***Liminal Urban Spaces:***

*Addressing Temporal Urban Residential Vacancy through Strategic Intervention Typologies*

**A Thesis Proposal by:**

Nathan St John

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Sean Burkholder - Thesis Chair

Nick Rajkovich - Committee

**Proposal:**

The perception of permanence in architecture is deep seated. In reality, architecture is temporal and what is here now will not always be here. This can be a disconcerting thought; especially when there are sentimental ties to the built structures that we inhabit. A city can be thought of as a living entity made up of buildings, landscapes, and people that are in constant flux. When a component or part of that system is not used, it is often vacated, falling into a liminal state until there is a socio-economic need for it again. The term liminal, originating from *limen* in Latin has two primary definitions: *1. of or relating to a transitional or initial stage of a process. 2. occupying a position at, or on both sides of, a boundary or threshold*[1]. This process of vacancy and future use is inherent within urban areas and is necessary for healthy progress. However, when buildings progress to a point of disuse, what can we do to give the building a purpose, potentially influencing their future use and eventual reassimilation into the urban fabric? A disused building has many different possible fates. This can begin to be visualized as a decision tree containing the key actors that dictate the possible events for a particular site. For example, a site could be renovated to modern habilitation standards and then reoccupied, or it can be taken down via either demolition or deconstruction to make way for new stock. How can focused temporal design interventions at specific stages pre and post vacancy catalyze and influence the reassimilation process to achieve a particular result? How can this redefine the public perception of disused buildings and derelict landscapes? Could temporary urbanism in the form of low cost, low risk on-site transient building utilizing recovered materials serve as a way to provoke localized urban reinvestment? This thesis will identify strategic intervention points over this crucial vacancy timeline that provide the maximum influence over a vacant lot's future.

This thesis does not look to eliminate the abandonment, vacancy, or wasting of urban spaces. It instead looks at exploring the influence of strategic temporal interventions within them to nudge these spaces into beneficial directions depending on contextual needs (social, ecological, economic, etc.) as well as alter the communal perception of these spaces from deficits to assets. Investigations into literature pertaining to the subjects of vacancy, waste, architecture, and landscape have pointed to a unique perspective on the phase changes of urban spaces through time. By focusing in on the initial point of vacancy within this timeline, effective investigations can be made into the viability of strategic urban interventions playing a role in the intricacies of the urban context. The stages of vacancy that a typical Buffalo, NY home experiences and the liminal period between the home's initial foreclosure and reassimilation into the urban fabric are targeted through a series of site intervention studies that address what impacts building disuse has on our perception of landscape, waste, and architecture.

The average vacancy rate among the 75 largest urban centers in the United States sits at 10.6% and has historically fluctuated between 12.5% and 15% in cities with populations above 250,000 (US Census 2012; Kremer,

[1] Definition from: https://en.oxforddictionaries.com/definition/liminal

Hamstead 2015). There are many factors that may influence when and why properties are vacated such as disinvestment, industrial decline, and contamination of the land to name a few (Kremer, Hamstead 2015). Vacancy can have large social, ecological, and economic implications on an urban area including increased crime. Visible environmental cues that indicate a lack of investment in an area, such as derelict buildings, can influence the social dynamic of the neighborhood. These cues can cause feelings of fear, abandonment, and vulnerability ultimately with the possibility of compounding vacancy issues (Garvin et. al. 2012). Cities spend millions of dollars per year on demolishing derelict properties (HUD 2014). However this process creates prolific amounts of waste each year. The building sector created 530 million metric tons of construction and demolition waste in the United States in 2013, 90% of which was purely demolition related[2] (EPA 2013). In comparison, the United States produced 254 million tons of municipal solid waste[3] in 2013.

**Defining Waste:**

The term waste comes from the Latin term "*vastus*" meaning unoccupied or desolate; signaling emptiness and uselessness (Engler 1995). In his book *Drosscape: Wasting Land in Urban America,* Alan Berger breaks waste down into three distinct types: actual waste (i.e. municipal solid waste, sewage, construction and demolition wastes, etc.), wasted places (i.e. abandoned buildings, places, landscapes, etc.), and wasteful places (i.e. large parking lots, malls, etc.). Despite the proclivity of humans to create waste, humans did not invent waste. Waste has existed in nature long before we produced the wastes that we do today (Engler 2004). However the waste that nature does create is expertly absorbed into a well-adapted 'natural waste management system' in which everything is recaptured, reused, or consumed. Waste, or Dross as Berger calls it, is a necessary and natural component of growth (Berger 2006; Lynch 1990). The issue is that humans create not only mass amounts of waste, but new types all at an increasing rate without adequate responses in how to mediate accumulated wastes. (Engler 2004). The negative association with waste was more permanently defined during the City Beautiful Movement in the early 20th century as "an eyesore and an intruder to acceptable aesthetics" (Engler 1995).

**The Role of Architecture in Waste:**

The built environment plays a significant role in the process of wasting. The construction and demolition of buildings creates 530 million metric tons of waste per year, 90% of which is purely demolition related (EPA 2013). Yet given the significance of the amount of waste created by it, demolition is usually just a hurdle to clear on the way to new construction (Lynch 1990). In her book *Designing America's Waste Landscapes* Mira Engler

[2] For further reading refer to the EPA's full report at: https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures-report

[3] MSW consists of residential and commercial garbage and recyclables

contemplates the role of architecture and landscape in the waste cycle. We as humans have developed entire typologies dedicated to controlling and hiding the waste that we generate from the public eye. Waste typologies such as trash facilities and wastewater treatment plants work to reinforce the negative stigma against waste in our society (Engler 2004). However there is a psychological reward in the process of wasting. We enjoy removing waste from our surroundings to purify our surroundings (Lynch 1990). This psychology can be extended to the demolition of buildings, provided that the buildings in question have been socially defined as a wasted place.

Architecture assumes three characteristic roles in the process of wasting in our society. The first is architecture that has been typologically designed as part of a system to handle our physical waste. These waste typologies function to convey waste away from the public spaces that we occupy. The second is architecture that has been socially or politically defined as a wasted place, most typically a vacant structure or post-structure landscape. The third is the physical waste created via the demolition of the building or landscape itself. Demolition in urban areas has two basic types of catalysts. The first stems from the implementation of new planning that is impeded by existing buildings. The new planning will be hindered until the value of conserving the existing is surpassed by and considered as secondary to the value of the development. The second catalyst originates in the judgement that an existing building or landscape is no longer adequate and fails to meet the current requirements or expectations of the urban context[4] (Oswalt 2004). This shift in perspective results in the demolition of what could be buildings that have no flaws other than their inability to serve the popular need.

**The Impact of Waste on Public Perceptions of Architecture:**

Public perception of waste has a large impact on the character of a space. There is a consensus among different populations that everyone produces waste, however most people do not want to be involved in the process of wasting beyond throwing something out (Engler 1995). There is also an agreement that new and inventive methodologies need to be used to counteract the effects of waste on both humanity and the landscape we build within (Engler 1995). Architecture and landscape are foundationally linked. Architecture is constructed within landscape and there is a chronological progression from empty landscape, to urban development, to derelict liminal landscapes (Berger 2006). Landscape has two defining characteristics: structures and functions, parts and relationships between parts (Berger 2006). These structures and functions change as a landscape progresses through the landscape - urban development cycle, reflecting the agenda of the development. This process inherently creates vacancy, as the economics of a space naturally ebb and flow over time. Our perception of waste and the process of wasting has become rooted in our psyche. It has become so deep seated, that it is disturbing to us when they are disrupted (Lynch 1990). Americans in particular have become hyper-sensitive to litter, which is just litter

[4] These requirements are typically socially, functionally, or technically based.

that is out of it 'correct' place (Engler 1995). Waste is defined socially, based on aesthetics, usability, and economic value. The value and waste status of a given object can fluctuate from valuable, to waste, and back to valuable again; sometimes this can happen regardless of the object's physical material quality.

**The Necessity of Vacancy:**

Vacancy is both a detriment and a necessity to urban areas and can be considered as one of the types of waste defined by Berger in his book *Drosscape: Wasting Land in Urban America.* The 'wasted place' that vacancy is most often identified with tends to evoke powerful images of neglect and dereliction (Bowman & Pagano 2004). Vacancy can cause elevated levels of crime, lowered property values, disinvestment, and safety hazards among others, potentially causing additional adjacent vacancies (Kremer & Hamstead 2015; Garvin et.al. 2014). Vacancy is considered a vicious cycle in this interpretation and a there is a consensus that decaying and derelict urban development usually negatively affect the health and safety of residents (Kremer, Hamstead 2015; Garvin et.al 2012; Bowman & Pagano 2004). Vacancy is also necessary for urban development. Vacancy is not always a negative. Expanding cities often create vacant land at the edges of the urban core in order to encourage additional development through the process of annexation. A consistent definition of vacancy is needed in order to more accurately assess the number of vacant properties nationwide (HUD 2014; Kremer, Hamstead 2015). Vacant land in an urban context could be turned to a positive in certain contexts given proper strategies (HUD 2014). By understanding vacancy as a temporal condition, new strategic uses can be used in the interim until the vacancy is ultimately remedied. Emerging perspectives of vacant space is beginning to recognize urban vacancy as "crucial interstitial space" within the urban context (HUD 2014; Kremer, Hamstead 2015).

**Temporary Urbanism:**

Cities can be thought of as a fluid, ever-changing entity and is comprised of people, places, and landscapes (Matthews 2015). Temporary urbanism is an emerging perspective on land use in urban centers (Kremer, Hamstead 2015). Temporary urbanism looks to utilize critical vacant urban spaces that previously would have been identified as unproductive or underutilized spaces. However these spaces need to be correctly identified as a space that can provide a missing ecological or social role while remaining highly sensitive to the context that each individual site exists in. A better understanding of the effects of transient vacant spaces is needed in order to more effectively design these spaces in a contemporary urban context (Kremer, Hamstead 2015; HUD 2014; Matthews 2015). In Philip Oswalt's book *Shrinking Cities, Volume 2,* vacancy is described as the perforation of the urban context, requiring a new method of interpreting urban spaces. This explanation of vacancy relates more directly to the initial phase change than others simply because it is more sporadic in nature. Areas where widespread

demolition has already occurred may be outside the scope of the project. The notion of typical infill typologies to address these vacancies such as nostalgic urban forms or idealized landscapes plug the perforation and freeze the temporal potential of the site (Oswalt 2004). This reinforces the importance of temporality of intervention so as to not inadvertently prescribe the future use before the future needs of the space are known. However, Oswalt writes that intervention could provide a rare opportunity to avoid the negative downward spiral associated with vacancy.

**Vacancy Interventions:**

The French sociologist Pierre Bourdieu concludes in his book *The Weight of the World: Social Suffering in Contemporary Societies* that social space translates to physical space. These social problems are "reflected in the crisis of physical space in shrinking cities, and that without addressing this crisis, little of substance can be said about the transformation of cities" (Oswalt 2004). This perspective can be seen in the physical vacancies of rust belt cities and the negative social aspects that they often generate. This lends significance to the need for strategic interventions in decaying urban areas. These interventions may manifest themselves in the form of 'interim uses' that are as Oswalt calls them "the only opportunity to stop the feared downward spiral of vacancy and vandalism".

Kyong Park is an artist and critic of urban environments, architecture, and the role that buildings play in the development of our cities. Park's "24260: Fugitive House (pictured on page 7) is an example of an intervention in the realm of residential vacancy in which he facilitates the 'escape' of a decaying home from the clutches of demolition in a neighborhood of Detroit. Park sliced 24260 into transportable sections that could subsequently be installed in cities throughout the world. The project persisted for 8 years, with stops in cities in the United States and Europe. The project opens a dialogue pertaining to the socio-economic change and movement that cities experience and portrays the movement in a physical sense. It is also a direct protest against the demolition of homes in Detroit, of which Park was a resident of for a number of years.

Source: https://thenomadicjournal.com/2014/07/10/the-death-and-life-of-great-american-houses-kyong-park-on-detroit-and-24260-fugitive-house/

Source: Matthew Mazzotta - Artist

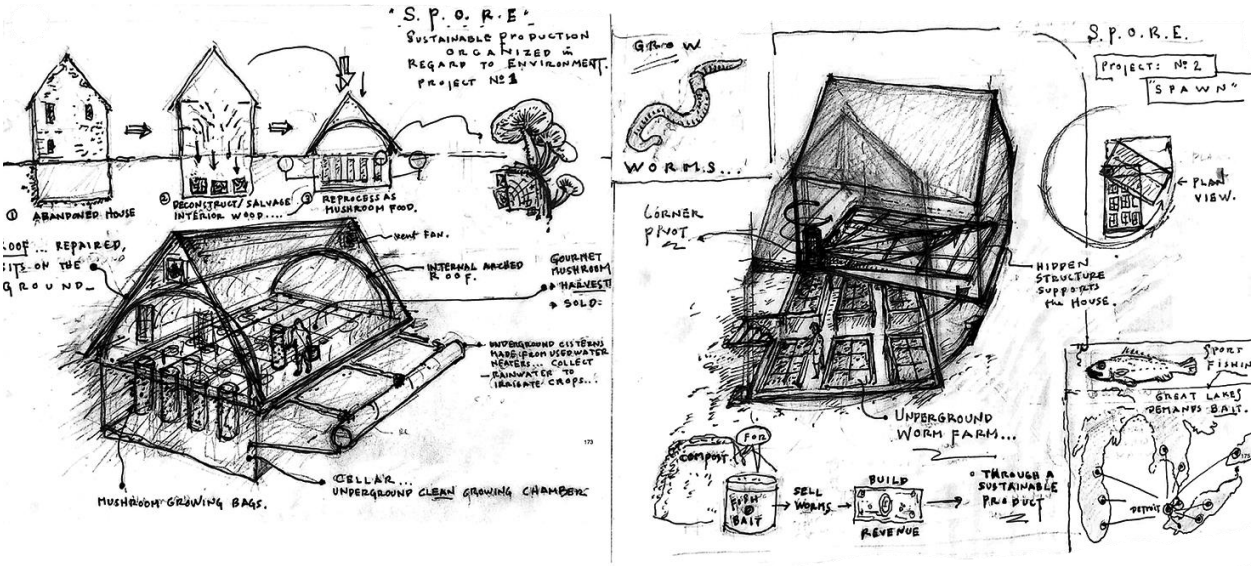
http://inhabitat.com/open-house-renovates-an-abandoned-building-into-a-transforming-open-air-theater/

Open House in York, Alabama (pictured above) is a public art project designed by Matthew Mazzotta in 2013. Open House was designed as a transforming volume that opens to form a 100 person outdoor theater. The site was previously occupied by a vacant and decaying property, pictured above, and was identified as a potential community resource. The home was first selectively deconstructed in order to recycle usable materials for the project such as siding and doors. The rest of the house was then demolished and burned by the local fire department. The core of the project was built new from the ground up and then cladded in the recovered materials from the original house, providing an aesthetic tie to the site's former resident. Now a municipal park, the residents of York have been using the space as a theater for a few years and it has entirely changed the perception of the space.

Source: Mike Johnson - Photography

http://www.cleveland.com/food/index.ssf/2014/10/innovative_biocellar_in_clevel.html

BioCellar (pictured above) is an idea developed by Jean Loria in Cleveland, Ohio in 2006. Loria used an abandoned home to create an earth bermed greenhouse that theoretically could grow food year round. The cellar is created by the removing the upper portions of the house and leaving the basement as a starting point for the newly constructed upper enclosure of the BioCellar. This process requires the careful demolition of an abandoned house in order to preserve the foundation's structural integrity. Considering the age of this type of home, there is the potential issue of contaminant remediation, such as lead and asbestos, which could potentially inhibit the viability of candidate structures. In addition, the cellars need to be located within an accessible urban area while also having key environmental exposures to facilitate plant growth.




Source: Mel Chin - Designer

http://melchin.org/oeuvre/s-p-a-w-n-s-p-o-r-e-s-w-i-n-g

S.P.O.R.E. (pictured on page 8) is a proposal for the reconfiguration of vacant residential structures to produce mushrooms or worms for resale at market to restaurants and fishermen respectively. Designed by Mel Chin in 2001, S.P.O.R.E. provides additional perspectives on the appropriation of vacant residential structures. Project #1 is similar to the BioCellar project in that the majority of the home is demolished, but in this case the upper roof of the vacant structure is reused. The demolished framing of the ground level and upper floors are mulched and used as planting substrate for mushrooms. This design assumes structural integrity of the existing roof, however this approach is more holistic in its material reuse. Project #2 is more conceptual in nature as a major part of the design incorporates the house pivoting out of the way to allow access to the basement. Worm beds in the basement filled with compost and other biodegradable material, such as restaurant food waste, will provide farms with rich soil to plant in and fishermen with bait to fish with. Both of these options work to incorporate a closed loop mentality into the design and strive to utilize materials from the start of the process to the end.

**Methodology:**

The spatial progression of an urban space through time can be expanded into three phases: the initial use, a transitional phase, and the future use with a phase of liminality existing during each phase change as seen in the illustration below (Figure 1). In traditional rust belt cities, the transitional phase could be typified by systemic vacancy, municipal demolitions, and general dereliction and neglect. Each of these phases can last for vastly


Figure 1: *Site Progression* - Graphic by Author

different amounts of time depending on environmental and anthropological influences. As long as there is a need and there are adequate financial resources to facilitate continued operation and periodic maintenance, a space can operate in its initial phase indefinitely. The pace of economics typically triggers phase changes in spaces due to factors such as disinvestment, industrial decline, and suburban migration. Phase changes can happen over different time spans, just like the phases themselves, though they may come with indicators both visible to the public and invisible except to the occupants themselves that forecast the beginning of a change for the space. The perception of landscape and architecture is important during these shifts, as the beauty of a space rests in the evidence of order and intention within the design. It is probable that most people do not find the drawn out process of nature restoring equilibrium aesthetically positive. A landscape returning back to a natural state could be perceived as just as much of an eyesore as a vacant, derelict building. What is important is the perceived intent of a space. The intent of a design to have certain qualities must be readable in the design. Waste in a landscape is perceived as an eyesore because it is out its proper place. Waste of a landscape or place, such as a vacant, decaying property projects a negative image because what was once orderly has now become disorderly; which is the antithesis to the intent. This projection of negativity has rarely been challenged in a way that would change our perception of 'wasteful' vacancy. The interventions in this thesis will challenge this image.

Through the identification of the 'initial phase change' as the probable governor of change within the system of vacancy, three idealized types of vacant parcels that are emblematic of key conditions within the city of Buffalo (Figure 2). Contained within Figure 2 are three 'thresholds' that are defined as "Pre-Foreclosure", "Vacancy", and "Demolition". These thresholds define the liminal extents of a property as it progresses from occupied to transitional site. The first intervention type is a residence that is in foreclosure, marking the beginning of the vacancy process. According to a report by the New York State Department of Financial Services, residents of properties in foreclosure are likely to leave the property prematurely, before the nearly 3 year long

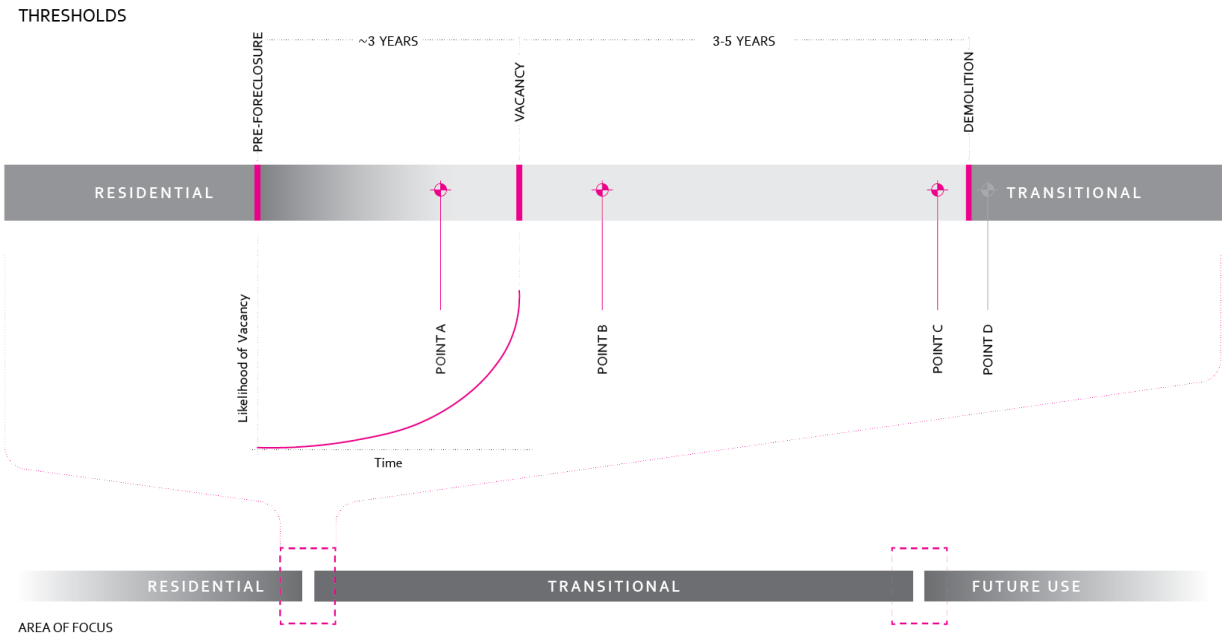



Figure 2: *Intervention Points* - Graphic by Author

process of foreclosure (one of the longest in the country) is complete (NYS Dept. of Finance 2015). This can leave the owner liable for eventual property maintenance, fines, and taxes even after the property is foreclosed. The second type of idealized site is a site that has been vacated 1-2 years, marking the midpoint of the vacancy transition process. These sites are likely to have experienced a moderate amount of decay, boarded windows, and possible vandalism or fire. Over a one year period in Buffalo in 2007, over 40% of structure fires occurred in abandoned buildings with securely boarded buildings experiencing a lower rate of fire (Meyer 2007). The third site is imminently in danger of being demolished, marking the end of the initial phase change. These sites typically have experienced extreme decay, vandalism, or heavy fire and represent a significant public health and safety risk. These properties are demolished frequently and leave an open site that is mowed periodically by the City while it waits for a future use. If we are to fully acknowledge the definition of a liminal space (*2. occupying a position at, or on both sides of, a boundary or threshold*[5]) and take into consideration the existence of three progressive thresholds, then a fourth point of intervention would exist beyond demolition[6]. This point however would be working with a blank site which would locate that point at the end of the transitional stage of the property. Anything constructed on a blank site defines the site's future use, therefore completing the progression to future use.

[5] Definition from: https://en.oxforddictionaries.com/definition/liminal

[6] Visualized as 'Point D' in Figure 2. This point is greyed out as it is outside the scope of this thesis.

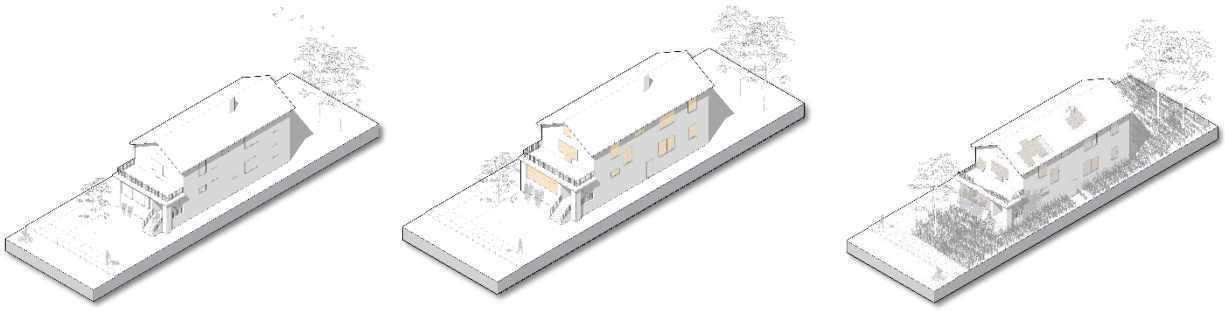


Figure 3: *Idealized Vacancy Typologies* - Graphic by Author

In the city of Buffalo, the foreclosure process takes 5-7 years from the declaration of pre-foreclosure to demolition by the city. This process results in a vacant lot that is usually preceded by a decaying structure. Often the demolition is seen as an improvement in the neighborhood, and it arguably is because of the buildup of contempt for the perceived disorder and consequential uptick in local crime rates. However, with further investigation and design, these sites have the potential to turn from negatives in our urban spaces, to urban assets that respond to their context as ecologically productive structures and lots. Ecologically positive spaces for increased carbon sequestration and water infiltration could work to foster stronger social cohesion within the neighborhood. These emblematic sites were further investigated through a process of empirical and qualitative research to identify actors, catalysts, points of risk, and potential for intervention. An in-depth flow diagram based on this research shows where the vacancies in Buffalo originate from and where they are most likely to go (Figure 4). The diagram breaks down initial catalysts at the start the process of vacancy. Foreclosure, including tax foreclosure, makes up the majority of the additions to vacancy in Buffalo. Additional catalysts factored into the chart include fire and environmental catalysts such as wind, snow, and flooding. Environmental catalysts and residential fires represent the possibility for an immediate vacancy, while the homes in foreclosure typically take a period of a few years to go through the process as stated earlier.

The Vacancy Actors diagram (Figure 4) is organized to roughly correspond to the intervention points diagram shown earlier (page 11). Point A on Figure 2 is manifested with the foreclosure, fire, and environmental catalysts that feed into the "Recently Vacated" box. This box represents the Vacancy threshold depicted in Figure 2. The actors diagram then breaks vacancy down into 6 typological categories with the thickness of the line feeding each category representing the relative volume of properties that flow to each. Contained under each vacancy

category is a decision tree that visualizes the common paths that these properties take and the actors that are involved[7].

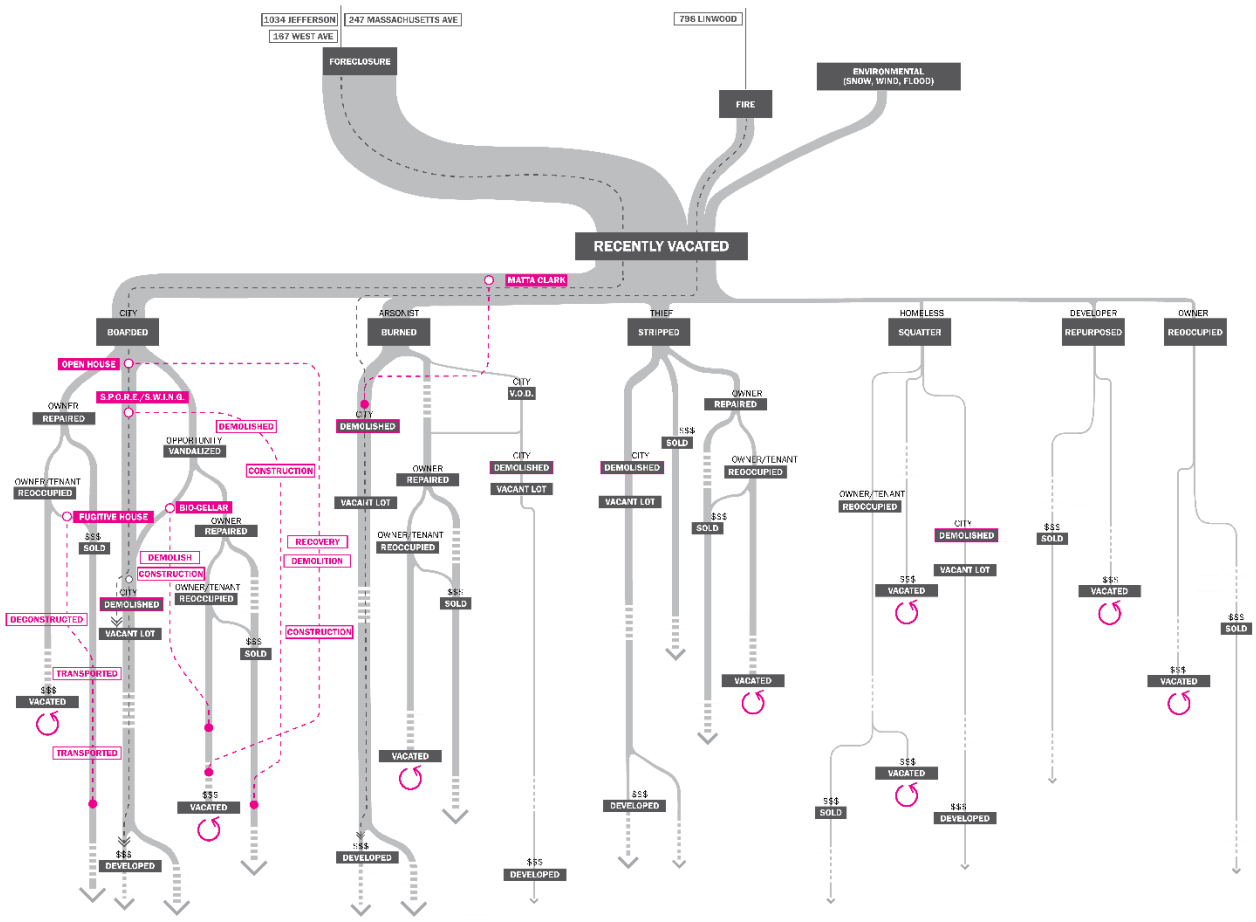



Figure 4: *Vacancy Actors* - Graphic by Author

Plotted on top of the actors diagram are a series of control properties[8] in the city of Buffalo. These properties were assessed and mapped onto the chart to provide a real baseline for the underlying decision trees. Additionally, the intervention precedents overviewed on pp. 6-9 were mapped on the diagram in order to better understand the intervention and reentry points of each project in relation to both the actor diagram and the baseline properties. This gives a better understanding of how existing projects work and begins to suggest ways that they could potentially be improved.

[7] The distances that each item in the tree are separated are not time dependent. A dashed line indicates a portion of the tree that could last for an unknown amount of time and is dependent on a myriad of variables. The rotating arrow under the vacated boxes indicates a restart of the process.

[8] These control properties were selected through a qualitative process based on aerial photography and local news stories. The properties are represented in the Vacancy Actors diagram by gray outline boxes, each containing the address of the property surveyed. More information on these properties can be seen in Appendix A.

Three real world sites were then selected for further research as prime manifestations of the aspects characterized in the idealized sites[9]. Each site was evaluated against the vacancy actor analysis done earlier in the process as a way to visualize the path the sites have taken. Plotting the site on the chart also worked to identify a strategic intervention point that would be the most influential based on precedent analysis as well as a comprehensive look at the larger scale urban context of the site. This process allows for the critical components of the site at the site, block, and neighborhood scales to be identified and begin to point towards specific design interventions are targeted at the critical liminal state contained within the initial phase change.

**Expanding on Intervention:**

Unless there is an abrupt phase change, i.e. fire, natural disaster, etc., changes tend to happen slowly depending on the availability of resources and the societal need for the change. Even when the need is great, it takes time to concentrate the necessary resources at the site to facilitate the change. The interventions to be designed in the next phase of the thesis (Spring 2017) will be targeted at producing designs that respond to the temporal condition of vacancy in residential structures by designing ecological functions into the structure. The interventions will consider the variables and potential needs among other factors to address the critical inception point of vacancy specific to the site. While the process outlined will be translatable to other urban areas, the highly contextual nature of the designs will most likely limit each intervention to a particular temporal zone and will likely not be directly translatable to other temporal zones.

The interventions that this thesis is proposing target initial phase change in three spots that relate directly to the three idealized sites that were developed earlier. This first possible point (Point A) of intervention targets pre-vacancy foreclosures. This intervention point could be the most influential point because it is working with a structure that is occupiable. This point can help the initial designed use transition toward a new role somewhat seamlessly when compared to the typical progression. This is because of the potential to immediately influence the space before it accumulates the negative properties that people associate with vacant and decaying spaces. It may also be easier to allay rates of crime and work to negate the perception of disorder if intervention happens early in the process. This may make it possible to transition to second uses and functions that may not be possible later in the cycle. The intervention at this stage would take a surface level approach to using the home's existing attributes to produce an ecological benefit. The roof could be used to collect rainwater and subsequently filtered with an additional system, providing water suitable for watering gardens to the surrounding neighborhood.

[9] The intervention properties were selected through a qualitative process based on aerial photography and local news stories. The properties are represented by the gray outline boxes, each containing the address of the property surveyed. More information on these properties can be seen in Appendix B.

If the building or landscape is not immediately reoccupied or reused, it falls into a state of vacancy. Different municipalities use differing lengths of time to declare vacancy, ranging from 60 to 120 days. For the purposes of this study, vacancy will be defined as a space that is currently unused which previously fulfilled a prescribed purpose.[10] Vacancy may last for weeks, months, or years until it either reverts back to a state of tabula rasa through ecological forces, or an anthropological force acts upon it, sending it into a new use phase, in essence restarting the eventual cycle. The second possible point (Point B) of intervention occurs in this period. Spaces in this stage will all be in differing stages of transition, so the required approach would be unique to each space. For example, the work here would be to in some cases attempt to re-activate the space depending on macro scale urban integration and potential urban value. Urban value speaks to a site's contribution to the urban fabric at a site, block, and neighborhood scale.[11] If the urban value is perhaps lower, the approach may be a more passive installation that performs in an ecologically focused way. It could be about creating habitat[12] or providing other services such as carbon sequestration or storm water management. These installations would aim to begin to soften the perception of these spaces within the urban environment in order to encourage social reinvestment as the first step towards full reincorporation in the urban fold. The sheer number of properties in this phase may make scaling the effects of such interventions to have meaningful impacts on the urban scale quite difficult. The transitional phase can end at any one moment given a societal need and/or an economic opportunity. Just as the process of vacancy occurs as resources gradually diminish, the reversal of the process occurs in a similar way. However, even when a need exists, the phase change from transitional to second use contains significant lag between procurement of resources, planning, and implementation. This can often be visualized by the large sign[13] that is often placed on new development sites proclaiming the arrival of the new development, even though it may still be years away from beginning construction let alone completion.


The third intervention point operates within the 'final days' of a property just before it is demolished. This typology has to consider a much different set of parameters than point A or B that has much to do with the amount

[10] This definition purposefully omits land that has yet to be designed and occupied, which could be considered vacant under broader definitions, to help limit the possible scope of the project.

[11] This would need to be evaluated on a case by case basis and includes aspects such as social integration and economic value.

[12] Local examples of this include work by Joyce Hwang - Bat Tower http://www.antsoftheprairie.com/?page_id=203 and Elevator B, a student designed project https://hivecity.wordpress.com/

[13] See photo - Photo by Author

of time that the property has been vacant. As discussed earlier, properties in this stage often have experienced extreme amounts of decay, heavy fire, or vandalism and pose a significant risk to public health and safety. Intervention in this stage may include selective deconstruction among other techniques to allow the structure to provide the site with a positive asset. Aggressive intervention designs will be used here because of the decayed nature of the structure. The home could be 'deconstructed' into a resource for future on site building or as an impromptu material salvage installation that is eventually redistributed throughout the city by builders in new projects or perhaps repairs of historical buildings. This could be accompanied by a 'parts catalog' of what materials are available in the home and available for sale by the City.

**Conclusion:**

The cities that we live in are in a constant state of change. This change, often driven by socio-economic needs, sometimes results in the abandonment and neglect of structures within them. Our current perceptions of these spaces are tied to the pervasive viewpoint that architecture is permanent. However our built environment is temporal and ever shifting. Vacancy is a necessary process that must occur in order to encourage healthy growth of urban areas, however it often correlates with increased levels of crime, decreased property values, and further disinvestment in the area. The vacant properties contained within our urban centers provide liminal spaces within that require new design approaches. These spaces are an unseen asset in our urban centers that can be selectively utilized through innovative design approaches to provide ecologically productive urban spaces. They can become valuable points of action within the greater urban context to begin to define the strategy towards a more socially cohesive and ecologically focused city. The intervention precedents overviewed in this thesis make significant strides toward addressing this issue, but they lack a comprehensive strategy toward identifying influential site characteristics on multiple scales. This thesis proposes a new methodology that takes a critical look at the process of vacancy and identifies influential points of intervention that have the potential to change our perceptions of vacancy. The intervention points identified within this proposal strategically position themselves relative to the critical thresholds of the vacancy process. The sites identified for intervention within Buffalo can act as ambassadors for further vacancy intervention research in the future.

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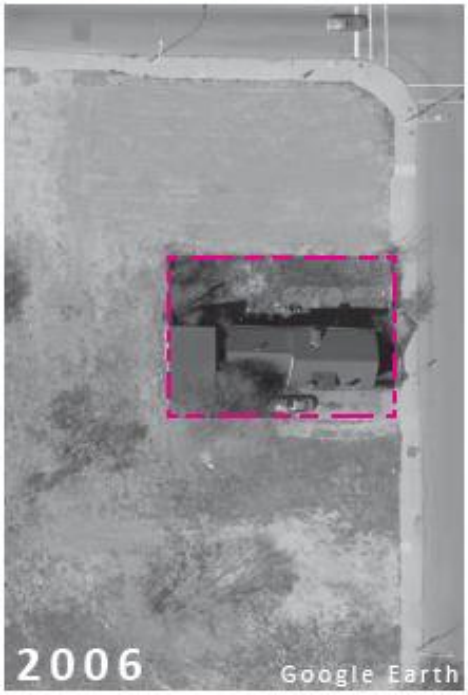
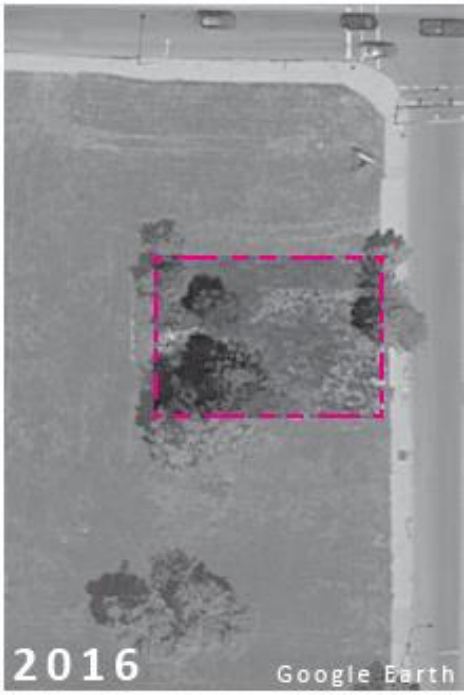
# Appendix A: City Maps[14]


[14] City wide map by author

**1034 Jefferson Ave[15]:**



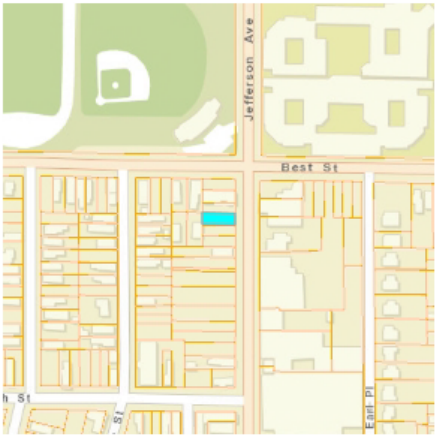




[15] Photos by Author unless otherwise noted.

Parcel Information[16]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
10/11/2016 3:23:29 PM




Parcel Overview Map


Parcel Detail Map

**PIN:** 14020010073000003008000

**SBL:** 100.73-3-8

**Address:** 1034 JEFFERSON

**Owner 1:** NEW MT ARARAT TEMPLE OF

**Owner 2:** PRAYER

**Mailing Address:** 971-983 JEFFERSON AVE

**City/Zip:** BUFFALO NY 14204

**Municipality:** City of Buffalo

**Property Class:** 311

**Class Description:** R - Res vac land

**Front:** 32

**Depth:** 93

**Deed Roll:** 1

**Deed Book:** 11137

**Deed Page:** 7852

**Deed Date:**

**Acreage:** 0.06644147195

**Total Assessment:** $3,000

**Land Assessment:** $1,400

**County Taxes:** $3,000

**Town Taxes:** $0

**School Taxes:** $0

**Village Taxes:** $0

**School District:** CITY OF BUFFALO

**Year Built:** 0

**Sqft Living Area:** 0

**Condition:** 0

**Heating:** 0

**Basement:** 0

**Fireplace:** 0

**Beds:** 0

**Baths:** 0



[16] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

**162 West Ave[17]:**



[17] Photos by Author unless otherwise noted.

Parcel Information[18]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
11/25/2016 9:24:18 AM


Parcel Overview Map


Parcel Detail Map

| | |
|---|---|
| **PIN:** 14020011028000040091000 | **Acreage:** 0.15137204397 |
| **SBL:** 110.28-4-9.1 | **Total Assessment:** $150,000 |
| **Address:** 162 WEST | **Land Assessment:** $7,000 |
| **Owner 1:** LOWER WEST SIDE HOMES | **County Taxes:** $0 |
| **Owner 2:** HOUSING DEVELOPMENT FUND CORP | **Town Taxes:** $0 |
| **Mailing Address:** 300 PERRY ST | **School Taxes:** $0 |
| **City/Zip:** BUFFALO NY 14204 | **Village Taxes:** $0 |
| **Municipality:** City of Buffalo | **School District:** CITY OF BUFFALO |
| **Property Class:** 220 | **Year Built:** 2004 |
| **Class Description:** R - 2 Family Res | **Sqft Living Area:** 2530 |
| **Front:** 69 | **Condition:** 0 |
| **Depth:** 95 | **Heating:** 0 |
| **Deed Roll:** 1 | **Basement:** 0 |
| **Deed Book:** 11079 | **Fireplace:** 0 |
| **Deed Page:** 8045 | **Beds:** 6 |
| **Deed Date:** | **Baths:** 2.5 |



[18] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

247 Massachusetts Ave[19]:



[19] Photos by Author unless otherwise noted.

Parcel Information[20]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
10/11/2016 4:36:46 PM


Parcel Overview Map

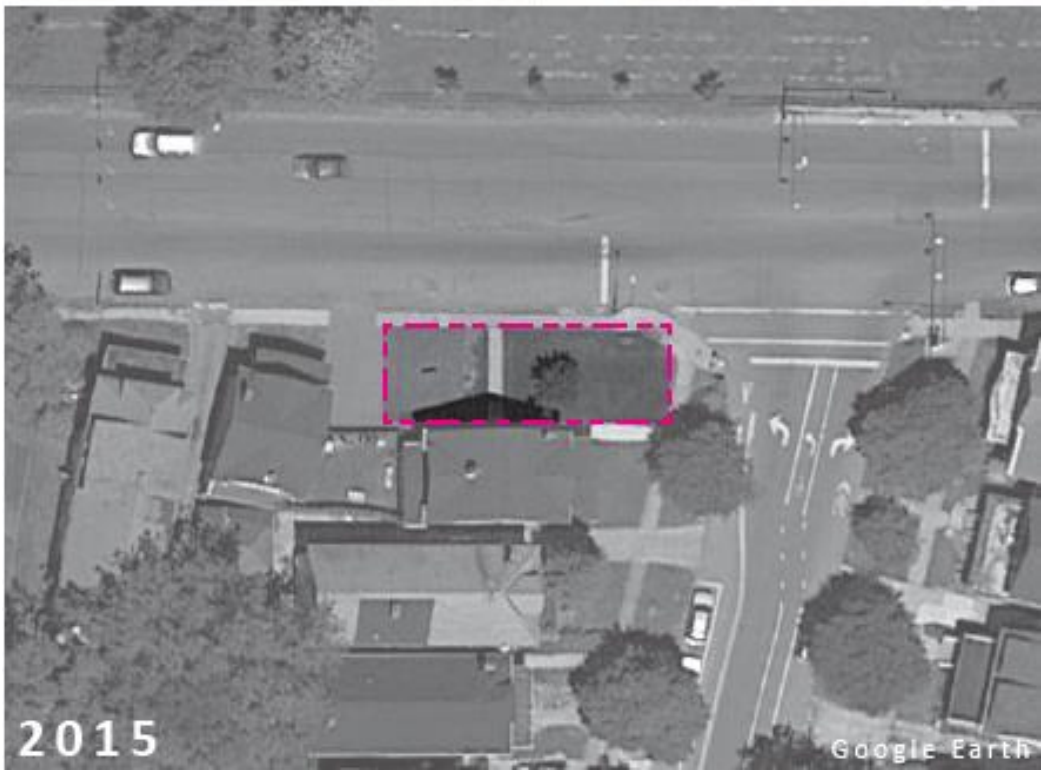

Parcel Detail Map

| | |
|---|---|
| **PIN:** 140200099510000300 1000 | **Acreage:** 0.0735236474 |
| **SBL:** 99.51-3-1 | **Total Assessment:** $3,200 |
| **Address:** 247 MASSACHUSETTS | **Land Assessment:** $3,200 |
| **Owner 1:** BUFFALO NEIGHBORHOOD | **County Taxes:** $0 |
| **Owner 2:** STABILIZATION CO | **Town Taxes:** $0 |
| **Mailing Address:** 271 GRANT ST | **School Taxes:** $0 |
| **City/Zip:** BUFFALO NY 14213 | **Village Taxes:** $0 |
| **Municipality:** City of Buffalo | **School District:** CITY OF BUFFALO |
| **Property Class:** 311 | **Year Built:** 0 |
| **Class Description:** R - Res vac land | **Sqft Living Area:** 0 |
| **Front:** 48.66 | **Condition:** 0 |
| **Depth:** 66.5 | **Heating:** 0 |
| **Deed Roll:** 8 | **Basement:** 0 |
| **Deed Book:** 11236 | **Fireplace:** 0 |
| **Deed Page:** 8623 | **Beds:** 0 |
| **Deed Date:** | **Baths:** 0 |



[20] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

798 Linwood Ave[21]:




[21] Photos by Author unless otherwise noted.

Parcel Information[22]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
10/11/2016 3:36:13 PM


Parcel Overview Map


Parcel Detail Map

| | |
|---|---|
| **PIN:** 14020008979000003006000 | **Acreage:** 0.04302457871 |
| **SBL:** 89.79-3-6 | **Total Assessment:** $1,900 |
| **Address:** 728 LINWOOD AVE | **Land Assessment:** $1,900 |
| **Owner 1:** SICK TIMOTHY M | **County Taxes:** $1,900 |
| **Owner 2:** | **Town Taxes:** $0 |
| **Mailing Address:** 32 GILL ALLEY | **School Taxes:** $0 |
| **City/Zip:** BUFFALO NY 14222 | **Village Taxes:** $0 |
| **Municipality:** City of Buffalo | **School District:** CITY OF BUFFALO |
| **Property Class:** 311 | **Year Built:** 0 |
| **Class Description:** R - Res vac land | **Sqft Living Area:** 0 |
| **Front:** 23.18 | **Condition:** 0 |
| **Depth:** 0 | **Heating:** 0 |
| **Deed Roll:** 1 | **Basement:** 0 |
| **Deed Book:** 11248 | **Fireplace:** 0 |
| **Deed Page:** 5218 | **Beds:** 0 |
| **Deed Date:** | **Baths:** 0 |



[22] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

## Appendix B: Intervention Site Maps

**9 Malta Place**[23]:


[23] Photos from Google Street View and Google Earth. Retrieved 11-25-2016.

Parcel Information[24]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
10/31/2016 3:07:23 PM

Parcel Overview Map

Parcel Detail Map

| | |
|---|---|
| **PIN:** 140200099840000702020O | **Acreage:** 0.03944886047 |
| **SBL:** 99.84-7-20.2 | **Total Assessment:** $28,000 |
| **Address:** 9 MALTA | **Land Assessment:** $3,400 |
| **Owner 1:** KORNACKI THOMAS JR. | **County Taxes:** $28,000 |
| **Owner 2:** | **Town Taxes:** $0 |
| **Mailing Address:** 9 MALTA PL | **School Taxes:** $0 |
| **City/Zip:** BUFFALO NY 14201 | **Village Taxes:** $0 |
| **Municipality:** City of Buffalo | **School District:** CITY OF BUFFALO |
| **Property Class:** 210 | **Year Built:** 1910 |
| **Class Description:** R - 1 Family Res | **Sqft Living Area:** 990 |
| **Front:** 30 | **Condition:** 0 |
| **Depth:** 56.5 | **Heating:** 0 |
| **Deed Roll:** 1 | **Basement:** 0 |
| **Deed Book:** 10993 | **Fireplace:** 0 |
| **Deed Page:** 7427 | **Beds:** 2 |
| **Deed Date:** | **Baths:** 1 |



[24] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

Site Analysis[25]:


[25] Graphic by Author

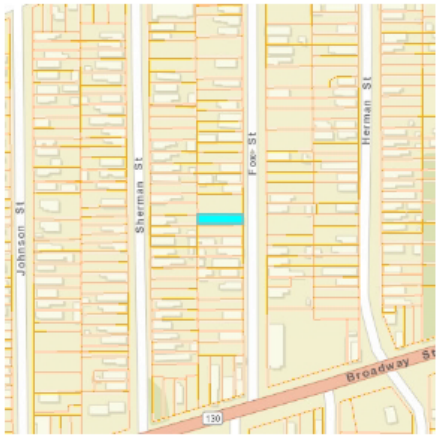
52 Fox Street[26]:


[26] Photos from Google Street View and Google Earth. Retrieved 11-25-2016.

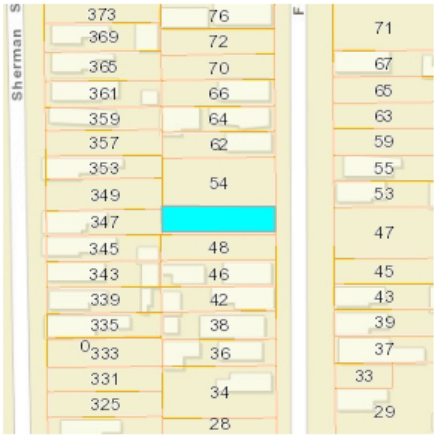
Parcel Information[27]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
10/31/2016 2:48:20 PM




Parcel Overview Map




Parcel Detail Map

**PIN:** 14020011143000002001000

**SBL:** 111.43-2-1

**Address:** 52 FOX

**Owner 1:** SMITH ROOSEVELT & W

**Owner 2:**

**Mailing Address:** 52 FOX

**City/Zip:** BUFFALO NY 14212

**Municipality:** City of Buffalo

**Property Class:** 210

**Class Description:** R - 1 Family Res

**Front:** 30

**Depth:** 132

**Deed Roll:** 1

**Deed Book:** 08519

**Deed Page:** 00573

**Deed Date:**

**Acreage:** 0.08730698154

**Total Assessment:** $11,500

**Land Assessment:** $1,700

**County Taxes:** $5,750

**Town Taxes:** $0

**School Taxes:** $0

**Village Taxes:** $0

**School District:** CITY OF BUFFALO

**Year Built:** 1900

**Sqft Living Area:** 1545

**Condition:** 0

**Heating:** 0

**Basement:** 0

**Fireplace:** 0

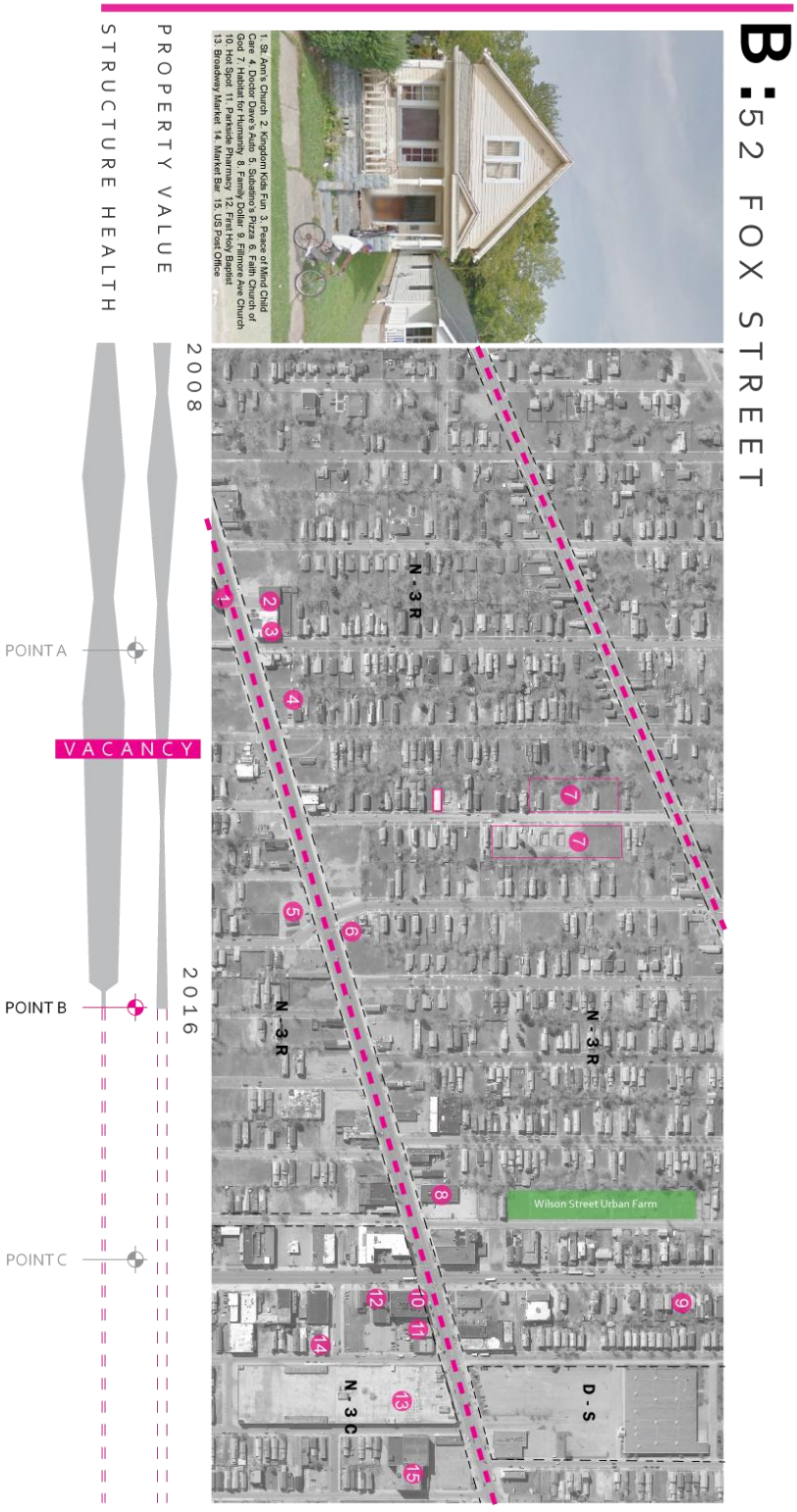
**Beds:** 4

**Baths:** 2



[27] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

Site Analysis[28]:




[28] Graphic by Author

76 School Street:[29]


[29] Photos from Google Street View and Google Earth. Retrieved 11-25-2016.

Parcel Information[30]:

## Erie County On-Line Mapping System
## Parcel Detail Report

Report generated:
12/5/2016 12:36:02 PM

Parcel Overview Map

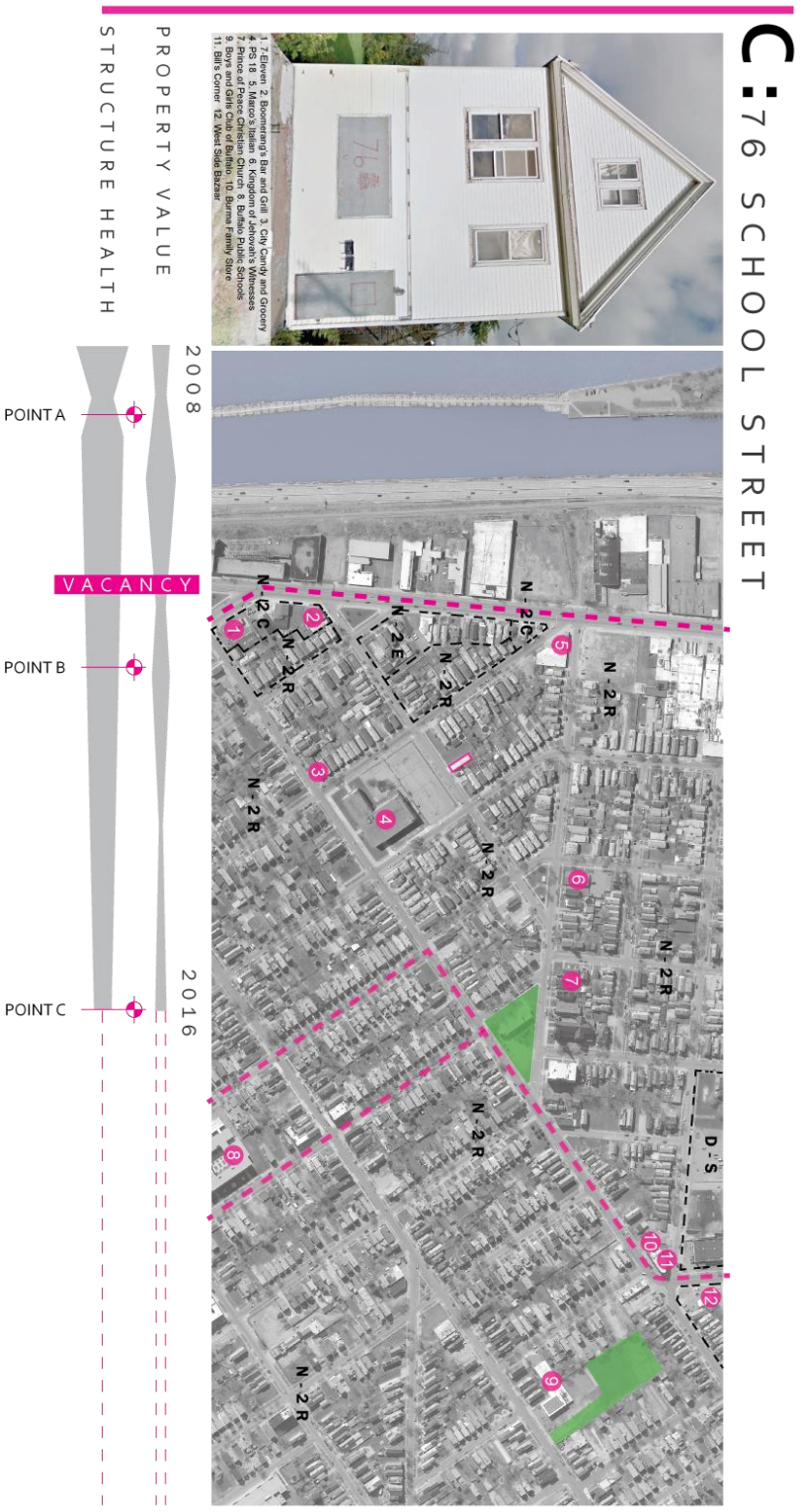
Parcel Detail Map

| | |
|---|---|
| **PIN:** 1402000994200013024000 | **Acreage:** 0.07197278264 |
| **SBL:** 99.42-13-24 | **Total Assessment:** $20,000 |
| **Address:** 76 SCHOOL | **Land Assessment:** $3,600 |
| **Owner 1:** CITY BUFFALO PERFECTING TITLE | **County Taxes:** $0 |
| **Owner 2:** INREM 45 S-292 OCT. 2012 | **Town Taxes:** $0 |
| **Mailing Address:** 65 NIAGARA SQ | **School Taxes:** $0 |
| **City/Zip:** BUFFALO NY 14202 | **Village Taxes:** $0 |
| **Municipality:** City of Buffalo | **School District:** CITY OF BUFFALO |
| **Property Class:** 311 | **Year Built:** 0 |
| **Class Description:** R - Res vac land | **Sqft Living Area:** 0 |
| **Front:** 28.75 | **Condition:** 0 |
| **Depth:** 114 | **Heating:** 0 |
| **Deed Roll:** 8 | **Basement:** 0 |
| **Deed Book:** 11237 | **Fireplace:** 0 |
| **Deed Page:** 1380 | **Beds:** 0 |
| **Deed Date:** | **Baths:** 0 |



[30] Source: Erie County Office of Geographic Information. http://gis2.erie.gov/HTML5/ErieCountyNY/

Site Analysis[31]:




[31] Graphic by Author