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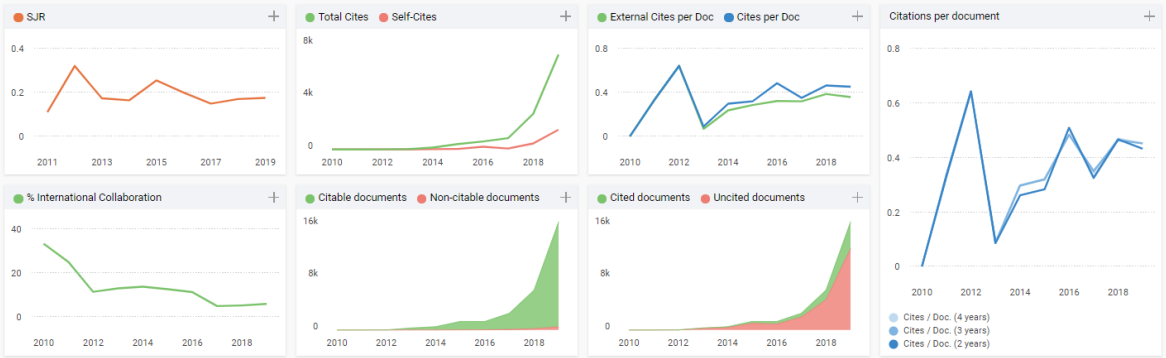

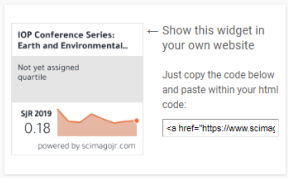

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Preface

CITIES 2018 International Conference

PREFACE

CITIES conference is an annual conference event held by the Departement of Urban and Regional Planning. CITIES conference has a scale from national to international conference. CITIES conference had been held 7 (seven) times nationally and 4 (four) times Internationally in 2013, 2015, 2017 and 2018. The purpose of this conference is to provide publications of all of the science and technology result based on research and planning practices. The past themes of the CITIES serial are:

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Placement of Ambarawa Railway Station in city spatial planning

Placement of Ambarawa Railway Station in city spatial planning

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Abstract. The construction of the Ambarawa (Willem I) - Kedungjati railway line by the Nederlandsch Indische Spoorweg Maatschappij (NISM) is for military purposes and the transportation of the plantations of the Dutch colonial government so that it was significant to study. The successful placement of the train station is supported by the structural quality of the station building that was built as well as the city/ regional focal point. Then in the development of the regional spatial structure allows a shift in the role of the land route where the railway station building is located.This study aims to examine the placement of Railway Stations in the City Spatial Plan on the Ambarawa-Kedungjati Line because at present the Ambarawa train station still has a strong role because it is the starting point for the development of the city which produces a variety of morphological spatial expressions in the form of a compact form of square shape and Urban sprawl in the form of linear development. The results of the study can be taken into consideration in the planning of the area where the railway station building is placed in line with the development of the city and or district layout.

Keywords: *Railway station, Urban morphology, Urban sprawl, Ambarawa*

1. Introduction

The railroad network on Java is one of the most complete and densest railroad networks in Asia as one of the forms of the transportation equipment revolution in the early 19th century to complement the Grote Postweg (the Java-based highway from Anyer - Panarukan, currently more famous as the Pantura Line) built by Daendels in 1808-1810 [1]. The first railway line in Java, Semarang-Kedungjati, was inaugurated in 1871, then Batavia-Buitenzorg (Jakarta-Bogor) was opened in 1873, the Surabaya-Pasuruan route in 1878, the Buitenzorg-Bandung (Bogor-Bandung) route was completed in 1884, and then the Surabaya-Solo and Semarang lanes. In 1894, the Surabaya-Batavia railway line through Maos, Yogyakarta and Solo was successfully completed. In 1912 the second alternative route between Surabaya-Batavia, through Cirebon and Semarang was successfully completed. The Kedungjati-Willem I (Ambarawa) branch was inaugurated on 21 May 1873 following the inauguration of the Semarang-Surakarta-Yogyakarta line [1].

The construction of the railroad network in Java was inseparable from the Dutch strategic interests to exploit Java, so the placement of Railway Station buildings became a matter that required

consideration [2]. This is reinforced by the opinion of Handinoto [3], that the railway station building is designed as a focal point so that it has an important role for the architecture of the city/ region.

The next step with the existence of the railway network is the placement of the train station in the city or district that is passed. The easiest tendency for railroad station placement is in the city center so that it is easily accessible by passengers. Placement of train stations in cities in Java in the past generally worked well, including train stations in Bandung, Tegal, Probolinggo, Pasuruan, Malang, Jombang. The successful placement of the train station is supported by the structural quality of the station building that was built as well as focal point of the city/ region [3].

As one of the initial routes built by Nederlandsch Indische Spoorweg Maatschappij (NISM), the Ambarawa-Kedungjati Line is significant to be studied. The construction of the Ambarawa Railway (Willem I) -Kedungjati railway is not separated from the military interests and transportation of Dutch colonial government plantations (Figure 1). Therefore, the placement of the railway station building on the Ambarawa (Willem I) - Kedungjati line is certainly on the basis of mature consideration.

Figure 1. From the Ambarawa map in 1905, the placement of railway station buildings was close to military camps (military interests) and located on the plantation path (Source: kitlv.nl)

Along with the development of land transportation and the efficiency of the railway line and the collapse of the bridge that connects Ambarawa-Kedungjati, the Ambarawa (Willem I) - Kedungjati railway line was finally officially closed in 1976. Towards the end of the 20th century, road traffic on the Island Java is increasingly crowded, including the land crossing of Ambarawa-Kedungjati which is the main route connecting the City of Ambarawa-Grobogan Regency. The cities and regencies in the Ambarawa-Kedungjati railway line in general have developed rapidly, which has an impact on the placement of the train station which was originally planned properly in the city or district spatial layout. The development of the regional spatial structure allows a shift in the role of the land route that the railroad traverses. If initially the land route where the train station building is located is an important route, then in the development of the regional spatial structure allows a shift in the role of the land route where the railway station building is located [4]. With the plan of Directorate General of Railways of the Ministry of Transportation to reactivate Tuntang-Kedungjati railway line, an integrated system is needed.

Based on this background, this study aims to study the placement of Ambarawa Railway Station in City Spatial Planning. The results of the study of the placement of the Railway Station in the City Spatial Plan on the Ambarawa-Kedungjati Line can be taken into consideration in city and or district planning where the railway station building is placed in line with the development of the city and or district layout.

The approach method used in this study is a qualitative approach to find out the placement of Ambarawa Railway Station in the City Spatial Plan on the Ambarawa-Kedungjati Line because of its significant role in the history of Railroad transportation in Java. The study area boundaries is the Ambarawa Railway (Willem I) Station.

Primary and secondary data that has been evaluated using historical search methods (diachronic reading) and synchronic reading with the placement of railway station buildings as starting points will be analyzed evaluatively descriptively, namely problem solving procedures by describing the current state of the research object based on facts or what it is. Presentation of data will be supported with illustrations and graphic images to facilitate the delivery of information [5].

2. Architectural typology of Ambarawa Station

2.1. Spatial system

The main building space pattern of Ambarawa Station is arranged linearly (extends horizontally east-west) and symmetrical between the left wing and the right wing of the building. Linear pattern is one of the prototypes of train stations in Indonesia. Circulation flow for visitors to Ambarawa station is linear following the pattern of space. During the Dutch colonial period there was a difference in the flow of circulation between the indigenous population and the foreign population (European) which was seen in the difference between the waiting area and the toilet. The waiting area for the indigenous population is on the outside of the main building (Figure 2 point 2) while the toilet is on the outside of the main building (Figure 2 point 1). The waiting area for white people is on the inside of the main building which is equipped with bars and toilets in (Figure 2 points 3, 4, 5). [6]

Ambarawa Station applies Indische Architecture, marked by the presence of an open corridor (vestibule) that surrounds the main building. With the separation of building masses in accordance with the activity zone, the flow of passenger activity circulation is separated from the circulation flow of the main activity. The main building is oriented to the East-West axis horizontally. The opening in the main building of Ambarawa Station is oriented towards the platform and emplacement which is visible from the direction of the door opening, while the orientation to the front corridor is in the window area. When viewed from the space organization, Ambarawa Station is an island station type, where the main building of the station is flanked by an Emplacement/ railway line [6].

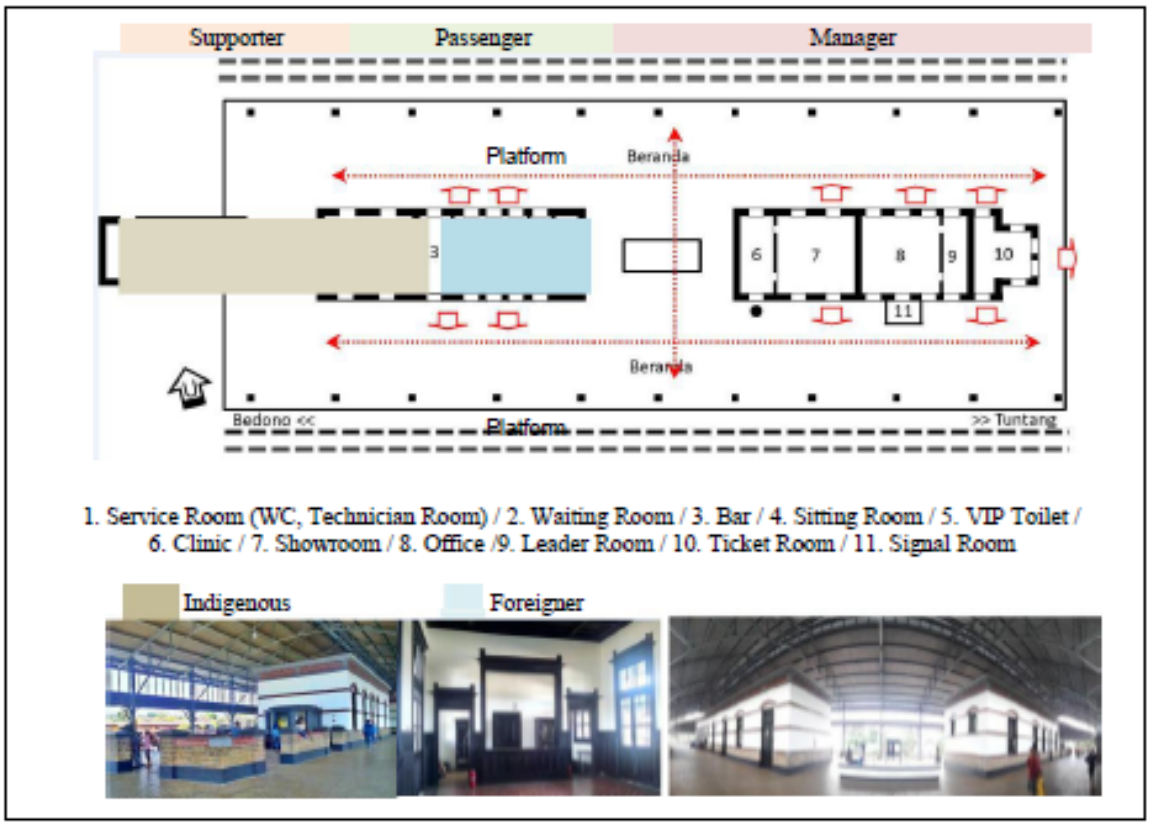

Figure 2. The spatial system of main buildings of Ambarawa Station [6]

2.2. Physical systems and figural quality

The physical form of the main building of the Ambarawa station is a combination of concrete structures with steel structures. The main building of the Ambarawa station is cube shaped using a concrete structure which is shaded by Overkapping in the form of a steel canopy with a wide span (about 22 m) of steel construction (Figure 3). Thickening of plastering on the main building as well as ornaments. Terracota couples as a waterproof coating as well as an aesthetic maker. The ceiling on the main building of the station using wood material that can reduce the heat that arises as well as a high ceiling allows hot air gathering place so that the room under it will become cooler, given the geographical climate of the tropics [6].

Figure 3. The figural quality of main buildings of Ambarawa Station [6]

2.3. Stylistic system

The stylistic system is analyzed based on indicators of roofs, columns, openings and decorative types. The main building of the Ambarawa station is a concrete roof which is shaded by Overkapping in the form of a steel canopy with a wide span (about 22 m) structured supported by a steel column (Figure 4). The shape and pattern of doors and windows has the same type, namely the Indis characteristic, using high and wide wood materials [8]. The most prominent ornaments in the main building of the Ambarawa station are terracotta frame with arc construction. At the end of the brick arch ended with molding of cement. In the interior of the main building get Art Deco influence on the details of doors, windows and floor motifs. The stilistic system is also formed from the means of supporting railway activities when Ambarawa Station is still active, namely: manual signal control made by Alkmaar (city name in the Netherlands), Genta PJL or Genta Cross Guard Officer is a communication aid that sends news related to the Train and Ancient Clock travel. The stations that use Alkmaar signaling, all notes use manual shifting levers that are near each money order (the notes are not operated centrally). Alkmaar's signaling system cannot be assembled with a block signal, so it cannot be used at a station adjacent to other stations that use electrical signaling equipment [6] [7].

Figure 4. Stilistic character of main building of Ambarawa Station
Source: [6]

3. Placement of Ambarawa Railway Station in city spatial planning

Ambarawa is one of the cities included in the first phase of the railway line construction by the Nederlandsch Indische Spoorweg Maatschappij (NISM). Ambarawa was originally a military city during the Dutch Colonial Government. For the operational benefit of the Dutch Colonial Government, King Willem I ordered the construction of a new railway station that would allow the government to transport its troops and the results of coffee plantations to Semarang. Ambarawa Railway Station was built adjacent to Benteng Willem I and was inaugurated on May 21, 1873 along with the opening of the Semarang-Kedungjati-Ambarawa line. With the deactivation of the Ambarawa-Kedungjati line in 1976, Ambarawa Station changed its function to the Ambarawa Railway Museum which was inaugurated on April 21, 1978. Ambarawa Station still serves the Ambarawa-Tuntang PP and Ambarawa-Bedono PP lines for tourism purposes.

The construction of the Ambarawa (Willem I) - Kedungjati railway line was inseparable from military interests and the transport of the products of the Dutch colonial administration. This can be seen from the selection of Ambarawa Station (Willem I) location adjacent to the Willem I fortress in the city of Ambarawa. When viewed from the station placement on city architecture, the morphology of the city of Ambarawa produces a variation of the city / region's morphological spatial expressions in the form of a compact square shape. A square city shows the opportunity to expand the city in a relatively balanced direction (Figure 5).

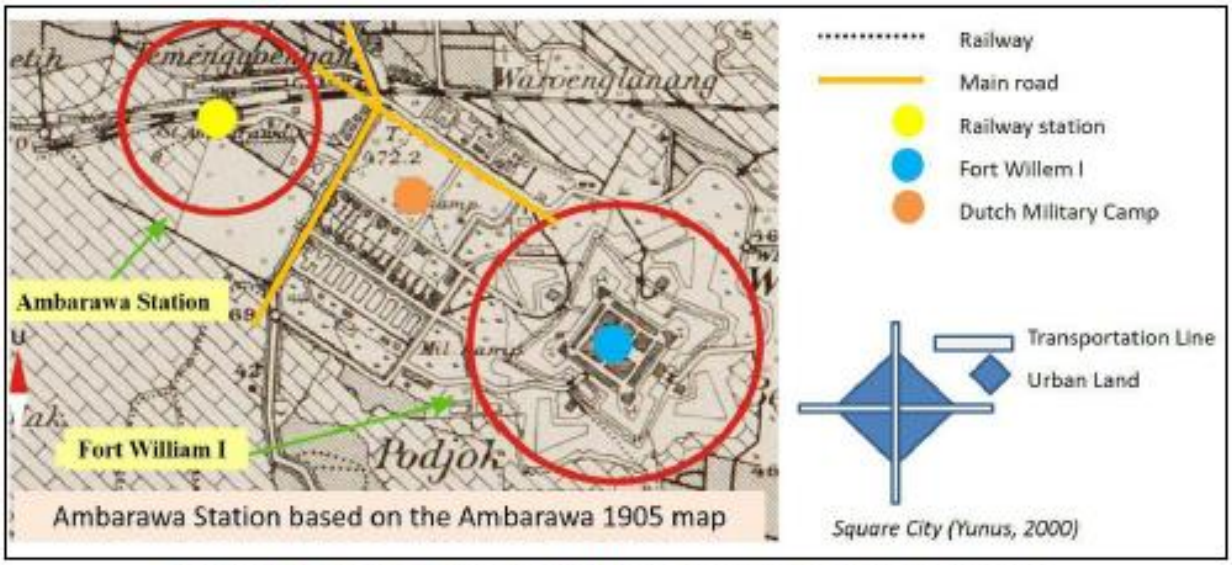

Figure 5. Position of Ambarawa Railway Station in city spatial planning
(Source: Author, 2018; [9])

Placement of the Ambarawa (Willem I) railway station is one example of the integration of station placement with the overall city layout. The Ambarawa train station is the main axis of the city which runs from North to South. The main building of the station is located at the intersection of the main road with the road leading to the fortress of Willem I so that the figural quality of the main building which is shaded by an overkapping roof forms a monumental impression of the station building as a focal point (Figure 6).

Figure 6. Figural quality of Ambarawa Railway Station and Fort Willem I.
Source: Author, 2018

In terms of city architecture, the placement of the Ambarawa train station is one of the determinants of the development of the city's morphology. Its location which is on the axis of the main road makes the surrounding area develop because it is now also the center of the city. Whereas the area around Fort Willem I is currently neglected because the fortress is not functioning. Part of the former military camp area was used as Ambawara's Jail Class IIA LP.

Furthermore, the morphology of the Ambarawa region developed, one of which was influenced by the development of transportation infrastructure. Judging from the development of transportation infrastructure, the morphology of the Ambarawa region in the period of lateral growth includes the period of development of inter-city transportation relations. Starting from the placement of the train station, based on the map of the Ambarawa region in 2011 it can be seen that the urban sprawl Ambarawa perforation process is in the form of linear development, which is a perforation that indicates the inequality of urban area spillages on all sides - the outer side of the main city area (Figure 7). Perforation is most quickly seen along the existing transportation routes, especially with the construction of toll roads that connect West Java to East Java.

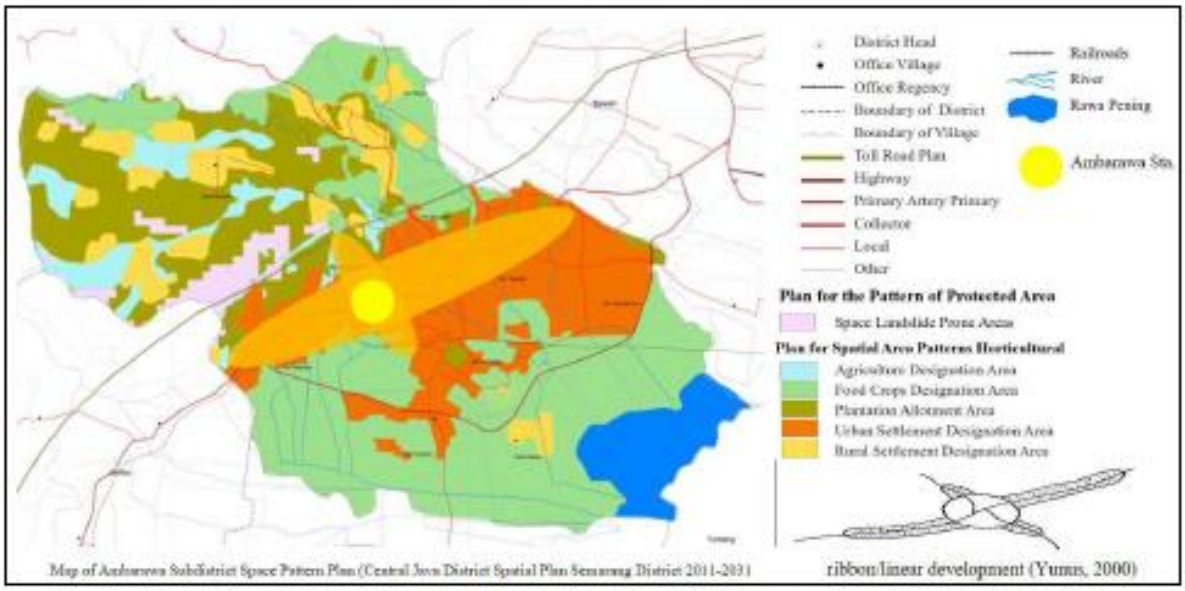

Figure 7. *Urban Sprawl* Ambarawa
Source: Author, 2018

4. Conclusion and recommendations

Placement of the ambarawa railway station building has an important role in the development of Ambarawa city. The placement of the Ambarawa train station building (Willem I) was initially not separated from the military interests and transportation of the plantations of the Dutch colonial

government. In the development of the city of Ambarawa, the train station still has a strong role because it is the starting point for the development of the city which produces variations in the spatial morphological expressions of the region in the form of a square. Starting from the placement of the train station, it can be seen that the urban sprawl process of Ambarawa is in the form of linear development, which is a perforation that indicates the inequality of the urban area perforation on all the outer sides of the main area. city.

The results of the study of the placement of the Railway Station in the City Spatial Plan on the Ambarawa-Kedungjati Line can be taken into consideration in city and or district planning where the railway station building is placed in line with the development of the city and or district layout.

Based on the role of Ambarawa Railway Station building in the layout of the city of Ambarawa, it is necessary to manage an integrated historical system since the investigation phase (Heritage Management System), which includes: Significant Investigation Stage, Phase Assessing Significance, until Significance Management Stage, which is a step end to determine the direction of management policies and possible development. In addition, it is necessary to have an active role from the local government to provide learning to the public on the importance of the sustainability of buildings and historical areas.

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