
TRANSPORTATION SYSTEM DEVELOPMENT
GOALS AND OBJECTIVES

7. TRANSPORTATION SYSTEM DEVELOPMENT GOALS AND OBJECTIVES

7.1 Goals of Transportation System Development

Based on the vision and missions for developing GKS spatial plan in the Main Text as well as the planning issues of the transport sector, the following three main goals of transportation system development in GKS have been identified:

- Efficiency,
- Equity, and
- Better Environment.

Each of the above goals is explained below.

(1) Efficiency

An efficient transportation system should be developed to strengthen urban functions, to enhance people's quality of life, to facilitate industrial economic activities, and to sustain stable economic growth in GKS. It is of great significance to achieve efficiency by decreasing negative externalities such as economic loss of travel time caused by traffic congestion. The efficiency in transportation can be achieved by balancing the travel demand and the transportation infrastructure supply or capacity. There are three ways to balance the demand and the supply: 1) by increasing the infrastructure capacity to meet the demand; 2) by optimizing utilization of the existing transport infrastructure through efficient traffic control and information systems; and 3) by decreasing excessive vehicular traffic demand through transportation demand management and diverting private vehicle users to public transport.

(2) Equity

Equity means that a certain minimum level of transportation service should be assured and provided for all members of the society. Some low-income people cannot afford to pay expensive transportation cost. Some socially vulnerable people including the aged and the handicapped have difficulties in their mobility. Affordable and sufficient level of transportation services should be provided for those people especially by improving the public transport system.

Furthermore, spatial equity between areas should also be considered in providing

transportation services in GKS, particularly in SMA. Some areas which are not covered by railways or toll roads should be covered by nearly the same level of alternative services. This will be particularly important since dispersion of the urban functions is proposed in this Study.

(3) Better Environment

For the low-pollution and low-carbon society, air pollution and noises caused by automobiles should be minimized by promoting public transport use and controlling the traffic demand. At the same time, air pollution and noises should be reduced by applying stricter vehicle emission standards.

In addition, 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 of drivers as well as general public. Improvement of traffic facilities through engineering design would also contribute to the reduction of traffic accidents.

7.2 Urban Transportation Objectives

In order to achieve the above-mentioned three main goals of transportation system development in GKS, five major urban transportation objectives have been listed as described below along with more specific policies.

(1) Enhancement of Road Network Capacity that Supports Economic Activities

- To increase road capacity through development and improvement of road network
- To make the most of the existing capacity through traffic control and information system
- To avoid excessive traffic concentration through traffic demand management and development control

(2) Promotion of Public Transport Use

- To improve the level of service of the existing public transport
- To develop new mass transit systems
- To keep the affordable public transport fare

(3) Intermodal Development/Transit Oriented Development

- To enhance intermodality through development and improvement of transfer facilities
- To apply transit-oriented development for major public transport corridors including sub-centers

(4) Mitigation of Atmospheric Pollution and Noise

- To decrease air pollution and noise by enforcing the regulation

(5) Improvement of Transport Safety

- To enhance traffic safety through law enforcement, public campaigns, training, and education
- To provide user-friendly transportation facilities

ROAD DEVELOPMENT

8. ROAD DEVELOPMENT

8.1 Road Development Corridors

Regional and metropolitan spatial structures are formed through major road corridors that usually form radials and rings. Ring and radial roads should be composed of primary arterial roads or toll roads if they are economically and financially viable. A proposal for a long-term regional road development network is shown in this section.

(1) Radial Corridors

As shown in Figure 8.1.1, the road network in GKS have five radial corridors: Paciran-Tuban (north coast), or Corridor (1); Lamongan Corridor, or Corridor (2); Mojokerto Corridor, or Corridor (4); Sidoarjo Corridor, or Corridor (5); and Bangkalan Corridor, or Corridor (6). Each corridor is served by at least one primary arterial road. Ideally, fundamental ring roads and radial roads are composed of toll roads and/or primary arterial roads. In addition, secondary arterial and primary/secondary collector roads, which complement the fundamental road network, should be constructed.

In addition to the five radial corridors, Corridor (3), which runs westward from Surabaya to south Kabupaten Gresik, and south Kabupaten Lamongan, should be added as a major road network corridor. Large housing and industrial developments are planned on this corridor, which will match with the development directions in Kota Surabaya and Kabupaten Gresik. Corridor (5b), which runs on the east coast of Sidoarjo and directly connects Kota Surabaya and Kabupaten Pasuruan without going through the center of Sidoarjo, should be added especially for freight transport.

Some of the toll developments planned by the local governments, or in studies such as the ARSDS-GKS (1997), are also included as corridors with toll developments. A new toll plan, which directly connects Krian and Porong/Gempol and located on the south of Corridor (9), has also been added to this Study.

(2) Ring Corridors

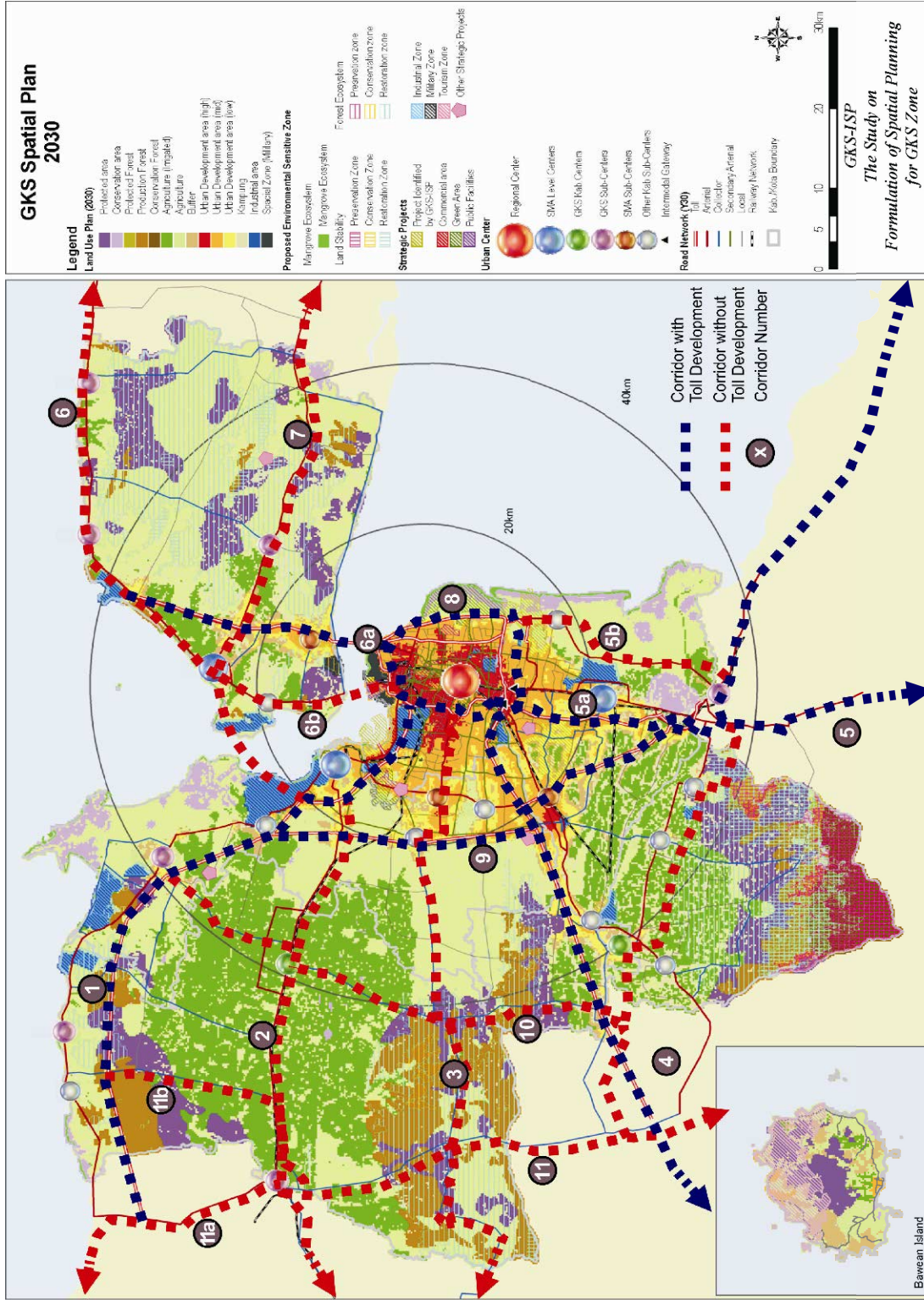
On the other hand, there are three major ring corridors: Surabaya Ring Corridor, or Corridor (8), which runs within Surabaya; SMA Corridor, or Corridor (9), which runs near the periphery of SMA; and Trans-GKS Corridor, or Corridor (10), which runs through GKS outside SMA. The Tuban-Malang Corridor, or Corridor (11), should also be taken into account when considering the road network from a wider perspective inclusive of GKS Plus and the areas in Malang.

(3) Two Alternative Cases

Taking all the existing development plans into consideration, two cases of road corridors

were presented for SMA, specifically for Surabaya. These were: a moderate case (Figure 8.1.2), and an expressway-intensive case (Figure 8.1.3). In both cases, the road corridors would be developed in a grid-like structure following the future design in the latest spatial plan of Surabaya, which is also grid-like, as shown in Figure 5.3.11. Among others, there are several north-south corridors that will constitute part of the ring roads and combine with such toll roads as Surabaya – Gresik, Surabaya – Mojokerto, Waru – Juanda, and Perak – Suramadu (planned) toll roads. These new corridors run from east to west: i.e., Outer East Ring Road, or Corridor (8a), Middle East Ring Road (MERR), or Corridor (8b); Inner East Ring Road, or Corridor (6a); Middle West Ring Road (MWRR), or Corridor (12); Outer West Ring Road I, Corridor (13); and Outer West Ring Road II, Corridor (14), as shown in Figure 8.1.2.

In the moderate case, only the Surabaya East Ring Road (SERR) and the Perak – Suramadu toll road, were given priority to connect to Suramadu Bridge, and were considered as corridors with toll development. In the expressway-intensive case, some of the planned toll developments, or those considered by the central government (i.e. the MERR toll road, and the Waru–Wonokoromo–Tg. Perak toll road) were included as corridors with toll developments. While for Surabaya, the former is just a ring corridor toll development, the latter has two more toll corridors running north-south through the area surrounded by the ring corridor. It should be noted that both cases require further study due to future travel demand forecasts.



Source: JICA Study Team

Figure 8.1.1 Road Development Corridors in GKS