Greater Wellington

Integrated Public Transport Database, Geographic Information System and Journey Planner

Request for Proposals

April 2003

1. Overview

Greater Wellington (GW)[1], having selected a shortlist in response to its call for Expressions of Interest dated 1 November 2002, is seeking proposals from the short-listed companies and joint ventures to supply a proven, integrated, GIS-based, public transport (PT) database and Journey Planner to be implemented in two stages.

Bidders should note that, since the original Expressions of Interest document was released, the public transport database/GIS and journey planner stages have been bundled together to allow bidders to offer an appropriately integrated solution. However, the implementation of the project will be in two stages, with associated payment milestones.

The new Stage 1 of the project, which we intend to implement by 30 June 2003, or as soon as practicable thereafter[2], will provide PT timetable outputs (print, web and call centre), service planning capability, and some contract management functions.

The new Stage 2, to be implemented during the financial year beginning on 1 July 2003, will add website and call centre Journey Planner functions.

The form of response required from bidders is outlined in section 2. The terms and conditions upon which this RFP is issued are outlined in section 9.

1.1 Future Project – Real-Time Information (RTI)

GW intends to use the database and Journey Planner as a starting point for implementing a region-wide real-time information system. However, this will be an entirely separate project, significantly larger in scope and taking several years to implement.

Bidders are welcome, however, to indicate the extent to which their proposed solution will be applicable to a real-time information system in the future. The interface between the database and the RTI project is discussed briefly in Section 4.

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[1] "Greater Wellington" is, from 1 January 2003, the promotional name for the Wellington Regional Council.

[2] We recognise that, given the delay in releasing this document, this timeframe may no longer be feasible.

2. Form Of Responses Required From Bidders

To enable uniformity of assessment between bidders, responses to all of GW's requirements expressed in this RFP are required from each bidder. In summary, each bidder must respond to this RFP as follows:

(a) each bidder must comply with the process outlined in section 8;

(b) each bidder must respond to each part of sections 3, 4, 6, and 7 by indicating whether or not each of GW's requirements can be met (or the extent to which they can be met);

(c) each bidder may (but need not) respond to the requirements expressed in section 5 in relation to RTI; **[Chapman Tripp note: GW to consider this – see our comment in section 4]**

(d) each bidder must complete Tables 1 and 2 as indicated on those tables;

(e) in providing its proposal, each bidder must consider GW's current hardware and software capabilities as expressed in Appendix 2, and comment upon any aspect of those capabilities which may adversely affect the bidder's proposal;

(f) each bidder must comment, in the spaces provided, on the acceptability of each of the draft contract principles contained in Appendix 3.

3. Required Outputs

3.1 Stage 1 – Database

The Stage 1 solution provided by the successful bidder must provide GW with a single PT information source that is accurate and current for all queries and publications [**Chapman Tripp comment: there needs to be an explanation of what this means**], and which will be sufficient to enable GW to:

- Meet or exceed PT information service levels achieved by similar organisations in other cities internationally.

- Increase the level of information available at bus stops in the GW authority area through the production of timetables that are individual to each stop (using an independently designed print template), and to increase the number of stops displaying such information at minimal cost.

- Improve the efficiency of its 7-seat PT information call centre (currently operating under the name "Ridewell") by providing customer service agents with direct on-line access to the timetable information and route maps held in the database and GIS (currently the call centre is entirely paper-based, with each agent having his or her own folder of timetable information).

- More efficiently maintain and update the timetable and route information on its website. The data must be able to be accessed in the same or similar format to the existing site (www.gw.govt.nz) in addition to any further features which might be added. GW is intending to review the "look and feel" of its website within a similar timeframe as part of an overall public transport branding project.

- Supply graphic designers and printers with usable electronic copies of timetables and route maps without the need to re-enter data.

- Design, plan and monitor the PT network by storing data about routes, times and stops, and by scheduling and modelling planned changes to routes and timetables, including testing of options.

- Store information about PT infrastructure (stops and shelters), and map routes and stop locations, on a geographic information system.

- Manage operator contracts by identifying transport operators, contracts, contract durations, routes, stops and vehicle types by trip.

- Log, assign and track transport queries and complaints electronically (desirable rather than mandatory feature).

3.2   Stage 2 – Journey Planning

The Stage 2 solution provided by the successful bidder must enable call centre operators to interrogate the database and GIS in order to plan customers' individual PT journeys (including walks to and from and between PT legs of the journey). This functionality must also be available through the website.

3.2.1 Output channels

Users need to be able to access the required information through the following media:

- Call centre staff directly interrogating the new software system and relaying answers by phone and by printing out information (eg, individual bus stop timetables) for mailing to individual customers.

- A web interface presenting users with information supporting the new system. The interrogation could take place through drop down menus, entry fields or click-able and zoom-able maps. The website database is to be a copy of the core system so as to remove possibility of corrupting the primary data source. Bidders should include the cost of developing and/or customising the web interface in association with GW's PT branding project. The website is not to lose any of its current functionality. [**Chapman Tripp comment: are there any particularly important features which could be specified in advance?**]

- Printed timetable material for publication by GW, using the new system interfacing with standard desk top publishing software.

- Desirably, users of palm pilots, cell phones and other personal mobile devices should also be able to access timetable data. [**Chapman Tripp comment: do you mean via the web-surfing capabilities of these devices, or other means? eg text message queries (for cellphones) or download-able databases (for palm pilots). GW should decide whether this is necessary or optional only. Also, access via mobile devices may not be something in the control of the bidder, and may depend instead on the capabilities of the particular model of phone/palm pilot**]. [**Steve Moate comment: why limit the supplier to any particular method. I would say if not available in current release then bidders need to show a development path and timetable.**]

Bidders are invited to comment on whether the interrogation channel for GW will be on PCs in the office or through GW's intranet, and free standing or linked to the system, and how changes to the live system will be guaranteed to be incorporated into the offline copies.

The website needs to have at least the same level of functionality as the current systems in use by GW [**Chapman Tripp note: need to specify any particularly important features?**]. In particular, users will need to be able to get quick access to route timetables as they do now (rather than only through the Journey Planner function as is the case on the Auckland Regional Council "Rideline" site, for example).

Bidders are required to demonstrate their own web-based outputs and offer commentary on the degree of work required to amend this to feature GW graphics. They should also indicate the migration path to the new site (eg, periods of parallel running).

Bidders should indicate which assumptions are made about who will design the web interface and what resources/access to people will be required.

3.2.2 Defined outputs

In Table 1 on the following tables, the outputs to be provided by the system are defined in the second column in answer to the question posed in the left hand column. The channels by which the question may be posed are presented in the third column. The fourth column is for bidders to indicate whether or not their system offers this particular feature and if so, the extent of any customisation which may be required in order to comply fully, with associated cost implications.

Rows shaded in red relate to Stage 2 – the journey planner.

Table 2 poses a further series of questions to be answered with respect to both required and optional features.

In documenting how they are to deliver a system offering the identified outputs bidders should, where appropriate, demonstrate graphically the form the outputs would take.

Table 1: Required system outputs

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
1	Show me the timetable for route x.	Clickable list of all routes with access to full timetable by day of week and direction (as in current GW website – "Select a train, bus route or other service")	WWW and call centre.	
2	Show me the timetable for all buses between "a" and "b" (ie, all buses on all routes linking two points (or a defined subset of all routes))	Composite timetable, clickable by day of week and direction, sorted by time.	WWW and call centre.	
3	What time is the next bus on route x from point y on day z (week-day/Sat/Sun or date) (including between specified times of the day only)	Timetable for the requested route for the appropriate time of day and day of week.	WWW and call centre.	

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
4	Show me a list of all bus stops in Suburb X.	Map of suburb and list of all stops; click on any stop for a list of routes serving that stop (click further to timetable for a particular route) or click for a list of all services past that stop in time order, showing route number, destination, via points, etc.	WWW and call centre.	
5	Where is my nearest bus stop and what routes service it on day z at time x?	Map showing location of the person and the nearest bus stops with list showing routes that service at time x on day z, and for a defined period (eg, one hour) afterwards.	WWW and call centre.	
6	My nearest bus stop is at [LOCATION]/is number 9999. I would like a copy of the timetable for all buses serving that stop.	List showing numbered bus routes (composite timetables) running from point y on day z at time x, with destinations and "via" points clearly documented.	Timetable displays for individual bus stops, able to be printed in-house for display at the bus stop, and for mailing to call centre customers. Also able to printed from the WWW. See Example 2 on page 17 for required fields.	

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
7	When is there a bus to Y, leaving to 19:30?	Timetable information available in both 24 hour and 12 clock.	WWW, call centre and printed timetables.	
7a	When is there a bus that will get me to Y before 19:30 from Z?	Timetable information available in both 24 hour and 12 clock.	WWW, call centre and printed timetables.	
8	Is the bus I want to use wheelchair accessible and/or super-low-floor (or any other specific vehicle type)?	Timetable output shows whether or not a particular trip is operated by a particular type of vehicle; this variable able to be specified at the start of enquiry.	WWW and call centre.	
8	How do I get from point A to point B at time x on day Z (weekday/Sat/Sun or date, or both)?	Graphical and list output showing route options linking point A and point B with changes of mode clearly described, and times on day Z at time x. To include walk sectors.	WWW and call centre.	
9	What is the fare between point A and point B	Calculated fare describing appropriate ticketing product for each option.	WWW and call centre.	

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
10	What is the effect of adding a new route to the system?	Changes in vehicle kilometres, vehicle hours and fleet requirement (and contract payments?). Plot routes using GIS, selecting bus stops and allowing for traffic management constraints (eg, one-way streets, restricted turns, etc). Attach/develop an associated timetable to the route.	Intranet or internal PC.	
11	The effect of altering an existing route in the system? Eg, moving a particular stop from one street to another to accommodate a new traffic management scheme.	Changes in vehicle kms, vehicle hours and fleet requirement (and subsidy payments?). Plot routes using GIS, selecting bus stops and allowing for traffic management constraints (eg, one-way streets, restricted turns, etc). Attach/develop an associated timetable to the route.	Intranet or internal PC.	

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
12	What trips are included in contract number "A" on day Z?	List of trips for contract number A on day Z in time order By route/by area	Intranet or internal PC.	
13	What trips are included in commercial registration "B" on day Z?	List of trips for commercial registration number B on day Z in time order	Intranet or internal PC.	
14	Which contracts expire on date D?	List of contracts expiring on date D.	Intranet or internal PC.	
15	What are the trips operated by operator O and which are contracted or commercial?	List of trips by day of week, in chronological order, for operator O documenting whether or not commercial or contract registration	Intranet or internal PC.	
16	What is the length of route x?	Length of route x in kms.	Intranet or internal PC.	
17	What is the frequency on route x by time of day and day of week?	Frequency in minutes for route x by time of day and day of week	Intranet or internal PC.	

	Question	Required output from system	Interrogation channel	Able to comply? No, Yes or Yes with customisation
18	When was time x bus from point A to point B changed from time y?	Date that time x bus from point A to point B was changed from time y. History of changes	Intranet or internal PC.	
19	How has the timetable for route x changed?	Printout of all timetables applying to a particular route, showing dates between which each timetable was valid.	Intranet or internal PC.	
20	What was the timetable for route x on date D by time of day and day of week?	Timetable for route x on date D by time of day and day of week.	Intranet or internal PC.	
21	What is the spacing of bus stops on route x between a and b?	List of bus stops between two points, with incremental and cumulative distances between stops.	Intranet or internal PC.	

Table 2: Other System Outputs and Questions to be Addressed

As with the tables above, answers to the following questions may be "yes", "no" or "yes with customisation", in which case bidders may wish to indicate the likely extent and cost of any customisation work.

	Question	Able to comply? No/Yes/ Yes with customisation
22	Will it be possible for WWW users to print out maps for individual routes, identifying such features as roads and streets traversed, intersecting streets, landmarks, bus stops and fare boundaries?	
23	Will it be possible to print out maps of "bus routes from this stop" for display at bus stops?	
24	Will it be possible for users to access both the current timetable for a route and a timetable which comes into effect at a defined future date? Will it be possible to define in map form the area within, say, 400 metres of one or more bus stops?	

	Question	Able to comply? No/Yes/ Yes with customisation
25	Will it be possible to list stops by each of the following fields? • Sub-region or City/District (territorial local authority (TLA) area • Suburb • Road or Street in which the stop is located • Nearest intersecting road or street or landmark • Stop Name (which may be the preceding field by default) • Stop Number • Direction – for example, inbound, outbound, northbound, southbound. • Type, condition and capacity of shelter, if any. • Type of information display, if any. See Example 2 below. [**Chapman Tripp comment: clarify what these "examples" are, and what status they have**]	

	Question	Able to comply? No/Yes/ Yes with customisation
26	Will it be possible to display "via" information in timetables outputs, as in Example 3?	
27	Will it be possible to display outputs in both 24-hour and 12-hour clock format? Will website users be able to make this choice?	
28	What will be the hardware requirements for the system?	
29	What on-going IT resources will GW need to commit in order to support the system?	
30	What training/support will be available in the event of a product upgrade? [**Chapman Tripp comment: much more detail could be asked for here – eg costs of scheduled upgrades, any customisations necessary, prices.**]	
	How will ongoing operational support be provided: • Neeval consultant • Hours of telephone support • Web knowledge ……. • User forum/discussion lists	
31	Is it possible for a route to be denoted alpha numerically (eg, A1, B2, X3, 1X, 2X, etc)? If so, what order are such routes able to be sorted in (eg, 1, 1A, 1B, 2, 2X, 3, 4, etc)?	

	Question	Able to comply? No/Yes/ Yes with customisation
32	How will data be entered in labour saving ways into the new scenario timetables using methods and routines that would avoid having to enter the data for every stop and section (eg, using commands such as "every 15 minutes until…")?	
33	Will it be possible to interrogate the system using key landmarks or points as reference, as with the current GW website? Will it be possible to add new landmarks and reference points such as schools, hospitals, universities, sports grounds and hotels?	
34	Will the database be able to grant different levels of access to GW staff – read, read/write, etc? Will it be possible to duplicate all real data to allow planning scenarios to be tested and evaluated?	
35	Will it be possible for the database to generate EMME II input files for transport modelling purposes?	
36	Will it be possible to log complaints, and if so, what features will that facility have?	
37	Will it be possible for timetable changes to be automatically emailed to users who have registered their interest?	
38	Will it be possible for website customers to view street maps on-line to identify bus stops in relation to streets and landmarks?	

	Question	Able to comply? No/Yes/ Yes with customisation
39	Computer Integrated Telephony Will it be possible for call centre terminals to be integrated into the phone system to provide predictive timetable pop ups based on the caller identification number? (eg, an in-coming call originating from the Kelburn exchange would pop up short cuts to all timetables going through Kelburn). If so, what response times would be achievable?	
40	Fax back and automated phone response Will it be possible for a caller to be prompted to enter their fax number and the bus route number of the timetable they require, resulting in a fax being sent to that number with the route timetable? Or The caller is prompted for a route number and a time which results in a relevant section of timetable being synthetically read out, or sent as a text message.	

Example 1:

Click "Miramar" in the "Select a Place" box and this is the result:

The following bus routes serve the place you have selected.

2 : Miramar via Hataitai Bus Tunnel and Kilbirnie
18 : Karori Park – Victoria Uni – Massey Uni – Miramar
27 : Miramar Heights via Hataitai Bus Tunnel
31 : Miramar North Express
42 : Miramar Heights via Newtown
43 : Strathmore - City – Khandallah via Ngaio Gorge
44 : Strathmore - City – Khandallah via Homebush Road

Example 2:

Stop No.	TLA	Suburb	Street	Landmark	Stop Name	Direction
1111	Wellington	Miramar	Caledonia Street	Calabar Road	Calabar Road	OUT
1113	Wellington	Miramar	Caledonia Street	Hobart Street	Caledonia Street Shops	OUT
1115	Wellington	Miramar	Hobart Street	Kedah Street	Hobart Street Flats	OUT
1117	Wellington	Strathmore	Broadway	Miramar Junction	Miramar Junction	OUT
1119	Wellington	Strathmore	Broadway	Crawford Green	Crawford Green	OUT
1121	Wellington	Strathmore	Broadway	Scots College	Scots College	OUT
1123	Wellington	Strathmore	Broadway	Strathmore Shops	Strathmore Shops	OUT
1125	Wellington	Strathmore	Broadway	Tio Tio Road	Tio Tio Road	OUT
1127	Wellington	Strathmore	Broadway	Cavendish Square	Cavendish Square	OUT
1129	Wellington	Seatoun	Ferry Street	Ludlam Street	Seatoun Tunnel	OUT
1131	Wellington	Seatoun	Dundas Street	Falkirk Street	Seatoun Village	OUT

Example 3:

Time	Route	Destination	Via
7:30	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
8:00	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
8:20	2	Miramar	Courtenay Place, Hataitai, Kilbirnie, Caledonia Street
8:30	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
8:55	2	Miramar	Courtenay Place, Hataitai, Kilbirnie, Caledonia Street
9:00	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
9:30	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
9:30	2	Miramar	Courtenay Place, Hataitai, Kilbirnie, Caledonia Street
9:50	2	Miramar	Courtenay Place, Hataitai, Kilbirnie, Caledonia Street
10:00	1	Island Bay	Courtenay Place, Basin Reserve, Wellington Hospital, Berhampore
10:10	2	Miramar	Courtenay Place, Hataitai, Kilbirnie, Caledonia Street