

ABSTRACT

Title of Thesis: **GOING BEYOND THE GAME: EVOLVING
THE CITY THROUGH AN ESPORTS
VENUE**

Jefferson Min Hyuk Choi, Master of
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This thesis aims to reimagine the traditional sports arena of the future that addresses the growing culture of competitive gaming, known as esports. Globally, the esports industry continues to grow as today's fastest entertainment market; however, there are only a limited number of venues dedicated to the esports that fulfill the requirements of esports events. This thesis embeds advanced technology with the built environment to enrich a digital experience in Tysons, Virginia. Tysons is known as an outgrowth city of Washington, DC and continues to evolve to become a 24-hour urban center for living, working, and playing. However, the city is lacking the programmatic typologies at the pedestrian scale. Bringing an esports venue, titled the Tysons Reboot, would humanize the city by introducing a new cultural hub, heighten its prospective growth of a futuristic tech city, and evolve the city as a regional and international destination city.

GOING BEYOND THE GAME: EVOLVING THE CITY THROUGH AN
ESPORTS VENUE

by

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Chapter 1: An Overview of Esports

Esports as a Sport

Electronic sports, better known as esports, is a global growing entertainment industry in today's digital culture using competitive video gaming. Unlike traditional physical sports, esports identifies as a professional sport with teams of gamers identified as virtual professional players. However, the entire spectrum of video games is not classified as professional esports. Esports is classified by organized competitive multiplayer games connected over a local area network (LANs) or wi-fi with an audience of spectators.¹ With the growing online network and rapid technological advancement, esports is becoming a fast-growing international phenomenon.



Fig 1. Overwatch Esports Championship (Source: Matthew Eisman/Getty Images)

¹George S. McClellan, Ryan S. Arnett, and Charles M. Hueber, *Esports in Higher Education : Fostering Successful Student-Athletes and Successful Programs*. (Bloomfield: Stylus Publishing, LLC, 2020), 2.

Although esports has become controversial over whether it should be considered a professional sport as it requires little true physical activity, esports continue to emulate traditional sport traditions. Similar to traditional sports in the real world, esports offers broadcasting for viewing, professional rankings, tournaments, endorsements and scholarships, and cultural fandoms. Esports is defined as “an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies” in a digital world.²

The First Emergence of Esports



Fig 2. *Spacewar!* on a round computer monitor (Source: Joi Ito/Wikipedia)

The early signs of computer videogames date back in the mid-twentieth century with the early prototypes of computing technology of *Tennis for Two* (1948) and *SpaceWar!* (1962).³ Videogames then started to burst in early commercial success in the 1970s and 1980s with coin-operated arcades with popular game titles

²Michael Wagner. *On the Scientific Relevance of eSports*. (2006), 3.

³Rachel Kowert and Thorsten Quandt, *The Video Game Debate : Unravelling the Physical, Social, and Psychological Effects of Video Games*. (Taylor & Francis Group: London, 2015), 4.

like *Pong* and *Pac-Man*. A second wave of the videogame boom occurred a decade later with the release of Nintendo's home videogame console and introducing higher advanced technology that allows multiplayer sessions using LAN connection and the internet.⁴ This multi-connection to videogames through separate screens led to a high role of interaction in the digital world with online role-playing games and Multiplayer Online Battle Arenas (MOBAS). Over the next decades, innovative technology continues to bring commercial success to videogames with mobile games, computer games, and virtual reality games. Popular video game titles include the Call of Duty, FIFA series, Starcraft, Counterstrike, League of Legends, and Overwatch.

The Growing Momentum and Popularity of Esports



Fig 3. Highest Earning Esports Countries in 2019 (Source: Xander Tuenissen/Repeat.gg)

The birth of the term “esports” started in 1972 with Stanford University’s *Spacewar!* competition.⁵ Esports then was born in the eastern world starting in South

⁴Rachel Kowert, and Thorsten Quandt, 6.

⁵Henry Winchester. *Competitive Gaming Has Broken out of Bedrooms and into Arenas*. (Maximum PC: 2015), 50.

Korea with the first *StarCraft* tournament in 1998 and the growth of computer cafes.⁶ With the worldwide networking and convergence of culture and technology, esports became popular in all countries like the United States, China, South Korea, Sweden, and Denmark. Over two decades, esports evolved as a fast-growing entertainment industry that generated over 256 million global viewers and an estimated revenue of nearly \$1.9 billion in 2019.⁷ As a global phenomenon, esports is more likely to draw a more millennial audience compared to other entertainment industries and traditional sports.

Esports vs. Traditional Sports: A Comparison

Spectators of esports and traditional sports share similar motives in a context of a physical sporting event. Gamer fans streaming an esports tournament online from their phone or computer is similar to sport fans watching the game on their tv. Esports fans and traditional sports fans share common social motives; Like sport fans, esports fans like seeing their favorite player in action. Esports fans are motivated to attend gaming events in person at venues to cheer for their teams just like how sport fans at sporting games.

⁶Dal Yong Jin, *Korea's Online Gaming Empire*. (The MIT Press: Cambridge, 2010), 59..

⁷Jas Purewal and Isabel Davie, *The ESports Explosion*. (Landslide: 2016), 24.



Fig 4. Fans cheering at Super Bowl XLIII (Source: Getty Images)

The design needs for esports and traditional sports are different. Spaces for traditional sports features seating design and factors related to the specific sport. Esports, on the other hand, heavily rely on theatrical experiences for spectators and players. The ambiance of an esports event heightens fans with the artificial lighting, sound acoustics, broadcasting screen, and high-technology devices. This massive social activity needs a building typology that meets the criteria for esports and promotes culture of inclusiveness.



Fig 5. Fans cheering at Esports Stadium (Source: Getty Images)

Esports in the DMV Area

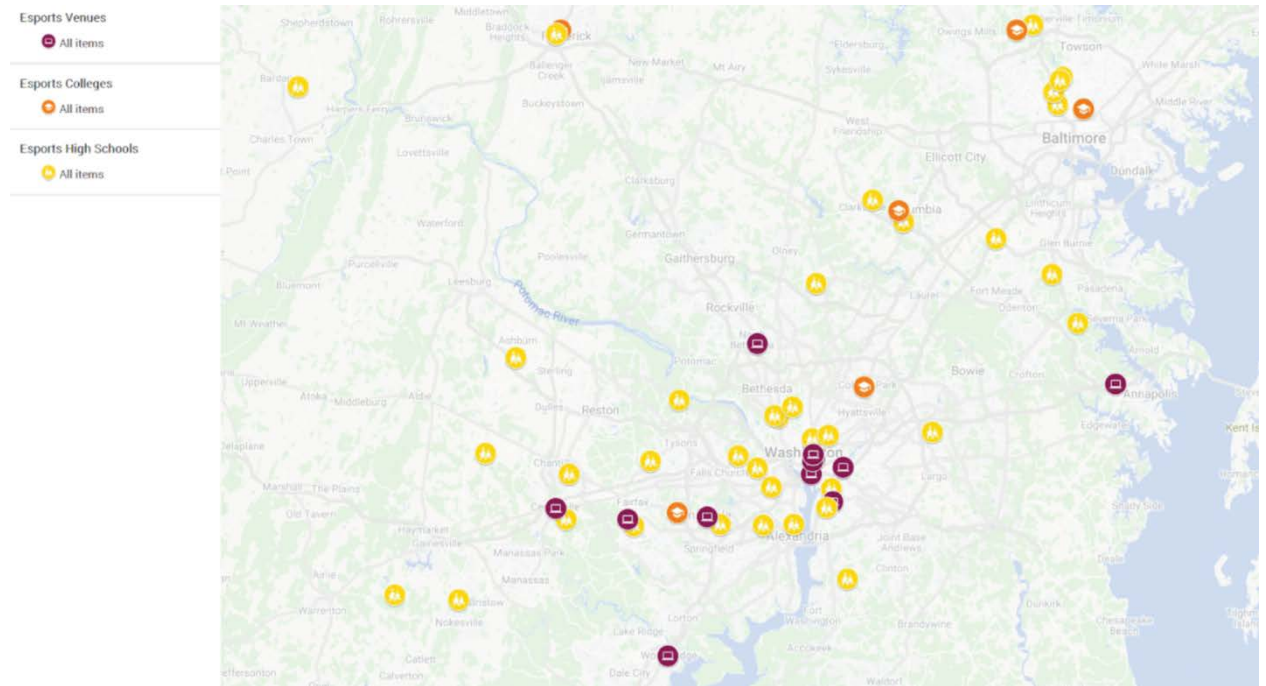


Fig 6. Current Esports activities in the DMV area (Source: Jefferson Choi)

Current esports activities are mostly located in the Washington DC area and Northern Virginia Area. In this area, there are numerous esports regional teams and school teams. DC consists of two venues, the Anthem and the Entertainment and Sports Arena, that host special esports events. Northern Virginia Area consists of internet cafes where fans of esports frequently visit. This thesis introduces an esports venue in Tysons, Virginia.

Chapter 2: Fostering Place through an Esports Venue

Embedding the Digital Experience in the Physical World

This thesis seeks to transform the urban experience of Tysons, Virginia through an esports and exposition venue. As Tysons is evolving, the city is being viewed in a new lens and seeking new ways to connect people to urban life. Like music and sports, urban life brings people together of different demographics. With the help of innovative technological advancements, the digital experience can enrich urban life in the physical world.

It is predicted that over 2.5 billion people will be living in urban cities by 2050.⁸ In Tysons, the city hopes to reside 100,000 people, compared to its 17,000 people today.⁹ With that high number of people living in the city, there will be an exponential increase in demand of new buildings. It is vital to come up with solutions that make cities more livable, resilient, and inclusive. In order to create these new spaces for the future, planning and designing of the physical and digital must interact with each other. Digital interactions can enrich the human experience in the built environment.

⁸ “2018 Revision of World Urbanization Prospects.” United Nations, United Nations, 16 May 2018.

⁹ “Fairfax County Comprehensive Plan.” Fairfax County, 2017 ed, 21.

Using Advanced Technology in Esports Venues

In terms of the digital experience in an esports venue, the fans experience is reimagined. Sport venues are becoming more mixed-use destinations in order to extend the fan experience. The Tysons esports venue will enrich people with technology, accommodate the future growth of Tysons, and integrate a hybrid of the physical and digital experience beyond the esports stadium.



Fig 7. Digital Screen at New York City's Time Square (Source: Vlad Popa, Pexels.com)

Today, many architecture utilizes digital screens on facades as a way to integrate digital technology with the built environment. An example includes the digital billboard at New York City's Time Square. These digital screens can bring the opportunity to engage with the users at the human scale. This esports venue will have a theatrical experience throughout by consisting of LED screens as a gestural

and interactive program and way-finders to allow users to curate their own experiences.

The Tysons esports venue will have a renewed focus on data. The exterior will embody a climate-responsive building skin with digital compatibilities that collect and process data as a multisensory ecosystem to measure the performance of the building. As this project will perform high energy, it is important that tactics promote high-efficient energy and adaptive systems. Technology would be used to measure how people move and engage in the space with real-time utilization data sensors. Other sensors will measure the water and air quality, energy efficient cooling systems, lighting, and environment. Furthermore, the venue will also consist of gesture controlled digital boards, shared screening, digital way-finders, and gamified and virtual-reality technologies.

Shifting the Urban, Cultural, and Economic Vision of Future Cities

Architecture emphasizes the built environment in terms of spatial agents, form, structure, materiality, and use in response to society's needs. This thesis blurs the built environment with the digital and advanced technology that enables new connections and experiences. This new type of interaction will enhance the engagement with people and the environment. With digital transformation and technology, architecture can shape tactics for climate change by leveraging solutions to advance carbon-neutral solutions with measurable intelligence on carbon metrics and performance. Also, it can design for equity that provides inclusive experiences.

This thesis intends to foster a place by designing a dynamic, mixed-use development at Tysons that will occupy the site by the Tysons Metro station between

the two large regional malls. The project will seamlessly merge and enhance the connectedness between the existing local transportation of the Metro with the pedestrian experience to the two malls with a new entertainment destination of an esports venue. This new urban hybrid will redefine the idea of the urban community hub of Tysons in which the city is lacking. This development will provide an esports stadium, exposition and convention center, office space, hotel, retail space, and residential buildings which rise up from a podium as a new entertainment landmark and urban beacon in the skyline of Tysons.

An esports venue, titled the Tysons Reboot, establishes a new gateway to the city. It will provide a catalyst for the evolution of the city and user engagement as the digital interface crafts experiences together. As the venue will have off-game days, the esports venue will continue to offer a communal engagement program. With this new esports entertainment development, a flexible public plaza is formed in Tysons as a living room for the city. This new entertainment hub will be a civic pride and bring a sense of community to Tysons as a transformational catalyst.

Chapter 3: Site Analysis of Tysons, VA

High-Tech Cities in the DMV Area

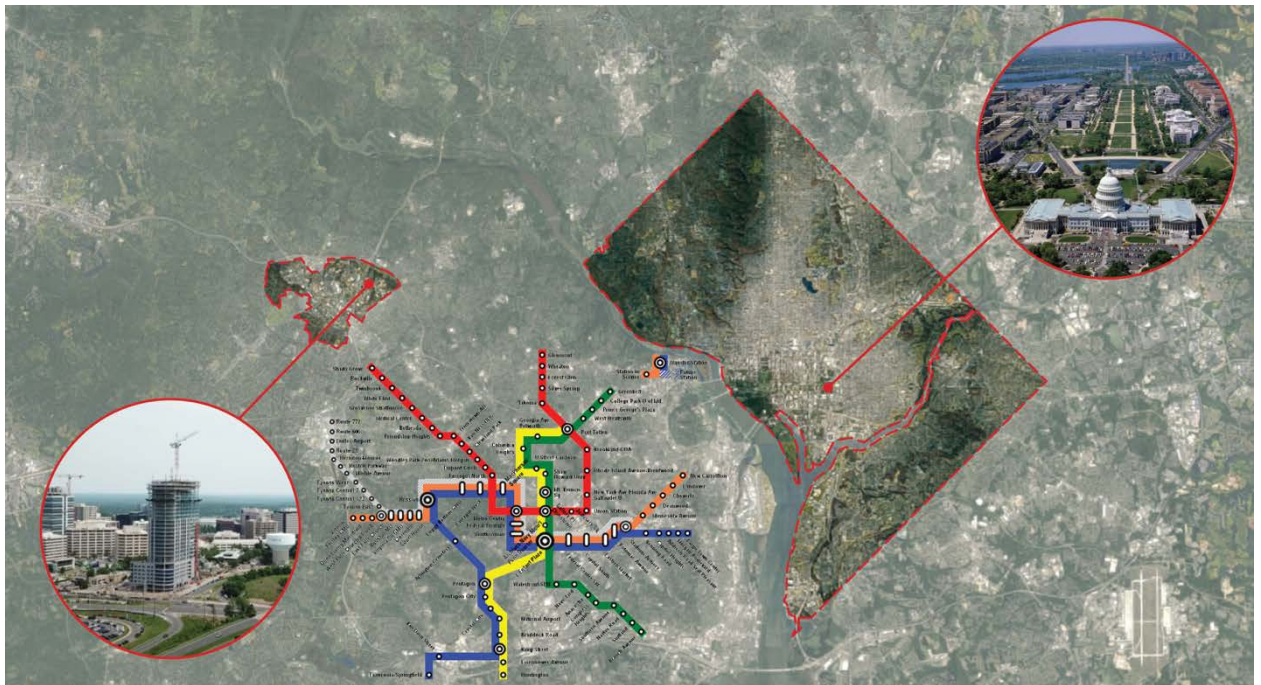


Fig 8. Tysons, VA close proximity to Washington DC (Source: Jefferson Choi)

The DC Metropolitan area consists of many high-tech cities, such as Washington, DC, Ashburn, VA, and Tysons, VA. These cities offer cutting-edge technologies which offer innovation and opportunities. The city of Tysons, located 12-miles outside of DC, was selected as it holds the ingredients of being the outgrowth city of Washington, DC. Tysons has regional connectivity with the Metro Silver Line across Northern Virginia to DC. With the future expansion of the Silver Line connecting to the Washington Dulles International Airport, Tysons will soon spur urban development that is connected internationally.

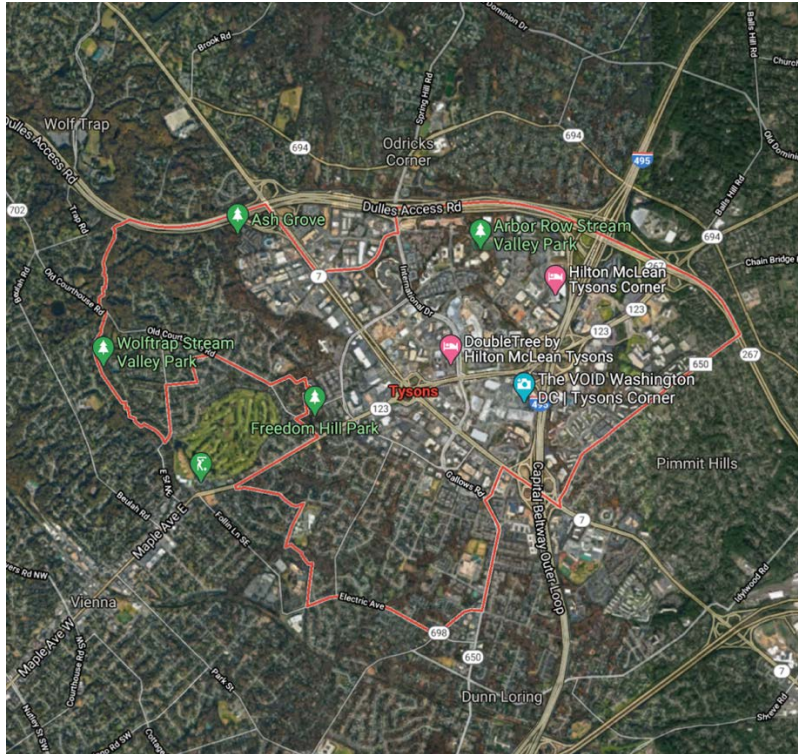


Fig 9. Tysons, VA map (Source: Google Earth Pro)

Tysons as a Future Urban Center



Fig 10. Aerial of Tysons, VA in 2016 (Source: Google Earth Pro)

Tysons, formerly known as Tysons Corner, is located in Northern Virginia in Fairfax county between McLean and Vienna alongside the Capital Beltway. The

city is locally accessible with the proximity of the Capital Beltway, Route 7 and 123, and consists of the Silver Line Metro stations with connections to DC, and the network of bus and bike lanes. With the new expansion of the Silver Line Metro to the Dulles International Airport, Tysons is soon to be internationally accessible.



Fig 11. Figure Ground of Tysons, VA (Source: Jefferson Choi)

As a satellite and high-tech city, Tysons continues to evolve as a regional commercial center with development of high-rise residential buildings and corporate headquarters, such as the Intelsat, DXC Technology, Booz Allen Hamilton, and Capital One. The city is known as “America’s next great city.”¹⁰ Consequently,

¹⁰Alex Korma, “What’s next for ‘America’s next Great City’? Tysons Leaders Look to Craft a New Identity.” (Washington Business Journal: 9 Oct. 2019).

Tysons became a congested city rather than a vibrant, livable city in the early 2000s.



Fig 12. Map of Future Development in Tysons, VA (Source: Tysons Partnership)

Now, Tysons seeks initiatives to craft a new city identity of a 24-hour urban center for people to work, live, and play.¹¹ However, the city is truly a place to work and live without the ‘play.’ By 2050, Tysons hope to quadruple its current population of residents of 19,600 to 100,000 and offer 200,000 jobs.¹² This means that the city needs to undergo urban redevelopment that focuses on people in urban settings, redesigns transportation networks, encourages green design, creates excellence in the public realm, and enhances the regional economic engine.

¹¹Amy Gardner, “Plan to Remake Tysons Corner Envisions Dense Urban Center.” (Washington Post: May 2020).

¹² “Fairfax County Comprehensive Plan.” (Fairfax, VA: 2017), 2.

History of Tysons

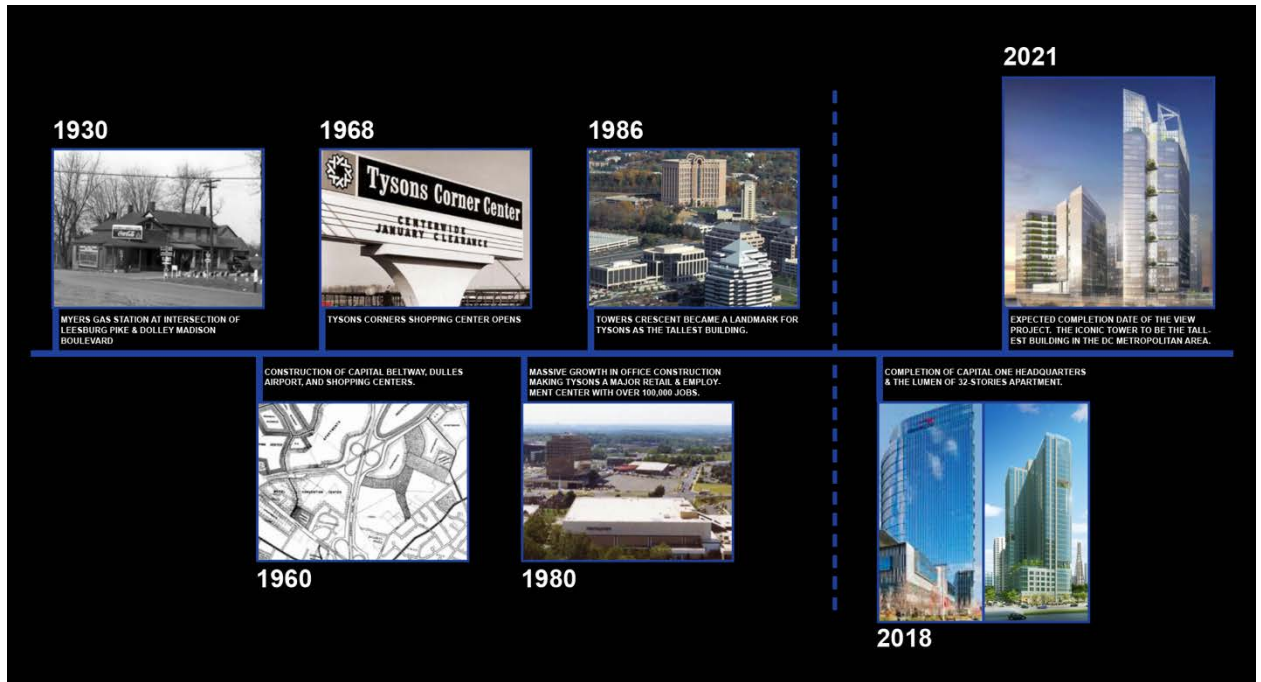


Fig 13. Timeline of Tysons, VA (Source: Jefferson Choi)

The birth of Tysons started back in the 1930s as a rich farming community with the construction of a gas station and general stores at the now intersection of Route 7 and 123.¹³ The city shifted to a new rural city in the 1960s with the construction of the Dulles International Airport, the Capital Beltway, and Tysons Corners Shopping Center. Therefore, Tysons transformed into a massive retail and corporate hub as more buildings were built, such as the iconic Towers Crescent, the tallest building of its time. Now, Tysons continues to be known as the Washington Metropolitan technology sector city of the twenty-first century with the development of the Metro Silver Line in the past decade. Tysons' skyline continues to evolve with

¹³Paul E. Ceruzzi, *Internet Alley: High Technology in Tysons Corner, 1945–2005*. (Cambridge, Mass: The MIT Press, 2008), 8.

higher buildings, such as the Capital One Headquarters, the Lumen, and soon-to-be-constructed Iconic Towers as the tallest tower in the DC area in 2021. As an overall image of Tysons appears to be a great city, Tysons is missing an overall city identity.

Site Character

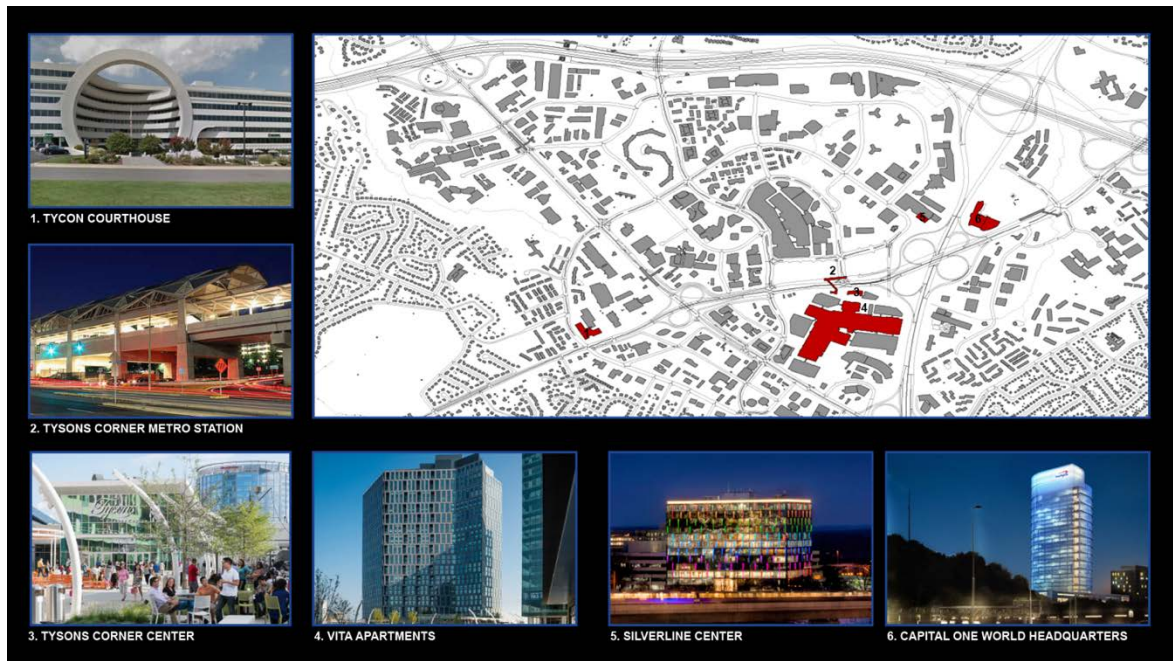


Fig 14. Typology of Tysons, VA (Source: Jefferson Choi)

Tysons is known for its innovative architecture establishing the city's transforming skyline. The large fully glazed towers make Tysons a visible landmark and an iconic international destination. The city is a mixed-use and transit-oriented center of office and residential towers, hotels, malls, elevated plazas, pedestrian bridges, and Metro stations.



Fig 15. 8 Districts of Tysons, VA (Source: Fairfax County Comprehensive Plan)



Fig 16. Existing Land-Use of Tysons, VA in 2020 (Source: Fairfax County Comprehensive Plan)

Tysons consists of eight districts with its own prominent land-use. Tysons West mainly consists of automobile sales and service buildings while Tysons East consists of office use. The West Side consists of park and green use, and the East

Side consists of residential buildings. While each district consists heavily on office use, Tysons is undergoing a change in land-use of increasing more residential to become a living urban center.

Tysons Corner Center and Plaza



Fig 17. Tysons Corner Center (Source: Jefferson Choi)

The Tysons Corner Center made the city a retail destination. The shopping mall first opened in 1968 and is the largest in the Baltimore-Washington area.¹⁴ The mall annually serves 20 million shoppers as it offers a rich diversity of 300 stores, 40 restaurants, the Hyatt Regency, and a cinema.

With the development of more office and residential towers and hotels around the Tysons Corner Center, the newly constructed plaza accommodates the new community of users. The elevated plaza raises pedestrians over the roadway and

¹⁴ Joshua Levine. "Lessons from Tysons Corner." (Forbes 145 ed. 9, 1990), 186.

connects to the pedestrian bridge toward the Tysons Corner Metro Station. The plaza is the city's main public outdoor space as it offers an event plaza, seating areas, recreational lawn, and play area.

Tysons Station



Fig 18. Tysons Metro Station (Source: Jefferson Choi)

Tysons Station is one of the four metro stations on the Silver Line in the city. It is located above Chain Bridge Road at the intersection with Tysons Boulevard and is between the two shopping malls. Like the other stations, Tysons Corners Metro Station consists of two tracks on an elevated platform and pedestrian bridge over the main road to promote pedestrian safety. This station's bridge connects the station to Tysons Corners Center. This station has two entrances with one at street level at the intersection of Chain Bridge Road and Tysons Boulevard and the other at the other side of Chain Bridge Road by the bus station.



Fig 19. Metrorail Ridership by Station in Virginia 1st Quarter in 2020 table (Source: Northern Virginia Transportation Commission)

The ridership at Tysons Station is slightly growing as there's a 14-percent increase in the first quarter of 2020 compared to 2019.¹⁵ Meanwhile, McLean Station continues to have the highest increase in ridership of about 40-percent in this time with the development of the Capital One headquarters. Bringing a development at Tysons Station can bring an opportunity to spike ridership like at McLean.

Towers Crescent

¹⁵“Ridership Data – Quarterly Data – FY2020 1st Quarter.” (Arlington, VA: Northern Virginia Transportation Commission, 2020).

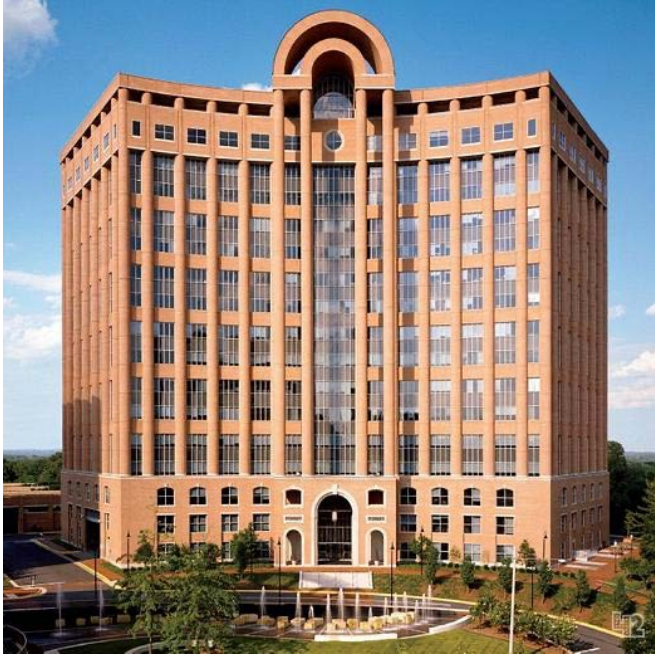


Fig 20. 8000 Towers Crescent (Source: Wikimedia Commons)

Towers Crescents is a town center that attempts to anchor the city business community with pedestrian activity. The postmodern high-rise building of 8000 Towers Crescent became the landmark of Tysons since 1986 for its visibility on the Capital Beltway.¹⁶ This high-rise building became iconic with its massive red brick column on the façade. Overall, the development consists of four buildings that integrate mixed-use space to reinforce a lively pedestrian-oriented town center connected to the Tysons Corner Center. This town center offers designed streetscape and outdoor plaza to create a lively hub for public gatherings. However, the pedestrian infrastructure is not successful as the Towers Crescents office building tried to connect Tysons Corner Center with a pedestrian bridge to the mall's parking garage. This location of connectivity isn't very inviting and allows limited access to this center.

¹⁶“History of Tysons.” (Tysons, VA: Tysons Partnership, 2020).

Capital One World Headquarters



Fig 21. Capital One World HQ (Source: Wikimedia Commons)

The Capital One Center is a mixed-use development of over 5 million square feet located in Tysons East.¹⁷ The center is projected to consist of a public sky-park, hotel, performing arts venue, a supermarket, restaurants, and more retail. The center is adjacent to the McLean Station. The Capital One Tower, known as the second largest building in Virginia, became Tyson’s recent landmark due to its visibility as it overlooks the Capital Beltway. The curved all-glass tower sits on a rectangular podium and becomes a glowing beacon at night along with the other high-rise buildings in Tysons. This development truly becomes an urban character of Tysons in a solution to transforming the city into a walkable and sustainable hub.

Enhancing the City Identity and Pedestrian Connectivity of Tysons

Implementing the new building typology of an esports venue will enhance Tysons’ future vision of a highly attractive, sustainable, and pedestrian and transit

¹⁷“Lerner Announces Capital One To Open 136,000 Square Foot Office In 1750 Tysons Boulevard At Tysons II.” (PR Newswire US, April 24 2015).

friendly urban center that will attract locals, residents, and other visitors. Although the city is within a one-mile walking distance to a metro station, users rely heavily on driving due to the poor walkability and bike-ability conditions. This thesis will seek strategies at the retail heart of Tysons Central 123 on pedestrian-friendly connections to enable the users to move easily within the city and other portions of the region with the Silver Line. This venue will also offer open space to give the people a place to gather and socialize.

Chapter 4: Site Selection

Three Potential Sites



Fig 22. The three potential site locations at Tysons, VA (Source: Jefferson Choi)

Three potential site locations at Tysons were first investigated for the esports venue: Arbor Row, Lerner Square at Tysons II, and Old Meadow Road. Then, the site locations were evaluated and ranked according to site criteria with a matrix.

Each potential site location is close proximity to the Central Tysons 123 District and seeks to enhance its pedestrian connectivity. Central Tysons 123 District is the commercial heart of the city with boulevards of retail with two enormous malls, Tysons Galleria and Tysons Corner Center, that define the city. However, this district

is only a regional shopping destination. It lacks social and cultural destinations. In the Tysons Comprehensive Plan, this district will grow even more of mid and high-rise mixed-use and residential buildings. Implementing a cultural center, such as an esports venue, and outdoor streetscape and plaza spaces would humanize this vehicular congested district, enhance pedestrian connectivity in the overall city, and even evolve Tysons' city identity as a 24-hour urban center.

Site 1: Arbor Row

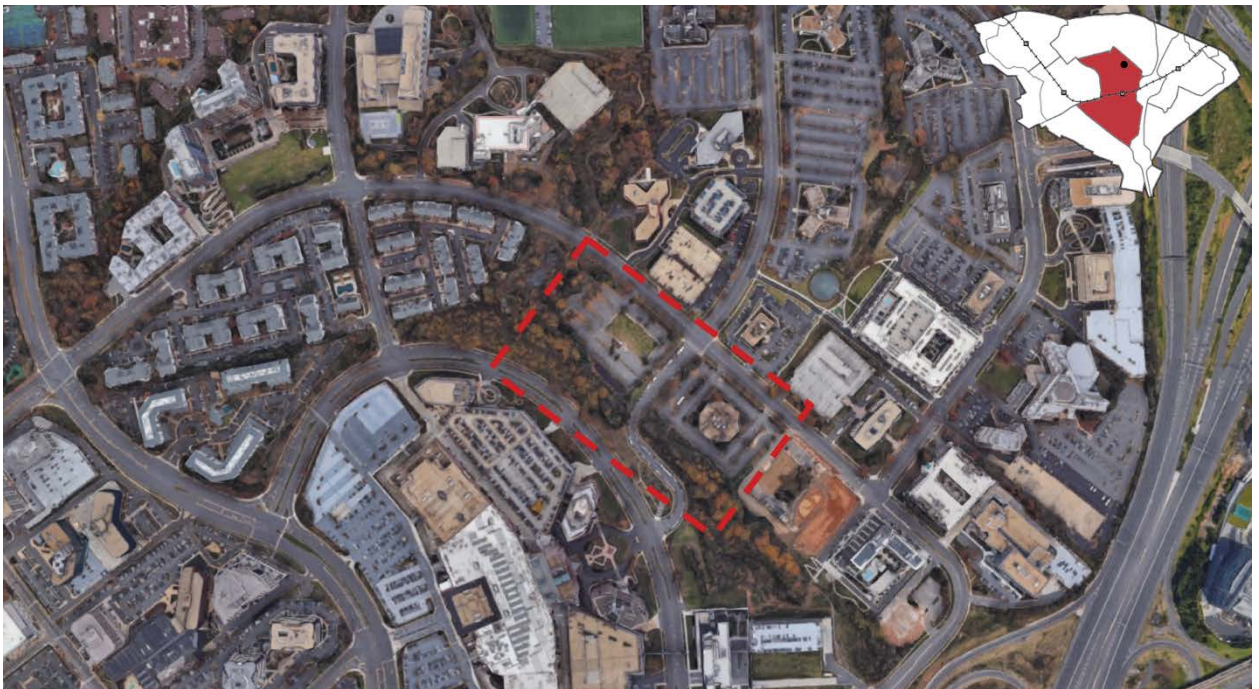


Fig 23. Site 1: Arbor Road (Source: Google Earth Pro)

The Arbor Row site suggests an opportunity for a gateway that connects the Central District, known as the working district for the boulevards of office buildings, to the Central Tysons 123 District as it sits in the intersection of Westpark Drive and Westbranch Drive. The site is within a half mile radius to Tysons Metro Station

where people can commute to work. There are high levels of activity in both districts during the day; however, after working hours, the Central District becomes quiet as it offers no user program. There is a nearby park with a stream that an esports venue can implement in order to bring some life to this district at all hours.

Site 2: Lerner Square at Tysons II



Fig 24. Site 2: Lerner Square at Tysons II (Source: Google Earth Pro)

Lerner Square at Tysons II is a current lot for entertainment events. Organized events include farmer markets, trade shows, music concerts, and, most notably, the Cirque du Soleil. The site is at the intersection of Chain Bridge Road and Tysons Boulevard and between the two malls. Additionally, it has great accessibility as it is by bus stations, the Tysons Metro Station, free on-site parking, and the pedestrian bridge connecting the Tysons Corner Center and the metro station. This

site has potential qualities in connecting the two malls as there is a massive disconnection of pedestrian activity.



Fig 25. Cirque du Soleil at Lerner Square at Tysons II (Source: Google Earth Pro)

When there is no event occurring on site, this site is left with no pedestrian users and activity except vehicular traffic. People tend to only walk on the pedestrian bridge to gather at the Tysons Corner Center, the only nearby outdoor gathering plaza. Incorporating an esports venue here can be the missing puzzle piece that makes both ends of the pedestrian bridge as destination markers.

Site 3: Old Meadow Road

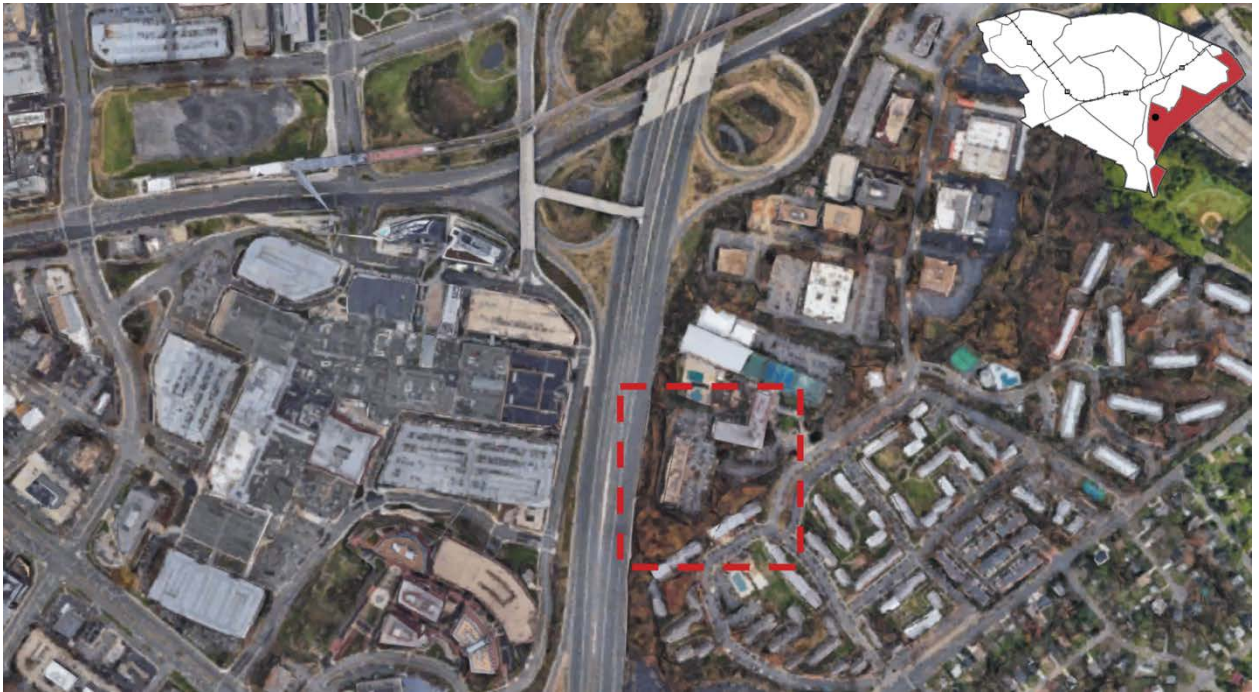


Fig 26. Site 3: Old Meadow Road (Source: Google Earth Pro)

Old Meadow Road is in the East Side District, a residential district with apartments and single-family homes, that is separated from Tysons Central 123 by the Capital Beltway. As there is a major separation between the heart of the city in this district, there is a future development of a pedestrian bridge over the beltway that leads pedestrians from this district to the Tysons Corner Center. An esports venue can connect the retail district to the residential district by making both destination districts. However, there is an existing dense urban fabric in this location that a series of apartment buildings will have to be demolished.

Site Selection: Lerner Square at Tysons II

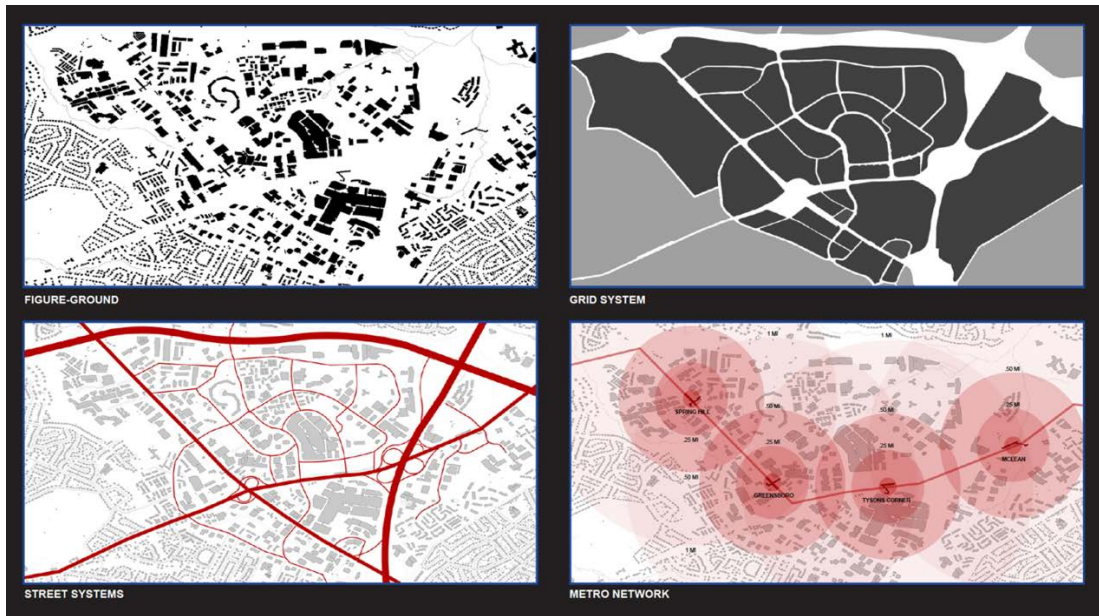


Fig 27. Series of Site Diagrams (Source: Jefferson Choi)

A major factor in ranking the sites is location as a place-branding strategy for the city of Tysons. Tysons has a challenge in bringing people and a limited amount of activity centers. Bringing the global phenomenal of an esports venue of esports will make the city unique and craft the city's identity as a 24-hour urban center.



Fig 28. Existing picture of Lerner Square at Tysons II (Source: Jefferson Choi)

The site at Lerner Square at Tysons II ranked the highest in the site selection. It is in the heart of retail which is the symbol of Tysons. As the esports venue will bring a lot of people, they will conveniently have opportunities to go to the nearby retails and restaurants after events. Additionally, it has the most pedestrian and transportation accessibility with part of the Tysons Metro Station and pedestrian bridge

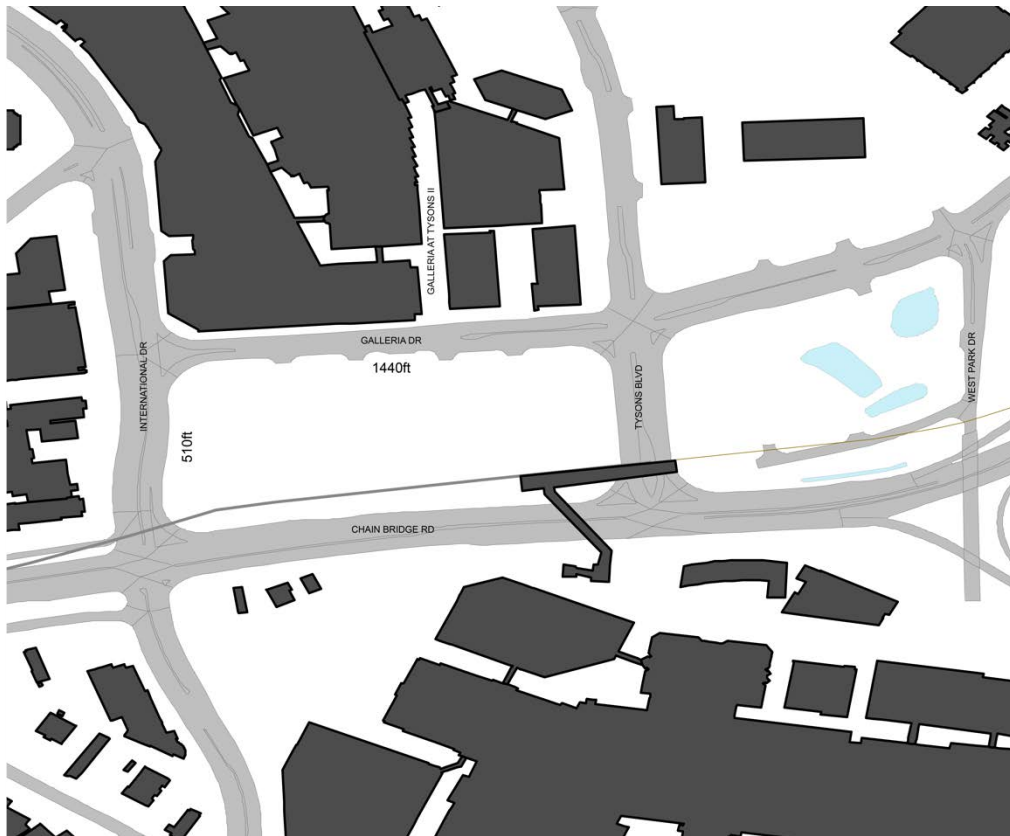


Fig 29. Lerner Square at Tysons II Site Plan (Source: Jefferson Choi)

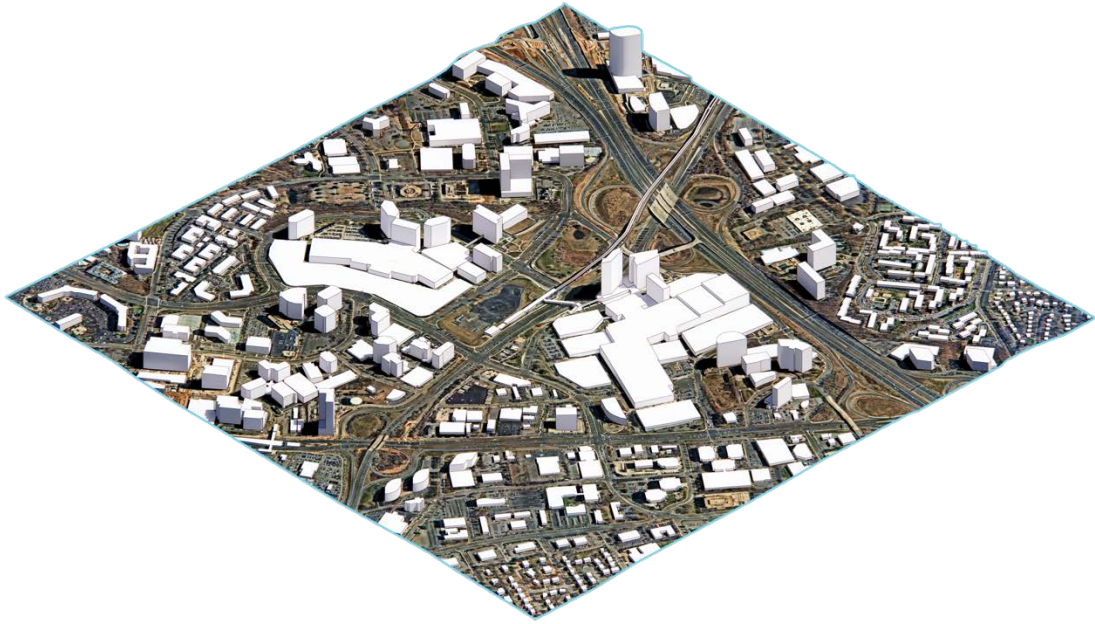


Fig 30. Lerner's Square at Tysons II Site – Axon (Source: Jefferson Choi)



Fig 31. Lerner's Square at Tysons II Site – Aerial (Source: Jefferson Choi)

Site Criteria	Site 1 – Arbor Row	Site 2 – Lerner Square at Tysons II	Site 3 – Old Meadow Road
Potential Site for Place-Branding Strategy	Opportunity to be a gateway between heart of retail and office district on the North edge by the Tysons Galleria. 6/10	In the center of the heart of retail of Tysons Central 123 District between the two malls that are the symbol of the city of Tysons. 9/10	In the center of the heart of retail between the two malls of Tysons. 5/10
Pedestrian Connectivity	Rarely pedestrian activity due to unsafe walkability to the site from the malls. 5/10	Existing pedestrian bridge that connects the Tysons Metro Station to Tysons Corner Center. Opportunity to promote more walkability to Tysons Galleria. 8/10	Opportunity to connect the heart of retail with the residential district with the future development of a pedestrian bridge over Capital Beltway. 7/10
Accessibility to Transportation	Within ½ mile walking distance to Tysons Metro Station & bus stops. 8/10	On-site to Tysons Metro Station and nearby bus connector stations. 10/10	Within 1-mile walking distance to Tysons Metro Station & McLean Station. 6/10
Proximity to Local Retail	Across the street of the Tysons Galleria. 7/10	In the center of the two malls. Opportunity to activate the malls after events. 10/10	Farthest from the malls as site in the residential district. 5/10
Visibility as Landmark	Farthest from the Capital Beltway. Site hidden by the Tysons Galleria. 2/5	Immediately visible when drivers enter the city from Capital Beltway. 5/5	Site overlooks the Capital Beltway for drivers passing by. 4/5
High-Tech Surrounding	Some nearby tech buildings intertwined with park surroundings. 3/5	Site surrounding of high-rise buildings like the VITA Towers that light up the city's skyline. 4/5	Site surrounding is brick masonry residential buildings. 1/5
Digital Technology Connectivity	Close proximity to tech companies in the office district. 3/5	Very close proximity to many tech companies, like the Intelsat & DXC Technology. 4/5	Closest technology connectivity is the Capital One Center which is a bit far. 2/5
Potential Sustainable Design	Opportunity to connect with the Arbor Stream Valley Park. 4/5	Potential to replace the existing asphalt lot. 3/5	Existing apartments and trees will need to be demolished. 2/5
Total	38/60	53/60	32/60

Fig 32. Site Matrix used to rank potential site (Source: Jefferson Choi)

Evolving the Next Phase of Tysons' Identity



Fig 33. Surrounding conditions around Lerner Square at Tysons II (Source: Jefferson Choi)

Now, when there are no events occurring at the Lerner Square at Tysons II, the area becomes a dead center of pedestrians with only vehicular traffic going to the Tysons Galleria. Pedestrians only gather around the Tysons Metro Station and Tysons Corner Center. This site needs the elements of the Tysons Corner Center plaza with addition of an events venue.



Fig 34. Signs on site showcasing future Tysons III development (Source: Jefferson Choi)

The site at Lerner Square at Tysons II provides an opportunity to evolve the next phase of Tysons' identity as an urban center for living, working, and playing. A future 2 million square feet mixed-use development is planned on this site known as Tysons III. This development will bring more office and residential space, hotels, and street-level retail. Implementing an entertainment venue with the future development will enhance the continued success of this retail district, provide a significant amount of activity centers and business

Chapter 5: Precedent Analysis of Esports Venues

This thesis investigated four main building types where esports are played: esports specific venues, convention centers, entertainment venues, and LAN centers. Additionally, international venues were examined to understand the global design functionality and requirements in an esports environment and site context. Each venue varies in scale, and current facilities are retrofitted to host esports events. Many of these venues lack space and design requirements for the large number of gamers and fans to physically attend. Just like those of traditional sports, esports fans want to engage and have a dedicated space to go watch esports competitions.

Esports Specific Venues

With the world of esports rapidly growing, there are only a few venues dedicated solely to esports. They utilize similar design principles of traditional sports settings to the virtual gaming world. These venues have permanent setups with high-tech equipment, staging, and seating for main events and other programs, such as broadcasting studios, training facilities, and team offices. However, the esports venues are at a smaller scale that typically hosts 500-1,000 seats. Many of these venues lack physical user-experiential quality as they tend to focus more on competition broadcasting.

Esports Stadium Arlington & Expo Center



Fig 35. Rendering of Esports Stadium Arlington (Source: Populous)

Esports Stadium Arlington is an example of an adaptive reuse model of an esports venue. It is the largest esports venue of 100,000 square-feet.¹⁸ Populous, an architecture firm specializing in sporting facilities and convention centers, gave a second life to a former convention center of 175,000 square-feet as it transformed more than half of its size into an esports venue with a \$10 million budget.¹⁹ The City of Arlington seeks to make the city and capital city of competitive gaming in the heart of North America and attract tourism as a thriving high-tech entertainment city.

The exterior shell of the building had minimal changes excluding the added blue light beacon and blue exterior lights in the arcade. The interior spaces were primarily transformed. Populous utilized three principles of versatility, community,

¹⁸ Infinite Esports & Entertainment, *CORRECTING and REPLACING City of Arlington Partners with Esports Venues to Open Esports Stadium Arlington, 100,000 Sq. Ft. Space for Competitive Gaming, This Fall.* (Business Wire, 2018).

¹⁹ O.K. Carter, *Arlington Is Betting on Esports to Add to Th e Draw.* (Fort Worth Business Press, Nov. 2018).

and quality. The main room in the venue, which used to be the old ballroom, can transform to any theme as it features 2,500 seating, gaming pods for players, and a built-in 85 feet long LED wall screen with theatrical lighting and immersive sound system. This space allows integrated player and spectator screens with engaging sightlines. The venue engages the community throughout the day as it consists of other programs, such as a retail store, local competition space, gamer gallery, team practice and lounging space, and production studio space. Lastly, the venue promotes excellent quality of a futuristic, stunning stage.

HyperX Esports Arena, Las Vegas, NV (2018)



Fig 36. Photo of HyperX Esports Arena (Source: Allied Esports)

HyperX Esports Arena is the first dedicated esports in the Las Vegas strip and is an example of an object building in its context. It opened in 2018 in the Luxor Hotel and its iconic casino pyramid. The venue consists of a multi-level 30,000

square-foot space with a LED-wall.²⁰ Other programs include broadcasting studio, exhibition space, VIP lounges, and drinking bar. As the strip is known for its nightlife, the iconic pyramid ejects a light sky beam

Philadelphia Fusion Arena, Philadelphia, PA (2021)



Fig 37. Rendering of the Philadelphia Fusion Arena (Source: Populous)

The Fusion Arena is a \$50 million project by Populous known as the largest new construction esports venue of 60,000 square-feet in the United States as its even theater consists of 3,500 seating located in Philadelphia.²¹ The floorplan is shaped as a diamond jewel. Upon entering, users are welcomed by a massive interactive media surface screen throughout the entire entry lobby. The events operation and training center flanks the main theater room.

²⁰ HyperX, *HyperX and Allied Esports Announce HyperX Esports Arena Las Vegas*. (Business Wire: 2018).

²¹ Comcast Spectacor and The Cordish Companies, *Comcast Spectacor and The Cordish Companies Announce \$50 Million, Next-Generation Esports Arena in the Heart of the Philadelphia Sports Complex*. (Business Wire: 2019).

The arena will be situated in the South Philadelphia Sports Complex. The exterior of the venue is very bold and powerful. A sleek skin matches the industrial heritage of Philadelphia as the body illuminates light by its other neighboring sport venues.

Convention Centers

Convention centers were the first spaces used to host esports events in cities due to their large and adaptable open-space design. Convention centers can easily transform a space into complex spacing and adopt logistical requirements for esports events. With multiple open rooms, large convention centers are capable of hosting multiple matches simultaneously. Additionally, convention centers can accommodate other entertainment aspects, such as virtual reality demonstrations, video game expos, tournaments, dance competitions, and cosplay, to attract and elevate a diverse community of enthusiasts.

Convention centers need some improvements in their physical design and technology areas. A major downside to convention centers is the temporary set-up. Furniture and advanced technology like computers, digital screens, large video boards, LED ribbon boards, and speakers, must be brought to it and then disassembled. Also, not all convention centers provide high-performing technology as esports depend heavily on broadcast and internet needs.

The Austin Convention Center, Austin, TX



Fig 38. DreamHack Austin at Austin Convention Center (Source: DreamHack Austin)

The Austin Convention Center holds the annual DreamHack, an expo of digital and esports. This convention center sits in the heart of Austin, Texas. The main room becomes a massive computer room with not a lot of breathing room. In order to accommodate the hundreds of computers, hanging wire outlets are suspended from the exposed trusses.

Entertainment Venues

Other entertainment venues, such as traditional sporting venues and concert and performance halls, are commonly used as they are easily adaptable for large esports events. Many of these venues consist of a bowl seating or center stage which is ideal for esports viewing and heightens the viewing atmosphere.

Staples Center, Los Angeles, CA



Fig 39. Staples Center at League of Legends Season 3 World Championship (Source: Mark Terrel, AP Photo)

The Staples Center sold out 10,000 tickets in a single day in 2013 for the League of Legends Championship.²² This stage center is ideal for esports for its center setup. This provides a 360-degree sight for spectators and broadcasting. The existing massive monitors that are typically used for sports and entertainment events give spectators engaging viewing of the game.

The Anthem, Washington, D.C.

²² Mike Snider, *Legends Has It That This Is a Big League Play*. (USA Today: 2013).



Fig 40. Esports Event at The Anthem (Source: Kelyn Soong, Washington City Paper)

The Anthem is a music venue that became the first esports home in Washington, D.C. at the Wharf.²³ Local teams battle out as the venue transforms from a music hall to an esports stage. With the sloped and balcony theater setup, spectators get an easy viewing of the main stage. Although this venue consists of 6,000 seating, the esports stages layout limits the capacity to 2,000.

²³ Teddy Amenabar, *Overwatch League Arrives in District*. (The Washington Post: 2020).

Entertainment and Sports Arena, Washington, D.C.



Fig 41. Esports Event Rendering at Entertainment and Sports Arena (Source: Entertainment and Sports Arena)

Entertainment and Sports Arena (ESA) is the second home for esports in Washington D.C. For esports events, the basketball arena at ESA transforms into a seating stage by unveiling the black-out curtains over the screen and light. The equipment grid is used for traditional sports and esports. Although this is a very flexible space, the arena is a smaller scale that creates a sense of intimacy for basketball games and esports events as spectators are closer to the players.

LAN Centers

LAN centers are usually computer cafes and gaming centers that provide public computers connected to a shared local area network for primarily multiplayer computer games. These social gaming centers are highly used in South Korea,

known as PC bang, where users pay hourly rates and can order food and drinks like in a café.

Hunter-M eSports PC Gaming, Annandale, VA



Fig 42. Lobby of Hunter-M eSports PC Gaming (Source: Hunter-M eSports PC Gaming)

Hunter-M eSports PC Gaming uses a modern technology interior style with the color of white and an accent color of a light blue. The glowing led reflects on the glossy white finishes. The hanging ceiling features add on to the futuristic look to the LAN center.

LocalHost Denver, Lakewood, CO



Fig 43. Computer Gaming Room at LocalHost Denver (Source: Andy Cross, Denver Post)

LocalHost Denver is a training ground for trainees of esports through bootcamps and provided equipment. The Denver location features a curved vaulted center with exposed wooden beams to provide a double height space that allows proper interior lighting and acoustics from a communal projector screen. This sets a very comfortable lounge space.

International Precedents

Dongdaemun Design Plaza, Seoul, South Korea, 2014



Fig 44. Dongdaemun Design Plaza at night (Source: Eugene Lim, Flickr)

The Dongdaemun Design Plaza (DDP) is a multi-purpose cultural center as part of the urban rejuvenation of Seoul to revitalize the cornerstone of the area by replacing an old stadium. This object building is a place identity due to its neo-futuristic shape, materiality, lighting, and approach relation to the site context. Consequently, the building is radically different to the city's historic preservation and surrounding site character. Yet, this plaza becomes a crowded landmark at night due to its uniqueness and three types of contemporary programs: park, exhibition space, and social spaces.

Seoul World Cup Stadium, Seoul, South Korea, 2001



Fig 45. League of Legends Championship at Seoul World Cup Stadium (Source: Wall Street Journal)

The Seoul World Cup Stadium is an example of a larger scale of bringing 40,000 fans. The stadium was originally built for the 2002 FIFA World Cup as South Korea's second largest stadium. The stadium follows a traditional football stadium scheme with a unique shaped roof that overcasts the terraced seating area. This shows how big of an esports event can be and how it can repurpose an existing traditional sports venue.

Chongqing Zhongxian ESports Stadium, Chongqing, China, 2018

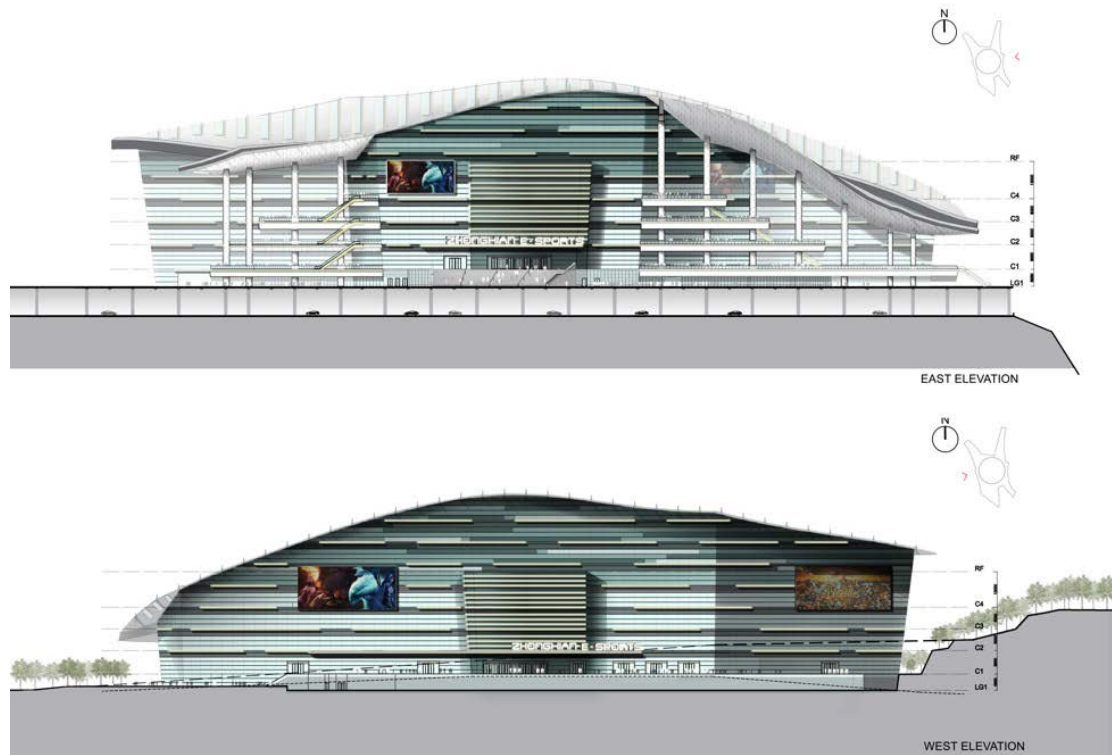


Fig 46. Exterior elevations of the Chongqing Zhongxian ESports Stadium (Source: South China Morning Post)

Chongqing Zhongxian Esports Stadium is the largest venue dedicated to esports in the world. The complex consists of retail shops, a luxury hotel, exhibition space, and a cafeteria. The stadium can accommodate 20,000 people. This building is unique for large digital screens on its glass curtain walls that flood within its interior as well. This connects the esports fandom from outside to inside.

Chapter 6: Program Analysis

Analysis of Users

As Tysons Esports Stadium & Expo Center offer a wide list of different programs, it will draw in many different levels of users such as professional esports players, esports fans and spectators, and amateur fans. In designing an esports venue in Tysons, hypothetical users based on real people are described below.

Roger, Professional Esports Player



Fig 47. Source: Flickr.com, Creative

Commons

Roger is a resident of Tysons and a player for the Washington Justice, a professional Overwatch team based in Washington DC. He joined the team in 2019 and played at many home tournaments at the two esports venues in DC: The Anthem and Entertainment and Sports Arena. Roger is happy that there is finally a place for his team to play in DC; however, his team wishes there was a permanent venue dedicated to esports, so they don't have to constantly bring in their equipment and then disassemble them after an event. Roger hopes to get his name more publicly known as an esports player and grow the phenomenon of esports in the DMV area.

Peter, Esports Fan & Amateur Streamer



*Fig 48. Source: Pexels.com,
Creative Commons*

Peter is a teenager living in Fairfax who is an active esports fan. He and his friends stream on twitch and ESPN to watch their favorite player every night. Peter enjoys that he can cheer for his favorite esports players in his bedroom behind a computer screen.

However, he wishes he can see esports games in person where he can actively shout and cheer as a fan. He attended one esports game at the Anthem in DC, but he sat in the far back of the theater and had a hard time seeing the game.

Gloria, Full-Time Student & Commuter



*Fig 49. Source: Pexels.com,
Creative Commons*

Gloria is a full-time student at the Northern Virginia Community Virginia (NVCC) studying economics. She helped establish esports at the varsity level, the first public institution in Virginia. Gloria is glad that she helped grow the vibrant gaming

community on campus. Gloria seeks to stretch the esports team to a bigger facility so more teams and students from different campuses of NVCC can gather to play video games. Additionally, Gloria commutes by the Silver line metro train and is seeking more places in Tysons to hang and study.

The Esports of Stadium Arlington & Expo Center, located in Arlington, Texas, greatly influenced this thesis program analysis. This venue is a community hub for the Dallas-Fort Worth region as the current largest esports venue in North America. The main programmatic breakdown of this venue consists of three main parts: the front of the house, the center of the house, and the back of the house. The front of the house consists of main communal programs: lobby, public gaming center, concession stands, merchandise store, lounge spaces, and classrooms. The center of the house consists of the main attraction of the venue: exposition space of 76,000 square feet and esports stadium of 30,000 square feet with broadcasting room and VIP booths. The back of the house consists of the service and maintenance spaces: loading area, electric room, mechanical room, and cafeteria. This tri-partite grouping of programs will be implemented in this thesis.

The esports venue at Arlington successfully establishes a connectedness with the community by not only offering flexible space for scheduled exposition and esports events, but by also providing an opened public gaming center at the main entry space with concession stands of food and beverages and merchandise retail for more experiential enhancement. The gaming center is a grand place where users share space and engage with other local players by playing the latest video games on different platforms. Other events such as weekly tournaments and meet-ups further enrich the community experience. This thesis will echo the successful tactic of community connection and engagement at Arlington with an esports venue and exposition center.

The Esports of Stadium Arlington & Expo Center is situated in an area with a heavy emphasis on driving and detached from the city. There is a natural lake and park with trails that connect the esports venue to hotels, a baseball sport venue, an amusement park, and other entertainment venues. However, there's a pedestrian disconnection within the city at a human-scale as everything is separated apart. There is high traffic after events in this area, and solutions to mitigate traffic and increase walkability should be investigated. This thesis hopes to offer solutions at Tysons by connecting the venue with existing and future development that will also enhance pedestrian connectedness in the city.

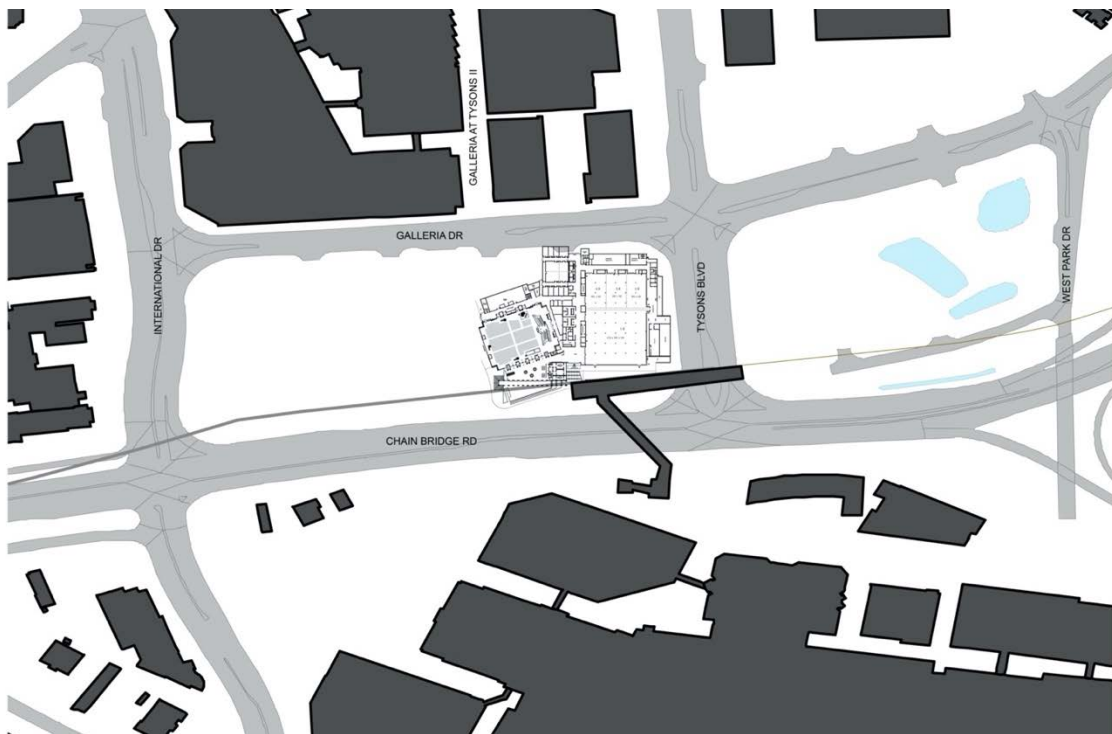


Fig 52. Esports Stadium Arlington & Expo Center placed on Tysons site (Source: Jefferson Choi)

Program Requirements of Tysons Reboot

The Tysons Esports Venue & Expo Center will be an entertainment hub that will evolve the city of Tysons in the future as it shapes the city identity as a living, playing, and working community. The venue is at a large scale of approximately 170,000 square feet. To accomplish this design intent, this esports venue and expo center must provide numerous space types with additional surrounding building typologies. Like the Esports Stadium Arlington & Expo Center, the Tysons Reboot will programmatically follow the front of the house, center of the house, and back of the house.

TYSONS ESPORTS VENUE											
FRONT OF THE HOUSE	ROOM	NET SF (NSF)	GROSS SF (GSF)	CENTER OF THE HOUSE	ROOM	NET SF (NSF)	GROSS SF (GSF)	BACK OF THE HOUSE	ROOM	NET SF (NSF)	GROSS SF (GSF)
	LOBBY	4,000 NSF	4,120 GSF		EXPO ROOM	60,000 NSF	61,800 GSF		STORAGE	7,500 NSF	7,725 GSF
GAMING CENTER	5,500 NSF	5,665 GSF	ESPORTS ARENA (2,500 SEATS)	30,000 NSF	30,900 GSF	SERVICE	5,000 NSF	5,150 GSF			
OFFICES	5,000 NSF	5,150 GSF	VIP BOOTHS	500 NSF	515 GSF	ELECTRIC ROOM	1,000 NSF	1,030 GSF			
CONFERENCE ROOM	400 NSF	412 GSF	BROADCASTING ROOM	500 NSF	515 GSF	UTILITY ROOM	1,000 NSF	1,030 GSF			
RECEPTION SUITE	1,000 NSF	1,030 GSF	TECH ROOMS	800 NSF	824 GSF	RESTROOMS	4,800 NSF	4,944 GSF			
CONCESSION	1,200 NSF	1,236 GSF	PRACTICE ROOM 1	500 NSF	515 GSF	BANQUET KITCHEN	4,000 NSF	4,120 GSF			
EXHIBITION HALL	2,000 NSF	2,060 GSF	PRACTICE ROOM 2	200 NSF	206 GSF	MISC. (CIRCULATION)	30,000 NSF	30,900 GSF			
TOTAL	19,100 NSF	19,673 GSF	PRACTICE ROOM 3	200 NSF	206 GSF	TOTAL	53,300 NSF	54,899 GSF			
			PRACTICE ROOM 4	200 NSF	206 GSF						
			PRACTICE ROOM 5	400 NSF	412 GSF						
			PRACTICE ROOM 6	400 NSF	412 GSF						
			PRACTICE ROOM 7	400 NSF	412 GSF						
			PRACTICE ROOM 8	400 NSF	412 GSF						
			PRACTICE ROOM 9	400 NSF	412 GSF						
			LOUNGE ROOM 1	800 NSF	824 GSF						
			LOUNGE ROOM 2	1,200 NSF	1,236 GSF						
			TOTAL	96,900 NSF	99,807 GSF						

TYSONS ESPORTS VENUE	NET SF (NSF)	GROSS SF (GSF)
TOTAL	169,300 NSF	174,379 GSF

Fig 53. Program Tabulation of Tysons Esports Venue & Expo Center (Source: Jefferson Choi)

Front of the House: Public Communal Space, Training Facility, and Offices Spaces

Like the Esports Stadium Arlington & Expo Center, Tysons Esports Stadium & Expo Center consists of the public communal spaces at the main entry. This

includes a main lobby space, the public gaming center, exhibition space, concession stands, merchandise retail space, and reception suite rooms. These public spaces will make the venue active throughout the day even where there isn't an event hosting. Users will be welcomed to showcase and connect with others who share interests in video games and esports.

Additionally, the venue provides training spaces through lounge spaces and practice rooms for esports teams. Like in professional traditional sports, comfortability and relaxation for team members are very vital. Providing these private spaces would enhance team bonding

Center of the House: Esports Stadium & Exposition Space

The main esports stadium will be 30,000 square-feet for 2,500 spectators. This is a large-scaled space for a major esports event for the DMV area as the location is regionally accessible through the metro station and internationally through the Dulles airport. The esports stadium's design follows a bowl-design with high-ceilings to provide enhanced sightlines and acoustics throughout for all audience members.

The stadium consists of massive built-in LED walls for 360-degree viewing. The recessed central competition stage is casted with theatrical lighting and sound systems that steals the show and immerse the crowd in gameplay. The stadium provides VIP booths with elevated vantage points for enhanced viewing. Additionally, the stadium consists of broadcasting and press rooms to live-broadcast the esports competitions for fans to stream online.

Back of the House: Service, Mechanical, & Technological Space

The back of the house provides services that maintain the venue. As this facility requires high-technology maintenance, programs include audio-visual production rooms, IT support rooms, and electric and telecom rooms. The facility consists of tech rooms to provide high-performance wi-fi infrastructure to manage the demand of fans' wireless broadband expectations. Lighting and sounds rooms will be provided to control the arena bowl lighting, sound, and video boards.

Other service spaces include catering space and cafeteria for food and beverage facilities for large events. The back of the building provides covered three-bay loading docks with direct access to the exposition center and esports stadium.

Activated Podium: Urban Green Plaza, Retail, & Parking

As an urban strategy, the esports and exposition venue will sit on a podium to elevate the community experience, activate the street level, and control the street scale like the podium condition at Vita Tysons Corner Center across the street. The podium contains a curated mix of retail and restaurant base at above-grade with below-grade parking for the venue. The podium will serve an architectural aesthetic method of a parking structure rather than providing eye-soar parking garages in which Tysons consists of many.

The site has a grade change from east to west with the west side being the highest grade. The Northern corner of the site at the intersection of Galleria Drive and Tysons Boulevard will have an accessible promenade that brings users up the

podium above street level. The podium can introduce a potential pedestrian bridge to the Tysons Galleria to enhance pedestrian connectedness between the two malls. The podium consists of urban green plaza for opportunities for users to spill outside of the venue. The façade of the building consists of a large LED digital screen that immerse users in a digital experience. As Tysons only consist of one main outdoor plaza in the Tysons I area, another podium urban space connects users to Tysons II. Ultimately, this podium will become a place to connect and discover as an innovative retail and entertainment community of Tysons.

Chapter 7: Design Proposal of the Tysons Reboot

Design Tenets

The five design tents of the Tysons Reboot strive to evolve the city of Tysons into a futuristic tech city. The first tenet is to establish a city landmark and gateway with a pedestrian bridge as users enter the city from the beltway and branch off to the other districts. The second tenet is to enhance the pedestrian connectivity between the two malls as there is a current gap between them. The third tenet is to provide a digital experience by accelerating the digital transformation with the built environment. The fourth tenet is to promote a 24-hour urban center of work, play, and live by increasing program of activity in the retail heart. The fifth and final tenet is to establish a smart, high-performing building that utilizes smart technology to provide a more safe, healthy, and resilient urban life.



Fig 54. 5 Design Tenets (Source: Jefferson Choi)

Early Schemes

The early schemes explore opportunities to link together the two parcels separated by Tysons Boulevard. Methods such as hovering, flowing, and bridging were examined to provide a new development with programs: esports venue, hotel, mixed-use, offices, residential, and green space.

The hover scheme places a single mass over the Tysons Boulevard. The mass appears floating to entirely connect both parcels. This creates a potential tunnel below the building that can be transformed into a digital fusion experience with led lights and screens for pedestrians and vehicles.



Fig 55. *Hover Scheme* (Source: Jefferson Choi)

The flow scheme introduces an organic bridge that connects edge to edge of both parcels. This organic bridge becomes an elevated pedestrian bridge for users to

walk through the entire site. The venue is split into two separate buildings while the organic bridge interrupts through the mass. This allows more fluidity between the venue and activates the entire development.

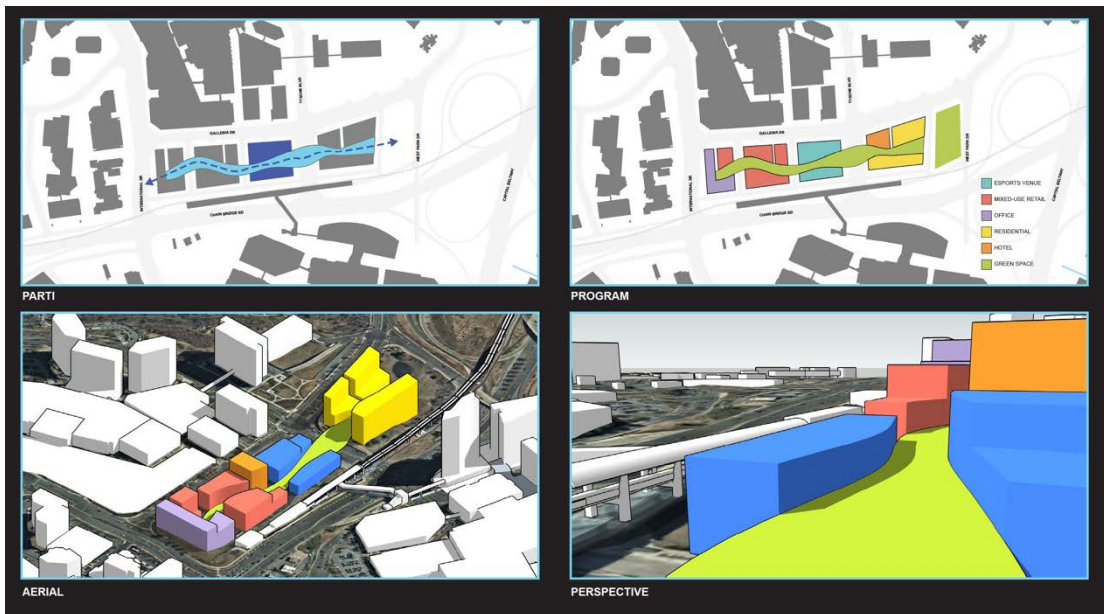


Fig 56. Flow Scheme (Source: Jefferson Choi)

The bridge scheme introduces a pedestrian bridge following an ellipse ring. The pedestrian bridge can provide programmatic space where users can circulate to both sides of the site and interact with the community. In this iteration, the larger mass on the west side consists of the esports venue and the east mass consists of the expo space. This bridge scheme was selected to continue to develop for its advantageous character of providing a new landmark to the city, enhancing pedestrian connectivity, and establishing a new 24-hour urban center.

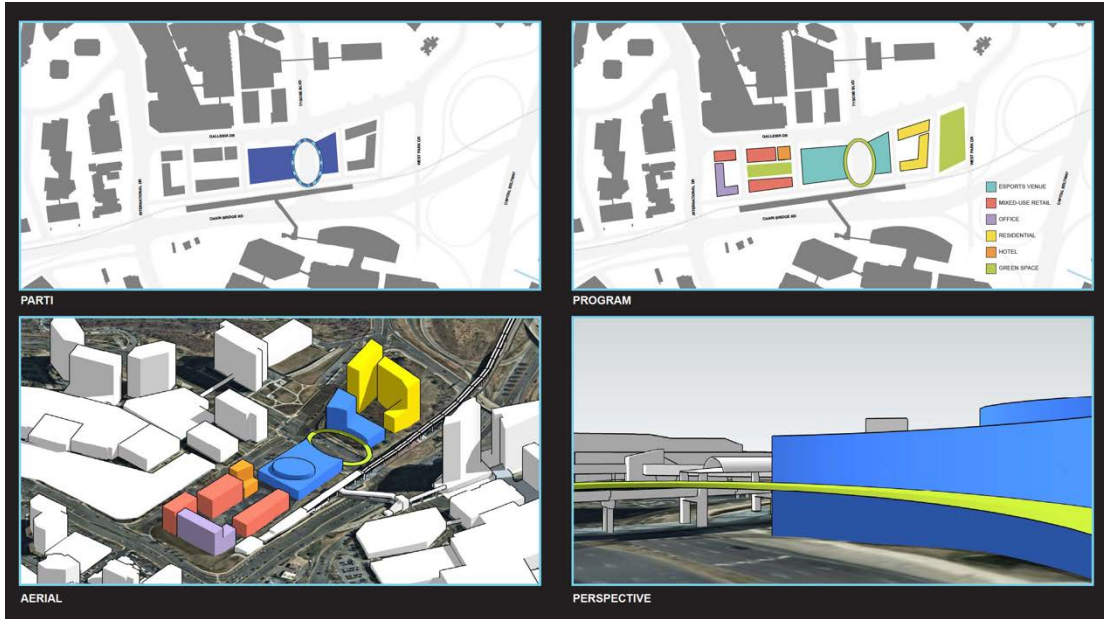


Fig 57. Bridge Scheme (Source: Jefferson Choi)

Parti: Going Beyond the Game

The bridge scheme evolved to provide a development of buildings in the two parcels following the edge of the orthogonal streets. At the Tysons Boulevard, the Tysons Reboot introduces a new form of an ellipse ring that goes against the typical orthogonal shape of buildings. This new pedestrian bridge, named the Player Ring links the transit hub on the west side with the residential development on the east side. Additionally, the Player Ring connects the Tysons Reboot venue to the hotel which maintains the same dialogue between both parcels.

This development densifies the city in which there used to be a void and disconnection between the two main shopping malls. The buildings follow a footprint at a human-scale to humanize the site. The overall scheme heightens the connectiveness throughout the site for metro riders, car drivers, and walkers. Programmatically, the west consists of mixed-use development of residential, retail,

and corporate buildings with an elevated courtyard space with the esports and expo venue building. The Player Ring brings users to the hotel of the venue and another elevated courtyard space to flow to the mixed-use residential high-rise buildings and then to a city park.

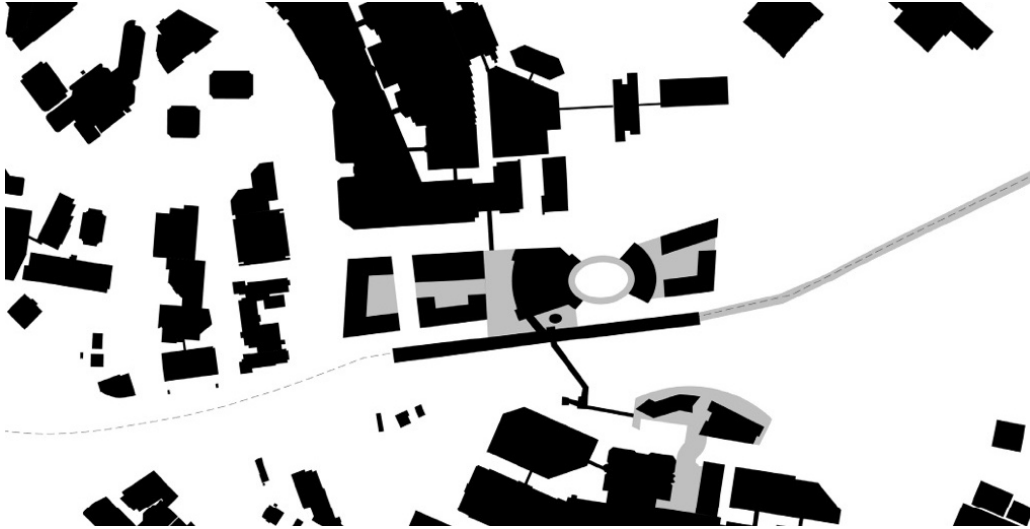


Fig 58. Figure ground of master plan and the Tysons Reboot (Source: Jefferson Choi)



Fig 59. Site axonometric with proposal (Source: Jefferson Choi)

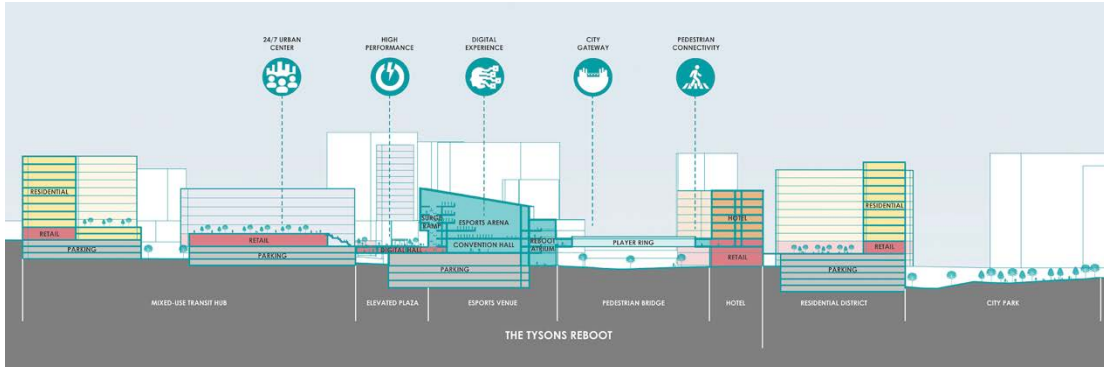


Fig 60. Programmatic site section (Source: Jefferson Choi)

The part of the venue building follows the ellipse ring that echoes the bar shapes of the hotel and atrium mass. The esports arena follows a wedge shape as the crown of the mass flanked by two bars on the north and south side for other programs in the space. The Player Ring provides the strong connectivity between the hotel and venue from the street level. The west side of the building introduces a vertical circulation that guides users to ascend and descend the venue and to experience a digital realm. The elevated courtyard becomes a flood out space for the venue for different users to develop a dialogue between the interior and exterior space.

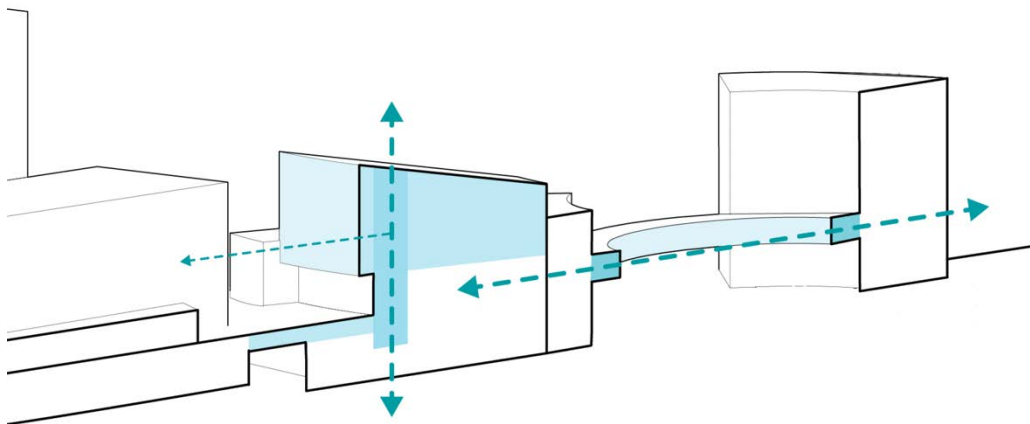


Fig 61. Part of the Tysons Reboot (Source: Jefferson Choi)

The development of the Tysons Reboot in the retail heart establishes a connected city. The development will bring more ridership to the Tysons Metro Station. There will be more pedestrian connectivity between the Tysons Mall and Tysons Galleria. With the other future development throughout the city, this new urban center can become a model for Tysons.

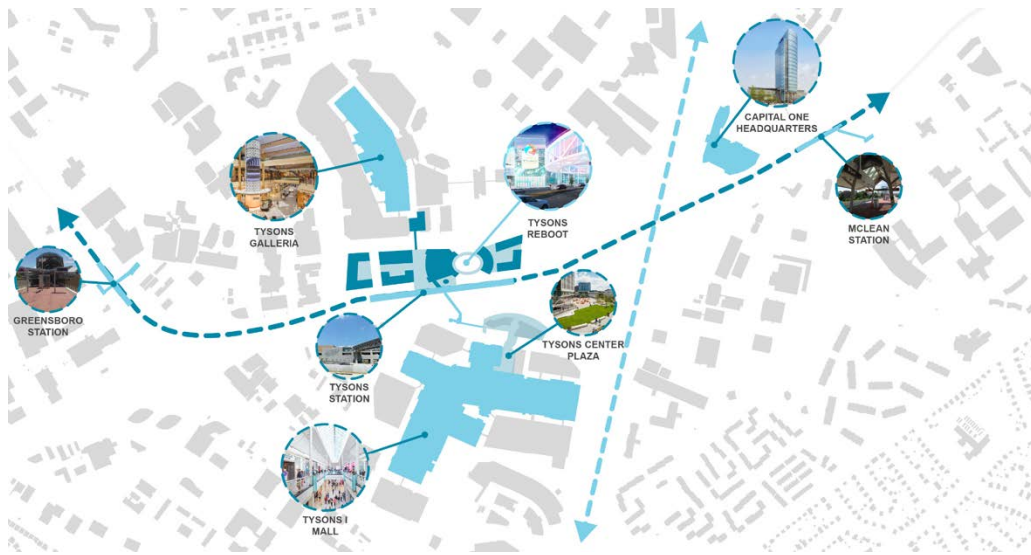


Fig 62. Place diagram with Tysons Reboot intervention (Source: Jefferson Choi)



Fig 63. Site plan (Source: Jefferson Choi)

Plans

On street level, metro riders or walkers have the options to enter the metro station itself to escalate to the ticketing level (the third floor of the venue), the hotel lobby on the east side, or the venue itself on the curved bar. The surrounding street level consists of additional retail space to enhance the street experience. On the first-floor, users are introduced to a quadruple height atrium space that is use for exhibitions and flex space. The atrium consists of double stairs with LED lighting to guide users to ascend upwards. This space also exhibits a large interior digital screen.

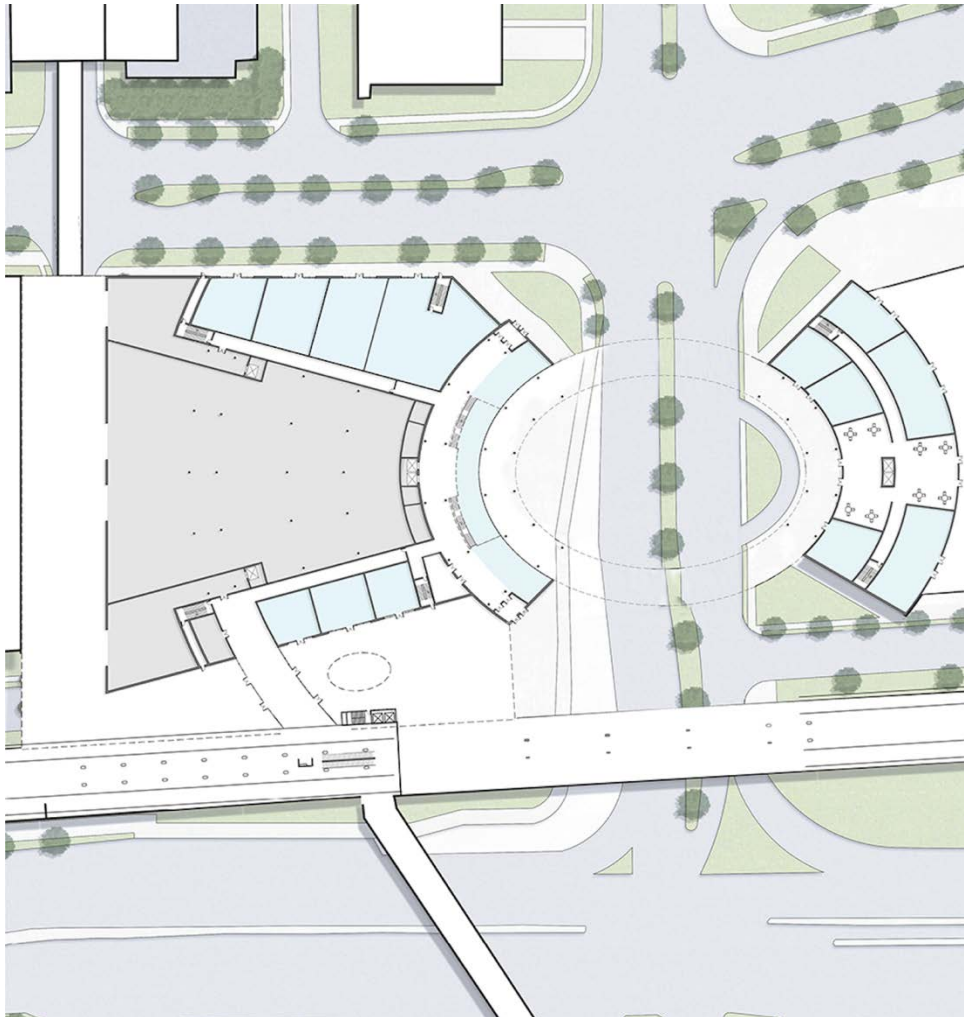


Fig 64. First Floor Plan – Street Level (Source: Jefferson Choi)

The second floor, also the same level of the metro boarding level, consists of the digital retail hall, large exposition space, and smaller exposition rooms. The digital hall has limited natural lighting as it is beneath the elevated courtyard and flanked by the metro station and other buildings. An oculus void is featured to bring in natural lighting on the south side and an opportunity to peak down below retail spaces on the street level below. The digital hall is crafted for artificial lighting and becomes a digital realm. Walls consist of LED interactive screens, and the retail spaces become areas for future tech and art exhibits, retail, and VR arcade.

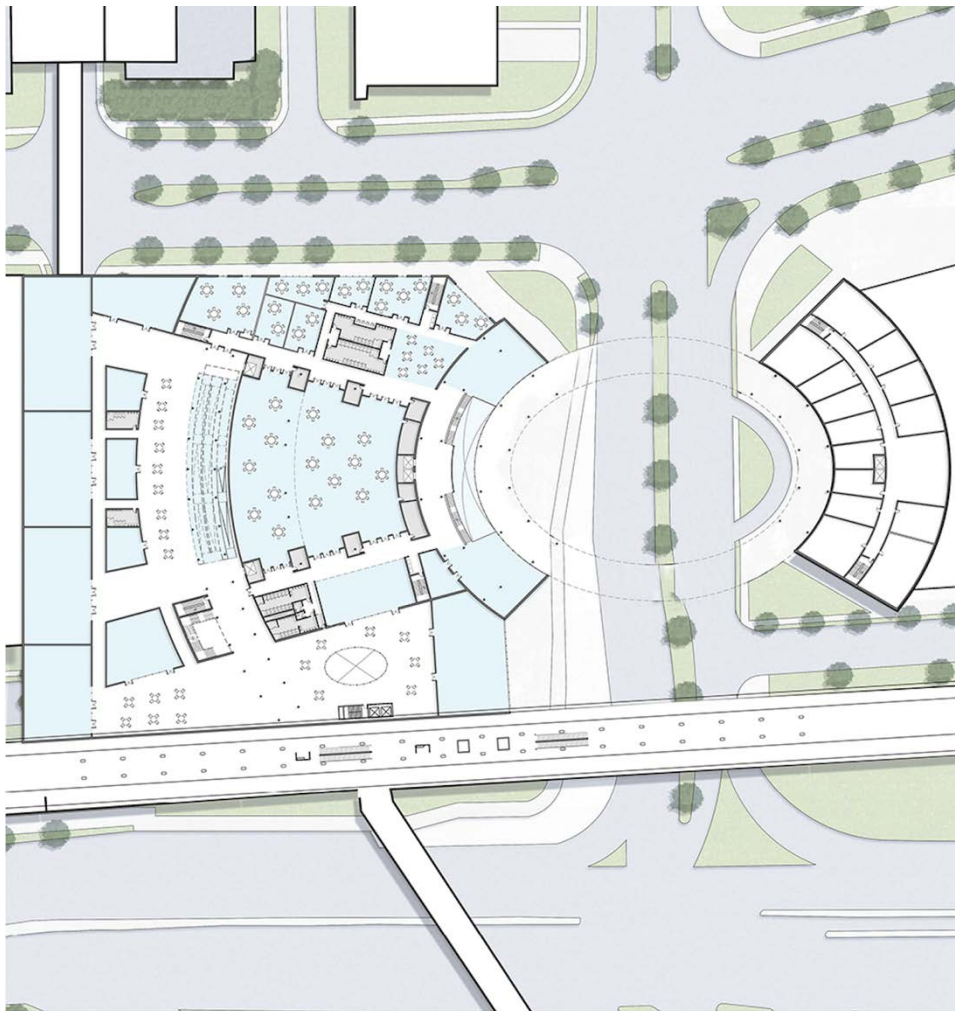


Fig 65. Second Floor Plan – Digital Hall & Metro Boarding Level (Source: Jefferson Choi)

Users can ascend to the next floor by going up a transparent glass ramp, known as the Surge Ramp from the digital hall. The third level consists of a café and more expo space. Users can walk to the Tysons Metro Station and continue to walk through the sky pedestrian bridge to Tysons I Mall or exit onto the Level-Up Courtyard which features seating and vegetation for all users. There is a terraced seating for users to watch the featured digital screen. Users can proceed to the Tysons Galleria through the new pedestrian bridge on the north. Additionally, users can proceed to the Player Ring toward the hotel and the residential development.

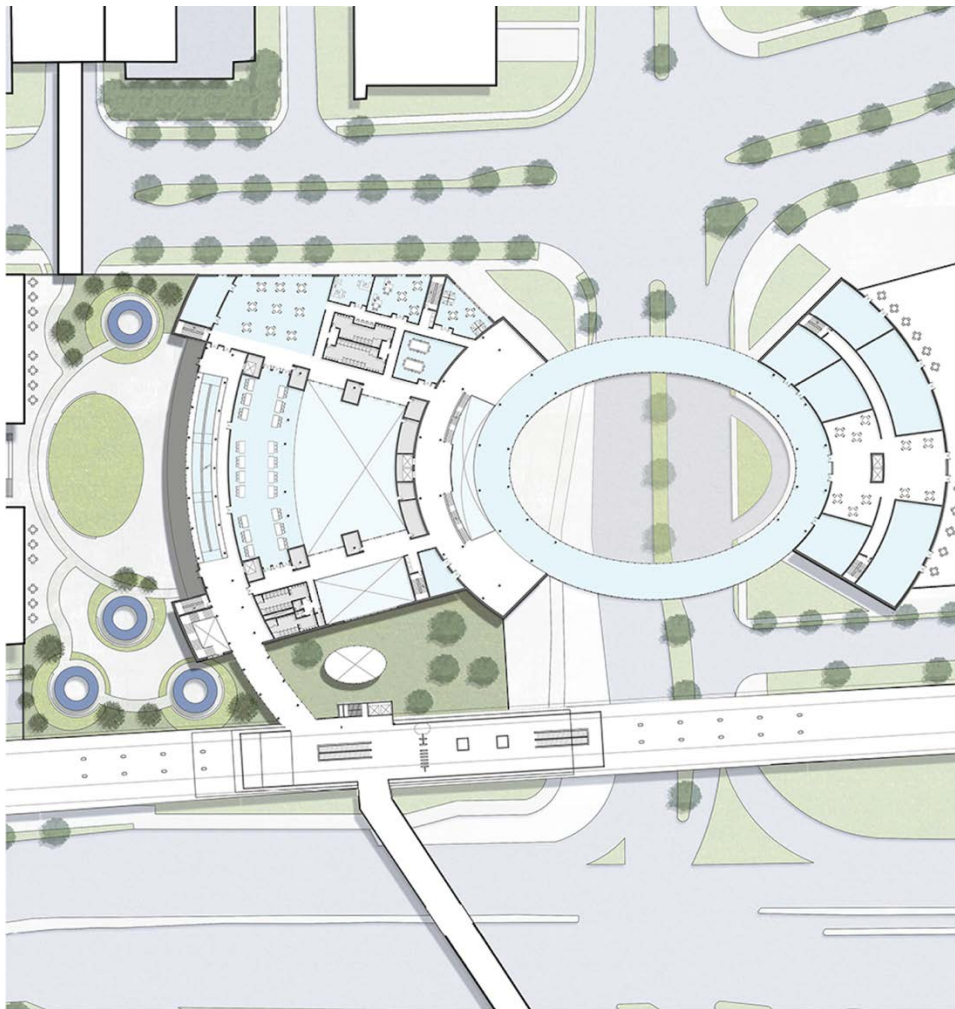


Fig 66. Third Floor Plan – Level-Up Courtyard & Metro Ticketing Level (Source: Jefferson Choi)

Users can continue up to the fourth floor from the atrium stairs or by going up the ramp onto the esports arena floor. This floor consists of team rooms, lounge spaces, practice rooms, and a public gaming space. The public gaming space activates the venue throughout the day for gamers in the community can engage with each other.

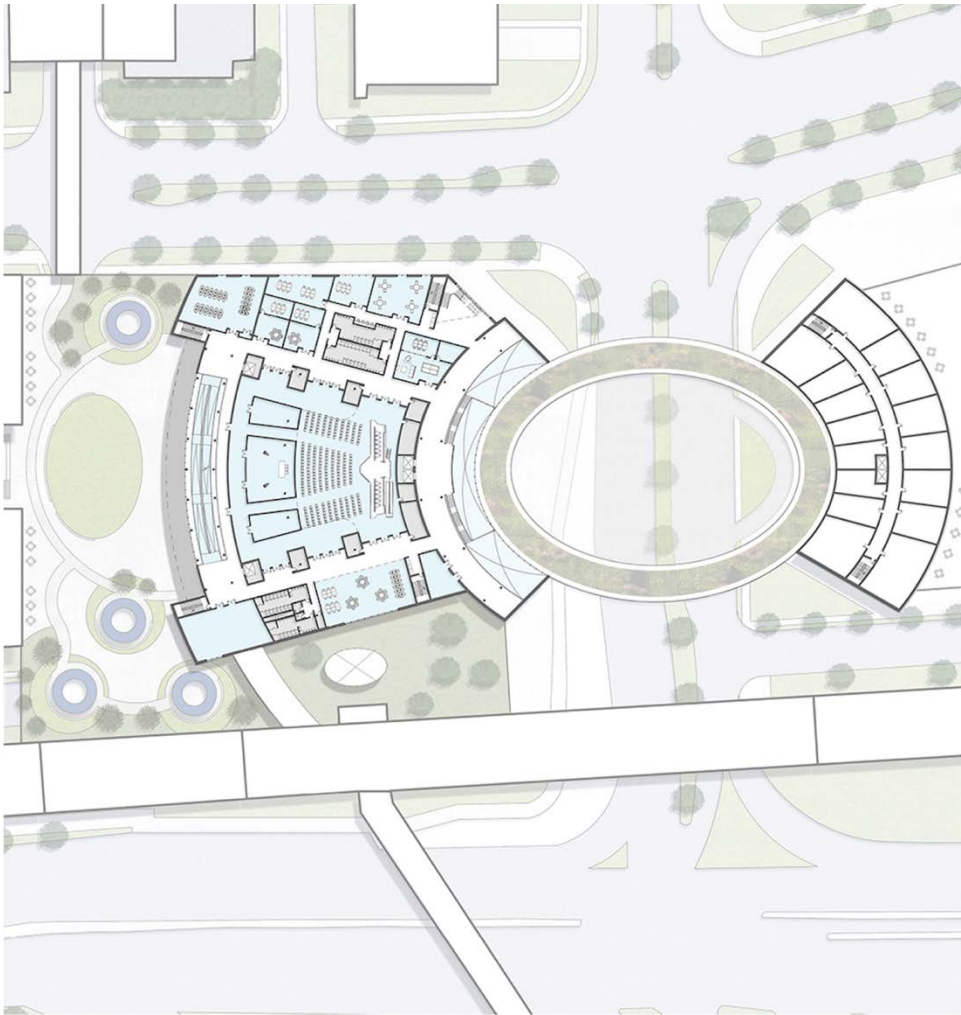


Fig 67. Fourth Floor Plan – Esports Arena Level (Source: Jefferson Choi)

The upper levels consist of the higher seating of the esports arena. The esports arena follow a traditional theater layout with terraced seating to provide best views to the stage and LED screen. With the Surge Ramp, users can descend back into reality from this digital experience.

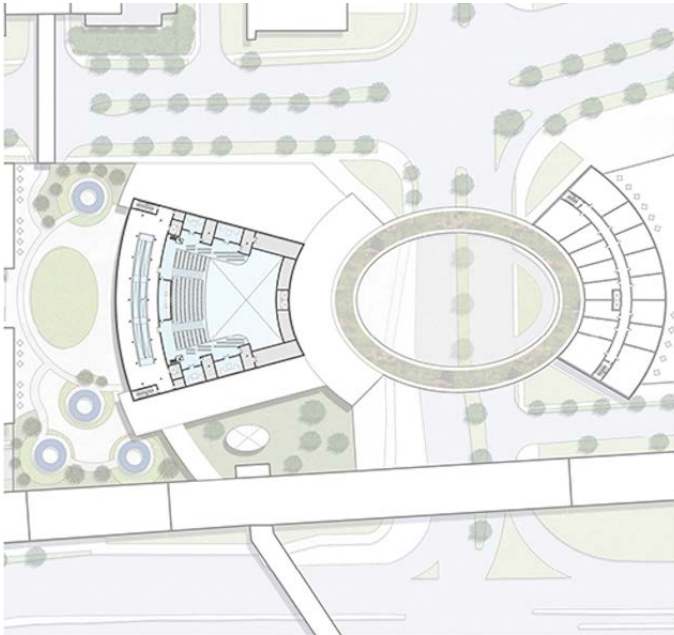


Fig 68. Fifth Floor Plan – Esports Arena Upper Level (Source: Jefferson Choi)

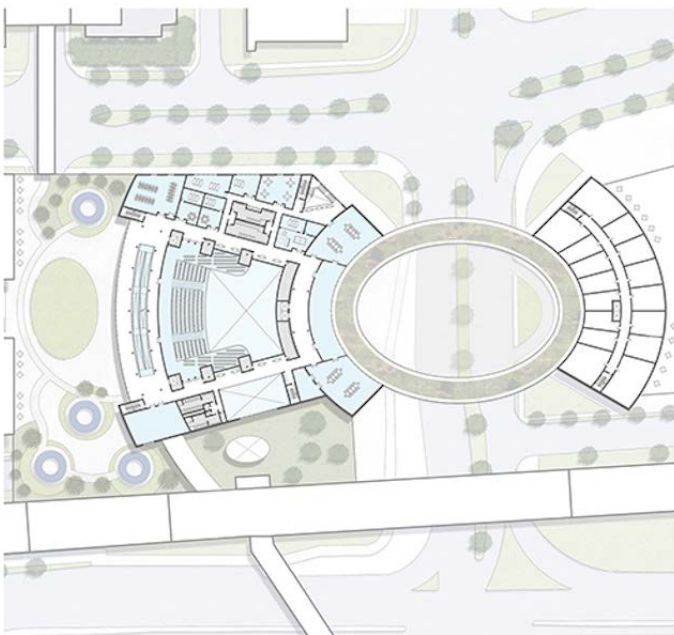


Fig 69. Sixth Floor Plan – Esports Arena Upper Level (Source: Jefferson Choi)

Elevations

The east elevation showcases the relationship between the existing Tysons Metro Station and the Tysons Reboot. The Tysons Reboot matches with its surrounding site conditions by using glazing and steel veneers. The steel panels consist of linear LED light panels to have the building glow. The Player Ring's façade is made up with a cross bracing structural system. The curved mass attached to the ring is all glazing on east facing with LED horizontal fins as shading devices. The blank walls at entry are digital screens as wayfinding and branding as people walk, drive, or ride by bus or metro enters through the city.

The crown of the esports arena sits high as a statement piece. The surrounding perimeter including the roof is a digital screen as surrounding high-rise buildings set views to look down on the venue.

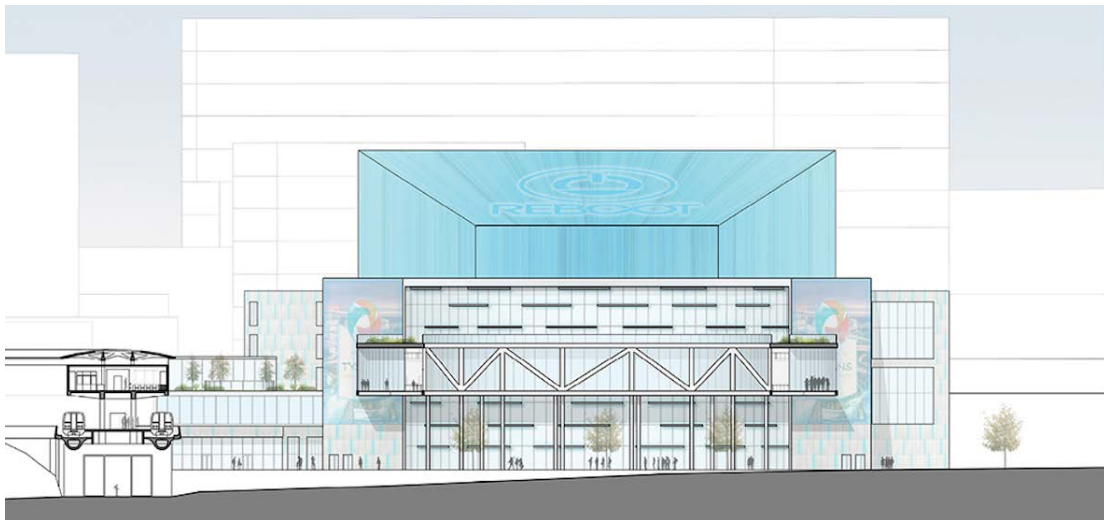


Fig 70. East Elevation (Source: Jefferson Choi)



Fig 71. South Elevation (Source: Jefferson Choi)



Fig 72. North Elevation (Source: Jefferson Choi)

On the west side, the relationship between the elevated Level-Up Courtyard and metro is shown. Users flow out from the metro, the malls, and venue onto the elevated courtyard and engage with the venue by viewing the digital screen on the arena curved wall.



Fig 73. West Elevation (Source: Jefferson Choi)

Section – High-Performance Strategies

The Tysons Reboot increases the wattage of activity in the city of Tysons. With its high-tech programmatic experience, the building itself serves as a model of a smart high-performing building. The building consists of environment sensors, water and air quality monitors, and energy-efficient cooling systems to provide healthier and safer spaces. Areas with immense glass are spectrally selective solar glazing for heat rejection and light control. The roof of the esports arena consists of building integrated photovoltaics to capture sunlight as electricity for the building. The Player Ring serves as a green roof above to reduce heat island effect and an opportunity to connect the city with nature. Other methods, such as kinetic tile technology on the courtyard, are implemented to harvest energy to use for the building.

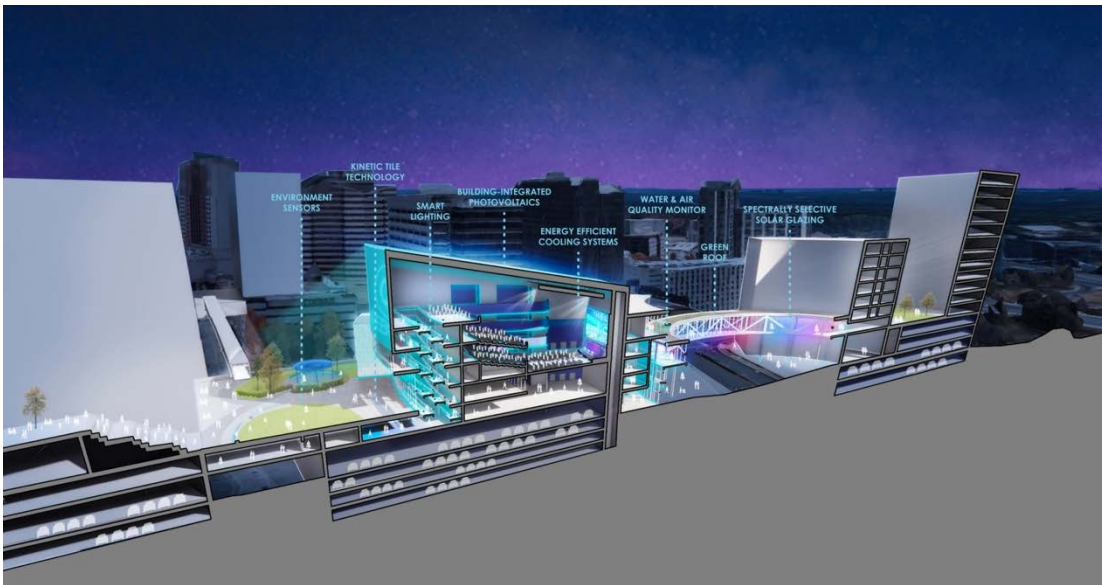


Fig 74. Section Perspective- High-Performance Strategies (Source: Jefferson Choi)

Exterior Experience

With the different approach by car, feet, and metro, the Tysons Reboot provides easy access to all users. Approaching from the corporate district from West Park Drive or waiting for the metro, the Player Ring projects out as a landmark while the digital screen of the entry and upper arena becomes visible as a beacon. The retail spaces on the street level increases pedestrian activity as people walk beneath the Player Ring. During the day, the venue sits with its context. At night, the building glows into an electrifying venue.



Fig 75. Vehicular approach from West Park Drive (Source: Jefferson Choi)



Fig 76. Pedestrian approach from Tysons Metro Station on street-level



Fig 77. Metro approach from Tysons Metro Station on boarding level (Source: Jefferson Choi)

The Level-Up Courtyard is an elevated exterior space for the interior activities of the venue to flood outside. This becomes a special place for all visitors, residents, shoppers, workers, esports goers, etc. Even if one is not a complete fan of the esports, one can still partake in the culture by watching the event going on in the arena broadcasting on the exterior digital screen. The transparency between interior and exterior is blur with the transparent glass LED ramp where one can see people ascending and descending. This courtyard becomes the new active place of Tysons.



Fig 78. Level-Up Courtyard (Source: Jefferson Choi)

Interior Experience

The Tysons Reboot brings the digital experience in the common spaces of the venue. The atrium space features LED glowing staircases with a large interior digital screen. The open space can be used for many programmatic uses—such as exhibitions, fan signing and meetings, and VR demonstration space.



Fig 79. Atrium space (Source: Jefferson Choi)



Fig 80. Atrium passageway (Source: Jefferson Choi)

The Player Ring exposes the structure while the opaque glass floor glows immense lighting. This connects the hotel to the venue of other public spaces, such as a gaming room to activate the space even when an event isn't being in place.



Fig 81. Player Ring (Source: Jefferson Choi)



Fig 82. Public Gaming Room (Source: Jefferson Choi)

The upper floors consist of more enclosed private spaces. These rooms are designated for esports players of all levels, amateurs to professionals. Players can lounge and bond with others in the esports community.



Fig 83. Team Room (Source: Jefferson Choi)

The procession of spaces from the Digital Hall to the Esports Arena can be experienced by ascending the Surge Ramp. Users go up a journey from a digital realm to an even higher digital experience of the main event space as the destination. The Esports Arena exhibits cinematic and theatrical elements to enhance users' experience in a digital world with the lighting, digital screen, and stadium layout. Additionally, users engage with the exterior Level-Up Courtyard as they ascend and descend the ramp.



Fig 84. Digital Hall (Source: Jefferson Choi)



Fig 85. Surge Ramp (Source: Jefferson Choi)



Fig 86. Tyson's Reboot Esports Arena (Source: Jefferson Choi)

Conclusion

The Tysons Reboot embodies advanced technology with the built environment to enrich a digital experience in the city. Tysons, Virginia strikes as the satellite city of Washington DC as it evolves to a 24-hour urban center for live, work, and play. Bringing a new unique building typology of an esports venue—a fast growing international phenomenon—humanizes the pedestrian scale, heightens its prospective growth of a futuristic tech city, and evolves the city as a regional and international destination city. The venue seeks to resolve the pedestrian connectivity by connecting the existing metro bridge to the proposed bridge to the Tysons Galleria. The Tysons Reboot features a new city landmark of an ellipse ring that activates the city gateway, a glowing ramp that ascends users through a digital journey toward the esports arena, and a new public realm as a new urban center as a place-branding strategy of the city.

After presenting this thesis defense behind a computer screen rather than the typical in-person in the Great Space of the Architecture School at University of Maryland, this made me think about my beginning thesis question: how can human-centered design strategies blend the physical and digital world to create holistic experiences in the future? With the feedback that I have received from my presentation, I will continue to reflect on the future infrastructure of technology and architecture. Lastly, the jurors brought a great discussion to think about for the future: Will architecture ever catch-up technology, and does architecture physically need to manifest to communicate the idea as a technological and futuristic building?



Fig 87. Lerner Square at Tysons II – Before (Source: Jefferson Choi)

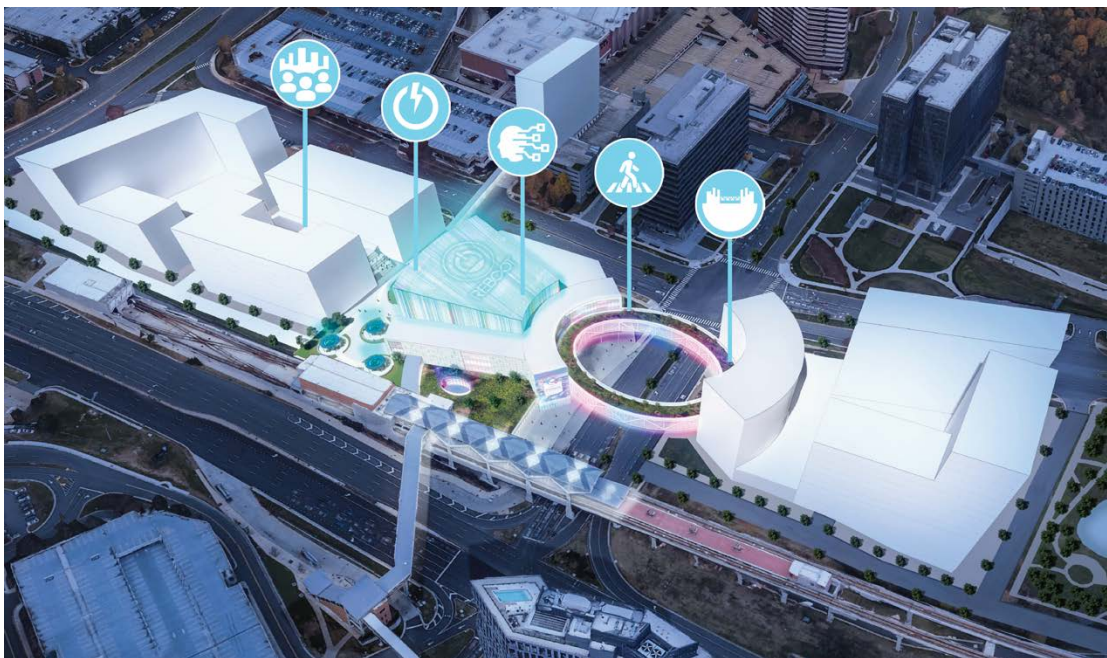


Fig 88. The Tysons Reboot – After (Source: Jefferson Choi)

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