
Training for Mapping Wi-Fi Corner in Banjarmasin's Green Open Space for Smart City Concept

Hanny M Caesarina

Urban and Regional Planning Department, Faculty of Engineering, University of Muhammadiyah
Banjarmasin
Barito Kuala, Indonesia

Nahdi Saubari

Informatics Department, Faculty of Teacher Training and Education, Universitas Muhammadiyah
Banjarmasin
Barito Kuala, Indonesia

Keywords:

wi-fi Corner
Green space,
Smart City,

ABSTRACT

Smart city is one of the concepts to create sustainability in urban areas. Banjarmasin recently tried to apply this concept to create a friendly information and technology city by providing some wi-fi corners in green open spaces for the citizens. Due to this condition, it is necessary to conduct the training for mapping wi-fi corner in Banjarmasin's green open space. This community service aims to make a wi-fi corner map in Banjarmasin and analyze its quality which can support the smart city concept. The participants are the students of Urban and Regional Planning in University of Muhammadiyah Banjarmasin. The tools and materials used along the training are GPS, mobile phones and individual laptop for each participant. The outcomes of this activity are the students capable to map the wi-fi corner of Banjarmasin's green open space based on the connectivity and accessibility of the facility. Banjarmasin needs to provide more wi-fi corner with free access..

*corresponding author: hanny.planarch@gmail.com, pwkumbjm.hanny@umbjm.ac.id

INTRODUCTION

Urban and city planning has a lot of different approach and concept with one final goal, which is to create a better space for its citizens. There are a lot of planning concept in the world, such as green city concept, sustainable city concept, resilient city concept, etc. One of the current concept which already booming in recently several years is the smart city concept. The concept is using technology as the enabler to make a more livable, healthy and sustainable city. Some cities in the world already applied smart city concept, such as Songdo in South Korea, Singapore, London and New York. Indonesia started smart city concept in 2017 by making a program for 100 smart cities (Kemkominfo, 2017).

Banjarmasin is one of the cities in Indonesia which was chosen for the concept of Smart City. The local Government of Banjarmasin developed this concept around the mid of 2018. This program includes policies for city development, and providing the facilities for the smart city concept. Banjarmasin is one of the 100 cities in Indonesia which is included in Smart City program. Besides

Banjarmasin (Kemkominfo, 2017), Banjarbaru is one of the city in South Kalimantan that also been a part of Smart City program (Arifin, 2018; Radar, 2018).

There are some elements in smart city concept (Harrison, C. and Donnelly, 2011; Zanella, Bui, Castellani, Vangelista, & Zorzi, 2014). The first one is smart governance which develops the e-governance information system to encourage the citizens participation for city development. The second one is smart infrastructure which means the local government need to provide a virtuous information and technology network with appropriate information system. The third one is smart people, which means the citizens or local people need to be aware of the new technology and are willing to use the information system. The fourth element is smart environment, which means the environment need to be developed based on the information and technology system. The fifth element is smart economy which is related with city branding and e-commerce. The last element is smart living, which include the easy access to public services as education, health facilities, etc.

Based on those elements, this community service aims to emphasize the role of the smart environment and smart infrastructure in forms of wi-fi corner which are provided by the government in the green open space. A lot of Banjarmasin's citizens still trying to get a free internet access because not all of the citizens can afford to buy internet quota. Therefore, the local government tries to provide the wi-fi corner. Some of the wi-fi corners are for free while some others require payment using balance. The smart city really depends on the availability of the internet connection and in 2018, the signal and internet connection in Banjarmasin were still not in an excellent quality. Compared to Banjarbaru, Banjarmasin still has unstable internet connection in the city's wi-fi corner. The download and the upload speed of the internet connection in Banjarmasin is still far much below the speed in Banjarbaru (Hanny Maria Caesarina & Saubari, 2019). However, the wi-fi corner in Banjarmasin and Banjarbaru has the same facilities with tables and chairs and the citizens loves to use the space.

The utterly slow internet connection in Banjarmasin, compared to Banjarbaru already responded by the local Government of Banjarmasin. At the moment Banjarmasin is keep trying to provide better facility to support smart city concept...

METHODS

Participants of this training activity were the students of Urban and Regional Planning Department, Engineering Faculty, University of Muhammadiyah Banjarmasin. The tools and materials used in this activity were mini portable projector, laptop, GPS and mobile phone. The data used in this activity were coming from observation, field research, interview and literature review. The location of this activity are the wi-fi corners which are located in the district of Central Banjarmasin. We chose this location based on its strategic location as stated in Rencana Tata Ruang Wilayah Kota Banjarmasin.

Data

The participants were trained to collect data through field observation by using GPS to pick the right point of the wi-fi corner and mobile phone to check the availability of the internet connection and observe the condition of the facilities by interviewing the citizens and local people who are using the internet connection from the wi-fi corner.

Data Analysis

The data collected then used to create the wi-fi corner map of Banjarmasin's green open space based on the access point and the availability of the internet connection. There are two maps which the students needed to make, the first one is the mapping of the wi-fi corner of central Banjarmasin district, the second one is the mapping of the strength/quality of internet connection in central Banjarmasin district..

RESULT AND DISCUSSION

The central Banjarmasin district is the heart of Banjarmasin. The district is located right in the middle of Banjarmasin and has a total area of 11,66 km² which divided into 12 villages. Each of the village has their own characteristic the biggest village is called Teluk Dalam which covers around 20,24% from all of the area in central Banjarmasin district. The district is divided by Martapura river, and this river has its own green space along the river. The green open spaces are mostly used for recreational function.

Smart city concept can be applied in a city with several requirements. One of the requirements is dealing with the availability of green space in the city. With a lot of settlements along the Martapura

river, it is hard to create a proper green space. Green open space in Banjarmasin comes in form of promenade along the river and some private green space in the settlements along the river, due to the limited space (Hanny Maria Caesarina, Humaida, Amali, & Wahyudi, 2019). Therefore, a lot of green open space in Banjarmasin are not “purely” green and functioned also as recreational public space.

However, Banjarmasin already tried to improve the urban green space by making some development program to make the city a lot greener than before and giving positive impacts to the citizens (Hanny M Caesarina & Aina, 2018), such as “*Kampung hijau*/Green village” program and “*Kampung Biru*/blue village” program for private green space. Banjarmasin also make some promenade special for recreational activities where the citizens can do a lot of social activities in the park.

According to Indonesia Public Law about Urban Green Space (Direktorat Jendral Penataan Ruang. Department Pekerjaan Umum, 2008), there are some criteria which need to be fulfilled for some spaces to be called green space based on the space, the facilities, the location etc. Some of the urban green spaces in Banjarmasin are in forms of parks and open space which has Wi-Fi corner in each of the space. Central Banjarmasin district has 4 (four) green open space for public space and the local government already prepared the infrastructure for the citizens.



Figure 1. Green Open Spaces in Central Banjarmasin District (clockwise) Siring Pierre Tendean, Kamboja park, Siring Pemko Banjarmasin, Siring 0 Km.

The green open space which were identified in this activities were :

- Kamboja park in Jl. H.Anang Adenansi.
- Siring Pemko Banjarmasin in Jl. RE Martadinata.
- Siring Pierre Tendean in Jl.Pierre Tendean.
- Siring 0 Km In Jl. Jenderal Sudirman.

From all of the spaces above (see Figure 1), each space has its own wi-fi corner with different access point. The system requires the citizens to log in into the system by using voucher and pay for the internet quota with their balances. While in some of the space, the log in do not require payment because the government provide the wi-fi corner for free. Not all of the facilities are providing special space for the wi-fi corner.

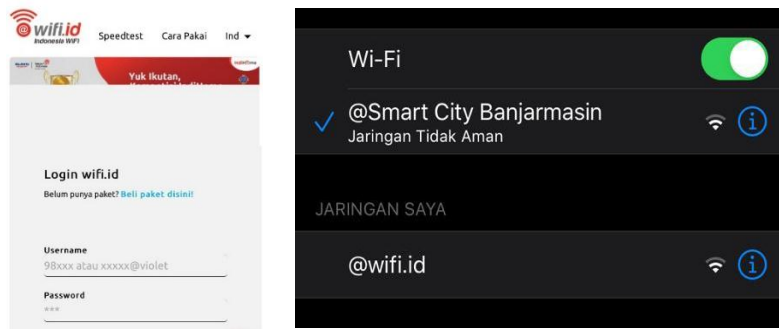


Figure 2. Results of testing the internet connection in each wi-fi corner.

In 2018, the Government of Banjarmasin are still providing special space for wi-fi corner. There were tables and chairs with station for charging devices. In 2019, there were no more special space for the wi-fi corner. The government only installed the access point sign, which means the citizens who stay around the point can access the internet. No special tables or chairs are provided along the wi-fi corner signage. This condition is probably made to prevent the citizens stay around the corner in more than few hours.

Table 2. Internet Availability in Green Open Spaces in Central Banjarmasin District

No.	Green Open Space	Availability	Wi-Fi Corner Name
1.	Kamboja Park	Available	@Wifi.id
2.	Siring PEMKO Banjarmasin	Available	DISKOMINFO_BJM.Free@wifi.id
3.	Siring Piere Tendean	Available	@Smart City Banjarmasin
4.	Siring 0 Km Banjarmasin	Available	@Wifi.id

Based on the observation, we asked the students to use their GPS and make the map. As can be seen below in Figure 3, the students map the wi-fi corner in each green space and making analysis of the smart infrastructure in each location, in relation with central Banjarmasin district. As a result, the students concluded some interesting points.

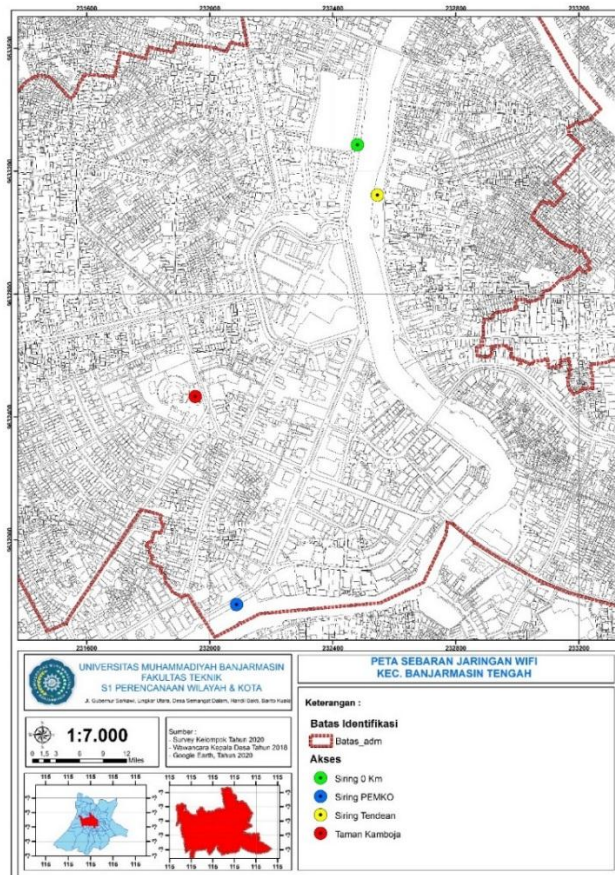


Figure 3. Wi-Fi Corner Map of Central Banjarmasin District (Source: Training, 2019)

First, Banjarmasin still lacks in urban green space for public service, that is why the space available for wi-fi corner cannot have all of the citizens in one place. Among the wi-fi corner being observed, some of them are more popular to the citizens because of its strategic location. Siring pierre tendean and siring 0 km seems to be the most popular amongst the other wi-fi corner location. The youth citizens who are very much more aware to use internet connections are loving the green space. Those spaces are located along Martapura river with lots of trees and green belt. On the other hand, Kamboja park and siring Pemko are not that famous among the youth. In these two green open spaces, there are more children and adults using the area.

Second, base on the observation and can be seen in Figure 2, the students map the strength of internet connection in each wi-fi corner and comes with the result that almost all of the green open space are providing internet connection with variated speed. The red zone are the best internet connection, the green zone are for medium internet connection and the yellow zone are for the slowest internet connection. If the citizens getting near the access point, they can access the connection smoothly, but it is different if they try to access the internet a bit far from the access point. Hence, there are specific radius for the citizens in order to get a good internet connection in each wi-fi corner.

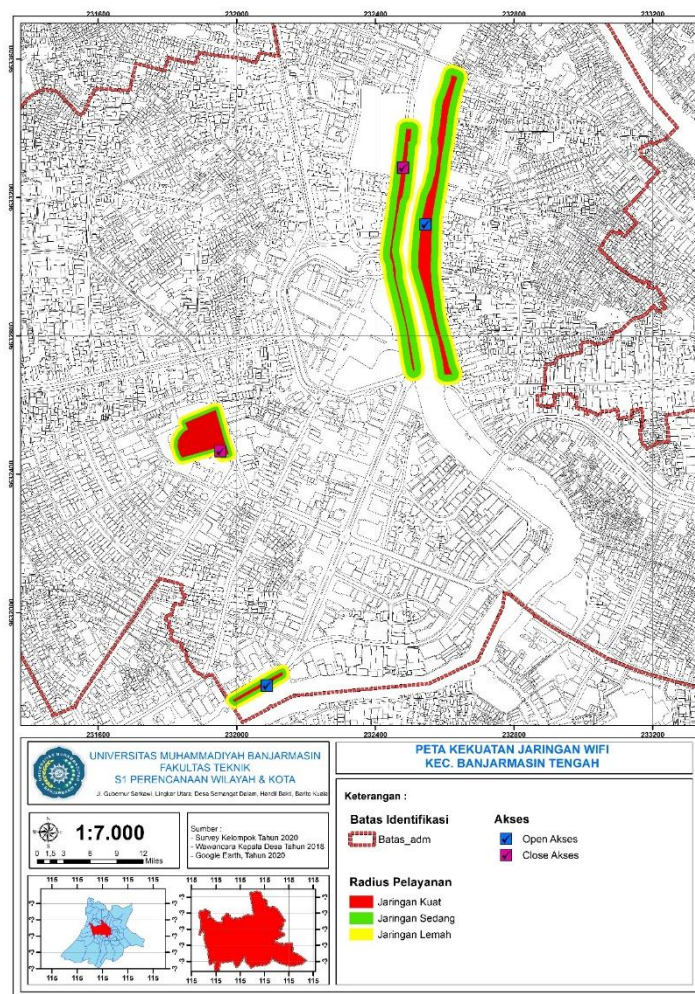


Figure 2. Wi-Fi Speed Map in Central Banjarmasin District (Source: Training, 2019)

CONCLUSION

This community service activity has met the achievements: (1) The students of urban and regional planning department, engineering faculty in University of Muhammadiyah Banjarmasin are aware of smart city concept and able to map the wi-fi corner in central Banjarmasin district. (2) The wi-fi corner in central Banjarmasin district are available for the citizens with no facilities such as table and chairs. The speed of the internet connections are quite good. However, the citizens still need to pay for the internet quota. Therefore, the wi-fi corner are not totally free for the citizens. (3)

Banjarmasin needs to provide more wi-fi corner with free access for the citizens to support smart city concept..

ACKNOWLEDGEMENT

Our deep appreciations to the students of Urban and Regional Planning Department, Engineering Faculty, University of Muhammadiyah Banjarmasin and central Banjarmasin district citizens for participating in this whole activity.

REFERENCES

- Arifin, J. (2018). Pasti ! Banjarbaru Menjadi Kota Cerdas , Ini Buktinya Lho ! *Banjarmasin Post*, pp. 2017–2019.
- Caesarina, H. M., & Aina, N. (2018). Green Space Impacts in Stream Corridor Settlement as an Effort to Form a “Greener” Neighborhood. *ESE International Journal (Environmental Science and Engineering)*, 1(1), 1–5.
- Caesarina, H. M., Humaida, N., Amali, M. F., & Wahyudi, M. W. (2019). The Need of Green Open Spaces as the Effect of Urban Waterfront Development in Sungai Bilu, a Stream Corridor Neighbourhood in Banjarmasin. In *MATEC Web of Conferences* (Vol. 280, p. 03015). <https://doi.org/10.1051/mateccconf/201928003015>
- Caesarina, H. M., & Saubari, N. (2019). PERAN RUANG TERBUKA HIJAU DALAM PERENCANAAN KOTA SEBAGAI POTENSI PEMBENTUK SMART CITY. *Jukung*, 5(1), 28–39.
- Direktorat Jendral Penataan Ruang. Department Pekerjaan Umum. Pedoman Penyediaan Dan Pemanfaatan Ruang Terbuka Hijau Di Kawasan Perkotaan, Pedoman Penyediaan Dan Pemanfaatan Ruang Terbuka Hijau Di Kawasan Perkotaan § (2008).
- Harrison, C. and Donnelly, I. a. (2011). A Theory of Smart Cities. *Proceedings of the 55th Annual Meeting of the ISSS - 2011, Hull, UK*, (Proceedings of the 55th Annual Meeting of the ISSS), 1–15. <https://doi.org/10.1017/CBO9781107415324.004>
- Kemkominfo. (2017). *Panduan Penyusunan Masterplan Smart City 2017: Gerakan Menuju 100 Smart City*. Direktorat Jenderal Aplikasi Informatika.
- Radar. (2018). Mari Dukung Kota Banjarbaru Menuju Smart City. *Radar Banjarmasin*, pp. 1–4.
- Zanella, a, Bui, N., Castellani, a, Vangelista, L., & Zorzi, M. (2014). Internet of Things for Smart Cities. *IEEE Internet of Things Journal*, 1(1), 22–32. <https://doi.org/10.1109/JIOT.2014.2306328>
- .