The planning of median road park arrangement to support the city’s green space (RTHK) at Brawijaya Highway City of Merauke

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Abstract. Taman Median Jalan is one form of green open space that extends in the form of lanes and is categorized into public green open spaces. Besides being beautiful, the median road can also function as a place of social interaction. This study aimed to know the existing conditions and problems in the median of the road, knowing the inhibiting factors and supporters of median road planning and make a median garden road design. The research using a survey approach with qualitative descriptive analysis. This study shows respondents’ desires about four important points. The intention was median garden arrangement mode is lane/path, plant type of squirrel palm tree, croton shrubs and ground cover type plants are moss rose. The discussion focuses on existing conditions, inhibiting and supporting factors and making designs. The application of design is made based on the highest percentage of respondents’ desires.

1. Introduction

Median road park is one form of green open space that extends in the form of the path and is categorized into public green open space because the Median road park is owned and managed by the City government and can be utilized directly by the community. Median road park is the utilization of green open space on a micro-scale in an area. Median road park can be used as social or commercial spaces. Median road park also functions to regulate traffic separators, barriers, and vehicle regulators. Median road parks must also be able to be a landmark or also known as regional identity. In addition, the character of the Median road park can be a mental map element that can be recognized by its users [1].

The existence of the Median road park must provide harmony in the urban environment, means of safeguarding a comfortable, fresh, beautiful and clean urban environment. Many functions can be obtained from the Median Road Park, like providing ecological, socio-cultural and aesthetic functions that provide comfort and beautify the city environment on a micro-scale [2].

Brawijaya Circle Park (Libra) is one of the landmarks and an icon in the City of Merauke. The Libra area is also the meeting point/crossroad which is the center of the recreation arena at night. The highway area of Brawijaya has a median road that still does not have the appeal and strong character to form a mental map for its users. To provide this attraction, it is necessary to design a model for
structuring the park's median road on the Brawijaya Highway, in addition to fulfilling the order of Law 26/2007 [3], also becoming a part that fills the green space for cities that must be met by 20% from the area of Merauke City. On the other hand, it can contribute to environmental functions and be a part of beautifying the City of Merauke. Another function is to become a city that can be enjoyed by the people of Merauke City as a recreational function.

Planning is a systematic tool used to determine the initial moment, the expected state, and the best way to achieve the expected state. Bright planning is to assess each object with inspired observations and solve problems with a firm concept. In the end, the goal of planning is to create a better environment and way of life for humans [4].

So that, the function can be utilized optimally and sustainably, it is necessary to plan the concept of priority of median road parks to support green open space in Merauke City based on the potential of local resources in Merauke Regency. The purpose of this study was to determine the existing conditions and problems in the median road in Merauke Regency.

2. Methods

2.1. Research approaches and types
This research is descriptive qualitatively, the research method that seeks to describe phenomena or relationships between phenomena studied systematically, factually and accurately [5].

2.2. Research sites
The research location is located on the median of the Brawijaya Highway in the city of Merauke at four median road spots, namely: the median of the road in front of the BPN Office, the median road in front of the Attorney Office, the median road in front of the new Bappeda Office, and the median road next to the Grand Mosque. The time of the study is from June to July 2018.

2.3. Research informant
To get information as a basis for formulating the concept of a median park planning road which is the perception and desire of the community, primary data is needed. This data are informational data obtained directly at the location.

2.4. Data collection technique
The data were obtained by interviews, questionnaires, and documentation.

2.5. Data analysis technique
Data analysis is used to process the results of research to obtain the conclusion. The data analysis technique used is the qualitative analysis technique. Qualitative analysis techniques are efforts made by working with data, organizing data, sorting data into units that can be managed into results, synthesizing data, searching and finding patterns, discovering what is important and what is learned [6].

Therefore, the analysis of data used for the third purpose is a graphic design analysis taking into account all relevant aspects obtained from the survey results that collect substantial data (conditions around the Brawijaya road median) and non-physical (public perceptions and desires) and analysis of environmental agro-climatological suitability around the special road median and in general the City of Merauke. The first and second objectives will be analyzed using descriptive analysis by describing the conditions and inhibiting and supporting factors in structuring parks in the Brawijaya Road median in the City of Merauke.
3. **Result**

3.1. Existing conditions and problems in the road median

The actual condition of the Brawijaya road median is still far from public expectations as a Green Open Space. This can be seen from the lack of arrangement of plants that adorn the road median.

The road median size on the Brawijaya Highway as a planned object is divided into four median spots. Spot one; Median road in front of the BPN Office, length: 170 m, width: 160 cm, height of the paving barrier: 20 cm. Spot two; Median road in front of the Attorney Office; length: 155 m, width:160 cm, paving height: 20 cm. Spot three; Median road in front of the Religious Courts Office; length: 147 m, width: 160 cm, paving height barrier: 20 cm. Spot four; Median road beside Grand Mosque; length:10 m, width: 120 cm, paving height barrier: 15 cm.

The problem with the road median about plant growth media, that is soil, is very improper with significantly low soil organic matter. The land contained in the median of the Entisol type road. To optimize plant growth, organic fertilizer/manure should be added.

3.2. Inhibiting and supporting factors

Understanding of development must always be disseminated to the community to the smallest group. In Merauke district, there are some elements of the community whose education level is low. The low level of education is accompanied by always consuming alcoholic drinks, so, what happens is always making a fuss until the destruction of public facilities. Therefore, it can be concluded that the planning of the Brawijaya Road median park will experience obstacles from unscrupulous people who often get drunk due to consuming alcoholic beverages. But this can be minimized by socializing garden planning to the core. The various people who live around the road median definitely want beauty and comfortable with the presence of the park to adorn the face of the city of Merauke.

4. **Discussion**

This research shows that people's desire for the road median must be arranged in the form of a path. This can be described as follows: Percentage of respondents' answers in all categories about the desirability of plant arrangement on the road median, as much as 88 percent of respondents want to form a lane/path, 12 percent want a circular round. In the structuring mode design used is the form of lane/path. A high level of desire becomes the basis of researchers in designing the form/arrangement mode according to public wishes. For tree species, in the percentage of respondents' answers in all categories about the desire of tree species to be planted on the road median, 20 percent of respondents want the king's palm tree, and 70 percent want the squirrel tail palm tree and 10 percent want the wax fir tree. The percentage level of the Squirrel tail Palm plant is high enough, so that, it will be used as a tree plant in the design of the median park road.

Whereas the desire of the community in relation to the type of shrub plants including traditional plants the percentage of respondents' answers in all categories about the desire of shrub plants to be planted on the road median, 92 percent of respondents want croton tree, 4 percent want jasmine and 4 percent want ashoka. The percentage of croton trees is quite high, so that, it will be used as a shrub plant in the design of the median park road.

For the groundcover plants percentage of respondents' answers in all categories about the desirability of soil cover crops to be planted on the road median, 82 percent of respondents wanted Moss Rose, 14 percent wanted manila grass and 4 percent wanted purslane plants. The percentage rate of the moss rose is high enough that it will be used as ground cover in the design of the median road park.

Merauke Regency Government needs to take the policy in providing Green Open Space (RTH) of at least 30% of the total area of the city. As contained in Law Number 26 of 2007 concerning Spatial Planning.

The types of plants used are classified as shrubs, trees, and groundcovers. For shrubs/bushes with the height ranging from 0.9 — 1.8 m and 1.8 — 3.0 m for trees [7]. The selection of types and
arrangements of plants on the road median must be following with the criteria of physical properties, the ecology of the road plant landscape, and their arrangement on the road median [8]. Landscape plants on the road must meet the aspects of efficiency, safety, and comfort as well as attractive appearance for the smooth circulation of road users. The plant's function plants can be used as a guide in selecting plants.

In this design concept, the types of plants are used with various considerations from respondents, as well as the knowledge and experience of researchers in the field of Landscape that are adjusted to the median road conditions, then the plants used are; squirrel tail palm (*Wodyetia bifurcate*), croton (*Codiaeum variegatum*), moss rose flower (*Portulaca grandiflora* Hook) chenille plant (*Achalypha sp.*), furcraea plant (*Furcraea gigantea striata*) and lilly pilly tree (*Oulina syzygium*).

Based on the study [9], in designing it is necessary to concern design principles. The design principle is the basic part of designing to produce a good composition. The design principles according to include harmony, unity, contrast, repetition, balance, and emphasis (accentuation).

Plant spacing in this concept is adjusted first to the condition of the median width and plant type. The plant type like squirrel tail and croton palm will be related to the shape and size of the canopy of each plant when the plant is maximized. Spacing for squirrel tail palm 10 x 10 m, for croton plants 50 x 50 cm, in groups/clumps 10 x 10 cm for moss rose flower with different flower variations. Then for chenille plant prune, it is planted 5 x 5 cm close to the attached letter frame, lilly pilly tree 3 x 3 m and 40 x 40 cm furcraea circular on the squirrel tail palm. Spacing close together to obtain growth upwards/vertical.

Structuring or layout of plants that will be carried out according to the concept with the composition in groups and separately for each type of plant. The arrangement system is on track. For more details, see the attachment page.

5. Conclusions
The application of the planning concept of the Brawijaya road median park includes existing conditions, road median becomes beautiful and comfortable when planted with various types of plants. Planning is made based on the percentage of respondents. The value of the respondent percentages who want the park shape, plant type, and plant layout. The design of the median road park uses squirrel tail palm trees, chenille plant, croton, moss rose, lilly pilly tree and furcraea. The sustainability of the Median road park related to management is the responsibility of the relevant technical office. In planning regional development activities, socialization should be carried out and always involving the community and related agencies as stakeholders.

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