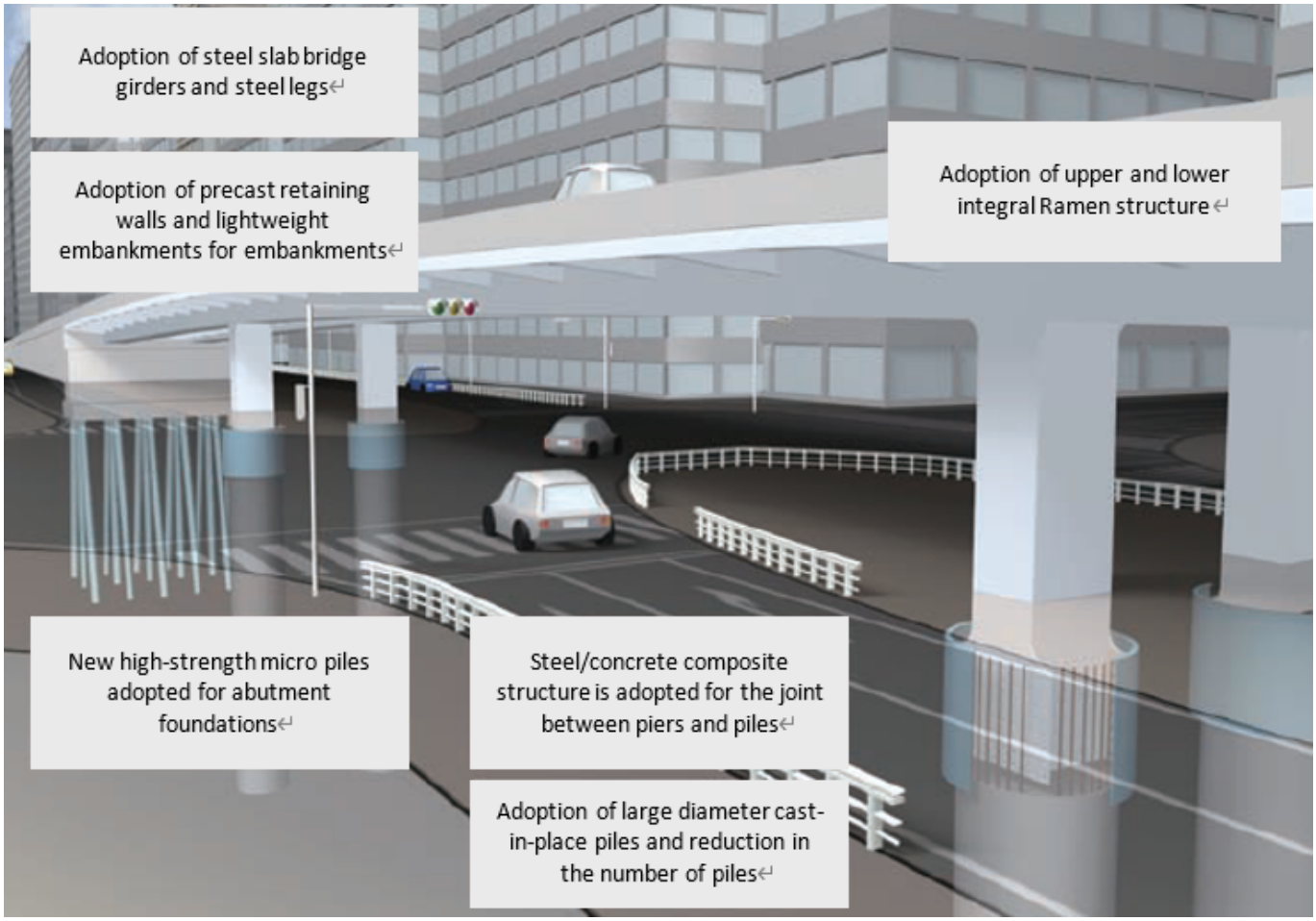
Hi-FRASH Metod

Overpass construction method that can be constructed in a short period of time



Hazard

Earthquake

Solution Purpose

Response Recovery

Solution Theme

Disaster Prevention Plan Infrastructure Technology Building Technology

Technology Subject

Plan for Relief & Recovery Support Road Urban Design & Construction of Resilient Building

Advantages

This method focuses on the substructure and foundation structure, which conventionally takes a long time to construct on site, and achieves faster construction and lower construction costs by streamlining the structure.

Solution Illustrated

This method significantly shortens the construction period and reduces construction costs compared to conventional methods by thoroughly reducing the weight and pre-fabrication of upper and lower section construction, and streamlining the piers and foundation structures.

● Girder assembly in the center radius at the embankment section

● Batch erection of girders in the center span by large transport vehicles

Background

1. Chronic traffic congestion in urban areas

To solve the chronic traffic congestion in urban areas and realize smooth urban transportation.

2. Time required for the construction of a multilevel bridge

The purpose of the project is to significantly shorten the time required for the construction of the multilevel bridge and to minimize the impact on road traffic and the surrounding environment.

Exposition of the Solution

1. Box-girder rigid-frame structure with integrated upper and lower steel slabs, which has excellent earthquake resistance, is lightweight, and can be easily pre-fabricated.
2. Compact foundation by reducing the number of piles through the use of large- diameter cast-in-place piles.
3. Rational joint method between steel piers and pile foundations.
4. The abutment foundations are made of new high capacity micro files, which are easier to work with and have higher performance than conventional materials.

Achievements of Examples

By efficiently constructing the superstructure and the lower and foundation works in parallel, the

construction period can be significantly shortened to 5.3 months from the start of construction to completion, assuming the construction of about 400m-long level crossing bridge (bridge section + embankment section).

Corporate Profile

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