



Opportunities and Challenges of Traffic Dispersal Structures in KL and the Periphery

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Abstract

Kuala Lumpur's (KL) Traffic Dispersal Schemes offer the bridge designer and builder opportunities and challenges. Bridge and approach ramps fight for space to avoid structures, existing bridges, services, private land, roads and waterways. As a result of this, the geometry of the bridges have steep gradients, high super elevations, tight radii, irregular support positions and are multi-level. In addition, there is the constant increasing flow of traffic to cope with. As these bridges are significant to the City's landscape, aesthetics is an important consideration whilst keeping cost under control.

The intent of this paper is to delve into some of the challenges faced by bridge designers and builders and the solutions evolved as a result of teamwork. The paper will also touch on systems design with particular attention to constructability and maintenance. Prefabrication of major bridge elements outside of construction site plays a significant role in an urban environment.

1 Introduction

KL's traffic dispersal roads comprise a series of ring roads and radials as shown in Figure. 1.

Realizing the need to improve traffic flow in the rapidly developing City of Kuala Lumpur, the City Hall initiated the KL Traffic Dispersal Scheme in the Mid 70's.

Since then, in addition to the Government efforts, a number of Private initiatives have pitched in to improve traffic flow in the KL Central Business District and the peripherals.

Some of the recent examples of Private initiatives of BOT Projects are the:

- SPRINT Expressway
- DUKE Expressway
- DASH Expressway
- and many others.

These traffic dispersal schemes are in heavy traffic areas with space constraints. Gradeseparated interchanges are required whilst additional elevated lanes have to be built.

All this invariably requires bridging in one form or another. Over the years the trends in bridge construction have progressed from simply supported precast beam to precast segmental and balanced cantilever construction.