**Putting Public Value in Construction Projects:**

**Case Studies in Yogyakarta Provinces, Indonesia**

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Abstract

Yogyakarta is a special region in Indonesia, where government infrastructures promote both tourism and culture. Hence, there are improvements among public infrastructures such as Jombor Flyover, 0 Km Street, and Grahatama Library. The purpose of this research is to analyze the costs and benefits of the infrastructure projects. This research utilized descriptive qualitative method to analyze the impacts of these projects towards public value. The findings of this study revealed that the aims of the Jombor Flyover which are to decrease the costs and minimize the traffic density, to decrease the level of air pollution, to provide an efficient route for the public, and to provide more economic opportunities for the public has been achieved. One factor that contributes to the success of the Jombor Flyover is the efficiency of its operations. Primarily, the budget for the project is 118.423.234.000 IDR and the data revealed that the budget was enough to finish the project on time (2010-2014). Moreover, the 0 Km Street is another successful endeavor of Yogyakarta City in 2015 as the goals of this projects are achieved: the cost and level of traffic has been decreased as well as the number of accidents, the sanitation has been enhanced, and to increase the income of public. Significantly, it can be considered that this project is cost efficient because less than 50% of the budget was utilized. On the other hand, the findings indicated that the Grahatama Library is less successful project because although the goals of the project are achieved: to increase the document collections, library utilization, and income of public. However, the budget utilization went beyond its allotment.  The initial budget for the Grahatama Library is 56.552.797.543 IDR and the actual cost is 129.643.639.009 IDR and the completion of the project was delayed for 3 years (2015 instead of 2012).

Keywords: Public Value Management, Jombor Fly Over Construction, 0 Km Street Construction, Grahatama Library Construction

**Introduction**

Infrastructures are part of the government responsibilities which are carried out through public policy. The basic purpose of the construction is to create social and economic development without compromising the welfare of the public. Thus, the development of construction is important to minimize the impacts of poverty and provide a safer and efficient way of life. The success of a construction project will be difficult to achieve if there is no continuity between planning, supervision and implementation because in doing construction activities are all related to each other. If there is no group cooperation in a construction project there will be a failure that could lead to the destruction during the construction period ([Sudarwanto, Wahyuningrum, Iswanto, & Nugroho, 2007](#_ENREF_23)).

Yogyakarta as an educational and tourism city, faces challenges on the increasing number of vehicles which result in traffic congestions. One of the congestion points, is in Jombor area. To solve the traffic density, the government of Yogyakarta built the Jombor Flyover. In 2013, the Department of Public Works of Energy and Human Resources awarded the project to Adhi Karya Company to build the Jombor flyover. However, in the initial stage of the construction, it was found that the right side of the flyover was not solid due to the sub-standard materials being used. As a result, the right side of the flyover was demolished. The demolition suggested that the construction of the Jombor Flyover has implications on the efficiency of the project.

Furthermore, related to the image of Yogyakarta is its tourism, road construction projects become government priorities in order to support the regional economic development. The road reconstruction undertaken by the Yogyakarta government revitalizes the 0 km street as the andesite stones were changed to asphalt material. Prior to the reconstruction, accidents were happening in the 0 km area.  For instance, the four-wheel horse cart, a main transportation, often fell because the road made of andesite stones was slippery. The need to undertake this reconstruction highlights one of the failures of the Yogyakarta government. In addition, the public perceives that the use of andesite stones was not good but public participation is weak and such public opinion failed to reach policy making ([Khoiruddin, 2015](#_ENREF_12)).

Lastly, Grahatama Library is the main project to advance the educational need of public. The project started on 2010 and was supposed to finish on 2012**.** However, the developer cannot finish the project on target schedule, and it was stopped with the unclear design. Then, the government changed the developer and resumed the construction which was finished in 2015. The assumes that the case has correlation with the efficiency of cost management and operational cost to build Grahatama Library with the quality of Human Resources (HR) in companies that are working on the project.

Some researches related to public value involve impact assessments of infrastructure development projects focuses on cost benefit analysis ([Aryansyah & Indyani, 2012](#_ENREF_4); [Dewi & Nugroho, 2014](#_ENREF_9); [Purwaningsih, 2012](#_ENREF_19)). The findings of ([Aryansyah & Indyani, 2012](#_ENREF_4)) and ([Dewi & Nugroho, 2014](#_ENREF_9)) revealed that a traditional apartment, Rusunawa Jemundo, as well as the provincial road improvement in Gunung Kidul Regency, as government projects are both cost efficient and promote public value. Meanwhile, the research of ([Purwaningsih, 2012](#_ENREF_19)) on the waste management facility in Gedebage, Bandung is not cost efficient and does not promote public value because its operations is costly and creates destructive impacts against the environment.

This study focuses on the outcome of the construction projects that has been built by the government of DIY, and looks into public value through cost-benefit analysis. This research is the first in Yogyakarta and the identified infrastructure projects are the biggest government constructions in Yogyakarta from 2010-2015 and are products of e-procurement processes. Hence, this research is worth conducting.

These infrastructure projects in the City of Yogyakarta offer an interesting insight in terms of the government planning and implementation of projects. Significantly, a cost – benefit analysis is considered to be appropriate in understanding the particularities in the planning and budgeting process and the dynamics in the implementation which led to significant implications on the governance of the City of Yogyakarta. This research provides an understanding on the status of Yogyakarta’s realization of its regional development plan in 2020.

Hence, this research investigates "How is the outcome and cost efficiency of construction Jombor Flyover, 0 Km Street and Grahatama Library affect the government of Special Region of Yogyakarta (DIY) in promoting public value?

**Theoretical Review**

**Public Value in Construction Projects**

The concept of public value can be explained as a multidimensional structure of collective expression that is created not only in the result but also in the process of trust ([O'Flynn, 2007](#_ENREF_17)). Public value is a significant challenge for public administration and professional actor who create the significant progress to explore the purpose, the solution, and the challenges based on ([Yang, 2016](#_ENREF_25)) said that public value is the framework that connects the precious program and the needs of the public. According to ([Moore, 1995](#_ENREF_15)) as the initiator of the concept of public value, public value connect with what we believe to be of value and requires public resources together in a way to improve understanding of the essence of "public value".

The paradigm of public value can be understood as a collaborative activity of the government with various stakeholders ([O'Flynn, 2007](#_ENREF_17)). The model of public value explains that politic can create different paradigm. Acording to ([Stroker, 2006](#_ENREF_22)) a traditional and a new public management paradigm are created to limit the role of politics in the management system. ([Aldridge & Stoker, 2002](#_ENREF_2)) identified that there were 5 elements of new public management paradigm (NPM) that should be adopted by all public servers to acquire the necessary skill, accountability, commitment, and contribute towards public welfare.

Based on ([Yang, 2016](#_ENREF_25)) , public values is reflected on the quality of life of the public in terms of the exercise of their rights and public obligation in accordance with the principles of common good. In addition, Moore in ([Yang, 2016](#_ENREF_25)) explains that public values refer to the desired outcomes relating to the quality of life of individuals and groups for citizens. Bozeman et al in ([Yang, 2016](#_ENREF_25)) classifies normative values in society:

a. The right of benefits and privileges to citizens who should (should not) have,  
b. The obligation of citizens to communicate, to one another,  
c. Principles that must be obeyed in making government policy

Then, ([Al-Mawardi, 2014](#_ENREF_1)) mentions the elements of the state in Islam are as follows:

1. Welfare which refers to the condition of the society that shows the life of people that can be seen from the standard of community life ([Badrudin, 2012](#_ENREF_6))
2. Comprehensive justice which pertains to the effort of making is to two things agree on the same thing and also put something in place, where government institutions involved in organizing public services and providing facilities for the public do not discriminate the community.
3. Equal security relates to the level of environmental security of service providers or facilities used, so that people feel at ease to get services against the risks resulting from the implementation of the service.

Based on some of the above description, the public values listed in Public Value Managament and Islamic Public Value have similarities in the purpose of public policy where the value of privileges for citizens who should or should not have aims to gain equitable security for the community in using the results of the development being held. While the value of the obligations of citizens to the community, each state is the policy of the institution in realizing the welfare of society related to the results of development. On the one hand, the value of the principles that must be obeyed by an agency in making the policy aims to create a comprehensive justice for the community in connection with the development of projects organized so the elements of public value are a combination of public benefits, welfare and justice.

Generally, public value as referred to in this study is the outcome of the construction undertaken by the Special Region of Yogyakarta in order to meet the needs of society. The government of Yogyakarta builds the infrastructures to fulfil the outcome of public in transportation aspect as a program for reducing the traffic and cost density. It means that the traffic density is the overload capacity of transportation more than 0 km per hour. If it cannot be addressed by the government, the impact and costs of the traffic density will increase in terms of efficiency and transportation operational cost ([Hayati, Wicaksono, & Sutikno, 2014](#_ENREF_11))

Moreover, the government of Yogyakarta builds the Jombor Flyover and 0 Km Street to enhance public service. It is adopted to decrease the level and cost of pollution and to improve the public welfare particularly in terms of the quality of health. Meanwhile, Jombor Flyover and 0 Km Street constructions are built based on the authority to enhance the sanitation and to support the buildings near the area. Sanitation is a project to monitor the physical environment and the factor that influence the life of human relating to the effect of destruction in physical, health, and the welfare of life ([Yulia, 2016](#_ENREF_26)).

The construction of the infrastructure projects should improve public welfare. Then, based on ([Setiawan & Ariadi, 2012](#_ENREF_21)), the successful project is decided by the indicators such as perational time ≤ plan time, operational cost ≤ plan cost and quality of completion ≥ quality plan.

A cost and benefit analysis is the accurate instrument to assess the rank of project or to choose the most appropriate option. The ratings or decisions are based on economic costs and expected benefits (Department of Environmental Affairs and Tourism: 2006). Based on ([Prasetya, 2012](#_ENREF_18)), cost and benefit analysis can be used to evaluate and improve the old system into a better and efficient way. ([Christian, Rosalina, Melissa, & Rosalia, 2013](#_ENREF_8)) said that a cost-benefit analysis is the method to evaluate the progress of the project and decide the further steps to be taken.

Based on the literature, a cost-benefit analysis is one of the methods used to assess the outcome and if the goals of the project has been realized or not. The characteristics of Cost-Benefit Analysis (CBA) is measuring all costs and benefits to public that are likely to result from a public and also uses the private market to recommend the public program and to measure the benefit of the distribution.

According to Schniederjans et al in ([Christian et al., 2013](#_ENREF_8)) The cost of construction can be classified into 4 main indicators: a. Cost of preparation; b. Investment Cost or Capital; c. Operating costs; and d. Renewal or Reimbursement costs, where some of these indicators are used in analyzing cost efficiency in construction work because in general the indicator has met the standard of calculation in government construction spending

Based on ([Handoko, 2003](#_ENREF_10)) financing efficiency is an activity related to cost control which means that the cost incurred or the target cost includes procurement and preparation costs to be realized in the form of project costs as well as operating costs to generate a profit less than the profits derived from the use of such assets. While based on ([Blocher, Stout, & Cokins, 2010](#_ENREF_7)), efficiency is the company's ability not to dispose of financing sources that exceed the required amount. It means that the cost efficiency is the indicator to measure the target of program from an investor. Then, it has the profit cost or less than the target cost.

The cost efficiency is used as an indicator to measure the progress of the program based on the operational cost. The construction company who won the bidding for the Jombor flyover and 0km Street rehabilitation projects is the General Work Institution. While the Grahatama Library project was initially awarded to Ampuh Sejahtera Company which failed to meet the timeline of the project. Hence, the initial contract was cancelled. The Titimatra Tujutama Company got the Grahatama Library project and brought it to its completion.

**Research Method**

This research is a qualitative research. Where according to Sukmadinata in ([Bachri, 2010](#_ENREF_5)) is a study that provides description and analyzes the phenomenon, social activity, attitude, and perception of individual or community. Based on ([Moleong, 2012](#_ENREF_14)) the method of qualitative research is the study to describe the empirical object into the reality. While in this study, the authors chose a case study research. Based on ([Arikunto, 2002](#_ENREF_3)), a case study is a study to deepen the object of organization, institution, or the certain phenomenon. Based on ([Sugiyono, 2008](#_ENREF_24)), a case study is to describe the object that is studied in sample and then it is analyzed to create a conclusion.

 The location of study is in the Special Region of Yogyakarta. Yogyakarta has implemented 3 huge infrastructure projects with 3 varying outcomes. Jombor Flyover had a destruction in one of its walls prior to its completion; accidents are happening to carriages after the re-construction of the 0 Km Street where andesite stones are used compared to the previous asphalt material; while Grahatama Library has its completion delayed for 3 years and the costs were beyond its initial budget. The three project is a list of big projects owned by the government of DIY, which in the process of construction of the three projects is problematic in the budgeting process and realization of expenditure.

 In terms of data collection, the authors use secondary data that is documentation and observation, where the authors collect data to support the argument by collecting data from various sources such as literature review, regulation about construction, news about construction in DIY, Performance accountability reports of government agencies, budget implementation document, Central Bureau of Statistics, and electronic procurement services.

Lastly related to data analysis, the authors use Interactive Model Analysis by Miles and Haberman in ([Salim, 2006](#_ENREF_20)). According to Bog and Biklen in ([Moleong, 2012](#_ENREF_14)), data analysis techniques are the continuation stages of the researcher to analyze the data in order to find, arrange and formulate conclusions from interviews, documentation and literature. Then the steps that must be done in the process of analysis and interpretation of data. Such as: (1) Data collection is a research data conducted by researchers using a predetermined method. (2) Data Reduction is the selection process, the termination of attention to the aims of "rough" data appearing in the written records in the field. (3) Display Data is a set of arranged information that gives the possibility of drawing conclusions and taking action. (4) Conclusion drawing is a process that will be taken will be handled loosely and remain open so that the original conclusion is not yet clear, then it will increase to be more detailed and firmly rooted. This conclusion is also verified during the course of the study with the intention of testing the truth, its robustness and compatibility which is its validity.

**FINDINDS**

**Outcome of construction**

Based on Mardiasmo (2009) outcome is the impact of a particular activity. Outcome is often associated with the objectives or targets to be achieved. In this research to analyze outcome, the method of assessing public value according to Bozeman et al in ([Yang, 2016](#_ENREF_25)) and ([Al-Mawardi, 2014](#_ENREF_1)) are combined:

**Table 1.2 Outcome of Construction Project in Yogyakarta**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Jombor Flyover** | **0 Km Street** | **Grahatama Library** |
| Public Benefits | Reduce Congestion Level | Reduce Congestion Level | Increasing the number of repertoire archive |
| Reduce pollution levels and air pollution costs | Reduce Accident Level | Increased use of archives as a source of information |
| The effectiveness of mileage | Increased sanitation feasibility | Increasing the number of visitors to the library |
| Disadvantages to the Public | decreased interaction between communities | The neighborhood around the 0 km point becomes dirty | Reduced green space |
| Noise Pollution |
| Environmental degradation around the flyover |
| Welfare | Increased public income | Increased public income | Increased public income |
| Justice | Increased road accessibility | All vehicles can use the street | Realizing of character and culture a society |
| Stakeholders | Adhi Karya Company | Soyuren Company | Ampuh Sejahtera Company |
| commitment institution Special Region of Yogyakarta | Filed of Bina Marga Special Region of Yogyakarta | Titimatra Tujutama Company |
| Library Agencies and Regional Archives Special Region of Yogyakarta |

1. Jombor Flyover Construction

Flyover is a bridge model built on the road. The DIY government built a flyover in Jombor area which is known to the public as Jombor Flyover. The purpose of this flyover development is to reduce the congestion problem at the intersection Jombor that have high traffic density especially during peak hours. The increasing number of vehicles on the road leads to cramped spaces for vehicles to cross the street. This results in inconvenience for road users.a

Traffic congestion problems often occur in areas with high activity intensity. In addition, traffic congestion occurs due to the high traffic volumes caused by the mixed traffics that are the regional and local traffic. If the traffic congestion is a routinary event, the consequences will not only affect the inefficiency of resources, but also the interference of activities in the area. In addition, it also causes a negative impact on the social and economic activities of the public. The congestion causes the decrease of smooth flow on traffic lines, and it greatly affects the public or walkers when using public or private transport ([Margareth, Franklin, & Warouw, 2015](#_ENREF_13)).

Analyzing the Jombor Flyover construction, emphasizes the public interest, looks into the reduction of traffic congestion. It is also evidenced by the reduced congestion costs before and after the construction of Jombor flyover as shown in the Table 1.1:

**Table 1.3 The Congestion Cost of four branches of road Jombor Flyover in year 2010 and 2015**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Type of Transport** | **Amount of Transport** | **The congestion charge (km/hour)** | | **Total Cost of Congestion** | |
| **2010** | **2015** | **2010** | **2015** |
| 1 | Car | 200 | 2.900 IDR | 1.700 IDR | 580.000 IDR | 340.000 IDR |
| 2 | Bus/Truck | 200 | 7.264 IDR | 6.064 IDR | 1.452.800 IDR | 1.212.000 IDR |
| 3 | Motorcycle | 400 | 1.800 IDR | 600 IDR | 720.000 IDR | 240.000 IDR |
| **Total Cost of Congestion** | | | | | **2.752.800**  IDR | **1.792.000**  IDR |

Source: Department of Transportation of Special Region of Yogyakarta, 2016: The data has been processed

Based on the findings, the Jombor Flyover building construction has reduced the level of congestion. The finding also showed that the traffic density cost has decreased from 2.752.800 IDR to 1.792.000 IDR in 2015. The total cost of traffic density is analyzed based on number of the total transportation type multiplied to the data of traffic density cost per km per hour. The data of traffic cost at four branches of road Jombor Flyover by the Transportation Institution.

Next, Jombor Flyover building construction has decreased the air pollution level. This research also gathered the data of the air pollution level of construction building at Jombor Flyover decreased which it is 207.200 IDR in 2010 to 42.600 IDR in 2015. The total cost of air pollution is analyzed based on the number of transportation type cost multiplied to the air pollution cost in IDR per km from the statistic center institution of Jombor Flyover in 2016. t means that Jombor Flyover has decreased the density of traffic which lead to the decrease in the level of air pollution.

**Table 1.4 Air pollution Jombor Flyover year 2010 and 2015**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Type of Transport** | **Amount of Transport** | **Air pollution Charge (km/hours)** | | **Total Cost of Air Pollution** | |
| **2010** | **2015** | **2010** | **2015** |
| 1 | Car | 200 | 210 IDR | 58 IDR | 112.000 IDR | 13.000 IDR |
| 2 | Bus/Truck | 200 | 560 IDR | 65 IDR | 43.200 IDR | 11.600 IDR |
| 3 | Motorcycle | 400 | 130 IDR | 45 IDR | 52.000 IDR | 18.000 IDR |
| **Total Cost of Air Pollution** | | | | | **207.200**  IDR | **42.600**  IDR |

Source: BPS *“Jogja dalam Angka”* Annual Report 2016

Furthermore, the Jombor Flyover construction building is beneficial to the public in minimizing the distance or mileage between areas in the City. Mileage is how far the locations that will be addressed and the time it takes to get to that location. According to the Head of Operational Coordinator in commitment institution, data observations from survey teams jointly used to measure traffic information with measuring instruments such as stop watch, meter and survey measurement and measurement of vehicle volume by using Tally Counter, survey form and meter with survey schedule from 06.30-12.30 WIB result with an average number of traffic between 2767.56 C. these findings implies that the Jombor Flyover is able to accommodate the volume of traffic smoothly.

In addition, the construction of the Jombor flyover also has a negative impact on the public surrounding the construction ([Muhammad, Pambudi, & Subarkah](#_ENREF_16)) such as:

1. Lack Of Citizen Interaction,

Public complained of a wall of flyover separating the western side and east side from Jombor Lor's padukuhan. Residents feel they do not have mosques anymore because the mosque is on the west side that is difficult to reach because there is a wall of flyover that makes it difficult for people to cross. In addition, other effects of this wall cause interaction among residents in the west and east to be reduced. Many residents to the east who do not come when there are associations of organizations such as the PKK if it lies in the west especially for elderly mothers.

1. Noise Pollution

Public around the flyover Jombor complained that there was noise because many vehicles crossing the bridge were running at high speed

1. Environmental Degradation around Flyover

The environment around the people is also getting worse because of the many dust that disrupt the activities of everyday citizens. The parking lot for the public business also becomes non-existent. The road in front of the public residences becomes narrower. Some of these things cause the people's economy to be disturbed and some are closed

The building construction of the government has a direct and indirect effect direct especially in the welfare of economy. Furthermore, the researcher analyzed the increase of income in public using the secondary data based on the statistic center institution in 2010 and in 2015. Before there is construction building at Jombor Flyover, the income is 2.388.999 IDR in 2010 and then it increases to be 3.255.739 IDR in 2015 after construction building at Jombor Flyover. It means that the construction of Jombor Flyover has positive effect in economic life of the public with an estimated increase of 866.740 IDR (0,7%) in 5 years.

Justice is concerned with anyone who is allowed to access and use public roads built by the government to meet the needs of the community without discriminating. Based on the Head of Operational Coordinator in commitment institution, it can be concluded that Jombor Flyover has an outcome that is to increase the accessibility of street at long distance or near distance based on the condition of the infrastructure that is have a high accessibility index of 1.00 with very high category. Furthermore, based on the Performance accountability reports from the government agencies of Department of Public Works, Housing and Energy Resources Mineral, the Jombor Flyover increases the accessibility of street in the successful realization level which is 106.84% (very high).

1. 0 Km Street Construction

Special Region of Yogyakarta (DIY) is an area that is for the tourist destinations as well as the local and foreign tourists. Malioboro is one of the places visited by tourists so frequent congestion around the area happens particularly in the 0 Km, the center of Yogyakarta and is a known tourism spot, with many historical buildings which are until now still well-maintained and functional. 0 Km Street also connects the economic areas, trade, tourism, and education. The activities that are mostly done in the 0 Km street area will have an impact on the density of traffic in the area causing the congestion. To overcome this problem, the government of Yogyakarta revitalized 0 Km Street which aims to smooth the traffic of the region.

Many people do not know what the benefits of the revitalization are. If it is seen directly, the road at the intersection 0 km street looks different from the road in general which is lined with asphalt, but the intersection point of 0 km street on the surface is built from andesite stone which aims to slow the vehicle speed and traffic smoothness which improves the traffic situation in the area.

Based on the Performance accountability reports from the government agencies of Department of Public Works, Housing and Energy Resources Mineral in 2016, increasing the function of local area and province management plan about 0 km street has succeeded in realization level that is 77.77 % (high). The data of traffic density cost in 2014 is 3.952.000 IDR and it decreases in 2016 that is 3.492.800 IDR. The total cost of density traffic is analyzed by counting the total transportations type times the traffic transportation cost per Km per hour. The data source is from Square Street on 0 Km by the Department of Transportation.

**Table 1.5 Four-Point Traffic Congestion Costs at 0 Km in 2014 and 2016**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Type of Transport** | **Amount of Transport** | **congestion charges (km/jam)** | | **total congestion charge** | |
| **2014** | **2016** | **2014** | **2016** |
| 1 | Car | 200 | 4.400 IDR | 3.900 IDR | 880.000 IDR | 780.000 IDR |
| 2 | Bus/Truck | 200 | 8.764 IDR | 8.164 IDR | 1.752.800 IDR | 1.632.800 IDR |
| 3 | Motorcycle | 400 | 3.300 IDR | 2.700 IDR | 1.320.000 IDR | 1.080.000 IDR |
| **total congestion charge** | | | | | **3.952.000** IDR | **3.492.800** IDR |

Source: Department of Transportation DIY, 2016: The data has been processed

The big problem in Yogyakarta city is the traffic accident that influences the road safety especially in highly densed streets. Based on the interview with the Head of sub-field of Bina Marga, 0 Km Street construction decreased the prevalence of traffic accident and all vehicles can cross the road.

Furthermore, based on the Statistic Center Institution in 2014 and 2016 referring to traffic accidents, the construction made the accident decrease in 0 km street area in which it is 673 accidents in 2014 and material losses to government is 672.766 IDR then the number of traffic accident in 2016 is 491 accidents and material losses to government 582.200 IDR because the andesite stone in the center of 0 Km Street decreases the accident level.

**Table 1.6 The accident rate in Malioboro zone before and after revitalization point at 0 Km years 2014 and 2016**

|  |  |  |
| --- | --- | --- |
| **Type of Accident** | **Year** | |
| **2014** | **2016** |
| Number of Accidents | 678 | 491 |
| Material Losses | 672.766 | 582.200 |

Source: (BPS) *“Jogja dalam Angka”* report year of 2015: The data has been processed

In addition, 0 Km Street construction has improved the sanitation, based on the results of the interview Head of Bina Marga said that sanitation access can run well where the waste does not pollute the region 0 km street and flows on the culverts as a drainage around the road. Furthermore, based on the Liquid Waste Management in strategic report in 2016. The sanitation cost in 2014 is 38.000.000 IDR and there is an increase in 2016 with 1.000.000.000 IDR. Then, the cost of waste rail has increased that it is 312.000.000 IDR in 2014 and it is 352.000.000 IDR in 2016. Head of Bina Marga said that the sanitation feasibility is demonstrated by the increasing number of sewerage channels which then the amount of government subsidies to finance the construction of waste ducts also increases It means that 0 Km street construction has a high sanitation feasibility.

**Table 1.7 Sanitation Feasibility Cost of Yogyakarta City in 2014 and 2016**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **category** | **Waste Management Costs** | |
| **2014** | **2016** |
| 1 | Waste Disposal Network | 312.000.000 IDR | 352.000.000 IDR |
| 2 | Government Subsidies | 38.000.000 IDR | 1.000.000.000 IDR |

Source: Final Report, the Liquid Waste Management in Yogyakarta in 2016, USAID the data was processed

The construction of 0 km street also has a negative impact on the community around construction according to Lufityanti (2017), as it makes the environment dirty. The amount of garbage around 0 Kilometers street is very disturbing to public and tourists. The trash is the remains of food wrappers from traders it makes the less clean and can cause disease.

Revitalization 0 Km Street has increased the public welfare in terms of increasing public income. The 0 km street construction is able to improve the welfare in 2014 which is 1.674.189 IDR and then, in 2016, the income is 1.783.819 IDR based on the Statistic Center Institution. It means that it has a positive outcome for public welfare that is 109.630 IDR or (0.9%) in 2 years.

Furthermore, 0 km street is a point that becomes the guide in determining the distance between regions or other cities from outside Yogyakarta. Around 0 km, all types of vehicles can cross and use the road such as andong, buses, motorcycles, and other vehicles except trucks with large payload because it will disturb the traffic.

1. Grahatama Library construction

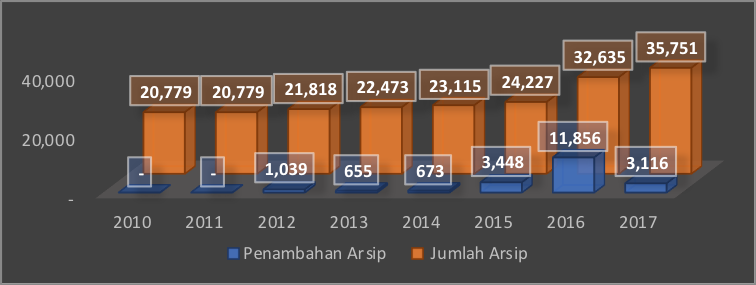
Library is a place for learning and enriching the knowledge that is specialized for the community. Based on Article 1 of Law No 43 of 2007, the library is an institution managing the collection of written works, printed, and / or professional record work with standard system to deal with the needs of education, research, conservation, information, and recreation librarian. One of the public libraries in Special Region of Yogyakarta is Grhatama Pustaka Regional Library and Archives DIY located at Jl. Raya Janti, Banguntapan Bantul.

Grhatama Pustaka was inaugurated by Yogyakarta Governor, Sri Sultan Hamengkubuwono X, on December 21st, 2015 in an area of 2.4 hectares. One of the objectives of the establishment of GrahatamaPustaka is to provide an alternative public area that prioritizes the functions of science, education, and recreational vehicle. The development of Grhatama Pustaka is very strong with the nuance of Javanese culture where the philosophy of Javanese life perfection is reflected in the architectural design of four minarets, namely Prakoso, Wulung, Wangi, and Agung. Drajat supreme perfection of life of the Javanese can be achieved through the library that holds the collection of various kinds of knowledge.

The archive has a very important meaning for an institution, and it makes the archive very important because the information recorded in the archive contains many important information about the collective memory of the nation or institution that can be used as an evidence of current or future accountability. The archives serve as authentic proof of the administration of government and institutions that are part of the national life. Therefore, the collections stored in archives, whether central or regional and governmental institutions must be managed properly through proper maintenance.

The construction of Grahratama Library has developed the archives’ section. Based on the Performance Accountability Reports from the government agencies on the Regional Library and Archives in 2016, there are 32.635 archives in 2016; there are 35.751 archives in 2017. It has a positive outcome for public since it improves the archive reference.

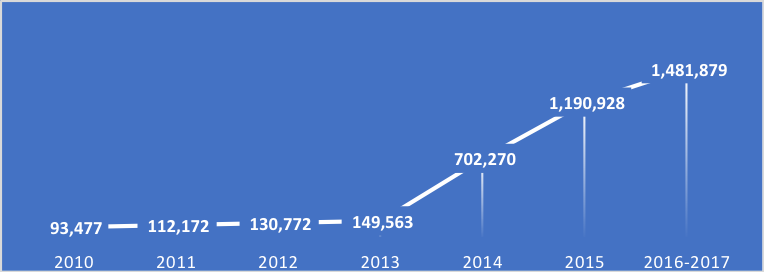
**Figure 1.1 Added Number of Archives at Grahatama Library Year 2010-2017**



Source: Data is processed from the Performance Accountability Report of BPAD Government Agency Year 2017

Furthermore Grahatama library has outcome to public as it increases the number of archive utilization as a source of information. Then, based on the Performance Accountability Reports from the government agencies on the Regional Library and Archives in 2016, the increase of the number of archives is beneficial for public to gain a lot of information; it is 623 archives in 2010; it is 205 archives in 2016; it is 6.233 archives 2017. Thus, it has positive outcome for public because of enhancing information sources proven by the increase of the librarian in 2010 that are 93.447 and 1.481.879 in 2017.

**Figure 1.2 Number of Visitors of Grahatama Library Year 2010-2017**



Source: Data is processed from the Performance Accountability Report of BPAD Government Agency Year 2017

In addition to having benefits for the community, Grahatama library development has negative impacts such as the reduction of green space that causes the air around the construction area was hot and easy to occur landslides and floods during the rainy season because at the time before the construction of Grahatama library, green space is very wide in the construction area and developers must release green space for development.

Furthermore, Grahatama Library has outcome for the public that is welfare, based on the result of interview with culinary business actors and data from Central Bureau of Statistics of Bantul Regency that the income of society around the construction has increased that is 1,169,988 IDR in 2010 and 1,943,455 IDR in 2015 , so the percentage of income increase is (1.6%).

Based on the results of interviews with Head of Data and Information Technology Center of Library and Archives Agency, Grahatama Library also has outcome for public that is forming a society of character and culture, where the library presents various information needed by the public on the basis of information technology and documentation in the form of archives is provided in various locations so that the public or library visitors can search, select and utilize all of these facilities to meet their need for useful information.

**Cost Efficiency Analysis**

The preparation cost is the most important part of building construction. The objective is to get an estimate of the cost of the construction implementation with the resources and methods used in built construction (Kurniawan: 2008). In addition, in making preparation cost a good calculation in order to efficiency and effectiveness is required. Kurniawan (2008) also mentions that efficiency is essentially a reverse comparison or rationality between the results obtained or outputs with the activities undertaken as well as the resources and time spent or inputs. Discussion related to construction cost efficiency on Project Development Flyover Jombor, 0 km street and Grahatama Library presented in the chart as follows:

##### **Figure 1.3 Relations Cost of Construction**

Jombor Flyover

0 Km Street

Grahatama Library

Quality cost of construction  
1. Preparation Fee  
2. Investment Cost or Capital  
3. Operational Cost  
4. Renewal Fee

Cost Efficiency / Inefficiency

Constructions

Further analysis cost efficiency of construction on Jombor Flyover, 0 Km Street and Grahatama Library development project are presented in the discussion below:

**Table 1.8 Efficiency of Const in Construction Project**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Fly Over Jombor** | **Jalan Titik 0 Km** | **Grahatama Library** |
| Efficiency of Construction | Total Expenditure on Construction is the same as Planning Cost | Total Construction Expenditure Less than Planning Cost | Total Expenditure on Construction Implementation is more than Planning Cost |
| Stakeholders | Adhi Karya Company | Soyuren Company | Ampuh Sejahtera Company |
| commitment institution Special Region of Yogyakarta | Filed of Bina Marga Special Region of Yogyakarta | Titimatra Tujutama Company |
| Library Agencies and Regional Archives Special Region of Yogyakarta |

1. Jombor Flyover

Jombor Flyover construction cost efficiency is analyzed based on the construction recapitulation data of commitment institution as operational human in the preparation and operational cost consisting of drainage, foundation, structure, daily work and extremity cost. The preparation cost consists of investment, operational, and extremity is for built Jombor Flyover is 118.423.234.000 IDR that has matched with the operational cost. It means that the preparation cost target can be used by Adhi Karya Company efficiently as the contractor and also on time in the process of building a flyover jombor completed in December 2014 according to the time targeted.

1. 0 Km Street

0 Km Street construction cost efficiency is analyzed based on the recapitulation data of Bina Marga Institution as the preparation and operational cost consisting of drainage, foundation, structure, daily work and extremity cost that used to specialize the budget of Yogyakarta into Bina Marga as the operational project in preservation of bridge in the province and then it was practiced by Soyuren company in tender.

The preparation cost in investment, operational, and extremity is 13,973,633,403 IDR while the construction realization total cost is 4,909,797,543 IDR and the rest of money is 9,063,835,860 IDR. It has been in coordination with the Department of Public Works, Housing and Energy Resources Mineral and then it is received to province government and returned to the DIY regional revenue budget. It means that Soyuren Company has efficiency of operational cost under the preparation cost. It has also time target in December 2015.

1. Grahatama Library

Grahatama Library construction cost efficiency is analyzed based on the recapitulation data of BPAD as the preparation and operational cost consisting of drainage, foundation, structure, daily work, PPN and extremity cost from Regional Budget of Yogyakarta are 56.522.730.161 IDR by Ampuh Sejahtera company in 2011 and it has been spent because of the human resource of project to allocate the budget in 2012.

Based on a survey conducted by the regional finance survey institution in Yogyakarta and the interview with the Head of Data and Information Technology, the Ampuh Sejahtera company committed corruption amounting to 2.3 billion during the holding of the project and it causes the loss of funds. A case was filed by the Provincial Government in the court of Bantul. The construction has stopped in the early of 2013 until the middle of 2013 until the case was closed. The corruption has affected important aspects of the construction particularly the material purchases: the land and sand are 113.451.464 IDR; the plaster of wall is 1.982.257.773 IDR; structure and daily work are 300.000.000 IDR; the preparation cost of structure is 25.381.949.009 IDR because this budget is a construction budget of construction in the first stages.

It means that Grahatama Library construction does not have efficiency of cost between the preparation and operational cost and also it has no time target. Furthermore, the project has continued by the other contractor in the middle of 2013 until 2015 using the provincial budget of Yogyakarta consisting of preparation, operational, extremity and PPN cost. The account of second phase construction is 93.609.750.000 IDR; the preparation cost is 37.500.000 IDR; the operational cost is 89.953.175.000 IDR; the extremity cost is 500.000.000 IDR.

Based on the first budget in regional budget of Yogyakarta, the preparation cost is 56.522.730.161 IDR, but the realization is 93.609.750.000 IDR and it has been loss 37.087.019.839 IDR. It means that the construction does not have the cost efficiency in accountability and it has no target time.

**Conclusion**

The Jombor flyover, 0 Km Street and Grahatama Library were built by the Special Region of Yogyakarta Government in order to fulfill the needs of the public in terms of promoting public benefit, justice and welfare. These three aspects are important indicators in determining whether the infrastructure built by the government is improves public services. Outcome is considered successful when fulfilling the three elements of public value: public benefit, justice and welfare. Based on the results of the research, the three constructions have fulfilled all three aspects of public value.

Furthermore, in relation to the efficiency of the infrastructures built by the DIY government, only the Grahatama library project exceeds its budget prior to its completion 3 years after its original timeline.

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