



12

The background of the page is composed of several diagonal stripes in various shades of teal, ranging from light to dark. The stripes run from the top-left towards the bottom-right. The bottom-right corner of the page is white.

12

# Implementation plan

## 12.1 Introduction

This chapter describes how the preferred HSR system could be implemented.

It includes key decisions required, when they would be made and by whom, from the initial decision to proceed through to commencement of operation of the first stage of Line 1 (Sydney–Canberra). Similar procedures envisaged for the remainder of Line 1 (Canberra–Melbourne) and for Line 2 (Brisbane–Sydney) are described in outline. The chapter draws upon the conclusions from:

- Chapter 6** Staged delivery.
- Chapter 7** Appraisal of commercial performance.
- Chapter 8** Economic appraisal of the preferred HSR system.
- Chapter 10** Governance and institutional framework for HSR.
- Chapter 11** Procurement and delivery structures for HSR.

Financial and economic analysis detailed in **Chapters 7** and **8** indicates that, to create a viable HSR, Line 1 between Sydney and Melbourne

would need to be established as the first priority. This would be a major undertaking in terms of planning, construction, testing and commissioning and, based on current industry experience, would itself need to be divided into discrete stages.

The implementation plan is illustrated in two figures: **Figure 12-1** shows in detail the plan to realise the first operating stage between Sydney and Canberra, while **Figure 12-2** shows the plan for completion of the preferred HSR system between Brisbane and Melbourne.

The plan is based on the construction timing detailed previously in **Figure 6-2** which assumes an opening date of the first stage between Sydney and Canberra by 2035. This would require establishment of the High Speed Rail Development Authority (HSRDA) by 2019.

The plan is organised as follows:

- Establishing governance arrangements.
- Line 1 procurement and operation.
- Line 2 procurement and operation.

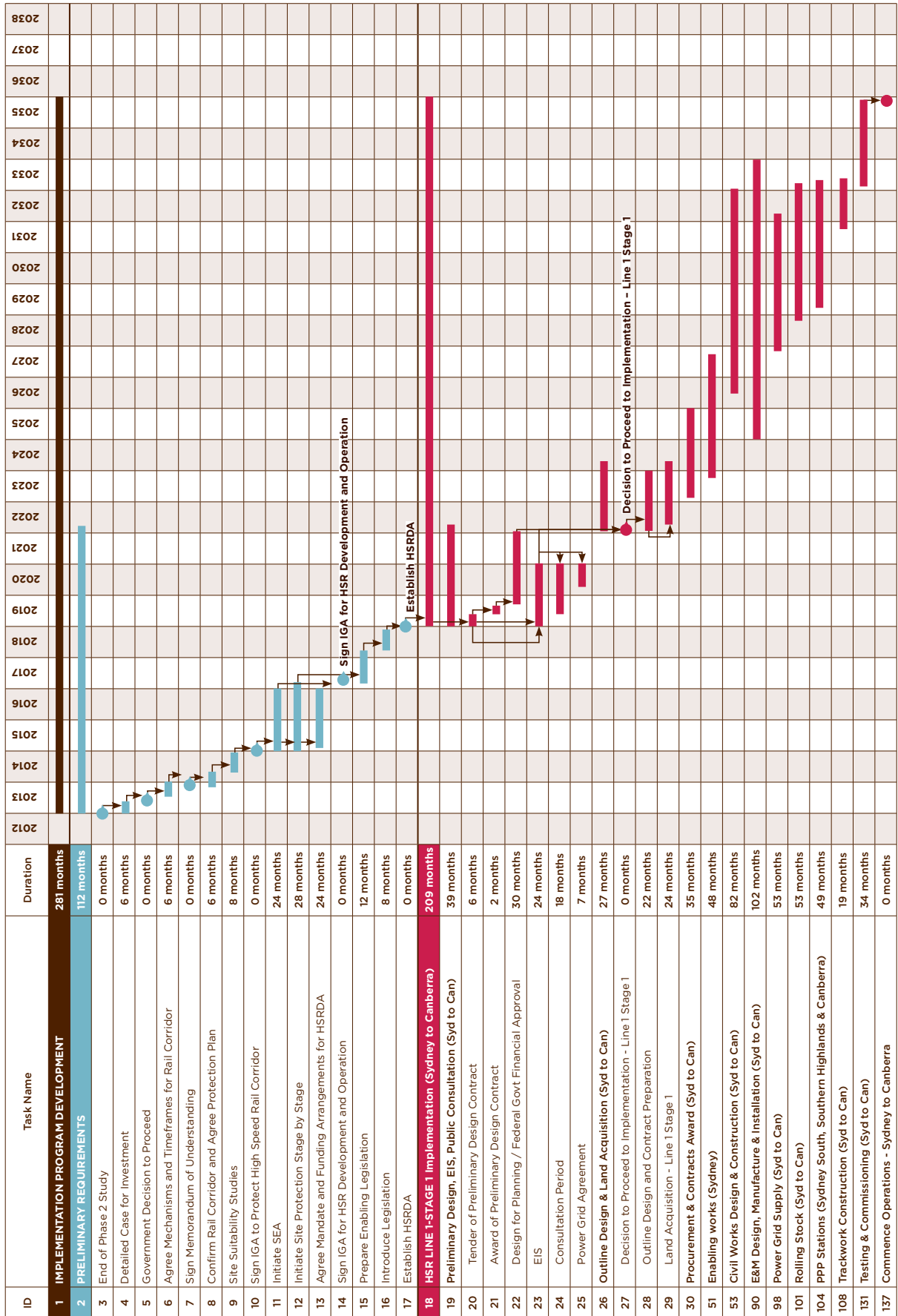


Figure 12-1 Detailed implementation plan for stage 1 (Sydney-Canberra)

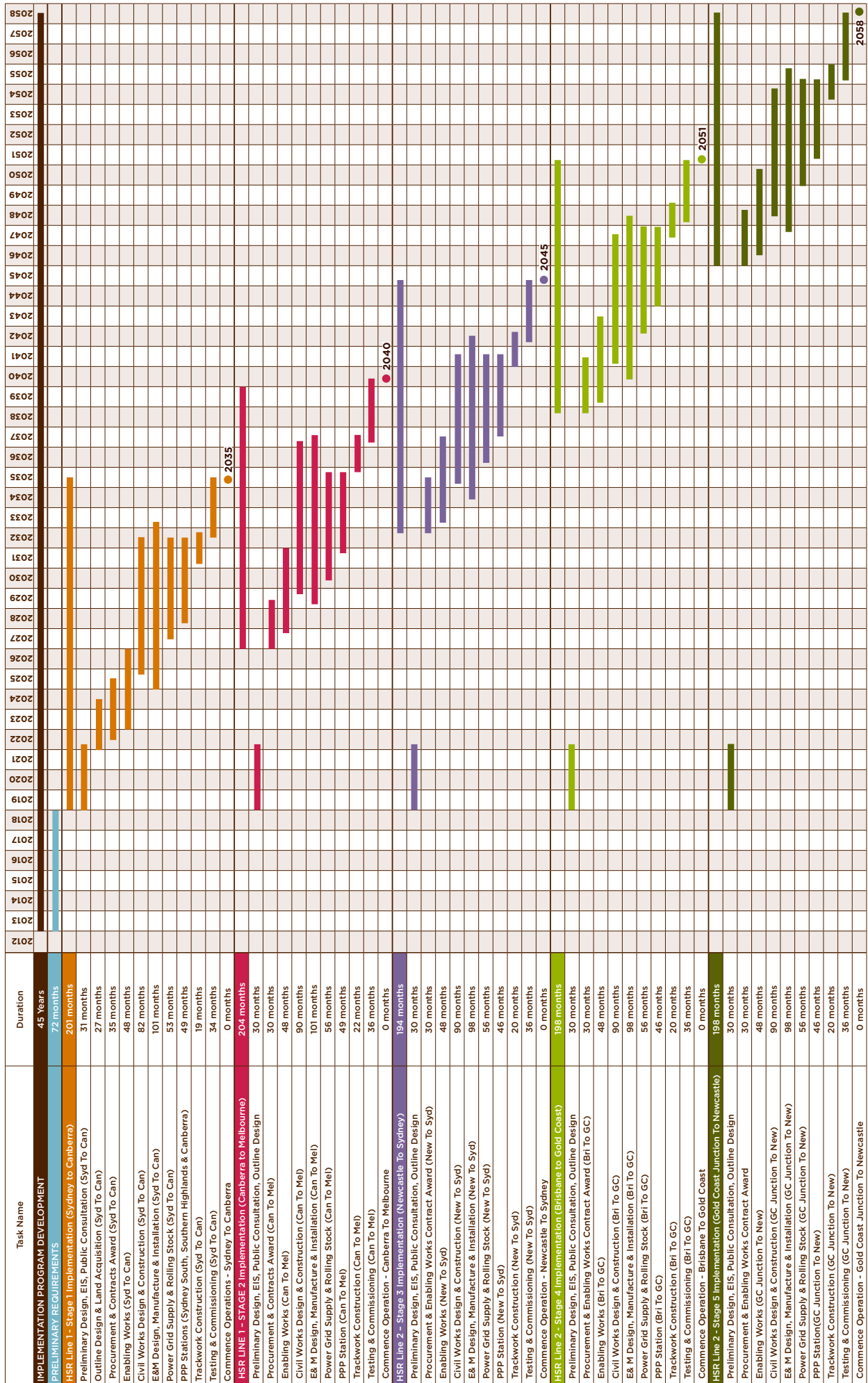


Figure 12-2 Outline implementation plan for preferred HSR system

## 12.2 Establishing governance arrangements

### 12.2.1 Scope

The governance arrangements would be established in five stages as discussed in **section 10.3.1 of Chapter 10**, which describes the parties to the necessary agreements and their roles. The key stages during this period are:

1. Confirmation of the Australian Government's interest in continuing the necessary preparatory works to inform a formal Ministerial decision to proceed.
2. A memorandum of understanding (MoU) between the Australian, ACT and state governments that sets out the road map to establish at least two formal inter-governmental agreements (IGAs).
3. An IGA to provide the policy mandate for the protection of an HSR corridor.
4. A second IGA to provide the policy mandate for the implementation of the first stage of an HSR program.
5. Legislation to provide the legal framework for the implementation of the HSR program.

### 12.2.2 Stage 1 – Decision to proceed (six months)

The first step following completion of the HSR study would be to confirm the Australian Government's and the state and territory governments' interest in continuing the preparatory steps towards an HSR program and finalising the factual basis that would support a future policy decision. Prior to any Australian Government decision on whether to proceed, engagement with the states and the ACT would be needed to identify potential issues and ascertain the inclination of the states and the ACT to support a multi-jurisdictional program. Six months have been allowed in the program for this decision-making process.

### 12.2.3 Stage 2 – Prepare MoU (six months)

Following the Australian Government's decision to proceed and consultation with the Queensland, NSW, ACT and Victorian Governments, the proposed signatories to the IGA would need to establish interim arrangements to allow key planning activities to commence. As proposed in **Chapter 10**, the MoU would be signed to allow planning and development work, including corridor protection, to commence. **Section 10.3.1** identifies the tasks and activities that would be required during this period. The Australian Government, the ACT Government and the relevant state governments would need to make resources available to support the joint working arrangements necessary to develop the MoU, including the funding arrangements for this development phase. Existing IGAs could be used to facilitate this process. The MoU is a key early deliverable that would facilitate much of the work required to establish the necessary governance framework for the implementation of HSR. An early decision required by all parties would be whether further work needs to be commissioned prior to agreement of the MoU. Six months is programmed after the decision to proceed to develop and sign the MoU.

Finalising the MoU would initiate a number of activities including:

- Site investigations.
- Preparatory work for corridor protection.
- Preparation of the IGAs.
- Establishment of the strategic assessment (SA) framework.

The Federal Department of Infrastructure and Transport, and the transport agencies in each state and territory, would seek funding through an HSR New Policy Proposal. The proposal would cover funding to conduct site testing, compensation or lease fees payable for site access during site testing and land acquisition, funding for rezoning activities, and top-up funding for additional SCOTI and Working Group roles that could arise through the implementation of HSR should this process be pursued. Each jurisdiction would follow its own budget process for funding, with standard budget rules determining the process in each jurisdiction.

### 12.2.4 Stage 3 – Establish the first IGA and protect the corridor (14 months)

After signing the MoU, the third stage comprises the work necessary for the states and the ACT to establish an IGA to protect the HSR corridor and associated strategic sites and assets. The aim of corridor protection is to protect future use of the corridor for HSR by rezoning, resuming, purchasing or continuing to hold land within the corridor.

As indicated in **section 10.3.1**, the procedures for corridor protection currently vary by jurisdiction and it would be necessary to establish how the HSR corridor would be secured along its entire length. Confirmation of the final corridor alignment would be subject to site suitability studies, including geological surveys.

While the implementation of HSR would be staged, it would be necessary to protect the entire length of the corridor from land uses that would be incompatible with a future HSR program. The structure of the authority responsible for developing HSR would influence which governments (Australian, state or ACT) would lead which components of the site suitability activities and at which stage. Fourteen months have been allowed for completion of the detailed IGA to protect the corridor following signature of the MoU.

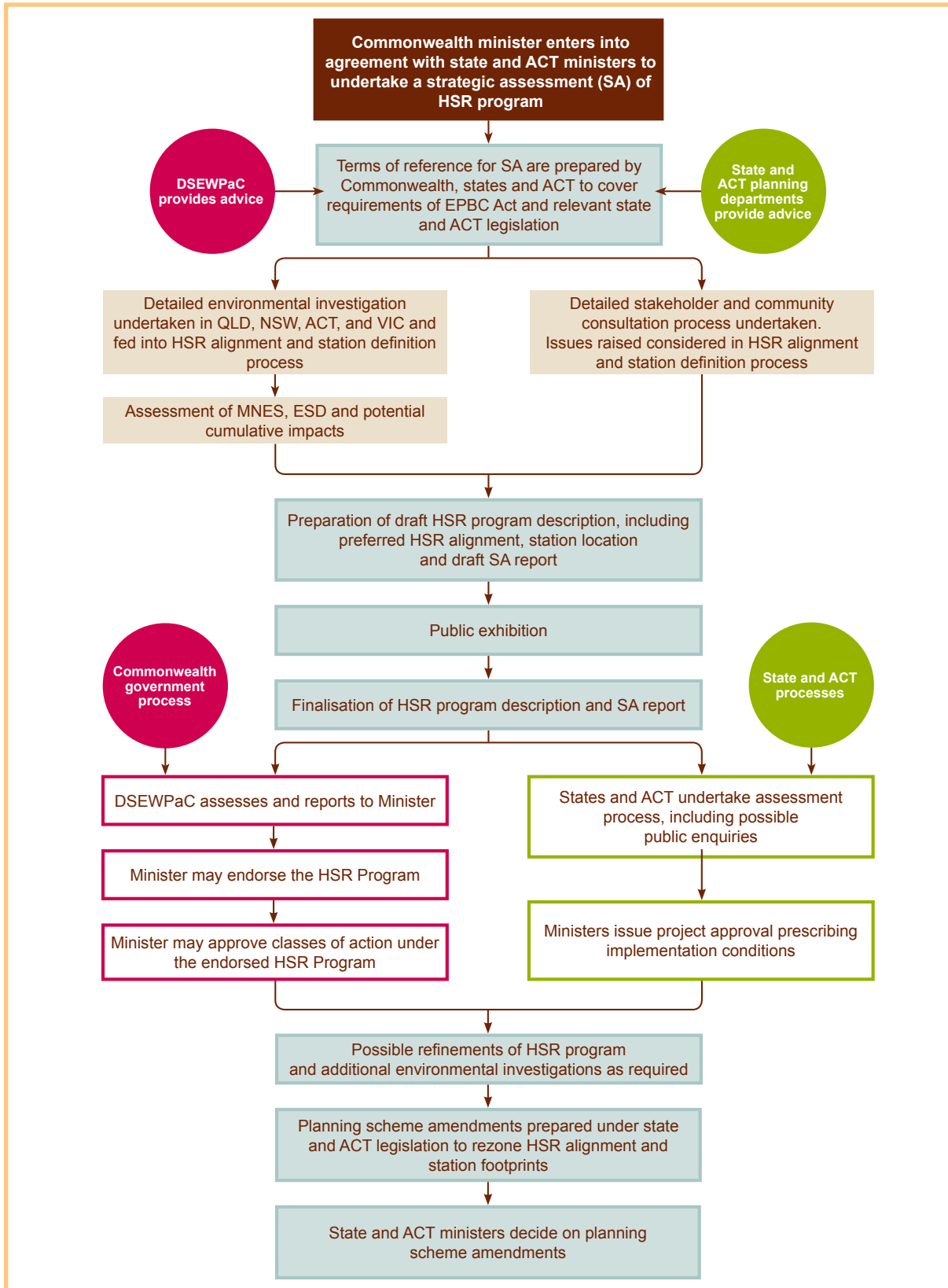
There are adequate powers within Commonwealth, state and ACT legislation to gain access to land for site study purposes. Therefore, this activity could commence immediately upon completion of the IGA. However, preparation for site investigations could commence earlier, through procedures established by the MoU. State and ACT jurisdiction agencies would take responsibility for arranging property access under existing legislation, for investigations, and for procuring and managing contractors conducting the site works. Site surveys and analysis work undertaken during site suitability studies would form the basis of environmental assessments and government budgeting and approval processes.

### Environmental assessment

Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) provides an appropriate vehicle for integrating the assessment of environmental impacts of the HSR program under a strategic assessment.

**Figure 12-3** outlines the concurrent processes, at both Australian Government and state/ACT government level, that could be applied to the environmental assessment of the preferred HSR system and to enable protection of the corridor. Undertaking a strategic assessment would facilitate collaboration between governments to ensure that environmental issues, including matters of national environmental significance, are considered early in the planning phase. The strategic assessment provides for approval of classes of action taken in accordance with an endorsed Program and any further state-specific approvals would also be facilitated by this process, allowing the various state and ACT assessment and approvals processes to progress concurrently. These processes are described in **Appendix 5C**. The proposed MoU and IGA should allow for and endorse the scoping of a strategic assessment under the EPBC Act.

Figure 12-3 Establishing the strategic assessment framework





### 12.2.5 Stage 4 – Prepare HSR delivery strategy and second IGA (27 months)

During this stage, protection of the corridor would commence. At the same time, the HSR delivery strategy would be prepared. This would include confirmation of:

- Objectives of the HSR program.
- Minimum technical performance requirements.
- Agreement on the first stage (Sydney–Canberra) to be implemented.
- Service characteristics (including stations to be served and minimum frequencies, acknowledging operator prerogative to meet market needs).
- Principles for procurement.
- Role of each jurisdiction in development of the proposed HSR system.
- Governance structure.
- Legislative requirements.
- Funding.

Preparation of the second IGA would represent a substantial undertaking and would require a number of years to complete. Twenty-seven months have been allowed for this stage in the implementation program in **Figure 12-1**. Corridor protection would need to be undertaken in stages according to the overall program, and 28 months have been allowed for completion of this activity.

### 12.2.6 Stage 5 – Assessment and approvals (36 months)

The introduction of Commonwealth and complementary state/territory project-specific legislation, where necessary, would aim to harmonise an approach to the large volume of transport and planning regulations relevant to the project.

#### Establishing HSRDA

The HSRDA would manage both the procurement of the construction necessary to establish Lines 1 and 2, and the letting and management of the concession(s) to operate HSR services.

The key decision required would be whether to proceed with the implementation of Line 1. This would include the completion of the financial and environmental approvals.

#### Preparatory work for implementation

Prior to formal approval and a decision to proceed with Line 1, the following tasks would need to be undertaken:

- Concept design on which to base financial estimates and environmental assessments and approvals.
- Environmental approvals in accordance with the strategic assessment process outlined above.
- Consultation associated with environmental approvals.

Thirty-six months have been allowed for these activities. Intensive consultation would be undertaken with stakeholders and community (including landholders) during the development of the concept design, and then as required or appropriate during the strategic assessment and environmental approvals processes.

## 12.3 Delivery of Line 1 Sydney–Melbourne

### 12.3.1 Line 1 stage 1 – Sydney–Canberra

Following the decision to proceed to implementation, the key activities required to deliver stage 1 of Line 1 are:

- Design for procurement of detailed design services and construction contractors.
- Securing any further site-specific environmental planning approvals.
- Land acquisition.
- Procurement.
- Enabling works.
- Main construction works.
- Electrical and mechanical systems.
- Power supply.
- Rolling stock.
- Testing and commissioning.

As shown in **Figure 12-1**, these activities are not entirely sequential and some overlap would be achievable.

### **Preliminary design and land acquisition**

The preliminary, or client reference, design would need to be sufficiently developed to allow contracts to be let for the design and construction of both the enabling and main works. This activity would commence immediately upon establishment of the HSRDA. The HSRDA would act as client for this design development. Thirty months have been allowed for this activity. Any further site specific environmental licences required for construction would be obtained during the detailed design. Consultations with landowners regarding access for entry to properties or for agricultural operations, fauna passage and site specific noise mitigation would also occur during the detailed design.

Land acquisition would then commence, phased in accordance with the program for letting the construction contract packages. Two years have been allowed for land acquisition associated with stage 1 of Line 1.

### **Procurement**

Procurement has been grouped into the following categories:

- Enabling works.
- Main construction works.
- Electrical and mechanical systems.
- Power supply.
- Rolling stock.

### **Enabling works**

The first set of works packages to be released would be for the enabling works, which prepare the corridor to receive the main railway works. These works would take four years to complete for Sydney-Canberra. Given a decision to proceed with construction of the HSR, execution of these works could overlap with the early part of the main construction works.

### **Main construction works**

Construction of the main works for the railway between Sydney and Canberra would be the first construction works undertaken. The program is based on recent overseas experience, including in Spain and Taiwan, where the civil infrastructure works were constructed using contract packages of approximately 30 kilometre lengths. Twelve packages have been defined between Sydney and Canberra, which could be let on a rolling program over a period of 14 months. The procurement strategy envisages that the major stations including Sydney and Canberra would be let as PPP contracts through HSRDAs for NSW and the ACT.

### **Electrical and mechanical systems**

The early procurement of railway systems such as power supply, signalling and communication would be important to facilitate an integrated approach to implementation of the railway and to ensure the detailed design takes into account the systems requirements. Specification of the systems design would therefore form part of the preliminary design process. Completion of the systems design would be followed by procurement of the systems provider, systems manufacture, depot construction and installation over a period of eight and a half years.

### **Power supply**

Since HSR would be connected to the national power grid, sufficient lead time would be required to finalise supply agreements and make the connections. The power grid agreement would need to precede the decision to implement stage 1, with procurement of supply programmed to begin five and a half years after the decision to proceed, and before the testing and commissioning phase.

### **Rolling stock**

Rolling stock procurement would commence six and a half years after a decision to proceed, and would run in parallel with the procurement of the power supply, which itself would have a significant lead time. Both rolling stock and power supply procurement would precede the testing and commissioning stage. Four and a half years have been allowed for this activity.

### Concession to operate

The HSRDMA would need to ensure the concession to operate would be in place at least 18 months before the commencement of stage 1 operations. This period would allow the operator time to hire and train its workforce, establish operational systems and obtain necessary licences to operate.

### Testing and commissioning

The final stage before operation of the railway is testing and commissioning of the operational systems with the rolling stock. This would be expected to take up to three years.

### Stage 1 operation

Completion of the stage 1 program as outlined above would lead to the train operator assuming control of the HSR system and running the first trains in revenue service between Sydney and Canberra in 2035.

## 12.3.2 Line 1 stage 2 – Canberra-Melbourne

Commencement of construction of the Canberra-Melbourne stage of Line 1 could begin once the main construction works between Sydney and Canberra are complete. Stage 2 activities that could take place in parallel with the completion of stage 1 include:

- Land acquisition.
- Client reference design and contract preparation.
- Contract procurement.
- Systems design and procurement.

An overlap of stage 1 and stage 2 activity of eight years is shown in **Figure 12-2**. The component stages of the program are the same as for Sydney-Canberra. Pursuing the activities as set out above for stage 1 would lead to stage 2 (Canberra-Melbourne) being operational by 2040.

## 12.4 Delivery of Line 2 Brisbane-Sydney

At the same time as overseeing the introduction of operations between Sydney and Melbourne, the HSRDA could commence procurement of Line 2. Given the scale of the construction activity required, it is unlikely that construction of both Line 1 and 2 would occur simultaneously. However, some overlap in the overall delivery programs for both lines is feasible. Activities for Line 2 that could be completed while Line 1 is under construction include:

- Concept design and environmental approvals in accordance with the strategic assessment framework.
- Consultation.
- Completion of funding and financing arrangements.
- HSRDA client reference design for procurement.
- Contract procurement.
- Enabling works.
- Detailed design.

This is demonstrated in **Figure 12-2**, which shows that the design and construction period for Line 1 stage 2 and for Line 2 stage 1 overlap by a year. During this period, the detailed design for Line 2 could commence.

The program has also been designed to provide three stages of construction between the principal population centres:

- Newcastle-Sydney via the Central Coast.
- Brisbane-Gold Coast.
- Gold Coast-Newcastle.

The order of completion would be dependent upon circumstances at the time. In terms of infrastructure procurement, the steps required would be the same as for Line 1 and are shown in **Figure 12-2**. On this basis, Brisbane-Sydney could be operational by 2058.

## 12.5 Conclusion

This chapter has provided a step-by-step plan for implementation of the preferred HSR system. The economic and commercial appraisal was based on an opening year of 2035 for stage 1 and this plan illustrates how this would be achieved. The appraisals in **Chapter 8** also considered the impact of accelerating the program by five years. The feasibility of accelerating the program would depend initially on whether the governance arrangements could be established more quickly than shown in **Figure 12-1**. The immediate next step following completion of the HSR study is to confirm the Australian Government's interest in continuing the necessary preparatory works to inform a formal Ministerial decision to proceed. An early task following the government decision to proceed would be to review and confirm the program for the delivery of the HSRDA. The potential to shorten the timeframe of the delivery program following the establishment of the HSRDA would be dependent on funding, design approvals and contract procurement activity.