

3 FUTURE PERSPECTIVE AND TRAVEL DEMAND

3.1 FUTURE PERSPECTIVE OF JABODETABEK REGION

“Jabodetabekpunjur 2018” is a regional development plan, which combined the “Jabodetabek 2015” with the Bopunjur (Bogor-Puncak-Cianjur) environmental conservation plan. It provides principal guidelines for the region’s development including transportation system development. Approval of the plan by way of a Presidential Decree is being awaited.

The plan maintains the common planning issues, that is, 1) guiding population dispersion in the Bodetabek area, 2) restricting development in southern water catchment areas particularly in Bogor, 3) promoting linear development along the East-West axis (Bekasi – Tangerang), and 4) prioritizing development such as in finance, trade and tourism within Jakarta.

The transportation master plan should support the direction of future regional development indicated in the “Jabodetabekpunjur 2018”.

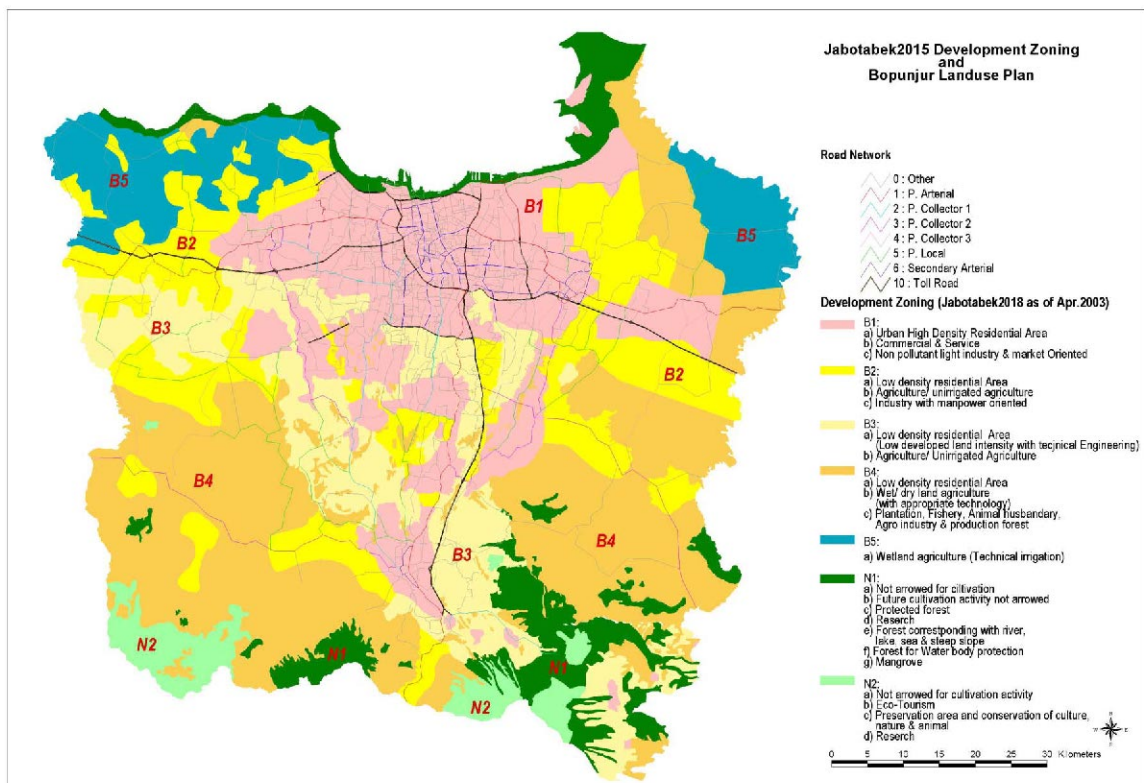


Figure 3.1 Development Zoning in Jabodetabekpunjur 2018⁸

⁸ Refer to Technical Report Volume 3: Urban and Regional Development.

(1) Concentration of Job Opportunity in the Central Area of Jakarta

Jakarta will continue to play a significant role as a gateway for international trade and business and social communication. Jakarta also provides a variety of services as a national activity center and the primary center of the region.

Up to the present time a considerable number of industrial estates have been established in Bodetabek and further developments of industrial estates are being planned. It is expected that the manufacturing industry will take a leading role for providing job opportunity in the Bodetabek area. In contrast, agriculture will decrease its share in economic activities under the pressure of urbanization. The present function of the service sector is still weak in Bodetabek and it does not absorb employed population from local communities. At most it provides population-related services, including local government services in suburbs and rural areas. As many as 70% to 80% of workers in the surrounding areas in Bodetabek, except those working in manufacturing and neighborhood services, commute to Jakarta everyday.

(2) Importance of Sub-Center Development

If urban centers in Bodetabek will not provide sufficient job opportunities for surrounding communities, many people still should commute to Jakarta for their working place. In this regard, fostering of urban centers in Bodetabek is of great importance not merely for balanced and sustainable regional development but also for alleviating excessive concentration of economic activities and travel demand to Jakarta.

3.2 GROWTH OF TRANSPORTATION DEMAND IN JABODETABEK

In accordance with the anticipated growth in population and vehicle ownership in the next 20 years, total number of trips is expected to grow even more rapidly. The total number of trips made in Jabodetabek in 2020 will increase about 40% compared to 2002.

At present, the modal share of public transport is about 60% (excluding ojek and non-motorized transport). If no action is taken, modal share of public transport, especially the share of the bus, will fall to less than half of the total motorized share because of the low level of service, and the modal share of the private car, which is more convenient in mobility, will rapidly increase.

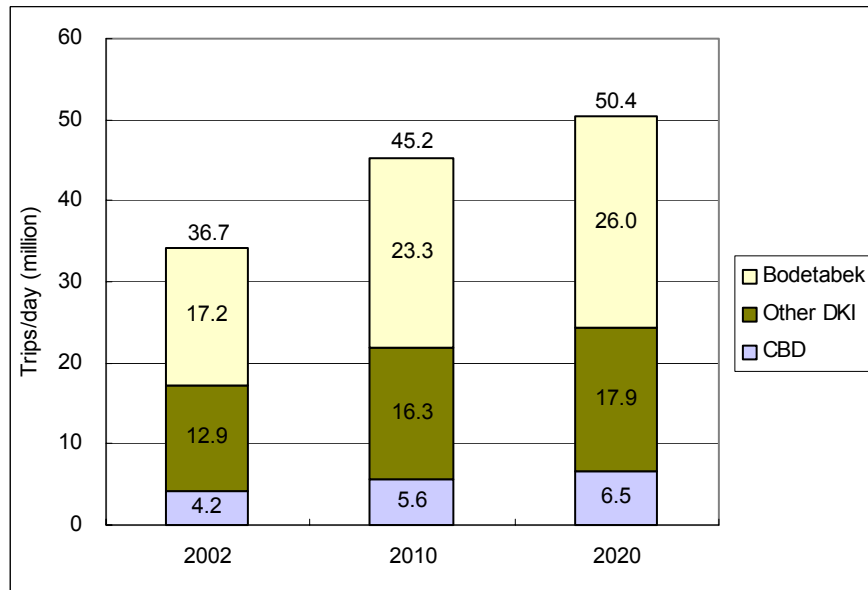
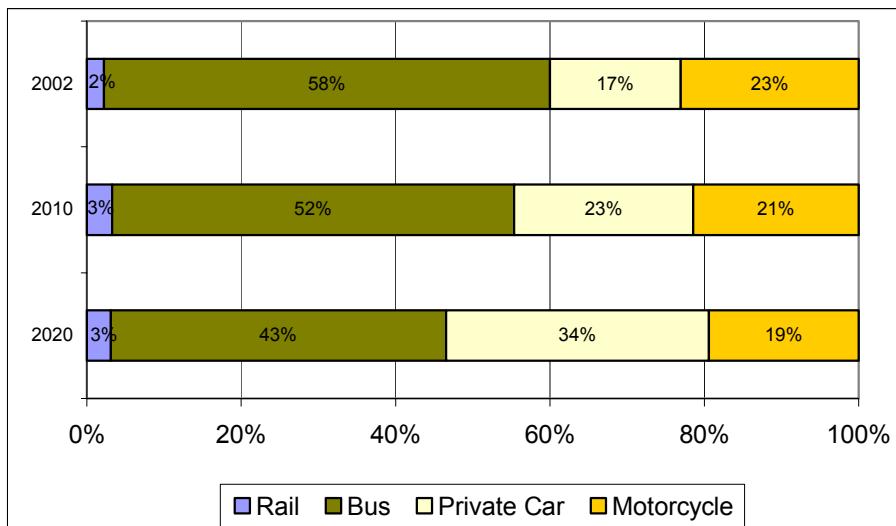


Figure 3.2 Trip Generation in Jabodetabek⁹



Note: Modal share in 2020 is based on the “Do Nothing” case.

Figure 3.3 Present and Future Modal Share (excl. NMT)⁹

3.3 ANTICIPATED DETERIORATION OF TRANSPORTATION SYSTEM PERFORMANCE

“Do Nothing” case indicates anticipated chaos in the future if no investment is made in the next 20 years. Average travel speed in the whole Jabodetabek region will decrease from 34.5 km per hour in 2002 to 24.6 km per hour in the year 2020. The length of congested arterial roads of which Volume/Capacity (V/C) ratio exceeds 1.0 will increase to 1,006 km, which is about 57% of the total length of arterial roads in the urbanized area roads. Severe traffic congestions are anticipated on the major radial roads plugging into the central part of the region, i.e., DKI Jakarta, which indicates additional radial transport

⁹ Refer to Technical Report Volume 2: Transportation Models and Demand Forecast.

systems are necessary to accommodate the region's travel demand. At the same time, the anticipated traffic congestion in the central business district suggests necessity of introducing traffic restraint measures to persuade the private mode users to use public modes of transport.

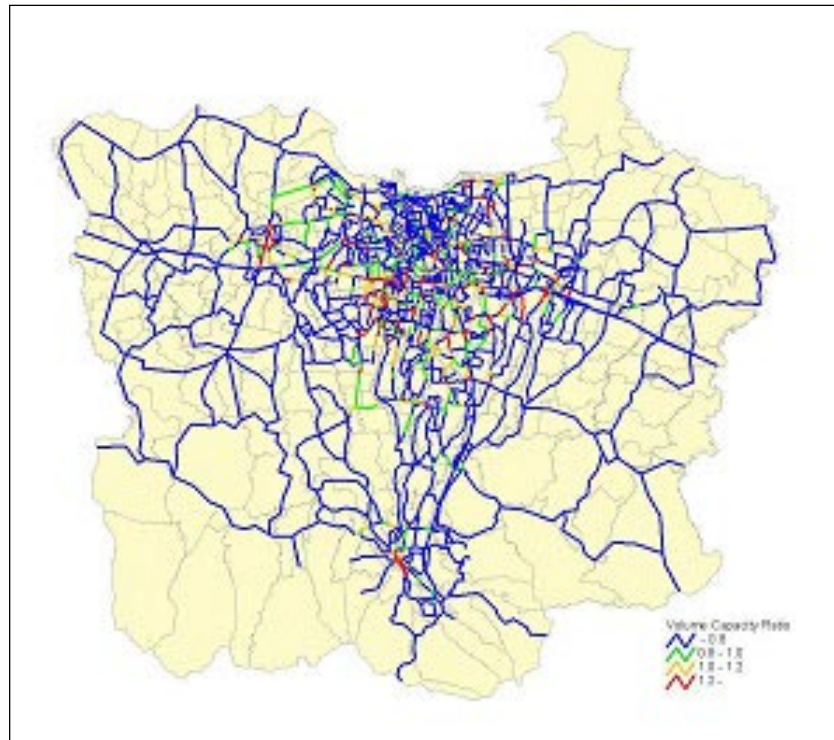


Figure 3.4 Volume / Capacity Ratio in 2002

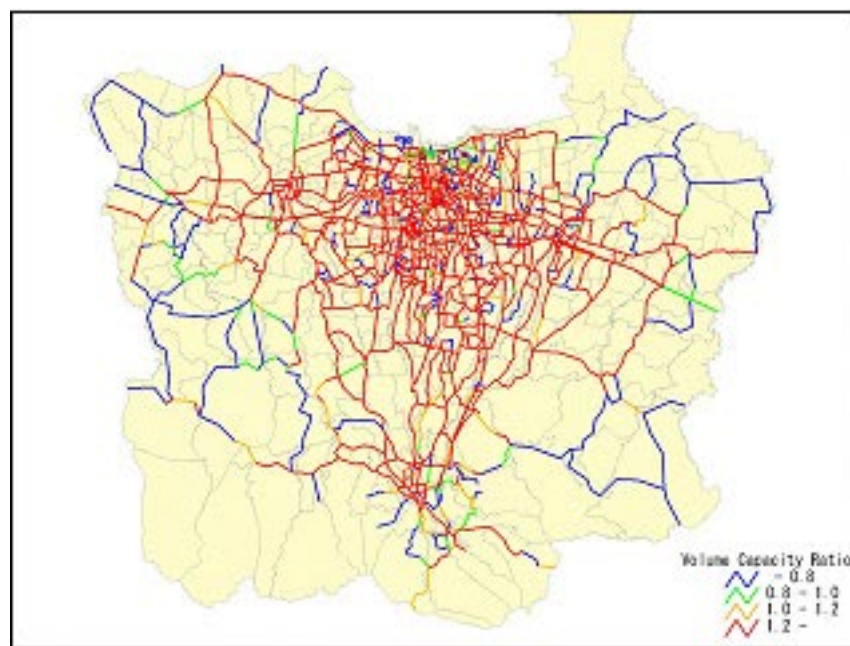


Figure 3.5 Volume / Capacity Ratio in 2020 : Do Nothing Case

4 FUNDAMENTALS OF TRANSPORTATION MASTER PLAN FOR JABODETABEK

4.1 GOALS FOR URBAN TRANSPORTATION SYSTEM DEVELOPMENT

The analysis of the present urban transportation problems and the planning issues in the Jabodetabek region have resulted in the identification of four major principles, which the urban transportation system development needs to pursue.

(1) Efficiency in Transportation System to Support Economic Activities

Traffic congestion has resulted in a considerable amount of economic loss to the society because of longer travel times, unpunctuality and the deterioration of the environment.

Efficiency in transportation can be achieved by balancing transportation demand and transportation network capacity. Alleviation of traffic congestion can be dealt with by the following three ways: 1) by increasing road capacity through the development and improvement of the road network; 2) by optimizing utilization of the existing road capacity by using a traffic control system and providing traffic information; and 3) by decreasing excessive vehicular traffic demand through transportation demand management and diverting private mode users to public modes of transportation.

At the same time, the promotion of public transportation usage would also contribute toward economic efficiency by reducing vehicular traffic demand on the congested urban road network. Mass transit systems have an advantage over private modes of transport in terms of travel costs and lesser consumption of space in the context in urban area.

The combination of both approaches mentioned above will create an efficient transportation system.

(2) Equity in Transport to All the Members in the Society

A minimum level of transportation service should be provided to all members of the society in order to secure a civil minimum. In Jabodetabek, the mobility of the low-income group is limited due to their insufficient income.

The role of public transportation is thus of great importance in providing affordable means of transport for the lower income people to access urban services. At the same time, it is necessary to develop transportation facilities for the physically challenged. Such facilities are seldom seen in Jabodetabek at present time and a gradual improvement of the transportation facilities is needed.

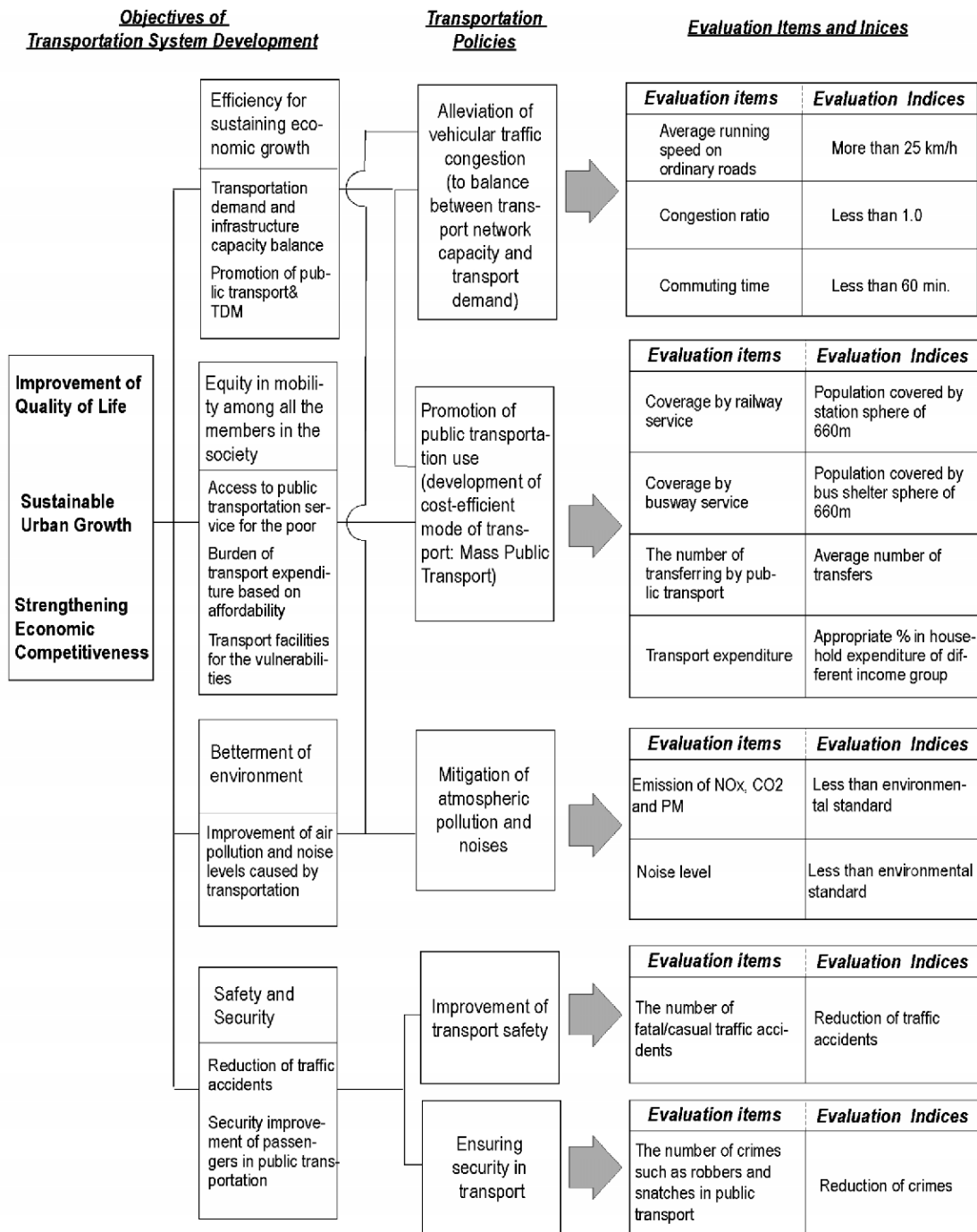


Figure 4.1 Hierarchical Transportation Policy Framework

(3) Environmental Betterment related to Transport

Air pollution caused by motorized vehicles should be minimized through emission control of automobiles, promotion of public transport and traffic demand control, especially in the congested areas. Countermeasures to reduce PM10 should be the main focus particularly in the Study area.

Noise at roadsides and residential areas where surveyed shows unacceptably high levels except at midnight. Noise pollution caused by automobiles also should be targeted through frequent and appropriate vehicle maintenance and driving manners improvement.

(4) Transportation Safety and Security

Since lives are invaluable and death and injury due to traffic accidents will bring great grief to family members and friends, traffic safety should be enhanced and the number of accident victims should be minimized through the enforcement of laws and regulations, intensive public campaigns, and training and education for drivers as well as the general public. Improvement of traffic facilities through engineering design would contribute to the reduction of traffic accidents. Railway accidents should also be minimized by improving the signal facilities as well as by disseminating information regarding the danger of riding on the roof of trains, and enforcing closed-door operation.

The SITRAMP Home Visit Survey results show that at present residents are most concerned with the security for utilizing public transportation. A sense of insecurity at railway stations and at bus shelters as well as on-board public transportation vehicles has discouraged the usage of public transportation.

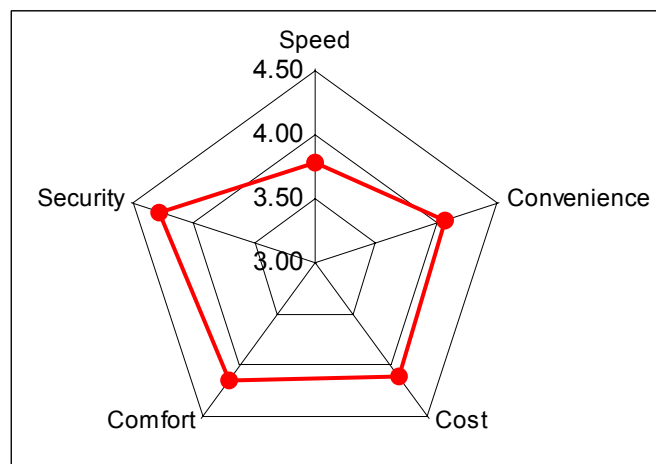


Figure 4.2 Factors for Mode Selection

4.2 REGIONAL TRUNK TRANSPORTATION SYSTEM DEVELOPMENT STRATEGY

A trunk transportation system should be established in the context of regional development. The regional development plan demands support by transportation system for formulating a desirable regional structure and supporting the direction for development in the region.

(1) Development of Primary Transportation System to Support Inter-regional Cargo and Passenger Transport Demand

Inter-regional cargo transportation demand will increase as the regional economy grows and interactions with other regions are amplified. The primary transportation network system, which serves inter-regional commodity movements, should be enhanced to meet increasing demand and to improve access to important transportation facilities such as the primary centers, seaport, namely, Tanjung Priok Port, the airport, and industrial estates. (See Figure 4.3) For inter-regional passenger travels, access to the international airport, intercity bus terminals and the central railway station should also be enhanced. (See Figure 4.4) Improvement of access to the Tanjung Priok port in accordance with its expansion plan is an urgent task for regional economic development, whereas a robust access to the Soekarno-Hatta international airport should also be provided by improvement of the current Cenkareng Access Toll Road, construction of W-1 and W-2 sections of the JORR, and the proposed eastern section of the 2nd JORR.

(2) East-West Strategic Transport Corridor Development

To support the urban development policy of Jabodetabek's east-west direction, transportation system development should be utilized as a tool for guiding urban development in the desired direction. Special attention should be paid to the east-west direction to induce urban development in the designated area. (See Figure 4.5)

(3) Strengthening Accessibility between Urban Centers in Jabodetabek

The development of urban centers in Bodetabek should be regarded as a long-term measure for decreasing the commuter flows from Bodetabek to Jakarta. Accessibility between the urban centers in Bodetabek should be enhanced to achieve sustainable development of urban centers in Bodetabek by augmenting mutual interaction between centers. Accessibility to/from Jakarta should also be strengthened to support the social and economic activities in the urban centers in Bodetabek. (See Figure 4.6)

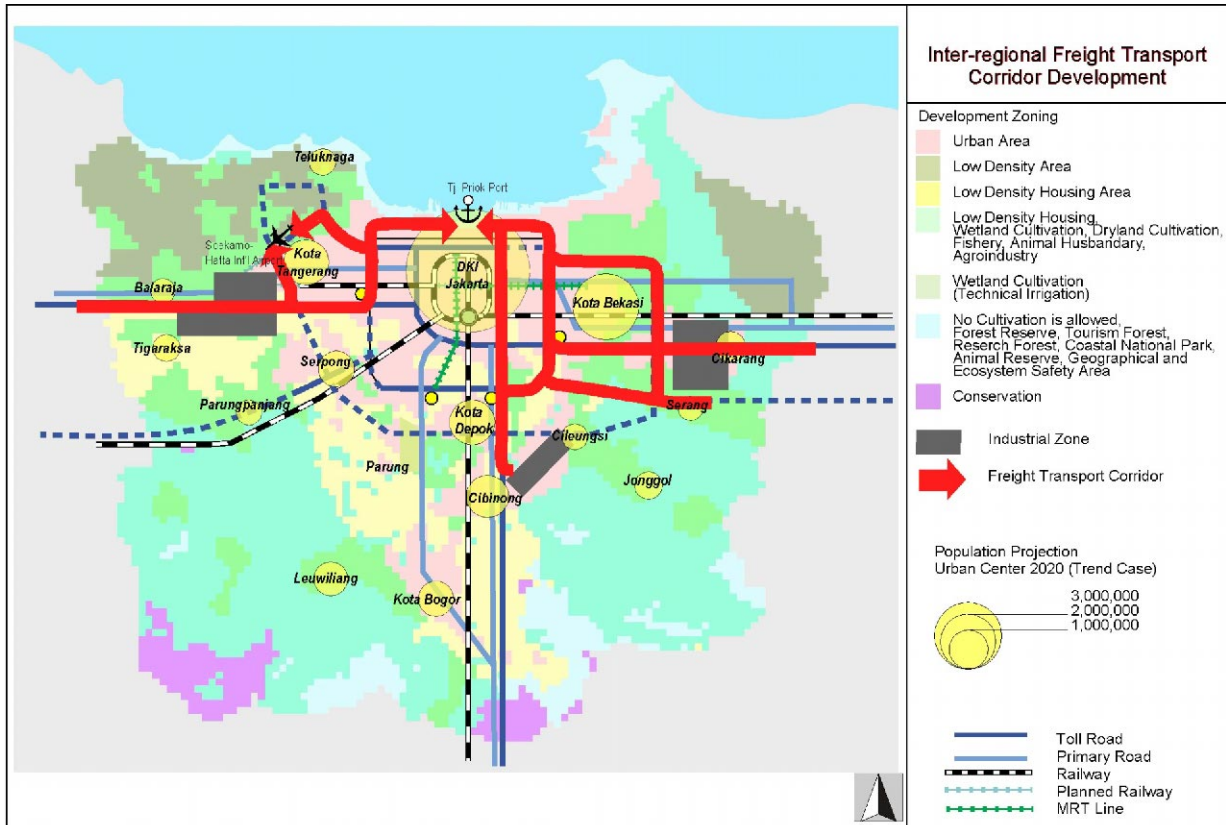


Figure 4.3 Inter-regional Cargo Transportation Corridor Development

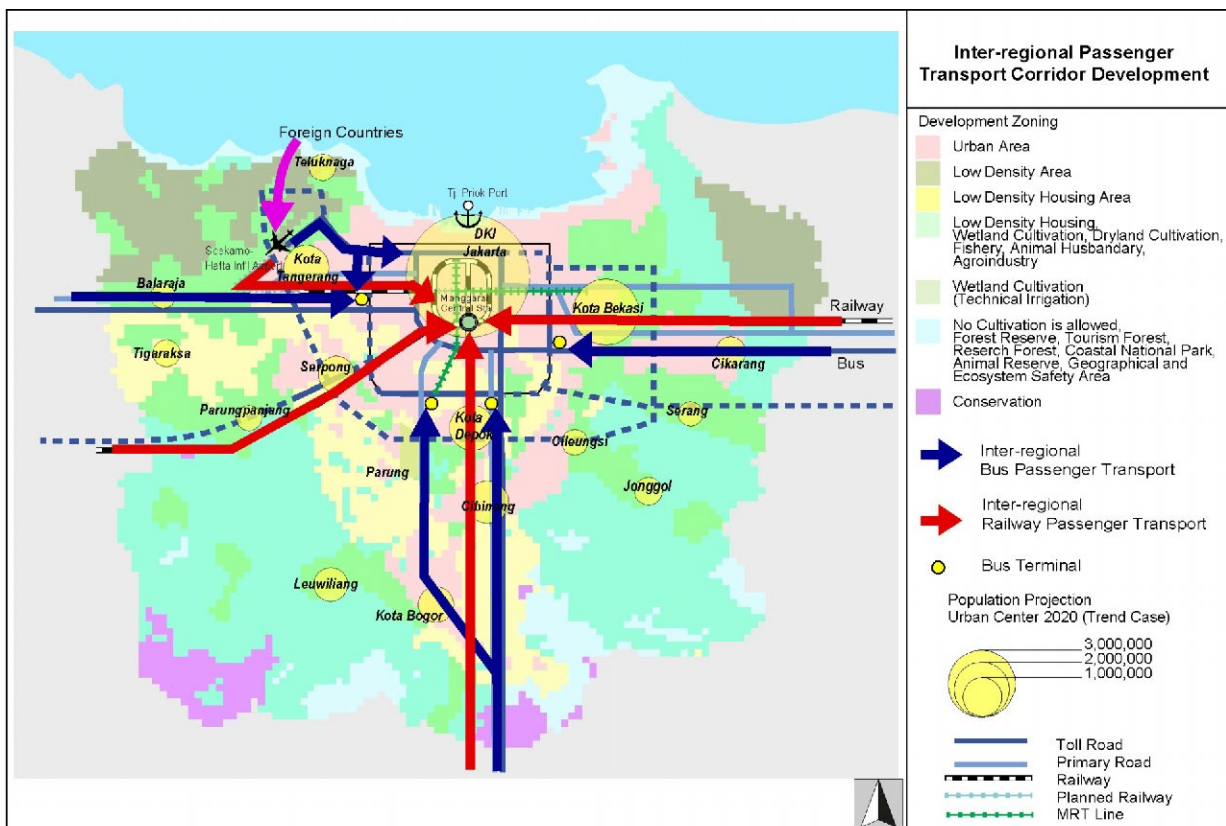


Figure 4.4 Inter-regional Passenger Transportation Corridor Development

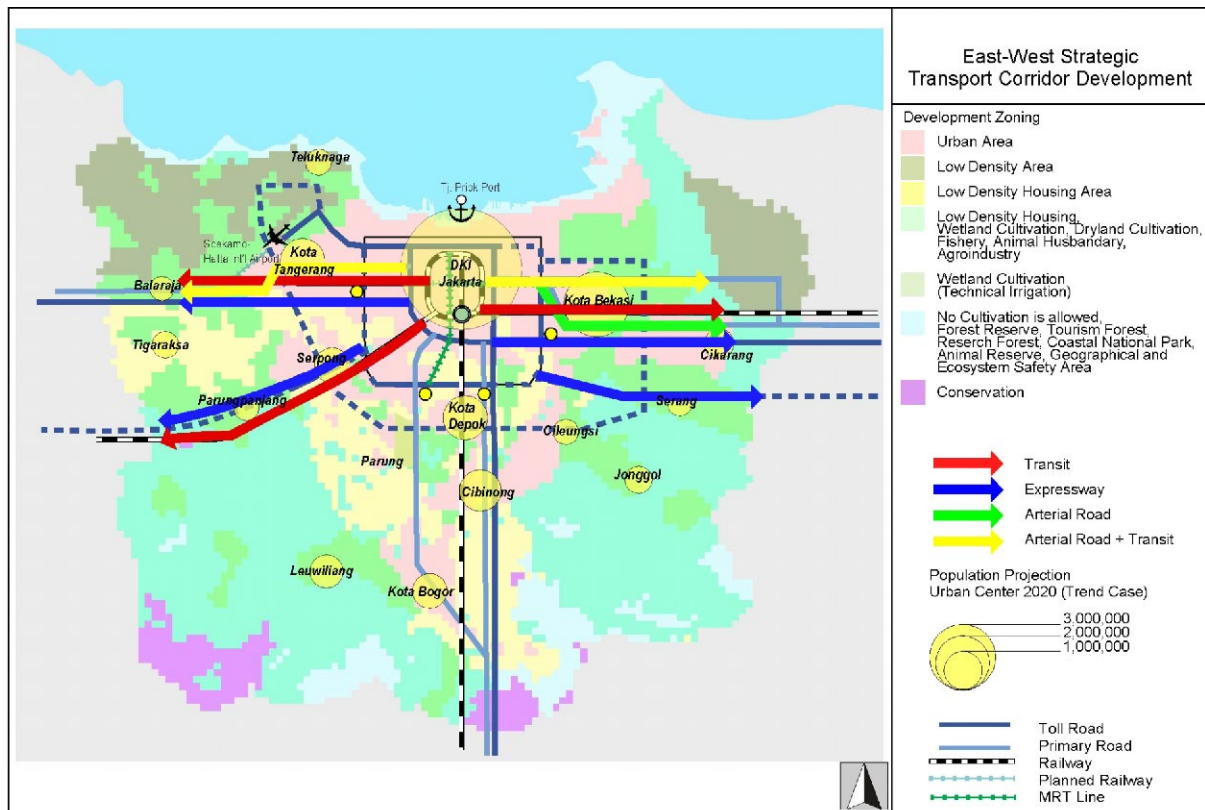


Figure 4.5 East-West Strategic Transportation Corridor Development

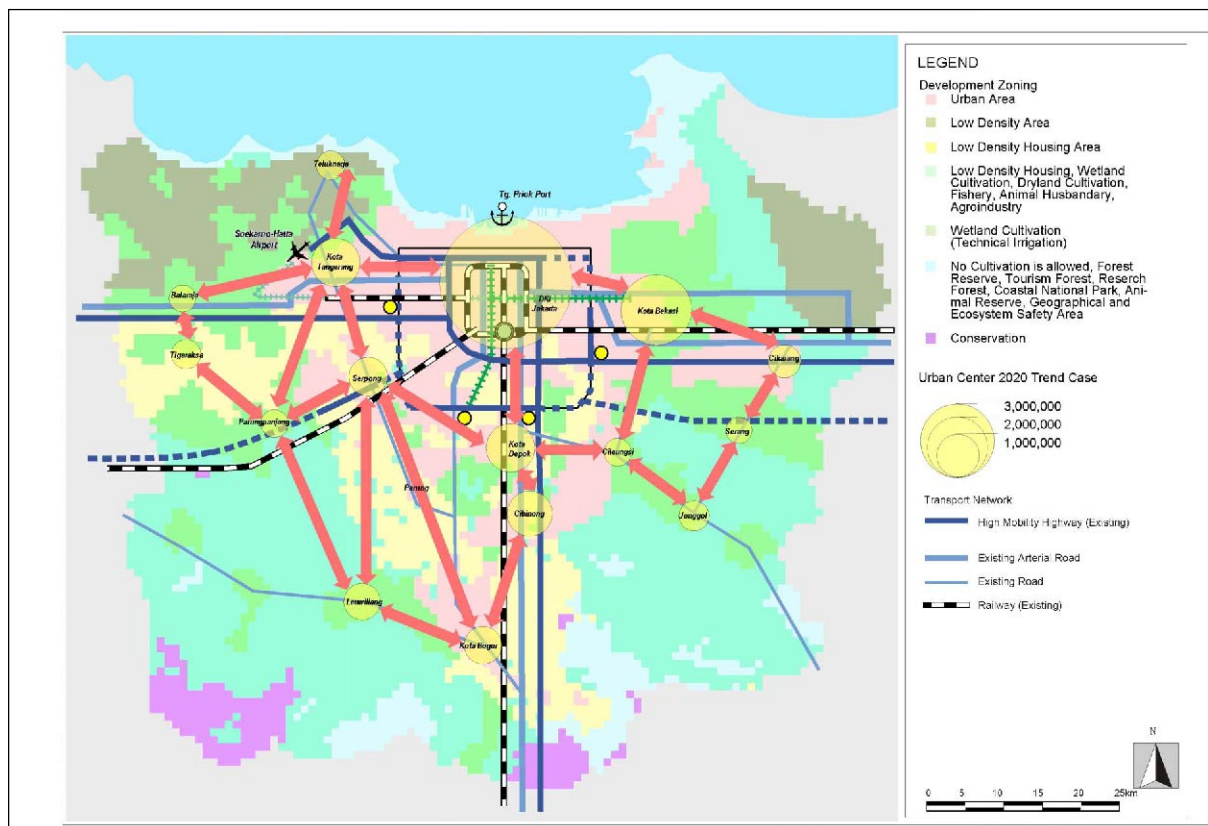


Figure 4.6 Transportation Network Connecting Urban Centers in Bodetabek

4.3 PROJECTED TRANSPORTATION DEMAND

Future vehicular traffic demand and passenger demand is forecast as shown in Figures 4.7 and 4.8.

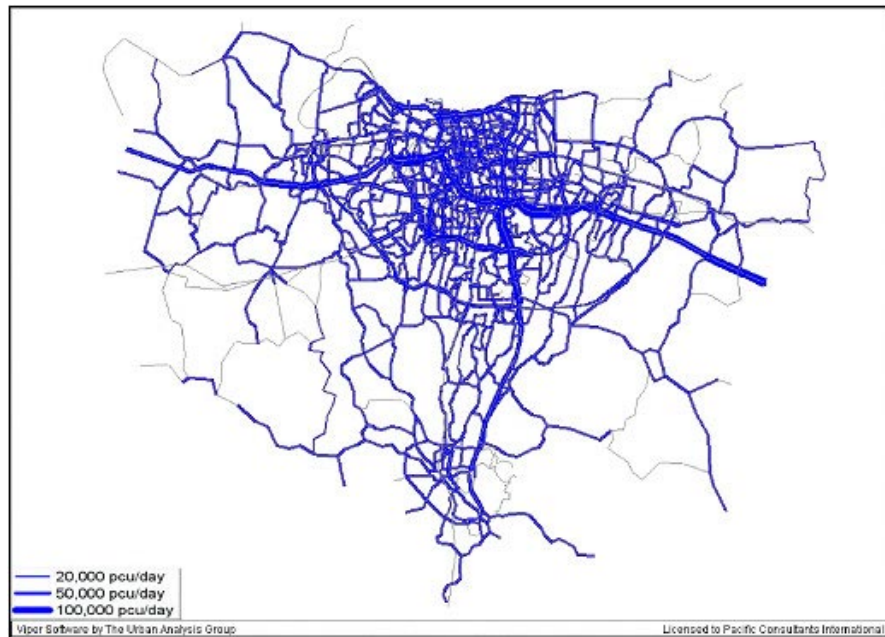


Figure 4.7 Estimated Daily Traffic Volume (pcu) in 2020¹⁰

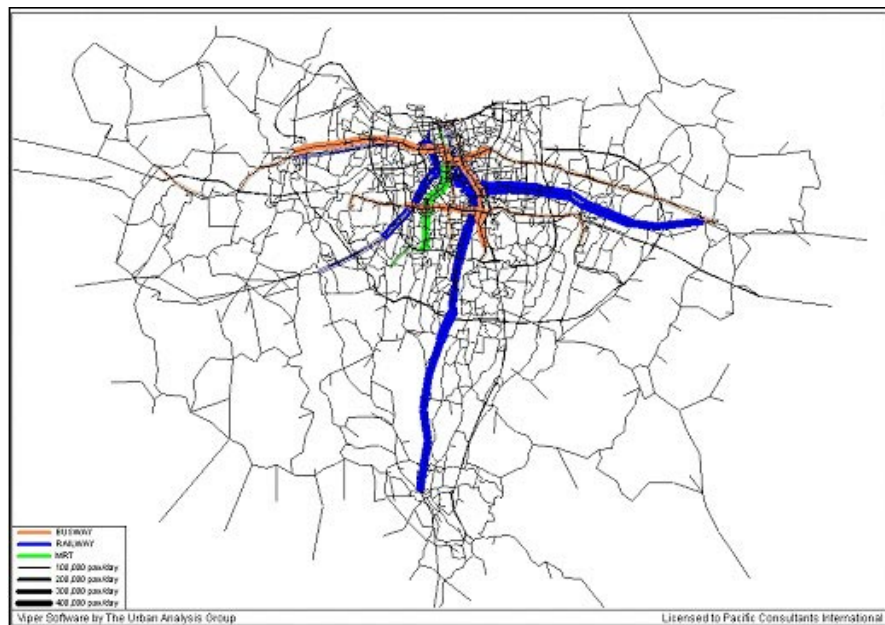


Figure 4.8 Estimated Daily Passenger Volume of Railway, MRT and Busway in 2020¹⁰

¹⁰ Refer to Technical Report Volume 2: Transportation Models and Demand Forecast

4.4 URBAN TRANSPORTATION POLICY

To achieve the different four goals for transportation system development, the following transportation policies are essential for the Jabodetabek region:

- 1) Promotion of Public Transportation Use
- 2) Alleviation of Traffic Congestion
- 3) Reduction of Air Pollutants and Traffic Noise
- 4) Reduction of Transportation Accidents and Improvement of Security

These four transportation policies are inter-related. Promotion of public transportation is a principal measure to reduce dependence on private modes of transportation. Mere improvement of public transportation services, however, would not entice people who are accustomed to using private modes of transportation to shift to public modes. Traffic restraint policy measures would enhance increase of public transportation use on the condition that sufficient level of public transportation services is provided. On the other hand, increase in security on public transportation would bring about increase of public transportation use as well since currently people are concerned with the issue of security on public vehicles and it contributes to shift to private modes of transportation. Reduction of automobile use would also lead to reduction of air pollution and traffic noise caused by cars and motorcycles. Improvement of quality of public transportation services by reform of bus operation regime would result in augmentation of transportation safety because then there would be safer operation of bus fleets by bus drivers.

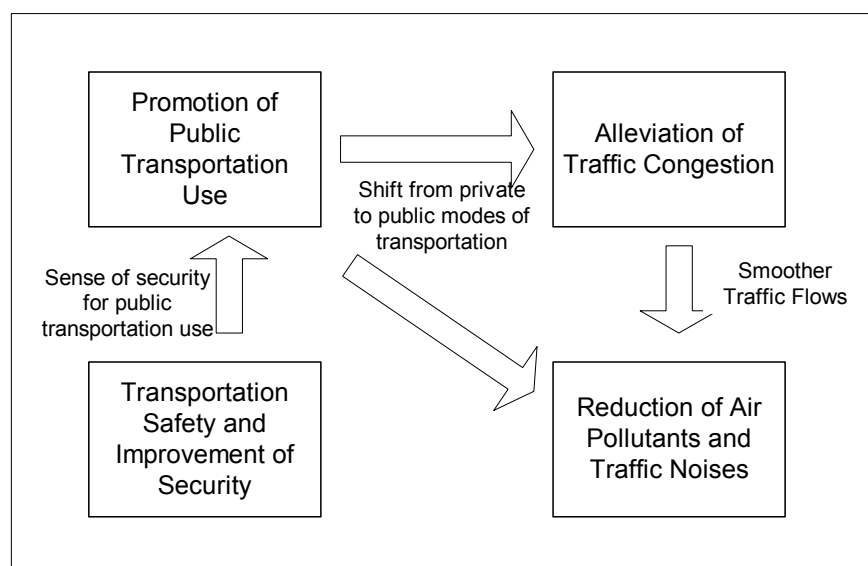


Figure 4.9 Relation between Transportation Policies