

Colonial railway and Jakarta Region

Perpetuating the colonial pattern

Devisari Tunas

Introduction

This paper discusses the role of the colonial railway system in Jakarta region and how it had influenced the current metropolitan development and urban problems. It will use the theories of Castells as the base of argumentation that cities are shaped by its economic system, which in turn are socially produced. It is materialization of its economic system. Therefore the initial urban structure of Jakarta is a materialization of the colonial type of accumulation.

The railway network in Indonesia was initially built to transport colonial raw materials from the hinterland to the coast. The railway became one element of the colonial exploitation machine; an ensemble of elements that worked together concurrently to support the colonial production. This colonial infrastructure consisted of among others, a port, railway, canalisation and road network, through which raw materials were gathered, transported and distributed.

To what extent the colonial railway system accommodates the demands and needs of the contemporary system of production and influences the metropolitan spatial development?

This paper is divided into two parts; the **first** part discusses the colonial railway system as part of the colonial means of production. We will start the discussion with the advent of railway technology in relation with the industrial revolution then discusses the relation between railway and cities. In this part certain theories from several scholars, such as *Castells, Yeoh, Herbert, Thomas, Hanson, Roth, Polino* and others will be discussed. Before coming to the case of Jakarta, the background of Indonesian colonial railways system will be discussed to give a general perspective of the main issue. Then, further discussion concerning the spatial impact of colonial railway on the city of Jakarta will be carried out. The **second** part will discuss the role of the old colonial railway system in the independence era and how it had influenced spatially the Jakarta metropolitan development. The discussion is conducted in relation with the shift of production system from the colonial to the contemporary. The issue of contemporary urban transportation problem will be introduced next in the framework of the aftermath of colonization.

Part one: The railway system in the Colonial era

Industrial Revolution and the Innovation of Railway

The innovation of railway was closely linked to the process of industrialization. As market expanded and competition got fiercer, the mobility of goods was a crucial matter. Raw materials had to arrive faster, while commodities had to be distributed quicker and cover more market therefore farther destinations. A more efficient means of transportation that could compress “time and space” effectively was needed. Barges and wagons were simply not fast enough. Furthermore, the **mass** oriented characteristic of industrialization demanded a new mean of transportation that could accommodate larger amount of goods simultaneously. With the versatility to bypass most on-road and waterborne obstacles, railway was a perfect alternative to move the necessary production means to facilitate the industrialization in Europe and later all over the world¹.

However in the case of a colonial city, the establishment of railway network was not aiming the generation of industrialization in the colony, but to facilitate the exploitation of natural resource to support the process of production in the Metropolitan Europe. It was part of the international division of labour, where the peripheries served as the producer of raw materials; a condition that necessitated the improvement of certain means of production to support the process of extraction.

Railway and Cities

The development of a city is influenced by many factors, but basically it is an expression of the underlying social structure or as **Castells** put it that *the development of space is the expression of the underlying social structure and by consequence is fashioned by the economic, political and ideological system and their combination and social practices*²[Castells, 1972].

The development of a city and region in term of its organization of space thus are based and shaped by its economic, political and ideological system. Those aspects could be translated in a spatial form for examples through the certain kind of technologies used to support the production system, for example in this case; railway network; which would alter the spatial formation of city and region.

¹Source: <http://mars.acnet.wnec.edu/~grempe/courses/wc2/lectures/industrialrev.html> accessed on May 3rd, 2004.

² Castells, M. [1972], *La Question Urbain*, Maspero, Paris.

Railway just like certain other transportation mode has a tremendous impact on regional structure and urban form. According to **Herbert and Thomas**³ [1997] the establishment of tracked transportation that in western cities started since the early industrial period, led to the process of sub-urbanization⁴. The process of sub-urbanization was made possible by easier accessibility and mobility offered by tracked transportation. But this mobility eventually would influence the structure of urban form as **Hanson** [1995] stated that *the need for mobility is a consequence of the spatial separations of different types of land uses in the city, but enhanced mobility also contributes to increased separation of urban land uses because improved transportation facilities enable people to travel farther in a given amount of time than they could previously*⁵.

Apart from influencing the spatial pattern of a given city, it also has a large impact on the relation between cities. As **Roth and Polino** [2003] stated that in Europe, *the advent and spread of railways during the 19th century not only contributed to industrialization and urbanization but also transformed in the meaning of space and time, perceptions and experiences of distance and geography*⁶. The compression of time and space, not only had linked more cities and regions under the framework of economic relation, but also in term of socio-cultural relation. According to Hanson, *accessibility refers to the number of opportunities or activity sites available within a certain distance or travel time*⁷. The compressed space means more opportunities that in turn multiplied the exchange of people; in term of employments and social relations.

The mass movement of goods and people had reshaped the relation between cities in regions, as social and economical interdependency between cities grow. In the same time competition between cities enhances the enlargement of market.

On the other hand, the railway network also influences the organization of cities. As it only stops in some cities, it predetermines and re-emphasizes the significance of certain cities. Therefore, the system of cities was re-organized based on its hierarchy to the railway network.

³ Herbert, D. and Thomas, C. [1997] *Cities and Space; Cities as Place*, David Fulton, London.

⁴ While in the pre-Industrial era with pedestrian and animal-draught transportation system tended to produce compact cities.

⁵ Hanson, S. [1995] *The Geography of Urban Transportation*, Guilford, New York.

⁶ Roth, Ralf, Polino, Marie-Noëlle [2003] [eds.] *The city and the railway in Europe*, Ashgate, Aldershot, England.

⁷ Hanson, S. [1995] *The Geography of Urban Transportation*, Guilford, New York.

The construction of railway **station** in a city also brings further impact to the existing urban structure. According to **Spit** [1998] stations have two identities; as a node and a place. A node means *a point of access to trains and other transportation network*. A place means *a special section in the city with a concentration of infrastructures with diversified collection of buildings and open spaces*⁸. And these two identities on the one hand *provide the critical mass of demand for the development of particular activities and on the other hand, dense patterns of use can make a location's transport infrastructure difficult to expand and adapt*. Therefore, it has a dual impact both positive and negative on the given city.

Other significant impact of the railway network is concerned with the issue of land/property value especially in term of proximity to railway station. According to **Debrezion, Pels, Rietveld** [2003]...there are several parameters that determines such impact of stations on property value for examples: *type of property, type of railway station, the presence of specific variables related to accessibility, demographic features and house quality in the models, place of study ...*⁹. Based on his survey, he found out that commercial property enjoys more benefits due to proximity to stations than residential. Therefore the existence of a station in a city greatly influences the urban spatial organization in term of the pattern of land use especially when it is concerned with the issue of commercial functions allocation.

Furthermore still in the issue of land, **Schmucki** [2003] stated that public transport such as railways necessitates the allocation of certain areas for its facilities such as *terminals (and rail tracks) which in turn could remodel city centres, and transport also had a part to play in the redefinition of the meaning and use of streets*¹⁰.

Colonial Railway System in Indonesia

According to **Yeoh** [2003], colonial city has to be structured to *enhance the flow of economic activities* such as trade and communication, which were crucial to the entire colonial economy¹¹. **Hamilton** [1948] presumed that this economic exploitation would have been impossible without at least a **minimal degree of development** in

⁸ Bertolini, Luca and Spit, Tejo [1998] *Cities on Rails*, E & FN Spon, London.

⁹ Debrezion, G. Pels, E. Rietveld, P [2003], *The Impact of Railway Stations on Residential and Commercial Property Value: a Meta Analysis*, Tienbergen Institute Amsterdam.

¹⁰ Schmucki, Barbara [2003], *The City and Urban Transport*, Institute of Railways Studies, University of York.

¹¹ Yeoh, Brenda [2003] *Contesting Space in Colonial Singapore, Power Relations and the Urban built environment*. Singapore University Press, Singapore.

terms of a bureaucracy, **some infrastructures** and an internal and external defence forces¹². The construction of railway was part of the grand scenario for functioning the colony as a commercial surplus producer. Railway is an important part of the colonial means of production that could ensure an efficient movement.

In Indonesia, the discussion to built railway network was already started since 1840¹³. The urgency to construct it was actually related with the need to transport of raw materials from the hinterland to the coast under the *forced cultivation system* (started in 1830). The forced cultivation system that produced a vast amount of cash crops necessitated a more efficient and faster transportation. Nevertheless, the realization of the construction only happened in the last years of the cultivation system due to some extended discussion between local authority and the central government in the Netherlands.

The first railway network was finally established in 1867¹⁴ in Java. The first railway was constructed in Central Java under the agenda of sugar transportation (from the hinterland Java to the port between *Semarang* and *Tanggung* 25km¹⁵). This first railway was operated and built by private enterprise *Netherlandsch-Indische Spoorwegmaatschappij*.

Railways had greatly influenced the pattern of raw material movements. The main movements were shifted away from the main rivers and arteries. Although the rail freight was more expensive than the water and non-tracked land transportation, the risk was considered lower thus more reliable and favourable [Dirk, 2000]. This situation was mostly suited for sugar, coffee and tea, etc. that were transported in bulk. However, smaller consignments such as local crops, handicrafts and import goods still preferred traditional form of transport since the expensive rail freight was not comparable to the profit.

The abolishment of cultivation system and the execution of Agrarian Law in 1870 which led to the privatization of plantation ownership, had ignited the coming of many new investors. Only several years after the execution of the law, there were about 150 more planters in Preanger [Kunto, 1984]. This situation eventually produced

¹² ibid p.363.

¹³ De Jong, Michiel van Ballegoijen [1993] *Spoorwegstations op Java*, de Bataafsche Leeuw, Amsterdam.

¹⁴ 28 years after Holland got its first railway between Amsterdam and Harlem.

¹⁵ Ibid.

more competitions among foreign plantation investors. This situation had triggered some private investors to build more rail lines to transport those commodities. In certain cases the rail lines were even constructed by the plantation enterprises themselves for example like sugar lines in Centre/East Java and tobacco lines in Deli (1883, *Medan-Belawan*, built by *Deli Cultuur Onderneming*). Therefore the overall pattern of railway network followed the locations of major plantations. [SEE ANNEXE] Later on eventually the network covered more areas in Java, and finally linked the West-end to the East end of the island by the beginning of 20th century.

Building and operating railways was actually a highly profitable business by it self that several railway enterprises sold their stocks in the Netherlands¹⁶. More over, the taxes gained from private enterprises such as the railway company had contributed a vast amount of revenue for the colonial government¹⁷.

The existence of railway in Java was proven essential to the restructuring of sugar industry after the crisis in 1880s-1890s (when the cane sugar industries collapsed in response to the expansion of European sugar beet) and the restructuring of coffee industries, which were devastated by blight, by opening new accessibility to virgin areas¹⁸ (Dirk 2000). In fact, in general railway has unlocked Java's interior for word commerce [Dick, 2000, apud. Burger 1939]

Colonial Railway System in Jakarta and its impacts

Regional scale

The discussion of the railway establishment in Batavia could not be separated from the framework of Preanger commodity transportation. The construction of the line *Batavia - Buitenzorg* 50km (the residential place of the Governor General in the *Preanger* hinterland) in 1873 was intended to establish better connection between the rich hinterland that produced a great range of colonial commodities with the north coast¹⁹. It was actually the initial phase of *Preanger* line that was constructed to

¹⁶ At that time, there were 10 operating private companies and one state-owned. Later on those of the companies were bought by the state. During the Japanese occupation the railway company was taken over by the military under the name of *Tetsudo Kyoku*. After the independence, the company was taken over by the Indonesian government.

¹⁷ Linblad, J.T. *The Late Colonial state and economic expansion, 1900-1930s*. in *The Emergence of a National Economy*, KITLV press, Leiden, 2002.

¹⁸ Dick, Howard. (2000) *Representations of development in 19th and 20th century Indonesia: A Transport History Perspective*. *Bulletin of Indonesian Economic Studies*, April 2000.

¹⁹ Geerlings, J. Th. *Spoor- en Tramwegen in Nederlandsch Indie*, 1897, *Jaarboekje der Nederl. Vereeniging van Spoorweg-ambtenaren*.

support the process of extraction and transportation of the hinterland commodities such as tea, coffee, rice, etc.

Gradually, the railway network covered the whole Preanger areas before the end of 19th century²⁰. The construction of this line that reached almost 350 km in total was difficult and time consuming due to the geographical nature of *Preanger* highland that was mountainous. The construction had to go through the Salak and Gede Vulcano area, while between Sukabumi and Cianjur a nearly 1km tunnel had to be built.

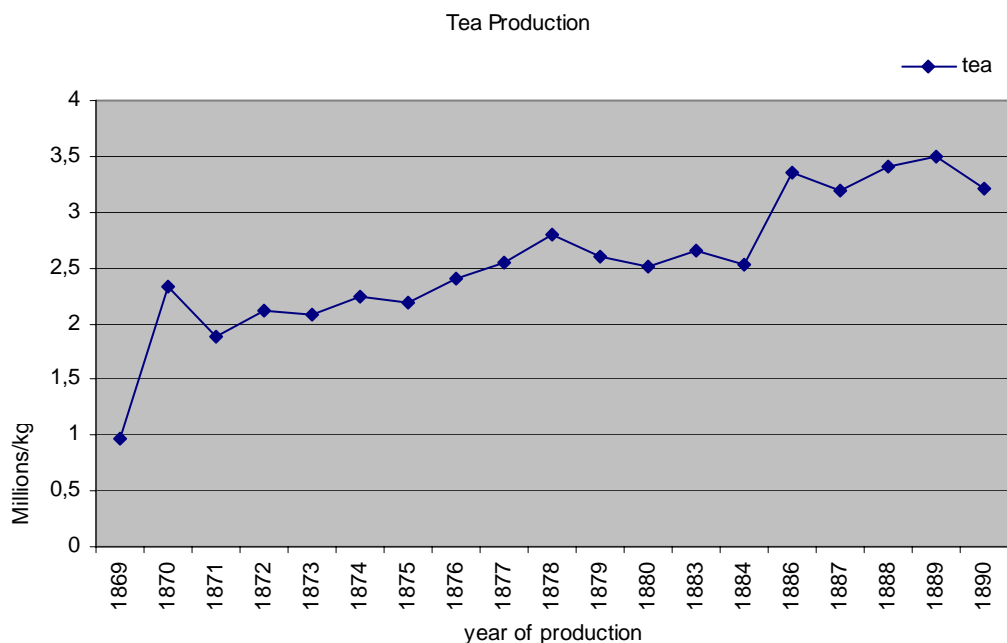
Prior to the construction of this line, the transportation of commodities from the Preanger hinterland was difficult and laborious. Most raw materials had to be transported firstly by horses to the rivers (the three frequently navigated rivers are Citarum, Cimanuk and Citanduy), then through the river to the north coast (Indramayu, Cirebon) and eventually by sea to Tanjung Priok port²¹. [SEE ANNEXE] The construction of the railway had shortened considerably the transport process. Apart from that, unlike other land transportation such as horses, trains was not influenced by the weather, it did not need over-night break and it could reduce the risk of thievery and spilling over (Gerlings 1897).

According to the *Nederlandsch-Indische Spoorweg Maatschappij* report from 1870-80, the Batavia-Buitenzorg line accommodated (in term of goods transportation) on average 25% local transportation, 25% direct raw material transport from Preanger, 5% direct transport to Tanjung Priok port, 5% transit, 11% construction work. And from the total transported goods 77% was those of private enterprise²². The transported commodities consisted of among others coffee, sugar, potatoes, peanuts, cinchona, flour, oil, palm sugar and rice.

²⁰ Buitenzorg-Cicurug 27km (1881), Cicurug-Sukabumi 31km (1882), Sukabumi-Cianjur 39km (1883), Cianjur-Bandung 60km (1884) and Bandung-Cicalengka 27 km(1884), Cicalengka-Garut 51km (1889) , Cibatu-Tasikmalaya 56km (1893). Source: Reitsma, S.A. [1928] *Korte Geschiedenis der Nederlandsch-Indische Spoor- en Tramwegen*, G.Kolff &Co. Weltevreden

²¹ Indisch Genootschap, Vergadering van 24 February 1903, *De Spoor- en tramwegen in Nederlandsch-Indie*, 's-Gravenhage. Goods from Bandung and Cianjur had to be transported through the river Citarum to the north coast and after by sea to Tanjung Priok port, while goods from East Preanger had to be transported through the river Cimanuk via Indramayu and then by sea to the port. Goods from other Preanger areas had to be transported through lands via Cirebon and eventually to Tanjung Priok by sea

²² *ibid.*



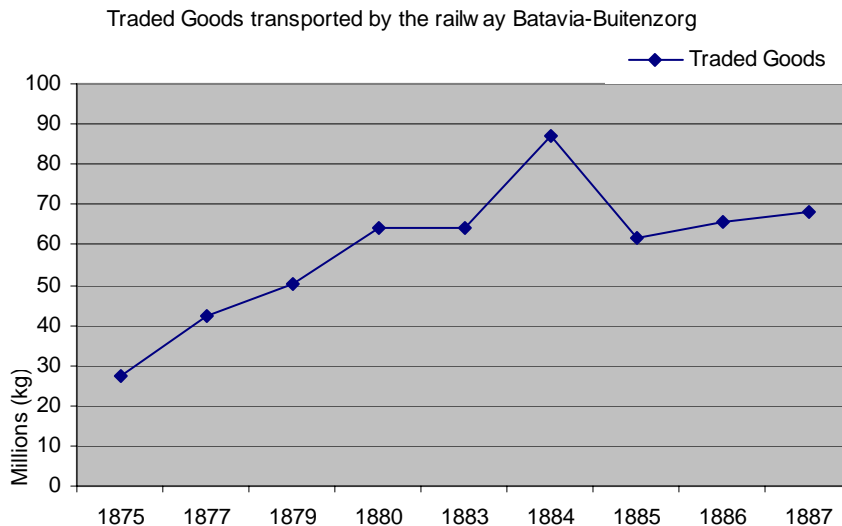
The above chart shows the production of tea from year 1869 to 1890. **1873** The railway linked Batavia and Buitenzorg, **1881** to Cicurug, **1882** to Sukabumi, **1883** to Cianjur, **1884** to Bandung and Cicalengka, **1889** to Garut, **1893** to Tasikmalaya. (Source: . Koloniaal Verslaag 1870-1891). In the first few years after the railway establishment, there was a steady growth of tea production (1875-1878) due to the opening of new plantations. In 1879-1884 however the production dropped. In 1886 the production increased drastically and the production was going rather unstable after since.

The railway had influenced the growth of production only in the first several years, but afterward it did not show many influences as the production was heavily influenced by external factors such as the economic-political situations. (See the above chart)

In term of passenger traffic, during year 1870-1880, the Batavia-Buitenzorg line accommodated on average: 40% Local Batavia-Meester Cornelis traffic, 40% Batavia-Buitenzorg traffic, 5% direct Batavia-Preanger spoorweg traffic and 15% direct Batavia-Tanjung Priok²³.

Later, more lines were constructed westward to link Batavia with *Anyer* (1900), *Laboean* (1906) which connect West Java with Sumatera, *Merak* (1914) and also eastward until *Cirebon* (1912), and eventually these lines were linked with the whole Java railway network. [SEE ANNEXE]

²³ ibid.



The chart shows a steady growth of transportation of traded goods in Bataiva-Buitenzorg line. Year 1884 shows a drastic increase, it was the time when the railway reach Bandung. However in the next year, there was a drastic drop. (Source: Koloniaal Verslaag 1876-1888)

Local Scale

Apart from its regional use, the railway was also used locally in city scale. The first line between *Batavia-Buitenzorg* (1871) also accommodated transportation between *Meester Cornelis*, *Koningsplein* and *Kleine boom* (the port)²⁴. This local railway network consisted of 37km long rail line²⁵. The train operated every one to two hours; seven times in a day. This train was designated for transport passengers, baggage and delivery goods (*bestelgoederen*). From seven scheduled trains that went from the port to *Koningsplein* each day, one was allocated for government personnel and goods delivery from the port to the city.

1871	Batavia – Weltevreden (6km)
1872	Weltevreden - Meester Cornelis (6km)
1873	Meester Cornelis – Buitenzorg (44km)
1885	Batavia – Priok (9km)
1887	Batavia – Bekasi (27km)
1899	Batavia – Doeri – Tangerang (23km)
1899	Doeri – Rangkas bitung (76km)
1904	Kemayoran – Ancol (4km)
1904	Tanah Abang - Krawang lijn (6km)
1922	Tanah Abang – Manggarai (6km)

²⁴ De Jong, Michiel van Ballegoijen [1993] *Spoorwegstations op Java*, de Bataafsche Leeuw, Amsterdam
The line went through *Meester Cornelis*, *Koningsplein*, *Noordwijk (Senen)*, *Sawah Besar*, *Krekot*, Main Station Batavia and *Kleine Boom* (the Port).

²⁵ Reitsma, S.A. [1928] *Korte Geschiedenis der Nederlandsch-Indische Spoor- en Tramwegen*, G.Kolff &Co. Weltevreden

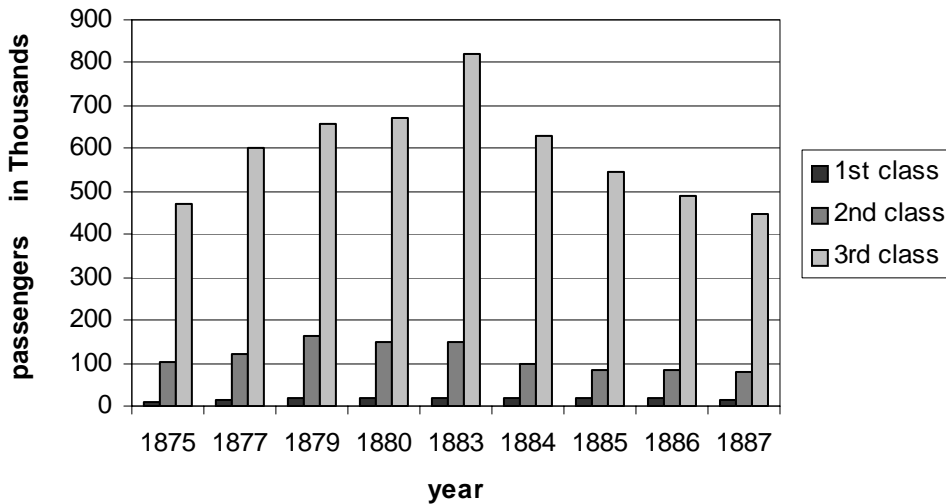
Chronology of Railway development in Jakarta

Source: Reitsma, S.A. [1928] *Korte Geschiedenis der Nederlandsch-Indische Spoor- en Tramwegen*, G.Kolff &Co. Weltevreden

Through this local line, the railway network also linked the busiest commercial centres such as *Tanah Abang*, *Senen* and *Jatinegara*, which have already existed long before the railway was established. [SEE ANNEXE] Therefore the railway was not only supported the extraction of colonial goods from the hinterland to the port, but also supported the transportation of commercial goods for local consumption. Moreover, the existence of train stations in those commercial nodes triggers further development as commodities, people and capitals flow more easily. These commercial functions should have greatly benefited from its proximity to the railway network.

Other aspect that is important to note is the emergence of certain economic activities such as the existence of some street traders around stations building selling foods. Even though the amount of these traders might not be that significance if compared with the total number of employment in the city, still it indicates that the existence of these stations had influenced the city's economic setting in many levels through direct, indirect and induced impacts.

The establishment of railway network in Jakarta thus has influenced the city in certain levels, economically, socially and *therefore* spatially. The improvement of accessibility that increased mobility of people, raw materials and goods from the surrounding areas had opened several economic opportunities for Jakarta it self. The vast flow of raw materials had ignited the increase of investment in supporting functions such as warehouses, packaging and pre-shipment process.



The above chart shows the total amount of passenger line **Batavia-Buitenzorg** from the year 1875-1887. It shows that at the beginning of its exploitation there was a steady growth of passenger, but after 1883 however the number started to decrease. The numbers of the 1st and 2nd class passengers were rather stable, while the 3rd shows a more drastic change. (Source: Koloniaal Verslaag 1876-1888)

These new opportunities lead to the alteration of land use in the city (by the establishment of new business district, housing and centres of production). As the economic activities intensified, the city was quickly becoming urbanized. Starting from 1870 there was a drastic change of population growth trend. Population rose almost twice from 160000 to 300000²⁶ from year 1870 to 1920. Landless and jobless peasants were flocking into the city, as it became a favourable destination for seeking better life and jobs.

Year	Population
1730	100.000
1800	140.000
1870	160.000
1900	200.000
1920	300.000
1930	530.000
1940	655.000
1950	1.432.085
1952	1.781.723
1954	1.823.918
1956	1.889.618
1958	2.025.929

Chart of Population Growth

source: Van Diessen, J.R. [1989] *Jakarta/Batavia*

²⁶ Van Diessen, J.R. [1989] *Jakarta/Batavia*, Cantecleer bv, de Bilt.

When the cash-crop market plunged in the year 30s, Jakarta with its elaborated transportation network such as the railway, roads, modern port (finished in 1886) and airport, had all the elements that is needed to start industrialization. In fact, in the book *Batavia als handels, industrie- en woonstad*, that was published by the Batavia municipality in 1937 as a way to call for investments in import substituting industry in the Netherlands Indies, the railway network (that was already entirely electrified and double-tracked at that time) was featured as one of the most important transportation mode that would support the process of industrialization.

According to the de Vletter[1997] in his book *Batavia Beeld van een metamorphose*, this could be regarded as the beginning of the phase of Industrial Colonization in Batavia. This was provoked by three things: [1] the rising world demand of metal ore, rubber, quinine, crude oil, during the second world war, [2] the world war has forced Netherlands East Indies and the Netherlands to be able to produce their own fuel, medicine, food and so forth, [3] **better infrastructures** and cheap labour forces had ignited Dutch companies to start their production process in the Netherlands East Indies.

The number of industries in Batavia had increased from 336 in 1931 to 609 in 1940. This trend however was also reflected on the overall industrial figures of West Java (see the tables). This number indicated the increasing number of transport infrastructure utilization in local and regional scale (West Java) and not to mention of the increase of space consumption for production that has good accessibility with the transportation network.

Year	Batavia	West Java	Netherlands Indies
1930	336	1510	5385
1935	483	1547	5931
1940	609	2045	7429

Number of factories in Batavia, West Java and Netherlands Indies from 1931-1940

(Source: Koloniaal Verslaag 1931, 1941)

In 1930, this industrial development absorbed 19% of the whole Batavia working force, from which 13% were natives (who represented 16% of the whole native working force). Apart from that, 12% of the total native working forces worked in the transportation field (train, tram, ships).

The improvement of connection between Jakarta and other cities in the region also brought many opportunities for the surrounding cities especially the ones that were traversed by the railway network. For example the travel time between Batavia-Bandung was reduced almost more than 3 times; in 1934, Bandung could be reached within 2 hours and 45 minutes with the famous *Vlugge Vier* (The Four Fast Trains) that operated four times in a day. This advantage certainly brought economic benefit to Bandung as it became well connected with the capital city and its port.

The new accessibility along this network had changed the trend of regional development. This phenomenon was indicated by the alteration of land use along the railway axis as new growth centres were forming. As a result the main city (Jakarta) started to sprawl along the axis. (see pictures)

There was a great significance of Jakarta's urban development pattern before and after the establishment of railway network. Pre-railway Jakarta tended to grow Southward along the axis *Benedenstad* and *Weltevreden*. While afterward, the expansion tended to disperse relatively even along the four axis of railway network. [SEE ANNEXE]

On the other side of the coin, the impact of the railway network is not always positive. Unlike stations that tend to create economic opportunity, railway track tends to give negative impacts on its immediate surrounding area. Rail-tracks tend to block further physical developments by triggering the deterioration of the areas along its track through land devaluation or by the creation of physical barrier. In the case of Jakarta, we could observe several formations of squatter settlements along certain rail tracks section since the 'set-back' areas tend to form some sort of no-man's land territories. The lack of low income housing during the colonial period had triggered the formation of squatter settlements all around the city. One of the most favourable areas is the strip area along the railway axis in around set back areas. This squatter formation started since the colonial times and persists through decades until nowadays. (SEE ANNEXE)

Part two: The Colonial Railway in the Independence era

The shift of production system

Based on the thesis that colonial railway was the main means of transportation that supported the colonial system of production (and that it was a product of colonial

interest), in order to observe the significance of colonial railway in the Independence era, it is necessary to look at the shift of production system, the nature of capital accumulation and reproduction of this time. In this way, it is expected that the extent of impact of colonial railways on current metropolitan development and urban problems could be observed.

At the beginning of the independence era, apart from having severe political problem, Indonesia was also left behind with severe economic problem. In the 50s, the government tried to achieve economic sovereignty by *Indonesianisation*. The government developed state enterprises by taking over business enterprises that belonged to the Netherlands Indie's government such as the post office, state railways, mining and plantation enterprises and also several privately owned Dutch enterprises such as the private railway, tramways, electric and gas company²⁷.

The *Indonesianisation* of these enterprises and especially the *Finec* agreements [1949] that granted continued rights of operation to certain Dutch enterprises indicated a continuity of certain economic activities. In 1950, Sukarno stated that certain Dutch enterprises that were not "blocking the way", were allowed to keep operating in Indonesia²⁸. (Those enterprises held important roles in Indonesian economy since they contributed a large amount of tax that represented the largest part of the country's revenues at that time.) The existence of these enterprises indicated that there were no significance ruptures of certain production system. Furthermore, most existing Chinese-owned enterprises were not influenced by the independence, for example in the case of certain sugar industries.

Efforts to ameliorate the economic situation however did not show much result. According to **Mc Gee**²⁹ [2003] up to the beginning of 60s, the economic structures of ex Colonial cities as Jakarta did not change much from the colonial period despite the some effort of industrial development as the growth of industrial sector failed to proceed farther³⁰. According to Survey Development in 1968³¹, the government had

²⁷ Dick, H [2002] *Formation of the nation state in The Emergence of National Economy* [2002], Leiden, KITLV press.

²⁸ De Vletter, M.E. [1997] *Batavia, Beeld van een metamorfose*, Asia Maior, Purmerend.

²⁹ McGee, T.G. and Keilly, P.F. [2003] *Changing Spaces : Urbanization in an Era of Volatile Globalization*, in Chia Lin Sien, *Southeast Asia Transformed, A Geography of Change*, ISEAS, Singapore.

³⁰ According to Pauw [1960] as cited by Dick that during the 50s the Indonesia structural economy actually was stagnating if not deteriorating. Based on some official statistic record it shows that the manufacturing sectors reached to 12% of the National Domestic Product in 1957 and then stagnated, while primary sector consisted 50% of NDP. The country was actually surviving from its agriculture and trade income.

³¹ Bulletin of Indonesian Economic Studies, Survey Development February 1968.

not been able to control the inflation caused by the shortage of rice and other food. In general, the effort to develop the national economy was made difficult not only by the local socio-political atmosphere but also influenced by the external factors such as the closing of Suez Canal that resulted in the increase of freightage of some important commodities. Furthermore, the limited infrastructure could not be accounted to support such a grand project of industrialization that was needed to cope with the growth of urban population.

Significant change took place in the end of the 60s. If prior to that, Indonesia was more inward-oriented through some establishment of import-substitution industry, starting from 1967/68 (the Foreign Investment Law) Indonesia started to integrate with the world economy. According to Survey Development in 1967 (BIES)³², improvement in transport and communication has been given high priority by the government. This could be seen as a manner to facilitate more investors, as the transportation and communication system was vital for the process of production.

The war for independence had led to the deterioration of these railways. The railways were often sabotaged; rolling stocks, tracks and other structures were destroyed. Therefore there was an immediate need to repair these rails after the war. There was a major repair operation, hundreds of new steam locomotives were ordered, and tracks were replaced³³. Between 1953-1967, bit-by-bit the trains were dieselized. However despite the major repair operation, there hardly any new lines were constructed.

Apart from improving the railway network, the government also constructed new highways to facilitate the industrial development and new settlements that come with it. The construction of regional highways such as JAGORAWI (60s) and much later on the *Tangerang* and *Bekasi* toll roads, tended to traverse and link the already existed growth centre that were ignited by the railway network. (If initially, the axis of colonial railway was determined by the locations of centres of production, i.e. colonial plantations, in turn the significance of those areas were perpetuated by its accessibility to the railway network. This is apparent in the case of *Tangerang*,

³² Bulletin of Indonesian Economic Studies, Survey Development February 1967.

³³ Source: Indra Krishnamurti [2003] available on line [<http://members.tripod.com/~keretapi/history.html>]

Rangkas Bitung, Bekasi, Karawang, etc. which eventually developed in to some sort of growth centres.)

Starting from that year flow of investments was coming strong. New industrial estates were sprouting all over the cities.

When the investment trend started to go out from the capital city to the peripheries due to the high price of labour and land in the 90s, many new industrial estates started to emerge in areas along the West-East-South axis (*Tangerang-Bekasi-Bogor*) that are well accessed by railway and highway. [SEE ANNEXE]

However, the trend of contemporary production tends to favour highways than railways as the main means of transportation due to certain considerations, among others; different technical specification which necessitates different mode of transportation and the low versatility of railway to reach more destinations. This phenomenon also happened in other ex-colonized countries such as Brazil and Chile. Therefore even though the locations of those estates are concentrated around the colonial railway axis, those manufactories actually do not take much benefit from it apart from several petroleum (around *Cilegon* area) and cement manufactories (around *Cibinong* area).

Nowadays, the national railway company accommodates only two special cargo lines (between Jakarta-Surabaya). Other limited good transportations from other areas are transported with common passenger lines (with freight cars).³⁴

From report of statistic from 1995-1999, the most common commodity transported by railway are coals, cement and petroleum products.³⁵ Here, it is important to note that the coals are transported from mines in South Sumatera to coal-fired plant in West Java to be processed in to source of energy for many industries in Java.

6. Metropolitan Transportation problems

In the case of Indonesia that had late independence, the existing tracked transport (railway) that was initially oriented to transport colonial commodities was not sufficient to accommodate the impact of rapid urbanization especially in the city like Jakarta. With minimal economic support at the beginning of independence when the

³⁴ Source available online: [[http:// infoka.kereta-api.com/](http://infoka.kereta-api.com/)] accessed on 6th July 2004.

³⁵ Source: Railway Statistic, [<http://www.dephub.go.id/>]

urbanization problem was still at bay, the city could not afford to prepare it self for future massive population growth with mass tracked transportation.

While other cities particularly in Europe in the middle half of 19th century were gearing up to prepare themselves for future development like for example Paris with the *Hausmannization*³⁶, colonial cities (that were still colonized at that period) never had the opportunities (and the financial support) to do such preparation. This happened particularly because apart from empowering the city as an efficient colonial machine, the colonial power had limited intention in improving it for the welfare of the people. Therefore, most colonial cities were way behind in modernization process.

The establishments of industrial estates in the peripheries were followed soon by the emergence of housing settlements around it. This phenomenon had contributed largely to the process of urban sprawling. However these housings was not merely designated for the people who work in those industrial estates, as many of them were also marketed for people who are employed in the capital city. With easy accessibility through highways and low automobile prices, city people do not hesitate too much to leave the city and live in the suburb. These new settlements unfortunately depend almost entirely to the highways system that million of commuting cars cram these highways each day.

In principal, many of these new housing estates are relatively accessible by the railway system however the supporting system (bus feeders, etc.) are not sufficient and effective enough that the railway was never considered as a convenient alternative for many commuters. More commuters prefer to travel by bus or private vehicles. Based on statistic of year 2000, the railway transported 325 thousands people daily in *Jabotabek* area from which 39 thousands (12%) were inside Jakarta it self, while the bus transported almost 4 million people daily inside *Jabotabek* and some 4 millions others travel with their private vehicles³⁷.

7. Conclusion

³⁶ A *grand travaux* of city renewal programme as a response to wartime devastation, initiated by Baron Haussmaan who redrew the plan of Paris between 1850-1870, providing a model for old cities everywhere to meet the needs of modern traffic. The overall benefits of Hausmannization, as the state repeatedly advertises, are supposed to be public health (tied to slum clearance and access to light and iar), the smooth flow of traffic, the creation of modern housing and business premises, and social order. Source: Kostof, S. [1992] *The City assembled*, Thames and Hudson, London.

³⁷ Source: Jakarta dalam Angka, 2000. Biro Pusat Statistik.

Once built as part of colonial machine in order to support the process of exploitation and extraction, railway network in Jakarta had become one of the most important elements that fashioned its metropolitan development. It had contributed to the significance of Jakarta as the primary city in the region by enhancing its accessibility. Together with other important modes of transportation, it ignited vast flow of investment in the city. By shaping its economic structure, it has therefore shaped its spatial formation and its trend of development.

As one of the remains of colonial infrastructure, the railway indicates the process of continuity and adaptation. It no longer accommodates the process of colonial production, but to certain extent it still passes on the influence of colonial hegemony to the nowadays urban structure by imposing certain pattern, such as of land-use and urban sprawl.

Along with the change of the urban setting, in term of system of production, size, population and needs, as the only existing and available mass transportation, the railway is expected to be able to accommodate the new demands which to many extend exceeds its capacity.

In term of its role as commodity transportation, nowadays the railway is not considered as the main alternative anymore due to the shift of production process that entails different technical needs. Apart from several limited production, contemporary production centres rely more on highway system as the main mode of transportation as it could offer a more efficient service that could reach more destinations across the regions. This phenomenon does not only happen in Indonesia but also in other ex-colonized countries for example in Latin America like Chile and Brazil.

Even though, the railway system does not significantly support the process of contemporary production anymore. To certain extent, the trend of urban sprawl that followed the direction of this railway axis still perpetuates the colonial pattern. This happens since the recent highways system trend to be constructed in line with the colonial axis linking the already established growth centres.

However, there are potentials that could be explored. The emerging of housing settlements along the highway axis has increased the amount of commuters who travel daily to the city. Even though it was initially designed as mode of

transportations for raw materials and goods, nowadays it has the potential to accommodate those commuters, as many of those settlements are also accessible through the railway system. But sufficient supporting functions such as bus feeder to link the stations with more destinations should be provided elaborately.

Devisari Tunas

PhD Candidate - *Studio Globalization, Urban Form and Governance*

Cluster: Managing Culture

Dept. Urbanism, Fac. Architecture.TU Delft – The Netherlands

MSc. Conservation of Historic Building and Town, Centre Lemaire, Katholieke Universiteit Leuven, Belgium

M.A Social and Cultural Anthropology, Katholieke Universiteit Leuven, Belgium

Bibliography

Bertolini, Luca and Spit, Tejo [1998] *Cities on Rails*, E & FN Spon, London.

Bulletin of Indonesian Economic Studies, April 2000.

Bulletin of Indonesian Economic Studies, Survey Development February 1968.

Bulletin of Indonesian Economic Studies, Survey Development February 1967.

Castells, M. [1972], *La Question Urbain*, Maspero, Paris.

De Jong, Michiel van Ballegoijen [1993] *Spoorwegstations op Java*, de Bataafsche Leeuw, Amsterdam.

Debrezion,G. Pels, E. Rietveld, P [2003], *The Impact of Railway Stations on Residential and Commercial Property Value: a Meta Analysis*, Tienbergen Institute Amsterdam.

Dick, Howard. (2000) Representations of development in 19th and 20th century Indonesia: A Transport History Perspective, BIES

Geerlings, J. Th. *Spoor- en Tramwegen in Nederlandsch Indie*, 1897, Jaarboekje der Nederl. Vereeniging van Spoorweg-ambtenaren.

Hanson, S. [1995] *The Geography of Urban Transportation*, Guilford, NewYork.

Herbert, D. and Thomas, C. [1997] *Cities and Space; Cities as Place*, David Fulton, London.

Howard, D.[2002] *Formation of the nation state in The Emergence of National Economy* [2002], Leiden, KITLV press.

Indisch Genootschap, Vergadering van 24 February 1903, *De Spoor- en tramwegen in Nederlandsch-Indie*, 's-Gravenhage.

Kostof, S. [1992] *The City assembled*, Thames and Hudson, London.

Krishnamurti [2003] available on line [<http://members.tripod.com/~keretapi/history.html>]

Koloniaal Verslaag 1876-1941, KITLV archive.

Linblad, J.T. *The Late Colonial state and economic expansion, 1900-1930s*. in *The Emergence of a National*

McGee, T.G. and Keilly, P.F. [2003] *Changing Spaces : Urbanization in an Era of Volatile Globalization*, in Chia Lin Sien, *Southeast Asia Transformed, A Geography of Change*, ISEAS, Singapore.

Paccione, Michael [2001] *Urban Geography*, Routledge, London.

Roth, Ralf, Polino, Marie-Noëlle [2003] [eds.] *The city and the railway in Europe*, Ashgate, Aldershot, England.

Schumucki, Barbara [2003], *The City and Urban Transport*, Institute of Railways Studies, University of York.

Yeoh, Brenda [2003] *Contesting Space in Colonial Singapore, Power Relations and the Urban built environment*. Singapore University Press, Singapore.

Van Diessen, J.R. [1989] *Jakarta/Batavia*, Canteleer bv, de Bilt.

Vletter, M.E. [1997] *Batavia, Beeld van een metamorfose*, Asia Maior, Purmerend.

Verslag van den Raad van Beheer van Nederlandsch-Indische Spoorweg Maatschappij, 26 June 1888.

<http://mars.acnet.wnec.edu/~grempe/courses/wc2/lectures/industrialrev.html> accessed on May 3rd, 2004.