

## Analysis of the Effect of the Increase in UMK and Fuel Prices on Trans Pakuan Bus Fee Corridor 2, Bogor City

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### ABSTRACT

Economic growth and urban development are driving an increasing need for efficient and affordable public transportation. Bogor, as one of the capital's satellite cities, faces unique challenges in managing its mass transportation system. To address these challenges, the local government, in collaboration with relevant parties, operates a Bus Rapid Transit (BRT) service known as Bus Trans Pakuan. Corridor 2, the main route connecting strategic areas within Bogor, serves as a key route. Transportation is an essential part of people's lives. Transportation comes from the Latin word "trans" meaning across or on the other side, and "portare" meaning to carry or transport. Transportation is the activity of moving or conveying cargo (goods and people) from one place to another. However, along with economic dynamics, vehicle operating costs (BOK), including fuel costs (BBM) and the city minimum wage (UMK), have increased. Which stated that the increase in subsidized fuel prices resulted in inflation in the region, which could disrupt people's purchasing power, which ultimately led to an increase in household consumption expenditure, followed by an increase in the prices of other basic necessities. However, along with socioeconomic dynamics, several external factors can affect public transportation operating costs, one of which is the increase in the Regency/City Minimum Wage (UMK). The increase in the UMK directly impacts operational cost components, including driver salaries, operational staff, and other indirect costs. Furthermore, this factor also has the potential to put pressure on fuel (BBM) expenditures, a key component of bus operations.

**Keywords:** Increase in UMK, increase in BBM, increase in BOK.

### INTRODUCTION

Economic growth and urban development are driving an increasing need for efficient and affordable public transportation. Bogor, as one of the capital's satellite cities, faces unique challenges in managing its mass transportation system. To address these challenges, the local government, in collaboration with relevant parties, operates a Bus Rapid Transit (BRT) service known as Bus Trans Pakuan. Corridor 2, the main route connecting strategic areas within Bogor, serves as a key route. Transportation is an essential part of people's lives [1, 2], [5]. However, along with economic dynamics, vehicle operating costs (BOK), including fuel costs (BBM) and the city minimum wage (UMK), have increased. Which stated that the increase in subsidized fuel prices resulted in inflation in the region, which could disrupt people's purchasing power, which ultimately led to an increase in household consumption expenditure, followed by an increase in the prices of other basic necessities. However, along with socioeconomic dynamics, several external factors can affect public transportation operating costs, one of which is the increase in the Regency/City Minimum Wage (UMK). The increase in the UMK directly impacts operational cost components, including driver salaries, operational staff, and other indirect costs. Furthermore, this factor also has the potential to put pressure on fuel (BBM) expenditures, a key component of bus operations [3, 4], [6].

Fuel is a cost component that is highly sensitive to price fluctuations and efficiency of use. With the increase in the minimum wage, transportation service providers, such as Trans Pakuan Bus, are required to adjust their operational budgets, which can impact fuel management strategies. Taking into account the importance of these factors, it is necessary to conduct an analysis to understand the extent to which the increase in UMK and fuel prices influences the public's decision to purchase mass public transportation services, especially in Corridor 2 of Bogor City [3], [7-8].

The increase in Regional Minimum Wage (UMK) and fuel prices has a significant impact on urban public transportation operations, including the Trans Pakuan Bus Corridor 2 in Bogor City. Public transportation systems depend heavily on operational costs such as fuel consumption, vehicle maintenance, and labor expenses. When fuel prices increase, bus operating costs rise directly because fuel is one of the primary components of transportation expenditure. Similarly, increases in the UMK affect employee salaries, including drivers, ticketing staff, and operational workers, which also contributes to higher transportation service costs [9-10].

This study aims to analyze the effect of increasing UMK and fuel prices on Trans Pakuan bus fares in Corridor 2, Bogor City. The research uses a quantitative descriptive method by collecting primary and secondary data related to operational costs, fuel price adjustments, employee wages, and existing fare policies. Data are analyzed to determine the extent to which these economic factors influence fare adjustments and transportation service sustainability [11-13].

The results indicate that increases in fuel prices and UMK significantly affect operational expenses and create pressure for fare adjustments. However, fare increases must also consider passenger affordability and service quality to maintain public transportation demand. If fares increase excessively, passengers may shift to private vehicles, potentially increasing urban traffic congestion. Therefore, transportation management strategies, government subsidies, and operational efficiency improvements are necessary to maintain affordable and sustainable public transportation [14-15].

## RESEARCH METHODS

### Materials

Analysis Results, namely analyzing the effect of the increase in the UMK on fuel prices for Trans Pakuan Corridor 2, Bogor City, research findings against the initial objectives of the study, evaluating the methodology used, and providing interpretations of the results of the data analysis. Analysis of the effect of the increase in the UMK on fuel prices for Trans Pakuan Corridor 2, Bogor City. This analysis uses the vehicle operating cost (BOK) method and policy analysis.

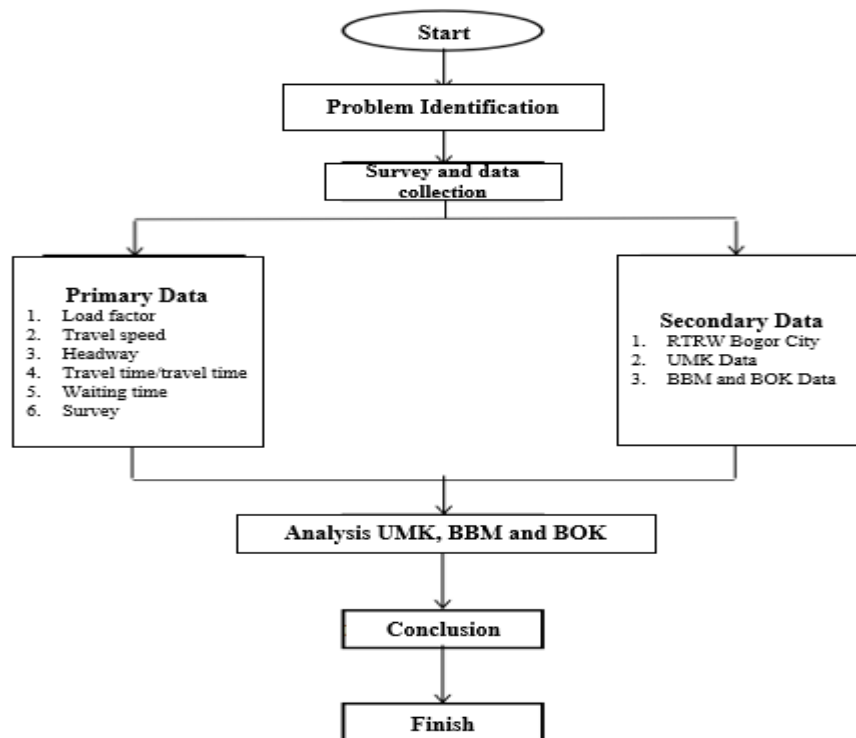


Figure 1. Flow chart

This research on Trans Pakuan Corridor 2 Bogor City covers the Bubulak - Ciawi area of Bogor City. Viewed from the astronomical location, Bubulak-Ciawi is located at 106.7903823 East Longitude and -6.5957545 9 South Latitude. The research period was carried out for one week starting from May 20, 2025 - May 26, 2025, at 10:00 - 16:00 WIB. The boundaries of the Bubulak and Ciawi areas with a route length of 18.82km.



Figure 2. Research Location

**Methods**

Data Collection, this stage involves two data, namely primary data and secondary data in this research process. Data Analysis Primary data: This stage involves collecting primary data directly from the field. Examples include calculating route length, speed/accuracy, number of stops, dwell time, layover time, round trip time, headway, and interviews with drivers regarding bus availability, trip number, km production, and the number of days public transportation operates. Primary data is collected directly by researchers to answer specific research questions.

Secondary data: At this stage, researchers collect existing data from secondary sources, such as legal frameworks for transportation, calculations of the BOK for urban public transportation subsidies, data on the Bogor City Minimum Wage (UMK), and fuel prices in Bogor City. This secondary data is used to support the analysis and broaden the initial understanding of the research topic.

**RESULT AND DISCUSSION**

**Increase in UMK**

The Regency/City Minimum Wage (UMK) is the lowest salary standard that companies are required to pay to workers in a particular regency or city. The UMK is set by the governor, but the proposed UMK amount is usually submitted by the regent/mayor based on the economic conditions and decent living needs in the area [16]. The Bogor City Minimum Wage continues to increase every year as can be seen in the picture:

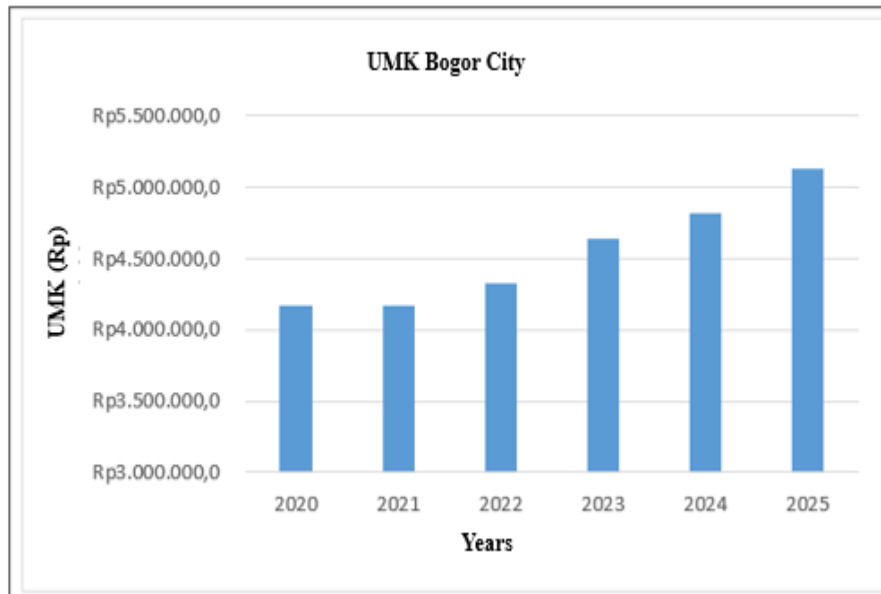


Figure 1. Bogor City UMK Data

The graph above shows the increasing trend of the City Minimum Wage (UMK) in Bogor City over the past six years, from 2020 to 2025. In general, the UMK has consistently increased each year, although its value remained relatively stagnant in 2020 and 2021. The Bogor City UMK was recorded at approximately IDR 4,169,807 in 2020 and 2021, then increased to IDR 4,330,250 in 2022, IDR 4,639,429 in 2023, and continued to rise to IDR 5,126,897 in 2025. This increase demonstrates periodic wage adjustments in line with economic dynamics, inflation, and national minimum wage policies.

This UMK increase will undoubtedly have direct implications for labor-intensive sectors, including public transportation such as the Trans Pakuan bus. Human resource costs, particularly the salaries of drivers, technicians, and other operational staff, are directly impacted by increases in the minimum wage (UMK). In the context of this research, the upward trend in the UMK is a crucial factor that needs to be analyzed in relation to the size of the operational budget and the subsidy requirements borne by local governments. While other variables also influence the budget, such as fuel prices and passenger numbers, this graph provides a strong basis for the UMK being a strategic component in the cost structure of public transportation services.

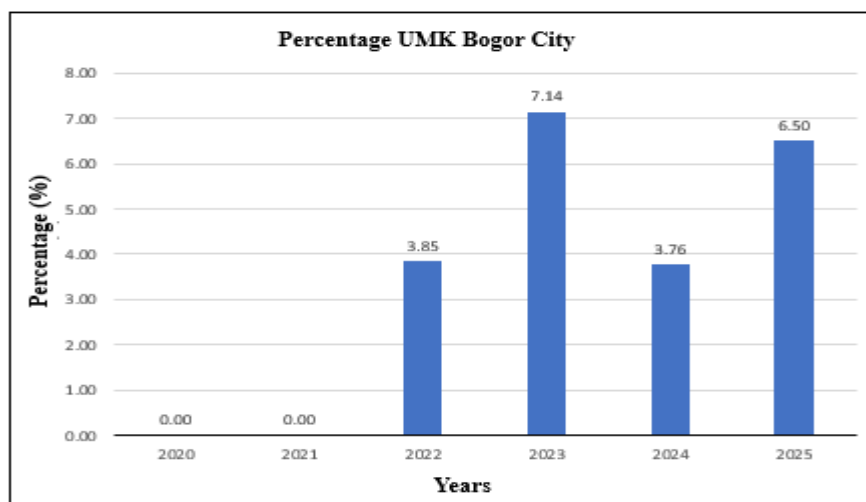


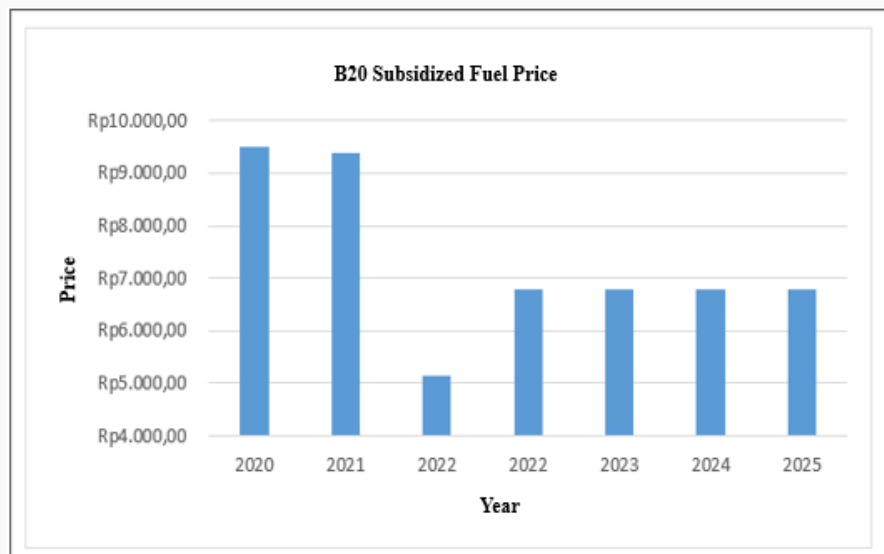
Figure 2. Percentage of UMK in Bogor City

The graph above shows the percentage increase in the City Minimum Wage (UMK) in Bogor City from 2020 to 2025. In the first two years, 2020 and 2021, there was no increase in the UMK, likely due to the policy of postponing wage increases due to the COVID-19 pandemic and the national economic slowdown. However, starting in 2022, the UMK's upward trend returned, with a percentage increase of 3.85%. This increase accelerated significantly in 2023, reaching 7.14%, the highest increase during the analyzed period. This increase then declined again to 3.76% in 2024, before rising again to 6.50% in 2025.

This fluctuating movement indicates that the UMK setting policy is heavily influenced by national and regional economic dynamics, including inflation, economic growth, and wage council recommendations. In the context of this research, a high percentage increase in the minimum wage (UMK) has the potential to put pressure on the operational costs of the public transportation sector, particularly in terms of human resource expenditures such as drivers and technicians. Therefore, analyzing this trend is crucial to understanding how the UMK variable can influence budget allocation, fuel consumption, and subsidy requirements borne by local governments. The increase in the UMK after 2022 can be considered an external factor indirectly influencing the cost structure of Trans Pakuan Corridor 2.

### Increase in BBM

In connection with the stipulation of the 2025 biodiesel allocation in the concerning the Market Index Price of Biofuels, the Type of Biodiesel Mixed into Fuel Oil can be seen in Figure 4.3, one type of fuel is Biosolar B20, which is a mixed diesel fuel of 20% biodiesel and 80% regular diesel fuel. Biosolar B20 is a government initiative to reduce dependence on fossil fuels. Biosolar B20 is one of the fuels subsidized by the government at a price of IDR 6,800 per liter [17].



**Figure 3.** Changes in the Price of Subsidized Biodiesel Fuel 2020-2025

Based on the graph shown, there was a significant fluctuation in the price of subsidized B20 fuel between 2020 and 2025. In 2020 and 2021, the price of subsidized fuel was relatively high, ranging from Rp 9,300 to Rp 9,400 per liter. However, in 2022, there was a sharp decline, reaching around Rp 5,150 per liter. This decline was likely caused by government policy interventions to maintain energy price stability following the COVID-19 pandemic, or by global changes in world oil prices. Entering the second half of 2022 and continuing through 2025, fuel prices again experienced a moderate and stable increase, hovering around Rp 6,800 per liter.

### The Impact of the Increase in the Minimum Wage on Fuel Prices for Trans Pakuan Corridor 2 in Bogor City

Based on this data, it is known that throughout 2021–2025, there was a freeze in cost components, particularly fuel prices and the minimum wage. The number of fleets and delivery distances remained constant, with 11 fleets each, with each fleet covering a distance of 2,207 kilometers. However, the cost per kilometer and the total budget showed significant year-to-year variations.

**Table 1.** Trends in UMK and fuel expenditure in 2021-2022

Year	2021		2022	
UMK (Rp)	Rp	4.169.807,00	Rp	4.330.250,00
Fuel Price	Rp	9.400,00	Rp	5.150,00
Rp/KM	Rp	15.261,00	Rp	14.092,00
Number of Vehicles		11		11
Km Traveled		2207		2207
Total Budget	Rp	12.296.337.706.440	Rp	11.354.432.275.680,00

**Table 2.** Trends in UMK and fuel expenditure in 2022-2023

Year	2022		2023	
UMK (Rp)	Rp	4.330.250,00	Rp	4.639.429,00
Fuel Price	Rp	6.800,00	Rp	6.800,00
Rp/KM	Rp	14.092,00	Rp	14.546,00
Number of Vehicles		11		11
Km Traveled		2207		2207
Total Budget	Rp	11.720.236.437.840,00	Rp	11.720.236.437.840,00

**Table 3.** Trends in UMK and fuel expenditure in 2024-2025

Year	2024		2025	
UMK (Rp)	Rp	4.813.988,00	Rp	5.126.897,00
Fuel Price	Rp	6.800,00	Rp	6.800,00
Rp/KM	Rp	14.546,00	Rp	14.546,00
Number of Vehicles		11		11
Km Traveled		2207		2207
Total Budget	Rp	11.720.236.437.840,00	Rp	11.720.236.437.840,00

Based on data obtained from 2021 to 2025, the City Minimum Wage (UMK) in Bogor City has been increasing annually. The UMK is recorded to have risen from Rp 169,807 in 2021 to Rp 5,126,897 in 2025, representing a 22.9% increase over five years. This increase theoretically has the potential to impact the operational costs of the public transportation sector, including Trans Pakuan Corridor 2, particularly in terms of labor costs. However, data shows that Trans Pakuan's total operational budget actually decreased from IDR 12.29 trillion in 2021 to IDR 11.35 trillion in 2022, and then tended to stagnate at around IDR 11.72 trillion from 2023 to 2025.

This fact indicates that the increase in the minimum wage did not necessarily lead to an increase in the total operational budget for Trans Pakuan Corridor 2. One factor that may explain this is the significant decrease in fuel prices from IDR 9,400 per liter in 2021 to IDR 5,150 in 2022, before stabilizing at IDR 6,800 in subsequent years. This decrease likely offset the burden of rising labor costs. Furthermore, the fleet size and mileage remained constant each year, at a total of 11 fleet units with an average mileage of 2,207 km, indicating no significant operational expansion during the period. This reinforces the suspicion that operational efficiencies or adjustments to other cost components were made to maintain budget stability.

## CONCLUSION

Based on the results of the analysis of the impact of the increase in the City Minimum Wage (UMK) and the price of Fuel Oil (BBM) on the Vehicle Operating Costs (BOK) of the Trans Pakuan Bus Corridor 2, Bogor City for the period 2020–2025, several conclusions can be drawn as follows: 1) the increase in the minimum wage significantly impacts the fixed cost components in the BOK, particularly the salaries of bus drivers and crew. Each increase in the minimum wage drives up company expenditures on labor costs. 2) fluctuations in fuel prices have a direct impact on variable

costs, particularly fuel and lubricants. An increase in fuel prices in a given year is directly proportional to an increase in total operating expenses. 3) in the 2020–2022 period, the BOK decreased due to operational efficiency, reduced travel frequency, and fuel consumption management. However, in 2023, the BOK increased by 3.27%, influenced by the increase in the minimum wage and fuel price adjustments. The stability of the BOK in 2024–2025 indicates that the company's cost management is optimal, with a balance between fixed and variable cost components and control of external factors that influence operational costs.

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