

Australia. A successful toll road network.



always one step ahead

Down Under: cooperating for success.

In Australia, using road tolling as a tool to finance infrastructure has not been around as long as it has in many other parts of the world. However, the evolution of highly advanced technique and schemes in the three largest cities – Melbourne, Sydney and Brisbane – has put Australia in the forefront of development in this area. Today around 10 large toll road systems in these cities are operated according to this state of the art standard while the original, more traditional single lane set up is now being turned into cashless systems at a steady pace.

Australia today is leading the development in the area of cashless, multi-lane free-flowing toll roads, both in technique and operation. This is evidenced by the memorandum of understanding (MoU) regarding interoperability which was signed some years ago by all toll road operators in the country, making travelling and paying on highways a truly seamless experience. This MoU includes a back bone of technical specifications, but more importantly it also specifies a scheme of clearing toll charges between operators. The result is an improvement in travel time for motorists, simplifying the toll paying process and streamlining the operations procedure and related costs. Among Australia's toll road networks, road operators offer motorists a variety of business models and payment schemes that works to the benefit of customer satisfaction and loyalty. As an example, can be noted the efforts to identify modes of payment which maximize both customer satisfaction and operational optimization. For instance, by actively offering customer accounts based on either transponder reading or vehicle license plate reading (video), depending on travel habits. Also the one-tag, one-contract model is in effect on the toll road network. For over a decade, Kapsch TrafficCom has been part of the cornerstone in this remarkable development. Initially as a provider of the most advanced technical system available for multi-lane free-flow tolling, but more recently also as a provider of expertise in a joint effort with clients to create highly efficient business models suited to the individual needs of each specific operator, and successively transforming these into tailor made solutions for central systems. As a true end-to-end supplier Kapsch TrafficCom is also a major supplier of such central systems in Australia and New Zealand.

A Decade of Multi-Lane Free-Flow

The first major project in Australia goes back to the Melbourne City Link in 1998 – the world's first and largest electronic toll collection system for an interurban environment. The electronic toll system implemented at that time – cashless, multi-lane free-flow – was in the forefront of technology and despite huge challenges, this new toll road and its innovative multi-lane free-flow system achieved success for the operator, for the travelling public, for industry, the economy and for quality of life. Melbourne City Link continues to be a flagship reference of Kapsch TrafficCom. The positive impact of this system has set an example throughout the country and Australia has become the world leader in multi-lane free-flow tolling systems. To date Kapsch TrafficCom has supplied seven turnkey multi-lane free-flow systems around Melbourne, Sydney and Brisbane and is the market leader in this specialized sector. We have the privilege of working with clients that represent over 80 % of the operators of multi-lane free-flow systems, with a scope that ranges from turnkey road side systems to complete integrated road side and central telematics systems. We have delivered about 6 million transponders to 11 different road operators in a multi-vendor competitive setting, demonstrating real interoperability in a commercial environment.



Melbourne City Link (CityLink)

Melbourne City Link started its Tolling operations back in 2000 and is a 22 km long urban motorway. It connects three major urban freeways – the West Gate, Tullamarine and Monash and it links Melbourne's manufacturing hubs with the central business district, the airport and the port. Melbourne City Link was the first wave of toll roads equipped with electronic systems for payment only and it has today over 1,8 million users registered as customers. The concession allows the road owner and operator, Transurban to operate the road and collect fees until 2034.

Since start up of the original multi-lane free-flow electronic toll collection system, continuous upgrades in cooperation with Kapsch have kept it up-to-date and in line with the latest technical developments, thus maximizing performance. The latest example is the introduction of a new advanced image processing tool and centralized vehicle repository to increase the efficiency and accuracy of video tolling. This will support Transurban's strategy to have a mix of transactions based on transponder readings and video reading of license plates, where different users are encouraged to use their preferred method, depending on travel habits.



East Link (ConnectEast, Melbourne)

EastLink is Melbourne's second fully-electronic tollway, comprising about 39 km of freeway-standard road connecting the city's eastern and south-eastern suburbs. It is a major commuter road and a key intracity arterial route. The motorway saves drivers valuable time, providing the fast-growing eastern and southern regions of Melbourne with a more efficient and accessible transport network. EastLink also delivered the Ringwood Bypass and Dandenong Bypass as untolled additions to the road network as well as more than 35 km of bicycle and walking paths for local residents. EastLink makes a substantial contribution to urban design and the cultural life of the local community. Significant

investment in design and landscape works has been undertaken including the construction of wetlands, installation of a shared use path and revegetation of open space areas and parkland. The multi-lane free-flow toll system with vehicle detection & classification (VDC) and front and rear vehicle registration (VR) supplied by Kapsch TrafficCom started commercial operation in 2007. For ongoing system optimization, Kapsch also supplied an advanced image processing system in 2010 to make more efficient and precise use of the video-based license plate reading systems employed by EastLink. Kapsch has also provided close to 500.000 custom designed transponders to the customers of EastLink.

M2 (Hills Motorway, Sydney).

M2 is a 21 kilometer motorway in Sydney which links the lower north shore of the city with the northwest regions. It opened in 2005 and it connects to Westlink M7 and Lane Cove Tunnel. This short but very important road leads the majority of traffic that is coming from or going to the northern part of NSW and to Queensland. The toll system started as a mixed system with both

multi-lane free-flow and single-lane capacity. The latter was installed to serve customers without accounts but this is now being phased out against cashless tolling based on transponders and video tolling. Kapsch delivered its well proven multi-lane free-flow system to M2 in the same project that supplied the systems for the interconnecting Westlink M7 (see below).



CLEM 7 (River City Motorway – RCM, Brisbane).

Upon its completion in 2010, the Clem Jones Tunnel in Brisbane is the longest in Australia with a length of 6.8 kilometers. The tunnel has created a new link for north-south traffic underneath Brisbane and will significantly reduce the volume of traffic in the city. Kapsch TrafficCom equipped this tunnel with two road

side gantries and a complete back-office solution. In addition Kapsch TrafficCom has been contracted to deliver 100.000 transponders to this operator. Together with Hale Street Link, Airport Link and later on also Northern Link, this project is part of the very ambitious plan to improve the Brisbane transport system.



Westlink M7 (Western Sydney Orbital, Sydney).

Westlink M7 is a 40 km motorway on the western side of Sydney that links the M2, M4 and M5 motorways. It bypasses densely populated areas and enables traffic passing Sydney to have an uninterrupted journey, saving motorists valuable time. This is especially important for the high volumes of HGV (heavy goods vehicles) traffic that traverse Sydney on the way from Queensland to Victoria Westlink M7 is a cashless, free-flow electronic tollway with no toll booths, no slowing or stopping. Motorists travelling on the Westlink M7 can avoid up to 48 sets of traffic lights on the trip. All Roadside multi-lane free-flow tolling systems in the project have been supplied by Kapsch TrafficCom.

Go Between Bridge (Brisbane City Council).

A consortium led by Leighton Contractors and with partners Kapsch TrafficCom and RiverCity Motorway was contracted to design, construct, operate and maintain the Go Between Bridge formerly known as Hale Street Link Tolling Revenue Collection Service project. The consortium delivered this complex tolling services contract, drawing on its extensive toll road experience and a track record of managing a diverse range of project interfaces. The bridge opened in July 2010 and is forecasted to carry approximately 22.100 vehicles per day by 2021. Once

complete, Leighton Contractors will operate and maintain the tolling system on behalf of Brisbane City Council. Kapsch TrafficCom has installed a fully electronic multi-lane free-flow tolling system on this new bridge in central Brisbane (now renamed Go-Between Bridge), together with an adaption of the CLEM 7 central system augmentation to suit a multi-concession scheme, achieving the first truly multi-concession platform operational in Australia.

Airport Link (Thiess John Holland, Brisbane).

To meet the needs of Brisbane's rapidly rising population and growing north side communities, the operator BrisConnections is delivering the AUD 4.8 billion Airport Link (with a four-lane tunnel leading from Brisbane CBD – central business district – to the Airport.), Northern Busway and Airport Roundabout Upgrade projects – Australia's largest road infrastructure project. Together they will keep traffic moving and offer a faster and easier way for

motorists and public transport users to travel to and from the city and airport precinct. Construction of the combined road and bus way solution has now commenced, with all three roads scheduled for completion by mid 2012. Kapsch TrafficCom is contracted by Thiess John Holland JV to design, construct and install this end-to-end multi-lane free-flow system consisting of road side infrastructure, back office systems and associated services.

Kapsch TrafficCom. We make your traffic flow.

Kapsch TrafficCom is an international supplier of innovative road traffic telematics solutions. Its principle business is the development and supply of electronic toll collection (ETC) systems, in particular for the Open Road Tolling (ORT), and the operation of such systems. Kapsch TrafficCom also supplies traffic management systems, with a focus on road safety and traffic control, and electronic access systems and parking management. With more than 230 references in 39 countries on all five continents, and with more than 18 million delivered on-board units (OBUs) and over 12,800 equipped lanes, Kapsch TrafficCom is one of the leading suppliers of ETC systems worldwide. Kapsch TrafficCom is headquartered in Vienna, Austria, operates six engineering competence centers on four continents, and has subsidiaries and representative offices in 23 countries.



Queensland Motorways

Kapsch TrafficCom has been supplying Tags to the largest operator of toll roads in the Brisbane area, Queensland Motorways – QML – for almost 10 years. To date over 1.6 million tags have been delivered. This long term relationship has been tested on several public procurement processes and Kapsch has been selected as the preferred supplier at every instance.

Kapsch Group.

Kapsch is one of Austria's leading technology corporations, specialised in the future-oriented market segments of Intelligent Transportation Systems (ITS) and Information and Communication Technology (ICT). Kapsch, headquartered in Vienna, is organised as a group company with the entities Kapsch TrafficCom, Kapsch CarrierCom and Kapsch BusinessCom. The Kapsch Group companies employ a total global workforce of over 3,000, with subsidiaries, branch offices and representatives around the globe. Kapsch. Always one step ahead.

