REPORT ON OVERSEAS STUDY TOUR UNDERTAKEN TO SWITZERLAND, GERMANY, FRANCE, CHINA AND HONG KONG

Delegation:

Hon Troy Buswell, Treasurer; Minister for Transport; Fisheries
Mr Mark Burgess, Managing Director, Public Transport Authority
Ms Rachael Turnseck, Chief of Staff, Minister's Office (Europe)
Mr Stuart Smith, Director General, Department of Fisheries (China and Hong Kong)

23 August 2013 to 6 September 2013
Overview

The Treasurer and his delegation/s travelled in late August/September 2013 to meet with business and government leaders to help to develop strategic alliances between our government and major suppliers and potential investors to support infrastructure development in Western Australia.

The primary purpose of meetings in Zurich focused on that city’s efforts to increase modal split towards public transport, the integration of a tram system in all parts of their city, making the tram system a brand and driving economic growth through public transport.

The visit included an inspection of Zurich’s light rail/tram network. Zurich is famous for its integrated and multi-modal network comprising heavy rail, light rail, bus, trams and ferries. Key Rapid Transit Projects inspected included the Cross City Link (heavy rail) and Zurich West Tram (Tramway/light rail).

This visit provided an opportunity to discuss the efficiencies of implementing similar arrangements in Perth for the proposed MAX Light Rail system.

Light Rail Systems were also the focus in Bautzen, Germany. The delegation visited the main light rail factory for Bombardier and viewed and tested the vehicles currently being manufactured for the Gold Coast Rapid Transit project.

The delegation also met with executives from LRV, Bombardier which provided an opportunity to discuss and see first-hand the production of light rail vehicles; discuss environmental and alternative fuel aspects of future transportation and the efficiencies of Light Rail and road use.

Discussions also centred on Bombardier’s operation and management of light rail services and their other operations, including traffic management.

The delegation also visited Reims, France to view a light rail and depot system that is similar to that being considered for Perth (light rail, urban setting and operating under a PPP, with some particularly constrained/narrow streets and with catenary free sections through the historic city centre). This system has been recommended by the project team at the Department of Transport.

A visit to Beijing, China allowed the Treasurer to meet with various Chinese oil and gas and engineering companies with investment interests in WA including PetroChina, China Communications Construction Company Limited, China Railway Engineering Co and CITIC Construction. Meetings were also held with Chinese policy banks including
China EXIM BANK and the Industrial Bank of China (ICBC). Both banks are providing financial support for overseas investment and construction projects as government policy banks.

In respect to his Fisheries portfolio, the Minister, while in Beijing met with government officials from the central Department of Fisheries, and in Hong Kong with representatives of the Marine Stewardship Council, major seafood buyers regarding MSC certification, seafood importers regarding chain of custody and inspected shark mitigation initiatives (Hong Kong is well advanced on netting and other deterrents).

While in Hong Kong, the Minister also attended the Asian Seafood Expo where WAFIC had a stand and hosted a reception.

Zurich, Switzerland

The delegation visited Zurich Public Transport (VBZ) and met with Mr Andreas Uhl, Head of Corporate Staff/Member of the Board of Directors. A presentation was given incorporating and introducing VBZ company, ZVV the Transport Authority, funding, general public transport issues and modal split.

Mr Armin Huber, Network and Market Development, VBZ delivered a presentation on a strategy of long term development until 2030 followed by a guided tour of the network and a visit to the light rail workshop.

Besides Swiss Federal Railways (SBB), VBZ is the largest operator of transport services in the Zurich Transport Network (ZVV). VBZ provides the city of Zurich and the surrounding regions with municipal public transport services 365 days a year, at least 20 hours a day. Its services include light rail (258 trams) buses, (215 in the fleet). One of the key features discussed with officials was the very high level of mode share achieved in Zurich.

For Zurich, the transport task in terms of mode share is as follows:

- Public transport - 36%
- Car - 48%
- Bike/pedestrian – 16%

The presentations explained the emphasis by Local Government on providing priority for public transport, noting the benefit from much of this public transport having been ingrained for a very long time (and that they are not trying to retrofit it. VBZ has patronage of 320 million passengers a year; equivalent to around 880,000 per day.
Switzerland has total land area of 41285 sq km and a national population of 7.7 million; of this Zurich has a population of 1.3 million. Across Switzerland, 20.2% of passenger kilometres occur on public transport, which by world standards is a very high figure.

A number of the contributing factors to this positive outcome are as follows:

- Public transport is planned to be convenient, with accessibility to the stop well planned – principle of 300 metres between stops.

- Worst case frequency on trams every 30 minutes but generally trams are at every seven and a half minutes during the day and every 10 minutes after 8.00 pm.

- Operating hours are 5.00 am to midnight.

- There is an even higher level of service in the core of Zurich (380,000 inhabitants).

- Car ownership is at a level of 343 cars per 1000 inhabitants, reflecting a very “pro” public transport environment – noting that in comparison WA has the highest rate of car ownership in Australia and one of the highest in the world at 810 vehicles per 1,000 population.

- High parking costs in Zurich also deter car use – parking is discouraged and as a guide parking in the city is $10 to $16 per hour.

- Education campaigns among youth encourage public transport to be “in their DNA”.

- The tram network covers 119 kilometres over 15 lines, the trolley bus network 54 kilometres over six lines and the general bus network 324 kilometres over 24 city routes and 32 routes across the wider agglomeration.

- 60% of system revenue comes from fares (predominantly) and system advertising, with the remaining 40% paid by the City/Government.

- Relatively cheap fares (eg 70 francs ($100) for zone 10 - central Zurich for monthly pass).

- A strong theme within Zurich (political and public) is that public transport needs one fifth of space compared to private transport, and that the current generation decides the living quality for future generations.
Bombardier Transportation

The delegation met with Hans-Rudolf Feuz, Head of Sales Switzerland, Bombardier and visited Bombardier’s Twindex mock up twin deck train developed for an urban and potential inter regional European market.

The delegation also visited one of Bombardier Transportation’s regional train development facilities in Zurich. The key item of interest was a new regional train Bombardier has designed and is constructing for Swiss Federal Railways. They were also able to discuss future train designs and developments across both urban commuter and regional markets. With regard to the regional train, in June 2010, SBB awarded Bombardier the largest rolling stock order in its history.

A contract with SBB has Bombardier supplying 59 TWINDEXX double-deck trains (436 coaches) for intercity service. The contract includes options for more than 100 additional TWINDEXX trains.
Bautzen, Germany

The delegation met with Volker Eickhoff, General Manager, and Oliver Schmidt, Vice President Sales and Products, LRV, Bombardier and was given a presentation on light rail vehicles and of the Bautzen site.

This was followed by a visit to the light rail factory and a test ride on the tram for the Gold Coast Rapid Transit project under construction.

Bombardier Transportation

Bautzen is approximately 230 kilometres south east from Berlin, and is the site of Bombardier’s key light rail production facility in Europe.

The Gold Coast trams are being produced at Bautzen with the second vehicle coming off the production line as the delegation visited. Bombardier is part of the joint venture which currently supplies trains to Perth as well as being one of two companies in the Joint Venture maintaining Perth’s train fleet.

Bombardier is involved in various consortia delivering light rail and train systems around the world. As the world’s largest light rail manufacturer they are a valuable potential stakeholder with which to consult in terms of planning Perth’s future light rail and train systems.
Bombardier Transportation has its global headquarters in Berlin, with more than 560 employees. It has production sites in Aachen, Bautzen, Braunschweig, Frankfurt, Gorlitz, Hennigsdorf, Kassel, Mannheim and Siegen with approximately 9,000 employees.

In Germany, Bombardier Transportation produces and operates trams and urban rail, underground, regional and intercity trains, locomotives, bogies, signalling technology, propulsion and control equipment, rail control solutions, maintenance and modernisation services and replacement component supply systems.

Bombardier’s Bautzen site constructs trams for municipalities worldwide and the delegation was given a presentation on light rail design developments over the past decade, trends in design, and various forms of tram light rail that Bombardier are supplying to various cities around the world.

Discussion centred on options for vehicle size, length, and catenary free operation. There were also discussions on the impacts of route selection on vehicle design (eg turning/curve radius and width of light rail corridor in a mixed traffic environment).
Bombardier is part of the GoldLinQ consortium which was selected in May by the Queensland Government to design, build, finance, operate and maintain the Gold coast’s light rail transportation system. Bombardier will design and supply the system-wide electrical and mechanical elements including 14, 45 metre long Flexity 2 light rail vehicles.

The GCRT system is the company’s first order for the longer 7-module Flexity 2 tram version. Bombardier will supply signalling and control systems; communication systems; electrification including traction power supply substations and overhead line equipment; project management; systems engineering; and integration, testing and commissioning of the new LRVs and signalling system.

At the depot, Bombardier will provide depot and plant equipment required for LRV and rail system maintenance. In addition, the company will provide vehicle maintenance for 15 years, with KDR to undertake the wayside maintenance.

GoldLinQ Trams will have air conditioning throughout, dedicated spaces for wheelchairs and prams, seats, standing room, information on where it is stopping and the next stop displayed to passengers. Each tram is made up of seven modules with a driving cab at each end. It will be 43.5 metres long and has been designed to make it easy to access and travel in. Inside there will be room to carry 309 passengers per tram, with 80 seated and 229 standing.
The light rail vehicle is powered by electricity from the overhead lines. The driver controls the vehicle’s speed and braking as the light rail vehicle is steered along its path by rails, in the same way that trains are on train tracks.

The light rail system will run along its own dedicated corridor and not on the road with other vehicles. The light rail will use the current road traffic signal system. The tram has the capacity to travel at 70 kmh but taking into consideration the stopping and starting along the route, for stations and junctions, the average speed along the journey will be 23 kmh.

**Berlin, Germany**

**Berlin Hauptbahnhof - Berlin Main Station**

The delegation visited Berlin's Main Train Station (Berlin Hauptbahnhof), which is considered the most modern crossing station in Europe. Every day, some 1,000 long distance, regional and rapid transit trains call at the 14 platforms on two different levels. The Hauptbahnhof links up all the long distance lines with the S-Bahn and regional trains, so that changing trains has become a lot easier.

The delegation also then observed, inspected and travelled on trams in operation in several Berlin locations; this included talking to staff and supervisors. The design and layout of one of Berlin’s most recent trams was considered particularly functional (shown below).
Reims, France

Meetings were held with Veolia Transdev representatives which included PPP presentations, presentation of work phase, a visit to the tramway and a visit of the maintenance centre.

In the historic town of Reims, local authorities wanted to transform mobility and transport for the community and to deliver a massive modal shift through development of a light rail and network reconstructions.

The challenges included ensuring smooth redesign and integration of light rail into the existing public transport infrastructure and engaging the local community and stakeholders in the project while respecting the city’s architectural and cultural heritage. First studies for the project commenced in 2003, and then led through the various stages of consultation, design and project delivery until an opening for service in April 2011.

The project is of particular interest to the Western Australian State Government because it was a greenfields site (no previous light rail) and it was also delivered via a Public Private Partnership, which is a model that has been used on the Gold Coast and can be considered in Western Australia.

Reims decided to develop the provision of its public transport by creating the first tramway line for the Greater Reims urban area. This project was scoped to include urban planning work, operations and maintenance of a combined bus and tramway network over a 30 year period.

Local Reims authorities have entered into a Public Private Partnership (PPP) with the MARS consortium, of which Veolia Transdev is a partner. The objectives of the PPP were to:

- Build, design and operate an entirely new light rail system for the city of Reims with a modern, integrated network able to meet present and future mobility needs.
- Maximise benefit of expertise from within the project consortium to ensure operational and maintenance excellence.
- Train existing and recruited staff to deliver a major new mobility project.
- Provide attractive and innovative services from day one to drive a major shift in modal share.
Third rail in centre of tracks provides power to the light rail vehicle in catenary free sections of system. (currently an Alstom only product)

Close proximity of light rail operation to people and alfresco in Reims

Reims workshop facility built and operated by the PPP consortium.

Tram in operation in historic Reims.

**Key findings:**

The visit to Zurich, Berlin and Reims provided valuable insight into:

- How light rail can form a very effective component of an integrated public transport system.

- The importance of “right of way” (priority) for light rail, particularly in congested portions of the city centre.
• How comfortably and safely light rail can operate in tight urban settings, including operating very closely to public thoroughfares, footpaths, alfresco areas etc, provided the light rail is operated at sensible speeds and there is clear community awareness of its operation.

• That light rail can operate in relatively confined urban street settings.

• That, over time, light rail can become an embedded part of the community and fabric of a city, and along with the wider public transport system, can become highly valued by the wider community.

• How effectively a public private partnership approach can be in delivering a light rail system, particularly in a greenfields environment.

Beijing and Hong Kong

Between 1 and 6 September the Minister and his Chief of Staff visited Beijing and Hong Kong and participated in a series of meetings largely in his role as Treasurer and Minister for Fisheries. The Director General of Fisheries attended the meeting with the China Society of Fisheries and other Fisheries Portfolio related meetings and events.

AustCham Presentation

The Treasurer briefed the Australian and Chinese business community on the current state of the Western Australian economy, at the China-Australia Chamber of Commerce (Chamber).

The Chamber is a non-profit organisation founded in Beijing in 1996, whose primary goal is to advance Australian business in China. It provides members with the information, resources and contacts they need to succeed in China, and maintains a good working relationship with the Australian Embassy and various Australian government departments in China.

Its current membership comprises around 250 companies, mainly located in Beijing and northern China, as well as a Young Professional membership, made up of young Australians working or studying in China.

During the visit to China, a range of meetings were also held largely to discuss infrastructure investment opportunities in Western Australia.
CITIC Construction

CITIC Construction is a state owned conglomerate and is ranked among the 100 largest construction companies worldwide. Some CITIC Construction projects include China National Stadium (Bird’s Nest), Angola Social Housing, Venezuela Social Housing and Brazil Candiota Coal-fired Power Plant.

The delegation undertook a tour of the Bird’s Nest project followed by a meeting with Madam Hong Bo, Chairman. CITIC has been actively pursuing infrastructure development opportunities in WA and has expressed an interest in the Oakajee project, further opportunities in agricultural investment and high value exports including food and wine.

China Railway, Engineering and Construction Group (CREC)

CREC has participated in constructing more than 22,660kms of electrified railway lines, accounting for approximately 95% of the total operating length of electrified railway lines in China. They have also been involved in the construction of more than 4,230kms of bridges, 3,900kms of tunnels (excluding subways), 3,400kms expressways and 566kms metropolitan railways.

The meetings with CITIC Construction and CREC focused on investment opportunities in Western Australia and their major project delivery capabilities given their history in delivering large public infrastructure projects, transport (including heavy rail) and major agricultural projects.

Also canvassed were issues relating to the companies preferred investment and construction models particularly around the use of foreign labour in Australia and the Australian industrial relations system.

Industrial Bank of China (ICBC)

As one of China's 'Big Four' state-owned commercial banks, the discussion was wide-ranging, covering investment opportunities across the spectrum including the Perth Stadium, ports, LNG and our large transport projects. Possible asset sales were also canvassed and ICBC expressed some interest in this process. ICBC has some experience in Australia in this regard having had involvement in Newcastle Port and Royal Adelaide Hospital amongst others.

Other issues discussed included yet to be exploited agribusiness opportunity, bond investment, and labour protection concerns (tender processes/criteria, cost of labour).
China Investment Corporation (CIC) and Export-Import Bank of China (EXIM)

Focus of the meetings was on interest from Chinese corporations in investment in resources and transport infrastructure in WA. Advice was received on potential funding models that could be considered in the delivery of public infrastructure projects in Western Australia.

CRU Monitor/Iron Ore consultancy companies

The Treasurer received a detailed briefing on the state of the Chinese economy with a focus on the steel industry both in terms of demand and industry capacity. In addition, details of Central Government fiscal stimulus activity was discussed especially where a link to steel demand existed.

China Iron and Steel Association (CISA)

This meeting was an opportunity to brief CISA on Western Australia’s iron ore production trends and for CISA to brief us on current iron ore and steel policies in China.

CISA presented areas of concern to the Chinese steel industry especially as it related to price volatility and supply security. A significant increase in the global supply of iron ore is expected over the next few years with the strongest growth anticipated to come from Australia. However, moderating growth in China is expected to result in slower growth in steel consumption and therefore lower growth in iron ore demand.

Briefing to industry at which the following companies were represented

- China State Construction
- China Nonferrous Engineering
- PetroChina Engineering
- China National Automation Control System Corp
- China Railway Construction
- China International Contractors Association

The Treasurer delivered a presentation on investment opportunities in WA and participated in a Q&A session. The presentation provided an introduction to the current state of the Western Australian economy with a focus on recent and anticipated economic growth. Discussion was also held regarding current government infrastructure priorities and procurement strategies.
Note: In Beijing, meetings and separate workshops were attended by the Director General of Fisheries focussing on the Memorandum of Understanding (MoU) and associated collaborative projects between the Western Australian Department of Fisheries (DoF) and the China Society of Fishers, (CSF) which forms part of the Ministry of Agriculture in the central Chinese Government.

The MoU between the CSF and DoF was signed in 2011 to facilitate cooperation on artificial reef technologies. Its success in facilitating collaboration has resulted in additional issues being raised including discussions over stock enhancement, closing the lifecycle for breeding certain fish species in captivity, commercial trade and the grey channel.

The Western Australian fishing industry, and particularly the Western Rock Lobster Fishery, currently exports a large proportion of total product to north Asia. Approximately 95 per cent of Western Rock Lobsters are currently exported to buyers in different locations in north Asia such as Hong Kong and Hanoi. Much of this product is understood to subsequently make its way into mainland China via supply routes that are often referred to as the grey channel. These supply routes typically seek to avoid the high import tariff and value added tax that is applied to Australian lobster imports into China (currently at a combined 29.5%). The scale of this trade as a proportion of total seafood exports from Western Australia ensured that the supply chain was an important focus for meetings during the visit.

As previously mentioned, the MoU between the CSF and DoF was signed in 2011 following a DoF recreational fisheries delegation to China and Korea which concluded that their technologies were applicable and led to Government support for an artificial reef program with funding from the Recreational Fishing Initiatives Fund and Royalties for Regions.

The first reefs deployed under the program were launched by the Treasurer in Geographe Bay during 2013. Those deployments form part of a collaborative project which commenced with the CSF in 2012. The project involves multiple reef deployments and research monitoring programs in each jurisdiction, together with the exchange of expertise via delegations and workshops.

This particular visit included a meeting with the CSF in Beijing and a full day workshop attended by the DG on artificial reefs with the CSF in Tianjin. It followed a similar workshop in Perth on Friday 30 August 2013 with a delegation from the CSF and Chinese Ministry of Trade.
The latest delegations from Western Australia and China represent the third consecutive year of such exchanges under the MoU. These exchanges, combined with the collaborative projects, have facilitated a strong relationship between the Western Australia Government and the central Government of China on fisheries related matters. That relationship has led both jurisdictions to look at extending the MoU well beyond artificial reefs to include discussions over stock enhancement, closing the lifecycle for breeding certain fish species in captivity, commercial trade and the grey channel.

The CSF is far more advanced than Western Australia with regard to the sophistication and scale of artificial reef programs.

While meeting the CSF in Beijing, (and their delegation to Perth prior to our China visit) the delegation delivered presentations on our existing artificial reef projects, recreational fishing in Western Australia and fisheries management practices. This information was well received by the CSF which recognises Western Australian fisheries to be among the most sustainably managed in the world. The CSF is interested in emulating some of these practices for both the commercial and recreational sectors.

Services currently provided by CSF for recreational fishing in China are limited as the focus is largely on commercial fishing. This allocation of resources reflects a risk based approach as the scale of product being fished by the commercial sector greatly exceeds the recreational take. Nevertheless, the CSF has an interest in recreational fishing and facilitated inspections for the Director General of both natural and artificial recreational fishing facilities. The artificial facilities were similar to large pools that were stocked with multiple species. Fishers pay for the fish they catch.

Recreational fishing rules are very rudimentary and compliance capacity is negligible. Nevertheless, recreational fishers are expected to comply with rules such as the one month annual summer closure which applies to all fisheries. This annual closure is intended to provide some relief for stocks to rebuild. While any measures are probably better than nothing, rules such as this one are unlikely to be effective for most species. Measures that are more targeted at the needs of particular species categories and environments are probably required to have a significant impact on fish stocks in China.

Given the success of the MoU, the CSF sought to negotiate additional collaborative projects with DoF. These negotiations resulted in commitments for:

• The co-hosting by the CSF and DoF of an international conference on artificial reef technologies in China during 2015.

• Another meeting will be convened by the CSF and DoF in Shanghai, to coincide with the international conference on artificial reef technologies, regarding the supply chain for seafood from Western Australia.
• DoF will send a scientific representative(s) to China to observe the recovery of an artificial reef module as part of the relevant reef monitoring program;

• The CSF will send a scientific representative(s) to Western Australia to participate in the monitoring program for the artificial reefs deployed in Geographe Bay;

• The CSF and DoF will encourage relevant researchers in each jurisdiction to exchange expertise, potentially through visits;

• DoF or Recfishwest will advise the CSF of opportunities (as they arise) for Chinese companies to participate in tenders for the supply of expertise related to artificial reefs. This expertise may relate to design, deployment and/or monitoring but it is expected that manufacturing of reef modules would occur in Western Australia, as was the case for the artificial reefs deployed in Geographe Bay; and

• DoF will send details of the hairy marron species to the CSF for distribution to relevant aquarium fishery operators.

• Further collaboration between the CSF and DoF on issues such as the supply chain for seafood from Western Australia will also be pursued. In addition, there may be opportunities for collaboration with the CSF as they work with the MSC on fishery improvement programs leading toward certification.

Asian Seafood Expo/Trade

An Australian stand was organised by WAFIC for seafood exporters at the Asian Seafood Expo held in Hong Kong between 3-5 September. Western Australian exporters were well represented at this Expo, including a collection of future leaders who received bursaries to participate.

The Treasurer attended the stand and met Expo participants on 5 September. Australian participants in the Expo were typically positive about their experience and some had made significant sales based on contacts secured through the Expo.

The majority of Australian seafood dealt with in Shanghai is rock lobster and abalone. The industry was unable to differentiate between the different products available (e.g. western rock lobster compared to southern rock lobster) to the extent that they did not
know that there were different products available. With this in mind, they recommended that Western Australia should embark on a more rigorous and extensive marketing campaign in Shanghai by regularly attending local trade shows. However, they did acknowledge that many visits and meetings will be required to build trust prior to securing long term deals with Chinese suppliers.

Shark Exclusion Barriers

In 1993 Hong Kong experienced three fatalities as a result of shark attack in a period of 14 days. Following an extensive review of the protection options available throughout the world, the first shark exclusion barrier was deployed at Repulse Bay in 1996 (it was designed by an Australian company). There are now 27 barriers in place at beaches on Hong Kong Island and the New Territories.

A meeting was held with the Hong Kong Government Department of Culture and Leisure (DCL), who are responsible for managing the deployment and maintenance of the barriers followed by an inspecting of the barrier at Repulse Bay on the water. Also observed was maintenance being undertaken and a meeting with the contractor responsible for the deployment and maintenance of the barriers.

The type of barrier used differs depending on the location and prevailing weather conditions. Given the nature of the Hong Kong coastline, nets have been designed for both high and low wave action beaches. However, it was made clear that they lost a lot of barriers during typhoon periods. During these periods, the barriers are removed from the water if possible. Shifting sands also pose a problem when they cover the chain footing and anchor points for the barrier.

It was noted that the barriers should be deployed in water depths of at least 7 metres due to the potential for damage to the barrier during high wave conditions. The use of groynes at the base of the barriers is thought to provide additional protection. Nevertheless, it was noted that the enclosures are deployed in waters with relatively low water movement and swell. The enclosures were not considered suitable for deployment in waters that are subject to even small waves.

Maintenance was the highest cost element of project. During our visit there were six divers in the water who were scrubbing the surface pipe by hand to remove marine growth. This process is carried out once a month for each net. The net is also subject to visual checks for breakages and holes at regular intervals by divers and remotely operated vehicles. In some locations the visibility is poor and these net checks need to be conducted by getting the divers to feel the mesh. The annual maintenance cost was estimated to be $AUD1 million, despite substantially lower labour costs in Hong Kong compared to Western Australia. The nets have an effective life of five to six years.
Part of the maintenance contract requires a response to shark sightings inside the net. Sonar is employed to scan the inside of the barrier to ensure that no sharks are present. This process occurs for any shark sighting in or near a barrier and can take up to three days. The beach in question is closed until the process is completed and no further sharks are sighted. Sonar may also be deployed at other times to check for sharks but experience has found this technique to be largely ineffective due to the limited water depth.

Shark exclusion barriers are deemed to have been a success in Hong Kong, although it has come at a high financial cost, even in Hong Kong terms. These barriers could have the potential to reduce the risk of shark bite in certain areas of Western Australia, however serious consideration would need to be given to the high cost of installation and ongoing maintenance requirements.

At the conclusion of our inspection of the barriers, a brief discussion was held on shark hazard mitigation measures being employed in Western Australia (prior to the recent announcement in December). These measures were of keen interest to representatives from DCL. During this discussion, DCL enquired about the possibility of sending a small delegation to Western Australia to learn more about the measures used in the State and the delivery of services for government managed swimming pools.