



a company of **Royal HaskoningDHV**

# International Brochure

[itpworld.net](http://itpworld.net)



## Welcome to ITP

Transport is rarely enjoyed as an end in itself but almost always is a necessary component of achieving something else - going to meet a friend; seeing the doctor; delivering goods; getting to work. Populations, particularly those of our cities, continue to grow and transform the built environment, making the delivery of effective, sustainable transport one of the greatest challenges of this century.

We at ITP recognise that the delivery of successful transport relies not just on good physical planning and design; but also on the decisive inclusion of social dimensions, the sustainable use of resources and on integrating that design with other infrastructure and projects. In order to succeed integrated mobility strategies and transport initiatives rely on striking a good balance between the spatial fabric and its development, the visions and aims of public and private institutions, and the needs and aspirations of communities down to the smallest level.

## About us

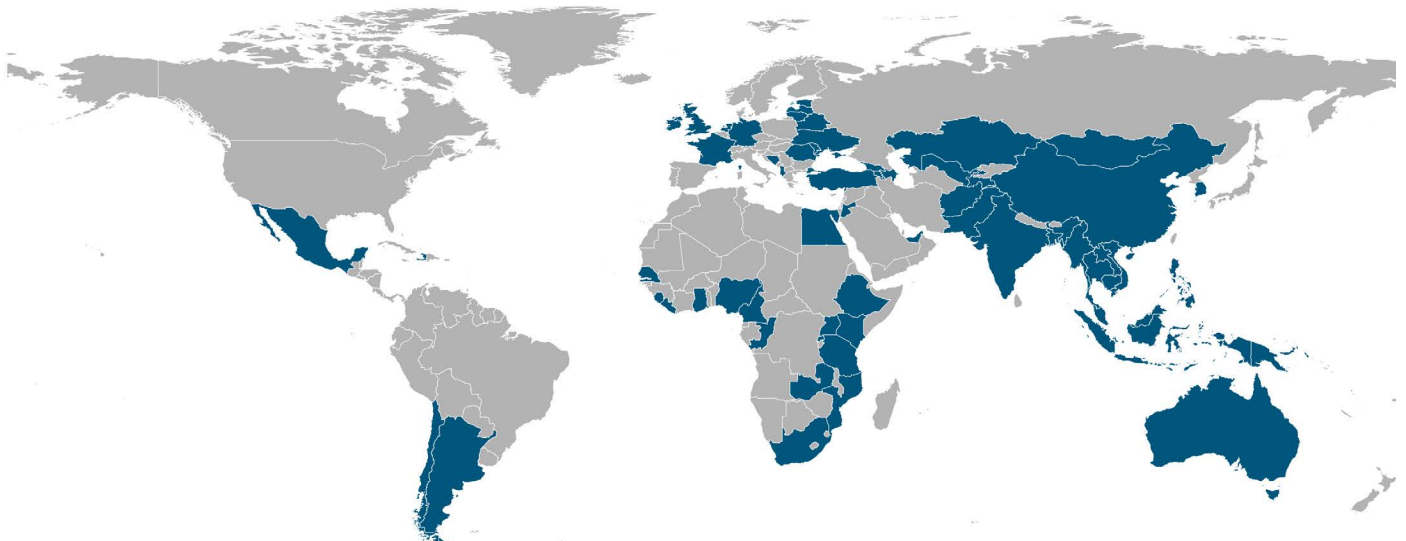
ITP is a UK-based sustainable transport planning consultancy and part of the Royal HaskoningDHV family.

We have an enviable track record of working with public and private sector clients over the past 25 years, to plan and deliver successful international transport projects.

We regularly work alongside funding bodies and international cooperation and financing agencies; national, regional and local government; landowners and developers; to deliver practical, sustainable and integrated transport, giving special attention to the development of workable solutions that respond to our client's objectives.

ITP has worked with donor organisations, governments, private agencies and NGOs in over 60 countries on six continents. The countries where we have worked and developed projects are shown below.

## Where we have worked



# What makes us different?

ITP has an enviable reputation for quality, innovation and original thinking. Our philosophy is to work in partnership with, and not just for, our clients.

We emphasise providing practical, deliverable and lasting solutions to multiple transport issues. Skills transfer and institutional capacity building are as much part of our work as strategy development and infrastructure design.

We work from the principle that transport systems should be driven by the needs of local people and we place great emphasis on understanding the local cultural context and characteristics of the natural and built environment before developing tailored practical solutions.

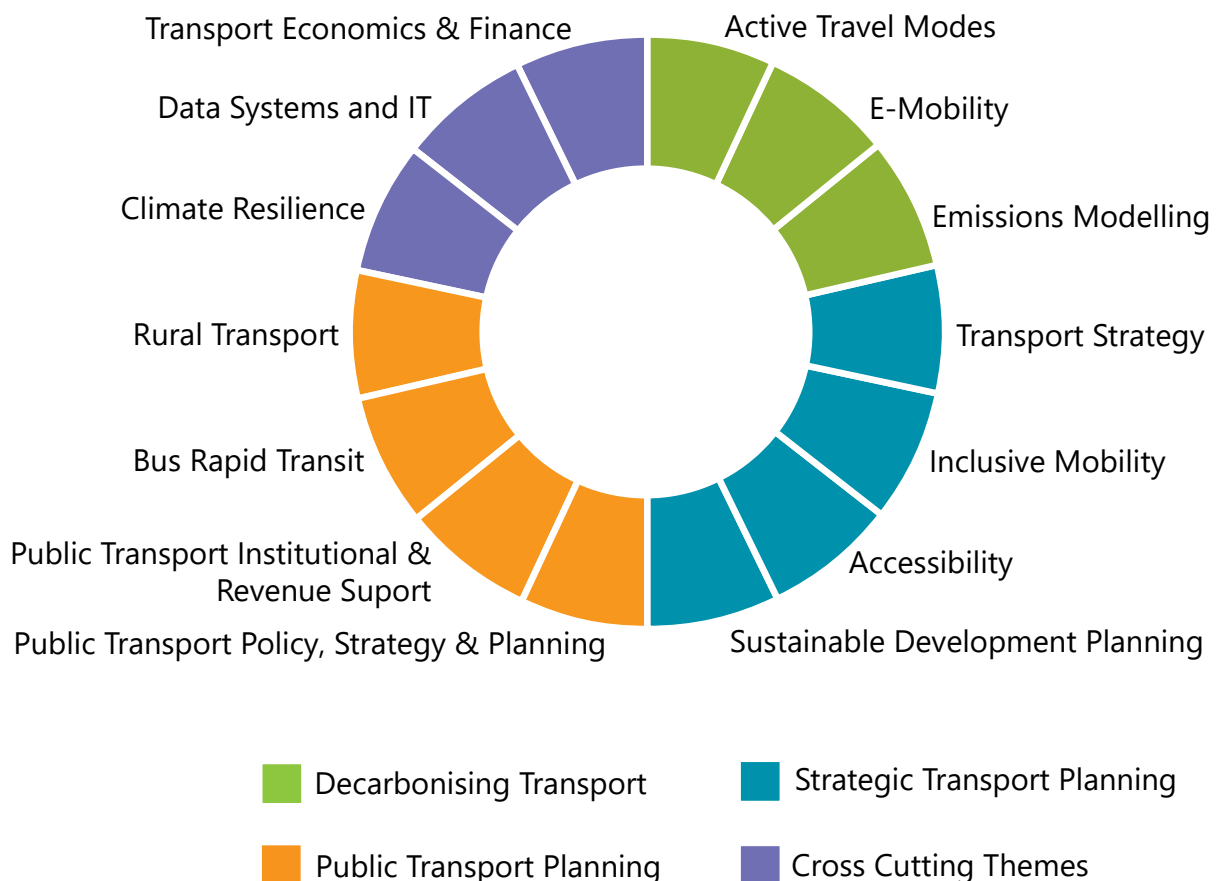
Access to high-quality, reliable, safe transport can change the quality of life for local people and enhance opportunities - that is our main source of inspiration when delivering projects.

# Portfolio of services

- Policy and Strategy Development
- Economic Appraisal
- Scheme Design
- Institutional Reform
- Modelling and Forecasting
- Audit, Monitoring and Evaluation
- Stakeholder Engagement
- Public Consultation
- Research
- Air Quality and Climate Change

# Technical areas

Our technical areas of advice and input for multiple phases of project planning and operation include:



# Decarbonising Transport

Transport is a significant contributor to Green House Gas emissions, and a coherent approach to climate change mitigation is needed. Introducing low and zero carbon mobility into mainstream transport systems forms part of this mitigation.

We address decarbonisation by facilitating traditional sustainable transport systems such as non-motorised transport & mass transit and by introducing technologies such as electric vehicles.

We advise our clients on market readiness for adopting electric vehicles, create effective policy and regulatory frameworks for EV adoption and develop the necessary institutional structure and human capital to operate and manage electric transit.

Using our optimisation tool for EV charging infrastructure, we develop area-wide charging strategies to help our clients create comprehensive e-mobility roadmaps.





## Electric Mobility Development in the Philippines

Urban population growth in Metro Manila continues at a very high rate in terms of both internal growth and in migration. Assuming the current trend of population growth continues until 2035, the population of Metro Manila and adjoining provinces would be more than 38 million. The current infrastructure gaps present opportunities to introduce innovative solutions and, with the right business model, attract private investment.

ITP lead a technical assistance project to support the World Bank in its promotion of low-carbon mobility and clean energy transition in the Philippines through the growth of the electric mobility sector. The objective was to develop a clear roadmap and associate policy recommendations to promote electric vehicle adoption and develop pilot schemes for electric buses.

The study informed policy development and technology deployment through:

- Analysing policy, regulatory, supply and demand related factors affecting e-Mobility deployment for buses, jeepneys, three-wheelers and taxis.
- Identifying the gaps and barriers in the e-vehicle ecosystem.
- Investigating the likely entry-point of electric vehicles in the Philippines.
- Developing policy recommendations to accelerate e-mobility deployment at a national level.
- Developing investment package options to support the deployment of e-mobility at a city level.



Client:



**THE WORLD BANK**

Location:

Manilla, Philippines

Associated Consultants:

University of Philippines

pManifold

Shenzhen Bus Group

Project Contact:

Stuart Clapham

[stuart.clapham@itpworld.net](mailto:stuart.clapham@itpworld.net)



## Delivering Electric Vehicle Enabled Building

Due to the rapid increase of electric vehicles in Scotland, the Government is considering a change in the building regulation to facilitate EV adoption.

The project sought to explore the costs of installation of charge points and associated infrastructure in the car parks of a range of different types of buildings at different stages of their lifecycle, in different locations and the economic impact of the installation of such infrastructure.

The study aimed to understand the potential issues and costs that may vary by areas such as urban centres, rural areas and remote islands. ITP supported the lead partner of this project in carrying out the research work.

The project team from ITP provided the following services:

- Co-principal investigator of this research study.
- Developed an understanding of the key barrier and opportunities for private suppliers of EV chargers in publicly accessible buildings.
- Developed an understanding of the cost variability of installing EV chargers at a building site at various stages of its life cycle.
- Extensive consultations with private sector charging infrastructure providers, local authorities, and academics.



**Client:**

climateXchange

**Location:**

Scotland, UK

**Associated Consultants:**

Wood Group Ltd.

Strathclyde University

**Project Contact:**

Moshiuzzaman Mahmud

[moshiuzzaman.mahmud@itpworld.net](mailto:moshiuzzaman.mahmud@itpworld.net)



## E-Mobility Solutions for Almaty

Almaty is Kazakhstan's largest city and main commercial centre, with a population of over 2 million. Despite its tree lined streets and pioneering urban realm projects, cold winters and its location at the Trans-Ili Alatau mountain range make the city prone to poor air quality, with the city frequently covered by a layer of toxic smog.

While e-mobility is still in its infancy, ITP has been working with World Bank and the Almaty Akimat (City Hall) to understand the potential for e-mobility to improve urban quality of life and reduce GHG emissions. Our team has been providing technical advisory services to the World Bank to help them to understand the suitability of different electric bus technologies for the local geographical conditions, and to understand the market potential for private electric vehicles among Kazakhstani consumers.

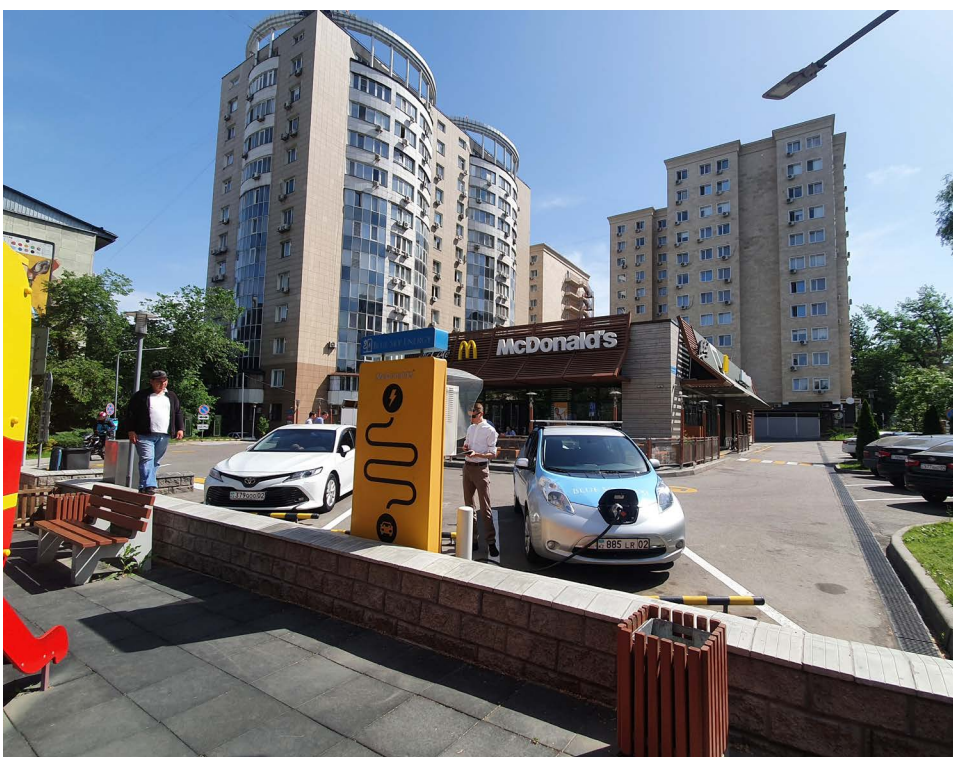
Key Project deliverables include:

### Electric bus potential

- Assessment the e-bus ecosystem in Almaty, from transport and energy grid perspectives.
- Modelling the suitability of e-bus technologies considering local topographical and climatic conditions
- Assessment of the high level potential for In Motion Charging as a locally suitable solution to use the existing trolleybus network as the basis for e-mobility expansion.

### Private EV market potential

- Supported the bank in the development and analysis of a Stated Preference (SP) survey into consumer demand elasticities.



Client:



**THE WORLD BANK**

Location:

Almaty, Kazakhstan

Associated Consultants:

RHDHV Netherlands

pManifold

Project Contact:

David Brenig-Jones

[david.brenig-jones@itpworld.net](mailto:david.brenig-jones@itpworld.net)



## Delhi Transport Corporation Institutional Review

The Delhi Transport Corporation (DTC) is a state-owned bus operator with a fleet strength of 3,700 Compressed Natural Gas buses. The agency is an independent public transport operator and has been operating bus services since its inception in 1970.

It is currently transitioning into a Gross Cost Contract (GCC) operating model where it concedes part of its bus operation to the private sector. It is also transitioning its fleet to Electric Buses by the phased introduction of 1,800 electric buses.

The World Bank appointed ITP to assess DTC's current Institutional and functional form and investigate how that would need to be reformed given that DTC is gradually transitioning into a management role from an operator.

The study focused on a few critical areas:

- Institutional structure and functional form of DTC and how that would change in the future.
- DTC's financial status and how that can be improved to instil financial stability.
- Improving DTC's human resource capability
- How to improve business process efficiencies by the introduction of technologies such as Business Intelligence (BI) tools; and
- Capacity building requirements to address the skill gaps for GCC management and electric bus operation.

To conclude, the team produced short (two years) and medium (six years) term strategic action plans to help DTC to navigate the transition towards electric vehicles.



Client:



**THE WORLD BANK**

Location:

New Delhi, India

Project Contact:

Moshiuzzaman Mahmud

[moshiuzzaman.mahmud@itpworld.net](mailto:moshiuzzaman.mahmud@itpworld.net)





# Mongolia E-Mobility Road Map and Electric Bus Business Model

Rapid motorisation in Mongolia, particularly in Ulaanbaatar, is a major contributor to poor air quality, congestion and greenhouse gas (GHG) emissions. However, decarbonisation of the transport sector presents unique challenges including extreme climate conditions, dependence on coal for energy generation and heating, and an aging imported vehicle fleet.

This first analytical study of e-mobility in Mongolia seeks to explore the transport and energy related opportunities and challenges for EVs in the country (particularly Ulaanbaatar), and develop a roadmap of actions to accelerate EV deployment as a means to reducing carbon emissions.

As part of this, the study will support the Ulaanbaatar City Government to develop business models for electric buses which enables their cost-effective financing and efficient operation.

ITP has developed a national e-mobility roadmap and business model for electric bus operation in the Ulaanbaatar city. The study explored the key modal entry point and assessed the policy level changes required and developed a time-bound action plan to accelerate EVs in the country.



Client:



**THE WORLD BANK**

Location:

Ulaanbaatar, Mongolia

Associated Consultants:

RHDHV Netherlands

pManifold

Project Contact:

Stuart Clapham

[stuart.clapham@itpworld.net](mailto:stuart.clapham@itpworld.net)



## E-Mobility Support and Investment Platform for Asia and the Pacific

Implementing a knowledge and support platform to promote innovations for decarbonising the transport sector in Asia and the Pacific. The vision of the platform is to become a centre of knowledge in Asia and the Pacific region to support a just transition towards net-zero pathways. It brings together client country representatives working toward EV adoption in their countries, as well as private sectors, industry experts, and research organisations in the region. The key focus area includes road transport, urban transport, charging infrastructure, energy sector, gender & social inclusion, maritime and aviation.

The ITP team delivered the full TA through a number of activities, including:

- Developing an e-mobility community by bringing DMC representatives, ADB staff, private sectors, research organisations and development partners;
- Developed EV needs assessment for four key market clusters in the region;
- Delivered specialised capacity building activities ranging from training, workshops and webinars;
- Published newsletter;
- Conducted policy dialogues amongst the community members;
- Developed investable pipeline in the region; and Provided technical advice in developing EV projects.



**Client:**



**Location:**

Developing member countries from Asia and the Pacific

**Project Contact:**

Moshiuzzaman Mahmud

[moshiuzzaman.mahmud@itpworld.net](mailto:moshiuzzaman.mahmud@itpworld.net)



## Developing Technology Action Maps for EV Infrastructure

ITP was appointed by Midlands Connect to undertake a transport technology road-mapping study. The aim of the study was to produce a suite of Technology Route Maps that describe the development of transport technologies between 2020 and 2060 for a range of different modes.

Through the study, we created bespoke Technology Route Maps for Zero-Emission Vehicles, Integrated Mobility Solutions, Connected and Automated Vehicles and Intelligent Transport Systems, Rail Systems, Maritime and inland Waterways, and Air Transport. Each Technology Route Map identified the key technologies (conventional and digital) associated with each and explained their development to 2060, drawing upon a diverse evidence base.

The Route Maps also identified the critical path for each technology, reflecting on the policy drivers, the building blocks (including factors of production) needed to enable them to attain full technological readiness and then maturity, and interdependencies with other technologies.

Each Technology Route Map was accompanied by a Technology Action Plan to describe the immediate actions and next steps to be taken by Midlands Connect, Partner authorities and other stakeholders to ensure the benefits of new technologies are realised and to ensure that the Midlands region is positioned at the forefront of the transport technology agenda.



**Client:**



**Location:**

United Kingdom

**Project Contact:**

Tom Fleming

[tom.fleming@itpworld.net](mailto:tom.fleming@itpworld.net)



## Lebanon E-Mobility Study

UNDP, with funding from GEF, planned to implement a pilot of a high-quality bus service between Jbeil and Beirut. The service would be served by a fleet of electric buses, which would be charged using captive chargers powered through PV panels in order to mitigate local grid reliability challenges. ITP and RHDHV are supporting pManifold in the validation of technical specifications for energy systems, e-buses and chargers, and bus operations and providing support in the procurement and implementation of these components.

ITP assessed the public transport and energy requirements for the pilot scheme. The team developed several contract documents for electric buses and solar-powered charging stations in Beirut. The energy team assessed the power sector demand and designed the solar-powered charging stations. The team also provided site supervision services in installing those solar-powered EV chargers.



**Client:**



**Location:**

Jbeil Municipality, Lebanon

**Associated Consultants:**

RHDHV Netherlands

**Project Contact:**

Moshiuzzaman Mahmud

[moshiuzzaman.mahmud@itpworld.net](mailto:moshiuzzaman.mahmud@itpworld.net)



# Decarbonising Central Asia

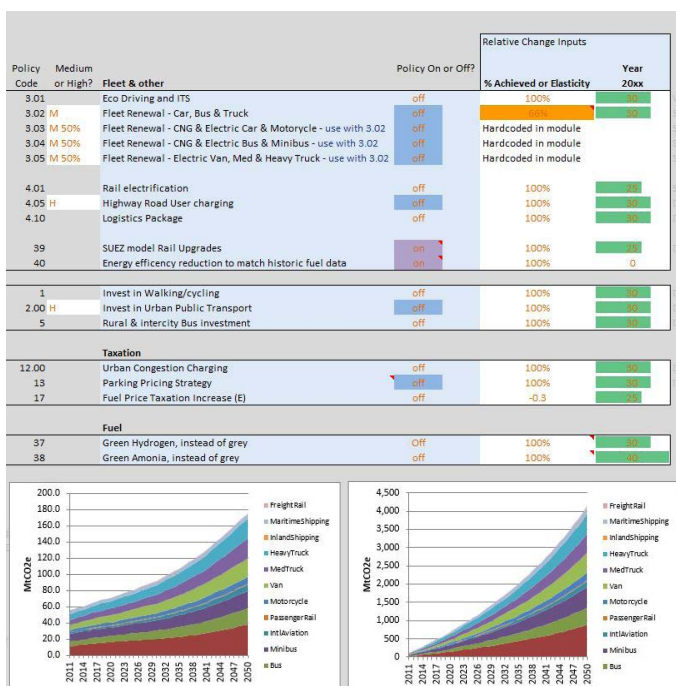
ITP has been appointed by the World Bank to lead an exploratory analysis to understand the policies and future pathways that Central Asian countries (Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, and the Kyrgyz Republic) could employ to decarbonize their transport networks.

The assignment is developing country-specific profiles of existing connectivity, pricing, standards and emissions, together with assessment of local decarbonisation ambitions. Based upon this, we are developing proposals which demonstrate the steps necessary to achieve NDCs and the resulting impacts, costs, and benefits. Measures and pathways will be rooted in international experiences and national policy reviews. A link-based model and a fleet and emissions model (TESSE) will enable future GHG reductions to be understood within the individual context of the region, and allow for a prioritization of policy interventions for each country.

## TESSE: ITP's Strategic Transport Fleet and Emissions Model

TESSE is ITP's fleet and emissions model, used to model the impact of green policy interventions at a national or city level upon long-term carbon emissions to support decision making and policy prioritisation. It was developed by ITP and has been deployed on World Bank studies in Romania, Egypt, Kenya, Ethiopia, the Eastern Caucuses and Central Asia.

The model includes a wide range of policies including intelligent traffic signals, speed restrictions, fleet renewal, road user charging, green shipping, logistics consolidation, NMT, Urban PT and travel demand management. It is comprehensive across vehicle segments and use cases (passenger & freight demand) and considers socio-economic future technology and fleet projections.



Client:



**THE WORLD BANK**

Location:

Central Asia

Associated Consultants:



Pro Mobility

Project Contact:

David Brenig-Jones

[David.Brenig-Jones@itpworld.net](mailto:David.Brenig-Jones@itpworld.net)



## Nottingham Zero Emission Buses Regional Areas (ZEBRA)

Following an announcement of electric bus funding from the UK Government and a successful Expression of Interest, ITP worked with Nottingham City Council, and their partner operator, to develop and deliver a full business case for replacing the City's single-deck midi buses with electric vehicles. Better access to vulnerable groups of people was a requirement in developing the business case.

The five-part business case supports investment in Nottingham's bus fleet, delivering against National decarbonisation policy and Nottingham's own local Carbon Neutral targets, promoting low-carbon travel in the City.

The case includes financial support for vehicle capital costs as well as associated grid connection and charging infrastructure required to support depot electrification.

The specific focus was on the economic case section and the inclusion of local bus operating data into DfT's Greener Buses Spreadsheet Model to demonstrate the value for money of the proposed investment in the latest generation electric buses.



Client:



**Nottingham**  
**City Council**

Location:

Nottingham, UK

Project Contact:

Neil Taylor

[neil.c.taylor@itpworld.net](mailto:neil.c.taylor@itpworld.net)



## Dushanbe Riverside Development

The study reviewed the design developed by the municipality and explored how additional measures are needed to make the design more sustainable, especially emphasising Non-motorised transport (pedestrian and cyclists), public transport, electric mobility and overall transport operation. The team delivered the project in three phases:

- Phase 1: baseline diagnostics, review project scoping and develop design changes
- Phase 2: due diligence of the recommended design changes, economic appraisal, climate modelling and EBRD's GET (Green Economic Transition) assessment
- Phase 3: support the municipality in upgrading the existing design to incorporate sustainable solutions

NMT assessment introduced better and safe pedestrian and cyclist facilities. The public transport recommendations included better bus operation by introducing dedicated bus lanes, better use of the Intelligent Transport System and inclusive access to public transport. Assessing the need for introducing electric vehicles in the city and the design requirements for incorporating charging infrastructure was one of the key components of the study. E-mobility assessment of this study included; Electric vehicle policy and strategy evaluation; Institutional, regulatory and design requirements for incorporating electric vehicles (bus and taxis) and charging infrastructure. The study included extensive data collected through an on-the-ground survey, Consultation with both public-sector agencies (ministries and municipalities), and private-sector enterprises.



**Client:**



**Location:**

Dushanbe, Tajikistan

**Project Contact:**

James Evans

[james.evans@itpworld.net](mailto:james.evans@itpworld.net)



a company of Royal HaskoningDHV

## Contact

For further information or to discuss how we can help you, please contact:

**Colin Brader**

t: +44 (0) 121 213 4728

e: [colin.brader@itpworld.net](mailto:colin.brader@itpworld.net)

**James Reeves**

t: +44 (0) 121 213 4728

e: [james.reeves@itpworld.net](mailto:james.reeves@itpworld.net)

**Moshiuzzaman Mahmud**

t: +44 (0) 7436 026 589

e: [moshiuzzaman.mahmud@itpworld.net](mailto:moshiuzzaman.mahmud@itpworld.net)

[www.itpworld.net](http://www.itpworld.net)