

period, including the Flagship service, and terminating at Flinders Street Station. This will not be favourably received by V/Line customers.

It is anticipated that a new Greenfield timetable would be developed for the Northern and Cross-City Groups for implementation upon completion of RRL. These timetables may include the following implications for V/Line:

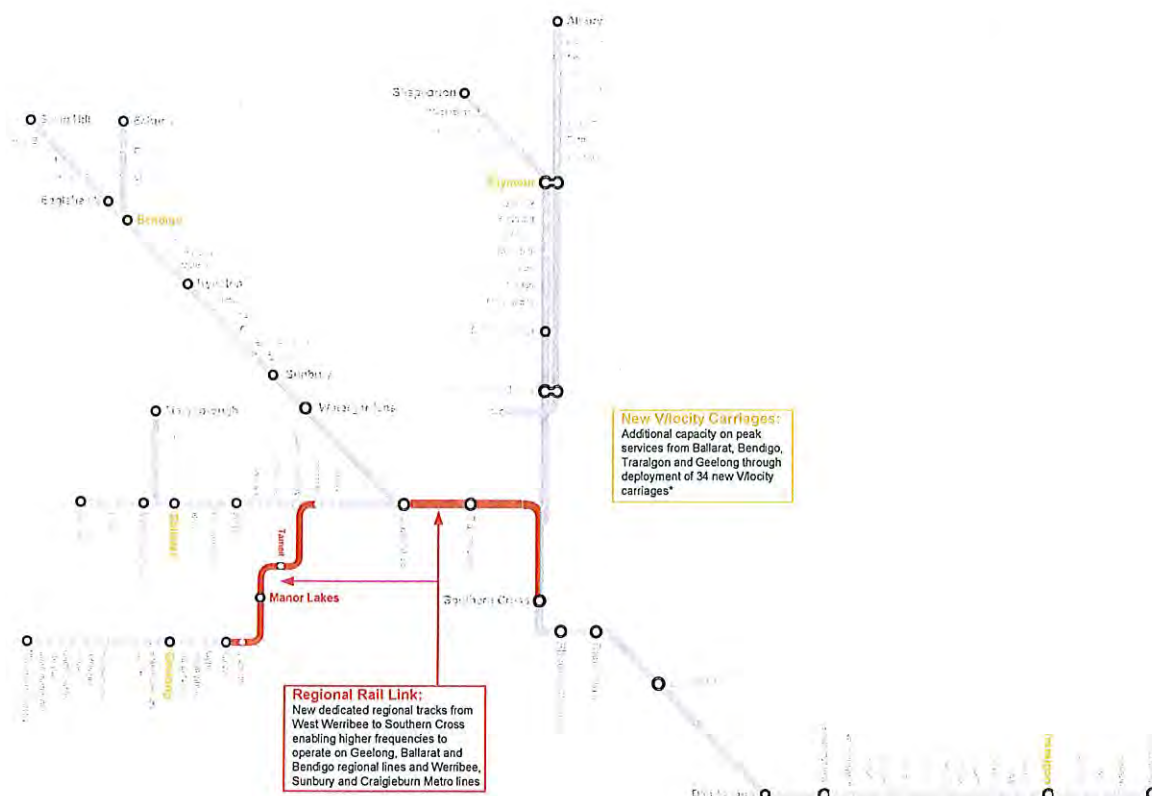
- Removal of all Geelong services from the Werribee corridor to enable additional Metropolitan services to operate;
- Removal of Ballarat and Bendigo line services from the Metropolitan corridor inbound from Sunshine to enable additional Metropolitan services to operate; and
- Termination of peak hour Traralgon services at Flinders street platform 7 to enable additional Metropolitan services to operate across the Through Suburban viaduct tracks and reduce conflicts.

The last of these possible changes would generate a negative reaction from customers on the Eastern corridor and would require special management.

8.3. Key Works Identified 2012 to 2014

The RRL Project and new rolling stock form the key elements of the plan to enhance capacity and reliability on the regional and metropolitan networks by 2014. These are shown in Figure 2 and are described in more detail below.

Figure 2: Schematic diagram of key works 2012 to 2014



Regional Rail Link

RRL will enable a new operating paradigm on the regional and metropolitan networks, create significant additional capacity on both networks and lead to a substantial uplift in capacity. The RRL will include the following infrastructure (note this is a high level summary and full details are provided in the RRL Concept of Operations):

- New platforms 15/16 at Southern Cross and associated tracks to and from South Kensington;
- Upgraded Dynon Fly-over and associated track and signalling work around Franklin Street to enable RRL trains to run into platforms 1-8 via the existing East Suburban lines in parallel with Metro services;
- New track pair from South Kensington to Sunshine including new platforms at Footscray;
- Upgraded signalling Sunshine to Deer Park; and
- New track pair from Deer Park to West Werribee via new stations at Tarneit and Wyndham Vale (Manor Lakes).

The RRL project will provide the following benefits:

- Capacity to operate 8tph in the peak hour and 16tph in the 2 hour peak from Geelong (an increase of 7 services) although not all of these would serve South Geelong and Marshall without further upgrades in that section;

- Capacity to operate an additional service from Bendigo and 2 services from the Ballarat corridors in the 2 hour peak period;
- Capacity to operate an additional 3 peak hour Werribee services, 2 peak hour Sunbury services and 2 peak hour Craigieburn services on the Metropolitan network with similar improvements in shoulder peak periods;
- Improved reliability on both networks.

Additional Rolling Stock (Subject to Funding)

To make use of the track capacity created by the RRL project, additional rolling stock is required. A business case has been submitted for an additional 34 VLocity carriages. These will enable all remaining 2-car sets to be converted into 3-car sets as well as the provision of another 5 new 3-car sets. The business case has been developed within what is believed to be the current funding constraint. V/Line's assessment of the true rolling stock requirement to meet demand under Phase 1 of RRL is 67 cars, with this number based on the provision of a seat for all commuters.

2010 Election Commitments

The following projects were committed to by the current Government during the 2010 election campaign:

- Construction of a new station at Grovedale (Armstrong Creek);
- Upgrade of Ballan Station and provision of a crossing loop;
- Upgrade and reopening of Talbot Station;
- Upgrade and expansion of the Warragul car park; and
- Restoration and reopening of Epsom Station, renovation of Eaglehawk Station and service enhancements to these locations.

8.4. Key Works Identified beyond 2014

Following is a brief summary of the infrastructure works that have been identified as being required to facilitate the service levels proposed under the RRL Concept of Operations. Further descriptions of these works can be found in the individual sections on each corridor.

South Western Corridor

- Track duplication between Geelong and Grovedale
- New stabling and maintenance facility beyond Grovedale
- New crossing loops between Marshall and Warrnambool
- Upgrade of level crossings beyond Marshall
- Station upgrades at various locations

Western Corridor

- Duplication / electrification to Melton
- Additional crossing loops between Melton and Ballarat
- Crossover at Warrenheip

- Stabling facility beyond Wendouree
- Station upgrades at various locations

Northern Corridor

- Duplication of key track sections
- Intercity upgrades including crossing loops, upgrade of track to class 2, level crossing upgrades
- Station upgrades at various locations

North Eastern Corridor

- Signalling system upgrade
- Shepparton upgrades including crossing loops, upgrade of track to class 2, level crossing upgrades
- Met capacity improvements (possibly via the Upfield line)
- Station upgrades at various locations

Eastern Corridor

- Duplication of key track sections
- Second platform at Traralgon
- Intercity upgrades including crossing loops, upgrade of track to class 2, level crossing upgrades
- Station upgrades at various locations

8.5. Commissioning of Studies for Proposed Future Infrastructure Works

Recent election policy commitments to the commissioning of studies for proposed future infrastructure works relating to an Avalon Airport Rail Link and a Geelong-Ballarat-Bendigo loop will require some consideration as part of this Strategic Operations Plan.

Implications relating to upstream and downstream infrastructure, rolling stock and operational implications will need to be considered as part of these studies.

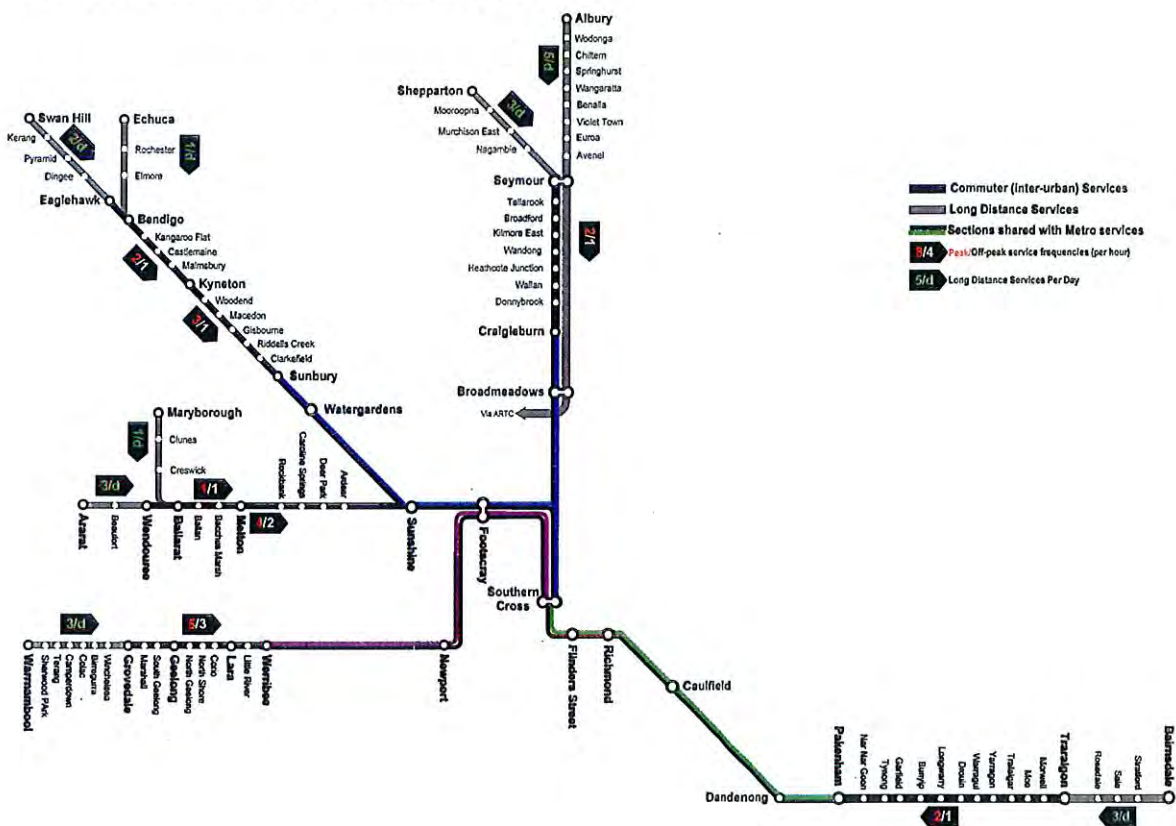
Any commitment to new projects as a result of these studies will need to include V/Line's consideration of operational impacts including rolling stock and upstream capacity issues.

9. Assessment of Demand and Peak Service Requirements

9.1. Network Configuration and Overview 2010 to 2012

The implementation of the committed works up to 2012 will result in some changes to the configuration of the regional network. The removal of Sunbury services will reduce the number of regional trains running between Sunshine and Sunbury and the re-instatement of the Albury line will result in the implementation of new services via the ARTC network.

Figure 3: Indicative service frequencies 2012



9.2. Rolling Stock Deployment 2010 to 2012

Indicative rolling stock deployment plans have been prepared for the full complement of new VLocity carriages and on the basis of the implementation of Sunbury Electrification, this is shown in Table 1.1.

Table 1.1: Indicative peak and off-peak train deployment on interurban corridors following delivery of all committed trains

Corridor	AM Peak Services (arriving Southern Cross 0700-0900)	Off-peak services (services per hour)
Ballarat	2x 6VL 1x 5VL	1x 3VL
Bacchus Marsh/Melton	4x 6H	1x 3VL
Bendigo/Kyneton	1x 6VL 2x 5VL 1x 3VL 1x 6H	1x 3VL
Geelong	2x 7VL 5x 6VL 2x 5N	3x 3VL
Seymour	1x 2SP 1x 5N 1x 6H	1x 2VL/2SP
Traralgon	1x 2SP 1x 3VL 2x 5N	1 x 3VL/2SP

Table 1.2 shows the indicative train deployment on long distance services in 2012 based on the full deployment of new VLocity carriages.

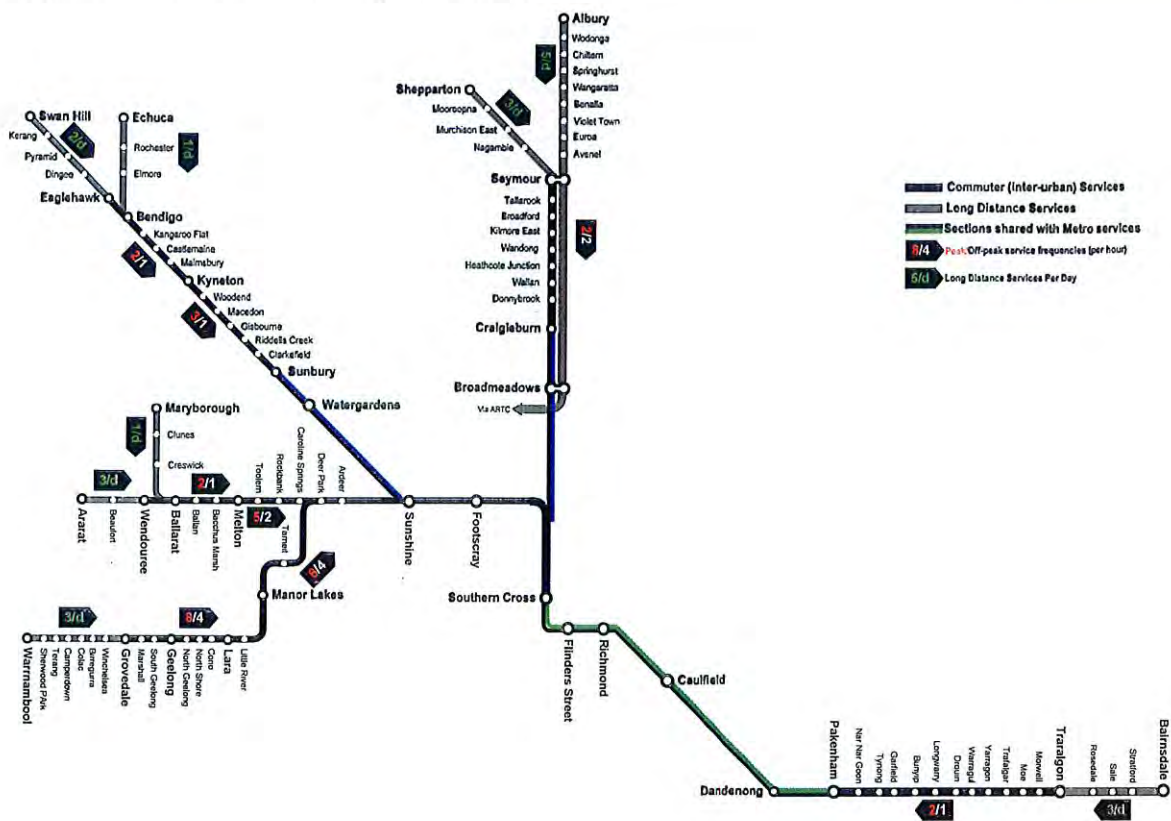
Table 1.2: Indicative train deployment on long distance services following delivery of all committed trains

Corridor	Daily return services
Albury	3x 5N + XPT
Ararat	3x 2VL/3VL
Bairnsdale	3x 5N
Echuca	1x 3VL
Maryborough	1x 2VL
Shepparton	3x 4N
Swan Hill	2x 4N
Warrnambool	3x 5N

9.3. Network Configuration and Overview 2012 to 2014

The provision of RRL will significantly alter the configuration of the regional network and provide a dedicated railway for regional services. All lines servicing the Western Regions will operate via dedicated tracks between Southern Cross and Sunshine, Geelong and Ballarat services will continue to Deer Park before diverging. As can be seen in Figure 4, this will result in marked increases in peak hour services. It is also proposed that in this period a 15 minute service will operate at off-peak times between Geelong and Melbourne with a 30 minute service inbound from Melton.

Figure 4: Indicative service frequencies 2014



9.4. Rolling Stock Deployment 2012 to 2014

Indicative rolling stock deployment plans have been prepared on the basis of the implementation of RRL and the deployment of the planned additional 34 VLocity cars, this is shown in Table 1.3.

Table 1.3: Indicative peak and off-peak train deployment on interurban corridors following delivery of all committed trains

Corridor	AM Peak Services (arriving Southern Cross 0700-0900)	Off-peak services (services per hour)
Ballarat	3x 6VL 1x 3VL	1x 3VL
Bacchus Marsh/Melton	5x 6H	1x 3VL
Bendigo/Kyneton	4x 6VL 1x 3VL 1x 6H	1x 3VL
Geelong	2x 5N 10x 6VL	4x 3VL
Seymour	1x 3SP 1x 5N 1x 6H	1x 2VL/2SP
Traralgon	1x 2SP 2x 6VL 1x 5N	1 x 3VL/2SP

Table 1.4: Indicative train deployment on long distance services in 2014

Corridor	Daily return services
Albury	3x 5N + XPT
Ararat	3x 2VL/3VL
Bairnsdale	3x 5N
Echuca	1x 3VL
Maryborough	1x 2VL
Shepparton	3x 4N
Swan Hill	2x 4N
Warrnambool	3x 5N

10. Southern Cross Operations

Operation at Southern Cross Station will be a critical factor in determining the success of this operations plan. The new platform 15/16 is in the process of being constructed which will provide more capacity in the facility. Further assessment needs to be undertaken on operation at the terminal to ensure that, among other things, all required moves can be made safely and sufficient platform space is available. An expanded section on operations at Southern Cross Station will be provided in subsequent iterations of the operations plan.

11. Metropolitan Stabling

As increased peak capacity is provided, both in terms of frequency and length of trains, there will be an increasing challenge to find sufficient room to park those vehicles not required during the off peak. While V/Line is currently assessing its requirements for stabling in the metropolitan area, that analysis cannot be finalised until there is a decision about the quantity of further rolling stock to be procured. An expanded section on metropolitan stabling will be provided in subsequent iterations of the operations plan.