Metropolitan Expressway Company Limited

Chairman & CEO
Koji Hasegawa
1. Company Profile

- Network Location: Tokyo and adjacent prefectures
- Distance: 300 km
- Traffic Volume: 1.12 million/day
- Total Revenue: \(¥ 241 \text{ bn (€ 2 bn, US$ 2.4 bn)}\)
  (stable income, less affected by economic change)
- Structure in %: Viaduct 90%, Tunnel 5%, Earth 5%

(As of FY 2009)
2. Major Activities...

- Construction
- Maintenance
- Operation
- Engineering Consultation
3-1. Major Structures

Double Deck Suspension Bridge
Rainbow Bridge
3-2. Major Structures

Double Deck Cable Stayed Bridge
3-3. Major Structures

Single-Plane Cable Stayed Bridge
3-4. Major Structures

Double Deck Nielsen-Lohse Arch Bridge
3-5. Major Structures

Shield-driven Tunnel
3-6. Major Structures

Semi Directional T Interchange
4. Expressway Network in the Greater Tokyo Area
(3 Rings and 9 Radials)
5. Central Ring – Tunnel Structure Under Construction

- **Phase 1 (6.7km)**
  - Complete

- **Phase 2 (4.3km)**
  - Complete

- **Phase 3 (9.4km)**
  - Under Construction

**Tunnel Length (18km)**

Multi-story Junction

Lisbon

May 26, 2010

16th IRF World Meeting
6. New Shield Tunneling Technologies

6-1. Shield Tunnel Expansion Methods (STEMs)
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6-1. Shield Tunnel Expansion Methods (STEMs)

6-2. Construction of Shield Tunnel with Ramp Tunnel Deep Underground
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Large-Diameter Curved Pipe-Roofing Method
6. New Shield Tunneling Technologies

6-1. Shield Tunnel Expansion Methods (STEMs)

6-2. Construction of Shield Tunnel with Ramp Tunnel Deep Underground

6-3. Construction of Shield Tunnel Connection with Another Tunnel Deep Underground
6-3. Construction of Shield Tunnel Connection with Another Tunnel Deep Underground

Shield tunnel expansion work under traffic in service

(Patent 4288316)
6. New Shield Tunneling Technologies

6-1. Shield Tunnel Expansion Methods (STEMs)

6-2. Construction of Shield Tunnel with Ramp Tunnel Deep Underground

6-3. Construction of Shield Tunnel Connection with Another Tunnel Deep Underground

6-4. Launching Shield Machine from the Surface
6-4. Launching the Shield Machine from the Surface
6. New Shield Tunneling Technologies

- Minimizing Effect of Surface Traffic Flow
- Minimizing excavation work on the ground
- Non-requirement of Vertical Shaft

- Reducing
  - Construction Duration
  - Negative Environmental Impact

Reducing Total Cost
7. Compact/Multi-story Junction

7-1. Less Landspace Required
   – 1/4 of conventional junction

7-2. Associating with City Re-development Project
   – Reduction in land acquisition negotiation time/trouble

7-3. Eco-friendly Greenery and Public Spaces
   – Obtaining well understanding of resident
   – Success in consensus building

7-4. NOx, SPM Reduction
7-1. Multi-story Junction --- A Compact Junction

Conventional Cloverleaf Interchange
(Horizontal)

Multi-story Junction
(Vertical)
7-2. Urban Re-development Project
7-3. Environmental Friendly Approaches

- Roof park
- Well-designed wall
- Greenery on JCT wall
- Open Space with trees
- Meguro River
7-4. Good Relations with Local Residents

Cherry Blossom Festival at construction site
8. ITS Technologies for Road Safety

• Real-time Traffic Information System incorporating with ITS Technologies
  – Travel time required
  – Entrance/Exit information
  – Sharp curve information
  – Merging traffic information at junction
  – Congestion end information
8-1. Real-time Emergency System for Yamate Tunnel

Flash & Beep

Traffic Incident Detection System

Traffic Control Room

Exclusive console for Yamate Tunnel

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8-2. Smartway
– Field Operational Tests

Providing Information on Congestion Ahead
8-2. Smartway  
– Field Operational Tests

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