

## THE MODERNIZATION OF THE STREET VENDORS SERVICES DURING THE COVID-19 PANDEMIC-THE FOOD TRUCKS PHENOMENON

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**Abstract.** Since Covid-19 began to spread, street food vendors' activities have raised many issues. The lockdown of restaurants and coffees to control the pandemic in the cities appeared to be a vital response to the city's dramatic procedures. Therefore, the development of street food vending in the form of food trucks was one of these activities that responded to the Covid-19 pandemic and became a phenomenon during the lockdown period in Bahrain. Food trucks are scattered in many areas serving the community by providing food services. But the unplanned location of some food trucks negatively affects the quality of the city's open spaces causing problematic urban changes and producing traffic jams; moreover, it needs to consider the landscape architecture elements. Therefore, the study explains the term street food vendors and their hazards due to COVID-19 circumstances, followed by illustrating the regulation that manages food truck activities. Then it analyzes the risks resulting from some case studies. The study ends with presenting design guidelines to improve the criteria of the site location of the food truck activities. These guidelines will assist the municipalities in avoiding any possible negative impacts and the haphazard positions of these food trucks in cities.

**Keywords:** COVID-19, food trucks, food vendors, architectural design, Bahrain.

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### 1. Introduction

Food trucks are the modern shape of street food vendors that can sense people's nostalgia for past simplicity, memories, and beautiful parts. For one, they might remind people of the sweets and ice-cream trucks that jingled a song moved in the neighborhoods and are regularly found in festival areas, calling out to all the children. Food trucks can be found easily in many places on your way. Moreover, its location is fixable from one place to another due to its mobility, so it could be moved to offer several food services in different areas on the same day. Its locations are faster and more convenient for hungry people who don't want just complicate services at the same time (Tribune, 2020).

Some designs for such food trucks and their surrounding spaces give an atmosphere unlike any other. Recently, it has played an essential element in the park's components, especially during the week hours, when people drive through to work and needs a quick meal or for people to travel and make a pit stop for refreshments. Moreover, it can be done in the wild, suburban, vacant areas or nearby the seashore where food trucks require minimum service (Elghonaimy, 2020). Street vendor activities (the old shape of food trucks) provided significant services in many cities worldwide. It is part of the street

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vending and commercial activities. Tribune explained that street selling activities could be anything from survival actions to a search for income from subsistence to small capitalism or diversification of huge businesses to boost demand and turnover (Tribune, 2020). Recently, it has become a phenomenon engaged in the components of open spaces, public parks, or even vacant areas. It is affected and affected by the surrounding urban context. In addition, it is found in dissimilar shapes to attract customers. Moreover, social media platforms are the most important to accomplish these activities, facilitating the connection between vendors and customers. (Ishak *et al.*, 2018). However, some are scattered haphazardly in diverse areas such as road corners, parks, in front of the academic and business areas, on the waterfront, and in occasional temporary places for celebrating special events, creating different types of problems. (Roever & Skinner, 2016).

Historically, in the old part of Manama city, the capital of the Kingdom of Bahrain, street vending was located within the concept of planning "Al-Farej." The central urban spines had different street vendors, and the main circulation included roads, corridors, and passages. Street selling was found as a destination, transitional or passing by for the people serving the cooked food and others within the surrounding urban area. It was a significant part of social and economic activities (Elghonaimy & Al-Haddad, 2018).

Recently, food trucks have become a phenomenon, particularly during COVID-19. The local authorities in Bahrain had to lock down to reduce the spread of COVID-19. Direct contact and the short distances between people were the primary way to spread COVID-19. People during this period could not go shopping for their food freely and were asked to stay home (Chayka, 2020). Borda mentioned that historically, every pandemic led to significant changes in people's way of life and had a considerable transformation in architectural designs, which is apparent when considering the food trucks' progress (Borda-de-Água, 2020). Consequently, people also suffered from staying in their homes, so there tried to find a way to refresh themselves (Nia & Suleiman, 2018). Unfortunately, the lockdown caused economic problems at different levels in the cities (Chamber, 2020). Therefore, according to WHO perception, the authority had to find a way to solve this problem (WHO, 2022). Woyo and Ukpabi (2022) wrote that urban designers must consider designing an intimate environment that provides a space for relaxation and different activities for adults and kids within a safe environment (Woyo & Ukpabi, 2022). Therefore the excellent allocation of food trucks provides the users with breathing space between its significant components in recreation and entertainment ambiance. Moreover, food trucks have to consider service issues, but it has other benefits, such that people need to feel refreshed in aesthetic places. Also, the natural element in the site can provide a space for relaxation and different activities for adults and kids within a safe environment (Yusuf & Elghonaimy, 2020).

It also adds a dominant character to the area through the colors, textures, shapes can achieve, and furniture, all of that depend on the designers' creativity. Therefore, the variation in the site design can be supported by the flexibility of the food trucks' site design (Rahbarianyazd, 2017). In addition, it can heavily affect the users' social behavior while practicing these services, such as creating a path for people to walk within it as a welcoming space that will break the claustrophobic atmosphere within the areas. (Hussein, 2018). The variation of the food services within the open spaces by the food trucks can be supported by the flexibility of the model and its shapes (Shafik & El-Hussiny, 2019).

In Bahrain, the need for more accurate, objective standards or planning regulations leads to haphazardly allocating food trucks or managing their performance. The local

authorities cited that food trucks' activity will include preparing and delivering meals from motor vehicles (trucks or trailers). In addition, applicants shall register vehicles at the General Directorate of Traffic Services after obtaining a commercial register with the necessary licenses before starting the activity (eCommerce, 2017).

The study explains the term street food vendors and the change in its shape to food trucks and will illustrate the regulation and rules that manage food truck activities and their sustainable future. It will then discuss the problem of random locations from the social, economic, and environmental sides. And then find the resulting issues in such case studies. Moreover, it will study the effects of the scattering of food truck activities on open spaces that follow no specific rules or regulations.

The research goal focuses on providing recommendations and guidelines for the urban designer while allocating the food trucks. These guidelines prevent negative impacts on open spaces and improve their quality comprehensively and sustainably. And to propose the concept of using food trucks with a resilient and sustainable architectural solution that can facilitate practicing food services via a pleasuring and entertaining environment. Moreover, these guidelines will assist the municipalities in avoiding any possible negative impacts and the haphazard positions of these food trucks in the open spaces. The methodology for the research was divided into two main parts, a theoretical study to have a background of the street vendors and their development as food trucks, followed by a descriptive analysis of the current case of the food trucks parallel with interviewing different owners, customers of the food trucks and an online survey in various areas of the open spaces in Bahrain. The research will provide design guidelines for allocating food trucks in the different open spaces.

## **2. Material and Methods**

Street vending is an old activity that was one of the famous commercial activities found in virtually every country worldwide, especially in ancient cities. Previously, it has been practiced in many different ways. Moreover, it is a recognized worldwide phenomenon in all countries and exists in developed or undeveloped countries. Nevertheless, it is essential to realize that street vendors are most numerous in poorer countries n areas (Baliyan & Srivastava, 2016).

Most vendors sell goods, but some sell services, and some sell a mixture of the two of them. Some vendors prefer to have their places located in one place, using a kiosk or a heavy stall that remains on the same site for an extended period and could be locked up and left under the observation of a watchman when not in use. Others use heavy mobile stalls pushed from a storehouse into the sales position at the beginning of the day and returned at the end. Still, others are fixed in location but lay their merchandise on the ground or a cloth or plastic sheet. Truly mobile vendors may push stalls on wheels, carry their inventory on their persons, or operate a cart booth, tricycle, or motor vehicle. ADAPT, in their report, clarified that street vending has other addition to this range, offering unique sizes of the mobile trolley. It may have an extended canopy and dry goods basket to carry the goods. It provides an alternative in shapes and has an umbrella as a landmark for its high impact visual among the crowds while selling in addition to climatic consideration (ADAPT, 2021).

Some portable vendors sell to passers-by, and some do door-to-door delivery. Bromley explained that street vendors add vitality to the streetscape and contribute to economic activity and service provision. Still, many observers also associate them with

congestion, health and safety risks, tax evasion, and the sale of shoddy merchandise. Numerous national laws, local laws, and municipal ordinances apply to street vending or are targeted explicitly at street vendors, and most countries have a long history of regulating their activity (Bromley, 2000). Rover added that it has vital contributors to Urban Economies that street vendors are an integral part of urban economies worldwide, offering access to an expansive range of services in public spaces. They sell various goods, such as fresh vegetables to prepared foods (Roever, 2020).

The street vendors develop their old practices to modernize their shapes and activities and to meet the present demands. The Informal Economy Monitoring Study (IEMS) revealed ways street vendors in some cities maintain their communities. In a study by (IEMS), most street vendors provide the primary source of income for their families, bringing them food and paying their children's education and school fees. Therefore, these informal workers have strong linkages to the formal economy—most of the sources of goods they sell are from traditional enterprises. Many customers work in casual business. In some favorable cases, some street vendors try to maintain the streets neat for their buyers and prepare friendly service and delivery service. Street vendors offer the community job opportunities on different scales. It benefits the community not only for themselves, for example, porters, storage providers, transport operators, security guards, and others. Consequently, many generate income for cities via license fees, permits, fines, and certain taxes. Also, street trade adds spirit to urban life and, in many locations, is considered a basis of cultural heritage (Blog, 2014). In addition, despite their contributions to the community, street vendors meet numerous challenges, are often dismissed as economic agents, and are frustrated rather than supported by municipal policies and practices (Indira, 2014).

COVID-19 and health issues are part of the constraints that threaten to deal with street vending that depend upon the bodily experiences and physical interaction in direct contact between the sellers and buyers in the places of the street vending. Therefore, the contemporary overview of street vending in Bahrain and the modernization of the vending concept focus on food trucks, which are significant issues underlying its permanence as a phenomenon in terms of the social, economic, and environmental aspects. There are ambivalent attitudes toward it by governments and off-street business communities directly on street vendors, especially for foods, as an occupational group (Indira, 2014).



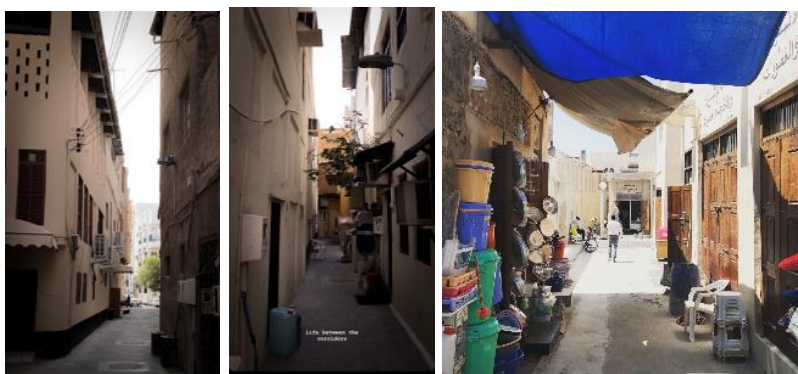
**Figure 1.** The classic way of street vending

### ***2.1. Difficulties facing the traditional foods' street vending***

In a study by (WIEGOs) about health and safety working outside is shown that, food street vendors and their goods are exposed to direct sun rays all day, heavy rains, and extreme heat or cold. Unless they work in markets, most don't have shelter, running

water, or toilets near their workplace. Inadequate access to clean water is a significant concern for prepared food vendors. Street vendors face other routine occupational hazards due to a lack of proper safety equipment (Blog, 2014).

In a report from Gulf insider, in Manama (the capital of Bahrain), 468 stalls of general street vendors were removed in the first quarter of 2020 to address the phenomenon of violating vendors across markets and commercial outlets as part of its efforts to protect the health and safety of consumers. According to the Labour Market Regulatory Authority statistics, in 2020, the number of violating vendors will be less than that of the same period in 2019. It is a result of the preventive measures taken by the Government Executive Committee to combat the novel COVID-19 due to the general lockdown in Bahrain. Figure 1 indicates the lack of proper hygiene procedures, a hazard due to the high possibility of transferring COVID-19 infections. Therefore, in Bahrain, the Cabinet's approval was to control the hazards resulting from the proper activities by all street vendors (Vinita, 2020) (Itikawa, 2013).



**Figure 2.** Traditional conjunction of urban fabrics and narrow streets that only allow small vehicles to enter the old part of Manama city, Bahrain.

Moreover, urban renewal plans, infrastructure upgrades, and mega-events regularly displace street vendors from traditional markets, leaving the greatest vulnerable without a workplace (Wiego, 2013). For an extended period, in other countries, street vendors were an essential part of the economic forces worldwide, offering casual access to a wide range of goods and facilities in cities' public spaces and having synergistic impacts on the street design and its networks (Blog, 2014). Chatterjee (2021) explained that there was difficulty in gathering statistics on street vendors (Chatterjee, 2021) (Mhlongo, 2018).

## ***2.2. Bahrain and the experiences of street vendors***

Bahrain is working with street vendors' organizations to articulate innovative policies, strategies, programs, and practices that empower vendors to be influential in making their cities more inclusive. In addition, the authority worked on creating effective planning to enhance these types of commercial activities modernly. One of the promising steps is that membership-based associations support street vendors navigate their connection with the local authority, format solidarity, and resolve problems with other vendors. Several have developed advanced ways to practice their profession with cities to maintain clean and safe streets while securing vendors' livelihoods using different styles of food trucks. On the other hand, many examples were placed in altered places without apparent urban design consideration, adversely impacting the urban fabric in Bahrain. A'Ali (2020) described that the Southern Governorate permitted vendors to be

given public land in Isa Town's local market to ply their profession as part of a trial (A'Ali, 2020). In an interview with Hussain Khalil in January 2020 – A vending truck manufacturer – with Al-Bilad express stated that Bahrain is planning to start helping street vending, especially during the COVID-19 pandemic, by the following:

- a. Special zones must be assigned to it to certify the sustainability of this trade. It should be provided with elementary services networks such as water, waste disposals, electricity, and ample area for car parking and receiving customers, in return for a consistent and reasonable monthly fee.
- b. Establish a certified association for mobile vehicle owners (in a modern form such as food trucks), and have a voice, place, and identity. This association is recognized in the Bahrain Chamber of Commerce and Industry to guarantee the continuity and growth of this business, in line with Bahrain Vision 2030.
- c. The performing of a robust and integrated law embraces such activity to facilitate financing and development alternatives to it. And the issuance of certificates without obstacles that delay the development of this trade.
- d. Establish insurance settings for mobile vehicles.
- e. Holding workshops to train the newcomers to the field, providing them with a combined training program on how to begin and develop the business successfully. (Al A'Abed, 2018).



**Figure 3.** Examples of the problems due to improper infrastructure networks

### ***2.3. Defining food trucks***

Defining food trucks based on Oxford Dictionaries (2014) as sizeable motorized vehicles (such as a van) or trailers equipped to prepare and serve; others sell ice cream or prepackaged food; others have on-board kitchens (Saskatoon, 2019). Nowadays, people call "food trucks" different names, such as catering trucks, gourmet food trucks, mobile food vendors, and rolling or moving restaurants. Some researchers also describe the term "food trucks" as a personalized vehicle through which a worker sells food to customers. These trucks usually include cooking services (Ishak et al., 2018). Food trucks have a particular job. Therefore, selecting the proper location for grouping such food trucks in the open spaces has to respect three main issues, time, place, and activities, which are significant aspects of the success of such projects and will influence the qualitative performance of the open spaces (Elghonaimy, 2020). The dynamic and mobile food truck could move from one place to another. The idea of a food truck provides insight into the diversity of recreation in an open space followings particular progress (Addas & Rishbeth, 2018).

In the last few years, food trucks offering gourmet cuisine and various specialties and ethnic menus have become particularly popular (Cardoso et al., 2014). Stefano explained that Food trucks, booths, and carts serve an estimated 2.5 billion people

worldwide (Marras, 2019). In addition, food trucks in open spaces have been one of the significant design elements in landscape architecture projects. Designers consider locating the landscape architecture design elements as not just beautification or function. And if users are talking about a quality built environment, they must discuss the ecological footprint and the environmental framework (Elghonaimy & AlSaeed, 2021). So, there is a need to understand the characteristics of open spaces that can host the food trucks and develop the principle of location attachment in times and places of displacement and change of location (Job & Elghonaimy, 2022).

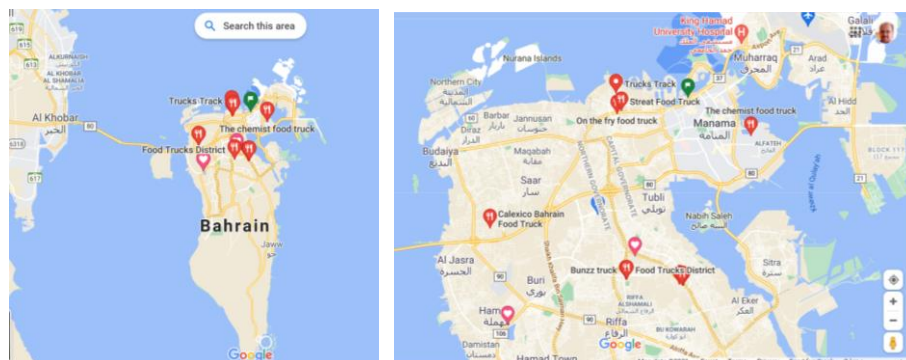
Explicitly, food trucks are a livelihood; consequently, this moves the strategy of dealing with such activities away from criminalizing street trade to make it more productive (Roever & Skinner, 2016). Many workshops worldwide took it as a profitable business (Truck, 2017). (Figure 3). At the same time, many observers still equate them with pollution, risks to health and safety, tax evasion, and shoddy product sales concerning the implementing of the idea in the urban spaces. Dealing with food trucks needs more attention to avoid harming the visual, social, traffic, health quality, etc. Planning open spaces and designing the urban landscape need more profound studies (Eldardiry & Elghonaimy, 2016). Recently, food trucks replaced street vendors in a modern form by providing the needed services in a dynamic and civilized shape (Bromley, 2000).



**Figure 4.** Different designs and styles of food trucks

#### **2.4. Site location of food trucks in the open spaces in Bahrain**

Specific locations were proposed to host the food trucks (Figure 4). The governorate formally assigned some places which follow specific rules and conditions. In contrast, other owners decided on some sites haphazardly. They then applied for the authority's permission to allocate it. The reciprocals impact between food trucks and the urban landscape has many critical relation points. The authority assigned certain locations used specific rules and regulations to operate and manage such activities.



**Figure 5.** The famous location for food trucks in Bahrain

Attracting 160,000 gourmets in about a month was a target in the events conducted by the Industry, Commerce, and Tourism Minister. On the 22<sup>nd</sup> of October 2020, at Bahrain National Stadium, it Launched to support promising Bahraini food truck projects. The location called 'District' near the national stadium in East Riffa has played an essential role in creating a suitable environment for such businesses via fifty mobile food trucks offering numerous dishes (local and international cuisines) (Vinita, 2020). It has become the attraction point for food lovers in Bahrain. In addition to being attached to some petrol stations, some scattered vacant areas were proposed to host food trucks. The owners of the food truck selected locations based on their wishes and criteria. These locations are nearby famous places, accessible or well-known areas such as the American Mission Hospital, Al Salam hospital, Zalaq, petrol station, Karbbabad water frontage, and residential of Amwaj Lagoon. These characteristics enable visitors to access from inside and outside Bahrain. They had to have formal permission while operating their projects. Some cases had no proper site design. In addition, it has no suitable infrastructure networks such as a safe electrical network, a hygienic system for collecting waste disposals, and the proper way for water tanks to avoid heat gain from the sun towards the water tanks, which deteriorates the sanitary quality of the water for their location (Industry, 2016).



**Figure 6.** The site assigned by the Bahrain authority called 'District' in the stadium area

### ***2.5. Food trucks and COVID 19 pandemic***

People worldwide had difficulty living with the COVID-19 pandemic lockdown. People were asked not to use restaurants or coffee, and consequently, people suffered from staying in their homes. Unfortunately, the lockdown disturbed social activities and caused economic problems at different levels (Nia & Suleiman, 2018). In Bahrain, the authority had to think about solving the COVID-19 pandemic lockdown period while closing the restaurant or coffee and finding a safe places to entertain and enjoy. The various ideas pursued by creators and organizations to maintain social interaction and reduce staying at home while also thinking in precaution in reducing the direct social interaction risks in towns. During the COVID-19 pandemic, the local authorities allowed food trucks to replace indoor restaurants and coffee buildings to give life to Bahrain communities, followed by the government and the WHO guidelines (sanitizing issues, space, and social distance), which were the best places to go. They followed strict precautionary steps to make the area healthy, clean, and safe for visitors (eCommerce, 2017). On several occasions, the Ministry of Industry, Commerce & Tourism has applied many items relating to controlling the spreading of COVID-19. It issued the application of Resolution No. (68) of 2021 concerning the closure of industrial and commercial shops as a precaution to avoid the spread of COVID-19. The food trucks were excluded from these closures of such points (Ministry of Industry, 2021).



### ***2.6. Food trucks and the urban landscape***

The reciprocals impact between food trucks and the urban landscape has many critical relation points. Since the food trucks are mobile activities located in open spaces and affected by the surrounding urban landscape, it affects their sites after allocating over there. The customers have different experiences considering the phenomenological theory of users in open area. (Eldardiry & Konbr, 2022). Elghonaimy stated that designing the open spaces within an urban landscape architecture scope is a comprehensive work dealing with different environmental conditions creating a quality built environment. Since food trucks have become one of the design elements for the open space, a comprehensive study should be tackled while selecting its location, considering the resilience concept and sustainability in such a study. (Elghonaimy, 2020). In addition, it can heavily affect the users' social behavior in the open spaces while dealing with the site for hosting the food trucks, such as creating a path for people to walk within it. It can make a welcoming space that will break the claustrophobic atmosphere within the areas. The variation of the design of the food trucks and the flexibility of the design's elements can give unique open spaces (Shafik & El-Husseiny, 2019).

While thinking about the proper location for the food trucks, some researchers have shown that public spaces can significantly impact this vital yet straightforward aspect of society. Allocating food trucks designed in open spaces is an essential advantage to improving the interaction between residents in the site location because they connect physically and socially (Zhang, 2017). While, in the sub-urban, renting more affordable watered plots can attract more visitors, more maintained paths, increase seating and commercial facilities, and improve the waterfront and the landscaping in open spaces in high-density residential communities. Fostering food trucks in a broader range of public spaces with the following regulation will positively impact the attractiveness and safety of public spaces. Therefore, designers have to select the location sensibly and act to prepare the site in an appropriate way to host the food trucks. It should respect the ecology and the natural environment of the space in an enduring way.

Moreover, attracting people to the open areas that include a group of food trucks can provide intimate spaces with a unique design for attached spaces to the food trucks. It is also necessary to effectively use it by giving the area different unique seat designs. Fitness facilities for families, including elderly fitness, children's play areas, tennis tables, beach volleyball fields, etc., will add more ambiance and value to such places. Indeed, the use of food trucks within the public space for livelihood activities is widely opposed by more powerful players, arguing that it amounts to disturbing the users' rights within the public space. They must commit to putting limits on accumulation and selecting the location of food trucks to access such strategic areas for cities to be inclusive. (Roever & Skinner, 2016).

### ***2.7. Regulation that manages the food trucks' activities***

On February 11, 2020, The Council of Ministers approved a draft resolution defining the controls and requirements for places where food service activities can be practiced in mobile vehicles in areas of residential classification, including:

- a. Leaving a distance of at least 20 meters in all directions from neighboring buildings,
- b. Having a vacant distance of 50 meters from any intersection, roundabout, or signal Traffic lights,
- c. Determine the period for practicing the activity between 6 am to 12 midnight,

- d. For vehicles to leave the residential area and not leave equipment or furniture in it after the completion of the provision of its services,

Other controls, in light of the recommendation submitted by the Ministerial Committee for Legal and Legislative Affairs presented by His Excellency the Deputy Prime Minister, Chairman of the committee mentioned above. The Ministry of Industry, Commerce, and Tourism in Bahrain announced the administration services requirements, which are:

- a. Inside and outside the food trucks pictures, including all angle
- b. The general conditions and instructions for obtaining the license are limited to preparing food, snacks, and drinks.
- c. Satisfy safety requirements and requirements and Adherence to the regulations and instructions of the General Traffic Department.
- d. Vehicle tracking device installed.
- e. Know all requirements and controls relevant to other government agencies related to the activity to be licensed and adhere to before starting the procedures.
- f. Understanding the general and specific requirements for the activity and commitment to implement them.
- g. Not practicing the activity inside a roaming food cart should be noted before obtaining the license.
- h. Inform the competent authority if the action is changed or canceled.
- i. Commitment to the requirements list for people with special needs and maintaining the internal and external cleanliness of the roving food cart while the vehicle inspection includes.
  - a. The annual inspection of the vehicle
  - b. The inspector inspects the truck, conforms to the activity's conditions, and prepares the inspection report.
  - c. The Director of the Food and Licensing Department reviews the application.
  - d. Obtain the MOH and General Directorate of Civil defense approval
  - e. Review of the Director-General of Environmental Health to approve it. (Ministry of Industry, 2021)



**Figure 7.** Using eye-catching sitting areas, decorative design, night landscape design, and well-designed car parking to attract people

### 3. Discussions

This part was designed to understand the operating of food trucks within the open spaces and their synergistic effects on the urban landscape. The analysis was implemented via site studies and interviews with the food truck vendors in several activities. From the observation, it detected and monitored the social interaction of people while using these

activities. The field study included interviewing thirty different owners to have their opinion of their experiment with food trucks (Table 1) and eighty customers (Table 2) of the food trucks in three sites of the open spaces with the busiest food truck activities, as shown in Figure 8. Moreover, a limited online survey was piloted to gather more users' opinions. The average of the questionnaire results is shown in Figure 7.

a. the average responses for Food Trucks Owners

**Table 1.** The average responses for Food Trucks Owners

Items	site 1 Zallaq area	site 2 Salam hospital	site 3 Zayed town
<b>a. General issues</b>			
How do people interact with you? How is their behavior?	Most people interact with me for 10 min max to order food friendly.	People generally are friendly	People are typically lovely.
Are you into this business before Covid19?	Yes	Yes	Yes
<b>b. Urban issues</b>			
How long has vending been permitted in this place?	three years	Almost two years	Almost six months
Where have you been vending before this location?	Another branch near Seef district	Seef district	There did not have previous sites.
How has the surrounding (residential/commercial/barren area) affected this business?	The location near the university is significant in responding to the student's needs.	The location near the residential areas and the university impacted positively.	The location near the residential areas and the university impacted positively in a perfect way.
Do you think this location is the proper place for the business of Food Truck?	Before COVID-19 yes	Generally, Yes	No, because of the low number of vehicles and customers.
If not, what would you prefer, the best location for Food Truck?			Isa town, near the educational, residential, and commercial users.
Has covid19 affected your business?	Few people are coming to eat, they are scared of covid, and the university is closed, so there are no students.	The number of people increases while covid because lockdown to enjoy their time.	The number of people increased after covid because it was the only way to enjoy their time.
Are you aware of the regulation that manages this activity? How did you know?	Yes, while they obtained the license	Yes, while they got the license	Yes, while they received the license
<b>c. Landscape architecture issues</b>			
How do you attract customers?	Figure 9 Offers, good food, and nice sitting areas	Figure 10 Decoration, sitting Ares, fast and good services	Figure 11 External decorations and different food types.
Did you consider a unique design for the food truck	Most answers yes	Most answers yes	Most answers yes
Did you consider the surrounding in your design?	Most answers were no, to have an attractive design	Most answers were no, to have an attractive design	Most responses were no, to have a beautiful design
Can you have formal permission to provide sitting areas?	Not allowed, but they have it illegally.	Not allowed, but they have it illegally.	They are allowed within the complex regulations.
<b>d. Infrastructure issues:</b>			
How can you get the electrical power?	Self-electrical generators	Self-electrical generators	by municipality
How can you get the water supply?	Provided by own means	Provided by own means	by municipality
How you treat the daily waste disposals How do you treat sewer disposals?	by their means by their means	by their means by their means	by their means by municipality



**Figure 8.** Food trucks in the Zallaq area



**Figure 9.** Food trucks in Al Salam hospital area show the improper sitting for the location and the visual pollution, and the hazards of the way of dealing with their waste



**Figure 10.** Food truck well-designed location in Zayed town

b. The responses for users within the Food Trucks site (Table 2)

**Table 2.** The responses of the users within the Food Trucks site

Items	site 1 Zallaq area Figure 9	site 2 Salam hospital Figure 10	site 3 Zayed town Figure 11
<b>a. General issues</b>			
How often do you visit this place and buy from them?	Once a week	Twice a month	Once a month
If anyone is affected by Covid19, do you think food trucks are helpful to serve?	No need to go to get food; they provide you	No, it might affect the vendor	Yes, it seems safe.
<b>b. Urban issues</b>			
Is this the perfect location for them to set up their business?	yes	no	no
How can we provide them with a better place for their business?	Parking could be better	No proper waiting area	like a drive-thru to make easier
Do these food trucks affect your daily routine or behavior or disturb you? Why?	Yes, traffic on weekends	Not much	no

Do you believe its location cause traffic problems?	Yes, for the petrol station	Yes, for the nearest circulation towards hospitals	No
<b>c. Landscape architecture issues</b>			
Do you think these food trucks will be a landmark in the area?	Yes, most of them	Average	Yes, they are
Do you find a comfortable design around the food truck?	Average	Average	Yes, they are
Are there shading spaces to set near?	No	No	Yes, part of the complex areas
Are there excellent elements within the surrounding spaces?			Yes, part of the complex areas
<b>d. Infrastructure issues:</b>			
Do you believe that food trucks cause hazards to their locations	Yes, somehow, it needs to treat well to avoid visual and health pollution	Yes, its wastes cause different types of hazards	No, well planned

### c. Summary of an online survey with residents

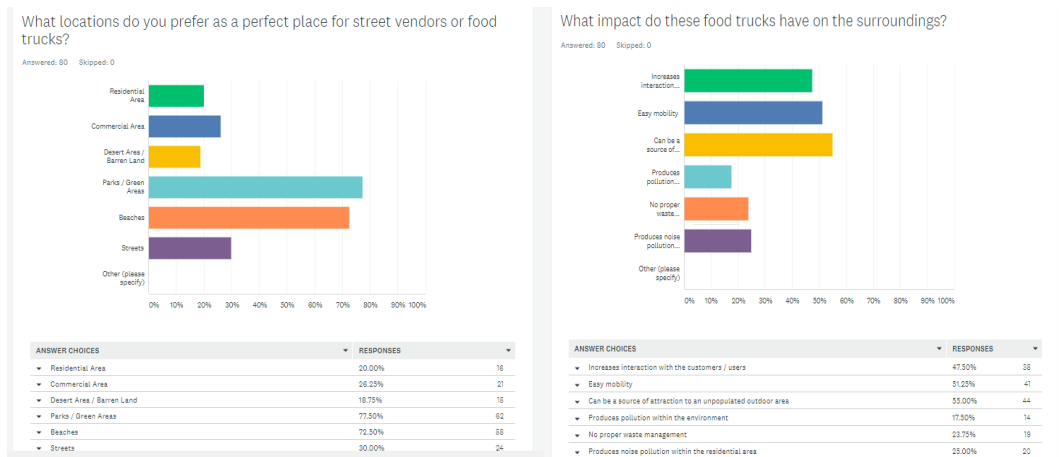
Eighty persons responded to the online survey. The survey was conducted to measure users' opinions on dealing with food trucks and to have their feedback about the quality of the open spaces in their neighborhoods. Moreover, the survey was designed to evaluate the users' satisfaction with the food trucks' location and their sitting' impacts on the landscape architecture design upon the surrounding. The outcomes of the online survey show that indoor restaurants and coffee significantly impacted the economy and the social bonding of Bahrain's social and economic vitality for a long time. On the other hand, the street vendors provided the residential areas with the residents' food services. The reports of the Bahrain Chamber of Commerce and Industry showed that due to the COVID-19 pandemic partial lockdown, most of the urban context in Bahrain suffered from the decay of the food services process and social interaction.

Observing the food trucks' activities during the COVID-19 pandemic in different open spaces was done well in overcoming most of the food services and social issues. The analysis indicated the advantage of using open spaces to host the food trucks, which helped overcome many declines in food activities, and social life for residents during the lockdown. The analysis shows that the authorities tried to propose alternatives to crack the problem of closing indoor restaurants and coffee. It also shows that the well-designed cases successfully cracked the social segregation and separation for the residents and that it plays a crucial role in improving the social life in the communities similar to before, as shown in the case studies in the study. The study shows that:

- a. Thought has to be given to the proper preparation for the sites of the food trucks within a design for open spaces to be a vital hub that can re-bond social life.
- b. Since the Covid-19 outbreak, street vending vehicles have increased to fulfill people's needs. Hence, the food truck located near the highway and facing an acceptable view gives the strategic location its iconic feature. The site of these food trucks is a vital area, surrounded by residential, commercial, and educational facilities; these food trucks serve and produce foods and goods for the entire region. It is recommended that its located near interconnection areas, which will attract more customers during the day. These points were reasons for succeeding areas like Sayh, Busaiten, Reffa walkways, Zalaq petrol station, and Zaid Town.
- c. A few of the weak points that should be avoided for this site are direct to the road, As Shown in Saar and Busiteen districts, which might cause incidents or traffic

crowdedness. Secondly, reaching the site should indirectly have service roads or preparation road lines from the main highway, and need to follow narrow and winding paths to get to the main street of these food trucks. Moreover, this gathering of food trucks and people caused the noise, affecting some residential facilities and houses, especially if the site nearby a Hospital or close to residential buildings.

- d. According to the WHO notes and the urban standards, they prefer the site of the food trucks to be in open public spaces like green areas or parks.
- e. Moreover, it indicates a sort of outcry from the customers towards the absence of sharp regulation and random arrangement, which negatively impacted the circulation and culture of the context.
- f. In nearby academic activities, the vendors have suffered drastic changes since the Covid19 outbreak due to the lockdown of the universities and schools.
- g. There is a general comment on the lack of the landscape architecture elements and some facilities provided, such as parking, public seating, shaded areas, landmarks, softscape, ... etc.



**Figure 11.** The results of the Surveys with residents

- h. Users also prefer to have it in densely populated areas and recommend distributing it in touristic spaces in adequate numbers and easy accessibility. Having many food trucks in one place is not welcoming to the owners or customers, who are afraid of crowding the site and causing social, urban, and environmental problems. Along with this, people think that food trucks can also be a source of making unused public open spaces to be lively and socially interactive.
- i. Moreover, the different infrastructure networks (such as water, electrical, sewer, and waste disposals) should be designed before such activities are permitted in the open spaces. However, we can benefit if we use the existing resources, the existing closed parks, or petrol stations or are exposed to the sandy area in different places for outdoor landscaping spaces and designed parking lots, increasing the number of visitors.

#### 4. Findings of the research

The local market in Bahrain has witnessed a growth in the number of vending trucks from the COVID-19 pandemic by 80%. The percentage of sales of food products provided by these vehicles has increased by 40%. The owners of the food trucks attribute that the natural conditions imposed by the corona pandemic have risen. And the crisis is in most Bahraini sectors, resulting in the suspension or closure of many small and medium-sized undertakings in various industries, which has made some investors rely on cheaper projects such as trolleys. The respondents in the interview agreed on the food truck alternative to avoid repeating staying in their houses; therefore, food trucks are another way to have a similar activity to restaurants and coffee shops and practice outdoor social interaction with people while using these activities. The research examined the significant places of the street vendors and analyzed the Bahraini experiences. It is found that many examples were placed in different areas without straightforward urban design, which negatively impacted the urban fabric and the quality of life within the nearest locations. From the observation, the research finds the impacts of having food trucks are as follows:

- a. **Environmentally aspects**, the glare condition causes adverse visual impact problems. At the same time, including the proper landscape architecture around the food trucks within the design of the open spaces decreases this glare within the context spaces (Muhy Al-Din, 2017). Moreover, it is essential to secure the artificial lighting level suitably at night and consider the compulsory level of airflow. On the other hand, these food trucks are low-consuming energy and waste businesses. When it comes to waste, especially water, these food trucks reserve the fluids used opposite restaurants and coffee shops. Therefore, most food trucks purchase and use local resources and products to lower expenses and shipping fees. In some cases, it created different types of pollution in its location due to improper connection to these networks.
- b. **Social-wise**, people go for eating and entertainment and enjoy social interaction in open spaces and leisure time; therefore, having food trucks is very popular today. It gives an aesthetic ambiance of spending time in an open space. It should be considered to work with any available relaxed space style – modern or traditional. It becomes easy to practice eating or to sit in the middle of the context of a group of food trucks enjoying the fresh air. "The more aesthetic the site increases, the more human interactions increase." Accordingly, people enjoy interacting with nature and public activity, especially if it is a kid-friendly space that will give the family a better social time. Social interactions among urban residents will lead the community toward a safe and productive future where everyone is integrated and welcomed. This contemporary use of street vending will play a significant role in achieving these Social interactions among urban residents. Food trucks are the modern shape of street vendors. Obligatory include many safety and sanitizing activities. But, for any reason, if these food trucks have improper infrastructure, it will create a hazard to the city's open spaces and, consequently, the entire environment.
- c. **Economic-wise**, food trucks can decrease the time and cost of creating new restaurants or cafes by providing similar food and drink services to the people in the urban context. At the same time, having such activities in the suburbs makes life easy for people in such areas by providing quick required food services there. In the case of the complex of food trucks, it may include an artificial waterfall, a basin, a water fountain, car parking, services, a landmark, and other attractive elements to

encourage people to visit. The presence of plantations creates a beautiful and comfortable view, but it is feasible to affect the place because of insects.

Food trucks play a significant role in Bahrain's economy, mainly as they constitute the principal activity in the informal sector. This sector is a safety net for the economy. It is a considerable step forward or a transition to growth since they are helping to absorb unqualified citizens and professional professionals who, owing to the difficult economic conditions and changes, are being shifted to the informal sector. Using the food trucks, generally, may be accomplished full-time, part-time, seasonally, or occasionally. It can be fixed, sometimes mobile, or almost continuously mobile, and it can go daily at any or all times. Moreover, many vendors provide their households with the primary sources of money to carry food to their families and pay their children's tuition fees. The significance of food trucks varies considerably, not only for food but also to include other goods. Products may be narrowly focused on a few lines, such as tourist souvenirs, newspapers, candy, ...etc. In addition, goods or services may be advertised and negotiated on the street but delivered off-street. For example, "guides" seek to entice visitors to hotels, clubs, and restaurants and take a commission for each one they bring in work from home and family productive activities.

- d. **Urban- aspects:** Within the lockdown in many periods due to governmental actions in controlling the spreading of COVID-19, it seems that modernizing the method of the street vendors in a contemporary way as food trucks will be a great idea in offering the residents their leisure within the open spaces. Unfortunately, from the site visits and the introduction of sensual bodily experiences in places, most of the existing site selections for the food trucks have many weaknesses, such as the miss allocation of the trucks, the absence of a proper position for tracks, the need for appropriate connection to the governmental infrastructure network, the waste management disposal of the food trucks. One of the crucial factors affecting food trucks is the environment surrounding the workplace, providing infrastructure networks, and the well preparing for the site. Moreover, protecting the open spaces around the food trucks is necessary, and the arrangement of a group of food trucks has to consider the natural ventilation and passive cooling created through the night, bringing the inclusive temperature down. In addition, the open spaces around which are overfilled with vegetation and a garden area help keep the site cool even in the arid climates, which is appropriate to the Bahrain environment. (Rahbarianyazd & Raswol, 2018).

## 5. Conclusions

This paper concludes that street selling is a significant transition to Bahrain's economic growth rather than a setback. Site selection is crucial when proposing a zone for food trucks. Therefore, the research recommends studying the location of the food trucks within the urban city planning phase. It should provide infrastructure networks within the urban planning phase. Urban designers must pay attention to the urban context and the availability of facilities, accessibility, street network, service roads, infrastructure, net services works, shaded areas, parking spaces, and more utilities for these businesses. The outstanding landscape architecture design on the food trucks' site is crucial in succeeding the project. The urban context of the food trucks needs to be the main cornerstone of attracting great customers. The Open-landscaped spaces would create a



better interaction between food trucks and customers. Considering that not isolating food trucks in non-vital areas would affect their sales. The study concluded that the Coronavirus would reshape the city's urban spaces. Urban designers must modify the areas where we live, work, socialize, shop, analysis, and seek shopping. The study answered the question of the changing shapes of the food trucks and the current condition of street vendors by the willingness to live and deal with post-COVID-19.

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