Civil Engineering Design Project
Study Period 2, 2017

CALL FOR TENDER
Feasibility Study
O-Bahn City Access Project – Stage 1

Client: Department of Planning, Transport and Infrastructure

Government of South Australia
Department of Planning, Transport and Infrastructure

University of South Australia

CALL FOR TENDER

Feasibility study
O-Bahn City Access project – Stage 1

Consultants are invited to submit a Tender with an offer and quotation to undertake a **Feasibility Study** for key elements of the extension of the O-Bahn bus service into the city centre of Adelaide. The Feasibility Study will also incorporate the preparation of a concept design for the Detailed Design of selected components as determined by the Principal and an offer by the Consultant to the Principal to undertake the Detailed Design.

1. PROJECT PROPOSAL

At 12 kilometres long the Adelaide O-Bahn is the longest and fastest guided bus service in the world, travelling at speeds of up to 100 kilometres per hour. More than 8 million passengers a year, including local, interstate and overseas visitors, use the O-Bahn and the system is capable of moving 18,000 people in each direction every hour.

The existing dedicated bus route consists of 5,800 sleepers, 5,600 pylons drilled to a depth of 3 metres, 4,200 track pieces, 25 bridges, 8 pedestrian overpasses and a 60 metre-long tunnel.

The high speed O-Bahn dedicated corridor is the most highly patronised public transport corridor in the metropolitan area. The dedicated corridor currently terminates on Park Terrace at Gilberton and then travels with passenger vehicles along: Hackney Road for 1.7 kilometres; Botanic Road for 0.5 kilometres; East Terrace and Grenfell Street for 1.2 kilometres; and Currie Street for 1 kilometre. Refer to Appendix A for the project location.

The implementation of measures such as bus only lanes and bus priority at traffic signals will reduce the delays for bus patrons on the final 4.4 kilometres of the O-Bahn route to and from the Adelaide Central Business District (CBD).

In the recent Budget, the Commonwealth Government announced significant investment in South Australia's road and rail infrastructure. Part of the investment includes an extension of the dedicated O-Bahn corridor to ease peak hour delays resulting from traffic congestion, by separating bus and road traffic on the final 4.4 kilometres of the O-Bahn route to and from the CBD.

This project will provide on-road bus priority and will improve reliability, reduce travel times for passengers travelling on the O-Bahn bus service and decrease bus congestion on the arterial roads and within the City of Adelaide.

The overall project program will comprise three stages:

Stage 1 Works to construct a third bridge over the River Torrens, remodel and widen (where required) Hackney Road between Park Terrace to North Terrace and relocate services.

Stage 2 Works to create a free flowing public transport route from Hackney Road to and from the CBD using existing roads through the Park Lands.

Stage 3 Works to improve bus flows along Grenfell and Currie Streets.

Improvements to be delivered during these stages include:

- Central bus lanes marked with red asphalt surfacing.
- Bus priority at traffic signals.
- Improved bus operations in the City, consistent with the City of Adelaide's vision for a future Adelaide, including sections of bus lanes and signal upgrades.

2. KEY AIMS

The key aims and primary objectives of the O-Bahn City Access Project include:

- To improve bus operations to and from the CBD in terms of frequency, extension of routes, and the implementation of bus priority lanes to actively promote public transport as a genuine safe and efficient alternative to the car.
- To enhance and integrate with the parklands and adjacent heritage properties.
- To identify appropriate bus priorities for bus services for the east–west and O-Bahn bus services with the Adelaide CBD.
- To explore and furnish innovative opportunities and improvements for the Adelaide CBD in terms of public transport, people movement and infrastructure design opportunities.
- To deliver the project in packages of work that provide opportunity for local business.
- To minimise disruption to the travelling public, including passengers, road users and pedestrians during construction.

3. EXPECTED OUTCOMES

Once completed the O-Bahn City Access project is expected to deliver a number of environmental and social economic benefits to Metropolitan Adelaide including:

3.1 Transport

- A reduction in travel times for public transport patrons per journey between the existing track and the CBD stops.
- An increase in O-Bahn patronage to benefit the community indirectly by easing demand on major arterial roads into the city and by reducing traffic congestion.
- Transport efficiency benefits resulting from reduced delays and reduced operating costs for vehicle traffic due to the separation of bus and other vehicular movements.
- Safe, attractive and welcoming transport infrastructure that is functional, comfortable and user friendly that encourages use of public transport.

3.2 Accessibility

- An improved pedestrian and passenger waiting environment in Currie Street and Grenfell Street.
- A safe and accessible pedestrian environment linking local malls and streets to the adjacent office precincts and provide a high level of pedestrian amenity.
- Clearer and ‘easy to access’ route and timetable information at bus and tram stops in the CBD.
- Improved layout and design of bus stops and bus shelters in the CBD.
- Simplification of routes and signage to make buses easier to use for short trips within the City.

3.3 Safety

- Bus movements separated from vehicular traffic leading to reduced side swipe crashes and reduced crashes at intersections wherever the number of turning movements is reduced.

3.4 Environmental

- Increases in the use of public transport providing a reduction in greenhouse emissions due to a shift in transport usage from cars to buses.
- Environmental aspects such as integrated streetscapes and landscaping schemes.

3.5 New employment opportunities

- The creation of more than 30 new jobs when construction starts.
- Flow on opportunities for businesses in various industry sectors ranging from construction to retail.
- The creation of traineeships or positions for young people, Aboriginal people and the unemployed.
- Packages of work that provide opportunity for local businesses.

4. SITE OWNERSHIP AND ACCESS DETAILS

4.1 Ownership

The proposed alignment for the bus corridor between Hackney Road, Gilberton through to Dequetteville Terrace and onto West Terrace is along the public road network. The sections of road and parklands proposed for development are under the care, control and management of entities including:

- The Commissioner of Highways – road reserve only
- The City of Adelaide
- The City of Norwood, Payneham and St Peters
- Governors of the Botanic Garden
- The Treasurer

4.2 Access

Hackney Road provides access to major tourist attractions including: the National Wine Centre; Botanic Gardens and Adelaide Zoo; Festivals such as WOMAD; and Hackney and St Peters residential areas; local businesses; and St Peter's College.

The project will require new traffic management arrangements along Hackney Road. These are subject to further planning, design, detail traffic modelling, stakeholder consultation and approvals. The final Traffic Management Plan for Hackney Road will take into consideration impacts to businesses and residents and off corridor access alternatives.

Bicycle facilities will be maintained along Hackney Road and the project is anticipated to deliver new opportunities to provide more facilities for pedestrians and cyclists.

Appropriate consultation and negotiation will be undertaken with relevant land owners during the detailed planning and construction phases of Stage 1 of the project. Construction and traffic management plans will be prepared in liaison with the City of Adelaide, City of Norwood, Payneham and St Peters, businesses and residents to reduce the impact of possible road closures. During construction alternative access arrangements will be provided at all times.

5. DETAILS OF PROPOSED WORKS – STAGE 1

Stage 1 of the project will include all elements of work required to deliver and provide a dedicated on-road bus facility along Hackney Road between the existing track at Gilberton and the existing bus only lane on the northern approach to the Botanic Road / North Terrace / Dequetteville Terrace intersection with Hackney Road. Key aspects of Stage 1 works are further discussed below.

5.1 Hackney Road dedicated bus lane route

The preferred option for Hackney Road is to provide dedicated bus lanes and bus priority at traffic signals that will allow more efficient and effective bus movements during the peak hours. By separating buses from the general traffic stream, and providing dedicated road space, travel time for passengers will be improved.

Dedicated bus lanes and bus priority at traffic signals will result in changes to current traffic arrangements along Hackney Road. The planning of new traffic arrangements along Hackney Road will be undertaken in liaison with the City of Adelaide, City of Norwood, Payneham and St Peters and affected property owners and businesses to reduce the impact of possible access restrictions.

5.2 Bridge design and construction

A concept design is required for the third bridge needed across the River Torrens to accommodate the existing Hackney Road traffic as well as providing a dedicated bridge for the O-Bahn buses. The proposed bridge is to include an enhanced pedestrian path and bicycle lane along the western side of Hackney Road.

5.3 Road widening

Local road widening will be required between Plane Tree Drive and Bundeys Road to accommodate new bus lanes, the new bridge and its approaches across the River Torrens and to provide a pedestrian path and bicycle lane.

The following legislation is applicable for the widening of roads into the Parklands:

- *Adelaide Parklands Act, 2005*
- *Botanic Gardens and State Herbarium Act, 1978*
- *City of Adelaide Act, 1998*
- *Highways Act, 1926*
- *National Wine Centre (Restructuring and Leasing Arrangements) Act, 2002*

5.4 Service relocation

A number of services may need to be relocated prior to the main construction works taking place, including high and low voltage electricity. The 66kV electrical services run adjacent to the western kerb of Hackney Road and within the angled car parking areas. Detailed design will investigate the opportunities for retaining these services in their current location.

The consultant is to investigate and liaise with authorities to determine where existing services are located and if they need to be relocated.

6. SCOPE OF THE FEASIBILITY STUDY

Although DPTI has developed a concept for the project, which has been discussed in the previous sections, this should be considered as guidance only and alternative proposals will be considered.

The quotation within the Call for Tender is for undertaking the following works:

- Development and implementation of a QA system as detailed in Section 7.
- Provision and presentation of the feasibility study report.
- Provision of conceptual design details for all proposed structures and other works.

- Provision of an Environmental Impact Statement. This may be modified during the detailed design phase.

7. DETAILED PROJECT PLAN

Immediately following acceptance of the tender, the Consultant shall provide a detailed project plan indicating their proposed schedule of work for the completion of the feasibility study. This shall include an inspection of the site and project meetings with the Principal on a regular basis.

It shall be the responsibility of the Consultant to:

- Chair and minute all project meetings with the Principal and forward a copy of the minutes by email to the Principal at least one day before the next meeting. An agenda shall be given to the Principal (and lecturers) at each meeting.
- Undertake all work under a quality assurance system acceptable to the Principal. The QA system shall include an ongoing quality audit trail, which shall record the work undertaken by each person, involved on a weekly basis and shall be presented for discussion at each project meeting. A Quality Plan applicable to the undertaking of the feasibility study shall be developed and presented to the Principal with the feasibility report.
- Maintain an ongoing financial record of expenditure for each separable part of the work and present this in graphical form against the budget projected expenditure at each project meeting.
- Provide a digital presentation and record of all documentation and drawings as well as all other related records to the Client at the end of the project. The results of the Study shall be maintained in an agreed electronic form. At the end of the project, all final documentation and drawings including all previous documentation and records shall be provided to the lecturers and presented on a project website accessible by all students on completion of the course. It is therefore essential that electronic records be initiated from the beginning of the Study.

8. OFFER AND QUOTATION FOR UNDERTAKING DETAILED DESIGN

Immediately subsequent to completion of the feasibility study the Consultant shall negotiate with the Principal to determine the elements selected for detailed design. The Consultant shall then provide an offer and quotation to undertake the detailed design and documentation of these elements in accordance with the detailed design brief. The detailed design shall include:

- The production of contract documents for selected elements as agreed by the Principal including CAD drawings, bills of quantities, specifications and the submission of design calculations for quality assurance purposes.
- A public presentation of the project.

Please note: The offer and quotation for the detailed design **DOES NOT** form part of this call for tender.

9. CRITERIA FOR ACCEPTANCE OF OFFER

The quotation is required for undertaking the **feasibility study & conceptual design only**, as previously detailed under “Scope of the Feasibility Study”. Undertaking of the other parts of the project will be by negotiation following completion of the preceding part but the Principal reserves the right to withdraw this offer should the price offered be unacceptable. The proven ability of the Consultant to undertake all parts of the project will strongly influence the acceptance and appointment of a Consultant. The right is reserved to not necessarily accept the cheapest tender.

Only Call for Tenders received by **3.00 pm Friday 10 March 2017** will be considered. Additionally, all offers shall include an <u>oral presentation</u> to the Principal / lecturers on

Thursday 16 March with 20 minutes allocated for each consultant team (15 minutes of presentation followed by 5 minutes of question time).

Due dates for other parts of the project are:

- Feasibility study: 3.00 pm Friday 21 April 2017 with an oral presentation on Thursday 27 April 2017.
- Concept Design Report: at the client meeting Thursday 11 May 2017
- Detailed design and documentation oral presentation on Thursday 8 June 2017 with the final report due 3pm Wednesday 14 June 2017.

Additionally, the Consultant will be required to provide a public presentation of the entire scheme on a date to be confirmed after the exam schedule has been released for June. A light meal would be anticipated commencing at approximately 5:30pm. A lecture theatre or Seminar room will be booked for the afternoon so that a high quality and informative presentation can be prepared. Planning for this presentation will be undertaken during the Detailed Design phase.

Appendix A

Project location