Rethinking Dead Malls:
Reconsidering an American vacant mall site as a seed for re-growth
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Reconsidering an American vacant mall site as a seed for re-growth  

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Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of  
Master of Architecture  
In  
Architecture  

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May 12th, 2021  
Alexandria, Virginia  

Keywords: Dead Malls, Revitalization, Rethink, Stormwater, Suburban Sprawl, Reading PA, Urban Farming, Community Complex, Suburban Neighborhood, Recreation, Redevelopment, Community Asset
The rapid urban development has impacted a great loss of natural landscape in the U.S in recent years. In the process of urbanization, the population has moved from the city centers to the edges of the Metropolitan or the newly developed suburbs as much as 62% until 2000. The annual conversion rate of undeveloped land to developed land between 1992 and 1995 was 1.4 million acres per year while it accelerated later in only five years between 1992 and 1997 to 2.2 million acres per year. Among all the development one of the most common was the Enormous shopping mall in suburban districts which are the collections of a vast range of retail corporations in response to the growing consumerism. In support of the gigantic malls, more service infrastructures were built as in the multistoried parking garages, surface parking, HVAC.

Currently, the total number of malls in the U.S is approximately 116,000. The downside of the development has been observed as rapid as it has grown. As in 2014, nearly 3% of all the malls in the United States were considered to be “dying” (40% or higher vacancy rates) and nearly one-fifth of all malls had vacancy rates considered “troubling” (10% or higher). The sudden deterioration was caused because of several factors such as the socio-economic change of the demography in the urban context, the change in the spending habit of the consumers (i.e. spending for experience rather than goods), the rise of E-commerce, etc. While the dying circumstance continues, these vast and trapped places have nothing but negative impacts in the urban environment as being wasteful land, blocking the visual connectivity through places, clogging the pedestrian flow, contributing to the heat island effect. Thus the problem is evoking to rethink a sustainable design approach.

This thesis will first generate an adaptive master plan for the future, in a specific site as the result of investigating the socio-economic issues that forced the mall site to be vacant. After projecting the master plan, the architectural project will be proposed which will prioritize the physical and social development of the context. Educating people regarding the redevelopment of the community and the sustainable way of living are the key features of the project. The new project will be considered an iconic community asset that would serve the neighborhoods.

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ABSTRACT

The rapid urban development has impacted a great loss of natural landscape in the U.S in recent years. In the process of urbanization, the population has moved from the city centers to the edges of the Metropolitan or the newly developed suburbs as much as 62% until 2000. The annual conversion rate of undeveloped land to developed land between 1992 and 1995 was 1.4 million acres per year while it accelerated later in only five years between 1992 and 1997 to 2.2 million acres per year. Among all the development one of the most common was the Enormous shopping mall in suburban districts which are the collections of a vast range of retail corporations in response to the growing consumerism. In support of the gigantic malls, more service infrastructures were built as in the multistoried parking garages, surface parking, HVAC.

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GENERAL AUDIENCE ABSTRACT

The rapid urban development has impacted a great loss of natural landscape in the U.S in recent years. In the process of urbanization, the population has moved from the city centers to the edges of the Metropolitan or the newly developed suburbs as much as 62% until 2000. To serve the resettled population new services have been developed at the outskirts of the cities. Among all the development one of the most common was the Enormous shopping mall in suburban districts which are the collections of a vast range of retail corporations in response to the growing consumerism. In support of the gigantic malls, more service infrastructures were built as in the multistoried parking garages, surface parking, HVAC.

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The thesis will first generate an adaptive master plan for the future, in a specific site as the result of investigating the socio-economic issues that forced the mall site to be vacant. After projecting the master plan, the architectural project will be proposed which will prioritize the physical and social development of the context. Educating people regarding the redevelopment of the community and the sustainable way of living are the key features of the project. The new project will be considered an iconic community asset that would serve the neighborhoods.
ACKNOWLEDGEMENTS

Thanks to my committee members Susan Piedmont-Palladino, Paul Kelsch, David Lever whose sincere guidance kept me on track through this year-long journey. Their marvelous combination of expertise and suggestions gave my thesis dynamic dimensions.

Thanks to my wife for being a great support through all of my difficult times. Our discussions regarding the project got me going while I was stuck with the dilemma.

Thanks to my parents for supporting me in every aspect of my life. Without you, I would not be who I am today.

Thanks to my friends and peers for their support during the difficult times of the pandemic, for inspiring me, and keep me going.
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“There is currently more sprawl covering American soil than was ever intended by its inventors. While there are some people who truly enjoy living in this environment, there are many others who would prefer to walk to school, bicycle to work, or simply spend less time in the car.”

— Andres Duany, Suburban Nation

“Landscape is a medium uniquely capable of responding to temporal change, transformation, and adaptation, as Corner, Allen, and others recalled. These qualities recommend landscape as an analogue to contemporary processes of urbanization and as a medium uniquely suited to the open-endedness, indeterminacy, and change demanded by contemporary urban condition.”

— Charles Waldheim, Landscape as Urbanism
BACKGROUND

Introduction

The suburban growth in the U.S. has been tremendously escalating since post-World War II to the present time. The earlier shopping malls are one of the major parts of the development, usually situated at the outskirts of the city urban area intended to be connected both to the city and the country areas through the fast-growing highway system. The common imagery of these malls was to conceptualize the traditional main street loaded with retail stores, later with a central atrium, only in an enclosed and controlled environment that welcomes the popular concept of automobile use, facilitating a huge number of cars parking outside. The site design was the building and the parking, connected to the highway networks. The plentiful availability of lands, scant regulations, and easy federal funding has influenced the fast-growing numbers. However, the growth did not turn out very useful as soon as they started to struggle economically due to the over-competitiveness of the retail environment with the newer forms of stores and business and some of them became abandoned. Thus the problem of the dead mall arises.

As an international student, I was always curious about the large and mostly unused sea of parking lots in front of the regular strip centers in the U.S and their impact on the urban environment. My thesis inquiries have started from there. In this thesis, I have explored the urban situation of a similar site with an industrial past, currently facing a socio-economic declination which also contains an abandoned mall within it. My proposal consists of an adaptive master plan that will improve the existing situation to a sustainable urban environment and will help to grow the area with flexible needs. The proposed architectural project will be a catalytic intervention that will guide the overall development.

Figure 1: Connecticut Post Mall, Conn., 1998
The rapidity of the subsidized highway system development has influenced the most to grow the malls as suburban sprawl during the post-world development. The problem of suburban sprawling is also largely contributed by the planning of single-use pods for malls and other functions typically wrapped with those high-speed vehicular roads at the edge nodes of the cities. This planning strategy was very effective for the growing numbers of automobile users of the earlier period but lacked pedestrian accessibility which would allow pedestrian access from neighboring places. The single-use pods create a blockage within the urban environment as they allow only to grow but not to improve with time as Dolores Hayden stated, "By 1990s planner Robert Cervero noted that most edge nodes were being built at densities too low for the effective provision of public transport, yet high enough to cause traffic gridlock. Each new pod added to an edge node might be designed for internal circulation, but the parcels tended to agglomerate with no consistent land use planning or traffic circulation beyond the property line". 

—Le Corbusier, The Radiant City (1927)
By 2017, the growth has resulted in approximately 116,000 shopping malls in the U.S. Wherein 1970 the number was 37 thousand. The diagram on the left shows that the East coast has a denser situation.
According to the CoStar Group and NY Times, when more than 40 percent or more of a mall is vacant and unused, it is considered dead. 10-20 percent vacancy signals a troubling sign. Dead malls become a challenge for the investor and the neighborhoods both economically and environmentally. Often they are reused with newer uses but that does not completely resolve the environmental and urban issues for the society and the surrounding neighborhoods if the site is not reintegrated sensitively.

3% of the total is considered “Dying”
20% are considered “Troubling”

Means 3500 malls are "DYING" right now!
“We are extremely over-retailed”
- Christopher Zahas
Real Estate Economist and Urban Planner

The reason for the deterioration of the earlier malls was triggered by many factors. The changing dynamic of the retail environment affected it most such as the rise of the Big boxes, easy online shopping, changing spending habits of the new generations for experiences rather than goods. Last but not least the COVID pandemic that started in 2019 has heavily impacted the physical retail environment due to social distancing that might push the decline to be more severe.

But the main contenders are the big boxes often grouped within the same commercial zone that have one-stop shopping facilities. “Through 1990s Big Boxes ‘Killed’ the older malls.”

Figure 9: Collage of different causes of deterioration
Figure 10: Aerial view of strip shopping centers consisting big boxes

Causes of the Deterioration
• Poorly designed thresholds have no definition of public accessibility.
• Less pedestrian accessibility creates a barrier between surrounding contexts.
• Public access is limited to the automobile, parking and walking to and from the entrance.

• No Accessible outdoor public activity amplifies placelessness.
• Lack of integrated public transportation forces the reliability of the automobile.

• Poorly designed thresholds have no definition of public accessibility.

• Less pedestrian accessibility creates a barrier between surrounding contexts.
• Public access is limited to the automobile, parking and walking to and from the entrance.

• Abandoned asphalt parking is one of the worst contributors to the heat island effect.
• Cause of flash flood & stream contamination
• “When watershed imperviousness exceeds 25%, only harder reptiles and amphibians can thrive.”

ECONOMIC
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VISUAL
• Erodes the economic base of any nearer older downtown.
• Building types are not efficient for future adaptive reuse.
• Often the building has very little site design and minimal formal expression which creates cultural ambiguity.

Figure 11: Aerial view of Northland Center (1954), Detroit, MI
Figure 12: Abandoned parking lot became an informal place for biking
Figure 13: Abandoned parking lot became an informal place for biking
Figure 14: Asphalt parking lot at Mall of America, Mpls
Figure 15: Traditional Downtown
Figure 16: Front perspective of Landmark Mall, Alexandria, VA

Effects of the Dead Malls
To look for an abandoned mall site, I have searched the surrounding of my location (Alexandria, VA) and also the web. There is a trending web forum named DEADMALLS.COM, which has ample information, background stories, and updates on the abandoned mall sites, mostly located in the U.S.

The location of the malls is mostly at the outskirts of the nearest cities. These sites are often connected to the city through the state highways which are all high-speed vehicular connections to prioritize the automobiles.
Site Selection
For selecting an abandoned mall site, I have given the priorities to the socio-economic conditions of the contexts. Though most of the mixed-use developments occur in a site that has a growing demand from the surrounding neighborhoods with a well-established community, my intention was to explore a site that rather has a declining socio-economic situation. So, among the three candidates I have chosen the Fairgrounds Square mall site that has a per capita income less than the national average and with one of the highest poverty rates though having a glorious past. These declining situations are the main challenges to the thesis.

OWING MILLS MALL, Baltimore, MD
- WRAPPED BY HIGH SPEED VEHICULAR ROAD
- LESS PROXIMITY TO NEARBY SUBURBAN NEIGHBORHOOD
- ISOLATED BEHIND A STRIP DEVELOPMENT
- PER CAPITA INCOME $27,107

FAIRGROUNDS SQUARE MALL, Berks, PA
- STRIP DEVELOPMENT
- CLOSE PROXIMITY TO THE NEIGHBORHOODS
- SCOPE FOR MULTIPLE MODES OF TRANSPORT
- PROXIMITY TO NATURAL ELEMENTS (ABANDONED QUARRY)
- PER CAPITA INCOME $21,624
- DECLINING SOCIO-CULTURAL CONTEXT

FREDERICK TOWNS MALL, Frederick, MD
- STRIP DEVELOPMENT
- CLOSE PROXIMITY TO THE NEIGHBORHOODS
- LESS MODE OF TRANSPORT
- PROXIMITY TO NATURAL ELEMENTS
- PER CAPITA INCOME $31,123
The Site
Fairgrounds Square Mall
Muhlenberg Township, Reading, PA
Site area: 66 Acre
Area Population: 20,345
distance from Reading: 3.5 miles

The Fairground Square Mall site is situated in the Muhlenberg Township, the outskirt of the city of Reading, making it a suburb of Reading. The working demography who lives here usually work in the city and commute. The site is part of a strip development that is mostly commercial that guides to the entrance of the city. As per zoning, it is considered commercial land use. Along with the abandoned mall, there are other shopping centers and plazas populating the commercial environment. The site is heavily surrounded by residential neighborhoods and some industrial land uses on the west. The US 222B is the major highway that connects the site to the city. An abandoned quarry is situated at the north of the site which is a major natural element within the context.
Figure 23: Existing Zoning map of the strip corridor development along the US222B

Figure 24: Muhlenberg Township civilian Labor Force Composition, 2000

Figure 25: Demographic Profile according to age

Manufacturing
Education, health, social service
Retail trade
Arts, entertainment, recreation, accommodations, food service
Finance, insurance, real estate
Transportation, warehousing
Professional, administrative, scientific, management
Construction
Other services
Wholesale trade
Public administration
Information
Agriculture, forestry, fishing, hunting and mining
The name “Fairground” came from the functions of the site that had been hosted. The site was a platform for an annual fair and a racetrack in the 19th century. At first, the track arranged horse races which promoted motor car races for amusements. The site has a history of being a recreational destination for industrial workers from the city.

The City of Reading

The city of Reading has an industrial past for being a top producer of iron in the 18th century. Throughout the early 20th century it has been renowned for its small manufacturing industries, the Schuylkill Canal (1825) and the Philadelphia-Reading railroad (1833) for the cheap transportation of goods. The city itself was one of the top urban centers in the 19th century.

The Fairground Square

The name “Fairground” came from the functions of the site that had been hosted. The site was a platform for an annual fair and a racetrack in the 19th century. At first, the track arranged horse races which promoted motor car races for amusements. The site has a history of being a recreational destination for industrial workers from the city.
The Decline

The decline of the economy was caused by the departure of some major manufacturing industries in the city. Some primary employers as Agere Systems, NGK Metals, and Carpenter Technology have terminated a significant number of employees. The common reasons for the declination are shut down of the Philadelphia-Reading railways, adapting new automated technologies, and outsourcing of manufacturing goods. The city faced a steep decline in the economy from the 1970s. The current statistics show that the city has a high theft rate and a poverty rate. The decline impacted negatively the retail market that forced it to shut down the Fairgrounds shopping Mall.

The township has prepared a comprehensive plan in 2003 (figure 39), which indicates an ambition to develop the area into a new town center, promoting pedestrian accessibility and connectivity, though most of the land uses were indicated to be mixed-use focusing mostly on retail functions. But with the declining economic condition over time, this comprehensive plan was never realized with low demand in retail businesses.
Flexible Urban Elements
- Retail and recreation demand
- Adaptive reuse of the existing buildings
- Housing Demand

Fixed Urban Elements
- Street Connectivity
- Walkable and Public transport friendly street.
- Ecological Revitalization
- Community Development
- Social Amenities

For the proposed master plan I have prioritized the fundamental aspects of a good urban design as in better connectivity and walkability with integrated public transport, reclamation of the lost green surfaces to reduce negative environmental impact and creation of public places and activity nodes. The featured elements are segmented into two major criteria. First, fixed urban elements which will improve the urban environment and accessibility into the site from the neighborhoods. Those are the durable and essential elements of needs developed by public financing. And the flexible urban elements, which are the provision of flexible land uses that would be developed over time as per need mostly with private investment.

Moreover, because of the unstable socio-economic situation of the township area, future growth is highly unpredictable. In that case, I have proposed an interim state master plan that will focus on creating eco-friendly and green public recreational places which will also contribute to creating a sustainable urban environment.
Fixed Urban Elements

Improving connectivity

Considering existing revenue-generating anchors and integrating the existing connecting roads within the site.

Existing vehicular connectivity

Potential connections in reference with the existing neighborhood streets
Proposed circuit road connecting with and within the site

Fixed Urban Elements
Improving connectivity

Street facades

Typical section of the proposed circuit road

All modes of mobility, featuring wide pedestrian sidewalks and integrated public transit.
The site is situated at the valley of some high terrains on the eastern side. To drain out the stormwater run-offs an integrated stormwater drainage system is proposed which will act as a buffer between the highway and the internal areas, improve the ecological balance providing water as a part of the ecosystem and improve the scenic experiences within the site.
The proposed end-state master plan will be the newly defined center of growth to the township and the city, integrating the public transit, vehicular movements, and pedestrian movement and allowing the mixed-used developments.

- Ellen Dunham-Jones & June Williamson, Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs
Four nodes have been designated for different zoning based on the proximity of neighboring land uses such as the industrial node is closer to the city entrance to allow better interaction with the city, the social service node is closer to the neighborhood to give quicker access to the amenities and the transportation node is adjacent to the former railway in pursuit to create a multimodal connection with the city.
An interim phase master plan is proposed focusing on creating green urban public places to reclaim the natural environment. The unpredictability of the future economy of this area might not turn out as the end state master plan is anticipated. In that case, this interim state will allow to add values to the site and attract more investors.
The development of the master plan is a long time process. To guide the master plan development the existing community needs to be educated, informed, and engaged throughout the process. For the purpose of governing the development by the people and the administration together the civic community center is proposed which will be a microcosm of the future development demonstrating the ways of sustainable living. It will be a place for discussions, decisions, demonstrations, exhibitions, and recreations to the community people. The center will provide skill-training opportunities through arranging workshops on cutting edge technologies and entrepreneurship, thus contribute to the economic growth of the community. The project will also contribute to the cultural development of the community. The site that has been chosen for the project is closer to the existing municipal building for better accessibility between the community and the township.
CIVIC COMMUNITY COMPLEX

COMMUNITY ENGAGEMENT & RECREATION
GUIDING FUTURE DEVELOPMENT
YOUTH & SENIOR ENGAGEMENT
PUBLIC DISCUSSION
TOWNSHIP ADMINISTRATION
SUSTAINABLE LIVING
CULTURAL DEVELOPMENT

Functions and Programs

• LIBRARY
• GYMNASIUM
• URBAN FARMING
• EXHIBITION GALLERY
• YOUTH ROOM
• SENIOR ROOM
• LOUNGE FOR ALL AGES
• TECH ROOM
• PRE-SCHOOL ROOM
• MEETING ROOM
• MULTIPURPOSE HALL
• ADMINISTRATIVE OFFICE
• MEETING ROOM
• BOARD ROOM
• RAIN WATER HARVESTING
• COUNSELING ROOM
• CRAFT ROOM
• TRAINING KITCHEN

ENTRY LOBBY

CHANGE ROOM
TECHNOLOGY ROOM
CRAFT ROOM
ADMINISTRATION
MEETING ROOM
SENIOR ROOM
LIBRARY
MULTIPURPOSE HALL
YOUTH ROOM
EXHIBITION GALLERY
CAFE
GYMNASIUM
CRAFT ROOM
LIBRARY
EXHIBITION GALLERY
BOARD ROOM
CHANGE ROOM
TECHNOLOGY ROOM
CRAFT ROOM
ADMINISTRATION
MEETING ROOM
SENIOR ROOM
LIBRARY
MULTIPURPOSE HALL
YOUTH ROOM
EXHIBITION GALLERY
CAFE
GYMNASIUM
CRAFT ROOM
LIBRARY
EXHIBITION GALLERY
BOARD ROOM
In the process of placement of the programs, the quieter programs such as the library, senior room, administration are placed on the western side aligning the internal road. Comparatively louder functions such as gymnasium, exhibition gallery are placed on the eastern side aligned with the highway. In this way, an internal courtyard has been created to accommodate the outdoor activities.
Process_form and material

Gabled roof form
Recognizable to the community as a landmark

Brick Texture

Structural Steel Frame
Available from the local industries

Figure 52: Historic Landmarks of Reading, PA

Grimshaw Silk Mill
Keystone Hook and Ladder Company
Reading City Hall
Bethel AME Church, 1837

Figure 56: Precedents of inspiration. Vertical elements as shading device and openings

Figure 53: Process_form and material
Defined form as per programs

Major functions identified by roof forms
Brasserie, Multipurpose, Gymnasium

Final form

Major functions aligned with the streets

Connected forms to create a public entry and an internal courtyard

Defined form and proportion

Process form generation
MAJOR PROGRAMS

- Exhibition Gallery
- Library
- Multipurpose Hall
- Gymnasium
- Youth & Senior facilities

DEVELOPMENT PROGRAMS

- MAIN ENTRANCE
- CIRCULATION
- SERVICE AND UTILITY

Process_section sketches & major programs
SITE PLAN

VEHICULAR DROP-OFF
BASEMENT ENTRANCE

North to the left
The First floor will accommodate the entrance from the front plaza and disperse the visitors to all the lounge and activity spaces. Programs that facilitate mostly public activities and gatherings are placed at this level.

1. Entry lobby
2. Exhibition gallery
3. Senior room
4. All-age lounge
5. Cafe seating
6. Multi-purpose hall
7. Gymnasium
8. Library
9. Administration office
10. Change room (M/F)
11. Cafe
12. Service storage
13. Cafe storage
14. Lounge
15. Gymnasium storage
Programs that are involved with the development of certain age groups or individuals are placed on this level such as youth room, tech room, craft room, or training kitchen. Also, spaces for meetings and counseling are provided adjacent to the library zone.
1. HVAC
2. Storage
3. EM room
4. Storage
5. Service

North to the left

Scale: 1/16" = 1'-0"
The Community Center will be the iconic landmark of the area. It will stand by the community through the ups and downs as a pathfinder.
The internal courtyard will be a place for urban farming, an activity to engage the community, learning to grow one’s food which will inspire to be self-sustainable.
The courtyard will also feature a gathering place to sit, rest, gather, read around the rainwater collecting cistern that will provide cool air during the summer. The plaza will be constructed of cobblestones that will allow the ground surface to be permeable.
Rain water collection and reservoir

Storm water reservoir

SECTION AA_extended
According to the statistics Muhlenberg Township has an annual rainfall of 45 mm. The roof forms will generate 5300 cubic feet of water. The rainwater collecting cistern has an area of 4000 square feet which is enough to hold the water and supply to the surrounded gardens. The excess of the water will be drained out to the natural storm water system. The proposed water pond on the North will also be used as a heat sink for the mechanical system.
The Multipurpose hall will be the brainstorming hub for discussions, workshops, and common gatherings.
Perspective view_Gymnasium

Perspective view_Exhibition Gallery

The Exhibition Gallery will be the showcase for the development process and discussion or cultural outputs to engage more people with the activities.
The All-age lounge is a space for the seniors and the youths to get together and exchange their ideas and opinions. The lounge is visually connected from both of their separate rooms.
Detail in plan & section

- Standing seam metal roof
- Rainwater collecting gutter
- Brick cladding
- Brick cladding
- 8 X 3" Vertical brick louvers
- Curtain wall
- Paint coated structural steel beam
- Paint coated Metal Lintel section

INDOOR ENVIRONMENT

OUTDOOR

Structural System
End Notes


3 Hayden, Dolores. Building Suburbia: Green fields and urban growth, 1820-2000. p174


5 Fishman, Robert. Design solutions for redesigning suburbs.


Image Credits

Figure 1: Alex S. MacLean, Landscapes. Hayden, Dolores. Building Suburbia. p171

Figure 2: Muller, Peter O. The Outer Fall of Suburbia. Hayden, Dolores. Building Suburbia. p174

Figure 3: https://www.statista.com/statistics/208059/total-shopping-centers-in-the-us/

Figure 4: https://www.scripsherehero.com/store/wp-content/uploads/maps/Shopping_malls_USA.png


Figure 6: https://www.tenthirtyone.com/projects/owings-mills-mall-demolition/

Figure 7: https://medium.com/discottcaughan/what-i-up-to-with-dead-malls-c52019df50b6


Figure 9: Image created by author with different images found in Google search

Figure 10: https://www.jbgsmith.com/property/retail/PO_TOMAC-YARD-CENTRE/313363

Figure 11: https://time.com/904882/shoppping-mall-photos-today/

Figure 12: Google street view of US 222B in front of Fair ground square mall. PA.

Figure 13: https://www.nytimes.com/2013/01/04/business/the-economics-and-nostalgia-of-dead-malls.html

Figure 14: https://www.amtmorgan.com/novation/tenant-motion-american-shopping-mall-18095483/

Figure 15: Image from Google search

Figure 16: https://www.reddit.com/r/deadmalls/comments/b0p9vf/image_from_google_search

Figure 17-21: Photographs taken by author. Photographs taken by author.

Figure 22: https://www.muhlenbergtwp.com/DocumentCenter/View/100/Zoning-Map-PDF

Figure 23: Muhlenberg township Comprehensive Plan. https://www.muhlenbergtwp.com/227/Muhlenberg-Township-Comprehensive-Plan

Figure 24: Muhlenberg township Comprehensive Plan. https://www.muhlenbergtwp.com/227/Muhlenberg-Township-Comprehensive-Plan


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Figure 30: https://www.readingpa.gov/content/history-reading-fairgrounds

Figure 31: https://www.tenthirtyone.com/projects/owings-mills-mall-demolition/


Figure 33: https://www.american-rails.com/rdg.html

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Figure 40-44, 47: Google Earth images.

Figure 45-46, 49: Google Street Views.

Figure 50-52: Photographs taken by author.

Figure 53-55: Photographs taken by author.

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