

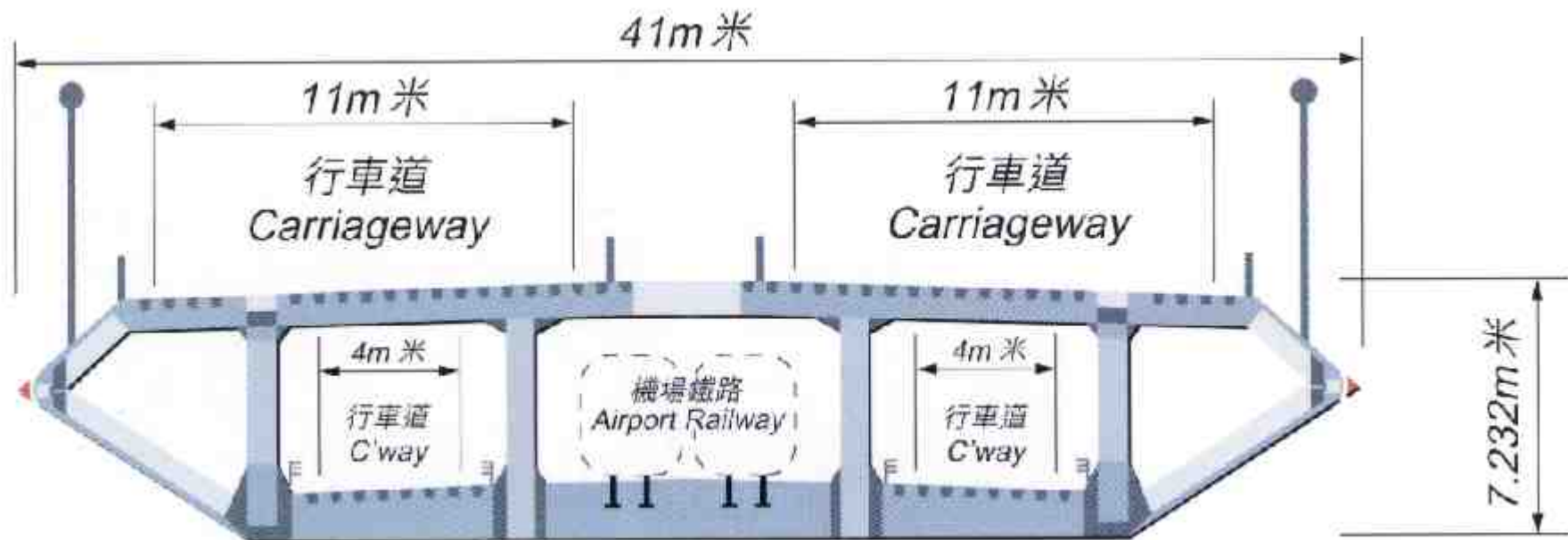
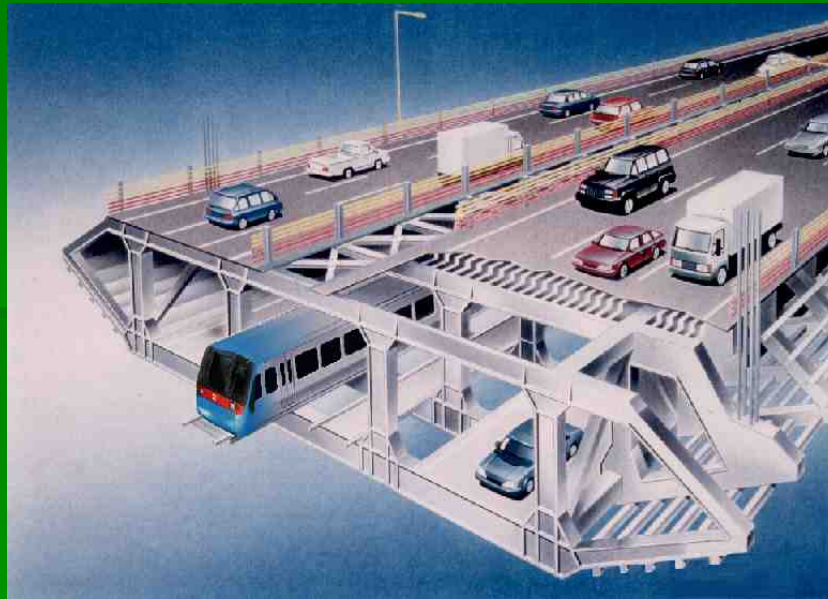
Tsing Ma Bridge

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CEE 491 – Group Project 1
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Tsing Ma Overview

- Hong Kong
- Hong Kong Department of Highways
- 1992 – 1997
- Tsing Yi to Ma Wan





Technical Specification

- Total Length – 2167 m
- Length of Main Span – 1,377 m
- Height of Towers – 206 m
- Clearance Height – 62 m
- Diameters of Cables – 1.1 m



Cost

- \$ 930 Million US Dollars
- Toll Fees
 - Motorcycles – HK \$20
 - Cars – HK \$30
 - Heavy Vehicles – HK \$40 - 80
- Rail Cost
 - HK \$30 – 40

Project Use, Social and Economic Benefits

- Used as a motorway bridge, freeway bridge and a railway bridge
- Enabled Hong Kong and South East Asia to continue its economic growth and maintain its important role as an international centre for business, shipping, aviation and tourism
- Famous tourist destination known for its scenic views and impressive light display in the evening

Tsing Ma Bridge By Day



Tsing Ma Bridge By Night



Technical Issues

- TECHNICAL ISSUES

- Typhoon Winds

- First long span suspension bridge in typhoon zone

- Performed many experiments

- One-deck bridge not stable

- Double-deck bridge is heavier

- Deck is aerodynamically shaped

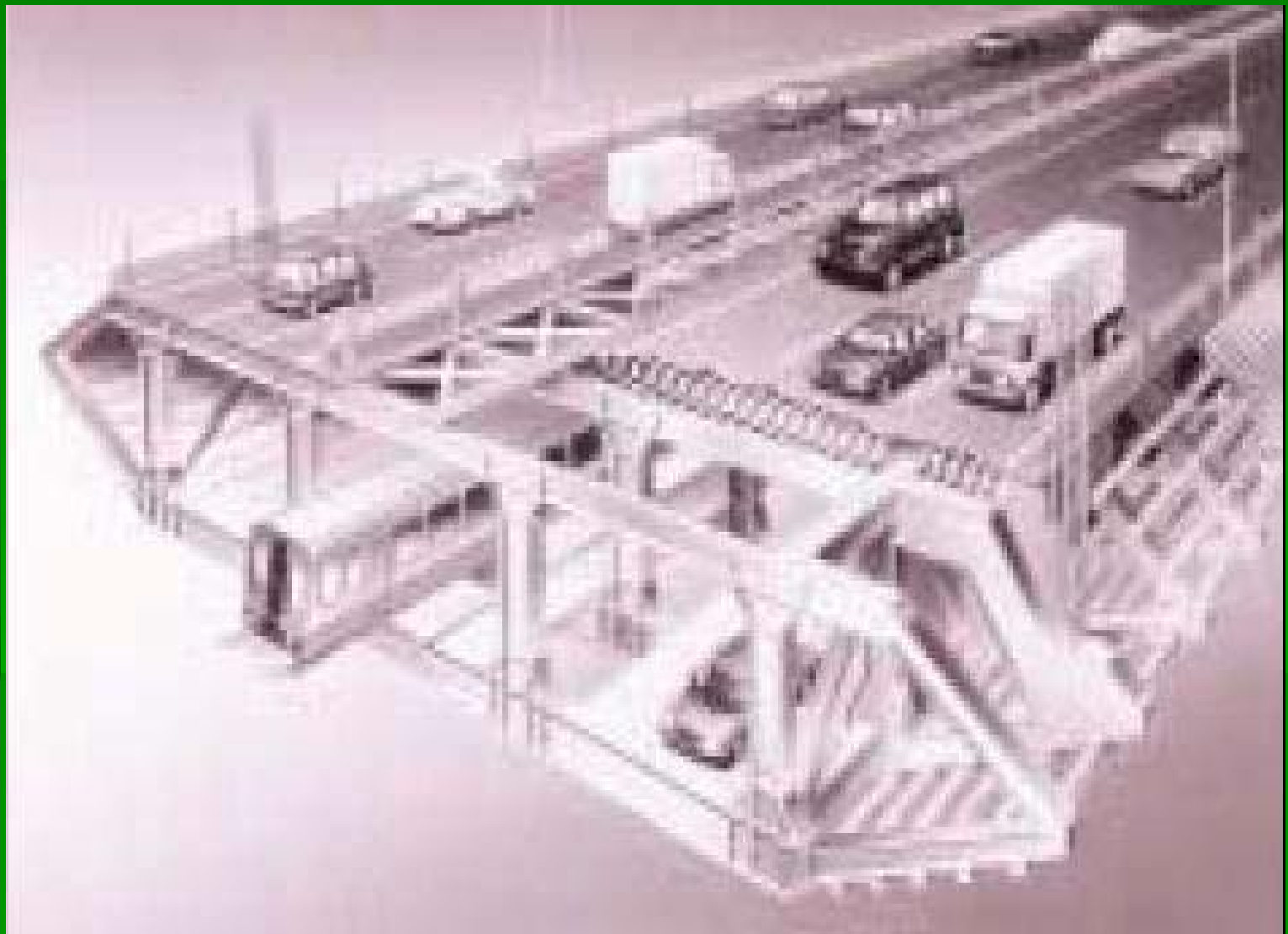
- Man-Made Island

- Suspension span too long

- Holds one of the two bridge towers

- 130 meters from Ma Wan Island





Social and Policy Issues

- Span to Sham Tseng rather than Tsing Yi
 - Shorter span but cheaper
 - Man made island very costly
- Pro-competition policy
 - Deck fabricated in Britain and Japan
 - Construction done by Cleveland Bridge
 - China is new to competition
 - a) Hard for the old companies and franchises

Thank You!