ANNEXURE C

Stantec

Client Ref: Lincoln Development Ltd

15 November 2019

Zomac Planning Solutions Ltd
PO Box 103
Whangaparaoa
AUCKLAND 0943

Attention: **Mike Foster**

Dear Mike

Birchs Road Mixed Use Development
Request for Further Information – 2nd Response

Lincoln Development Limited has lodged an application for resource consent to undertake development of land at the northern end of Lincoln, to provide a mixed-use neighbourhood centre. Stantec was responsible for the associated Transportation Assessment Report[1] that formed part of the application. Selwyn District Council ("Council") commissioned a peer review of this report, and issued a Request for Further Information ("RFI"), for which Stantec prepared a report[2] responding to the RFI matters raised.

Following this, Council's peer reviewer has requested further clarification on transportation related matters. Accordingly, we herewith provide a response to each of the information requests in turn and, for ease of reference, repeat each original RFI request along with the specifics now sought.

1. **Detailed drawings of the measures proposed on Birchs Road taking account of the engineering guides and standards / detailed drawings of Makybe Terrace taking account of engineering guides and standards.**

Whilst the peer reviewer identifies some further development of the site's roading design will be required, they consider that "*these necessary revisions can be made wholly within the legal road reserve*". Accordingly, the peer reviewer notes that "*from an 'effects' perspective then, we are comfortable in saying that this part of the RFI has been responded to*", and goes on to provide some suggested consent conditions, as follows:

a) *Detailed drawings shall be provided by the consent-holder showing layouts for access to the consented activities, and any resultant changes on Birchs Road and Makybe Terrace, that comply fully with the Manual of Traffic Signs and Markings. These drawings shall be submitted to the Council for approval;*
b) *The drawings shall be subject to a road safety audit by a suitably qualified traffic engineer independent of the applicant's team, and the audit report provided to the Council at the same time as the detailed design drawings;*
c) *The consent-holder shall be responsible for all costs associated with the works identified on the detailed design drawings.*

[1] dated 30 July 2019
[2] dated 7 October 2019

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With the removal of the word "fully" from (a), given there may be some site specific deviations from the standards necessitated to address particular 'bespoke' aspects of the design, including in relation to the existing roading arrangements in to which the site connects, we have no objections to the suggested wording.

2. Swept paths for heavy vehicles entering and exiting the supermarket.

We consider that swept paths should be provided to assess whether the truck needs to cross the centreline of Makybe Terrace between the supermarket exit and Birchs Road, and is able to pass any vehicle waiting in the right-turn lane to enter the supermarket especially taking into account the extended length of this...

The attached plan shows the tracking path for a 19m super-quad semi-trailer tracking along Mckybe Terrace, from the supermarket service area exit towards Birchs Road. As indicated, such manoeuvres can be undertaken without requiring the truck to cross the centreline, as well as pass a vehicle waiting within the right turn bay at the supermarket carpark driveway.

3. Confirmation of which parking layout is proposed for the childcare centre and an assessment of this.

We previously asked that if the layout was different to the one previously presented (as is the case), the layout should be reviewed against the District Plan. However Stantec has discussed solely the number and size of the spaces and no other matters. From a very preliminary assessment, we have identified other non-compliances (such as the requirement to be able to drive forwards into any space without reversing (at Spaces 26 and 27), and no cycle parking being shown) which are not identified by Stantec. We therefore do not consider that an assessment of compliance of the revised childcare centre layout has been provided, as was requested.

A detailed assessment of the proposed childcare centre's parking layouts compliance with the relevant District Plan Rules, is provided in Table 1 below. For reference, the proposed parking layout is reproduced in figure 1 below.

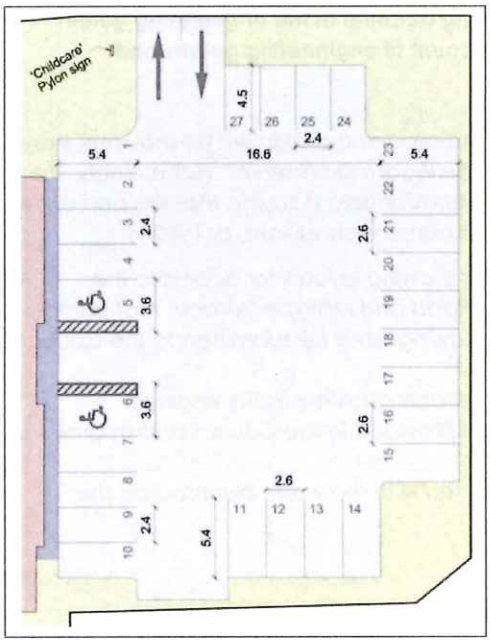


Figure 1: Proposed Childcare Centre Parking Layout

Table 1: Proposed Childcare Centre Parking Compliance Assessment

Clause	Requirement	Compliance
Rule 5.5.1.1	The number of car parks provided complies with the relevant requirements for the activity as listed in Appendix E13.1.1, E13.1.2, E13.1.3, E13.1.12.	
E13.1.1	**Parking Spaces to be Provided** The minimum number of car parking spaces shall comply with table E13.1. Table E13.1(a) requires 0.26 spaces per child for a 'Preschool' activity. The proposed 100-child centre therefore requires 26 on-site parks.	**Complies.** The plans show a total of 27 spaces are provided on-site.
	Vehicle parking, for use by staff and visitors, shall be in compliance with the car park dimensions in Table E13.2 and Diagram E13.1. Table E13.2 requires a 90° parking layout to provide the following dimensions: Short Term - Stall width - 2.6m - Stall depth - 5.4m - Aisle - 5.5m - Total stall depth + aisle - 10.9m Long Term - Stall width - 2.4m - Stall depth - 5.4m - Aisle – 6.2m - Total stall depth + aisle – 11.6m	**Complies.** As described in the original RFI response[3], parking stall and aisle dimensions satisfy these standards.
E13.1.2	**Availability of Parking Spaces** Any area required for on-site parking or loading shall be available at all times for staff and visitors.	**Complies.** All on-site parking will be exclusively available for childcare centre staff and visitors.
E13.1.3.1	**Parking Area Location** All parking and loading areas shall be located on the same site as the activity for which the parking is required.	**Complies.** All parking is provided on the site.
E13.1.12.1	**Surface of Parking and Loading Areas** The surface of any parking, loading, and associated access areas shall be formed, sealed and drained with the parking spaces permanently marked.	**Complies.** The carpark will be formed and sealed to the appropriate standard.
Rule 5.5.1.2	All car parking spaces and vehicle manoeuvring areas are designed to meet the criteria set out in Appendix E 13.1.5.2, E13.1.6, E13.1.7, E13.1.8, E13.1.9, E13.1.10 and E13.1.11.	
E13.1.5.2	**Loading and Manoeuvring** No loading zone shall obstruct any on-site car parking spaces or pedestrian access.	**Does not Apply.** (see Rule 5.5.1.3 below)

[3] Noting spaces #24-27, as marked in the plan, satisfy the dimensions prescribed for 'spaces for small cars', as set out in the industry standard AS/NZS2890.1:2004 'Parking Facilities Part 1: Off-street car parking'.

Clause	Requirement	Compliance
E13.1.7	**Gradient for Parking Areas** The gradient for any on-site parking surface shall be no more than: - At 90 degree to the angle of parking (1:16) Parallel to the angle of parking (1:20)	**Complies.** The proposed carpark, having a near level grade, can satisfy these gradient requirements.
E213.1.8	**Maximum Gradients for Access** The maximum average gradient of any access shall be 1 in 6.	**Complies.** The carpark access driveway has a gradient of less than 1 in 6.
E13.1.9	**On-site Manoeuvring** Parking spaces shall be located to ensure that no vehicle is required to carry out any reverse manoeuvre when entering any required space Vehicles shall not be required to undertake more than one reverse manoeuvre when exiting a space	**Complies.** In complying with the parking geometric layout requirements, each of the on-site spaces can be accessed without requiring a reverse manoeuvre. It is noted that with the generous aisle width provided within the central area of the carpark, vehicles can effectively undertake a full turn (without requiring a reverse manoeuvre) to access the staff parks #24-27, in a forward gear.
E13.1.10	**Queuing Spaces** A queuing space shall be provided on-site for all vehicles entering or exiting a parking or loading area. The length of such queuing spaces shall be in accordance with Table E13.3 10.5m where 21-50 spaces provided on site 25.5m where 151 or more spaces provided. The 27 carparks provided at the childcare therefore require a 10.5m queuing space at the Makybe Terrace Access.	**Does not Comply.** As described and assessed in the original RFI response, whilst staff car park #1 technically intrudes into this queuing space, with the very low probability of a vehicle manoeuvring at this space whilst more than one other vehicle arrives at the site, this deviation from the standard will not materially impact on its intent.
E13.1.11	**Illumination** Any parking and loading areas which are required at night shall be illuminated to a minimum maintained level of 2 lux, with high uniformity, during the hours of operation.	**Can Comply.**
Rule 5.5.1.3	**Loading** Each site that is used for an activity which is not a residential activity and which generates more than 4 heavy vehicle movements per day has one on-site loading space which complies with the requirements set out in Appendix E13.1.5. The loading space does not count as a car parking space for the purpose of complying with Rule 5.5.1.1	**Does Not Apply.** The proposed childcare centre is not expected to generate more than four heavy vehicle movements per day. As a worst case, assuming both a rubbish collection and recycling truck visit the site on the same

Clause	Requirement	Compliance
		day, this will only amount to an equivalent four truck movements. The balance of servicing visits will be undertaken by courier/van.
Rule 5.5.1.5	Each non-residential site has one car parking space for mobility impaired persons for up to 10 car parking spaces provided, and one additional car park space for a mobility impaired person for every additional 50 car parking spaces provided or part there-of. A parking area with 27 spaces is required to provide 2 mobility spaces.	**Complies.** The proposal plans show the provision of two accessible car parks.
Rule 5.5.1.6	Car parking spaces for mobility impaired persons are: (a) Sited as close to the entrance to the building or to the site of the activity as practical, and (b) Sited on a level surface, and (c) Clearly marked for exclusive use by mobility impaired persons	**Complies.**
Rule 5.5.1.7	Cycle parking spaces are provided in accordance with the standards in Appendix E13.1.4	
E13.1.4.2	**Cycle Parking** Any Place of assembly, recreation or education activity shall provide cycle parking at a minimum of 2 spaces and then at a rate of 1 cycle space for every 5 car parking spaces required. The childcare has 27 car parking spaces and is therefore required to provide 8 cycle parking spaces.	**Can Comply.** There is sufficient space within the childcare centre site to accommodate 8 secure cycle parks. A condition of consent can be offered in this regard.

As shown, the on-site parking arrangements serving the proposed childcare centre align well with the relevant parking standards set out in the District Plan. The matters of non-compliance include a minor shortfall in queuing space, which has been previously assessed in the original RFI response and shown to not present any material adverse effect (as concurred with by the peer reviewer). It is noted that all staff car parks will be clearly demarcated with signage or pavement markings to ensure they operate in line with the intended user categories.

4. Whether the application is intended to seek land use consent for the residential lots, taking into account that there are likely to be non-compliances in respect of sight distances that have not been assessed.

The peer reviewer agrees with Stantec's suggested inclusion of a consent condition relating to the positioning of residential driveways, to control where access is achieved and mitigate potential adverse effects arising from a shortfall in sight distances at the road edge, and has proposed the following condition wording:

a) If the size or location of a residential lot is such that it is not possible to locate a vehicle crossing in compliance with required sight distances, then the vehicle crossing shall be located to achieve the maximum sight distances possible.

b) This shall be achieved by locating the vehicle crossing such that the difference between the shortest sight distance provided in any direction and the required sight distance of the District Plan is minimised.

We concur with the proposed wording in that it appropriately addresses a potential adverse effect that could arise in respect of residential driveway positioning.

We trust this response appropriately addresses the further information requests with respect to the traffic and transport related matters of the consent application.

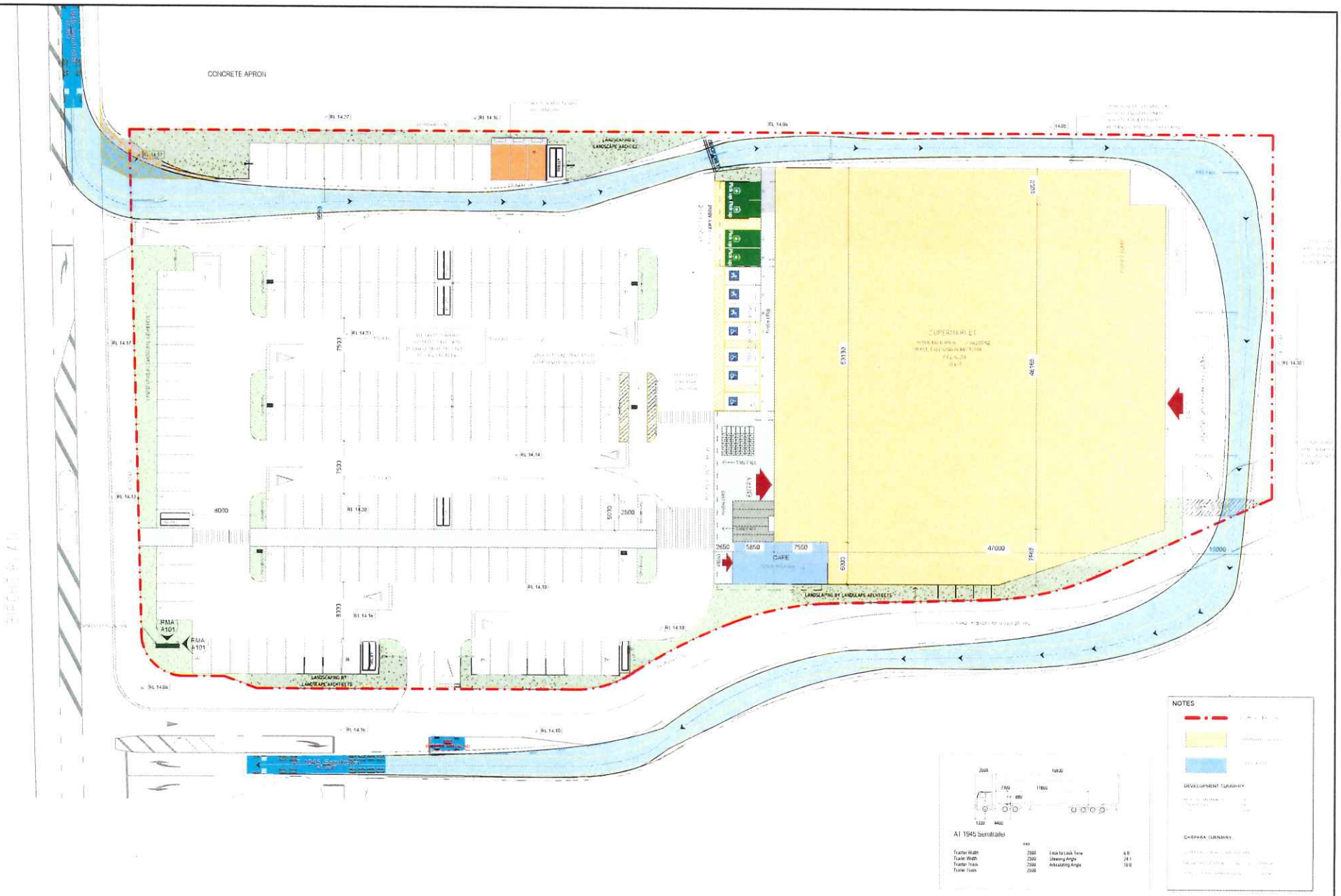
Yours sincerely

Whittaker, Jamie
Transportation Planner
Stantec New Zealand

Reviewed By: 

Georgeson, Mark

Encl.: Tracking Plan



	Stantec	LINCOLN DEVELOPMENT LTD LINCOLN COUNTDOWN VEHICLE TRACKING - AT 1945 SEMITRAILER	Drawn By J. Jordaan Scale 1:250 (A1) 1:500 (A3) Job No 310203582 Figure No B Model Version A

1/11/2019 1:19 p.m.

ANNEXURE D

URBAN ECONOMICS

12 November 2019

AUTHOR Adam Thompson

51368.5.02

Retail Gravity Model Analysis of: Proposed Supermarket in Lincoln

PREPARED FOR
Lincoln Developments

ABOUT US

OUR AREAS OF EXPERTISE

Economic Analysis

Our work aims to bridge the gap between land-use planning and urban economics. Our focus is on the interaction between land markets, land-use regulations, and urban development. We have developed a range of methodologies using a quantitative approach to analyse urban spatial structure and audit land-use regulations.

Property Research

We provide property and retail market research to assist with planning and marketing of new projects. This includes identification of new sites and market areas, assessments of market potential and positioning, and the evaluation of market-feasibility of specific projects.

Development Advisory

We provide development planning and costing advisory services to support small and large-scale developments.

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CONTENTS

1. Executive Summary

The key points to note are:

- The New World Lincoln supermarket is estimated to be operating with a turnover of $30.2 million (or $10,400/m^2) in 2018.
- The proposed supermarket is estimated to operate at $28.2 million (or $7,800/m^2) turnover by 2023.
- The New World Lincoln turnover is estimated to reduce from $30.2 million to $26.4 million as a result of the competing supermarket.
- The New World Lincoln is estimated to return to its current turnover by 2020-2021 following the introduction of the proposed supermarket.
- Given the above, the New World Lincoln would continue to be commercially feasible, and there would be insignificant economic costs.
- The proposed supermarket would increase competition and access to supermarkets within Lincoln which would have significant economic benefits.

2. Introduction

The proposal is for a 3,060m^2 GFA Supermarket on the edge of Lincoln, Selwyn.

This report contains the results of a retail gravity model for supermarkets in the Greater Christchurch area. This includes a current market and a market including the proposed supermarket.

BNZ Marketview data is not available for the supermarket sector in Lincoln as there is only one supermarket and it is restricted to protect commercial confidentiality.

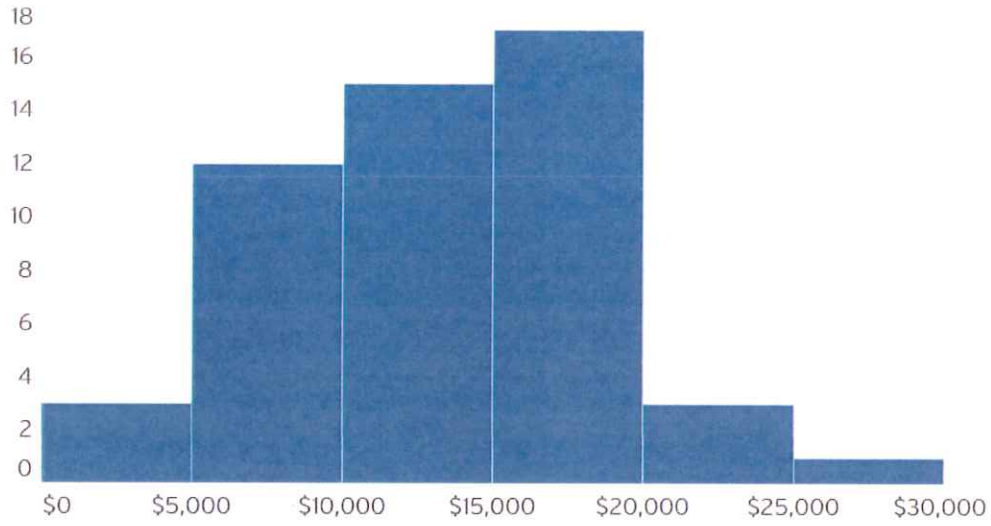
3. Christchurch Supermarket Market

The following figures show the estimated turnover per m^2 of supermarkets in Greater Christchurch. It is worth noting that supermarkets are commercially feasible across a wide range of turnover per m^2 rates, including within the $5,000 - $10,000/m^2 and below $5,000/m^2 ranges.

Figure 1: Christchurch Supermarkets Scaled by Estimated Sales per m^2

Source: Urban Economics

Figure 2: Distribution of Estimated Turnover per m^2 in Greater Christchurch



Source: Urban Economics

4. Gravity Model Results

This section contains the results of the supermarket retail gravity model. The technical notes of the retail gravity model can be found in Appendix 1.

Figure 3 shows the estimated gross annual sales of the proposed supermarket with GFA of: $0m^2$ (current market) and $3,060m^2$ (proposed) over time. Figure 4 shows the estimated gross sales of the existing New World Lincoln Supermarket for these three scenarios.

The key point to note is the existing New World Lincoln supermarket was estimated to be operating with gross annual turnover of $30.2 million (or $10,400/m^2$) in 2018 and is expected to exceed this benchmark by 2020-2021 in the presence of the proposed competitor store of $3,060m^2$ GFA. This competitor is expected to operate at $28.2 million (or $7,800/m^2$) gross annual turnover in 2023.

Figure 3: Proposed Supermarket Estimated Gross Annual Sales (2018-2028)

	New Supermarket Estimated Sales ($m)			Sales Growth ($m)	
Scenario	2018	2023	2028	5-year	10-year
Status Quo (no New Supermarket)	$0	$0	$0	$0	$0
Counter Factual - $3,060m^2$ GFA	$22.2	$28.2	$33.7	$6.0	$11.5

Source: Urban Economics

Figure 4: New World Lincoln Estimated Gross Annual Sales (2018-2028)

	Existing Supermarket Estimated Sales ($m)			Sales Growth ($m)	
Scenario	2018	2023	2028	5-year	10-year
Status Quo (no New Supermarket)	$30.2	$39.2	$47.1	$9.0	$17.0
Counter Factual - 3,060m² GFA	$26.4	$34.2	$41.1	$7.8	$14.6

Source: Urban Economics

Figures 5 & 6 show the above results in turnover per m² of GFA terms.

Figure 5: Proposed Supermarket Estimated Gross Annual Sales per m² (2018-2028)

	Existing Supermarket Estimated Sales($)/m²			Sales Growth($)/m²	
Scenario	2018	2023	2028	5-year	10-year
Status Quo (no New Supermarket)	$0	$0	$0	$0	$0
Counter Factual - 3,060m² GFA	$6,180	$7,840	$9,360	$1,660	$1,520

Source: Urban Economics

Figure 6: New World Lincoln Supermarket Estimated Gross Annual Sales per m² (2018-2028)

	Existing Supermarket Estimated Sales($)/m²			Sales Growth($)/m²	
Scenario	2018	2023	2028	5-year	10-year
Status Quo (no New Supermarket)	$10,430	$13,560	$16,300	$3,130	$2,740
Counter Factual - 3,060m² GFA	$9,150	$11,830	$14,210	$2,680	$2,380

Source: Urban Economics

Turnover estimates are based off Household Economic Survey (HES), Retail Trade Survey (RTS) and 2013 Census data by Statistics NZ. HES and RTS data is forecast by Urban Economics.

5. Appendix 1: Technical Notes

The Huff retail gravity model uses the size (GFA) of a retail store and the inverse of its distance to determine its attractiveness to a given population.

By weighting the proposed supermarket's attractiveness to a given AU by the sum of all other supermarket's respective attractiveness values to that AU we find the proposed supermarket's market share of that AU. The functional form is:

$$Market\ Share_{i,s} = \frac{\frac{GFA^{\theta}{}_{i}}{Distance^{\lambda}{}_{i,s}}}{\sum_{j=1}^{n} \frac{GFA^{\theta}{}_{j}}{Distance^{\lambda}{}_{j,s}}}$$

The exponents in the model λ and θ adjust how sensitive the attractiveness is to GFA or Distance, higher values indicate greater sensitivity to that factor.

The index *i* is a store of interest; index *j* is a store in the industry as *i* (including *i*) and the index *s* is a given AU.

A retailer will be more attractive, and have more market share, if it is larger and vice versa. A supermarket will be more attractive, and have more market share, if it is closer to the AU and vice versa.