

IPWEA 2015 International Study Tour



Michael de Heus
Tonkin Consulting, Adelaide South Australia
michael.deheus@tonkin.com.au
Phone 0419 840 104

Introduction

I was privileged to attend the 2015 Institute of Public Works Engineering Australasia (IPWEA) International Study tour with support from the South Australian division of the IPWEA and the South Australian Foundation for the Advancement of Municipal Engineering (FAME).

The 2015 IPWEA Study tour was held from 22 August 2015 to 11 September 2015 and included visits to nine Councils in three countries together with attendance at the 2015 American Public Works (APWA) Congress held in Phoenix Arizona.

Four public works professionals from Australia were successful in receiving IPWEA sponsorship to attend the Study Tour. An additional four from Victoria also attended the Congress and joined us to visit Councils in Arizona although undertook a separate study tour of USA / Canada

The IPWEA study tour was led by Chris Champion, IPWEA Director International.

The IPWEA attendees were

- Raad Jarjees, Technical Services Manager, Ipswich City Council (QLD)
- Nathan Koenig, Manager Design and Traffic, Parkes Shire Council (NSW)
- Kimberly Brosztl, Manager Engineering , City of Melville (WA)
- Michael de Heus, Program Manager, Metropolitan Local Government, Tonkin Consulting (SA)



Chris Champion Nathan Koenig Michael de Heus Kimberly Brosztl Raad Jarjees

The study tour commenced in Dallas Texas USA where we met with two Councils, then moved to Phoenix Arizona, the home of the 2015 APWA Congress. Whilst in Arizona we visited two Councils and attended the APWA conference. Following the Congress the study tour group headed to Paris, France for a meeting with two Councils and then to Copenhagen, Denmark where we met with three Councils.

The study tour included the following visits

| | |
|----------------------------------|--|
| 24 August 2015 | City of Garland, Dallas, Texas USA |
| 25 August 2015 | City of Rowlett, Dallas, Texas USA |
| 27 August 2015 | City of Mesa, Phoenix, Arizona USA |
| 28 August 2015 | City of Scottsdale, Phoenix, Arizona USA |
| 30 August 2015- 2 September 2015 | APWA Congress, Phoenix Arizona USA |
| 4 September 2015 | Ville Antony, Paris, France |
| 4 September 2015 | Ville La Courneuve, Paris France |
| 7 September 2015 | Køge Kommune, Denmark |
| 8 September 2015 | Frederikssund Kommune , Denmark |
| 8 September 2015 | Gladsaxe Municipality, Denmark |

Local Government – Internationally

As we travelled around, we developed an understanding of how local government works in each Country and I was able to compare it to that in South Australia.

There was a number of similarities but even bigger differences.

A summary of each Council we visited is provided in the table below. We were fortunate to have great hosts at each Council, who were very enthusiastic about their Council and were keen to answer the many questions we had.

| Council | Population | Size (km2) | Topics |
|--|-------------------|-------------------|--|
| City of Garland, Dallas, Texas USA | 235,000 | 147.9 | Concrete Roads, Asset Management, Depot guided tour, Drought management, Council meetings live to TV |
| City of Rowlett, Dallas, Texas USA | 56,000 | 51.7 | Strong leadership by Mayor, Elected Members and senior staff. Cultural shift. Proactive. Strong use of social media and strong emphasis on communication with community. Extension to Light Rail |
| City of Mesa, Phoenix, Arizona USA | 463,000 | 344 | Extend light rail to activate area. Public Art and place making focus. Community consultation commitment |
| City of Scottsdale, Phoenix, Arizona USA | 225,000 | 477 | Community consultation and notification a high priority. Street art focus. Green oasis in the desert, including 5 golf courses, State of the art traffic management |
| Ville D'Antony, Paris, France | 62,000 | 9.5 | Street upgrade to accommodate cyclists and retain environment – high cost |
| Ville La Courneuve, Paris France | 38,000 | 7.5 | Green smart school and buildings. Retrofit to maintain heritage buildings |
| Køge Kommune, Denmark | 57,000 | 255 | New development to improve city |

| | | | |
|---------------------------------|--------|-----|--|
| Frederikssund Kommune , Denmark | 44,300 | 250 | Vinge development, connected communities |
| Gladsaxe Municipality, Denmark | 67,000 | 25 | Electric bikes, Tobaksbyen development, green building |

USA (Texas and Arizona)

Local Government in USA operates slightly differently to that in Australia. There is an additional tier of governance reflecting the larger population. The governance includes Federal, State (i.e. State of Arizona), County / Regional (i.e. Maricopa County), and City level (i.e. City of Mesa). A county is 3-5 Councils.

It was noted that the Councils were considered 'cities' or 'towns' and businesses were often named after the Council. Residents indicated they lived in Mesa (a Council) rather than the larger City of Phoenix.

Compared to most Australian Councils, the American Councils have greater responsibilities that include water treatment and distribution, wastewater collection and treatment, lighting, power and emergency services. Each Council had its own police and fire stations, Police Chief, and Fire Chief. In terms of funding, the emergency services were often a first priority.

Schools were managed on a County level and some policing was managed on a state level (i.e. State Troopers).

Income sources for each Council vary. Income sources include primary and secondary household tax, utility rates, sales tax for money spent in the Council area, and a hotel bed tax. The sales tax is a major income source and this creates pressure on Councils to promote and encourage businesses to the area. Businesses can be attracted to other Councils if a cheaper deal is provided. Some Councils do not have a household rate if funding from other sources is sufficient.

Funds for capital projects were obtained through bonds that needed to be approved by the community. The Council through a steering committee identified capital works for a period of years and then sought community support through a vote for the Council to purchase bonds to pay for the capital projects.

As a result of this process, there was a very strong emphasis on community consultation and community involvement that included Councils having their own YouTube channel and TV Station.

We also noticed a much stronger political awareness than we have in Australia, both at the local level and the state level. We were lucky to meet with Texas Congressman Pete Sessions whilst in Texas, and the Mayors of both Garland and Rowlett.



The Study tour group with Texas Congressman Pete Sessions



The Study Tour group with Garland Mayor Douglas Athas

Europe (Paris and Copenhagen)

In France there are four tiers of government - the state or central government, region, department and 'commune'. The commune is the lowest tier of the government and manages local issues. The department essentially oversees health and social services, major capital works, departmental roads, and the capital expenditure and running costs of schools.

The French system of Region, Department and Commune is probably most similar to the Australian system and includes an elected Council and recruited staff.

In Denmark there is a two tier system, effectively State and Municipal. The Councils are responsible for welfare (Cradle to the Grave) and infrastructure. For example, Køge Municipality owns a fully independent energy company that delivers water, manages wastewater, heating, and power (through wind turbines). The State is responsible for secondary education, police / fire and major infrastructure. The Danish local government includes an elected Council and recruited staff. Denmark has a population of around 6 Million and has 98 Councils (from around 1400 in the 1970's).

Observations, Comparisons and Contrasts

Dallas Texas

Dallas is a city made for cars with wide roads and plenty of on street and off street car parking in the city centre. There were a number of elevated freeway upgrade projects underway.



Dallas – Elevated roadways and generous inner city carparking

A light rail (DART – Dallas Area Rapid Transit) operates in Dallas and is an efficient mode of transport. We used it to visit Rowlett Council.

Garland and Rowlett are adjoining Councils but quite different. Garland is a larger and more established Council whilst smaller Rowlett appeared more progressive and innovative.

The clay soils in Dallas and generally central Southern United States are very reactive similar to Adelaide soils, predominately due to the low rainfall and high evaporation. This has resulted in pavement problems for both Garland and Rowlett Councils.

Garland has adopted a concrete road approach to bridge the poor soils. The concrete roads are used throughout the city including the 'alleys' which are the main access to residents and the service corridors for waste vehicles. The houses typically front onto a 'street' although there is often no direct vehicle access. This is a Council wide strategy including new developments to improve the streetscape and the Councils acknowledged the duplication of the road network and additional assets to maintain.

The construction of the concrete roads in a residential area was well accepted by the community noting that a road upgrade would mean they cannot get access to the rear of their properties and would have to park on the street for approximately 7 days.

Garland has a fleet of plant to construct and maintain the concrete roads. The reactive soils still affect the concrete pavements with issues such as wash boarding (the joints displace) which give a rough ride. Council has developed techniques to address this.

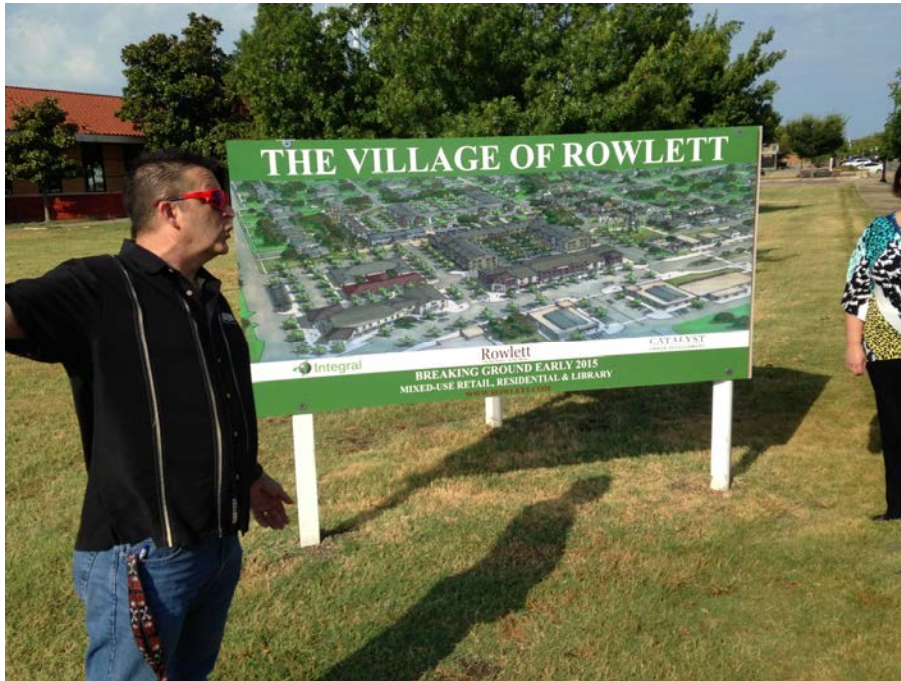


Concrete alley under construction – City of Garland

The concrete roads have a 30-year design life that was felt to be quite short. At the end of a road's useful life, the concrete is crushed by a contractor and then provided back to Council. In some instances, asphalt was placed over the concrete to improve the ride surface.

Rowlett has adopted a deep asphalt pavement more typical to the Australian pavement designs.

Rowlett is slightly further out from Dallas and to promote business has contributed to the extension of the light rail (DART) into Rowlett. The rail station is adjacent a new development / redevelopment area which the Council supports, The Village of Rowlett.



Assistant City Manager, City of Rowlett Jim Proce presenting the Village of Rowlett vision.

The extension of the light rail was a key point for the redevelopment, which included moving a heritage Council building to create development opportunities.

Rowlett was an interesting Council that had changed from a Council with high staff turnover and low morale to a very progressive Council. The enthusiasm and commitment from staff including the Assistant City Manager was a highlight. The turnaround of the Council and its external development focus can be attributed to its inspirational leadership.

Rowlett was very strong on community involvement and notification in its day to day activities and its activities included its own YouTube channel that the Mayor uses to talk about local government issues.

Our visit was documented by Council staff and included on a YouTube video.

<https://www.youtube.com/watch?v=cDUDN1hFsJk>

As part of Councils consultation process, Council undertakes a reverse phone in, in which the Council calls up to 6000 residents to allow them to hear and contribute to discussion on Council matters. This includes the Capital Investment Projects. This form of consultation is in addition to other forms of consultation. The Council meetings are also televised.

Rowlett instigated a successful 'find a dog a home' program for its rescue dogs in which dogs that are in the pound are socialised by Council staff and then come to a Council meeting with the Mayor who presents the dog and tries to find it a new home. Whilst not infrastructure, it shows the power of the media in Local Government. The Council uses Facebook extensively and The Mayor and has a strong Facebook following.

The study tour group received a presentation on consultant procurement from the City of Garland, which highlighted some key differences. In most American states, selection of consultants based on price is legislated against. The consultants are selected based on non price factors including quality, past performance, technical skills and experience. Councils acknowledge that the consultant price is a small part of the overall cost and is outweighed by the non price factors. Most projects have a

construction estimate and the consultant cost is around 10%-12% of the construction estimate. Council staff also said that they tried design and construction contracts but these were not found to be successful.

Despite being in a drought, low rainfall, high temperatures and extensive sunlight, there was not a strong emphasis on saving water or renewable energy, such as solar power. Many homes did not have rain gutters and we heard that air-conditioning was preferred to insulation. We felt this is an area of improvement, although part of the delay in implementing energy efficiency was that solar power for example was still more expensive than other forms of generated power including coal.

The Dallas area was in drought although there were no water restrictions. This is in part because the Councils have to bulk purchase water in advance for their community and for treatment and there is no reduction in cost if they use less, and therefore no incentive to save water.

Phoenix Arizona

On arrival in Phoenix, we were impressed by the amount of green, landscaped, well-maintained road verges and reserves. It looked like a desert oasis, and this level of amenity was reflected through the whole city. This was an immediate difference to our arrival in Dallas.

Mesa and Scottsdale were both beautiful areas to live with views of the hills and the deserts. The area was green with good amount of open space. Scottsdale has five golf courses including a PGA standard course. Mesa was recently voted as one of the best 10 places to live in the USA.

The City of Mesa, similar to Rowlett, had contributed to extending the light rail to improve and promote business in the area and create more employment. Each rail station was designed to both be functional but to also have a sense of arrival with a strong public art focus. The light rail was clean, quiet and efficient. Mesa was approximately a 40-minute trip from the centre of Phoenix.



Mesa Light Rail

Mesa Council went through an extensive public consultation process on the light rail alignment, with business fears that the installation of the light rail down the main street with associated loss of parking and reduction in traffic may force businesses to move into adjoining streets and areas. This was not the case and businesses thrive although there have been changes from businesses to café / restaurants that further activate the street, which is a positive outcome.



Mesa – Public Art at the light rail stations



Mesa – Outdoor dining near the light rail extension



Streetscape with public art



Reserve redevelopment again a strong emphasis on public art

Both Mesa and Scottsdale use bonds which allow Councils to accelerate works that may be funded by the government in the future – Council pays interest until funding is received which then repays the bond.

Community involvement is strong in both Councils with very strong processes to consult with, communicate with and notify the community. Mesa Council has a smart app for the community that allows residents to advise Council of the issue and it also provides a map reference.

When Council is undertaking works in an area that may affect businesses, it is proactive and provides the business an opportunity to advertise on Council website and Council also provides additional advertising signage.

Project specific community engagement is very thorough and includes , door to door communication , door hangers left if no one home, monthly project updates, public meetings and contractors may get a bonus based on community opinion / vote / feedback. Scottsdale's communication motto; **create once – publish everywhere**

Water supply in the Mesa and Scottsdale area is via large open irrigation channels. A majority of their water is from the Colorado River, some 400 kilometres away. Despite the low rainfall, high temperature and high evaporation it is too expensive to reticulate the water underground. As a positive, the moving water and large storage lakes creates a nice environment and the lake provide a recreational facility. Water for irrigation is taken from the channels untreated.

In Arizona, 30 of the baseball teams have their spring training facilities. We visited the Chicago Cubs facility that replicated the facility in Chicago. As a business, Council owns and operates a Chicago Cubs training facility for baseball spring training and A League trial games (Cactus League) which are well attended. The facility is only used for a few months a year and maintained for a whole year but it is financially viable for Council.



Chicago Cubs baseball spring training facility.

Due to the shape of the baseball facilities, with the mounds, inner and outer fields there is limited opportunity to have multi use facilities, although these are currently being trialled.

Scottsdale is a high socio-economic community with a difficult political environment “there would be a 4:3 vote on the day of the week” was one staff members comment. Stormwater management was a key focus and despite the low rainfall, in 1972 there was a major flood and 3000 homes were flooded.



Indian Bend Wash drainage reserve – Significant flood flows

Council is in the process of a major stormwater upgrades including the Indian Bend Wash Greenbelt. This world-renown flood control project is rated among the top urban "green spaces" in Arizona. We had a tour of this area and observed the infrastructure constructed in the flood plain including skate parks as well as other landscape features. Residents who live in flood prone areas and have a mortgage must have compulsory flood insurance.

The study tour group were invited to inspect Scottsdale's state of the art traffic management centre. The system includes video bicycle detection so that a bike will get green time and includes multi scenario traffic modelling, in the event that certain roads are congested or blocked (i.e. an accident) or post an event, the priority on roads can be changed.



Scottsdale traffic management centre – includes video bike detection

Scottsdale Council is in the process of undertaking a major investment in bicycle infrastructure. It is a major undertaking and starting from a reasonably low base. We noticed that bicycle use was fairly limited, although this may be contributed by the very hot temperatures whilst on our visit (42 degrees Celsius!).

The extent and quality of public art in the two Council areas area was impressive and Scottsdale Council puts 1% of its capital budget into public art. For this visitor the public art was very evident, quite varied and a highlight.

The City of Scottsdale is implementing Green star development and also Low impact Development (LID) (also known as Water Sensitive Urban Design). We visited a Greenstar Fire station – Scottsdale Eldorado Park Fire Station. Whilst this fire station was state of the art and five green star, Council felt that it also had one of the highest costs to maintain. Councils approach now is to consider a whole of life cost together with the greenstar rating. The greenstar buildings were likely to have some cost savings in regard to energy use and water use but unlikely to compensate for higher maintenance

Paris France

Paris was a huge contrast to Dallas and Phoenix predominately due to the high density, narrow roads and traffic congestion. There was a much larger bike culture as an efficient way to move and there were many pedestrians combined with the numerous shops, cafés and restaurants.

Parking was a premium in the CBD area and traffic bollards were used extensively to prevent parking as a more physical deterrent. Cars were typically small and there were many smart cars. Bus drivers were able to manoeuvre within very tight places. The average line-marked car park width was around 1.6 metres and cars tended to park nearly bumper to bumper. The parking ability of the Parisians was impressive, they appeared to be able to reverse park into a very tight spot in a single manoeuvre.

Bicycles were readily available to hire in a number of locations and were very popular.

The condition of the roads and buildings were seen to be in reasonable condition with limited cracking, reflecting a reasonably stable and strong geotechnical conditions, and well designed and built structures.



Paris bicycle hire – very popular as can be seen by the lack of bikes



Electric bikes for hire in Paris



Bollards used to restrict on street parking.



On street parking – 1.6 m wide bays, small cars, skilled manoeuvring!

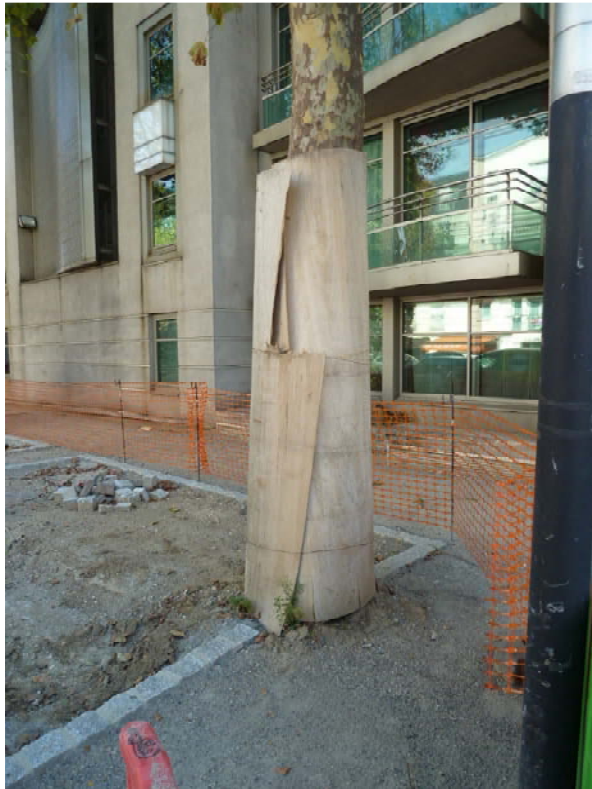
Paris as a heritage city has strong planning controls to maintain the image of the city. Part of the controls is the building height and form in central Paris and the protection of the heritage streetscape. The business district with larger more modern buildings is separate from the heritage part. Any major sites being redeveloped in the heritage area required a façade to hide the construction works from the street and maintain the street appeal.



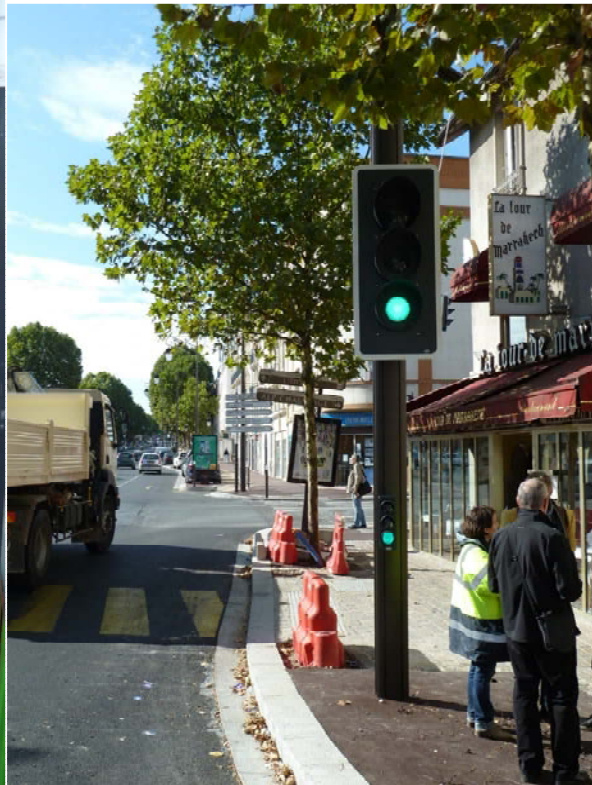
A façade to hide the new building under construction

The study tour group visited two Councils in Paris. We had a look at a road redevelopment project in Ville Antony where a road is being redeveloped, managed by the Council and funded by the Department. The project was to retrofit bike paths and upgrade the streetscape. A six lane road (three lanes each way) was reduced to four lanes (two lanes each way) with indented on-street parking, a cyclist lane and landscaped verges.

The road was reconstructed using asphalt. The verges were landscaped using cobblestones to maintain the heritage nature with cobblestones imported from China. The redevelopment cost is approximately AU \$12 M per kilometre



Tree protection is taken seriously



Traffic lights including a cyclist traffic light



Nearly completed segment- dedicated cycle path separated from the pedestrian path.
Street trees are planted where room permits



The verge treatment, including DDA access (the white tipped bollards at road and driveways are to assist the sight impaired).

There were a number of compromises made such as car parking adjacent the bike lane, driveways and and pedestrian paths crossing the cyclist lanes. Whilst these are undesirable, the cycling / driver culture in Europe is more accepting and cooperative than that in Australia and the cycling culture is more commuter cyclists rather than the recreational cyclists (read Lycra) culture in Adelaide which is more of a race rather than a cooperative use of the road.

We visited a new school building project in Ville La Courneuve that was designed to achieve green outcomes. The school was a junior school and the features included water harvesting, storage and reuse, solar panel and a green roof. The building management system controlled heating and cooling. Whilst the green roof was mostly 'weeds', the function to filter water, reduce heat load, increase evapotranspiration and reduce runoff was achieved.



School green roof – solar panels in the distance

The importance to retain heritage buildings was also observed with an old factory being transformed into a Council community building whilst retaining much of the heritage façade. It was also modernised using steel to create its namesake 'Mecano'. The land around the building was also transformed using landscaping and has been designed so it can be used for ice skating in winter.

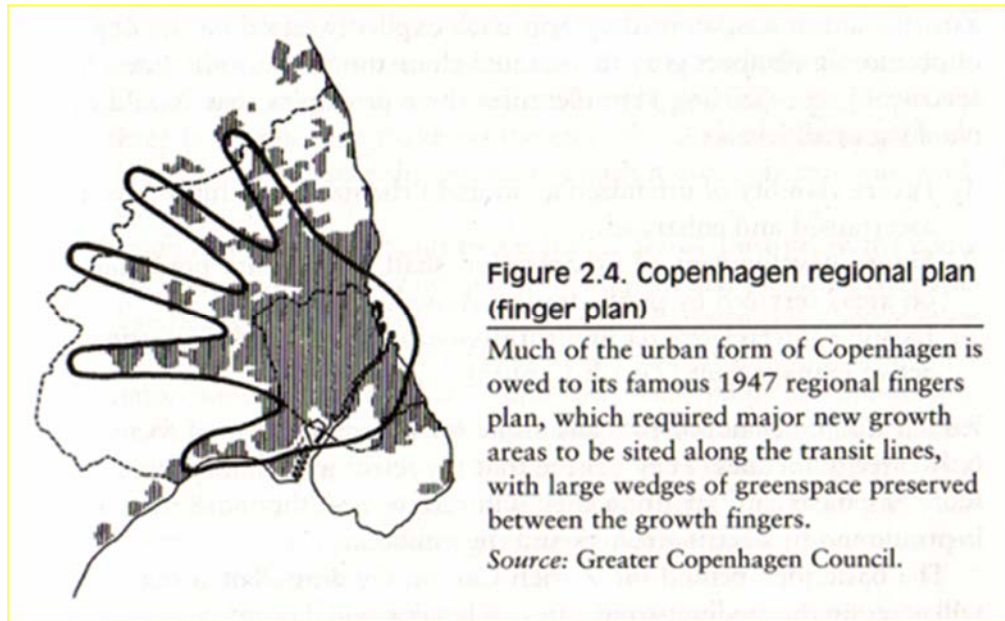


Mecano – An old factory redeveloped to a Council community building

Copenhagen Denmark

Copenhagen was a delight to visit. On arrival by train, it was clearly evident in the city centre that cycling was the main form of transport and that the infrastructure was set up for cyclists. The infrastructure included cyclist lanes on roads, off road bike paths including a super path into the city centre, ample parking areas for bikes at all transport hubs, shops, schools, businesses, and apartment blocks, and wheeling ramps to allow access to buildings and underground car parks. Many doors to buildings are electric – push button opening to improve cyclist access.

The development in Copenhagen is based on the 1947 finger plan



This plan is referenced widely and is still the basis for new development and growth in Copenhagen.



Bike parking near the railway station



Bike wheeling ramps retrofitted to stairs

The bikes themselves were plain commuter bikes and were used by all to get to work, school and the shops. People riding bikes were well dressed and rode at a casual pace that is both safe and convenient. There was no requirement to wear a helmet although some cyclists chose to. We went for a bike ride on electric bikes courtesy of Gladsaxe Council and I trialed both with and without helmets. At a gentle commuter speed, the riding without helmets felt comfortable and seemed to encourage more riders. In discussion with Council staff there appeared to be legislation or best practice to ensure younger riders wear helmets.

As an observation, the Danish people were not overweight and generally healthy. The health culture also extends to schools and businesses where fresh fruit is readily available at no cost to the staff. Working hours are typically from 8 am to 4 pm. All businesses provide (are legislated) standing desks or desks that can be adjusted.

Copenhagen had one of the longest pedestrian friendly outdoor shopping streets in Europe, extending 1.4 kilometres. This shopping street was well used by pedestrians and cyclists with the very infrequent car having to give way to pedestrians.

There appeared to be respect and a real share the road culture between cyclists, vehicles and pedestrians, although cars tended to give way to cyclists.

Copenhagen is high density with extensive multistorey apartments, many of which face internal private open space. Higher density allows for improved amenity, reduced cost of operation and higher service levels of open space. The apartment buildings all provided bike parking.



Bike friendly trains. Also note the free internet to encourage train usage



High density development – facing into the private open space

Køge Council which is on the thumb of the finger plan, i.e. the coastal area is in the process of major re-development to create jobs. The redevelopment included improved public transport and new rail station, new motorways, new residential development, new university hospital, new commercial harbour and new educational precinct. It was clear in our visits to the Danish Councils that they were prepared to think big to promote development and create jobs which led to further prosperity in the region.

This redevelopment culture and thinking big and towards the future was very evident on our visit to the Vinge (Wing) development in Frederikssund Council which is in the middle finger. Vinge is a new city

to be developed by the Frederikssund Municipality. Covering 370 hectares, it will be the largest urban development project in Denmark. The masterplan for Vinge revolves around the diversity and sustainability and the new city forms part of an urban development plan for greater Copenhagen, which emphasises the integration of green spaces within defined urban areas. Vinge will be developed over 30 years.



Architects impression - Vinge

Vinge is being designed and promoted as a smart city and designed for the future. Consideration is given now to the impact of driverless cars, connected technologies and infrastructure put in place to allow for changes in technology. Examples are the use of driverless cars (using connected technologies) which may drop the occupant into the CBD area and then leave to park outside of the CBD area where parking is readily available and the land is cheaper. The impact of this is the need for less parking in the CBD and accordingly more room for businesses, residents and shopping. Whilst this technology is not readily available, in 15 years when the development is well underway, the infrastructure and design will be in place to accommodate the new technology.

The planning of roads and intersections also considers the future, including the question of whether traffic controls at intersections will be required in the future due to connected technologies and driverless cars are in place. The development needs to consider both the now and the future!

The Council engaged Cisco Internet of Everything to plan a strategy to connect people, data, processes, machines and items via the internet.

To plan for the future smart city Council will develop 50 smart city ideas, some current technologies available now, some realistic future technologies, and some sci-fi technologies.

The Vinge development is a not for profit project and for Council it is more about encouraging growth. Council acknowledged it is difficult to create a business case for a smart city as the value and benefits are difficult to estimate.

All development in Denmark including the Vinge Development requires a cultural heritage assessment including excavation to identify possible heritage artefacts typically of the Viking era. Councils spend significant funds to investigate sites for heritage although if artefacts are found, they usually do not prevent development and the artefacts are collected and relocated. This pragmatic approach, whilst costly allows development to proceed



New residential apartments – Architecturally designed facing shared open space

Gladsaxe Council is on the ring finger of the 1947 finger plan.

A new light rail extension is the catalyst for big scale city transformations.

The study tour group visited a new multi-use redevelopment of an old cigarette factory. The new development aptly named Tobaksbyen will contain multi story businesses, student accommodation, apartments for families, aged care and include car parking station for the residents and the businesses. The redevelopment site is close to the city centre, shopping, and public transport for access to universities / schools.

As part of the Tobaksbyen development, we inspected a new office building Gladsaxe Company House that has been identified as Denmark's most sustainable office building. The effort, architecture and function within the building was impressive. The layout inside the building had substantial open meeting areas and open kitchen areas to encourage general staff interaction, large internal central atrium with opening roof vents for air circulation. .

Our electric bike tour of Gladsaxe proved to us how efficient, safe, and enjoyable bike travel is when there is well developed infrastructure. Our bike tour included part of a new water way bike path which included large aboveground unfenced water features (like large fish ponds) which would not have been considered safe in Australia but created a beautiful environment along the bikeway. The bike tour also visited a stormwater detention project that developed an underutilised area with tennis courts and play equipment in a basin so that in the event of a major flood the area would be inundated but for the majority of the time they were a community asset. The redeveloped sporting facilities were predominately funded by the stormwater authority.



Stormwater detention – Danish style – a depressed public multisport facility that acts as a detention basin in large storm events. This was one of a series of detention features in Gladsaxe.

Lessons Learnt

My lessons learnt from the 2015 study tour:

- Inspirational Leadership of the Council makes a big difference to the way the Council feels. Leadership, supportive culture, can do attitude and enthusiastic people is a key for success
- Culture is as important as infrastructure. USA (Texas and Arizona) has a car culture, people appear less healthy, less people walking around, less street activation as it is easier to drive to the shops, and shops are surrounded by car parking. Paris and Copenhagen have a strong pedestrian and cycling culture leading to less traffic congestion and healthier people
- The cycling culture in Denmark is successful due to a culture of look after each other together with good infrastructure
- Denmark and Paris do not appear to have a litigious approach which allows some innovative solutions
- A smart city is more than fibre to the node. There is a need to consider connected technologies, driverless cars, connected public transport, wireless technologies and all the changes that this may bring to planning new cities or rebuilding cities.
- Following all the codes and Australian standards will provide a safe but sterile solution. Look outside the square. Accept some risk
- Avoid the cottonwool society,
- Avoid the litigious culture. In Australia we appear scared of doing something different and being sued
- Slight increased risk is not a bad thing – all about community benefit
- Higher density development leads to improved infrastructure and service standards.
- Consultants – The Councils we visited acknowledge selection of consultants based significantly on price is not best for the Council
- Public art is worthwhile

- Commuter cycling needs to be increased
- Think big
- Think long term and plan for the future
- Communication in Europe is a little more difficult and having a basic knowledge of the language helps. The South Australian accent (mine in particular) created some difficulties with understanding, even with the Americans!
- Pack lights as we collected a number of gifts and useful brochures which added to the luggage weight as we travelled
- A little research of the Councils and areas you are visiting is worthwhile

Conclusions

The study tour was an excellent opportunity to look at international best practice and discuss the projects with the Councils. It was clear that in some areas, Australia local government is doing it well and provides best practice, but there are many opportunities to learn from international best practice.

One of the big differences that will take time to change here is the culture, particularly compared to that of Europe. In particular

- Accepting high density development but with lots of open well maintained community areas
- Culture that cycling and pedestrians share the road,
- Think long term for smart developments
- Think big – Invest in infrastructure which promotes development

Acknowledgements

I would like to acknowledge the following:

- IPWEA and FAME SA Division for providing sponsorship to attend the study tour
- Tonkin Consulting for providing me the time off to attend the Study Tour
- My fellow 'tourers', Raad, Nathan and Kimberly who were great company. I learnt much from discussion about our own observations and from the many after hours discussions following on from our visits.
- Our Victorian tour colleagues who arranged the enlightening visits to Scottsdale and Mesa Councils in Phoenix.
- Chris Champion for his leadership, organisation, patience, relaxed attitude and extensive contacts in Local Government internationally.
- The many hosts at each Council we visited. Your hospitality, knowledge, enthusiasm and kindness was very much appreciated.