



**Australian Government**

---

**Department of Communications,  
Information Technology and the Arts**

# **MOBILE CONNECT**

**Discussion paper**

**November 2005**

## **Contents**

<b>INTRODUCTION</b>	<b>3</b>
Objectives of Mobile Connect	3
Consultation	3
<b>BACKGROUND</b>	<b>5</b>
Terrestrial mobile phone coverage	5
Satellite mobile phone coverage	6
SPSS Review	6
<b>ISSUES</b>	<b>6</b>
Allocation of funding between SPSS and terrestrial mobile coverage	6
Further terrestrial mobile phone coverage	7
Nature of sites	8
<b>PROGRAM PRINCIPLES</b>	<b>9</b>
<b>OPTIONS FOR FUNDING VEHICLES</b>	<b>11</b>
Proposals from state and territory governments	11
Competitive grants program	12
Carrier-focussed competitive tender approach	12
Two-tiered approach (multi-site + single site submissions)	12
<b>ATTACHMENT</b>	<b>14</b>

## INTRODUCTION

On 17 August 2005, the Australian Government announced the *Connect Australia* package which includes funding initiatives totalling \$1.1 billion. Under the Mobile Connect program \$29.5 million will be provided to:

- extend terrestrial mobile phone coverage; and
- continue satellite handset subsidies for more remote areas.

Mobile Connect funding is available over four years: 2005–06 – 2008–09.

### Objectives of Mobile Connect

Mobile Connect is a continuation of the Australian Government's terrestrial and satellite mobile phone initiatives. Under Mobile Connect, terrestrial mobile phone coverage will be extended in smaller regional communities and along highways where a case for strategic location or economic importance can be established, and where services will have ongoing commercial viability.

The Government's objective is to implement a strategic national approach that best meets the social and economic needs of regional Australia in relation to mobile phone coverage. This infrastructure will be funded through contributions from state and territory governments and/or local communities in addition to the Australian Government and carriers.

All parties should recognise that it is not commercially possible to provide terrestrial coverage to all centres of population and along the entire length of all highways.

### Consultation

The Government is seeking comments from interested parties to guide it in the development of the Mobile Connect program. This discussion paper canvasses a range of issues and poses a number of detailed questions. The threshold issues are:

1. How will the Australian Government achieve the greatest benefits from Mobile Connect?
2. How can the Government maximise additional opportunities for terrestrial services arising from changed market structures, co-funding arrangements and linkages with other Australian Government programs?

To allow the timely development and implementation of the initiative, please provide comments or suggestions by **COB AEST Wednesday 18 January 2006**. Please direct responses to:

Ian James  
Manager, Mobile Phone Initiatives Section  
Department of Communications, Information Technology and the Arts  
GPO Box 2154

Canberra ACT 2601

Phone: 02 6271 1744

Fax: 02 6271 1078

Email: [Ian.James@dcita.gov.au](mailto:Ian.James@dcita.gov.au)

The Department of Communications, Information Technology and the Arts will convene a number of discussion forums at various venues across Australia during late November through to mid-December 2005. This will enable interested parties to discuss the issues raised in this paper and the related Broadband Connect and Clever Networks discussion paper, and to raise other matters they may consider relevant.

The Department is currently approaching state and territory agencies to seek their assistance in organisation of venues. Pending finalisation of that process, the tentative schedule for the meetings is as follows:

Week commencing 28 November	Canberra 28 November Sydney 29 November Brisbane 30 November Townsville 1 December
Week commencing 5 December	Melbourne 5 December Hobart 7 December Albury 8 December
Week commencing 12 December	Adelaide 12 December Darwin 14 December Perth 15 December

## BACKGROUND

The Australian Government's broad strategy in recent years has been to:

- support the capital cost of terrestrial mobile phone services where they will be commercially viable in the long term; and
- offer a subsidy for the acquisition of a satellite phone handset for people living or working in areas where terrestrial mobile phone coverage is not available.

### Terrestrial mobile phone coverage

Over the past seven years, Australian Government funding of more than \$145 million has supported the establishment of nearly 1000 new mobile phone towers in regional towns and along highways. The successive funding initiatives were designed to meet particular program objectives and were also tailored to the state of mobile phone infrastructure at the time. Descriptions of previous Government mobile phone coverage programs are **attached**.

In addition to Australian Government funding initiatives, some state and territory governments have made use of their procurement leverage to secure additional mobile phone tower building programs.

The scope for terrestrial services was most recently examined by the Regional Telecommunications Inquiry (RTI). In its November 2002 report, the Estens Committee found that 'under existing industry costs and revenue structures, it would be difficult to extend terrestrial mobile coverage significantly, even with Government support for capital costs'. However it recommended that the Government and carriers should identify areas where extensions were feasible on a capital costs only basis.

To implement the additional funding provided in response to the RTI recommendation, the Government entered into a funding agreement with Telstra which will provide coverage to an additional 62 locations in regional and remote Australia. Once this program is complete, almost all towns in Australia with a population of 310 or more will have some form of mobile phone coverage. In summary:

- 98 per cent of the population is able to receive a mobile phone service where they live or work using either a handheld phone or an in-car kit with external aerial;
- more than 94 per cent of the population has the choice of more than one network;
- there are more than 14 million GSM users nationwide;
- the majority of Telstra's one million CDMA users live or work in regional areas;
- roaming between carriers' networks is technically possible to provide customers with a wider geographic service area, but, in practice, little has occurred. Hence, in the main, a customer of one carrier is limited to the geographic reach of that carrier's network.

## Satellite mobile phone coverage

To meet the needs of those people living or working in areas without terrestrial mobile phone coverage, the Government introduced the Satellite Phone Subsidy Scheme (SPSS). Satellite mobile phone coverage is available to the entire Australian continent.

The SPSS provides a subsidy of up to \$1500 to eligible people who live or work in areas without terrestrial mobile phone coverage, including maritime and aviation users who meet the eligibility criteria. Funding totalling \$6.9 million had been allocated to the SPSS prior to the announcement of the Mobile Connect program. This funding has been largely committed under the program, however demand for the subsidy is still very strong.

### *SPSS Review*

The Department is currently undertaking a review of the SPSS, in part to assess the level of un-met need for satellite phones and determine whether any changes are required to the SPSS to allow it to address this need more effectively. The review will also assess whether the current levels of subsidy available under the Scheme are appropriate, and the likely funding requirements to ensure the Scheme remains operational until the scheduled closure date of 30 June 2009.

#### *Operation of the SPSS*

An extensive round of consultations has already been conducted as part of the SPSS review. However interested parties are invited to provide comments on the operation of the SPSS to date, and on any changes that are considered desirable for the Scheme's operation in the period 2005–06 to 2008–09.

## **ISSUES**

### Allocation of funding between SPSS and terrestrial mobile coverage

A threshold issue in the development of Mobile Connect is the allocation of funding between the satellite and terrestrial mobile phone coverage elements. The decision about the relative levels of funding will be made once the current consultation for Mobile Connect is complete and the SPSS review is finalised.

The review of the SPSS may lead to some refinement of the Scheme, with possible changes to the levels of subsidy and eligibility requirements. In parallel with this, responses to this discussion paper will allow a better picture to emerge of demand for further terrestrial mobile phone infrastructure.

Recent experience with the SPSS shows that there is still strong ongoing demand for subsidies under the Scheme from people living or working in areas outside of current terrestrial mobile coverage.

## Further terrestrial mobile phone coverage

A key consideration is to identify opportunities for further terrestrial mobile phone infrastructure that will be commercially viable for carriers to operate over the next 10 years.

While the most recent mobile initiative is taking terrestrial infrastructure beyond that envisaged at the time of the Estens report, anecdotal evidence suggests that there may now be some opportunities for further coverage. Changing demographic and related factors such as population shifts, increasing domestic tourism and the way in which people now use mobile phones (e.g. in preference to fixed line services) may change market structures and make it more commercially feasible to extend services to new highway segments and or smaller communities.

Technological developments, including the provision of fixed broadband and mobile telecommunications through common infrastructure and the development of 3G and other advanced services, will also be factored into carriers' assessment of the feasibility of additional terrestrial services. Telstra's recent announcement that it plans to replace its current CDMA network with a national 3G GSM network will clearly affect the consideration of further terrestrial mobile infrastructure to be funded through this program.

A better understanding of technology pathways is an important consideration in implementing all the Connect Australia programs and a consultancy to investigate technology pathways will be conducted in parallel with the discussion paper process on the initiatives.

For example, there may be scope to combine funding from Mobile Connect with funding from Broadband Connect or other elements of Connect Australia to meet requests from stakeholders for projects involving a combination of fixed and mobile voice and data services.

The Mobile Connect funding also presents an opportunity to leverage other recent or proposed infrastructure initiatives. For example, the Western Australian Government has for some time had plans for a 'Wireless North' project to extend mobile coverage to the North West Coast and Great Northern Highways. In addition, the Australian Government's Auslink program is providing \$42 million to extend the CDMA mobile phone network to cover the interstate rail network.

Further opportunities may be possible if local governments, communities and businesses are able to support Mobile Connect, either through direct funding or in-kind contributions, such as making land available for the construction of new infrastructure.

A key objective of Mobile Connect is therefore to realise any additional opportunities for terrestrial services arising from changed market structures and co-funding arrangements.

*Opportunities for terrestrial service extensions*

3. What are carriers' plans for mobile services in regional Australia?
4. How could the Mobile Connect program be structured to encourage carriers to further extend their regional mobile phone networks?
5. Do carriers have lists of sites in regional Australia where terrestrial coverage could become commercially viable if there were a contribution towards capital costs by the Australian Government?
6. Can state and territory governments identify priority regions or locations for further terrestrial mobile phone coverage?
7. What is the capacity of local government, communities and business to participate in and contribute to the Mobile Connect program?

### Nature of sites

At present, around 21 per cent of the Australian landmass has terrestrial mobile phone coverage, leaving 79 per cent reliant on satellite phone services. Some options for providing additional terrestrial mobile coverage in regional Australia include:

- providing coverage to additional small population centres, including sites identified but not funded in previous Australian Government programs, and where changing demographics, usage patterns and technology may have lowered the threshold for viability of terrestrial coverage;
- filling in black spots in existing coverage, for example, where the terrain interferes with coverage in an area, or between areas of coverage;
- upgrading coverage from car kit to hand held, for example, at the fringes of towns;
- providing additional coverage along regional highways, and
- providing increased choice of network or carrier for consumers.

Towns with small permanent populations that would not, by themselves, represent a commercially viable customer base for terrestrial mobile phone services may attract large numbers of tourists or seasonal workers at particular times of the year. These temporary population increases may be sufficient to make mobile phone services viable.

Most of the previous mobile phone infrastructure programs have focused on providing coverage to population centres rather than along highways. Apart from the benefit in providing coverage to centres of population, there are methodological difficulties in determining the usage of proposed highway sites. It would also be useful to know what levels of traffic, either year-round or seasonal, would make a highway site viable.

In some locations it may be desirable to support the extension of a different network technology. For example, the program could fund an extension of GSM coverage between existing GSM locations, even though there is CDMA coverage in the 'GSM gap', or vice versa.

*Priorities for further regional mobile phone coverage*

8. What are the best ways to support the establishment and operation of terrestrial mobile phone services in smaller population centres?
9. What is the lower population limit for commercial operation of a mobile phone tower?
10. How can seasonal population and traffic flow increases be factored into the consideration of viable services in small towns and along regional roads and highways?
11. Are there recent or prospective changes to mobile phone technology that would change the cost/revenue equation in regional Australia and make more locations commercially viable?
12. What should be the Government's priority for funding under the initiative:
  - new coverage to small population centres?
  - new coverage along regional highways?
  - filling in gaps in existing coverage – in population centres or along regional highways?
  - improved coverage (from carkit to handheld)?
  - improved customer choice (i.e. funding coverage by different carriers)?
  - more reliance on the SPSS?

## **PROGRAM PRINCIPLES**

In developing the Mobile Connect program, the Government will take account of advice and input provided by various stakeholders. A number of key principles will be reflected in the program guidelines.

The Australian Government is not in a position to determine which sites will be commercially viable. The Government will therefore rely on advice from carriers, in consultation with state and territory governments and other parties.

### **Coverage**

- Mobile Connect will only fund coverage in regional Australia i.e. infrastructure providing coverage to metropolitan areas will not be funded.
- Communities must want the services and be prepared to support the construction of the infrastructure.
- Sharing of existing infrastructure will be encouraged.
- Competition in the provision of mobile phone services will be encouraged.

### **Services**

- The first imperative for the increased coverage is to provide a voice and text messaging service, but proposals that include provision of 3G or other advanced services will not be discouraged.
- The technology proposed for a particular site should be consistent with any coverage already available in the area. However, there will be scope for innovative solutions as long as they are compatible with the existing infrastructure.
- The technological solution(s) proposed should be scalable to provide enhanced functionality as technology evolves.
- Carriers will be required to offer to negotiate inter-carrier roaming agreements for all mobile phone base station sites funded with Australian Government support. Preference will be given to proposals that demonstrate a commitment to roaming.

### Funding

- The Australian Government will only contribute to projects which are co-funded by a state, territory and/or local government, a carrier or carriers, and/or other parties. Preference will be given to proposals which demonstrate that such funding arrangements are in place or can be achieved within a reasonable timeframe.
- The Australian Government will contribute to capital costs only – no funds are available for ongoing or operational costs
- The program will not fund sites which carriers have already assessed as commercially viable and for which they have developed plans to construct new facilities.
- Sites, either individually or across a proposed project as a whole, must be commercially viable once capital costs have been met, and a carrier must commit to operate the infrastructure for a period of at least 10 years. For this reason, a carrier will be required to be a financial contributor to each site or project.
- Where more sites are proposed than can be funded, the Australian Government reserves the right to negotiate which sites will be funded under the project.

In addition, the following draft principles may be adopted in the development of the program, and are provided for comment.

### Coverage

Preference will be given to proposals providing new or improved coverage, rather than increasing choice for mobile phone customers.

### Funding

There will be a set limit to the amount of Australian Government contribution towards the capital cost of any site or multi-site project. For example, the Australian Government may decide to limit contribution to 40 per cent of the cost.

### Services

Preference will be given to technological solutions that can deliver a range of functions, as appropriate to a particular location, and as consistent with the Connect Australia package as a whole.

*Issues related to the program principles*

13. How can the Government maximise competition in the provision of services under Mobile Connect?
14. What are the likely future technology paths for mobile telephony?
15. How can the Government encourage inter-carrier and inter-network roaming?
16. How should the Government weight the various factors ?

## **APPROACHES TO FUNDING**

The previous Australian Government funding programs for terrestrial mobile phone coverage (see **Attachment**) have utilised a number of funding vehicles:

- Networking the Nation adopted a community applications-based approach;
- the Mobile Phones on Highways program and the programs arising from the Government's response to the Telecommunications Services Inquiry used a tender approach in which the Government nominated the areas it wished to fund to receive new or improved coverage;
- the Wireless West program was jointly funded by the Australian Government, the Western Australian Government and Telstra using a tripartite funding arrangement; and
- the RTI Extended Mobile Phone Program used a tender approach, with some sites nominated by the Government, and with flexibility for tenderers to also nominate other sites they considered would be commercially viable.

The varying design of the programs reflects the changing objectives of the particular initiatives. It also reflects the need to adapt the approach to provide an equitable and practical method of allocating available funds as the value for money considerations become more complex with the successive roll-out of terrestrial services.

The Government is seeking advice on the optimal program approach for Mobile Connect. The models under consideration are:

- proposals from state and territory governments;
- a competitive grants program;
- a competitive tender process; and
- a two-tiered approach.

Proposals from state and territory governments

The Australian Government would work with state and territory governments to develop funding proposals for each state or territory. The proposals would encompass certain priority locations and/or regional highways, and identify the funding to be provided by each government, the carrier/s involved and any other parties. This approach is similar to that taken for the Wireless West project.

### Competitive grants program

Applications would be lodged by local communities or carriers seeking Australian Government funds to assist with the construction of mobile phone infrastructure. If proposals are submitted by local communities, support from a carrier would need to be clearly signalled, preferably with a clear commitment to contribute funding. Conversely, if submitted by the carrier, local community support would need to be clearly demonstrated. This approach would be similar to that taken with the NTN program.

Priority would be given to projects endorsed by state or territory governments (with funding committed by them as well), consistent with a strategic national approach. State or territory governments would also be able to submit proposals under this methodology, but these would need to be supported by a carrier.

### Carrier-focussed competitive tender approach

This approach would be the same as has been carried out for previous mobile phone coverage programs i.e. the Government would invite tenders from mobile phone carriers. The tender offering the best value for money would be awarded the funding contract. The request for tender might nominate a series of sites that are seen as priorities for Government, or might leave it to carriers to identify their priorities.

### Two-tiered approach (multi-site + single site submissions)

State and territory governments or carriers would be able to submit proposals for multiple sites that could include highway coverage. In addition, there would be a component of the program under which local communities could request funding for coverage to particular towns or population centres.

A methodology would need to be developed to notionally allocate available funds between multi-site and single site categories of proposals.

#### *Comments on funding approaches*

17. Which approach would be most effective in achieving the program's objectives?
18. What approach would provide the best opportunity for local communities to participate in the program?
19. How should the Government handle situations where multi-site proposals and single site proposals are submitted?
20. What sort of lead times exist for state and territory governments to allocate funds for projects?

21. Should specific funding allocations be made for states and territories?
22. Are there other approaches that would achieve the program's objectives?

## ATTACHMENT

The Networking the Nation (NTN) program allocated approximately \$41.5 million to provide 284 mobile phone towers or repeaters around Australia. Individual communities were invited to apply for NTN funding for infrastructure and services to meet their particular needs.

Through the \$22.7 million Mobile Phones on Highways (MPOH), Vodafone rolled out near-continuous mobile phone coverage along nearly 10 000 kilometres of Australia's 16 major highways. This funding was awarded following a carrier-based competitive tender directed at providing continuous coverage along the major highways.

As part of the Government's response to the findings of the Telecommunications Service Inquiry (TSI), almost \$60 million was provided to improve and extend mobile phone coverage to 187 towns and to provide spot coverage on 34 regional highways. Telstra, as the successful tenderer for these programs, has almost completed rolling out mobile phone coverage to these locations.

The MPOH and the programs arising from the Government's response to the TSI used a tender approach in which the Government nominated the areas it wished to fund to receive new or improved coverage. The objective was to provide coverage to as many people as possible for the funding available. Locations were identified in advance from ABS population data and the carriers' coverage data. Carriers were invited to submit bids to provide these services.

The Australian Government provided \$7 million to improve CDMA coverage to 45 towns in the south west of Western Australia through the Wireless West project with Telstra. The Wireless West program was jointly funded by the Australian Government, the Western Australian Government and Telstra using a tripartite funding arrangement to provide mobile coverage to an area considered to be a priority by the Western Australian Government.

As part of the Government's response to the Regional Telecommunications Inquiry (RTI or Estens report), \$15.6 million has been committed to the Extended Mobile Phone Coverage program. A further 62 locations in regional Australia will benefit from this funding through an agreement with Telstra. This program used a carrier-based tender process, which sought to use available funds to extend coverage to small population centres, while taking into account the increased coverage which could be achieved through improvements through car kit phone access and upgrading car kit to hand held coverage. Some of the locations to be covered were specified by the Government and tendering carriers were invited to nominate others.

While increased customer choice was also factored in to the assessment process, the overriding consideration in assessing value for money was the number of people who would benefit from the new or improved coverage proposed by the carriers. Extending highway coverage was not a prominent part of this process because consultations with carriers suggested there were limited opportunities to extend

coverage at that time, while there were stronger indications of demand from small communities.

In these programs, the Government has paid up to 100 per cent of the capital costs of particular base station sites. The Government does not provide ongoing (i.e. operational) funding for mobile phone towers. In most cases, depending on the particular contract, the carrier is required to provide services from Government-funded infrastructure for a minimum of ten years.