

Proposed Clearways on Forest Way, Belrose to Frenchs Forest

Volume 2

Review of Environmental Factors

Appendices A – H

February 2018

Appendix A

Consideration of clause 228(2) factors and matters of national environmental significance

Clause 228(2) Checklist

In addition to the requirements of the *Is an EIS required?* guideline as detailed in the REF, the following factors, listed in clause 228(2) of the *Environmental Planning and Assessment Regulation 2000*, have also been considered to assess the likely impacts of the proposal on the natural and built environment.

Factor	Impact
<p>a. Any environmental impact on a community?</p> <p>The local community may experience some minor temporary, negative impacts relating to construction noise and visual amenity.</p> <p>Some traffic impacts are also expected, however the majority of works that would impact on traffic would be undertaken at night to minimise traffic impacts. Safeguards are outlined in Sections 6.1.4 and 6.2.4.</p> <p>Operation of the proposal would result in the removal of State Road parking along the length of Forest Way during clearway operation.</p>	<p>Local, short-term, negative impact</p> <p>Long-term, minor negative impact</p> <p>Long-term, positive impact</p>
<p>b. Any transformation of a locality?</p> <p>The proposal would have temporary adverse visual impacts during construction. Safeguards are outlined in Section 6.4.3.</p> <p>The proposal would result in the installation of new signage and line marking to designate the clearway zones. There would be no measurable change in the locality due to the urban landscape and existing road infrastructure in place.</p>	<p>Minor, local short-term</p> <p>Long-term - Nil</p>
<p>c. Any environmental impact on the ecosystems of the locality?</p> <p>The proposal would not have any impact on the ecosystems of the locality.</p>	<p>Nil</p>
<p>d. Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?</p> <p>The proposal would result in minor change to the visual landscape of the proposal corridor, with the introduction of new signage and line marking. These would be consistent with the existing road infrastructure in place.</p>	<p>Nil</p>
<p>e. Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?</p> <p>The proposal would not impact on Aboriginal or non-Aboriginal heritage items or sites.</p>	<p>Nil</p>

Factor	Impact
<p>f. Any impact on the habitat of protected fauna (within the meaning of the <i>National Parks and Wildlife Act 1974</i>)?</p> <p>The proposal would not have any impact on the habitat of protected fauna.</p>	Nil
<p>g. Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</p> <p>The proposal would not result in the endangering of any species.</p>	Nil
<p>h. Any long-term effects on the environment?</p> <p>Long-term positive impacts would include managing congestion, potential improvement to road safety and improved travel times for commuters and freight operations on a busy arterial road.</p>	Positive, long-term
<p>i. Any degradation of the quality of the environment?</p> <p>The proposal would have very minor short-term negative impacts on the local environment as a result of construction works, such as noise and air emissions. The proposal would not result in any long-term degradation of the environment.</p>	Short-term, minor impact
<p>j. Any risk to the safety of the environment?</p> <p>The proposal would create temporary risks to the safety of the environment such as risks associated with pollution of the air, potential contamination and pollution to water during construction. Safeguards are outlined in Section 7.1.</p> <p>The proposal would not cause any risk to the safety of the environment during operation. Road safety for motorists would have a positive impact as a result of the proposed works (see Section 6.1.3)</p>	<p>Short-term, minor impact</p> <p>Minor positive impact</p>
<p>k. Any reduction in the range of beneficial uses of the environment?</p> <p>The proposal would result in the removal of some on-street parking spaces. The proposal has identified adequate alternate parking for affected business parking.</p>	Neutral
<p>l. Any pollution of the environment?</p> <p>The proposal is unlikely to result in any pollution of the environment.</p>	Nil
<p>m. Any environmental problems associated with the disposal of waste?</p> <p>The proposal would result in the minor generation of waste associated with the installation of new signage poles and line marking. The mitigation measures detailed in Section 6.12 would minimise the environmental impacts associated with waste on the proposal.</p>	Nil

Factor	Impact
<p>n. Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?</p> <p>The proposal would not result in a measurable increase in demand on resources.</p>	<p>Nil</p>
<p>o. Any cumulative environmental effect with other existing or likely future activities?</p> <p>The proposal is unlikely to result in any cumulative environmental effects during construction due to the short-term nature of the works required. The proposal would result in long-term improvement in traffic flows which would have a cumulative contribution to improving congestion on Sydney's road network.</p>	<p>Long-term positive</p>
<p>p. Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?</p> <p>The proposal would have no impact on coastal processes and coastal hazards, including those under projected climate change conditions.</p>	<p>Nil</p>

Matters of National Environmental Significance

Under the environmental assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999*, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the proposal should be referred to the Australian Government Department of the Environment.

A referral is **not** required for proposed actions that may affect nationally listed threatened species, ecological communities and migratory species. Impacts on these matters are assessed as part of the REF in accordance with Australian Government significant impact criteria and taking into account relevant guidelines and policies.

Factor	Impact
a. Any impact on a World Heritage property? There would be no impacts on any World Heritage Properties.	Nil
b. Any impact on a National Heritage place? There would be no impacts on any National Heritage place.	Nil
c. Any impact on a wetland of international importance? There would be no impacts on any wetlands of international importance.	Nil
d. Any impact on a listed threatened species or communities? The proposal is unlikely to significantly impact threatened species, populations or ecological communities or migratory species.	Nil
e. Any impacts on listed migratory species? The proposal is unlikely to significantly impact listed migratory species.	Nil
f. Any impact on a Commonwealth marine area? There would be no impacts on a Commonwealth marine area.	Nil
g. Does the proposal involve a nuclear action (including uranium mining)? The Proposal does not involve a nuclear action.	Nil
Additionally, any impact (direct or indirect) on Commonwealth land? There would be no impacts on Commonwealth land.	Nil

Appendix B

Community consultation report (2017)



Proposed new clearways on Forest Way from Wyatt Avenue/Morgan Road, Belrose to Warringah Road, Frenchs Forest

February 2018

Community Consultation Report

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Executive summary

This report provides a summary of Roads and Maritime Services consultation with the community and key stakeholders on a proposal to install new clearways on Forest Way from Wyatt Avenue/Morgan Road, Belrose to Warringah Road, Frenchs Forest.

Roads and Maritime invited feedback on the proposal between February and March 2017. We received comments from 102 people and organisations that raised a number of matters for Roads and Maritime to consider in determining how the proposal should progress. Key matters raised included the proposed clearway hours, parking and safety. We also received a number of requests for information that were outside the scope of the proposal.

This proposal is part of the Sydney Clearways Strategy which aims to reduce congestion on Sydney's roads. The Strategy outlines how to get more from Sydney's roads immediately, by introducing new or extended clearways on roads not performing to expectation. The Strategy outlines how the introduction of new or extended clearways allows the existing capacity of state roads to be fully utilised immediately and help road users get to their destination sooner and with a more reliable journey time.

Clearways form part of a number of measures aimed at improving traffic flows on arterial roads, including no stopping restrictions, bus lanes and transit lanes. Clearways are directly aimed at alleviating congestion where a road is carrying traffic close to its capacity. They provide greater capacity on key roads where on-street parking is obstructing the efficient performance of the whole corridor, at low cost and without the need for road widening to introduce additional traffic lanes.

The current clearways network in Sydney provides considerable benefits for major roads across peak periods. Benefits include:

- supporting the efficient movement of people and goods on Sydney roads
- facilitating more reliable journey times for motorists on major roads
- managing growth in traffic flow and emission reduction through smoother traffic flow
- increasing peak period road capacity without expensive investment in widening roads
- balancing the use of kerbside space outside of clearway times for parking.

The decision

Roads and Maritime thanks everyone who considered this proposal and provided feedback.

The original proposal, consistent with hours proposed for the Warringah Road clearway, included:

- 6am to 7pm from Warringah Road to Wyatt Avenue and Morgan Road
- 9am to 6pm on weekends from Warringah Road to Wyatt Avenue and Morgan Road

Based on the community feedback and further review of traffic data, the hours of the clearways proposal on Forest Way between Wyatt Avenue and Morgan Road, Belrose to Warringah Road, Frenchs Forest have been revised to:

- 6am to 10am and 3pm to 7pm on weekdays from Warringah Road to Wyatt Avenue and Morgan Road
- 9am to 6pm on weekends and public holidays from Warringah Road to Adams Street.

Weekend clearways will not be implemented north of Adams Street at this time (see **Figure 12** for clearway hours) however this may be reviewed following the Northern Beaches Hospital.

We have decided to progress the revised proposal and display the Review of Environmental Factors (REF), which responds to feedback raised during the community consultation period in February and March 2017. More information on how you can view the REF can be found on our website at rms.nsw.gov.au/clearways.

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Introduction

Background

On 1 December 2013, the NSW Government announced the Sydney Clearways Strategy as one of its key initiatives to reduce congestion on Sydney's roads. This Strategy outlines how to get more from Sydney's roads now – by introducing new or extended clearways on roads that do not perform to expectations.

The NSW Government's Long Term Transport Master Plan outlines a number of responses to traffic congestion in Sydney, aimed at improving travel on Sydney's roads in both the short and the long term. One of the primary means to achieve this is the use of clearways.

Traffic growth in Sydney has reached a point where there is a need to consider further improvements in the use of the existing road network to reduce travel times. The current clearways network has been in place for several decades and has proven to be effective in improving travel times. A particular need has been identified to extend clearways for weekend travel, where traffic growth has led to congestion levels similar to that of weekday peak periods.

The Sydney Clearways Strategy also sets out a process for engaging with local communities and councils and for ensuring alternate business parking is available, to minimise impacts on local businesses.

The NSW Government has committed \$121 million to the clearways strategy which includes assisting local councils with alternate business parking solutions. So far, we have delivered over 320 kilometres of new and extended weekend and weekday clearways across the Sydney road network under the clearways strategy.

In 2013, Forest Way was identified in the Sydney Clearways Strategy based on an assessment of:

- directional traffic flows exceed 800 vehicles per hour per lane
- travel speeds are 30km/h or below during peak times.

This corridor has since been assessed on:

- the road is a strategic bus and freight transport corridor for moving people and goods
- alternate business parking close to local businesses can be found, taking into account the quantity and usage of parking removed to extend or introduce a new clearway.

Project area profile

Forest Way is a key corridor on Sydney's state road network that provides access to the new Northern Beaches Hospital, Chatswood and Sydney CBD. It also links Mona Vale Road and Warringah Road, both major state roads. It forms part of State Road 529, gazetted in 1976.

Forest Way is a four and six lane divided arterial road. The current 'No Parking' restrictions operate between Hews Parade/Perentie Road and Warringah Road northbound from 3.30pm to 6.30pm and southbound from 6.30am to 9.30am as well as other full time 'No Parking' and 'No Stopping' restrictions in place. During our investigations, we found that over 40,000 motorists use Forest Way on weekdays and 35,000 motorists use Forest Way on weekends near Oates Place. Greater traffic volumes were identified on the corridor near Warringah Road and Mona Vale Road.

The proposal

Roads and Maritime Services consulted with the community in February and March 2017 on a proposal that sought to introduce new weekday and weekend clearways on Forest Way between Wyatt/Morgan Road, Belrose and Warringah Road, Frenchs Forest in both directions from:

- 6am to 7pm on weekdays
- 9am to 6pm on weekends.

Figure 1 shows the clearways proposal that the community was consulted on in February and March 2017. These hours were consistent with clearway hours proposed on Warringah Road.

The current 'No Parking' and 'No Stopping' restrictions would continue to operate outside of the proposed clearway hours.

Consultation approach

Consultation objectives

Roads and Maritime engage with the community to understand their concerns and needs, so that this feedback can be considered in deciding a final clearway solution.

Consultation allows Roads and Maritime to:

- seek comment, feedback, ideas, and suggestions for us to consider when making a decision
- advise directly affected stakeholders of the proposal
- build a database of interested and concerned community members with whom we can continue to engage during the proposal's development and delivery
- advise the community how they can obtain further information and communicate feedback.

How consultation was done

Discussions with local MPs and Northern Beaches Council started on the clearway proposal in late 2016.

Consultation with the community on the proposal was carried out in February and March 2017. The local community and stakeholders were encouraged to provide their comments via mail, email, and phone.

We contacted people and organisations using a range of tools outlined in the table below:

Channel	Activity
Stakeholder meetings/ communication	<ul style="list-style-type: none">• Briefed Office of Member for Davidson, Jonathon O'Dea MP (16 October 2016 and 25 October 2017)• Briefed Office of Member for Wakehurst, Brad Hazzard MP (16 October 2016 and 17 November 2017)• Meeting with Northern Beaches Council (23 November 2016)• Meeting with local residents (March 2017).
Community updates (Appendix A, B and C)	<ul style="list-style-type: none">• Delivered to 4,000 residents from Belrose to Frenchs Forest in February and March 2017• Direct mail to emergency services, schools, large businesses, religious centres and community groups in the local area.
Community information	<ul style="list-style-type: none">• At the request of community members, Roads and Maritime held a

Channel	Activity
session	community information session on Thursday 16 March 2017.
Webpage	<ul style="list-style-type: none"> Project webpage updated with latest project information including the community updates.
Advertisement	<ul style="list-style-type: none"> Advertisements were placed in the Manly Daily and the North Shore Times to appear on Wednesday 15 February 2017 and Wednesday 22 February 2017.
Media release	<ul style="list-style-type: none"> A media release was issued at the start of the consultation period.

Consultation summary

Overview

We distributed 4,000 letters (**Appendix A**) to local residents and businesses (**Appendix D**) inviting feedback on the proposal. Copies were also provided to key stakeholders.

We received submissions from 102 people and organisations. There were 18 people who supported the proposal, seven who were supportive but raised concerns and six who were neutral. 71 people raised a number of matters for Roads and Maritime to consider in determining how the proposal should progress. These matters included the need for extended clearways, loss of parking and safety.

We also received one petition containing 49 signatures opposing the proposal. Many people both signed the petition and submitted separate submissions, which are included in the numbers above.

After considering all submissions, along with the proposal's aims and design requirements, we have decided to progress a modified proposal and display the Review of Environmental Factors (REF) to address the community feedback received. Comments following the REF display period will be considered before the modified proposal progresses further.

As a result of the feedback received and further traffic analysis, we have decided to revise the clearways proposal to respond to the matters raised and the traffic volumes and patterns experienced along this corridor, rather than using an area wide approach.

The clearway hours on Forest Way between Wyatt Avenue and Morgan Road, Belrose to Warringah Road, Frenchs Forest, have been revised from 6am to 7pm on weekdays and 9am to 6pm on weekends (which was consistent with the Warringah Road Clearways proposal) to:

- 6am to 10am and 3pm to 7pm on weekdays from Warringah Road to Wyatt Ave and Morgan Road
- 9am to 6pm on weekends and public holidays from Warringah Road to Adams Street only.

Weekend clearways will not be implemented north of Adams Street at this time (see **Figure 12** for clearway hours) however this may be reviewed following the Northern Beaches Hospital.

Feedback and Roads and Maritime's responses

Roads and Maritime has summarised the feedback received on this proposal and provided responses in this report, which will be made available to the public.

All comments have been considered to help inform Roads and Maritime's decisions on this proposal. Matters raised during consultation that are not within Roads and Maritime's area of responsibility have been forwarded to the relevant bodies/departments.

Feedback Summary and Roads and Maritime's Responses

Table 1 - Feedback Summary and Roads and Maritime's Responses

Category	Matters raised	Roads and Maritime's response
Project justification	Forest Way should not be an arterial road.	<p>Forest Way is a key corridor on Sydney's state road network that provides access to the new Northern Beaches Hospital, Chatswood and Sydney CBD. It also links Mona Vale Road and Warringah Road, both major state roads. It forms part of State Road 529, gazetted in 1976.</p> <p>This arterial road is managed and maintained by Roads and Maritime Services.</p>
	Was any research done on the area's road congestion?	The Sydney Clearway Strategy published in December 2013, identified routes which may benefit from clearways on Sydney's road network, based on an assessment of the following criteria at that time:
	Why is this clearway required?	<ul style="list-style-type: none"> directional traffic flows exceed 800 vehicles per hour per lane travel speeds are 30km/h or below during peak periods.
	What modelling was undertaken?	Additionally, roads identified in the Strategy required further individual assessment to understand if:
	Forest Way should be upgraded to accommodate increased use from heavy vehicles and reduced traffic flow from road work.	<ul style="list-style-type: none"> the road is a strategic bus or freight transport corridor for moving people and goods alternate public parking close to local businesses can be found, taking into account the quantity and usage of parking removed to extend or introduce a new clearway. <p>Through this strategy, Forest Way was identified as:</p>
	Congestion on Forest Way is caused because lanes go from two to three and then back to two.	<ul style="list-style-type: none"> requiring further investigation for possible extended weekday and weekend clearways along Forest Way being a suburban bus route in 'Sydney's Bus Future', and being a tertiary freight route in the NSW Freight and Port Strategy. <p>This means, Forest Way plays a vital role in Sydney's transport network, and will continue to be relied upon as an important public transport and freight route in the future.</p>
The number of vehicles parking on Forest Way does not contribute to congestion.	One of the key considerations for whether a new or extended clearway should be investigated to ease congestion on a major state road is if directional traffic flow exceeds 800 vehicles per hour per lane. Whilst Forest Way has sections with two and three lanes, cars are often parked in the kerbside lane. This means there are reduced lanes of traffic, resulting in the combined traffic volume needing to exceed 800 vehicles per hour per direction for two lane sections and 1600 vehicles per hour per direction for three lane sections on the road as per Australian Standards guidelines. This Australian Standards guideline is used even when 'No Parking' or 'No	

Category	Matters raised	Roads and Maritime's response
		<p data-bbox="584 172 1995 204">Stopping' restrictions are in place as illegally parked vehicles are unable to be towed under these restrictions.</p> <p data-bbox="584 244 2040 308">Traffic volume data was investigated along the full length of Forest Way. Investigations carried out looked at the number of vehicles that move along the road in both directions across the day on both weekdays and weekends.</p>  <p data-bbox="584 895 779 914">Forest Way, Frenchs Forest</p> <p data-bbox="584 962 1541 994">Figure 2 - Traffic congestion on Forest Way northbound on Sunday 8/5/2016</p>

Category	Matters raised	Roads and Maritime's response
		 <p data-bbox="582 885 1579 917">Figure 3 - Traffic congestion on Forest Way southbound on Tuesday 25/7/2017</p> <p data-bbox="582 957 2027 1157">The initial proposal we consulted the community on in February and March 2017 proposed clearway hours that were consistent with other clearway proposals within Sydney's North, including Warringah Road. Consistent clearway hours assist road users to navigate the road network in Sydney. The initial proposal also sought to address congestion issues that arise when vehicles turn right from Forest Way. At many locations there are no dedicated right turn bays. This means turning vehicles block the right hand lane, and when there are vehicles parked in the kerbside lane, the capacity of the road reduces to only one lane of moving traffic.</p> <p data-bbox="582 1197 2049 1364">Traffic volume data was re-evaluated following the community consultation process along Forest Way. During the consultation process the community identified that the main 'right turn' issue causes significant congestion at the Adams Street intersection along Forest Way. The clearway hours were changed, introducing clearways on weekends between the hours of 9am and 6pm on this section of Forest Way between Adams Street and Warringah Road. Forest Way north of Adams Street at this point in time does not warrant weekend clearways.</p> <p data-bbox="582 1404 2027 1468">The revised hours of operation will address the congestion issues experienced during the weekday AM (6am to 10am) and PM (3pm to 7pm) peaks, including replacing the existing peak directional 'No Parking' restrictions.</p>

Category	Matters raised	Roads and Maritime's response
		<p>Traffic observations found that parked vehicles can also cause disruption during counter-peaks.</p> <p>The graphs in the following pages (Figures 4 –11) show the traffic data that informed the revised clearway proposal.</p> <p>This data indicates the need for the kerbside lane to be clear through the introduction of a clearway to ensure traffic volumes can be distributed across three lanes instead of two (also see figures above) in the three lane sections. A clearway will help ease congestion, improve traffic flow, improve intersection efficiency and improve safety.</p> <p>Traffic volumes are generally high along the corridor during the proposed clearway hours. There are some areas that have been included in the clearways to ensure a consistent expectation for parking is maintained along the state road during peak periods, to ensure intersections can operate effectively, and helps road users navigate the road network efficiently.</p> <p>The majority of the corridor where parking was observed is occupied and zoned for residential uses. The traffic and parking study carried out in May 2015 found that there was very little demand for business parking along the corridor and any loss could be accommodated by existing onsite parking at business or in side streets with no changes to current parking restrictions.</p> <p>Investigations did not support the introduction of new or extended clearways on Forest Way, north of Wyatt Avenue/Morgan Road given the existing parking restrictions and cycle lanes in place.</p> <p>In response to the feedback received during the community consultation process and a further review of the traffic data, the clearway hours have been revised to:</p> <p>On Forest Way, from Adams Street to Wyatt Avenue/Morgan Road, Belrose, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and 3pm to 7pm weekdays. <p>On Forest Way, from Warringah Road to Adams Street, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and from 3pm to 7pm on weekdays • 9am to 6pm on weekends.
There are other		The Sydney Clearways Strategy identified over 1000 kilometres of state roads for investigation of new and

Category	Matters raised	Roads and Maritime's response
	<p>Sydney roads that are far more congested and would require a clearway more so than Forest Way.</p>	<p>extended clearways to help ease congestion and improve the efficiency of the network. These roads travel through a mix of land uses including commercial, retail, industrial, and residential areas. They are the principal traffic carrying and linking routes for the movement of people and goods within the Sydney metropolitan region.</p> <p>Since the Strategy was announced in 2013, 320 kilometres of new and extended of clearways have been installed across Sydney helping road users get to their destination faster, and more reliably.</p> <p>There are currently a number of clearway proposals within Sydney's North. Clearways have recently been implemented along Boundary Street and Babbage Road, and clearways are being considered along the Pacific Highway, Warringah Road, and Eastern Valley Way. Further information about the clearways program can be found on our website at rms.nsw.gov.au/clearways.</p>

Traffic Volumes - Forest Way South of Oates Place

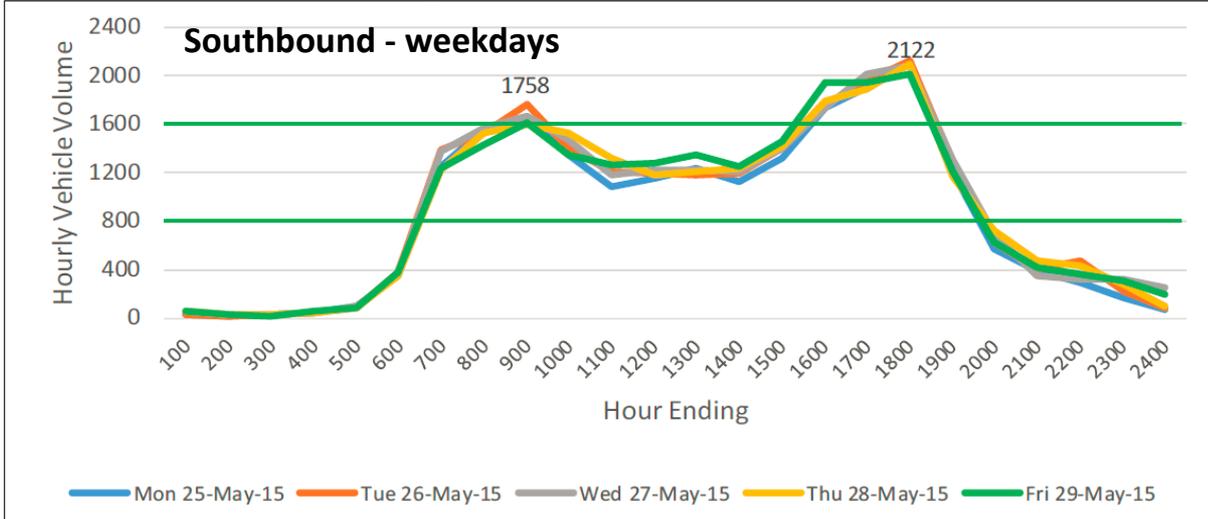


Figure 4 - Traffic volume count from Forest Way south of Oates Place, Belrose from 23 May 2015 and 29 May 2015. Source: Pneumatic Tube Counts

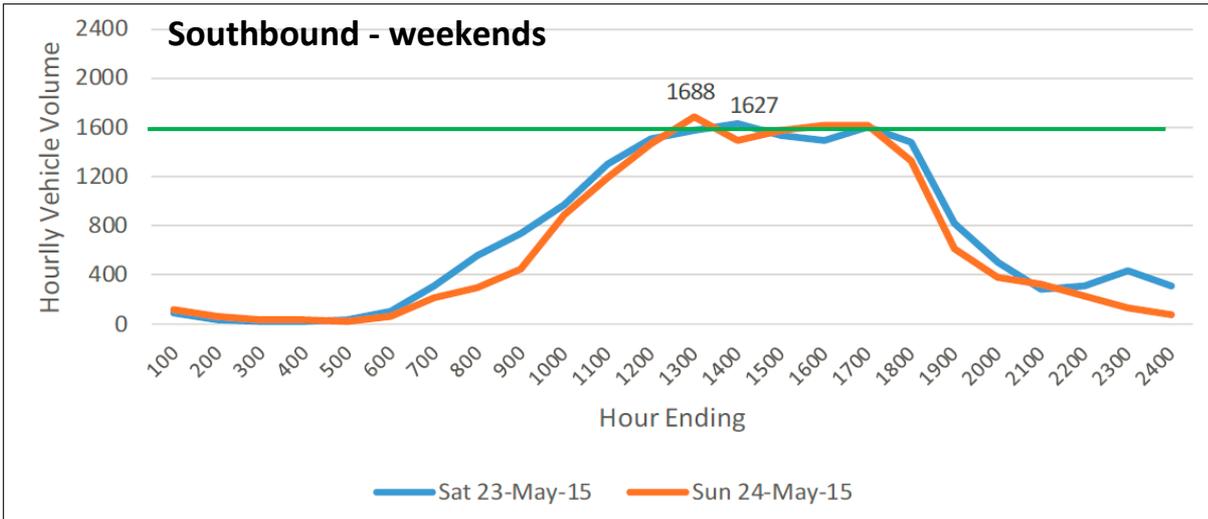


Figure 5 - Traffic volume count from Forest Way south of Oates Place, Belrose from 23 May 2015 and 29 May 2015. Source: Pneumatic Tube Counts

Traffic Volumes - Forest Way South of Oates Place

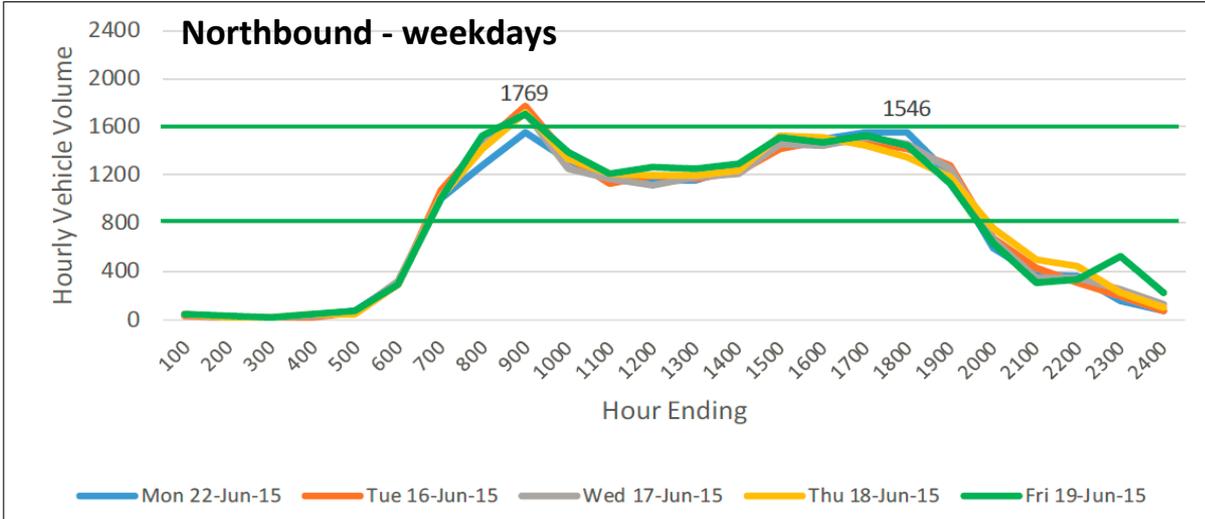


Figure 6 - Traffic volume count from Forest Way south of Oates Place, Belrose from 23 May 2015 and 29 May 2015. Source: Pneumatic Tube Counts (Note: two lane section)

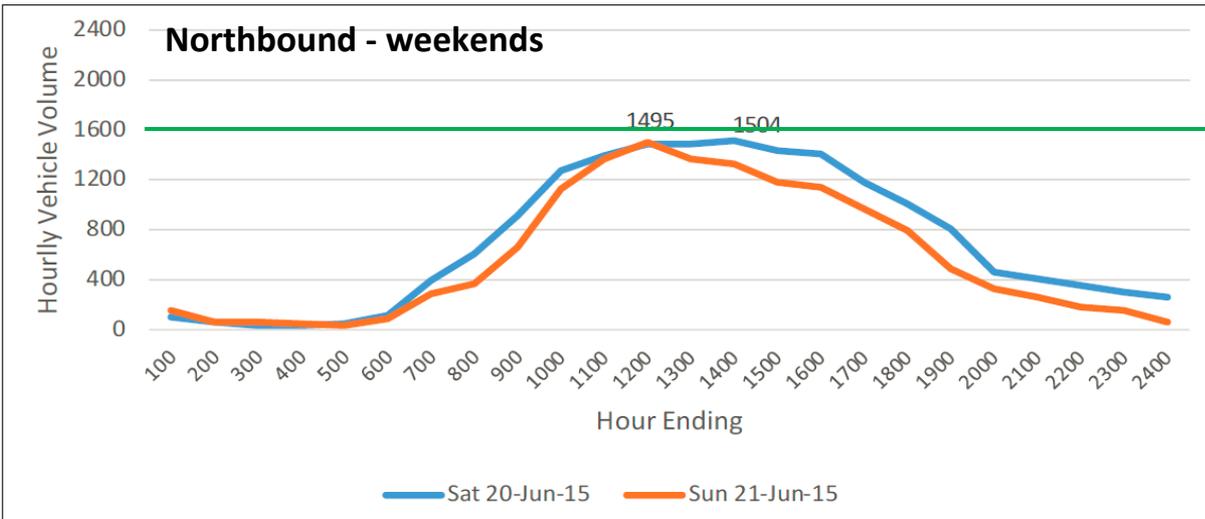


Figure 7 - Traffic volume count from Forest Way south of Oates Place, Belrose from 23 May 2015 and 29 May 2015. Source: Pneumatic Tube Counts (Note: two lane section)

Traffic Volumes - Forest Way, north of Warringah Road

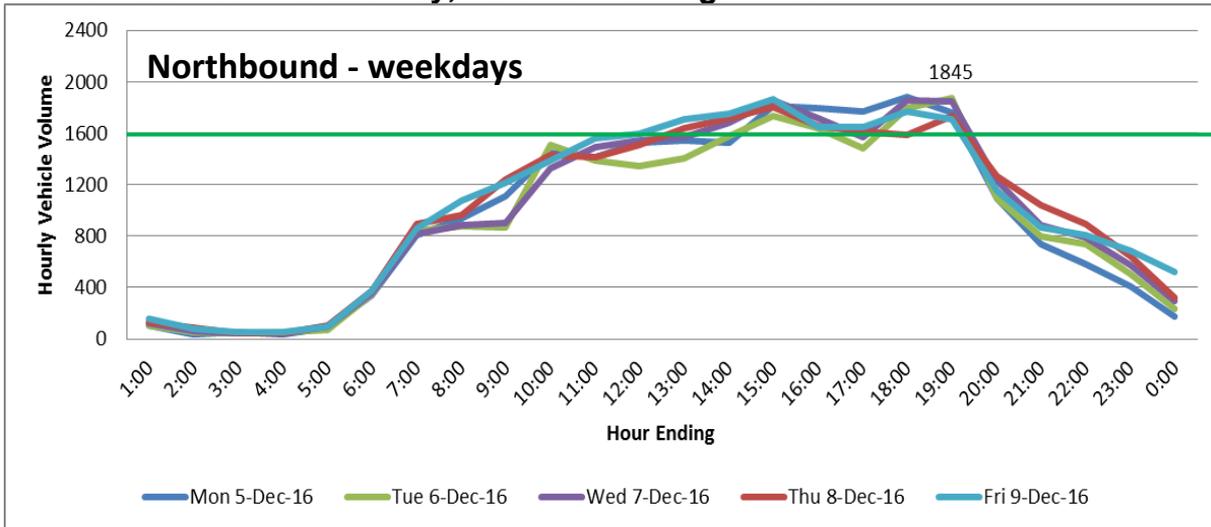


Figure 8 - Traffic volume count on Forest Way northbound, north of Warringah Road, Frenchs Forest from 5 December 2016 to 9 December 2016. Source: RMS (Sydney Coordinated Adaptive Traffic System) SCATS Counter

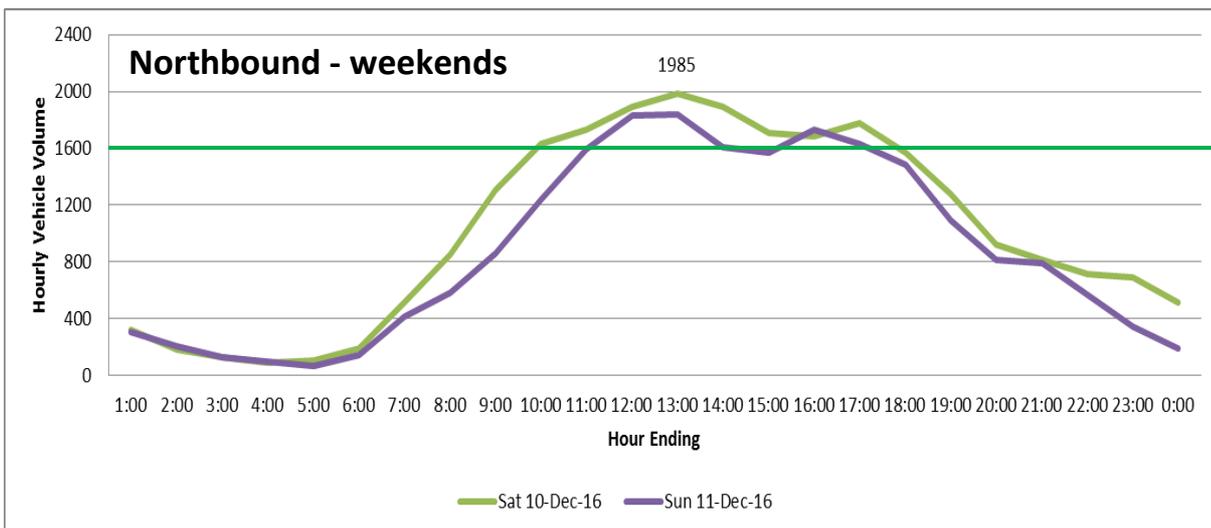


Figure 9 - Traffic volume count on Forest Way northbound, north of Warringah Road, Frenchs Forest from 5 December 2016 to 9 December 2016. Source: RMS (Sydney Coordinated Adaptive Traffic System) SCATS Counter

Traffic Volumes - Forest Way, north of Adams Street

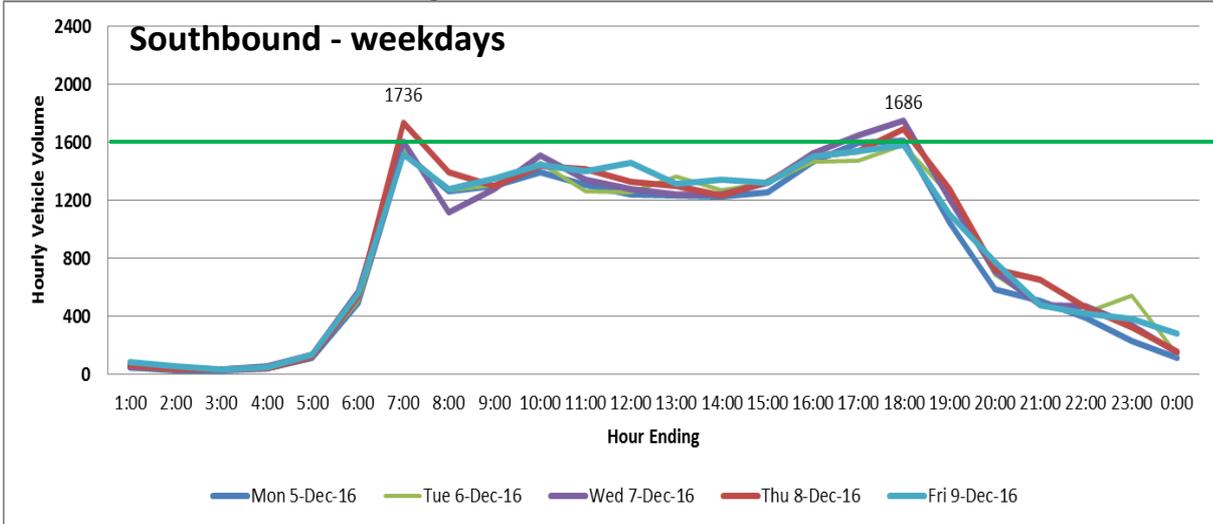


Figure 10 - Traffic volume count on Forest Way southbound, north of Adams Street, Frenchs Forest from 5 December 2016 to 9 December 2016. Source: RMS (Sydney Coordinated Adaptive Traffic System) SCATS Counter

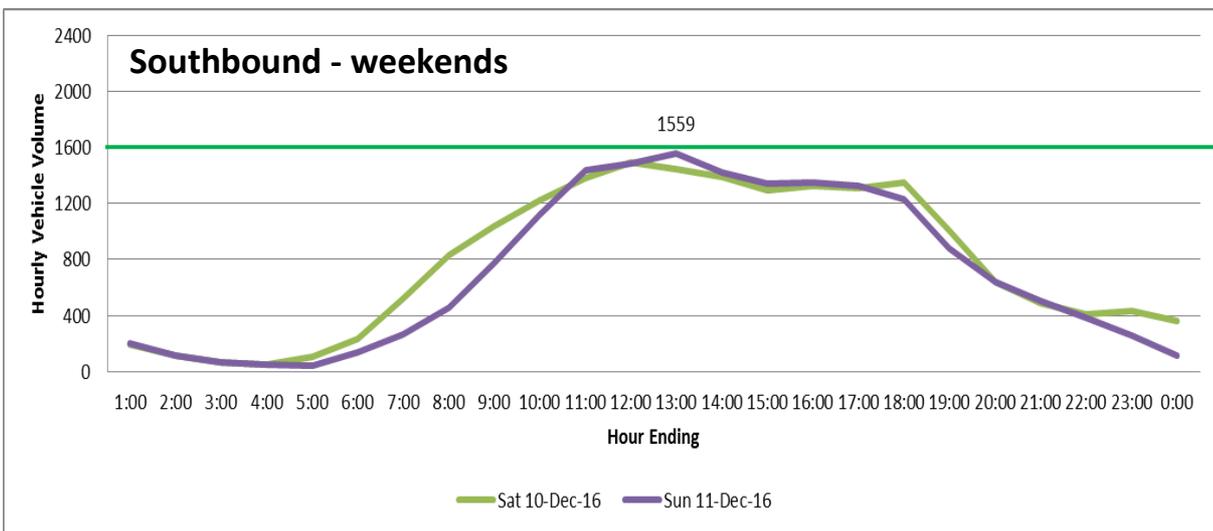


Figure 11 - Traffic volume count on Forest Way southbound, north of Adams Street, Frenchs Forest from 10 December 2016 to 11 December 2016. Source: RMS (Sydney Coordinated Adaptive Traffic System) SCATS Counter

Category	Matters raised	Roads and Maritime's response
Have other options to clearways been looked at?	Forest Way should have right turn lanes at all places where a right turn is permitted.	<p>As mentioned, over 320km of clearways have been implemented across Sydney since 2013 and have been proven to be a low cost option for addressing congestion. State roads with clearways currently implemented have observed the following:</p> <ul style="list-style-type: none"> • reduced congestion due to an additional lane being available to traffic • improved journey times, with drivers being able to get to their destination in a more reliable timeframe • improved safety by parked vehicles being removed from the kerbside lane • an immediate positive impact on traffic flow as it uses existing road space for the movement of vehicles. <p>Other traffic improvement projects such as road widening require significant financial investment involving land acquisition, design and planning, construction, and service relocations. They also take a significant amount of time to be delivered which often involves the closure of existing roads and transport routes during the construction phase, causing inconvenience to road users, residents and businesses.</p> <p>The Sydney Clearways Strategy is designed to invest in existing infrastructure and get more out of our existing road network immediately through the delivery of clearways. Clearways help ease congestion, improve traffic flow and improve safety. They have a low cost, and have a minimal interference for their implementation compared to other infrastructure projects. Road works are currently underway on Warringah Road and Forest Way intersections as part of the Northern Beaches Hospital road works upgrade.</p> <p>For further information on this project, please visit: www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital</p>
	Forest Way should be widened to accommodate a fourth lane.	
Clearway operating hours and locations	What are the proposed clearway times?	<p>The initial proposal from February and March 2017 proposed to install new clearways in both directions on Forest Way between Wyatt Avenue/Morgan Road, Belrose and Warringah Road, Frenchs Forest, on:</p> <ul style="list-style-type: none"> • weekdays from 6am to 7pm • weekends from 9am to 6pm. <p>These hours were consistent with clearways proposed on Warringah Road and other clearway proposals within the Sydney road network.</p> <p>In response to the feedback received during the community consultation process and a further review of the traffic data the clearway hours have been revised to:</p>
	Traffic volumes do not warrant a 24 hour clearway and doing so will not improve congestion.	
	Clearways should be implemented during peak hours only	
	A weekend	

Category	Matters raised	Roads and Maritime's response
	<p>clearway is not necessary.</p> <p>Traffic needs could be met by increasing the current clearway hours by one hour.</p> <p>Have alternate clearway hours been considered?</p>	<p>On Forest Way, from Adams Street to Wyatt Avenue/Morgan Road, Belrose, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and 3pm to 7pm weekdays. • No weekend clearways. <p>On Forest Way, from Warringah Road to Adams Street, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and from 3pm to 7pm on weekdays • 9am to 6pm on weekends. <p>Weekend clearways will not be implemented north of Adams Street at this time (see Figure 12 for clearway hours) however this may be reviewed following the Northern Beaches Hospital.</p>
	<p>These aren't consistent clearways to those across the state. Warringah Road, Pittwater Road and Mona Vale Road have different clearway timings.</p>	<p>For consistency across the road network and to make it easier for road users, clearway hours are standard across the network. Wherever possible, we use the following standard hours:</p> <ul style="list-style-type: none"> • weekday morning (6-10am) • middle of weekday (10am-3pm) • weekday afternoon (3-7pm) • weekend short day (9am - 6pm) • weekend long day (8am -8pm) • 24 hours across seven days (at all times). <p>Clearways have been installed along Mona Vale Road up to St Ives, and on Boundary Street, Babbage Road, and Warringah Road west of Roseville Bridge. Clearways are also being considered on Warringah Road east of Roseville Bridge. These important corridors were all identified in the Sydney Clearway Strategy.</p>
	<p>Once the Northern Beaches Hospital road works are completed, the clearway won't be required.</p>	<p>Clearway investigations were independent of the environmental impact assessment and traffic impact investigations carried out for the Northern Beaches Hospital (NBH) upgrade. The clearway investigations looked at the current traffic volumes along the corridor, and did not include the likely traffic changes to result from the operation of the NBH. Based on the outcome of this investigation, the proposed hours are considered appropriate at this point in time. Nonetheless, the study determined that new clearways are needed now, even without the likely increases in volumes resulting from the hospital upgrade.</p> <p>The traffic investigation work separately carried out for the NBH upgrade found that traffic volumes in the three hour AM and PM peak periods are forecast to increase from the 2012 base by 12 percent and 11 percent respectively in 2018 when the hospital opens. By 2028, traffic volumes are forecast to increase by a further five percent in the AM peak period and four percent in the PM peak period.</p>

Category	Matters raised	Roads and Maritime's response
		<p>If you are after more specific information about the Northern Beaches Hospital upgrade please visit www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital</p>
Congestion and Traffic	<p>There are already 'No Parking' restrictions in place on both sides of Forest Way.</p>	<p>The replacement of the 'No Parking' restrictions along Forest Way with clearway signage means vehicles can be towed if they are parked in the clearway during its operating hours. The change from 'No Parking' to clearways will have minimal impact for residents during the current hours of operation, but will have benefits for road users by keeping all the lanes available to traffic.</p> <p>Clearways impose different traffic restrictions and rules to 'No Parking' areas. A section of road marked as 'No Parking' allows vehicles to stop for two minutes. A section of a road marked for a clearway does not allow vehicles to stop or park during the times shown on the clearway sign. Any vehicles parked in the clearway risks being fined and towed.</p>
Parking	<p>Residents have limited space in their driveways.</p> <p>Alternate parking is too far away for some residents.</p> <p>The proposal does not provide any parking solutions for residents.</p> <p>There is limited alternate parking for residents.</p> <p>Residents are entitled to park outside their homes.</p> <p>Parking restrictions should be put in place on side streets to manage residential parking.</p>	<p>Forest Way is a state road with an important role in moving people and goods through Sydney's north. The primary purpose of a state road such as Forest Way is to efficiently and safely move people and goods across Sydney.</p> <p>The road passes through a number of residential areas zoned for low density housing under the Warringah Local Environmental Plan 2011, including Frenchs Forest and Belrose. These commonly have onsite parking within either a driveway, garage or car port. Any parking currently permitted on the state road is not specifically allocated to businesses, residents or individual properties.</p> <p>We understand that the new clearway hours will change parking conditions in front of residential properties, which will cause some inconvenience for residents and visitors. Vehicles parked in the kerbside lane can impact on the primary purpose of a state road. Therefore, Roads and Maritime can change parking restrictions across the state road network to ensure these roads are fulfilling their primary function, which is to transport people and goods across Sydney. Residents who live on this section of Forest Way will need to reconsider where they park during the new clearway hours.</p> <p>Residents without a driveway, garage or carport on their property will need to park in local streets during the clearway hours (subject to any Council restrictions). Outside the clearway hours, existing parking restrictions will remain in place.</p> <p>Our parking investigations over nine days from 13 June to 21 June 2015 found that there was a low demand for parking most of the time during the proposed clearway hours on Forest Way. Information collected on typical parking demand during the proposed clearway hours, is included below:</p>

Category	Matters raised	Roads and Maritime's response																
		<p data-bbox="584 172 1424 204"><u>Weekdays, between 6am and 10am, and between 3pm and 7pm</u></p> <table border="1" data-bbox="584 240 2002 555"> <thead> <tr> <th data-bbox="584 240 1133 277">Location</th> <th data-bbox="1133 240 2002 277">Vehicle Count</th> </tr> </thead> <tbody> <tr> <td data-bbox="584 277 1133 344">Southbound between Wearden Road and Adams Street</td> <td data-bbox="1133 277 2002 344">Typically 1 vehicle and a maximum of 5 vehicles in the evening.</td> </tr> <tr> <td data-bbox="584 344 1133 411">Northbound between Russell Avenue and Adams Street</td> <td data-bbox="1133 344 2002 411">Typically 1 vehicle in the morning.</td> </tr> <tr> <td data-bbox="584 411 1133 478">Northbound between Adams Street and Prince Charles Road</td> <td data-bbox="1133 411 2002 478">Typically 1 vehicle and a maximum of 7 vehicles in the morning.</td> </tr> <tr> <td data-bbox="584 478 1133 555">Northbound between Prince Charles Road and Glen Street</td> <td data-bbox="1133 478 2002 555">0 vehicles observed</td> </tr> </tbody> </table> <p data-bbox="584 592 1039 624"><u>Weekends, between 9am and 6pm</u></p> <table border="1" data-bbox="584 655 2002 831"> <thead> <tr> <th data-bbox="584 655 1133 692">Location</th> <th data-bbox="1133 655 2002 692">Vehicle Count</th> </tr> </thead> <tbody> <tr> <td data-bbox="584 692 1133 759">Northbound between Russell Avenue and Adams Street</td> <td data-bbox="1133 692 2002 759">Typically 1 vehicle and a maximum of 2 vehicles</td> </tr> <tr> <td data-bbox="584 759 1133 831">Southbound between Adams Street and Warringah Road</td> <td data-bbox="1133 759 2002 831">0 vehicles observed</td> </tr> </tbody> </table> <p data-bbox="584 868 1980 1002">No other vehicles were observed to be parked on Forest Way in other locations during the proposed revised clearway hours in the study period. Anecdotally parked vehicles have been observed southbound, south of Adams Street, and at times this can have a significant impact on the safety and efficiency of the Forest Way/Naree Road and the Forest Way/Warringah Road intersections.</p> <p data-bbox="584 1038 2051 1174">Following a review of the community feedback received and a revaluation of the traffic data, we have reduced the clearway hours to operate only at times where warranted by Forest Way traffic volumes (please refer to the section of this report above that discusses the traffic volume data). The revised clearway hours will limit the impact of the clearways for most residents who live on this corridor.</p>	Location	Vehicle Count	Southbound between Wearden Road and Adams Street	Typically 1 vehicle and a maximum of 5 vehicles in the evening.	Northbound between Russell Avenue and Adams Street	Typically 1 vehicle in the morning.	Northbound between Adams Street and Prince Charles Road	Typically 1 vehicle and a maximum of 7 vehicles in the morning.	Northbound between Prince Charles Road and Glen Street	0 vehicles observed	Location	Vehicle Count	Northbound between Russell Avenue and Adams Street	Typically 1 vehicle and a maximum of 2 vehicles	Southbound between Adams Street and Warringah Road	0 vehicles observed
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Southbound between Adams Street and Warringah Road	0 vehicles observed																	
	Business parking changes	The Sydney Clearway Strategy provides for the offset of business parking demand for parking that is removed through the introduction of a clearway. There are sections along the corridor that have some business uses including the Forest Way Shopping Centre and medical centre near Russell Avenue. Our investigation found that there was minimal demand for business parking along the corridor and any demand could be accommodated onsite or in side streets with no changes to current parking restrictions.																
	Parking bays should be installed on Forest Way.	Any parking currently permitted on Forest Way is not specifically allocated to residents or properties. Parking has an impact on the primary purpose and function of the State Road, therefore Roads and Maritime change parking restrictions as required across the state road network to ensure they are meeting their primary purpose.																

Category	Matters raised	Roads and Maritime's response
		<p>Residents will need to reconsider where they park during the new clearways, similar to all other state roads where clearways and 'No Stopping' restrictions are in place.</p> <p>Our investigations found there is capacity in local streets to accommodate for residents who currently park on Forest Way. However, even if this was not the case, the Strategy does not accommodate for the delivery of alternate parking for residents.</p> <p>The Sydney Clearways Strategy does accommodate for the delivery of alternate business parking to mitigate the impact of parking removed by a clearway on businesses. The type of alternate parking (i.e. timed street parking) considers access to local business and services. The clearways along Forest Way are not removing business parking spaces and therefore alternate business parking arrangements are not proposed as part of this proposal.</p>
Safety	<p>Extending clearways over the weekend will encourage kerbside lane overtaking. This will reduce safety for residents when exiting driveways.</p> <p>Getting in and out of driveways on Forest Way is difficult and sometimes dangerous.</p> <p>A residential driveway safety study should be carried out to ensure the new clearway is not creating resident risk.</p> <p>The proposed clearway will make</p>	<p>The proposed clearway on Forest Way would remove parking in the kerbside lane during the proposed clearway hours. This is expected to reduce congestion and delays for road users and improve safety.</p> <p>Removal of parked cars on the kerbside lane during the proposed clearway hours would improve line-of-sight for vehicles exiting driveways and vehicles travelling along the kerbside lane and assist in reducing crashes.</p> <p>Allowing the use of all lanes should improve the efficiency through existing intersections, meaning that more vehicles can cross during each traffic signal cycle. This often results in "platooning" where groups of vehicles travel closer together at similar speeds with larger gaps between each platoon (i.e. groups of vehicles).</p> <p>Larger gaps between platoons of vehicles allow more time to safely exit driveways, when compared with a steady stream of individual vehicles as observed when intersections are not operating efficiently.</p>

Category	Matters raised	Roads and Maritime's response
	Forest Way dangerous.	
	<p data-bbox="304 284 560 579">Extending clearways over the weekend will encourage kerbside lane overtaking. This will reduce safety for cyclists who use this route.</p> <p data-bbox="304 587 560 778">The new clearway hours will make it unsafe for cyclists and pedestrians to navigate the road with more traffic.</p>	<p data-bbox="582 284 2051 347">Cyclists are permitted to ride on the road under the Australian Road Rules. They must obey the road rules and may not ride more than two abreast in a traffic lane.</p> <p data-bbox="582 387 2051 483">When in operation, the clearway provides an additional lane for all traffic, including cyclists. When the clearway is not in operation and vehicles are parked in the kerbside lane, cyclists are permitted to use the middle lane on a multi lane section of road.</p> <p data-bbox="582 523 2051 587">The consistent availability of the kerbside lane will eliminate the need for cyclists to merge into the centre lane to go around parked cars which is the current practice, which can pose a safety risk.</p>
	The new clearway hours will make it unsafe for pedestrians with less safe spaces to move off the road.	<p data-bbox="582 794 2051 890">The introduction of new clearways on Forest Way will not interfere with pedestrian traffic signals and crossings. Roads and Maritime encourages all pedestrians to use caution and only cross roads safely where pedestrian crossing facilities are provided. These are provided at the following locations on Forest Way:</p> <ul data-bbox="627 930 1052 1177" style="list-style-type: none"> • Warringah Road • Near Rabbet Street • Adams Street • Glen Street • Wearden Road • Hews Parade/Perentie Road • Wyatt Avenue/Morgan Road.
	The new clearway hours will make it easier for motorists to speed.	<p data-bbox="582 1222 2051 1350">Clearways improve the distribution of traffic along the road as all lanes of traffic will be available to road users. Removing parked cars from the kerbside lane will remove the need for road users to have to speed up to merge with moving traffic in the adjacent lanes, and will also reduce the risk of vehicles being involved in side swipe crashes. This provides a more stable flow of traffic resulting in a safer environment for road users.</p> <p data-bbox="582 1390 2051 1445">Motorists along roads with clearways are required to abide to the prescribed speed limit. NSW Police are responsible for monitoring the road network to ensure users comply with all road rules and regulations. Roads</p>

Category	Matters raised	Roads and Maritime's response
		and Maritime through the Mobile Speed Camera Program and the NSW Police regularly enforce speed limits along Forest Way, and penalties apply should these limits be exceeded.
Residential and amenity access	Traffic volumes have increased rapidly impacting resident's daily lives.	Roads and Maritime seek to balance the needs of the community as well as road users. Forest Way is a key arterial road, and as Sydney continues to expand over the coming years, its role in moving people and goods will continue to grow in importance. Clearways are a way to manage congestion immediately. As clearways continue to be rolled out across Sydney, road users will experience more efficient, safer, and more reliable journey times. This means less time in the car, and more time doing the things they enjoy.
	Trades people and delivery drivers have nowhere to park.	The new clearway hours will change parking conditions in front of residential properties along Forest Way. If residents expect any private deliveries they will need to consider where the delivery vehicle could stop to unload. Forward planning for deliveries to ensure driveways and carports are available will provide on-site space for delivery drivers during clearway hours. This is similar to all other state roads where clearways and 'No Stopping' restrictions are in place.
	Less mobile residents and visitors cannot walk from side streets, where they will need to park.	Deliveries can often be scheduled outside of the proposed clearway hours, as an example groceries can be delivered across the day from 5am until 10pm or major furniture retailers can deliver from 7am to 9am on weekends. Most properties can provide off-street access for people with limited physical capacity and taxis are allowed to stop in clearways for pickup and set down passengers under the Australian Road Rules. In addition to taxis, the drivers of public buses and emergency vehicles are permitted to stop along a clearway when dropping off or picking up passengers.
	Buses will cause congestion by stopping to pick up and set down passengers. All bus stops should be located off the roadway.	Under NSW road rules, drivers of public buses and taxis are permitted to stop along a clearway when dropping off or picking up passengers. Police and emergency vehicles, including ambulance and fire and rescue services, are also permitted to stop in clearways. Buses stopping to pick up or drop off passengers add minimal delay to the network with the typical dwell time being less than one minute. A bus lane currently operates on Forest Way approaching Warringah Road. Continual use of the kerbside lane is expected to improve the traffic flow of busses as they will not need to change lanes around parked vehicles.
There should be a bus lane on Forest Way.	Forest Way was identified as part of Sydney's Bus Future (2013) as a Suburban Bus Route. Further information can be found at http://www.rms.nsw.gov.au/projects/easing-sydneys-congestion/bus-priority-program.html	
Residents should be offered compensation for the loss of parking.	We understand that the new clearway hours will change parking conditions in front of residential properties, which may cause some inconvenience for residents and visitors. However the primary purpose of a state road such as Forest Way is to move people and goods efficiently across Sydney. Any parking currently permitted on the state road, which is a public asset, is not specifically allocated to residents or properties. Parking impacts on	

Category	Matters raised	Roads and Maritime's response
		<p>the primary function of the road and Roads and Maritime change parking restrictions across the state road network to ensure they are meeting their primary purpose.</p> <p>The introduction of new clearways does not change the land use, land size or development capacity of your property.</p>
Other Clearway proposals	Will clearways be introduced on Mona Vale Road at St Ives' Shopping Centre?	New clearways were installed at the St Ives Shops on Mona Vale Road in March 2017. More information can be found on our website at rms.nsw.gov.au/clearways .
	Beacon Hill Road, Beacon Hill should be considered for a clearway.	Roads and Maritime Services manage state roads, with the Sydney Clearways Strategy (December 2013) recommending the investigation of clearways on a number of state roads. Beacon Hill Road and Memorial Avenue are local roads managed by Council. We have forwarded your request for clearways to Northern Beaches Council and Ku-Ring-Gai Council for their consideration.
	Memorial Avenue, St Ives should be considered for a clearway.	

Category	Matters raised	Roads and Maritime's response
Consultation	Roads and Maritime have not carried out sufficient community consultation.	<p>Roads and Maritime consults to understand the concerns and needs of the community, so that this feedback can be considered in addition to the data collected and surveyed for a proposal.</p> <p>During the consultation period for this proposal, Roads and Maritime used a number of methods to consult with the community and stakeholders:</p> <ul style="list-style-type: none"> • we distributed 4,000 community updates to residents and businesses in the local area • community updates were sent to key stakeholders including councils, members of parliament, emergency services, utilities, businesses, education facilities and community groups • advertisements were placed in the Manly Daily and the North Shore Times to appear on Wednesday 6 February 2017 • The project team visited resident representatives in the area during the week of 27 February to 3 March • a media release was issued. <p>As a result of community feedback, Roads and Maritime extended the initial consultation period for proposed new clearways on Forest Way. We also held a community information session on Thursday, 16 March 2017, to allow community members the opportunity to meet with the project team and discuss the proposal. After considering all responses, along with the proposal's aims and design requirements, we are progressing with the proposal with some changes as a result of community feedback.</p> <p>We are now progressing with a revised clearways proposal that seeks to install the following clearways:</p> <p>On Forest Way, from Adams Street to Wyatt Avenue/Morgan Road, Belrose, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and 3pm to 7pm weekdays. • No weekend clearways. <p>On Forest Way, from Warringah Road to Adams Street, clearways in both directions from:</p> <ul style="list-style-type: none"> • 6am to 10am and from 3pm to 7pm on weekdays • 9am to 6pm on weekends. <p>Weekend clearways will not be implemented north of Adams Street at this time (see Figure 12 for clearway hours) however this may be reviewed following the Northern Beaches Hospital.</p> <p>We have also decided to display the Review of Environmental Factors (REF) to seek any further feedback on the revised clearway proposal.</p>

Table 2 – Out of Scope Comments

Matters raised	Roads and Maritime’s response
<p>The speed limit from The Esplanade southbound should be reduced as it is downhill and dangerous.</p>	<p>In NSW Roads and Maritime Services is responsible for the setting and signposting of safe and appropriate speed limits in accordance with NSW Speed Zoning Guidelines.</p> <p>Speed limits in NSW, as in other parts of Australia, are determined by a number of factors including the road geometry, surrounding conditions, road usage, adjacent development, vehicle types and volumes, crash history and the number of access points along the route.</p> <p>Roads and Maritime aims to provide consistent speed limits for motorists on NSW roads, which accurately reflect the road and surrounding environment in line with the NSW Speed Zoning Guidelines.</p> <p>Roads and Maritime reviewed the speed limits on Forest Way between Wyatt Avenue/Morgan Road, Belrose and Warringah Road, Frenchs Forest in February 2017.</p> <p>The existing speed limits along Forest Way have been reviewed in accordance with the NSW Speed Zoning Guidelines and are considered appropriate.</p> <p>The enforcement of road rules including speeding offences remains the primary responsibility of NSW Police. Please contact Northern Beaches Local Area Command to determine if targeted enforcement is appropriate at this location.</p>
<p>Heavy vehicles race down Forest Way and use their air brakes when they have to slow down.</p> <p>There is no evidence of Roads and Maritime policing heavy vehicles that ignore road rules on noise levels</p>	<p>Noise from heavy vehicle engine compression brakes is a significant and on-going cause of complaint for many NSW residents. Roads and Maritime completes periodic inspection of heavy vehicles at testing stations to ensure that silencers are fitted and maintained. Heavy vehicles on Australian roads during normal operation and acceleration must meet noise requirements outlined in the Australian Design Rules. Roads and Maritime is part of a Commonwealth process coordinated by the National Transport Commission to look at ways of reducing engine compression brake noise.</p> <p>A heavy vehicle inspection bay operates periodically on Mona Vale Road near St Ives Showground to inspect Heavy Vehicles</p> <p>For more information on heavy vehicle exhaust noise please contact Roads and Maritime on 1300 786 748 or visit the website rms.nsw.gov.au/about/environment/reducing-noise/index.html.</p>
<p>The hospital road works should include through lanes on The Parkway for intersections at French’s Forest Road, Warringah Road and Aquatic Drive.</p>	<p>As part of the Environmental Impact Statement and development phase for the Northern Beaches Hospital (NBH) project, additional connections at these locations and through lanes were considered.</p> <p>For further information on this project, please visit www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital</p>

Matters raised	Roads and Maritime's response
<p>Can a right turn arrow be installed from Forest Way into Adams Street for traffic travelling northbound?</p> <p>There should be no right turn from Forest Way into Adams Street, except buses.</p> <p>At the intersection of Forest Way and Adams Street there is a right turn arrow, which is never turned on. This is contributing to congestion and should be turned on.</p>	<p>There are no plans at this time to change the operation of the right turn from Forest Way into Adams Street.</p>
<p>There is congestion at the intersection of Forest Way and Mona Vale Road. There is no left hand turn lane here and as a result cars bank up waiting to turn left.</p>	<p>The NSW Government is funding two intersection improvements on Mona Vale Road at Forest Way and Forest Way at Garigal Road as part of its \$300 million Urban Roads Pinch Point Program and its \$225 million Pinch Point Program, which aims to reduce congestion and improve travel times on Sydney's busiest corridors. For more information on these projects, please visit:</p> <p>http://www.rms.nsw.gov.au/projects/easing-sydneys-congestion/pinch-point-program</p>
<p>Forest Way should have dedicated left turn lanes. Especially, there should be a new dedicated left turn lane from Forest Way into Garigal Road.</p>	<p>The improvements on Forest Way and Mona Vale Road will improve traffic flow and safety by widening sections of the road, adding turning lanes and providing new footpaths.</p>
<p>Congestion is caused by the intersection of Warringah Road and Forest Way. This intersection should be upgraded instead.</p>	<p>The NSW Government is investing \$500 million to upgrade the roads around the new Northern Beaches Hospital. The upgrades will provide customers with a better travel experience, increased capacity on the road network and improved access through the area, including for pedestrians and cyclists. For further information on this project, please visit www.rms.nsw.gov.au/projects/sydney-north/northern-beaches-hospital</p>
<p>Forest Way should be re-zoned for units.</p>	<p>Roads and Maritime manage Sydney's state roads and are not responsible for planning controls such as land zoning. Any land use and zoning enquiries or suggestions should be directed to the Northern Beaches Council for their consideration.</p>

Matters raised	Roads and Maritime's response
Cars turn right into Fitness First and the Caltex service station on Eastern Valley Way. This causes congestion as southbound vehicles are forced into one lane. Extend the median strip to stop vehicles from turning across double lines.	Eastern Valley Way was identified in the Sydney Clearways Strategy for further investigation as a new or extended clearway. This request has been forwarded to the project team for consideration as part of the Eastern Valley Road investigations.

Decision

Roads and Maritime thanks everyone who considered this proposal and provided feedback.

Based on the community feedback and further review of traffic data, the hours of the clearways proposal on Forest Way between Wyatt Avenue/ Morgan Road, Belrose to Warringah Road, Frenchs Forest will be changing from 6am to 7pm on weekdays and 9am to 6pm on weekends to:

- **6am to 10am and 3pm to 7pm on weekdays from Warringah Road to Wyatt Ave and Morgan Road**
- **9am to 6pm on weekends and public holidays from Warringah Road to Adams Street only.**

Weekend clearways will not be implemented north of Adams Street at this time (see **Figure 12** for clearway hours) however this may be reviewed following the opening of the Northern Beaches Hospital.

Next steps

Roads and Maritime has decided to progress the revised proposal and display the Review of Environmental Factors (REF), which responds to feedback raised during the community consultation period in February and March 2017. More information on how you can view the REF can be found on our website at rms.nsw.gov.au/clearways.

Following the display of the REF, Roads and Maritime will advise the community and stakeholders of the outcome. We will continue to keep the community informed as the proposal progresses.

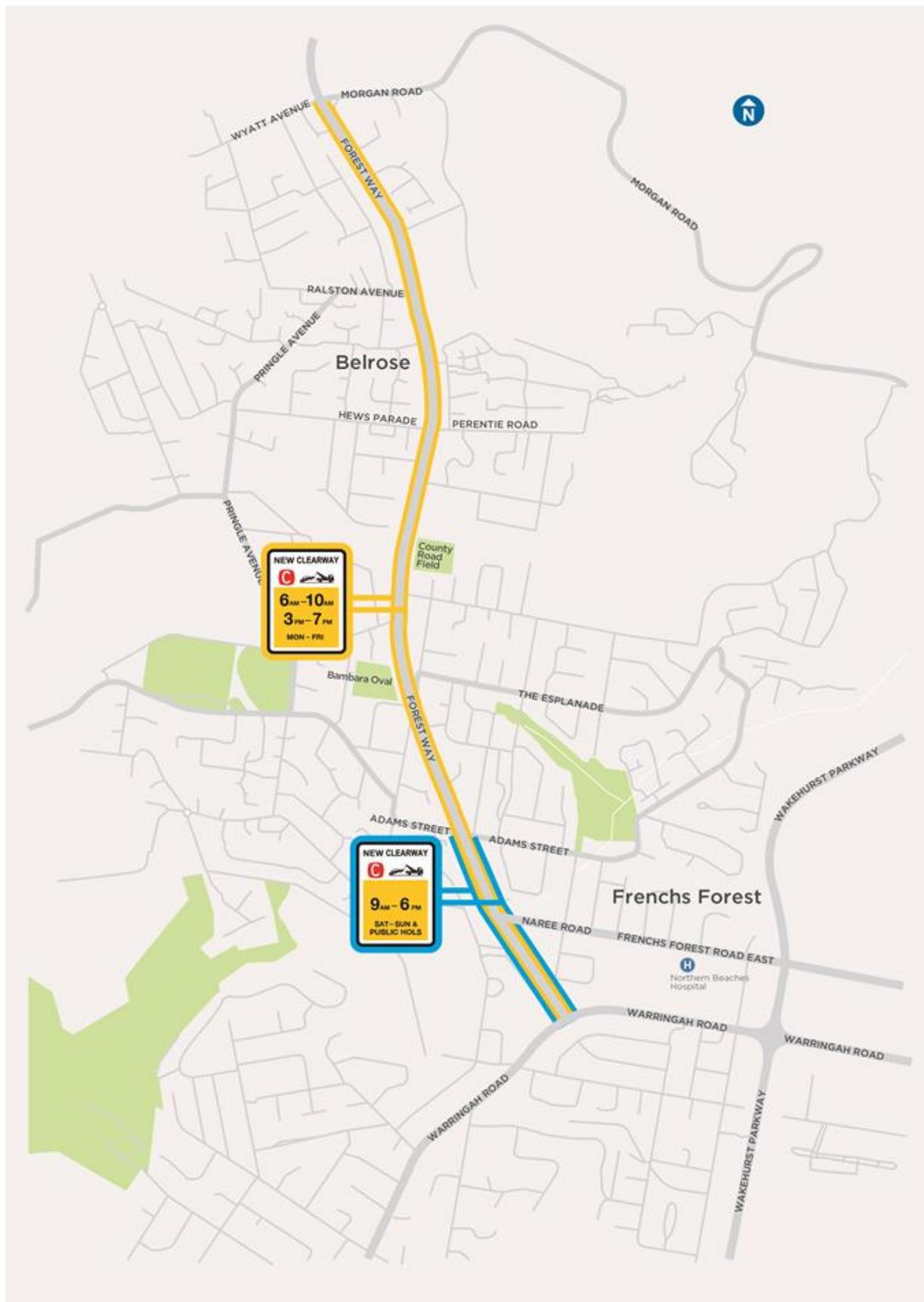


Figure 12 – Revised clearway proposal on Forest Way, Belrose to Frenchs Forest (February 2018)

Appendices

Appendix A – March 2017 Have Your Say



Forest Way, Frenchs Forest

HAVE YOUR SAY

Proposed new clearways on Forest Way between Wyatt Avenue/Morgan Road, Belrose and Warringah Road, Frenchs Forest

February 2017

Roads and Maritime Services is seeking your feedback by **Friday 3 March**, on a proposal to introduce new weekday and weekend clearways on Forest Way from Wyatt Avenue/Morgan Road, Belrose to Warringah Road, Frenchs Forest.

The current 'No Parking' restrictions operate northbound from 3:30pm to 6:30pm and southbound from 6:30am to 9:30am.

Why Clearways?

Traffic along Forest Way can become congested especially when the kerbside lane is blocked by parked cars. This is particularly an issue when the right lane is also blocked by vehicles turning right.

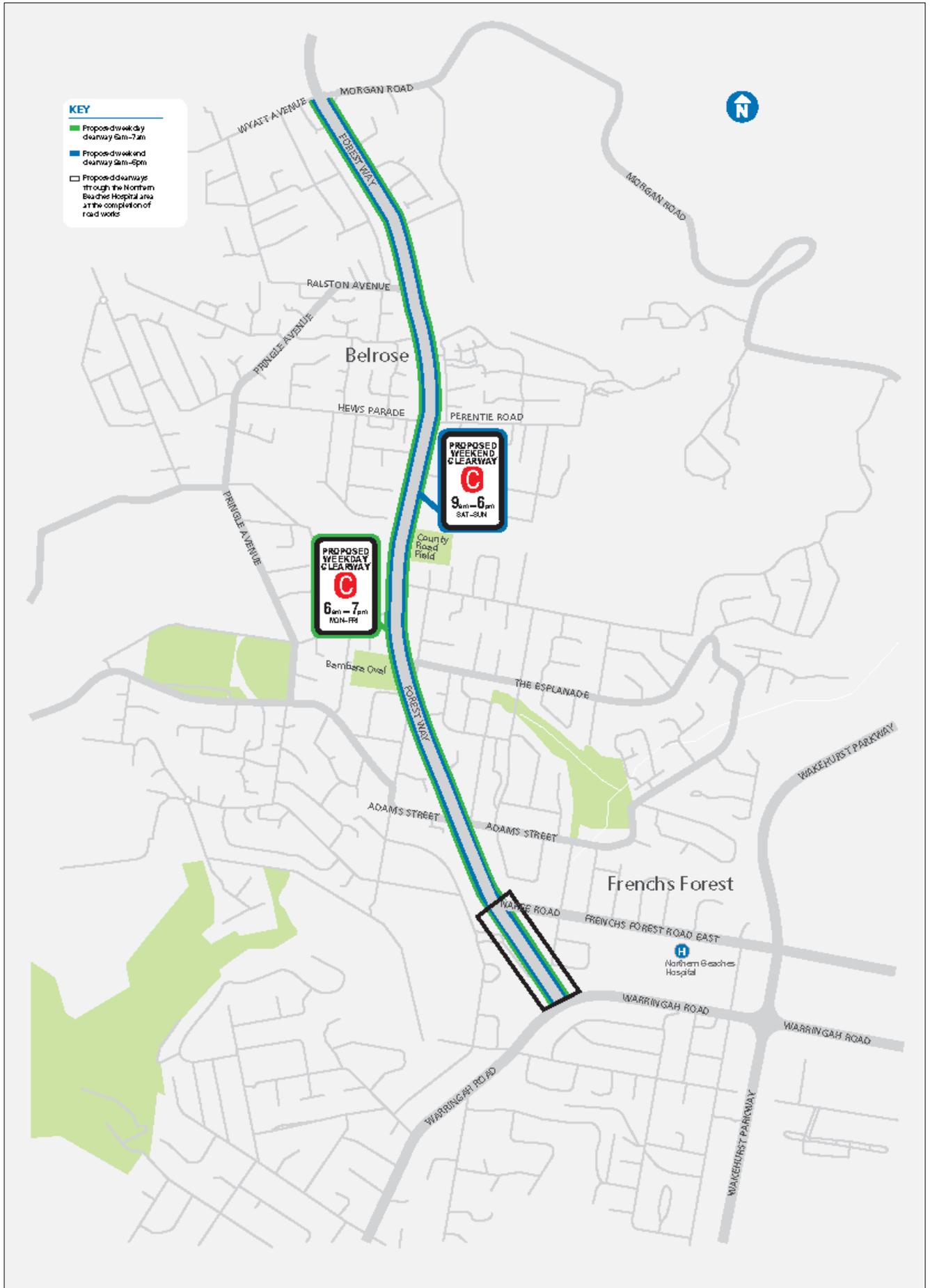
A clearway is a section of road where motorists must not stop or park during specified hours.

When cars are parked in a kerbside lane, they take up a lane which could be available to traffic.

We know installing clearways on any State road where on-street parking obstructs the flow of traffic can help ease congestion and improve travel times.

Key Benefits

- Supporting the efficient movement of people and goods on Sydney's major roads
- Facilitating more reliable journey times for motorists
- Increasing road capacity when warranted without expensive investment in widening roads
- Balancing the use of kerbside lanes for motorists and for parking when clearways are not required.



What hours of operation are proposed?

Roads and Maritime is proposing to install new clearways in both directions on Forest Way between Wyatt Avenue/ Morgan Road, Belrose and Warringah Road, Frenchs Forest

- Weekdays from 6:00am to 7:00pm
- Weekends from 9:00am to 6:00pm

Please note: Changes to clearway restrictions around the Northern Beaches Hospital works would take place once roadworks is complete.

These clearway hours will be consistent with other major arterial roads in Sydney. By providing consistent hours of operation of our clearway network, it minimises the chance of confusion or a mistake by motorists.

Background

In December 2013, the NSW Government announced the Sydney Clearways Strategy as one of its key initiatives to reduce congestion on Sydney's major roads. The NSW Government committed \$121 million to implementing the strategy and installing new clearways on Sydney's road network.

Since 2013, we've installed over 150 kilometres of new and extended clearways across some of Sydney's busiest road corridors and we are continuing to investigate new and extended weekday and weekend clearways across the network.

The Strategy identified Forest Way for further investigation of new and extended clearways and is recognised as an important corridor that provides access for the Frenchs Forest, Belrose and Terrey Hills communities to the new Northern Beaches Hospital, Chatswood, and Sydney CBD. It also links Mona Vale Road and Warringah Road, both major State roads.

Alternative business parking arrangements

The proposal would have a minor impact on business parking along the route, however parking in front of residential properties would be impacted.

A study of current parking use and alternative parking options found there is sufficient alternative business parking available in nearby side streets and existing carparks. It also found that all residential properties potentially impacted by the proposal have driveways or off-street parking.

Investigations for new clearways

Preliminary investigation work showed this section of Forest Way between Wyatt Avenue/Morgan Road and Warringah Road, Frenchs Forest meets the criteria for further investigation of a clearway, the criteria being:

- travel speeds are less than 30km/h during peak periods
- traffic flow is more than 800 vehicles per flow lane, per hour during peak periods
- the road is an important public transport and/or freight route for moving people and goods
- alternative parking can be found close to local businesses.

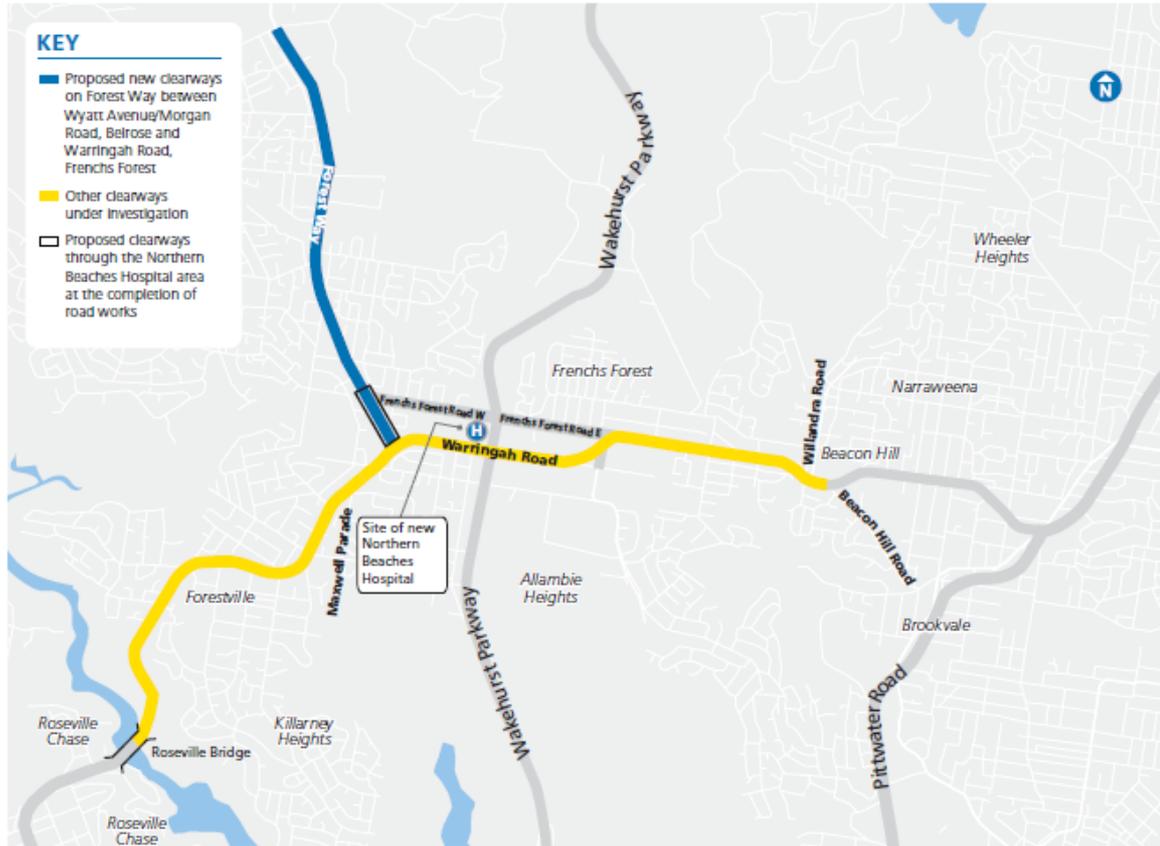
Traffic conditions on Forest Way north of Wyatt Avenue/ Morgan Road, Belrose, do not currently warrant extended clearway conditions and are not part of this proposal.



Forest Way and Narwe Road, Frenchs Forest



Location map



Have your say

Roads and Maritime welcomes your comments on our proposal by Friday 3 March.

You can provide your comments by:

-  1300 706 232
-  clearways@rms.nsw.gov.au
-  Roads and Maritime Services
PO Box 973
Paramatta NSW 2124
-  rms.nsw.gov.au/clearways



If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 1300 706 232.

Next steps

We will consider all feedback received before deciding whether to proceed with the proposal. A community consultation report will be prepared summarising comments and issues raised and will be made available on our website.

We will keep you updated as the proposal progresses.



February 2017
RMS 17.030



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March 2017

Community Information Session – Proposed new and extended clearways from Beacon Hill to Belrose and Roseville

The NSW Government is acting to reduce congestion and delays by introducing new and extended clearways on Sydney's roads.

Roads and Maritime Services is holding a community information session on **Thursday 16 March** on a proposal to install new and extended clearways on Warringah Road between Beacon Hill and Roseville and Forest Way between Frenchs Forest and Belrose.

We will also extend the consultation period for these Clearways until **Monday 20 March** to allow more time for community feedback.

The proposed extended and new clearway hours on both Forest Way and Warringah Road are:

- 6am to 7pm on weekdays
- 9am to 6pm on weekends.

The existing parking restrictions on these corridors would continue to operate outside of the proposed clearway times.

We have included a map to show the location of the proposed clearways.

New and extended clearways would help to protect traffic flow and reduce delays by allowing us to tow vehicles that park illegally or break down. The proposed clearways would ensure all lanes are available to traffic when the road is near capacity on both weekdays and weekends.

Community Information Session

Thursday 16 March

6.30pm to 8.00pm

Forestville Senior Citizens Centre

2 Starkey Street, Forestville NSW 2087

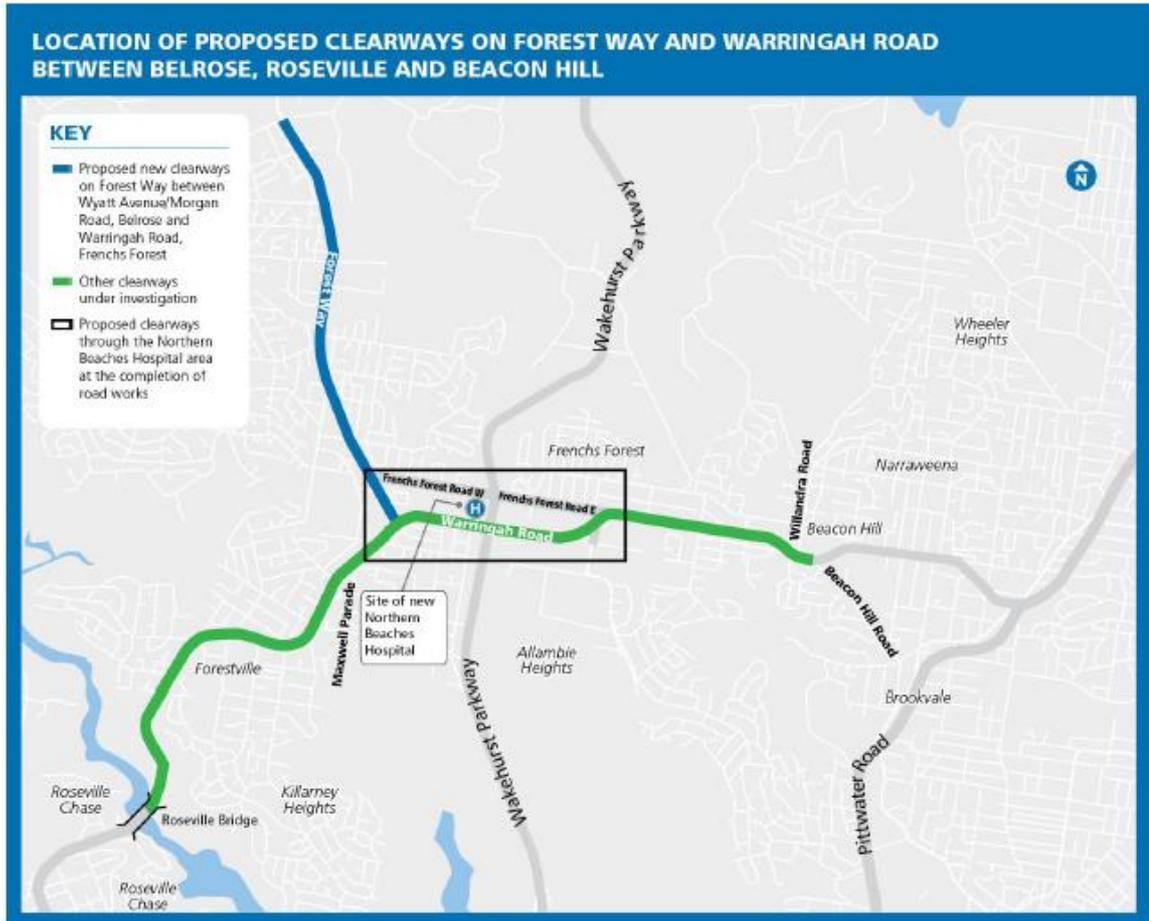
We invite you to attend the community information session to provide your feedback.

You can also comment by email clearways@rms.nsw.gov.au, phone on 1300 706 232 or in writing:

Sydney Clearways Strategy
Roads and Maritime Services
PO Box 973
Parramatta, NSW, 2124

Next Steps

Roads and Maritime will consider all feedback provided at this information session in addition to those submissions received before Monday 20 March 2017. We will respond to community feedback through a consultation report in the coming months. We will keep you updated as we progress.



Translating and Interpreting Service

If you need an interpreter, please call the Translating and Interpreting Service (TIS National) on **131 450** and ask them to telephone Roads and Maritime Services on 1300 706 232

Arabic

إذا كنت بحاجة إلى مترجم، الرجاء الاتصال بخدمة الترجمة الخطية والشفهية (TIS National) على الرقم 1300 706 232، والطلب منهم الاتصال بوكالتكم Roads and Maritime Services على الرقم **131 450**

Cantonese

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Mandarin

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Greek

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Italian

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Korean

통역사가 필요하시면 번역통역서비스 (TIS National) 에 **131 450** 으로 연락하여 이들에게 1300 706 232 번으로 Roads and Maritime Services 에 전화하도록 요청하십시오.

Vietnamese

Nếu cần thông ngôn viên, xin quý vị gọi cho Dịch Vụ Thông Phiên Dịch (TIS Toàn Quốc) qua số **131 450** và nhờ họ gọi cho Roads and Maritime Services qua số 1300 706 232



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March 2017

Project Update – Proposed new and extended clearways on Warringah Road between Beacon Hill and Roseville and Forest Way between Frenchs Forest and Belrose

The NSW Government is acting to reduce congestion and delays by introducing new and extended clearways on Sydney's roads.

Roads and Maritime Services is proposing to install new and extended clearways on Warringah Road between Beacon Hill and Roseville and Forest Way between Frenchs Forest and Belrose.

A community information session was held on Thursday 16 March 2017 in Forestville to give the community the opportunity to meet with the project team and provide feedback on the proposals. We would like to thank all those who attended.

Next Steps

Roads and Maritime will consider all feedback received from the February and March 2017 consultation period. The comments raised by the community during this period will be considered and assessed along with other available data to further refine the clearways proposal. This assessment will inform the Review of Environmental Factors (REF) to be developed for the proposed clearways on Warringah Road and Forest Way.

Display of Review of Environmental Factors (REF)

The REF will assess the proposals, any potential environmental and social impacts and will recommend measures to minimise any identified impacts.

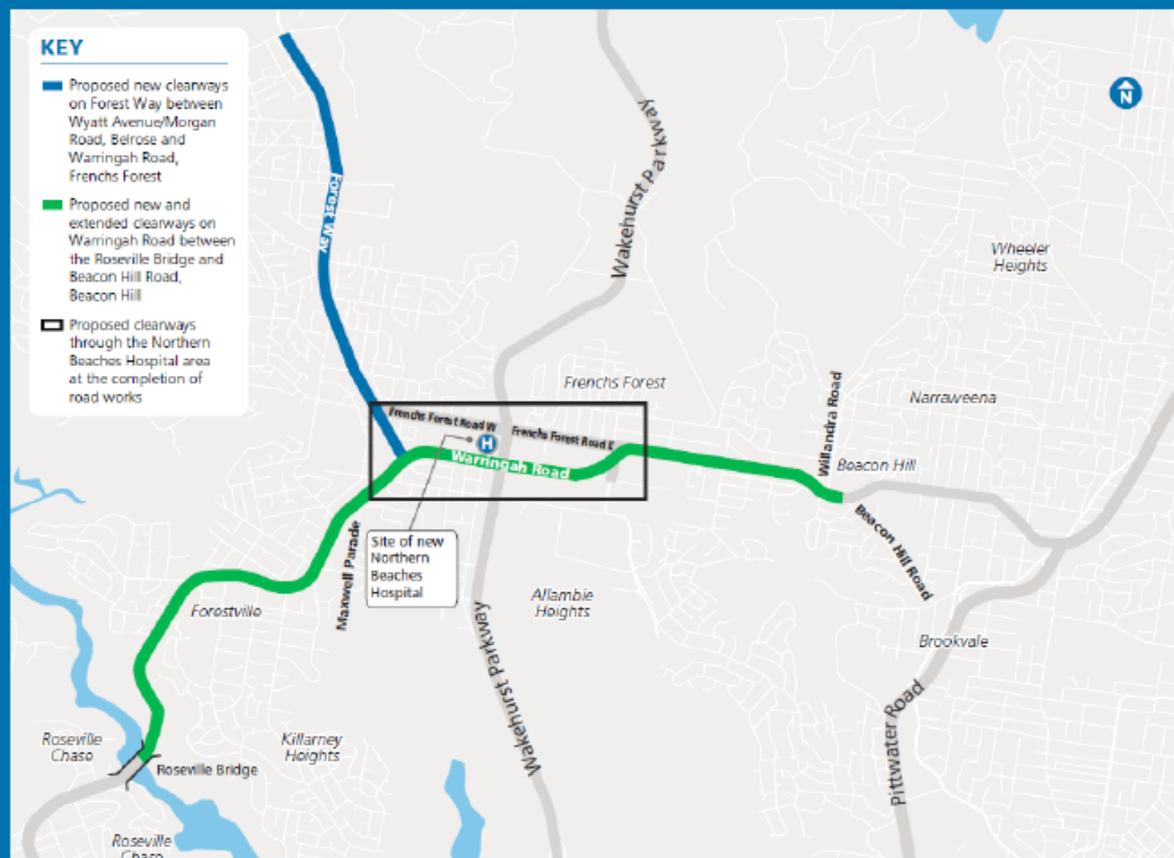
We will publicly display the REF for each clearways proposal and will invite further feedback from the community at that time. The community will be notified of the display locations and how to make a submission.

We will keep you updated as the proposal progresses.

Contact

For more information on our clearways program, please visit www.rms.nsw.gov.au/clearways, call 1300 706 232 or email clearways@rms.nsw.gov.au

LOCATION OF PROPOSED CLEARWAYS ON FOREST WAY AND WARRINGAH ROAD BETWEEN BELROSE, ROSEVILLE AND BEACON HILL



Translating and Interpreting Service

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Arabic

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Cantonese

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Mandarin

如果你需要口译员，请致电 131 450 联系翻译和口译服务署 (TIS National)，要求他们致电 1300 706 232 联系 Roads and Maritime Services。

Greek

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Italian

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Korean

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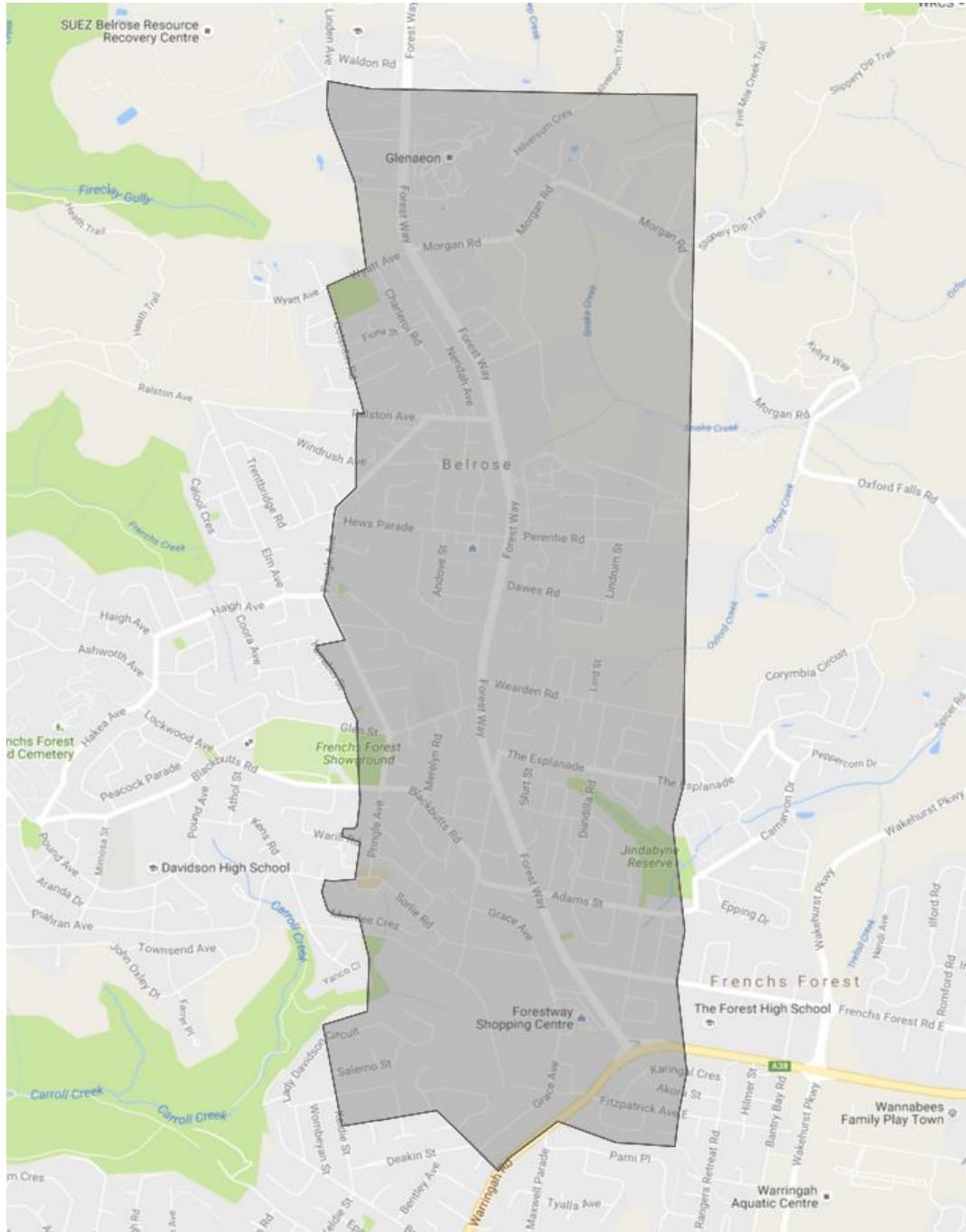
Vietnamese

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Appendix D – Distribution Area



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Clearways

Roads and Maritime

PO Box 973 Parramatta NSW 2124

Appendix C

ISEPP consultation requirements checklist

ISEPP consultation requirements Checklist

This checklist is a tool that can be used in the early preparation of a review of environmental factors (REF). It helps ensure that the consultation requirements in *State Environmental Planning Policy (Infrastructure) 2007* are met. Part 2 of the ISEPP contains provisions for public authorities to consult with local Councils and other public authorities prior to the commencement of certain types of development. This is detailed below:

Council related infrastructure or service

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
Stormwater	Are the works likely to have a <i>substantial</i> impact on the stormwater management services which are provided by Council?	No	N/A	Clause 13(1)(a)
Traffic	Are the works likely to generate traffic to an extent that will <i>strain</i> the existing road system in a local government area?	No	N/A	Clause 13(1)(b)
Sewerage system	Will the works involve connection to a Council owned sewerage system? If so, will this connection have a <i>substantial</i> impact on the capacity of the system?	No	N/A	Clause 13(1)(c)
Water usage	Will the works involve connection to a Council owned water supply system? If so, will this require the use of a <i>substantial</i> volume of water?	No	N/A	Clause 13(1)(d)
Temporary structures	Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local Council management or control? If so, will this cause more than a <i>minor</i> or <i>inconsequential</i> disruption to pedestrian or vehicular flow?	No	N/A	Clause 13(1)(e)
Road & footpath excavation	Will the works involve more than <i>minor</i> or <i>inconsequential</i> excavation of a road or adjacent footpath for which Council is	No	N/A	Clause 13(1)(f)

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
	the roads authority and responsible for maintenance?			

Local heritage items

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
Local heritage	Is there is a <i>local heritage item</i> (that is not also a State heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the item/ area are more than <i>minor</i> or <i>inconsequential</i> ?	No	N/A	Clause 14

Flood liable land

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
Flood liable land	Are the works located on <i>flood liable land</i> ? If so, will the works change flood patterns to more than a <i>minor extent</i> ? If YES – consult.	No	N/A	Clause 15

Public authorities other than Councils

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
National parks and reserves	Are the works <i>adjacent</i> to a national park or nature reserve, or other area reserved under the <i>National Parks and Wildlife Act, 1974</i> ?	No	N/A	Clause 16(2)(a)
Marine parks	Are the works <i>adjacent</i> to a declared marine park under the <i>Marine Parks Act 1997</i> ?	No	N/A	Clause 16(2)(b)

Issue	Potential impact	Yes / No	If 'yes' consult with	ISEPP reference
Aquatic reserves	Are the works <i>adjacent</i> to a declared aquatic reserve under the <i>Fisheries Management Act 1994</i> ?	No	N/A	Clause 16(2)(c)
Sydney Harbour foreshore	Are the works in the Sydney Harbour Foreshore Area as defined by the <i>Sydney Harbour Foreshore Authority Act 1998</i> ?	No	N/A	Clause 16(2)(d)
Bush fire prone land	Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in <i>bush fire prone land</i> ?	No	N/A	Clause 16(2)(f)

Appendix D

Sydney Clearways Strategy, Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest, Data Report – Volume and Travel Time Analysis (Peopletrans 2018)

people**trans**



Sydney Clearways Strategy

Forest Way from Mona Vale Road, Terrey
Hills to Warringah Road, Frenchs Forest

Data Report – Volume and Travel Time
Analysis

people**trans**

Sydney Clearways Strategy: Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest

Data Report – Volume and Travel Time Analysis

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1. Introduction

In June 2011, the Minister of Roads and Ports announced that a review of the current clearways and parking restrictions was to be undertaken with a view to developing a new Clearways Strategy for Sydney. The aim of this was to ultimately improve the efficiency and reliability of the State road network. This clearways strategy was also to form part of a larger group of initiatives strategically targeting congestion in and around the Sydney CBD.

On 1 December 2013, the Minister for Roads and Ports officially released the Sydney Clearways Strategy, *Keeping Sydney Moving* (referred to further within this report as "The Strategy")¹.

The Strategy identified that congestion costs Sydney residents an estimated \$5.1 billion per year². It also set out criteria for identifying potential weekday and weekend clearways, a process for engaging with local stakeholders and a process around supporting funding for providing alternative parking to minimise impacts on local businesses and residents.

Roads and Maritime has completed investigations, and in some cases implemented clearways along a number of high priority Sydney Regional corridors being Victoria Road, the A1 (Princes Highway), the A3 (Pacific Highway, Lane Cove Road and Mona Vale Road), Pacific Highway and Parramatta Road.

PeopleTrans was commissioned by the Roads and Maritime Services (Roads and Maritime) in May 2015 to investigate the parking demand and parking duration along Forest Way from Mona Vale Road, Terry Hills to Warringah Road, Frenches Forest. This report provides a summary of the investigations and analysis of the proposed clearway corridor.

The investigation was to be undertaken broadly in accordance with the parking framework appended to the Strategy but more specifically in accordance with the Roads and Maritime study brief.

¹ <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/sydney-clearways-strategy.pdf> - accessed 1/6/15

² http://roadsafety.transport.nsw.gov.au/downloads/clearways/fact_sheets/clearways_strategy.pdf - accessed 1/6/15

Introduction

1.1 Key Study Objective

The key objective of this study was to provide supporting information to Roads and Maritime related to lane by lane traffic volumes and corridor travel times. This information should allow Roads and Maritime to determine the feasibility / benefits or otherwise of extending the times or extent of the existing clearway times on Forest Way.

1.2 Scope of Works

The following work was undertaken as part of this study:

- Multiple site inspections.
- Tube surveys recording vehicle lane-by-lane vehicle volume and speed 24 hours a day for a one-week period.
- A driving survey to identify travel times along the corridor undertaken during the times indicated in Table 1.1.

Table 1.1: Daily Survey Times

Date	Survey Times
Saturday 13/6/15	8:00am to 8:00pm
Sunday 14/6/15	8:00am to 8:00pm
Monday 15/6/15	6:00am to 7:00pm
Tuesday 16/6/15	6:00am to 7:00pm
Wednesday 17/6/15	6:00am to 7:00pm
Thursday 18/6/15	6:00am to 7:00pm
Friday 19/6/15	6:00am to 7:00pm
Saturday 20/6/15	8:00am to 8:00pm
Sunday 21/6/15	8:00am to 8:00pm

- Analysis of survey data.
- Recording of end-to-end corridor travel times.

1.3 Purpose of this Report

This report provides a summary of investigations and analysis of the proposed clearway corridor along Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest.

2. Corridor – Forest Way, Mona Vale Road to Warringah Road

The following sections provide an overview of the investigations of the corridor which runs along Forest Way from Mona Vale Road in Terrey Hills to Warringah Road in Frenchs Forest, hereafter referred to as ‘the corridor’.

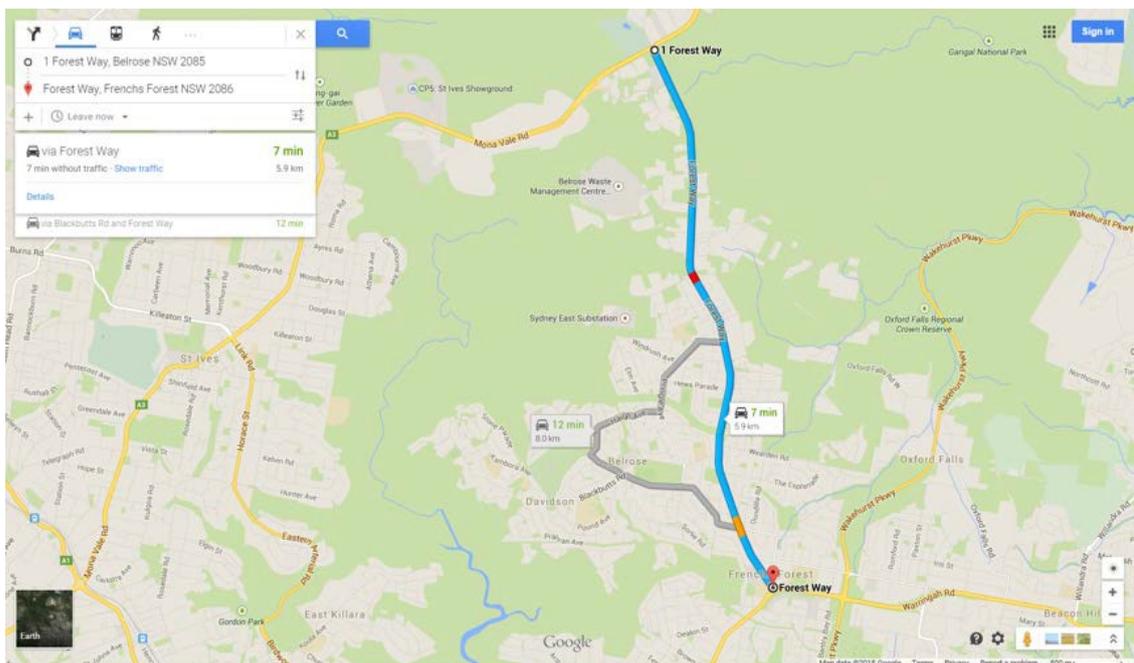
2.1 Route Overview

The corridor is approximately 5.9km long and extends from Mona Vale Road in Terrey Hills to Warringah Road in Frenchs Forest as indicated in Figure 2.1. For the purposes of this study, including the assessment of parking in both the northbound and southbound directions this equates to a total study length of 11.8km. There are no strip commercial / retail areas along the route and the majority of the properties fronting Forest Way are residential in nature.

There are currently no clearway restrictions along the length of the corridor however parts of the corridor are subject to ‘No Parking’ restrictions during peak times.

The corridor is contained within the Northern Beaches Local Government Area.

Figure 2.1: Corridor Overview – Mona Vale Rd, Terrey Hills - Warringah Rd, Frenchs Forest



The corridor has the following attributes:

- Total distance of approximately 5.9km (one-way).
- No strip retail centres along the route.
- Long stretches of residential properties.
- No existing clearway restrictions.

3. Survey Analysis and Summary Results

3.1 Travel Time Surveys

PeopleTrans reviewed the video recorded during the driving surveys to determine the travel time from the start to the end of the route, in both the southbound and northbound direction. The timing points are identified in Figure 3.1 and Figure 3.2.

Figure 3.1: Timing points in southbound direction

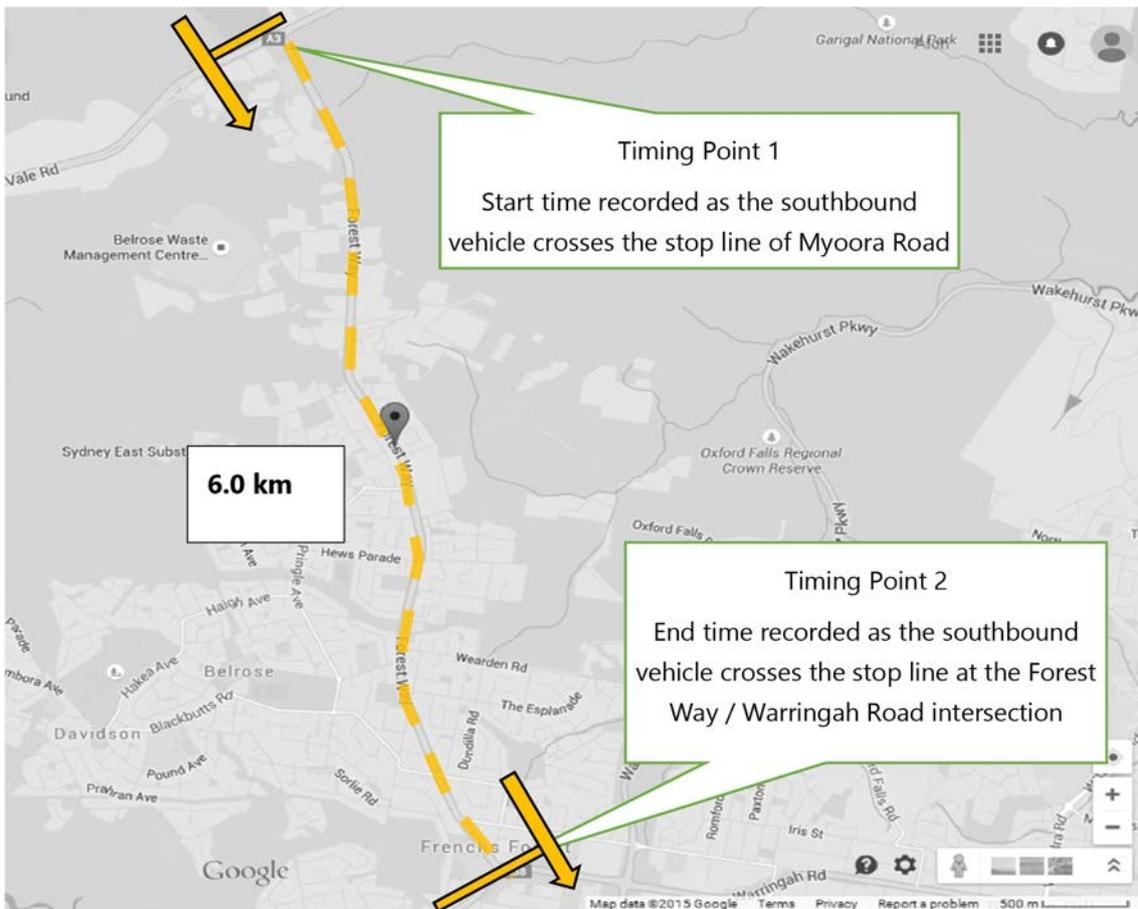
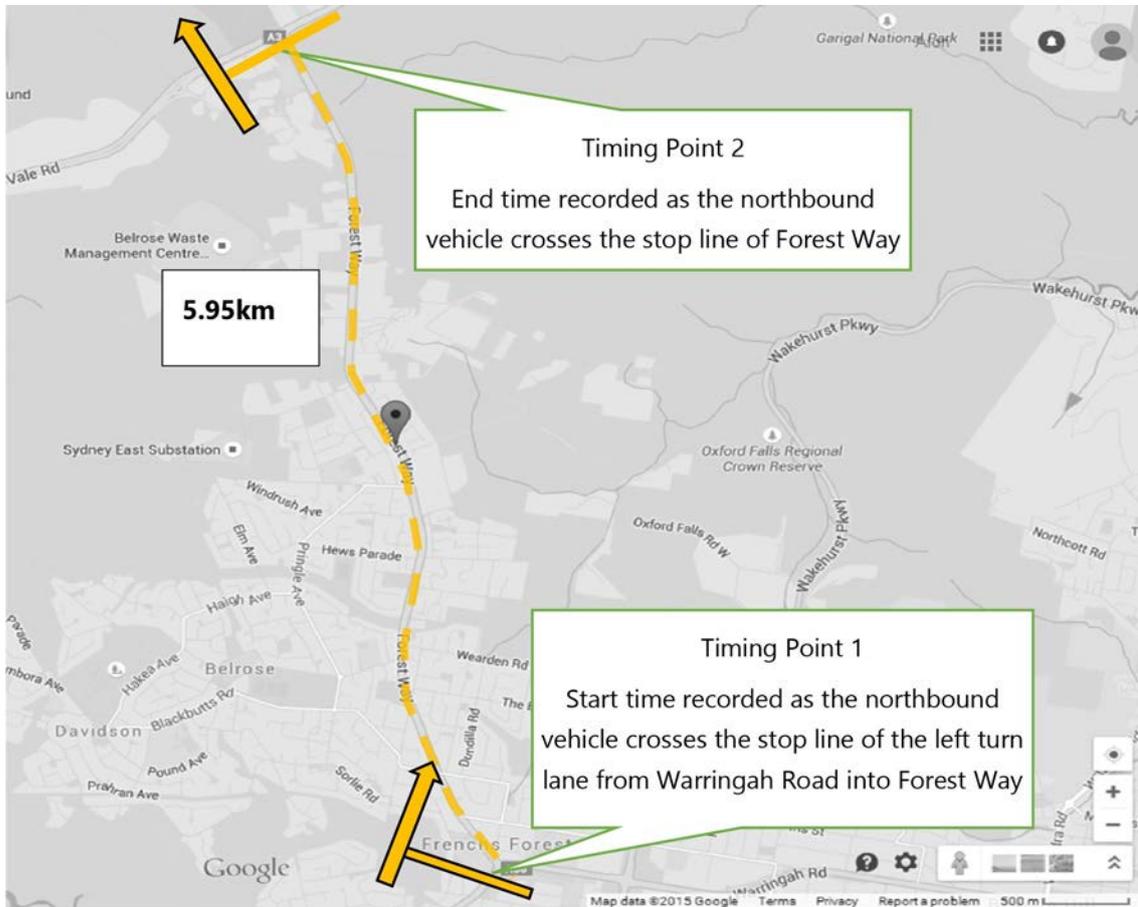


Figure 3.2: Timing points in northbound direction



A summary of the results of the travel time surveys in both directions are provided in the following sections with full results provided in **Appendix A**.

Weekday Travel Time Survey Results

In both the southbound and northbound directions on the surveyed Monday, Tuesday, Wednesday and Friday, at 7am, 8am, 9am and 6pm, the travel time runs started or stopped at Russell Avenue rather than Warringah Road. The 30 km/hr average speed for the shorter distance coverage is indicated by a dip in average time.

A summary of the results of the weekday travel time surveys in a southbound direction are provided in Figure 3.3 and Table 3.1.

Figure 3.3: Weekday Southbound Travel Times

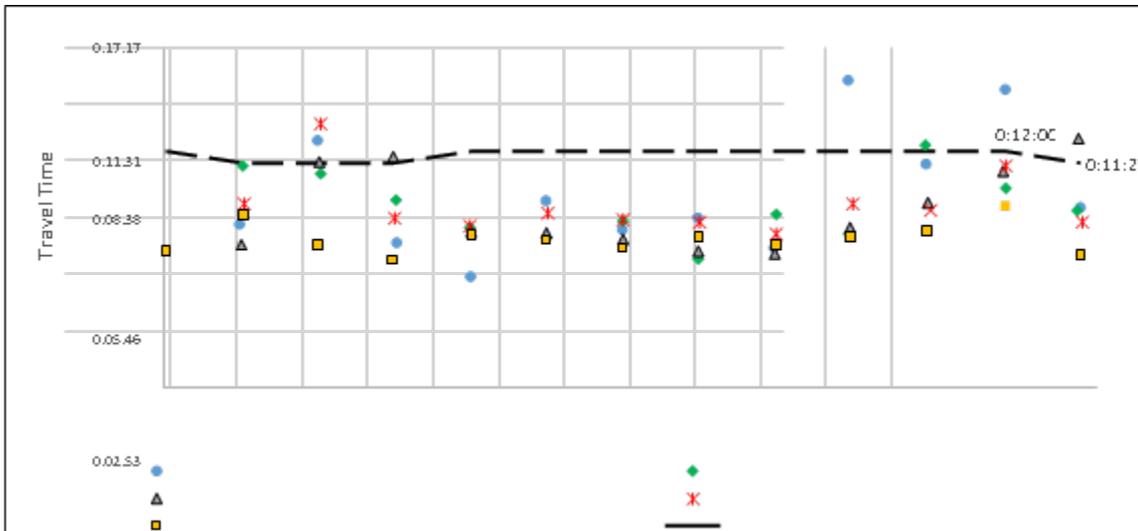


Table 3.1: Analysis of Weekday Southbound Travel Time Runs

Comparison	All Weekdays
Min	0:05:39
Max	0:15:36
Median	0:08:27
Average	0:08:59

Figure 3.3 and Table 3.1 indicate that travel time runs which start at the same time each day, generally have a consistent travel time. The exceptions are runs that commence between 7:00am and 9:00am and between 4:00pm and 6:00pm. 7 runs were recorded as slower than 30km/h. During these peak times, the variable travel times were primarily a result of the volume of traffic and the timing of the traffic lights at signalised intersections.

Runs slower than an average speed of 30 km/h were as follows:

- 3 runs on Monday 15/5/15 (8am, 3pm and 5pm)
- 1 run on Tuesday 16/5/15 (4pm)
- 2 runs on Wednesday 17/5/15 (9am and 6pm)
- 1 run on Thursday 18/5/15 (8am)

A summary of the results of the weekday travel time surveys in a northbound direction are provided in Figure 3.4 and Table 3.2.

Figure 3.4: Weekday Northbound Travel Times

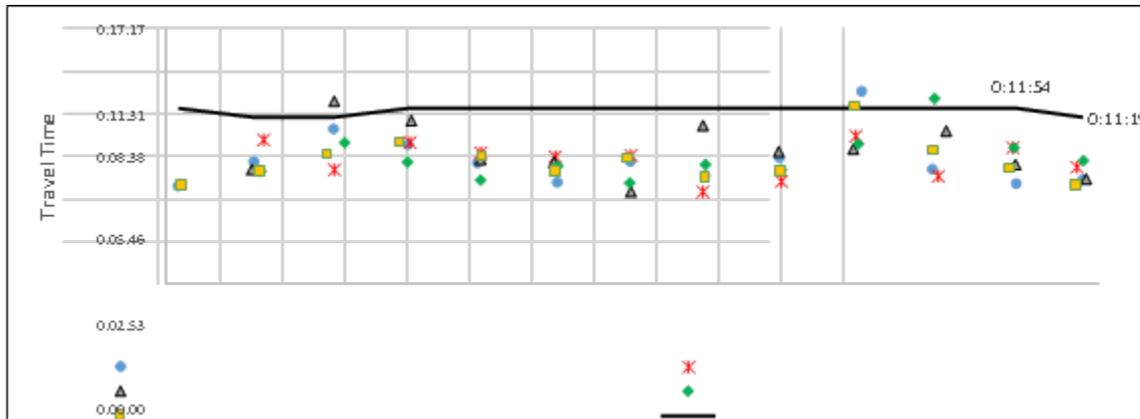


Table 3.2: Analysis of Weekday Northbound Travel Time Runs

Comparison	All Weekdays
Min	0:06:15
Max	0:13:02
Median	0:08:18
Average	0:08:33

Figure 3.4 and Table 3.2 indicate that travel time runs which start at the same time each day, generally have a consistent travel time. The exceptions are runs that commence between 8:00am and 9:00am and between 3:00pm and 4:00pm. 4 runs were recorded as slower than 30km/h. During these peak times, the variable travel times were primarily a result of the volume of traffic and the timing of the traffic lights at signalised intersections.

Runs slower than an average speed of 30 km/h were as follows:

- 1 run on Monday 15/5/15 (3pm)
- 1 run on Wednesday 17/5/15 (8am)
- 1 run on Thursday 18/5/15 (4pm)
- 1 run on Friday 19/5/15 (3pm)

Weekend Travel Time Survey Results

A summary of the results of the weekday travel time surveys in a southbound direction are provided in Figure 3.5 and Table 3.3.

Figure 3.5: Weekend Southbound Travel Times

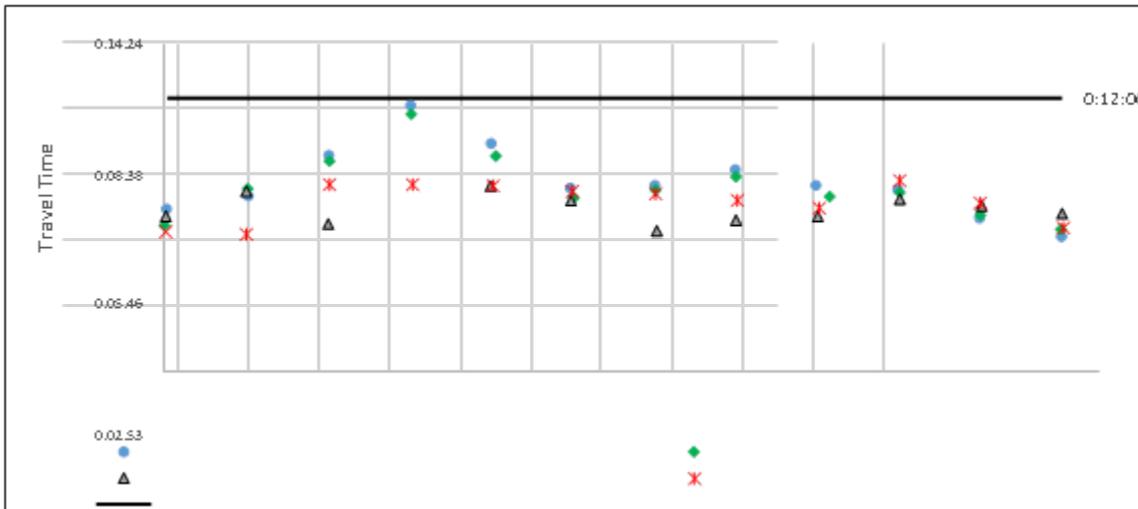


Figure 3.5 indicates that all runs on the surveyed Saturdays and Sundays were faster than 30km/h.

Table 3.3: Analysis of Weekend Southbound Travel Time Runs

Comparison	4 x Weekend Days		
	Saturdays	Sundays	Total
Min	0:05:54	0:06:02	0:05:54
Max	0:11:38	0:11:16	0:11:38
Median	0:07:34	0:07:49	0:07:41
Average	0:07:44	0:07:46	0:07:45

Table 3.3 indicates that average and median travel times were slightly quicker on a Saturday than on a Sunday.

In a southbound direction, disparities in survey times were generally the result of the level of traffic volumes and queued traffic related to traffic signal delay.

A summary of the results of the weekend travel time surveys in a northbound direction are provided in Figure 3.6. A summary of the travel time data in the northbound direction is provided in Table 3.4.

Figure 3.6: Weekend Northbound Travel Times

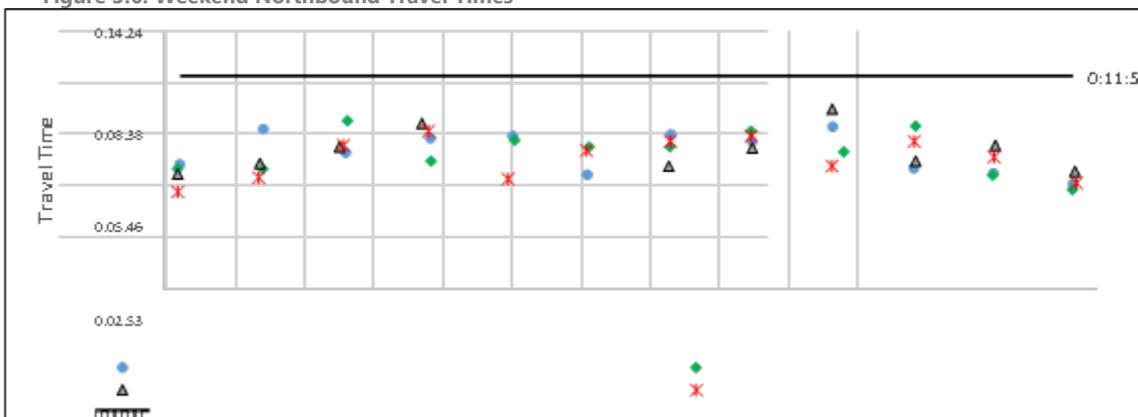


Figure 3.6 indicates all surveyed Saturday and Sunday had an average travel speed faster than 30km/h throughout the survey period.

Table 3.4: Analysis of Weekend Northbound Travel Time Runs

Comparison	4 x Weekend Days		
	Saturday	Sunday	Total
Min	0:05:50	0:05:23	0:05:23
Max	0:10:01	0:09:22	0:10:01
Median	0:07:42	0:07:41	0:07:41
Average	0:07:38	0:07:27	0:07:32

Table 3.4 indicates that average and median travel times were slightly quicker on a Sunday than a Saturday.

In a northbound direction, parked cars following Forest Way Shopping Centre until Glen Street were observed to cause some traffic merging delay. The main source of delay on the route was the timing of the traffic signals.

3.2 Tube Surveys

PeopleTrans commissioned the Centre for Excellence (CFE) to undertake tube surveys on Forest Way to determine the amount of traffic for each lane in a southbound and northbound direction. The location of the tube surveys in the southbound and northbound directions are shown in Figure 3.7 to Figure 3.9.

A summary of the results of the tube surveys in both directions are provided in the following sections with full results provided in **Appendix B**.

Figure 3.7: Forest Way Tube Survey Location

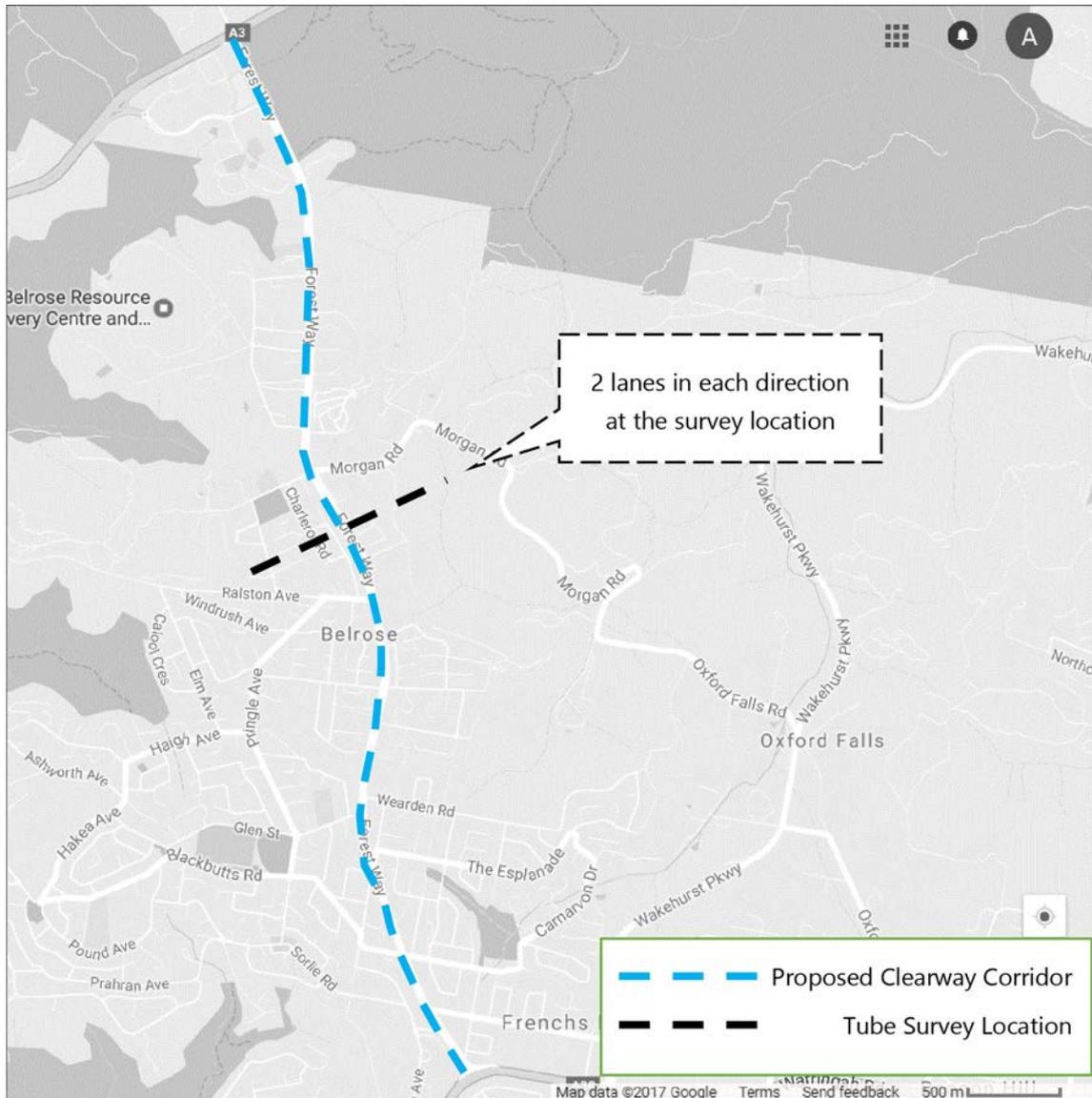


Figure 3.8: Forest Way Southbound Tube Survey Location



Figure 3.9: Forest Way Northbound Tube Survey Location



3.2.1 Volume Guidelines for the Provision of Clearways

Australian Standard Parking Facilities Part 5: On-street parking Table 5.1 indicates the traffic volumes at which a clearway lane should start to operate to ensure an extra lane is available for moving traffic. The relevant information from the table is reproduced as Table 3.5.

Table 3.5: Volume Guidelines for the Provision of Clearways

Flow lanes available in one direction before clearway installed	One-way flow rate at which stopping is banned (vehicles / hour)	Flow lanes available in one direction after clearway installed
1	800	2
2	1,600	3
3	2,400	4

An assessment of the relevant volume guidelines considering the number of lanes available on the corridor is set out in the following sections. Forest Way has 2 lanes in the southbound and northbound directions for the majority of the corridor. Two 3 lane sections in the southbound and northbound directions were identified between Warringah Road and Bambara Road and Glen Street and Ralston Avenue.

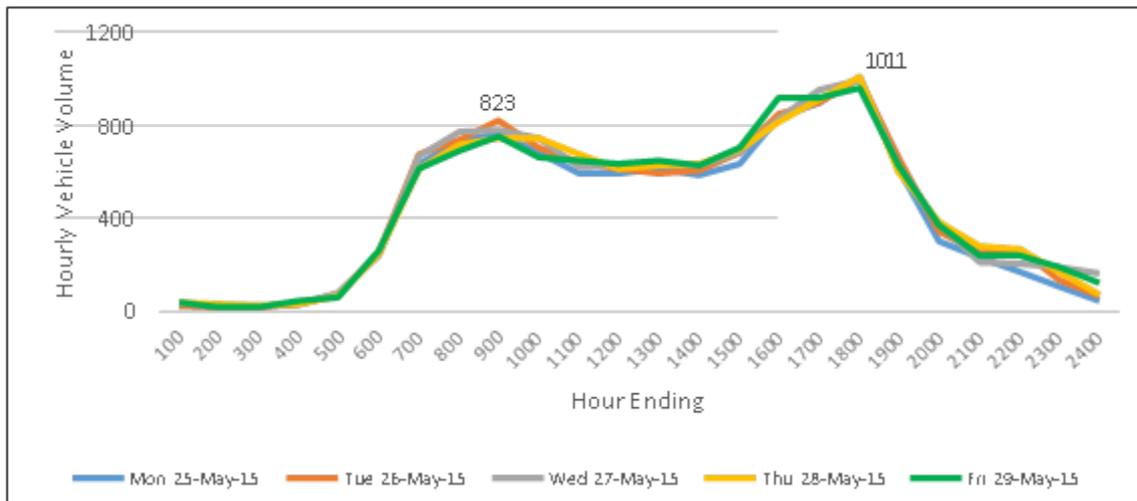
3.2.2 Tube Surveys Results

A summary of the volume data covering the entire survey week for the corridor is provided in Figure 3.10 to Figure 3.21.

Southbound Survey Results

A summary of the traffic volume data covering the entire survey week in the southbound direction along the corridor is provided in Figure 3.10 to Figure 3.15.

Figure 3.10: Tube Survey Location – Southbound Kerbside Lane – Weekday Results



Survey Analysis and Summary Results

Figure 3.11: Tube Survey Location – Southbound Median Lane – Weekday Results

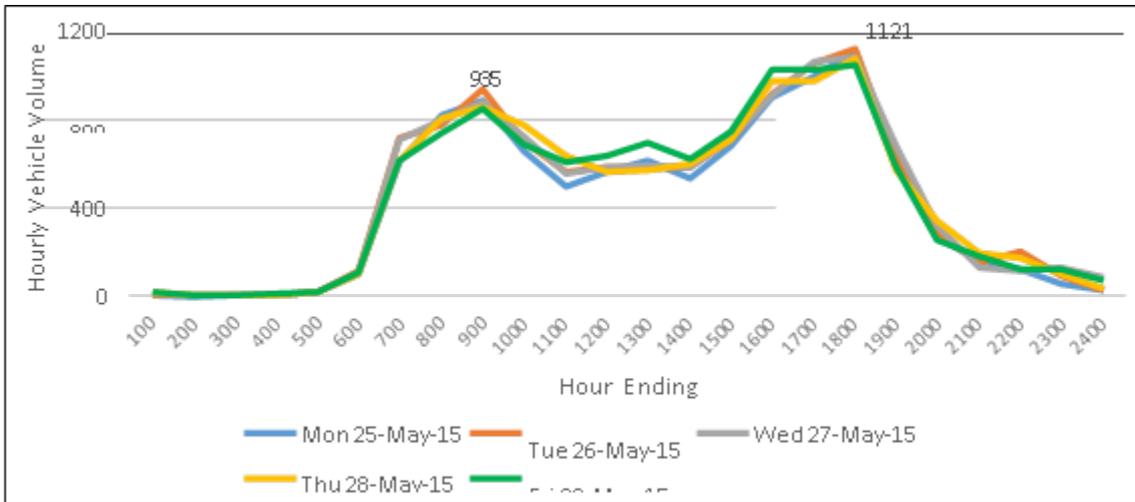


Figure 3.12: Tube Survey Location – Southbound Combined Lanes – Weekday Results

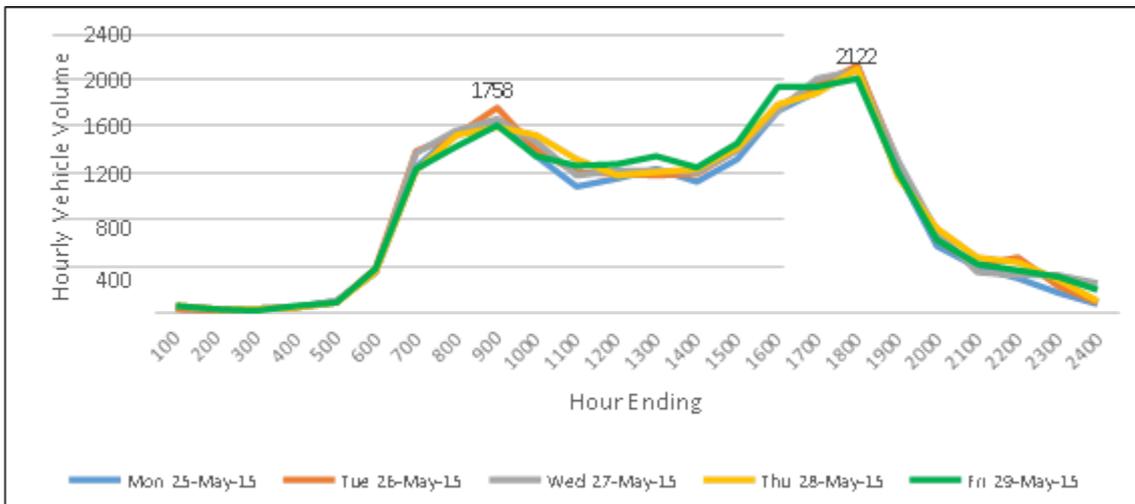


Figure 3.10 to Figure 3.12 indicate the following:

- The kerbside lane volumes reached a peak of 1,011 vehicles per hour from 5:00pm to 6:00pm on Thursday 28/05/2015.
- The median lane volumes reached a peak of 1,121 vehicles per hour from 5:00pm to 6:00pm on Tuesday 26/05/2015.
- Overall, combined traffic volumes reached a peak of 2,122 vehicles per hour from 5:00pm to 6:00pm on Tuesday 26/05/2015.

Figure 3.13: Tube Survey Location – Southbound Kerbside Lane – Weekend Results

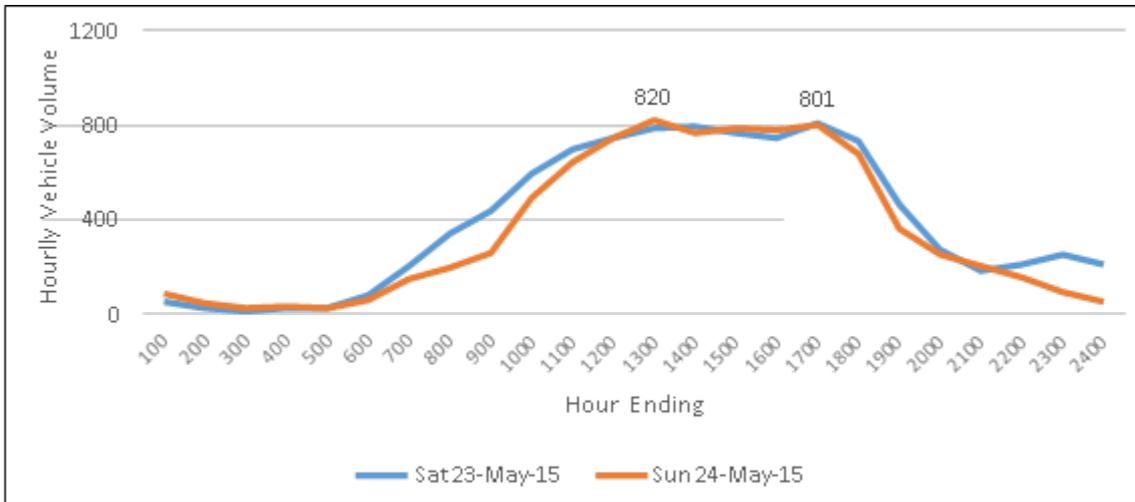


Figure 3.14: Tube Survey Location – Southbound Median Lane – Weekend Results

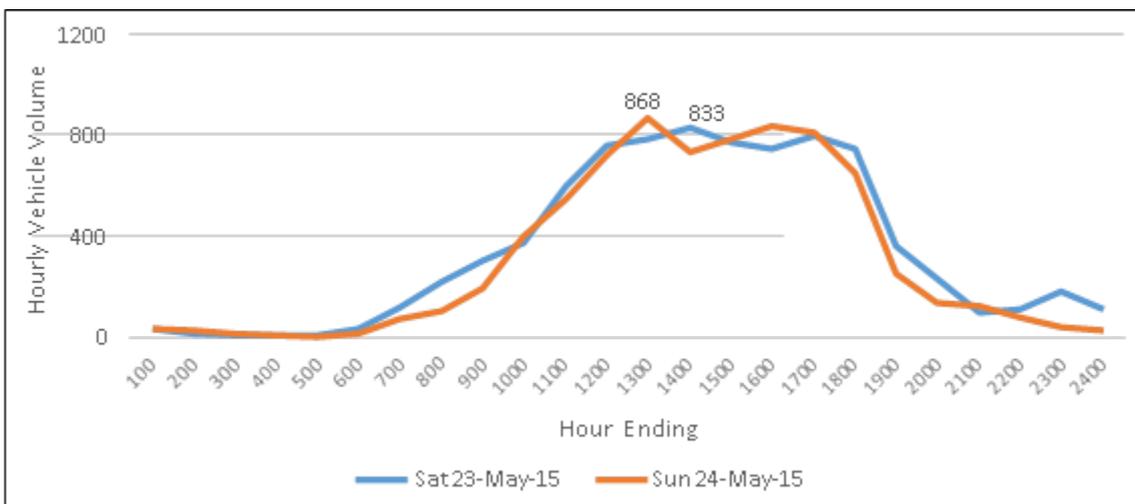


Figure 3.15: Tube Survey Location – Southbound Combined Lanes – Weekend Results

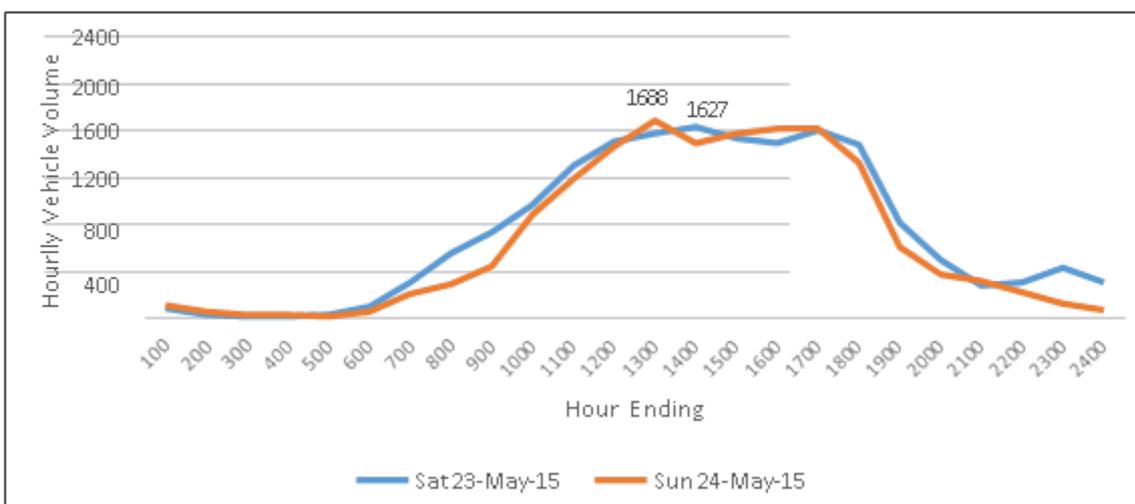


Figure 3.13 to Figure 3.15 indicate the following:

- The kerbside lane volumes reached a peak of 820 vehicles per hour from 12:00pm to 1:00pm on Sunday 24/05/2015.
- The median lane volumes reached a peak of 868 vehicles per hour from 12:00pm to 1:00pm on Sunday 24/05/2015.
- Overall, the combined traffic volumes reached a peak of 1,688 vehicles per hour from 12:00pm to 1:00pm on Sunday 24/05/2015.

Times where a combined volume of 800 and 1,600 vehicles per hour passed all tube survey locations throughout the entire weekday and weekend survey period are illustrated in Table 3.6. An orange highlight indicates times where combined lane volumes met or exceeded 800 vehicles per hour and a light orange highlight indicates periods where combined lane volumes were higher than 750 vehicles per hour. Red text indicates times where combined lane volumes met or exceeded 1,600 vehicles per hour and a light red highlight indicates periods where combined lane volumes exceeded 1,500 vehicles per hour.

Table 3.6: Tube Survey Location - Southbound Combined Lanes Summary

Hour Ending	Monday 25/05/15	Tuesday 26/05/15	Wednesday 27/05/15	Thursday 28/05/15	Friday 29/05/15	Saturday 23/05/15	Sunday 24/05/15
1:00:00	30	30	52	59	58	92	127
2:00:00	15	20	29	30	22	41	73
3:00:00	21	22	25	26	20	25	38
4:00:00	39	35	35	37	56	31	39
5:00:00	94	89	102	81	82	34	27
6:00:00	352	371	351	352	369	111	71
7:00:00	1242	1393	1375	1226	1231	319	216
8:00:00	1557	1520	1566	1523	1431	562	306
9:00:00	1654	1758	1659	1602	1605	739	455
10:00:00	1345	1403	1464	1521	1352	969	890
11:00:00	1087	1206	1178	1315	1259	1299	1192
12:00:00	1152	1198	1218	1181	1276	1505	1470
13:00:00	1231	1173	1220	1203	1343	1576	1688
14:00:00	1124	1197	1213	1236	1249	1627	1501
15:00:00	1316	1396	1398	1409	1456	1535	1572
16:00:00	1733	1765	1738	1788	1942	1495	1619
17:00:00	1894	1956	2014	1884	1944	1607	1613
18:00:00	2119	2122	2083	2088	2008	1477	1330
19:00:00	1211	1293	1307	1166	1210	829	615
20:00:00	569	626	692	727	627	506	387
21:00:00	395	409	342	471	419	281	327
22:00:00	291	476	318	436	361	318	236
23:00:00	162	223	322	276	312	436	136
0:00:00	72	88	252	102	198	315	78

Table 3.6 indicates that on the surveyed weekdays, traffic volumes exceeded 800 vehicles per hour from 6:00am to 7:00pm. In this period, traffic volumes exceeded 1,600 vehicles per hour from 8:00am to 9:00am and 3:00pm to 6:00pm.

On the surveyed weekend, traffic volumes exceeded 800 vehicles per hour from 9:00am to 7:00pm on the surveyed Saturday and from 9:00am to 6:00pm on the surveyed Sunday. On the Saturday, traffic volumes exceeded 1,600 vehicles per hour from 1:00pm to 2:00pm and 4:00pm to 5:00pm and on the Sunday from 12:00pm to 1:00pm and 3:00pm to 5:00pm.

Based on an average vehicle occupancy rate of 1.51³ and a total weekly volume of 141,731 vehicles, a total of 214,014 people passed through the tube location on Forest Way in the southbound direction during the surveyed week.

Northbound Survey Results

A summary of the traffic volume data covering the entire survey week in the northbound direction along the corridor is provided in Figure 3.16 to Figure 3.21.

Figure 3.16: Tube Survey Location – Northbound Kerbside Lane – Weekday Results

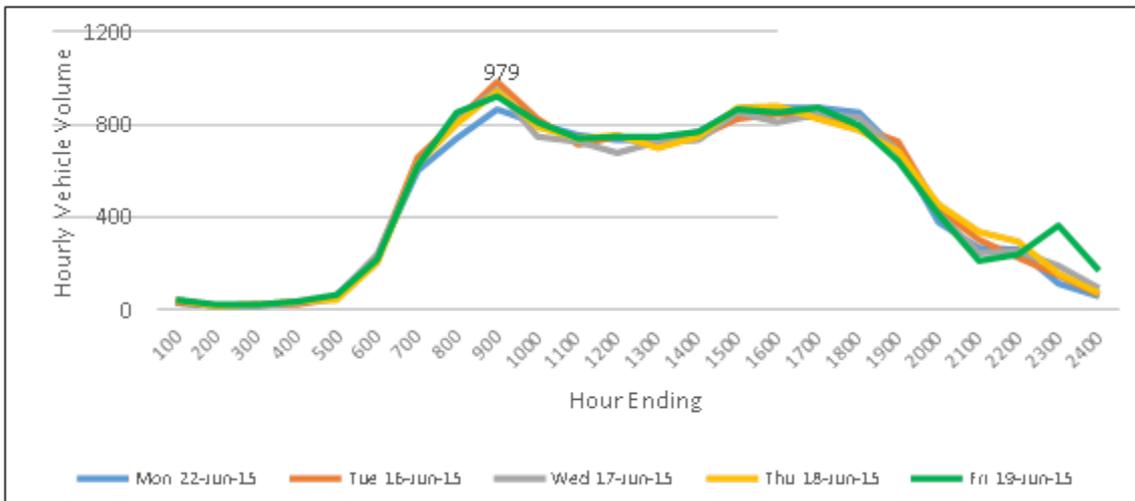
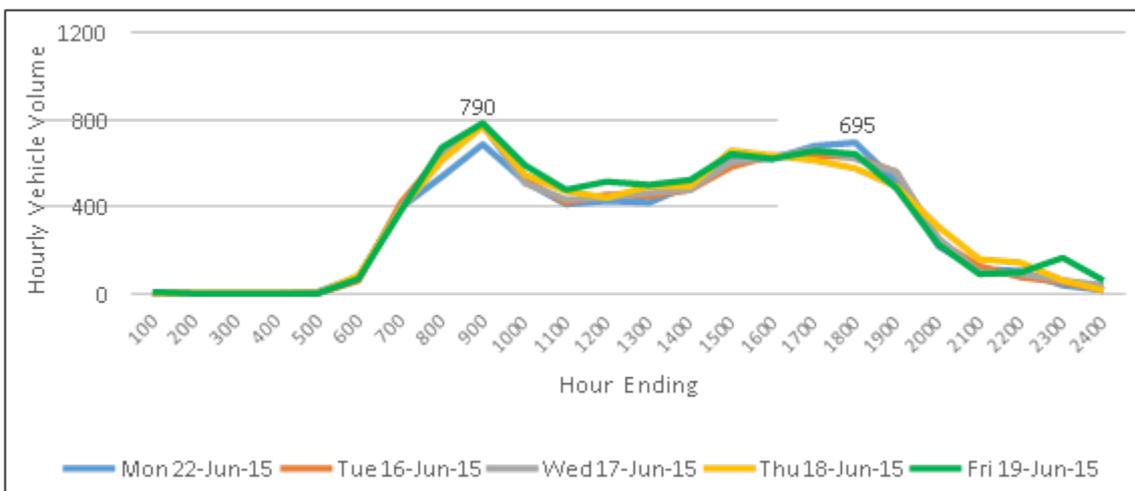


Figure 3.17: Tube Survey Location – Northbound Median Lane – Weekday Results



³ Analysis of Peak Hour Travel Using the Sydney Household Travel Survey Data, Grace Corpuz, NSW Department of Planning, 29th Australasian Transport Research Forum. The value of 1.51 is the weekday average and for the purposes of this assessment has been applied to the entire week.

Survey Analysis and Summary Results

Figure 3.18: Tube Survey Location – Northbound Combined Lanes – Weekday Results

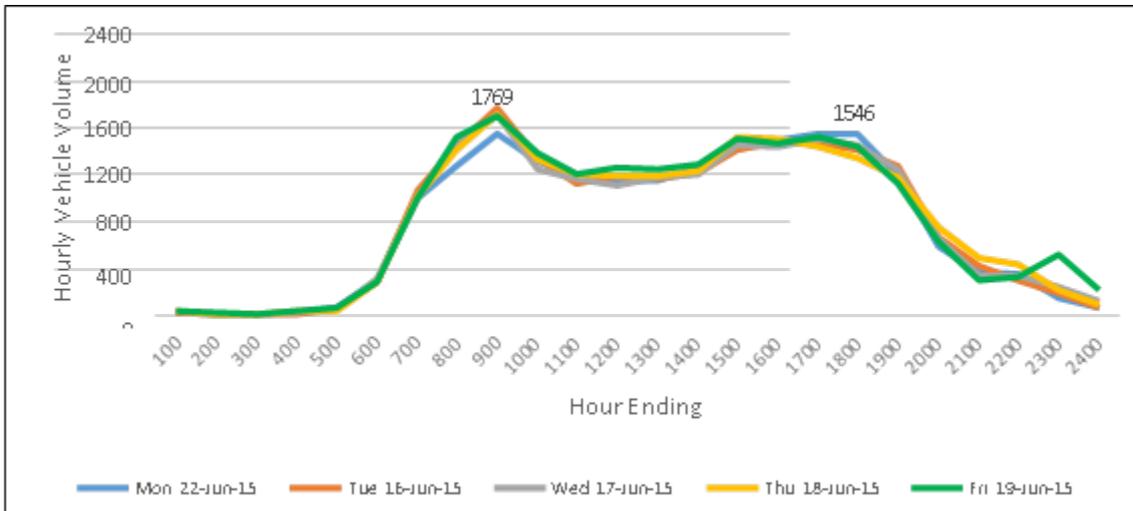


Figure 3.16 to Figure 3.18 indicate the following:

- The kerbside lane volumes reached a peak of 979 vehicles per hour from 8:00am to 9:00am on Tuesday 16/06/2015.
- The median lane volumes reached a peak of 790 vehicles per hour from 8:00am to 9:00am on Friday 19/06/2015.
- Overall, the combined traffic volumes reached a peak of 1,769 vehicles per hour from 8:00am to 9:00am on Tuesday 16/06/2015.

Figure 3.19: Tube Survey Location – Northbound Kerbside Lane – Weekend Results

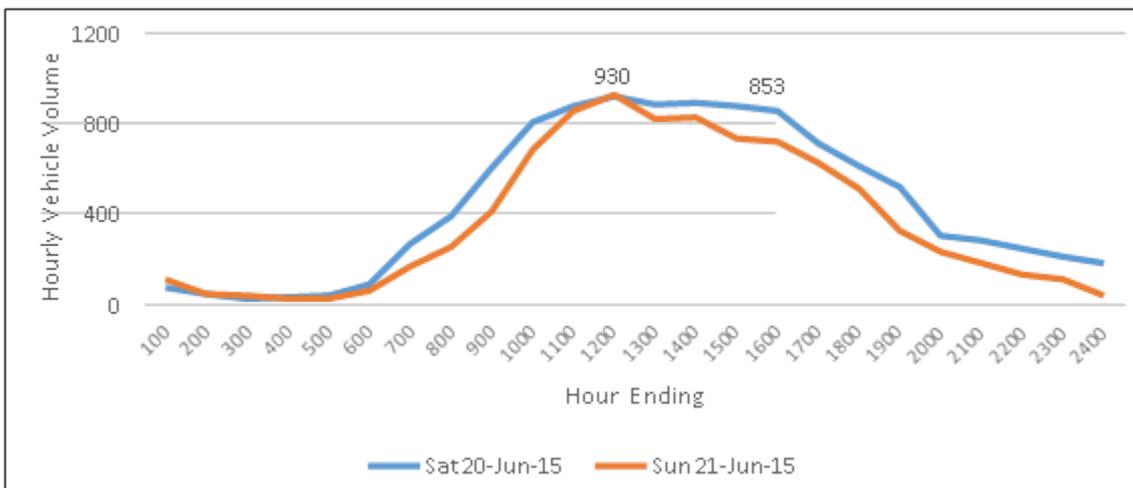


Figure 3.20: Tube Survey Location – Northbound Median Lane – Weekend Results

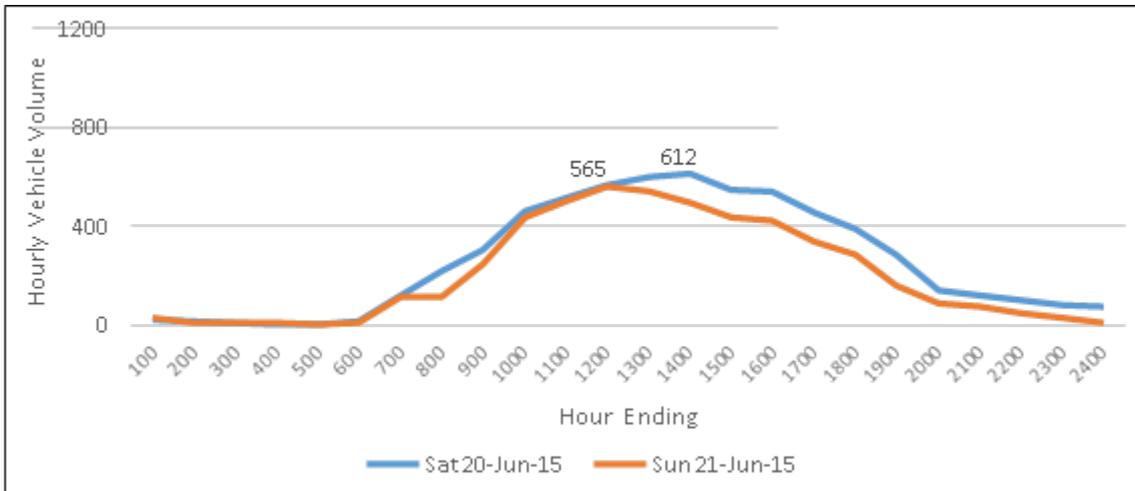


Figure 3.21: Tube Survey Location – Northbound Combined Lanes – Weekend Results

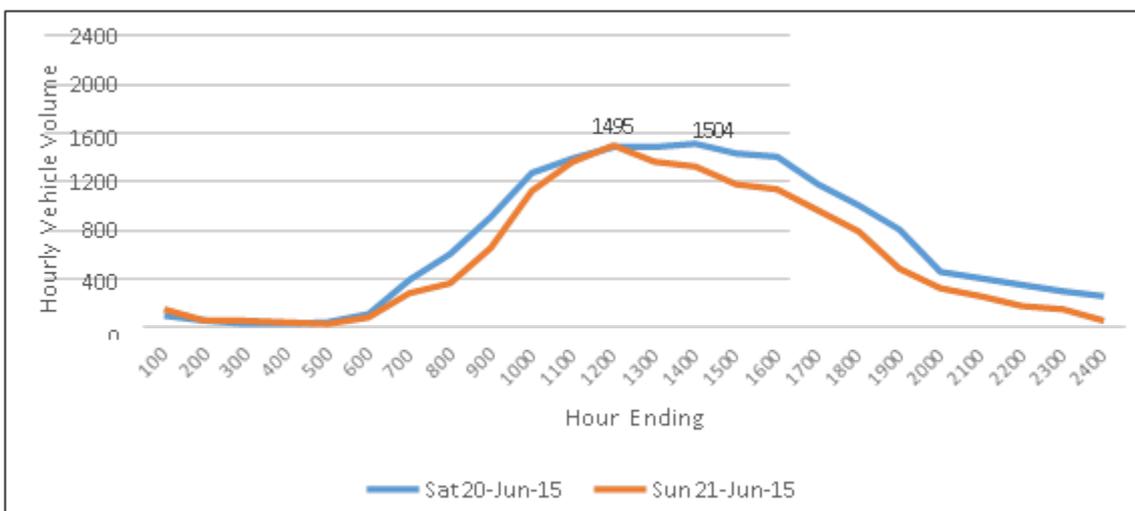


Figure 3.19 to Figure 3.21 indicate the following:

- The kerbside lane volumes reached a peak of 930 vehicles per hour from 11:00am to 12:00pm on Sunday 21/06/2015.
- The median lane volumes reached a peak of 612 vehicles per hour from 1:00pm to 2:00pm on Saturday 20/06/2015.
- Overall, the combined traffic volumes reached a peak of 1,504 vehicles per hour from 1:00pm to 2:00pm on Saturday 20/06/2015.

Times where a combined volume of 800 and 1,600 vehicles per hour passed all tube survey locations throughout the entire weekday and weekend survey period are illustrated in Table 3.7. An orange highlight indicates times where combined lane volumes met or exceeded 800 vehicles per hour and a light orange highlight indicates periods where combined lane volumes were higher than 750 vehicles per hour. Red text indicates times where combined lane volumes met or exceeded 1,600 vehicles per hour and a light red highlight indicates periods where combined lane volumes exceeded 1,500 vehicles per hour.

Table 3.7: Tube Survey Location - Northbound Combined Lanes Summary

Hour Ending	Monday 22/06/15	Tuesday 16/06/15	Wednesday 17/06/15	Thursday 18/06/15	Friday 19/06/15	Saturday 20/06/15	Sunday 21/06/15
1:00:00	33	36	51	46	52	95	147
2:00:00	18	20	20	21	28	59	61
3:00:00	23	26	20	20	24	34	52
4:00:00	30	26	33	41	41	36	38
5:00:00	69	55	67	53	69	47	28
6:00:00	308	290	319	290	289	108	78
7:00:00	1003	1079	1017	1017	1005	389	287
8:00:00	1273	1463	1460	1413	1527	607	370
9:00:00	1552	1769	1721	1715	1699	912	660
10:00:00	1315	1346	1253	1333	1394	1275	1128
11:00:00	1168	1131	1163	1213	1216	1395	1362
12:00:00	1161	1198	1120	1193	1264	1487	1495
13:00:00	1149	1174	1189	1191	1254	1487	1366
14:00:00	1265	1222	1209	1241	1295	1504	1324
15:00:00	1481	1411	1457	1531	1507	1431	1174
16:00:00	1499	1478	1438	1518	1469	1398	1140
17:00:00	1552	1466	1508	1442	1529	1172	970
18:00:00	1546	1417	1450	1351	1437	1005	797
19:00:00	1201	1284	1245	1180	1130	807	487
20:00:00	598	671	667	764	641	452	325
21:00:00	378	429	345	495	304	405	263
22:00:00	368	305	342	440	336	349	183
23:00:00	160	201	253	218	530	297	147
0:00:00	75	78	130	95	231	255	56

Table 3.7 indicates that on the surveyed weekdays, traffic volumes exceeded 800 vehicles per hour from 6:00am to 7:00pm. In this period, traffic volumes exceeded 1,600 vehicles per hour from 8:00am to 9:00am from Tuesday to Friday.

On the surveyed weekend, traffic volumes exceeded 800 vehicles per hour from 8:00am to 7:00pm on the surveyed Saturday and from 9:00am to 5:00pm on the surveyed Sunday. Traffic volumes did not exceed 1,600 vehicles per hour across the surveyed weekend period.

Based on an average vehicle occupancy rate of 1.51⁴ and a total weekly volume of 129,313 vehicles, a total of 195,262 people passed through the tube location on Forest Way in the northbound direction during the surveyed week.

⁴ Analysis of Peak Hour Travel Using the Sydney Household Travel Survey Data, Grace Corpuz, NSW Department of Planning, 29th Australasian Transport Research Forum. The value of 1.51 is the weekday average and for the purposes of this assessment has been applied to the entire week.

4. Summary of Analysis

It is understood that Roads and Maritime are investigating new clearways on the corridor. There are currently no parking restrictions from 3:30pm to 6:30pm in the southbound direction and 6:30am to 9:30am in the northbound direction during weekdays from Warringah Road to Hews Parade.

A summary of all results and analysis presented within this report is set out in the following sections.

4.1 Traffic Volumes on the Corridor

The analysis in Section 3.2 indicates the times during peak weekday and weekend periods that the traffic volumes exceeded the volume criteria. The times are identified in Table 4.1.

Table 4.1: Times that Traffic Volumes Exceeded 800 and 1,600 Vehicles / Hour

Location	Weekday	Weekend
Tube Survey Location		
Southbound	800: 6:00am to 7:00pm 1,600: 8:00am to 9:00am and 3:00pm to 6:00pm	Saturday: 800: 9:00am to 7:00pm 1,600: 1:00pm to 2:00pm and 4:00pm to 5:00pm Sunday: 800: 9:00am to 6:00pm 1,600: 12:00pm to 1:00pm and 3:00pm to 5:00pm
Northbound	800: 6:00am to 7:00pm 1,600: 8:00am to 9:00am	Saturday: 800: 8:00am to 7:00pm 1,600: None Sunday: 800: 9:00am to 5:00pm 1,600: None

4.2 People Travelling on the Corridor

Based on an average vehicle occupancy rate of 1.51⁵, a summary of the people travelling on the corridor is provided in Table 4.2.

Table 4.2: Summary of the Weekly Number of People Travelling on the Corridor

Direction	Weekly Number of Vehicles	Weekly Number of People
Southbound	141,731	214,014
Northbound	129,313	195,262

Table 4.2 indicates that across the surveyed week, approximately 409,000 people travelled along the corridor in both directions combined.

⁵ Analysis of Peak Hour Travel Using the Sydney Household Travel Survey Data, Grace Corpuz, NSW Department of Planning, 29th Australasian Transport Research Forum. The value of 1.51 is the weekday average and for the purposes of this assessment has been applied to the entire week.

4.3 Vehicle Speeds

A summary of the times when the travel speeds on the corridor were recorded below the average of 30 km/h is provided in Table 4.3.

Table 4.3: Times that the Average Vehicle Speed was Slower than 30km/h

Direction	Weekday	Weekend
Southbound	8:00am to 9:00am and 3:00pm to 6:00pm	Saturday: None Sunday: None
Northbound	8:00am and 3:00pm to 4:00pm	Saturday: None Sunday: None

4.4 Strategic Bus / Freight Corridor

A review of Transport for New South Wales’ documentation indicates that Forest Way is a suburban bus corridor⁶. The NSW Freight and Ports Strategy considers Forest Way a tertiary freight corridor⁷.

4.5 Next Steps

This report provides a good basis for Roads and Maritime to commence discussions with affected Councils and the wider community regarding possible new clearways along the corridor between Warringah Road and Mona Vale Road.

This report is based on surveys undertaken in May and June 2015. It does not consider any proposals by Council or private developments which could impact on the parking demand, both now and in the future, within the vicinity of the proposed clearway corridor.

⁶ Sydney’s Bus Future, December 2013, Transport for New South Wales

<http://www.rms.nsw.gov.au/documents/projects/key-build-programs/sydney-bus-future-network-map.pdf> - Accessed 30/6/15

⁷ <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/dotmetroadfreightpracticenotes.pdf> - Accessed 30/6/15

5. References

In preparing this report, the following references were used:

- A number of site inspections by the authors and reviewers of this report on a number of different days including but not limited to those documented in this report.
- Sydney Clearways Strategy Keeping Sydney Moving, Transport for New South Wales, December 2013.
- Australian Standard AS2890.5-1993, Parking facilities Part 5: On-street parking, Standards Australia 1993.
- Other documents as nominated in the report.



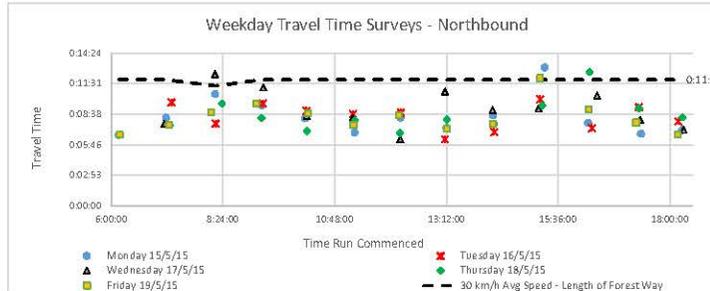
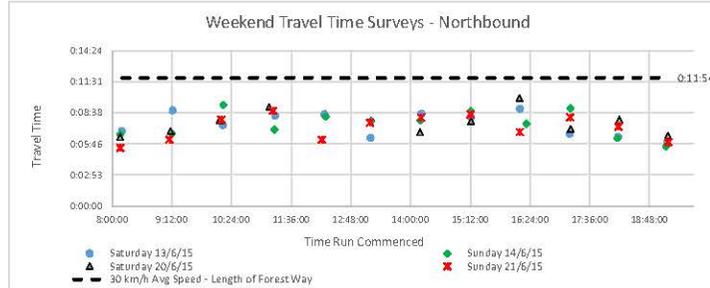
Appendix A

Travel Time Survey Results

155440 - Forest Way (Northbound)
Travel Time Surveys

Date	Timing Point 1	Timing Point 2	Total Travel Time	30 km/h Avg Speed - Length of Forest Way
Saturday 13/6/15	8:11:47	8:18:42	0:06:55	0:11:54
Saturday 13/6/15	9:13:12	9:22:04	0:08:52	0:11:54
Saturday 13/6/15	10:13:57	10:21:29	0:07:32	0:11:54
Saturday 13/6/15	11:16:41	11:25:03	0:08:22	0:11:54
Saturday 13/6/15	12:16:30	12:25:00	0:08:30	0:11:54
Saturday 13/6/15	13:11:39	13:17:58	0:06:19	0:11:54
Saturday 13/6/15	14:12:55	14:21:29	0:08:34	0:11:54
Saturday 13/6/15	15:12:54	15:21:08	0:08:14	0:11:54
Saturday 13/6/15	16:12:11	16:21:12	0:09:01	0:11:54
Saturday 13/6/15	17:11:41	17:18:21	0:06:40	0:11:54
Saturday 13/6/15	18:10:15	18:16:39	0:06:24	0:11:54
Saturday 13/6/15	19:09:07	19:14:57	0:05:50	0:11:54
Sunday 14/6/15	8:09:51	8:16:31	0:06:40	0:11:54
Sunday 14/6/15	9:12:10	9:18:53	0:06:43	0:11:54
Sunday 14/6/15	10:14:16	10:23:38	0:09:22	0:11:54
Sunday 14/6/15	11:16:15	11:23:21	0:07:06	0:11:54
Sunday 14/6/15	12:17:36	12:25:54	0:08:18	0:11:54
Sunday 14/6/15	13:12:23	13:20:19	0:07:56	0:11:54
Sunday 14/6/15	14:12:04	14:20:02	0:07:58	0:11:54
Sunday 14/6/15	15:12:17	15:21:05	0:08:48	0:11:54
Sunday 14/6/15	16:20:17	16:27:55	0:07:38	0:11:54
Sunday 14/6/15	17:12:42	17:21:47	0:09:05	0:11:54
Sunday 14/6/15	18:09:28	18:15:47	0:06:19	0:11:54
Sunday 14/6/15	19:07:56	19:13:28	0:05:32	0:11:54
Monday 15/5/15	6:10:05	6:16:44	0:06:39	0:11:54
Monday 15/5/15	7:10:48	7:19:06	0:08:18	0:11:54
Monday 15/5/15	8:14:13	8:24:45	0:10:32	0:11:19
Monday 15/5/15	9:14:11	9:23:39	0:09:28	0:11:54
Monday 15/5/15	10:09:50	10:18:04	0:08:14	0:11:54
Monday 15/5/15	11:14:07	11:21:01	0:06:54	0:11:54
Monday 15/5/15	12:13:01	12:21:19	0:08:18	0:11:54
Monday 15/5/15	13:12:20	13:19:39	0:07:19	0:11:54
Monday 15/5/15	14:12:29	14:21:02	0:08:33	0:11:54
Monday 15/5/15	15:19:04	15:32:06	0:13:02	0:11:54
Monday 15/5/15	16:14:57	16:22:45	0:07:48	0:11:54
Monday 15/5/15	17:22:50	17:29:36	0:06:46	0:11:54
Monday 15/5/15	18:16:02	18:23:08	0:07:06	0:11:54
Tuesday 16/5/15				0:11:54
Tuesday 16/5/15	7:17:59	7:27:44	0:09:45	0:11:54
Tuesday 16/5/15	8:14:47	8:22:32	0:07:45	0:11:19
Tuesday 16/5/15	9:15:32	9:25:11	0:09:39	0:11:54
Tuesday 16/5/15	10:11:40	10:20:37	0:08:57	0:11:54
Tuesday 16/5/15	11:11:33	11:20:12	0:08:39	0:11:54
Tuesday 16/5/15	12:13:17	12:22:03	0:08:46	0:11:54
Tuesday 16/5/15	13:10:08	13:16:23	0:06:15	0:11:54
Tuesday 16/5/15	14:13:22	14:20:20	0:06:58	0:11:54
Tuesday 16/5/15	15:12:56	15:22:59	0:10:03	0:11:54
Tuesday 16/5/15	16:19:41	16:27:01	0:07:20	0:11:54
Tuesday 16/5/15	17:19:55	17:29:13	0:09:18	0:11:54
Tuesday 16/5/15	18:13:03	18:19:01	0:07:58	0:11:54

Comparison	4 x Weekend Days			Weekdays
	Saturday	Sunday	Total	
Min	0:05:50	0:05:23	0:05:23	0:06:15
Max	0:10:01	0:09:22	0:10:01	0:13:02
Median	0:07:42	0:07:41	0:07:41	0:08:18
Average	0:07:38	0:07:27	0:07:32	0:08:33



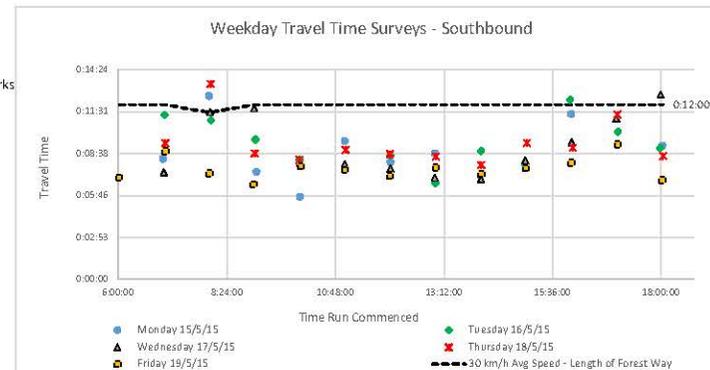
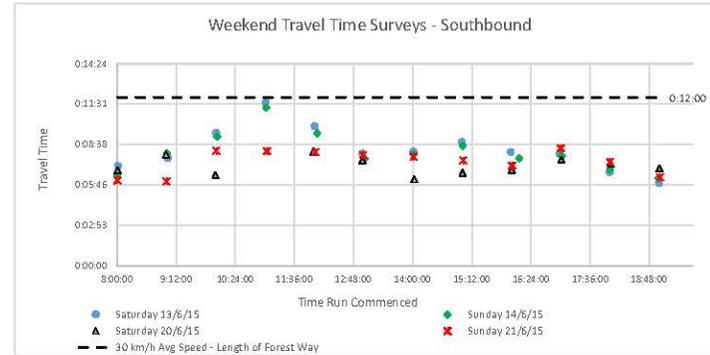
15S440 - Forest Way (Northbound)
Travel Time Surveys

Date	Timing Point 1	Timing Point 2	Total Travel Time	30 km/h Avg Speed - Length of Forest Way
Wednesday 17/5/15				0:11:54
Wednesday 17/5/15	7:08:55	7:16:39	0:07:44	0:11:19
Wednesday 17/5/15	8:14:07	8:26:32	0:12:25	0:11:54
Wednesday 17/5/15	9:16:17	9:27:26	0:11:09	0:11:54
Wednesday 17/5/15	10:12:15	10:20:45	0:08:30	0:11:54
Wednesday 17/5/15	11:11:16	11:19:31	0:08:15	0:11:54
Wednesday 17/5/15	12:12:34	12:18:50	0:06:16	0:11:54
Wednesday 17/5/15	13:10:27	13:21:13	0:10:46	0:11:54
Wednesday 17/5/15	14:11:38	14:20:40	0:09:02	0:11:54
Wednesday 17/5/15	15:11:11	15:20:21	0:09:10	0:11:54
Wednesday 17/5/15	16:26:13	16:36:37	0:10:24	0:11:54
Wednesday 17/5/15	17:22:01	17:30:06	0:08:05	0:11:54
Wednesday 17/5/15	18:17:42	18:24:52	0:07:10	0:11:54
Thursday 18/5/15				0:11:54
Thursday 18/5/15	7:15:35	7:23:13	0:07:38	0:11:54
Thursday 18/5/15	8:22:29	8:32:08	0:09:39	0:11:54
Thursday 18/5/15	9:13:39	9:21:56	0:08:17	0:11:54
Thursday 18/5/15	10:11:58	10:19:01	0:07:03	0:11:54
Thursday 18/5/15	11:13:49	11:21:52	0:08:03	0:11:54
Thursday 18/5/15	12:11:45	12:18:38	0:06:53	0:11:54
Thursday 18/5/15	13:12:50	13:20:59	0:08:09	0:11:54
Thursday 18/5/15	14:13:19	14:21:04	0:07:45	0:11:54
Thursday 18/5/15	15:15:38	15:25:07	0:09:29	0:11:54
Thursday 18/5/15	16:16:23	16:29:01	0:12:38	0:11:54
Thursday 18/5/15	17:20:03	17:29:17	0:09:14	0:11:54
Thursday 18/5/15	18:15:50	18:24:12	0:08:22	0:11:54
Friday 19/5/15	6:11:18	6:17:59	0:06:41	0:11:54
Friday 19/5/15	7:14:26	7:22:04	0:07:38	0:11:54
Friday 19/5/15	8:09:20	8:18:07	0:08:47	0:11:54
Friday 19/5/15	9:07:18	9:16:56	0:09:38	0:11:54
Friday 19/5/15	10:13:45	10:22:26	0:08:41	0:11:54
Friday 19/5/15	11:12:19	11:19:57	0:07:38	0:11:54
Friday 19/5/15	12:10:58	12:19:29	0:08:31	0:11:54
Friday 19/5/15	13:12:39	13:19:53	0:07:14	0:11:54
Friday 19/5/15	14:12:28	14:20:11	0:07:43	0:11:54
Friday 19/5/15	15:12:50	15:24:52	0:12:02	0:11:54
Friday 19/5/15	16:15:33	16:24:36	0:09:03	0:11:54
Friday 19/5/15	17:16:54	17:24:44	0:07:50	0:11:54
Friday 19/5/15	18:10:11	18:16:54	0:06:43	0:11:19
Saturday 20/6/15	8:10:12	8:16:35	0:06:23	0:11:54
Saturday 20/6/15	9:10:31	9:17:28	0:06:57	0:11:54
Saturday 20/6/15	10:09:26	10:17:22	0:07:56	0:11:54
Saturday 20/6/15	11:09:31	11:18:44	0:09:13	0:11:54
Saturday 20/6/15				0:11:54
Saturday 20/6/15				0:11:54
Saturday 20/6/15	14:11:31	14:18:22	0:06:51	0:11:54
Saturday 20/6/15	15:13:01	15:20:52	0:07:51	0:11:54
Saturday 20/6/15	16:11:25	16:21:26	0:10:01	0:11:54
Saturday 20/6/15	17:13:07	17:20:16	0:07:09	0:11:54
Saturday 20/6/15	18:12:05	18:20:06	0:08:01	0:11:54
Saturday 20/6/15	19:10:37	19:17:08	0:06:31	0:11:54
Sunday 21/6/15	8:09:52	8:15:15	0:05:23	0:11:54
Sunday 21/6/15	9:09:18	9:15:29	0:06:11	0:11:54
Sunday 21/6/15	10:11:58	10:19:57	0:07:59	0:11:54
Sunday 21/6/15	11:14:20	11:23:10	0:08:50	0:11:54
Sunday 21/6/15	12:12:51	12:18:59	0:06:08	0:11:54
Sunday 21/6/15	13:13:08	13:18:52	0:07:44	0:11:54
Sunday 21/6/15	14:12:33	14:20:46	0:08:13	0:11:54
Sunday 21/6/15	15:12:12	15:20:43	0:08:31	0:11:54
Sunday 21/6/15	16:11:40	16:18:31	0:06:51	0:11:54
Sunday 21/6/15	17:12:29	17:20:43	0:08:14	0:11:54
Sunday 21/6/15	18:10:50	18:18:13	0:07:23	0:11:54
Sunday 21/6/15	19:10:48	19:16:43	0:05:55	0:11:54

155440 - Forest Way (Southbound)
Travel Time Surveys

Date	Timing Point 1	Timing Point 2	Total Travel Time	30 km/h Avg Speed - Length of Forest Way	
				Travel Time	Speed
Saturday 13/6/15	8:01:32	8:08:39	0:07:07	0:12:00	0:12:00
Saturday 13/6/15	9:02:13	9:09:54	0:07:41	0:12:00	0:12:00
Saturday 13/6/15	10:01:04	10:10:32	0:09:28	0:12:00	0:12:00
Saturday 13/6/15	11:01:14	11:12:52	0:11:38	0:12:00	0:12:00
Saturday 13/6/15	12:00:53	12:10:50	0:09:57	0:12:00	0:12:00
Saturday 13/6/15	12:59:17	13:07:17	0:08:00	0:12:00	0:12:00
Saturday 13/6/15	14:01:26	14:09:35	0:08:09	0:12:00	0:12:00
Saturday 13/6/15	15:00:28	15:09:17	0:08:49	0:12:00	0:12:00
Saturday 13/6/15	15:59:52	16:07:59	0:08:07	0:12:00	0:12:00
Saturday 13/6/15	16:59:40	17:07:38	0:07:58	0:12:00	0:12:00
Saturday 13/6/15	18:00:14	18:06:56	0:06:42	0:12:00	0:12:00
Saturday 13/6/15	19:00:29	19:06:23	0:05:54	0:12:00	0:12:00
Sunday 14/6/15	8:00:20	8:06:44	0:06:24	0:12:00	0:12:00
Sunday 14/6/15	9:00:55	9:08:57	0:08:02	0:12:00	0:12:00
Sunday 14/6/15	10:01:46	10:10:58	0:09:12	0:12:00	0:12:00
Sunday 14/6/15	11:01:43	11:12:59	0:11:16	0:12:00	0:12:00
Sunday 14/6/15	12:04:04	12:13:31	0:09:27	0:12:00	0:12:00
Sunday 14/6/15	13:01:28	13:09:05	0:07:37	0:12:00	0:12:00
Sunday 14/6/15	14:01:06	14:09:05	0:07:59	0:12:00	0:12:00
Sunday 14/6/15	15:00:59	15:09:32	0:08:33	0:12:00	0:12:00
Sunday 14/6/15	16:09:44	16:17:24	0:07:40	0:12:00	0:12:00
Sunday 14/6/15	17:01:28	17:09:19	0:07:51	0:12:00	0:12:00
Sunday 14/6/15	18:00:07	18:07:00	0:06:53	0:12:00	0:12:00
Sunday 14/6/15	18:59:14	19:05:28	0:06:14	0:12:00	0:12:00
Monday 15/5/15				0:12:00	0:12:00
Monday 15/5/15	6:59:44	7:08:00	0:08:16	0:12:00	0:12:00
Monday 15/5/15	8:00:42	8:13:16	0:12:34	0:11:27	0:11:27
Monday 15/5/15	9:03:31	9:10:53	0:07:22	0:12:00	0:12:00
Monday 15/5/15	10:01:17	10:06:56	0:05:39	0:12:00	0:12:00
Monday 15/5/15	11:00:47	11:10:16	0:09:29	0:12:00	0:12:00
Monday 15/5/15	12:01:23	12:09:25	0:08:02	0:12:00	0:12:00
Monday 15/5/15	13:00:19	13:08:57	0:08:38	0:12:00	0:12:00
Monday 15/5/15	14:01:05	14:08:12	0:07:07	0:12:00	0:12:00
Monday 15/5/15	14:59:21	15:14:57	0:15:36	0:12:00	0:12:00
Monday 15/5/15	16:00:47	16:12:07	0:11:20	0:12:00	0:12:00
Monday 15/5/15	17:02:28	17:17:38	0:15:10	0:12:00	0:12:00
Monday 15/5/15	18:02:12	18:11:22	0:09:10	0:12:00	0:12:00
Tuesday 16/5/15				0:12:00	0:12:00
Tuesday 16/5/15	7:01:23	7:12:40	0:11:17	0:11:27	0:11:27
Tuesday 16/5/15	8:03:07	8:14:02	0:10:55	0:12:00	0:12:00
Tuesday 16/5/15	9:02:10	9:11:45	0:09:35	0:12:00	0:12:00
Tuesday 16/5/15	10:00:19	10:08:30	0:08:11	0:12:00	0:12:00
Tuesday 16/5/15	11:00:44	11:08:22	0:07:38	0:12:00	0:12:00
Tuesday 16/5/15	12:00:53	12:09:22	0:08:29	0:12:00	0:12:00
Tuesday 16/5/15	13:00:53	13:07:29	0:06:36	0:12:00	0:12:00
Tuesday 16/5/15	14:01:24	14:10:13	0:08:49	0:12:00	0:12:00
Tuesday 16/5/15	14:59:16	15:07:07	0:07:51	0:12:00	0:12:00
Tuesday 16/5/15	15:59:25	16:11:44	0:12:19	0:12:00	0:12:00
Tuesday 16/5/15	17:02:46	17:12:54	0:10:08	0:12:00	0:12:00
Tuesday 16/5/15	17:58:28	18:07:29	0:09:01	0:12:00	0:12:00

Comparison	4 x Weekend Days			Weekdays
	Saturday	Sunday	Total	
Min	0:05:54	0:06:02	0:05:54	0:05:39
Max	0:11:38	0:11:16	0:11:38	0:15:36
Median	0:07:34	0:07:49	0:07:41	0:08:27
Average	0:07:44	0:07:46	0:07:45	0:08:59



Roadworks

155440 - Forest Way (Southbound)
Travel Time Surveys

Date	Timing Point 1	Timing Point 2	Total Travel Time	30 km/h Avg Speed - Length of Forest Way
Wednesday 17/5/15				0:12:00
Wednesday 17/5/15	7:00:53	7:08:13	0:07:20	0:11:27
Wednesday 17/5/15	8:01:54	8:13:22	0:11:28	0:11:27
Wednesday 17/5/15	9:00:34	9:12:18	0:11:44	0:12:00
Wednesday 17/5/15	10:01:12	10:09:10	0:07:58	0:12:00
Wednesday 17/5/15	11:00:36	11:08:30	0:07:54	0:12:00
Wednesday 17/5/15	12:01:17	12:08:53	0:07:36	0:12:00
Wednesday 17/5/15	13:00:08	13:07:06	0:06:58	0:12:00
Wednesday 17/5/15	14:01:14	14:08:05	0:06:51	0:12:00
Wednesday 17/5/15	15:00:21	15:08:31	0:08:10	0:12:00
Wednesday 17/5/15	16:01:37	16:11:01	0:09:24	0:12:00
Wednesday 17/5/15	17:00:51	17:11:53	0:11:02	0:12:00
Wednesday 17/5/15	17:59:32	18:12:14	0:12:42	0:12:00
Thursday 18/5/15				0:12:00
Thursday 18/5/15	7:02:47	7:12:07	0:09:20	0:12:00
Thursday 18/5/15	8:02:42	8:16:06	0:13:24	0:12:00
Thursday 18/5/15	9:00:57	9:09:35	0:08:38	0:12:00
Thursday 18/5/15	10:00:23	10:08:35	0:08:12	0:12:00
Thursday 18/5/15	11:01:52	11:10:45	0:08:53	0:12:00
Thursday 18/5/15	12:00:47	12:09:22	0:08:35	0:12:00
Thursday 18/5/15	13:01:34	13:09:59	0:08:25	0:12:00
Thursday 18/5/15	14:01:30	14:09:20	0:07:50	0:12:00
Thursday 18/5/15	15:02:07	15:11:28	0:09:21	0:12:00
Thursday 18/5/15	16:03:14	16:12:16	0:09:02	0:12:00
Thursday 18/5/15	17:02:17	17:13:35	0:11:18	0:12:00
Thursday 18/5/15	18:02:45	18:11:12	0:08:27	0:12:00
Friday 19/5/15	6:01:34	6:08:32	0:06:58	0:12:00
Friday 19/5/15	7:02:57	7:11:44	0:08:47	0:12:00
Friday 19/5/15	8:01:17	8:08:33	0:07:16	0:11:27
Friday 19/5/15	8:59:56	9:06:27	0:06:31	0:12:00
Friday 19/5/15	10:02:42	10:10:27	0:07:45	0:12:00
Friday 19/5/15	11:01:27	11:08:58	0:07:31	0:12:00
Friday 19/5/15	12:00:50	12:07:55	0:07:05	0:12:00
Friday 19/5/15	13:01:21	13:09:01	0:07:40	0:12:00
Friday 19/5/15	14:02:03	14:09:16	0:07:13	0:12:00
Friday 19/5/15	15:01:07	15:08:44	0:07:37	0:12:00
Friday 19/5/15	16:01:31	16:09:30	0:07:59	0:12:00
Friday 19/5/15	17:02:56	17:12:11	0:09:15	0:12:00
Friday 19/5/15	18:02:12	18:09:00	0:06:48	0:12:00
Saturday 20/6/15	8:01:00	8:07:49	0:06:49	0:12:00
Saturday 20/6/15	8:59:57	9:07:53	0:07:56	0:12:00
Saturday 20/6/15	10:00:11	10:06:39	0:06:28	0:12:00
Saturday 20/6/15				0:12:00
Saturday 20/6/15	11:59:37	12:07:46	0:08:09	0:12:00
Saturday 20/6/15	12:59:13	13:06:45	0:07:32	0:12:00
Saturday 20/6/15	14:02:06	14:08:16	0:06:10	0:12:00
Saturday 20/6/15	15:01:03	15:07:41	0:06:38	0:12:00
Saturday 20/6/15	16:01:14	16:08:04	0:06:50	0:12:00
Saturday 20/6/15	17:01:34	17:09:08	0:07:34	0:12:00
Saturday 20/6/15	18:01:37	18:08:55	0:07:18	0:12:00
Saturday 20/6/15	19:00:51	19:07:48	0:06:57	0:12:00
Sunday 21/6/15	8:00:50	8:06:56	0:06:06	0:12:00
Sunday 21/6/15	9:00:28	9:06:30	0:06:02	0:12:00
Sunday 21/6/15	10:00:58	10:09:10	0:08:12	0:12:00
Sunday 21/6/15	11:02:51	11:11:02	0:08:11	0:12:00
Sunday 21/6/15	12:02:08	12:10:15	0:08:07	0:12:00
Sunday 21/6/15	12:59:54	13:07:49	0:07:55	0:12:00
Sunday 21/6/15	14:01:40	14:09:28	0:07:48	0:12:00
Sunday 21/6/15	15:02:01	15:09:32	0:07:31	0:12:00
Sunday 21/6/15	16:01:25	16:08:34	0:07:09	0:12:00
Sunday 21/6/15	17:00:46	17:09:09	0:08:23	0:12:00
Sunday 21/6/15	18:00:28	18:07:52	0:07:24	0:12:00
Sunday 21/6/15	19:01:30	19:07:49	0:06:19	0:12:00



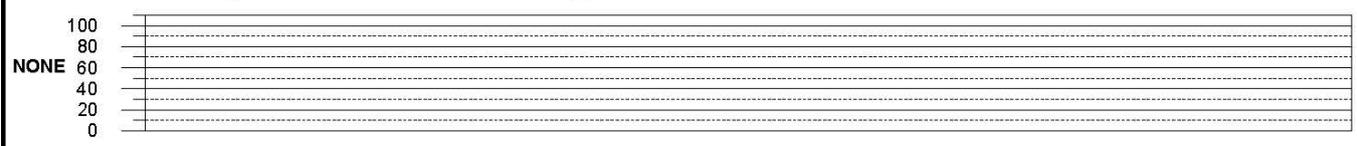
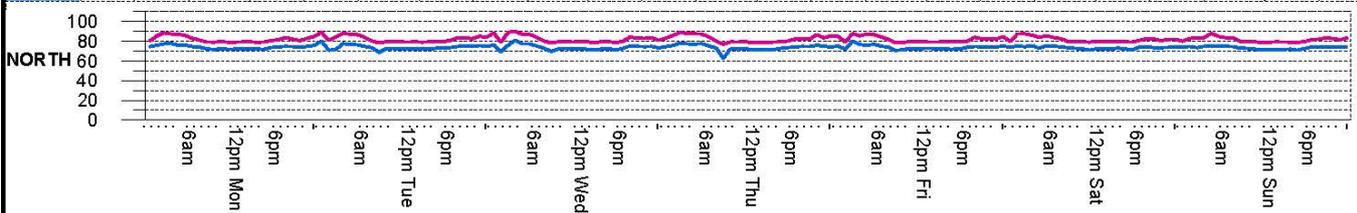
Appendix B

Tube Survey Results

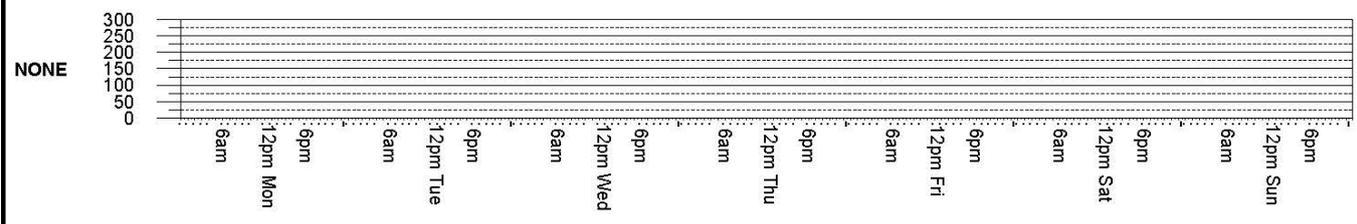
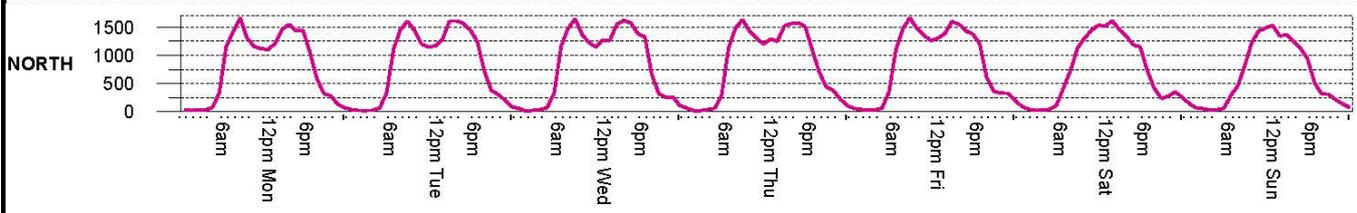
Count Number 2149 Lat/Long : S33 43.619 / E151 13.221 UBD 156 G-10
 Street FOREST WAY, BELROSE : Between WARRINGAH ROAD & MONA VALE ROAD (bidirectional)
 Location Combined Counts 2147 and 2148 Northbound south of Oates Place, ELP

Start Date 23-MAY-15 Speed Limit 80 NORTH NONE COMBINED
 Start Time 100 Weekly 50th Percentile Speed 73 73 73
 Duration 7 DAYS Weekly 85th Percentile Speed 80 80 80
 Interval 1 HOUR Five Day AADT 20022 20022
 Seven Day AADT 18961 18961

	MON 25-MAY-15			TUE 26-MAY-15			WED 27-MAY-15			THU 28-MAY-15			FRI 29-MAY-15			SAT 23-MAY-15			SUN 24-MAY-15			SEVENDAY AVERAGE		
	NORTH	NONE	BIDir	NORTH	NONE	BIDir																		
85%ile	79.8		79.8	79.8		79.8	79.7		79.7	79.7		79.7	79.8		79.8	79.8		79.8	79.5		79.5	79.7		79.7
50%ile	72.9		72.9	72.8		72.8	72.5		72.5	72.5		72.5	72.7		72.7	72.6		72.6	72.3		72.3	72.6		72.6
> 90 k	184		184	223		223	202		202	234		234	227		227	184		184	134		134	198.3		198.3
%age	1.0		1.0	1.1		1.1	1.0		1.0	1.2		1.2	1.1		1.1	1.1		1.1	.9		.9	1.0		1.0
> 100 k	18		18	22		22	19		19	33		33	19		19	17		17	25		25	21.86		21.86
%age	.1		.1	.1		.1	.1		.1	.2		.2	.1		.1	.1		.1	.2		.2	.1		.1



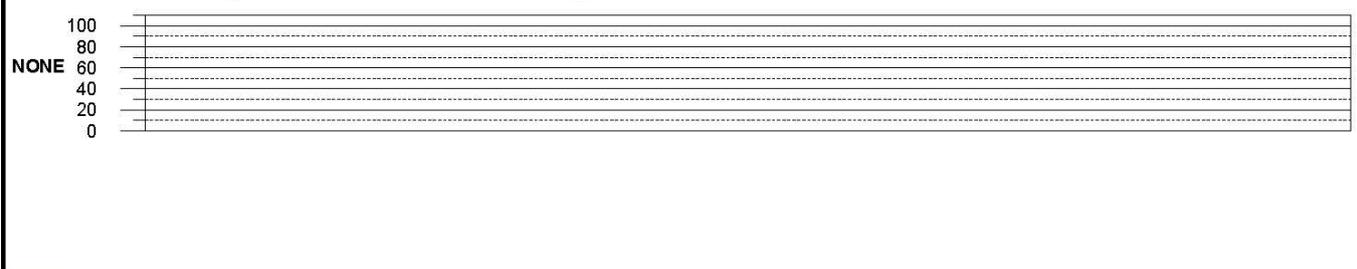
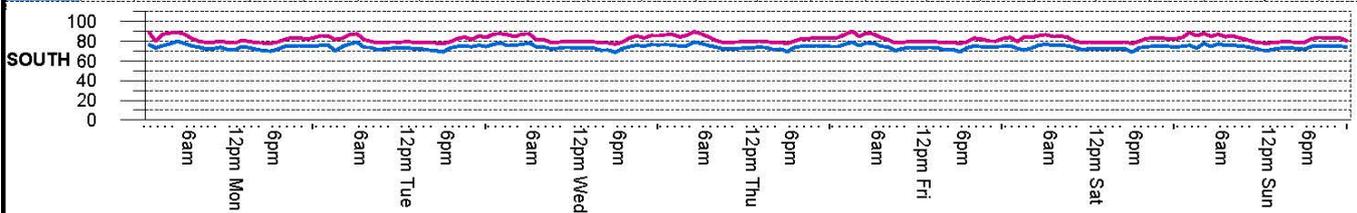
Short %	91.7		91.7	91.6		91.6	91.6		91.6	91.8		91.8	91.9		91.9	96.8		96.8	98.0		98.0	93.1		93.1
Med %	7.0		7.0	7.1		7.1	6.9		6.9	6.6		6.6	6.5		6.5	2.6		2.6	1.8		1.8	5.7		5.7
Long %	1.3		1.3	1.3		1.3	1.5		1.5	1.6		1.6	1.6		1.6	5		5	2		2	1.2		1.2
AM Pk Vo	1666		1666	1605		1605	1646		1646	1633		1666	1666		1666	1537		1537	1488		1488	1606		1606
PM Pk Vo	1550		1550	1611		1611	1621		1621	1574		1601	1616		1616	1616		1616	1531		1531	1586		1586
7-7pm	15916		15916	16786		16786	16871		16871	16871		17100	17100		17100	15132		15132	13480		13480	16022		16022
24-Hr Tot	18956		18956	20077		20077	20152		20152	20332		20332	20591		20591	17423		17423	15195		15195	18961		18961
Class 0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 1	17208		17208	18224		18224	18298		18298	18486		18486	18718		18718	16671		16671	14687		14687	17470		17470
Class 2	176		176	173		173	167		167	181		195	181		195	201		201	198		198	184		184
Class 3	1032		1032	1095		1095	1054		1054	1054		1054	1055		1055	397		397	258		258	843		843
Class 4	265		265	287		287	293		293	240		239	240		239	48		48	15		15	198		198
Class 5	38		38	38		38	39		39	46		53	46		53	13		13	1		1	33		33
Class 6	61		61	75		75	75		75	89		71	89		71	22		22	15		15	58		58
Class 7	6		6	10		10	6		6	14		16	14		16	2		2	4		4	8		8
Class 8	29		29	26		26	25		25	30		23	30		23	17		17	2		2	22		22
Class 9	122		122	128		128	165		165	162		192	162		192	49		49	14		14	119		119
Class 10	19		19	21		21	30		30	30		24	30		24	3		3	1		1	18		18
Class 11	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 12	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 13	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0



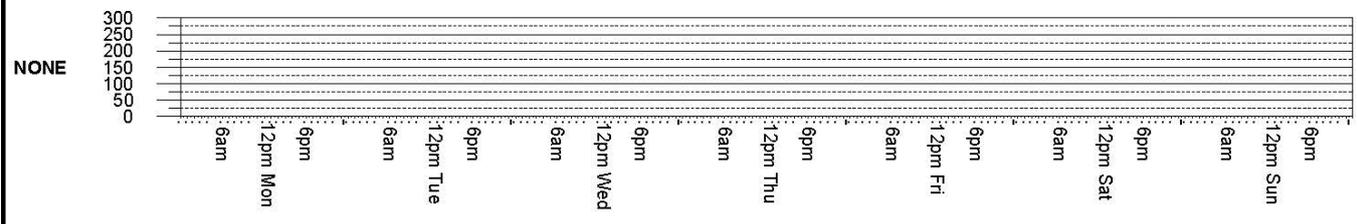
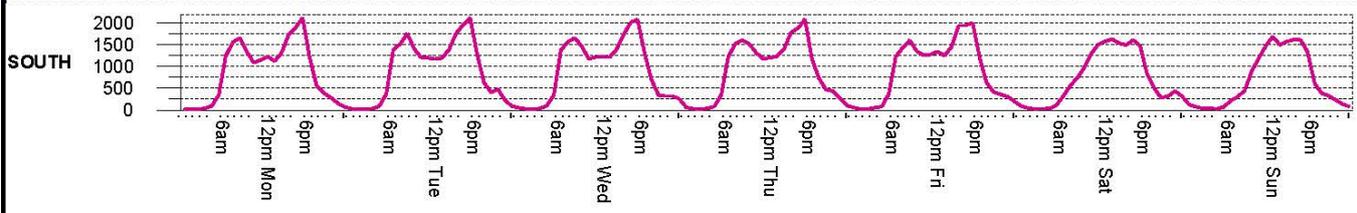
Count Number 2152 Lat/Long : S33 43.599 / E151 13.228 UBD 156 G-10
 Street FOREST WAY, BELROSE : Between WARRINGAH ROAD & MONA VALE ROAD (bidirectional)
 Location Combined Counts 2150 and 2151 Southbound south of Oates Place, ELP

Start Date 23-MAY-15 Speed Limit 80 SOUTH NONE COMBINED
 Start Time 100 Weekly 50th Percentile Speed 73 73 73
 Duration 7 DAYS Weekly 85th Percentile Speed 79 79 79
 Interval 1 HOUR Five Day AADT 21600 21600
 Seven Day AADT 20248 20248

	MON 25-MAY-15			TUE 26-MAY-15			WED 27-MAY-15			THU 28-MAY-15			FRI 29-MAY-15			SAT 23-MAY-15			SUN 24-MAY-15			SEVENDAY AVERAGE		
	SOUTH	NONE	Bidir	SOUTH	NONE	Bidir																		
85%ile	79.3		79.3	79.2		79.2	79.5		79.5	79.6		79.6	79.4		79.4	79.5		79.5	79.4		79.4	79.4		79.4
50%ile	72.7		72.7	72.4		72.4	72.8		72.8	73.1		73.1	72.9		72.9	72.8		72.8	72.9		72.9	72.8		72.8
> 90 k	170		170	171		171	187		187	222		222	179		179	166		166	153		153	178.3		178.3
%age	.8		.8	.8		.8	.9		.9	1.0		1.0	.8		.8	.9		.9	1.0		1.0	.9		.9
> 100 k	12		12	19		19	16		16	16		16	8		8	16		16	17		17	14.86		14.86
%age	.1		.1	.1		.1	.1		.1	.1		.1	0		0	.1		.1	.1		.1	.1		.1



Short %	92.5		92.5	92.7		92.7	92.9		92.9	92.4		92.4	92.8		92.8	97.2		97.2	98.1		98.1	98.1		98.1
Med %	6.3		6.3	6.3		6.3	5.8		5.8	6.1		6.1	5.7		5.7	2.3		2.3	1.7		1.7	5.1		5.1
Long %	1.1		1.1	1.0		1.0	1.3		1.3	1.5		1.5	1.5		1.5	5		5	2		2	1.1		1.1
AM Pk Vo	1655		1654	1758		1758	1659		1659	1602		1602	1605		1605	1505		1505	1470		1470	1608		1608
PM Pk Vo	2119		2119	2122		2122	2083		2083	2088		2088	2009		2008	1627		1627	1688		1688	1962		1962
7-7pm	17424		17424	17987		17987	18058		18058	17916		17916	18076		18076	15221		15221	14252		14252	16991		16991
24-Hr Tot	20706		20706	21769		21769	21957		21957	21739		21739	21831		21831	17730		17730	16007		16007	20248		20248
Class 0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 1	18955		18955	19996		19996	20228		20228	19912		19912	20094		20094	17019		17019	15483		15483	18812		18812
Class 2	208		208	173		173	165		165	173		173	169		169	207		207	213		213	187		187
Class 3	974		974	1052		1052	959		959	1035		1035	963		963	355		355	243		243	797		797
Class 4	296		296	281		281	271		271	246		246	248		248	43		43	21		21	201		201
Class 5	42		42	40		40	43		43	52		52	39		39	16		16	8		8	34		34
Class 6	66		66	69		69	71		71	100		100	84		84	22		22	12		12	61		61
Class 7	9		9	7		7	10		10	9		9	14		14	3		3	4		4	8		8
Class 8	26		26	33		33	33		33	44		44	43		43	8		8	4		4	27		27
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Class 10	18		18	18		18	25		25	28		28	21		21	5		5	2		2	17		17
Class 11	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 12	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
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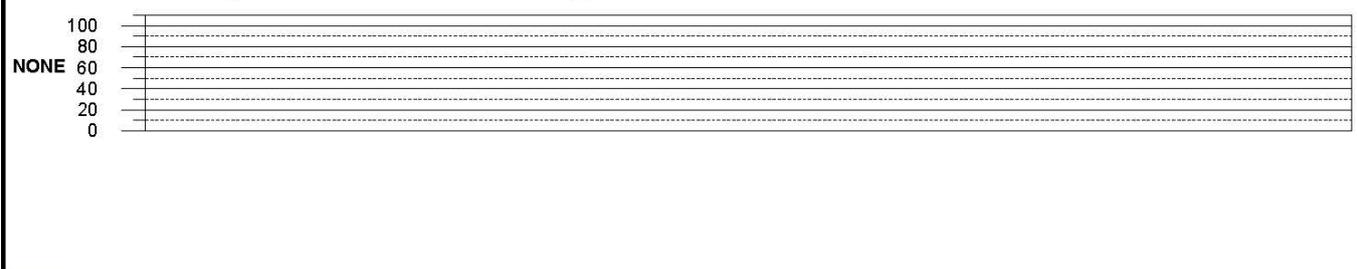
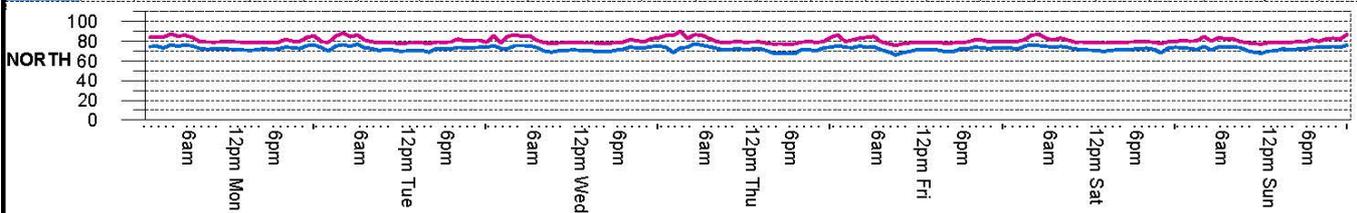


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 Street FOREST WAY, BELROSE : Between WARRINGAH ROAD & MONA VALE ROAD (bidirectional)
 Location Combined Counts 2318 and 2319 Northbound south of Oates Place, ELP

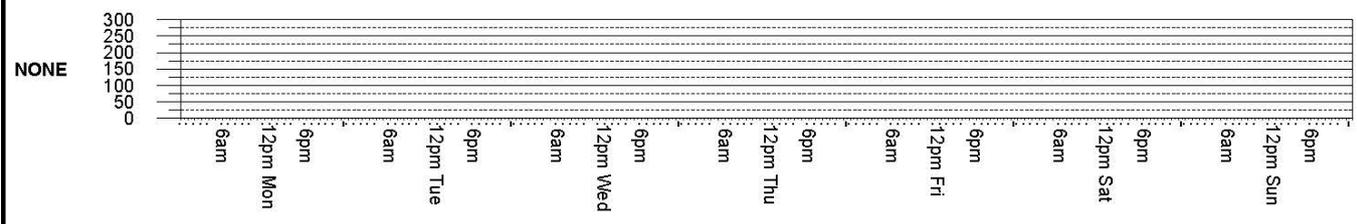
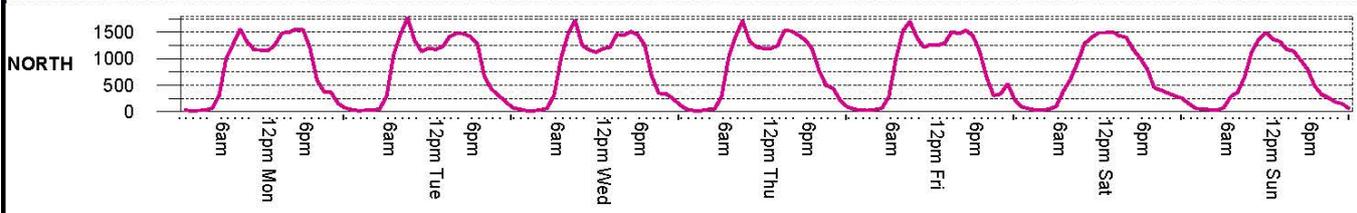
Start Date 16-JUN-15
 Start Time 100
 Duration 7 DAYS
 Interval 1 HOUR

Speed Limit 80 NORTH NONE COMBINED
 Weekly 50th Percentile Speed 71 71 71
 Weekly 85th Percentile Speed 79 79 79
 Five Day AADT 19675 19675
 Seven Day AADT 18474 18474

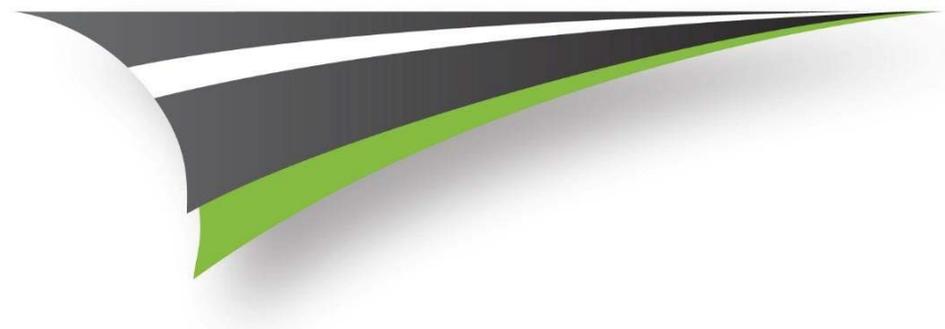
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	NORTH	NONE	BIDir	NORTH	NONE	BIDir																		
85%ile	79.4		79.4	78.9		78.9	78.7		78.7	78.9		78.9	78.6		78.6	79.0		79.0	79.0		79.0	78.9		78.9
50%ile	72.2		72.2	71.6		71.6	71.0		71.0	70.9		70.9	70.6		70.6	71.6		71.6	71.2		71.2	71.3		71.3
> 90 k	153		153	105		105	119		119	127		127	114		114	120		120	102		102	120		120
%age	.8		.8	.5		.5	.6		.6	.6		.6	.6		.6	.7		.7	.7		.7	.7		.7
> 100 k	12		12	10		10	11		11	16		16	5		5	16		16	9		9	11.29		11.29
%age	.1		.1	.1		.1	.1		.1	.1		.1	.0		.0	.1		.1	.1		.1	.1		.1



Short %	91.3		91.3	90.6		90.6	91.5		91.5	91.3		91.3	92.3		92.3	96.0		96.0	97.2		97.2	92.6		92.6
Med %	7.4		7.4	8.2		8.2	7.6		7.6	7.6		7.6	6.9		6.9	3.5		3.5	2.5		2.5	6.5		6.5
Long %	1.2		1.2	1.2		1.2	.9		.9	1.1		1.1	.8		.8	.4		.4	.3		.3	.9		.9
AM Pk Vo	1553		1552	1769		1769	1721		1721	1715		1715	1699		1699	1487		1487	1495		1495	1634		1634
PM Pk Vo	1552		1552	1479		1478	1508		1531	1531		1529	1504		1504	1504		1504	1366		1366	1496		1495
7-7pm	16163		16163	16360		16360	16214		16214	16321		16321	16721		16721	14481		14481	14481		14481	15505		15505
24-Hr Tot	19226		19226	19577		19577	19478		19478	19821		19821	20271		20271	17007		17007	13940		13940	18474		18474
Class 0	122		122	80		80	79		79	76		76	59		59	128		128	55		55	86		86
Class 1	17285		17285	17542		17542	17648		17648	17903		17903	18545		18545	16039		16039	13347		13347	16901		16901
Class 2	151		151	114		114	91		91	115		115	102		102	162		162	150		150	126		126
Class 3	1158		1158	1328		1328	1231		1231	1232		1232	1172		1172	553		553	327		327	1000		1000
Class 4	236		236	245		245	225		225	234		234	194		194	40		40	20		20	171		171
Class 5	34		34	39		39	33		33	48		48	28		28	9		9	0		0	27		27
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Class 7	6		6	8		8	5		5	13		13	13		13	2		2	0		0	7		7
Class 8	21		21	21		21	17		17	17		17	22		22	13		13	0		0	17		17
Class 9	125		125	113		113	79		79	92		92	77		77	33		33	15		15	76		76
Class 10	13		13	15		15	11		11	10		10	10		10	1		1	1		1	9		9
Class 11	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 12	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
Class 13	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0



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Appendix E

Sydney Clearways Strategy, Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest, Data Report – Parking Analysis (Peopletrans 2017)

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Sydney Clearways Strategy: Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest

Data Report – Parking Analysis

Document Quality Information

Client	Roads and Maritime Services
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Reviewed By	Charlie Seventekin
Approved By	Daryl Ninham
Signature	

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1. Introduction

In June 2011, the Minister of Roads and Ports announced that a review of the current clearways and parking restrictions was to be undertaken with a view to developing a new Clearways Strategy for Sydney. The aim of this was to ultimately improve the efficiency and reliability of the State road network. This clearways strategy was also to form part of a larger group of initiatives strategically targeting congestion in and around the Sydney CBD.

On 1 December 2013, the Minister for Roads and Ports officially released the Sydney Clearways Strategy, *Keeping Sydney Moving* (referred to further within this report as "The Strategy")¹.

The Strategy identified that congestion costs Sydney residents an estimated \$5.1 billion per year². It also set out criteria for identifying potential weekday and weekend clearways, a process for engaging with local stakeholders and a process around supporting funding for providing alternative parking to minimise impacts on local businesses and residents.

Roads and Maritime has completed the parking investigations, and in some cases implemented clearways along a number of high priority Sydney Regional corridors being Victoria Road, the A1 (Princes Highway), the A3 (Pacific Highway, Lane Cove Road and Mona Vale Road), Pacific Highway and Parramatta Road.

PeopleTrans was commissioned by the Roads and Maritime Services (Roads and Maritime) in May 2015 to investigate the parking demand and parking duration along Forest Way from Mona Vale Road, Terry Hills to Warringah Road, Frenches Forest. This report provides a summary of the investigations and analysis of the proposed clearway corridor.

This report summarises the surveys and analysis undertaken for the corridor.

The investigation was to be undertaken broadly in accordance with the parking framework appended to the Strategy but more specifically in accordance with the Roads and Maritime study brief.

¹ <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/sydney-clearways-strategy.pdf> - accessed 1/6/15

² http://roadsafety.transport.nsw.gov.au/downloads/clearways/fact_sheets/clearways_strategy.pdf - accessed 1/6/15

1.1 Key Study Objective

The key objective of this study was to determine the weekday and weekend parking demand and utilisation (referred to further as duration of stay) along Forest Way, to identify the level of parking impact likely to occur with the implementation of clearways and to identify and recommend alternative parking locations/strategies especially for business, where necessary.

1.2 Scope of Works

The following work was undertaken as part of this study:

- ◆ An inventory of the on-street parking supply, including details of the various parking restrictions and current clearways.
- ◆ Identification of parking type (unrestricted, short-term, long-term, staff, customer etc.)
Inventory of off-street parking for affected properties along selected side streets.
- ◆ Parking demand and duration of stay surveys over a 9 day period (including two weekends) for the time periods indicated in Table 1.1. Surveys were undertaken along the entire corridor along Forest Way and also at targeted side street locations.

Table 1.1: The Corridor Daily Survey Times

Date	Survey Times
Saturday 13/6/15	8:00am to 8:00pm
Sunday 14/6/15	8:00am to 8:00pm
Monday 15/6/15	6:00am to 7:00pm
Tuesday 16/6/15	6:00am to 7:00pm
Wednesday 17/6/15	6:00am to 7:00pm
Thursday 18/6/15	6:00am to 7:00pm
Friday 19/6/15	6:00am to 7:00pm
Saturday 20/6/15	8:00am to 8:00pm
Sunday 21/6/15	8:00am to 8:00pm

- ◆ Analysis of survey data
- ◆ Identification of whether there was sufficient parking to cater for removal of business parking on Forest Way with no changes.
- ◆ Identification of additional measures required to cater for removal of business parking on Forest Way if existing parking arrangements were not considered satisfactory.

1.3 Purpose of this Report

This report provides a summary of investigations and analysis of the proposed clearway corridor along Forest Way from Mona Vale Road, Terrey Hills to Warringah Road, Frenchs Forest.

2. Corridor – Forest Way, Mona Vale Road to Warringah Road

The following sections provide an overview of the investigations of the clearway corridor which runs along Forest Way from Mona Vale Road in Terrey Hills to Warringah Road in Frenchs Forest, hereafter referred to as 'the corridor'.

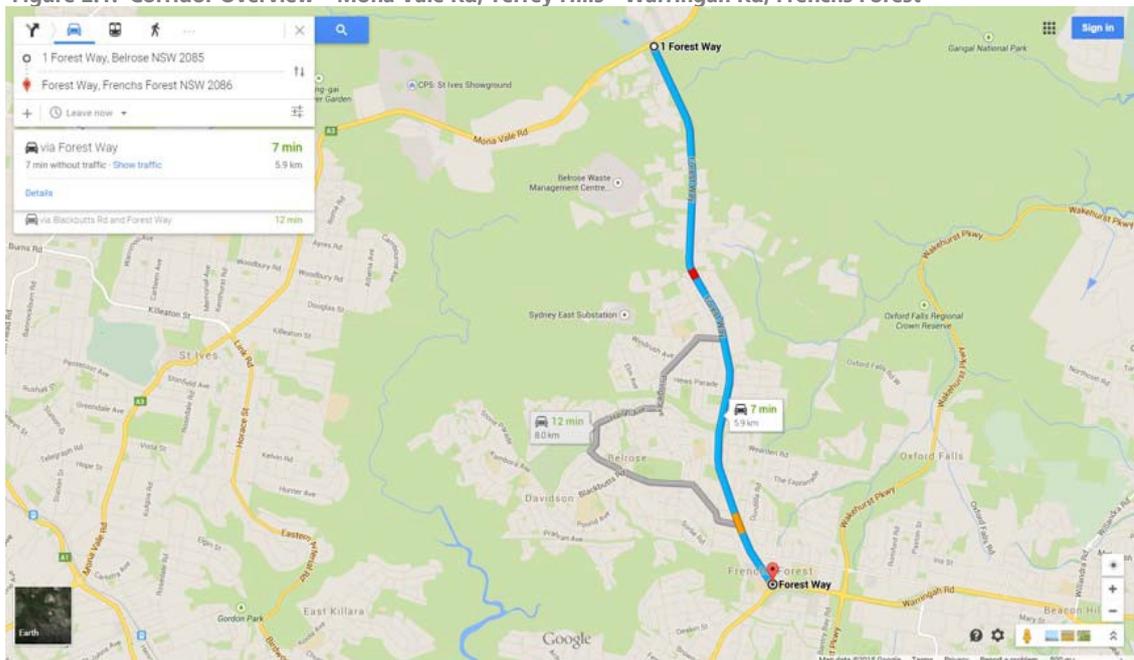
2.1 Route Overview

The corridor is approximately 5.9km long and extends from Mona Vale Road in Terrey Hills to Warringah Road in Frenchs Forest as indicated in Figure 2.1. For the purposes of this study, including the assessment of parking in both the northbound and southbound directions this equates to a total study length of 11.8km. There are no strip commercial / retail areas along the route and the majority of the properties fronting Forest Way are residential in nature.

There are currently no clearway restrictions along the length of the corridor however parts of the corridor are subject to 'No Parking' restrictions during peak times.

The corridor is contained within the Northern Beaches Local Government Area.

Figure 2.1: Corridor Overview – Mona Vale Rd, Terrey Hills - Warringah Rd, Frenchs Forest



The clearway corridor has the following attributes:

- ◆ Total distance of approximately 5.9km (one-way).
- ◆ No strip retail centres along the route.
- ◆ Long stretches of residential properties.
- ◆ No existing clearway restrictions.

2.2 On-Street / Public Parking Inventory

In May 2015 an inventory of the parking supply along the proposed clearway corridor was recorded by PeopleTrans. Details of the parking inventory (parking supply and restrictions) are provided in Figure 2.2 to Figure 2.5.

Where, on occasion, signs were missing or inconsistent with the Australian Standards, the intended parking restriction was recorded. That is for example, where a “No Stopping” sign was missing but the section of road was intended to be “No Stopping”, that restriction was adopted.

The methodology and assumptions used in calculating the parking supply for the corridor was as follows:

- ◆ PeopleTrans walked the entire length of the route (two-way) and measured the available parking spaces.
- ◆ Where cars were parked, these were also used as the basis for calculating the car parking supply.
- ◆ Where no cars were parked, the car parking supply was calculated using on site measurements with reference to the Australian and NSW Road Rules and AS2890.5-1993 On-street parking as follows:
 - ◇ 10m No Stopping restrictions at uncontrolled side street intersections
 - ◇ 20m No Stopping restrictions on the approach and exit to traffic signals
 - ◇ 30m Bus Zones
 - ◇ Assumed car parking space lengths of 5.4m for end spaces and 6.5m for midblock spaces.
- ◆ Indented parking or parking that would not be affected by new clearways was not included in the inventory or was identified separately.



Legend

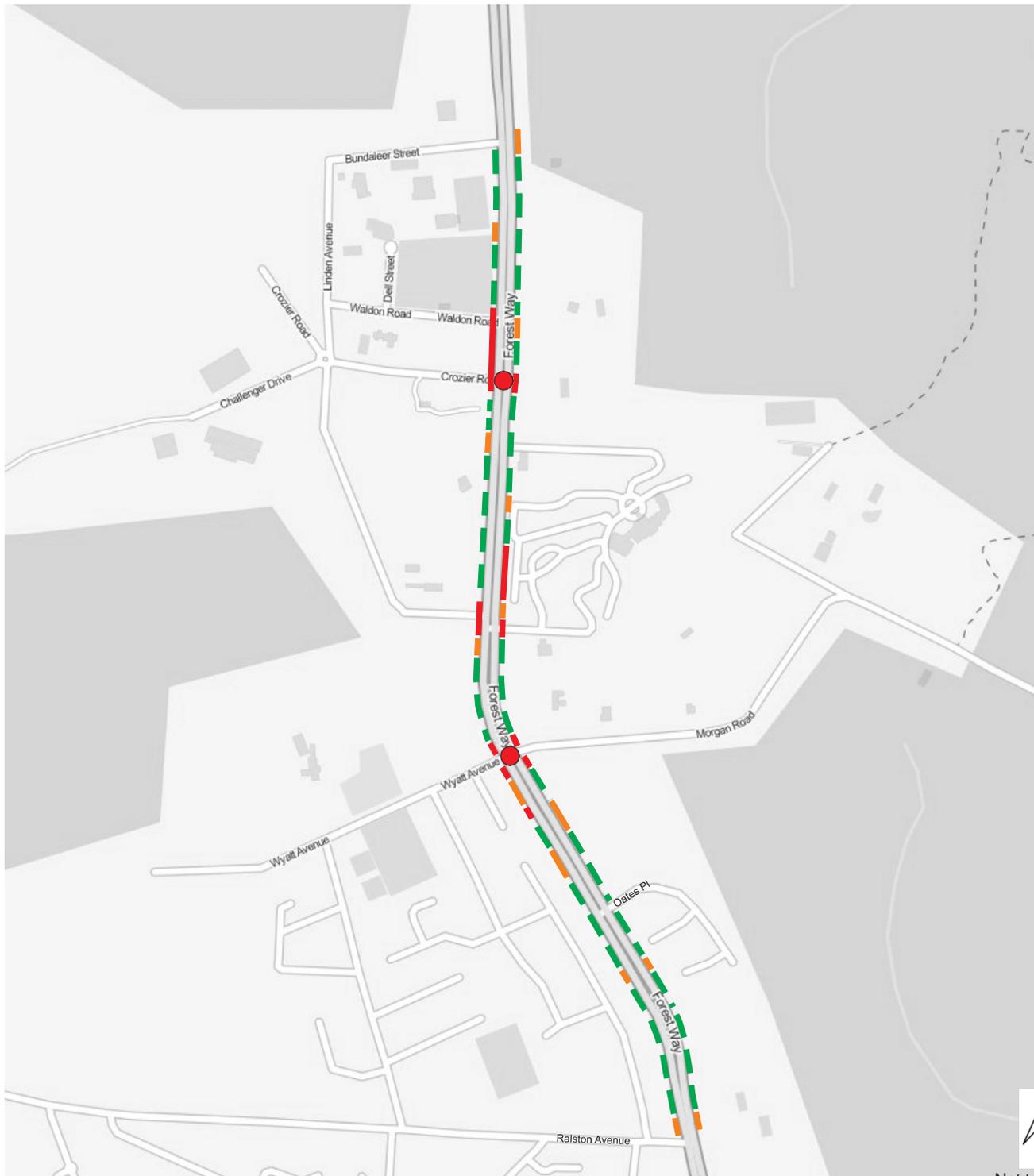
- No Stopping
- - - No Parking - Bicycle Lane
- Bus Zone
- 29 Number of parking spaces
- Traffic signals

Figure 2.2: Parking Inventory (Part 1 of 4)

Forest Way
 Monavale Rd to Bundaleer St, Belrose



Not to Scale

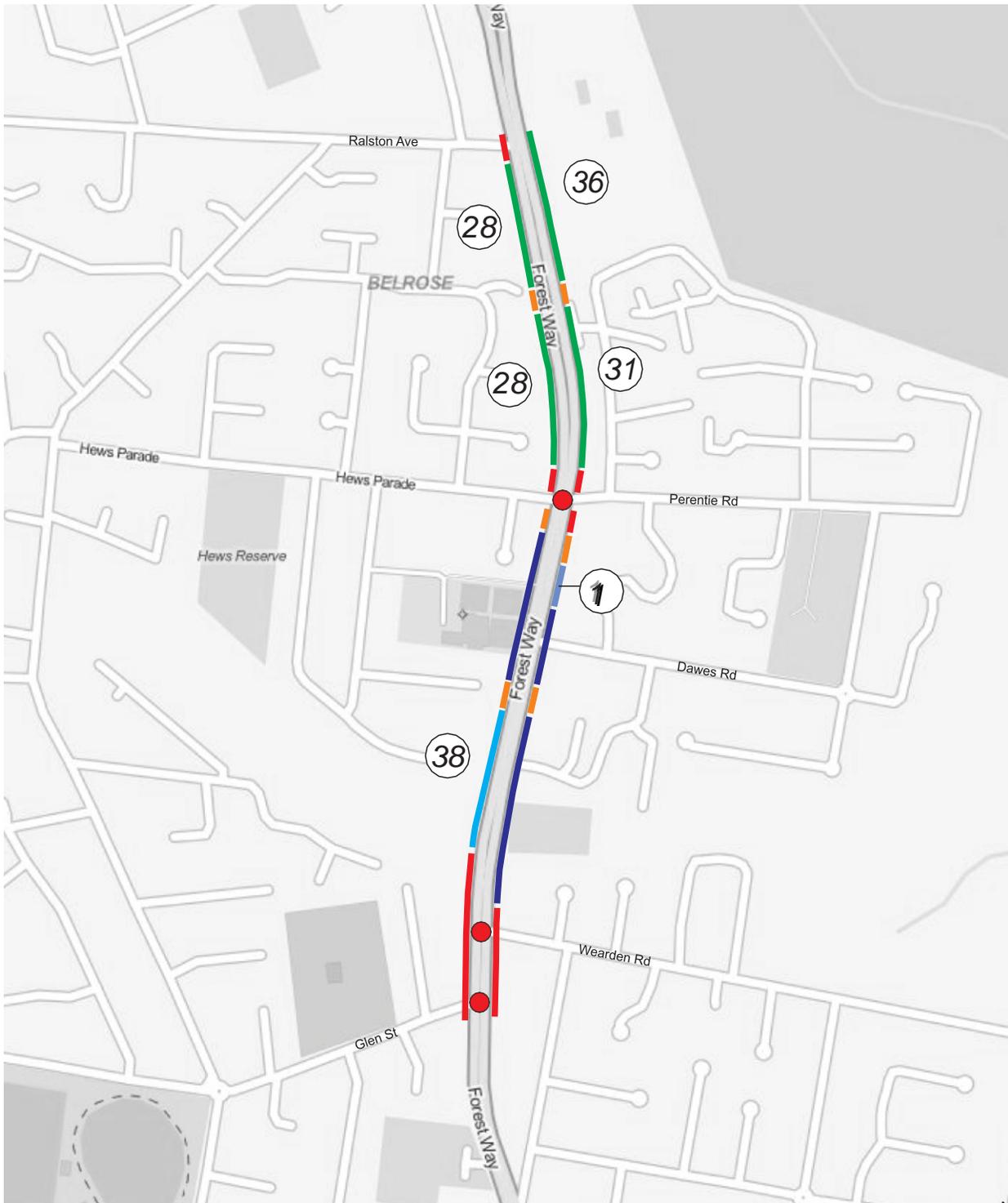


Legend

- No Stopping
- No Parking - Bicycle Lane
- Bus Zone
- 29 Number of parking spaces
- Traffic signals

Figure 2.3: Parking Inventory (Part 2 of 4)

Forest Way
Bundaleer St to Ralston Ave, Belrose



Legend

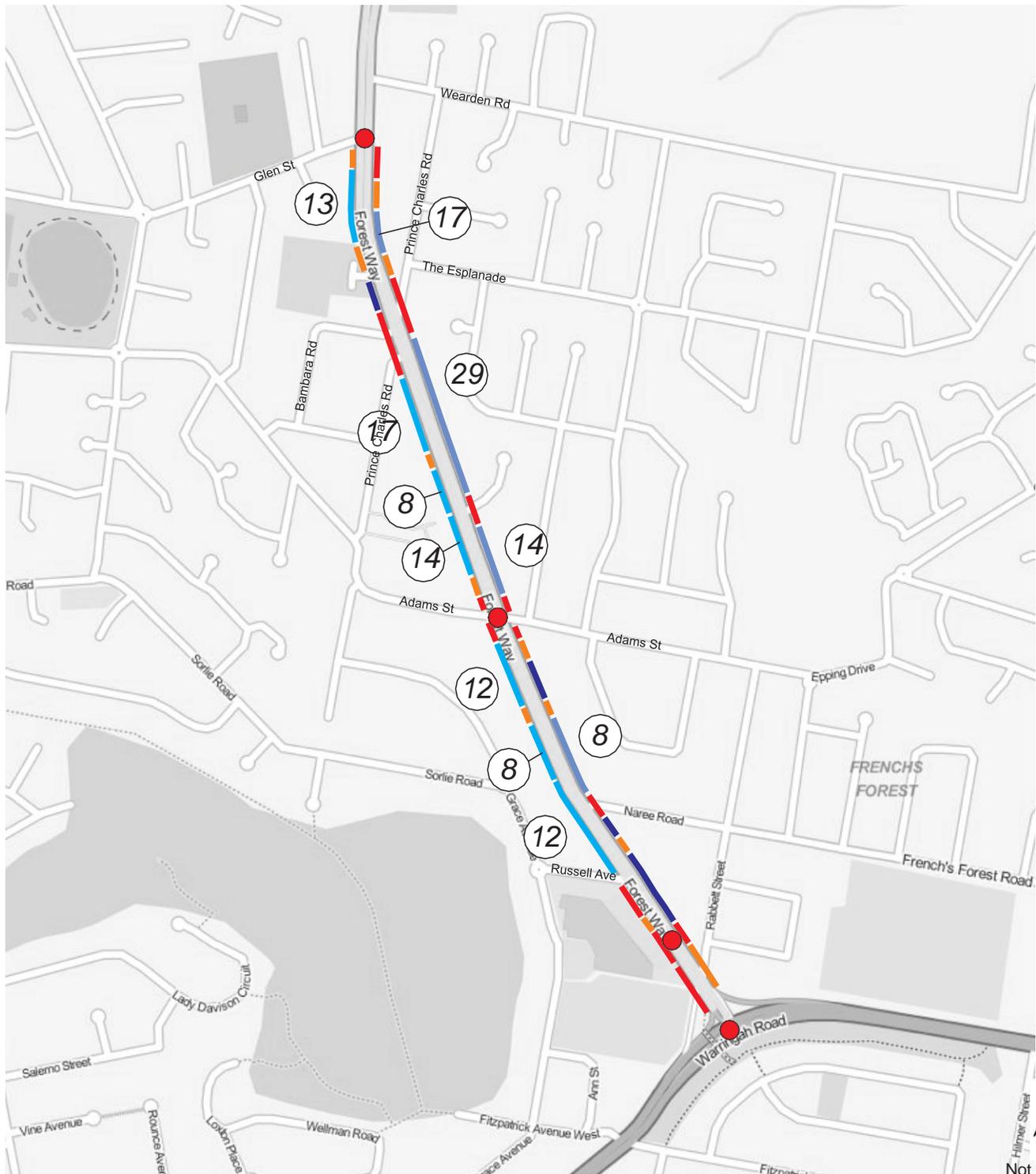
- No Stopping
- No Parking
- No Parking 3:30-6:30pm Mon-Fri
- No Parking 6:30-9:30am Mon-Fri
- Unrestricted
- - - Bus Zone
- 29 Number of parking spaces
- Traffic signals

Figure 2.4: Parking Inventory (Part 3 of 4)

Forest Way
Ralston Ave to Glen St, Belrose



Not to Scale



Legend

- No Stopping
- No Parking
- No Parking 3:30-6:30pm Mon-Fri
- No Parking 6:30-9:30am Mon-Fri
- Unrestricted
- Bus Zone
- 29 Number of parking spaces
- Traffic signals

Figure 2.5: Parking Inventory (Part 4 of 4)

Forest Way
 Glen St, Belrose to Warringah Rd,
 French's Forest



3. Location of Parking on the Route

To understand the amount of car parking occurring on Forest Way throughout a typical week, PeopleTrans undertook surveys using an in-car video camera. The entire corridor was driven commencing on the hour across 9 days. PeopleTrans reviewed the hourly video data to determine the type of car, location and duration of stay for all vehicles. The results of the surveys are summarised in the following sections.

3.1 Typical Location of Parking

Across the 9 survey days, there were locations where parking often occurred and for a significant amount of the corridor, no parking was observed at any time. The typical locations where parking was observed is shown in Figure 3.1.

Figure 3.1: Typical Location of Parking Outside of Retail Areas

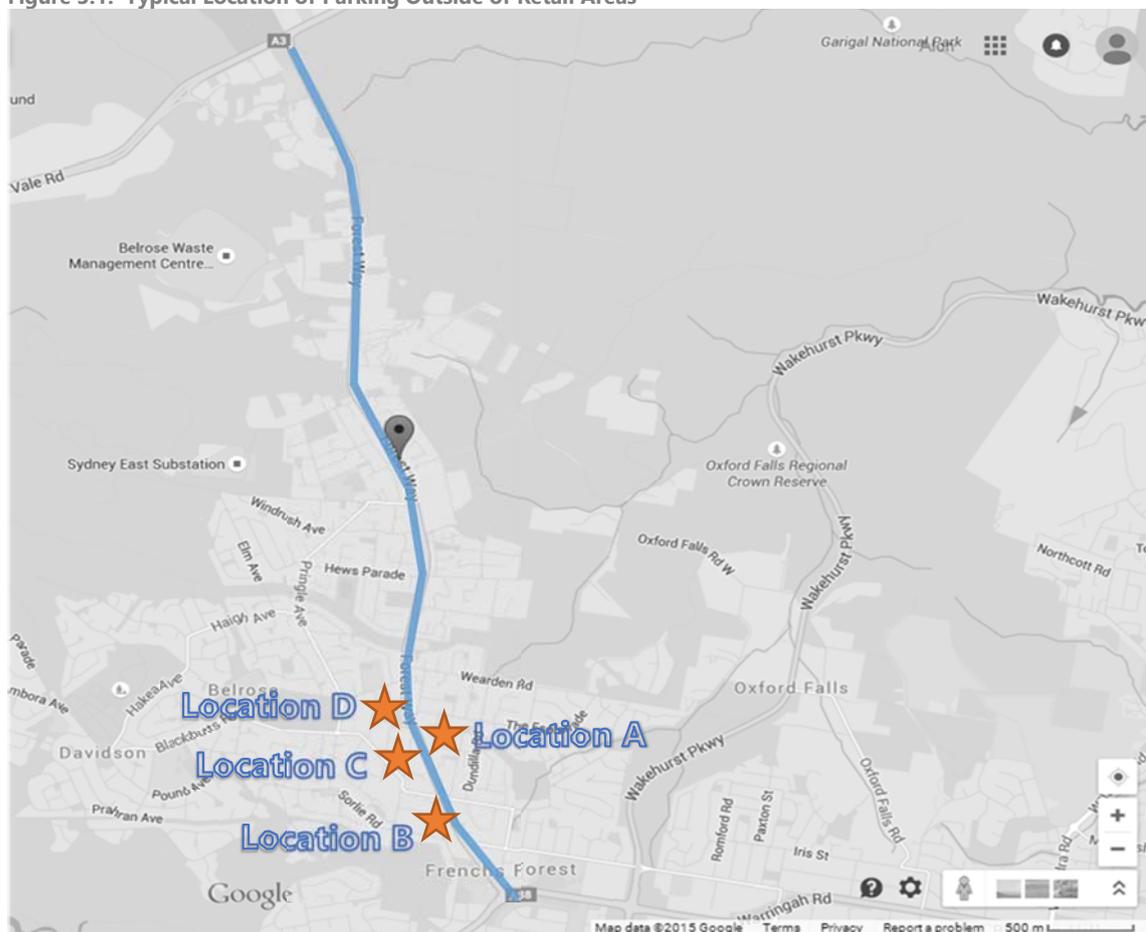


Figure 3.1 indicates that parking was typically only observed in four locations as follows:

- ◆ Location A – Between Wearden Road and Adams Street (eastern side of Forest Way, southbound direction)
- ◆ Location B – Between Russell Avenue and Adams Street (western side of Forest Way, northbound direction)
- ◆ Location C – Between Adams Street and Prince Charles Road (western side of Forest Way, northbound direction)
- ◆ Location D – Between Prince Charles Road and Glen Street (western side of Forest Way, northbound direction)

The results of the surveys are summarised in the following section.

3.2 Survey Results

The results of the duration of stay surveys are summarised in Figure 3.2 and Figure 3.3.

Figure 3.2: Weekday Duration of Stay (total 5 days – both directions)

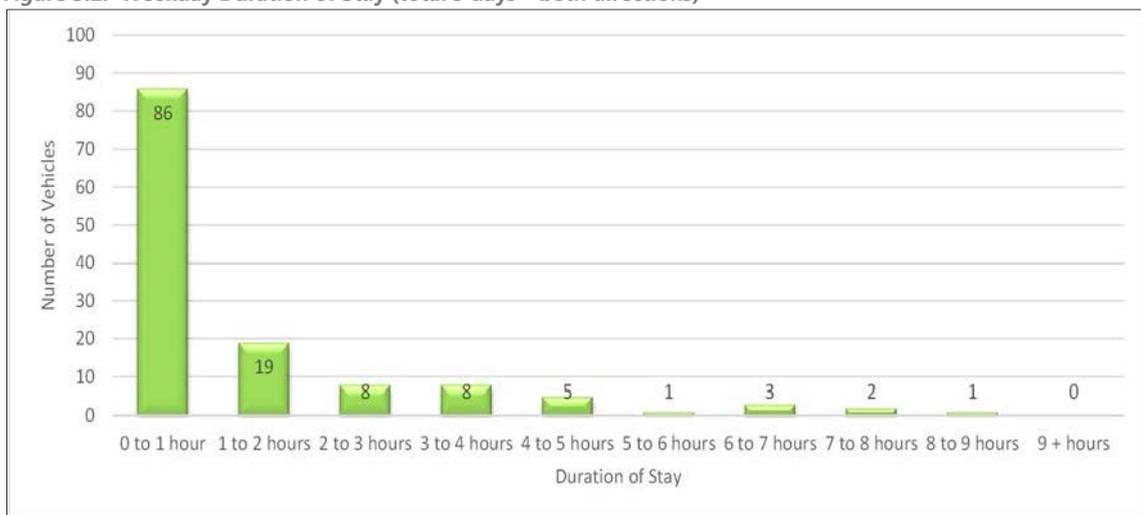


Figure 3.3: Weekend Duration of Stay (total 4 days – both directions)



Figure 3.2 and Figure 3.3 indicate that the majority of vehicles stayed for less than 1 hour and overall, parking duration of stay was longer on the weekends than on weekdays.

Through a review of the videos, a number of the same vehicles were observed throughout the week and on weekends, parking in the same location. These vehicles were parked outside residential properties and it is assumed that they are associated with the adjacent residence.

A summary of the parking occupancy survey results is provided in Table 3.1.

Table 3.1: Summary of Maximum Demand on Forest Way Outside the Retail Areas

Area	Typical Weekday Maximum Demand	Typical Weekend Maximum Demand	Notes
A (southbound)	1 to 5 vehicles	2 to 5 vehicles	Mainly residential vehicles
B (northbound)	1 to 5 vehicles	1 to 2 vehicles	Customer and construction vehicles
C (northbound)	1 to 7 vehicles	1 to 9 vehicles	Mainly residential vehicles
D (northbound)	0 vehicles	1 to 9 vehicles	Used on weekends. Sports field users' parking.
Other locations	1 vehicle	1 to 2 vehicles	

Table 3.1 indicates that in a southbound direction in Area A, up to a maximum of 5 vehicles were observed parked on weekdays and on the weekend.

In Area B, up to 5 vehicles were observed parked on weekdays with up to 2 vehicles parked on the weekend.

In Area C up to 7 vehicles were observed parked on weekdays with up to 9 vehicles parked on the weekend.

In Area D no vehicles were observed during the week with up to 9 vehicles, assumed to be associated with the nearby Belrose Oval, parked on weekends.

From both on site observations and a desk top analysis of aerial imagery if a clearway was introduced it is likely that there are appropriate vacancies either in nearby side-streets or contained within the residential properties to provide a replacement for the reduced supply on Forest Way.

4. Summary of Analysis

4.1 Next Steps

This report provides a good basis for Roads and Maritime to commence discussions with affected Councils and the wider community regarding possible new clearways along the corridor between Warringah Road and Mona Vale Road.

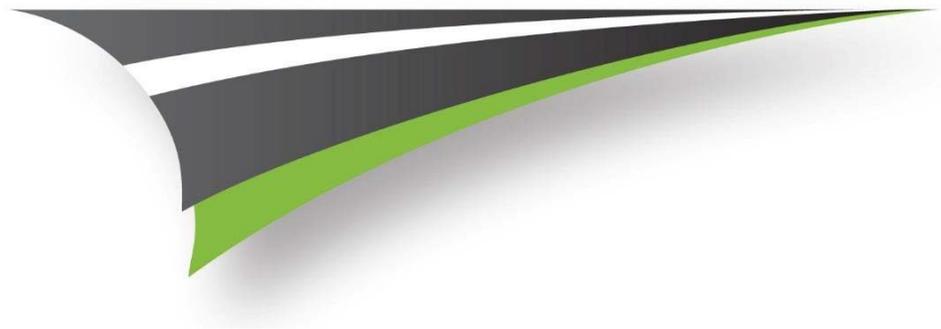
This report is based on surveys undertaken in May and June 2015. It does not consider any proposals by Council or private developments which could impact on the parking demand, both now and in the future, within the vicinity of the proposed clearway corridor.

5. References

In preparing this report, the following references were used:

- ◆ A number of site inspections by the authors and reviewers of this report on a number of different days including but not limited to those documented in this report.
- ◆ Sydney Clearways Strategy Keeping Sydney Moving, Transport for New South Wales, December 2013.
- ◆ Australian Standard AS2890.5-1993, Parking facilities Part 5: On-street parking, Standards Australia 1993.
- ◆ Other documents as nominated in the report

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Appendix F

Site visit photographs

Site visit photographs



Photo 1: Forest Way northbound (two lane section north of Glen Street, Belrose)



Photo 2: Forest Way northbound (three lane section north of Hews Parade, Belrose)



Photo 3: Forest Way northbound (two lane section approaching Wyatt Avenue/ Morgan Road, Belrose)



Photo 4: Forest Way southbound (two lane section approaching Wyatt Avenue/ Morgan Road, Belrose)



Photo 5: Forest Way southbound (three lane section between Wyatt Avenue/ Morgan Road and Perentie Road, Belrose)



Photo 6: Forest Way southbound approaching the Forest Way retail area



Photo 7: Forest Way southbound approaching Warringah Road



Photo 8: Forest Way southbound near Warringah Road and Northern Beaches Hospital road works

Appendix G

Basic AHIMS search results

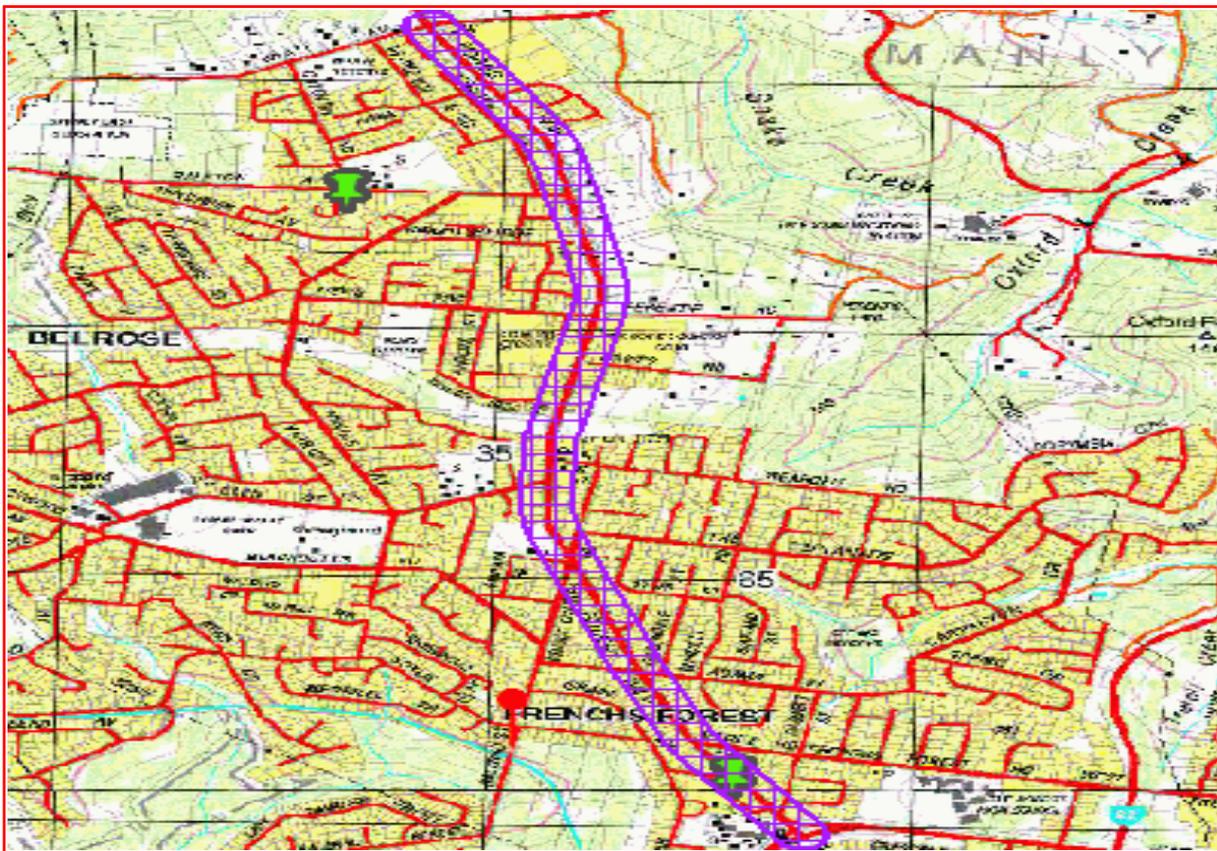
Aurecon Newcastle
23 Warabrook Boulevard
Warabrook New South Wales 2304
Attention: Janet Krick
Email: janet.krick@aurecongroup.com

Date: 18 July 2017

Dear Sir or Madam:

AHIMS Web Service search for the following area at Search using shape-file proposal area 60m buffer.SHP with a buffer of 0 meters. Additional Info : Road upgrade project, conducted by Janet Krick on 18 July 2017.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Appendix H

Biodiversity database search results



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 21/06/17 11:59:35

[Summary](#)

[Details](#)

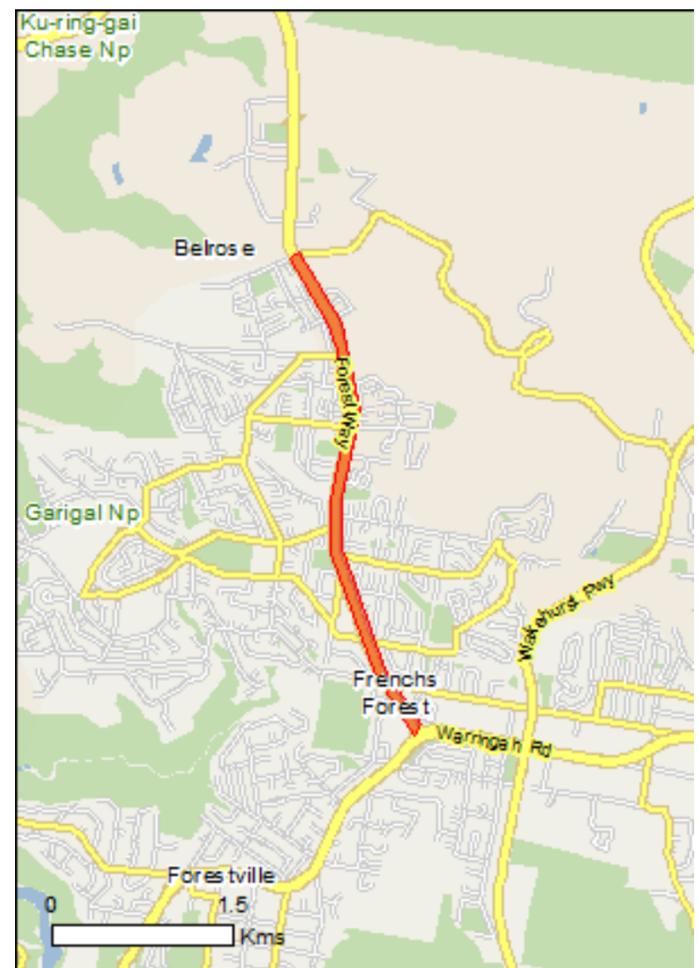
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

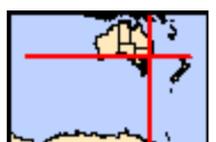
[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 1.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	42
Listed Migratory Species:	18

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	3
Commonwealth Heritage Places:	None
Listed Marine Species:	24
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	50
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community may occur within area

Listed Threatened Species

[[Resource Information](#)]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Frogs		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Isodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area
Acacia terminalis subsp. terminalis MS Sunshine Wattle (Sydney region) [88882]	Endangered	Species or species habitat likely to occur within area
Asterolasia elegans [56780]	Endangered	Species or species habitat may occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area
Genoplesium baueri Yellow Gnat-orchid [7528]	Endangered	Species or species habitat known to occur within area
Grevillea caleyi Caley's Grevillea [9683]	Endangered	Species or species habitat known to occur within area
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat likely to occur within area
Leptospermum deanei Deane's Tea-tree [21777]	Vulnerable	Species or species habitat likely to occur within area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat may occur within area
Microtis angusii Angus's Onion Orchid [64530]	Endangered	Species or species habitat likely to occur within area
Pelargonium sp. Striatellum (G.W.Carr 10345) Omeo Stork's-bill [84065]	Endangered	Species or species habitat may occur within area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat likely to occur within area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat known to occur within area
Prostanthera marifolia Seaforth Mintbush [7555]	Critically Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Triplarina imbricata [64543]	Endangered	Species or species habitat likely to occur within area
Reptiles		
Hoplocephalus bungaroides Broad-headed Snake [1182]	Vulnerable	Species or species habitat likely to occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		

Name	Threatened	Type of Presence
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

[[Resource Information](#)]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Commonwealth Land - Australian Telecommunications Commission
 Commonwealth Land - Defence Housing Authority
 Commonwealth Land - Telstra Corporation Limited

Listed Marine Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Cuculus saturatus Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species

Name	Threatened	Type of Presence
Merops ornatus Rainbow Bee-eater [670]		habitat known to occur within area Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Garigal	NSW

Invasive Species	[Resource Information]
Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.	

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris European Greenfinch [404]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur

Name	Status	Type of Presence
Mus musculus House Mouse [120]		within area Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
<p>Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]</p>		Species or species habitat likely to occur within area
<p>Genista sp. X Genista monspessulana Broom [67538]</p>		Species or species habitat may occur within area
<p>Lantana camara Lantana, Common Lantana, Kamara Lantana, Large- leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]</p>		Species or species habitat likely to occur within area
<p>Lycium ferocissimum African Boxthorn, Boxthorn [19235]</p>		Species or species habitat likely to occur within area
<p>Opuntia spp. Prickly Pears [82753]</p>		Species or species habitat likely to occur within area
<p>Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]</p>		Species or species habitat may occur within area
<p>Protasparagus densiflorus Asparagus Fern, Plume Asparagus [5015]</p>		Species or species habitat likely to occur within area
<p>Protasparagus plumosus Climbing Asparagus-fern, Ferny Asparagus [11747]</p>		Species or species habitat likely to occur within area
<p>Rubus fruticosus aggregate Blackberry, European Blackberry [68406]</p>		Species or species habitat likely to occur within area
<p>Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]</p>		Species or species habitat likely to occur within area
<p>Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]</p>		Species or species habitat likely to occur within area
<p>Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]</p>		Species or species habitat likely to occur within area
<p>Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]</p>		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-33.750901 151.226669,-33.750865 151.226712,-33.750865 151.226712,-33.751578 151.226068,-33.747975 151.223279,-33.740445
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151.22079,-33.740374 151.220875,-33.747582 151.224008,-33.750901 151.226669

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Priority weeds for the Greater Sydney

Note: this region includes the local council areas of Bayside Council, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, Central Coast, City of Parramatta, Cumberland, Fairfield, Georges River, Hawkesbury, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, North Sydney, Northern Beaches, Penrith, Randwick, Ryde, Strathfield, Sutherland, Sydney, Waverley, Willoughby, Wollondilly, Woollahra

[Select another region](#)

Weed

All plants

[African boxthorn](#)

Lycium ferocissimum

[African olive](#)

Olea europaea subsp. cuspidata

[Alligator weed](#)

Alternanthera philoxeroides

Duty

General Biosecurity Duty

All plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

Mandatory Measure

Must not be imported into the State or sold

Regional Recommended Measure

An exclusion zone is established for all lands in Blue Mountains City Council and Central Coast local government areas. The remainder of the region is classified as the core infestation area.

Whole region: The plant or parts of the plant are not traded, carried, grown or released into the environment. Exclusion zone: The plant is eradicated from the land and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible.

Mandatory Measure

Must not be imported into the State or sold

Alligator weed

Alternanthera philoxeroides

Biosecurity Zone

The Alligator Weed Biosecurity Zone is established for all land within the state except land in the following regions: Greater Sydney; Hunter (but only in the local government areas of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens).

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Alligator weed

Alternanthera philoxeroides

Regional Recommended Measure

Exclusion zone: Blue Mountains City Council area. Core infestation area: the remainder of the region.

Whole region: Land managers prevent spread from their land where feasible. Exclusion zone: The plant is eradicated from the land and the land kept free of the plant. Core infestation area: Land managers mitigate the risk of new weeds being introduced to their land. Land managers reduce the impact on priority assets.

Anchored water hyacinth

Eichhornia azurea

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Athel pine

Tamarix aphylla

Mandatory Measure

Must not be imported into the State or sold

Barleria

Barleria prionitis

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

This Regional Recommended Measure applies to Barleria repens (coral creeper)

Bellyache bush

Jatropha gossypifolia

Mandatory Measure

Must not be imported into the State or sold

Bitou bush

Chrysanthemoides monilifera subsp.
rotundata

Mandatory Measure

Must not be imported into the State or sold

Bitou bush

Chrysanthemoides monilifera subsp.
rotundata

Biosecurity Zone

The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south.

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Black knapweed

Centaurea X moncktonii

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Black willow

Salix nigra

Mandatory Measure

Must not be imported into the State or sold

Black willow

Salix nigra

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. Notify local control authority if found.

Blackberry

Rubus fruticosus species aggregate

Mandatory Measure

Must not be imported into the State or sold

All species in the Rubus fruticosus species aggregate have this requirement, except for the varieties Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree

Boneseed

Chrysanthemoides monilifera subsp.
monilifera

Mandatory Measure

Must not be imported into the State or sold

Boneseed

Chrysanthemoides monilifera subsp.
monilifera

Biosecurity Control Order

Bonseed Control Zone: Whole of NSW

Boneseed Control Zone (Whole of NSW): Owners and occupiers of land on which there is boneseed must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of boneseed must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Boxing glove cactus

Cylindropuntia fulgida var. mamillata

Mandatory Measure

Must not be imported into the State or sold

Bridal creeper

Asparagus asparagoides

Mandatory Measure

Must not be imported into the State or sold

***this requirement also applies to the Western Cape form of bridal creeper**

Bridal veil creeper

Asparagus declinatus

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Broomrapes

Orobanche species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of Orobanche are Prohibited Matter in NSW, except the natives Orobanche cernua var. australiana and Orobanche minor

Cabomba

Cabomba caroliniana

Mandatory Measure

Must not be imported into the State or sold

Cabomba

Cabomba caroliniana

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land.

Cane cactus

Austrocyllindropuntia cylindrica

Mandatory Measure

Must not be imported into the State or sold

All species in the Austrocyllindropuntia genus have this requirementCape broom

Genista monspessulana

Mandatory Measure

Must not be imported into the State or sold

Cat's claw creeper

Dolichandra unguis-cati

Mandatory Measure

Must not be imported into the State or sold

Cat's claw creeper

Dolichandra unguis-cati

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land.

Chilean needle grass

Nassella neesiana

Mandatory Measure

Must not be imported into the State or sold

Chinese knotweed

Persicaria chinensis

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Chinese violet

Asystasiagangetica subsp. micrantha

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Climbing asparagus

Asparagus africanus

Mandatory Measure

Must not be imported into the State or sold

Climbing asparagus

Asparagus africanus

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. Notify local control authority if found.

Climbing asparagus fern

Asparagus plumosus

Mandatory Measure

Must not be imported into the State or sold

<u>Commonpear</u> <i>Opuntia stricta</i>	Mandatory Measure Must not be imported into the State or sold
<u>East Indian hygrophila</u> <i>Hygrophila polysperma</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
<u>Eurasian water milfoil</u> <i>Myriophyllum spicatum</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
<u>Fireweed</u> <i>Senecio madagascariensis</i>	Mandatory Measure Must not be imported into the State or sold
<u>Flax-leaf broom</u> <i>Genista linifolia</i>	Mandatory Measure Must not be imported into the State or sold
<u>Frogbit</u> <i>Limnobium laevigatum</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries All species of <i>Limnobium</i> are Prohibited Matter
<u>Gambagrass</u> <i>Andropogon gayanus</i>	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
<u>Giant devil's fig</u> <i>Solanum chrysotrichum</i>	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Giant rat's tail grass
Sporobolus pyramidalis

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Giant reed
Arundo donax

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment.

Glory lily
Gloriosa superba

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Gorse
Ulex europaeus

Mandatory Measure

Must not be imported into the State or sold

Gorse
Ulex europaeus

Regional Recommended Measure

Exclusion zone: Blue Mountains City Council area. Core infestation area: rest of region

Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation area: Land managers should mitigate spread from their land.

Green cestrum
Cestrum parqui

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment.

Grey willow
Salix cinerea

Mandatory Measure

Must not be imported into the State or sold

Grey willow

Salix cinerea

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Ground asparagus

Asparagus aethiopicus

Mandatory Measure

Must not be imported into the State or sold

Hawkweeds

Hieracium species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the genus Hieracium are Prohibited Matter

Hawkweeds

Hieracium species

Biosecurity Control Order

Must be eradicated from the land and be fully and continuously destroyed and suppressed, and the land kept free of the plant after eradication. Seeds and propagules must not be knowingly moved. The local control authority must be notified of any suspected or known presence of this plant. Note: the Biosecurity Control Order applies to Hieracium aurantiacum (orange hawkweed) and Hieracium pilosella (mouse-eared hawkweed).

Holly leaved senecio

Senecio glastifolius

Regional Recommended Measure

Exclusion zone: whole region except for the core infestation area of the Royal National Park.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. The Local Control Authority should be notified if the plant is found. Exclusion zone: The plant is eradicated and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible.

Horsetails

Equisetum species

Regional Recommended Measure

Whole region except Northern Beaches local government area: The plant should be eradicated from the land and the land kept free of the plant. Notify local control authority if found. Plant should not be bought, sold, grown, carried or released into the environment. Northern Beaches local government area: Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. Plant should not be bought, sold, grown, carried or released into the environment. Notify Local Control Authority if found.

Hudson pear

Cylindropuntia rosea

Mandatory Measure

Must not be imported into the State or sold

Hydrocotyl

Hydrocotyle ranunculoides

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Hygrophila

Hygrophila costata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Hymenachne

Hymenachne amplexicaulis and hybrids

Mandatory Measure

Must not be imported into the State or sold

Hymenachne

Hymenachne amplexicaulis and hybrids

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Karoo thorn

Vachellia karroo

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Kei apple

Dovyalis caffra

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Kidney-leaf mud plantain

Heteranthera reniformis

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Kochia

Bassia scoparia

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Excluding the subspecies trichophylla

Koster's curse

Clidemia hirta

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Kudzu

Pueraria lobata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Lagarosiphon

Lagarosiphon major

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Lantana

Lantana camara

Mandatory Measure

Must not be imported into the State or sold

Leaf cactus

Pereskia aculeata

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Ludwigia

Ludwigia peruviana

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Madeira vine

Anredera cordifolia

Mandatory Measure

Must not be imported into the State or sold

Mesquite

Prosopis species

Mandatory Measure

Must not be imported into the State or sold
All species in the genus Prosopis have this requirement

Mexican feathergrass

Nassella tenuissima

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Miconia

Miconia species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of Miconia are Prohibited Matter in NSW

Mikania vine

Mikania micrantha

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

*all species in the genus Mikania are Prohibited Matter in NSW

Mimosa*Mimosa pigra*

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Ming asparagus fern*Asparagus macowanii* var. *zuluensis*

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Mysore thorn*Caesalpinia decapetala*

Regional Recommended Measure

The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment.

Nodding thistle*Carduus nutans* subsp. *nutans*

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Pampas grass*Cortaderia* species

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

This Regional Recommended Measure applies to *Cortaderia jubata* (pink pampas grass)

Parkinsonia*Parkinsonia aculeata*

Mandatory Measure

Must not be imported into the State or sold

Parkinsonia

Parkinsonia aculeata

Biosecurity Control Order

Parkinsonia Control Zone: Whole of NSW

Parkinsonia Control Zone (Whole of NSW): Owners and occupiers of land on which there is parkinsonia must notify the local control authority of new infestations; immediately destroy the plants; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of parkinsonia must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant.

Parthenium weed

Parthenium hysterophorus

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Parthenium weed

Parthenium hysterophorus

Mandatory Measure

The following equipment must not be imported into NSW from Queensland: grain harvesters (including the comb or front), comb trailers (including the comb or front), bins used for holding grain during harvest operations, augers or similar for moving grain, vehicles used to transport grain harvesters, support vehicles driven in paddocks during harvest operations, mineral exploration drilling rigs and vehicles used to transport those rigs, unless set out as an exception in Division 5, Part 2 of the Biosecurity Order (Permitted Activities) 2017

Pond apple

Annona glabra

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Prickly acacia

Vachellia nilotica

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Prickly pears - Austrocyllindropuntias

Austrocyllindropuntia species

Mandatory Measure

Must not be imported into the State or sold

All species in the Austrocyllindropuntia genus have this requirement

Prickly pears - Cyllindropuntias

Cyllindropuntia species

Mandatory Measure

Must not be imported into the State or sold

All species in the Cyllindropuntia genus have this requirement

Prickly pears - Opuntias

Opuntia species

Mandatory Measure

Must not be imported into the State or sold

Except for Opuntia ficus-indica (Indian fig)

Rope pear

Cyllindropuntia imbricata

Mandatory Measure

Must not be imported into the State or sold

All species in the Cyllindropuntia genus have this requirement

Rubber vine

Cryptostegia grandiflora

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Sagittaria

Sagittaria platyphylla

Mandatory Measure

Must not be imported into the State or sold

Salvinia

Salvinia molesta

Mandatory Measure

Must not be imported into the State or sold

Salvinia

Salvinia molesta

Regional Recommended Measure

Exclusion zone: whole region except for the core infestation area of the Georges and Hawkesbury-Nepean Rivers and their tributaries.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. Exclusion zone: The plant is eradicated and the land kept free of the plant. The Local Control Authority should be notified if the plant is found. Core infestation area: Land managers should prevent spread from their land where feasible.

Scotch broom

Cytisus scoparius subsp. scoparius

Mandatory Measure

Must not be imported into the State or sold

Scotch broom

Cytisus scoparius subsp. scoparius

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land.

Sea spurge

Euphorbia paralias

Regional Recommended Measure

Exclusion zone: whole region except the core infestation area of Sutherland Shire.

Whole region: Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Notify local control authority if found. Core area: Land managers should mitigate the risk of new weeds being introduced to their land.

Senegal tea plant

Gymnocoronis spilanthoides

Regional Recommended Measure

Exclusion zone: whole region except the core infestation area of the Central Coast Council, Royal National Park and the Hawkesbury-Nepean River and its tributaries.

Whole region: Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. The Local Control Authority should be notified if the plant is found. Exclusion zone: The plant is eradicated and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible.

Serrated tussock

Nassella trichotoma

Mandatory Measure

Must not be imported into the State or sold

Serrated tussock

Nassella trichotoma

Regional Recommended Measure

Exclusion zone: whole region excluding the core infestation area of Wollondilly and Camden

Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant or parts of the plant should not be traded, carried, grown or released into the environment. Notify the Local Control Authority if found.

Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core infestation: Land managers should mitigate spread from their land.

<u>Siam weed</u> Chromolaena odorata	Prohibited Matter A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries
<u>Sicilian sealavender</u> Limonium hyblaem	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
<u>Sicklethorn</u> Asparagus falcatus	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
<u>Silverleaf nightshade</u> Solanum elaeagnifolium	Mandatory Measure Must not be imported into the State or sold
<u>Singapore daisy</u> Sphagneticola trilobata	Regional Recommended Measure Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment.
<u>Skunk vine</u> Paederia foetida	Regional Recommended Measure The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.
<u>Smooth treepear</u> Opuntia monacantha	Mandatory Measure Must not be imported into the State or sold
<u>Snakefeather</u> Asparagus scandens	Mandatory Measure Must not be imported into the State or sold

Spanish broom

Spartium junceum

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Spongeplant

Limnobium spongia

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species of Limnobium are Prohibited Matter

Spotted knapweed

Centaurea stoebe subsp. micranthos

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

Tiger pear

Opuntia aurantiaca

Mandatory Measure

Must not be imported into the State or sold

Tropical soda apple

Solanum viarum

Biosecurity Control Order

Tropical Soda Apple Control Zone: Whole of NSW
Tropical Soda Apple Control Zone (Whole of NSW): Owners and occupiers of land on which there is tropical soda apple must notify the local control authority of new infestations; destroy the plants including the fruit; ensure subsequent generations are destroyed; and ensure the land is kept free of the plant. A person who deals with a carrier of tropical soda apple must ensure the plant (and any seed and propagules) is not moved from the land; and immediately notify the local control authority of the presence of the plant on the land, or on or in a carrier.

Velvety tree pear

Opuntia tomentosa

Mandatory Measure

Must not be imported into the State or sold

Water caltrop

Trapa species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the Trapa genus are Prohibited Matter in NSW

Water hyacinth

Eichhornia crassipes

Mandatory Measure

Must not be imported into the State or sold

Water hyacinth

Eichhornia crassipes

Biosecurity Zone

The Water Hyacinth Biosecurity Zone applies to all land within the State, except for the following regions: Greater Sydney or North Coast, North West (but only the local government area of Moree Plains), Hunter (but only in the local government areas of City of Cessnock, City of Lake Macquarie, MidCoast, City of Maitland, City of Newcastle or Port Stephens), South East (but only in the local government areas of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong).

Within the Biosecurity Zone this weed must be eradicated where practicable, or as much of the weed destroyed as practicable, and any remaining weed suppressed. The local control authority must be notified of any new infestations of this weed within the Biosecurity Zone

Water hyacinth

Eichhornia crassipes

Regional Recommended Measure

Land managers should mitigate spread from their land.

Water lettuce

Pistia stratiotes

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Water poppy

Hydrocleys nymphoides

Regional Recommended Measure

Exclusion zone: All lands and waters in the region except for the core infestation area of the Hacking River catchment.

Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Notify Local Control Authority if found. Core infestation: Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. Plant should not be bought, sold, grown, carried or released into the environment.

Water soldier

Stratiotes aloides

Prohibited Matter

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Water star grass

Heteranthera zosterifolia

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

White blackberry

Rubus niveus

Regional Recommended Measure

Land managers should mitigate the risk of new weeds being introduced to their land. The plant should be eradicated from the land and the land kept free of the plant. The plant should not be bought, sold, grown, carried or released into the environment. Notify local control authority if found.

Willows

Salix species

Mandatory Measure

Must not be imported into the State or sold

All species in the Salix genus have this requirement, except Salix babylonica (weeping willows), Salix x calodendron (pussy willow) and Salix x reichardtii (sterile pussy willow)

Witchweeds

Striga species

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

All species in the *Striga* genus are Prohibited Matter in NSW, except the native *Striga parviflora*

Yellow burrhead*Limnocharis flava*

Prohibited Matter

A person who deals with prohibited matter or a carrier of prohibited matter is guilty of an offence. A person who becomes aware of or suspects the presence of prohibited matter must immediately notify the Department of Primary Industries

The content provided here is for information purposes only and is taken from the Biosecurity Act 2015 and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia.



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