

# Identification of Options for Financing and Management Scheme of Roadside Station Infrastructure

*by* Herawati Zetha Rahman

---

**Submission date:** 09-Oct-2020 03:39PM (UTC+0700)

**Submission ID:** 1409980805

**File name:** B3-2019-\_Identification\_of\_Options\_for\_Financing\_and.pdf (1.81M)

**Word count:** 4056

**Character count:** 23722



# Identification of Options for Financing and Management Scheme of Roadside Station Infrastructure

Azaria Andreas, Herawati Zetha Rahman, Jade Sjafrechia Petroceany,  
Dian Perwitasari, Perdana Miraj Sejatiguna

Civil Engineering Program, Faculty of Engineering, Pancasila University, Jakarta

Corresponding author:  
azaria.andrea@univpancasila.ac.id

---

## ABSTRACT

*Roadside Station (RS)- adopted from the Japanese michi-no-eki concept - is one of the infrastructures that provide a number of social functions mandated into any provision of physical infrastructure by the government, in this case the Ministry of Public Works and Public Housing. There are at least two issues that need attention: ensuring that post-construction asset management can be sustainable in its function as a social infrastructure to meet the needs of road users and exploring the potential of non-government financing for its provision. This paper offers and discusses the financing options and RS asset management. Three possible options were identified: the scheme to the State Property, Public Service Board, and the Government Cooperation with Business Entities. Management option recommendations are grouped on the scale of government funding for development. This recommendation can be applied to the RS that has been built and the following RS facilities.*

*Keywords: Roadside Station, the State Property, Public Service Board, the Government Cooperation with Business Entities, financing, management*

---

## SARI PATI

*Anjungan Cerdas (AC; roadside station)-diadopsi dari konsep michi-no-eki Jepang-merupakan salah satu infrastruktur yang memberikan sejumlah fungsi sosial yang diamanatkan ke dalam setiap penyediaan infrastruktur fisik oleh pemerintah, dalam hal ini Kementerian Pekerjaan Umum dan Perumahan Rakyat. Ada setidaknya dua isu yang perlu mendapatkan perhatian yaitu memastikan bahwa pengelolaan aset pascakonstruksi dapat berkesinambungan dalam fungsinya sebagai infrastruktur sosial memenuhi kebutuhan pengguna jalan dan menggali potensi-potensi pembiayaan non-pemerintah untuk penyediannya. Tulisan ini menawarkan dan mendiskusikan opsi-opsi pembiayaan dan pengelolaan aset AC. Teridentifikasi tiga opsi yang memungkinkan untuk diterapkan: skema pemanfaatan Barang Milik Negara (BMN), Badan Layanan Umum (BLU), dan Kerja Sama Pemerintah dengan Badan Usaha (KPBU). Rekomendasi opsi pengelolaan dikelompokkan pada skala pendanaan pemerintah pada pembangunannya. Rekomendasi ini dapat diterapkan pada AC yang sudah terbangun dan fasilitas AC berikutnya.*

Kata Kunci: Anjungan Cerdas, BLU, BMN, KPBU, pembiayaan, pengelolaan

## INTRODUCTION

The facilities and services provided by social infrastructure are generally used for the local needs of the community in the context of forming a sense of ownership of the established public facilities in a sustainable community perspective (Borough, 2009).

During the past ten years, the acceleration of the interest of various parties to assess how the impact of a social infrastructure on the economic development of a country continues to be considered qualitatively and quantitatively because social infrastructure also has a role as a distribution of community income, which also means commercial value (Wang, 2007).

**1** In Indonesia, since 2015, the Ministry of Public Works and Public Housing introduced the Roadside Station (RS) which was adapted from the concept of michi-no-eki in Japan. Michi-no-eki is a roadside service platform, and has been officially implemented in Japan since 1993 (Murakami & Oyabu, 2016). Michi-no-eki was developed to create safe travel traffic while creating unique and living spaces to promote the potential of the area around the Michinoeki location. Michi-no-eki has the law and has been widely developed. Now, around 1,093 michi-no-eki facilities have been operated throughout Japan (All Nippon Michi-no-Eki Network, n.d.).

There have been two RS pilot projects built: RS located in Tugu Dam, Trenggalek Regency (East Java) and Rambut Siwi RS, Jembrana Regency, (Bali). In the future, this concept will be developed in several other regions in Indonesia, including Labuan Bajo, Makale-Tana Toraja, Magelang, and Labungan Kayanga (Ministry of Public Works & Housing, 2017).

There are two issues that require attention: ensuring that post-construction RS management by involving government funding for its development can run in a sustainable manner

and exploring the potential of alternative financing for the provision of this infrastructure in the future in response to the problems of fiscal limitations currently faced by the government. In this regard, this paper offers three RS financing and management options that involve government and non-government funding in its development and management, namely the State Property scheme, Public Service Agency and Government Cooperation with Business Entities.

## LITERATURE REVIEW

### Social Infrastructure

International recognizes that investment in human resources (HR) and civic assets is essential for economic prosperity and social welfare. This is reflected in social inclusion in the UK, Europe and Canada, locally adapted by the Government of Queensland, Australia (Office of Urban Management, 2007).

Social infrastructure is always synonymous with construction owned by the government with the aim to serve the community with certain needs such as educational institutions, health and security institutions, and sports and recreation facilities (Gabbrakhmanov & Rubtsov, 2014).

Investment in social infrastructure supports the health, welfare and economic prosperity strengthening of the community. This plays an important role in developing social capital, maintaining quality of life, and developing community skills and resilience. Each agency has a set of planning processes for tailored services and programs. Thus, the mechanism of cooperation between agencies in the proper planning of facilities needs to be explored further. This is needed to accommodate the complexity and dynamism of a project.

According to Kingombe (2014), social infrastructure can be categorized into:

a. hard infrastructure: in the form of **1** health

center facilities, education (e.g., schools, museums, libraries), recreation areas, police and fire stations, prison, rest areas, and other supporting facilities.

- b. soft infrastructure: in the form of a program or policy with the aim of improving the quality and standard of living of a community.

### **1 Roadside Station**

Roadside Station is a special area that was built as a form of concern to improve the safety of road users, supported by the development of local communities and information centers. As stated earlier, the RS concept adopted by the Ministry of Public Works and Public Housing from the michi-no-eki concept, which was first opened in 1991 as a trial base in Yamaguchi, Gifu, and Tochigi Prefecture (Parker, 2010). Until now, the existence of michi-no-eki has succeeded in tackling the number of accidents while boosting the economy of local communities through the application of community-based development concepts.

The application of the one-stop-rest area concept is an area that provides all the facilities needed by road users (e.g., rest areas, information centers, security, recreation facilities, buying and selling facilities, environmental facilities), can be seen in Figure 1. The development of roadside station aims to attract travelers and tourists from outside the area who will buy local products; revitalizing local communities by encouraging groups of farmers to become key actors in regional development, and supporting the development of subsystem areas by creating synergies between the purchasing power of visitors and the activities of local communities.

The RS facilities built by the Ministry of Public Works and Public Housing in Jembrana (Figure 2) and Trenggalek (Figure 3) are intended to provide rest areas around strategic national roads (rest areas) with various public facilities such as parking lots, toilets, restaurants, and minimarkets managed by local people to sell agricultural products, food preparations, and art products of local communities, as well as travel information centers.



Figure 1. One example of Michinoeki in Japan  
Source: (All Nippon Michi-no-Eki Network, n.d.)



Figure 2. Rambut Siwi Roadside Station in Jembrana Region (Bali Province)  
Source: <https://www.pu.go.id/berita/view/11135/tingkatkan-layanan-publik-bagi-pengguna-jalan-kementerian-pupr-bangun-anjungan-cerdas>



Figure 3. Tugu Roadside Station in Trenggalek Region (East Java Province)  
Source: <https://news.detik.com/berita-jawa-timur/d-3561045/trenggalek-bakal-punya-rest-area-ala-jepang>

With the RS, road users can feel a new sensation at rest, they can enjoy handicrafts or agriculture and processed foods typical of local communities and on the other hand local people can benefit from the sale of products and services.

Therefore, the main function of RS is to provide a place of rest that can improve the economic development of the region and increase the value of road infrastructure (Regional Infrastructure Development Agency, 2016).

Besides functioning as a resting place, RS also provides alternative destinations that will increase the value of road infrastructure by utilizing locations, views, diversity of local products, arts (e.g., products and performances), and infrastructure technology.

- a. Roadside Station provides the following functions:
- b. Smart information center with the provision of Wi-Fi, traffic information, and the Ministry of Public Works and Public Housing infrastructure information;
- c. the Ministry of Public Works and Public Housing infrastructure information center especially around the location;
- d. Information center on various products and potential of the area around the location;
- e. Gate of view on a variety of high-aesthetic infrastructure and the beauty of the physical environment around;
- f. Introducing and marketing of various local production and culture to national road users;
- g. Incubation area for new tourist destinations either independently or as part of the main destination;
- h. A rest area to improve the safety of national road users equipped with various service facilities.

Among the benefits of RS adapted from lessons learned of michi-no-eki and roadside stations, it is not limited to handling traffic problems

but also to expanding economic benefits in the regional context i.e. reducing the gap between cities and villages where there are gaps both in terms of services health, opportunities for basic education, and opportunities for increasing people's income.

Components (facilities) in the RS area are divided into four types namely Main Components, Supporting Components, Additional Components, and Limited Additional Components as can be seen in Table 1. The principles and architectural elements in all RS components are adapted to the location and pay attention to the wisdom side local. In addition, all designs must pay attention to accessibility for users with special needs.

#### Public-Private Partnership

The involvement of business entities especially private-owned companies in the provision of infrastructure is increasingly popular in both developing and developed countries (Takim, Abdul-Rahman, Ismail, & Egbu, 2009).

Based on Presidential Decree Number 38 Year 2015, PPP is a cooperation between the government and the private entity in the provision of infrastructure for public interest by referring to the pre-determined specifications by ministers/heads of institutions/regional head/SOEs/ROEs, partly or wholly using the resources of the private entity taking into account the sharing of risks among the parties. According to the World Bank's PPP Reference Guide, PPP is also broadly defined as a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration, is linked to performance.

Cooperation between the government and business entities can be done in several forms. This cooperation is categorized based on the

proportion of risk allocation between the public sector and business entities. Seen from Figure 4, the spectrum of forms of cooperation is very broad, ranging from operations to maintenance to concessions which also involve an increasingly large role of business entities.

**State-Owned Property**

State - Owned Property is an inseparable part of State Finance as stated in article 1 of Law No. 17 of 2003 concerning State Finance. The law states that: "State finances are all rights and obligations of state that can be valued in money, as well as everything in cash or in the form of goods that can be owned by the state in connection with the implementation of the

rights and obligations." Figure 5 shows several forms State-Owned Property utilization for infrastructure and non-infrastructure assets.

In Law No. 1 of 2004 concerning the State Treasury, Article 1 states that: "State Property is all goods purchased or obtained at the expense of the State Revenue and Expenditure Budget or derived from other legal acquisition." In Government Regulation No. 27 of 2014, it is concerning Management of State / Regional Property, mandated that State Property is all goods purchased or obtained at the expense of the State Revenue and Expenditure Budget or derived from other legal acquisition.

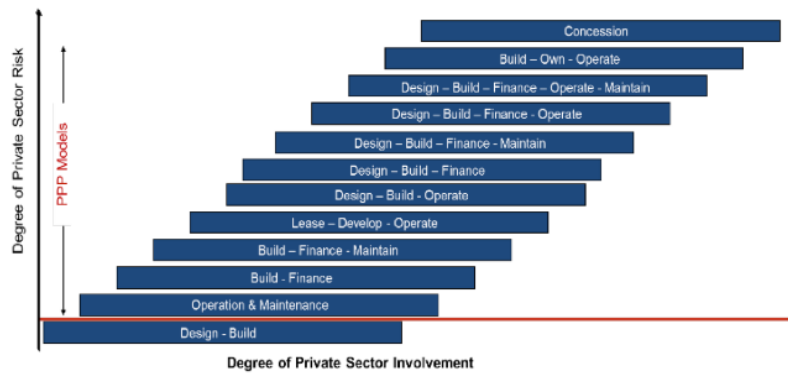


Figure 4. Form of Government Cooperation with Business Entities and Business Entity Involvement  
 Source: (Toronto Public Consultation Unit, 2015)

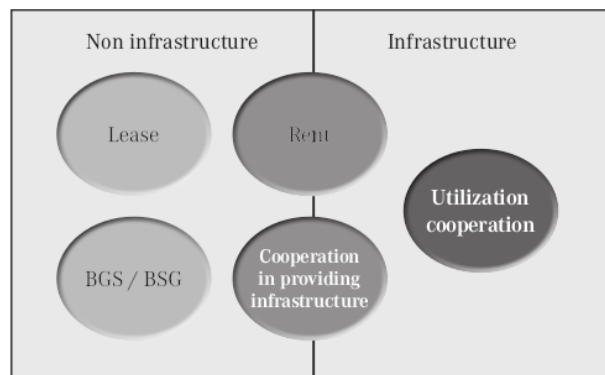


Figure 5. Form of Utilization of state property  
 Source: PMK 78/PMK.06/2014: Procedure for the Implementation of Utilization of State Property

**Public Service Agency**

Public Service Agency is an institution within the Government formed to provide services to the public in the form of the supply of goods and / or services without prioritizing profit seeking and in carrying out its activities based on the principles of efficiency and productivity.

Public Service Agency Financial Management follows the Public Service Agency Financial Management Pattern, which is a financial management pattern that provides flexibility to apply business practices to improve services to the community in order to advance general welfare and improve the life of the nation, as regulated in Government Regulation this, as an exception to the general financial management provisions

The duties and functions of the Public Service Agency include preparing a Public Service Agency Business and Budget Plan, which is a business planning and budgeting document that contains programs, activities, performance targets, and budgets of a Public Service Agency (Minister of Finance Regulation No. 92 / PMK. 05/2011) concerning Plans Business and Budget and Implementation of Public Service Agency

Budgets). Figure 6 shows several forms of Public Service Agency utilization.

**RESEARCH METHODOLOGY**

This research uses a qualitative approach and participatory approach. A participatory approach is an approach involving stakeholders (in this case local and central government) with infrastructure evaluations, including visits to relevant agencies and case studies.

Following are the stages of research implementation to obtain outcomes in the form of RS financing and management scheme recommendations:

- a. Identification of RS financing and management options both using government and non-government funding.
- b. Further identification of types of infrastructure management using government and non-government funding through the State Property, Public Service Agency and Government Cooperation with Business Entities schemes.
- c. Focus Group Discussion (FGD) involving stakeholders from the regions (i.e., representatives from several agencies in the region) and stakeholders from the central

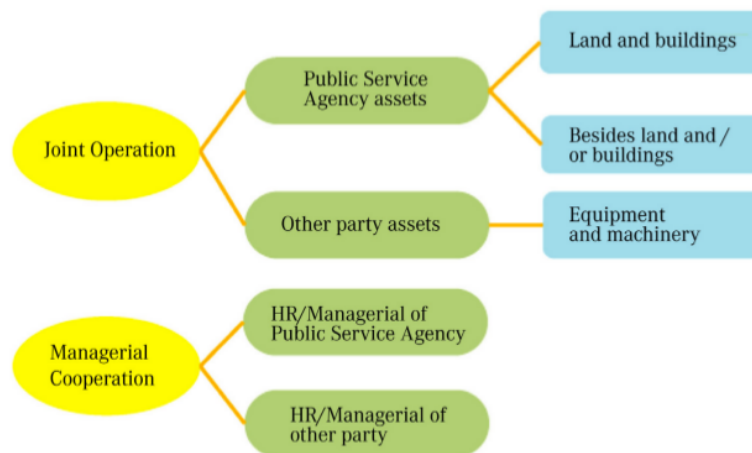


Figure 6. Public Service Agency Form of Utilization  
 Source: PMK 92/PMK.05/2011 Business Plans and Budgets and the Implementation of Public Service Agency Budgets

government represented <sup>1</sup> by the Ministry of Public Works and Public Housing (May 2018).

- d. The proposed recommendations are based on the results of the FGD for RS financing and management.

Figure 7 presents a flowchart of research implementation to produce RS management recommendations.



Figure 7. Research Implementation Flowchart

**RESULT AND DISCUSSION**

**State-Owned Property Options**

State revenue from the use of State-Owned Property is state revenue that must be deposited entirely into the account of the State General Treasury. State Property which is the object of utilization is prohibited from being guaranteed or mortgaged. RS management using the State Property utilization scheme can be applied with two schemes as follows:

- a. Utilization Cooperation during the concession period or
- b. Rent for a certain period of time.

Revenue obtained from Utilization Cooperation or rent is recorded as Non-Tax State Revenue. The details of RS with State Property can be seen in Table 1. The procedures for implementing management by utilizing State Property follow the applicable regulations.

**Public Service Agency Option**

The Public Service Agency scheme can be applied to the management of RS that built with the State Revenue and Expenditure Budget and / or Regional Revenue and Expenditure Budget as listed in Table 2. The Public Service Agency revenues are reported as Non-Tax State Revenue. The management scheme uses The Public Service Agency which can be utilized for RS management as a) Joint Operations, b) Managerial Cooperation.

Table 1. Roadside Station Options with State Property

Description	State Property		
	Rent	Lease	Utilization Cooperation
Characteristic	Receive cash rewards	Without receiving rewards	<ul style="list-style-type: none"> <li>• Increased state revenue</li> <li>• Fixed contributions</li> <li>• Distribution of utilization cooperation income</li> </ul>
Period of time	5 years and can be extended	5 years and can be extended once	Maximum 30 years and can be extended
Acceptance type	Non-Tax State Revenue	Non-Tax State Revenue	Non-Tax State Revenue
Application on RS	þ	ý	þ



Table 2. Roadside Station Management Options with Public Service Agency

Description	Public Service Agency	
	HR/Managerial of Public Service Agency	HR/Managerial of other party
Characteristic	<ul style="list-style-type: none"> <li>• Collect fees from the community in return for goods / services provided</li> <li>• Funds from the State Revenue and Expenditure Budget, unrestricted grants, revenues from service delivery and revenue from cooperation can be managed directly to finance operations</li> </ul>	
Period of time	A maximum of 5 years and can be extended after evaluation, and adjustments to the clauses in the agreement	
Acceptance type	<ul style="list-style-type: none"> <li>• Non-Tax State Revenue</li> <li>• Benefits from investments made by Public Service Agency</li> </ul>	
Application on RS	p	p

The procedures for implementing management using the Public Service Agency follow the applicable regulations.

**Management of Roadside Station with Government Cooperation with Business Entities**

Government Cooperation with Business Entities option is implemented through the following schemes:

- a. Build-Operate-Transfer with or without government support
- b. Availability Payment
- c. Operation and Management

The procedure for implementing the Government Cooperation with Business Entities scheme follows the applicable regulations e.g. 38 of 2015, Minister of Finance Regulation No. 260 of 2016.

**Roadside Station Management Recommendations**

Management of roadside station post-development can be divided into three phases: initiation, transition, and strengthening. This conclusion is based on the results of the FGD conducted with local and central stakeholders. Another conclusion, if RS facilities (assets) are already established, have a good financial and managerial, and can finance its own operations

and maintenance, the assets are handed over to the local government.

- a. Initiation: the time period in which an intelligent platform roadside station is completed and the local government has not been able to manage a roadside station
- b. Transition: when part of the management of roadside station begins to be transferred to the local government
- c. Consolidation: is when all roadside station management can be transferred to the local government

In principle, RS management is expected to be carried out by regional governments by transferring assets in the case of RS development funded by the central government. However, in the initiation and transition phases it is possible to do it through the Government Cooperation with Business Entities, State Property, or Public Service Agency scheme.

Based on the description of the types of RS management previously presented, management recommendations can be divided into two categories according to the scale of government funding i.e., the construction of RS is fully funded by the government through the State/Regional Revenue and Expenditure Budget and the construction of RS with partial or no government funding (see Table 3).

Table 3. RS Management Recommendations

Government Development Funding	Scen. <sup>a</sup>	Phase <sup>b</sup>		
		I	T	C
Fully	1	BE <sup>c</sup>	BE	over assets
		Rent of state property		
	2	BE	BE	
Without or in part	1	Rent of state property	Joint Operations/ Managerial Cooperation	
		BE		
	2	GCBEd-OM <sup>e</sup>		over assets
Without or in part	1	BE	Utilization Cooperation	over assets
		BE		
	2	Government Cooperation with Business Entities		Public Service Agency

Notes: a. Scen. = scenario; b. I = initiation, T = transition, C = consolidation; c. BE = business entity; dGCBEd = Government Cooperation with Business Entities; eOM = operation and management.

In the first category of the construction of roadside station with full funding from the government, three RS management options can be recommended:

- a. Scenario-1: RS management is carried out with the option to rent (state property) during the initiation and transition period by business entities assuming the RS is still an asset of the central government. The maximum management period is 5 years according to the applicable regulations and after 10 years - the stabilization phase - the RS assets are transferred to the local government.
- b. Scenario-2: RS management is carried out with the Rent option (state-owned property) at the initiation phase by the business entity assuming the RS is still an asset of the central government, followed by the Public Service Agency option in the transition and stabilization phase. The choice of rental option in the first 5 years is calculated as the preparation period of the roadside station of Public Service Agency.
- c. Scenario-3: RS management is carried out with the Government Cooperation with Business Entities-Operational and

Management option in the transition initiation phase, and is followed by the transfer of assets to the local government in the stabilization phase.

In the second category two recommendations are proposed:

- a. Scenario-1: Funding for the construction of an RS uses a Utilization Cooperation scheme that grants management rights to business entities according to the concession period agreed in the cooperation agreement. After the concession period ends, RS management enters the stabilization phase in which assets are transferred to the local government.
- b. Scenario-2: Development funding by a business entity using a Government Cooperation with Business Entities scheme. If financially providing this infrastructure is feasible, funding can be done entirely by the business entity itself; if not, funding could be partially borne by the government through viability gap funding even though the amount of support may not dominate construction costs. Furthermore, after the concession period is over, the RS

management enters the consolidation phase in which asset management is carried out to the regional government.

## CONCLUSION

From the results of the analysis and discussion that have been carried out, two categories of RS management are offered, depending on whether the development funding is carried out entirely

by the government or not. This recommendation applies both to roadside station that have been built by the Ministry of Public Works and Public Works and the roadside station that will be built next. Going forward, each of these management options can be adjusted to the operational conditions of the RS, but it is hoped that the local government will ultimately be able to manage the facility.

---

## REFERENCES

- All Nippon Michi-no-Eki Network . (s.d.). *What are Michi-no-Eki?* Diakses Maret 12, 2019, dari <https://www.michi-no-eki.jp/about/english>.
- Badan Pengembangan Infrastruktur Wilayah. (2016). *KSPN Toraja: Rencana pembangunan infrastruktur terpadu kawasan strategi pariwisata pegunungan dan budaya*. Jakarta: Pusat Pengembangan Kawasan Strategis Badan Pengembangan Infrastruktur Wilayah Kementerian Pekerjaan Umum dan Perumahan Rakyat. Diakses Maret 12, 2019, dari <http://bpiw.pu.go.id>
- Gabdrakhmanov, N., & Rubtsov, V. (2014). The objects of social infrastructure in the social image of the region shaping. *Procedia-Social and Behavioral Sciences*, 140, 419-421.
- Kementerian Pekerjaan Umum dan Perumahan Rakyat. (2017, Mei 22). Diakses Maret 12, 2019, dari <https://www.pu.go.id/berita/view/11135/tingkatkan-layanan-publik-bagi-pengguna-jalan-kementerian-pupr-bangun-anjungan-cerdas>
- Kingombe, C. (2014). *Hard and soft infrastructure development in Africa*. Diakses Maret 12, 2019, dari <https://unctad.org>.
- Murakami, K. H., & Oyabu, T. (2016). An analysis of how roadside stations, "Michi-no-eki", function to promote local revitalization: A case study in a rural area in Japan. *Journal of Global Tourism Research*, 1(1), 47-54.
- Office of Urban Management. (2007, Juni). Implementation guideline no. 5: Social infrastructure planning. Queensland Government. Diakses Maret 12, 2019, dari <http://www.dlgrma.qld.gov.au>
- Parker, G. (2010). Michi-no-eki: An opportunity for the rural economy. *Town&Country Planning, Juli/Agustus*. Diakses Maret 12, 2019, dari <http://www.jlgc.org.uk/en/pdfs/michi-no-eki%20-%20gavin%20parker%20-%20july%202010.pdf>: <http://www.jlgc.org.uk>
- Takim, R., Abdul-Rahman, R., Ismail, K., & Egbu, C. (2009). The acceptability of private finance initiative (PFI) scheme in Malaysia. *Asian Social Science*, 4(12), 71-82.
- Toronto Public Consultation Unit. (2015, Februari 17). *Delivering the rehabilitation of the E.G. Gardiner Expressway*. Diakses Maret 12, 2019, dari <https://www.slideshare.net/TorontoPCU/slides-for-public-consultation-feb-17-15-draft-4-io-edits>.
- Wang, Y. (2007, January). *A theory of social infrastructure and economic development*. Diakses Maret 12, 2019, dari <https://pdfs.semanticscholar.org>.

# Identification of Options for Financing and Management Scheme of Roadside Station Infrastructure

---

## ORIGINALITY REPORT

---

12%

SIMILARITY INDEX

12%

INTERNET SOURCES

10%

PUBLICATIONS

4%

STUDENT PAPERS

---

## PRIMARY SOURCES

---

1

[www.matec-conferences.org](http://www.matec-conferences.org)

Internet Source

9%

2

[kpbu.djppr.kemenkeu.go.id](http://kpbu.djppr.kemenkeu.go.id)

Internet Source

3%

---

Exclude quotes Off

Exclude matches < 3%

Exclude bibliography On