

## Urban Rail Transportation Master Plan for Bangkok

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### 1. Introduction

Overall goal of the Study for the “Urban Rail Transportation Master Plan (URMAP)” was to establish a master plan of the urban rail transit system for the Bangkok Metropolitan Region (BMR) over the next two decades or by the year 2021. The previous Mass Transit Master Plan was formulated and approved by the Cabinet in 1994. It aimed primarily at forming an effective network system of the then-going projects such as the Hopewell project (BERTS), the project of the Bangkok Transit System Co., Ltd. (BTSC), and the initial project of the Metropolitan Mass Transit Authority (MRTA). As admitted generally, it is appropriate to review any master plan periodically in order to reflect on and react to changing circumstances. Particularly in Thailand, after the serious financial crisis faced in 1997, BMR experienced remarkable social and economic changes. Under the circumstances, a real need existed to make a comprehensive review of the existing Master Plan. The Study for URMAP was, therefore, formulated by the Office of the Commission for the Management of Land Traffic (OCMLT), the Prime Minister’s Office, Thailand. PCI was awarded this project as the prime consulting firm. This short article intends to make a brief presentation of the concept of the new master plan.

### 2. Current Situation and Problems in Urban Development

#### 2.1 Urban and Regional Development

The Thai government has been pursuing a policy of decentralization for a long time, strategically fostering several regional growth centers at a distance of 100-200 km from the center of Bangkok. Concurrently, Bangkok Metropolitan Administration (BMA) has also developed a sub-center development plan, aiming at strategic reallocation of the present urban functions. The plan designates land use and urban infrastructure, however, the proposed infrastructure has not been adequately provided as scheduled due to the budget constraints and economic depression. Besides, actual land use development by the private sector has not been strictly following the plan due to the weak development control measures. Consequently, most of the urban development in Bangkok Metropolitan Region (BMR) had been occurred along the major surface road system in the form of so-called urban sprawl.

#### 2.2 Needs for Growth Management of BMR

In many Asian countries, capital regions have assumed their central role for the national economic development by concentrating economic resources, however, excessive concentration or too fast concentration has often led to deterioration of the living environment such as air pollution. It has been widely recognized that the environmental degradation in BMR has reached an alarming level, which requires comprehensive growth management policies not only depending on simple supply-side measures but also addressing control and incentive mitigation measures.

A typical supply-side measure had been to develop a more convenient highway system in an attempt to provide more spaces for solving traffic congestion, but this type of approach has rarely solved the congestion problem for long, since more convenience tends to attract more users. In the beginning of the 21<sup>st</sup> century, BMR is in a situation that may require appropriate and integrated growth management measures beyond merely supply-side measures.

The principal objectives of urban planning are to regulate, guide, and implement urban growth towards a preferred

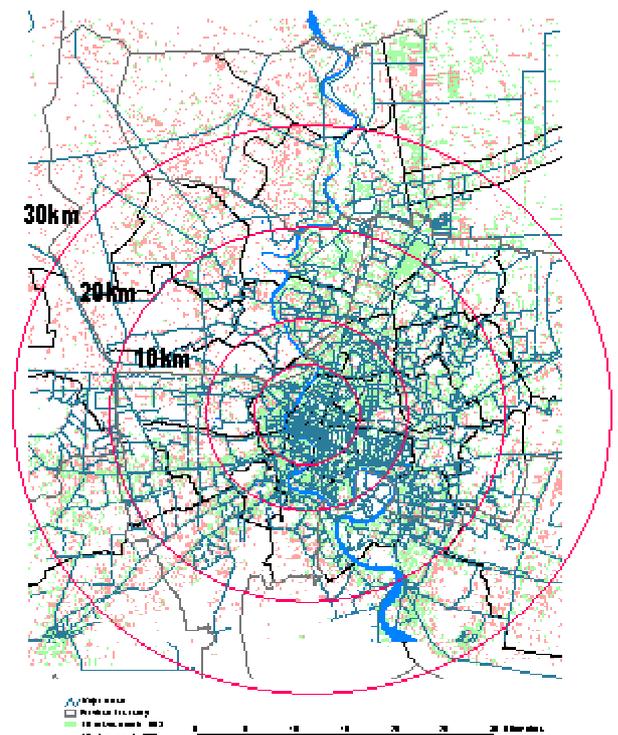


Figure 1 Urbanized Area of BMR

direction to achieve better quality of life. Because it works as a skeleton of urbanization, an urban rail transit system is an effective and efficient tool to guide urban growth. A mass-transit-driven urban development strategy must be essential for urban growth management, especially for mega-cities in Asian countries.

### 3. Networking Concept of New Urban Rail Transit Master Plan

When considering a hierarchical structure for forming a convenient rail transit network, consideration will be given to the following objectives in order to effectively and efficiently achieve **the radial-circumferential rail transit pattern**:

- (1) To form Red Line Commuter (RLC) lines as a skeleton of the whole network.
- (2) To establish, major intra-urban feeder lines such as MRT and Bangkok Transit System (Green Line) in densely populated areas of BMR.
- (3) To form a circumferential line (Blue Line) to link effectively to all RLC lines as well as intra-urban feeder lines (Green and Orange Lines).
- (4) To form feeder systems (Yellow Line and buses) as a secondary system to feed passengers to RLC lines.

In the first half of the planning period, which is by the year 2011, the massive capital investment for forming the urban rail transit network cannot be expected, due chiefly to the limited public funds. Characterizing this period as the Development Readjustment Period, priority was given to the Hopewell replacement project in which the State Railway of Thailand (SRT) would operate the Red Line Commuter service. After completion of the radial system by SRT (Red Lines), other systems will be constructed. This development strategy is similar to that of the highway system development in BMR in the last twenty years, aiming at same effect, that is, attracting more people and encouraging urban and housing development nearby the stations in suburban areas.

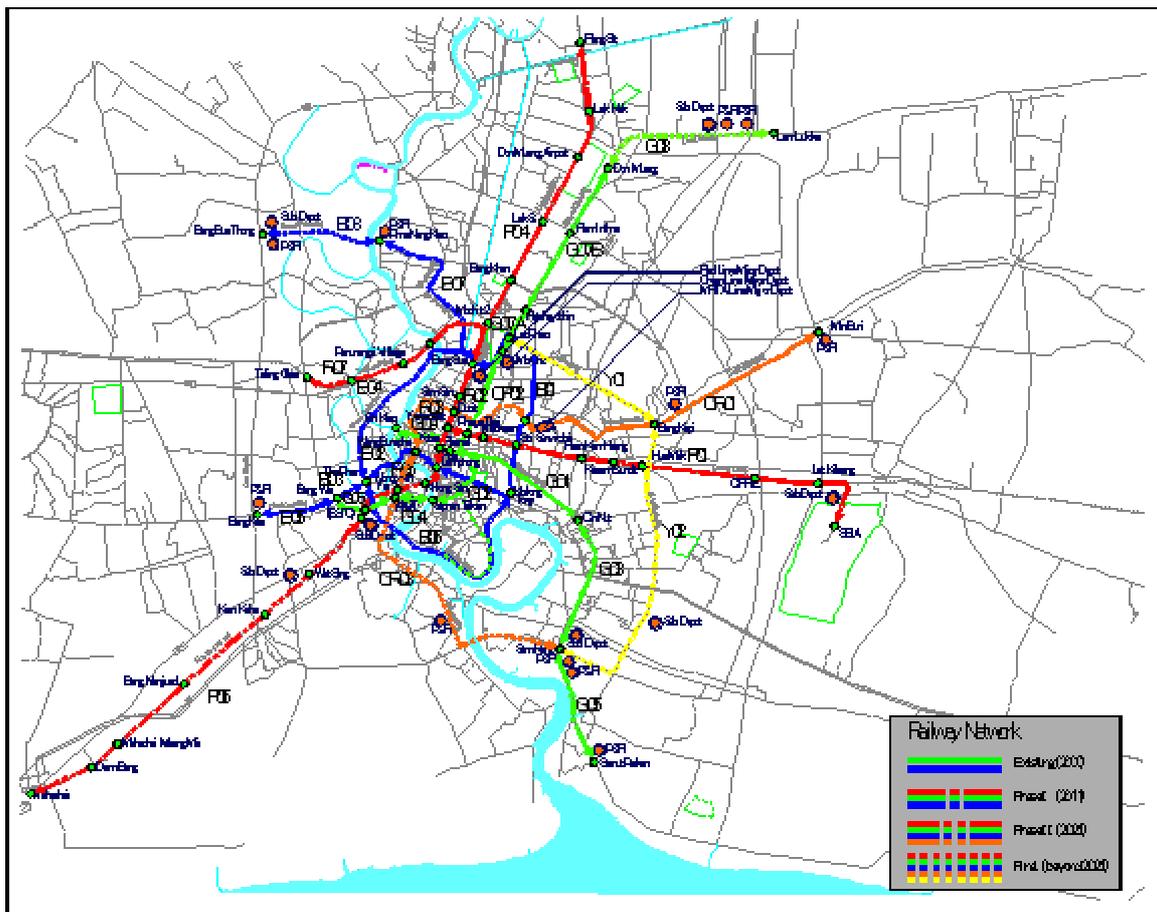


Figure 2 Proposed Urban Rail System by URMAPP