



Optimization Strategy of Transportation System Development in Improving City Competitiveness (Case Study: Tangerang City)

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Abstract. The competitiveness of Tangerang City is included in the high category according to its geostrategic value and the availability of transportation infrastructure such as airports, toll road networks, train networks and urban transportation networks. On the other hand, the rate of economic growth has not been optimally driven by supporting factors. by Tangerang City. Therefore, the research analyzes the factors that influence economic conditions and regional competitiveness, especially the transportation sector. The transportation factor that is currently the input for competitiveness is the availability of road transportation infrastructure (connectivity, have not reviewed other aspects such as accessibility (travel time) and mobility (level of movement) so it is necessary to examine these factors as factors influencing competitiveness. Furthermore, measurements are also carried out satisfaction of transportation users and develop a SWOT development strategy. The results of this study are aspects of transportation that affect competitiveness as a basis for determining strategies in the development of transportation systems so that priority programs for urban public transport system development plans, road and traffic network systems urban freight transport system and land use transport integration.

Keywords: Regional competitiveness · Connectivity · Accessibility · Mobility · transportation system development

1 Introduction

Issues related to regional competitiveness are one of the main issues in regional development. The concept of competitiveness is generally associated with the ability of a company, city, region, region or country to maintain or increase competitive advantage in a sustainable manner [1]. Regional competitiveness according to Bank Indonesia is defined as the ability of the regional economy to achieve a high and sustainable level of welfare while remaining open to domestic and international competition. The higher the level of competitiveness of a city, the higher the level of community welfare. The measure of welfare has a very broad meaning, the indicators can be in the form of GRDP per capita, labor productivity or the level of employment opportunities.

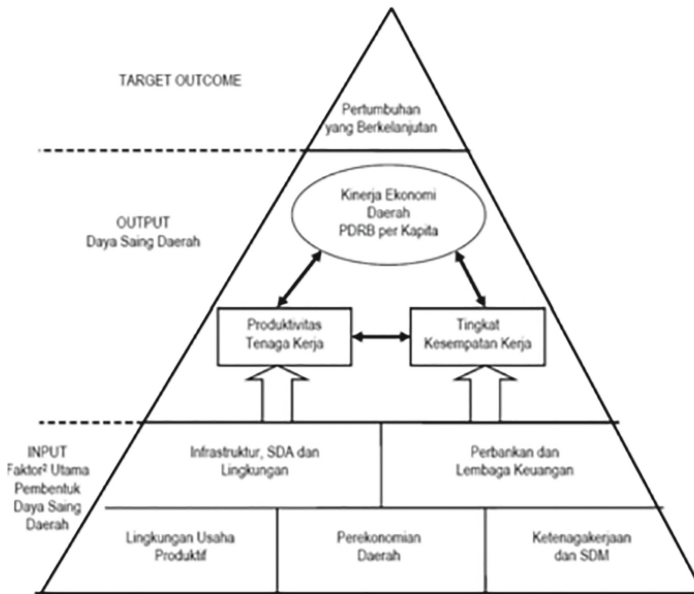


Fig. 1. Regional Competitiveness Pyramid

As for the study of the main factors that can affect regional competitiveness by [2], a regional competitiveness pyramid model has been made by looking for the relationship between several main factors that can build regional competitiveness, which includes input, output and outcome factors. The city's competitiveness shaped by the main factors (inputs) and economic performance (outputs). The main factors forming competitiveness consist of 5 main indicators, namely (1) productive business environment, (2) regional economy, (3) employment and human resources, (4) infrastructure, natural and environmental resources, (5) banking and financial institutions. Economic performance (output) includes labor productivity, employment opportunities, and per capita GRDP. Meanwhile, the outcome target of regional competitiveness is sustainable growth, as shown in Fig. 1.

In a study conducted by the Center for Education and Central Banking Studies (PPSK) of Bank Indonesia and the Research Laboratory, Community Service and Economic Studies (LP3E) of the Faculty of Economics, Padjadjaran University (2008) [3], it produces a Regional Competitiveness Index Component consisting of 4 Aspects, 12 Pillars, and 23 Dimensions, 78 indicators with the following recapitulation (Table 1).

Furthermore, based on research conducted by Hidayat (2012) it was found that there are several main factors of competitiveness [4]. The results of this study reveal that there are 3 determinants of the city's competitiveness, including infrastructure, regional economy, and institutions. However, there are several supporting factors, including the condition of the financial and socio-political system. Infrastructure is the key to smooth business activities. The availability in quantity and quality of infrastructure greatly influences the investment climate in an area so that it also affects the competitiveness of the city.

Table 1. Components of Regional Competitiveness Index

NO	ASPECT/FACTOR	PILLAR	DIMENSIONS
I	Aspects of Reinforcing Factors / Enabling Environment	Institutional Pillar	Governance
			Security and Order
		Infrastructure Pillar	Transport Infrastructure
			Clean Water and Electricity Infrastructure
		Regional Economic Pillar	Regional Finance
			Economic Stability
II	Aspects of Human Resources/Human Capital	Pillars of Health	Health
		Pillars of Education and Skills	Education
			Skills
III	Market Aspects	Product Market Efficiency Pillar	Domestic Competition
			Taxes and Levies
			Market Stability
		Employment Pillar	Employment
			Labor capacity
		Financial Access Pillar	Financial Access
		Market Size Pillar	Market Size
IV	Aspects of the Innovation Ecosystem	Pillars of Business Dynamics	Regulation
			Entrepreneurship
		Innovation Capacity Pillar	Interaction and Diversity
			Research and Development (R&D)
		Technology Readiness Pillar	Commercialization
			Telematics
Technology			

Hidayat’s research (2012) shows that the key infrastructure in increasing competitiveness is transportation infrastructure, especially the condition and network of roads, ports and airports [4]. The quality and quantity of transportation infrastructure can reflect the smooth mobility of people and goods in the area. In line with this research conducted by Irawati, et al. (2012) revealed that the key factors in measuring the level of regional competitiveness are infrastructure and the condition of human resources [5]. Regions with good transportation and energy infrastructure have better competitiveness than other regions.

Thus, based on the explanation of the things mentioned above, it is narrowed that regional competitiveness is a measure of the ability and economic productivity between

cities/regions in developing their economic activities. The results of the theory review and research findings show that one of the factors that affect the competitiveness of cities/regions is infrastructure, especially transportation infrastructure, which is the key to the smooth movement of people and goods. Transportation infrastructure connects between sub-regions/activity centers within the city and as a connectivity network to other areas. This level of affordability facilitates the distribution of people and goods thereby creating economic growth.

However, in assessing the dimensions of transportation infrastructure that is used as an aspect/factor that affects regional competitiveness, it is still limited to the aspect of availability as measured by the level of availability of transportation infrastructure and aspects of connectivity which can be measured from the level of connectivity of the transportation network. This is still viewed from the physical/quantity side, has not touched on the quality side of the implementation of transportation, where the existing transportation review is more oriented to the operational performance of the transportation service itself. According to Begg (1999), the city's capacity to compete is shaped by the interplay of the city's attributes, such as location, strengths and weaknesses of the company and the active economic actors in it [6]. So many factors must be considered in measuring the competitiveness of the city in order to be able to provide an objective and balanced assessment. Thus, in writing this study, it is arranged to identify transportation factors that affect regional competitiveness as well as transportation system development strategies that can be applied in accordance with the existing transportation factors by taking the locus in Tangerang City.

2 Method

This research This study was conducted to identify transportation aspects that affect the level of regional competitiveness and to develop a transportation system development strategy that can be applied based on the transportation aspects in question. Meanwhile, in analyzing the relationship between the existing data, a research framework was developed accompanied by variables and indicators as shown in the Fig. 2 and Table 2.

Furthermore, in developing a transportation system development strategy, the following research techniques are applied:

1. *Descriptive analysis* is a technique used to describe an object of study which in this case is a development planning document, so that a conclusion can be drawn regarding the direction of the planned development of the transportation system.
2. Importance Performance Analysis (IPA) and Customer Satisfaction Index (CSI) in measuring the level of satisfaction of transportation services in Tangerang City. According to Wijaya (2011) and Rosdiana (2016), Importance Performance Analysis (IPA) is a procedure in showing the relative importance of various attributes on the performance of an organization or company and its products [7, 8]. The IPA method combines the measurement of the dimensions of performance (performance) with importance into two grids, then the two dimensions are plotted into it. The value of importance as the vertical axis and the value of performance as the horizontal axis by

using the average value contained in the dimensions of importance and performance as the center of the line cutting.

There are four quadrants in the IPA method, where each quadrant can provide management information or service strategy including (Huang et al., 2006) [9].

- a. Quadrant One (Companies must maintain this condition) The level of interest from customers on service attributes is high and the company’s performance is also high.
 - b. Quadrant Two (Companies must immediately improve their service performance) The level of interest from customers on service attributes is high, but company performance is low.
 - c. Third Quadrant (Companies reduce or stop their resources with certain service attributes) The level of interest from customers on service attributes and company performance is low.
 - d. Fourth Quadrant (If the company has limited resources, the company can shift resources to attributes that have a high level of importance). The level of importance of customers on service attributes is low and company performance is high.
3. SWOT analysis is a strategic planning method used to evaluate strengths weaknesses, opportunities and threats that occur in a project or in a business venture, or evaluate own product lines or competitors. To perform the analysis, the business objectives are determined or identify the object to be analyzed. Strengths and weaknesses

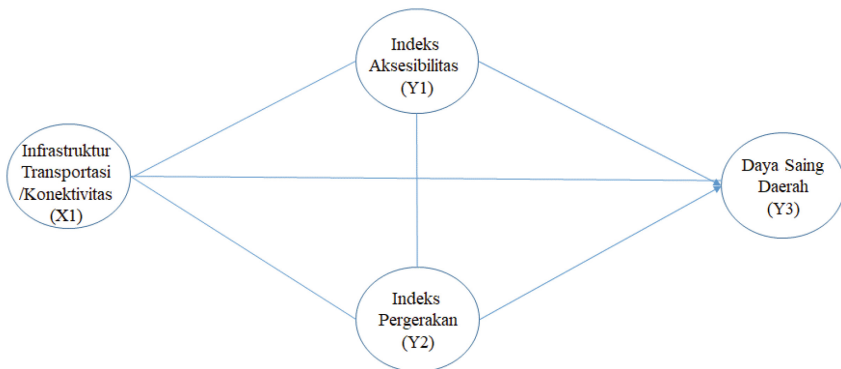


Fig. 2. Research Framework

Table 2. Research Variables and Indicators

VARIABLE	CODE	INDICATOR
Transport Infrastructure / Connectivity	X1	Road Length / Area
Accessibility Index	Y1	Travel Time or Average Travel Speed
Movement Index	Y2	Traffic Volume per Capacity Ratio
Regional Competitiveness	Y3	GRDP Per Capita

are grouped into internal factors, while opportunities and threats are identified as external factors. This analysis can logically help in the decision-making process. The decision-making process is related to the company's vision and mission as well as the company's goals. So that SWOT analysis can be used as an effective tool to analyze the factors that affect the company, as a decision-making process to determine strategy

3 Results and Discussion

3.1 Competitiveness and Economic Condition of Tangerang City

Tangerang City has a very important geostrategic value in the national constellation because it is located close to DKI Jakarta which is currently still the center of national economic activity which is only ± 27 km away). Besides that, Tangerang City is also the gateway for both national and international relations with the existence of Soekarno Hatta International Airport, where with a dense flight capacity it encourages the movement of people, goods and services between regions, nationally, regionally (ASEAN) and other international areas.

This condition is also strengthened by the existence of the City of Tangerang which is designated as part of the National Strategic Area (KSN) of the Jabodetabekpunjur Urban Area which is prioritized for development on a national scale and at the same time it is also designated as part of the National Activity Center (PKN) which functions to serve international scale activities. Nationally and in the province of Banten, supported by an integrated urban system with other regions, making investment opportunities very open in Tangerang City.

Based on the results of research conducted by PPSK Bank Indonesia and LP3E FE Padjadjaran University (2008), Tangerang City is ranked 20th out of 434 Regencies/Cities in Indonesia which are mapped on the basis of their competitiveness, where Tangerang City is one of the cities that has high competitiveness [3]. High competitiveness supported by superior characteristics of the performance of its input and output indicators as well as a city that has a fairly good level of efficiency. Furthermore, the Research and Innovation Agency (2021) determined the results of the mapping of the innovation ecosystem through the regional competitiveness index which showed that the City of Tangerang was awarded the title of high competitiveness.

On the other hand, the economic condition of the City of Tangerang experienced a significant fluctuation in the growth rate, which based on data released in the City of Tangerang in Figures 2022 (Central Bureau of Statistics of the City of Tangerang) explained that the rate of economic growth in the period 2017–2019 decreased from 5.88 in 2017 to 4.95 in 2018 and 4.02 in 2019 even in 2020 there was a very significant decrease in the number – 6.93, only to increase again in 2021 to 3.70. With these conditions, Tangerang City has a lower rate of economic growth compared to some cities/regencies in the Banten Province.

3.2 Analysis of Transportation Aspects that Affect Regional Competitiveness

With the above explanation, it provides an illustration that the assessment of the main factors forming regional competitiveness needs to be enriched in each instrument so

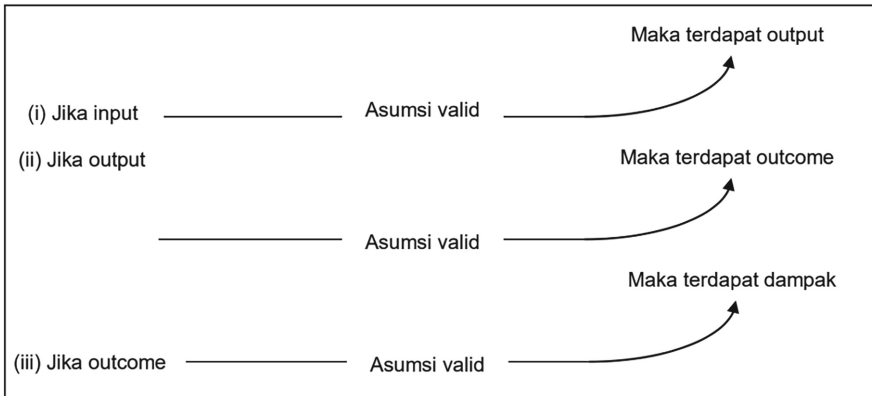


Fig. 3. Logical Framework of the Relationship Model of Transportation Aspects with Regional Competitiveness

that the results obtained are more detailed and valid. One of the examples that was assessed was in the transportation sector, where the factors assessed were only aspects of transportation provision, so that in this study the identification of other aspects of transportation will be carried out.

In *Benefit Monitoring and Evaluation, A Handbook for Bank Staff, Staff of Executing Agencies and Consultants, Asian Development Bank* (1992) describes a logical framework for the relationship between inputs, outputs and outcomes, which can then be applied to the relationship between transportation aspects and competitiveness. Regions, it can be explained that the model of the relationship between inputs (providing transportation infrastructure) with outputs (performance of transportation services) as well as with the outcome (to the economy). The relationship between input, output and outcome is described in accordance with the following logical framework (Fig. 3).

Furthermore, the results of the correlation analysis of the input, output and outcome relationship model which is a description of transportation aspects related to regional competitiveness can be seen in the Table 3.

Based on the results of the correlation analysis between variables/aspects of transportation with regional competitiveness, the following discussion is carried out (Table 4).

From the results of the discussion, it can be concluded that the transportation aspect in the form of the availability of transportation infrastructure (connectivity) as well as the level of transportation accessibility and the level of movement which is an instrument of transportation operational performance significantly affects the regional competitiveness index in Tangerang City.

3.3 Transportation User Preference Analysis

Aspects of connectivity and accessibility as well as the level of movement as the results of the correlation analysis are transportation instruments that affect regional competitiveness in terms of their relationship to the rate of economic growth, so the strategy in developing the Tangerang City transportation system needs to pay attention to these aspects.

Table 3. Correlation results between variables of transportation aspects with competitiveness

			Input	Output		Outcome
			Provision of Transportation Infrastructure	Accessibility Index	Movement Index	Regional Competitiveness
			X1	Y1	Y2	Y3
Input	Provision of Transportation Infrastructure	X1		0.1006	0.2069	0.4488
Output	Accessibility Index	Y1	0.1006		-0.0855	0.2764
	Movement Index	Y2	0.2069	-0.0655		0.9071
Outcome	Regional Competitiveness	Y3	0.4488	0.2764	0.9071	

In line with that, transportation planning and management should also be adjusted to the needs of the community, so to obtain a quality value of transportation that is oriented to aspects of connectivity and accessibility as well as the level of movement, it is necessary to describe the wishes (preferences) of the community as transportation users who can be used as a reference in the provision of transportation systems.

Furthermore, in order to obtain a description of the desires of the transportation users, a measurement of the level of satisfaction of transportation services in Tangerang City is carried out whose variables describe the orientation to aspects of connectivity and accessibility. The results of measuring the level of satisfaction with transportation services in Tangerang City can be described as follows:

1. Based on the results of an interview survey of road users to assess road transportation services in Tangerang City, the following picture is obtained:
 - a. Quadrant 1: dissatisfied with the performance of existing services and expectations of large service performance (handling is the main priority):
 - (3) Travel time/vehicle speed during the trip.
 - (4) Handling traffic jams on roads and intersections.
 - b. Quadrant 2: satisfied with the performance of existing services and expectations of great service performance (maintain):
 - (5) Availability of traffic signs and markings on roads and intersections.
 - (1) Physical quality of the road surface.

Table 4. Discussion of the results of the correlation between variables

Relationship Function	Variable by Variable		Expected correlation	Correlation analysis results	Discussion
Input - Output	X1: Provision of Transportation Infrastructure	Y1: Accessibility Index	positive (+)	0.1006 (appropriate)	Improved transportation infrastructure connectivity is quite effective in increasing the ease of reaching the destination location
	X1: Provision of Transportation Infrastructure	Y2: Index Per move	Positive (+)	0.2069 (appropriate)	Improved transportation infrastructure connectivity is quite effective in increasing traffic movement
Input - Outcome	X1: Provision of Transportation Infrastructure	Y3: Regional Competitiveness	Positive (+)	0.4488 (appropriate)	Increasing transportation infrastructure connectivity is quite effective in contributing to increasing economic growth (GRDP Per Capita) as one of the outputs of regional competitiveness
Output - Output	Y1: Accessibility Index	Y2: Movement Index	Negative (-)	-0.0855 (appropriate)	Increasing traffic can decrease the average speed level which in turn increases travel time

(continued)

Table 4. (continued)

Relationship Function	Variable by Variable		Expected correlation	Correlation analysis results	Discussion
Output - Outcome	Y1: Accessibility Index	Y3: Regional Competitiveness	positive (+)	0.2764 (appropriate)	Increased regional accessibility can increase economic growth (PDRB Per Capita) as one of the outputs of regional competitiveness
	Y2: Movement Index	Y3: Regional Competitiveness	positive (+)	0.9071 (appropriate)	Increased movement can increase economic growth (PDRB Per Capita) as one of the outputs of regional competitiveness

c. Quadrant 3: dissatisfied with the performance of existing services and public expectations of service performance are not great (handling is the second priority) (Fig. 4):

- (2) Road width.
- (7) Availability of pedestrian facilities.

d. Quadrant 4: satisfied with the performance of existing services and expectations of service performance are not great.

- (6) Availability of public street lighting.

The calculation of the Customer Satisfaction index for road services in Tangerang City in detail can be explained in the Table 5.

The results of the analysis obtained that the CSI of road services in Tangerang City obtained a Customer Satisfaction Index value = 61% (Very Poor).

2. Based on the results of an interview survey of transportation users to assess public transportation services in Tangerang City, it was obtained:

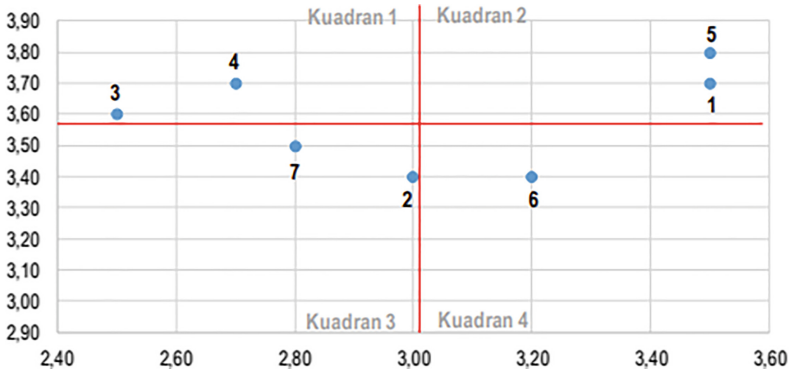


Fig. 4. Graph of the Level of Satisfaction and Importance of Road Services

Table 5. CSI Tangerang City Road Services

No	Evaluation	X Bar	Y Bar	Weighted Factor	Weighting Score
1	Physical quality of the road surface	3.50	3.70	0.147	52%
2	The width of the road	3.00	3.40	0.135	41%
3	Travel time / vehicle speed during the trip	2.50	3.60	0.143	36%
4	Handling traffic jams on roads and intersections	2.70	3.70	0.147	40%
5	Availability of traffic signs and markings along the road	3.50	3.80	0.151	53%
6	Availability of public street lighting	3.20	3.40	0.135	43%
7	Availability of pedestrian facilities	2.80	3.50	0.139	39%
	Average	3.03	3.59	CSI	61%

- a. Quadrant 1: dissatisfied with the performance of existing services and expectations of great service performance (handling is the main priority):
 - (3) Frequency of public transport services.
 - (4) Number of public transport routes.
 - (5) Smoothness and speed of travel.
 - (6) Timeliness of service.
 - (8) Safety and comfort while traveling in public transportation.

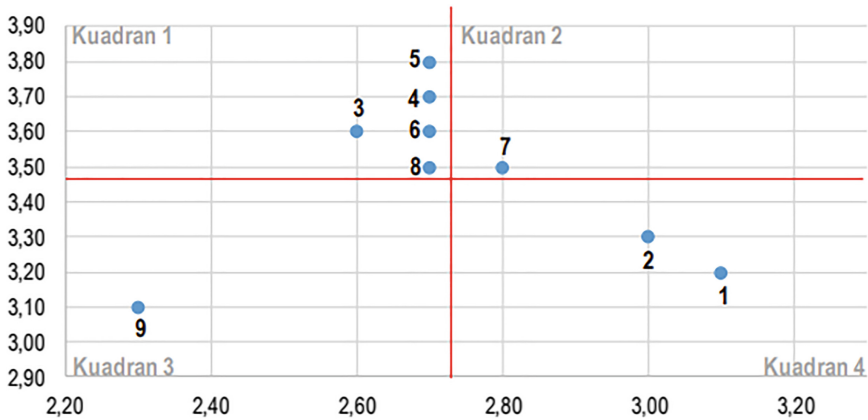


Fig. 5. Graph of the Level of Satisfaction and Importance of Public Transport Services

- b. Quadrant 2: satisfied with the performance of existing services and expectations of great service performance (maintain):
 - (7) Fares/costs of travel using public transportation.
- c. Quadrant 3: dissatisfied with the performance of existing services and public expectations of service performance are not great (handling is the second priority):
 - (9) Availability of facilities for people with disabilities, the elderly and pregnant women.
- d. Quadrant 4: satisfied with the performance of existing services and expectations of service performance are not great:
 - (1) Passenger capacity in public transportation.
 - (2) Safety during the trip (Fig. 5).

The calculation of the Customer Satisfaction index for public transportation services in Tangerang City in detail can be explained in the Table 6.

The results of the analysis obtained that CSI public transportation services in Tangerang City obtained a Customer Satisfaction Index = 44% (Very Poor).

3. The description of the level of satisfaction based on the results of the analysis of road users and public transport users can be described as follows:
 - a. In determining or measuring the level of customer satisfaction, it can be determined by the CSI value indicator which considers the level of expectations of service users on the factors to be determined. Based on the recommendations proposed by Balitbang-Dephub (Siswoyo, 2007), the value of the customer satisfaction index is as follows:

Table 6. CSI of Tangerang City Public Transport Services

No	Evaluation	X Bar	Y Bar	Weighted Factor	Weighting Score
1	Passenger capacity in public transport	3.10	3.20	0.102	32%
2	Safety during the trip	3.00	3.30	0.105	32%
3	Frequency of public transport services	2.60	3.60	0.115	30%
4	Number of public transport routes	2.70	3.70	0.118	32%
5	Smoothness and speed of travel	2.70	3.80	0.121	33%
6	Timeliness of service	2.70	3.60	0.115	31%
7	Fares/costs of traveling by public transport	2.80	3.50	0.112	31%
8	Safety and comfort while traveling on public transport	2.70	3.50	0.112	30%
9	Availability of facilities for people with disabilities, the elderly and pregnant women	2.70	3.10	0.099	23%
	Average	2.73	3.48	CSI	44%

No.	Index Number	CSI Value Interpretation
1	$X < 64\%$	(Very Poor)
2	$64\% < X < 71\%$	(Poor)
3	$71\% < X < 77\%$	(Cause For Concern)
4	$77\% < X < 80\%$	(Border Liners)
5	$80\% < X < 84\%$	(Good)
6	$84\% < X < 87\%$	(Very Good)
7	$X > 87\%$	Excellent

Source: Zihardi Idris, Study on the Level of Satisfaction of Public Transport Users.

- b. The results of the analysis obtained that CSI road user services obtained a customer satisfaction index value of 61% and public transport service users by 44%, this shows that the level of transportation services in Tangerang City still does not meet the wishes of the traveling community.

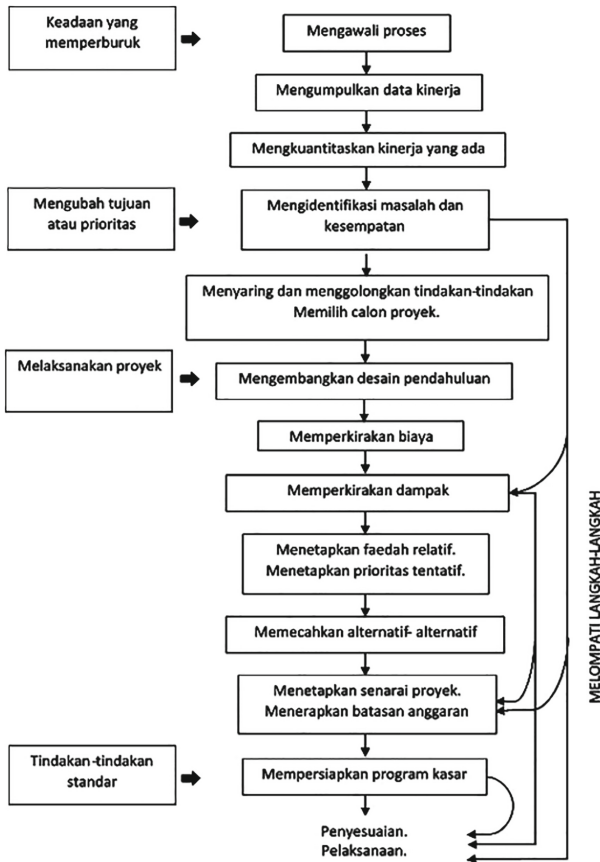


Fig. 6. Transportation system planning cycle

3.4 Transportation System Development

In planning the transportation system, conceptual use is used as developed by Gray and Hoel (1979) in Khisty (2006), where this planning cycle consists of steps starting from starting the process, preparing action scenarios, risks and costs of action, to implementation. Action [10]. The planning cycle in detail can be described according to the following flow chart (Fig. 6).

The first step is to start the process and then collect data on the performance of transportation services to then be processed in the form of data information. The fourth step is to identify the object to be analyzed. Strengths and weaknesses are grouped into internal factors, while opportunities and threats are identified as external factors which can then be analyzed using the SWOT method as shown in Table 7.

Table 7. SWOT analysis

Strength
<ol style="list-style-type: none"> 1. Connectivity, accessibility and mobility are transportation service instruments that affect regional competitiveness; 2. Availability of transportation networks (toll and non-toll networks, public passenger transport networks, train networks, airports, terminals, stations).
Weakness
<ol style="list-style-type: none"> 1. Operational performance of the transportation system is not optimal (high congestion level and low loading factor of public transport); 2. The quality of transportation services is not adequate according to the needs of transportation users (CSI road services and public transportation services are poor)
Opportunity
<ol style="list-style-type: none"> 1. There is a plan to develop a new transportation network that connects Tangerang City with other areas (Toll Network, road and rail-based mass transportation network)\ 2. Increased use of information technology in the transportation sector.
Threat
<ol style="list-style-type: none"> 1. Transportation users tend to choose to use private transportation as a means of mobility for their activities; 2. The high need for funding in ensuring the quality of transportation services in accordance with service standards

Table 8. Strategy in the SWOT Method

SWOT	Strength	Weakness
Opportunity	SO Strategy	WO Strategy
	Develop a transportation system based on transport capacity management (TDM) in the form of increasing the capacity and efficiency of network system infrastructure.	Support the development of a new inter-city transportation network by integrating it with the city transportation system with the seamless service concept
Threat	ST strategy	WT Strategy
	Develop a transportation demand management (TDM) based transportation system	Maximizing the use of information technology in improving the quality and efficiency of transportation services

The SWOT matrix will make it easier to formulate various strategies. Basically the alternative strategies taken must be directed at efforts to use strengths and improve weaknesses, take advantage of opportunities and overcome threats. So that from the SWOT matrix, four alternative groups of strategies will be obtained which are called SO strategy, ST strategy, WO strategy, and WT strategy as shown in Table 8.



Fig. 7. SWOT diagram

The fifth step is to choose a strategy through an internal analysis process by making an IFAS (Internal Factors Analysis Summary) matrix and an EFAS (External Factors Analysis Summary) matrix. From the analysis on the table of internal and external factors, it shows that the score for each factor can be detailed as follows:

- o Strength factor (strength) : 1.8
- o Weakness factor (weakness): 0.6
- o Opportunity factor: 0.8
- o Threat factor (threat) : 0.9

Based on the above calculation, it can be seen that the strength value is higher than the weakness value with a difference of (+) 1,2 and the opportunity value is below the threat value with a difference of (-) 0.1 from the results of the identification of these factors can be illustrated in the SWOT diagram (Fig. 7).

From the Cartesian diagram above, it can be concluded that the SWOT diagram for the development of the transportation system in Tangerang City is in the second quadratic position, this shows that even though it faces various threats, it still has internal strengths, so the strategy that must be applied is to use strength to take advantage of long-term opportunities by means of a diversification strategy, namely the ST strategy (developing a transportation demand management/TDM-based transportation system).

The preliminary design in the sixth step is made in the form of a table in which there will be an estimate of the costs of the seventh step and the impact of the eighth step which is stated in the form of the impact effectiveness period in the table. The project priority assessment is outlined in the ninth step and is shown in Table 9.

Table 9. Demand Management (TDM) Concept Programs And Activities

No	Programs And Activities	Cost			Impact			Priority
		Small	Currently	Big	Short	Intermediate	Long	
	Urban Public Transport System Development							1
1	Provision of integrated urban public transport networks and facilities			v			v	
2	Provision of Urban Public Transportation with minimum service standards (BOK Subsidy)			v		v		
3	Provision of adequate public transportation infrastructure (terminals and bus stops)		v			v		
4	Provision of parking facilities at public transport nodes		v		v			
5	Provision of NMT facilities to public transport nodes		v		v			
	Urban Freight Transport System Development							3
1	Cross network of goo transport according to road class	v				v		
2	Freight transit facilities			v		v		

(continued)

Table 9. (continued)

No	Programs And Activities	Cost			Impact			Priority
		Small	Currently	Big	Short	Intermediate	Long	
3	Operational time management of goods transportation services	v				v		
	Road and traffic network system development							2
1	Improved access to public transport nodes (airports, terminals, stations)			v			v	
2	Improved access to freight transport nodes (industrial areas, warehousing areas and transit facilities)			v			v	
3	ITS Development			v			v	
	Development of Land Use - Transportation integration							4
1	TOD. Development			v			v	
2	Aerotropolis area development			v			v	

Alternative solutions or solutions are carried out if there are several alternatives for each project, but in this study all program implementation alternatives were used so that nothing was omitted. The eleventh step is to prepare a rough program, namely a program that can be implemented but still requires review or revision. The twelfth step is program execution. The final step in planning the management of the Tangerang City transportation system is the implementation of the planned programs and activities.

4 Conclusion

Tangerang City is a city that has high regional competitiveness based on the results of studies and determinations from the national research and innovation agency, on the other hand economic growth is still not optimal. One of the input factors for regional competitiveness is the availability of transportation infrastructure, but it has not touched the operational performance of transportation itself. Therefore, it is necessary to analyze other transportation aspects that can increase regional competitiveness.

Based on the results of the correlation analysis, it shows that not only connectivity aspects in the form of transportation infrastructure availability, but aspects such as accessibility and level of movement (mobility) also have an influence on competitiveness output in the form of economic growth as measured by GRDP per Capita. Therefore, these aspects ultimately become the basis for the Tangerang City transportation system development scheme.

Furthermore, in order to be able to test the suitability of the results of the correlation analysis with the preferences of transportation users, a calculation of the satisfaction index of transportation users for road services and public transportation services is also carried out which shows the level of transportation services in Tangerang City still does not meet the wishes of the traveling public, where the factors that including accessibility (travel time) and mobility (traffic barrier level) need attention to be handled immediately,

Based on the correlation analysis of transportation aspects with regional competitiveness and the results of the satisfaction assessment of transportation services, a SWOT analysis was carried out to produce relevant strategies based on existing internal and external factors. The SWOT analysis shows that according to the Cartesian diagram the development of the transportation system in Tangerang City is in Quadrant II position which has the ST strategy, namely developing a transportation demand management/TDM-based transportation system.

Meanwhile, in developing selected programs and priorities according to the strategy of developing a transportation demand management/TDM-based transportation system using the conceptual as developed by Gray and Hoel (1979) in khisty (2006), in this planning cycle there are steps that start from starting the process, preparing action scenarios, risks and costs of action, up to the implementation of the action [10]. The results obtained by this process are to set priorities for the development of the Tangerang City transportation system in sequence, namely:

- 1) Urban Public Transportation System Development program plan,
- 2) Road and traffic network system development program plan,
- 3) Urban Goods Transportation System development program plan; and
- 4) Land Use - Transportation integration development program plan

However, the author can say that there is no single policy (single solution) that can directly solve the problem of urban transportation completely. The policy that must be taken must be a combination of several policies or strategies that in synergy will be able to solve the existing transportation problems. Several other supporting policies must be carried out together in order to support the success of the Transport Demand management concept.

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