greater WELLINGTON
REGIONAL COUNCIL

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Real Time Information

1. Purpose

To inform the Committee of progress with the Greater Wellington real time information project. The results of the real time information business case and the stakeholder consultation are presented and steps for the further development of the project are recommended. Approval to move to the tender preparation stage is sought.

2. Significance of the decision

The matters for decision in this report **do not** trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

A real time information system has long been identified by Greater Wellington, as well as passengers and operators, as something that is needed in Wellington.

A real time information system is part of the Greater Wellington Long-term Council Community Plan (LTCCP) for 2006-16 as one of the measures to increase public transport patronage. The LTCCP also provides funding for a real time system. The project is also included in the 10 year Regional Transport Programme.

A report on the Greater Wellington real time information project (**Report 07.280**) was presented to the Committee at its meeting on 15 May 2007. The Committee decided to proceed with stakeholder consultation and prepare a business case for the introduction of a system in Wellington. The results of the business case and stakeholder consultation are reported on in this paper.

Attachment 1 provides background information about real time information. Relevant Greater Wellington policy and feedback from the public can be found in **Attachment 2**.

4. The real time information business case

Consultants MWH were engaged to develop a real time information business case for Greater Wellington. The business case contains the following elements:

- **Market research**: to examine existing real time information systems elsewhere in NZ and internationally
- **Literature research**: learning from best practices around the world
- **General system description**: a basic real time information system and possible add-ons are described
- **Wellington network analysis**: The region specifics are listed as well as their influence on the choice for a real time information system. An analysis of Wellington's geography (mountains, tunnels), intersections, and traffic flows is included
- **Benefits** of real time information for different groups are described and wherever possible quantified
- **Costs**: different options have been priced, based on the information received from the suppliers
- **Cost-benefit analysis**: the Benefit Cost Ratio for different options is calculated
- **Risks**: a risk assessment is undertaken and advice is given how to mitigate these risks
- A **system for Wellington and an implementation strategy** are recommended. The implementation strategy includes provision of a trial, stakeholder participation, finances and a description of the implementation phases.

All chapters of the business case have been discussed with the main stakeholders (represented in the Real Time Information Advisory Group) and their feedback has been incorporated into the business case.

4.1 The recommended system

The system recommended by MWH:

- covers the entire Greater Wellington region. This includes 500 buses and 65 trains
- uses two different types of on-street displays - 250 Type I displays (high visibility, high functionality, higher costs) and 100 Type II displays (lower visibility, lower functionality, lower costs) are recommended

- comprises a SMS tool (based on the existing Metlink txtBUS system)
- comprises a real time information journey planner
- includes traffic signal pre-emption
- includes 75 on-bus displays (with next stop information)
- includes a reporting tool for monitoring, planning and reporting purposes.

No recommendations are given regarding a preferred communication system. There are different options (radio, GPRS[1], broadband) and MWH recommends that the choice should be left to the supplier.

The costs of the recommended system are estimated at **$12.8m** for capital expenditures and **$2.2m** for ongoing operational costs (per year). These amounts include a 20% contingency. A conservative approach has been taken with the costing, and they are likely to be overstated rather than underestimated.

Further information on the business case, including more detail of the costs, are presented below. Additional details are given in the **Attachments 3-7**. A full copy of the MWH report is available to committee members on request.

The arguments for the recommended option are set out below.

4.1.1 Recommended scope of the system

The entire Greater Wellington region be included in the real time information system. This includes 500 buses and 65 trains.

The entire region is recommended by MWH to be included in the system.

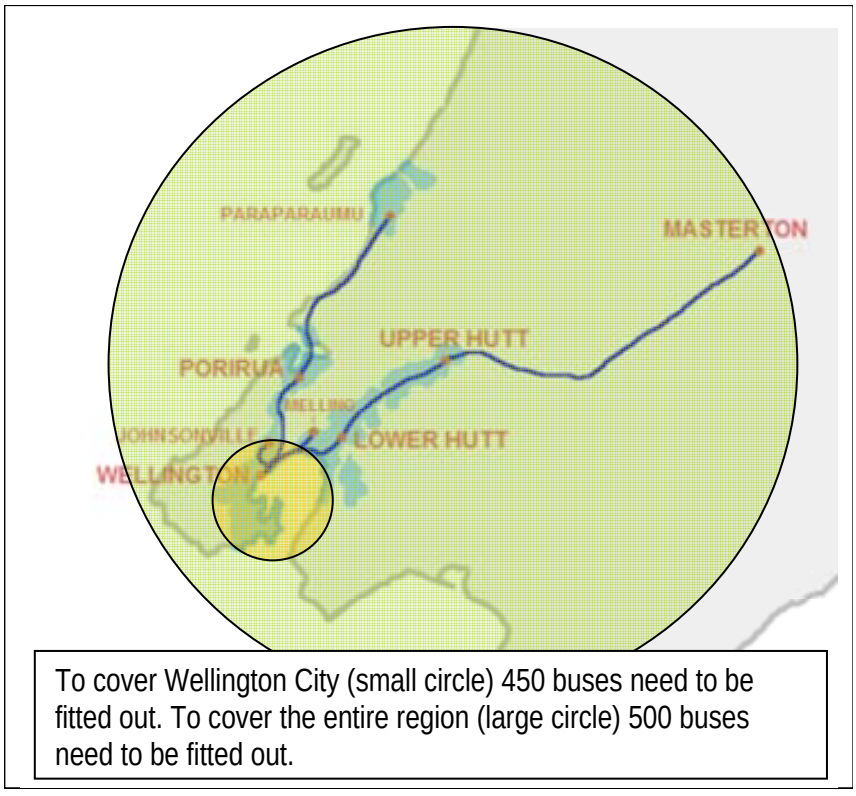
A number of alternatives were investigated, including a Wellington City only system, a Wellington/Lower Hutt system, and a Wellington/Hutt Valley system. These were not recommended because most of the buses (90%) in the Greater Wellington region operate at some stage in Wellington City (only 50 of the regions 500 buses are not scheduled to operate in Wellington City). Operators tend to swap buses between routes and depots on a regular basis. If not all buses are equipped this would increase the chance of unfitted buses operating on routes that are presumed to be tracked. It makes sense therefore to fit the additional 10% of the buses to allow all passengers in the region to benefit from real time information.

The extra cost for fitting the buses is more than compensated by the extra benefits (every bus unit costs $6,000, which means for an investment of $300,000 extra the whole region can benefit from real time information rather than Wellington City only). Figure 1 below highlights the issue.

[1] GPRS stands for General Packet Radio Service and is a standard wireless communications.

For each of the geographical option, a further option of either bus only, or bus and train, were considered.

The recommended option includes trains because train passengers will also benefit from the real time information system. Whereas the bus system benefits mostly from signal pre-emption, the train system will benefit from improving the quality of intermodal journeys. And the extra costs of equipping trains are relatively low - the costs for equipping the train part of the system (65 vehicles and 50 stations) will cost about $ 1.2m. This is about 10% of the total capital project costs and it will deliver real time information for approximately one-third of all trips made in the Greater Wellington region.



To cover Wellington City (small circle) 450 buses need to be fitted out. To cover the entire region (large circle) 500 buses need to be fitted out.

Figure 1: Coverage by fitted bus fleet

4.1.2 On-street displays

250 Type I on-street displays ($15,000 per unit) and 100 Type II displays ($8,000) be installed. This will cover about 13% of all bus stops in the region. All displays will have an audio feature.

The number of displays required depends on the geographical coverage of the system, and whether or not trains are included. In calculating the number of displays required, it was assumed the real time system would be region wide coverage, and include bus and train.

The following parameters were used to calculate the approximate number of Type I displays (high visibility, high functionality, higher costs) necessary to cover the entire Greater Wellington region:

- All train stations (at least one display at each platform)
- All major hubs
- All major inbound stops on arterial routes
- Some major outbound stops on arterial routes
- Stops close to hospitals, shopping centres, universities etc.

These criteria indicate 250 Type I displays are required. **Attachment 5** shows the approximate locations of the Type I displays. In the next phase of the project (tender preparation) more investigation will be undertaken as to the exact location of on-street displays.

The map in Attachment 5 shows that, after (roughly) determining the locations for the Type I displays, the Greater Wellington region is not evenly covered. Areas in the western suburbs of Wellington City, Miramar, Upper Hutt, Wainuiomata and the Wairarapa have a low density of Type I displays. MWH therefore recommended installing additional cheaper, less visual Type II displays at these and other similar locations. 100 Type II displays will be sufficient to ensure good coverage throughout the whole region.

All displays should be equipped with audio buttons to cater for the visually impaired.

4.1.3 Add-ons

MWH recommend the following add-ons to the system:

- **a SMS tool (based on the existing Metlink txtBUS system)**
- **a website (using the existing Metlink journey planner)**
- **traffic signal pre-emption**
- **on-bus displays (with next stop information) for 75 buses**
- **a reporting tool.**

The **SMS tool**, the **website** and the **signal pre-emption** deliver high benefits for relatively low costs. Making the real time information available for the existing Metlink tools (txtBUS and internet journey planner) will cost $70,000 each. This is low considering the amount of customers that can access the information. The quality of txtBUS and the journey planner information will greatly improve with the real time information.

Traffic signal pre-emption will help to improve the reliability of the public transport network, because it will give priority to delayed buses at intersections. It is estimated that 10 seconds per intersection can be gained. Most of the routes in Wellington pass at least 20 intersections on every trip. Main routes such as route 1 or 3 pass 27 and 41 intersections respectively,

which gives a potential travel time savings of 4:30 minutes and 6:50 minutes respectively per trip (if the bus gets priority at every intersection). This will probably be even more if Wellington City Council implements its proposed bus priority measures.

An analysis of the intersections in Wellington suggests 80 intersections in Wellington should be connected to the real time information system.

Traffic signal pre-emption is a very cost effective measure, because the set-up costs are very low ($500 per intersection), as are the ongoing communication costs (estimated at $40 per intersection per year).

On-bus displays (including audio announcements) are recommended by MWH for buses that either run long routes or services that are regularly used by tourists and occasional users. Not knowing which stop you are at and where you have to leave the bus is an important reason for not using public transport. This is especially true for occasional public transport users, foreigners, elderly and visually impaired people.

All the new trains will be equipped with next stop displays, and the Wairarapa carriages already have this feature. MWH recommend that 75 buses have the on-bus displays. This number is based on the number of buses that predominantly run services used by occasional users or travel longer distances (e.g. the Eastbourne express services). If an unlimited budget was available it would be recommended to equip all buses, which is standard in various cities around the world that have high public transport usage. The 75 buses are a compromise between costs ($8,000 per bus) and benefits. Additional signs can be added at a later date.

The **reporting tool** is essential to deliver benefits for operators and Greater Wellington. The information gained from this tool will be used for operational, planning, monitoring and reporting purposes.

4.1.4 Communication system

MWH recommend enabling potential suppliers to develop their own proposal regarding a communication system.

Rather than specify a communication system, MWH recommend allowing suppliers to adopt the solution that best fits their system. Minimal standards will be included in the tender covering the quality of the communication, especially regarding the coverage within the region. Within these standards the best and most cost effective option will be assessed. The bottom-line for Greater Wellington is that the system performs properly and delivers good value for money.

Although MWH does not recommend a communication system it had to assume a particular system within the business case for costing purposes. For the costing MWH assumes that the system will use GPRS.

4.2 Benefits of a real time information system

MWH identified the main beneficiaries of a real time information system as:

- Public transport users
- Greater Wellington Regional Council and local authorities
- Public transport operators

The benefits can be divided into quantifiable and non quantifiable benefits. To quantify the benefits MWH followed the Land Transport NZ guidelines as described in Land Transport's Economic Evaluation Manual. This manual is mainly used to evaluate roading projects and does not quantify all benefits which can be generated by a public transport project. This means that the benefits are underestimated. It should also be kept in mind that a lot of the benefits will apply to more than one stakeholder group.

More detailed information regarding the benefits is set out below, and provided in **Attachment 3**.

4.2.1 Benefits for public transport users

The main benefit of a real time information system for public transport users is the delivery of accurate information about arrival and departure times and the consequential improvement in the (perceived) reliability of the transport network. This information can be gained via different sources. Accurate information is especially crucial if the public transport network itself lacks punctuality.

These benefits have been calculated on a very conservative basis by MWH to be **$1.7m** per year.

A real time information system can also be linked to a bus priority system, which gives priority at intersections to delayed buses. This increases the travel time reliability of buses and thereby the level of service for users.

These benefits have been calculated at **$1.5m** per year.

4.2.2 Benefits for Greater Wellington/local authorities

The business case predicts an increase in public transport patronage due to the real time information system. This increase has been calculated by MWH to lead to extra revenue of **$0.5m** in the first year, increasing per year thereafter.

Greater Wellington will also be able to use the information gained for service planning, and to monitor the fulfilment of the contracts with the operators. Key performance indicators regarding punctuality and reliability can be monitored much more precisely than at the moment.

Local authorities benefit from improved traffic flows from the traffic signal pre-emption (which benefits all vehicles and not just buses).

4.2.3 Benefits for operators

Many of the benefits mentioned above apply to the operators as well. In addition, operators can use the information for operational, planning, monitoring and reporting purposes. Real time information will help them to react quicker to incidents, to recognize timetable issues earlier and solve them in a sustainable way.

4.2.4 Summary quantifiable benefits

The table below shows the net present value of the quantifiable benefits Land Transport NZ takes into consideration for economic evaluation purposes. They are based on a 10% discount rate over a 25 year period:

Benefit	Net Present Value Benefits
Real Time Information for passengers	$ 20.8m
Increased patronage	$ 1.1m
Efficiency savings from signal pre-emption	$ 15.7m
Total	$ 37.6 m

4.3 Costs

4.3.1 Recommended system

In order to price a real time information system for the Wellington region seven national and international suppliers were asked to price (components of) a real time information system. These prices were then averaged to obtain a unit price for each component of the system.

Based on this average unit price, the total costs for the recommended system as described in 4.1 of this report are as follows:

Total capital costs	Total annual operational costs	Net Present Value
$12.8m	$2.2m	$29.7m

The table shows the capital costs of the recommended system are $12.8m, with ongoing operational costs of $2.2m per year. As with the benefits, a conservative approach has been taken with the costing, and they are likely to be overstated rather than understated. There is likely to be substantial competition for this contract, which will keep costs down.

The net present value for the costs is based on a 25 year period.

4.3.2 Other options

The costs per item and the costs for three other options which were evaluated by MWH are given in **Attachment 6**. These other options are also region-wide options with all the add-ons discussed above. The options only differ in the number and type of on-street displays. The price of these options ranges from $9.4m ($1.8m annual operating costs) for a system with 150 on-street displays, to $17m ($2.8m operating costs) for 500 displays.

Lesser (and greater) cost options are also available. A real time system is a modular system that comprises a base (the central computer system costing close to $1m) plus various add-ons (such as the vehicles and on-street displays). The cost of the system is determined by the number of the add-ons. The system can be simple, for example operating in Wellington City only, with only buses included, and relatively few displays (which can be added to over the years), or it can be more comprehensive.

The more comprehensive the system is, the more it will cost. For example, a system with 500 buses (no trains) in Wellington City only, and 40 Type I displays would cost $5m ($1.3m annual operating costs). Virtually any combination is available, each with its own cost.

The size of the system does not only influence the capital costs but also the ongoing operational costs. The more on-street displays, for example, the more the ongoing operating costs (maintenance, spares and communication costs). Ongoing costs can also be influenced through the type of the communication contract e.g. one that is based on costs per vehicle or display rather than the amount of data sent. And an emphasis on low maintenance costs can be an important criterion in the tender process.

All costs include a 20% contingency according to the Land Transport NZ guidelines, as described in 4.4 below.

4.3.3 Cost distribution

Figure 2 below gives an indication of the cost distribution (for capital costs) of different parts of the recommended system, and highlights the impact of each component on the cost of the system.

Figure 2 shows that the on-vehicle equipment comprises 32% of the total capital costs. The on-street displays are the most expensive part of the system and account for 43% of the costs. The signal pre-emption, the web application and the SMS tool are relatively inexpensive. The costs of the central computer are included in the “project development” category.

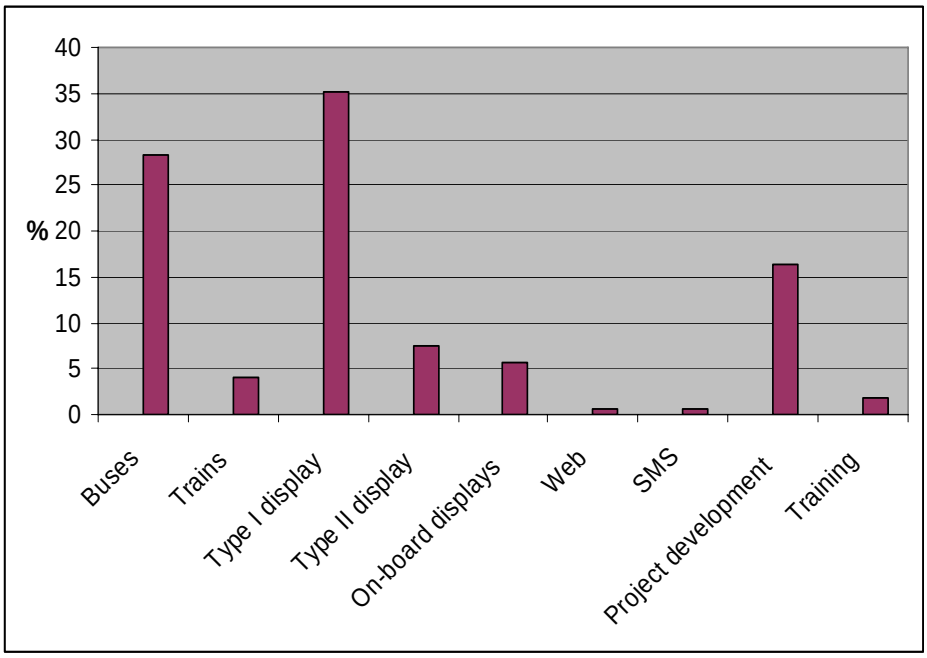


Figure 2: Costs distribution for capital expenditure of the recommended system

Figure 3 below shows the cost distribution for the operational costs of the recommended option. The operational costs will vary depending on the communication system used and the number and type of on-street displays. For the business case MWH has assumed a GPRS based system, and 250 Type I and 100 Type II displays.

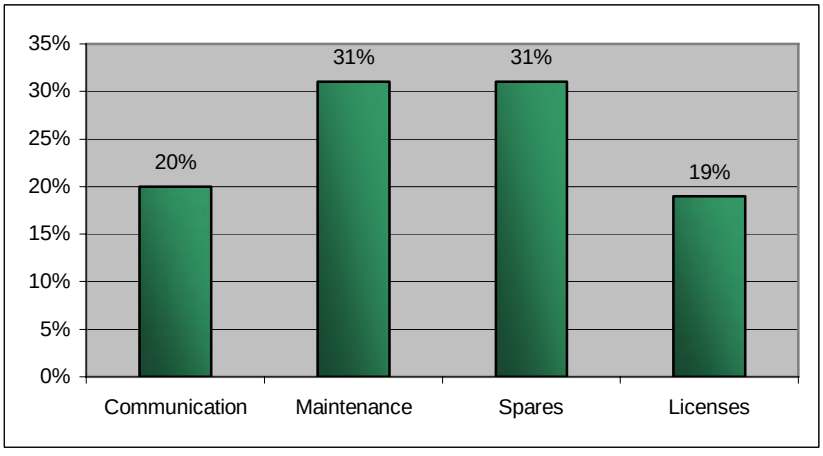


Figure 3: Cost distribution operational expenditure (GPRS based system)

Maintenance and spares make up the majority of ongoing operational costs (and the number of on-street displays will influence the level of these costs).

Because the implementation of the system is proposed to be undertaken in stages, the full operational costs per year will only commence after the whole project is implemented (see section 5 below for the implementation strategy).

4.4 Risks

MWH undertook a thorough risk assessment of the most significant risks associated with the project. MWH also recommend a mitigation strategy for the assessed risks. More background information about the risk assessment can be found in **Attachment 4**.

The only risk that has been assessed as **high** is the (under)performance of the system supplier. This risk can be mitigated through strict contractual specifications and should be taken into account when preparing the tender documents for the project.

The average risk factor for all risks is assessed as 0.09, which indicates a **moderate** overall project risk.

Based on the quantification of the overall project risk MWH built in a 20% contingency for all costs associated with the project. This percentage complies with the Land Transport NZ requirements for a moderate risk information technology project. As Land Transport NZ advises a contingency of between 15% and 20%, the chosen 20% contingency is conservative.

4.5 Benefit-cost ratio

The Benefit Cost Ratio (BCR) for the recommended system is **1.3**. This BCR would be low for a roading project but is a good outcome for a public transport project as:

- The BCR calculated by MWH is based on conservative assumptions regarding the quantifiable benefits
- The Land Transport NZ Economic Evaluation Manual is mainly used to evaluate roading projects and does not quantify all benefits which can be generated by a public transport project. Benefits such as social inclusion or social safety are not able to be included, but are important for a public transport system and its users
- The benefits from signal pre-emption will be higher if Wellington City Council implements its proposed bus priority measures and/or if other territorial authorities implement a SCATS[2] system (which is currently being investigated at Hutt City Council). SCATS is required for signal pre-emption
- Another factor that would increase the BCR is the possible cost sharing with operators or other stakeholders.

A comparison of the net present value of quantifiable benefits and costs for the period of 25 years is shown below:

[2] SCATS (Sydney co-ordinated adaptive traffic system) a traffic control system

Net Present Value Benefits	Net Present Value Costs
$37.6m	$29.7m

As indicated above, many of the system benefits which can be gained from a real time information system are not included because they don't fit within the Land Transport NZ guidelines.

5. Implementation strategy

MWH recommend the implementation of the real time information system to be divided into three stages:

- Tendering (preparation and execution of the tender)
- Trial
- Roll-out

The different stages are explained below more in detail.

5.1 Tender preparation and execution

In this stage the more detailed specification for the project will be developed, based on the decisions made by this Committee. This stage also involves detailed consultation with the main stakeholders. During this phase Greater Wellington will also formally apply to Land Transport NZ for funding.

More detailed information is needed in order to be able to make the final system decisions, including:

- the roles and responsibilities of stakeholders (who will pay what, and who is responsible for what parts of the system etc.)
- legal aspects (what will the contracts with suppliers and other stakeholders look like etc.)
- the tender procedure (what is the detailed tender process, what are the evaluation criteria etc.).

After the tender documentation has been finalized the system will be tendered. The tenders will then be evaluated by an evaluation team and a preferred supplier will be determined. This stage is expected to take 9 months.

5.2 Trial

Real time information systems are complex information technology systems. A trial is necessary to test the system on a train line and a bus route before the roll-out in the entire region. Consideration has to be given to determine which routes should be used as trial routes. The final choice will have to be made in co-operation with the operators and the preferred supplier.

During the trial the real time information will not be made available to the public. The trial is primarily to test the hardware and software of the supplier and address other issues such as communication.

The trial stage is expected to take 6 months.

5.3 Roll-out

MWH recommend implementing the system in stages, allowing sufficient time for testing all parts during the roll-out. The real time information given to the public has to be accurate and reliable right from the beginning, as it is very difficult to win back trust in the system once the users think it is unreliable.

The complete roll-out, as recommended by MWH, would take approximately 22 month after a successful trial. The detailed roll-out strategy will have to be discussed with the supplier. The following figure gives a timeline for the implementation of the system:

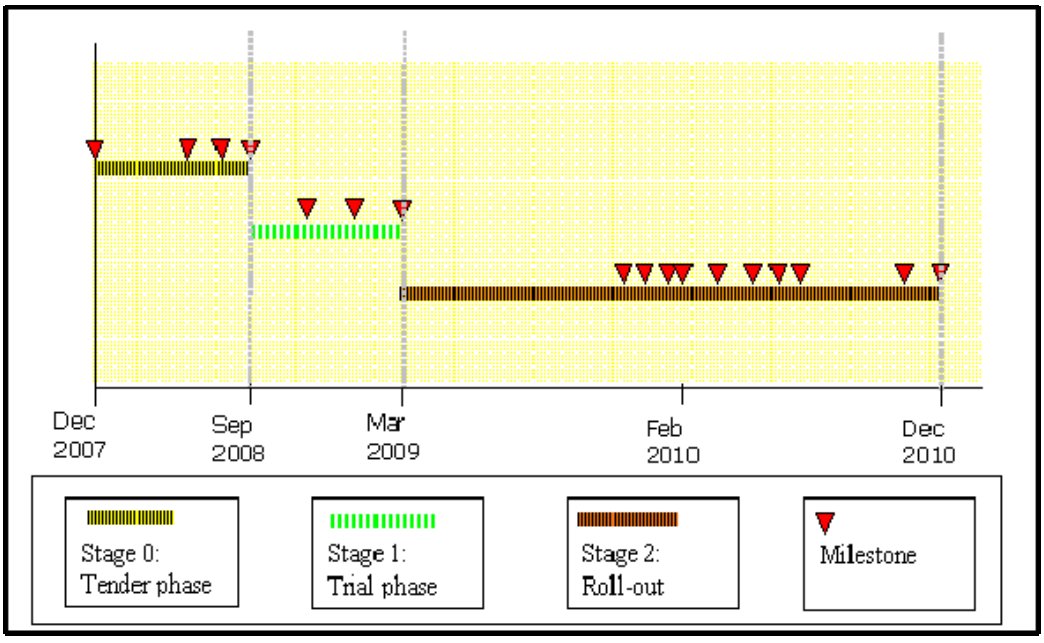


Figure 4: Implementation timetable

Following the recommended implementation strategy means that a complete regional real time information system would be up and running by the end of 2010. Parts of the system, like the SMS tool and the real time journey planner, will be available to the public by the end of 2009. All buses will have been equipped by then, and only the installation of the on-street displays, and the trains, will remain to be completed. The train part of the system would be implemented in 2010, to coincide with the arrival of the new trains.

More detailed information about the implementation strategy can be found in **Attachment 7**.

6. Stakeholder issues

6.1 Stakeholder consultation

Throughout the whole project officers have had frequent discussions with the main stakeholders. This has happened on a one-to-one basis and within the Real Time Information Advisory Group.

The following stakeholders were represented in the Advisory Group:

- public transport users, including the Wellington City Council Disability Reference Group and the Foundation of the Blind
- public transport operators (NZ Bus, Mana/Newlands, Tranz Metro)
- local territorial authorities (Wellington City Council)
- Greater Wellington (Metlink, Design and Development)
- Land Transport NZ.

The stakeholders recognize the benefits of a real time information system and are keen to participate in the next phase of the project. Letters of support from Tranz Metro, Wellington City Council, the Association of Blind Citizens of New Zealand, and the CCS Disability Action group are attached to this report in **Attachment 8**.

6.2 Stakeholder roles and responsibilities within the project

One important lesson learned from national and international real time information projects is that the roles and responsibilities of the various stakeholders have to be defined precisely before the implementation of a system. Ownership of (parts of) the system and responsibilities, for example, for maintenance, are fundamental questions and these will be addressed during the tendering phase.

Financial contribution from stakeholders also needs to be considered. Other real time information systems have received financial contribution from operators and/or local councils. The option of co-funding will be investigated in the next phase of the project. But it is important that Greater Wellington stay in control during the whole project.

7. Funding

Existing real time information systems in New Zealand (in Auckland, Christchurch, Hamilton) were funded from different sources, depending on the region and the 'history' of the project.

The main potential funding sources for the Greater Wellington system are discussed below.

7.1 Capital costs

7.1.1 Land Transport NZ

Land Transport NZ usually funds 50% of the costs for bus projects (or the bus share of intermodal projects) and 60% for rail projects (or the rail share of intermodal projects). There is also additional C-funding available (probably another 25% for bus and 30% for rail). This means the Land Transport NZ funding of capital costs could be 90% for the rail part and 75% of the bus part of the project.

Initial discussions have been held with Land Transport NZ regarding funding, and an application timetable and process has been agreed.

7.1.2 Greater Wellington

Greater Wellington has included project expenditure for real time information in its LTCCP 2006/16. The total projected budget in the LTCCP was **$7.9m** for capital expenditure (this projected expenditure was based on estimates available at the time the LTCCP was put together). The expenditure is also included in the 10 year Regional Transport Programme.

Based on the costs of the recommended system **($12.8**m), and assuming Land Transport NZ funds 75% of the capital expenditure of the whole project cost, the consequences for the transport rate would be:

	2008/09	2009/10	2010/11	2011/12 onwards
Rates on capital expenditure (debt funded over 10 years)	$91,000	$286,000	$439,000	$488,000

As indicated above it is possible that the Land Transport NZ share will be higher than the assumed 75%.

Because the cost of the recommended system is higher than the cost included in the LTCCP, the rating impact is also higher than included in the LTCCP (by approximately $200,000 per year).

During the last months another option for funding capital costs of regional public transport projects has arisen - the regional fuel tax. At this stage details of how this tax may be utilised have yet to be finalised by Parliament. This funding option will however be further investigated in the next phase of the project.

7.2 Operational costs

The annual operating costs of the recommended system have been estimated at **$2.2m**. This does not include the costs of council or operator personnel. Funding for this is discussed below:

7.2.1 Land Transport New Zealand

Land Transport NZ usually funds 50% of ongoing bus operational costs and 60% for rail ongoing costs.

7.2.2 Greater Wellington

Greater Wellington has included on-going operational expenditure of **$13m** over 10 years for real time information in its LTCCP. This projected expenditure was based on estimates available at the time the LTCCP was put together. The expenditure is also included in the 10 year Regional Transport Programme.

As indicated above, the actual level of operating expenditure will depend on a number of factors, but based on the costs of the recommended system ($2.2m per year), and assuming Land Transport NZ funding of 50%, the consequences for the transport rate would be:

	2008/09	2009/10	2010/11	2011/12 onwards
Rates requirement for operational expenditure	$0.314m	$0.785m	$1.079m	$1.108m

As is the case with the capital costs, because the on-going operating cost of the recommended system is higher than those included in the LTCCP, the rating impact is also higher than included in the LTCCP (by approximately $700,000 per year).

Another option for funding the Greater Wellington part of the operational costs is to have the public transport users share in the operational costs of real time. Approximately 3 cents per trip would fund the $2.2m operational costs (based on the current 35 million passenger trips p.a.). Assuming Greater Wellington reaches the Regional Land Transport Strategy target of 50 million passengers by 2016 the share per trip would drop to 2 cents per trip.

7.3 Others

As mentioned earlier, there are other parties that will benefit from a real time information system. They can be seen as potential sources for co-funding. NZ Bus has already offered to fund part of the system. Co-funding will be investigated in the next phase of the project.

7.4 Summary financial implications for Greater Wellington

Assuming that Land Transport NZ funds the project as mentioned above, and that Greater Wellington funds its part of the project via the transport rate, the Greater Wellington share is as follows.

	2008/09	2009/10	2010/11	2011/12 onwards
Rates on capital expenditure (debt funded over 10 years)	$ 91,000	$ 286,000	$ 439,000	$ 488,000
Rates on operational expenditure	$ 314,000	$ 785,000	$1,079,000	$1,108,000
Total	$ 405,000	$1,071,000	$1,508,000	$1,596,000

This does not include the option of using the fuel tax to fund the capital costs or fare increases to fund (parts of) the operational costs.

7.5 Comment

The costs of the recommended system are higher than the costs included in the LTCCP, and that has rating implications. As indicated above, it is possible to implement a smaller system than that recommended, or alternative sources of funding may be available.

The major increase in rates is a result of the higher than anticipated operating costs. As indicated above, it is possible to minimise these (without compromising the integrity if the overall system). It is suggested that means to minimise these costs be investigated as part of the next stage of the project.

In any event, the final costs will not be known until the tender stage, and it is possible to tender on the basis of a maximum cost rather than for a specific system e.g. what can we get for $10m? It is therefore suggested that we proceed to the tender preparation stage.

8. Next steps

If the Committee agrees to move to the next stage of the project, the following further work needs to be undertaken:

- Investigate ways to minimise the ongoing operational costs
- Negotiate roles and responsibilities with stakeholders, including options for financial contribution
- Carry out additional detailed investigation of the exact location of on-street displays, power supply at bus stops and stations, resource consents issues etc.
- Set up a project group and a steering group with internal and external stakeholders
- Prepare the tender documents and tender process
- Prepare the funding application for Land Transport NZ

A report on progress will be made at each meeting of this Committee.

9. Conclusion

The business case prepared by MWH confirms the value of a real time information system for Wellington. The system recommended by MWH will provide a comprehensive region-wide system, and deliver substantial benefits to public transport users, Greater Wellington, and operators.

The costs are also substantial, and the costs will ultimately depend on the size and coverage of the system chosen. Many system options are available, and all can be added to over the years.

The actual costs will be determined through a competitive tender process. That tender process can be based on component costs, and it will be possible to control expenditure, for example, through adding/deleting the number of on-street displays.

The next stage of the project is to finalise the detail of the project, and prepare tender documentation. It is recommended that the Council move to that stage.

10. Communication

No communications are required.

11. Operational Plan

The Operational Plan should be updated to reflect the decisions made at this meeting.

12. Recommendations

That the Committee:

1. ***Receives** the report.*

2. ***Notes** the content of the report.*

3. ***Agrees** to proceed with the project by entering the tender phase and carrying out the described next steps, based on the option recommended in this report.*

4. ***Agrees** to investigate ways to minimise the ongoing operational costs, and report back on this to the next meeting of this Committee.*

5. ***Notes** that the Committee will be kept informed of progress at every Committee meeting.*

Report prepared by:	Report approved by:	Report approved by:
Anke Kole Senior Network Development Advisor	Brian Baxter Manager Design and Development	Wayne Hastie Divisional Manager, Public Transport

Attachment 1: What is real time information?
Attachment 2: Greater Wellington policy on real time information and feedback from the public
Attachment 3: Background information business case
Attachment 4: Risks of a real time information system
Attachment 5: Proposed locations Type I displays (excluding train platform displays)
Attachment 7: Implementation strategy
Attachment 8: Letters of support