Online Taxi bike To Create Informal Public Spaces in Urban Areas

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Abstract. The changes associated with digitalization, are rapidly messing up the old pattern, leading to the creation of a new system. The expansion of technological applications such as Uber or Gojek, leads to the development of a unique transportation model thereby, creating informal parking spaces for online taxi bike drivers. These spaces are self-formed, random, not formally planned, and located at strategic locations to suit the needs of users. In order to explore the phenomenon of informal public space, this research conducts the following: 1) Traces online taxi bike; 2) Identifies its potentials and problems; 3) Analyses the spatial pattern; and 4) Figures out the pattern and its impact. Data was obtained by direct observation in Diponegoro University, Tembalang, Semarang. This research therefore aims to understand the existing conditions faced by the new paradigms in Indonesia. The result is a spatial interaction pattern of informal space due to online taxi bike activities, such as T-junction, and under trees spot, with digital technology used to scrub the problems associated with driving forces.

Keywords: Online taxi bike, Informal public space, Disruption era

1. Introduction

Presently, the city's public spaces are experience transition and disruption due to technology. This was critically influenced in 2004, when artist Jaume Plensa created a giant portrait of Chicago residents spraying water from the Crown Fountain in Millennium Park which proved its ability to change the urban landscape[1]. Similarly, in 2015, a new digital technology system which connected data, developed cities by making it more efficient, and attractive. It also changed the way humans behave and interact with each other in public space[2].

The relationship created by the use of digital technology is categorized into human-to-human, Human-to-Al, Machine-to-machine, machine-to-Al [3], thereby, leading to the creation of an Online transportation system [4]. Furthermore, the relationships formed between humans are facilitated by the presence of online transportation applications which provides benefits such as faster response time [5].

Urban public space is a special space, unique, and distinctive area [6]. when technology begins to influence urban open space makes it different [7]. Changes with the implementation of new forces such as online taxi bike which requires a waiting time of 30-45 minutes [8], therefore, users need a comfortable public space to wait for orders. Furthermore, the online taxi bike adaptation is influenced by various conditions such as weather, location, and adequate parking space. The issues that arises due to unplanned or unmanageable urban space is known as “informality” [9]. These online transportation systems need to properly analyse the various factors capable of triggering the formation of new and unplanned open spaces.

In the urban growth and development, the phenomenon of informality has become a significant element of the city [9,10], with several unplanned open spaces located at The Diponegoro University. This research describes the phenomenon associated with the formation of these new and unplanned open spaces caused by the existence of online taxi bike on Diponegoro University.
2. Open Public Space and Online Taxi Bike

Public space is formed due to the need for a place to converge [11]. It is either built or naturally created in the environment to which the community has free entrance [12,13] and accessible to all members of the society [14]. Basically, it is a container which accommodates certain activities of humans both individually and in groups [15]. Therefore, Public spaces are used for daily transportation, short-term stays, and recreational centers [13].

Classic public space has the ability to gather taxi bikes, with its definition developed from the existence and influence of many factors such as digital technology. This was previously investigated by Hampton, Keith N., Goulet, Lauren Sessions, & Albanesius, Garrett (2015) The above-mentioned studies proves that the Use of Mobile-phone is associated with an increased likelihood with 3% and 10% of users [16]. Meanwhile, the public space most used to privatize users from surrounding conditions (to rest and enjoy their own time) [17]. So that the use of mobile-phone is not an important thing in Public Space.

This current digital era is associated with the formation of online transportation services. According to Simonyi, Fazekas, & Gáspár (2014), online transportation provides fairly organized services [18]. It is convenience, easy, fast, and inexpensive for customers as it is accessible through smartphones [8]. Mobile-phone play a dominant role in online transportation as it connects users and drivers, thereby, increasing its activities[19].

In online transportation, the mechanism occurs between the driver and the user starts from booking, delivery, payment and service assessment by the passenger [8]. When this phase is completed, the driver waits for incoming orders which are returned by the system (the provider). The average waiting time for incoming orders is around 30-45 minutes, and during this period, drivers need a place to park and wait comfortably. This is one current example of the use of mobile phones to locate open spaces.

3. Method direct observation

This research uses a direct observation usually refers to observing a behavior and knowing exactly what is happening of online taxi bike in Diponegoro University. In order to determine the phenomenon of informal public space, this research conducts several steps as follows: 1) Traces location of online taxi bike by direct observation; 2) Identifies the potential and problems; 3) Analyses the spatial interaction pattern in this kind of space; and 4) Figures out the pattern and its impact to public space. Data was obtained from online taxi bike drivers regarding their reasons for using open space informal as their waiting destination.

4. Analysis and Results

This research needs to understand the existing conditions faced by the new paradigms forces in public spaces at the Diponegoro University Campus. The existence of online taxi bike has triggered protests from existing public transportation because it is extinct (see figure 1). In addition, the existence of online taxi bike also gave rise to a paradigm shift in the use of public space in the Diponegoro University campus. Based on distribution of online taxi bike is not only located on the main streets in Diponegoro University, but also in places that are considered strategic (see figure 2). This shows that online taxis will occupy strategic public spaces according to them.

In each faculty building of Diponegoro University usually has provided an open space that can be utilized by students and the general public, especially when not working hours. Here below are formal public spaces in the Diponegoro University (see figure 3).
Figure 1: A protest from public transportation against online taxi in the form of paper was affixed to the body of a public transport car.

Figure 2: Distribution of online taxi bike in and around the DPWK FT Undip Campus. Sample taken: left: 8 July 2019, time 15:06, Right: 12 July 2019, time 11:38.

Figure 3: The location point of formal public space in the Diponegoro University.
The Location of formal public space in Diponegoro University are as follows:

1. Widya Puraya
2. Inspiration Park
3. Amphitheater of Social Science and Political Science Faculty
4. Amphitheater of Urban and Regional Planning Department
5. GSG Undip
6. Rumah Kita Park
7. Deer Park
8. Waduk Undip Park
9. Diponegoro Stadium

The massive activity of online taxi bike tends to stimulate the emergence of unplanned public spaces which are used as a waiting place for bookings. This location points are not permanent and are located in the following places Diponegoro University:

1. Roadside in front of Amphitheater of the Social Science and Political Science Faculty (FISIP)
2. Corner of the entrance to the Medical Faculty (FK)
3. Side of entrance to the Fisheries and Marine Science faculty (FPIK)
4. Roadside in front of Rumah Kita Parks – Science and Mathematics Faculty (FSM/MIPA)
5. Roadside on the back of the Economics and Business Faculty (FEB)
6. Along the roadside in front of the Humanities Faculty (FIB)
7. T-junction corner of the Humanities Faculty (FIB)
8. Stalls in front of the Medical Faculty (FK)
9. Roundabout Food stalls besides BRI Bank
10. In front of the Polines Mosque on the Baskoro street

![Figure 4](image.png)

**Figure 4:** The location of informal public spaces for online taxi bike in Diponegoro University.
## 4.1 Identifying the potential and problems of informal public space

Below is a table consisting of the characteristics, this are potential and problems associated with public space in Diponegoro University:

| No | Location | Characteristic | Photo | Potential & Problems |
|----|----------|----------------|-------|----------------------|
| 1  | Roadside in front of Amphitheater of the Social Science and Political Science Faculty | - Locations: under the tree, side of the road.  
- Time: 07.30-16.00  
- The driver spends time sitting on the motorbike.  
- Form of Space: Not formally Designed  
- Amenities: shade tree | ![Photo](image1.png) | - Potentials: located at the knot of the road and quite strategic and shady.  
- Problems: being in junction is dangerous for other motorists. |
| 2  | Corner of entrance to the Medical Faculty | - Locations: under the tree, and sidewalk.  
- Times: 07.30-16.00  
- The driver spends time sitting on the motorbike and talks.  
- Form of Space: Not formally designed.  
- Amenities: shade tree | ![Photo](image2.png) | - Potentials: very shady location  
- Problems: being in junction of the Medical Faculty entrance access, thereby, hampering traffic, Parking on road side |
| 3  | Side of entrance to the Fisheries and Marine Science Faculty | - Locations: under the tree, side of the road and sidewalk.  
- Times: 09.00-16.00.  
- The driver spends time sitting on the motorbike, talks and have lunch or drink.  
- Form of Space: Sidewalk.  
- Amenities: shade tree, Stall (Type of Movable Stalls). | ![Photo](image3.png) | - Potentials: located at the knot of the road, strategic places and there are movable stalls.  
- Problems: being in junction of the Fisheries and Marine Science Faculty entrance, thereby, hampering traffic, parking on the road side causing barriers. |
| 4  | Roadside in front of Rumah Kita Park – Science and Mathematics Faculty | - Locations: Under the tree, side of the road.  
- Times: 08.00-16.00.  
- The driver spends time sitting on the motorbike.  
- Form of Space: Not formally designed.  
- Amenities: shade tree | ![Photo](image4.png) | - Potentials: -  
- Problems: on the side of the road. |
|   | Roadside on the back of the Economics and Business Faculty |   |   |
|---|----------------------------------------------------------|---|---|
| **5** | Locations: Under the tree, Side of the road, Side Walk. |   | Potential: very shady location |
|     | Times: 07.30-17.00. |   | Problems: being in junction of the Economics and Business Faculty entrance, thereby, hampering circulation in this area. |
|     | The driver spends time sitting on the motorbike, sidewalk, and talks. |   |   |
|     | Form of Space: Not formally designed. |   |   |
|     | Amenities: shade tree |   |   |

|   | Along the roadside in front of the Humanities Faculty |   |   |
|---|--------------------------------------------------------|---|---|
| **6** | Locations: Under the tree, Side of the road, Sidewalk. |   | Potential: in a crowded place |
|     | Times: 07.30-17.00. |   | Problems: on the road side and causes barriers. |
|     | The driver spends time sitting on the motorbike, and talks. |   |   |
|     | Form of Space: Not formally designed. |   |   |
|     | Amenities: shade tree |   |   |

|   | T-junction corner of the Humanities Faculty |   |   |
|---|------------------------------------------|---|---|
| **7** | Locations: under the tree, side of the road, sidewalk. |   | Potential: in a shady place. |
|     | Time: 07.30-16.00. |   | Problems: being in junction is dangerous for other motorists. |
|     | The driver spends time sitting on the motorbike, and talks. |   |   |
|     | Form of Space: Not formally designed. |   |   |
|     | Amenities: shade tree |   |   |

|   | Food Stalls in front of the Medical Faculty |   |   |
|---|-------------------------------------------|---|---|
| **8** | Locations : Food Stalls |   | Potential: located in a place that is quite crowded because it is near the campus and villages, there are stalls and chairs. |
|     | Times: 07.30-16.00. |   | Problems: Parking on the road side causing barriers. |
|     | The driver spends time sitting on the chair, and talks. |   |   |
|     | Form of Space: Building which functioned as stalls |   |   |
|     | Amenities: shade tree, Food Stall, Electricity. |   |   |
9 Roundabout
Food stalls besides BRI Bank
- Locations: Food Stalls
- Time: 07.30-16.00.
- The driver spends time sitting on the chair, rest and talks.
- Form of Space: Building which functions as Food stalls.
- Amenities: shade tree, Chair, Food Stall, electricity.
- Potentials: located at the knot of the road, strategic places with stalls and chairs.
- Problems: parking at the edge of alleys and interferes with its access.

10 In front of the Polines Mosque on the Baskoro street
- Locations: Food Stalls
- Times: 07.30-16.00.
- The driver spends time sitting on the chair, rest and talks.
- Form of Space: Stalls with tents
- Amenities: shade tree, Chair, Food Stall, electricity.
- Potentials: located in a place quite crowded because it is near the campus and villages.
- Problems: parking on the edge of the road which is narrow enough to hamper traffic.

Reference: Direct Observation, August 2018

4.2 Spatial Pattern of Public Space by Online Taxi Bike
The behaviors of online taxi bike drivers during waiting time has created a new informal open space. There in a coherent statement with Alessandro Aurigi (2017) that there is an augmented space now due to the influence of technology[20]. Based on observations, the location chosen by online taxi bikes is strategic, due to its closeness to customers, food stalls and shelters. In addition, these locations are equipped with chairs, food stalls, and electricity. User behavior is an essential factor for creating successful public spaces [21]. Therefore, the need for drivers to rest, charge their mobile phones, eat and drink, is a user behavior which is the reason for the formation of some informal public space at Diponegoro University.
There is a difference between formal and informal public space in their planning process. Formal public space was created by planning process (Figure 5), whereas informal public space was established by different planning process (Figure 6). In this case it is seen that the spatial pattern formed by online taxi bikes are located close to the Diponegoro University campus, availability of behaviors needs for drivers and that place has occupied by them is the reason online taxi bike create an informal public space. The formation of a public space without careful planning can cause various problems in the future [22]. Therefore, it is necessary to conduct regulatory and planning efforts in an open space for the existence of online taxi bikes.

4.3 The impact of online taxi bike on public space

The impact of online taxi bike on public space is the formation of new open spaces outside planned open spaces. The formation of public space which is usually through a planning process and design process that is in accordance with the plan needs space but in this case the online taxi bike forms a new informal space based on the occupied by them.

The existence of an online taxi bike forms a new public space in strategic located with amenities has a shady place like under trees, chair, food stall, electricity and quite crowded place near the campus. These locations which are not integrated with the formal public spaces in Diponegoro University. That space are usually on the edge of the road with shade trees, intersections, vendors, and food stalls. In addition, the choice of these online taxi bike locations causes problems such as traffic accidents due to the increasingly narrow roads (side barriers), congestion, and parking.

5. Conclusion

In conclusion, the public spaces formed by the presence of online taxi bikes are unplanned and located in strategic places such as T-junction, crossroads, and food stalls. Furthermore, the Informal public open spaces due to online taxi bikes at Diponegoro University are scattered at several roadside points such as the campus buildings at the faculties of Social and Political Science, Medicine, Fisheries and Marine, Science and Mathematics, Economics and Business, and other places with shaded trees. The existence of these unplanned public spaces, raises problems associated with of road obstacles in the form of arbitrary vehicle parking and the emergence of street vendors.

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