

2019

**THE LEGISLATIVE ASSEMBLY FOR THE
AUSTRALIAN CAPITAL TERRITORY**

ACT Government Study Delegation to the USA – July 2019

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Minister for Transport and City Services**

I am pleased to report to the Assembly today on a Ministerial delegation I undertook, supported by my Chief of Staff and Deputy Director-General Dr Erin Brady between 17-27 July to a range of cities in the United States of America.

The objectives of the delegation were to see best practice in world-leading cities across a range of priority policy areas for the ACT Government.

Commencing in San Francisco, a world leader in waste diversion; meeting with officials in Sacramento overseeing California's well advanced zero-emissions transport plan and a world leading urban forestry program; in Oakland meeting with the operators of the largest fleet of hydrogen buses; in Denver discussing forward thinking transport planning and urban renewal; in Seattle discovering how they've overcome some incredible engineering challenges to improve public transport; and in Portland, where urban forestry, transport-oriented planning, and light rail operations are all well advanced.

This Ministerial delegation was broad ranging in scope and covered a significant number of locations in a relatively small amount of time. There was extensive opportunity to learn from world leaders in key areas of focus, share our experiences and develop relationships.

As the ACT Government embarks on the delivery of a true light rail network, transitions to zero-emissions, begins the work on an urban forest strategy and looks to divert 90% of waste from landfill it is a key time to take on board the lessons-learned from those who at times are a few steps ahead of us.

Transport and Planning

As Canberra grows we need to provide our communities with transit options, we must maximise the integration of transport investment and planning.

Expanding light rail and providing well-connected pedestrian and cycle ways are integral to shaping a healthy and efficient city.

The delegation visited several cities are making substantial investments in expanding their light rail systems.

Seattle's \$53.8 billion USD investment in public transport is driving development around its centres and corridors. The Sound Transit 3 Plan is currently underway adding 62 new miles of light rail with stations serving 37 additional areas for a regional system reaching 116 miles.

The delegation visited the construction corridor for the East Link light rail from International District/China Town Station to Bellevue. The project is demonstrating examples of complex engineering under construction, including stilted bridges, a floating bridge on Lake Washington and tunnelling works around Bellevue. At Mercer Island the light rail alignment will use the median strip of a major road corridor not unlike the planned alignment of stage 2 of Canberra's light rail planned to travel along Adelaide Avenue and Yarra Glen Drive. The project is demonstrating how access to light rail can be provided with a station being built under an overpass with access from above.



Denver is 70% of the way through it's FasTracks program of a \$5.6 billion investment in public transport infrastructure. It is an ambitious plan to support infill through urban rail lines and renewal projects FasTracks is delivering 122 miles of new light rail and commuter rail, 18 miles of bus rapid transit, 57 new rail and BRT stations, 31 new park and rides, improved transit hubs and the major redevelopment of the Denver Union Station. ¹

During meetings with transit agencies US financing and procurement models were discussed. FasTracks includes Denver's first public transport public-private partnership at \$2.2 billion including a \$1 billion grant from the Federal Transit Administration. It is delivering two new commuter rail lines and an extension of an existing line.²

¹ http://www.rtd-fastracks.com/main_54

² http://www.rtd-fastracks.com/media/uploads/main/Eagle_P3_Procurement_Lessons_Learned_final_with_cover_letter.pdf

Denver has also introduced a Bus Rapid Transit line which primarily operates as a coach service between Boulder, Colorado and the Denver Union Station. Investment in a tollway along which the BRT operates aligned with existing highway infrastructure has been controversial but has seen a near 30% increase in public transport use.

The Denver Union Station itself is part of a \$484 million public-private partnership bringing together heavy rail (commuter and Amtrack), light rail, BRT and regular bus services underneath a \$54 million redevelopment of a once rundown heritage station delivering a new hotel and renewal across a large area of the city.

Portland has long been a leader in employing early-stage planning and delivery of its established Max light rail network, which has influenced the city's growth together with other transit modes including street cars. Planning is underway on the new Southwest Corridor project, a 12 miles route (cost estimated \$2.6 billion to \$2.9 billion USD) with 13 stations between Portland State University in Southwest Portland and Bridgeport Village in Washington County.



Portland’s transit provider TriMet is considering the role that light rail speed can play in increasing system efficiency and improving headways.

A key element for these cities has been a metropolitan-scale strategic planning³ approach that sets the priorities for growth, urban renewal and transport infrastructure investment. It is also the basis for securing funding which in most examples included funding from the Federal Government as well as State, County and City. Similarly, our Planning Strategy and Moving Canberra are key to setting our direction and priorities.

³ <https://www.oregonmetro.gov/regional-transportation-plan>
<https://drcog.org/sites/drcog/files/resources/2011%20MV%202035%20Plan%20for%20Web5-12-11.pdf>

Transit oriented development has been a major focus of light rail projects being delivered across cities. Using a 'stationary approach', the focus of TOD around stations is diverse but includes active travel infrastructure connections, park and ride, the provision of affordable housing and planning for mixed-use growth around certain prioritised light rail stops. Portland is taking the approach of building transit supported communities with a particular focus on affordable housing along its proposed new route. San Francisco is undertaking a major redevelopment of Pier 70 in a mix-use precinct, retaining heritage buildings and connected with light rail.



Zero Emissions Transport Fleets

As the ACT achieves 100% renewable energy by the end of this year the largest source of greenhouse gases will be from transport with buses accounting for around 4% of transport emissions. As we continue to promote, and to deliver, increasing use of public transport we need to transition our fleet to zero emissions vehicles.

There are two regions of the World that are being looked at are taking serious policy action in the transition: China and California. California has agreed to transit regulations requiring 100% zero emissions bus fleets by 2040, with phased transition milestones for bus procurement, of 25% of new buses required to be zero emissions buses (ZEBs) by 2023, 50% by 2026 and 100% by 2029.

The American experience, even in the most progressive jurisdictions and with extensive state and federal government funding demonstrates the key challenges in this space – industry maturity and infrastructure planning and costs in scaling up.

The Centre for Transport and the Environment who works closely with transit agencies are optimistic about the future of zero-emissions technology but the challenges posed by different technology types are stark. Small numbers of battery-electric buses come in at about half the price of a diesel bus with a relatively small infrastructure cost however, scaling up to a fleet of hundreds of battery electric buses becomes a huge infrastructure challenge – battery electric buses themselves continue to struggle to meet the performance outcomes of diesel buses. Hydrogen buses on the other hand require a large

upfront infrastructure cost but are able to equal or outperform diesel buses. However the unit cost of these buses is still significantly more expensive than a diesel alternative.

This is similarly reflected in the World Resources Institute's recent reports into the uptake of electric buses in major cities. Electric buses can still struggle to meet the performance of internal combustion buses⁴ While small pilot rollouts are achievable, scaling to a large-scale rollout requires major lead-in infrastructure investment⁵

CTE emphasised the importance of detailed planning to implement a successful transition to zero-emissions bus fleet. The challenges discussed included, scaling up, entry level burden issues, redundancy and resiliency of the fleet, managing the transport network footprint, refuelling times, and energy infrastructure. CTE is in the processes of developing a Zero Emissions Bus (ZEB) plan for transit agencies like AC Transit, SolTrans, LA Metro, San Diego MTS, and Spokane Transit. A ZEB transition plan considers:

- Bus and service requirements
- Fleet procurement timelines
- Required infrastructure upgrades
- Bus and facilities capital costs
- Possible ZEB deployment approaches
- Operating and maintenance cost impacts
- Emission benefits

⁴ *Barriers to Adopting Electric Buses*, Ryan Sclar, Camron Gorguinpour, Sebastian Castellanos and Xiangyi Li, World Resources Institute, May 2019

⁵ *How to Enable Electric Bus Adoption in Cities Worldwide*, Xiangyi Li, Camron Gorguinpour, Ryan Sclar and Sebastian Castellanos, May 2019

The ACT Government is now at the point of undertaking the detailed planning required to transition our fleet to zero emissions buses based on the unique operational circumstances of our network, learning from the initial trial undertaken around Canberra.

AC Transit in Oakland California has been successfully operating a fleet of hydrogen buses for over a decade⁶, and continues to expand their fleet of hydrogen and battery-electric buses. However they are still adding hybrid and diesel buses for bus replacement of the fleet as they transition. A key takeaway from AC Transit and other cities is that the Federal Government has role to play in the transition support to offset the upfront infrastructure costs amongst early adopters.

In Denver⁷ and in Portland there continues to be exploration of zero-emission options but concern that the product is not yet at a standard where public transport outcomes can continue to be fully met.

⁶ <https://www.energy.gov/eere/fuelcells/ac-transit>

⁷ <http://www.rtd-denver.com/Fastracks.shtml>



US cities have some advantages in the transition, with a longstanding operations of catenary powered trolley buses in cities like San Francisco. US cities are also benefiting from a domestic bus manufacturing industry with companies like Proterra and New Flyer now producing electric buses.

Urban Forestry

Canberra's urban forest is a huge asset, it contributes to the liveability and character of the bush capital. However it comes with challenges, especially with ageing trees and a more extreme climate.

A number of cities in the US have adopted an 'urban forestry' approach to their street trees – valuing the trees as an asset, caring and managing their urban forest with a plan in advance for the end of life of those trees and replanting to ensure the community has an ongoing canopy while adapting to the changing climate.

Thanks to the Australian National University we were able to meet with and discuss relatively new programs operating in Sacramento and in Portland where street trees at the end of their life are harvested and rather than being mulched are turned into high quality timber, this can then be enjoyed by the residents of the street where the tree was removed, provided to the local school or used by the local government to create street furniture.

Sacramento's Urban Tree Foundation, supported by the city and state governments is not only undertaking urban tree rescue but also working with the community to encourage extensive replanting and at time in newer neighbourhoods planting for the first time in the public realm.

In Portland the long history of logging in the state of Oregon sees a slightly different approach to the city of Sacramento where the private and not-for-profit sectors partner together to ensure that urban timber does not go to waste.

Smaller jurisdictions on the outskirts of big cities, like Lake Oswego in Oregon are able to take advantage of strict legal protections from trees and a significant offset program to protect and grow their urban canopy to mitigate the urban heat island effect.





Leaders from the urban rescue program in both Sacramento and Portland will be coming to Canberra in September to speak at a symposium being run by the ANU and I look forward to welcoming them.

Waste

Like transport, waste is a major producer of emissions, diverting more waste from landfill is a key component of reducing our emissions – its also the right thing to do.

San Francisco is a world-leader in diverting waste from landfill, it is engrained in the community – including strict legislative bans on a range of products.

San Francisco source separates waste through a three bin system. The food and garden organics collection has a higher proportion of food organics due to the heavily urbanised environment and mandatory diversion of food organics policy. The food organics are processed in composted at a range of sites outside of San Francisco using the Negative Aerated Static Pile Composting method. The compost is of a premium grade, and ends up in the production chain for Napa Valley wines.

As we commence the planning work necessary for a successful food organics collection service we need to be conscious of what processing methods will deliver a useful end product in the market and ensure that our community is educated and engaged on the need to recycle right.

The ACT is also currently considering what the future capital requirements might be to meet our waste recovery goals, support the circular economy and this will involve consideration of the current plant capabilities. In the wake of China's National Sword policy many material recovery facilities (MRFs) are investing in better sorting and cleaning plants. San Francisco's Recology materials recovery facility sorts 600 tonnes of waste a day into 16 different

types of material which it then sells on to a variety of markets, domestically and in Asia.

The City of San Francisco has already moved to phase out certain single-use plastics including, plastic bags, straws and foam polystyrene containers. Whilst straws have been banned there is an 'ask' policy, where straws can be provided, particularly for people with a disability, without evidence of a medical requirement for a straw. Plastic bags have been substituted with recycled paper bags. "Styrobusters" have engaged with local businesses around the phase out to ensure they were educated about how to transition to more sustainable products. City of San Francisco events have become plastic water bottle free.

Conclusion

Across the 22 meetings with state, county and local governments, businesses, NGOs and think tanks we gained critical insights into lessons learned by other jurisdictions. As well as learning we were also able to share our experiences and promote Canberra's successes. Whether it be in the successful partnership to deliver light rail, a National Arboretum that is as much for the adults of today as it is for future generations and our dedication to carrying our fair share of the burden of climate action.

I'd like to extend my thanks to all the agencies, public officials and private organisations that made the time to share their experience and expertise. In preparation to ensure we were able to learn as much as possible I would like to thank the Transport Canberra and City Services Directorate, Environment Planning and Sustainable Development Directorate, the Office for International Engagement and also the Australian National University for their support.