Analysis of The Factors That Contribute To The High Rate of Private Vehicle Ownership In DKI Jakarta

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Abstract: One of the primary causes of traffic jams in Daerah Khusus Ibu kota (DKI) Jakarta is the high number of private vehicle ownership. The DKI Jakarta government has implemented a number of measures to reduce motorized vehicles, such as the “ganjil-genap” policy, progressive tariffs, and the provision of various forms of public transit as an alternative, to alleviate congestion. However, these efforts have not been able to reduce the number of private vehicle ownership in DKI Jakarta. This study adopted qualitative research approach by utilizing the literature study methodology. The results show that the high rate of private vehicle ownership in DKI Jakarta is caused by several factors: first, there are still loopholes for committing violations in every policy implemented by the DKI Jakarta government. Second, private vehicle ownership is not just a means of transportation, but also a way of showing social class in people's lives. Third, the DKI Jakarta administration has not been able to offer public transportation that satisfies people's needs: safe, able to integrate all modes of transportation, as well as simple accessibility and the capacity to send passengers to their final destination.

Keywords: Private Vehicles, Policy, Public Transportation

INTRODUCTION

Humans' need for mobility has led them to create a variety of modes of transportation, from the very traditional use of animals to the increasingly complex machines that are used for locomotion. However, as the population grows and more people want to be mobile, the quantity of vehicles is eventually getting out of hand. In order to produce transportation equipment at reduced costs, technical advancements that are becoming more complex are supporting the growing number of vehicles.

In big cities like DKI Jakarta, the government must deal with new issues caused by the growing number of vehicles. Traffic snarls may result from an increase in the number of vehicles. This is primarily due to the sporadic rise in private vehicle ownership, such as cars and motorcycles, without corresponding improvements in infrastructure.

The use of private vehicles such as cars is also less efficient because the size of the vehicle, namely the length and width, does not match the availability of roads, and the number of passengers is often not commensurate with the size of the large vehicle. For example, a private car that is designed to carry seven passengers, but in reality, only carries three passengers but with the same use of road space. It's the same with motorbikes that are designed to carry two passengers, but only carry one passenger. Motorcycle users are also often considered to be less orderly in traffic and because there is no special lane for motorbikes, they often have to take the lane that should be used for cars, this then causes traffic jams. Based on

an evaluation made by the Tomtom Traffic Index in 2022, DKI Jakarta was placed 29th as the most crowded city in the world as a result of these many causes. The establishment of laws that restrict the ownership of vehicles and expand the use of public transportation, such as the Commuter Line Trains (KRL), Trans Jakarta Buses, Mass Rapid Transit (MRT), and Integrated Railroads (LRT), is one of the government’s efforts to lessen the amount of traffic jams. The availability of public transit options is anticipated to lower the use of private vehicles and ease traffic in DKI Jakarta. However, if you look at the statistics for private vehicle ownership from 2017 to 2021, you’ll notice that there has always been growth. For example, the number of motorcyclists has increased by 4.11% annually, while the number of passenger cars has increased by 5.59%.

But given that the government has set up a variety of infrastructure and public transportation services, why is the ownership of private vehicles still rising in DKI Jakarta? So that the aims of this paper of this study are expected to be one of the considerations in making decisions to overcome congestion in DKI Jakarta.

**METHOD**
This study used a literature review to analyze the factors that contribute to the high percentage of private vehicle ownership in DKI Jakarta. The data used in this study were gathered from the literature, which includes news articles from various mass media outlets, government websites, and various forms of previous research publications. Searching for data in the form of journals and papers using Google Scholar as a means of finding available data for writing this scientific paper. This study used data that were accessible from 2017 until 2023. The choice of this time period was made using the data that was readily accessible, mostly from the central statistics office of the DKI Jakarta government.

**ANALYSIS AND DISCUSSION**
**DKI Jakarta’s Government’s Plan to Reduce Traffic**
The DKI Jakarta government has implemented a number of policies to reduce private vehicles and expect residents to use public transportation modes due to the growth in the number of private vehicles each year in DKI Jakarta which is thought to be one of the major

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3 Ditlantas Polda Metro Jaya in DKI Jakarta Transportation Statistics 2021
causes of traffic jams:  

Ganjil-Genap Policy

The DKI Jakarta administration adopted a regulation limiting vehicles using an odd-even scheme in 2016 in an effort to decrease the use of private vehicles as a way to relieve traffic bottlenecks. In Peraturan Gubernur Nomor 164 tahun 2016 tentang Pembatasan Lalu Lintas dengan Sistem Ganjil-genap, the ganjil-genap system is described.

The ganjil-genap system prohibits the operation of four-wheeled motor vehicles with odd license plate numbers on days with even numbers on specific roadways. For four-wheeled motorized vehicles with even license plate numbers and vice versa. As a result, four-wheeled vehicles with even number plates can only be operated on specified roads on even days, and vice versa for four-wheeled vehicles with odd number plates. However, two-wheeled vehicles are exempt from this regulation.

According to a governor's regulation from 2016, the ganjil-genap system is implemented on a number of selected road segments, including: Jalan Medan Merdeka Barat; Jalan M.H. Thamrin; General Sudirman Street; Sisingamangaraja Street; and a portion of Gatot Subroto Street. If the road segments were initially found to be odd-even in 2016, it was only at five points; however, in 2022, it had increased to 25 points. The enforcement of ganjil-genap also applies to two time periods: the morning, from 6:00 AM to 10:00 AM, and the afternoon, from 2:00 PM to 4:00 PM.

However, in actuality, the DKI Jakarta government’s ganjil-genap system strategy is still seen as unsuccessful in lowering the number of motorized vehicles in DKI Jakarta. The following are a few issues brought on by the ganjil-genap system policy: a) there is a transfer of congestion from main roads or points of implementation of the odd-even system to alternative road sections, so that this solution only moves congestion from one point to another. b) the ganjil-genap system in DKI Jakarta has encouraged people of the middle and upper classes to purchase multiple cars and request distinct police numbers on the final number so they can use the automobile alternately in accordance with odd and even dates. c) for the lower middle class, the choice is to switch from using cars to motorbikes, so that this results in the number of motorbike ownership becoming higher in DKI Jakarta. d) another impact is the high falsification rate of motor-vehicle number plates in DKI Jakarta.

Ownership Restrictions for Vehicles

A progressive tax is one of the methods used by DKI Jakarta to control limits on the ownership of motorized vehicles. The goal of progressive taxation in DKI Jakarta is to decrease the number of vehicles on the road. Regarding the motor vehicle tax, Regional Regulation Number 8 of 2010 and Regional Regulation Number 2 of 2015 both contain these provisions. Private individuals are subject to this motor vehicle tax’s progressive imposition. A 2% tax is applied to the first privately owned motor vehicle, a 2.5% tariff is applied to the second vehicle, and a 10% tax is applied to the seventh and any additional automobiles. Both two-wheeled and

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four-wheeled vehicles are subject to the progressive tax imposition. According to research conducted by Carmanto, there has been a decline in the purchasing of motorized vehicles like cars in DKI Jakarta. In 2018, the volume of purchase had declined to 621s unit. However, the findings of other research suggest that people can find a number of strategies to avoid paying a progressive tax. The introduction of progressive taxation in DKI Jakarta demonstrates that more tax evasion is committed at a higher rate.

These tax evasion methods include utilizing a relative's name or the name of an entity or agency to represent a vehicle, as well as taking use of ID cards belonging to employees or assistants. This occurs because institutions are not covered by the progressive tax, which only applies to people. This is the reason why progressive tax plans are not implemented as effectively as they may be.

Several policy plans to empower the number of motorized vehicles: Electronic Road Pricing and Motorized Vehicle Restrictions

In an effort to lessen traffic congestion, the DKI Jakarta administration will implement a paid route policy known as Electronic Road Pricing (ERP). The ERP policy was initially implemented at Jalan HR Rasuna Said and Jalan Sudirman, between 2014 and 2016. The DKI government is now studying a number of other regulations connected to the current transportation arrangements, thus as of right now, this policy is still in the process of being implemented. The DKI Jakarta government aims to deploy paid lanes on 25 roads in DKI Jakarta as part of its implementation plan, according to several media sources. The lanes would be valid from 05:00 to 22:00 WIB and have a Rp. 5000–19000 cost.

The age restriction legislation for vehicles is also currently in the planning stages and will be put into effect in 2025. DKI Jakarta Governor Instruction number 66 of 2019 regarding Air Quality Control describes the strategy for limiting motorized vehicles depending on vehicle age. The regulations governing the limitations on personal automobiles have not yet been regulated, therefore this rationing is still unable to be put into practice.

Providing Public Transportation

The DKI Jakarta administration offers a variety of public transportation options as a strategy to reduce traffic and to divert the usage of private vehicles through a ganjil-genap system policy. DKI Jakarta now offers a variety of public transportation options, including Trans Jakarta Train and Bus-Based Public Transportation Services.

i. Rail Based Public Transportation Services

Train-based public transportation services, such as the Electric Rail Train (KRL), Mass Rapid Transit (MRT), and Integrated Railroad (LRT), are one of the modes of transportation.

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13 Indonesian CNN. (2021, March 10). Restrictions on 10-year-old cars in DKI are hampered by central regulations. Indonesian CNN.
selected by the DKI Jakarta administration as a remedy for the congestion that exists in the capital city. Public transportation systems like KRL, MRT, and LRT can be considered the development of rail services that have been available in Jakarta since 1925 based on the history of their growth in DKI Jakarta.\(^{14}\) There are distinctions between several train-based transportation services:

<table>
<thead>
<tr>
<th>Item</th>
<th>KRL</th>
<th>MRT</th>
<th>LRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>Kereta Rel Listrik</td>
<td>Mass Rapid Transit</td>
<td>Light Rail Transit</td>
</tr>
<tr>
<td>Carriage length and Carrying Capacity</td>
<td>12 Carriages (2400-3000 passengers)</td>
<td>6 carriages (1950 passengers)</td>
<td>4 carriages (628 passengers)</td>
</tr>
<tr>
<td>Power Supply and Rail System</td>
<td>Listrik Aliran Atas (LAA)</td>
<td>Listrik Aliran Atas (LAA)</td>
<td>Listrik Aliran Bawah (LAB)</td>
</tr>
<tr>
<td></td>
<td>A Pair of Rails for moving</td>
<td>Sepasang Rel untuk bergerak</td>
<td>Third Rail (tiga rel)</td>
</tr>
<tr>
<td>Causeways</td>
<td>elevated track (Jalur Bawah dan jalur Layang)</td>
<td>Underground passages and overpasses</td>
<td>Overpass</td>
</tr>
<tr>
<td>Operational range</td>
<td>- has a wider operational range (Jabodetabek)</td>
<td>- MRT Jakarta only has a phase I line along ±16 Km serving the Lebak Bulus terminal - Hotel Roundabout with only 13 stations and 1 depot.</td>
<td>- Limited reach, only reaching certain regions. - area of operation: kelapa Gading – veledrome Ramawangun - 5.8 Km LRT route - 6 stations</td>
</tr>
<tr>
<td></td>
<td>- It has 80 stations throughout the Jabodetabek area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed (maximum)</td>
<td>90 km/H</td>
<td>110km/H</td>
<td>100km/H</td>
</tr>
</tbody>
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Source: (Sindonews.com, 2022)

According to the above table, KRL is the rail-based public transportation that is more designed to connect longer and wider distances because it connects 80 stations from all over Jabodetabek with a higher passenger capacity, namely 2400-3000 passengers, but at a slower speed of 90km/jam. MRT, on the other hand, has only 6 cars with a passenger capacity of up to 1950, which limits its range compared to KRL. Additionally, it presently only travels 13 stations and does so at a faster 110 km/h. Additionally, it differs from the LRT, which can only accommodate 32% of all MRT passengers. Even with a smaller range, it can still get to about 6 stations.

The KRL is intended to link satellite cities with DKI Jakarta, as can be observed from the capacity and services offered compared to the other two rail-based public transit systems. So that when compared to the other two train-based public transit options, the distance traveled and the number of passengers are greater. In contrast to KRL, the MRT and LRT are better suited to connecting different parts of DKI Jakarta on their own with less people, allowing for speedier travel. In order to decrease the number of private automobiles being used and owned in DKI Jakarta, the MRT and LRT are also intended to relieve traffic in the city and to offer services that are both secure and comfortable.

**ii. Transjakarta Buses**

In DKI Jakarta, there is a public transportation system called Transjakarta that uses a Bus Rapid Transit (BRT) system. Transjakarta was created as a means of mass transit to help the capital city's hectic operations. According to information posted on the transjakarta.co.id website (07/02/23) the Transjakarta route, which is 251.2 km long with 260 bus stations dispersed over 13 corridors, is the longest route in the world.\(^{15}\) The daily capacity of

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Transjakarta for passenger transportation ranges from 500,000 to 1,000,000 passengers\textsuperscript{16}

The DKI Jakarta government and Indonesia are still working to develop a variety of services and modes of transportation that are more advanced and allegedly more comfortable, in addition to various existing and implemented policies and the development of various types of rail-based public transportation and Transjakarta. In practice, nevertheless, this hasn't been able to lessen the ownership of motorized vehicles in DKI Jakarta.

**Causes of a High Private Vehicle Use**

Despite the government's efforts to lower the number of private vehicles in order to ease traffic in DKI Jakarta, the rate of increase in the ownership of private motorized vehicles in DKI Jakarta is still greater than the national average. Every year, there is a rise in the number of motorized vehicle owners; from 2017 to 2021, motorbike ownership increased by 4.11\% annually, while passenger car ownership increased by 5.59\%\textsuperscript{17}.

Naturally, this continues to have a significant impact on traffic in DKI Jakarta. Even though DKI Jakarta was able to drop from being the most congested city in the world in 2021 to 46th place with a 34\% congestion rate from the year before, in 2019 it was in 10th place with a 53\% congestion rate (Fathurrizqi & Alvinsyah, 2021). However, according to Azas Tigor Nainggolan\textsuperscript{18}. The reduce percentage of congestion was not because the government was successful in creating a strategy to deal with congestion in DKI Jakarta, but rather because DKI Jakarta's mobility had dropped between 2020 and 2022 as a result of the Covid-19 pandemic that struck the entire world. In 2017, we were ranked fourth in the world for traffic jams, according to Polda Metro Jaya Dirlantas Kombes Latif Usman\textsuperscript{19}. Due to the epidemic, we were ranked 46th in 2021 yesterday.

The congestion phenomenon that returned to DKI Jakarta in early 2023 after the covid-19 pandemic receded can potentially serve as evidence for this. Traffic bottlenecks in DKI Jakarta have increased by 50\%, according to the Polda Metro Jaya Dirlantas Polda Metro Jaya Kombes Latif Usman (Polantas Polri.go.id 25/01/2023), and are now comparable to those that existed prior to the pandemic Click or tap here to enter text.. According to study by Tomtom International, DKI Jakarta's position would rise again in 2022, climbing to the 29th spot worldwide as the most congested city. \textsuperscript{20}This leads to the conclusion that the government's efforts to reduce the number of private vehicles in DKI Jakarta through the implementation of various legislation and the use of public transportation have not been very successful. The unsuccessful implementation of government policies to reduce number of private vehicle in DKI Jakarta is cause by the:

i) Socially, culturally and economically in society. One of the primary factors contributing to the elevated prevalence of private car ownership is income. Specifically, those with higher incomes tend to have a stronger inclination towards acquiring their own personal


\textsuperscript{17} Ditlantas Polda Metro Jaya in DKI Jakarta Transportation Statistics 2021


Furthermore, private vehicles possess additional benefits in comparison to public vehicles or transportation. There are instances where privately owned automobiles can serve as symbols of social status, indicating that possession of a private vehicle is associated with elevated social standing. This phenomenon is also evident within societal culture, as those who possess private vehicles, such as cars and motorbikes, are regarded as economically and socially affluent. Notably, the prestige associated with private vehicle ownership is directly proportional to the monetary value of the vehicle. This phenomenon is also evident in the conduct observed in daily life. For instance, those holding prominent positions within the state hierarchy tend to rely on private transportation for their mobility needs. Similarly, individuals who ride large motorcycles, commonly referred to as "mage," receive exclusive police escorts and often exhibit a sense of haughtiness.

A private vehicle's owner can also choose when to use it and where to go, including if they want to travel with their family. Parmono, V. R., also said that having an emotional connection with a private automobile goes beyond its use as a mode of transportation. The usage of private vehicles is also thought to be more convenient, safe, and dependable.

ii) Public transportation systems' inability to satisfy local needs. According to a poll by the Jakarta City transit Council (DTKJ) and the DKI Jakarta Transportation Agency, residents from satellite cities that are more than 20 kilometers away tend to use public transit in Jabodetabek. So that it is possible to claim that persons who require less than 20 km of mobility will choose to use private vehicles. Additionally, users of public transit systems must switch between numerous forms of transportation in a span of 5 to 45 minutes. Additionally, those who use public transportation must pay between Rp. 500,000 and Rp. 2,000,000 per month for other forms of transportation such as online motorcycle taxis, online taxis, or base motorcycle taxis in order to access these modes of transportation. Even more than 5.2 percent of consumers spend up to two million rupiah.

According to Razak, M., there are still many stations in Jakarta that are not connected to other means of transportation. This indicates that public transit modes in DKI Jakarta are still deficient in connectivity and integration. Although DKI Jakarta today offers a number of public transit options, according to Adinegoro, overall it appears as though it still stands alone and has its own objectives. Another issue is the difficulty in reaching the closest public transportation option offered by the DKI Jakarta administration. At the moment, public transportation in DKI Jakarta does not connect all areas. People who move long distances are frequently exhausted, but public transportation still can't get them to their destination (Hilmy Abiyyu et al., 2020). As a result, people must spend extra money on other forms of transportation, like online motorcycle taxis, which are expensive compared to the modes of

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public transportation offered by the DKI Jakarta government.

iii) There are frequently numerous sorts of criminality in it, particularly for women, public transit is also frequently seen as unsafe. For instance, sexual harassment or the theft of property (Media Indonesia, 2022). Because the passengers are ultimately crammed together, it is still thought to be bad when the government provides public transit, such as carriages just for ladies. 27

Therefore, the reason for the rise in private vehicle ownership in DKI Jakarta is due to a number of factors, including social, cultural, and economic factors as well as the city's inability to provide adequate public transportation that satisfies people's needs for modes of transportation and a sense of security.

CONCLUSION

As a aims, there are three reasons why there are so many motorized vehicles in DKI Jakarta. The first is that the DKI Jakarta government's policies, particularly the rules that are created, still have loopholes. Therefore, this leads to people looking for ways to go around the law. Examples include the genap-ganjil policy, which only diverts traffic from main routes to minor streets, fabricating license plates, and purchasing multiple vehicles. The use of institutions or on behalf of employees then seeks alternatives to progressive taxes allotted to people. Second, having a private automobile not only demonstrates socioeconomic class in one's life but also one's mode of transportation. Third, the DKI Jakarta government has not been able to offer transportation that satisfies the community's needs, particularly one that can integrate all forms of transportation and is accessible, easy to get to, able to transport users to their destinations, and able to make passengers feel safe. In addition, the DKI Jakarta government has a propensity to copy or implement the methods used by developed nations to control traffic in their cities. For instance, offering public transit that puts a focus on technology or adopting developed-nation policies. Paid road policies, age restrictions for vehicles, progressive taxes, and KRL, MRT, and LRT. However, the government of DKI Jakarta has not been able to develop a form of transportation that is grounded in local knowledge, based on Indonesian values and culture, and furthermore understands the context of the country's capital, namely DKI Jakarta, which is in fact a magnet for the country's economy and social status in Indonesia. In order to plan transportation development in accordance with the demands of the community, integration and collaboration are required given that citizens come from many locations with diverse cultures. The current focus of DKI Jakarta's transportation management is on managing traffic, the sophistication of local transportation options, meeting local income needs, and attempting to shed its reputation as the world's most crowded metropolis. However, there are not many planning initiatives that genuinely try to accommodate DKI Jakartans' wide range of needs. For instance, DKI Jakarta needs convenient transportation with little passenger movement since it is an economic hub. However, the current administration is introducing new modes of transportation, requiring individuals to switch from one form of transportation to another in order to reach their goal.

As a recommendation for how to deal with the issue of DKI Jakarta's high motorized vehicle ownership rate and the growing traffic congestion once the Covid-19 outbreak has passed. Therefore, it would be better if DKI Jakarta's transportation policy planning process included multiple research methods, including doing sociocultural research. so that you may comprehend the demands and distinctiveness of the Jakarta population, particularly with regard to their love of and perception of a better life when they own a private vehicle. So that the government can in this way identify answers in accordance with what the residents of DKI

Jakarta and its surroundings need and want. Naturally, conducting collaborative research across disciplines is also necessary to produce an effective mode of transportation that meets the needs of DKI Jakarta. This will ensure that policies are implemented from a variety of perspectives rather than just one, particularly by involving the community in the planning of public transportation in DKI Jakarta. The DKI Jakarta administration must also run public service announcements that can alter people's opinions about owning cars or other private vehicles. Given that there are already numerous media outlets and automakers who genuinely produce commercials that more strongly impact people's attitudes. Therefore, carrying out discourse battles in society requires that this be done.

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