

# A LITTLE GOES A LONG WAY

Cycling Infrastructure in the Australian Capital Territory



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## Abstract

*The Australian Capital Territory (A.C.T.) is a small jurisdiction with a population of 325,000 and the A.C.T. Government undertakes the role of state and local government.*

*In the late 1970's the first of the off road cycle path network was installed for recreational cyclists. The off road path network grew through the 1980's, 1990s and 2000's to excess of 400 km. The current paths are used by both commuters and recreational cyclists. Roads ACT has commenced resurfacing of the path network with microsurfacing to extend the pavement life.*

*In the early 2000's on road cycle paths began to be installed on Arterial Roads. In the 2001 election the Labour party wooed cyclists with the promise of an on road path between Woden and Phillip a distance of about 10 km, following their election the path was installed. Following this Roads ACT undertook to place on road cycling paths on all Arterial Roads by way of linemarking changes when resurfacing was undertaken. Some missing links have been completed as Capital Works projects. The total on road network is in excess of 300 kilometres and growing.*

*This presentation will look at issues in the evolution of the on road path network including network studies to identify missing links, community consultation, development of standards and policies, sweeping of the network and resealing practices for the network.*

*Bike Racks were placed on about 50 busses about in 2006, in 2008 the decision was made to place racks on the front of all rigid buses in the A.C.T. Government bus fleet.*

*It just goes to show that a lot can be done over time on a small budget.*

# **A Little Goes Long Way**

This paper provides an overview on the history on the implementation of On Road Cycling on roads around Canberra. As a small jurisdiction, our funding levels are modest and we had to undertake the works slowly, but now it is all coming together.

## **Background**

Canberra is the capital of Australia and is the home to 325,000 people. This is an inland city that is built around a number of man made lakes. The Canberra area was originally farming and grazing land that has been developed, the terrain is generally flat. Seasonal variations range from winter minimums of -5C to summer maximums of 38 C as the extremes but milder temperatures through the most of the year. Rainfall is about 600mm per year that is more likely to occur in winter and spring.

The only public transport in Canberra is provided by busses but due to the low population density of many areas and the number of business districts, patronage is low.

Historically many people in Canberra have used private cars to travel to work, education facilities and recreational facilities. A network of Arterial roads provides ready access to all areas of the city. As Canberra was built as the national capital of Australian many of the roads were built wider than standards required.

In the late 1970's Canberra began building a series of off road cycle paths around the lakes and then between the town centres. The off road path network is currently over 200 km in length.

Many commuter cyclists found the off road paths less direct and began using the Arterial road network. The Arterial road network comprises of single and dual carriageway roads with between one and three traffic lanes in each direction. The speed limit is generally 80 km per hour with some roads 60 km/hr and 70 km/hr and traffic volumes generally between 5,000 and 25,000 vehicles per day.

Canberra has a rather influential and active cycle lobby group (Pedal Power) who saw the possibilities of on road cycling and in 2000 / 2001 lobbied the ACT Labour Party who were in opposition to install an on road cycling link across town. In the 2001 ACT election Labour was elected to the ACT Legislative Assembly and honoured their election promise in a subsequent budget.

The Woden to Dickson on road cycling link took some 3 years to complete but commenced the move to on road cycling facilities on Arterial Roads.

## **Implementing the Network**

The placing of cycle lanes on the road pavement needed to be built to a standard that was recognised throughout Australia, AUSTRROADS has earlier developed a "Guide to Traffic Engineering, Part 14 – Bicycles" which was released in late 1999.

This document was used as the basis for determining what could be fitted to the existing pavements.

The practice of only placing on road cycle lanes where there was sufficient width was adopted for legal reasons. The Territory was not going to be put in a position where legal challenges were made that a facility was installed below the minimum recommended guideline.

This provided interesting challenges fitting on road cycling to existing arterial roads throughout Canberra. A number of roads were too narrow and the speed of the traffic was considered too great to permit on road cycling. Traffic lane widths were altered and speed limits were changed to facilitate the installation of the on road facilities that met the ASTROADS guidelines.

### **Intersections and Exit Lanes**

Providing a cycle lane on the side of the road is the easy part, the difficulty is safely getting cyclists through intersections and entry / exit ramps.

AUSTROADS Part 14 provided guidance on how to address signalised intersections on the routes.

Left turning traffic and exit lanes provided the greatest danger for cyclists using the on road facilities. These areas were seen as potential conflict areas between motor vehicles and cyclists. AUSTROADS recommended the use of contrasting colour on the pavement surface, the general consensus throughout Australia was that green was to be used for cycling and hence was used in the ACT.

A solution was developed which provided a marked route for cyclists to travel that was highlighted by the use of a green pavement.

The use of green pavement needed to only be used in conflict areas between cycles and motor vehicles, a warrant system was developed based on the speed environment of the location, the visibility of the conflict area for approaching vehicles, length of conflict area, numbers of motor vehicles crossing the cycle lane and the cycle traffic volume. In general the green pavement treatment has been placed on exit lanes from arterial roads.

The green treatment cannot be clearly seen when motorists are looking into the sun or at night. A trial is being considered to utilise solar powered raised pavement markers containing a light to delineate the green pavement treatments at night.

A long life linemarking product called "Degadur" with quartz imbedded was used for the initial green pavement markings. This provided good skid resistance but in areas where the underlying pavement was not sound, this material has come away in patches. This product is a rigid treatment that has a different coefficient of expansion to the pavement that can lead to cracks and spalling. In more recent times "Streetprint" has been used for the green pavement marking

## **Marketing the New Facility**

The installation of on road cycling facilities and the appearance of green markings on the pavement required to be explained to the motorists. A newspaper commercial was developed and placed in the local paper informing motorists and cyclists how they were to behave when on road cycling lanes and green pavement markings were placed on the Arterial roads.

It was explained that cyclists can be expected to travel on the area marked in green and that motor vehicles should watch for cyclists and give the cyclists right of way in this area.

The use of a locally produced television commercial raised the profile of the green pavement markings and highlighted that motorists should give cyclists the right of way in these areas.

In 2007 a map of the cycle network was placed on the internet to provide greater access to route information for cyclists.

## **Public Reaction to On Road Cycling**

Motorists had for a long time seen the roads as exclusively for the use of cars, trucks and buses. Many motorists believed that cyclists should use the off road path network. There was an extensive debate in the media about the implementation of on road cycling that carried on for several years.

The ACT Government did not get involved in reacting to the letters to the editor on this issue, this was adequately responded to by the pro cycling lobby and Pedal Power who defended the new facilities.

As time moved on many of the original antagonists of the on road cycling facilities grew to accept facilities.

Both the Liberal Party (opposition in the Legislative Assembly) and the NRMA have been opponents of the position taken by the ACT government. The NRMA is clearly driven by its members who drive motor cars on the ACT road network and see that this strategy reduces the amenity or capacity of the road network.

## **Expanding the Network**

Initial expansion of the on road cycle network came from the inclusion of on road cycling lanes installed on resealed and asphalt overlay projects if they could be fitted.

As time passed we moved to require all new road projects to consider the provision of cycling facilities either on road or off road. In the planning stage comments about the suitability of the proposed cycle facilities were provided by Pedal Power.

In 2005 Roads ACT issued a policy indicating that when resurfacing was to be carried out on Arterial Roads or roads on the “Key Cycle Network”, they would be considered for the provision of on road cycling. If the roads have the space to install on road cycling, it would be provided.

It is normal practice that the design of the new on road cycle facilities will retain the same number of traffic lanes which will be reduced in width and associated with a possible reduced speed limit.

In 2008 the policy has been extended to provide On Road cycling on major feeder roads within the suburbs. Installation of these new facilities is only carried out in association with resurfacing works.

### **Key Cycle Network**

In early 2005 a consultant was engaged to look at the cycle network with a view to establish a “Key Cycle Network” which would link all important cycling destinations, both recreational and work.

This document defined the “Key Cycle Network” which included both on and off road paths. A quantity of the network does not exist, a number of projects were identified which would need to be carried out to complete the network, these projects were costed and prioritised. This document now forms a basis for future works on the cycle network in Canberra.

The Key Cycle network was reviewed in 2007.

### **Maintaining the Network**

As a result of the lightweight of bikes, cycle lanes do not often develop surface defects such as potholes. When resurfacing of a road is carried out, the on road cycle lane is also resurfaced.

The major maintenance issue for on road cycle facilities is the sweeping of the surface to remove debris that includes gravel, leaf litter, vehicle litter and broken glass. The arterial road network where the on road lanes are located is swept every 3 months according to a work program. Key routes with high cycle volumes are swept every month.

Where cyclists identify problems such as broken glass or other hazards, these are reported to Canberra Connect (ACT Government central call centre) and on the internet via one of the ACT Government websites. These issues are investigated by Roads ACT and addressed immediately where possible. Several key trends have occurred such as quantities of broken glass from beer and other drink bottles reported after weekends, silt in some locations after rain and gravel near construction sites.

## **Documenting the Improvements**

Roads ACT has trialled and implemented a number of number of new and adopted treatments from within Australian and around the world. As no other jurisdiction in Australia places on road cycling facilities on Arterial roads to the extent that occurs in the A.C.T., it was considered that the practices adopted in the A.C.T. should be documented.

In June 2007 ,”ACT Design Standard for Urban Infrastructure- Part 13 Pedestrians and Cycles facilities”, was launched. Training in the use of this document has been provided for Consultants, Government staff and Pedal Power. As demand arises further training will be provided.

## **Cycle Counts**

In 2005 the counting of cyclists using the on road facilities commenced. This process was carried out at in excess of 20 sites using tube counter placed over the cycle lane. This method has shown a number of issues that affect the figures such as motor vehicles passing over the counters, cyclists riding around the tubes and maintenance vehicles damaging the tubes. Work has been done to refine the locations where the tubes are being located to provide better and more reliable results.

Cycle counts are to be carried out twice a year for a one week period. One of the surveys will be carried out in a peak time such as early autumn and the other in a low season such as mid winter.

Consideration has been made to establish a permanent counter on one of the high use on road facilities. Concerns currently exist about the current technology which has difficulty differentiates between cycles and motor vehicles, once this has been improved one or more permanent counter sites will be considered. This will provide the opportunity to extrapolate trends from the permanent sites across the whole network.

Recently we have had information about traffic counters, which use laser technology to differentiate between traffic type such as cycles, motor vehicles and trucks, this method will be investigated to determine its suitability.

In addition Pedal Power carries out a cordon count of the city once a year in February, this provides valuable information about cycling trends and the cyclists preference to travel on or off road routes.

## **Who uses the On Road Facilities**

From the surveys and observations the on road facilities receive the highest level of use between 6 am and 9 am in the morning and 3.30 pm and 7 pm in the evening. The majority of cyclists using the facilities are above 15 years old who commute to work or education.

On wet days cycle numbers are lower and cycling is more popular in the warmer months than in the cold of winter where we also have fewer hours of daylight. Information on these trends have not been quantified in cycle counts yet.

## **Bikes on Buses**

In 2006 approximately 30 busses were fitted with bike racks on the front of the bus, these buses were placed on the inter city routes. These bike racks fit 2 bikes and can be used free of charge by people who pay to travel on the bus. This provides the option for commuter cyclists to catch a bus with their bike when it rains in the morning or afternoon.

In 2008 a further 115 busses were fitted with bike racks and the busses were used throughout the network. Cyclists could now use a combination of bike and bus travel to travel throughout Canberra. In the 2008/9 financial year one on every 193 passengers on ACTION buses travelled with their bike.

Plans are in place to fit bike racks on another 100 buses with the ultimate goal to have bike racks on all of the ACTION fleet.

On 1 July 2009 bike riders began to pay full fare to travel on ACTION buses and there is no surcharge for carriage of their bicycle. There is no restriction on the time of travel, the capacity of the bike rack dictates the number of bikes carried at one time.

## **Liaising with the Users**

Over the past 5 years a Bicycle User Group has met with the Roads group of the ACT Government on a 6 weekly frequency to discuss cycling issues. This group contains representatives from Pedal Power, cycling clubs, Triathlon association and key members of the Roads group. This has been a very beneficial forum that has led to a quick resolution to many issues and the ability for the cycling community to raise concerns and receive an instant reply. It is critical that the cycle groups receive a good hearing on all issues they raise to ensure that they retain the system.

The establishment of the meetings have lead to a number of issues being resolved much quicker by members contacting the right person outside the meetings.

## **Areas we Need to Work on**

Many of the roundabouts on the arterial road network are high speed multi lane roundabouts, at this time a safe solution has not been developed to get cyclists through the roundabouts on road. In some locations cyclists are diverted onto off road paths around roundabouts but this is not satisfactory when cyclists need to cross more than entry and exit leg of the roundabout. In Canberra it is currently not an option to reduce traffic speed at the roundabouts to improve cycle safety as this

would lead to traffic backing up, it is more practical to try to provide an alternative route for cyclists.

Cycle use data is being collected but this information is only for 2 weeks per year, the establishment of permanent cycle counting sites will allow the better analysing of cycle data and the ability to find the cycling trends. The establishment of a number of permanent sites need to be capable of differentiating cycles from other vehicles to make the data reliable.

A small but vocal opposition group exists in Canberra, these people have a belief that cycling should be carried out off road as they consider it to be dangerous. The crash history in Canberra does not support this claim. The challenge is change the thoughts of this small group to accept on road cycling.

Now that the network is in place it is our challenge to increase the levels of cycling in Canberra by making it more attractive to more people. This may be by making it seen as safer and a more attractive alternative to the use of a car.

## **Summary**

The development of the on road cycling network on the arterial road network has been a gradual process over the past 8 years. It has not simply been a matter of placing linemarkings on the road, a substantial amount of planning, consultation and development of guidelines has been required.

As Canberra is small jurisdiction, funding is limited and innovative ways to provide the on road cycling have been required and it has been a gradual process to get to where we are now. Often there was no specific funding for this program and linemarking changes were funded from road resurfacing programs.

The base for the network has been put in place with approximately 400 kilometres of on road cycle lanes. Canberra is now are moving into a phase that requires missing links to be installed and improvements to be made to the existing network.

In Canberra, we a planning for the future where we may face higher fuel prices and car travel may not be as affordable. This will provide for cycling mode share to rise from 2.3% in 2001 to 7% or greater by 2026.

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