Dollars & Sense of Walking
Creating Liveable Communities
Conference 2 - 3 August 2010
Living Streets Aotearoa

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# Benefits of New and Improved Pedestrian Facilities

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# Overview

- Research Purpose and Objectives
- Key Literature Review Findings
- Study Methodology
- Case Study Sites
- Headline Results from the Study
- Overall Study Results & Conclusions

# Research Purpose and Objectives

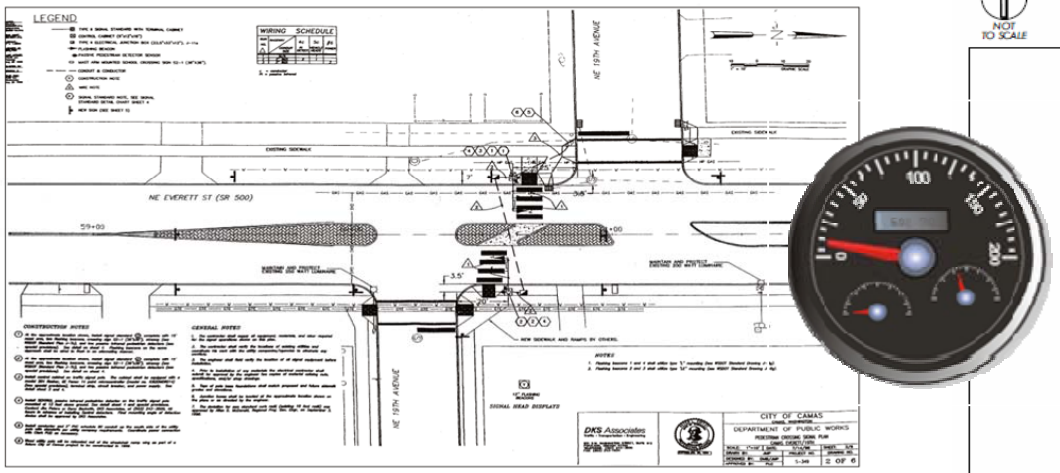
- Purpose – to gain an insight into how new and improved pedestrian crossing facilities lead to an increase in walking trips and how pedestrians value various crossing facilities

**Objectives:**

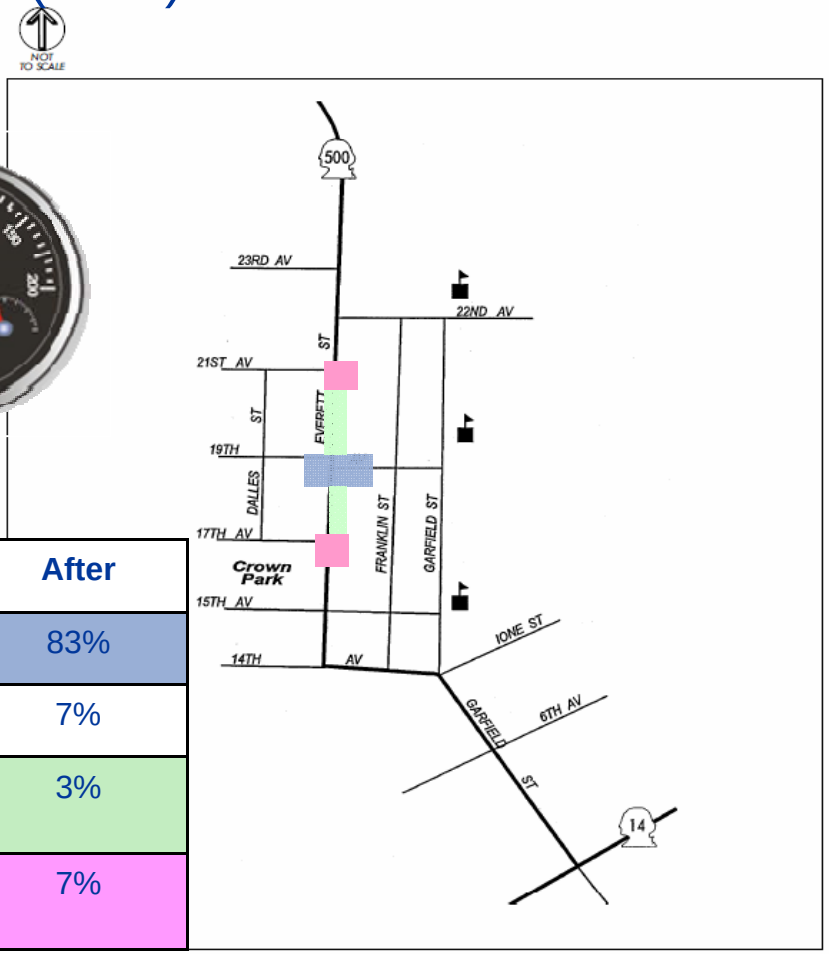
- To record additional trips generated from new or upgraded pedestrian crossing facilities
- To understand the importance that pedestrian facilities have on perception of safety, delay and directness
- To demonstrate the importance of collecting before and after data at pedestrian facilities

# Key Literature Review Findings

## City of Camas and Washington State DoT (1999)





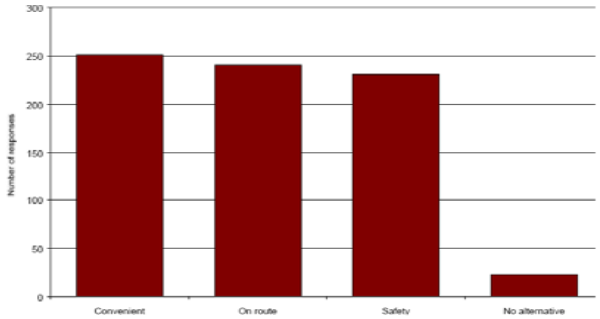




| Crossing Location | Before | After |
|---|---|---|
| 19th Ave/Everett St (within crosswalk) | 78% | 83% |
| 19th Ave/Everett St (outside crosswalk) | 9% | 7% |
| Everett St: Mid-block (17th to 19th and 19th to 21st) | 9% | 3% |
| Everett St: Adjacent Intersections (17th and 21st) | 4% | 7% |

# Key Literature Review Findings cont…

## What are the key considerations for pedestrians?

- Convenience
- Directness of route
- Safety




## Main factors for using a formal crossing

- Road Safety (96%)
- Volume of Traffic (91%)

## Main reasons for not using facilities

- Traffic was light
- It takes too long

## What do pedestrians prefer?



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# Study Methodology

## 1 Site Selection

- Location of facility
- Type of facility

## 2 Pedestrian Attitude Survey Design

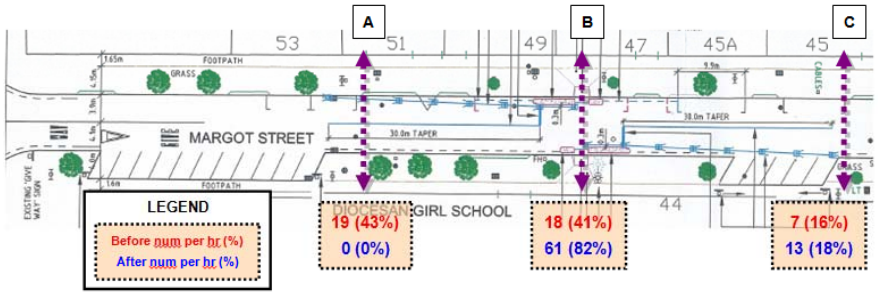
- Rating of -3 to +3
- Surveyors conducted before and after surveys

## 3 Data Collection

- Site characteristics
- Cost of scheme implementation
- Crash Statistics

## 4 Pedestrian Counts

- Counts at the crossing
- Counts away from the crossing



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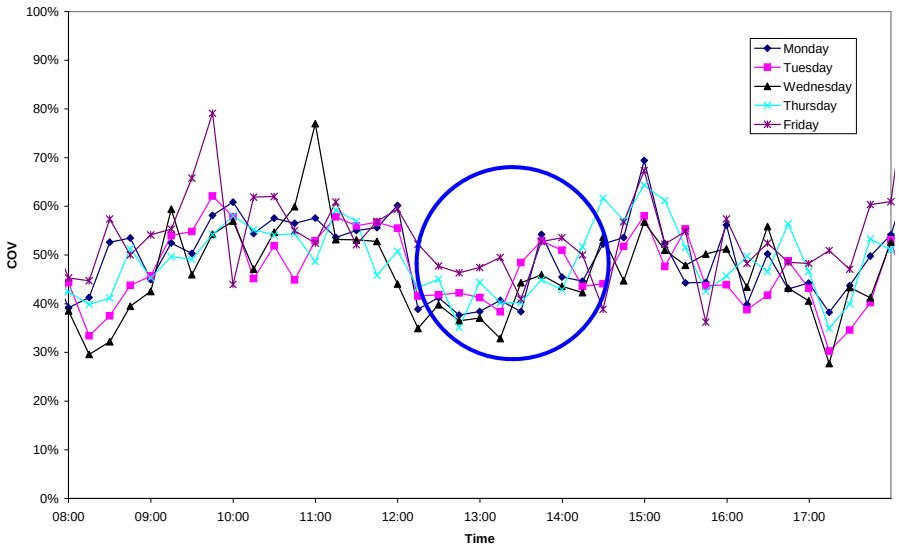
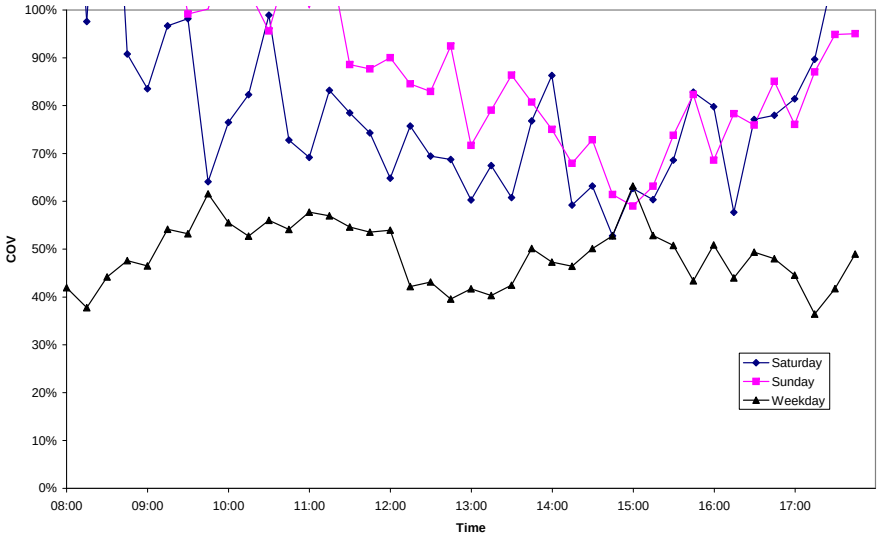
# Selection of Count Period(s)

**Coefficient of variance between quarter hour counts on weekdays**




**Coefficient of variance between quarter hour counts on weekends**




| Scenario | Mean COV | n (Number of 15 minute survey intervals) |
|---|---|---|
| 2-hr continuous count (as proposed); | 50% | 8 |
| 4-hr continuous count | 56% | 16 |
| Two, 1.5 hour counts on adjacent weeks | 47% | 12 |

## Pedestrian Surveys

- On Wednesdays for 1 & ½ hrs from 12
- In 15 min intervals
- For three consecutive weeks
- Before and after treatment
- Not to close to treatment



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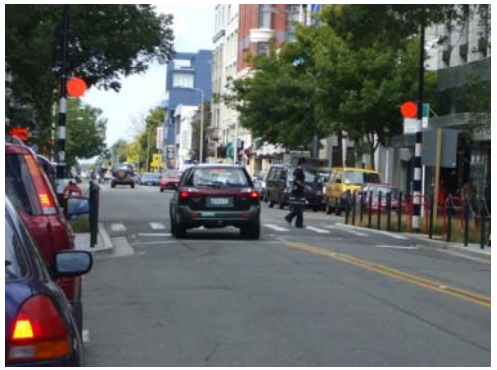
# Case Studies Sites & Results

| Location | Type of Improvement | "Before" Study (Ped/hr) | "After" Study (Ped/hr) | % increase | Significant increase? |
|---|---|---|---|---|---|
| Moorhouse Ave at Hoyts 8 / "Science Alive!", Christchurch | Signalised crossing | 75 | 80 | 7% | No |
| Hereford Street, Christchurch | Raised zebra crossing with warning light system | 628 | 607 | -3% | No |
| Sparks Road, Christchurch | School patrolled zebra crossing | 148 | 228 | 54% | Yes |
| Hoon Hay Road, Christchurch | Kea Crossing | 43 | 64 | 49% | Yes |
| Ensors Road, Christchurch | Refuge Island and kerb extension | 7 | 8 | 14% | No |
| Collingwood Street, Hamilton | Kerb extensions | 30 | 57 | 90% | Yes |
| Tristram Street, Hamilton | Refuge Island | 25 | 46 | 84% | Yes |
| Margot Street, Auckland | Kea Crossing | 69 | 98 | 42% | Yes |

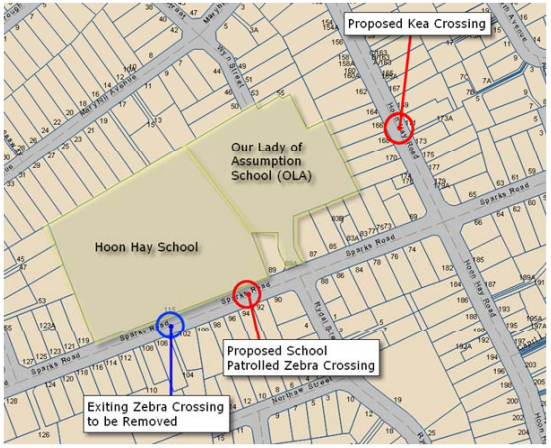
# Case Study Sites

Moorhouse Avenue, Chch

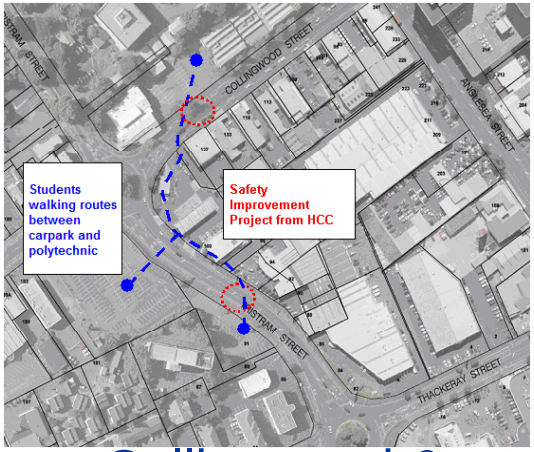

Ensors Road, Chch



Hereford Street, Chch

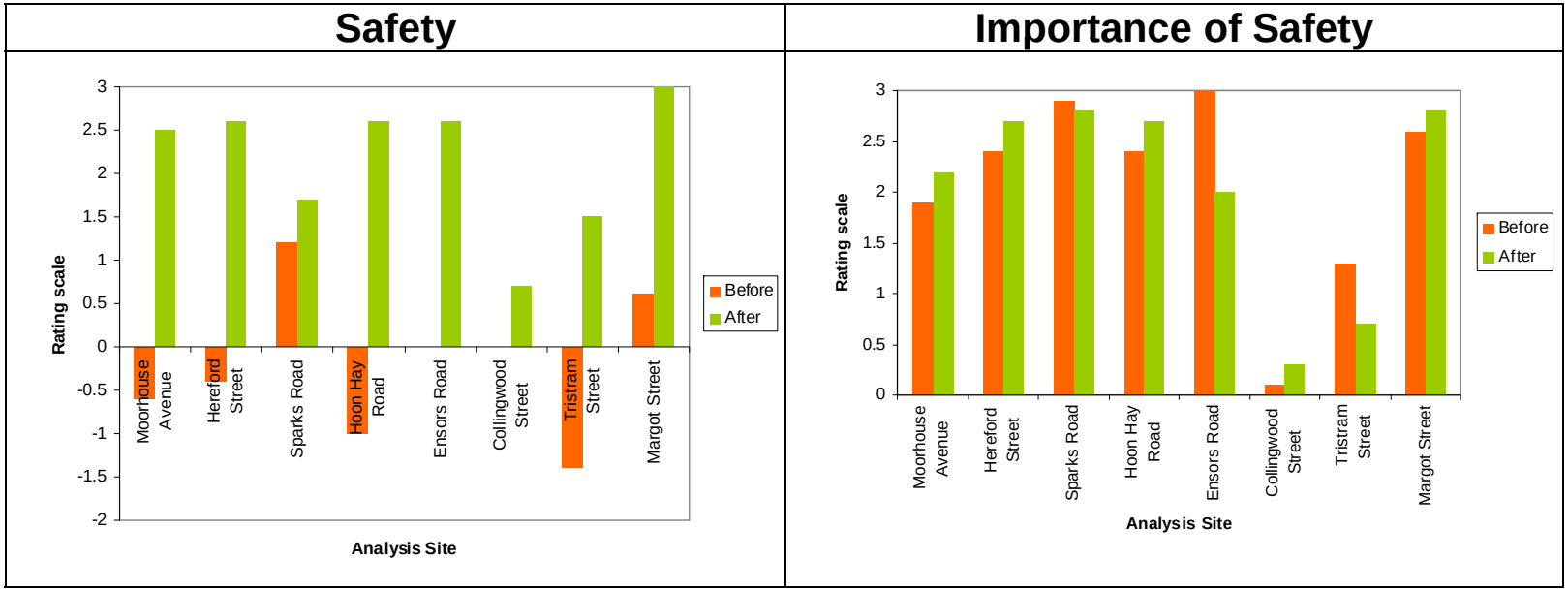



Sparks Road & Hoon Hay Road, Chch




Collingwood &
Tristram St, Hamilton

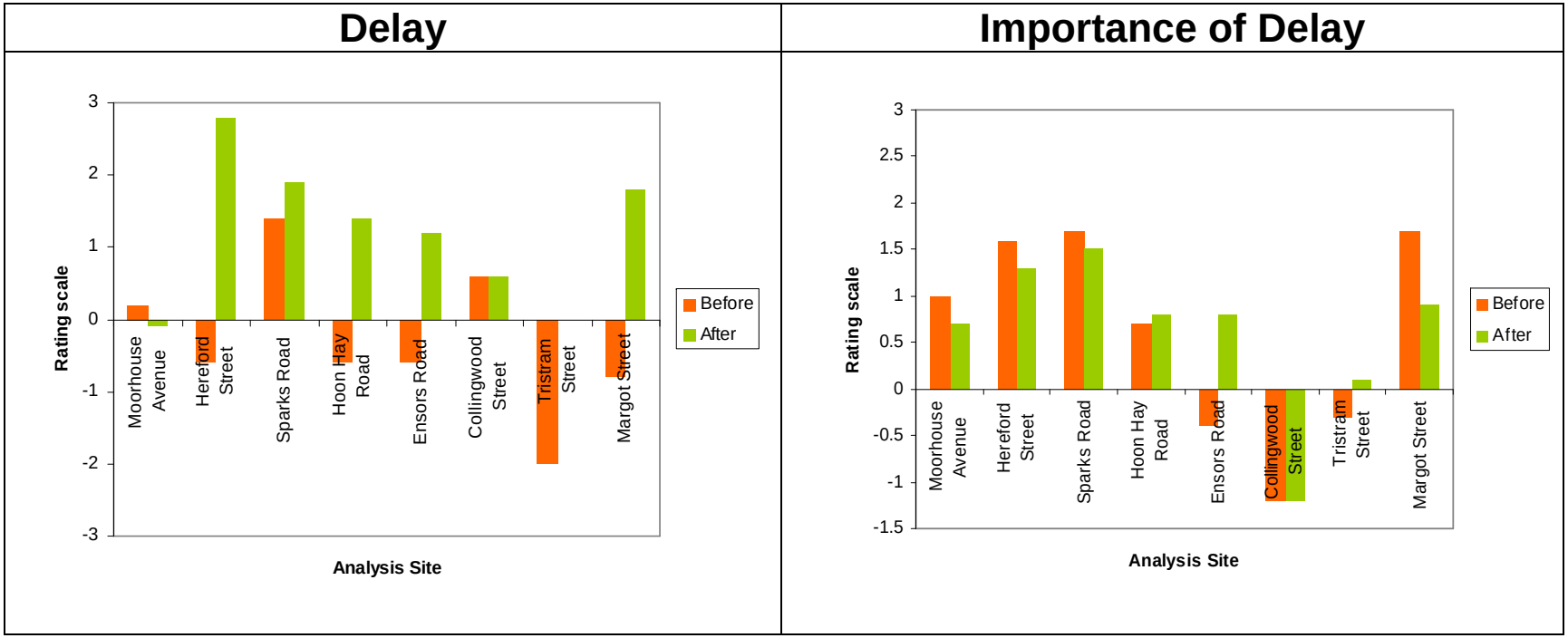
# Perceived Safety Headline Results




**Changes in perceived level of safety and importance of safety**

The perceived safety increased at all eight sites with substantial increases at five sites

# Perceived Delay Headline Results




**Changes in perceived level of delay and importance of delay**

- The perceived delays were reduced at six of the eight sites.
- The importance of delay was found to be similar in the before and after surveys



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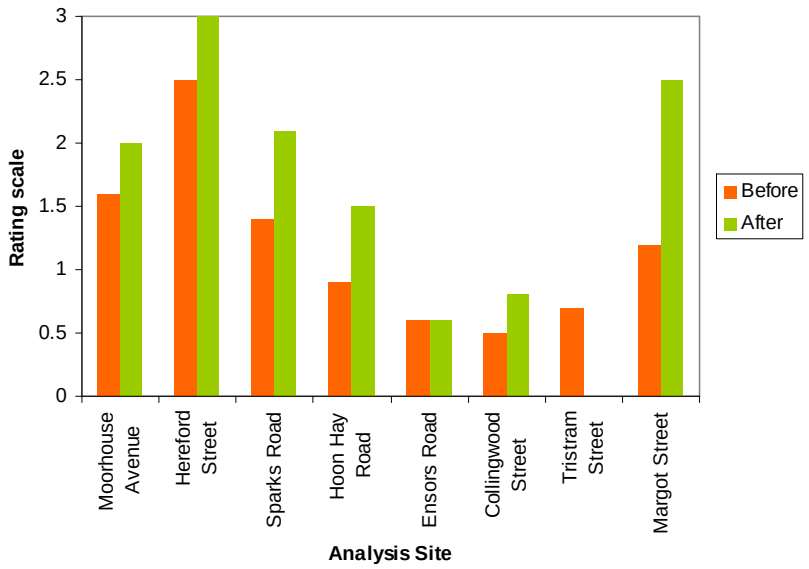
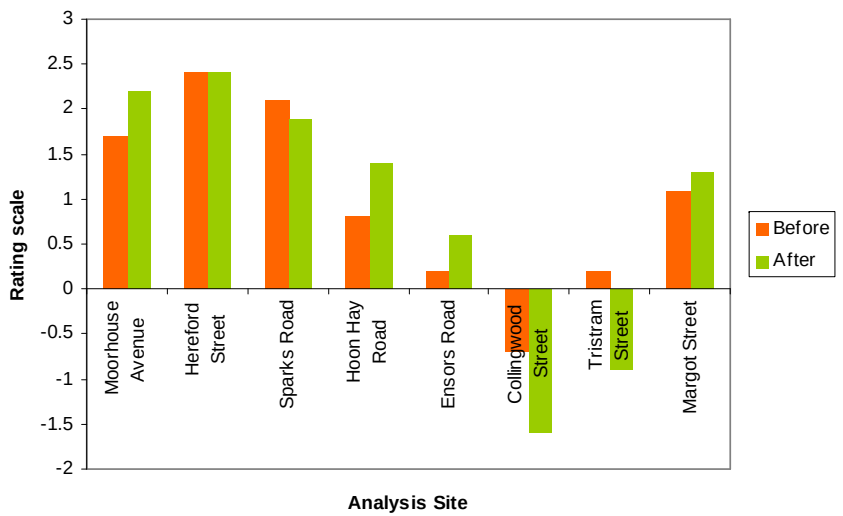
# Perceived Directness Headline Results

## Directness




## Importance of Directness




**Changes in perceived level of directness and importance of directness**

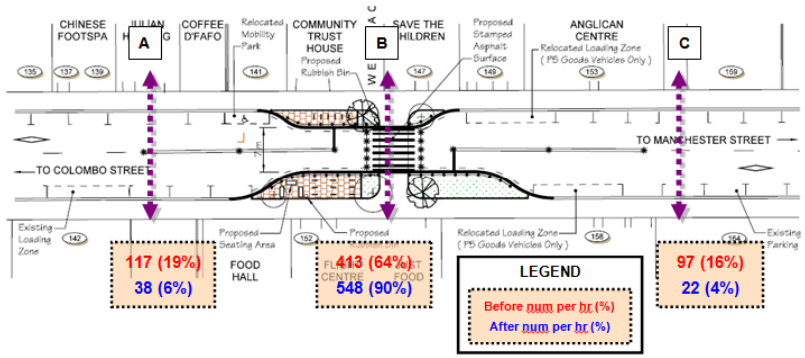
- At most of the sites directness was considered important
- most of the facilities were located on the key desire lines which resulted in an increase in the after situation

# Overall Study Results

| | Safety | Delay | Directness |
|---|---|---|---|
| **Highest perceived rating** | Kea Crossings | Zebra crossings | Zebra crossings |
| | Signalised crossing | Kea Crossings | Kea Crossings , Signalised crossing |
| | Zebra crossings | Kerb extension / refuge Island | |
| **Lowest perceived rating** | Kerb extension / refuge Island | Signalised crossing | Kerb extension / refuge Island |

- Increased perceived safety does not guarantee an increase in pedestrian use
- Pedestrian perception does improve with the implementation of improved crossings.
- Pedestrian priority is paramount

- The right facility in the right location does however improve the crossing patterns
- The best options do not always cost the most – one size does not fit all!




**A database has been developed to store continue collecting before and after data – the more data the better!**



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# Questions