



Bicycle Plan

For the town of Narrandera

Prepared by:

Council's Road Safety Officer
Emily Currie

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1.0 AIM

To define a network of bicycle routes within the town of Narrandera as a basis for servicing and encouraging cycling. This plan also aims to develop strategies to promote cycling as a safe, environmentally friendly and enjoyable form of recreation and transport.

2.0 INTRODUCTION

Narrandera Local Government Area (LGA) is a rural shire of approximately 6549 people with just over 4100 living in the town of Narrandera.

Council is committed to planning and implementing a Local Bicycle Plan and has engaged Council's Road Safety Officer to develop the Plan, in consultation with the local community, Council and the RTA.

This Bicycle Plan subscribes to the philosophy of a four pronged bicycle strategy composed of:

<i>Engineering</i>	Physical improvements to create a safer cycling environment
<i>Education</i>	Programs designed to improve the road sense and behaviour of cyclists and to improve motorists' behaviour towards cyclists
<i>Enforcement</i>	Programs directed at both cyclists and motorists to create a safer integration of motor vehicles and bicycles.
<i>Encouragement</i>	Programs to create greater community and political awareness of cyclists needs and stimulate greater ridership

This is therefore an engineering and behavioural Bicycle Plan.

3.0 OBJECTIVES

- To develop a sound strategy to enable Council to construct an overall Bicycle Network System within the town of Narrandera.
- To determine the existing and potential demand for bicycle facilities within the townships for both commuter and recreational bicycle use.
- To plan a coordinated approach towards the implementation of a practical and safe network of bicycle tracks and facilities within the town
- To provide a realistic program to determine funding necessary to implement the scheme.

- To gather information on funding sources that may assist in the implementation of the scheme.
- To promote the use of bicycles as a safe, healthy and environmentally friendly transport option.

4.0 DEVELOPING THE STRATEGY

The approach given to developing the bicycle route network must begin with recognising that bicycles are defined as vehicles under road traffic regulations and therefore cyclists have the right to use virtually the entire road system.

Accordingly, the bicycle must be seen as a recognised component of the towns' traffic and identified within the context of the Shires Traffic Planning and Traffic Management.

To formulate the network it is necessary primarily to collect and analyse data on:

- ❖ Who are the potential users if such a network?
- ❖ What are the bicycle trip attractors and generators?
- ❖ What are the major constraints on the network?
- ❖ What are the major needs of cyclists in the network?

The RTA released the *NSW bicycle guidelines* in December 2003. This is a comprehensive guide to assist in the design and construction of bicycle facilities. There are five key principles to ensuring that the needs of bicycle users are provided with an efficient and usable bicycle network:

1. Coherence
2. Directness
3. Safety
4. Attractiveness
5. Comfort

Table 4.1 provides the criteria and design considerations for implementing these principles and was used when developing the Narrandera bicycle track network.

Table 4.1 – Key design principles of the bicycle transport system

Principle	Criteria	Design considerations		
		Regional Routes	Local Routes	Mixed traffic streets
Coherence	Continuity of routes Consistent quality of routes and facilities Easy to follow Freedom of choice of routes	No breaks in route Minimal quality changes Regional route signage Choice of at least two	Connect to regional route Minimal quality changes Local route signage Choice of at least two	Easy access to local routes n/a All street signs visible Less than 250m to a route
Directness	Efficient operating speed Delay time Detour factor	50km/hr design speed 15 sec/km 20%*	30km/h design speed 20 sec/km 30%*	Consistent with street design 20 sec/km 40%*
Safety	Minimum risk of accident on routes Minimum risk of conflict with car traffic Minimum risk if unsafe infrastructure	Monitor use of facility and investigate any links between accidents and design	Monitor use of facility and investigate any links between accidents and design	Monitor use of facility and investigate any links between accidents and design
Attractiveness	Support for the system Attractiveness of environment Perception of social safety System attractiveness	Public support and ownership Well lit and open appearance Minimum reports of vandalism & harassment Coordination of all supporting system elements (maps, fittings, signage etc)	Public support and ownership Well lit and open appearance Minimum reports of vandalism & harassment Coordination of all supporting system elements (maps, fittings, signage etc)	n/a n/a n/a n/a
Comfort	Smoothness of ride Comfortable gradient Minimum obstruction from vehicles Reduced need to stop (stops/km) Protection from adverse climate	Smooth riding surface Steep climbs minimised Minimise illegal parking 0.5 Shade trees and wind	Smooth riding surface Steep climbs minimised Minimise illegal parking 0.1 Shade trees and wind	Smooth riding surface n/a n/a n/a n/a

4.1. Demographics

Narrandera is located 100km west from Wagga Wagga on the Murrumbidgee River, where the Sturt Highway bisects the Newell Highway. Narrandera covers an area of 4,116 sq km with most of the area being farming land. Industries of Narrandera Shire are agriculture, food processing and manufacturing. It caters for approximately 33,000 visitors each year and is considered a 'stop over' destination for people travelling between Victoria and Queensland. Major attractions include Lake Talbot swimming complex, the Koala Park, boutique shopping and historical sites.

Cycling generators and attractors are spread through out the town area with the Park and CBD being central and outlying generators and attractors consisting of schools, aged facilities, parks, sporting and recreational facilities.

From the 2001 Census Narrandera Shire's population is 6,549. Narrandera Shire currently has negative annual population growth that is -0.2% on average. The gender breakdown is an even split but the age groups do vary as can be seen in Table 4.2.

Table 4.2 – Population breakdown for age and gender

Age group (years)	Males	Females	Total	%
0-19	960	945	1905	29.09%
20-39	739	718	1457	22.25%
40-59	929	784	1713	26.16%
60-79	554	640	1194	18.23%
80+	103	177	280	4.28%
Totals	3285	3264	6549	

The percentage of younger and older age people is slightly higher than the State average reinforcing the importance of the study since those groups are the most vulnerable road users.

4.2. Community Consultation

Since the bicycle tracks will be servicing a relatively small community it was important to maximise their use. For this reason pedestrian usage has also been considered. The routes have been developed in conjunction with the Pedestrian Access & Mobility Plan (PAMP) that was finalised in 2003.

A call for written submissions was advertised in the local paper for over a month with good media publicity. Fifteen (15) written submissions were received and a couple of phone calls. The data provided was very useful with many of the suggestions being the same.

Council had also investigated community support for bicycle tracks in 1999. Although there were not as many responses at that time the information collected was still relevant to this study and indicates a growing support for a bicycle track.

The following organisations and individuals were consulted during the development of the bicycle plan:

- ❖ Narrandera East Infants
- ❖ St Josephs Primary School
- ❖ Narrandera Public School
- ❖ Narrandera Tourist Office
- ❖ Wheel chair users
- ❖ RTA
- ❖ Council Staff

Children have always constituted the principle cycling public, although in the last decade, cycling has once again become more popular with adults principally for recreation and to lesser extent for commuting to work. It is seen that bicycle travel to and from school is a very common form of transport and as such a major target of this strategy is to promote and develop bicycle tracks in line with the SRTS program.

4.3. Bicycle trip attractors and generators

<i>Schools</i>	
Narrandera Public School St Joesph’s Primary School Narrandera High School	Narrandera TAFE Narrandera East Infants
<i>Major Shopping areas</i>	
East St – King St to Larmer St	
<i>Sporting Facilities</i>	
Lake Talbot swimming complex Football Oval Tennis courts Brewery Flat Oval	Golf course The stadium Bowling club
<i>Major employers</i>	
Narrandera Council Manildra RTA motor registry and depot	Narrandera Hospital
<i>Public Open Spaces, tourist sites, places of interest and other attractors</i>	
Narrandera Park Tourist Centre Caravan Park	Skate park River/boat ramp Koala Park

4.4. Traffic Conditions

Traffic conditions represent significant constraints (and opportunities) to bicycle travel. In planning for bicycle traffic it is necessary to consider road hierarchy, traffic management and traffic accident patterns.

The 50km/h speed limit that covers all roads in the town area and therefore most of the area covered by the Bicycle Plan. The exceptions are the section of track that follows the Leeton Road (MR80) which has sections of 80km/hr

and 100km/hr and the Newell Hwy that has a speed limit of 70km/hr out near Gillenbah.

Narrandera is bisected by the Newell Hwy. The traffic volumes are high including the number of heavy vehicles using the road.

The town is laid out in a grid pattern with many of the road reserves being over 15m wide. While this does lend itself to on road bicycle tracks it also contributes to high vehicular speeds so where possible bicycle tracks will be off-road facilities.

The town is also bisected by the Murrumbidgee River in the south and the rail line to the north. There are a designated walk ways across the bridges but they are a constraint on the design of a bicycle track network because they are only 2m wide.

There are some hilly sections of Narrandera especially in the south eastern area of town. Where possible the flattest routes have been selected but sometimes steep sections have been unavoidable especially getting access to the Lake Talbot complex.

4.4.1. Road Hierarchy

Narrandera has National, State and Local roads through the town area. The Newell Hwy (called Cadell St and Whitton St through the town) presents a problem to cyclists due to the type, volume and speed of vehicles that use this road. It bisects the town in such a way as to separate one of the primary schools, the main park and the retirement home from the majority of the residential area, the CBD and all sporting facilities.

The intended function of each class of road and ideal treatment to provide for cyclists is given below:

Arterial – Carries traffic between two regional centres

Bicycle traffic should be avoided on arterial roads and crossing should be facilitated with dedicated crossing islands. When travel along the route of an arterial road is required a pathway running parallel to the roadway is the preferred option.

Sub-arterial – Carries traffic with a trip end to connect to an arterial network.

Sub-arterial roads should provide wide kerb lanes or shared bicycle/parking lanes. Cyclists crossing points should occur at signalised intersections or at shared pedestrian crossings with the provision of central road refuges to assist crossing safety.

Collectors – carries traffic from areas of development to the arterial network
The need for cycle facilities should not exist.

Local roads – to access properties

Traffic management should ensure a safe environment not only for cyclists, but also for pedestrians, and should have priority in traffic planning.

4.4.2. Bicycle crashes

Analysis of the RTA crash data revealed that there have been three reported crashes, involving cyclists, from 1998 to 2002. All were male cyclists aged 7, 12 and 15 years. They occurred in the town area and involved other vehicles.

4.5. Cycling Needs

The major needs of cyclists in the township have been identified as the following:

- ❖ The provision of quality riding surfaces for cycling and regular maintenance of these facilities
- ❖ Protected points to cross major roads
- ❖ The provision of opportunities for recreational cycling on off road bicycle paths and quiet streets
- ❖ The development of signed routes which have continuity and connectivity. The cycleway is of no practical value unless the routes identified are appropriately signposted.
- ❖ The provision of secure storage facilities for bicycles at shops, sporting facilities, open spaces and tourist sites.
- ❖ Driver education to appreciate the legitimate place of the bicycle on the road system and their needs and characteristics.
- ❖ Bicycle education for cyclists.

5.0 DESIGN REQUIREMENTS

The RTA released the NSW bicycle guidelines in December 2003. This comprehensive guideline was developed in conjunction with the Austroads Guides and they should be used together.

The following Guidelines and Standards outline the minimum requirements for the construction of facilities for cyclists and pedestrians.

- NSW bicycle guidelines
- Austroads Guide to Traffic Engineering Practice – Part 14 Bicycles
- Austroads Guide to Traffic Engineering Practice – Part 13 Pedestrians

The track must have a finished width of 2.5 metres to cater for cyclists and pedestrians or 2.0 metres if only for bicycles.

An asphalt surface is the ideal finish because it is smooth however it is an expensive option and depending on the location and gravel base with a 2 coat bitumen surface may be used. Concrete may also be used in areas where town beautification is a consideration.

Another construction material, compacted crusher dust could be used for the tracks near the river to reduce cost.

After analysing the data collected through community consultation and discussions with Council Engineering and Planning staff, both towns were extensively surveyed by car and foot to gain familiarity with the town and to identify opportunities for routes and any problems with the selected areas.

6.0 PRIORITIES FOR STAGING

Stage	Segment	Street	Reference street	Side	Length (m)	Proposed treatment
1	1.1	Elizabeth St	Victoria Ave to Gordon St	E	556	Off road shared track
2	2.1	Victoria Ave	Elizabeth St to Arthur St	S	900	Off road shared track
2	2.1	Jonsen St	Whitton St to Victoria Ave	both	572	On road bicycle track
3	3.1	Adams St	Pre School to Whitton St	W	229	Off road shared track
3	3.1	Adams St	Douglas St to Pre School	W	180	Off road shared track
3	3.1	Adams St	Twynam St to Douglas St	E	278	Off road shared track
3	3.2	Adams St	Audley St to Twynam St	W	115	Off road shared track
3	3.2	Adams St	Larmer St to Audley St	W	115	Off road shared track
3	3.2	Adams St	Whitton St to Watermain St	W	245	Off road shared track
3	3.2	Adams St	Watermain St to end of 50km/hr	W	150	Off road shared track
3	3.2	Elwin St	Adams St to TAFE	S	82	Off road shared track
4	4.1	Douglas St	Adams St to Cadell St (Tourist Office)	S	245	Off road shared track
4	4.1	Twynam St	Adams St to Cadell St (Tourist Office)	N	245	Off road shared track
5	5.1	Larmer St	Midgeon St to school	N	245	Off road shared track
5	5.1	Larmer St	School to East St	S	164	Off road shared track
5	5.1	Larmer St	East St to Newell Hwy	S	164	Off road shared track
5	5.2	Larmer St	Newell Hwy to Narrungdera St	S	409	Off road shared track
5	5.2	Larmer St	Narrungdera St to Townsend St	N	245	Off road shared track
5	5.3	Townsend St	Larmer St to Hankinson St	W	310	Off road shared track
6	6.1	Elizabeth St	Gordon St to Lake Drive	E	654	Off road shared track
7	7.1	Lake Drive	Fredrica St to Larmer St	SW	900	Off road shared track
8	8.1	Victoria Ave	Broad St to Elizabeth St	S	360	Off road shared track
8	8.1	Broad St	Chantilly St to Victoria Ave	E /W	327	Off road shared track
8	8.2	Chantilly St	Broad St to school gate	S	245	Off road shared track
8	8.2	Unnamed Rd	Western side of Henry Mathieson oval	W	310	Off road shared track
8	8.3	Whitton St	Jonsen St to Pine Hill Rd	N	850	Off road shared track
9	9.1	Whitton St	Adams St to East St	S	441	Off road shared track
9	9.1	Whitton St	East St to bridge	S&N	327	Off road shared track
11	11.1	Oakbank St	Lake Drv to Brewery Flat oval	n/a	1422	Off road shared track
11	11.2	Beach area	Brewery Flat oval under bridge	n/a	2453	Off road shared track
11	11.3	Newell Hwy	Brewery Flat oval to Gillenbah	n/a	172	Off road shared track
11	11.4	Pine Hill Rd	Chantilly St	E	1472	Off road shared track
12	12.1	Racecourse Rd	Ferrier St to Keisling Drv	W	654	Off road shared track
13	13.1	MR80	Adams St to River St	S	1095	Off road shared track
13	13.2	MR80	River St to bridge	SW	1716	Off road shared track
13	13.3	MR80	Bridge to Karawartha Drv	W	1472	Off road shared track
14	14.1	Larmer St	Elizabeth St to Midgeon	centre	572	Off road shared track
15	15.1	Reserve	Lake Talbot to Koala Park	n/a		Off road shared track

7.0 IMPLEMENTATION

The successful implementation of the bicycle network will depend on the commitment of Council and the availability of sufficient funds for the staging of the project. The project has been broken into stages, which are sections that are considered to be part of a continuous route and then segments which are estimated could be built each year.

At the time of the development of this plan it was estimated that Council could contribute of \$20,000 annually to the construction of the bicycle tracks. When funds are available, application will be made to the RTA requesting that Council's funds be matched on a 50/50 basis.

Funding for the implementation of this plan should be made available from Council and Roads and Traffic Authority funds and supplemented as required from a number of sources listed below.

7.1. Funding sources

7.1.1. The Roads and Traffic Authority

The Roads and Traffic Authority (RTA) provides funding for the implementation of cycle ways, bicycle facilities and bicycle user support. The most recent information supplied by the RTA includes the following amounts of funding contribution:

100 Percent Funding of Cycleways and Bicycle Facilities

The following criteria must be met for the RTA to fund any cycleway totally without any Council contribution. The cycleway must include the following:

- Part of the State network of bicycle routes
- Regional bicycle network facilities on State Roads
- Sub-regional bicycle network facilities on State Roads
- Construction of CARES facilities

50 Percent Funding of Cycleways

- Regional bicycle facilities on roads other than State roads.
- Sub-regional bicycle facilities on roads other than State roads.
- Implementation of local councils' bicycle plans

50 Percent Funding of Bicycle Facilities

- Localised improvements to operation of existing cycleways
- Bicycle parking
- Bicycle education centres
- Replacement of unsafe drainage grates with bike safe grates

Improved bicycle detection at traffic signals

50 Percent Funding Bicycle Use Support

Preparation and or revision of Bike Plans
Bicycle network promotions
Research into bicycle travel and bicycle facilities
Bicycle use promotion and education

Maintenance of bicycle facilities along local routes once provided by the RTA is the responsibility of Narrandera Shire Council.

7.1.2. Section 94 Contributions

Section 94 (s94) of the NSW Environmental Planning and Assessment Act, 1979 (EPA Act) makes provision for a local council to require a contribution from a developer where a development is likely to increase the demand for public facilities in an area. If the Council is satisfied that a development will increase the demand for public facilities, it may place a condition on the development consent requiring:

- ❖ The dedication of land free of cost; or
- ❖ The payment of monetary contribution; or
- ❖ The construction of a material public benefit (a building/work benefiting the area); or
- ❖ A combination of the above.

7.1.3. Corporate and Community Sponsorship

Suitable corporate and community organisations should be contacted for sponsorship to implement a component of the proposed cycle ways. In Dubbo, the Western Plains Zoo provided sponsorship for the cycleway.

Service clubs such as Lions should be approached to assist with the implementation of cycle ways.

7.1.4. Department of Health

The Department of Health provides research grants to assess existing cycle facilities and the relationship to increasing activity levels. The Department of Health is interested in promoting their recommendation that "Every adult in New South Wales should accumulate 30 minutes or more of moderate intensity physical activity on most, preferably all, days of the week".

Narrandera Shire Council should approach the Department of Health to develop an on-going program of assessment of existing facilities and the relationship to increasing activity.

7.1.5. Department of Sport and Recreation

The Department of Sport and Recreation provides grants for sporting and recreational facilities and is able to assist with building cycleways. There are two major programs where funding is allocated, these are the Capital Assistance Program and the Regional Sports Facilities Programs. There are

also government guaranteed loans available for the implementation of facilities. The funding would be applicable to the construction of new cycleways and to the rectification of existing sporting facilities. An information booklet detailing the funding criteria is available from the Department of Sport and Recreation.

7.1.6. Department of Aboriginal Affairs

Both the State and Federal offices of the Department of Aboriginal Affairs are able to provide funding to provide shared cycle and pedestrian paths in areas predominantly populated by Aboriginal people. The Department offers totally funded grants for facilities.

The State office requires the proposal to be summarised into one page with a detailed plan and costing of the proposal. The Federal office has a more detailed criterion for the funding of facilities with a pro-forma available for grant requests.

7.1.7. Department of State and Regional Development

Funding is offered for bicycle projects by the Department of State and Regional Development with further details available from the Department.

7.1.8. Work for the Dole Scheme

Narrandera Shire Council could investigate the possibility of providing sections of the cycleway network by employees of the "Work for the Dole" scheme.

8.0 BEHAVIOURAL STRATEGIES

8.1 Encouragement Program

The implementation of a safe and logical bicycle network is in itself a way to encourage people to cycle. In addition to this are the opportunities to encourage cycling through organised events.

Bike Week is a state wide event conducted every September. There is an opportunity to develop a local event in conjunction with local Service Clubs and schools such as a Family Bike Day.

The Health Promotions Officer would be another stakeholder interested in increasing activities levels through cycling.

8.2 Education Programs

Road safety programs facilitated through Council's Road Safety Officer, the RTA and the Police Service could be designed to improve general road sense and the behaviour of both motorists and cyclists. Programs should aim to publicise the requirement that all road users must share the road with each other, and alert motorists of their responsibilities towards pedestrians and cyclists.

Education programs on the benefits of wearing a helmet and other safety requirements such as bells and lights would also be appropriate.

8.3 Enforcement Programs

Enforcement is the legal compliance by all road users and is necessary to improve both cyclist and motorist behaviour. Many cyclists have developed practices of poor riding behaviour, which can and does result in serious accidents and fatalities. Enforcement does not only need to be directed at cyclists but also at motorists. Both need to be aware that they are sharing the road with each other and that both are vehicles with the right to use the road network whilst respecting other users.

The Local Police Service should continue to enforce the behaviour of offending cyclists and to extend this practise to include reckless driving aimed towards cyclists. Enforcement should be an integral component and consideration of any bicycle-related education program facilitated by Council.

9.0 REFERENCES

1. RTA 2003 *NSW bicycle guidelines*. Road and Traffic Authority of NSW. Sydney, Australia.
2. Austroads 1999. *Guide to Traffic Engineering Practice, Part 14 – Bicycles*. Austroads. Sydney, Australia.
3. Narrandera Shire Council 1999. *Community Plan*.
4. Narrandera Shire Council 2003. *Pedestrian Access & Mobility Plan*.

Appendix



Project : Proposed Bicycle Paths

Location : Narrandera

LEGEND

-  Proposed Cycle Path
-  Railway Line
-  Road

Date 30/06/04

Ref Cycle_Paths

Sheet 1 of 3

Scale 1:



Project : Proposed Bicycle Paths
Location : Narrandera

LEGEND

-  Proposed Cycle Path
-  Railway Line
-  Road

Date 30/06/04
Ref Cycle_Paths
Sheet 2 of 3
Scale 1:



Project : Proposed Bicycle Paths
Location : Narrandera

LEGEND

-  Proposed Cycle Path
-  Railway Line
-  Road

Date 30/06/04
 Ref Cycle_Paths
 Sheet 3 of 3
 Scale 1:

