

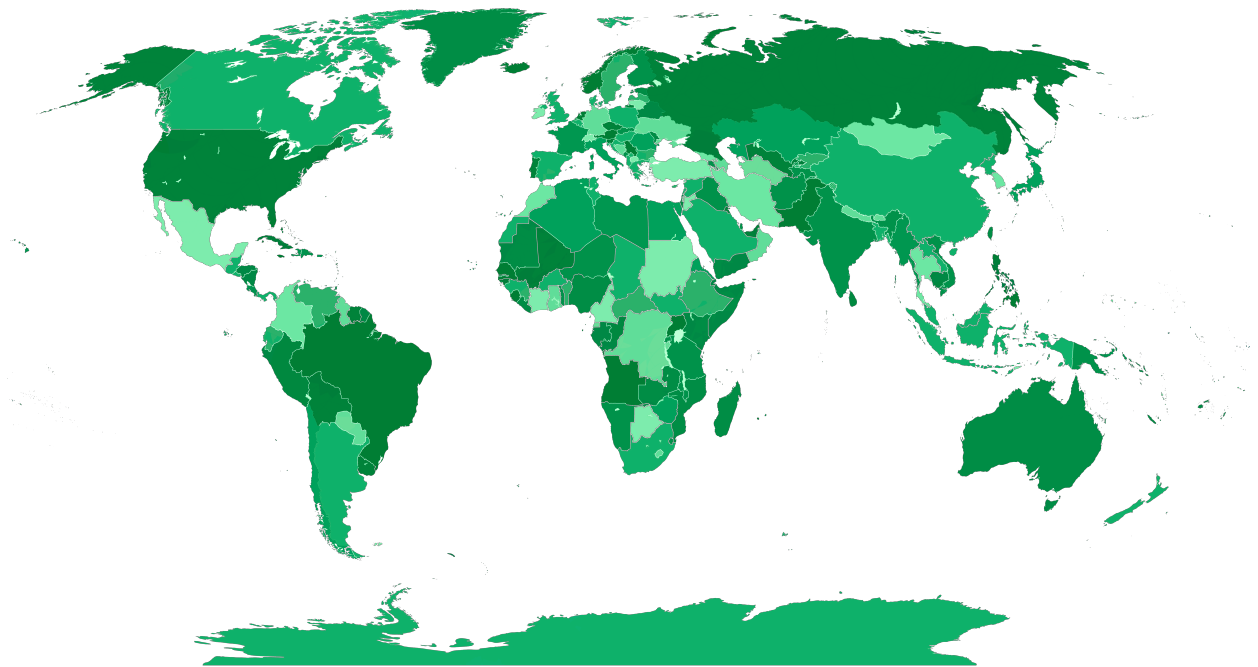


TOLLING. MOVING SMARTER.

GLOBAL TOLLING & MOBILITY NEWSLETTER

A SCAN OF TOLLING & MOBILITY DEVELOPMENT AROUND THE GLOBE

AUTUMN 2018/WINTER 2019



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ABOUT IBTTA

The International Bridge, Tunnel and Turnpike Association (IBTTA) is the worldwide association for the owners and operators of toll facilities and the businesses that serve them. Our mission is to advance toll financed transportation. Each year the association engages thousands of transportation professionals from toll agencies, concessionaires and allied businesses through educational meetings, knowledge sharing and advocacy. Founded in 1932, IBTTA has members in more than 20 countries on six continents.

INTRODUCTION / EXECUTIVE SUMMARY

The autumn 2018 /winter 2019 edition of the Global Tolling & Mobility Newsletter covers a wide range of interesting topics in the field of “Moving Smarter,” “Tolling and Interoperability,” “Technology,” “Finance and Funding” and “Policy and Legislation.” The following summary gives an insight of those mentioned topics in Africa, Asia and Oceania, Europe and North as well as South America.

Moving Smarter: In Africa, Volkswagen has launched its mobility solution in Rwanda to expand its reach in Africa's automotive industry. Also, EkoRent is launching an electric mobility service. Transportation in Asia and Oceania is improving by testing driverless shuttles and launching a new and refreshed version of a mobility app. The United Kingdom is focusing on driverless vehicles and on building a Smart City Mobility Center. In North America, Mercedes-Benz and Bosch are offering self-driving cars. In South America, a large number of electronic vehicles have been purchased and electric scooters will offer a more sustainable mobility option.

Tolling and Interoperability: Africa is celebrating a three-year anniversary of road tolling but continues to struggle with the non-payment of the fees. In Oceania, more off-peak tolls are proposed and in Asia contraflow test have been made to ease traffic. In Europe, contactless payment is coming to Croatian road toll booth and Kapsch TrafficCom and Axxés will launch a sustainable and wide coverage technology platform for EETS (European Electronic Toll Collection Services). In North America, the IBTTA Toll Excellence Awards are celebrating the industry as an “incubator” for cutting-edge solutions. A new tolling system has been implemented to boost trade and security on the bridge between Texas and Mexico. In South America, a tolling specialist, Q-Free, has been selected for a tolling contract valued at NOK30 million (£2.7 million).

Technology: In Africa, hundreds of speed enforcement systems are being deployed before year end as well as electric vehicle chargers. In Asia, there will be the first automated vehicle trials in real-world conditions next year and two of Australia's leading ITS organizations launched a new office of future transport technologies. In Europe, Austria will be the first to tender for C-ITS (Cooperative Intelligent Transport Systems) data collection on roads and the UK is working on a study to improve connected and automated vehicles by using real-life driving data. In North America, autonomous vehicles of Waymo are driving 25,000 miles every day. In Mexico, contactless payment systems have been extended. Three new contracts of Kapsch TrafficCom have strengthened its position in South America.

Finance and Funding: In Africa, a new highway project is attracting strong bidder interest and the budget for the Zimbabwe highway deal is set. In Asia and Oceania, a new link for Australia's Victoria State and a new expressway project for the Philippines are planned. In Europe, a highway project in Bosnia Herzegovina received an EBRD (European Bank for Reconstruction and Development) loan and biddings for Slovakian road projects are underway. In North America, the New York MTA is still considering raising fares and tolls and there is still no consensus on how to fund transportation in the area of Vancouver. In South America, the financing of a road project is secured, and a road widening project is planned.

Policy and Legislation: In Africa, a new highway from Mombasa to Lagos has been put forward by a special envoy and a bridge deal in South Africa has been awarded. In Asia, the Malaysian government is pushing forward several infrastructure projects and the Indian government is looking to rebid or acquire incomplete road projects. In Europe, the Bulgarian Parliament is going to introduce a new e-toll system and Spain is going to revamp the contract for long-term road development. Mexico is on track with its infrastructure development program and US transportation advocates are looking to increase transportation funding in 2019. In South America, the Panama road project is proving controversial and two road contracts in Argentina have been awarded.

MOVING SMARTER

AFRICA

VOLKSWAGEN LAUNCHES MOBILITY SOLUTION IN RWANDA

www.itsinternational.com/categories/utc/news/volkswagen-launches-mobility-solution-in-rwanda/

Volkswagen has launched its mobility solution in Rwanda in a bid to expand its reach in Africa's automotive industry. The package includes a car-sharing service, ride hailing service and a local vehicle assembly plant. The car-sharing service will mainly be aimed at companies in the capital Kigali, while the ride hailing service will follow later this year. Meanwhile, the assembly plant will be used to develop the latest Polo and Passat vehicles. Volkswagen says it intends to build up to 1,000 vehicles per year depending on demand and the success of the mobility fleet, with an annual production capacity of up to 5,000 units.

EKORENT DEPLOYS ELECTRIC MOBILITY SERVICE IN NAIROBI, KENYA

www.itsinternational.com/categories/utc/news/ekorent-deploys-electric-mobility-service-in-nairobi-kenya/

[...] EkoRent is launching its Nopia Ride electric mobility service in Nairobi, Kenya, in a bid to reduce emissions and solve the capital's transportation challenges. The company, operating under the name EkoRent Africa, says it intends to increase the number of electric vehicles operating in the area to several hundred by the end of the year. [...] These vehicles will be recharged at Nopia charging bays in the city.

ASIA AND OCEANIA

RTA TRIALS DRIVERLESS SHUTTLE ACROSS 1250M TRACK IN DUBAI

www.itsinternational.com/sections/general/news/rta-trials-driverless-shuttle-across-1250m-track-in-dubai/

Dubai's Roads and Transport Authority (RTA) is trialling a driverless shuttle across a 1250m track at entertainment complex Dubailand, on Al-Qudra Road. The initiative is intended to support the government's plans to convert up to 25 percent of the country's transport to autonomous by 2030.

SINGAPORE'S LAND TRANSPORT AUTHORITY LAUNCHES REVAMPED MULTIMODAL TRANSPORT APP

www.trafficechnologytoday.com/news.php?NewsID=92891

Singapore's Land Transport Authority (LTA) has launched a new beta version of the MyTransport.SG mobile application (MTM app) that has been refreshed as part of the agency's efforts to better use data sources and technology for smarter transport solutions. [...] The refreshed MTM app will provide commuters with more real-time information to help them plan their journeys better, which is in line with the Singapore government's 'Smart Nation' vision of harnessing digital technology to improve quality of life for its citizens.

EUROPE

AT THE CENTRE OF IT ALL: UK'S WEST MIDLANDS TO BUILD SMART CITY MOBILITY CENTRE

www.h3bconnected.com/at-the-centre-of-it-all-uks-west-midlands-to-build-smart-city-mobility-centre/

A new multi-million-pound Smart City Mobility Centre, to be established in Warwickshire and the West Midlands in the UK was announced last night (Monday 12 November 2018) at the Coventry and Warwickshire Automotive Dinner in Warwickshire. [...] Jaguar Land Rover engineers and WMG researchers will work together at Wellesbourne to design

and engineer connected, driverless capable, prototype electric modular architectures. These will be tested in real world conditions alongside a specially designed 5G communications network on the University of Warwick's main campus. As the center develops, it is expected to play a significant role in transforming the future of UK transport.

DRIVEN CONSORTIUM AIMS TO TRIAL AVS IN LONDON BEFORE CHRISTMAS

www.itsinternational.com/categories/utc/news/driven-consortium-aims-to-trial-avs-in-london-before-christmas/

The Driven consortium, led by software provider Oxbotica, hopes to trial a fleet of autonomous vehicles (AV) in London before Christmas following successful ongoing tests in Oxford. The vehicles will map streets in the London Borough of Hounslow as part of the consortium's plans to run a fully autonomous fleet between both cities in 2019. Oxbotica has equipped the vehicles with its autonomous software, radar, lidar sensors and onboard computers and cameras.

NORTH AMERICA

MERCEDES-BENZ, BOSCH TO OFFER SELF-DRIVING CAR RIDES IN SAN JOSE, CALIFORNIA

<https://eu.usatoday.com/story/money/cars/2018/11/08/daimler-bosch-san-jose-self-driving-cars/1928092002/>

Mercedes-Benz parent company Daimler and auto supplier Bosch plan to launch a self-driving car pilot for the public in San Jose, California, in the second half of 2019. The two German auto companies have been quietly collaborating to deliver advancements in an increasingly competitive global race to make autonomous cars a reality. The pilot puts Daimler and Bosch on roughly the same pace as General Motors and slightly behind former Google car company Waymo.

SOUTH AMERICA

BYD DELIVERS 30 EVS TO GOVERNMENT AND POLICE

www.itsinternational.com/sections/general/news/byd-delivers-30-evs-to-government-and-police/

[...] BYD has leased 30 electric vehicles (EVs) to authorities in São José dos Campos in Brazil. They will be used by police and government as part of a policy to help encourage electric and hybrid car use. The contract will last for 36 months and comprises 29 BYD e5 electric cars and one e6 vehicle.

SCOOT NETWORKS TO DEPLOY ELECTRIC SCOOTERS IN CHILE

www.itsinternational.com/sections/general/news/scoot-networks-to-deploy-electric-scooters-in-chile/

Scoot Networks will gradually deploy 500 electric scooters in Santiago, Chile, to offer citizens a more sustainable mobility option. The pilot program will take place in Las Condes' business district as part of an agreement with mayor Joaquin Lavín. Gonzalo Cortez, general manager for Santiago, says the scooters reduce air pollution, make streets safer, keep money in the local economy and makes mobility more affordable.

TOLLING AND INTEROPERABILITY

AFRICA

SANRAL REDUCES LOSSES, BUT WARNS OF MAJOR FUNDING CHALLENGE

www.businesslive.co.za/bd/national/2018-10-01-sanral-reduces-losses-but-warns-of-major-funding-challenge/

Non-payment of toll fees still weighed heavily, but the agency posted a considerably reduced loss of R260.4m for the year to end-March from R4.96bn. State-owned national road agency Sanral says it has become clear that without commensurate funding it cannot continue the growth trajectory and network expansion of the previous two decades.

THREE YEARS ANNIVERSARY OF ROAD TOLLING

www.daily-mail.co.zm/three-years-anniversary-of-road-tolling/

Zambia shifted oversight of tolling more than three years ago, and tolling in the country has grown since. The move also brought electronic toll collection and the use of public-private partnerships.

ASIA AND OCEANIA

COALITION PROPOSES MORE OFF-PEAK TOLL DISCOUNTS FOR TRUCKS

www.theage.com.au/national/victoria/coalition-proposes-more-off-peak-toll-discounts-for-trucks-20180730-p4zugi.html

Trucks could get off-peak discounted tolls on EastLink and further discounts on CityLink, under a Victorian Coalition plan to ease Melbourne's congestion. New figures show the daily number of trucks on the West Gate Freeway, Melbourne's busiest freight route, grew by 5000 over the past five years, rising to 23,000 in 2018. Motorists using the tollway travel as slow as 22km/h on average during the morning peak.

CONTRAFLOW TEST ON JORR TO EASE TRAFFIC

www.thejakartapost.com/news/2018/09/19/contraflow-test-on-jorr-to-ease-traffic.html

Toll operator PT Jalantol Lingkarluar Jakarta (PT JLJ) started [...] a contraflow traffic test at the Kalimalang-Cikunir section of the Jakarta Outer Ring Road (JORR), which will be conducted every morning on weekdays until Oct. 3, 2018. The test is being conducted to ease toll users' commute on JORR, especially those heading from Bintara in Bekasi, West Java, to Pondok Indah in South Jakarta.

EUROPE

CONTACTLESS PAYMENTS COMING TO CROATIAN ROAD TOLL BOOTHS

www.total-croatia-news.com/news/31131-contactless-payments-coming-to-croatian-road-toll-booths

Croatian Motorways and Rijeka-Zagreb Motorway reported that traffic on their roads was up 4.6 percent for the first eight months of 2018. A study of a new toll collection and maintenance system is expected to be completed in early 2019, when the system's implementation date will be announced.

UBER EETS

www.h3bconnected.com/uber-eets/

Kapsch TrafficCom and Axxès have formed a joint venture that will bring a sustainable and wide coverage technology platform for EETS (European Electronic Toll Collection Services) to the market. The joint venture company MoKA SAS is registered in France with equal shares (50/50) held by Kapsch TrafficCom AG and Axxès SAS. The purpose of the joint venture is to design, build and operate a sustainable technology platform serving the EETS activities of both shareholders.

NORTH AMERICA

IBTTA TOLL EXCELLENCE AWARDS CELEBRATE INDUSTRY AS “INCUBATOR” FOR CUTTING-EDGE SOLUTIONS

www.ibtta.org/blog/ibtta-toll-excellence-awards-celebrate-industry-incubator-cutting-edge-solutions

The International Bridge, Tunnel and Turnpike Association has named six winners of its Toll Excellence Awards. Winning entries included a tri-protocol transponder reader and a bridge replacement project.

LEADING TRADE BRIDGE IN RGV (RIO GRANDE VALLEY) ADDS NEW TOLL SYSTEM TO BOOST TRADE AND SECURITY

www.kveo.com/news/local-news/leading-trade-bridge-in-rgv-adds-new-toll-system-to-boost-trade-and-security/1457702440

More than 2,500 trucks per day cross the Pharr International Bridge between Texas and Mexico, and a new tolling system has been added to make the border-crossing process more efficient. The system also enhances security by collecting data on trucks, a US lawmaker said.

SOUTH AMERICA

Q-FREE WINS NOK30 MILLION TOLLING CONTRACT IN CHILE

www.itsinternational.com/categories/charging-tolling/news/q-free-wins-nok30-million-tolling-contract-in-chile/

Tolling specialist Q-Free has been selected by road infrastructure operator Sociedad Concesionaria Vespucio Norte Express to service and maintain roadside equipment in Chile. The seven-year contract is approximately valued NOK30 million (£2.7 million).

TECHNOLOGY

AFRICA

JENOPTIK TO DEPLOY HUNDREDS OF SPEED ENFORCEMENT SYSTEMS IN MIDDLE EAST

www.itsinternational.com/categories/utc/news/jenoptik-to-deploy-hundreds-of-speed-enforcement-systems-in-middle-east/

Jenoptik is to deliver hundreds of systems for speed enforcement to two clients in the Middle East & Africa (MENA) region. Before the end of the year, Jenoptik will deploy 600 of its radar-based TraffiStar S390 measurement systems as well as 300 TraffiTower 2.0 housings for stationary speed enforcement to an unnamed client in the Middle East.

PSC SOLAR TO IMPLEMENT EV CHARGERS IN AFRICA

www.itsinternational.com/sections/general/news/psc-solar-to-implement-ev-chargers-in-africa/

PSC Solar, the research and development subsidiary of PSC Industries, will deploy electric vehicle (EV) chargers across four African nations, according to media reports. Chargers will be installed in Nigeria, Ghana, Niger and Benin in preparation for the arrival of EVs. Patrick Owelle, CEO of the PSC Solar, says governments all over the world are starting to ban diesel and petrol engines due to climate change and pollution and that Africa must also take a position on the issue. He says PSC's chargers can fully recharge EVs in around five to ten minutes.

ASIA AND OCEANIA

FOUR PARTNERS TO LAUNCH SINGAPORE'S FIRST AV TRIALS IN REAL-WORLD TRAFFIC CONDITIONS NEXT YEAR

www.trafficechnologytoday.com/news.php?NewsID=93409

As one of the world's largest land transport operators, ComfortDelGro will lead the year-long autonomous shuttle bus operational trial, which will also involve Inchcape Singapore, NUS and French automated vehicle manufacturer EasyMile, and will commence in March 2019. The pilot will be carried out using the EasyMile EZ10 autonomous shuttle which will be funded by Inchcape Singapore and operated by ComfortDelGro. The EZ10 shuttle, which has a total carrying capacity of 15 passengers, will run along a mile-long route at NUS between Heng Mui Keng Terrace and Business Link.

AUSTRALIAN ITS ORGANIZATIONS WELCOME LAUNCH OF NEW OFFICE OF FUTURE TRANSPORT TECHNOLOGIES

www.trafficechnologytoday.com/news.php?NewsID=93181

Two of Australia's leading ITS organizations have welcomed the Federal government's establishment of a new Office for Future Transport Technologies, which was announced by the country's Deputy Prime Minister [...]. Michael McCormack, who is also Australia's Minister for Infrastructure, Transport and Regional Development, launched the foundation of a new Office for Future Transport Technologies, which will support the successful introduction of new transport technologies across the country and develop cohesion with other governments and agencies worldwide.

EUROPE

AUSTRIA IS FIRST TO TENDER FOR C-ITS DATA COLLECTION ON ROADS

www.worldhighways.com/categories/traffic-focus-highway-management/news/austria-is-first-to-tender-for-c-its-data-collection-on-roads/

This time next year Austria will be the first European country to have vehicles that collect safety - relevant traffic information in real - time. "We're going for it," Marko Jandrisits, the telematics services program manager for Austria's publicly owned road and toll company ASFINAG, said the tender for equipping the Austrian motorway network with the hardware and software for C-ITS – cooperative ITS – had just been launched.

UK'S LAMBDA-V PROJECT TO USE REAL-LIFE DRIVING DATA TO IMPROVE CAVS

www.trafficechnologytoday.com/news.php?NewsID=93371

A new multi-partner UK project has started a year-long feasibility study that will take anonymized human/driver telematics data to help improve the performance and acceptability of connected and autonomous vehicles (CAVs). The 'Learning through AMBient Driving styles for Autonomous-Vehicles' (LAMBDA-V) project, is a one-year feasibility study into how human driver behavior can be analyzed and used to accelerate the adoption of CAVs.

NORTH AMERICA

WAYMO'S AUTONOMOUS VEHICLES ARE DRIVING 25,000 MILES EVERY DAY

<https://techcrunch.com/2018/07/20/waymos-autonomous-vehicles-are-driving-25000-miles-every-day/?guccounter=1>

Waymo, the former Google self-driving project that spun out to become a business under Alphabet, has driven 8 million miles on public roads using its autonomous vehicles. [...] Waymo's fleet of self-driving vehicles are now logging 25,000

miles every day on public roads, Krafcik said. He later tweeted out the stats along with a graphic. Waymo has 600 self-driving Chrysler Pacifica Hybrid minivans on the road.

CONDUENT EXTENDS CONTACTLESS PAYMENT SYSTEM IN MEXICO

www.itsinternational.com/sections/transmart/news/conduent-extends-contactless-payment-system-in-mexico/

Conduent is extending its contactless card payment system to Line 3 of on Puebla's Red Urbana de Transporte Articulado (RUTA) bus rapid transit system in Mexico. The upgrade is being carried out over the summer and will replace all free-standing ticket machines. Conduent's system will allow riders to tap their phone or Puebla contactless card at validators. The solution will also replace inspector terminals, validators and access control gates.

SOUTH AMERICA

KAPSCH TRAFFICOM STRENGTHENS FOOTPRINT IN LATIN AMERICA WITH THREE NEW CONTRACTS

www.traffictoday.com/news.php?NewsID=93129

The new contracts strengthen Kapsch's position in the Central and South American market, where the company's urban traffic management systems are already being used in many major or capital cities, including Rio de Janeiro (Brazil), Santo Domingo (Dominican Republic), Quito (Ecuador), [...]. Kapsch has now been awarded three more major contracts in the region to provide advanced traffic management systems to Buenos Aires (Argentina), Lima (Peru), and Panama City (Panama). The new contracts add up to an accumulated value of approximately €15m (US\$17.3m). The Vienna-based ITS technology supplier is expanding both its local footprint in the Latin American region, as well as its expertise in managing dense traffic environments in major cities around the globe.

FINANCE AND FUNDING

AFRICA

UGANDA HIGHWAY PROJECT ATTRACTING STRONG BIDDER INTEREST

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/uganda-highway-project-attracting-strong-bidder-interest/

Strong interest is being seen for the project to build Uganda's new Kampala-Jinja Expressway. So far eight bids have been submitted for the project, which is expected to cost around US\$985 million to build. The tender for the project should be awarded in December 2019. [...] Building the expressway will help boost traffic capacity on the route and will also help to reduce the rate of road crashes.

BUDGET SET FOR ZIMBABWE HIGHWAY DEAL

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/budget-set-for-zimbabwe-highway-deal/

The budget has been set at US\$693 million for the Zimbabwe's highway running between Harare, Masvingo and Beibridge. The Zimbabwe Government is overseeing the project, which involves widening the existing route so that it will have two lanes in either direction, instead of one lane in either direction at present. The work is expected to take three years to carry out.

ASIA AND OCEANIA

NEW LINK PLANNED FOR AUSTRALIA'S VICTORIA STATE

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/new-link-planned-for-australias-victoria-state/

A major new project is being planned for Australia's Victoria State. The 26km North East Link is intended to connect Melbourne's Metropolitan Ring Road at Greensborough with the Eastern Freeway at Bulleen. If the project is to go ahead it is likely to cost in the region of US\$11.23 billion, making it the single largest transport infrastructure project in the history of Victoria State.

NEW EXPRESSWAY PROJECT FOR THE PHILIPPINES

www.worldhighways.com/categories/road-highway-structures/news/new-expressway-project-for-the-philippines/

Work on a US\$245.6 million expressway project is now underway in the Philippines. The 58km-long expressway will improve transport between the Southern Tagalog and Bicol Regions, reducing journey times for drivers while also improving safety. The first section of the Southern Luzon Expressway-Toll Road 4 (SLEX-TR4) to be built will be between Star Toll and Lucena, lying to the south of Manila.

EUROPE

BOSNIA HERZOGOVINA HIGHWAY PROJECT RECEIVING EBRD LOAN

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/bosnia-herzegovina-highway-project-receiving-ebrd-loan/

A loan from the European Bank for Reconstruction and Development (EBRD) worth €180 million will help to pay for the construction of the Corridor Vc highway project. This highway is of key importance for the economic development of Bosnia and Herzegovina as it will provide an improved transport connection with Europe.

SLOVAKIA ROAD PROJECTS – BIDDING OPENS, FUNDING FOUND

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/slovakia-road-projects-bidding-opens-funding-found/

Bidding is underway in Slovakia for the R2 Krivan-Mytna expressway project, which is being handled by the local highway firm NDS. [...] The project for the 9.1km route is expected to cost €280 million to build and should take 48 months to complete. In addition, Slovakia's Transport and Construction Ministry is boosting its budget for road repairs. The next 48 months will see a series of trunk road repair projects, with an extra €200 million having been added to the transport budget to pay for this work.

NORTH AMERICA

MTA STILL CONSIDERING FARE, TOLL HIKES TO CLOSE BUDGET

www.recordonline.com/news/20180725/mta-still-considering-fare-toll-hikes-to-close-budget-gap

The Metropolitan Transportation Authority is still considering raising fares and tolls by an average of 4 percent in 2019 and 2021 to address financial deficits. Finance Committee Chairman Larry Schwartz said the MTA should try to save money by concentrating on fixing known problems such as procurement issues and fare evasion.

NO CONSENSUS ON HOW TO FUND TRANSPORTATION IN VANCOUVER AREA

www.vancourier.com/when-it-comes-to-transit-funding-all-roads-lead-to-disagreement-1.23489041

A recent poll on funding transportation in the Vancouver, Canada, area found no consensus among residents. The survey found that the most popular option was bringing back bridge tolls, supported by 44 percent of respondents, while 26 percent supported tolling roads.

SOUTH AMERICA**PARAGUAY ROAD PROJECT SECURING FINANCING**

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/paraguay-road-project-securing-financing/

Financing has yet to be finalized for a series of road construction works in Paraguay. Loans are expected to pay for upgrade works to major road links. A loan of US\$142.8 million is being sought from the Development Bank of Latin America (CAF) and South American development fund Fonplata. Meanwhile a \$90 million loan is being sought from the Inter-American Development Bank (IDB). And a further \$200 million loan would also be sought from the IDB.

ECUADOR ROAD WIDENING PROJECT PLANNED

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/ecuador-road-widening-project-planned/

A road widening project worth US\$134.3 million is now going ahead in Ecuador. The road connecting Aloag with Santo Domingo is being improved along a 100km stretch, widening the route so that it will feature two lanes in either direction instead of the single lane in either direction at present. This will boost the transport connection between Pichincha Province and Santo Domingo de los Tsachilas Province.

POLICY AND LEGISLATION**AFRICA****MOMBASA TO LAGOS HIGHWAY PROPOSED BY AFRICAN UNION SPECIAL ENVOY**

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/mombasa-to-lagos-highway-proposed-by-african-union-special-envoy/

A new highway connecting Kenya's port of Mombasa with Nigeria's commercial center and main port of Lagos has been put forward by a special envoy to the African Union. The Kenyan opposition leader, Raila Odinga, was recently appointed to the post of special envoy to the African Union and announced the plan for a new transport connection between Mombasa and Lagos. This 6,000km route would provide an important economic link between two of Africa's main ports.

SOUTH AFRICA BRIDGE DEAL FOR JOINT VENTURE

www.worldhighways.com/categories/road-highway-structures/news/south-africa-bridge-deal-for-joint-venture/

The contract has been awarded for the construction of a bridge spanning South Africa's Msikaba Gorge. The project is expected to cost US\$110.5 million and the package of works was awarded by the South African National Roads Agency (SANRAL). A Portuguese and South African joint venture partnership, Concor Mota-Engil, will carry out the work, which

will commence in February 2019 and is expected to take 33 months to complete. The bridge will feature a main span of some 580m, making it the longest cable-stayed type in Africa. The bridge is located near to Lusikisiki.

ASIA AND OCEANIA

MALAYSIA PROJECTS MOVING FORWARD

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/malaysia-projects-moving-forward/

The Malaysian Government is pushing ahead with five key infrastructure projects in Sarawak state during 2019. These will be worth over US\$115 million. A new access road will be built to Kuching Airport, while Kota Samarahan's route 8101 will be upgraded.

GOVERNMENT MAY REBID OR BUY IL&FS' ROAD PROJECTS

<https://economictimes.indiatimes.com/news/economy/infrastructure/government-may-rebid-or-buy-ilfs-road-projects/articleshow/66190148.cms>

The Indian road transport and highways authority is looking to either rebid for or acquire incomplete national highway projects being undertaken by the debt-ridden Infrastructure Leasing and Finance Corporation (IL&FS). These projects may be acquired or rebid by the National Highways Authority of India and National Highways and Infrastructure Development Corporation.

EUROPE

BULGARIAN PARLIAMENT GIVES GREEN LIGHT TO INTRODUCTION OF E-TOLL SYSTEM

<https://seenews.com/news/bulgarian-parl-gives-green-light-to-introduction-of-e-toll-system-621355>

Bulgaria's parliament adopted changes to the Roads Act that pave the way for the introduction of an electronic tolling system [...]. The e-toll collection system will cover 16,317 km of motorways and major roads. Vehicles heavier than 3.5 tons will pay toll charges based on distance travelled, while charges for lighter vehicles will be based on periods of time.

SPAIN EYES NEW STANDARD CONTRACT FOR LONG-TERM ROAD DEVELOPMENT

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/spain-eyes-new-standard-contract-for-long-term-road-development/

Spain is looking to revamp its contractual formulae for large infrastructure work following moves to limit profits from long-term concession deals. The Ministry of Works is putting together a hybrid contract template for use with the Extraordinary Investment Plan for Roads. The previous government had tried to launch the investment plan on the back of around 20 concession contracts of over 20 years.

NORTH AMERICA

MEXICO'S PROGRAM OF INFRASTRUCTURE DEVELOPMENT

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/mexicos-programme-of-infrastructure-development/

The Mexican Government is on track with its program of infrastructure development for the time period from 2012 and 2018. Work completed includes the construction of 38 highways and 33,000km of rural roads. In addition, 77 federal

roads have also been widened and rebuilt. The country's Secretariat of Communications and Transport (SCT) says that much of this work has been carried out under the PPP model [...].

WITH U.S. ELECTIONS OVER, TRANSPORTATION ADVOCATES EYE 2019 BATTLES

www.governing.com/topics/transportation-infrastructure/gov-transportation-midterms-2018-results.html

Transportation advocates were encouraged by voting outcomes across the country and are looking to push for increased transportation funding in 2019. Several governors campaigned on improving infrastructure, but still must get funding measures through legislatures.

SOUTH AMERICA

PANAMA ROAD PROJECT PROVES CONTROVERSIAL

www.worldhighways.com/categories/road-highway-structures/news/panama-road-project-proves-controversial/

Controversy surrounds proposals to improve a key road link in Panama. The plan is to widen and improve the Pan American highway stretch in the country's Panama Oeste Province, between Las Americas bridge and Arraijan. The work is expected to cost in the region of US\$335.5 million. However, there is concern over the 91 hectares of forest that will have to be cut down, of which 50 hectares lie in a national park. Various groups have criticized the Ministry of Public Works for choosing a road alignment that requires forest to be cut down, saying that other routes could have been considered instead as being more suitable.

TWO ARGENTINA ROAD CONTRACTS AWARDED

www.worldhighways.com/categories/auctions-equipment-supply-servicing-finance/news/two-argentina-road-contracts-awarded/

The contracts for two major road projects have been awarded in Argentina. Both of the road contracts will be handled under the PPP model, having been awarded by the Argentine Government. Jose Cartellone Construcciones Civiles will handle the contract for a 780km stretch of the C road corridor, connecting capital Buenos Aires with Mendoza, close to the Chilean border. Meanwhile a consortium comprising Paolini, Vial Agro and INC will handle the contract for 706km of road for the A road corridor, which is located in Buenos Aires Province.

INTERNATIONAL INDUSTRY EVENTS CALENDAR

2019

IBTTA Board of Directors & Committee Meetings

Coral Gables, Florida, USA, January 9-11, 2019

www.IBTTA.org/events/2019-winter-board-directors-committee-meetings

Transportation Research Board (TRB) Annual Meeting

Washington, D.C., USA, January 13-17, 2019

www.trb.org/AnnualMeeting/Blurbs/177818.aspx

IBTTA Annual Technology Summit

Orlando, Florida, USA, March 31 – April 2, 2019

www.IBTTA.org/orlando

IBTTA Spring Board of Directors & Committee Meetings

Philadelphia, Pennsylvania, USA, May 18-19, 2019

www.IBTTA.org/events/spring-board-directors-committee-meetings-0

IBTTA Summit on Finance & Policy

Philadelphia, Pennsylvania, USA, May 19-21, 2019

www.IBTTA.org/philadelphia

47th ASECAP Study & Information Days

Costa Navarino, Greece, May 29-31, 2019

www.asecap.com/asecap-days.html

13th ITS European Congress

Brainport Eindhoven, Netherlands, June 3-6, 2019

<https://2019.itsineurope.com/>

IBTTA Conference Planning Meeting for 2020 Meetings

Norfolk, Virginia, USA, June 22, 2019

www.IBTTA.org/events/2018-conference-planning

IBTTA Maintenance & Roadway Operations Workshop

Norfolk, Virginia, USA, June 23-25, 2019

www.IBTTA.org/norfolk

IBTTA Communications Summit

Seattle, Washington, USA, July 28-30, 2019

www.IBTTA.org/seattle

IBTTA Board of Directors & Committee Meetings

Halifax, Nova Scotia, Canada, September 13-14, 2019

www.IBTTA.org/events/fall-board-directors-committee-meetings

IBTTA 87th Annual Meeting & Exhibition

Halifax, Nova Scotia, Canada, September 15-17, 2019

www.IBTTA.org/halifax

XXVIth World Road Congress – PIARC

Abu Dhabi, United Arab Emirates, October 6-10, 2019

www.piarc.org/en/calendar/World-Road-Congresses-World-Road-Association/

26th ITS World Congress

Singapore, October 21-25, 2019

<https://itsworldcongress2019.com/>

IBTTA Global Tolling Summit

Lisbon, Portugal, October 27-29, 2019

www.IBTTA.org/lisbon

GLOSSARY

AA	Automobile Association
ABB	Asea Brown Boveri
ADB	Asian Development Bank
AET	All-Electronic Toll
AfDB	African Development Bank
AAF	American Action Forum
AG	Stock company
AI	Artificial Intelligence
ALPR	Automatic License Plate Recognition
ALO	Avenida Longitudinal de Occidente
ANPR	Automated Number Plate Recognition
ARRB	Australian Road Research Group
ASECAP	Association euro penne des concessionnaires d'autoroutes et d'ouvrages à péage – European Association of Operators of Toll Road Infrastructures
AV	Autonomous Vehicle
AVI	Automatic Vehicle Identification
BOOT	Build-Own-Operate-Transfer
BOT	Build-Operate-Transfer
BPTJ	Greater Jakarta Transportation Management Authority
CABEI	Central American Bank for Economic Integration
CAGR	Compound Annual Growth Rate
CAV	Connected and Autonomous Vehicle
CCCC	China Communications Construction Company
CCR SA	Companhia de Concessões Rodoviárias
CCTV	Closed Circuit Control Center
CEO	Chief Executive Officer
C-ITS	Cooperative Intelligent Transportation Systems
CO2	Carbon Dioxide
COP	Climate Change Summit
CRBC	China Roads and Bridges Company
CRT	Concessionária Rio Teresópolis
CSIR	Council of Scientific and Industrial Research
CSS	Customer Service System

CTR	Austin's Center for Transportation Research
DC	District of Columbia
DDI	Diverging Diamond Interchange
DG Environment	Directorate-General for Environment
DG MOVE	European Commission's Directorate-General for Mobility and Transport
DOT	Department of Transportation
DPR	Detailed Project Report
DRC	Democratic Republic of Congo
DSRC	Dedicated Short-Range Communication
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECERDC	East Coast Economic Region Development Council
EETS	European Electronic Toll Service
EGNOS	European Geostationary Navigation Overlay System
EIB	European Investment Bank
EP	European Parliament
EPC	Engineering, Procurement and Construction
ERF	European Union Road Federation
ERP	Electronic Road Pricing
ETC	Electronic Toll Collection
EU	European Union
EV	Electronic Vehicles
FEMA	Federal Emergency Management Agency
FETC	Far East Electronic Toll Collection Company
FHWA	Federal Highway Administration
FIA	Federation Internationale de l'Automobile
GALILEO	European satellite navigation system
GDOT	Georgia Department of Transportation
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HMI	Human Machine Interface
HOT	High Occupancy Toll
HOV lane	High Occupancy Vehicle lane
IADB	Inter-American Development Bank

IBTTA	International Bridge, Tunnel and Turnpike Association
IEC	International Electro Technical Commission
IIRSA	Initiative for the Integration of the Regional Infrastructure of South America
INEA	Innovation and Networks Executive Agency
IoT	Internet of Things
ISO	International Organization for Standardization
ITC	International Trade Commission
ITF	International Transport Forum
ITS	Intelligent Traffic System
ITSSA	Intelligent Transport Society of South Africa
JLR	Jaguar Land Rover
JORR	Jakarta Outer Ring Road
KFD	National Road Fund
KPC	Kuantan Port City
KURA	Kenya Urban Roads Authority
LAMBDA-V	Learning through AMBient Driving styles for Autonomous-Vehicles
LTA	Land and Transport Authority
LTA	La Trobe Autonobus
MaaS	Mobility-as-a-Service
MdTA	Maryland Transportation Authority
MENA	Middle East & Africa region
MOPC	Ministry of Public Works Commission
MOT	Ministry of Transport
MTA	Metropolitan Transportation Authority
MTM app	MyTransport.SG mobile application
NHAI	National Highways Authority of India
NPRA	Norwegian Public Roads Administration
NTE	North Tarrant Express
nVDC	Vehicle Detection and Classification Sensor
OBE/OBU	On Board Equipment/On Board Unit
OCTA	Orange County Transportation Authority
OECD	Organization for Economic Cooperation and Development
ORT	Open Road Tolling
OUTA	Organization Undoing Tax Abuse

PANYNJ	The Port Authority of New York & New Jersey
PIARC	Association Mondiale de la Route – World Road Association
PKM	Peshawar-Karachi Motorway
PPP	Public-Private Partnership
PT JLJ	PT Jalantol Lingkarluar Jakarta
QMB	Atténuateur d'impact, barrières automatisées et mobiles
RACV	Royal Automobile Club of Victoria
RFID	Radio Frequency Identification
RGV	Rio Grande Valley
RIA	Road Infrastructure Agency
RIDOT	Rhode Island Department of Transportation
RMS	Roads and Maritime Services
RSU	Road Site Units
RTA	Roads and Transport Authority
RUTA	Red Urbana de Transporte Articulado
SANRAL	South African National Roads Agency Ltd.
SCDOT	South Carolina Department of Transportation
SCT	Secretariat of Communications and Transport
SLEX-TR4	Southern Luzon Expressway-Toll Road
SRTA	State Road and Tollway Authority
SUMP	Sustainable Urban Mobility Planning
SwRI	Southwest Research Institute
TCC	Traffic Control Center
TEN-T	Trans-European Transport Network
TMETC	Tata Motors European Technical Center
TMT	Technology, Media and Telecommunications
TRA	Transport Research Arena
TRB	Transportation Research Board
TRY	Turkish Lira
TTI	Texas A&M Transportation Institute
TxDOT	Texas Department of Transportation
UAS	Unmanned Aerial Systems
UHF	Ultra-High-Frequency
UK	United Kingdom

UN	United Nations
UNECE	Economic Commission of the United Nations for Europe
US	United States of America
V2I	Vehicle-to-Infrastructure
V2V	Vehicle-to-Vehicle
V2X	Vehicle-to-Everything
VAT	Value Added Tax
VW	Volkswagen
WHSD	Western High-Speed Diameter
WIM	Weigh In Motion