



## **Pedestrian Access and Mobility Plan**

### **P.A.M.P.**

### **North Narooma**





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## **1.0 Introduction**

Eurobodalla Shire Council has undertaken to develop a Pedestrian Access and Mobility Plan (PAMP) for the North Narooma area.

Concerns have been raised with Council regarding the impediments for safe pedestrian and cycle movements between North Narooma and the main Narooma township located on the southern side of Wagonga Inlet. The main areas of concern relate to the steep terrain within the North Narooma area combined with the alignment of the Princes Highway which creates limited opportunities for pedestrian access.

A PAMP provides a framework for use by Councils and is being encouraged by the Roads and Maritime Services (RMS) as part of a road safety initiative. A PAMP is designed to identify the pedestrian facilities that are required to integrate walking with land use and transport systems. The PAMP study will result in the identification of various pedestrian facilities and actions which will be developed into a program of works for implementation in the forthcoming years. This study will need to outline engineering, enforcement and education options that will improve the overall safety for pedestrians in this area.

## **2.0 Study Area**

The area nominated for this PAMP is the area bordered by the Princes Highway to the north and east. It is bordered by the shores of Wagonga Inlet to the south and by the edge of the urban area to the west.

The area selected ensures coverage of all pedestrians travelling between the North Narooma area and the main township of Narooma located on the southern side of Wagonga Inlet.

Figure 1 below shows the extents of the study area.

## **3.0 Study Objectives**

The PAMP objectives for this study primarily follows the guide developed by the RMS “How to Prepare a Pedestrian Access and Mobility Plan”. The objectives have been slightly altered to reflect the special circumstances of this location.

The main objectives of this PAMP are:

1. To facilitate improvements in the level of pedestrian access and priority, particularly in areas of pedestrian concern.
2. To reduce pedestrian access severance and enhance safe and convenient crossing opportunities on major roads.
3. To facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons through the provision of pedestrian infrastructure and facilities which cater to the needs of all pedestrians.
4. To link existing vulnerable road users plans in a co-ordinated manner (e.g. Bike plans, maintenance programs, accessible public transport etc.)



5. To ensure that pedestrian facilities remain appropriate and relevant to the surrounding land use and pedestrian user groups
6. The promotion of walking and cycling for pleasure and health
7. The promotion of environmental sustainability
8. Identify and resolve user concerns
9. Promotion of pedestrian safety and direct networks that better integrate communities across roads and waterways.

*Figure 1 – Study Area*



## **4.0 Outline of Study Methodology**

The study methodology was generally based on the aforementioned RMS guide “how to Prepare a Pedestrian Access and Mobility Plan”. The process was scaled back to suit the special circumstances of the study area.

The approach undertaken was as shown in Table 1 below.

Table 1 – Methodology

	Step	Approach	Detail
STAGE 1	1	PAMP Team Formation	Geoff Armstrong - Traffic Officer
			Peter Bache - RMS Road Safety and Traffic Management Officer
	2	Define PAMP Area	Refer Figure 1
	3	Research and Review	Narooma PAMP - 2008
			Eurobodalla Shared Pathway Strategy
			Future Intersection Treatments and Road Alignments
			Minutes of Local Traffic Committee
			Correspondence
	4	Data Collection	Accident Statistics
			Existing Pedestrian Facilities & Infrastructure
			Traffic Counts
			Pedestrian Route Audits
STAGE 2	5	Consultation	On Site Meeting with Residents
			Resident Survey
			Consultation and Input from Local Traffic Committee
	6	Overview of Data Collected	Identification of problems and assessment of existing situation
	7	Final Audit	Confirmation of proposed traffic facilities
	8	Draft PAMP	Including PAMP Plan and Development of Works Schedule with Priorities
			Submitted to Council for Adoptions for Purpose of Public Consultation
	9	Consultation	Public Exhibition of Draft PAMP
			Local Traffic Committee comment
	10	Report to Council	Adoption of final PAMP
STAGE 3	11	Finalise PAMP Implementation	Prepare a works program and seek funding

## 5.0 Existing Pedestrian Situation

To understand the present pedestrian access and mobility within the study area site visits were carried out. This was done to gain experience of the local scene and observe user behaviour before collecting the necessary data for use in the PAMP. As outlined in the RMS Guide “No literature or data review can provide this actuality information”.

The information required to address the present pedestrian situation was:

- Road hierarchy
- Traffic volumes
- Accident Statistics
- Inventory of existing facilities
- Community and Stakeholder Consultation

Consultation with the community is an important component of the PAMP and accordingly this category is covered separately in Section 6 of this report. The remaining information categories are covered in this section.

### **5.1 Road Hierarchy**

The study area has a relatively simple hierarchy of roads. The main arterial road through the study area is the Princes Highway which winds its way north to south along the eastern edge of the study area.

Two distinct collector roads can be found within the study area. Hillcrest Avenue and Riverview Road service the two separate precincts of the study area.

#### **Hillcrest Avenue Precinct:**

This is the precinct located on the higher ground overlooking the Wagonga Inlet. The roads and the terrain in this precinct are quite steep. Hillcrest Avenue performs the function of the main collector road in this precinct in combination with Raymond Street that connects to the Princes Highway.

Several local streets connect directly to Hillcrest Avenue including the following:

- Bellbird Lane
- Hillcrest Lane
- Perkins Parade
- Rifle Range Pit Road

#### **Riverview Road Precinct:**

This is the precinct located on the lower lying parts of the study area along the banks of Wagonga Inlet. The roads and terrain in this precinct are relatively flat. Riverview Road performs the function of the main collector road in this precinct and delivers vehicles to/from the Princes Highway at a location on the north side of the bridge over Wagonga Inlet.

Several local streets connect directly to Riverview Road including the following:

- Water Crescent
- Alexander place
- Fishermans Crescent
- Inlet Place
- Cove Street
- Lavender Point Road
- Woodbury Road

Riverview Road continues to the west beyond the study area where the land use turns rural and the road surface eventually turns to gravel.



## 5.2 Traffic Volumes

The following traffic volumes have been recorded recently on Princes Highway, Hillcrest Avenue and Riverview Road.

*Table 2 – Traffic Volumes*

### Princes Highway

Location	Average Annual Daily Traffic (AADT)	Year Recorded
North of Narooma Bridge	Not Available	Not Available

### Hillcrest Avenue

Location	Average Annual Daily Traffic (AADT)	Year Recorded
South of Raymond Street intersection	167 vpd	2011
North of Raymond Street intersection	285 vpd	2011
South of Perkins Parade Intersection	184 vpd	2011
South of Rifle Range Pit Road intersection	149 vpd	2011

### Riverview Road

Location	Average Annual Daily Traffic (AADT)	Year Recorded
West of Princes highway intersection	895 vpd	2011

## 5.3 Accident Statistics

Accident statistics revealed a total of 16 accidents across the study area during the period between 1 January 2005 and 31 December 2010. None of these accidents involved pedestrians. 15 of the 16 accidents occurred on the Princes Highway with the remaining one occurring on Riverview Road. 10 of the accident resulted in Injury and no fatalities have been recorded in the study area.

The predominant accident type appears to be run-off road type accidents most likely due to the alignment of the Princes Highway in this location.

## 5.4 Inventory of Existing Facilities

A shared pathway runs along the edge of the Princes Highway between Centenary Drive and the Narooma bridge. This pathway links to some well developed pathways to the east where the Mill Bay Board Walk leads pedestrians towards the Bar Beach area. A further pathway leads towards and through the settlements of Kianga and Dalmeny to the north. The shared path connects to the pathway running along the eastern side of the Narooma Bridge which then links to well developed pathways to the south and the facilities located in the Narooma township area.

A pathway runs along the northern side of Riverview Road for a distance of approximately 500m. This pathway then ends with pedestrians then utilising the grass verge or the existing roadway. Due to the existing steep terrain this pathway becomes narrow towards its eastern end (approx.. 1.2m wide), however for most of its length the path is 1.5m wide.

Concrete stairs exist in two locations. Firstly a set of steep stairs exist within the cut batter of the Princes highway opposite the intersection with Centenary Drive. Roads and Maritime Services (RMS) have

completed a safety assessment of these stairs. Their location has raised concerns as they deliver pedestrians onto the Princes highway at a location on the inside of a sharp curve resulting in little or no sight distance for pedestrians wanting to cross the Highway. RMS have indicated that these stairs will be removed for safety reasons in the near future. The second set of stairs is located adjacent to the intersection of Riverview Road and the Princes Highway. These stairs are of concrete construction and appear to be quite old. They are steep and are difficult for pedestrians to use, particularly those that are less mobile.

There are no existing concrete pathways along Hillcrest Avenue or the streets connecting to it. There is an informal steep dirt track that pedestrians often use that links from a location midway along Hillcrest Avenue to the stairs adjacent to Riverview Road mentioned above.

## **6.0 Community and Stakeholder Consultation**

### **6.1 On Site Meeting with Residents**

Following concerns being raised with Council regarding the lack of a formal pedestrian access from North Narooma into the Narooma township an onsite meeting was held on Friday 22 July 2011. The Hon Andrew Constance MP, State member for Bega along with Councillors and staff met with a group of residents from the Hillcrest Avenue precinct of the study area. The letter to residents sent following this meeting can be found in Appendix "A".

A follow up meeting was held with the residents located in the Hillcrest Avenue area on Friday 16 December 2011. Various options for the provision of stairs and ramps traversing the steep terrain between Hillcrest Avenue and the Princes Highway were presented. Residents were also informed of the pending development of a PAMP for the area and were asked to complete the Residential Survey forms that they had recently received. The letter to residents sent following this meeting can also be found in Appendix "A".

The concerns raised by the residents of the Hillcrest Avenue area mainly centred around the steep terrain that needs to be traversed in order to arrive at the Princes Highway adjacent to the Wagonga Inlet bridge. Problems associated with the crossing of the Princes Highway adjacent to the intersection with Riverview Road were also raised.

### **6.2 Residential Survey**

A residential survey was forwarded to 287 properties throughout the study area. The aim of this survey was to assess the pedestrian activity and the routes that were currently used. Residents were also asked to list impediments to the effective pedestrian movement between North Narooma and the main Narooma township.

A copy of the survey form along with a detailed summary of the responses received can be found in Appendix "B". The survey was well received with a total of 92 forms being completed and returned. The survey revealed the following:

- The responses received were a good balance between residents within the Hillcrest Avenue precinct (42) and the Riverview Road precinct (49) of the study area. With one (1) response coming from a resident outside of the study area.
- A large proportion of those who completed the survey were within the older age groups. The majority of those surveyed (117 of 205) were aged 56 years or older. This statistic was more prevalent in the Riverview Road precinct where 66 of the 100 (66%) surveyed were 56 years or older compared to 51 of 105 (49%) in the Hillcrest Avenue precinct.
- Very few (3) indicated that they had a disability that required the assistance of a wheelchair or motorised scooter. All of these were located within the Hillcrest Avenue precinct. However, it should be noted that, due to the high proportion of elderly residents as mentioned above, the use of wheelchairs and scooters would most likely increase in future years.
- All of those surveyed indicated that they owned or used a motor vehicle that resulted in a significant number of vehicle trips to/from the Narooma township.
- Many of those surveyed indicated that they owned a bicycle and that they commonly used it to travel to/from the Narooma township. The Riverview Road residents were more likely to use a bicycle than those in the Hillcrest Avenue area.
- The survey indicated that pedestrian and bicycle trips would become significantly more common if improvements were made to the existing infrastructure. Estimates obtained from the survey indicated that there would be growth in these forms of transport in both precincts.
- The survey indicated that walking to/from the township was popular and that it would become more popular if improvements were made to the existing infrastructure.
- Some of those surveyed indicated a desire to walk and cycle to/from the Mill Bay boardwalk area in order to gain access to the Bar Beach area as well as other areas to the north (Kianga & Dalmeny) via the existing shared pathway network.

As a result of this survey a clearer understanding was gained with regard to the pedestrian access issues in the study area. Again it was clear that two distinct precincts were present in the area, the Hillcrest Avenue precinct and the Riverview Road precinct.

### **6.2.1 Hillcrest Avenue Precinct – Pedestrian & Cycle Routes**

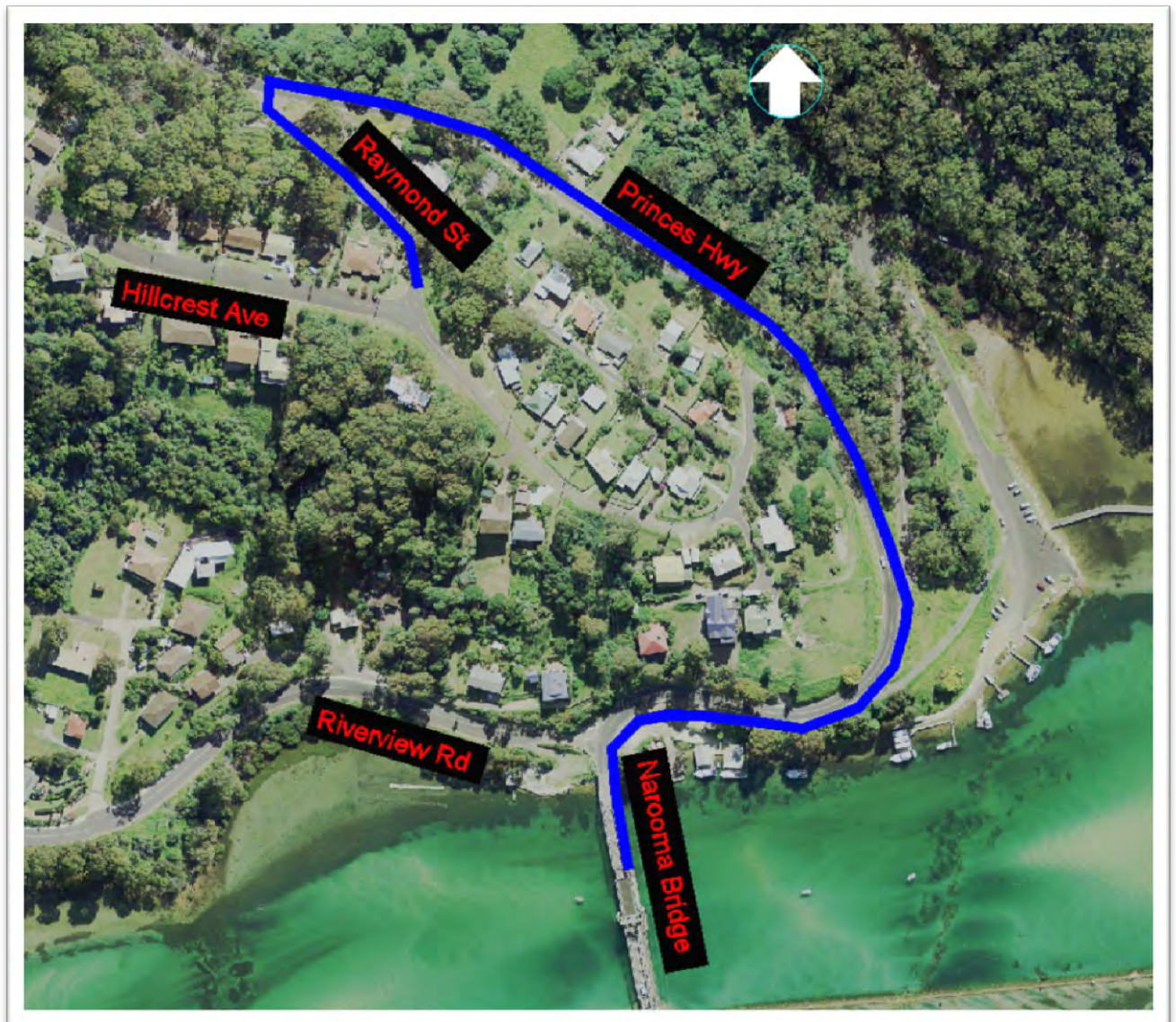
The survey indicated that a relatively diverse range of pedestrian routes were currently being used to gain access to the Narooma township from the Hillcrest Avenue area. Many surveys showed that several different alternatives were used depending upon the situation. Four main routes were specified in the survey.

#### Route A – Hillcrest Avenue – Raymond St – Princes Highway:

This route was used mainly by residents living in the upper ends of Hillcrest Avenue. Pedestrians would walk along Hillcrest Avenue until they reached the intersection with Raymond Street. They would then walk down Raymond Street and along the Princes Highway to the Wagonga Inlet bridge. This was not as popular as it was mentioned as an option in a total of 12 survey forms.

There is currently no footpath for pedestrians to walk along the edge of the Highway. Pedestrians are therefore forced to use the existing road which can be hazardous due to the volume of traffic and the amount of larger vehicles. Figure 2 below shows the path taken for Route A.

Figure 2 – Hillcrest Avenue Precinct Route “A”



Route B – Hillcrest Avenue – Hillcrest Lane – Princes Highway:

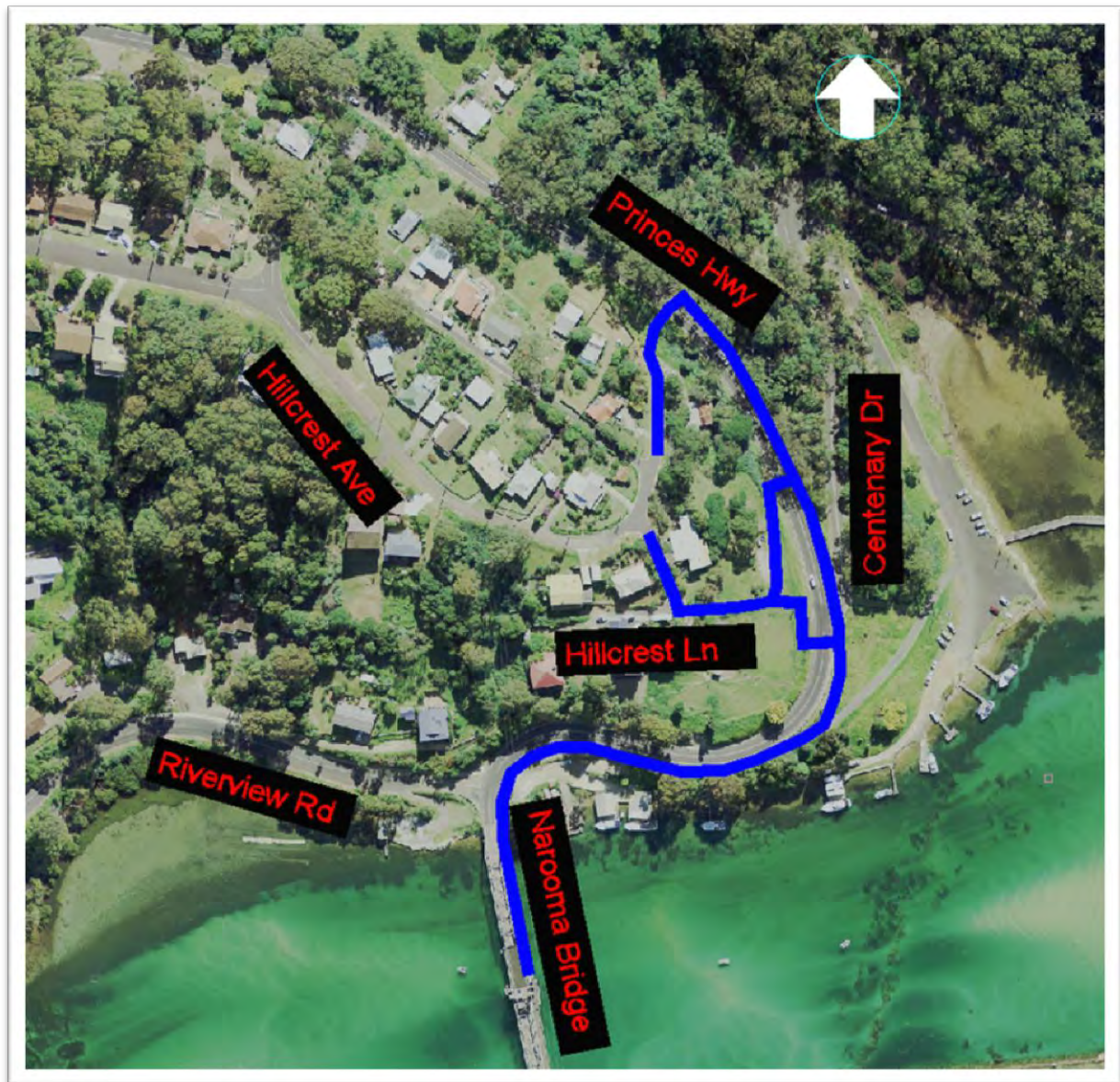
This route was chosen mostly by people living in the lower end of Hillcrest Avenue and those in Bellbird Lane. Three options were mentioned in the survey that followed slightly different paths to gain access to the Princes Highway:

- Use the eastern end of Hillcrest Avenue.
- Use the driveway located between Hillcrest Avenue and Hillcrest Lane.
- Use the stairs located opposite Centenary Drive

Of the above the option of using the driveway between Hillcrest Avenue and Hillcrest Lane appeared to be more popular. Very few of those surveyed indicated that they would use the stairs located opposite Centenary Drive. Overall this route was one of the least popular with it being mentioned as an option in 9 of the survey forms. Again the main deterrent for pedestrians here is the lack of space for pedestrians to use along the edge of the Princes Highway. Figure 3 below shows the paths taken for Route B.



Figure 3 – Hillcrest Avenue Precinct Route “B”



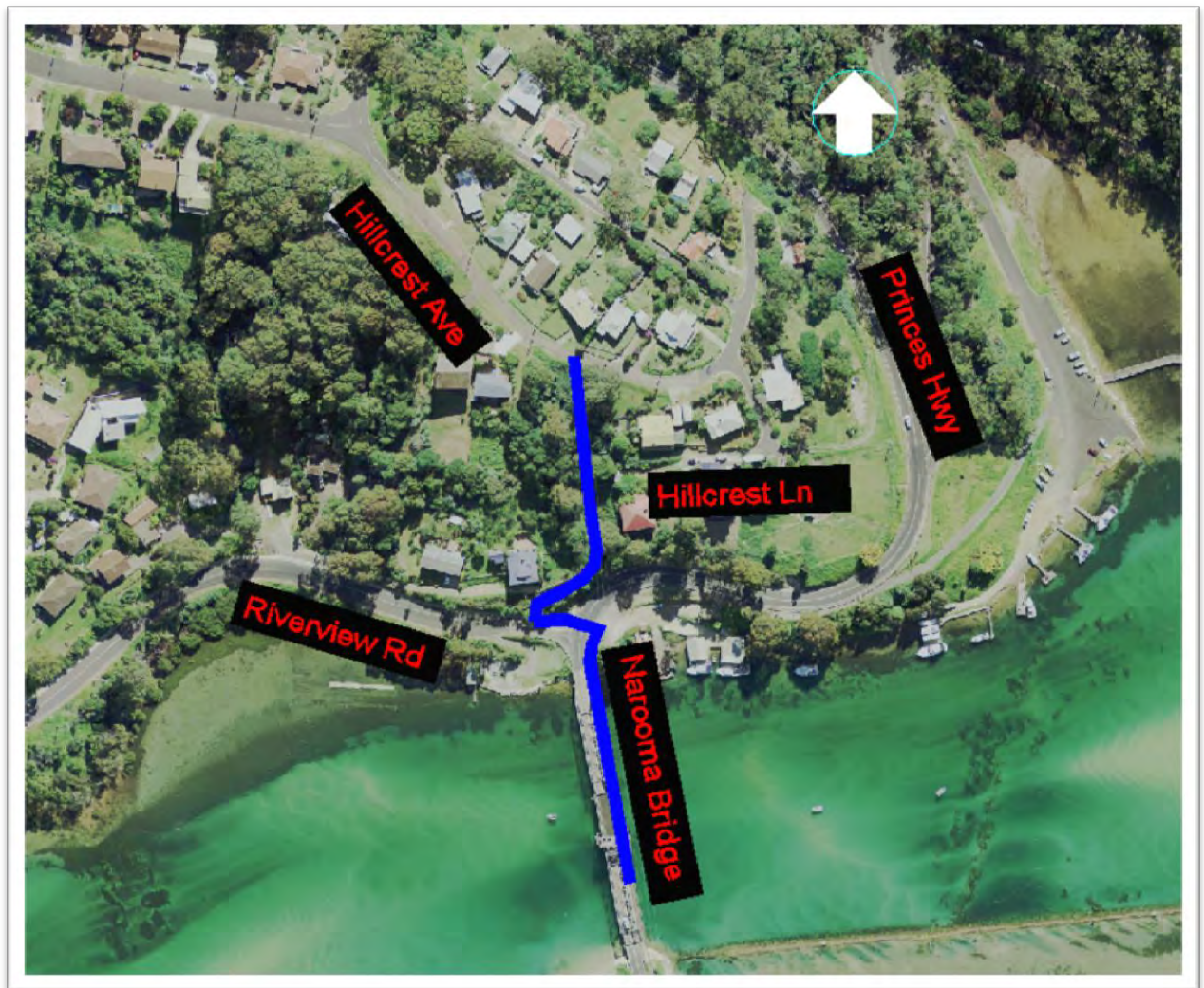
Route C – Hillcrest Avenue – Steep Track to Riverview Road – Across Princes Highway:

This route involves pedestrians coming from a location partway along Hillcrest Avenue and using a steep informal track through a Council owned reserve. The track leads southwards down the steep slope until it reaches a set of concrete stairs that leads pedestrians to Riverview Road near the intersection with the Princes Highway. Pedestrians then have to cross the Princes Highway in order to gain access to the footpath on the eastern side of the Wagonga Inlet bridge.

This was the most popular of the routes nominated as it was mentioned as an option in 19 of the returned survey forms. The main problems with this route were the steep grades and lack of a formalised pathway. Figure 4 below shows Route C.



Figure 4 – Hillcrest Avenue Precinct Route “C”



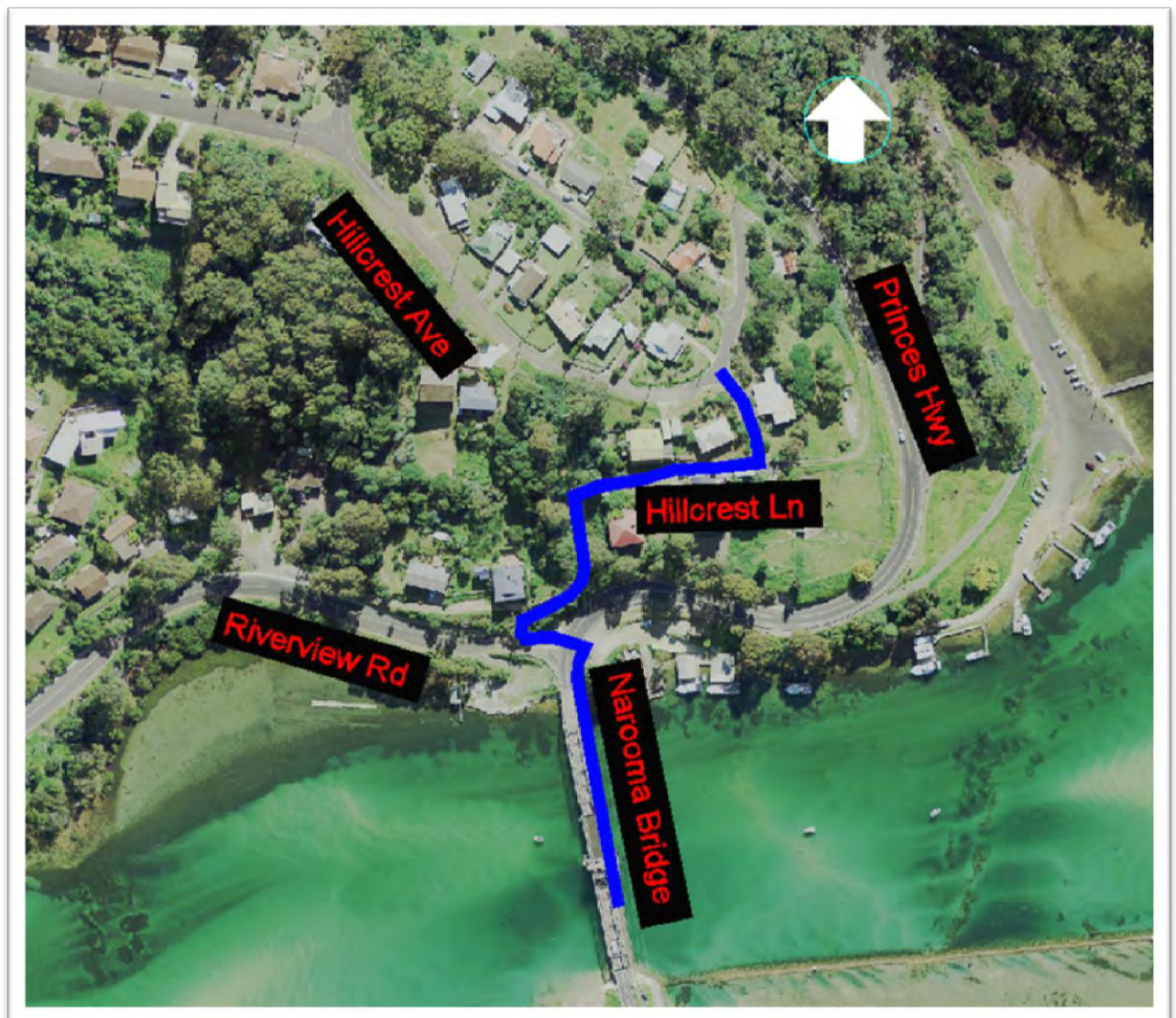
Route D – Hillcrest Avenue – Hillcrest Lane – Steep Track to Riverview Road – Across Princes Highway

This route follows a similar path to Route C, however pedestrians use the flatter grades along Hillcrest Lane before gaining access to the steep track and stairs leading to Riverview Road.

This route was identified as an option in 7 of the submitted survey forms. Again the grades and informal track were obstacles for pedestrians using this route. Figure 5 below shows the path taken for Route D.



Figure 5 – Hillcrest Avenue Precinct Route “D”



### 6.2.2 Riverview Road Precinct – Pedestrian & Cycle Routes

In comparison with the Hillcrest Avenue precinct, this precinct is relatively simple in terms of route choice. The survey indicated that all residents currently travel from their respective streets and along Riverview Road to the northern end of the bridge. Four main routes were specified which were dependent upon the origin or destination within the precinct.

#### Route E – Riverview Road – Across Princes Highway:

This route was used by those travelling to/from the properties located in the eastern end of Riverview Road. It simply involves travelling along Riverview Road to the Princes Highway. Pedestrians then need to cross the Princes Highway in order to gain access to the pathway on the eastern side of the bridge.

This option was mentioned in 19 of the submitted survey forms.

Route F – Fishermans Crescent – Riverview Road – Across Princes Highway:

This route is identical to Route E however it originates at a location within Fishermans Crescent. Again pedestrians travel along Riverview Road and then cross the Princes Highway to the pathway on the bridge.

This option was mentioned in 19 of the submitted survey forms.

Route G – Lavender Point Road/Woodbury Road – Riverview Road – Across Princes Highway:

Again this route follows Riverview road with an origin/destination further to the west to link houses in Lavender Point road and Woodbury Road.

This option was mentioned in 7 of the survey forms.

Figure 6 below shows the routes taken from/to the Riverview Road Precinct. The main problems for pedestrians were the lack of a concrete footpath along lengths of Riverview Road and the difficulty crossing the Princes Highway near the Narooma Bridge.

*Figure 6 – Riverview Road Precinct Route Options “E”, “E” & “G”*



### **6.2.3 Problems Identified from Residential Survey**

Hillcrest Avenue Precinct:

There were three main problems identified in the Hillcrest Avenue precinct during the residential survey.

- Steep Track and Stairs linking Hillcrest Avenue to Riverview Road. This was an issue for pedestrians using Route C and D. The combination of the steep terrain and the lack of a formalised pathway created significant obstacles for pedestrians and cyclists. The problems were worsened during wet weather conditions. The issue was the most common problem raised during the survey with 20 respondents listing it as an impediment to pedestrian and cycle movements.



- No footpath along the Princes Highway. This was an issue for pedestrians using Route A and B. The lane widths along the length of the Princes Highway between Raymond Street and the Wagonga Inlet bridge are quite narrow with little or no shoulder present. Outside of the road formation there is a steep cut batter running along most of the western side of the Highway. On the Eastern side there is a steep embankment. These conditions combine to create few options for pedestrians resulting in the need for people to walk along the edge of the roadway. There were 19 survey forms submitted that raised this issue as an impediment to pedestrian and cycle access.
- Crossing of the Princes Highway adjacent to the intersection with Riverview Road. This was mainly an issue for those using Routes C and D. When using these route pedestrians and cyclists need to cross the Princes Highway in order to gain access to the footpath running along the eastern side of the Wagonga Inlet Bridge (there is no footpath on the western side of the bridge). The combination of the Highway alignment, traffic speed and volumes, the location of the intersection of Riverview Road and the location of a small seafood shop located adjacent to the bridge creates a difficult situation for pedestrians to cross. This was listed as a problem in 11 of the returned survey forms from the Hillcrest Precinct, however it was mentioned a lot more in the survey forms from the Riverview Road area.



*Steep Track Leading from Hillcrest Avenue to Riverview Road*



*Steep Stairs Leading to Riverview Road*



*Princes Highway Near Centenary Drive – Note the Steep Fill Batter on the Right (east) and the Steep Cut Embankment on the Left (west).*

Riverview Road Precinct:

There were two main problems identified in the Riverview Road precinct during the residential survey:

- Crossing of the Princes Highway adjacent to the intersection with Riverview Road. This issue was raised by the Hillcrest residents as well. However, it was considered more of an issue for the Riverview Road residents as it was mentioned in 35 of the 50 surveys received. It was again the opinion of many of those surveyed that the location of the access road to the small fish shop opposite Riverview Road intersection tended to make this area even more of a problem for both pedestrians and vehicles.
- The footpath along Riverview Road ends partway along the road. The footpath running along Riverview Road ends at a location approximately 500m west of the Princes Highway. Pedestrians

are forced to either walk on the road or use the unformed grass footpath from this point onwards. This was raised as an issue in 19 survey forms and was mainly of concern to those who lived in the Fishermans Crescent area.



*Intersection of Riverview Road & Princes Highway – Used as Crossing Point for Pedestrians*



*Riverview Road near Fishermans Crescent – Note Lack of Concrete Footpath*

### **6.3 Input from Eurobodalla Local Traffic Committee**

This PAMP was discussed at the Eurobodalla Local Traffic Committee meeting held on Thursday 8 March 2012. The following is an extract from the minutes of this meeting.

#### **2012.IN.006 North Narooma Pedestrian and Mobility Access Plan**

*In response to concerns regarding access to and from North Narooma a Pedestrian Access and Mobility Plan (PAMP) is being developed for the area.*

*A PAMP is a comprehensive strategic and action plan to develop pedestrian policies and pedestrian facilities. PAMP's aim to co-ordinate investment in safe, convenient and connected pedestrian routes. A PAMP provides a framework for developing pedestrian routes or areas identified by the community as important for enhanced, sustainable, safety, convenience and mobility.*

*Concern has been raised by residents living in the North Narooma area regarding the safe pedestrian access between this suburb and the main Narooma township located on the southern side of Wagonga Inlet. Some extensive public consultation has taken place as part of the PAMP process which included a pedestrian survey and two on site public meetings. The PAMP has been partly funded by RMS.*

*The draft PAMP was tabled at the meeting and the Chairperson requested the Committee's input before the document is reported to Council and placed on public exhibition.*

*The RMS representative stressed that the proposed pedestrian underpass shown in the PAMP needed to meet disabled access standards relating to grades. This was not the case in the draft PAMP as an additional length of ramp would be required leading from Riverview Road. Full compliance with disabled access standard would be required should Council wish to gain RMS funding for this underpass. The RMS representative also indicated that the underpass option was a good solution that provided a safe crossing of the Princes Highway and this solution could well be looked at favourably for future RMS funding.*

*The RMS representative also asked that, for completeness, the objectives shown in the PAMP need to be rated in accordance with the PAMP guidelines. The ranking process would help when determining the suitability of the document as a means of overcoming pedestrian constraints in the study area.*

*Councillor Allan Brown suggested that, as part of the upcoming public consultation, input be provided by the Eurobodalla Shire Disability Advisory Committee.*

**Resolved:**

*With regard to the DRAFT North Narooma Pedestrian Access and Mobility Plan (PAMP):*

- i) The proposed pedestrian underpass be amended so that it meets disabled access standards on its connection to Riverview Road.*
- ii) The PAMP objectives be ranked in accordance with the PAMP guidelines and this be shown within the document.*
- iii) Input be provided by the Eurobodalla Shire Disability Advisory Committee during the upcoming public exhibition phase.*

The PAMP was amended accordingly following this Local Traffic Committee input.

## **7.0 PAMP Development**

The resident survey was extremely useful in gaining a clear understanding of the impediments to pedestrians movements between North Narooma and the township located to the south. Two clear precincts were evident with their own individual problem areas.

Within the Hillcrest Avenue area it was clear that residents were concerned about the steep grades and lack of a formalised pathway. Residents in this area nominated a wide range of possible routes. It would appear that ONE clearly defined route is needed to enable pedestrians to move between their properties and the Narooma Bridge.



The issue of crossing the Princes highway was raised by some residents in the Hillcrest Avenue area, however it was considered less of a problem as residents seemed to be more concerned about ways in which they can gain access to this crossing point. The Highway crossing was however, raised by many of the residents in the Riverview Road precinct. This may suggest that, should a formalised pathway be provided for the Hillcrest residents, they would then subsequently raise their own concerns about the Highway crossing.

The survey also revealed a need for an extension to the existing footpath along Riverview Road. Residents were obviously concerned about the need to use the roadway in order to walk from their properties along the western end of Riverview Road. This additional footpath link has been identified within Eurobodalla Shire Council's Pathways Strategy, however it has been classified as a low priority in comparison with other pathway deficiencies throughout the shire.

## **7.1 Solutions**

### Hillcrest Avenue Precinct:

Currently several route options are used to travel from the homes on these higher grounds to the Narooma Bridge. It is proposed that one single route be ungraded to provide a suitable pedestrian access to/from this area of Narooma.

Basically there are two options. Either provide a pathway running parallel to and along the edge of the Princes highway or provide a formalised pathway linking between Hillcrest Avenue and Riverview Road. Table 3 below examines the advantages and disadvantages of each of these options.

The most favourable option would appear to be the provision of a safe formalised pathway linking Hillcrest Avenue and Riverview Road. A strip of Council owned land exists between these two streets that is currently used as an informal track. The track is steep and uneven. In times of wet weather it can be very slippery. A ramped pathway or a set of stairs may be able to be installed at this location.

The provision of a ramp would have the added advantage of providing a compliant pathway in terms of grades linking Hillcrest Avenue to Riverview Road. This type of pathway would be difficult and costly to construct. It would also result in a longer length of travel which may then discourage its use. Figure 7 below shows the layout of a ramped pathway between Riverview Road and Hillcrest Lane. A much more extensive ramp would be required to link to Hillcrest Avenue.

A more feasible alternative is the provision of stairs linking Riverview Road and Hillcrest Avenue. These would not have the benefit of providing a fully compliant accessible pathway, however they would provide the benefit of a safe, formalised access between the higher areas of North Narooma and the township to the south. The provision of a narrow ramp running alongside the stairs could allow cyclists to wheel their bicycles up and down the stairs. The stairs option is considered to be the most appropriate solution at this site and it is consistent with other facilities in other areas of the shire. Figure 8 below shows the layout of stairs leading between Hillcrest Lane and Riverview Road.

A possible future stage to these stairs could link all the way to Hillcrest Avenue, however the provision of stairs to Hillcrest Lane would at least solve the immediate problem by providing stairs to the flatter terrain of Hillcrest Lane.

The provision of these stairs would result in pedestrians beginning or ending their decent at a location near the intersection of Riverview Road and the Princes Highway. This location was identified in the resident survey as a problem area for pedestrians to cross the Highway in order to gain access to/from the pathway along the eastern side of the bridge. The solution to this issue is discussed below.

*Table 3 – Assessment of Options for Hillcrest Avenue Precinct*

Option	Advantage	Disadvantage
Provide Footpath link running along the edge of the Princes Highway	Provides a relatively consistent grade	Difficult and costly to construct given the steep fill batter on the Eastern side and steep cut batter on the western side.
	May be suited to Bicycle traffic and mobility scooters	Due to the steep grades it is unlikely that the pathway will meet disable grade standard.
		Difficulty in separating pedestrian from vehicular traffic along the Highway.
		Should the pathway be installed on the western side a suitable crossing point needs to be found.
		Should the pathway be provided on the western side then a crossing point still needs to be found to gain access to the Narooma bridge path
		Steep grades will still be present between many of the Hillcrest Avenue properties and the Princes Highway
		Length of pathway would discourage its use
Provide stairs or ramp linking Hillcrest Avenue to Riverview Road	Safe access between Hillcrest Avenue and Riverview Road	Pedestrians will need to cross the Princes Highway in order to gain access to/from the pathway on the eastern side of Narooma Bridge
	Shorter distance of travel compared with the Highway option	Disabled grade standards would be difficult to achieve
	Land is available for this option with an existing informal track existing and being used by locals	

Figure 7 - Compliant Access Ramp – Hillcrest Ave to Riverview Rd (Refer to Appendix “C” for more detail)



Figure 8 - Access Stairs – Hillcrest Ave to Riverview Rd (Refer to Appendix “D” for more detail)



#### Riverview Road Precinct:

The residential survey indicated that the main issue for residents in the Riverview Road precinct was the crossing of the Princes Highway near the intersection with Riverview Road. This crossing is necessary as the only pathway across Wagonga Inlet is located on the eastern side of the bridge.

Riverview Road intersects with the Princes Highway on the outside of a small radius bend. The combination of this bend, the traffic volumes using the Highway and the location of the fish shop opposite the intersection make this area difficult for pedestrians.

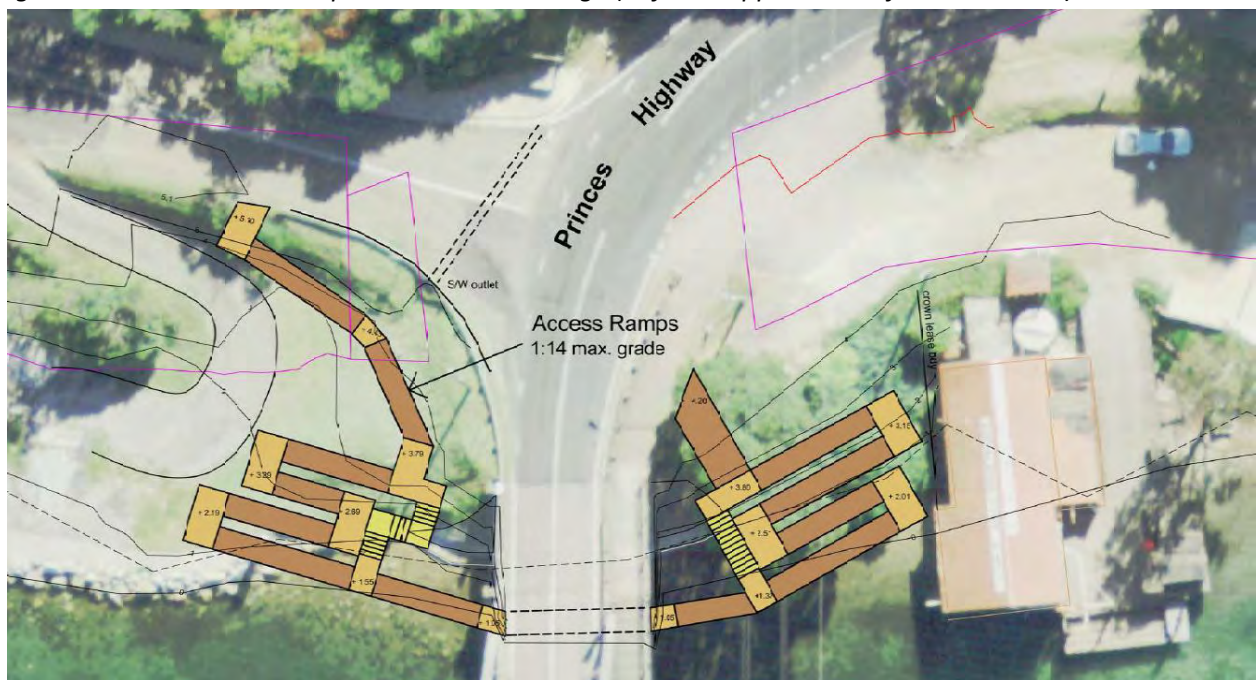


The provision of an at ground crossing on the Princes Highway at this location is difficult due to the above mentioned constraints. A possible solution is to provide an underpass leading pedestrians underneath the bridge and linking to the path located on the eastern side of the bridge. This underpass would also link to the shared pathway that heads eastwards towards the Mill Bay Boardwalk area and onwards towards Bar Beach, Kianga and Dalmeny. During the survey many residents expressed a desire to be able to gain safe access to the shared pathway leading to these areas.

Figure 9 below shows the layout of a proposed underpass leading pedestrians underneath the bridge. This underpass would be equipped with disabled compliant ramps on both sides of the bridge.

The other area of concern raised by the residents of the Riverview Road area was the lack of a footpath along the length of Riverview Road. Currently the footpath ends approximately 500m west of the bridge with pedestrians needing to use the roadway for the remainder of their journey. It would appear that a concrete footpath is required for the length of Riverview Road between the intersection of Fishermans Crescent and the Princes Highway. It is recommended that the extension of the pathway to Fishermans Crescent be considered in Council's footpath priorities.

*Figure 9 - Pedestrians Underpass – Narooma Bridge (Refer to Appendix "E" for more detail)*



It should also be noted that several people raised concerns regarding the car park entrance arrangements for the fish shop located opposite the intersection with Riverview Road (far right in Figure 9 above). The area where this fish shop is located is currently leased from the Crown. It is recommended that enquiries be made with the NSW Roads and Maritime Services to determine if this car park could be reconfigured to reduce conflicts with pedestrians and with vehicles using the Princes Highway/Riverview Road.

## 7.2 Rating of PAMP Methodology

The RMS guide to preparing a PAMP recommends that a scoring system be devised to rate the PAMP against the original guiding objectives. A Rating system was developed which involved giving each of objectives listed in Section 3.0 above being given a score out of 10. A score of 0 to 5 was considered a low

rating, a score of 6 to 8 was medium and 9 to 10 was considered high. By scoring each of the objectives in this fashion an overall score for the PAMP was recorded.

As there were 9 objectives listed in Section 3.0 the maximum score was 90 points. A score between 0 and 53 can be considered "Poor – Improvements May be Required". A score between 54 and 80 can be considered "Acceptable – Some key improvements may be required". A score between 81 and 90 can be considered "Good – Minor improvements may be required". This PAMP was scored as shown in Table 4 below.

*Table 3 – Score Sheet for PAMP Methodology*

Guiding Objective – Refer Section 3.0 Above		Score		
		Low 0 to 5	Medium 6 to 8	High 9 to 10
1	To facilitate improvements in the level of pedestrian access and priority, particularly in areas of pedestrian concern.			9
2	To reduce pedestrian access severance and enhance safe and convenient crossing opportunities on major roads.			9
3	To facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons through the provision of pedestrian infrastructure and facilities which cater to the needs of all pedestrians.		6	
4	To link existing vulnerable road users plans in a co-ordinated manner (e.g. Bike plans, maintenance programs, accessible public transport etc.)		7	
5	To ensure that pedestrian facilities remain appropriate and relevant to the surrounding land use and pedestrian user groups			8
6	The promotion of walking and cycling for pleasure and health			8
7	The promotion of environmental sustainability			8
8	Identify and resolve user concerns			9
9	Promotion of pedestrian safety and direct networks that better integrate communities across roads and waterways.			9
PAMP Total Score			13	60
			73	
			Overall Rating: Acceptable	

### 7.3 Cost Estimates

#### Stairs from Riverview Road to Hillcrest Lane:

The estimated cost for the provision of stairs between Hillcrest Lane and Riverview Road is \$205,500. A possible second stage to this is the extension of the stairs to link to Hillcrest Avenue. The cost of this stage is estimated to be \$115,600

#### Pathway Under Narooma Bridge:

This underpass is related to the crossing of the Princes Highway. Due to this being a Classified Road the NSW Roads and Maritime Services (RMS) are responsible for the management of this road. Crossing facilities along this Highway are usually fully funded by the RMS. Since the proposed underpass will be solely used for pedestrians crossing the Princes Highway the facility should be fully funded by the RMS. It is recommended that the RMS and Eurobodalla Shire Council work together to progress this proposed pedestrian underpass.

Extending Existing Riverview Road Footpath to Fishermans Crescent:

The cost of providing a concrete footpath along Riverview Road linking to Fishermans Crescent is \$45,000.

Detailed estimates for the above can be found in Appendix “F”.

## **8.0 Recommendations**

The following recommendations are made:

1. Council seek funding for the provision of stairs between Hillcrest Lane and Riverview Road. This will provide a safe path of travel for pedestrians from the Hillcrest Avenue precinct. A possible future second stage of these stairs between Hillcrest Lane and Hillcrest Avenue could be implemented at a future date.
2. Roads and Maritime Services and Eurobodalla Shire Council work together to progress the proposed pedestrian underpass at the northern end of the Narooma Bridge.
3. Council’s Pathway Strategy includes the provision of a future link from the end of the existing path in Riverview Road through to Fishermans Crescent. However it should be noted that this link is currently ranked as a low priority in comparison with other footpath deficiencies throughout the shire.
4. Enquiries be made through the NSW Roads and Maritime Services regarding the possible reconfiguration of the car park that services the fish shop located opposite the intersection with Riverview Road.