

# Highways in India

**Delivering innovative solutions for highway development and management in India**

**Mott MacDonald is a management, engineering and development consultancy of unrivalled diversity, providing leading-edge solutions for public and private sector clients worldwide. Our US\$1.7 billion business spans 140 countries with over 14,000 staff working in all sectors from transport, energy, buildings, water and the environment to health and education, industry and communications.**

As a firm, we are highly respected for delivering comprehensive project management capabilities within a diverse range of services in many industries around the world. For over a century, our skills have been instrumental in creating and managing solutions that can improve the economics, schedule and quality of projects. We provide a full suite of management and professional services to our clients through the entire development cycle of their projects, from initial economic and feasibility studies through to engineering, construction, commissioning and start up.

We have a deep understanding of the highways sector that encapsulates all its economic, social and environmental dimensions as well as design and construction. This is built on a portfolio ranging from planning, designing and implementing new roads to maintaining, managing, improving and operating existing highway networks.

These credentials combined with skills from state-of-the-art traffic control systems and high performance surfacing to route optimisation and environmental appraisal mean we are ideally equipped to serve the whole spectrum of highway development and management in India.

## **Our services**

- Safety
- Design and construction
- Socio environment
- Planning
- Traffic management and ITS
- Special skills



**We provided construction supervision and detailed design services for ADB funded outer ring road project for the city of Mysore in the state of Karnataka.**





**We provided construction supervision services for four lanes and strengthening of two existing lanes of NH45 B (Package VII A and VII B) from end of Trichy bypass to Madurai. This covered a total length of 125km with a major bridge, a flyover, a rail over bridge and four grade separators.**

## Our services

### Safety

- Accident reduction
- Road safety audits
- Safety in construction and maintenance

### Design and construction

- Bridge assessment and strengthening studies
- Bridge design
- Construction supervision
- Drainage plan and infrastructure design
- Foundation engineering
- Geotechnical studies
- Independent engineer and consultant
- Pavement and geotechnical design
- Pre feasibility and feasibility studies
- Preliminary and detail design
- Project management
- Site supervision/Concessionaire's agent

### Socio environment

- Environmental auditing and strategy
- Environmental impact assessment
- Environmental monitoring
- Environmental sustainability
- Pollution control
- Socio-impact assessment

### Planning

- Airport access studies
- Comprehensive mobility planning
- Infrastructure master plan of the area
- Non-motorised vehicle planning
- Risk analysis
- Special event planning
- Travel demand forecasting
- Travel demand management
- Vehicle terminal planning

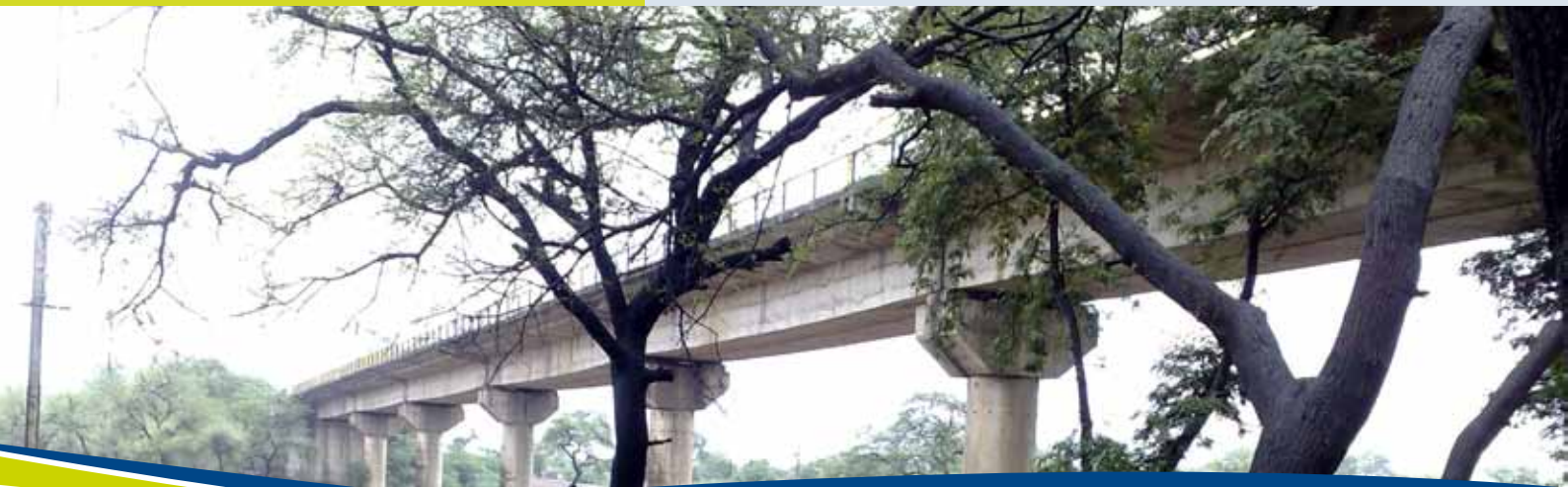
### Traffic management and ITS

- Advance public transportation systems
- Advanced traffic management systems
- Advanced traveler information systems
- Commercial vehicle operations
- Incident and emergency management systems
- ITS procurement advisory
- ITS strategy development

### Special skills

- Development planning
- Earthworks stability
- Foundation engineering
- GIS
- Lighting
- Materials recycling
- Materials technology
- Refurbishment and repair
- Seismic design
- Structural analysis
- Value engineering

**We offered pre-bid services for State Highway (SH) 27 stretching from Indore to Ujjain in the state of Madhya Pradesh for Gayatri Projects.**





**Staff on a site visit to Cochin in the state of Kerala where we provided services for the expansion to 4-lanes and strengthening of the existing 2 lane National Highway 47 from Vytilla to Aroor.**



**We provided construction supervision services for the bridge across Brahmaputra River near Guwahati in the state of Assam. This is part of a larger project which includes the bridge and approaches stretching for a total length of 5000m.**

### **Our track record**

#### **Feasibility studies and detailed project report**

- Feasibility study on integrated public transit system for Ahmedabad city – this study was undertaken to form the basis for a safe, efficient, economic and integrated public transportation system.
- Rehabilitating and upgrading existing two lane Kurnool to Anantpur section of NH7 in the state of Andhra Pradesh to four and six lane. This project, comprising of a total stretch of 125km and two major bridges, is funded by Asian Development Bank.
- Techno economic feasibility study of ring road around Ludhiana city.
- Feasibility and detailed project report into development of four and six lanes of Bahadurgarh to Hissar section of NH10 in Haryana state on build, operate and transfer (BOT) basis.
- Detailed project report for development of six state highways in Chattisgarh on BOT basis and private sector participation.

#### **Pre-tender engineering**

- Engineering services for six lanes of Chilkaluriupet to Vijayawada section, a total length of 82.5km, of the NH5 in Andhra Pradesh.
- Engineering services for four lanes of Kannur to Kuttipuram section, a total length of 82km, of NH17 in Kerala.
- Design, engineering, finance, construction, operation and maintenance of six lanes of Badarpur elevated road of NH2 (Delhi to Agra section) under National Highways Development Programme phase V. This complex interchange is built at the major junction of Faridabad to relieve traffic congestion at Delhi Haryana border. The project is being developed on a design, build, finance and operate (DBFO) basis.

#### **Traffic studies**

- Traffic studies for design, engineering, finance, construction, operation and maintenance of four lanes of NH4 from Indore to Khalghat, a total length of 72km. The project is being developed on a DBFO basis.
- Traffic validation studies to look into feasibility of developing for four lanes on NH6 from Raipur to Aurang and on NH58 from Meerut to Muzaffarnagar, a total length of 82km, on BOT basis.
- Traffic validation studies for a 550km stretch of highway in Punjab.

#### **Construction supervision**

- Bridge across Brahmaputra River including approaches near Guwahati in the state of Assam. This is a flagship project with one major bridge and approaches stretching for a total length of 5000m.
- Four lanes and strengthening of two existing lanes of Vytilla to Aroor section of NH47 at Cochin, Kerala. Two major bridges, one of 900m and another of 215m, are also being built on backwater creek.
- Four lanes and strengthening of two existing lanes of NH45 B (Package VII A and VII B) from end of Trichy bypass to Madurai. This covered a total length of 125km with a major bridge, a flyover, a rail over bridge and four grade separators.
- Outer ring road of Mysore city, Karnataka. This was an ADB funded project and also included detailed design.



**Appointed by Waterford City Council in Ireland, we provided consulting services in relation to the preliminary design and planning of the N25 Waterford Bypass and of the scheme as a Public Private Partnership.**

#### Contact us

**Korivi Rameshwar**

T +91 (0)40 3917 8700

E [k.rameshwar@mottmac-india.com](mailto:k.rameshwar@mottmac-india.com)

AP/06/11

[www.mottmac.in](http://www.mottmac.in)



#### Worldwide expertise

Our projects involve various innovative techniques from all over the world. We can deliver any project from concept to delivery. We can advise on initiatives such as single lane tolling or high occupancy vehicle lanes. We have a wealth of experience in delivering technology projects from inception and commissioning to management to meet our clients' expectations. We manage and maintain technology once it has been implemented.

Our designers include technology and intelligent transport systems experts, highway design experts, pavement engineers, geotechnical engineers and structural engineers able to deliver every aspect of a technology project. Our structural engineers have been helping manufacturers gain technical approval for our esteemed clients. We also have a team of environment specialists dedicated to delivering road schemes strongly focusing on sustainability.

- **PATHE highway, Greece** 750km Patras-Athens-Thessaloniki-Evzoni (PATHE) national highway is a part of Inter-European network connecting Greece from north to south. Mott MacDonald and Louis Berger Group joint venture was appointed to act as project manager for 200km dual carriageway of northern section of PATHE highway development. The joint venture was responsible for tender document preparation, issuing and evaluating bids, advising on contractor appointments, establishing a system and methodology for project administration, setting up a laboratory for on-site inspections, quality systems and advising on contractual and technical issues.
- **Motorway and trunk road network management, United Kingdom** Mott MacDonald and Balfour Beatty's Infrastructure Services joint venture partnership is providing consultancy and maintenance services to the UK's Highways Agency for two key sections of the UK highway network. The contracts cover all aspects of highway maintenance from road rehabilitation works, bridge and highway structures rehabilitation and repairs and pavement strengthening to road signage and lightning for over 1500km of motorway and trunk roads on some of the UK's busiest strategic routes.

#### Intelligent Transport Solutions (ITS)

Integrated technology and operations are important ways by which government and local authorities can deliver their committed and future plans for transport as well as enabling them to meet their traffic management duties and local aspirations. In Mott MacDonald we assist clients in getting the best from ITS, maximising the benefit and return on investment gained from ITS and providing investment protection in ITS solutions for the future.

- **Intelligent Transport Services (ITS) strategy** We have worked with major local authorities to develop and deliver multimodal ITS strategies capable of delivering their policy and operational objectives.
- **Car park guidance** We have delivered a complete car park guidance service to several clients covering initial concept through to design, procurement, implementation and operation.
- **Active traffic management (ATM)** We have developed a centre of excellence for the monitoring and analysis of advanced ATM solutions ensuring maximum benefit and return on investment.
- **Control room management** Our expertise includes the operational management of advanced traffic control and management systems and their integration with broader multimodal systems.
- **Travel information** We have a track record in delivering highly integrated multimodal solutions on RTP1 systems and are well placed to provide solid advice on how to deliver real-time travel information when and where it is needed.