

## CHAPTER II

### LITERATURE REVIEW

#### **2.1. Bus Rapid Transit**

Bus Rapid Transit (BRT) has develop become the top using of transportation, especially during the last decade (2004 – 2014) which BRT has grown by 383 % in cities around the globe. Generally, BRT starts in Curitiba, Brazil in 1972, and it is an effective in cost, high capacity, speed and service quality. Design of BRT has to considered some key elements to operating perfectly, these are: segregated bus lanes, off-board fare collection, level boarding, bus priority at intersections and other quality (technology and effective branding) (BRT Planning Guide, 4th Edition).

Ministry of Transportation (2002) in Public Transportation Guidance for Urban Areas mention that the planning of public transportation services should reflect to the government planning, where the stages of planing are:

1. Demand analysis

Demand analysis can be done in some particular aspects, evaluation of city planning, economy activity, urban planning, number of living people, travel analysis (origin, destination, and mode), passengers analysis and additional data like number of vehicle and salary income.

2. Route and operation analysis

The stage of analysis is reviewing the parameters in public transportation. Data is collected directly on field (on board survey) and

interview. Parameters can be used for instrument of effectiveness and efficiency operational of public transportation. The parameters are:

- a. Load factor
  - b. Passengers capacity
  - c. Headway
  - d. Waiting time
  - e. Travel speed
  - f. Causes of lateness
  - g. Rolling stock
  - h. Fuel consumption
3. Supporting analysis

Supporting equipment can not be separated from the main role. This stage analyze some aspects, these are:

- a. Terminal and halte
  - b. Priority planning
  - c. Information system
  - d. Road data (geometric, capacity and volume)
4. Design planning

Demand and policy are the base of planning design of public transportation. Those aspects will form the route and operational services (number of vehicle, headway, speed, operational hour), supporting elements (stops area, controlling office), organizational, and rules.



has the design to operate the BRT at the strategic line, where are consist of Purwokerto and Surakarta.

Purwokerto located in *Kabupaten* Banyumas, surrounded by *Kabupaten* Purbalingga, Cilacap, Kebumen and Pangandaran. The area also called as Barlingmascakeb area (Purbalingga – Banyumas – Cilacap – Kebumen). Purwokerto has the connectivity with national road and the railway that become the gate through the area around it. While in Purbalingga, Wirasaba Airport were planned become the commercially airport – actually the military airport. It will make give the new mode in this region and become the new gate of the region.

