

SCHOOL “DROP OFF” ZONE TRIAL PERFORMANCE OF CHANGES TO PARKING RESTRICTIONS

Report prepared for:
Christchurch City Council



ViaStrada Ltd
JULY 2008



CONTENTS

1.0	BACKGROUND	4
2.0	INTRODUCTION.....	4
3.0	RESULTS	6
3.1	Morning Peaks.....	6
3.1.1	Avonhead School	7
	<i>Figure 1: P1 Parking Restriction outside Avonhead School.....</i>	<i>7</i>
3.1.2	Fendalton School.....	7
	<i>Figure 2: P1 Parking Restriction outside Fendalton School.....</i>	<i>8</i>
3.1.3	Westburn School	8
	<i>Figure 3: No Parking Restriction outside Westburn School</i>	<i>9</i>
3.1.4	Morning Peak Summary Table	9
3.2	Afternoon Peaks	9
3.2.1	Avonhead School	9
3.2.2	Fendalton School.....	10
3.2.3	Westburn School	11
3.2.4	Afternoon Peak Summary Table	11
4.0	CONCLUSIONS.....	12
5.0	RECOMMENDATIONS.....	12
APPENDIX 1:	Standard Information to Drivers/Parents	13
APPENDIX 2:	Combined AM and PM Data/School – New Restrictions	16
APPENDIX 3:	Data Summary	18
APPENDIX 4:	Raw Data	19

DOCUMENT INFORMATION

This document has been prepared solely for the benefit of the Christchurch City Council. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to other persons for an application for permission or approval or to meet a legal requirement.

Statement of Details	
<p>Prepared for: Barry Cook Transport and Greenspace Unit Christchurch City Council</p>	<p>Prepared by: Paul Burden ViaStrada Limited</p> <p>Reviewed by: Steve Dejong ViaStrada Limited</p>
<p>Project: School “Drop Off” Zone Trial Performance of Changes to Parking Restrictions</p>	<p>Issued: July 2008</p>

1.0 BACKGROUND

The high demands for short term parking at schools during peak student arrival and departure periods places pressure on all available parking space. If motorists (parents and caregivers) stay in a parking space for extended periods the available space can quickly reach capacity resulting in parking overspill, illegal parking and congestion leading to general road safety concerns and in some cases a loss of residential amenity values. The Christchurch City Council is seeking to mitigate these adverse effects through changes to the management of kerbside parking immediately outside schools. The Council staff have suggested the use of new “No Parking” signs to improve the efficiency of the existing kerbside space.

In 2007 ViaStrada was commissioned to evaluate the effectiveness of changes to the kerbside parking restrictions. To enable robust analysis of any changes it was first necessary to measure the performance of the existing restrictions. The results of this “baseline” analysis are contained in the report **“School Drop-Off Zone Trial – Baseline Study – Performance of Existing Parking Restrictions”**. The baseline report contains further information concerning survey methodology, site selection, road and traffic environments and existing parking restriction details. It is not the intention to repeat that information here and therefore this report should be read in conjunction with the baseline report.

Two objectives for the new restrictions are listed in the Baseline report as follows:

- *To reduce the duration of stay of vehicles stopping outside schools within a designated area;*
- *To increase the overall number of vehicles accommodated within a designated area.*

2.0 INTRODUCTION

The purpose of this report is to compare the effect of changes made to the parking restrictions that operate outside 3 of the 4 schools identified in the baseline report. Ilam School chose not to trial a new sign outside their school and thus it does not form part of this report.

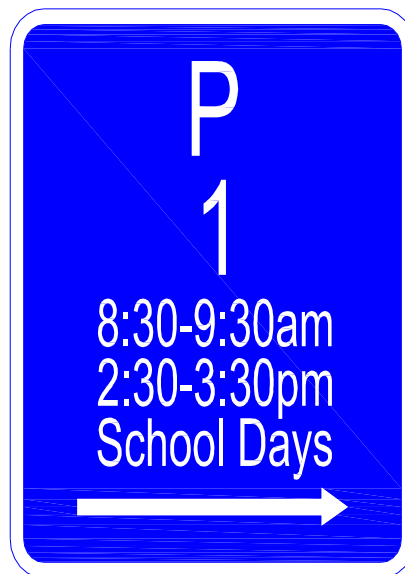
The signs were changed between terms 1 and 2 and the after surveys were conducted at the end of term 2 giving ample time for motorists to be accustomed to and aware of the change. It should be noted that all of the surveys undertaken in association with the changes occurred over the same time of day, on the same day of the week and with similar climatic conditions as the baseline surveys. None of the surveys were undertaken in the presence of enforcement officers. Unless otherwise stated all parking restrictions apply between the hours of 830-930am and 230-330pm School Days.

Schools were issued with information packs concerning the trial well in advance. A copy of some of the standard letters to parents/caregivers is shown in Appendix One. The key information was distributed in both Chinese, Korean and English. It is therefore considered that motorists parking outside the school were generally well informed about the new restrictions.

The previous and current restrictions together with the number of spaces covered are shown in the table below.

School	Previous Restriction	Current Restriction	Spaces Surveyed Previously	Spaces Surveyed Currently
Avonhead	Nil	P1	15	6
Westburn	P3	No Parking	11	11
Fendalton	P5	P1	8	8

The new signs are shown below:



3.0 RESULTS

A summary of all results and the raw collected data is contained in the Appendices.

3.1 MORNING PEAKS

3.1.1 Avonhead School (Unrestricted Changed to P1)

- Significant reduction in the average length of stay (36%)
- Significant increase in turnover per space (62%)
- Significant reduction in the percentage of drivers leaving their vehicle (77%)
- 85% of all vehicles stayed less than 2 minutes compared to around 7.5 minutes previously

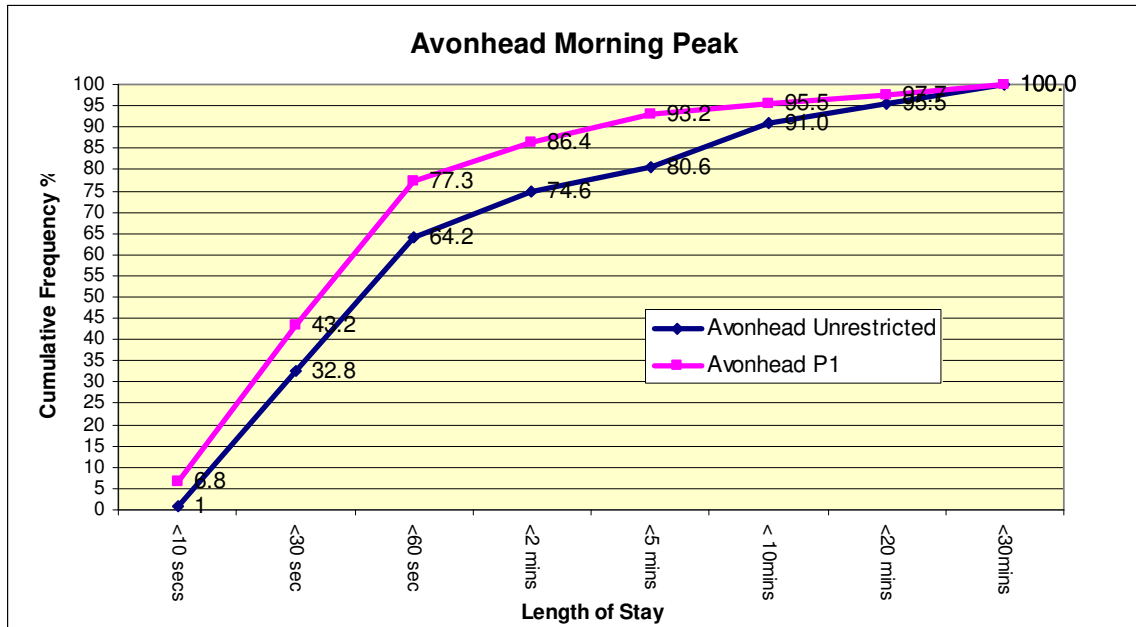


Figure 1: P1 Parking Restriction Outside Avonhead School

3.1.2 Fendalton School (P5 Changed to P1)

- Significant reduction in the average length of stay (54%)
- Significant increase in turnover per space (26%)
- The P1 restriction increased overall utilisation by 10 vehicles
- Significant reduction in the percentage of drivers leaving their vehicle (68%)
- 85% of all vehicles stayed less than 5 minutes compared to between 10 and 15 minutes previously

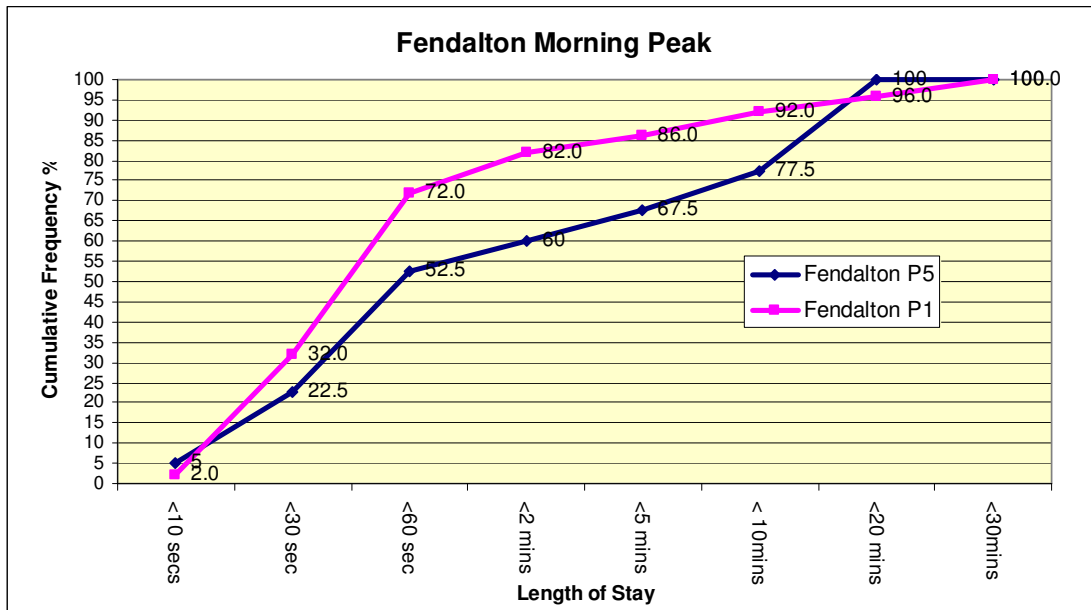


Figure 2: P1 Parking Restriction Outside Fendalton School

3.1.3 Westburn School (P3 Changed to No Parking)

- Slight reduction in the average length of stay (2%)
- Significant **reduction** in turnover per space (20%)

- The No Parking restriction **lowered** overall utilisation by 17 vehicles
- Significant reduction in the percentage of drivers leaving their vehicle (35%)
- 85% of all vehicles stayed less than 2 minutes compared to between 4 and 5 minutes previously

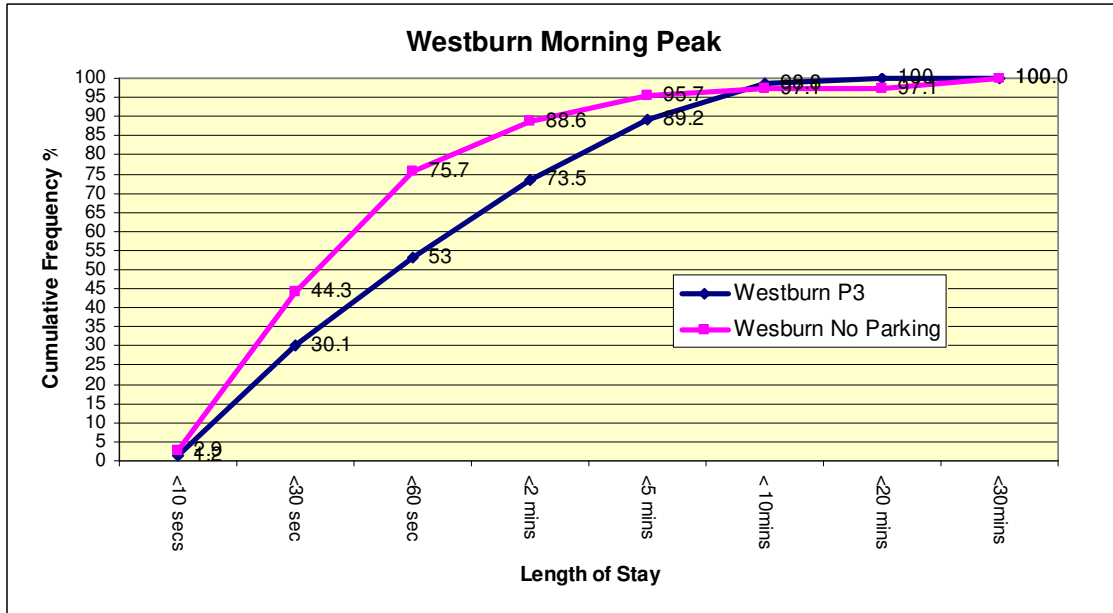


Figure 3: No Parking Restriction Outside Westburn School

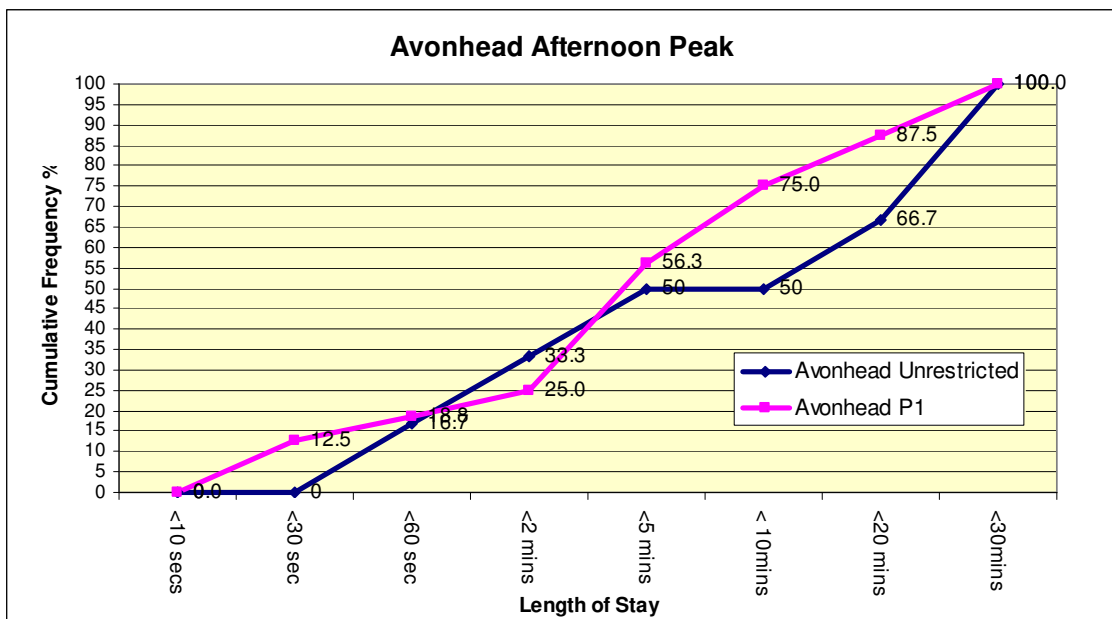
3.1.4 Morning Peak Summary Table

Morning Peak			
School	Ave. LOS	Ave. Turnover	% Leaving Vehicle
Avonhead Unrestricted	3min	4.5veh/space	19.4
Avonhead P1	1min 56sec	7.3veh/space	4.5
Westburn P3	1min 36sec	7.5veh/space	22.9
Wesburn No Parking	1min 34sec	6.0veh/space	15
Fendalton P5	4min 36sec	5veh/space	37.5
Fendalton P1	2min 7sec	6.3veh/space	12

3.2 AFTERNOON PEAKS

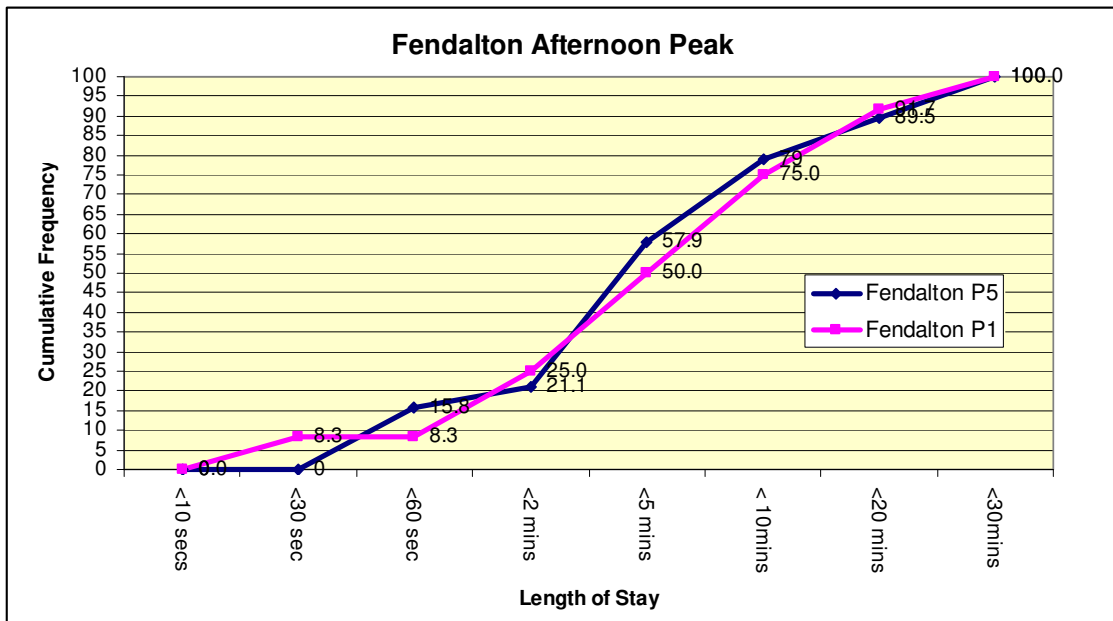
3.2.1 Avonhead School (Unrestricted Changed to P1)

- Significant reduction in the average length of stay (35%)
- Significant increase in turnover per space (125%)
- Significant **increase** in the percentage of drivers leaving their vehicle (27%)
- 85% of all vehicles stayed less than 20 minutes compared to around 20 to 30 minutes previously



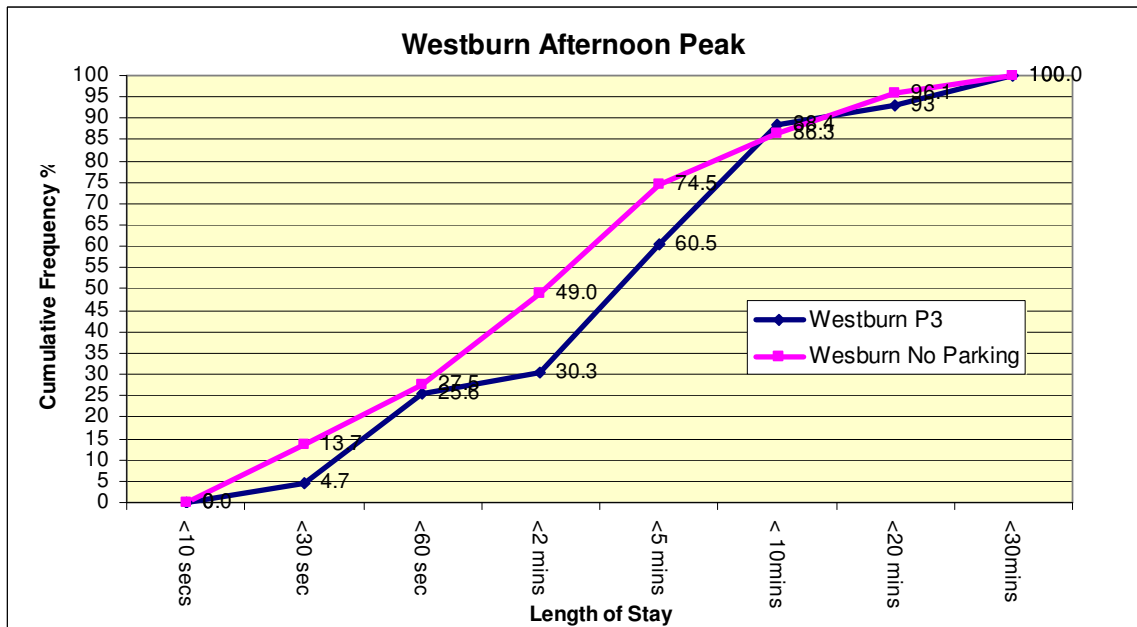
3.2.2 Fendalton School (P5 Changed to P1)

- Very slight reduction in the average length of stay (7%)
- Significant **decrease** in turnover per space (37%)
- The P1 restriction **lowered** overall utilisation by 7 vehicles
- Significant **increase** in the percentage of drivers leaving their vehicle (19%)
- 85% of all vehicles stayed less than about 15 minutes which is almost identical to that surveyed previously with a P5 restriction



3.2.3 Westburn School (P3 Changed to No Parking)

- Significant reduction in the average length of stay (21%)
- Slight increase in turnover per space (15%)
- The No Parking restriction increased overall utilisation by 8 vehicles
- Significant reduction in the percentage of drivers leaving their vehicle (46%)
- 85% of all vehicles stayed less than 10 minutes which is about the same as previously



3.2.4 Afternoon Peak Summary Table

Afternoon Peak			
School	Ave. LOS	Ave. Turnover	% Leaving Vehicle
Avonhead Unrestricted	12min 11sec	1.2veh/space	44.4
Avonhead P1	7min 56sec	2.7veh/space	56.3
Westburn P3	5min 42sec	3.9veh/space	32.6
Wesburn No Parking	4min 30sec	4.6veh/space	17.6
Fendalton P5	7min 32sec	2.4veh/space	63.2
Fendalton P1	7mins 2sec	1.5veh/space	75

4.0 CONCLUSIONS

Both the morning and afternoon peak periods responded well to the changes in restriction with the only exception being the afternoon peak at Fendalton School which showed little change. It follows that the objectives set for the new signage have in most cases been met. It is evident that a reduction in time limit or a no parking sign does influence duration of stay. The difference in the effects of a “P1” compared to “No Parking” does not appear overly significant. The degree of change appears to be influenced by the general availability of parking in the area. An example of this is that the “P5” that had previously been operating outside Fendalton School performed better than the “P1” now installed outside Avonhead School in the afternoon peak. The abundance of parking outside Avonhead School compared to the limited parking outside Fendalton School may tend to make some drivers more conscious of being considerate of the demands of fellow parents.

In some instances a “No Parking” restriction could lead to an underutilisation of the available space. An example of this is the lower average turnover of spaces at Westburn School in the morning peak. A P1 is likely to be better understood as permitting a motorist to park for a short duration whereas a “No Parking” restriction could be confusing to some motorists and act as a deterrent to parking in the space altogether.

The influence of a “P1” restriction in the afternoon peak at Fendalton School was negligible compared to the previous “P5” restriction. In fact the average turnover per available space reduced and the percentage of drivers leaving their vehicle increased after the installation of the “P1”. It is therefore evident that the “P1” may not offer improved efficiency in every case. Moreover the attitudes of motorists towards any restriction can be a more important factor.

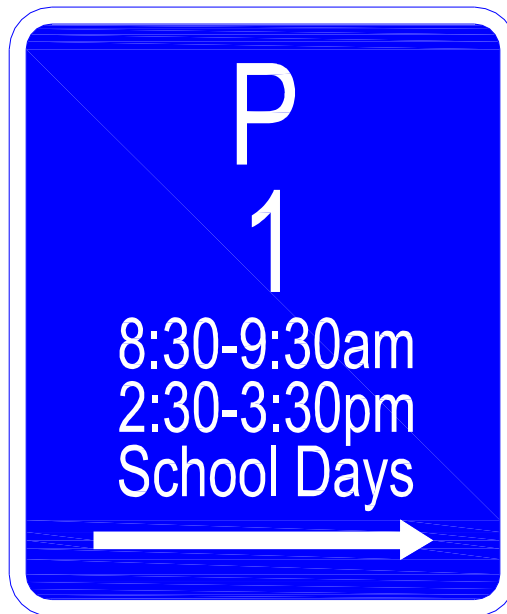
Overall the “No Parking” restriction produced the best results in the afternoon peak period. This is the period that has proved to be the most problematic or being the least efficient in the baseline surveys. The difficulty in simply proceeding with this control outside other schools is that its performance needs to be balanced against a likely degree of mis-interpretation which in turn may lead to less efficient use of the kerbside space. Conversely the “P1” is likely to be more widely understood but slightly less efficient. In any event it is evident that in some locations enforcement will remain a key ingredient in achieving improved efficiency.

5.0 RECOMMENDATION

That the “P1” be the first choice of parking restriction for schools experiencing inefficient use of kerbside space. If the “P1” does not produce satisfactory results then a “No Parking” restriction should be trialled with careful attention to any decreases in utilisation (average turnover per available space).

APPENDIX ONE – STANDARD INFORMATION TO DRIVERS/PARENTS**雅芳海德学校学生接送区**

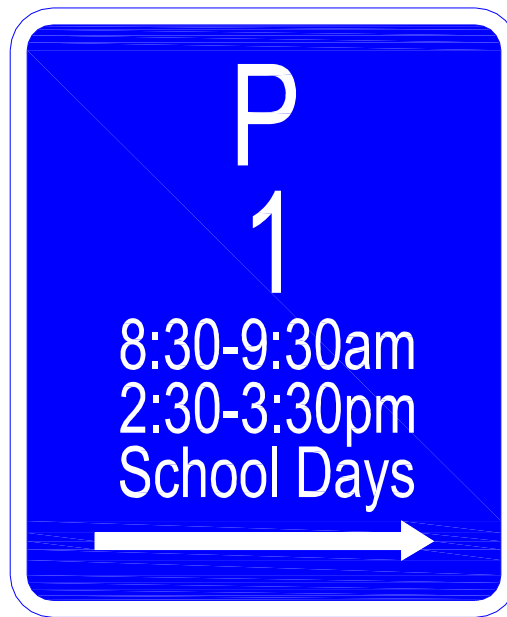
雅芳海德学校与基督城市政府协商后，同意在学校正门临街空地划分出一个**P1学生接送区**。划分的停车区域在人行横道和公交车站之间。



这个P1学生接送区将在学校开学日实行。时间仅限于上午8.30分至9.30分和下午2.30分至3.30分。这意味着只允许车辆最多在此期间停留一分钟。实际上这里就是一个**禁止泊车区**。监护人因其它原因需要停车进入学校办事，或者较早来接孩子，需要等待，要求您把车停在这个区域以外的路旁或其它地方。P1学生接送区应随时能够提供给那些纯粹为了接送等车孩子的司机使用。

Avonhead School Drop off pick up Zone

Avonhead School after consultation with the Christchurch City Council, has agreed to install a **P 1, drop off / pick up zone** along the frontage of the school; in the parking area; between the pedestrian crossing and the bus stop.



This P1 parking restriction would operate, School Days Only from 8.30am -9.30am in the mornings and 2.30pm-3.30pm in the afternoons. It will mean that vehicles will only be permitted to stop for a maximum period of **1 minute** during those times; **effectively being a drop off and pick up zone**. Care givers wishing to leave their vehicles to enter the school for various reasons or arrive early and wait for children will be required to park their vehicles further along the road or in some other location, leaving the P1 restriction free for those who wish only to drop off or pick up waiting children.

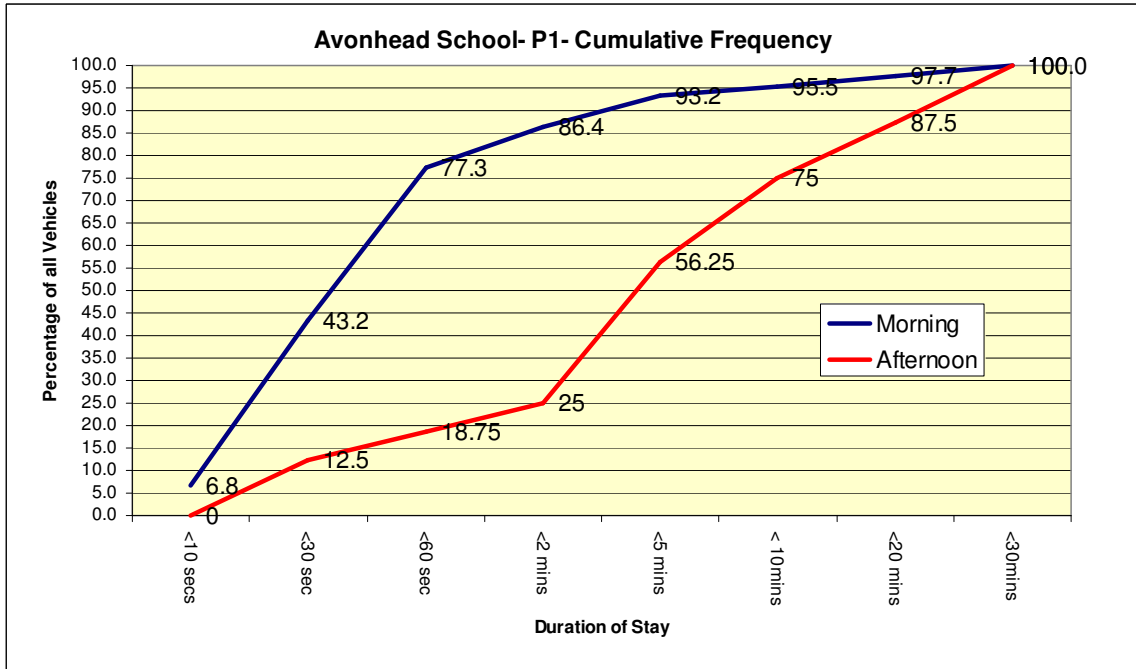
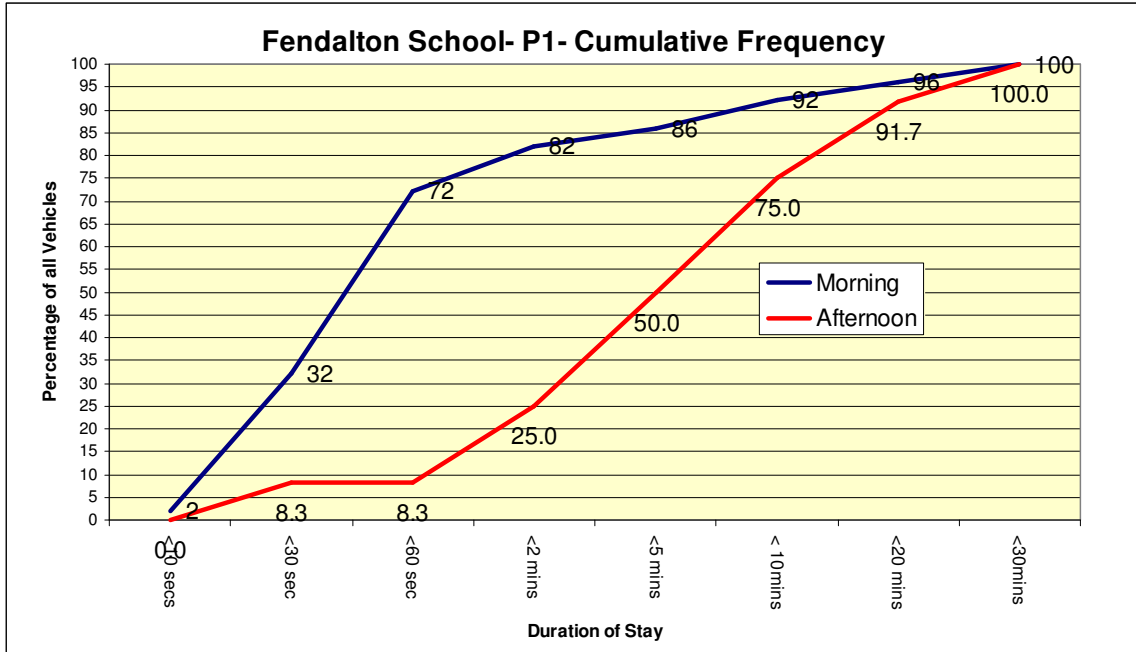
Westburn School Drop off pick up Zone

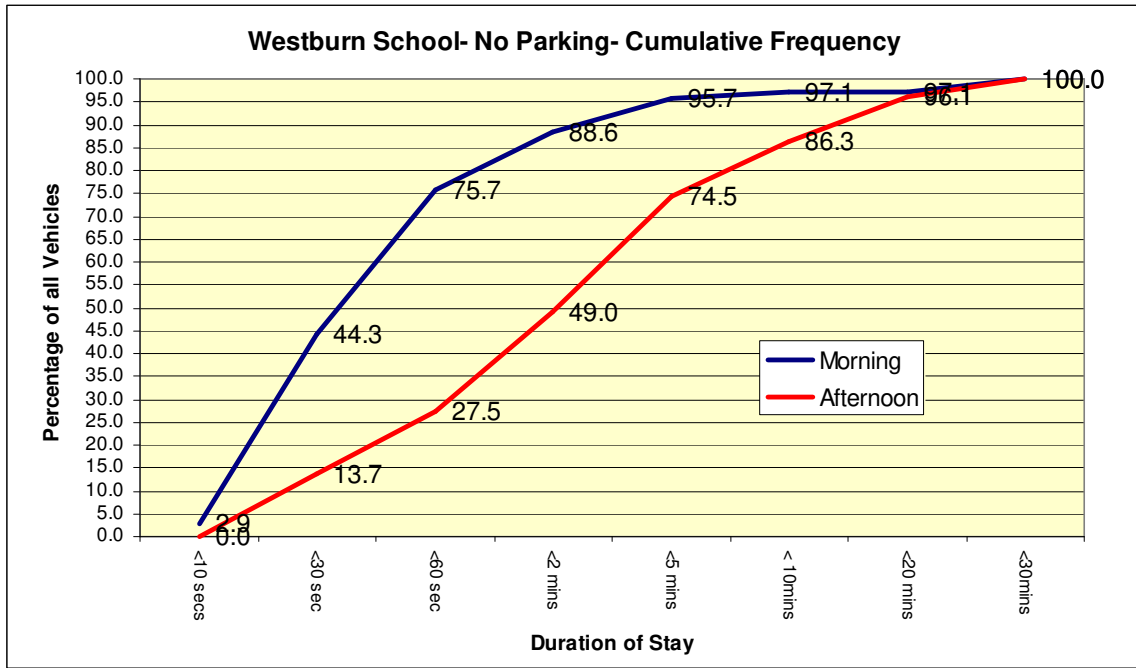
Westburn School after consultation with the Christchurch City Council, has agreed to install a **drop off / pick up zone** along the frontage of the school; in the parking area that is presently covered by the 3 minute parking restriction; between the pedestrian crossing and the bus stop.



This trial Drop off / Pick up sign/zone will operate, School Days Only from 8.30am-9.30am in the mornings and 2.30pm-3.30pm in the afternoons. It will mean that vehicles will only be permitted to stop for the purposes of dropping off or picking up; waiting children, during those times, effectively being a **No Parking Zone**. Care givers wishing to leave their vehicles to enter the school for various reasons, or arrive early and wait for children will be required to park their vehicles further along the road or in some other location, leaving the **Drop off / Pick up zone** free for those who wish only to drop off or pick up waiting children.

APPENDIX TWO – COMBINED AM AND PM DATA/SCHOOL – NEW RESTRICTIONS





APPENDIX THREE – DATA SUMMARY

AM

School	Cumulative Frequency as % of All Vehilces								Total Vehicles	Ave. LOS	No. Spaces	Ave. Turnover	% Leaving Vehicle
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Avonhead Unrestricted	1	32.8	64.2	74.6	80.6	91.0	95.5	100.0	67.0	3min	15	4.5veh/space	19.4
Avonhead P1	6.8	43.2	77.3	86.4	93.2	95.5	97.7	100.0	44	1min 56sec	6	7.3veh/space	4.5
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Westburn P3	1.2	30.1	53	73.5	89.2	98.8	100	100	83	1min 36sec	11	7.5veh/space	22.9
Wesburn No Parking	2.9	44.3	75.7	88.6	95.7	97.1	97.1	100.0	66	1min 34sec	11	6.0veh/space	15
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Fendalton P5	5	22.5	52.5	60	67.5	77.5	100	100	40	4min 36sec	8	5veh/space	37.5
Fendalton P1	2.0	32.0	72.0	82.0	86.0	92.0	96.0	100.0	50	2min 7sec	8	6.3veh/space	12

PM

School	Cumulative Frequency as % of All Vehilces								Total Vehicles	Ave. LOS	No. Spaces	Ave. Turnover	% Leaving Vehicle
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Avonhead Unrestricted	0	0	16.7	33.3	50	50	66.7	100	18.0	12min 11sec	15	1.2veh/space	44.4
Avonhead P1	0.0	12.5	18.8	25.0	56.3	75.0	87.5	100.0	16.0	7min 56sec	6	2.7veh/space	56.3
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Westburn P3	0	4.7	25.6	30.3	60.5	88.4	93	100	43	5min 42sec	11	3.9veh/space	32.6
Wesburn No Parking	0.0	13.7	27.5	49.0	74.5	86.3	96.1	100.0	51	4min 30sec	11	4.6veh/space	17.6
	<10 secs	<30 sec	<60 sec	<2 mins	<5 mins	< 10mins	<20 mins	<30mins					
Fendalton P5	0	0	15.8	21.1	57.9	79	89.5	100	19	7min 32sec	8	2.4veh/space	63.2
Fendalton P1	0.0	8.3	8.3	25.0	50.0	75.0	91.7	100.0	12	7mins 2sec	8	1.5veh/space	75