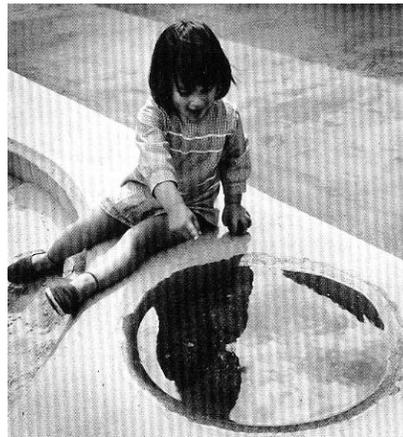


Fig. 20 Shallow depressions become reflecting pools when filled with rain



Fig. 21 Small mirrors adorn the wall at the children's eye level

*Mattin Center at Johns Hopkins University, Baltimore, MD*  
*Williams Tsien Architects*



Fig. 22 Exterior of Mattin Center

The Mattin Center provides an interesting materials precedent in its contemporary take on red brick as a traditional building material for educational institutions paired with transparent and translucent glass curtain

walls. In America, the red brick schoolhouse has long been a symbol of education buildings. Historic elementary schools in Washington, D.C. are no exception to that tradition. The sole remaining school, of the five that originally populated the Northwest One neighborhood, is the Perry School, originally known as the M Street School. The Perry School is of the red brick construction typical of the District schools from the early twentieth century.



Fig. 23 The Perry School near Sursum Corda

*The Metropolitan Regional and Technical Center, Providence, RI*

The Metropolitan Regional and Technical Center (The Met) is an urban high school serving grades 9-12. The school is actually a campus of four small, physically separate buildings that occupy each of the corners of its rectangular urban site. Each small school houses between 100-125 students in all four grade levels. The design philosophy is that small schools that comprise a larger organization need physical

distance, as much as two hundred yards, in order to develop their own identities.<sup>41</sup> The distance is not so great, however, so as to preclude the sharing of resources and amenities. The paths between schools are paved and mimic the character of the urban street grid, although vehicular access to the paths is limited. In contrast to the high metal fences that usually make up the perimeter of urban schools, only a low wooden rail marks the edge of the campus's boundaries with the rest of the city. The lack of imposing fences and other barriers speaks to the school's effort to integrate with and welcome the surrounding community. The design further reflects its relation to the neighborhood through the small scale of the buildings in a style consistent with the surrounding low two- and three-storey residential buildings. The interiors of the buildings are highly flexible with floor-to-ceiling movable walls that occur along a regular 16-foot grid, in place of traditional classroom units.<sup>42</sup> The spaces are equipped with modular furniture to further enhance flexibility.

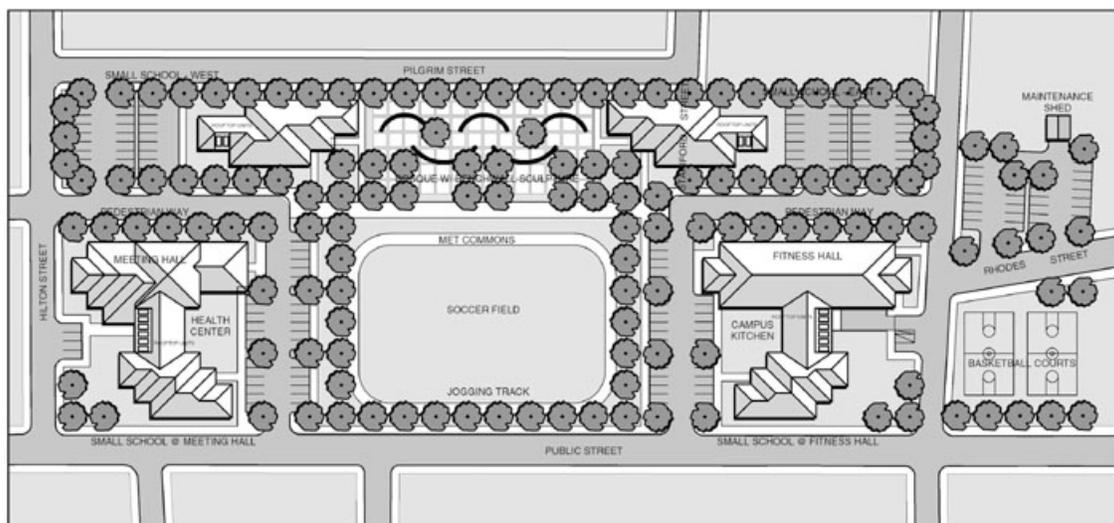


Fig. 24 Site plan, The Met

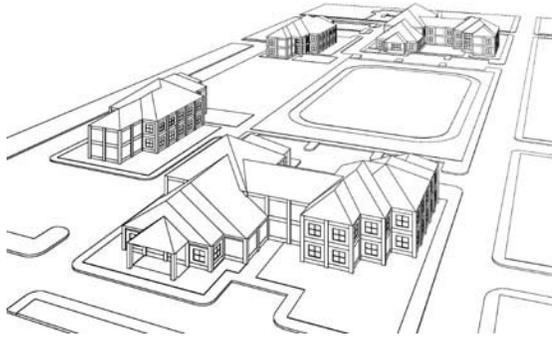
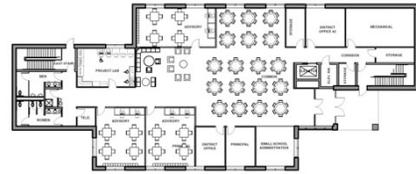


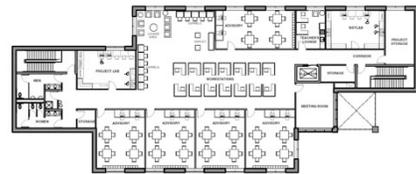
Fig. 25 Aerial perspective of The Met



Fig. 26 Exterior of one of the small schools at The Met



FIRST FLOOR PLAN



SECOND FLOOR PLAN

Fig. 27 Floor plans of small school on western corner of the site

*Capitol Hill Cluster School, Washington, D.C.*

The Capitol Hill Cluster School is a K-8 public school in Washington, D.C. with three separate buildings dispersed in the Capitol Hill neighborhood. The Peabody Early Childhood Center for pre-kindergarten and kindergarten is located at 425 C Street, NE. The campus houses two distinct educational programs: a “traditional” program on the lower two floors, and a school-within-school on the third floor that uses the Reggio Emilia approach, which focuses on encouraging individual inquiry and exploration by each student.<sup>43</sup> The Watkins campus, which is the primary campus for the cluster, is located at 420 12<sup>th</sup> Street, SE and serves K-4 students. All grade levels at Watkins are structured under the Montessori program, which employs a

mixed-age environment that encourages a child’s natural desire to learn and allows freedom for individual exploration.<sup>44</sup> Once the students reach fifth grade, they move over to the Stuart-Hobson campus, located at 410 E Street, NE, which is a Smithsonian Magnet program serving grades 5-8. The Smithsonian program is a partnership with the museums that takes advantage of the school’s proximity to the National Mall. The program employs the method of object-based learning, where students “collect, study, and interpret objects or artifacts in order to learn about various aspects of life and culture.”<sup>45</sup> The physical organization of the school on three separate campuses is unique within the District of Columbia public school system. The philosophy behind having three separate buildings is that while each is “small enough to give children a sense of belonging,” the students and their families also “benefit from the continuity of a single organization and a cohesive curriculum.”<sup>46</sup>

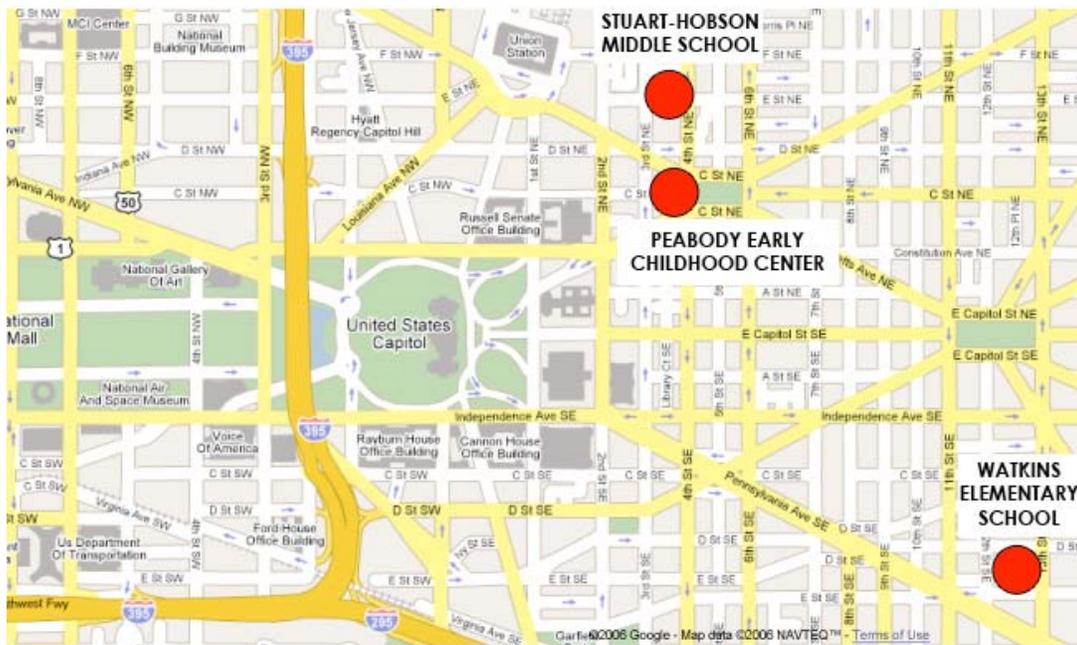


Fig. 28 Diagram showing locations of the three campuses



Theater, the Broadway Center for Performing Arts, and the School of the Arts Performing Arts Center, as their classrooms. In total, the school has partnerships with nine different institutions all within a one-mile radius of the main building, a performing arts center also shared with the broader community.<sup>47</sup> Students rely on both public transportation as well as walking in order to get from building to building. Students have 20 minutes in between classes, in order to allow for travel time, and receive half of a credit in physical education for all of their walking.

## Chapter Three: The Site

### *Site History*

The proposed site is in the Northwest One neighborhood, which was historically known as “Swampoodle,” and was originally home to a large Irish immigrant population.<sup>48</sup> In the early part of the twentieth century, the neighborhood was characterized by a strong industrial presence, with two junkyards, a lithographer, a laundry company, and an auto repair shop. The neighborhood was also the original location of the Sibley Memorial Hospital, now located off of MacArthur Boulevard, NW.<sup>49</sup> By the end of World War II, the demographics of the neighborhood had shifted to



Fig. 30 Alley dwelling in Swampoodle

a primarily poor, African-American population that makes up the neighborhood today.<sup>50</sup> Row house and alley dwelling conditions characterized the blighted neighborhood throughout the first half of the twentieth century. By the 1960s, Swampoodle, renamed “Northwest #1,”

became the first area designated for renewal as part of the city’s urban renewal efforts.<sup>51</sup> The controversial plans called for the demolition of “up to 80 percent of the existing buildings in the area and the relocation of 80 percent of the resident population” despite the claims made by city planners that “stressed the provision of low- and moderate-income housing” to absorb residents being displaced from other parts of the city under renewal.<sup>52</sup> When residents were informed of the plans for the neighborhood, they protested the city with help from the Washington Urban League and Congress, and

succeeded in securing a commitment from the Redevelopment Land Agency (RLA) to “carry out the Northwest #1 project with the full participation of the residents in the area.”<sup>53</sup> Despite the promises of the RLA, in the end, redevelopment of Northwest One consisted mainly of large-scale demolition and reconstruction, resulting in massive displacement of its residents. One of the most significant results of the 1960s demolition

Fig. 31 Photograph of the newly completed Sursum Corda



was the alteration of the historic street grid and the de-mapping of a portion of L Street that had previously bisected the neighborhood. Additionally, it was during this time that the Sursum Corda housing project was built in the neighborhood. An award-winning complex when

it first opened, Sursum Corda would later become the most notorious area within the Northwest One neighborhood.

Escalating racial tensions coupled with increased crime in the District led to a steep decline in the population of D.C. through the 1970s and 1980s as the middle-class fled for the safety of the suburbs. The 1980s brought further problems with the introduction of crack cocaine and heroin to the District. Northwest One, and other inner city neighborhoods, became havens for drug dealers and the ensuing violence and poverty. Sister Diane Roche, a Catholic nun who lived in the community, described the astonishing conditions in Sursum Corda at the end of the decade:

Raw sewage leaked through the ceiling into dining areas below. Twenty-five units were vacant, many of them full of the last tenant’s belongings or lived in by squatters involved in the drug trade...A broken underground water pipe was spewing a steady stream of hot water into the gutter of one of the parking lots. A high teenager in a stolen car had driven through most of the chain-link fences, while here and there loose gutters and downspouts dangled from the crumbling roofs.<sup>54</sup>

Problems continued to escalate through the 1990s, with the police, afraid of the violence of the drug dealers, virtually abandoning the neighborhood. The Northwest One neighborhood made headlines on January 23, 2004, with the murder of fourteen-year-old Jahkema Princess Hansen the day after she was questioned by D.C. detectives about a killing she was thought to have witnessed.<sup>55</sup> Newspaper articles about the murder describe Sursum Corda as “a maze of dead-end streets and enclosed courtyards dominated by a pair of loose drug-trafficking organizations that sell marijuana and crack cocaine and fuel violence.”<sup>56</sup> D.C. Chief of Police, Charles Ramsey, acknowledged that the area had been in trouble for decades and said, “That place is designed for criminals.”<sup>57</sup> The article in the *Washington Post* elaborates, “lots of isolated corners, a center-city location with lots of office-workers nearby but totally invisible from the main drags.”<sup>58</sup>

The unthinkable brutality of Hansen’s murder, coupled with the public outcry from District residents both inside and outside of Northwest One led to the designation of the neighborhood as one of fourteen “hot spots” in D.C.<sup>59</sup> A “hot spot” was defined by the D.C. government as an area with an “intolerably high rate of crime” based on the rates of “homicide, robbery, and serious assault, as well as levels of nonviolent crime, calls for police service and arrests that occurred between January 2003 and January 2004.”<sup>60</sup> According to the Metropolitan Police Department and the Mayor’s Office of Neighborhood Services, who run the program in tandem, the Hot Spots Initiative uses a combination of tactics to curb crime in the targeted area. These tactics include “additional [MPD] patrols (vehicle, bicycle, and foot), deploy[ing] specialized units (such as narcotics, gangs, prostitution, and vehicle theft), conduct[ing] of criminal

investigations and manag[ing] problem-solving efforts.”<sup>61</sup> The tactics are then tailored to the specific problems of the particular “hot spot”.

In Northwest One, the tactics fell into three main categories: reclaiming the area from drug dealers by arresting known criminals, making the environment less hospitable to crime by mowing vacant lots, cleaning up litter, towing abandoned cars, repairing broken street lights, and introducing and expanding much-needed social, health, and recreational services.<sup>62</sup> The first step towards regaining control of Northwest One was for First District Commander Tom McGuire to assemble a list of the top 50 known criminals in the neighborhood. According to the *Washington Post*, “most of the dealers on the streets [did] not even live in the complex,” and Police Chief Charles Ramsey agreed, explaining, “Sursum Corda was like a free zone where people could ply their trade and move on.”<sup>63</sup> Over the next year, District police officers arrested 45 of the 50 dealers on the list, in addition to nearly 400 other dealers, buyers, and prostitutes.<sup>64</sup> As a result of the focused efforts of the city, crime in Sursum Corda and the entire neighborhood fell 43% in just one year.<sup>65</sup>

#### *D.C.’s New Communities Initiative*

Following the success of the city’s Hot Spots Initiative, the Mayor’s office began to explore avenues to further improve the District’s worst slums. While many of the poorest areas of the city continued to house concentrated levels of poverty and crime, some had begun to see the effects of revitalization and ensuing gentrification that displaced many of the long-term residents of those areas. City Administrator Robert C. Bobb explained, “The hurricane of gentrification is getting ready to wash right over Sursum Corda...We cannot continue to lose and displace residents to development.”<sup>66</sup> The New Communities

Initiative seeks to address the need for revitalization that protects affordable housing.

Essentially, the New Communities Initiative can be summed up as follows:

The New Communities Initiative seeks to harness escalating property values by replacing bleak blocks of concentrated poverty with townhouses and apartments attractive to middle- and upper class buyers. Profits would help subsidize homes for the working-class families and improve the lives of the poor families that live there now.<sup>67</sup>

The program is modeled on HOPE VI, a federal grant program launched in 1992, and now in danger of complete elimination, that was “designed to revitalize the nation’s most severely distressed public housing” by providing “a flexible source of support for investments in public housing developments.”<sup>68</sup> Three main factors unique to the current situation in Washington, D.C. have come together to create a climate conducive to a program such as the New Communities Initiative. First, land values are extremely high; second, the city is operating with a fairly large budget surplus; third, there is “heightened political will” resulting from accusations by advocates for the poor that Mayor Anthony Williams has neglected that constituency in favor of “more lucrative development” including the highly controversial baseball stadium in the southwest quadrant of the city to house the Nationals, Washington’s new Major League Baseball team.<sup>69</sup>

In May 2005, the D.C. Council approved nearly \$60 million in funds for the New Communities Initiative.<sup>70</sup> The city also hired architects from the Silver Spring-based firm Torti Gallas and Partners to begin the process of master planning the new community. The firm has a strong commitment to New Urbanist principles and a “dedication to urban design and architecture which resembles that of the best traditional American cities and towns.”<sup>71</sup>

From July 6-9, Torti Gallas held a community charrette at the Walker-Jones Elementary School, located just one block south of the Sursum Corda Cooperative in order to solicit the residents' input in the planning process.<sup>72</sup> According to city documents, more than 500 people participated in the charrette, although there is no indication of how many of those people were actually community members. At the charrette, architects from Torti Gallas presented to the community three alternative schemes for the redevelopment of the neighborhood. The architects then incorporated feedback they received from residents in order to arrive at the current plan, which integrates aspects of each of the three initial concepts.



Fig. 32 Three initial schemes presented to the community by Torti Gallas

One of the main complications hampering redevelopment efforts at Northwest One stems from the fact that there are a number of private landowners within the neighborhood. Currently, of the 28 acres included in the city's physical master plan, about 60% is publicly owned and 40% is privately owned.<sup>73</sup> Although the city has made plans for the entire area, it does not actually own all of the land that has been master-planned. Although two of the private landlords have signaled their desire to work with the city to achieve the goals of the New Communities Initiative, Sursum Corda residents were not so easily won over. As one resident explained, "I love my neighborhood. It's got all the amenities...All the children in this neighborhood learned to walk on the

Capitol grounds. Every Fourth of July, I can see the fireworks from my window...We are right in the heart of the city on property they want.”<sup>74</sup>

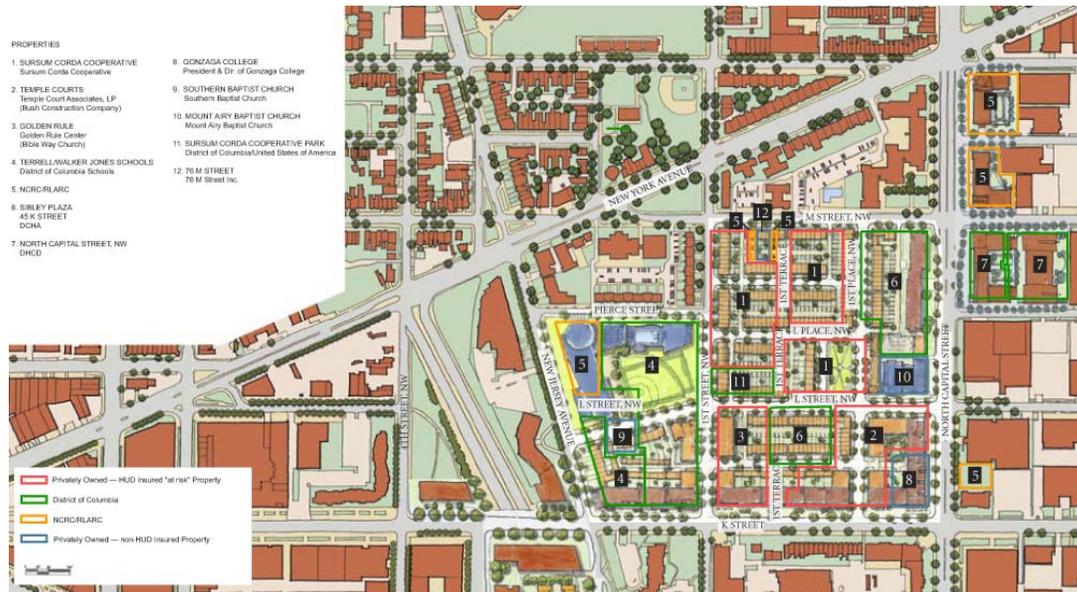


Fig. 33 Diagram of current land ownership patterns by Torti Gallas

Additionally, many residents of Sursum Corda “worry that New Communities is just another name for urban renewal, which swept thousands of people out of their homes 40 years ago.”<sup>75</sup> However, city officials, including City Administrator and Deputy Mayor, Robert C. Bobb, are adamant in maintaining that residents will not be forced out as a result of the redevelopment of the neighborhood. In his testimony before the D.C. Council of Economic Development on November 16, 2005, City Administrator and Deputy Mayor Bobb expressed the commitment of the Williams Administration “to protecting affordable housing and giving residents in the path of gentrification the tools to survive and prosper in their neighborhood.”<sup>76</sup> He lauded the Hot Spots Initiative with successfully lowering the crime rate in Sursum Corda and the entire Northwest One area. However, with the escalating land values due to encroaching development from Mt.

Fig. 34 Encroaching development (red and blue) on NW1 (yellow)



Vernon Triangle from the west (with the opening of the new D.C. Convention Center), coupled with the rapid growth of condominiums sprouting up in the area north of Massachusetts Avenue, Bobb acknowledged that *Sursum Corda* was now

faced with a new threat—gentrification that will put affordable housing in jeopardy.

The process of drafting a master plan for Northwest One began with a partnership between the city and the residents of the neighborhood. Throughout 2005, on a weekly basis, a team of government officials worked with residents to solidify a set of “Guiding Principles” which would serve as a sort of road map as the two parties navigated the process. The document addresses two main areas, the principle of partnership between the city and the residents, and the development concerns of both parties. In order to combat the possibility that low-income residents will be unable to afford to stay in their changing neighborhood, the city and residents agreed on the following development principles<sup>77</sup>:

- *Creation of a Mixed Income Community* with 1/3 of the units deeply subsidized, 1/3 affordable, and 1/3 market rate
- *One for One Replacement of Deeply Subsidized Units* so that redevelopment will not result in a loss of existing subsidized units
- *Promise of Right to Return/Right to Stay* for current families with the goal of minimizing displacement during the redevelopment process
- *Build First* on publicly owned land to provide housing in the neighborhood for families to live in temporarily while their units are being rebuilt

The Guiding Principles then became the basis for the New Communities Initiative for Northwest One. According to a press release from the D.C. Office of Planning, the New Communities Initiative “calls for the creation of a new, vibrant, mixed-income community to replace troubled housing developments in the Northwest One neighborhood, including the Sursum Corda Cooperative.”<sup>78</sup> The plan is to “manage redevelopment and growth for a neighborhood in the path of gentrification,”<sup>79</sup> while “ensur[ing] the long term vitality of the neighborhood.”<sup>80</sup>

### *Master Plan for the Redevelopment of Northwest One*

The Master Plan for the Redevelopment of Northwest One is comprised of three critical elements: a Physical Master Plan, a Human Capital Plan, and a Development and Finance Strategy. According to Bobb, this is the first time the city has tried to attack several social problems at once as “no one has ever put together a concept as comprehensive as this.”<sup>81</sup>

### The Physical Master Plan



Fig. 35 Proposed master plan by Torti Gallas

The Physical Master Plan begins with an assessment of the existing conditions within the neighborhood and identifies three critical areas of focus. These include housing, community assets, and transportation. The plan calls for new housing that provides “a safer and more secure environment,” and stresses the importance of one-for-one replacement of subsidized units and the right to return/stay of current families. The plan also identifies much-needed community assets, such as a recreation center to serve all age groups, neighborhood retail, particularly a grocery store, and new buildings to house the existing elementary and middle schools in the neighborhood. Finally, the plan identifies some of the pressing transportation issues the neighborhood faces, including the danger of the heavily traveled New York Avenue, which forms the northern boundary of the neighborhood, the volume of traffic and lack of stop lights along First Street, which runs through the neighborhood, and the need to create a safer pedestrian environment through the reconstruction of the street grid.<sup>82</sup>

Having identified some of the most critical needs of the community, the master plan makes recommendations based on their findings. The proposed street grid would give a more open and porous character to the entire neighborhood, eliminating the internal plazas, hidden corners, and dead ends of the existing plan, thereby increasing safety in the neighborhood. The new buildings all face the street, creating “eyes on the street” that will further increase pedestrian safety. Narrow streets with speed bumps would calm traffic along First Street, also helping to create a pedestrian friendly environment. Neighborhood amenities, including a new park and a new recreation facility with associated playing fields, also on the southern border of the complex, will provide much needed access to programmed activity areas for youth and teens.

## Human Capital Plan

The Human Capital Plan seeks to provide “the tools to move families toward self-sufficiency, as their neighborhood changes” and “complements the physical plan for the community by helping to rebuild the ‘human architecture’.”<sup>83</sup> “The focus is on housing, but the broader focus is on building human capital,” Bobb said.<sup>84</sup> The Human Capital Plan identifies six main areas requiring improvement: economic opportunity, education and recreation for all ages, safety and security, physical and mental health, senior programming, and community based technology. Neighborhood surveys, augmented by the most recently available census information, show a community in desperate need of help, with 77% of residents living on less than \$20,000 per year, which is barely a 1/4 of the area’s median income level. Furthermore, education levels are minimal, with the vast majority of residents having earned only a high school degree or less.

Highlights of the Human Capital Plan seek to address the need for job training and placement, the vast educational shortcomings, and the lack of senior programming that currently exist. One proposed strategy is to introduce “place-based employment support,” a system that helps “adults with low skills bases or a spotty work success record” achieve “sustained employment.”<sup>85</sup> This means that the provider operates directly in the neighborhood where it will both help adults acquire the necessary skills through job training and assist them in securing and maintaining steady employment. A similar plan is proposed to encourage part-time youth employment among teens. Additionally, the human capital plan recognizes the need for recreation for all ages. To this end, both increased green space in the form of a park and new playing fields, in

addition to the construction of a new recreation facility containing basketball courts and a pool, are proposed.

One of the biggest problems facing the neighborhood is the poor education many of the residents have gotten at the neighborhood schools. The District has recognized that as a result, many Northwest One students are opting out of the neighborhood schools in favor of better performing facilities, such as magnet schools and charter schools, elsewhere in the city. In addition to improving the physical structure of the schools through new construction, the city is proposing increased early childhood education, extended school building hours to accommodate school based recreation activities, as well as the potential for arts-focused education partnerships in order to infuse the arts back into what has become a bleak regimen of reading and math alone as a result of current education policies. The plan also recognizes the need to integrate and make available technology such as computers to residents of the neighborhood as part of improving both youth and adult education through a proposed community technology center.

The community is also in desperate need of programs to assist its high numbers of senior citizens. Potential strategies include job training to provide seniors with the opportunity to earn wages, educational opportunities that introduce seniors to using computers and the Internet, initiating intergeneration programming, and, perhaps, most significantly, introducing the Program of All-Inclusive Care for the Elderly (PACE). PACE is a national, federally-funded program “that is centered around the belief that it is better for the well being of seniors with chronic care needs and their families to be served in the community whenever possible.”<sup>86</sup> The PACE program would bring health services

directly to needy seniors' homes. Due to the innovative nature of the New Communities Initiative, the District believes that it would be "a prime candidate" for federal funding through the PACE program.<sup>87</sup> Although the master plan does not specifically mention senior housing, the wide variety of subsidized and affordable unit types will provide several housing options for elderly residents. Senior residents able to live independently can choose one-bedroom apartment units, while the multi-bedroom units are options for seniors who will be living with extended family members.

### Development and Finance Strategy

The Development and Finance Strategy examines five areas including the development program, site control issues, phasing and relocation, schedule, and funding sources. The first item on the agenda is for the District to acquire the necessary property in order to begin the project, as the city currently owns about 60% of the land included in the redevelopment plan. As previously discussed, the vast majority of the privately owned land includes the three HUD-insured properties in the neighborhood—Sursum Corda, Temple Court, and Golden Rule Center. The most "critical issue involved with the implementation of the NW1 Redevelopment Plan is site control," meaning "the District must either (a) assemble the necessary properties and/or (b) negotiate development agreements with the owners of existing properties."<sup>88</sup> The Financial Strategy also stresses the importance of careful phasing of the redevelopment in order to ensure minimal and temporary displacement of current residents. This means, "the new housing along North Capitol Street would be built before any existing housing is demolished."<sup>89</sup> Currently, the Sursum Corda site is slated to be redeveloped in the fifth and final phase of the master plan, although, as shown in the chart below, relocation of

residents will occur throughout the redevelopment process in order to stagger and minimize the moves that residents must make. The most current documents indicate that the preliminary funding for NW1 Redevelopment will come from five primary sources, including senior debt, tax credit equity, net proceeds from the sale of 154 condo units, leaseholds on the land, and proceeds from Housing Production Trust Fund Bonds.<sup>90</sup> Presently, the project is stalled due to unspecified funding problems.

### *Site Description*

The proposed site is located in the Northwest One neighborhood, on the edge of the northwest quadrant of Washington, D.C. The neighborhood is bounded by New York Avenue on the north, North Capitol Street on the east, K Street on the south, and New Jersey Avenue on the west. Northwest One is in a prominent location within the city, that sits above the federal portion of the city, with views of the U.S. Capitol Dome. The proposed building site itself includes the existing site of Terrell Junior High School, which is the block bounded by New Jersey Avenue, Pierce Street, First Street, and L Street, as well as the southern and western portions of the block to the north of Pierce Street. The new school essentially takes over Pierce Street, creating a safe urban environment whose scale integrates seamlessly with the existing fabric.

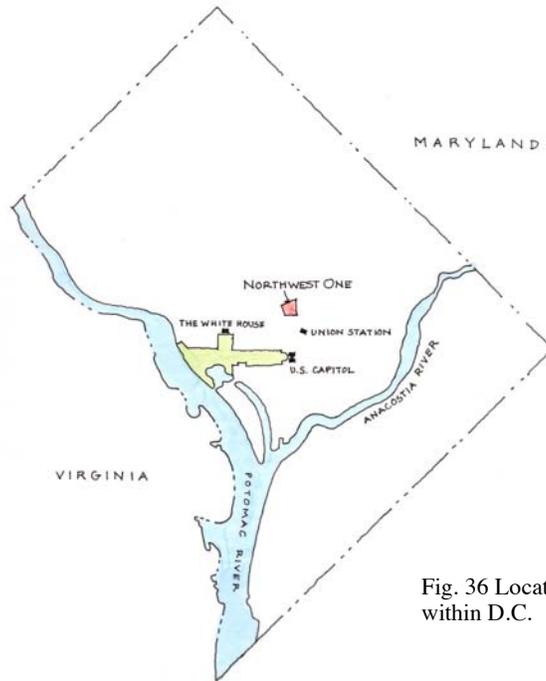


Fig. 36 Location of Northwest One within D.C.

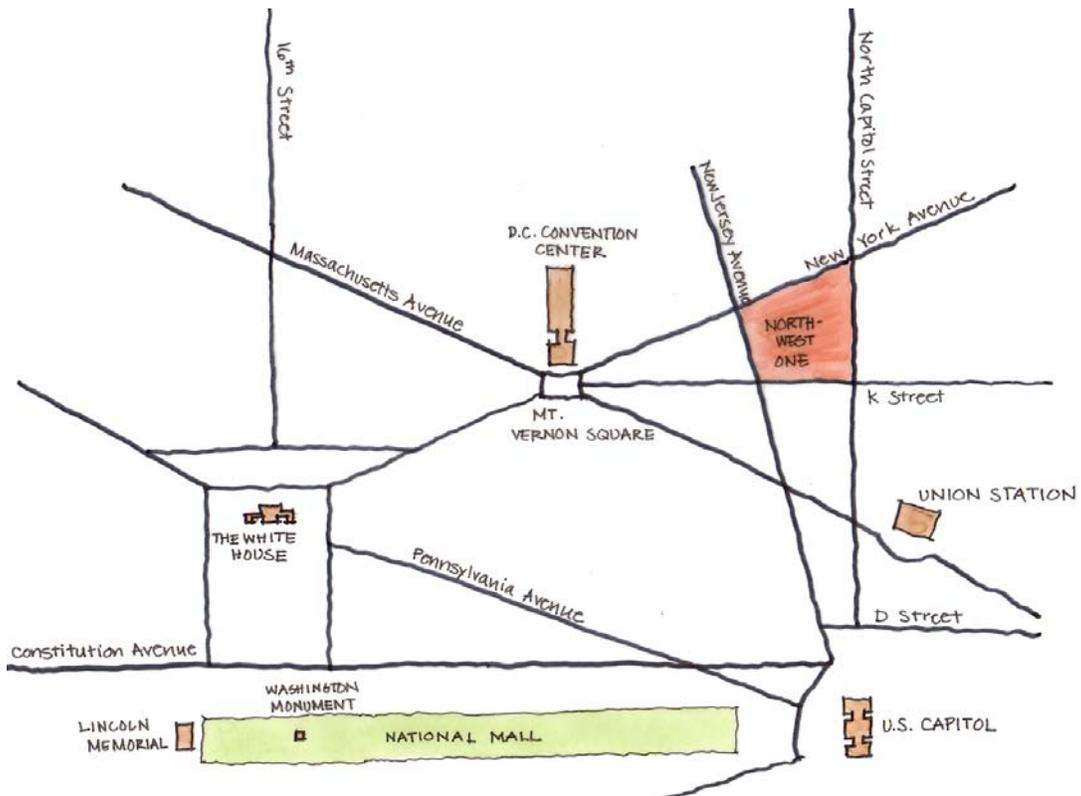


Fig. 37 Proximity of Northwest One to National Mall

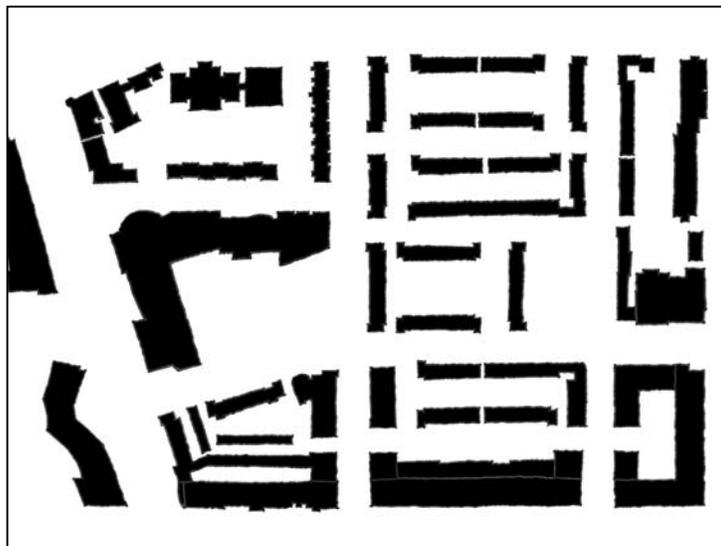
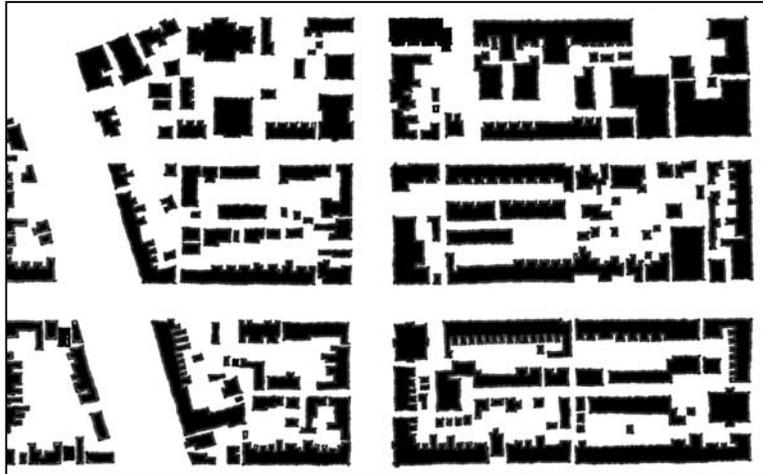


Fig. 38 Historic, Present, and Proposed Figure Ground Diagrams

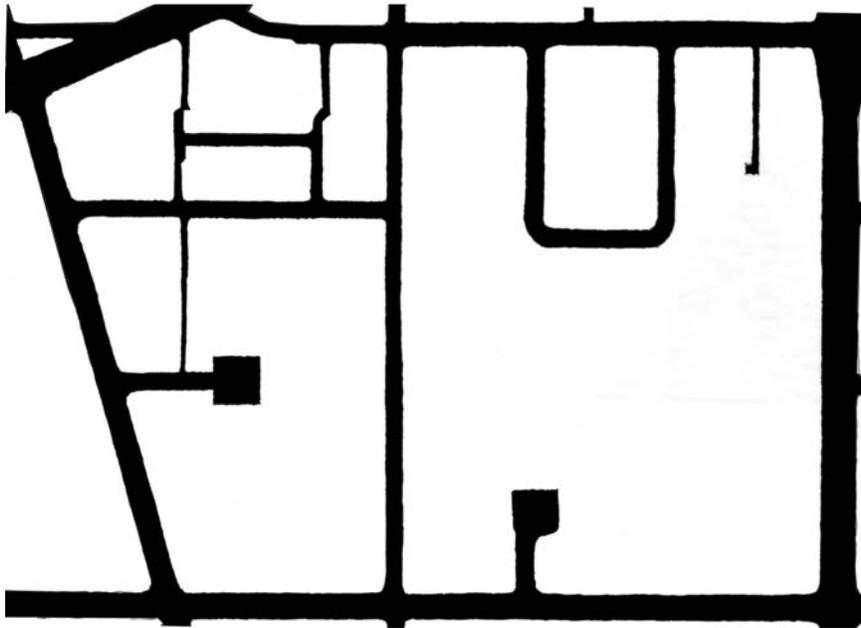


Fig. 39 Current Street Grid

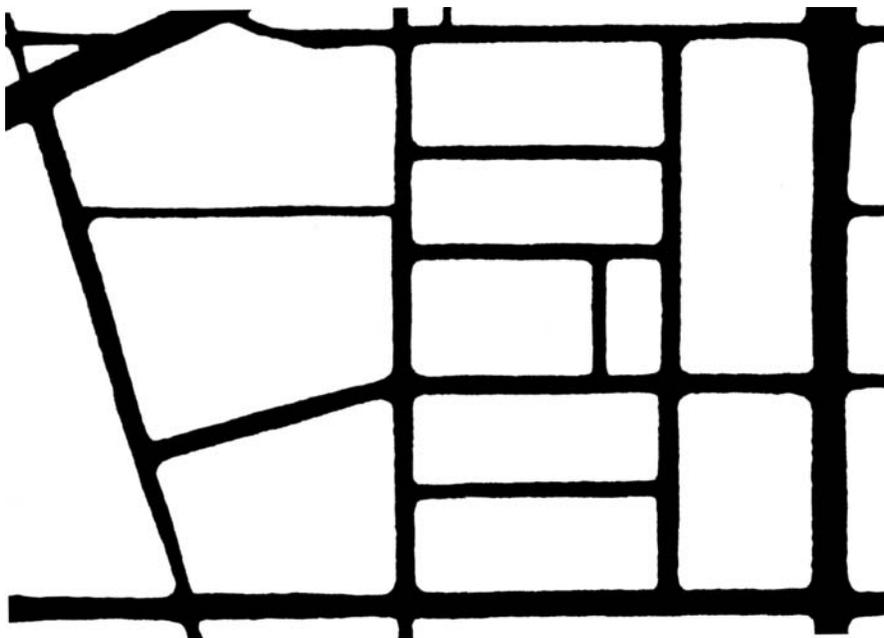


Fig. 40 Proposed Street Grid Illustrating Connectivity and Porosity

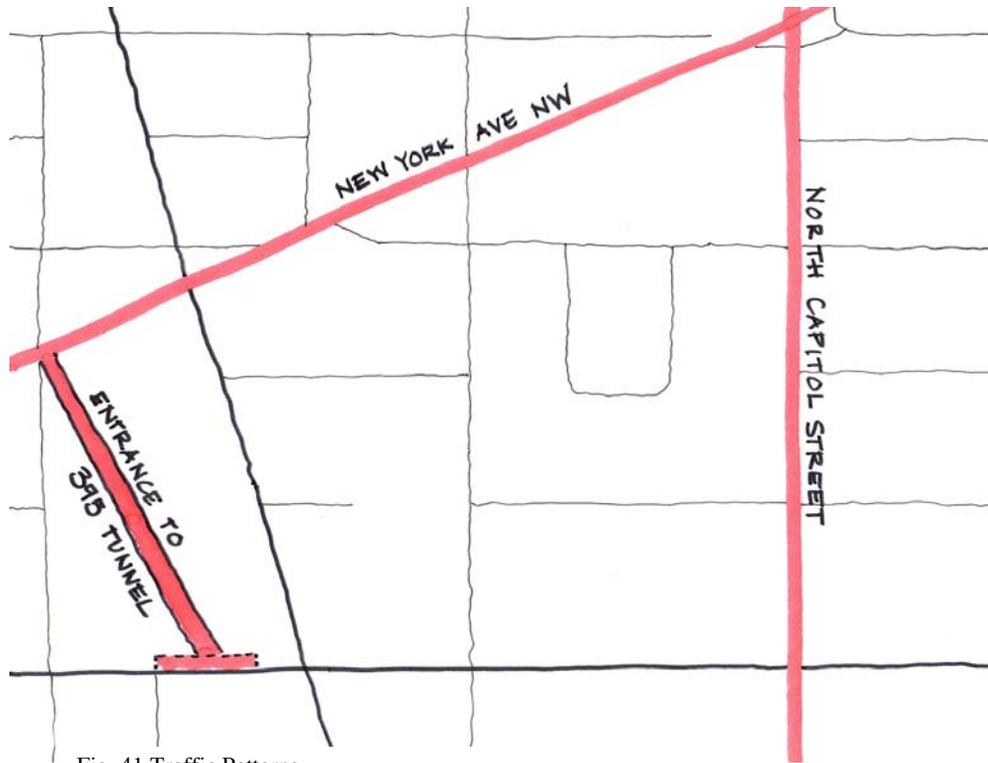


Fig. 41 Traffic Patterns

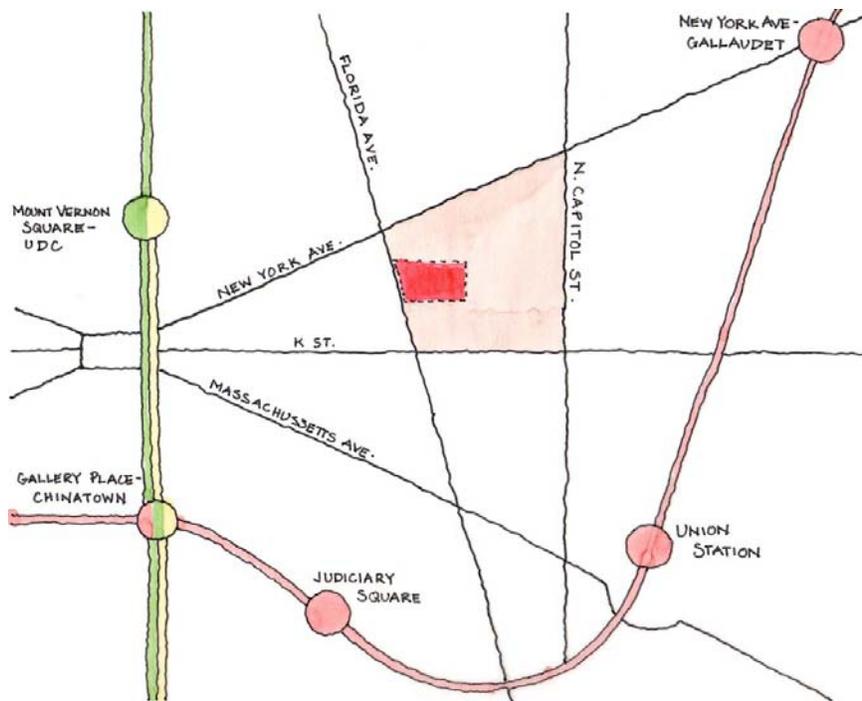


Fig. 42 Metro Stop Locations

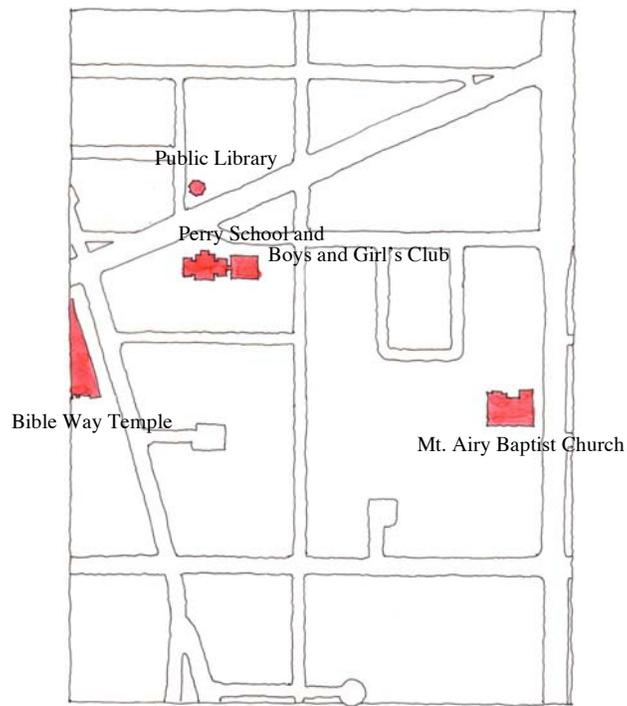


Fig. 43 Neighborhood Landmarks

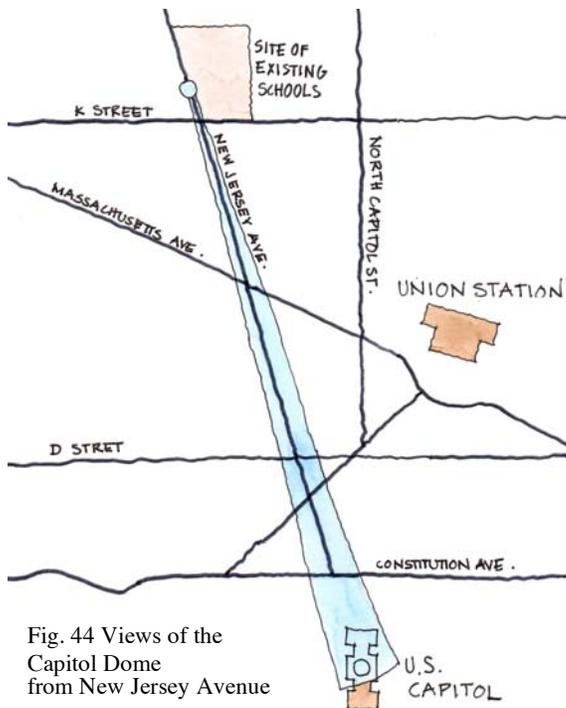


Fig. 44 Views of the Capitol Dome from New Jersey Avenue



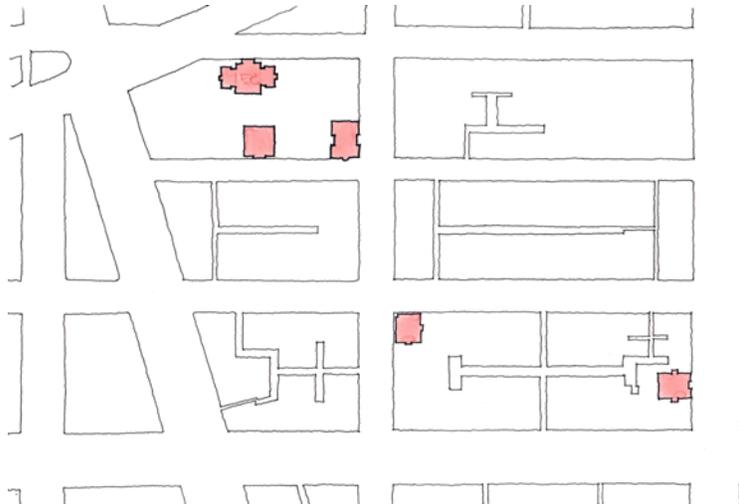
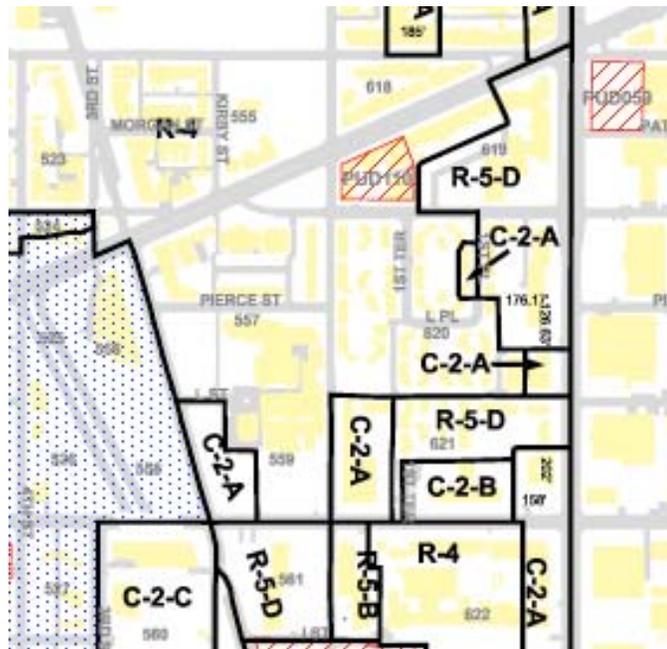


Fig. 45 Diagram showing neighborhood school locations at beginning of twentieth century



- C-2-A** Community business center – medium density
- C-2-C** Community business center – high density
- R-4** Row dwellings and flats
- R-5-B** Moderate density apartment houses
- R-5-D** Medium-High density apartment houses

Fig. 46 Zoning Diagram

An analysis of the proposed master plan reveals a residential scale and street grid that is largely consistent with the surrounding context of the city. However, this sense of scale breaks down on the western edge of the neighborhood with introduction of the large, consolidated school building that is completely incongruent with the rest of the neighborhood. Additionally, while the extension of L Street through the neighborhood creates much needed porosity and visibility in the neighborhood, the decision to crank L Street between First Street and New Jersey Avenue is inconsistent with the historic street grid of Washington, D.C. where diagonal streets were used to mark important processional or symbolic avenues. These issues, along with the research done on the academic and social benefits of small schools, will become important factors that inform and become the basis for my counterproposal for the site.

## Chapter Four: A New School for Northwest One

### *Design Goals*

1. Create smaller schools
  - Design a series of small, physically separate schools that form a network within the community
2. Integrate school into community
  - Integrate schools into urban context through sensitivity to surrounding building masses, forms, and materials
  - Integrate schools into community in order to take advantage of the resources of the neighborhood
3. Design for Flexibility
  - Design buildings on a regularized grid to allow for maximum flexibility to accommodate a variety of learning styles and curricula
  - Design spaces that can serve a variety of functions
4. Establish a strong relationship with outdoor spaces
  - Foster a connection with the outdoors through the inclusion of outdoor learning and play spaces, and, possibly, a community garden

### *Design Issues*

1. Safety and Security Concerns
  - One of main design issues related to urban schools is safety
  - Recognize that question of safety is significant with students moving from building to building during the day
2. Practicality of Moving Between Buildings
  - Question of practicality of moving between buildings is significant
  - Demonstrate advantages outweigh the inconvenience
  - Make paths between buildings an amenity

### *Sustainability Strategy*

1. Indoor environment affects academic performance
  - Natural ventilation through operable windows
  - Diffuse natural lighting supplemented with task lighting as necessary
  - Shading devices on eastern, southern, and western exposures to reduce heat gain for thermal comfort
  - Material choices that do not contain VOCs (especially carpeting and paint)
2. Didactic Tool
  - Opportunity to be explicit about sustainable strategies as part of curriculum (Along same lines, structure may be expressed as well)
3. Natural sustainability strategies also provide cost savings
  - Natural ventilation
  - Siting building to optimize daylighting
  - Site strategies to reduce maintenance (mowing, etc.)

*Information on Existing Schools in the Northwest One*



Fig. 48 Entry plaza in front of schools

Walker Jones Elementary School (PreK-6)<sup>91</sup>



Fig. 49 Walker Jones Elementary School

Student Population

Pre-kindergarten Students	47
Kindergarten Students	63
1st Grade Students	69
2nd Grade Students	63
3rd Grade Students	72
4th Grade Students	90
5th Grade Students	57
6th Grade Students	68
<i>Total Enrollment</i>	<i>529</i>

Demographic Information

American Indiana/Alaskan	0
Asian/Pacific Islander	3
Hispanic	2
Black (Non-Hispanic)	524
White (Non-Hispanic)	0
<i>99% African American Student Population</i>	

Economic Information

Free Lunch Eligible Students	419
Reduced Price Lunch Eligible Students	18
<i>Total Free and Reduced Lunch Students</i>	<i>437</i>
<i>(83% of student population)</i>	

Terrell Junior High School (7-9)<sup>92</sup>  
*Constructed in 1952*



Fig. 50 Terrell Junior High School

<b>Student Population</b>	
7th Grade Students	112
8th Grade Students	117
9th Grade Students	65
<i>Total Enrollment</i>	<i>294</i>
<b>Demographic Information</b>	
American Indian/Alaskan	0
Asian/Pacific Islander	1
Hispanic	3
Black (Non-Hispanic)	289
White (Non-Hispanic)	1
<i>98% African American Student Population</i>	
<b>Economic Information</b>	
Free Lunch Eligible Students	208
Reduced Price Lunch Eligible Students	11
<i>Total Free and Reduced Lunch Students</i>	<i>219</i>
<i>(74% of student population)</i>	
<b>EXPECTED STUDENT DISPLACEMENT</b>	
Current Combined Enrollment	823
Grades to be eliminated in new facility (PreK and 9 <sup>th</sup> )	
Current PreK	47
Current 9 <sup>th</sup> Grade	65
Total Loss	112
Remaining enrollment	711
Planned enrollment (according to DCOP Master Plan)	600
Displaced Students K-8	111
Displaced Students PreK and 9 <sup>th</sup>	
<i>Total</i>	<i>223</i>

## EXPECTED ELEMENTARY/MIDDLE SCHOOL BREAKDOWN

Current Elementary Population	529 (~65%)
Current Middle School Population	294 (~35%)
Current Combined Population	823
Expected Elementary Population	<b>390</b> (65%)
Expected Middle School Population	<b>210</b> (35%)
Expected Combined Population	600

### *Program Analysis*

The Elementary School (K-5 or 6)  
Info from p. 26-30 in *Building Type Basics*

TYPICAL SCHOOL SIZE = 108 GSF/STUDENT (According to the AIA)  
Classroom space determines school capacity—do not include specialized program areas in computing school capacity

### Three Major Program Elements

1. *Classrooms*
2. *Specialized Areas* (music, science, art, computer lab, gym, cafeteria, library, auditorium)
3. *Administrative and resource area* (main office, principal's office, guidance counselor, nurse, faculty room, specialized classrooms for remediation)

### *Classrooms*

- Should be sized for <28 students
- Typically range from 700-1000 NSF
- Project areas needed within classroom for science, computers, other equipment
- Allow space for classroom materials and student storage within classroom
- FLEXIBILITY over time is key

### *Specialized Program Areas*

Music Room = 800-1000 SF  
Science Room = 1000-1400 SF  
Art Room = 1000-1400 SF  
Computer Lab = 1000-1400 SF  
Gym = 36' x 52' – 45' x 70'  
Auditorium = School capacity x 50% x 7 sf (i.e. 2100 SF)  
Library = 900-1200 SF  
Dining Room = School capacity x 50% x 12 sf (i.e. 3600 SF)  
Kitchen

\*\* Sometimes combine gym and auditorium or cafeteria and auditorium or gym cafeteria and gym

### *Administrative and Resource Areas*

#### Administration

- Work Area = 600 SF
- Waiting Area = 200 SF
- Principal's Office = 250 SF
- Guidance = 150 SF per counselor + waiting area

#### Student Health

- Nurse's Office = 150 SF
- Exam Room = 80 SF
- Waiting Area = 200 SF
- Rest Area = 150 SF
- Toilet Room = 80 SF

#### Faculty

- Faculty Room = 600 SF
- Teacher's resource area = 600 SF
- Specialized resource rooms for remediation = 450 SF

The Middle School (6 or 7-8)

Info from p. 31-38 in *Building Type Basics*

Mainly 6-8 in US is what defines a middle school

TYPICAL SCHOOL SIZE = 156 GSF/STUDENT (AIA)

Focus on social and academic needs of young adolescents

Moving away from subject-specific classrooms

### Four Major Program Elements

1. *Classroom*
2. *Student Resource Centers* (tech center, music, flexible lab spaces, art, gym, cafeteria, auditorium, library, special use/club meeting, video, exhibition space)
3. *Teacher Support Area* (conference rooms, common faculty rooms for planning, faculty dining, adult toilet and telephone rooms)
4. *School Administration* (general offices and waiting areas, principal and assistant principal, guidance, nurse, custodian, remediation)

#### *Classrooms*

-Typically sized for 28 students

-Typically range from 770-1100 NSF) per classroom

#### *Student Resource Centers*

- Computer Center = 850-1200 SF (need 1)
- Music = 850-1200 SF (need 1)
- Lab Spaces = 1000-1200 SF (need 2)
- Art = 1000-1200 SF (need 1)
- Cafeteria = School population x 50% x 10 SF (this provides for 2 lunch periods)
- Gymnasium = 3500 SF (1 needed at this size)
- Kitchen = typically 1/3 of dining area

Auditorium = School capacity x 50% x 7 SF  
 Library = 10 SF/student  
 Special Use = 500-750 SF per use  
 Media Center = 750-1000 SF  
 Exhibition and Display Space (can occur in hallways)

*Teacher Support Areas*

Teacher/Student Conference Room = 500-750 (2 recommended)  
 Faculty Workroom = 400-650 SF (2 recommended)  
 Faculty Dining = 3.5 SF/student  
 Adult toilet – 1 per 125 students or cluster  
 Adult telephone – 1 per 125 students or cluster

*School Administration*

General Office

Waiting = 200-400 SF  
 Secretary = 75-150 SF  
 Principal = 250 SF  
 Assistant Principal = 200 SF  
 Work Area = 200-400 SF  
 Copy/file/coats = 600-800 SF

Guidance Office

120 SF per counselor (1 per 75 students)

Nurse's Suite

Waiting = 100-200 SF  
 Nurse's Office = 150 SF  
 Assistant Nurse (for over 500 students) = 100 SF  
 Exam Area = 80 per station (1 station/150 students)  
 Rest Area = 150 SF  
 Toilet = 80 SF

Specialized

450 SF per use

Custodial

Paper supply, shop area, cleaning equipment, grounds equipment

*Potential Circulation Strategies for Schools*

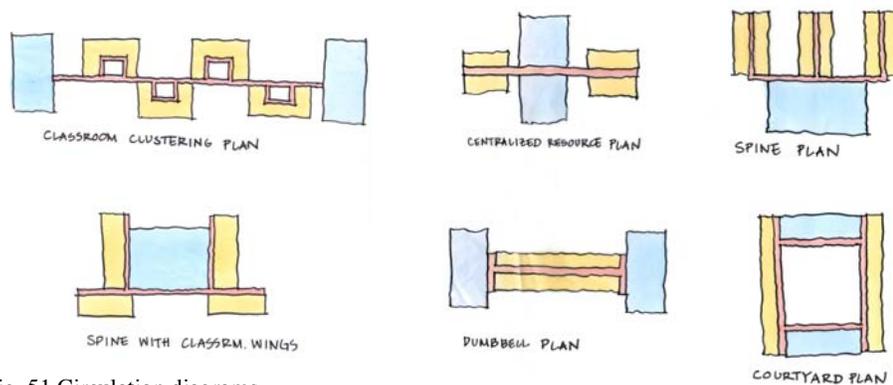


Fig. 51 Circulation diagrams

*Proposed Building Program*

Elementary School			Total SF
<b>Classrooms</b>			
	14 (2 per grade level)	850 SF	11900
<b>Administrative</b>			
	Work Area	600 SF	600
	Waiting Area	200 SF	200
	Principal's Office	250 SF	250
<b>Faculty</b>			
	Faculty Room	600 SF	600
	Teacher's Resource Area	600 SF	600
	Conference Area	450 SF	450
<b>Specialized</b>			
	Science Room	1200 SF	1200
	Library	1200 SF	1200

TOTAL SF FOR ELEMENTARY 17000

Middle School			Total SF
<b>Classrooms</b>			
	8 (4 per grade level)	1000 SF	8000
<b>Administrative</b>			
	Waiting	300 SF	300
	Secretary	100 SF	100
	Principal	250 SF	250
	Work Area	300 SF	300
	Copy/File/Coats	700 SF	700
<b>Faculty</b>			
	Teacher/Student Conference (2)	625 SF	1250
	Faculty Workroom (2)	500 SF	1000
	Faculty Dining (3.5 SF/student)	750 SF	750
	Adult Toilet		
	Adult Telephone		
<b>Specialized</b>			
	Science Labs (2)	1100 SF	2200 SF
	Library (10 SF/student)	2100 SF	2100 SF

TOTAL SF FOR MIDDLE SCHOOL 12650

Shared Facilities			Total SF
	Dining (50% x 10 SF)		3000
	Kitchen (1/3 of dining sf)		1000
	Gymnasium		3500
	Auditorium (50% x 7 sf)		1400
	Music		900
	Art		1200
	Computer Lab		1200
	Guidance Office (1/75 students)	120 SF	960
	Nurse's Office		150
	Assistant Nurse		100
	Waiting Area		150
	Exam Area (4)	80 SF	320
	Rest Area		150
	Toilet		80

TOTAL SHARED SF 14110

**TOTAL SF (ELEMENTARY + MIDDLE + SHARED) 43,760 SF**  
 does not include circulation, bathrooms, maintenance)

*International Building Code Regulations for Educational Facilities*

Egress Requirements

Maximum Travel Distance from Most Remote Point to Nearest Exit

- Unsprinklered = 200 ft.
- Sprinklered = 300 ft.

Maximum Travel Distance to Two Independent Egress Paths

- 75 ft.

Largest Room That May Have Only One Door

- 50 occupants

Maximum Length of Dead End Corridor

- 20 ft.

Minimum Clear Corridor Width

- 44 in. for under 100 occupants
- 72 in. for over 100 occupants

Minimum Net Clear Egress Door Width

- 32 in.

Minimum Stair Width

- 36 in. for fewer than 50 occupants
- 44 in. for greater than 50 occupants

Height and Area Limitations

CONSTRUCTION TYPE IBC NOMENCLATURE		OCCUPANCY GROUP E: EDUCATIONAL																CONSTRUCTION TYPE IBC NOMENCLATURE			
		Noncombustible								Combustible											
		3-Hour (page 308)		2-Hour (page 309)		1-Hour (page 310)		Unprotected (page 311)		Ordinary		Unprotected (page 313)		MII (page 312)		Wood Light Frame				Unprotected (page 315)	
		Type I-A	Type I-B	Type II-A	Type II-B	Type III-A	Type III-B	Type IV-A	Type IV-B	Type V-A	Type V-B										
MAXIMUM HEIGHT IN FEET	UH	75'	180'	75'	85'	65'	75'	55'	85'	65'	75'	55'	85'	65'	70'	50'	60'	40'	UH		
HEIGHT IN STORIES	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
MAXIMUM FLOOR AREA IN SF FOR ANY SINGLE FLOOR	UA	UA	UA	UA	338,500	79,000	150,500	39,000	211,500	70,500	130,500	29,000	239,500	78,500	166,500	37,000	87,000	9,500	UA		
	UA	UA	UA	UA	189,000	60,000	87,000	14,500	141,000	47,000	87,000	28,000	183,000	51,000	111,000	18,500	38,000	8,500	UA		
	UA	UA	UA	UA	106,000	38,500	58,000	14,500	94,000	33,500	58,000	14,500	102,000	33,500	74,000	18,500	38,000	9,500	UA		
	UA	UA	UA	UA	106,000	38,500	58,000	14,500	94,000	33,500	58,000	14,500	102,000	33,500	74,000	18,500	38,000	9,500	UA		

Each number in the table represents the maximum total area in square feet for all floors for a building of the indicated story height.

This table was compiled from information contained in the International Building Code 2000. It does not represent an official interpretation by the organization that issues this code.

Key to Abbreviations  
 UA Unlimited area  
 UH Unlimited height  
 NP Not permitted  
 Spr With approved sprinkler system  
 Unspr Without approved sprinkler system

Fig. 52 Height and area limitations

## Chapter Five: Initial Design Strategies – Site Interventions and Building Partis

### Parti 1: School-Within-a-School/Single Building Strategy

- Consolidate elementary and middle school into one large building
- Subdivide building into smaller schools within schools
- Vertical organization results in smaller building footprint than proposed in master plan
- Common facilities are shared among schools and with broader community



Fig. 53 Site plan, parti 1



Fig. 54 Schematic floor plans, parti 1

*Parti 2: Campus Strategy (Separate Buildings on Same Site)*

- Small schools become physically separate entities that share a common site
- Site traffic is pedestrian only
- Schools are located in corners of site with shared facilities adjacent and outdoor space as common central area

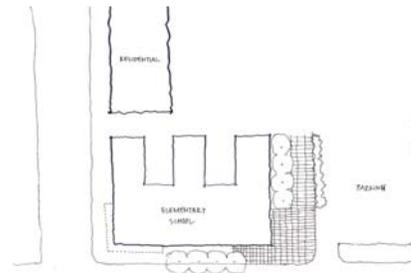


Fig. 55 Site plans, parti 2

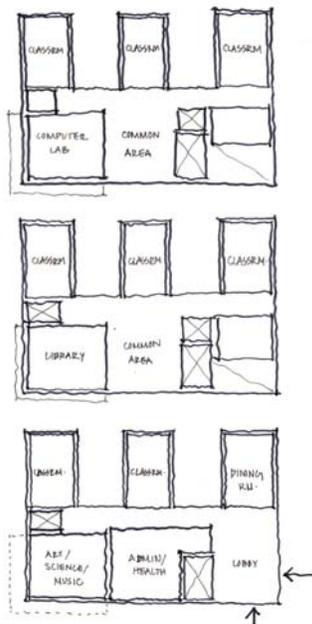


Fig. 56 Schematic floor plans, parti

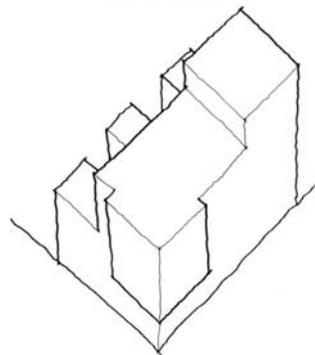
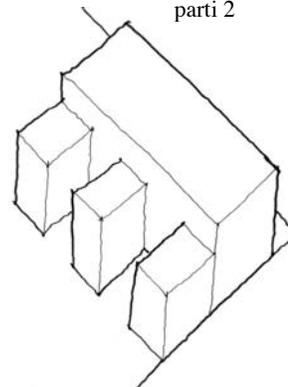


Fig. 57 Massing studies, parti 2



*Parti 3: Dispersed Campus Strategy (Separate Buildings on Separate Sites)*

- Small schools become physically separate entities that are woven throughout the neighborhood
- Safety concerns may be an issue
- Benefit of higher visibility of schools, students, and activities within the neighborhood
- Encourage movement and use of outdoors



Fig. 58 Potential site plans, parti 3

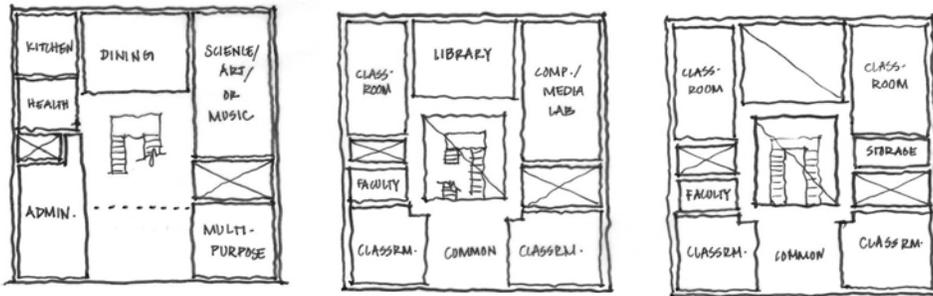


Fig. 59 Schematic plans, parti 3

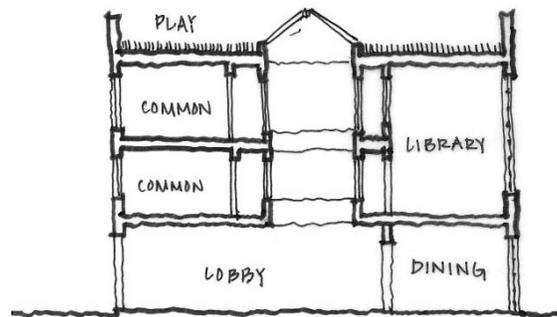


Fig. 60 Schematic section, parti 3

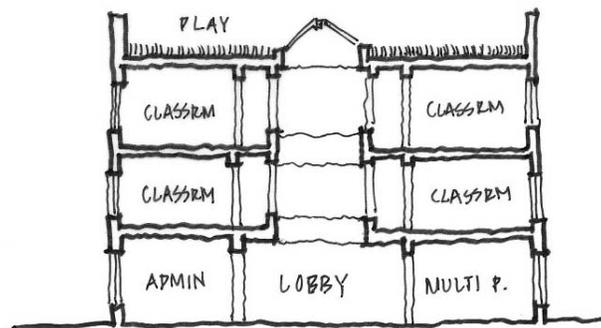


Fig. 61 Schematic section, parti 3

## **Chapter Six: Final Design**

### *Design Description and Intent*

The final design proposal includes six buildings, three on either side of Pierce Street. The four school buildings, each vertically stacked with grades K- 8, are located along the north and south sides of Pierce Street. Entry towers serve as gateway pieces marking the precinct of the school. Community buildings, shared by all four schools as well as by the neighborhood, are located at the corner of Pierce and First Streets, with public entry plazas in front of each building. The building on the north side of Pierce Street houses an auditorium on the lower level and a library and media center on the upper level. The building on the south side of Pierce Street houses the fitness center. Because of the southward sloping topography across the site, the fitness center can be accessed both from the level of Pierce Street as well as from the playing field level. The axis of Pierce Street terminates on the proposed public library, a component of the Torti Gallas master plan, which I am relocating to this new site.

The school buildings themselves are four stories tall and each house 150 students, with one classroom for each of the nine grade levels. The decision to incorporate all grade levels in each school reflects a desire to promote interaction between the younger and older students and to provide opportunities for across-age learning and peer tutoring. The classroom levels are organized about a central spine, a widened hallway, that serves not only a circulation space, but more importantly as a social space where children can interact in a more informal setting than the structure of a classroom. Additionally, each classroom is organized to allow for a variety of different activities to occur within, and includes a central learning space for tables and desks, a tiled area for messy projects such

as science and art, a zone for individual learning. Additionally, each classroom has access to an exterior terrace. The classrooms evolve from the lower grades to the upper grades in order to accommodate different learning techniques and developmental needs.

Overall, the intention of the proposal is to reintroduce a human scale into the school building and surrounding urban context. Each individual school is appropriately sized to allow for greater interaction, recognition, and sense of community. The series of buildings together form an urban realm that is consistent in scale with the residential neighborhood that it is a part of. Placing buildings on both sides of Pierce Street allows for the school to become a visible part of the community, activating the street with children moving from building to building throughout the day.



Fig. 62 Proposed Site Plan

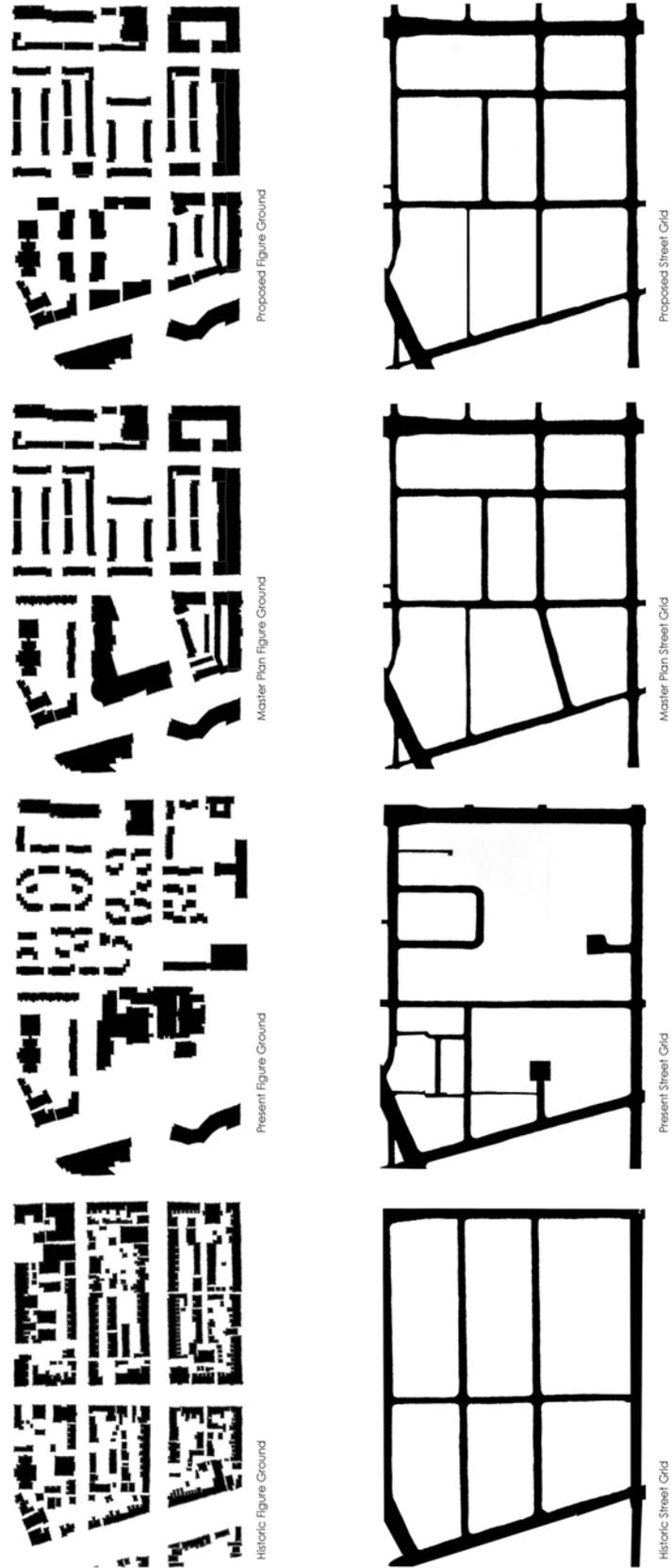


Fig. 63 Diagrams Showing Historic, Present, Master, and Proposed Figure Ground and Street Grid Configurations

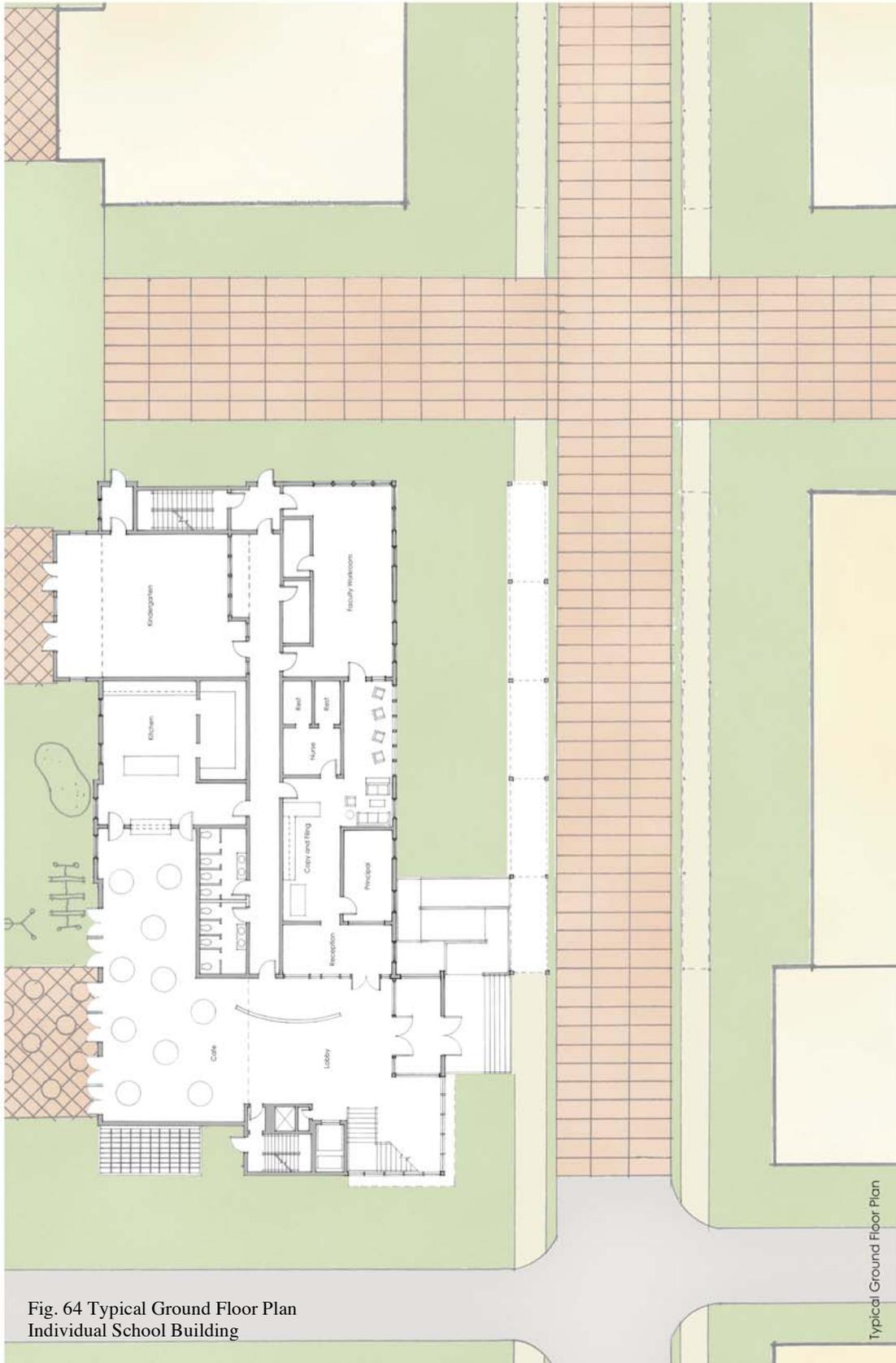
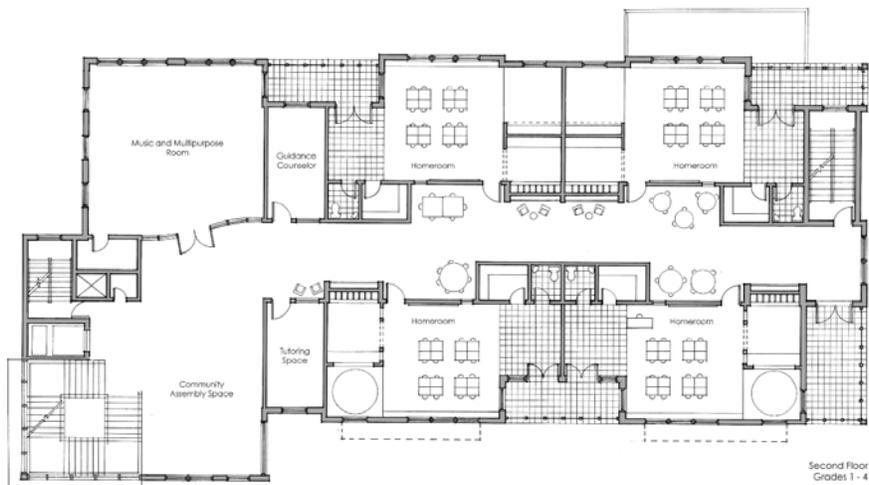
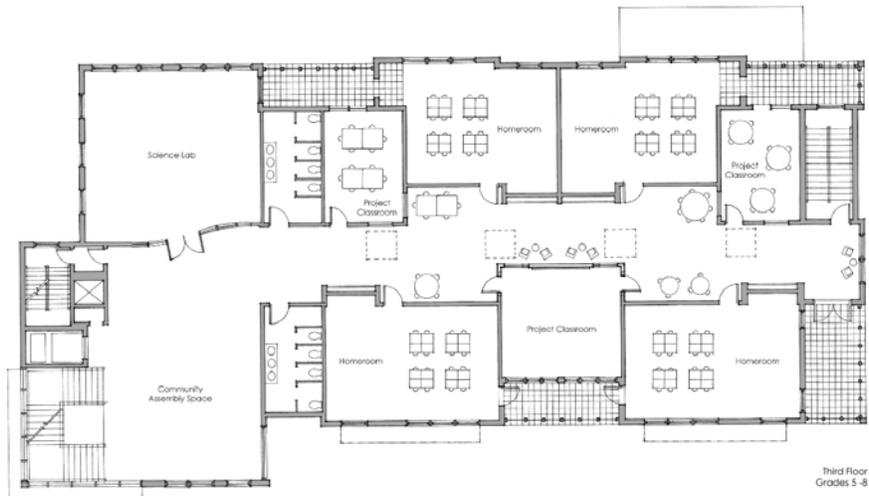
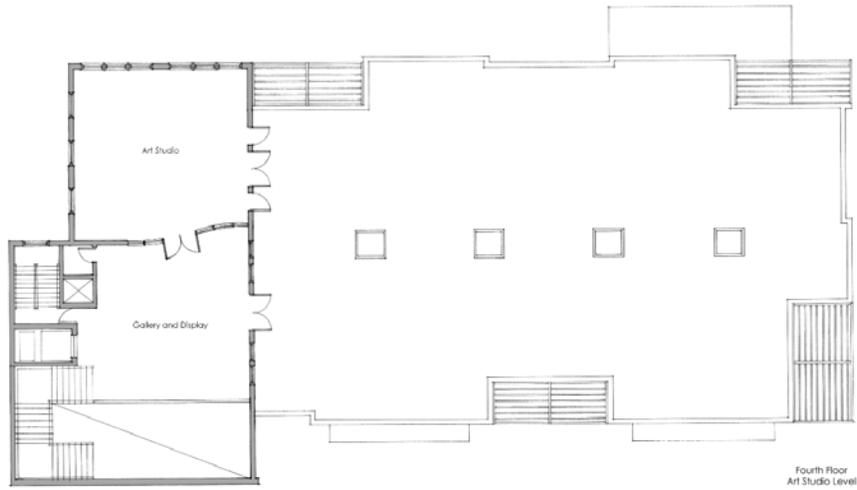


Fig. 64 Typical Ground Floor Plan  
Individual School Building

Typical Ground Floor Plan



Typical Floor Plans  
Individual School Building

Fig. 65 Typical Floor Plans  
Floors 2 - 4  
Individual School Building

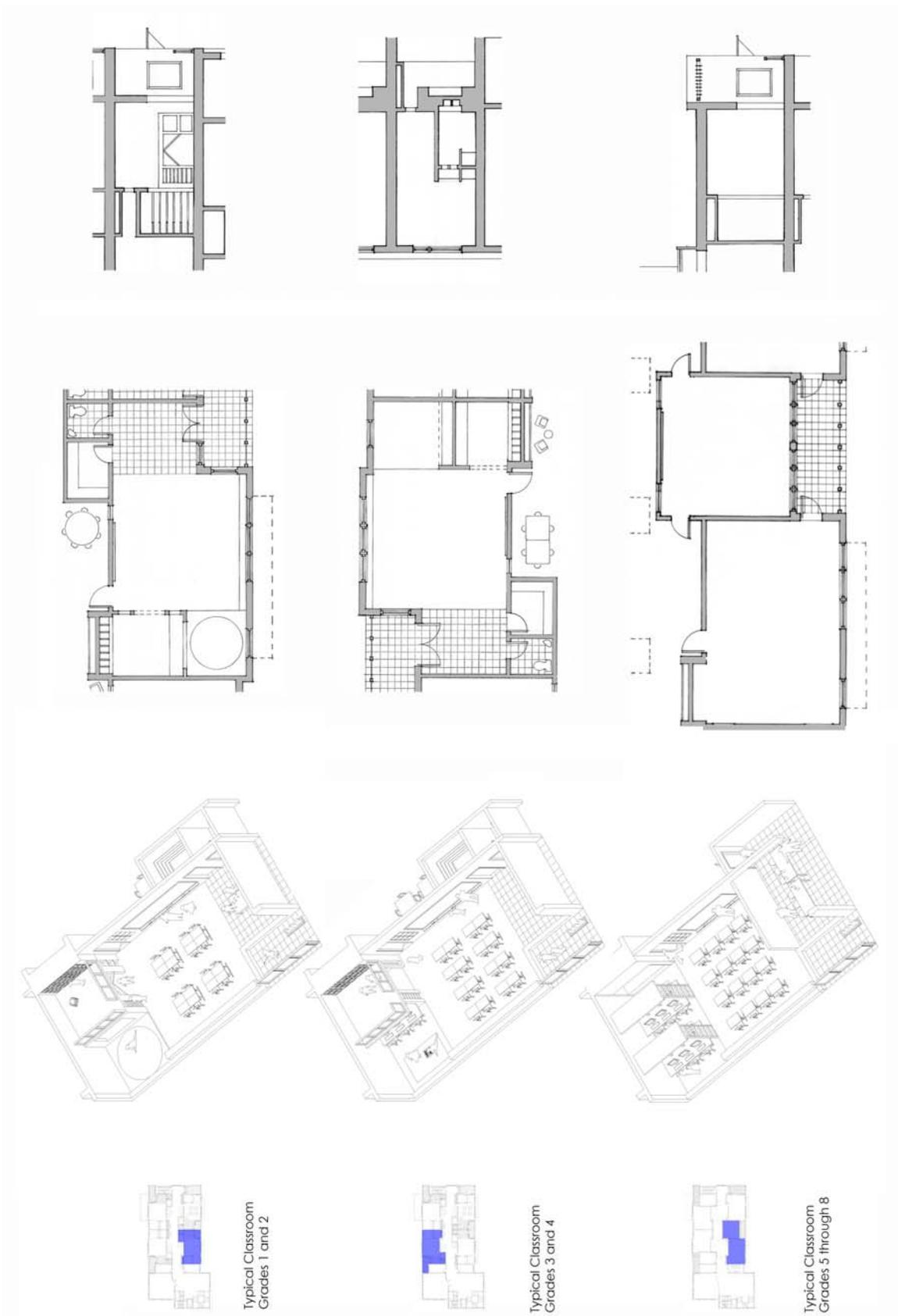


Fig. 66 Classroom Evolutions

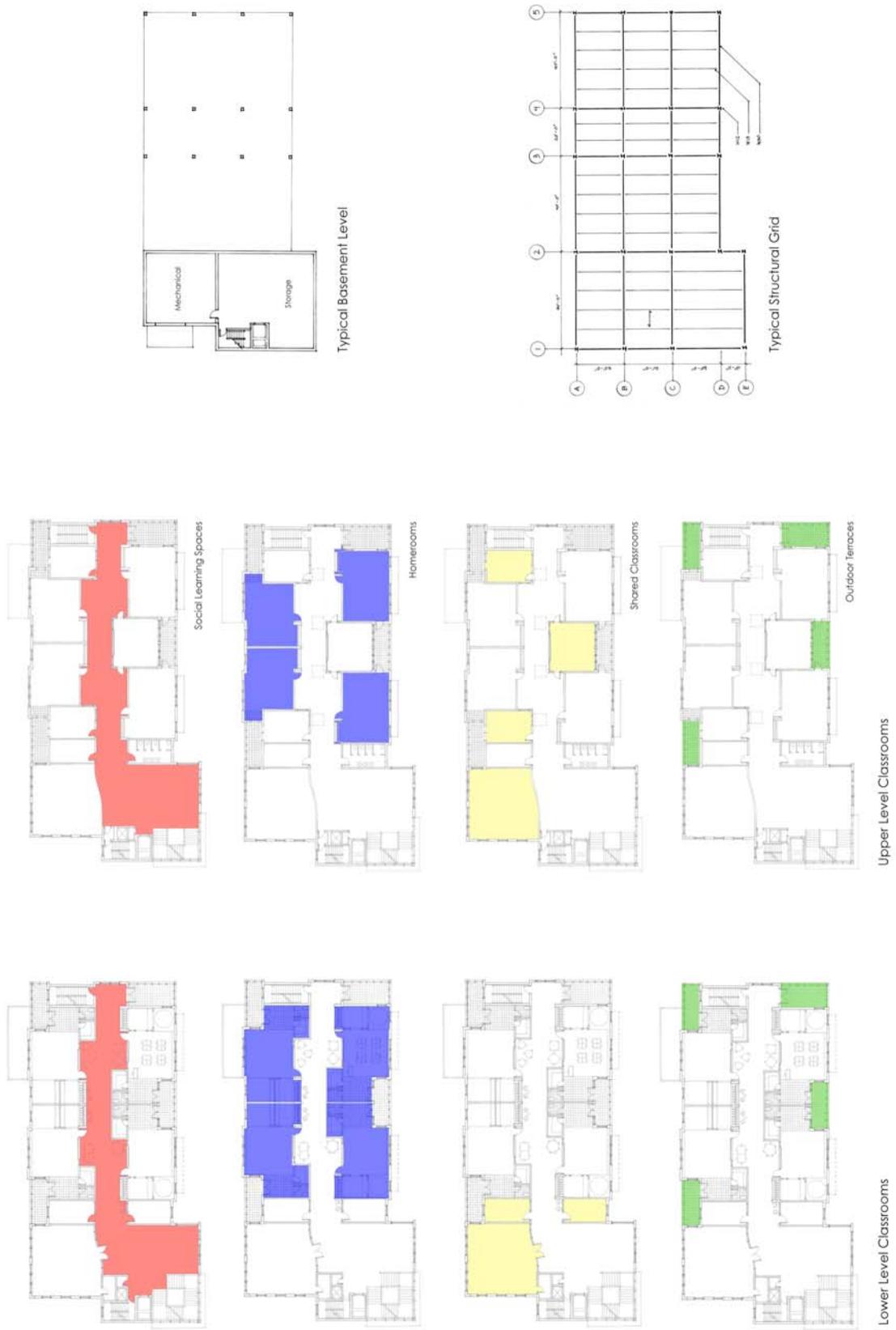


Fig. 67 Diagrams

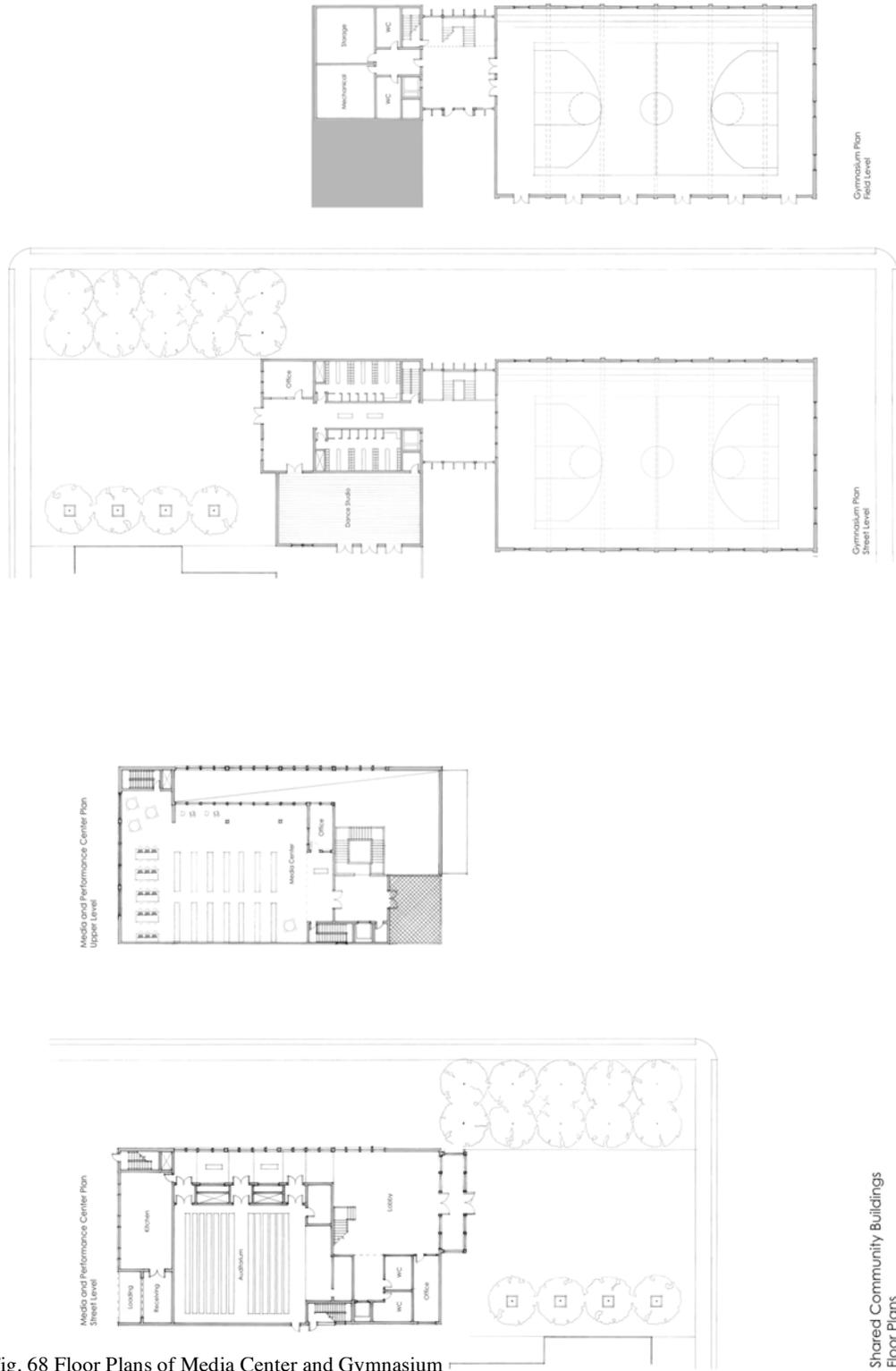


Fig. 68 Floor Plans of Media Center and Gymnasium

Shared Community Buildings  
Floor Plans



Fig. 69 Cross Section through Classrooms



Fig. 70 Cross Section Through Entry Towers



Fig. 71 Site Section Through Mall



Fig. 72 Section Through Media Center and Gym



Fig. 73 South Elevation



Fig. 74 North Elevation



Fig. 75 Perspective View of Entry to School



Fig. 76 Perspective View of Lower Level Classroom



Fig. 77 Perspective View of Social Learning Spaces



View of Pierce Street NW

Fig. 78 Perspective View of Pierce Street from Bus Canopy



Fig. 79 Perspective View of North Side of Pierce Street

## *Conclusion*

The District of Columbia continues to wrestle with its failing public school system. How to solve the problems of the system was a central issue of this year's mayoral race in the District. Mayor-elect Adrian Fenty is trying to promote a mayoral takeover of the school system, however, his overhaul plan is being met with political opposition. News about plans for D.C. public schools appears almost daily in the local newspaper and is one of the most pressing issues facing the city today. Fenty's political success or failure will ride largely on his efforts to revamp the school system.

Since I first began researching this thesis, the Walker Jones Elementary School and Terrell Junior High School have been through tumultuous times. First, over the summer, the schools faced closure and relocation, however in the end they were consolidated into one school housed in the Walker Jones building at the beginning of the 2006-2007 school year. Construction plans for the new consolidated school building continue to stall due to funding and political issues.

This thesis explored a counterproposal to the large, consolidated building shown in the Torti Gallas master plan, and attempted to bring a human scale and sensibility back to the neighborhood school building. In the final review, comments focused largely on this idea of scale and reviewers suggested that a further exploration might concentrate on developing the image and identity of each school building in order to strengthen the idea of small-scale, child-centric design.

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- <sup>1</sup>New Communities City-Wide Initiative/Northwest One Redevelopment Plan.” 11 November 2005. D.C. Office of Planning. 23 February 2006
- <sup>2</sup>New Communities City-Wide Initiative/Northwest One Redevelopment Plan.” 11 November 2005. D.C. Office of Planning. 23 February 2006
- <sup>3</sup>New Communities City-Wide Initiative/Northwest One Redevelopment Plan.” 11 November 2005. D.C. Office of Planning. 23 February 2006
- <sup>4</sup>Haynes, V. Dion “Closure Plan Draws Heated Objections: Fear of Losing Students to Charters Cited.” *Washington Post* 2 April 2006: Co7.
- <sup>5</sup>Schneider, Mark. “Do School Facilities Affect Academic Outcomes?” *National Clearinghouse for Educational Facilities*. November 2002.
- <sup>6</sup>Irmsher, Karen. “School Size.” *ERIC Digest 113*: July 1997.
- <sup>7</sup>Schneider, Mark. “Do School Facilities Affect Academic Outcomes?” *National Clearinghouse for Educational Facilities*. November 2002.
- <sup>8</sup>Irmsher, Karen. “School Size.” *ERIC Digest 113*: July 1997.
- <sup>9</sup>“Chicago Public School” <www.marblefairbanks.com-educational> 15 February 2006
- <sup>10</sup>Deweese, Sarah. “The School-within-a-School Model.” *ERIC Digest*: December 1999.
- <sup>11</sup>Deweese, Sarah. “The School-within-a-School Model.” *ERIC Digest*: December 1999.
- <sup>12</sup>McAndrews, Tobin, and Wendell Anderson. “Schools Within Schools.” *ERIC Digest 154*: January 2002.
- <sup>13</sup>Deweese, Sarah. “The School-within-a-School Model.” *ERIC Digest*: December 1999.
- <sup>14</sup>Deweese, Sarah. “The School-within-a-School Model.” *ERIC Digest*: December 1999.
- <sup>15</sup>Lawrence, Barbara Kent, et. al. “Dollars & Sense II: Lessons from Good, Cost-Effective Small Schools.” Cincinnati: KnowledgeWorks Foundation, 2005.
- <sup>16</sup>Lawrence, Barbara Kent, et. al. “Dollars & Sense II: Lessons from Good, Cost-Effective Small Schools.” Cincinnati: KnowledgeWorks Foundation, 2005.
- <sup>17</sup>Lawrence, Barbara Kent, et. al. “Dollars & Sense II: Lessons from Good, Cost-Effective Small Schools.” Cincinnati: KnowledgeWorks Foundation, 2005.
- <sup>18</sup>Schools as Centers of Community: A National Search for Excellence
- <sup>19</sup>Sharp, Robert. *Architecture for Education: New School Designs from the Chicago Competition*. Singapore: Tien Wah Press, 2002.
- <sup>20</sup>Schools as Centers of Community: A National Search for Excellence
- <sup>21</sup>Schools as Centers of Community: A National Search for Excellence
- <sup>22</sup>Schools as Centers of Community: A National Search for Excellence
- <sup>23</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>24</sup>Dillon, Sam. “Schools Cut Back Subjects to Push Reading and Math.” *New York Times* 26 March 2006: Nation
- <sup>25</sup>Dillon, Sam. “Schools Cut Back Subjects to Push Reading and Math.” *New York Times* 26 March 2006: Nation
- <sup>26</sup>Dillon, Sam. “Schools Cut Back Subjects to Push Reading and Math.” *New York Times* 26 March 2006: Nation
- <sup>27</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>28</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>29</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>30</sup>Sennet, Richard. *Conscience of the Eye*. New York: Alfred A. Knopf, Inc., 1990.
- <sup>31</sup>Lawrence, Barbara Kent. “Back to the Agora: Workable Solutions for Small Urban School Facilities.” *ERIC Digest*: September 2003.
- <sup>32</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>33</sup>McLaughlin, Milbrey and Martin Blank. “Creating a Culture of Attachment: A Community-as-Text Approach to Learning.” *Education Week*: 10 November 2004.
- <sup>34</sup>“Chicago Public School” <www.marblefairbanks.com-educational> 15 February 2006
- <sup>35</sup>“Chicago Public School” <www.marblefairbanks.com-educational> 15 February 2006
- <sup>36</sup>Dudek, Mark. *Architecture of Schools: The New Learning Environment*. Oxford: Architectural Press, 2000. p. 172.
- <sup>37</sup>Dudek, Mark. *Architecture of Schools: The New Learning Environment*. Oxford: Architectural Press, 2000. p. 175.
- <sup>38</sup>Dudek, Mark. *Architecture of Schools: The New Learning Environment*. Oxford: Architectural Press, 2000. p. 175.
- <sup>39</sup>Ligtelijn, Vincent. *Aldo van Eyck: Works*. Basel: Birkhäuser Publishers, 1999. p. 48.
- <sup>40</sup>Ligtelijn, Vincent. *Aldo van Eyck: Works*. Basel: Birkhäuser Publishers, 1999. p. 89.

- <sup>41</sup> Lawrence, Barbara Kent, et. al. "Dollars & Sense II: Lessons from Good, Cost-Effective Small Schools." Cincinnati: KnowledgeWorks Foundation, 2005.
- <sup>42</sup> Lawrence, Barbara Kent, et. al. "Dollars & Sense II: Lessons from Good, Cost-Effective Small Schools." Cincinnati: KnowledgeWorks Foundation, 2005.
- <sup>43</sup> "Welcome to Capitol Hill Cluster School." < [http://capitolhillclusterschool.org/\\_wsn/page9.html](http://capitolhillclusterschool.org/_wsn/page9.html)> Accessed 14 May 2006.
- <sup>44</sup> "Welcome to Capitol Hill Cluster School" < [http://capitolhillclusterschool.org/\\_wsn/page8.html](http://capitolhillclusterschool.org/_wsn/page8.html)> Accessed 14 May 2006.
- <sup>45</sup> "Welcome to Capitol Hill Cluster School" < [http://capitolhillclusterschool.org/\\_wsn/page7.html](http://capitolhillclusterschool.org/_wsn/page7.html)> Accessed 14 May 2006.
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