IBI MOBILITY+

IBI

Welcome to the age of choice.

Today, we're living in a more informed city of choice. Through the integration of new technologies, IBI Group is connecting the on-demand world we live in by designing new mobility experiences.

Designing the experience, engineering the journey, enabling a connected future.

We are leading the way in a new mobile ecosystem that is changing how we interact with, and move throughout our cities.

How we walk, bike, commute, and drive in our communities is increasingly interconnected. With Mobility+, we not only design and engineer how the city moves, we tap into community intelligence and the new technologies that bring choice and convenience into the urban journey, enabling an informed mobile future for our cities, and our citizens.

At IBI, we bridge the gap between design and technology.

The smartphone changed how we view transportation within communities.

WHAT'S THE + IN MOBILITY+?

We are living in the age of intelligent processes and artificial neural networks. We design for a future that is connected, where technology enables human-centred mobility. It is no longer possible to consider only one mode of travel, one technology or one data source. IBI focuses on making the connections that put people at the centre of a truly Smart City.

We believe in connecting people to real-time data in order to make informed choices. With an expert knowledge of predictive analytics, Software as a Service (SaaS), and information exchange, we embed solutions into our designs in order to create better urban experiences for travelers.

We are advancing human-centred design in the age of systems.

From software solutions to new products, IBI is a holistic partner for cities. From design to operations to the user experience, we're bringing systems thinking to communities.

Technology underpins the changes we are seeing in how we live, learn, heal, and move in communities. Smart design must adapt to unpredictable disruption in a demand-driven, sharing-based economy.

Placing transformative intelligent transportation at the heart of a Smart City.

Great mobility is about seamless connections, effortless movement, and a good traveling experience.

Today, everything is connected; our journeys continue into our places of work, our learning environments, our homes, and where we choose to receive healthcare. IBI is at the vanguard of the new web of interconnected communities and citizens that defines the resilient Smart City of today.

A Smart City is a city that increases its competitiveness and quality of life, efficiently uses resources, and supports economic sustainability. IBI supports this goal by applying human-centred technology and design to raise the IQ of the built environment.

At IBI, we believe in partnering with the public sector, private sector, research institutions, and most importantly, citizens, to create the resilient, connected, smart cities of tomorrow.

Mobility as a service means we expect more from our cities.

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A new mobility ecosystem is emerging for cities.

We believe communities must be designed with intelligent systems, sustainable buildings, efficient infrastructure, and a human touch. From planning policy, to experience design, through to system operations, we focus on delivering urban journeys that offer multiple choices for travelers.

Moving to the Future: Policy and Planning

We know that successful transportation and transit networks are built on the bones of good policy, planning, and citizen engagement. Great mobility enables livable, prosperous, and resilient communities, and that is why we have developed a deep expertise in transit-oriented development. As the creators and integrators of transit technologies, we also strive to ensure that policy and planning are future-proofed in an age of great transition and change.

EXCHANGE PLACE KIDDERMINSTER, ENGLAND, UK
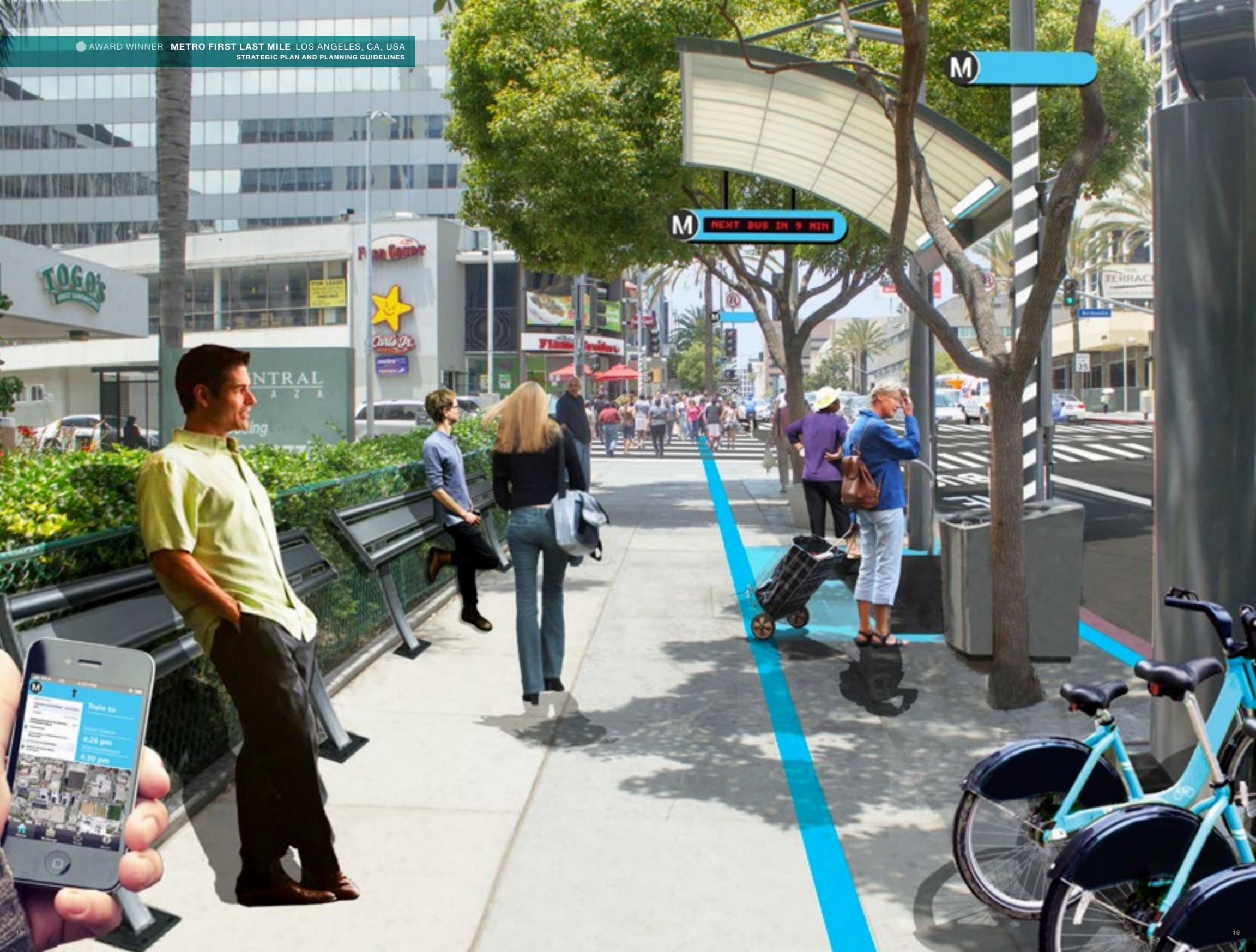PEDESTRIAN PRIORITY SCHEME

AWARD WINNER **ABU DHABI PUBLIC REALM** ABU DHABI, UAE
DESIGN GUIDELINES

FIGUEROA CORRIDOR LOS ANGELES, CA, USA
STREETSCAPE PLAN

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SUSTAINABLE URBAN TRANSPORT PLAN INDIA
TRANSIT ORIENTED DEVELOPMENT AND NON-MOTORIZED TRANSPORT/PUBLIC BICYCLE SHARING PLANS

M

NEXT BUS IN 9 MIN

GREEN LINE SOUTHEAST TRANSITWAY CALGARY, AB, CANADA
BUS RAPID TRANSIT/TRANSIT ORIENTED DEVELOPMENT PLANS AND TRAFFIC SIMULATION

PAN AM/PARAPAN AM GAMES TORONTO, ON, CANADA ● AWARD WINNER
PROJECT MANAGEMENT, GAMES ROUTE NETWORK PLAN, LOCAL AREA PLANS, AND WAYFINDING AND SIGNAGE PLAN

METROLINX THE BIG MOVE GREATER TORONTO, ON, CANADA
REGIONAL TRANSPORTATION PLAN

KING-VICTORIA MULITMODAL TRANSIT HUB KITCHENER, ON, CANADA
LAND USE PLAN AND REFERENCE ARCHITECTURAL DESIGN

Design and Technology

Driven by technology, the increasingly seamless connections between modes of travel means we must design the complete experience of a traveler's journey. IBI's design and technology expertise is not only broad, but rich as well. We can design and engineer the entire urban and inter-urban journey – from bicycle routes, light rail transit, highways, and bridges, to the stations and mobility hubs that bring all the elements together. And our systems expertise means we use data analytics, systems integration and the latest in transit technologies to underpin the next generation of mobility design, delivery and management.

FLORIDA 511 FLORIDA STATE, USA
TRAVELER INFORMATION SYSTEM DESIGN AND DEPLOYMENT

ONTARIO CENTRAL REGION COMPASS TRANSPORTATION MANAGEMENT CENTRE TORONTO, ON, CANADA
WORKLOAD STUDIES AND INTELLIGENT TRANSPORTATION SYSTEM ELECTRONICS FIT-IN DESIGN

VALLEY LINE LRT EDMONTON, AB, CANADA
STATION ARCHITECTURE, LANDSCAPE ARCHITECTURE, URBAN DESIGN, AND TRANSIT PLAN

NO.3 ROAD CORRIDOR RICHMOND, BC, CANADA
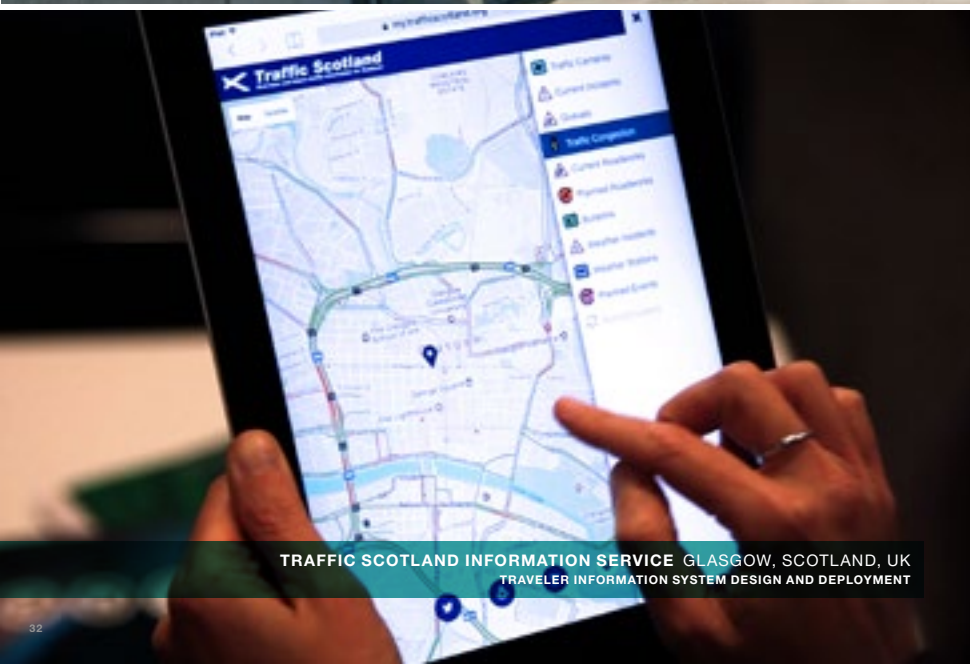CORRIDOR RESTORATION PLAN, STREETSCAPE DESIGN, AND ABERDEEN STATION LANDSCAPE ARCHITECTURE

PORT IMPERIAL FERRY TERMINAL WEEHAWKEN, NJ, USA ☀ AWARD WINNER
TERMINAL ARCHITECTURE

VIVANEXT BUS RAPID TRANSIT YORK REGION, ON, CANADA
TRANSIT SIGNAL/ELECTRICAL/LIGHTING DESIGN, LANDSCAPE ARCHITECTURE, TRANSIT PLANS, AND ARCHITECTURAL SERVICES FOR FACILITIES

TRAFFIC SCOTLAND INFORMATION SERVICE GLASGOW, SCOTLAND, UK
TRAVELER INFORMATION SYSTEM DESIGN AND DEPLOYMENT

HAM-75 INTERSTATE IMPROVEMENTS OHIO, USA
HIGHWAY AND ROAD DESIGN, BRIDGE/TRAFFIC/CIVIL ENGINEERING, AND SUSTAINABILITY, ENVIRONMENTAL, AND WATER RESOURCES MANAGEMENT
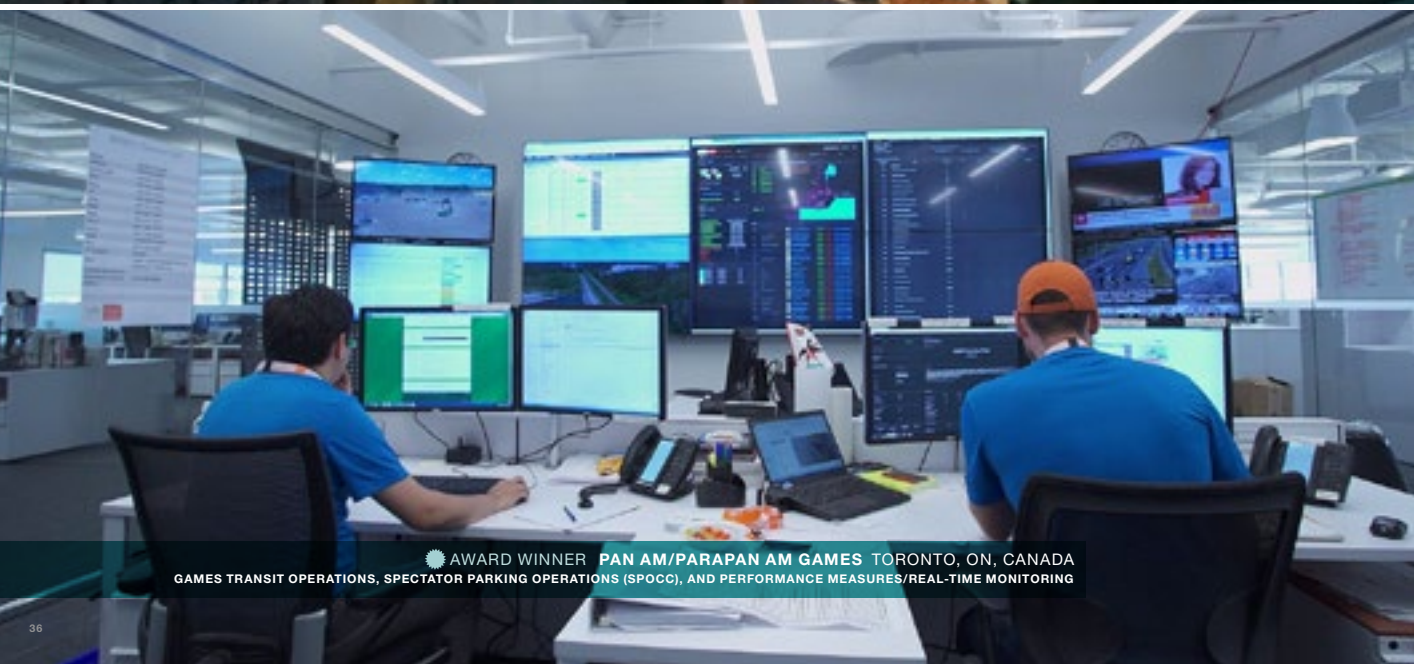
EGLINTON CROSSTOWN LRT TORONTO, ON, CANADA
STATION ARCHITECTURE, LANDSCAPE ARCHITECTURE, URBAN DESIGN, AND CIVIL/MECHANICAL/STRUCTURAL/ELECTRICAL/SYSTEMS ENGINEERING
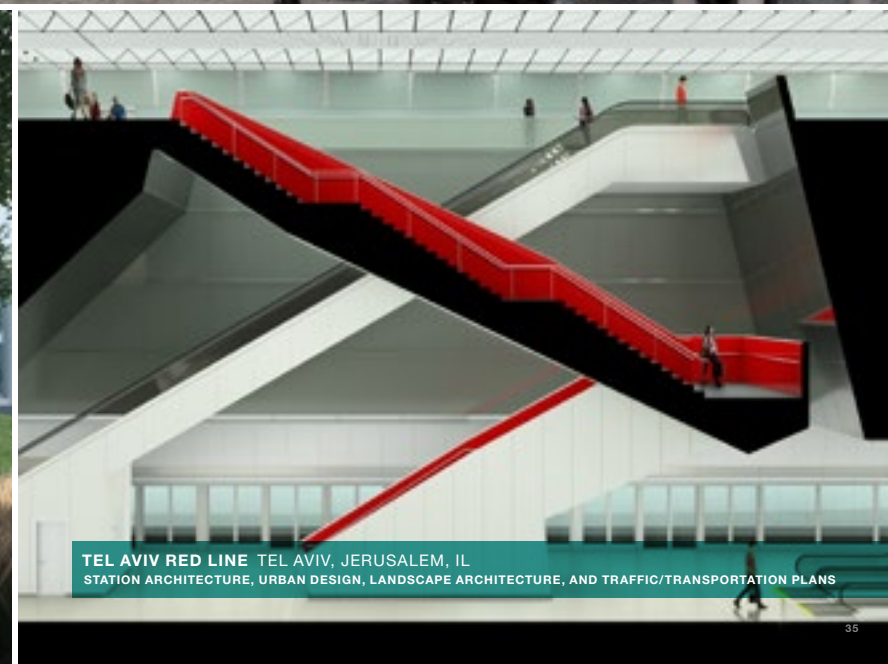
TEL AVIV RED LINE TEL AVIV, JERUSALEM, IL
STATION ARCHITECTURE, URBAN DESIGN, LANDSCAPE ARCHITECTURE, AND TRAFFIC/TRANSPORTATION PLANS

Operations and Maintenance

When we traverse our cities and neighbourhoods, we trust our transportation networks are safe and reliable. IBI's operations and maintenance capability means that we are central to the new technology-driven networks that now keep our cities moving. We manage the traffic flows, the revenue generation and even the hardware of these systems through services such as infrastructure monitoring, traveler alerts, and the design and management of tolling operations.

AWARD WINNER **PAN AM/PARAPAN AM GAMES** TORONTO, ON, CANADA
GAMES TRANSIT OPERATIONS, SPECTATOR PARKING OPERATIONS (SPOCC), AND PERFORMANCE MEASURES/REAL-TIME MONITORING
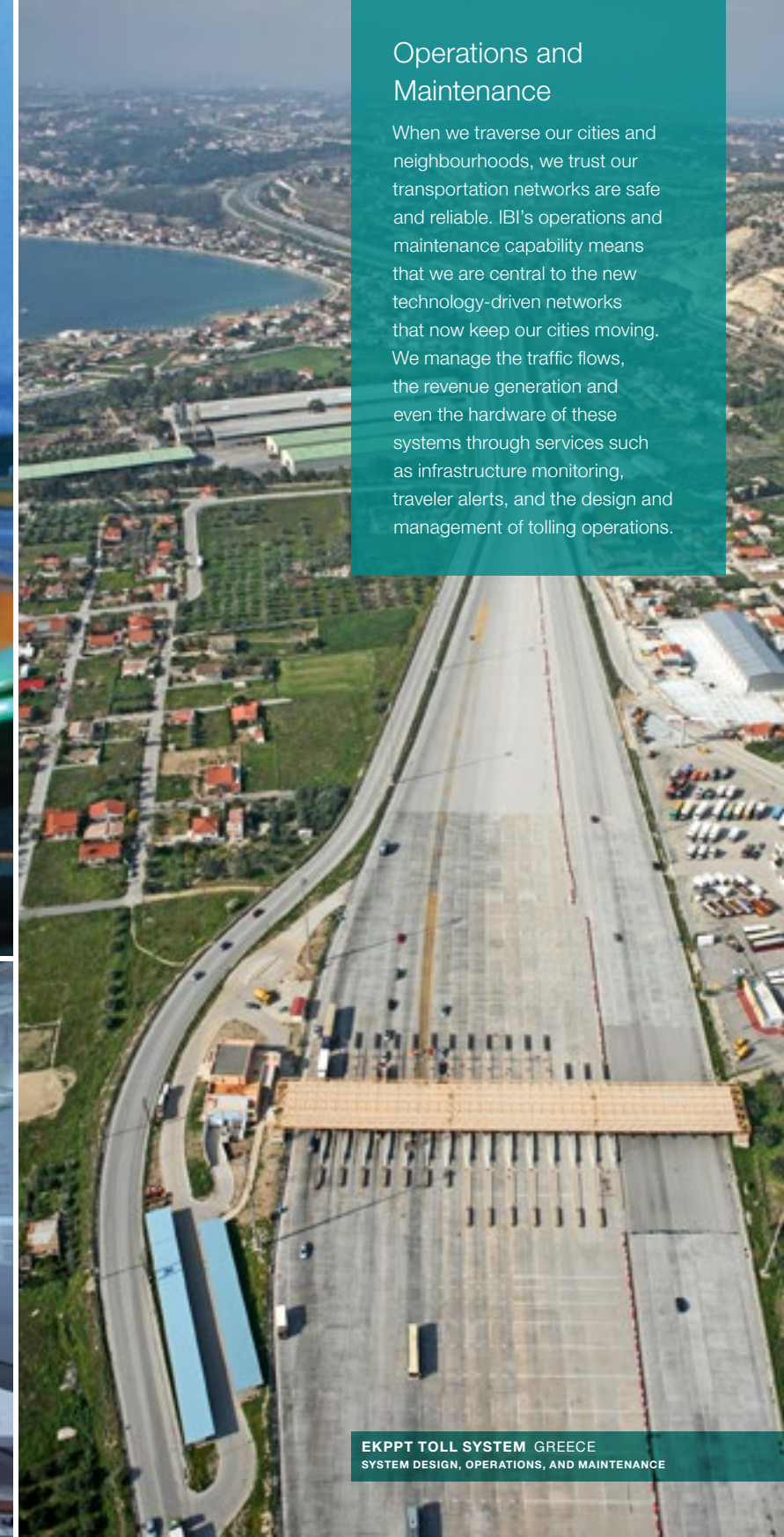
EKPPT TOLL SYSTEM GREECE
SYSTEM DESIGN, OPERATIONS, AND MAINTENANCE

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Expressing Movement in the City – IBI and Design Excellence

Good design means people can move efficiently from one place to another, making integrated connections from train to station, bus to bicycle, town to country.

Great design enables journeys with clear and apparent choices, provides corners for reflection and chance encounters, and makes inspired places in the fluid spaces of the city.

LINKING REAL ESTATE TO MOBILITY

As municipal policies increasingly direct growth to existing and future transportation infrastructure, new opportunities for development are created. Our Real Estate and Economics Planning (REEP) group assists clients with identifying the location of new opportunities; market studies to identify residential, retail and office demand; and financial feasibility and socio-economic studies to identify the best uses for transit oriented developments.

Invested
in Innovation

IBI TH!NK is responsible for
encouraging, capturing, and
developing the intellectual capital
vested in IBI Group's projects,
people, and processes.

Infusing analytics and evidence-based design
into every project, our team is working to shape
the future of cities in a way that is progressive
and adaptable.

The driverless future is not only about the technology.

AUTONOMOUS VEHICLES AND THE FUTURE

Connected and Autonomous Vehicles (CAVs) represent a transformation in the way the world moves. As high impact elements of integrated, urban mobility systems, they will considerably influence how we live, work, play, move, and interact.

We know from the transformational impact that private automobiles had in the 20th century that there may be unintended consequences from the deployment of a disruptive transportation technology. This will not only effect the mobility landscape, but it will also transform how cities look, feel, and function. The transition to a driverless future should not be led by technology availability and consumer choice alone; in this scenario, the results may be even more urban congestion, pollution, and spatial segregation.

At IBI Group, we believe that this transition needs to be shaped intelligently by public policy and regulation in order to leverage CAV technology to its greatest potential.

CAV POLICY GROUP – 40 MEMBERS FROM 12 OFFICES AND 3 COUNTRIES

Our interdisciplinary CAV working group concentrates on identifying and responding to the challenges and opportunities of autonomous vehicle technology. Through partnerships with CAV testbeds at universities, participation in regulatory boards and committees, development of long range strategic plans, and the design of next-gen traffic control centres and mobility hubs, the group is looking at holistic ways to leverage the positive potential of CAVs to shape the cities of tomorrow. Recently, we explored the steps for a city to plan, test, socialize and implement a CAV street deployment plan as a way to inform public policy and regulation.

IBI Mobility+ Solutions

All our mobility-focused products are designed to work seamlessly together – but are also available as stand-alone solutions. Just like our transportation networks, our smart systems need to connect with one another to offer stronger flexibility in all aspects of urban movement.

ASSET MANAGEMENT AND MAINTENANCE

Our *Asset Management and Maintenance System* allows agencies to manage their highway asset inventory all while scheduling and tracking maintenance and repairs. The software includes all standard functionality expected from maintenance management systems, but includes added integration with Building Information Modelling (BIM) and LiDAR data sets for advanced asset visualization and 3D measurement.

IBI Mobility+ Solutions

TRAVELER INFORMATION SYSTEM

Our white-labelled *Traveler Information System* allows transportation agencies to easily configure and implement a 511 website, Interactive Voice Response (IVR), and a mobile app. Utilizing data made available by the agency, and integrated through our *Data Fusion Hub*, our platform provides a comprehensive set of traveler information for the public. Our platform uses the latest technologies in responsive web and mobile app with speech recognition.

EVENT REPORTING SYSTEM

Our *Event Reporting System*, cloud-hosted and offered as a service, allows agencies to quickly set up traffic reporting throughout their region as required. With intuitive navigation and reporting capabilities, operators can easily manage the traffic events going on within a network with ease. The *Event Reporting System* seamlessly integrates with the *Traveler Information System* product.

TRANSIT REAL TIME

Transit Real Time is a product that integrates real-time transit data across an agency's fleet. The software automatically produces GTFS real-time feeds for consumption by third party traveler information services and apps, providing transit operators with a rich set of metrics in terms of schedule adherence and dwell times.

TRANSIT ALERTS

Automating the process of disseminating service alert information to transit operators and the public, *Transit Alerts* is a software that provides a unified interface for staff responsible for controls on transit systems. Staff can seamlessly publish service alerts across multiple dissemination mediums, such as roadside screen, platform-level information boards and many other devices and media. One source with multiple destinations ensures consistency and traceability during transit disruptions.
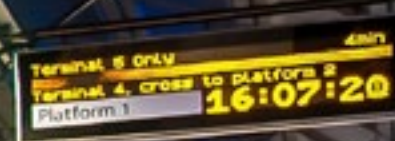
IBI Mobility+ Solutions

ADVANCED TRAFFIC MANAGEMENT SYSTEM

Our *Advanced Traffic Management System* manages traffic and incidents on roads and highways. The system provides operators with a real-time view of road network conditions, and a structured workflow for identifying, describing, and responding to network disruptions. The software's decision support module determines the optimal response to road network events while its response logic manages all aspects of incident response and message display.

ROAD PERMITTING

The *Road Permitting System* manages the process of applying for street closure permits through to permit approval and issue. Our system allows the applicant to specify the nature, location, and timing of the planned events, and which staff or stakeholders need to review and approve submitted applications. The software checks applications for completeness, and identifies planned works that may be in conflict with one another.

REVENUE COLLECTION

Our full-featured, turn-key tolling system for roads and bridges includes standard features such as account management, revenue collection, and reconciliation and enforcement. The system includes support for a wide variety of field equipment vendors and technologies in an open road, automatic payment, and manual toll collection environment.

AIRPORT TAXI DISPATCH

Our *Airport Taxi Dispatch* system automates the management of taxi dispatch at airport facilities. The system tracks taxis as they enter the airport taxi holding area, calling taxis to the curbside for passenger pick up. The system manages taxi accounts and automates the process of collecting access fees. Where operational policy dictates, the system gives priority access to taxis returning to the airport following a short drop-off.

AV Zone
Passenger Pick up Zone

LEGEND
- sAVe catchment areas in under-served neighborhoods
- ADA stops
- Express stops
- Subway

sAVe
AUTONOMOUS VEHICLES
Mobility Access for All

IBI Mobility+ Solutions

INTRODUCING SAVE

sAVe is a community-centred, universally accessible, multi-modal platform that addresses the first-last mile dilemma in transit-under served areas through the deployment of Connected and Autonomous Vehicles (CAVs). It connects residents to public transit hubs and local destinations that they cannot otherwise access. sAVe fills public transit gaps, ensuring an affordable and convenient ride is available when needed. And, unlike private, on-demand hail companies, it operates only in designated catchment areas, effectively reducing the impacts of CAVs on congested arterials. sAVe was one of four finalists in the *2017 NYC Driverless Futures Challenge*. A pilot is currently in development.

7 min ride
2.2 mi • Subway Station
Fastest route

Pickup

IBI Mobility+ is a centre of excellence that taps into new technologies and community intelligence to design choice and convenience into the urban journey, enabling a connected future for cities and their residents.

IBI Group is a global team of dedicated and experienced architects, engineers, planners, designers, and technology professionals who share a common desire – to help our clients create livable, sustainable, and advanced urban environments.

IBI has over 60 offices located in major urban centres within North America, the Caribbean, Europe, Middle East, and Asia.

SECTORS

INTELLIGENCE
SOFTWARE
SYSTEMS DESIGN
SYSTEMS INTEGRATION

BUILDINGS
ARCHITECTURE
INTERIOR DESIGN
MECHANICAL, STRUCTURAL, AND ELECTRICAL ENGINEERING

INFRASTRUCTURE
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
PLANNING
TRANSPORTATION
URBAN DESIGN

MOBILITY+ RELATED SERVICES

3D VISUALIZATION
ARCHITECTURE
BRIDGE ENGINEERING
CIVIL ENGINEERING
CONTRACT ADMIN/FIELD INSPECTION
ECONOMIC/FINANCIAL ANALYSIS (REEP)
ELECTRICAL ENGINEERING
ENVIRONMENTAL ASSESSMENT
HIGHWAY/ROAD DESIGN
INTERIOR DESIGN
LAND USE PLANNING
LANDSCAPE ARCHITECTURE
MASTER PLANNING
MECHANICAL ENGINEERING
MUNICIPAL SERVICES
OPERATIONS AND MAINTENANCE
PLANNING AND URBAN DESIGN
PROGRAM MANAGEMENT
PROJECT MANAGEMENT
PUBLIC OUTREACH
RESEARCH AND DEVELOPMENT
SOFTWARE DEVELOPMENT
STRUCTURAL ENGINEERING
SUSTAINABILITY AND ENVIRONMENTAL
MANAGEMENT
SYSTEMS
SYSTEMS ENGINEERING
TRAFFIC ENGINEERING
TRANSIT PLANNING
TRANSPORTATION ENGINEERING
TRANSPORTATION PLANNING

MOBILITY+ RELATED PROJECT TYPES

ACTIVE TRANSPORTATION
AIRPORTS
BRIDGES
BUS RAPID TRANSIT
DATA/OPERATIONS CENTRES
DESIGN BUILD
INFO & COMMUNICATIONS TECHNOLOGY
LIGHT RAIL TRANSIT
MOBILITY HUBS
MULTI-MODAL TRANSPORTATION
P3
PARKING
POLICY & DESIGN GUIDELINES
PORTS
RAIL
REVENUE/TOLLING
ROADS & HIGHWAYS
SPECIAL EVENTS
SYSTEMS INTEGRATION
TERMINALS
TRAFFIC MANAGEMENT
TRANSIT FACILITIES
TRANSIT MANAGEMENT
TRANSIT ORIENTED DEVELOPMENT
TRANSIT TECHNOLOGIES
TRAVELER INFORMATION
WAYFINDING & SIGNAGE

IBI GROUP **DEFINING THE CITIES OF TOMORROW**

IBI

IBI MOBILITY+

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