

## 2. BRIDGE 2000 - THE MILLENNIUM FOOTBRIDGE



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As resolved at the February meeting of the City Services and Parks and Recreation Committees, a subcommittee meeting was held on Thursday 17 February 2000 with representatives of the City Services Committee, Parks and Recreation Committee and Turning Point 2000. This subcommittee was asked to make recommendations to the Council as to the siting of Bridge 2000 - The Millennium Footbridge. Members comprised Councillors Carole Anderton, Anna Crighton, Graham Condon, Denis O'Rourke, Sally Thompson and Rae Finlay (Turning Point 2000).

### BACKGROUND

Central to Christchurch is the River Avon and over the 150 years of European settlement we have become a city of bridges providing ease of access throughout the city.

The Parks Unit identified and evaluated the need for an additional foot/cycle bridge from Hagley Park in 1995. In 1996 Turning Point 2000's Art 2000 Advisory Group was established. Their vision was to create a functional, creative and permanent visual reminder of the turning point into the third millennium for future generations. A partnership to create Bridge 2000 was developed between Turning Point 2000 and the Parks Unit.

The concept of a foot and cycle bridge over the River Avon, to celebrate the year 2000, from Park Terrace to Hagley Park opposite Dorset Street, was first presented to the Council in March 1998. It was one of the 11 projects receiving grants from the \$1.848m granted from The Community Trust to the Council for year 2000 projects (see attached landscape presentation).

Since the mid 1980s North Hagley Park has become an increasingly popular venue for the staging of major entertainment events. The "entertainment triangle" and the "events area" can cater for crowds of up to 12,000 and 100,000+ respectively. Associated with the attraction to the park of large numbers of people are the issues of car parking, toilet facilities, lighting, access and egress and public safety. During 1995 several meetings were held between senior officers of the Parks and Leisure Units discuss these issues which needed addressing, primarily surrounding health and safety factors.

The issues which still need to be completely addressed are access and egress from North Hagley Park. The Armagh Street entrance to the park has been extensively modified to provide a "drop off zone" for patrons arriving at an event. The former post and rail barriers have been replaced with a widened area of removable bollards, providing for unobstructed access and egress.

Concern was expressed during the 1995 discussions that the footbridge opposite Salisbury Street was inadequate to cater for the number of people leaving the park, a number of whom wade across the river to Park Terrace.

The problem is not with people coming to the concerts, because of the longer time frames during which people attending a large function at the park come to the event. The problem is rather one of people leaving events, where all patrons leave on mass. It has been noted that significant numbers of pedestrians who cross the footbridge at Salisbury Street form a bottleneck to the point where public safety is compromised.

The reasoning for Parks Unit choosing the Dorset Street site is that during the largest events that people do park in the lower south west St Albans/Bealey Avenue residential area.

The addition of a further footbridge linking North Hagley Park and Park Terrace somewhere between the footbridge opposite Salisbury Street and Carlton Mill Bridge has been identified as being required to assist in overcoming the congestion problems being experienced at the Salisbury Street Bridge.

During the 12-month period from 1 January to 31 December 1999 there were 10 major events held at Hagley Park. Between 10,000 and 15,000 people attended six of these events, 25,000 people attended one event, while in excess of 100,000 people attended the other three events. The provision of this further bridge will help patrons move out of the park into the surrounding suburbs to pick up their vehicles in surrounding streets and travel home. It will reduce the impact large numbers of people have upon the surrounding residential area to the east.

The rationale for construction of a new footbridge is:

- To provide pedestrian and cycle access.
- To provide safe and efficient egress from major events in Hagley Park.
- To provide easier access to Hagley Park for residents of the adjacent residential areas.
- To provide for the significant population increase in recent years in this area.
- To provide additional access for the population increase in future years in this area as a result of the redevelopment of the inner city residential areas.
- To provide a lasting visual reminder of the year 2000 for future generations.
- To alleviate some of the foot and cycle traffic from the congested Bealey Avenue Bridge.

#### **BRIDGE 2000 – THE MILLENNIUM FOOTBRIDGE**

A Bridge 2000 Committee, chaired by Councillor Anna Crighton and comprising representation from Turning Point 2000, the Parks Unit, Carson Group and City Streets has been in place since 1998. Monthly reports on the progress of the project are prepared for the Board of Turning Point 2000 and circulated to key people within Council.

Bridge 2000 will be a permanent functional art form, making an artistic and aesthetic statement as a sculptural form and creating an historical landmark to commemorate the new millennium and Canterbury's 150th Anniversary.

A design competition was launched in December 1998 for a site specific art bridge at Dorset Street. In April 1999 four designs, from the 37 complying entries, were invited to develop their submissions through to Stage 2.

Stage 2 of the design competition was judged by Councillor Anna Crighton, Councillor Paddy Austin, Sir Miles Warren, architect, Don Peebles, artist and John Coley OBE.

The Bridge 2000 Design Competition was won in July 1999 by sculptor Andrew Drummond. This design was viewed by the Bridge 2000 judging panel as a "true art work". They wanted a bridge that provided the people of Christchurch with a permanent functional art form and Drummond's design was voted unanimously to fill this criteria best.

The winning design is a cylindrical steel structure sheathed in brass, with a balustrade of extruded perforated brass mesh. The varied spacing of raised bands represents the passage of time as the bridge user moves from one riverbank to the other. This mirrors the Turning Point 2000 theme of "looking back and looking forward". The subtle spacing of the raised bands is designed to give the traveller a sense of speed, the closer distances representing the city-side of the bridge with the more open slower pace of the park.

Lights located in each abutment will light the underside of the bridge and light will also spread upwards and throughout the structure. The lights will also illuminate the underside of the bridge across the waterway enhancing the floating type structure inherent to the design of the bridge.

The use of brass is central to the conceptual basis of the work. The coloration of the brass, besides its golden hue, also deals with expansive ideas of machine and experimentation. The brass is superficial to the internal structure, which is steel.

Carson Group have been appointed as Project Manager for Bridge 2000. The opening date is scheduled for October 2000.

The concept for Bridge 2000, to create a functional art bridge from Park Terrace to Hagley Park, specifically at the Dorset Street site, was presented to Council Seminars in March 1998 and then accepted by Council in March 1998 to receive \$200,000 funding as part of The Community Trust year 2000 projects grant.

#### **CONSULTATION PROCESS**

In February 1999 Michael Thompson of City Streets presented a Bridge 2000 report to the City Services Committee outlining the project and recommending that \$77,000 be allocated for the provision of the pedestrian refuge and safety works necessary to accommodate the bridge.

The Committee decided not to recommend funding and in the report to the annual plan working party recommended:

1. That the proposed millennium footbridge be relocated to a site close to the Carlton Mill Bridge.
2. That a significant budget provision be made for pedestrian safety should the bridge proposal proceed.

No provision for the safety works was made in the 1999/2000 Council budget.

A public meeting for residents in the area was held in September 1999 with approximately 15 people attending. Turning Point 2000 presented a report on Bridge 2000 to the Parks and Recreation Committee in October 1999 to update them on the progress and planning for this project.

All 37 complying designs were placed on public display at the Information Centre at the Botanic Gardens during October and comments on the design invited in a visitors book.

The launch of the bridge design competition brief, announcement of the four finalists and then selection and release of the winning design attracted significant media coverage and reaction. Comments have varied from highly supportive through to critical. As with the proposing of any contemporary art project, levels of appreciation and acceptance are truly subjective.

#### **RESOURCE CONSENT APPLICATION**

The resource consent application was lodged on 6 November 1999 with submissions closing on 3 December 1999.

Forty submissions to this application have been received. Sixteen submissions have expressed opposition to the proposal and 27 submissions have expressed support.

The resource consent hearing was originally scheduled for late January 2000. The Council planner's report raised a number of concerns regarding exact positioning of Bridge 2000 at Dorset Street and landscaping. An adjournment was requested to allow time to address the issues raised in the planner's report and the resource consent hearing, before a Commissioner, is now scheduled for 10-11 April 1999.

#### **FUNDING**

Bridge 2000 has been fully funded by a grant of \$200,000 has been secured from The Community Trust year 2000 project funding allocation to the Christchurch City Council. A further \$85,000 has been allocated through the Annual Plan in the Parks Unit budget.

The total budget for Bridge 2000 for design, construction, management, landscaping and lighting is \$285,000.

#### **BRIDGE POSITIONING**

##### **Dorset Street**

The proposed site of the new footbridge is adjacent to the intersection of Dorset Street and Park Terrace. At this point the River Avon makes a gentle bend as it flows between Park Terrace and Hagley Park. The proposed site sits comfortably and logically between two existing bridges without adversely affecting their presence.

The true left bank immediately around the bridge is at its widest in this section of Park Terrace being 20-25 metres wide. On the Hagley Park side the bank is narrow and there is a terrace 1.8-2m high rising behind the bank and footpath.

The footbridge will sit approximately halfway between the Carlton Mill Road Bridge and the Salisbury Street footbridge (Burns Bridge). Both sides of the river are well treed with the Park Terrace side dominated by willows, which vary in age and condition. The Hagley Park side has a greater mix of trees including alders, oaks, poplars, pines, and willows.

The maritime pines (*pinus pinaster*) are a dominant feature on the top of the river terrace. Sedges (*carex secta*) have established themselves at the water's edge and are more prevalent on the true left. The presence of existing large trees and river terrace will help to integrate the structure into the existing landscape.

Turning Point 2000 are aware of the significance of safety works and requested City Streets to develop a plan to provide safe and convenient access across Park Terrace to the new bridge at Dorset Street. These plans were included in the Bridge 2000 Design Competition Brief and subsequent reports to the Parks and Recreation Committee and City Services Committee in 1999.

### **Landscape Assessment – Dorset Street**

People in cars travelling along Park Terrace and pedestrians using existing footpaths will gain different vistas of the bridge from northern and southern approaches. Vehicles travelling north on Park Terrace will not see the bridge until they are quite close due to the screening effect of the existing willows.

The southern approach by car will give glimpses of the structure from as far back as the Carlton Mill Bridge. Pedestrians using the footpath along Park Terrace will have similar views to the road users. The most dramatic vistas will be from the Hagley Park side. Bends in the river will provide glimpses of the bridge as if sighted from the middle of the river. The backdrop to the bridge from the Hagley Park side will be predominantly large trees, a curving riverbank and wide grassed berms.

The view of the bridge in its setting is important, as is the view from the bridge to the river and park. Because of the gentle bend in the river, views up and down the river will slowly open up as the pedestrian moves across the structure. Experience of the surrounding landscape will be quite different from different locations along the bridge.

For example, from Park Terrace the backdrop to the bridge will be riverbank, riverside trees, a high grassed terrace and clumps of pine trees.

It is proposed to remove one existing tree – a damaged liquid amber. A new alder will be planted slightly upstream on the Hagley Park side. No shrubs or groundcover are proposed on either side of the bridge; it being intended to retain the view of the structure and maintain the existing open grassed berms.

However, existing carex plantings at the water's edge will be carried through under the bridge on both sides. This will strengthen the line of the river and maintain continuity along its edge. The abutments of the bridge have been pulled back from the water's edge to ensure an uninterrupted flow of vegetation and riverbank under the bridge. The abutment is also very narrow (0.5m) being recessed back 1.5m from the outer edges of the structure. The abutments will be in the shadow of the bridge decking.

It is also proposed to colour the concrete charcoal grey, further reducing the impact of the abutment on the surrounding landscape. The design requires the bridge to sit gently on top of the surrounding landscape, therefore the footpaths and surrounding grass berms will grade gently to the structure following existing small variations in contour as closely as possible. Gentle grading of the banks will also reduce the impact of the abutment.

The strong spatial and visual connections between road and river are key attributes that make this section of Park Terrace special.

With very clear outer boundaries and a homogeneous central core, both structural, roadway and natural elements contribute to the overall character of the bridge within its location. Even from the Hagley Park side of the river where there is reduced visual connection the ever-present car and road noise help maintain that connection. The proposed footbridge strengthens and reinforces those connections by providing a dramatic and visible link between the key elements.

Of the three main character areas of the Avon Rivers as it flows through Hagley Park, only the Park Terrace section has a continuous and strong relationship with the built environment. The footbridge is in keeping with the character of Park Terrace and the river environment.

Additional river margin plantings of carex secta will also strengthen the continuity of the river and riverside plantings.

#### **EVALUATION OF ALTERNATIVE SITES**

It should be noted that Bridge 2000 – The Millennium Footbridge has been designed as a site specific functional art form for the Dorset Street site. Modification would severely affect the integrity of the artist's intent with his design.

#### **Carlton Mill Corner**

The possibility of moving Bridge 2000 closer to the Carlton Mill Bridge to assist with problems of pedestrians and cyclists at Carlton Mill Corner was raised by City Streets representatives in August 1999. This site was reviewed by the Bridge 2000 committee at length and, as it did not alleviate the problems of pedestrians and cyclists on Carlton Mill Bridge, which would still need clip on footpaths, it was agreed that Dorset Street remained the most appropriate site. By moving Bridge 2000 in close proximity to Carlton Mill Bridge it would detrimentally detract from the design features of both bridges and enhance neither.

## **Botanic Gardens to Car Park**

The river is also narrower here than the Dorset Street site so the structure will need to be “shortened up” to make it fit, again reducing its impact and contrast.

### *Landscape Assessment*

The existing Botanic Gardens bridge is located just upstream from a tight bend in the river. There is a significant river terrace on the true right while the true left varies from some open gently grade grass areas to quite thickly vegetated sections.

Views to the bridge are significant from the upstream true right footpath. While vegetation and the sharp bend in the river obscure downstream and Botanic Gardens views to the bridge.

Approaches to the bridge from the Botanic Garden side are good, with an already developed courtyard area, but from the Hagley Park it is confusing and uninviting with the car park extending right up to the bridge gates.

The presence of the car park on the Hagley Park side of the river seriously impacts on the woodland and river character. The Botanic Gardens side already has a number of significant structures close to the existing bridge, particularly the information centre and restaurant kiosk. There is also a wide range of plant forms material and in places the vegetation extends to the water’s edge and obscures views to the river.

A mix of planting types, structures and bank works has resulted in a landscape that is not strongly unified or coherent.

### *Conclusion*

The proposed new footbridge would be seriously compromised as an art object on the Botanic Garden site. The wide variety of existing structures, the car park, poor views to the river would not provide that clear sharp contrast between the structure and the surrounding landscape.

There would be no strong visual connection between bridge and the adjacent banks. The bridge would have to impose itself on the landscape and compete with the clutter of existing structures rather than acting as a visible connection floating over the river and its banks.

## **Kilmore Street**

### *Landscape Assessment*

The existing landscape of this site follows what is said for Dorset Street except that the river terrace on the true right flattens out and the visual connection to the open space of North Hagley is stronger. There are no clusters of maritime pines but the Hagley Park trees widen out to a woodland. The river terrace is more dominant on the Park Terrace side where the bank falls away quite quickly and steeply from the road and path edge to the river.

The river berm on the Park Terrace side is not wide and the visual connection from the road to the river is not as strong as the Dorset Street site. The river is relatively straight and there are footpaths on both sides.

Views to the bridge site are good from the upstream Park Terrace side but obscured from other approaches.

There are a number of existing structures at the Kilmore Street intersection; a raised flowerbed, flagpoles, traffic lights and directional signs.

Because the bank is higher on Park Terrace, and the berm narrow, the bridge will have to either:

- (a) Lead straight off the existing road level about 2-3m from the edge of the existing kerb, which would require quite large abutments on both sides of the river, or
- (b) Drop down to the riverbank and a new path slope down to it, which reduce any visible connection with Park Terrace.

### *Conclusion*

As with the Botanic Gardens site the ability to view the bridge in a simple coherent landscape to provide maximum contrast is lost. The bridge will have to compete with a variety of existing structures. Due to the proximity of the road and the absence of the gentle bend in the river views to the bridge are not as good as Dorset Street.

## **CITY STREETS ASSESSMENT**

### **Dorset Street**

A footbridge at Dorset Street would be an asset for special events in North Hagley Park. The bridge would also generate pedestrian and cycle traffic at other times and is likely to become a preferred route for pedestrians and cyclists both for commuting and recreational purposes.

If the City Streets Unit was to initiate the construction of an additional footbridge in the area, a site nearer Kilmore Street or adjacent to the existing Carlton Mill bridge would provide better opportunities to address traffic safety issues and cater for the higher volume of pedestrian and cycle traffic that is generated near traffic signals, which presently control intersections at Kilmore Street/Park Terrace and at Carlton Mill corner.

As a “work of art” the City Streets Unit accepts that the Dorset Street site is more suitable. However, such a project would need to have safe crossing facilities for pedestrians and cyclists at the Dorset Street/Park Terrace intersection.

### **Park Terrace**

Traffic volumes along the section of Park Terrace south of Bealey Avenue have risen from an average daily total (ADT) of 19,264 in 1997 to 23,613 in 1999. A count this month (February 2000) gave an ADT of 23,038. Average weekday flows are currently running at 25,000 rising to 26,000 on Fridays. The volume drops to 19,000 on a Saturday and 17,000 on a Sunday.



Traffic speed profiles along inner city multi-laned roads such as Park Terrace, Riccarton Avenue, Deans Avenue and other median divided avenues suggest that average speeds are in the order of 60/61 km/h with 85th percentile speeds of 68/69 km/h.

The road environment along the section of Park Terrace between Bealey Avenue and Salisbury Street could be regarded as “hostile” to cyclists and pedestrians crossing the four lane, undivided carriageway.

The only reported collision between a pedestrian and motor vehicle recorded in the last five years along Park Terrace occurred not long after the footbridge was constructed at Salisbury Street. The (fatal) collision (at Salisbury Street) happened on 20 March 1995. Work on the construction of the pedestrian island at Salisbury Street was completed on 27 March 1995.

In a similar situation in Riccarton Avenue traffic islands were constructed, the roadway reduced from four lanes to three (over a critical length) and a flush median installed. Seven collisions involving pedestrians occurred in Riccarton Avenue over a five-year period. One collision has occurred since the work was carried out but was remote from the area where the pedestrian islands have been installed.

Traffic safety is a priority for pedestrians and cyclists on arterial roads such as Park Terrace. To provide safe passage across the carriageway for pedestrians and cyclists it is essential that a pedestrian island be provided at Dorset Street to provide safe refuge in the middle of the roadway for people crossing the road.

### **Alternative Sites for Pedestrian/Cycle Bridges**

The City Streets Unit is working on a proposal to upgrade the traffic signal controlled intersection of Bealey Avenue/Carlton Mill Road/Harper Avenue/Park Terrace to provide increased traffic capacity, introduce new cycle and pedestrian crossing facilities and address safety issues that have been revealed in crash studies. Part of this work is likely to include some widening of the roadway over the existing Carlton Mill Bridge and may require alternative bridge crossing facilities to be provided for pedestrians.

It is acknowledged that this site for a footbridge would be unsuitable for the millennium bridge, as it would not meet the criteria for the visual presentation of a “work of art”. However, when the Council gives consideration to the revised layout of the Carlton Mill intersection, decisions on the form of a new footbridge or footbridges, in the vicinity of the present traffic bridge will remain an important part of this particular project.

At Kilmore Street, traffic along Park Terrace is controlled by traffic signals. Excellent pedestrian crossing facilities exist on the south side of the intersection leading across to the pathway on the riverbank running alongside Park Terrace.

A footbridge across the river linking directly to the traffic signals at Kilmore Street would be of benefit to pedestrians. However, it would have limited value for cyclists; the desire line for cyclists entering Hagley Park is concentrated on the Armagh Street bridge.

## **City Streets Conclusion**

There is no doubt that if any additional footbridges were to be constructed across the Avon River between Carlton Mill and Armagh Street they would be an asset for special events in North Hagley Park. The safest place (for a pedestrian) to cross Park Terrace is at the traffic signals at the end of Kilmore Street.

It is important for the Council to consider the impact on traffic safety along the section of Park Terrace between Carlton Mill corner and Salisbury Street if the millennium bridge is constructed over the Avon River at Dorset Street. Although the use of the bridge by pedestrians is likely to be low at most times of the day, cyclists are likely to be attracted to Dorset Street. Both school and commuter cyclists are likely to make some use of the bridge and the Dorset Street link with Victoria Street/Papanui Road.

To cater for the pedestrian and cycle traffic that will be generated if a bridge was constructed across the Avon River opposite Dorset Street, it is the City Streets Unit's view that a pedestrian/cycle island be constructed at the intersection of Dorset Street and Park Terrace as part of the millennium bridge project. The roadworks element of the project has been estimated at \$77,000.

## **PARKING UNIT ASSESSMENT**

As stated during the 17 February 2000 meeting of the Millennium Bridge Subcommittee the Parking Unit has no particular view regarding the proposal to site the Millennium Bridge near the intersection of Park Terrace and Dorset Street, **other** than in relation to the potential impact this may have on the management of traffic and pedestrians during large events in North Hagley Park. In a typical year this equates to three to ten events, examples being "Christmas in the Park" and "Classical Sparks".

By way of background, during large events in North Hagley Park traffic control measures are put in place that are primarily focused upon pedestrian protection, given the large numbers of people who converge on the park from the East on foot.

Part of the package of measures that are put in place includes the closing of Park Terrace to traffic from Kilmore Street south and the directing of Southbound traffic on Park Terrace down Salisbury Street. In addition, all West-bound traffic is stopped from using both Kilmore and Peterborough Streets prior to the end of events, which has the effect of creating a largely vehicle free area to assist in the safe and efficient dispersal of large numbers of pedestrians at the end of events.

The siting of a bridge near Dorset street has the potential to attract large numbers of people to cross the Avon at that point, when arriving at and leaving an event, rather than using either of the two current bridges. As a result it is likely that we will need to close the whole of Park Terrace to traffic, at least for an hour or two prior to the end of events, in the interests of pedestrian safety. This in turn will inevitably generate traffic delays.

From the Parking Unit's perspective the ideal site for a bridge, **not necessarily** the **Millennium** Bridge, would be near Kilmore Street as this would provide an additional crossing point very handy to the 'events' area of North Hagley Park to service the large numbers of people who approach the park from the City side, thus helping to alleviate congestion at the Armagh Street bridge. Logically it would also have the advantage of providing a relatively safe crossing point to and from the park during the balance of the year as the Kilmore Street/Park Terrace intersection is 'signalised'.

The Parking Unit would emphasise however that this view is primarily from the perspective of managing the safe and efficient congregation and dispersal of large crowds on, at most 10 days a year. The Unit doesn't dispute the collective wisdom that the Dorset Street site is more suitable to the "work of art" concept of the Bridge 2000.

From the purely utilitarian perspective the Parking Unit's preferred option would be to site an additional bridge near Kilmore Street to provide access to and from the 'events' area of North Hagley Park during the times the area is most heavily utilised.

#### **SUMMARY – BRIDGE 2000 – THE MILLENNIUM FOOTBRIDGE**

The Subcommittee resolved to recommend to the Council:

1. That the Council reaffirm the siting of the Millennium Bridge at the Park Terrace/Dorset Street site.
2. That the resource consent process take its course.
3. That the Turning Point 2000 Committee make every effort to find funding for the \$77,000 safety works proposed by the City Streets Unit.
4. That the Council underwrite the cost of the safety works.
5. That the report to the Council include an evaluation of optional sites for the Millennium Bridge.