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Case Study

Post-Pandemic Urban Outdoor Dining Spaces Case Study: City Market, Indianapolis, Indiana

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Abstract: The COVID-19 pandemic brought to light the susceptibility of cities' public urban spaces to the transmission of infectious illnesses, causing daily loss of life, economic disruption, loss of social connection, and worsened health hazards. In this context, however, interest in public outdoor dining has been sparked due to the significance of this dining option during the COVID-19 outbreak. As a result, eating outside in public is now an option that needs to be rethought, and re-purposing urban public areas is essential to tackling future pandemics. This study synthesizes findings from empirical research and official policy responses regarding the adaptability, usage, and design of public outdoor spaces in light of the COVID-19 outbreak. It also identifies the existing settings of the areas and proposes new directions to ensure that public outdoor spaces are resilient, flexible, and adaptable to future challenges. The study revealed that there is a need to make a concerted effort to create a safer, more functional, and more adaptable urban design, and this will help to cultivate a public dining environment that can thrive even in the face of unforeseen problems and, more importantly, ensure that diners will be protected and have memorable dining experiences for many years to come.

Keywords: Public Space, Public Dining, Covid-19, Pandemic, Design

1. Introduction

Urban public space design is vital to the formation of social relationships, the enhancement of community well-being, and the protection of public health. Since the emergence of Covid-19, the way and manner in which we live and use our public spaces has changed. The impact of the pandemic was significantly felt, resulting in a daily loss of lives, economic disruption, loss of social interaction, and aggravated health risks. The pandemic restricted public life and sociability in public places, workplaces, transit, learning, and leisure spaces, affecting leisure and recreational activities (Mehta, 2020). Since most public spaces were predominantly situated in the city center, the challenges associated with the pandemic were quite prevalent in the zone. They thus altered the functioning and experience of city living (Lennon, 2023), and the once-bustling social hubs that accommodated restaurants, cafes, and other food enterprises previously were forced to face considerable obstacles to adjust to the new reality of the pandemic.

Public dining is among the public spaces most impacted by the challenges of the pandemic, and it affected how people see and interact with public places, mainly public dining (Filimonau et al., 2022). As a result, indoor dining establishments faced formidable challenges, such as restricted capacity, the necessity of maintaining a physical distance between customers and staff, increasing sanitary precautions, and adapting to shifting client preferences for contact-less encounters and potential health risks. To this

extent, the pandemic brought to light the susceptibility of metropolitan public dining areas to the spread of infectious diseases.

Although governments at various levels put in place measures to address the challenges, the public health measures adopted to battle the pandemic have influenced millions of individuals' physical activity, health, and well-being (Petersen et al. 2021) and businesses (Madeira, Palrão, and Mendes, 2020). However, the most notable measure perceived is the establishment of public outdoor spaces to create safer eating locations that adhere to social distance norms (Matsenko et al. 2021). This was part of the policy adopted to ensure that public spaces remain an ideal place to visit.

Despite the perceived breakthrough in addressing the challenges associated with the pandemic, global attention has remained connected to the chances of a new pandemic in the future, which calls for adequate preparedness, readiness, and response actions (Bhouri et al. 2021). These further strengthen the need for well-designed urban public places to respond to future pandemics effectively. To respond to future pandemics and limit their effects on public health, it is crucial to investigate how the design of such places might be improved and to consider methods and approaches that metropolitan public dining establishments might implement to respond appropriately to any future pandemics that may occur .

Against this backdrop, this study aims to provide re-imagined public dining spaces which have responded to the pandemic, identify the existing settings of the areas, and propose new directions to ensure that public outdoor spaces are resilient, flexible, and adaptable to future pandemics.

2. The Study Area

The location of the study is Indianapolis, Indiana. The city has a range of historic buildings situated downtown. These landmark places offer diverse opportunities to the residents of the cities. Downtown Indianapolis comprises of residential, commercial-retail, office, mixed-use, transportation, and parking garages, making it a cosmopolitan environment. The city market is situated among the historic buildings in downtown Indianapolis, directly opposite the city/county government building, one of Indianapolis's oldest commercial or retail buildings.

2.1 About the Site

Since 1821 when the city was founded, Indianapolis has operated a city market. The market has always been a diverse gathering place for Indianapolis residents, in the city's historic downtown area. E. Market Street, E. Wabash Street, Alabama Street, and N. Delaware Street surround it on the south, north, east, and west sides. In addition, there are residential and public buildings all around, most notably the city/county building.

2.2 Zoning/ Regional Context

The site is located in the downtown, urban core of the city of Indianapolis. According to the Department of Metropolitan Development, it is designated as a Central Business District 2 (CBD-2), which accommodates a diverse mix of uses, including residential, retail, restaurants, entertainment, major public facilities, significant convention facilities, sports venues, hotels, and memorials. Intended for very high-density development, the site is accessible by transit and features social spaces that serve as civic gathering spots. It fosters a pedestrian-oriented environment and serves as a focal point of the city’s transit system, ensuring excellent accessibility.

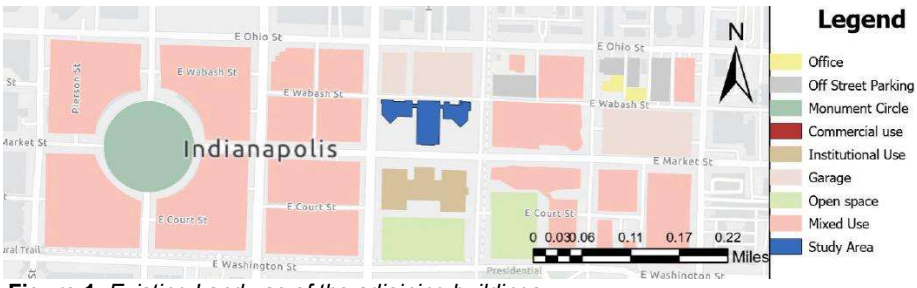


Figure 1. *Existing Land use of the adjoining buildings.*

In addition, the site context of the district includes retail and services, employment, institutions, and residential uses in a compact, walk-able development pattern.

3. Methods

3.1 SWOT Analysis of the Site

The components of the SWOT analysis include Strengths, Weaknesses, Opportunities, and Threats. The strengths, as perceived by the authors, include: proximity to the center, iconic civic buildings, and the presence of residential and commercial buildings. The perceived weaknesses include: a lack of political will to maximize the site's potential, high capital requirements for maintenance or redevelopment, a limited area for design ideas, and the site's current use by loiterers and the homeless. The identified opportunities include: possibilities for rebuilding or re-envisioning, on-street parking, a bus route, a cycle lane, and a sidewalk, as well as the potential for the proposal to generate new economic flows. Despite these strengths and opportunities, three major threats were identified: the disappearance of the site's old identity, indirect competition with adjoining service providers, and policy impacts.

The primary objective of the SWOT analysis is to identify actions that need to be performed to overcome issues and to identify design possibilities on the site that can inform new features. In addition to this, it analyses the components of the site. The SWOT analysis serves as a template for the proposed design and ensures the character of the settings is not impacted in the long term.

- **Existing Building:** A historic building of importance to the city is on the site. The building has been part of the city's structure since the city's founding in 1821. The proposed design sees the space as an opportunity to unlock its potential to become a year-round public space.
- **Adjoining Land Use:** The notable land use adjoining the site includes institutional land use (the city/county building), residential land use (the Cumming building), other mixed-use buildings, and parking garages. They offer an opportunity for consistent patronage and use.
- **Seating Area:** The available seating areas are provided for relaxation. However, it has become an abode for people experiencing homelessness and loitering. This is a perceived weakness of the site.
- **Circulation:** Market Street is on the south side of the site. It may be considered a shared street as it accommodates a weekly farmers' market and is wide enough to accommodate on-street parking. On its side is green infrastructure: sidewalks, bicycle parks, and street lights. In addition, it also serves as a connection between prominent land uses and the site.
- **Node:** Four significant nodes surround the site; this adds strength to the site and helps generate and discharge traffic flow.
- **Redline Bus Route:** One of the streets along the site doubles as a bus route connecting the city's downtown.
- **Trail:** The Indianapolis Cultural Trail runs along Alabama Street. This is also an opportunity for bikers to explore the space that is being redeveloped.

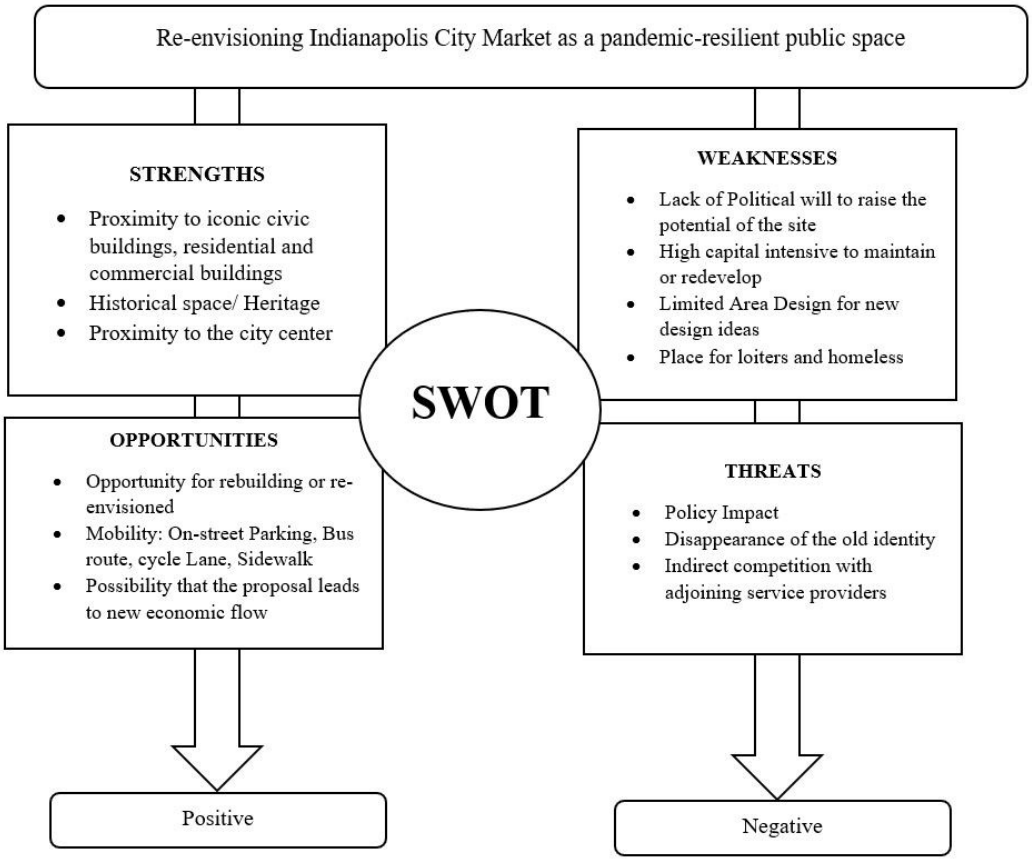


Figure 2. *The SWOT Analysis of the site as perceived by the authors*

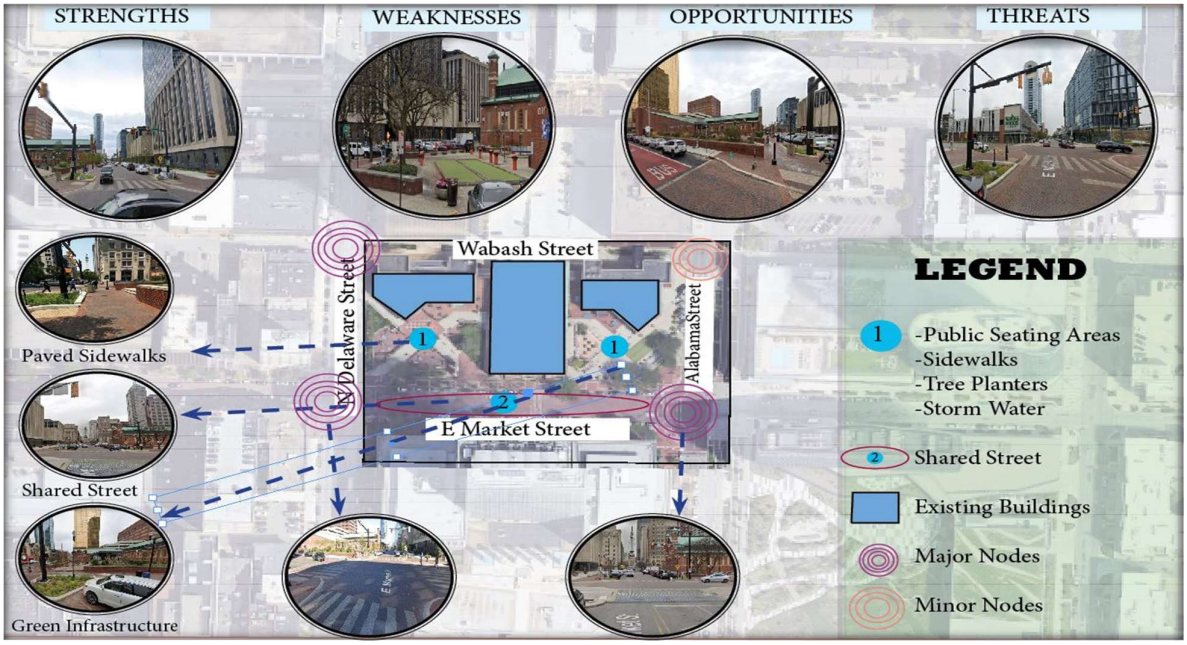


Figure 3. *SWOT Analysis of existing condition of the site.*

Design Statement. The mission of the proposed Indianapolis City Market Public Space, dubbed "Indy Market Plaza," is to create innovative and secure public outdoor dining spaces in a post-COVID-19 world, regardless of the circumstances. The design aims to establish public spaces that prioritize public health and safety and improve the overall downtown Indianapolis dining and living experience.

Design Principles:

To achieve the stated design mission, the following design objectives will be adopted:

- Create a flexible space that helps you adapt to all situations.
- Create a place that encourages equity and equality.
- Create a place that promotes the resilience of businesses at all times.
- Increase housing and vibrant amenities for all who live, work, and play in the city's downtown.

3. Results

3.1 Key Elements of the Designs

Overall, the mission of the envisioned Indianapolis city market's public outdoor dining design project is to create a welcoming, functional, and sustainable space that enriches the lives of individuals, strengthens the downtown and contributes to the overall well-being and vitality of the town. Against this backdrop, the following key elements were considered to help drive the mission statement of the design:

i. Inclusivity: The project aims to create an inclusive space that caters to the city's diverse needs and preferences. The design considers gender, ethnicity, socioeconomic status, and cultural background, ensuring the design reflects and respects the community's identity.

ii. Functionality: The project focuses on designing a space that serves the practical needs of downtown Indianapolis. It includes mixed-use buildings (residential, retail), seating areas, walkways, lighting, public facilities (water fountains), and green infrastructure supporting various activities and promoting downtown Indianapolis's viability.

iii. Aesthetics: The project creates visually appealing and inviting public spaces that enhance the overall aesthetics of the community. It involves landscape design, green roof artistic installations, and using colors and materials that complement the surrounding environment.

iv. Sustainability: The project incorporates principles of environmental sustainability, aiming to minimize the ecological footprint and promote responsible resource management. This may involve using eco-friendly materials, including green spaces, integrating green infrastructure and renewable energy sources, and implementing water-saving techniques.

Phase 1- Reconnaissance Survey

A reconnaissance survey assessed the existing situation within and around the site. The process helped to get acquitted with the available space, and this helped to determine the best layout for the outdoor dining area (Figure 4).

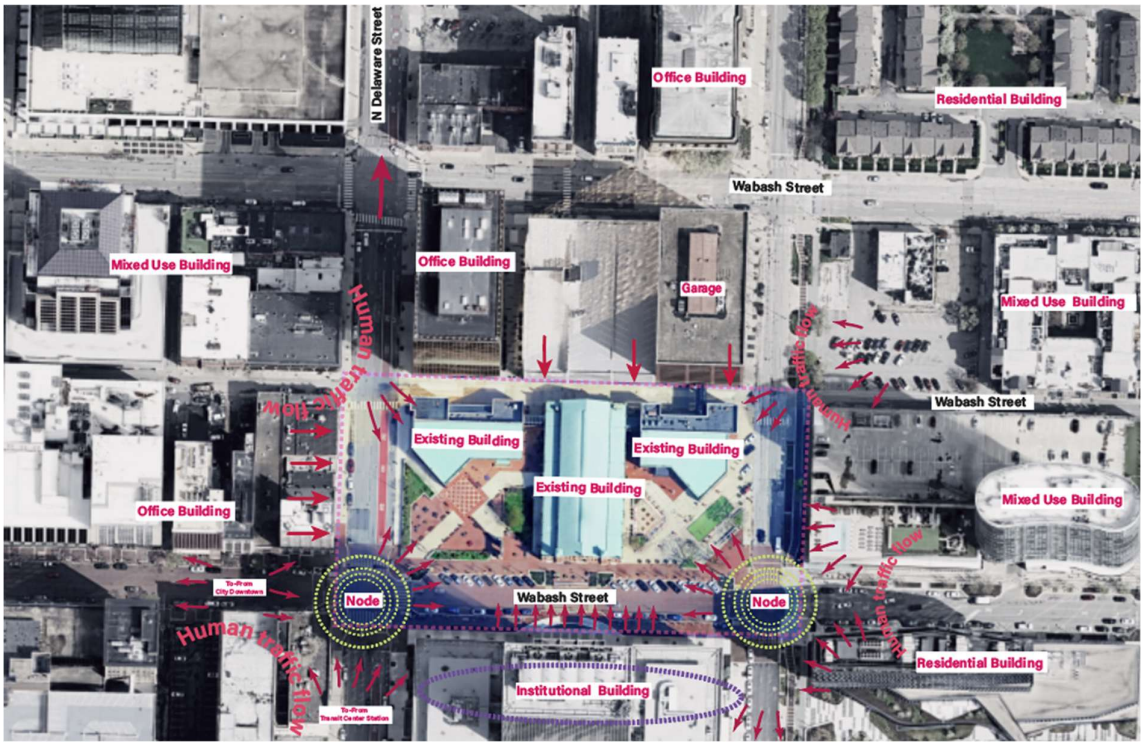


Figure 4. *Site inventory illustrating the connections between various activities.*

Phase 2- Design Proposal

In line with the goal and objectives of the site's design, consideration of several factors, included functionality, aesthetics, comfort, adaptability, and practicality. Given this, the design considers some key points during the development stage (Figures 5 and 6).

Comparative Analysis: Existing vs. Proposed Conditions

An increasing number of public outdoor dining places signifies a shift in urban design goals, driven by the need for adaptability, accessibility, and resilience in response to public health challenges. The current conditions at the City Market reveal limitations in seating capacity and overall outdoor comfort, highlighting gaps in flexibility and sustainability. The proposed layout addresses these shortcomings by integrating inclusive seating configurations, pedestrian-friendly walkways, enhanced weather protection, and green infrastructure to cultivate a more functional and welcoming public space.

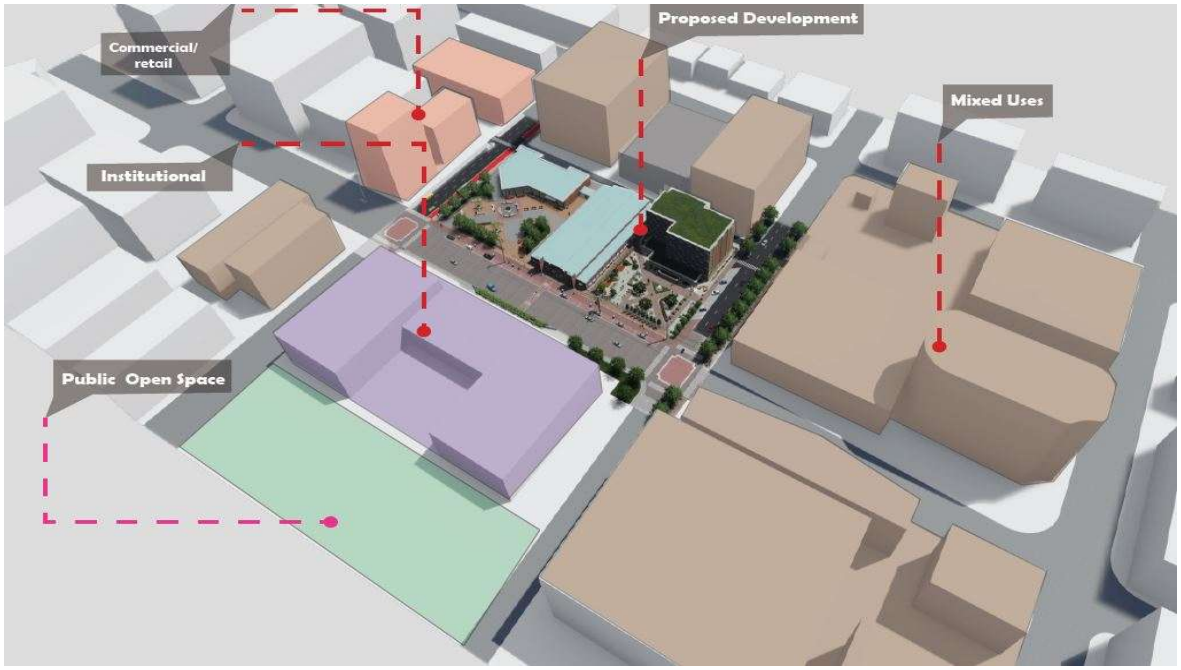
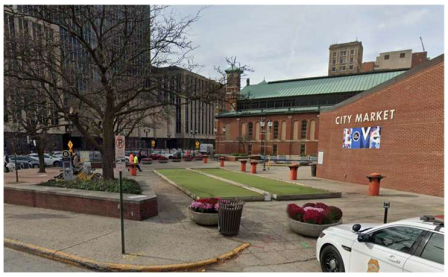
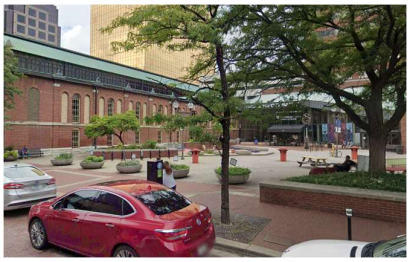


Figure 5. *Axonometric diagram of the site indicating the adjoining land use.*

Figure 6. *The proposed Site Plan of the re-envisioned city market tagged "Indy City Plaza"*

Table 1. *Existing vs. Proposed Conditions Comparative Analysis.*

Feature	Existing Conditions	Proposed Design
Seating capacity	Limited, uncoordinated arrangements	Expanded, flexible, and inclusive seating
Outdoor comfort	Minimal shade and weather protection	Retractable awnings, weather resilient pavilion for year-round usability
Green infrastructure	Few green spaces and no sustainable features	Green roofs, permeable pavements, and renewable energy use
Business support	Challenges in maintaining profitability post-pandemic	Design promotes economic resilience with flexible space use
Green infrastructure		
Outdoor comfort		
Business support		
Seating Capacity		

Site Sections

The sections shows the plane cutting through Market Street and Alabama Street (Figure 7). The section views reveal the details of the streets' existing features and surroundings.The width of the sidewalk next to the city market has been increased to 12 to accommodate pedestrians and bicycles who wish to use it. This change was made as part of the proposed design. When using the walkway, pedestrians and bikers will be guaranteed their safety.

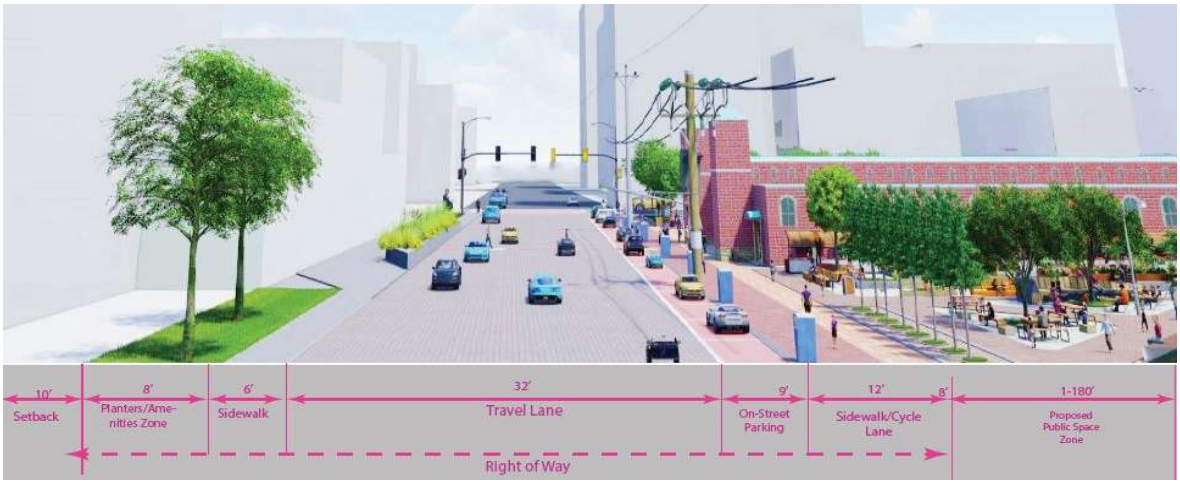


Figure 7. *Section A-A showing Market Street.*

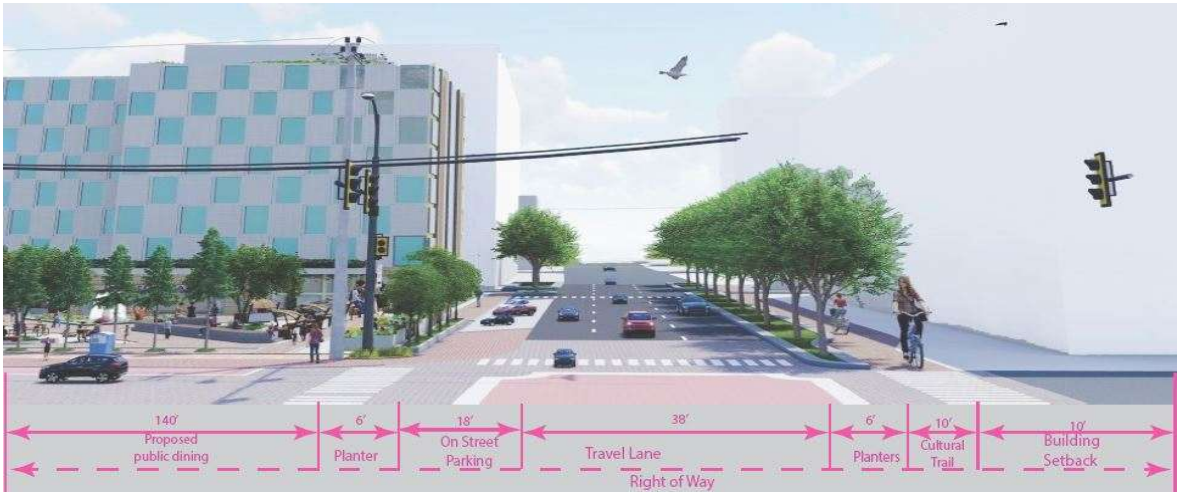


Figure 8. *Section B-B cutting through Alabama Street and the proposed site. The proposed development does not impact the existing condition of Alabama Street, situated on the East side of the site.*

Layout and Seating Arrangement

The arrangement of the space helped to capture the project's first objective (inclusivity). The design considers factors such as the shape and orientation of the space, accessibility, and integration with the surrounding environment. The design introduces an innovative seating arrangement to optimize the number of seats while ensuring adequate spacing between tables for comfort and social distancing (See Figure 9).

Figure 9. *The seating arrangement of the seating areas ensures the safety of the users. In this instance, the furniture can only accommodate two individuals, which can quickly provide the tracing and tracking of users.*

Figure 10. The layout and arrangement of the seating areas ensure the safety of the users.

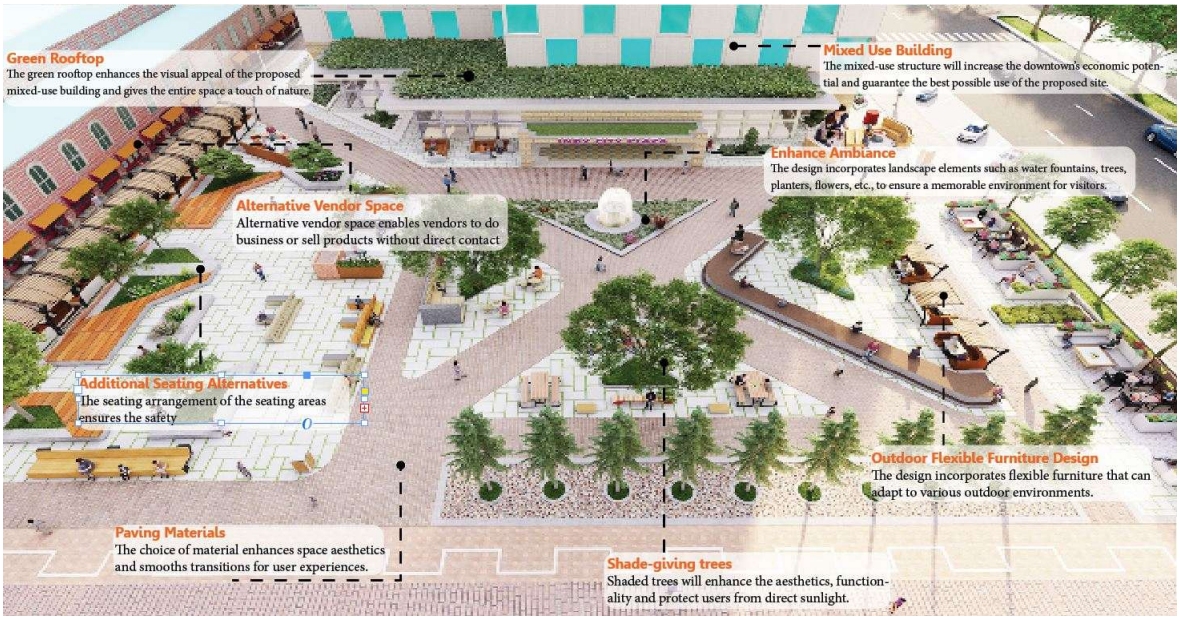


Figure 11. *The design will ensure that the chosen plants suit the local climate and require low maintenance. The trees provide shade and cover within the space, which helps create ambient weather conditions.*

Figure 12. *The design uses materials that enhance the aesthetics of the space and provide smooth transitions within the location, shaping users' experiences.*

Landscaping and Greenery

To conform to objective three (aesthetics), the design integrates plants, greenery, and landscaping elements to enhance the aesthetic appeal and create a welcoming ambiance. It also incorporates potted plants, a green roof, and green infrastructure to add a touch of nature to the dining space.

Materials and Furniture

The design carefully selects outdoor furniture and materials that are durable, weather-resilient, and easy to clean. In addition, these materials and furnishings were designed to suit the project's peculiarity and adapt to all situations and seasons. They include benches, tables, and chairs made of concrete, metal, and teakwood that can withstand

outdoor conditions. The furniture is comfortable, functional, and easily rearranged to accommodate different group sizes (See Figure 12).

Accessibility and Safety

The project also seeks to ensure that the public space is accessible to all individuals, regardless of age, mobility, or abilities. The design ensures that the outdoor dining space is accessible to individuals with disabilities, as it ensures that the orientation of the site and all proposed features adhere to local accessibility regulations. The design features are situated on a relatively flat surface and consider users' safety, such as non-slip surfaces, proper lighting, and clear pathways to avoid accidents.

Mixed-Use Features

With the project situated downtown, in line with objective three and the final objectives, the design incorporates a mixed-use building that features residential, retail, and commercial components to add to the vibrancy of the space and downtown Indianapolis.

Design Implications:

A. Promote Sustainability:

Install green infrastructure, such as green roofs and permeable pavement.

Use solar-powered lighting to increase energy efficiency.

Encourage the usage of recycled and environmentally friendly products.

B. Ensure business viability:

Create versatile dining areas that may be adapted for seasonal use.

Include retractable awnings, heating features, and windbreaks to ensure year-round comfort.

Optimize the space to support different restaurant capacity.

C. Improving Outdoor Comfort and Experience:

Increase shady places and features to provide weather protection.

Provide a variety of seating layouts to accommodate different sizes.

Use architectural features and aesthetic features to enhance the dining experience.

D. Improving Community Engagement.

Include communal seats and interactive features.

Create event-friendly areas to accommodate local events.

Ensure that the design is inclusive and welcoming to a diverse range of user groups.

Figure 13. *The location of the city market makes it accessible by public buses, automobiles, bicycles, and pedestrians, as depicted in the figure. Multiple access points to the location position the space favorably for potential users.*

Figure 14. *The proposed mixed-use structure is the design's focal point. The mixed-use structure will increase the downtown's economic potential and guarantee the best possible use of the area's landscaping.*

4. Conclusion

Public outdoor dining has sparked interest due to its importance during the COVID-19 pandemic. It is essential to note that challenges remain in the post-pandemic era as outdoor dining becomes a more permanent feature in the city's landscapes. However, equitable access, business security, and user safety must be addressed to ensure a sustainable and inclusive public dining practice. Many studies and policy positions have highlighted the advantages of public outdoor dining; researchers and concerned stakeholders also continue to propose outdoor spaces adaptable to all situations.

This work explicitly focused on re-envisioning the Indianapolis City Market through an in-depth examination of the prevailing strengths, weaknesses, and opportunities of the space and Case studies from other cities to understand the implications and potential of outdoor dining spaces as the city adapts to the new normal. By capitalizing on strengths, exploring opportunities, and effectively addressing challenges, cities can create sustainable, thriving outdoor dining spaces that enhance the urban experience. The City Market in Indianapolis is an exemplary case study demonstrating how well-designed and well-managed outdoor dining spaces could help improve the dining experience and contribute to the city's overall liveliness and economic vitality.

Also, one of the critical strengths and opportunities observed in the existing condition of the City Market is its strategic location downtown and the potential to utilize the available outdoor spaces on both sides of the building. Given this, the design assumed that by effectively allocating seating areas, incorporating greenery, and considering the comfort and convenience of diners, the re-envisioned City Market could create an engaging and enjoyable ambiance that attracts diverse users.

The proposed design demonstrates the significance of post-pandemic urban outdoor dining spaces in fostering community engagement, economic growth, and a sense of normalcy. Introducing flexible furniture arrangements, laying out seating to limit physical contact, and other interventions, will ensure that public dining spaces can be responsive to future health challenges.

Based on this conclusion, the study suggests that with a collective commitment to safety, technology, flexible urban design, inclusivity, and adaptability, we can foster a public dining landscape that thrives even in the face of unforeseen challenges, providing both safety and memorable dining experiences for years to come.

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