

BEFORE THE TIMARU DISTRICT COUNCIL

IN THE MATTER OF

the Resource Management Act 1991

AND

IN THE MATTER OF

An application for Resource Consent
by Bayhill Developments Limited

STATEMENT OF EVIDENCE OF CHRIS ROSSITER

Dated: 23 November 2016

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INTRODUCTION

- 1 My full name is Michael Christopher Rossiter.
- 2 I am a Chartered Professional Engineer and a Member of the Institute of Professional Engineers New Zealand. I hold a Bachelor of Science degree from the University of Exeter, England. I have ten years of experience in traffic engineering and transportation planning within New Zealand and am currently employed as a Principal Transportation Engineer with the firm of TDG (previously Traffic Design Group).
- 3 I have been responsible for investigating and evaluating the traffic and transportation effects of a wide range of land use developments throughout New Zealand. These have included specific resource consent applications as well as subdivision and plan change applications.
- 4 My specific experience relevant to this evidence includes investigation of expected parking demands and parking effects for;
 - (i) Christchurch Convention Centre;
 - (ii) Ballantynes Department Store, Christchurch;
 - (iii) Mixed use development on Ferry Road, Christchurch;
 - (iv) Tekapo Resort Hotel;
 - (v) Lincoln Hub;
 - (vi) Medical centres; and
 - (vii) Child care facilities.
- 5 I am also responsible for the development and maintenance of the Christchurch Parking Model on behalf of Christchurch City Council.
- 6 I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014. I have complied with it in preparing this evidence and I agree to comply with it in presenting evidence at this hearing. The evidence that I give is within my area of expertise except where I state that my evidence is given in reliance on another person's evidence. I have considered all material

facts that are known to me that might alter or detract from the opinions that I express in this evidence.

SCOPE OF EVIDENCE

7 In this matter, I have been engaged by Bayhill Developments Limited to investigate and describe the transportation related aspects of the proposed mixed use development on the site of the old Hydro Grand Hotel on The Bay Hill, Timaru. In my evidence, I:

- (i) Provide an overview of the transport environment and identify any changes from the information reported in the transportation assessment report;
- (ii) Describe the expected transport effects of the proposal; and,
- (iii) Respond to the submissions received.

8 I am familiar with the site and prepared the transportation assessment report that forms part of the technical appendices to the resource consent application. In preparing this evidence, I have reviewed the:

- (i) Bay Hill Development Transportation Assessment Review, *Abley Transportation Consultants*;
- (ii) Submissions received; and,
- (iii) Timaru District Council s42a Planning Report.

EXECUTIVE SUMMARY

9 Bayhill Developments Limited proposes to build a mixed use development on the site of the old Hydro Grand hotel. The proposal includes three buildings including a parking building that has a driveway on to Sefton Street which forms part of the state highway network. The proposal also includes a separate car park that is located about 200m walking distance from the buildings.

10 My analysis of the expected traffic generation indicates that there will be no noticeable effects on the operation of the state highway network.

- 11 The on-site parking provisions will not be sufficient to meet the parking demands generated by the development and there will be a demand for off-site parking. However, since the proposal includes an off-site car park that has sufficient capacity to meet the anticipated overflow demands, the proposal will not generate any parking effects on the local road network.
- 12 Overall, I have concluded that the application can be supported from a transport perspective.

EXISTING TRANSPORT ENVIRONMENT

- 13 The development site is located at the eastern end of The Bay Hill in Timaru which is at the northern end of the Timaru Central Business District and forms part of the Timaru Commercial 1A zone.

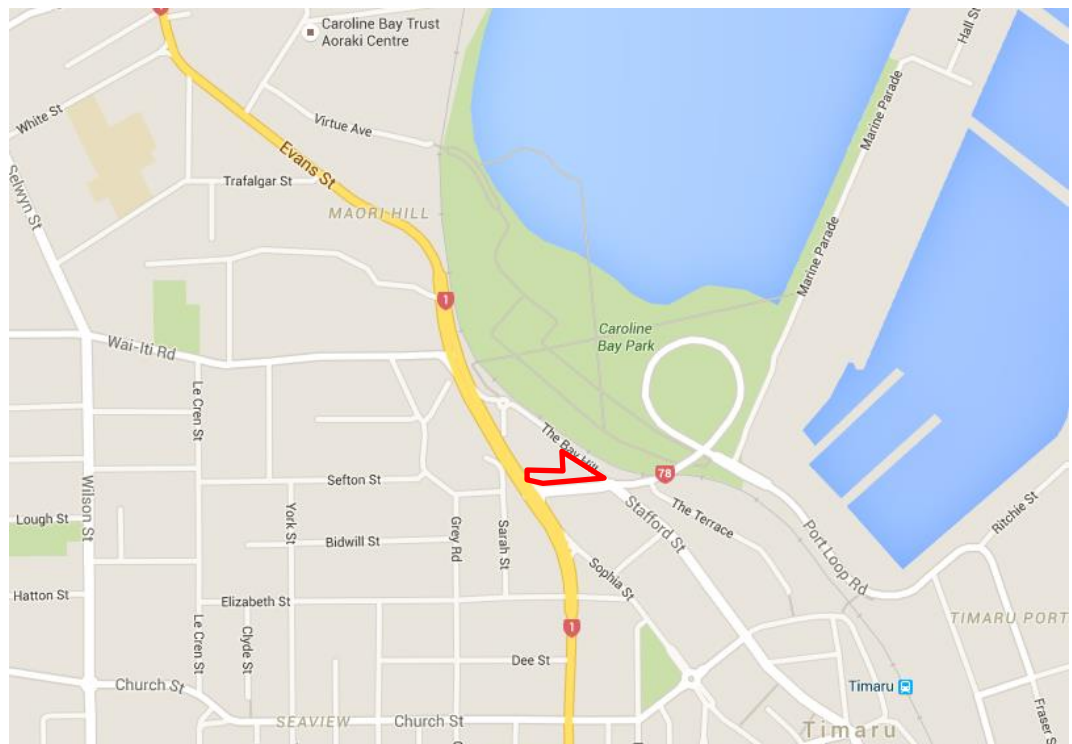


Figure 1: Site Location

- 14 The site has frontage to The Bay Hill along its north-eastern boundary and to Sefton Street on its southern boundary. The land to the north of the site includes bars, a café, restaurant, visitor accommodation and public car parking.



Figure 2: Site Aerial

- 15 The existing transport environment surrounding the site is described in detail in my Integrated Transportation Assessment (ITA) report. I am not aware of any recent changes to the road network in the vicinity of the site that affect that description.
- 16 State Highway 1 (SH1) forms the main strategic road through Timaru and provides a connection to Christchurch to the north and Dunedin to the south. To the west of the site, SH1 Theodosia Street has been constructed as a four lane divided carriageway with a speed limit of 50km/h.
- 17 Sefton Street along the southern boundary of the site forms part of State Highway 78 (SH78) which provides access to the Port of Timaru via Port Loop Road. Sefton Street meets Theodosia Street at a signalised intersection.
- 18 Sefton Street becomes Port Loop Road east of its intersection with The Bay Hill and Stafford Street. Stafford Street provides access to the central business district in Timaru. The Sefton Street/The Bay Hill/Port Loop Road/Stafford Street intersection is controlled by signals.
- 19 The Bay Hill is classified as a local road and has been constructed to promote a low speed traffic environment with a narrow carriageway, parking on both sides of the road, wide footpaths and a 30km/h

speed limit. There is a shallow ramp at the entry to The Bay Hill from Sefton Street that leads to a raised platform that reinforces the need for low vehicle speeds.

EXISTING TRAFFIC PATTERNS

- 20 Traffic turning volumes at the Sefton Street/Theodosia Street and Sefton Street/Stafford Street intersections were surveyed during the evening peak period in December 2015. Since it was not possible to obtain detailed signal timing information from the SCATS controller during the survey, data was extracted for an equivalent period in the following week. It showed that the signal phase timing varied widely through the peak periods and that one of the three signals phases, B phase, was not always run.
- 21 I have created SIDRA models of the two signalised intersections on Sefton Street to investigate the effects of the proposed development. Since the signal timing on the street showed high levels of variability, in my ITA, I adopted the SIDRA optimised timing to provide a comparison between the existing situation and the situation following full development of the site. I have noted that the SIDRA optimised signal timing suggests shorter cycle times than were observed with the SCATS timing. I have now extended my analysis to investigate the effects of different signal cycle times to address the comments raised in the Abley peer review.
- 22 My SIDRA analysis suggests that the two signals could operate with level of service (LOS) B. However, with the longer cycle times being operated by SCATS, I consider that it is likely that the signals were operating with LOS B/C during the survey. The following table shows the average vehicle delay that could be expected with different cycle times.

Cycle Time	Sefton St / SH1	Sefton St / Stafford St
50s	15 (B)	16 (B)
60s	15 (B)	17 (B)
90s	18 (B)	21 (C)
120s	22 (C)	27 (C)

Table 1: Average Vehicle Delays and levels of service

PROPOSED DEVELOPMENT

- 23 The development proposal comprises three buildings on the main site; an office block, an apartment block, and a parking building and hotel. Building 1 is located in the south-eastern corner of site and will accommodate office activity above the ground floor. Building 2 is located at the centre of the site and will include residential apartments above the ground floor. The two buildings will be linked at the ground and mezzanine levels to accommodate a mix of retail, food and beverage activity. Building 3 is located at the western end of the site and has frontage to Sefton Street (State Highway 78) only. It will provide parking for the development on three levels including the basement and a hotel above. The proposal also includes an off-site car parking facility that is located about 200m walking distance of the building entrances.
- 24 The following table provides a breakdown of the proposal by activity and is based on the most recent set of plans that I have. This shows a higher quantity of office activity than indicated in the ITA.

Activity	Quantity
General Retail	400m ² GFA
Food and Beverage	417m ² GFA
Office	2,298m ² GFA
Hotel	68 rooms
Residential	32 apartments

Table 2: Development Proposal Quantities

- 25 Building 3 will provide parking over three levels; basement, ground floor and first floor. A single lane circular ramp will link each parking level with access to the ramp being controlled by signals.
- 26 Reconfiguration and expansion of the basement level following the resource consent application being lodged has enabled additional parking spaces to be created on the site compared with the parking plans as originally submitted. The basement level will now provide 59 parking spaces generally configured as 2.5m wide right angle bays either side of a single parking aisle. Twenty four spaces will be configured as tandem spaces. The ground floor and first floor provide a further 30 spaces. The updated plans attached to the RFI response are attached to this statement.

- 27 All spaces will have a marked depth of 5m and generally have minimum aisle width behind the spaces of 6.2m which meets the minimum requirements of NZS2890.1 Off-Street car parking. There are four spaces where the aisle width is only 5.8m which will limit their use to smaller vehicles.
- 28 In order to maximise the number of parking spaces, it has not been possible to provide the desirable clearance of 300mm from vertical structures at all parking spaces. For this reason, I recommend that the basement and first floors of the parking building are restricted to users who are familiar with the building constraints. The ground floor parking provides sufficient space for use by the general public.
- 29 I understand that the on-site parking facilities will only be available to apartment residents, office employees or visitors and hotel guests through valet parking to meet this recommendation. The allocation of parking spaces within the building by activity is expected to be broadly as shown in Table 3 with the tandem parking spaces being managed by the hotel with valet parking. I anticipate that a small number of spaces will be reserved at ground level for use by visitors to the offices and arriving hotel guests. Two of the spaces will be marked for use by disabled people.

Activity	Spaces
Residential	32
Hotel	25
Office	32
Total	89

Table 3: Parking Space Allocation

- 30 Additional parking for the hotel and office activities will be available in the off-site car park on Theodosia Street.

TRAFFIC GENERATION AND MOVEMENT PATTERNS

- 31 The mixed use development being proposed will have three distinct sources of traffic generation.
- 32 The traffic generation rate of residential activity is dependent upon the location and type of dwelling but typically would be in the range of 8-10 vehicle movements per day (vpd) per unit on average. Inner city apartments will normally be at or below the lower end of this

range because residents can use travel modes other than a private vehicle to travel to or from their workplace. Although Timaru is not a large city, I consider that the average daily traffic generation for the proposed apartments will be at the lower end of this range and have adopted a rate of 8vpd per unit.

- 33 The typical peak hour in the morning for the residential activity will be 8:00am to 9:00am with a peak hour generation of 0.8 vehicle movements per hour (vph) per unit. In the morning, about 85% of all residential vehicle movements are typically away from the site. In the evening peak hour, 5:00pm to 6:00pm, 65% of all movements are usually into the site. Again, a peak hour generation of about 0.8vph per unit is expected.
- 34 Hotels can have a relatively high traffic generation rate per occupied room compared with residential development because visitor travel often involves taxis. For the purposes of this assessment, I have adopted a peak hour traffic generation rate of 1.2vph per room which is consistent with the 85 percentile rate in the NZTA Research Report 453 "Trips and Parking Related to Land Use". For the purposes of establishing a movement pattern, I have assumed that 75% of all movements involve pick-up/drop-off type activity which will generate similar volumes of inbound and outbound movements during the peak hour. In the morning peak, 90% of all other hotel vehicle movements are expected to be outbound with this pattern reversing in the evening. If there was a higher level of private car use by hotel visitors, I would expect the overall traffic generation to reduce but it would have a more directional pattern, that is, predominantly outbound in the morning and inbound in the evening.
- 35 I have referred to the NZTA Research Report 453 "Trips and Parking Related to Land Use" (RR453) for average daily and peak hour traffic generation rates for office activity. RR453 indicates that office activity has an average daily traffic generation of about 26vpd per 100m² GFA and a peak hour traffic generation of about 2.5vph per 100m² GFA. During the morning peak period, about 80% of all office related vehicle movements are normally towards the site. This pattern reverses during the evening peak.
- 36 The other activities proposed at ground level will generally have a very low traffic generation during the morning commuter peak with

vehicle movements being dominated by employee travel rather than customers. I would expect the food and beverage activity to generate peak travel demands of about 10vph per 100m² GFA during the lunchtime period and also in the early evening. The retail activity will generally rise during the morning to a mid-afternoon peak and then fall through the late afternoon.

- 37 The following table shows my forecast for the expected traffic generation of the development in the morning and evening peak hour based on the activity breakdown shown in Table 2.

ACTIVITY	QUANTITY	AM		PM	
		Outbound	Inbound	Outbound	Inbound
Apartments	32	21	5	9	17
Hotel	62	49	32	33	48
Office	2,298m ²	8	49	45	12
Food and Beverage	400m ²	0	4	20	20
General Retail	417m ²	0	4	21	21
Total		78	94	128	118

Table 4: Expected Peak Hour Traffic Generation and Movement Patterns

- 38 Since the parking building will not meet the parking demands for all of the proposed activities and the hotel activity will involve pick-up/drop-off movements, the development traffic generation will be split between the parking building and the Theodosia Street car park. Since no parking for the retail or food and beverage activity is proposed within the parking building, all vehicle movements associated with these activities will occur on The Bay Hill. **Table 5** shows the expected pattern of traffic movements at the parking building entrance and on The Bay Hill.

ACTIVITY	AM		PM	
	Outbound	Inbound	Outbound	Inbound
Parking Building	44	36	38	42
The Bay Hill	34	58	90	76
Total	78	94	128	118

Table 5: Expected Traffic Generation and Movement Patterns

EXPECTED TRANSPORT EFFECTS

- 39 In order to provide a conservative assessment of the potential traffic effects of the development, I have firstly investigated a base scenario with 20% growth in the state highway traffic volumes. This represents about five years growth in the SH78 traffic volumes.
- 40 The levels of service provided by the two signalised intersections will depend upon how they are operated but my analysis indicates that the average vehicle delays will remain in the range 15-25 seconds which represents LOS B to C.

Cycle Time	Sefton St / SH1	Sefton St / Stafford St
50s	17 (B)	15 (B)
60s	15 (B)	15 (B)
90s	18 (B)	19 (B)
120s	20 (B)	23 (C)

Table 6: Average Vehicle Delays and Levels of Service – with 20% Growth in State Highway Volumes

- 41 **Figure 3** shows my forecast traffic volumes at the two signals following full development of the site for this scenario.

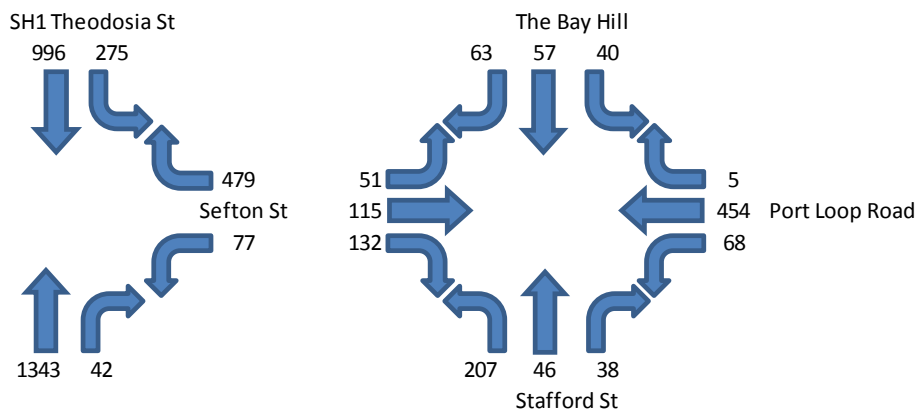


Figure 3: Forecast Traffic Volumes with Full Development – Evening Peak Hour

- 42 Again, the average vehicle delay will be dependent upon how the signals are operated but my analysis still indicates that the average delays are likely to be in the range 15-25 seconds. On this basis, I consider that it is unlikely that drivers would notice any difference because any increase in delay would be smaller than the typical variation in delays resulting from changes in cycle times.

Cycle Time	Sefton St / SH1	Sefton St / Stafford St
50s	17 (B)	16 (B)
60s	15 (B)	17 (B)
90s	18 (B)	22 (C)
120s	20 (B)	27 (C)

Table 7: Average Vehicle Delays and Levels of Service – with 20% Growth and Development Traffic

- 43 The SIDRA models indicate that the 95 percentile queue length for the right turn movement from Sefton Street into Stafford Street will be in the range 12-18m depending upon how the signals are operated. In my opinion, this can be accommodated within the right turn bay that is proposed as part of the alterations to the pavement markings on Sefton Street.
- 44 My analysis of the driveway performance indicates that the right turn out movement will be subject to the greatest delay in the evening peak period. The forecast average delay of 20 seconds represents LOS C. In practice, I would expect the individual delays to be quite variable because the signals at the two nearest intersections will create platoons in the eastbound and westbound flows.
- 45 The 95 percentile queue length for the right turn into the car park building is less than one vehicle long because the signals at Theodosia Street create regular gaps in the eastern flow.
- 46 Overall, I have concluded that the traffic effects of the proposal will have no noticeable effects on the operation of the State highway network or The Bay Hill.

PARKING

Parking Supply

- 47 The Bay Hill is classified as a local road and has been constructed to promote a low speed traffic environment with a narrow carriageway and parking on both sides of the road. There are 33 on-street parking spaces on The Bay Hill with a mix of right angle and parallel parking space configurations. Spaces on the western side of the road have a 30 minute parking restriction while spaces on the eastern side of the road have a 120 minute parking restriction.

- 48 The northern end of The Bay Hill can be accessed from Theodosia Street via a one-way road that leads to a small roundabout with a connection to two small public car parks with a total capacity of 55 spaces. The northern car park includes 21 right angle parking spaces with a P120 restriction. The southern car park is accessed via a short lane and includes 34 public spaces. The southern car park was previously managed by Council but is now owned by the Applicant to ensure that adequate parking is provided to meet the parking demands of the proposal.
- 49 Parking is also permitted over a distance of about 20m on the northern side of Sefton Street which provides sufficient kerb length for three vehicles to park.
- 50 Following the development of the site, the three parking spaces on the northern side of Sefton Street will be removed. The parking building proposed on Sefton Street will provide 89 off-street parking spaces.

Timaru District Plan Parking Requirements

- 51 The District Plan requirement for parking for the development proposal is set out in the following table. It shows that 154 spaces would be required to meet the District Plan rule. The proposal includes 89 parking spaces on site and a further 34 spaces off-site. This represents a shortfall in parking of 31 spaces compared with the District Plan requirement.

Activity	Quantity	Requirement	Spaces
Residential	32 apartments	1 space / unit	32
Hotel	68 rooms	1 space / room	68
Office	2,298m ²	1 space / 50m ² GFA	46
Retail	417m ²	None - Commercial 1A Zone	0
Food and Beverage	400m ²	1 space / 50m ² GFA	8
		Total	154

Table 8: District Plan Parking Requirements

Parking Demands

- 52 The District Plan parking requirement rule is designed to ensure that there is sufficient parking on site to meet the parking demands in the event that the peak parking demand period for all proposed activities

coincided. In practice, I consider that this is highly unlikely given the range of activities being proposed.

- 53 An occupancy survey of the two¹ Council operated, public car parking areas to the east of Theodosia Road was undertaken on my behalf on Wednesday 9 December 2015. The survey recorded occupancy of the 55 parking spaces including the 14 which were marked as leased spaces.
- 54 The duration of stay in the parking spaces ranged from 15 minutes to over four hours with an average of one hour.
- 55 **Figure 4** shows the number of occupied spaces (excluding leased spaces) recorded between midday and 6pm. It shows the peak occupancy of 16 spaces (40% occupancy) occurring at lunch-time, a low of one space being occupied and occupancy rising during the early evening.

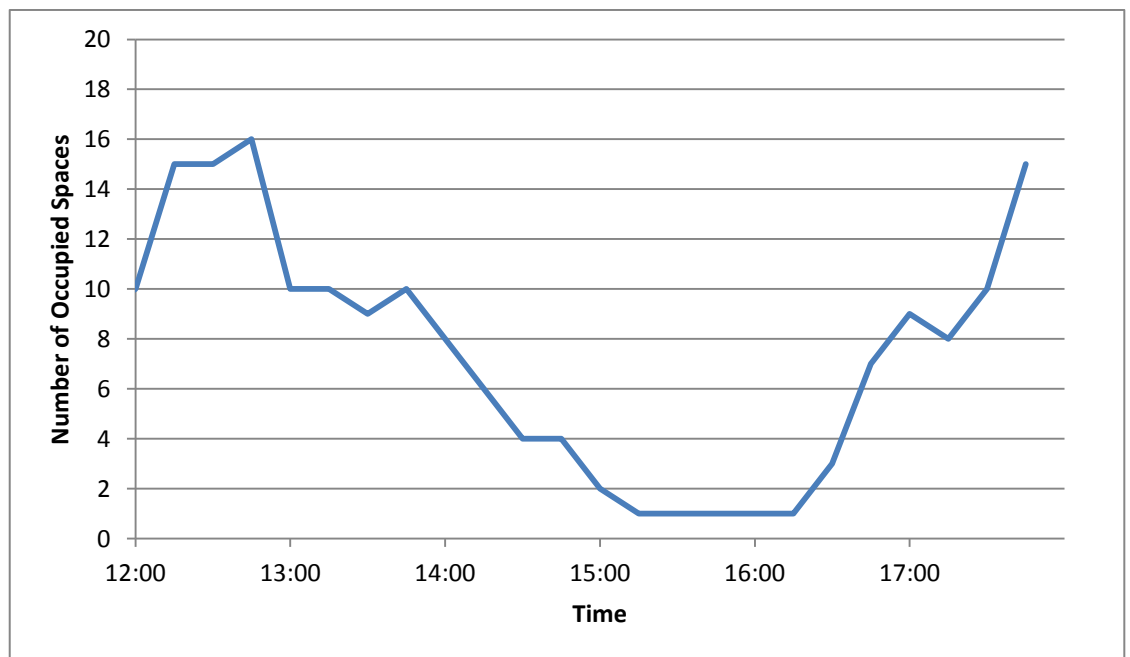


Figure 4: Number of Occupied Spaces (15 minute intervals) – Excluding Leased Parking Spaces

- 56 I observed the parking occupancy rates during a subsequent visit in February 2016. At that time, there was a lower level of parking demand at lunchtime with only one leased space, three long stay spaces and one short stay space being occupied, as shown in the following photographs.

¹ One car park is now owned by the Applicant.



Photograph 1: Northern Car Parking Area at Midday



Photograph 2: Southern Car Parking Area at Midday

57 Since the mixed use development being proposed will involve activities that have peak parking demands at different times of the day, I have created a parking demand model for the development using parking demand profiles taken from the ITE Parking Manual. This has been refined from the version that I provided to Abley for their peer review. Apart from the development quantities, I have made some changes to the peak parking demand rates to better reflect the location of the site with respect to the town centre.

Figure 5 shows an updated output from the model that separates the residential and non-residential parking demands.

- 58 It shows that the office activity will generate the highest parking demands and could reach 50 spaces in the morning but fall to less than ten spaces in the evening. The food and beverage (F&B) activities would be expected to create a peak short stay parking demand at lunchtime. The F&B parking demand will fall through the afternoon and then rise to a lower peak in the evening. I expect the hotel parking demands to fall through the morning to a minimum during the day and then rise again in the evening.
- 59 The overall effect is that there will be a peak parking demand during the morning for about 90 non-residential parking spaces. The office activity will typically generate a demand for long stay spaces whereas the other activities will generally involve short stay parking during the day. On this basis, I consider that the proposed offices could create a demand for 40-50 long stay parking spaces with a similar number of short stay parking spaces being required for the other activities.

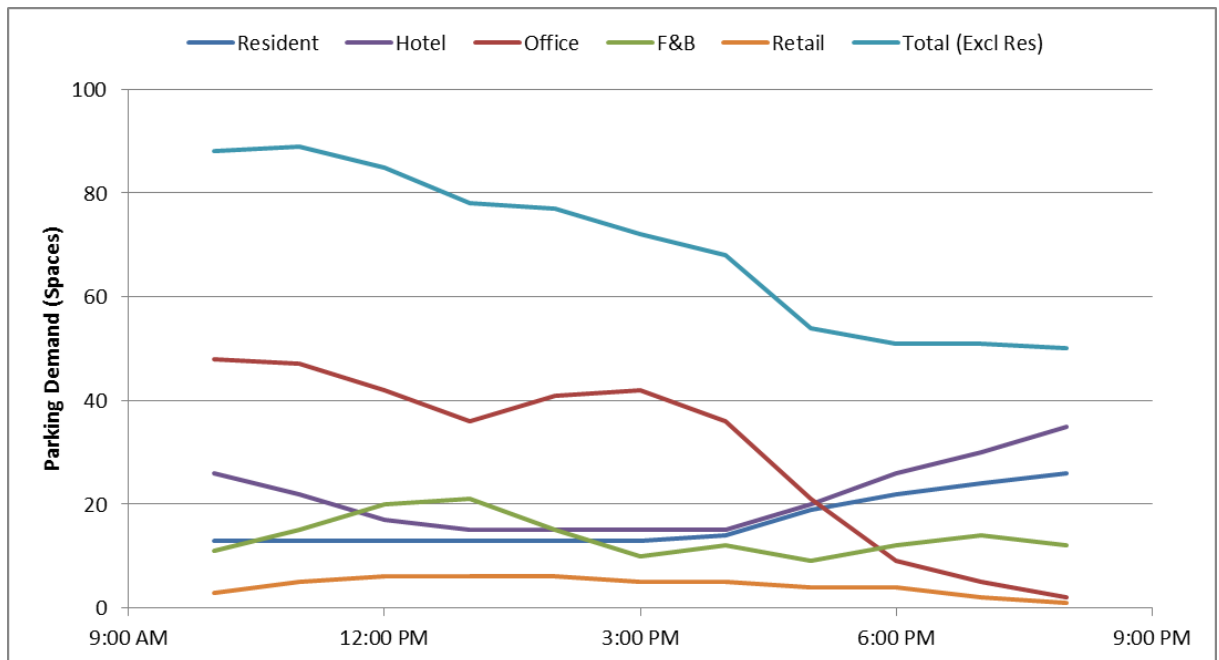


Figure 5: Expected Variation in Parking Demands

Parking Effects

- 60 The parking building will have a capacity of 89 spaces of which 32 will be allocated to apartment residents (one space per unit). If the remaining spaces are used by hotel visitors and office employees,

there will be peak overflow demand from the site for about 30 spaces (10 long stay and 20 short stay) during the morning. This overflow parking demand will fall through the afternoon and evening to an overflow demand for about 15 short stay spaces.

- 61 Following the lodgement of the resource consent application, the Applicant has now purchased the upper car park on Theodosia Street to ensure that adequate parking is provided to meet the anticipated demands. The current configuration of the car park includes 34 spaces which is sufficient to meet the overflow parking demands from the main site.
- 62 The parking overflow demand includes the retail, food and beverage activities which will generate a parking demand that varies across the day from 13 to 27 spaces. I consider that this level of parking demand could be met within the Applicant's car park on Theodosia Street. However, in the event that there was some overflow demand from this car park, this could be met within the Council's car park on Theodosia Street which is currently under-utilised.
- 63 I have concluded that with the proposed changes to the basement car parking to increase the number of spaces and the purchase of the upper car park on Theodosia Street, the proposal will have sufficient car parking to meet the typical day to day parking demands.

SUBMISSIONS

- 64 The submissions on transport related matters are primarily in regard to parking and the shortfall in parking compared with the District Plan requirements (NZTA, J&R Lambie Trust, Katie Langton and Keith Whitehead). My statement includes my revised assessment of parking demands and effects to take account of the proposed changes to the building plans and in particular, the basement parking and the car park on Theodosia Street. As I have stated earlier, with the proposed changes to the car parking provisions, I consider that the proposal provides sufficient parking to meet the expected demands.
- 65 The NZTA submission raises concerns about the potential effects of the development on the operation of the state highway network. My analysis of the expected performance of the signals on Sefton Street indicates that any increase in average vehicle delays at the

intersections will be too small to be noticeable to drivers even after allowing for 20 percent growth in the state highway traffic volumes. Further, the development will have no effect on queue lengths at the signals which will continue to operate safely and efficiently.

- 66 The loading area has been designed so that a medium sized goods vehicle can turn into the parking building and then reverse into the loading dock. Since the truck manoeuvres will temporarily obstruct the access to the car parks, this will require some management of servicing so that this occurs at off-peak times. I consider that a condition of consent to this effect would be appropriate.
- 67 The Whitehead submission provides comments on the proposed dimensions of the parking spaces. All parking spaces have been designed to comply with the New Zealand Standard NZS2890.1 for Off-Street Parking as far as is practical. All spaces have a width of 2.5m and depth of 5m which is appropriate for medium to long stay parking. The aisle width behind the spaces generally exceeds 6.2m which complies with NZS2890.1. As I have noted above, there are some spaces with a reduced aisle width and or clearance from structures which will limit their use to smaller vehicles. I understand that the basement and first floor car parks will only be available for use by the office and apartment tenants and by hotel staff who will be familiar with the layout.
- 68 The District Plan includes a requirement for vehicle access to be via a secondary road where a site has frontage to both a primary road and a secondary road. Both NZTA and Whitehead have commented on the proposed access being to Sefton Street rather than The Bay Hill. In this instance, I do not consider that providing the main access onto The Bay Hill would be appropriate because this would impact the pedestrian environment that has been created. In my opinion, providing access via Sefton Street represents a better solution because this does not adversely affect the operation of Sefton Street and maintains the pedestrian amenity of The Bay Hill area.

TIMARU DISTRICT COUNCIL PLANNING REPORT

ITA Peer Review

- 69 TDC commissioned Abley Transportation Consultants to perform a peer review of the ITA. The review covered the transport modelling and provided comments on the parking assessment.
- 70 The Abley review identified some minor errors in the SIDRA models which have now been addressed. I have reported the updated outputs from the model in my statement. The changes to the models have not changed my view that the development will have no noticeable effect on the operation of the signals on Sefton Street.
- 71 The proportion of heavy vehicles within the state highway flows that was used within the SIDRA models was based on the survey results. The survey recorded a very high percentage of heavy goods vehicles travelling both eastbound (25%) and westbound (10%) on Sefton Street during the evening peak. Since these are already high, I considered that no further adjustment was necessary when defining the development scenarios for the original assessment.
- 72 The Abley peer reviewer has suggested that the proportion of heavy vehicles on Sefton Street could increase as part of the future year growth. As a sensitivity test, I have increased the proportion of heavy vehicles by 5% for both the eastbound and westbound traffic flows. The forecast change in average vehicle delay at both signalised intersections was less than one second and would not be noticeable to drivers.
- 73 I have updated my assessment of the potential parking effects to take into account the proposed expansion of the basement car park. With this expansion, I consider that the main parking effect will be an increase in the use of the two car parks on Theodosia Street, one of which is now owned by the Applicant. The Abley report notes that TDC surveys of the car parks indicated an average occupancy during the day of less than 20 percent. This means that there are typically about 40 parking spaces available in this location. In my opinion, the use of these spaces by customers and staff of the proposed development represents an efficient use of the available parking resources. Since the Applicant now owns one of the car parks, the

availability of these spaces for use by employees and visitors to the development has been ensured.

74 The reviewer has also identified some minor technical concerns with the plans. These have now been addressed in the revised plans.

s42a Report

75 The s42a report includes a summary of comments provided by Abley on the ITA and my response to the s92a request for further information. The Abley comments indicate agreement with my assessment of the potential traffic effects on the wider road network. The most significant matter raised is in relation to the parking model that I have created and subsequently updated².

76 Within the revised model, I have made some changes to the peak parking demand rates for individual activities to better reflect their location within a central city area where walking forms a higher proportion of the travel mode because of the ability to park once and visit multiple locations.

Activity	Peak Parking Demand Rate	Source
Hotel	0.6 spaces / room	ITE Land Use 312
Office	2.4 spaces / 100m ² GFA	RR453 ³ – 15 percentile
Retail	1.5 spaces / 100m ² GFA	RR453 – 15 percentile
Café	5.9 spaces / 100m ² GFA	ITE Land Use 932
Restaurant	6.6 spaces / 100m ² GFA ⁴	RR453 – 15 percentile
Bar	5.9 spaces / 100m ² GFA	RR453 – 15 percentile
Office	2.4 spaces / 100m ² GFA	RR453 – 15 percentile

Table 9: Peak Parking Demands Rates

77 The Abley comments suggest that the peak parking demands rates within the parking model for the hotel and office are low. I disagree with this comment and consider that the rates that I have adopted are appropriate for the location of the site. The rate that I have adopted for the hotel is consistent with the RR453 15 percentile rate and the ITE rate for a business hotel. The office rate is consistent

² Paragraph 6, page 18 of the s42a report

³ NZTA Research report No 453 Trips and parking related to land use

⁴ Based on 0.2 spaces / seat and 3sqm / seat

with the RR453 15 percentile rate and ITE rate for an urban office location.

- 78 The changes reduced my estimate of the overall peak parking demand for non-residential activity by five spaces. In my opinion, this level of variation in demand is small in the context of the mixed use development being proposed particularly given its location in the central business district where the parking demands will vary from day to day. The overall effect is that I have forecast a shortfall in the on-site parking supply and a peak overflow demand of about 30 spaces. With the higher peak parking demands rates used in the earlier version of the model, there would be an overflow parking demand for 35 spaces. This suggests that the overflow parking demand could be in the range 30-35 spaces. In my opinion, I would expect the overflow parking demand to be at the lower end of this range.
- 79 As I have noted earlier, I consider that this level of overflow parking demand from the parking building can be met within the upper car park on Theodosia Street owned by the Applicant.
- 80 Abley have commented on the proposal to provide an audio signal by the Sefton Street driveway to alert pedestrians to departing vehicles. The revised design of the driveway provides sufficient width for two-way vehicle movement adjacent to a pedestrian walkway. Since the walkway provides a visibility splay, I no longer consider that there is a need for an audio signal to be provided.
- 81 In their final recommendations, the Planning Officer has recommended that additional parking be provided for the development or the scale of development be reduced. I understand that the Applicant has now purchased the upper car park on Theodosia Street which ensures that at least 34 additional parking spaces will be available for use by the development.

CONCLUSIONS

- 82 Based on my analysis of the potential traffic generation of the proposed development, I have concluded that the road network has sufficient capacity to accommodate the additional vehicle movements with no noticeable effects for drivers.

- 83 The building plans have been updated since the ITA was prepared and now include additional basement parking. The Applicant has also purchased the upper car park on Theodosia Street to ensure that adequate parking is available for the development. With the extra parking, I have concluded that all parking demands could be met within the parking building and the car park on Theodosia Street. Although this arrangement does not meet the District Plan requirement to provide all parking on-site, I consider that this represents an efficient use of parking resources in the area that were previously under-utilised .
- 84 In order to address the concerns of NZTA regarding potential effects on the state highway, I recommend that a condition of consent be that loading activities are restricted to specific times of the day, for example 10am to 4pm on weekdays.

Chris Rossiter

23 November 2016