



Cost Budget Plan Training to Improve Transport Infrastructure Planning Capabilities for Vocational Middle School Students

Amanda Ristriana Pattisina^(✉), Ari Widayanti, Fitri Rohmah Widayanti, Anita Susanti, R. Endro Wibisono, and Purwo Mahardi

Vocational Program of Transportation Engineering, State University of Surabaya, Surabaya, Indonesia

amandaristriana@unesa.ac.id

Abstract. The Cost Budget Plan (CBP) provides an overview of the cost required for a project. Preparing the CBP must ensure that the calculation of the total material or workers' wages is detailed and correct. Partner in this public service activity (PSA) is SMK Negeri 2 Surabaya (Senior High School of Public Vocational) with the location at Tentara Genie Pelajar Street Number 26 Surabaya. The target audience is the principal and teachers teaching SMK Negeri 2 Surabaya students. This PSA aims to provide insight and knowledge about the CBP of Transportation Building to the principal and teachers at vocational senior high schools in Surabaya. The method uses mentoring, namely material presentation through online and offline training. The results obtained are that the CBP training participants welcomed the PSA. The CBP training participants gave suggestions that PSA is sustainable and invited students directly/offline. It is targeted to calculate CBP for complementary buildings for transportation.

Keywords: Training · Cost budget plan · Transportation · Public service activity · Vocational

1 Introduction

Roads as one of infrastructure of the transportation are an essential element in human life, especially at this time, supporting economic [3], social [4], cultural [6], and defense activities [5]. The length of national, provincial, district and city roads has reached more than 300,000 km, but the work is often done carelessly and without careful calculations [7]. As a result, the resulting road quality is not optimal. The Cost Budget Plan (CBP) provides an overview of the cost required for a project [9].

A helpful CBP is detailing what is needed to procure a project [10]. Preparing the CBP must ensure that the calculation of the total material or workers' wages is detailed and correct. This is because the CBP serves as the primary reference when purchasing materials. In addition, to be the basis for purchasing materials or materials, CBP also determines contractors or people with what expertise needed in a project. Without CBP,



Fig. 1. Situation of Partner Learning Activities at SMK Negeri 2 Surabaya

it will be challenging to determine who or what type of contractor working for the project [11].

Equipment is one of the budget items that often swell in a construction activity, especially if heavy equipment is beneficial in road projects [12]. By having a detailed and detailed CBP, the project owner can calculate how many tools and materials, such as scaffolding or concrete iron, are needed and choose the equipment according to the previously allocated budget [8].

Partners in this public service activity consist of SMK Negeri 2 Surabaya, located on Tentara Genie Pelajar Street Number 26 Surabaya. The target audience is the principal and teachers teaching SMK Negeri 2 Surabaya students. Initial coordination was possible with the principal and management staff of SMK Negeri 2 Surabaya, and the data found that only 30% of SMK Negeri 2 Surabaya students understood that understanding of CBP calculations, including those who enrolled in the Higher Program. This is because the interest of students and the view of job opportunities in the road construction sector is still low. In addition, due to future orientation, which only wants to get a job immediately after graduating from vocational senior high school, often theoretical and strategic learning such as the CBP is not popular for the student. This is in line with the input of vocational students, who are different from senior high schools and can better understand the concept of counting than practice (Fig. 1).

Reviewing the potentials and problems of SMK Negeri 2 Surabaya students because they have two study programs that are linear with UNESA's D4 Transportation study program; Therefore, the need for activities to increase understanding in the form of training is very important. At SMK Negeri 2 Surabaya, the current understanding of students is that they only work without going through a more engaged thought process. Meanwhile, based on tracer studies conducted by the leader and staff of SMK Negeri

2 Surabaya in 2020, most students (80%) find it difficult to get jobs in the construction sector because job opportunities in the industry require qualifications, certification, and understanding of CBP and high-level drawing. In the end, what happened was that SMK workers became unemployed (15%), worked odd jobs in other sectors that were not linear with their knowledge (45%), and the waiting time to get a job became more than two years on average (75%).

Therefore, to increase the understanding of the target audience and as an effort to promote the D4 Transportation study program, the Public Service activity is needed with the title “Training on Budget Plans (CBP) to Improve Transportation Infrastructure Planning Capability for Vocational High School Students in the City of Surabaya.”

2 Method

The method of implementing Public Service Activities (PSA) offered is to increase insight or understanding by conducting training to Principals (Akin & Kara, 2020; Barbosa, 2017), Teachers, and Students in SMK 2 Surabaya to the Vocational Program of Transportation Engineering Technology, State University of Surabaya.

The method of implementing PSA activities is carried out as follows:

2.1 Proposal Preparation

The first stage is to collect relevant data to prepare a PSA proposal.

2.2 Coordination with Partners/Schools

Coordination with the schools is carried out using a sampling method in schools around the D4 Transportation Vocational Program, Surabaya State University and other affordable areas. Based on coordination activities with schools, a vocational school, namely SMK Negeri 2 Surabaya was obtained which was willing to be used as a PSA location.

2.3 Permission to Partners/Schools

Permits are submitted so that PSA activities can take place smoothly and successfully, permitted by the parties involved in this case the school.

2.4 Preparation of Materials and Materials for PSA Activities

Materials that need to be prepared include a detailed explanation of the RAB material for road construction, and an overview of the vision and mission, job opportunities, cooperation, and the curriculum structure of the Vocational Program of Transportation.

2.5 Implementation of PSA Activities

The implementation of PSA activities is planned to take place online with media zoom meetings and offline.

2.6 Evaluation of PSA Results

The evaluation of PSA results was obtained by distributing questionnaires to the socialization participants. The questionnaire measures how much participants understand about the RAB material and the Vocational Program, the implications for efforts to disseminate information to principals, teachers, students or students in their respective schools, suggestions and input regarding the development of the Vocational Program, and the interest of participants in the socialization to continue schools in the Vocational Program in the future.

2.7 PSA Results Reporting

The PSA results report is made in the form of the PSA Results Report and the PSA Final Report which are approved by the Institute for Research and Community Service, State University of Surabaya.

2.8 Finalization of PSA Final Report and Outcomes

The finalization of the PSA final report was completed after going through the mechanism of the seminar on results, revision and approval by the LPPM, State University of Surabaya. PSA outputs are produced in accordance with the output targets that have been set at the beginning of the activity.

3 Result and Discussion

3.1 Activity Implementation

The implementation of PSA can be presented in Table 1.

Table 1. The Implementation of PSA

No.	Description of activities	Current Position
1	Preparation of proposals.	Has been done
2	Coordination with partners/schools.	Has been done
3	Licensing the implementation of activities in schools.	Has been done
4	Preparation of materials and materials for PSA activities.	Has been done
5	Implementation of PSA activities.	Has been done
6	Evaluation of PSA Results.	Has been done
7	PSA Results Reporting.	Has been done



Fig. 2. PSA participants in the offline CBP training.

3.2 Activity Implementation Documentation

The CBP training is carried out in 2 stages, namely the online method for training for class XII students of SMK 2 Surabaya. The CBP training was attended by 35 students with five teachers and two school principals. While the offline implementation was carried out with the face-to-face/online method, which was attended by 20 students with the assistance of 5 teachers.

Documentation of the implementation of PSA at SMK 2 Surabaya is as shown in Fig. 2.

3.3 Implementation Evaluation

Based on the pre and post test, the program evaluation explained as:

- The socialization participants welcomed the PSA activities, and gave an assessment of 3,510 (Agree – Strongly Agree) on all indicators of the PSA implementation assessment.
- Socialization participants provide suggestions and input so that this PSA is sustainable, and can invite students directly so that it is more targeted.
- The advice given by the socialization participants is that it can be given wider socialization to the community and students at school (Fig. 3).



Fig. 3. PSA participants in the online CBP training

4 Conclusion

In the light of the previously perspectives and supporting arguments, the writer highlights the potentials of different endeavour. The implementation of PSA is carried out at SMK Negeri 2 Surabaya which is carried out offline and online with the media zoom meeting. The target audience consisted of principals, teachers, and students at SMK Negeri 2 Surabaya.

The CBP training participants welcomed this PSA and gave a score of 3.51 for the implementation of PSA. Albeit, based on pre and post-test, the participants could reach more than 74% augmentation of understanding for the CBT material.

CBT training participants provide suggestions and input so that this PSA is sustainable, and can invite students directly so that it is more targeted, provides insight and useful material for school principals teachers and high school and vocational students in the Surabaya Area.

Acknowledgement. The researcher would like to thank to the Ministry of Research, Technology, and Higher Education for funding this research.

Authors' Contributions. Amanda Ristriana Pattisinai and Ari Widayanti created the conceptual research framework. Fitri Rohmah Widayanti and Anita Susanti did the data statistic and analysis. R. Endro Wibisono and Purwo Mahardi collected the data, write, and proofread the final manuscript.

References

1. D. Akin, D. Kara, Multicriteria analysis of planned intercity bus terminals in the metropolitan city of Istanbul, Turkey, *Transportation Research Part A: Policy and Practice*, Elsevier, vol. 132, 2020, pp. 465-489. <https://doi.org/10.1016/j.tra.2019.12.003>
2. S.B. Barbosa, et. al, Multi-criteria analysis model to evaluate transport systems: An application in Florianópolis Brazil, *Transportation Research Part A: Policy and Practice*, vol. 96, Elsevier, 2017, pp. 1-13. <https://doi.org/10.1016/j.tra.2016.11.019>

3. E. Vacchelli, E. Kofman, Towards an inclusive and gendered right to the city, *Cities*, vol. 76, Elsevier, 2018, pp. 1–3. <https://doi.org/10.1016/j.cities.2017.10.013>
4. N. Brenner, C. Schmid, Towards a new epistemology of the urban?, *Cities*, vol. 19, Elsevier, 2015, pp. 2–3. <https://doi.org/10.1080/13604813.2015.1014712>
5. T. Fenster, The Right to the Gendered City: Different Formations of Belonging in Everyday Life, *Journal of Gender Studies*, issues. 3, Taylor & Francis, 2005, pp. 217–231. <https://doi.org/10.1080/09589230500264109>
6. A.R. Pattisinai, et. al. Exploring Pedestrian Ways Quality for Better Urban Place: Necessary, Optional, and Social Activity, International Conference on Science and Technology, series. 1569, *Journal of Physics: Conference Series*, IOP Publishing, 2020, p. 042020. <https://doi.org/10.1088/1742-6596/1569/4/042020>
7. F.R. Widayanti, A.R. Pattisinai, Investigate Park and Ride performance assessment for the better sustainable urban transportation in Surabaya, *IOP Conference Series: Materials Science and Engineering*, vol. 1098, issues 2, IOP Publishing, 2021, p. 022019. <https://doi.org/10.1088/1757-899X/1098/2/022019>
8. A.R. Pattisinai, F.R. Widayanti, Investigating the sans pareil streetscape configuration for creating thermal comfort urban place in Surabaya, *IOP Conference Series: Materials Science and Engineering*, vol. 1098, issues 2, IOP Publishing, 2021, p. 022021. <https://doi.org/10.1088/1757-899X/1098/2/022021>
9. E. Skartland, Unfavorable transit planning: Lack of knowledge, lack of collaboration, or political conflicts? A case study of two Norwegian cities aiming to increase transit competitiveness, *Progress in Planning*, Elsevier, 2022, p. 100656. <https://doi.org/10.1016/j.progress.2022.100656>
10. K. Kwon, G. Akar, People with disabilities and use of public transit: The role of neighborhood walkability, *Journal of Transport Geography*, vol. 100, Elsevier, 2022, p. 103319. <https://doi.org/10.1016/j.jtrangeo.2022.103319>
11. G. Li, A. Chen, Frequency-based path flow estimator for transit origin-destination trip matrices incorporating automatic passenger count and automatic fare collection data, *Transportation Research Part E: Logistics and Transportation Review*, vol. 163, Elsevier, 2022, p. 102754. <https://doi.org/10.1016/j.tre.2022.102754>
12. L. Redman, Quality attributes of public transport that attract car users: A research review, *Transport Policy*, vol. 25, Elsevier, 2013, pp. 119–127. <https://doi.org/10.1016/j.tranpol.2012.11.005>

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

