ABSTRACT

Title of Thesis: ADAPTIVE RE-USE OF THE SUBURBAN

OFFICE PARK: RECLAIMING THE

OBSOLESCENCE

Meghan Leahy, Master of Architecture & Master of Real Estate Development, 2017

Thesis Directed By: Professor

Brian Kelly, Architecture Program

On a nationwide scale, the office market is experiencing high office vacancy rates.

There are three main contributors for this repositioning in the office market.

A trend within the commercial real estate office market is the urbanization of offices buildings, and is creating vacancies in suburban office properties. The focus of office building design has always placed a high importance on the individual from the office cubicle, the single tenant users within the building, and the single use on the site.

Lastly the buildings inefficiency in terms of building systems, energy usage, and the standard building facade strategies. The suburban office market is experiencing even higher office vacancy than the urban office market. Montgomery County, MD has an oversaturation of office parks as a direct result of suburban sprawl and antiquated

zoning choices. This reinforces the isolation that is the office park typology.

This thesis will explore how to take the disconnected building typology of the suburban office park, and re-integrate it into the surrounding fabric. The transformation will include office space that emphasizes a collaborative work environment, housing that accommodates a diversity of incomes, street level retail and amenity spaces, and active green spaces that encourage neighborhood interaction.

ADAPTIVE RE-USE OF THE SUBURBAN OFFICE PARK: RECLAIMING THE OBSOLESCENCE

by

Meghan C. Leahy

Thesis submitted to the Faculty of the Graduate School of the University of Maryland, College Park, in partial fulfillment of the requirements for the degree of Master of Architecture and Real Estate Development 2017

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Chapter 1: Site Analysis of Executive Blvd.

Site Selection



Figure 1 A diagram of the sites evaluated for this thesis proposal and the criteria used to make a final selection. (Source: Google Maps, Author, Meghan Leahy,)

Prior to the selection of the White Flint site three sites were evaluated to serve as a platform for this thesis. All three sites that were evaluated had an existing office park on site with buildings that were either approaching the end of their useful life or past it. Office parks that have buildings in that condition qualified the park for an adaptive reuse strategy. The site selection process was approached through the lens of transit oriented design, and studies have shown successful mixed use developments have multiple modes of transportation or major highway access to and from the site. Street visibility and frontage along roads with a high daily traffic count was important since the addition of retail program would require it.

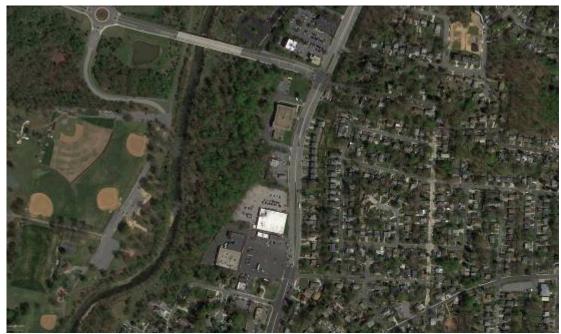


Figure 2 Riverdale Office Park in Prince George's County. (Source: Google Maps)

The site sits east of 201 Kenilworth Avenue, west of the Northeast Branch of the Anacostia River, south of Campus Drive, and north of 401 East West Highway.

The site strengths are strong visibility along 201 with a high traffic count, the site located within a quarter mile and five-minute walking radius of the proposed purple line, and the existing office parks buildings are strong candidates for adaptive reuse.

The site weaknesses are half the site is covered in heavily wooded wetlands along the North east Branch of the Anacostia River and not buildable area, Residential zones surround the area, Prince George's County does not good incentives for real estate development, the proposed Purple Line is not guaranteed to run along that corridor since the plans are not finalized, historically transit oriented development in Prince George's County has not had as high of a success rate as other surrounding counties.

The sites opportunities are the connection to the University and the current demand

for apartments, retail could be successful since so many existing employers and residents are in the area.

Site 2: Rock Spring Park

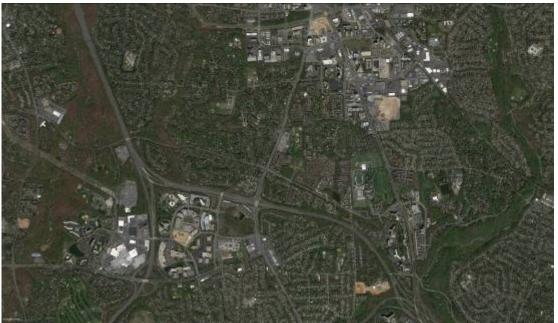


Figure 3 Rock Spring Office Park in Montgomery County. (Source: Google Maps)

The site is located within Montgomery County and sits between Old Georgetown Road, I 270 to the west, and residential to the north and south of the existing office park. The site strengths are that it is located within Montgomery County and has higher incentives for redevelopment, buildings are strong candidates for adaptive reuse, and the site is located off a major thoroughfare. The site weaknesses are that it is not located near public transportation other than bus access, surroundings are low density residential, not in the path of growth and redevelopment for the Rockville area. The sites opportunities are the surrounding zones would make the park a good candidate for a 1:1 zoning switch of office to residential which would fit in the surrounding fabric.

Site 3: Executive Boulevard



Figure 4 Executive Boulevard Office Park in Montgomery County. (Source: Google Maps, Author, Meghan Leahy)

The final option in the selection process was a site in Montgomery County, and was chosen due to it meeting the selection criteria. The site is an existing office park located in the North Bethesda area of Montgomery County, off Executive Boulevard. Major cities in the county surround the site such as Rockville, Wheaton, Silver Spring, Bethesda, and Potomac. The site sits east of the I 270 corridor, west of route 355 or Rockville Pike, and North of the 495-outer loop beltway.



Figure 5 3D view of Executive Boulevard Office Park in Montgomery County. (Source: Google Maps, Author, Meghan Leahy)

The site is located along Executive Boulevard and consists of thirteen parcels of land that total ninety size acres in total. Currently, the site is an existing office park under review for rezoning due to the high vacancy in the office market in Montgomery County, but more importantly within the park itself. Vacancy rates are set to increase due to government leases expiring and office downsizing within the park, as well as the park being zoned as an isolated single use. In Montgomery County, there are studies proposing a rezoning of the park and an integration of various mixes. The office park currently sits with a high vacancy rate, and the county recognized a need to study the area. A study produced a new sector plan calling for a division of zones to encourage an inclusion of uses. Sector plans have identified the need to reestablish an urban center for businesses and residences to promote the New Urbanist approach of live work play. The park suffers from a lack of connection within the urban fabric of the area.

Site Analysis

Regional Existing Conditions:

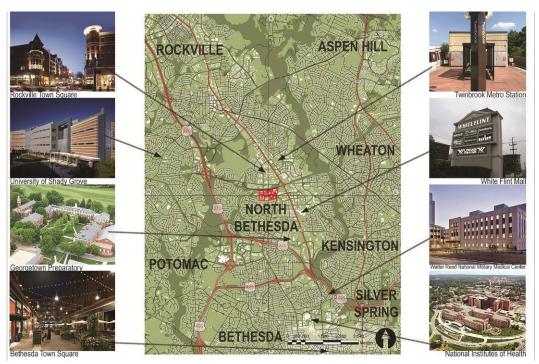


Figure 6 Base map of the regional area highlighting the site and landmarks. (Source: Author, Meghan Leahy)

Landmarks to the north are downtown Rockville and the Twinbrook metro station. A landmark to the west is the University of Shady Grove campus. A landmark to the east is the remnants of the White Flint Mall. Landmarks south of the site are Georgetown Preparatory School, downtown Bethesda, Walter Reed National Military Medical Center, National Institute of Health.

Existing Conditions on a Local Scale:

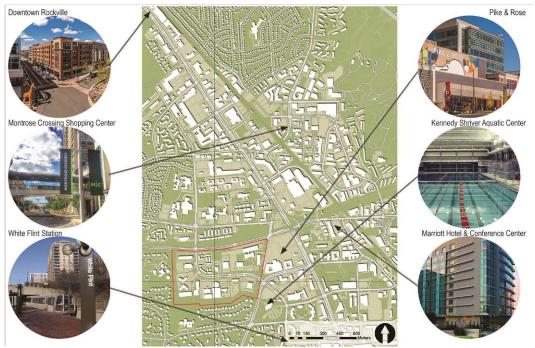


Figure 7 Base map of the local area highlighting the site and landmarks. (Source: Author, Meghan Leahy)

The office park is near by some of the area's major landmarks in the Rockville and Bethesda area. Landmarks to the north are downtown Rockville, Montrose Crossing Shopping Center along the Rockville Pike. Landmarks to the west are the White Flint metro station, the newly developed Pike and Rose center, the Kennedy Shriver Aquatic Center, and the Marriot Hotel and conference center.

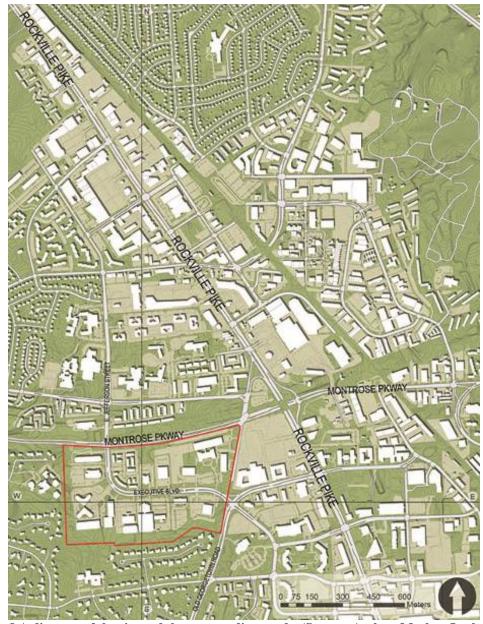


Figure 8 A diagram of the site and the surrounding roads. (Source: Author, Meghan Leahy)

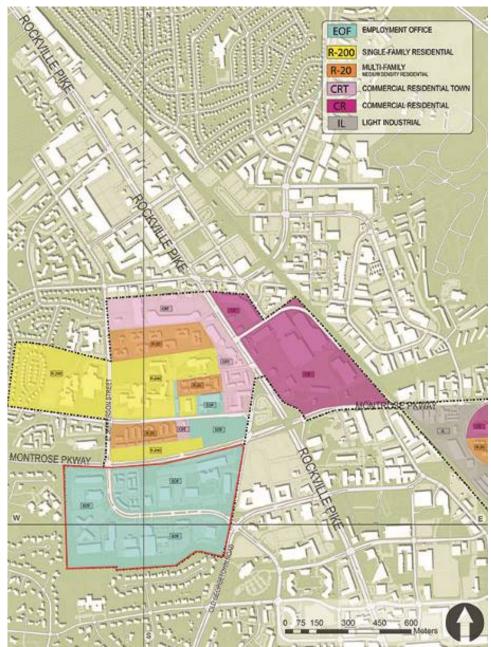


Figure 9 A diagram of the site the proposed sector 2 Plan for the White Flint area. (Source: Author, Meghan Leahy)

The site is just south of the Montrose Parkway and west of Old Georgetown Road. The site is divided in two by the five-lane parkway named Executive Boulevard. In Montgomery County, there are studies out proposing a rezoning of the park and an integration of various mixes. The office park currently sits with a high vacancy rate, and the county recognized a need to study the area. A study produced a new sector

plan calling for a division of zones to encourage an inclusion of uses. Sector plans have identified the need to reestablish an urban center for businesses and residences to promote the New Urbanist approach of live work play.

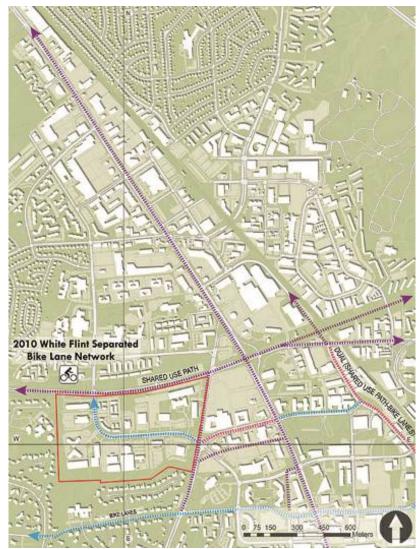


Figure 10 Base maps highlighting the 2010 bike paths and shared roadways plan. (Source: Author, Meghan Leahy)

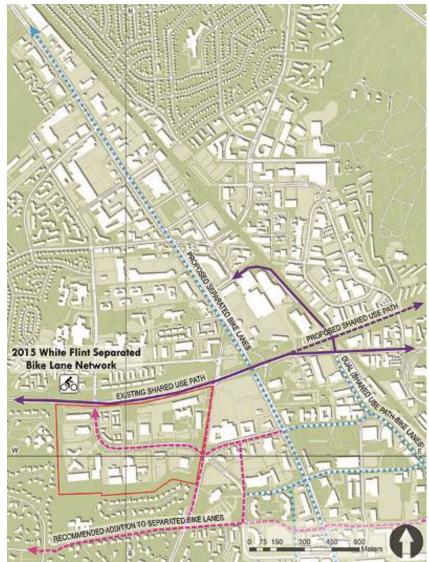


Figure 11 Base maps highlighting the 2015 bike paths and shared roadways plan. (Source: Author, Meghan Leahy)

The White Flint Sector 2 plan called for a reevaluation of the bike and shared use paths plan originally in the White Flint Sector plan. The updated plan is placing a greater emphasis on the paths having an additional bike lane that is separated from the road. The updated plan is encouraging Executive Boulevard to incorporate this into the roadways within the site.

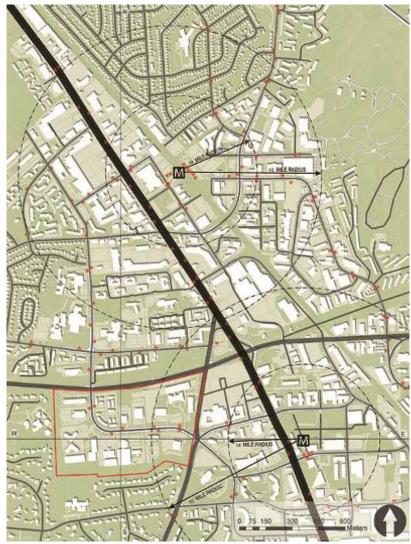


Figure 12 Base maps highlighting the major roads and public transportation surrounding the site. (Source: Author, Meghan Leahy)

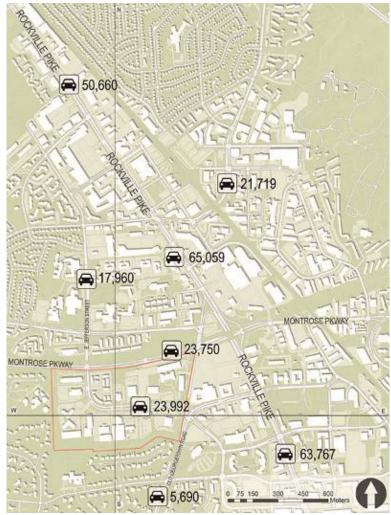


Figure 13 Base maps highlighting the traffic counts surrounding the site. (Source: Author, Meghan Leahy)

The site is in an area that is heavily car centric, but does offer alternative modes of transportation. The White Flint metro station is within a quarter mile and five-minute walking radius. The site has easy access to bus transportation and is well equipped with multiple bus stop within the site where the route 5 bus line stops. The traffic counts surrounding the site identify Rockville Pike as a major roadway in the area. Executive Boulevard and Montrose Parkway are nearly identical in traffic counts and could be interpreted as Executive Boulevard is used as a cut through to Montrose Parkway off Old Georgetown Road.

Neighborhood Existing Conditions:

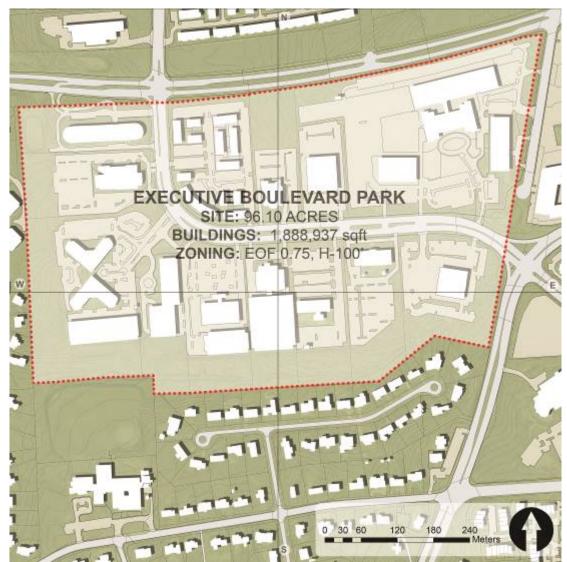


Figure 14 Base map identifies the entirety of the site with the details describing the acreage, total building square footages, and the existing zoning. (Source: Author, Meghan Leahy)

The site is bisected by Executive Boulevard and consists of thirteen parcels of land that total ninety-six acres in total. The buildings on site make up 1.8 million square feet of built out square feet. The site is listed as an EOF zone which is primarily an employment zone.

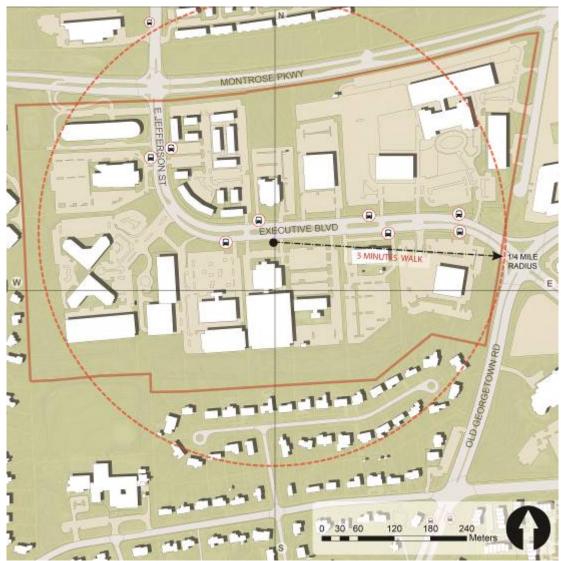


Figure 15 Base map highlighting the bus loop that runs through the site and the site walking radius. (Source: Author, Meghan Leahy)

As previously mentioned, the site has easy access to bus transportation and is well equipped with multiple bus stops (Figure 15), where the route 5 bus line runs through the site. The entirety of the site is within a quarter mile and five-minute walking radius from edge to edge. The site is not considered to be a pedestrian friendly area. The speed at which cars drive down Executive Boulevard and the width of sidewalks does not encourage pedestrian movement.

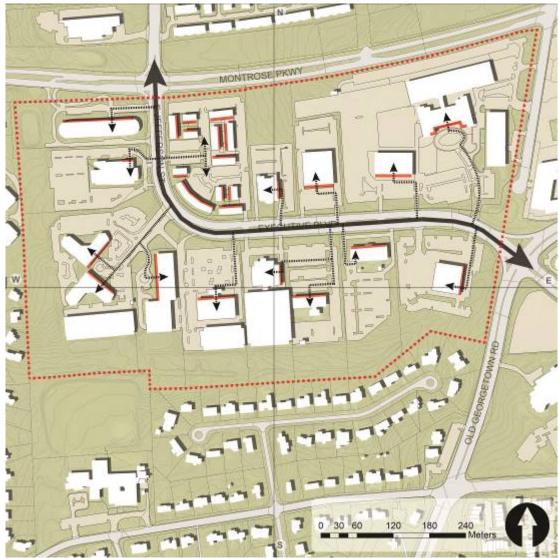


Figure 16 Base map highlighting the building frontages and true entrances. (Source: Author, Meghan Leahy)

The thirteen parcels on site have either a single building or multiple buildings within them. The fronts of most buildings (Figure 16) does not face Executive Boulevard directly, and in some case the front of the building only acts as a fake façade. The main entrance points are identified and highlight the main point of entry as being either on the side or the back of the building.

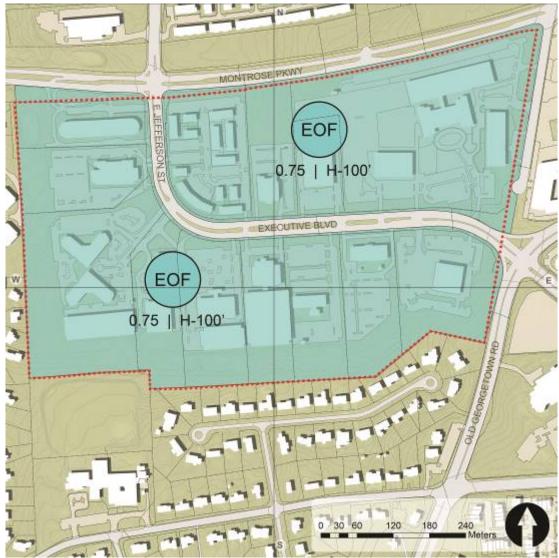


Figure 17 Base map highlighting the existing zoning use for the Executive Boulevard Office Park. (Source: Author, Meghan Leahy)

The site is zoned for Employment (Figure 17). Office and Professional is listed as permitted use type with the specifics being Life Sciences, Office, and Research and Development. Medical and Dental is listed as permitted use type with the specifics being Clinic (Up to 4 Medical Practitioners), Clinic (More than 4 Medical Practitioners), Medical, and Dental Laboratory.

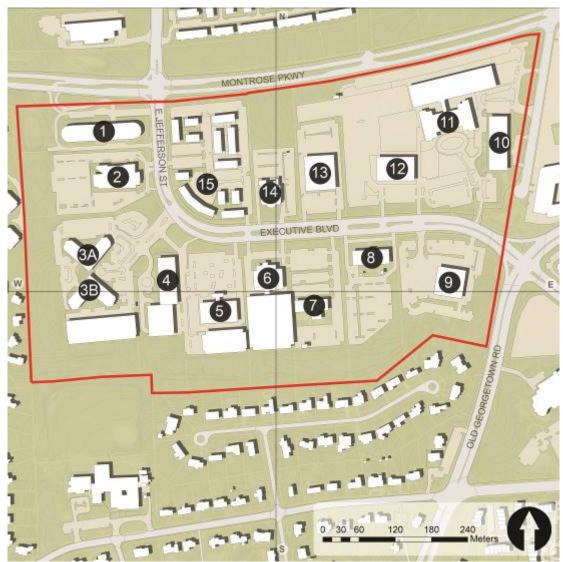


Figure 18 Base map highlighting the buildings on site. (Source: Author, Meghan Leahy)

Executive Boulevard is a collection of 13 individually owned parcels of land, and total to 27 buildings and 5 parking structures. The buildings are identified as 16 different properties based on individual ownership.

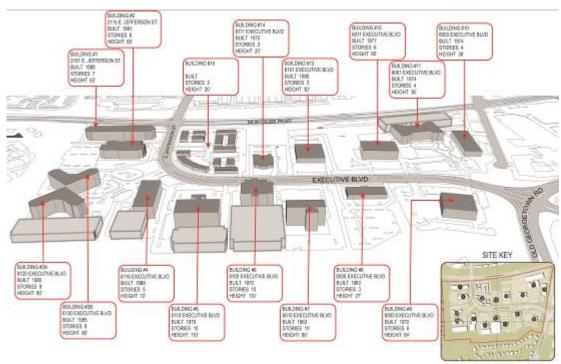


Figure 19 3D view of the site highlighting the buildings on site with building details (Source: Author, Meghan Leahy, Data: Costar)

	Property	Land SQFT	Built	Renovated	Construction Type	Stories	SQFT	Floor Spans	S to S	Bay Size	# Elevators
1	2101 E Jefferson St - Executive Office Center	180,774	1989	N	Reinforced Conc.	7	222,462	31,000	9'		7
2	2115 E Jefferson St	242,632	1981	N	Reinforced Conc.	6	128,645	20,898	10'		3
3	6120 Executive Blvd - Executive Plaza South	563,231	1985	Y		8	177,006	19,705		30'W x 32'D	4
4	6130 Executive Blvd - Executive Plaza North	562,837	1985	Y	Reinforced Conc.	8	151,451	18,643		30'W x 32'D	4
5	6116 Executive Blvd	210,830	1989	N	Steel	8	209,717	25,938	9'		5
6	6110 Executive Blvd	271,814	1970	N	Steel	10	203,000	22,373	11'		4
7	6111 Executive Blvd - Kaiser	174,240	1970	N		2	31,892	15,646			0
8	6100 Executive Blvd - Executive Bldg	192,971	1979	N		8	124,241	15,530			3
9	6010 Executive Blvd	234,789	1963	N	Steel	10	134,450	34,450	9'		3
10	6101 Executive Blvd - Atrium Building	131,987	1980	N	Reinforced Conc.	3	81,652	27,000			0
11	6006 Executive Blvd	224,770	1963	N	Reinforced Conc.	3	48,600	16,200			1
12	6011 Executive Blvd - Energy Bldg	133,161	1977	N		6	141,592	26,551			3
13	6000 Executive Blvd	47,144	1972	Y	Steel	6	124,388	20,666	9'		3
14	6003 Executive Blvd - #6	364,526	1974	N	Reinforced Conc.	4	109,841	29,429	9'		0
15	6223-6333 Executive Blvd	292,734	1980	N	Masonry	2	139,295		9'		0

Figure 20 Property Details for buildings in the Executive Boulevard Office Park. (Source: Author, Meghan Leahy, Data: Costar)

The table (Figure 20) lists the properties on site with addresses, total land square footage, the year it was built, if the building has been renovated since constructed, the type of construction used to build the structure such as concrete or steel reinforced, how many stories the buildings have, total building square footage, total square footage for individual floor plates, floor to floor height, typical bay dimensions, and number of elevators within the building.



Figure 21 Base map highlighting the existing building structure use. (Source: Author, Meghan Leahy)

The Executive Boulevard Office Park has a division of land uses throughout the park.

The two primary uses are listed and Commercial and Industrial. The primary land uses surrounding the site are residential low density, medium density, and town houses. A scattering of commercial and institutional surround the site.

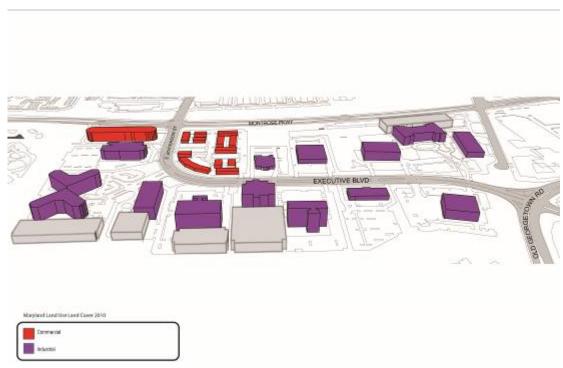


Figure 22 3D view of the site highlighting the existing building structure use. (Source: Author, Meghan Leahy)

The 3D view clearly defines the cluster of commercial and the far north west quadrant of the site, and currently medical and dental office tenants populate the buildings.

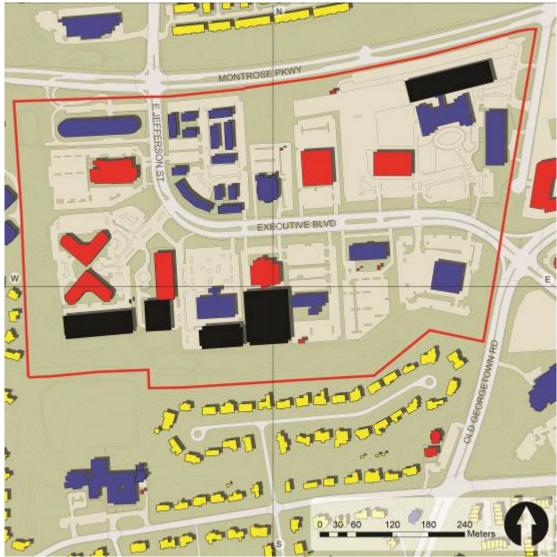


Figure 23 Base map highlighting the existing building functional use. (Source: Author, Meghan Leahy)

The buildings are listed as commercial and institutional. The primary building functions are categorized under 2000 General sales or services and 6000 Education, public admin, health care, and other institutions.

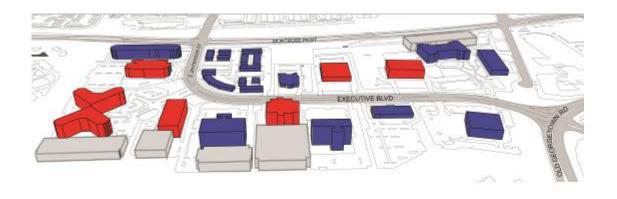




Figure 24 3D view of the site highlighting the existing building function. (Source: Author, Meghan Leahy)

EXISTING USES & BUILDING FUNCTION BREAKDOWN 2000 General sales or services 6000 Education, public admin., health care, and other inst. 2160 Health and personal care 6100 Educational services 2200 Finance and Insurance 6110 Nursery and preschool 2230 Investment banking, securities, and brokerages 6200 Public administration 2240 Insurance-related establishment 6511 2250 Fund, trust, or other financial establishment 6512 Family planning and outpatient care centers 6513 2400 Business, professional, scientific, and technical services Medical and diagnostic laboratories 6562 Child day care 2410 Professional services Legal services 2411 6800 Associations, nonprofit organizations, etc. 2412 Accounting, tax, bookkeeping, payroll services 2416 Research and development services (scientific, etc.) 2421 Office and administrative services

Figure 23 Breakdown of the land use graphic codes on site. (Source: Author, Meghan Leahy)

The building function codes of 2000 General sales or services and 6000 Education, public admin, health care, and other institutions approximately divides the office park. A further breakdown of items within the two categories identifies the park as much of general sales and services based on total building square footages. This building functions divided the site and places the buildings with health care building functions along the northern edge of the site.



Figure 25 Base map highlighting the environmental conditions. (Source: Author, Meghan Leahy)

Executive Boulevard acts as a divider between the park and is evident in some of the environmental conditions on site. The topography identifies the highest point on site as the northern edge along Montrose Parkway. There is a slow decent from the top of Montrose Parkway to the middle of the site which is Executive Boulevard itself. The topography from the southern edge of Executive Boulevard to the southernmost edge of the site is approximately a 40'-0" difference. This difference creates an area on the site where water naturally pools and is currently a heavily wooded portion of the site.

Test Comparable

The Montgomery County area has a proven record of successful mixed use developments. A 1:1 comparison of four local developments has identified urban planning strategies used. The four local developments compared to Executive Boulevard are Bethesda Row, Rockville Town Square, Pike and Rose, and Potomac Park Place. The items compared make up the urban fabric of the development, and are the regulating grids, street widths and organization, building placement and sizes, and open space configurations.

Bethesda Row



Figure 26 A one to one comparison of the existing Executive Boulevard Office Park and Bethesda Row. (Source: Author, Meghan Leahy)

Bethesda Row is in Bethesda, Maryland and is considered a successful mixed use development. The development consists of a few pedestrian friendly blocks comprised of multiple ground floor retailers with residential above. The main street is not typical as it has inverted the pedestrian experience, and placed the open space in between buildings. The open space acts as a walkable alleyway surrounded by restaurants and shopping retailers.

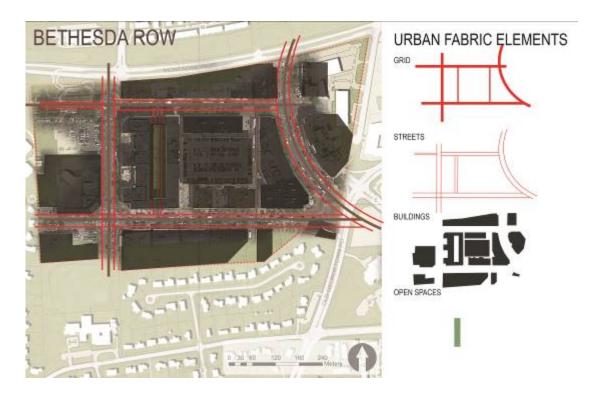


Figure 27 A one to one comparison of the existing Executive Boulevard Office Park and Bethesda Row highlighting the urban fabric. (Source: Author, Meghan Leahy)

The urban fabric of Bethesda Row is distinct in the way the "main street" is not a visible street scape and is off a main vehicular street. This switch emphasizes the pedestrian experience.

Rockville Town Square



Figure 28 A one to one comparison of the existing Executive Boulevard Office Park and Rockville Town Square. (Source: Author, Meghan Leahy)

Rockville Town Square is in Rockville, Maryland and considered a successful mixed use development. The development consists of a few pedestrian friendly blocks comprised of multiple ground floor retailers with residential above. Two pedestrian friendly streets are off a larger street primarily designated for vehicles. The two streets enclose the open space that acts as a town square.

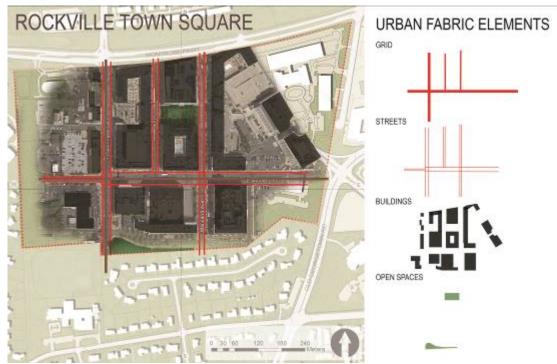


Figure 29 A one to one comparison of the existing Executive Boulevard Office Park and Bethesda Row highlighting the urban fabric. (Source: Author, Meghan Leahy)

A regulatory grid of streets organizes the urban fabric of Rockville Town Square. The dimensions for the primarily street width distinguishes pedestrian and primarily vehicular traffic.

Pike and Rose



Figure 30 A one to one comparison of the existing Executive Boulevard Office Park and Pike and Rose. (Source: Author, Meghan Leahy)

The new Pike and Rose development is in North Bethesda, Maryland and considered a successful mixed use development. The development consists of a few pedestrian friendly blocks comprised of multiple ground floor retailers with residential above. Although this is a new development, the parcels used to create this compact development are small, and the urban fabric is relative to the site constraints.

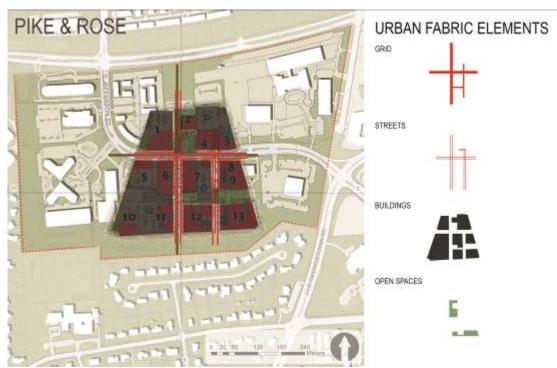


Figure 31 A one to one comparison of the existing Executive Boulevard Office Park and Pike and Rose highlighting the urban fabric. (Source: Author, Meghan Leahy)

Pike and Rose is organized by a regulatory street grid with a North and South Axis.

The vehicular streets surrounding the development were existing and the regularized pedestrian streets inside the development do not correspond to the existing street grid.

The scale of this development is small in terms of the streets and building footprints used. The open spaces are tucked away between buildings and spaced to pull a user through the various areas of the site.

Potomac Park Place

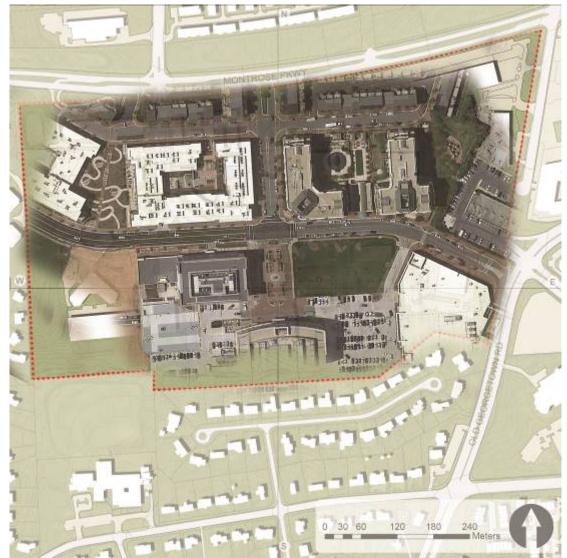


Figure 32 A one to one comparison of the existing Executive Boulevard Office Park and Potomac Park Place. (Source: Author, Meghan Leahy)

The new Potomac Park Place development is in Potomac, Maryland and considered a successful mixed use development. Phase one of the development consists of a few pedestrian friendly blocks comprised of mixed use buildings with residential above, office buildings, and townhouses.



Figure 33 A one to one comparison of the existing Executive Boulevard Office Park and Potomac Park Place highlighting the urban fabric. (Source: Author, Meghan Leahy)

The urban fabric of Potomac Park Place is organized by a division of the site with two East-West axis main streets. The two main streets are different in nature as they have two different programmatic elements lining them. The first main street is centrally located and acts as the main access to and from the site, and is primarily the retail corridor of the site. The street is lined with ground floor retail with residential above and the end of the axis leads to the main retail anchor. The second main street is lined with residential. The building composition creates distinguishable sectors of the development, and varies between height for different pedestrian experiences. The composition of open spaces is not of a formal geometry, but rather placed based on adjacent programmatic needs.

Assumptions and Explorations

The assumptions and explorations below are drawn from the direct site analysis of Executive boulevard, future sector plans for the area, and 1:1 comparisons of other successful developments.

Test Comparable Lessons

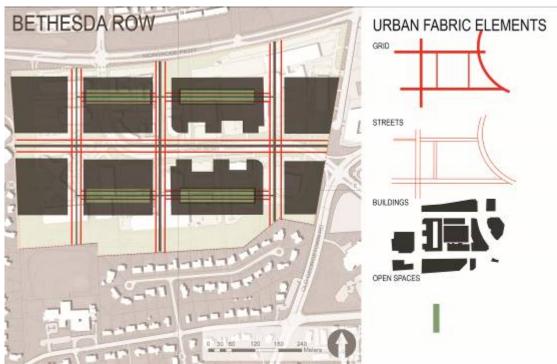


Figure 34 A one to one comparison of the existing Executive Boulevard Office Park and Bethesda Row and the lessons applied to the site. (Source: Author, Meghan Leahy)

The diagram (Figure 34) depicts the urban fabric from Bethesda Row and applying it to the Executive Boulevard Office Park. The direct 1:1 placement of Bethesda Row's urban fabric resulted in a regulated site organization. The street grid established a hierarchical street layout for vehicular access. Following a consistent street pattern such as Bethesda Row created multiple points of entry to the site. Pulling the open space off the primarily vehicular street would leave the north and south for informal open spaces while protecting a network of pedestrian protected open spaces.



Figure 35 A one to one comparison of the existing Executive Boulevard Office Park and Rockville Town Square and the lessons applied to the site. (Source: Author, Meghan Leahy)

The diagram (Figure 35) depicts the urban fabric from Rockville Town Square and applying it to the Executive Boulevard Office Park. The direct 1:1 placement of Rockville Town Square's urban fabric resulted in a regulated site organization. The street grid established a hierarchical street layout for vehicular access. The primary roads line the edge of the site while the tertiary streets connect them. The open spaces between tertiary streets start to create a network of "town squares".

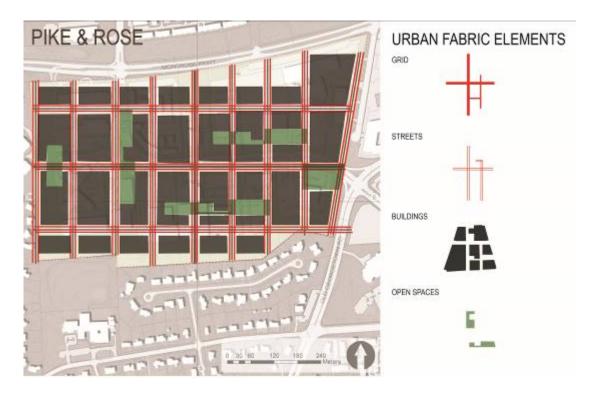


Figure 36 A one to one comparison of the existing Executive Boulevard Office Park and Pike and Rose and the lessons applied to the site. (Source: Author, Meghan Leahy)

The diagram (Figure 36) depicts the urban fabric from Pike & Rose and applying it to the Executive Boulevard Office Park. The direct 1:1 placement of Pike & Rose's urban fabric resulted in a regulated site organization. The street grid created a smaller network of blocks or parcels within the site. The open spaces are not placed in a formal pattern and cross between grid lines creating interaction across the site in an informal way.



Figure 37 A one to one comparison of the existing Executive Boulevard Office Park and Potomac Park Place and the lessons applied to the site. (Source: Author, Meghan Leahy)

The diagram (Figure 37) depicts the urban fabric from Potomac Park Place and applying it to the Executive Boulevard Office Park. The direct 1:1 placement of Potomac Park Place's urban fabric resulted in a site organization based on programmatic types. The south edge of the site has a layout based on residential dimensions and smaller scaled street network, based on the building use surrounding them. The north edge of the site becomes the building programed for public use. A main retail corridor running from the East-West of the site creates a pedestrian friendly main street.

Existing Zoning and Land Use Strategies



Figure 38 Base maps describing the existing (left) and proposed zoning (right) conditions. (Source: Author, Meghan Leahy)

The site is currently listed as zoned for Employment and has Office and Professional (EOF) and Medical and Dental listed as permitted use types. The proposed White Flint Sector 2 plan is calling for a reorganization of uses within the Executive Boulevard Office Park. The future zoning changes are incorporating the addition of Commercial Residential (CR) and Commercial Residential Town (CRT). This proposal of additional zoning for commercial and residential is placed on the north and south east portion of the site. The placement of these zones is in relation to the adjacencies of mixed use development. Retaining the EOF zone on site could be due to the remaining buildings within the zone are not past their useful life span.

Adaptive Reuse Strategies



Figure 39 A diagram identifying the buildings (red) approaching the end of their useful life. (Source: Author, Meghan Leahy)

A full analysis of the buildings on site identified a division of buildings that are approaching the end of their useful life and buildings that are not expected to reach that until approximately 2040. The removal of the buildings that are approaching the end of their useful life would open the right side of the site, and create an opportunity for approximately 48 acres of potential buildable site area.

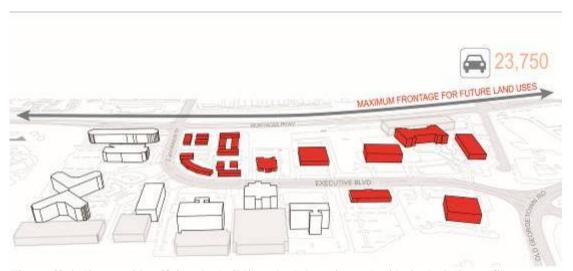


Figure 40 A diagram identifying the buildings (red) low rise and mid-rise buildings. (Source: Author, Meghan Leahy)

A full analysis of the buildings on site identified a division of buildings that are considered low-rise office buildings and mid-rise buildings. Retaining the mid-rise buildings would create an opportunity for them to be used in an adaptive reuse strategy. The removal of the low-rise buildings on site would open the right side of the site, and create an opportunity for retail frontage along Montrose Parkway.

Chapter 2: Programmatically Moving Away from Obsolescence <u>Program Goals and Vision</u>

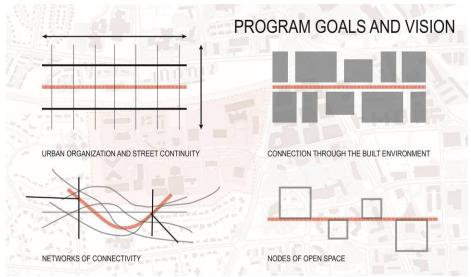


Figure 41 A diagram identifying program goals and vision. (Source: Author, Meghan Leahy)

The vision for the adaptive re-use of Executive Boulevard is to reintroduce the existing office park back into the fabric of the North Bethesda area. The office park acts as an island, as it is surrounded on three edges by single use zoning and adjacent to a growing mixed use environment. The program intends to reconnect a once exclusive zone within the fabric of the city of Rockville. Deconstructing a single use zone by integrating a mix of uses that promote formal and informal connectivity between residents and community members. The program will be dispersed within a new pedestrian friendly street network that will support a mix of housing, retail, and office.

Constraints and Opportunities

Market Analysis

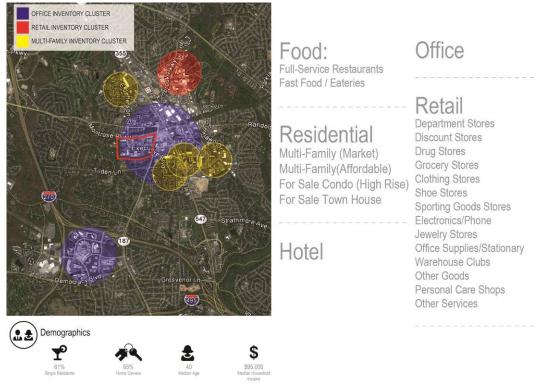


Figure 42 A diagram identifying market analysis information from data collected. (Source: Author, Meghan Leahy, Maps: Google Earth, Data: Co-Star and U.S. Census)

Conducting a market analysis of the North Bethesda and Rockville area afforded the study of programmatic element that the area could benefit from. The market analysis studied the area to gain a better understanding of the target audience in terms of future residents, patrons, and possible tenants which later informed the user experience. The results of the analysis also revealed a demand for the proposed program of housing, retail, and office, and offered insight into a potential phasing strategy.

Program Supported by Market Analysis



Figure 43 A diagram identifying market analysis information from data collected. (Source: Author, Meghan Leahy, Maps: Google Earth, Data: Co-Star)

Evaluating the housing market identified households are expected to double over the next twenty years. The increase in households supports the program proposal of multiple types of housing. Evaluating the office market identified potential tenants in professional and technical services, healthcare, and retail industries. The demand for spaces is low, but supports the program proposal of office. Evaluating the Retail market identified a high demand for retail space and potential tenants in the apparel, food, and home furnishing industries. The demand supports the program proposal for retail spaces.

Program Distribution

Y Pro	gram ar		ng Delivery					D		
	Phase 1				Phase 2			Phase 3		
	YR 1	YR 2	YR3	YR 4	YR 5	YR 6	YR7	YR 8	YR9	
Office				Х			Х			
Retail			Х		Х		Х		х	
Food			Х		Х		х		Х	
Residential	Х		Х		Х		Х		х	
Hotel								Х		
				•			V			

Figure 44 A diagram identifying potential phasing strategy for proposed program. (Source: Author, Meghan Leahy)

The market analysis conducted identified the demand and future demand for the proposed program. The site is approximately ninety-four acres, and a successful conversion of the existing office park should be done through phasing. The analysis conducted supports programmatic choices being introduced to the site over a duration of years. The market could not absorb a full build out of the site all at once. Future building deliveries must reflect the market demand at the time. A successful phasing strategy will avoid buildings sitting vacant, as that is part of the current problem with the existing office park.

<u>User Experience</u>



Figure 45 A diagram identifying potential users. (Source: Author, Meghan Leahy)

The proposed program and users are based on the market analysis conducted. The U.S. Census identified the current median age as forty, and the predicts the millennial generation as much of the incoming people. The users listed are representations of potential residents, patrons, or tenants. The profiles used describe the experience of the program have representations of typical space requirements associated with programmatic elements.

Andrea



Figure 46 A diagram identifying potential user and typical program space requirements. (Source: Author, Meghan Leahy)

Andrea represents a potential restaurant owner and future tenant. An element of the proposed program is retail, and within the mixed-use buildings the ground floor will offer opportunities for restaurateurs to utilize the space. Typical dimensions for a block of ground floor retail spaces within a mixed-use development are approximately 325' by 70' and typical square footages for individual tenant spaces range between 1400 square feet to 4200 square feet.

Chin and Mai



Figure 47 A diagram identifying potential user and typical program space requirements. (Source: Author, Meghan Leahy)

Chin and Mai represent a potential future resident of the development. A category within the targeted audience is empty nesters. An element of the program is housing, and condos are within the category of housing. Typical dimensions for a condominium building are one bar that is 65' to 70' deep and the length is undefined. A comfortable dimension of length for this thesis will be between 325' to 400' based on precedent analysis of block sizes. Typical unit dimensions vary between 28' to 31' in depth and 20' to 40' for studios, one bedroom, and two bedroom units



HOUSING: WeLive | Mico Units

Figure 48 A diagram identifying potential user and typical program space requirements. (Source: Author, Meghan Leahy)

Lucy, Jake, and Sarah represent potential future residents of the communal housing offered within the development. A category within the targeted audience are millennials. An element of the program is housing, and communal housing options are within the category of housing. Typical dimensions for this type of building are one bar that is 80' to 90' deep and the length is undefined. A comfortable dimension of length for this thesis will be between 325' to 400' based on precedent analysis of block sizes. Typical unit dimensions vary between 25' to 30' in depth and 16' to 20' for units. This building typology works well with office buildings being adaptive reused.

The Carson's



HOUSING: TOWN HOUSE

 $\label{thm:control} \textbf{Figure 49 A diagram identifying potential user and typical program space requirements.} \\ \textbf{(Source: Author, Meghan Leahy)}$

The Carson's represent a potential future resident of the development. An element of the program is housing, and townhouses are within the category of housing. Minimal dimensions for a townhouse in an urban or new urbanist neighborhood are 32' deep and the length is as little as 16' to 18'. These dimensions will accommodate two bedrooms, three bedrooms, and four bedrooms' townhouses depending on the height of the unit.

Matt



OFFICE: CO-WORKING

Figure 50 A diagram identifying potential user and typical program space requirements. (Source: Author, Meghan Leahy, Floor Plans: WeWork Website)

Matt represents a potential future patron and resident of the development. He lives within a multi-family and utilizes the co-working office space within an office building. An element of the program is office, and communal office spaces are within the category of office. Typical dimensions for this type of building are one bar that is 80' to 90' deep and the length is undefined. A comfortable dimension of length for this thesis will be between 325' to 400' based on precedent analysis of block sizes. This building typology works well with office buildings being adaptive re-used.

Neha and Sanjal



Figure 51 A diagram identifying potential user and typical program space requirements. (Source: Author, Meghan Leahy)

Neha and Sanjal represent a potential retail business owner and future tenant. An element of the proposed program is retail, and within the mixed-use buildings the ground floor will offer opportunities for retail business owners to utilize the space.

Typical dimensions for a block of ground floor retail spaces within a mixed-use development are approximately 325' by 70' and typical square footages for individual tenant spaces range between 1400 square feet to 4200 square feet.

Program Precedent Analysis

Use Comparisons

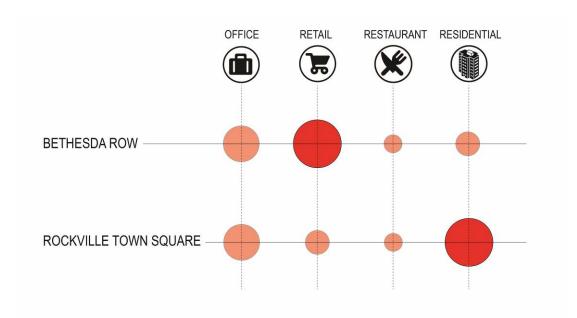


Figure 52 A diagram comparing Bethesda Row and Rockville Town Square. (Source: Author, Meghan Leahy)

Bethesda Row and Rockville Town Square are two successful developments with similar programmatic elements to this thesis proposal. The two developments have a mix of uses that are comprised of office, retail, restaurants, and residential. While analyzing the percentages of uses between both the numbers revealed Bethesda row as having a higher square footage of retail, and Rockville Town Square has a higher square footage of residential.

Visual Analysis

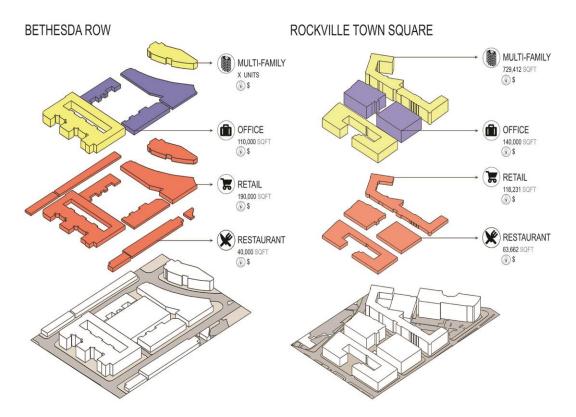


Figure 53 A diagram comparing Bethesda Row and Rockville Town Square. (Source: Author, Meghan Leahy)

Analyzing the programmatic layout of Bethesda Row and Rockville Town Square revealed site strategies that encourage the pedestrian experience. The most effective technique is the traditional pedestrian passage in which a carefully detailed walkway-often articulated with trellises, fountains, stairways to second-floor apartments, and landscaping connects the parking to the street. The parking within the two developments were strategically placed within the blocks rather than on the periphery. Bethesda row placed an above ground parking in the center, and Rockville Town Square on the two outer edges. Both encourage the patron to park and walk through a pedestrian passage to experience the ground floor retail or the town square.

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¹ Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, Suburban nation: the rise of sprawl and the decline of the American Dream (New York: North Point Press, 2000).

Chapter 3: Urban Planning Precedent Analysis

Old Town Alexandria, Virginia

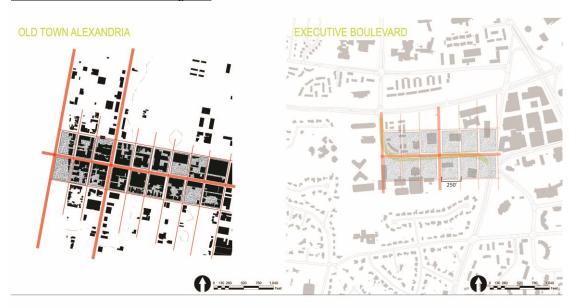


Figure 54 A one to one comparison of the existing Executive Boulevard Office Park and Old Town Alexandria and the lessons applied to the site. (Source: Author, Meghan Leahy)

Old Town Alexandria is an area of Alexandria is organized by a decumanus and cardo street network. The main street is named King Street and acts as a the decumanus. The placement of blocks off King Street creates a regulated grid of blocks, and each block is approximately 250'. King Street has retail frontage along the ground floor, and the terminus of the street is the open space within the neighborhood.

Leesburg, Virginia



Figure 55 A one to one comparison of the existing Executive Boulevard Office Park and Leesburg, Virginia and the lessons applied to the site. (Source: Author, Meghan Leahy)

Downtown Leesburg is a town center with a decumanus and cardo main street organization. The primary blocks surround the town center are 400' by 400' and the middle of the blocks contains above ground parking that allow for the buildings to hold the street edge. The parking acts as a way finding element, and leads the pedestrian from parking to the main street for the full pedestrian experience.

Rittenhouse Square, Philadelphia, Pennsylvania



Figure 56 A one to one comparison of the existing Executive Boulevard Office Park and Rittenhouse Square and the lessons applied to the site. (Source: Author, Meghan Leahy)

Rittenhouse Square is surrounded by blocks of approximately 900' in length. The uses that front the square are primarily restaurant oriented while the streets leading into the square are ground floor retail. This organization lends itself to the idea of the pedestrian is lead down the retail core to a main square. The square is not on the center axis, but rather to the far edge of the axis.

Georgetown, Washington, D.C.



Figure 57 A one to one comparison of the existing Executive Boulevard Office Park and Georgetown and the lessons applied to the site. (Source: Author, Meghan Leahy)

The Georgetown neighborhood has a street grid that consists of irregular block sizes but range between 200' to 400' block widths. The streets off the main street do not align on either side, but rather they are just off center.

Harvard Square, Cambridge, Massachusetts



Figure 58 A one to one comparison of the existing Executive Boulevard Office Park and Harvard Square and the lessons applied to the site. (Source: Author, Meghan Leahy)

The street network of Harvard Square is one of the oldest in the New England area, and dates to 1630. The block organization is centered around the main street name Mount Auburn Street, and the terminus of the street is Harvard Square. Secondary streets cross over Mt. Auburn street and define the average block sizes of 250'.



Figure 59 A one to one comparison of the existing Executive Boulevard Office Park and Bethesda Row and the lessons applied to the site. (Source: Author, Meghan Leahy)

Bethesda Row is positioned between two main streets and the secondary streets act as the retail cores. The flanking main streets allow for vehicles to get close enough to the blocks to promote entrance into the neighborhood, but the pedestrian experience happened on the secondary streets. The secondary retail streets offer on street parking as the street widths were made to accommodate pedestrians and vehicles. A main surface parking garage is tucked into the middle of the block which determined an extra wide block width, but allows people to park and walk the development for a full pedestrian experience.

Cleveland Park, Washington, D.C.

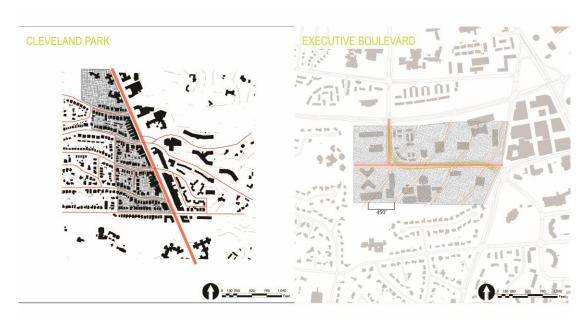


Figure 60 A one to one comparison of the existing Executive Boulevard Office Park and Cleveland Park and the lessons applied to the site. (Source: Author, Meghan Leahy)

The organization of the Cleveland Park neighborhood of Washington DC shows the main street acts as a division between street block typologies. The main street is a retail core but acts as a gathering space for the residents around. The open space is not a typical open square but rather a linear form of an open space. The surrounding block fabrics on either side of the street consist of high density neighborhoods, but vary between detached structures on one side of the street and large multi-family buildings on the other.



Figure 61 A one to one comparison of the existing Executive Boulevard Office Park and Rockville Town Square and the lessons applied to the site. (Source: Author, Meghan Leahy)

Rockville Town Square is organized like Bethesda Row in the sense that the pedestrian experience happens on the secondary streets. Main street allows for the vehicle to get close enough to the blocks to promote entrance into the neighborhood. Rockville Pike is the main street that is adjacent to the neighborhood, but pulls vehicle traffic off the Pike to the neighborhood. The development placed surface parking structures on the periphery of the development but still tucked within the center of the blocks. This strategy forced the people coming to the development to experience the full pedestrian experience.

Chapter 4: Urban Planning Principles

The urban planning principles listed were an exploration of the elements found within new urbanist planned neighborhoods, and have been collected to form a catalog that will inform future site strategies. They principles listed have come from the SmartCode, and the document is a form-based code that incorporates Smart Growth and New Urbanism principles. It is a unified development ordinance, addressing development at all scales of design, from regional planning on down to the building signage. It is based on the rural-to-urban transect rather than separated-use zoning, thereby able to integrate a full range of environmental techniques. The Transect Zone is most applicable to Executive Boulevard site within the Smartcode. Further division of the Transect Zone lists three categories as named general urban zone, urban center zone, and urban core zone. ²

- I. T-4 General Urban Zone consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, side yard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.
- II. **T-5 Urban Center Zone** consists of higher density mixed use building that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- III. **T-6 Urban Core Zone** consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings set close to the wide sidewalks. Typically, only large towns and cities have an Urban Core Zone.

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² Andres Duany, Jeff Speck, and Mike Lydon, *The Smart Growth Manual*, vol. 9.2 (New York: McGraw-Hill, 2010).

Block Organization

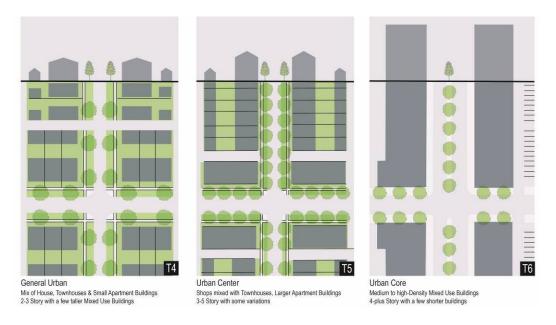


Figure 62 A series of diagrams identify three zones within the Transect Zone. (Source: Author, Meghan Leahy)

Blocks are broken down by types of neighborhoods the blocks reside within. A general urban block offers a mix of housing typologies such as townhouses, small apartment buildings, and 2-3 story with a few smaller mixed use buildings. An urban center block has a main road that is fronted by shops or ground floor retail with a 3-5 story multi-family above, and townhouses behind reside behind. The urban core is a block comprised of 4-plus storied medium to high density mixed use buildings.

Secondary Streets an On-street Parking

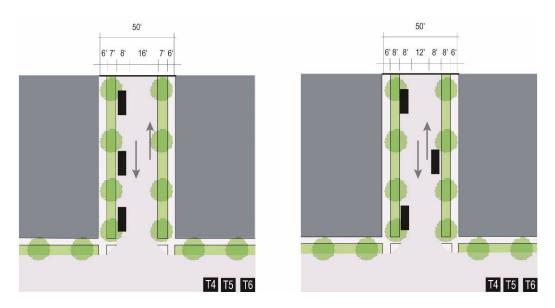


Figure 63 A series of diagrams identify comfortable street widths within the Transect Zone. (source: Author, Meghan Leahy)

Streets within the general urban, urban center, and urban core blocks can have a street network comprised of streets with a width of 50'. The 50' dimension can accommodate either one side of on-street parking or both. The flexibility can be seen in the drive aisle going from 12' to 16' for a street that offers a single or double parking lane of 8' wide. This street width dimension is comfortably used within housing blocks, but an average of 60'-80' was found in precedents along the main retail streets.

Nodes and Open Spaces

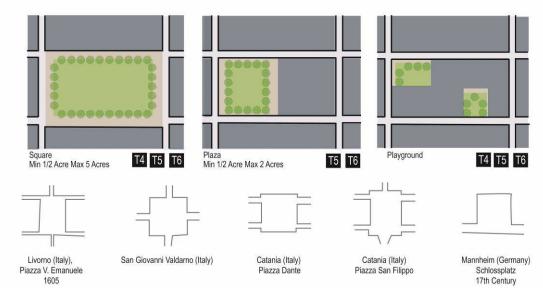


Figure 64 A series of diagrams identify nodes and open spaces within the Transect Zone, and historical open space form. (Source: Author, Meghan Leahy)

Open spaces found within the general urban, urban center, and urban core blocks are defined as squares, plazas, and playgrounds. The squares listed have a minimum of ½ acre and a max of 5 acres, the plazas listed have a minimum of ½ acre and a max of 2 acres, and the playgrounds listed do not have acreage requirements. Evaluating historical approaches to open spaces offered a variation on the configurations for urban spaces. The approach to the open spaces were orchestrated by the buildings that front the open space.

Pedestrian Scale Sidewalks

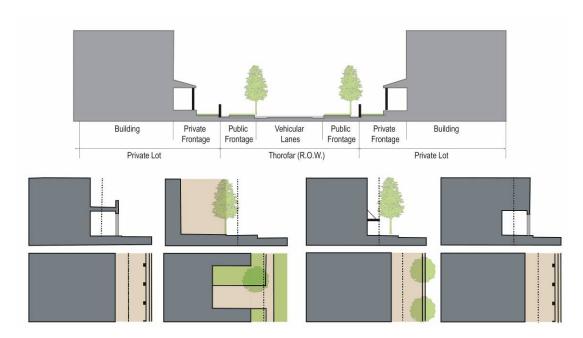


Figure 25 A series of diagrams identify comfortable pedestrian sidewalk experiences within the Transect Zone. (Source: Author, Meghan Leahy)

Sidewalks found within the general urban, urban center, and urban core blocks vary based on the proximity to the buildings edge to the street. Rules as to how far back from the street are defined within zoning codes, but the edge of the building does not have to align the edge of the street for the entirety of the street. The variation in sidewalks is important to designing the pedestrian experience.

Comfortable Building Heights

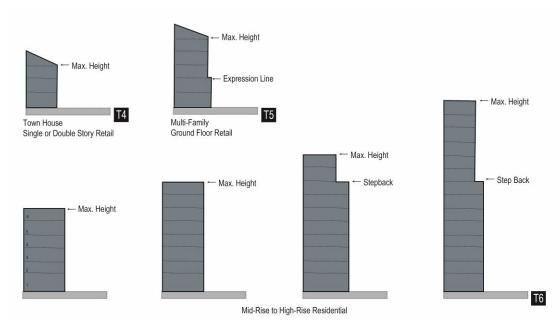


Figure 66 A series of diagrams identify comfortable building heights within the Transect Zone. (Source: Author, Meghan Leahy)

Building heights found within the general urban, urban center, and urban core blocks vary based on the building typology. Townhouses, found in the general urban block, have a maximum height of three stories plus a top of the roof level. Multi-family buildings with two floors of ground floor retail, found in the urban center block, have a maximum height of five stories plus a top of the roof level. Mid-rise to high-rise residential buildings, found in the urban core block, have a maximum height of fourteen stories and a set back at the top of the eighth story.

Site Strategy 1: Block Division



Figure 67 A diagram of a potential site strategy. (Source: Author, Meghan Leahy)

This site strategy utilizes the block dimension of 600' as seen in the precedent comparison of Rockville Town Square (Figure 66). The 600' dimension is larger than other block sizes found within the precedents analysis. This strategy does begin to address how to the break up the site, and the division utilized a street grid that could be the base for the site, and introduced a street along the back edge of the site that would act as a parkway.

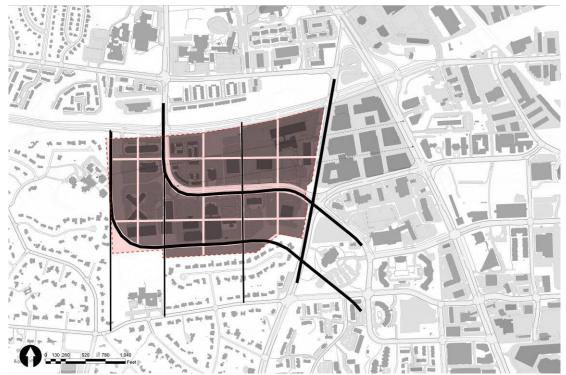


Figure 68 A diagram of a potential site strategy. (Source: Author, Meghan Leahy)

This site strategy utilizes the block dimension of 600' as seen in the precedent comparison of Rockville Town Square (Figure 67), but introduces a secondary street network within the blocks breaking up the 600' dimension into smaller 300' blocks. By "stitching" connections through a network of pathways, bike paths, light rail, and other means of transit, mobility options are enhanced. This can also contribute to increasing the efficiency of delivering goods and services, and reducing automobile reliance. It will also create the kinds of connections that foster a sense of community.³

³ Paul Lukez, Suburban transformations (New York: Princeton Architectural Press, 2007).

Site Strategy 3: Town Centers

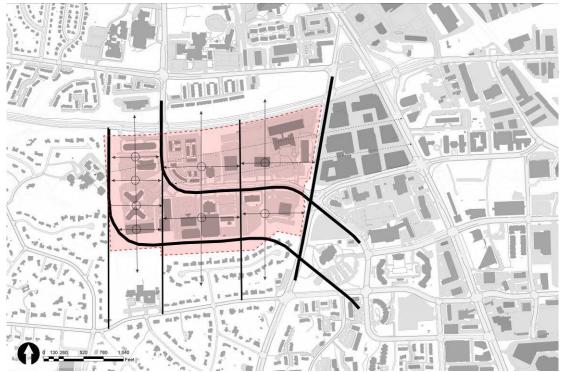


Figure 69 A diagram of a potential site strategy. (Source: Author, Meghan Leahy)

This site strategy utilizes the block dimension of 600' as seen in the precedent comparison of Rockville Town Square (Figure 68), but introduces the idea of town center locations within the blocks. The town centers depicted by the circle graphic (Figure_) are possible placement for town centers.

Site Strategy 4: Nodes and Open Spaces

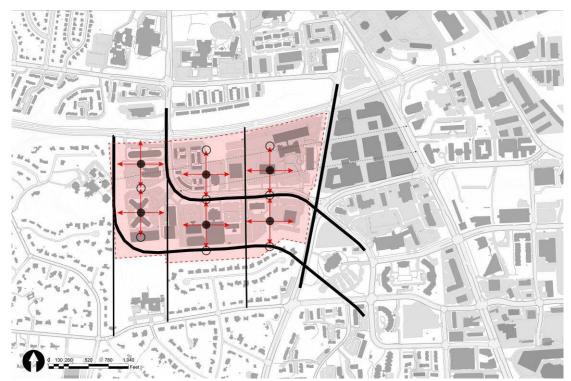


Figure 70 A diagram of a potential site strategy. (Source: Author, Meghan Leahy)

This site strategy takes the placement of town centers within the middle of the blocks and adds a node or open space halfway between both centers. This placement of a node or open center is approximately 300' between each other. The black open circle represents a node or open space. (Figure 69)

Site Strategy 5: Object Buildings

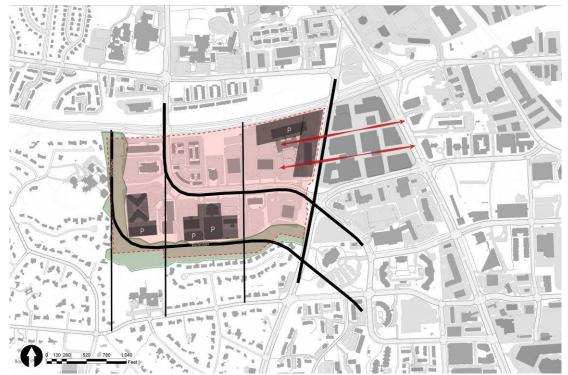


Figure 71 A diagram of a potential site strategy. (Source: Author, Meghan Leahy)

This site strategy retains the parking structures as well as the buildings surrounding them. The buildings then act as an object within the block, and future infill will work to incorporate them into the fabric. The addition of the parkway along the southern edge of the site has been added to preserve the existing trees and incorporate a public amenity of green space. Every intervention should strive to keep the structure of grown trees as intact as possible.⁴ (Figure 70)

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⁴ Otto Paans and Ralf Pasel, Situational Urbanism: Directing Postwar Urbanity: an Adaptive Methodology for Urban Transformation (Berlin: Jovis Berlin, 2014).

Chapter 5: Design Principles, Process, and Methods

Defining Site Conditions & Opportunities

Site Condition: Street Network

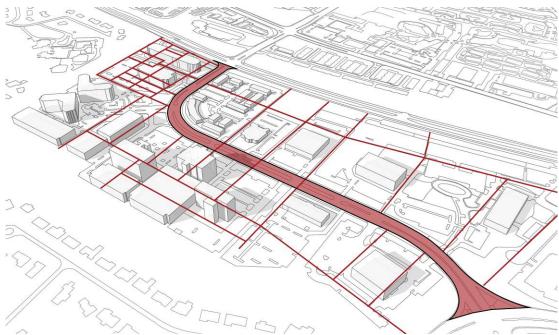


Figure 72 A diagram of site conditions and proposed street network strategy. (Source: Author, Meghan Leahy)

Site Condition: Edge Definition

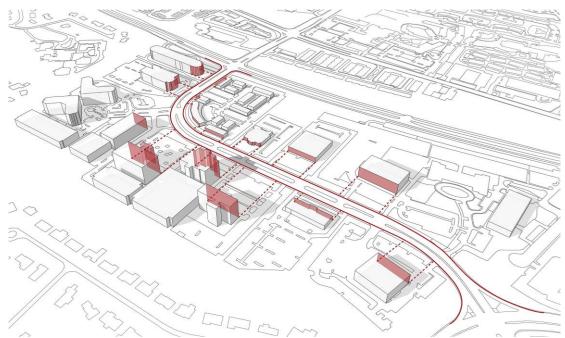
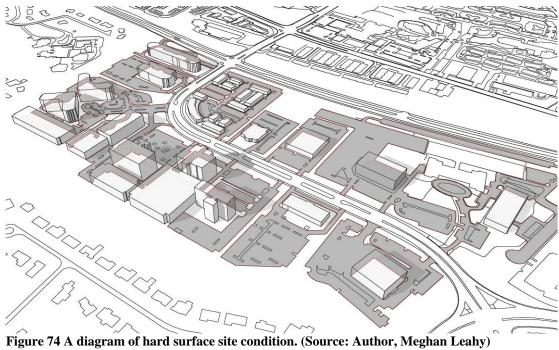


Figure 73 A diagram of site conditions and proposed building edge strategy. (Source: Author, Meghan Leahy)

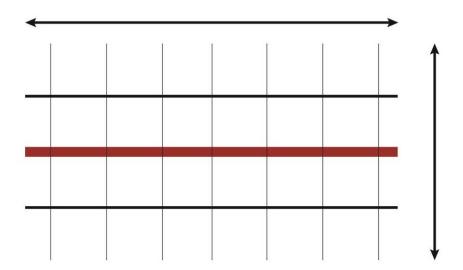
Site Condition: Excessive Hard Surface



Site Condition: Minimal Tree Canopy and Lack of Green Space



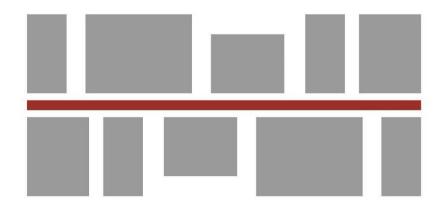
Site Opportunity: Street Organization



URBAN ORGANIZATION AND STREET CONTINUITY

Figure 76 A diagram of a site opportunity and street organization strategy. (Source: Author, Meghan Leahy)

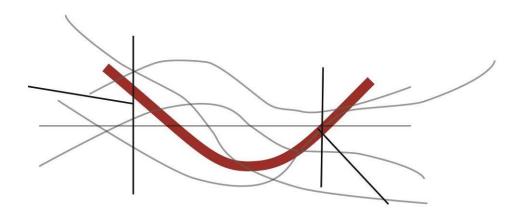
Site Opportunity: Edge Definition Based on Street Organization



CONNECTION THROUGH THE BUILT ENVIRONMENT

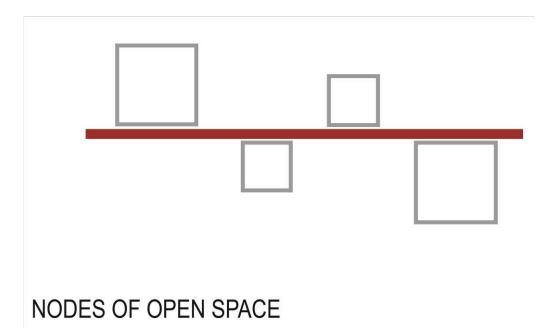
Figure 77 A diagram of a site opportunity and edge organization strategy. (Source: Author, Meghan Leahy)

Site Opportunity: Minimal Hard Surface and Interconnected Spaces



NETWORKS OF CONNECTIVITY

Figure 78 A diagram of a site opportunity and program organization strategy. (Source: Author, Meghan Leahy)



 $\label{thm:continuity} \textbf{Figure 79 A diagram of a site opportunity and nodes of open space organization strategy.} \\ \textbf{(Source: Author, Meghan Leahy)}$

Street and Block Division

Infrastructure Informed Block Division

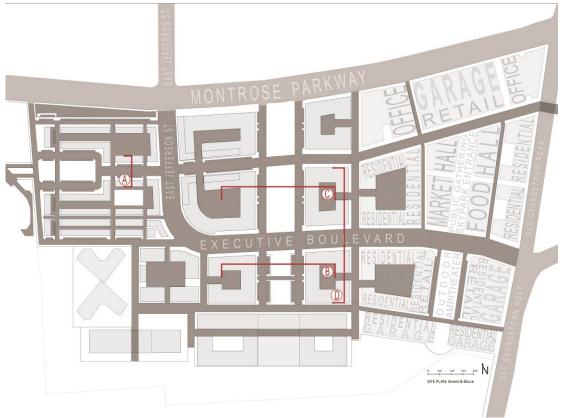


Figure 80 A diagram of site showing block divisions using a street network. (Source: Author, Meghan Leahy)



 $Figure~81~Sustainable~site~materials~implemented~during~the~design~of~the~street~network.\\ (Source:~Author,~Meghan~Leahy)$



Figure 82 Street Section A depicting a slow flow street experiences based on street typology. (Source: Author, Meghan Leahy)

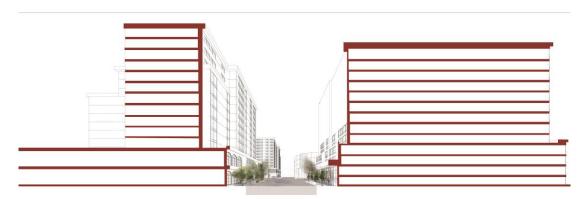


Figure 83 Street Section D depicting a free flow street experiences based on street typology. (Source: Author, Meghan Leahy)



Figure 84 Street Section C depicting an Avenue or Boulevard street experiences based on street typology. (Source: Author, Meghan Leahy)



Figure 85 Street Section D depicting an Avenue or Boulevard experiences based on street typology. (Source: Author, Meghan Leahy)

Site Design

Site Plan

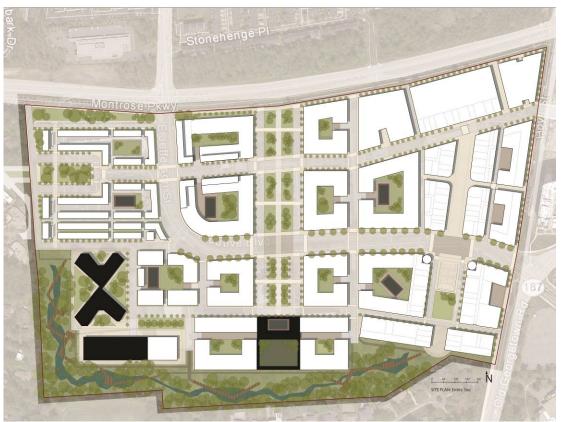


Figure 86 Site plan depicting the organization and building typologies throughout the site. (Source: Author, Meghan Leahy)

PROPOSED SITE: EXPERIENTIAL MOMENTS

Figure 87 Site plan depicting the placement of experiential nodes of open space throughout the site. (Source: Author, Meghan Leahy)

Site Focus: Designed Phase 1

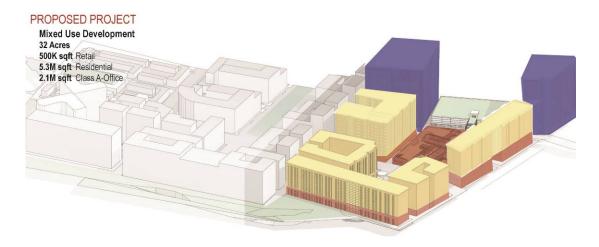


Figure 88 3D view of the portion of the site designed in more detail highlighting distribution of programmatic elements such as retail, residential, and office. (Source: Author, Meghan Leahy)

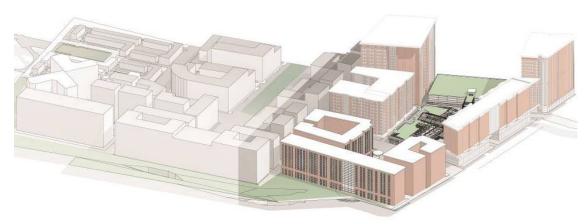


Figure 89 3D view of the portion of the site designed in more detail. (Source: Author, Meghan Leahy)

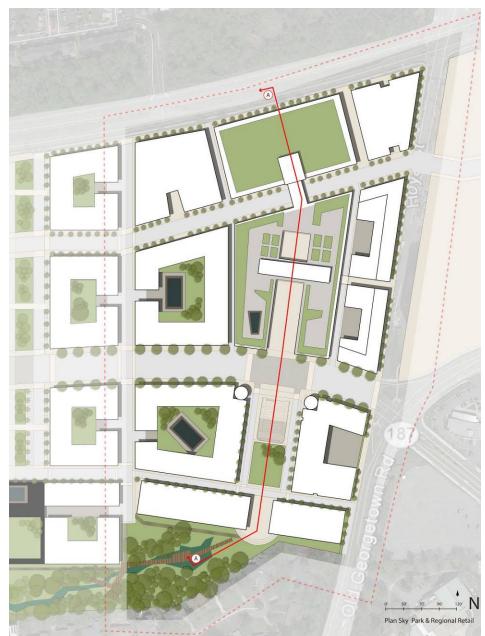


Figure 90 Site plan of the portion of the site designed in more detail. (Source: Author, Meghan Leahy)



Figure 91 Site section A of the portion of the site designed in more detail. (Source: Author, Meghan Leahy)

Floor Plans

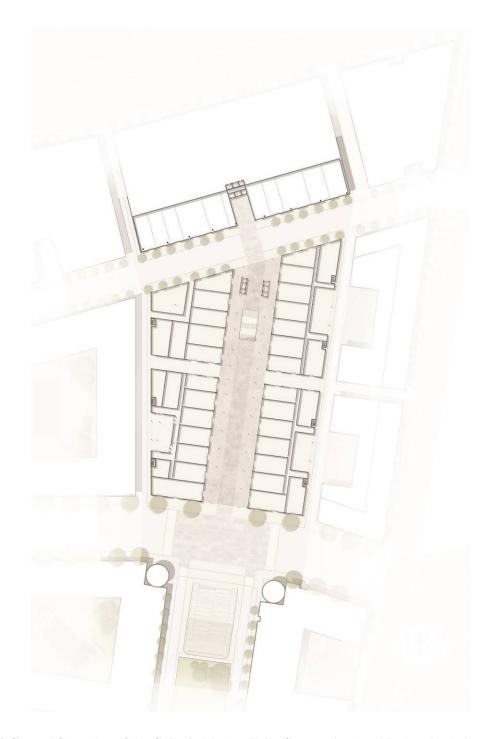


Figure 92 Ground floor plan of the Galleria Market Hall. (Source: Author, Meghan Leahy)

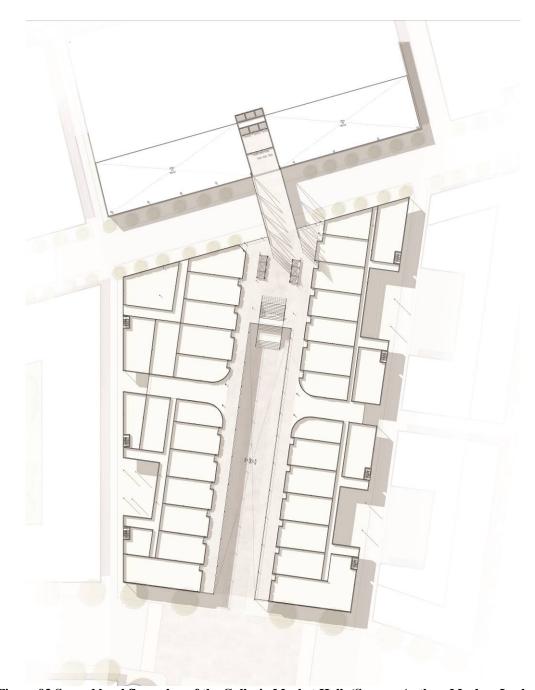


Figure 93 Second level floor plan of the Galleria Market Hall. (Source: Author, Meghan Leahy)

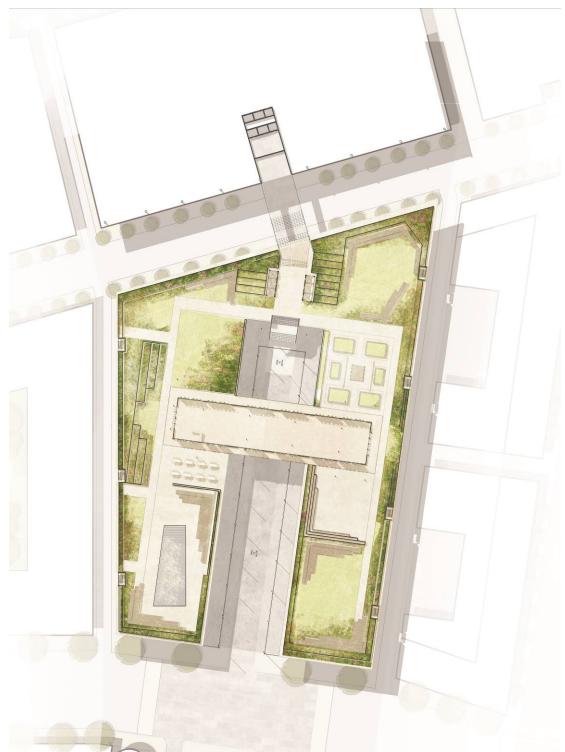


Figure 94 Roof plan of the Galleria Market Hall highlighting the Skypark. (Source: Author, Meghan Leahy)

PROPOSED SITE: HUB OF ACTIVITY

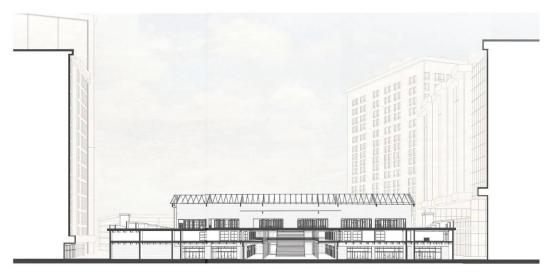


Figure 95 Section perspective of the Galleria Market Hall. (Source: Author, Meghan Leahy)

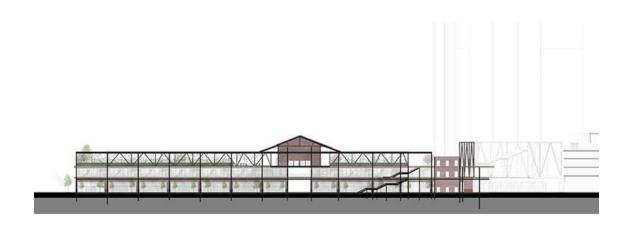


Figure 96 Section of the Galleria Market Hall. (Source: Author, Meghan Leahy)

Rendered Experiential Views

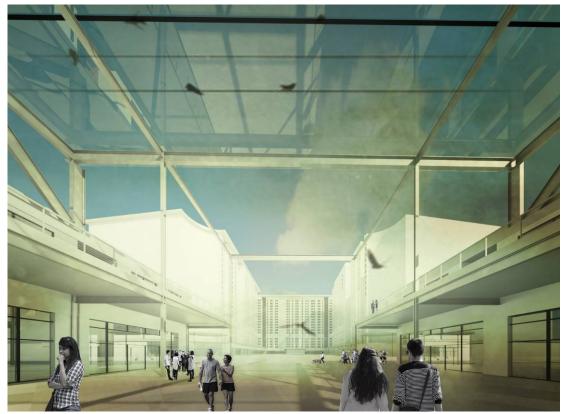


Figure 97 Rendered view of the Galleria Market Hall. (Source: Author, Meghan Leahy)

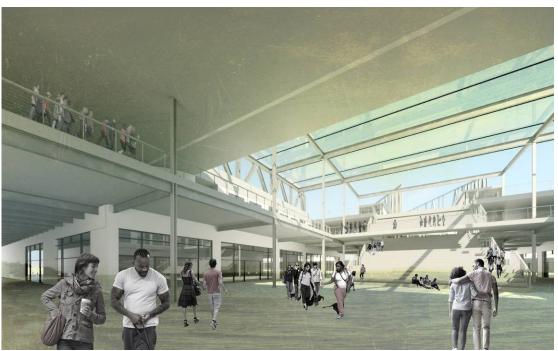


Figure 98 Rendered view of the Galleria Market Hall. (Source: Author, Meghan Leahy)

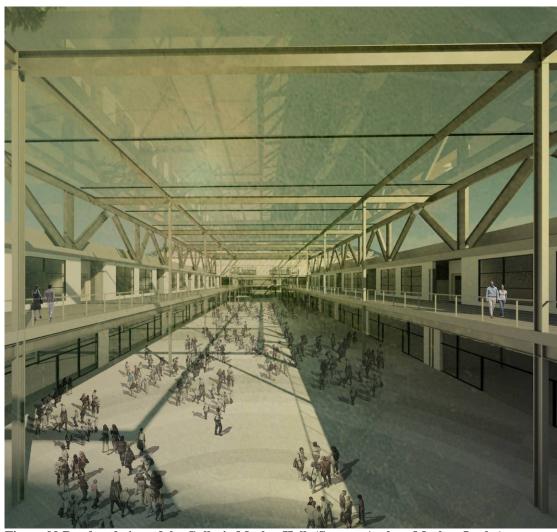


Figure 99 Rendered view of the Galleria Market Hall. (Source: Author, Meghan Leahy)



Figure 100 Rendered view of the Galleria Market Hall. (Source: Author, Meghan Leahy)



Figure 101 Rendered view of the Skypark. (Source: Author, Meghan Leahy)



Figure 102 Rendered view of the Skypark. (Source: Author, Meghan Leahy)



Figure 103 Rendered view of the pavilion on the Skypark. (Source: Author, Meghan Leahy)

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