EDEN BUSINESS ANALYSIS

Accrington Eco Rail Station Project

Research Findings

Report date: 11 May 2011


Photo taken March 2011

Report prepared for:
Richard Watts
Lancashire County Council

Report prepared by:
Eden Business Analysis
23 Station Road
Upper Poppleton
York YO26 6PX
Tel: 01904 780781
Mob: 07801 384773
E-mail: neil@edenba.co.uk

This project has received European Regional Development Funding through INTERREG IV B.
INTERREG IVB

Lancashire County Council

CONTENTS

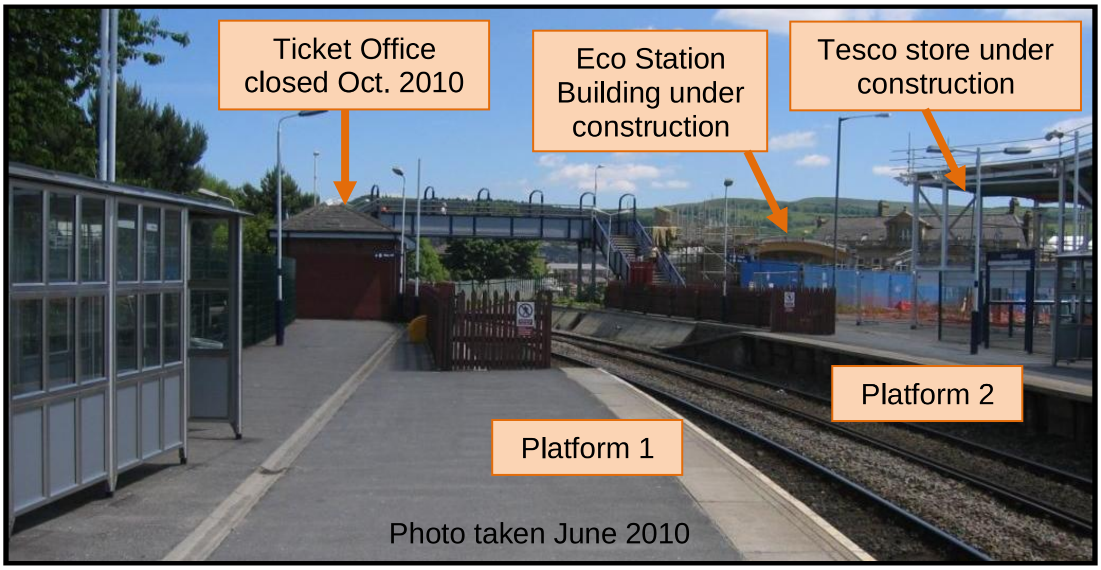
1. INTRODUCTION

1.1 A new station building at Accrington rail station opened in October 2010 as the main part of an Eco Station project. Key partners in the project were: Lancashire County Council, Northern Rail, Network Rail, the East Lancashire Community Rail Partnership and Hyndburn Borough Council.

1.2 The project also forms part of the SusStations (Sustainable Stations) initiative that is part funded through the European Union's Interreg IVB programme. SusStations brings together a range of bodies including Lancashire County Council, Northern Rail and Network Rail in the United Kingdom; Translink in Northern Ireland; ProRail and NS in the Netherlands; DB in Germany along with Boulogne Developpement and SNCF Gare et Connexions in France. SusStations aims to achieve a new generation of sustainable, low-carbon stations and includes four demonstration projects across NW Europe of which the Accrington Eco Station was the first to be completed.

1.3 The new “Eco Station” was designed to incorporate new sustainable building techniques in its construction and operation. The building features a new ticket office, passenger circulation area and a toilet for the disabled. In addition, the project included improvements to: the main car parking area; cycle parking; and pedestrian / cycle access routes in the immediate vicinity of the station. In recognition of its sustainability the Eco Station has achieved an 'Excellent' Breeam rating (Building Research Establishment Environmental Assessment Method) and has also achieved an 'A' rating for its energy performance.

1.4 Eden Business Analysis conducted research to understand project effectiveness. The research was part funded by the SusStations Interreg IVB project. This report describes the research findings.



1.5 The new building is located adjacent to platform 2. When it opened in October 2010 the former ticket office adjacent to platform 1 closed. Some minor finishing off works on the project extended into early 2011. A new Tesco store opened on land adjacent to platform 2 in late 2010.

1.6 Accrington station is normally served by 4 trains per hour on its two platforms:

Platform 1 for eastbound trains	1 per hour to Burnley, Bradford, Leeds and York
	1 per hour to Burnley, Nelson and Colne
Platform 2 for westbound trains	1 per hour to Blackburn, Preston and Blackpool North
	1 per hour to Blackburn, Preston and Blackpool South

1.7 The ticket office is staffed 06:40 – 15:00 Monday – Saturday; 09:10-16:45 Sunday. Outside these times the station is normally unstaffed.

2. RESEARCH METHODS

2.1 The research fieldwork was in 2 parts for 2 days each:

Part 1	Before the Eco Station opened	Wed 16 & Sat 19 June 2010
Part 2	After the Eco Station opened	Wed 23 & Sat 26 March 2011

2.2 547 face-to-face interviews were conducted among passengers waiting to join trains at the station (272 in June; 275 in March).

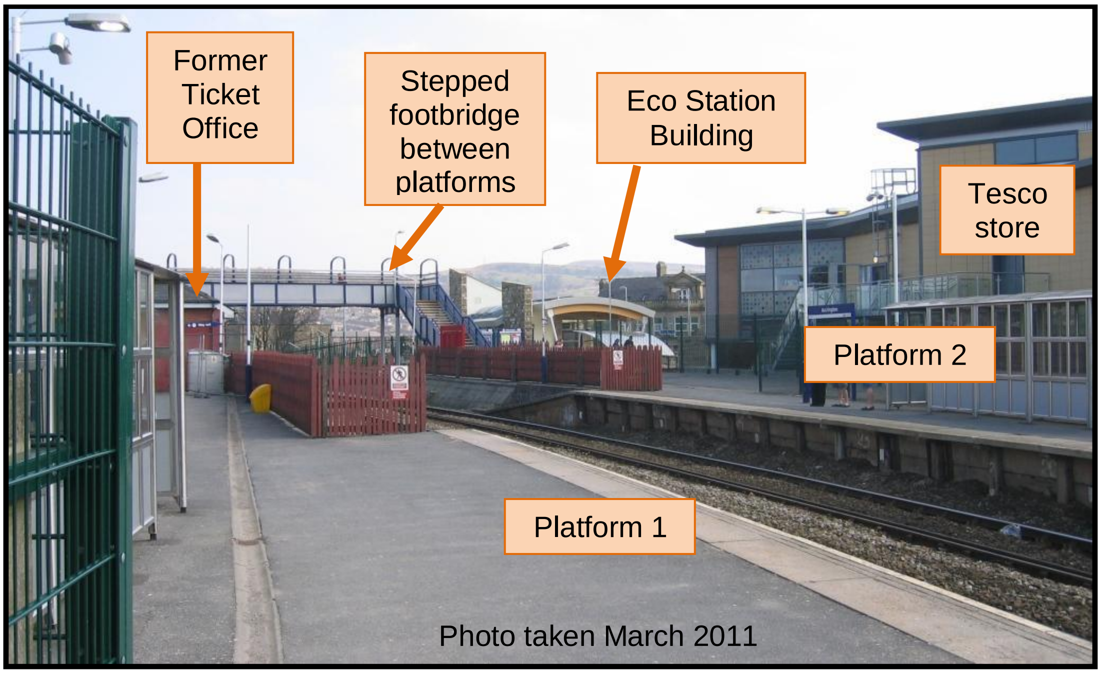
2.3 The research fieldwork also included:

- Counts of passengers joining trains;
- Counts of cars parked at the station; on-street and in public car parks within 500 metres of the station;
- Observations of train running performance, service quality issues and bicycle parking.

2.4 In order to accurately compare parts 1 and 2, there was some weighting of responses by direction of travel and day of travel.

2.5 Some comparisons were made with a small survey conducted at Accrington Station in October/November 2008 as part of national research into Station Travel Plans (it consisted of 95 face-to-face interviews).

2.6 Detailed analysis of ticket sales was carried out using LENNON – the national rail ticket sales database. The data studied covered a three year period up to April 2011. Most analysis used data summarised by 4 weekly accounting period, but some considered daily sales figures.



3. RAIL JOURNEYS TO/FROM ACCRINGTON

There were 314,000 journeys to/from Accrington in the year ending 31 March 2011 (865 per day)

61% of journeys (192,000) were Accrington **originating**
– i.e. Accrington was probably the users home end (e.g. an Accrington to Preston & back return ticket = 2 Accrington originating journeys).

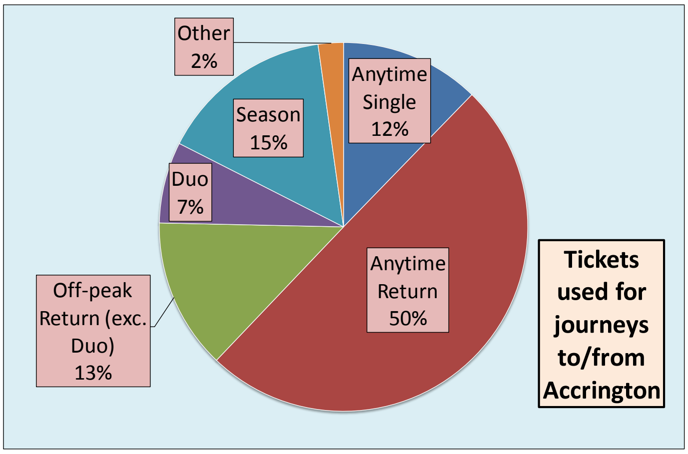
39% of journeys (122,000) were Accrington **destinating**
– i.e. Accrington was probably the users non-home end (e.g. a Preston to Accrington & back return ticket = 2 Accrington destinating journeys)

Top 5 destinations for Accrington originating journeys		
	Annual Journeys (k)	%
PRESTON	44	23%
BLACKBURN	26	14%
BURNLEY	23	12%
BLACKPOOL	18	10%
LEEDS	8	4%
Other destinations	72	38%
TOTAL	192	100%

Top 5 origins for Accrington destinating journeys		
	Annual Journeys (k)	%
PRESTON	18	15%
BURNLEY	13	11%
NELSON	11	9%
BLACKBURN	11	9%
RISHTON	6	5%
Other origins	62	51%
TOTAL	122	100%

About two thirds of journeys are to/from locations served by joining trains going west from Accrington and one third are to/from locations served by trains going east from Accrington. On an average day about 290 passengers will join westbound trains from platform 2 and about 135 will join eastbound trains from platform 1.

The average distance for journeys to/from Accrington is 30 miles

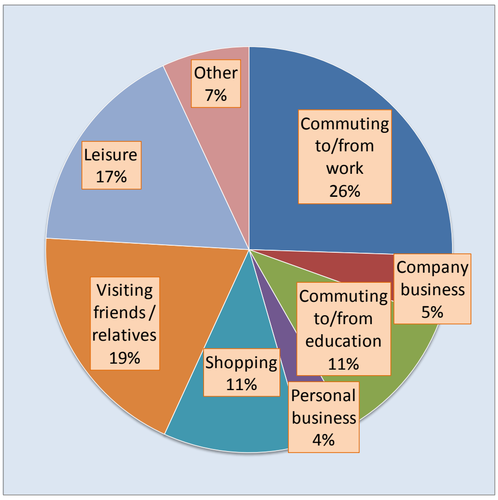


There is relatively little seasonality of demand. The highest demand levels occur in September/October when demand can be 12% above the annual average.

There is relatively little variation in demand by day of week, except on Sundays when demand is estimated to be between a third and a half of the average. Fridays are the busiest day when demand can be up to 20% above average.

4. PROFILE OF ACCRINGTON STATION USERS

Main Journey Purpose



Gender

49% Female; 51% Male.

Age

Aged 16-25	36%
Aged 26-34	20%
Aged 35-44	13%
Aged 45-54	17%
Aged 55-64	8%
Aged 65 or over	6%

Excludes under 16s

Working Status

Working full time	49%
Working part time	11%
Full time Student	18%
Not working	16%
Retired	7%

Group Composition (adults)

55% are travelling alone.

27% with 1 other adult, no children.

6% with 2+ adults, no children.

3% with no other adults, 1+ children.

9% with 1+ other adults, 1+ children.

Mobility

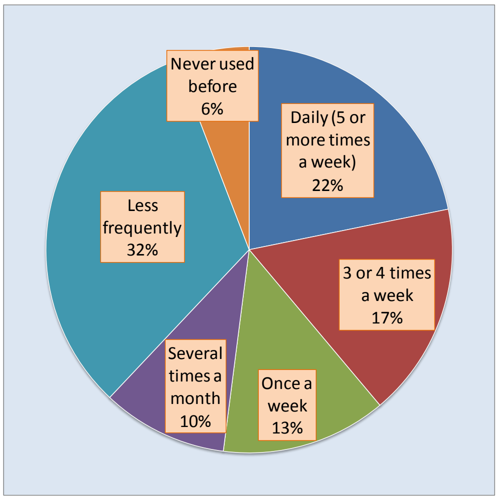
7% of users have a disability or long-term illness that affects travelling.

12% with heavy/bulky luggage.

4% with a pushchair.

Less than 1% with a wheelchair.

Frequency of Station Use



Household Car Ownership

No cars	32%
1 car	41%
2 cars	20%
3 or more cars	8%

42% of users are car drivers.

21% of users aged 16-25 are car drivers.

Those who use Accrington station very frequently or very infrequently are more likely to be in car owning households and/or be car drivers.

Residency

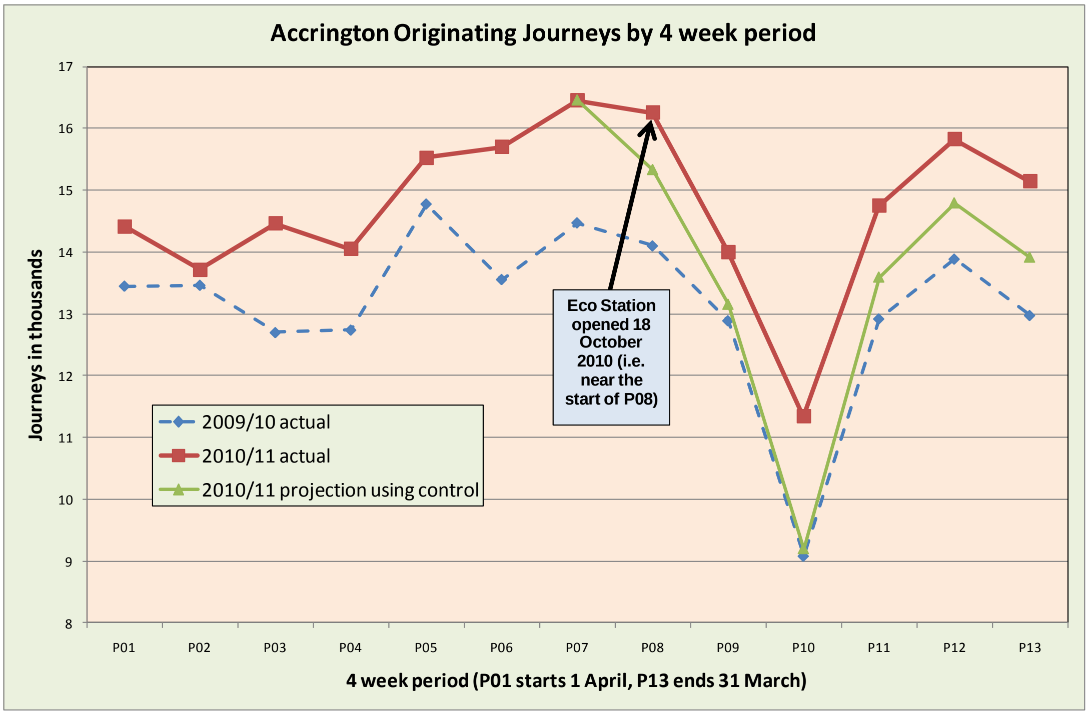
56% live in the BB5 postcode area (i.e. within 2-3 miles of the station).

61% resident at the Accrington end of their journey; 29% visiting Accrington (insufficient information about the remaining 10%).

5. CHANGES IN RAIL DEMAND

5.1 During the 6 months before the Eco Station opened, Accrington originating journeys were growing at 10% above the previous year. In the 6 months following opening, growth was 15% above that of the previous year. It cannot automatically be assumed that this growth rate and/or growth rate increase has been caused by the Eco Station opening. Growth rates are relatively high because of ongoing recovery from severe local and national economic impacts and different growth rates may be a reflection of differences in the recovery rate. Other factors, such as changes in train service performance, may explain the difference.

5.2 In order to exclude economic and other factors as far as practical, a comparison was made with journey growth associated with Blackburn, Burnley and other East Lancashire stations. The chart shows the effect of using originating flows from these control locations to project the situation for Accrington originating journeys if they had followed the growth rate changes seen in the controls. The result was an estimate of 10% growth in originating journeys at Accrington that could only readily be explained by factors unique to Accrington – i.e. presumably due to the Eco Station opening.



5.3 To validate the 10% estimate another method (method 2) was used to compare Accrington flows with the control flows. This involved deseasonalising the data using seasonal factors from 2008/09 and 2009/10 and then comparing the Accrington and control trends before and after Eco Station opening. The result was estimates in the range 7% to 10% growth associated with the Eco Station. The variation arose from using different assumptions about which periods best represent the "before" situation.

5.4 The opening of the Eco Station would be expected to generate more growth among originating journeys than destinating journeys. This is because destinating passengers are unlikely to buy a ticket at Accrington and probably have less access/egress mode choice at the Accrington end of their journey. Nevertheless, these passengers would be expected to see some benefits. Using the control flow methodology a growth of 4% was identified. The validation using method 2 gave a range of 1% to 6%.

5.5 To understand the likely confidence intervals the controls were subdivided into 3 groups: Blackburn flows, Burnley flows, other East Lancashire flows. Each sub-group was then used on its own to estimate the effect. The table below summarises the estimation of growth rates associated with the opening of the Eco Station:

	Originating journeys		Destinating journeys	
	All controls	Selected controls	All controls	Selected controls
Method 1	10%	2% to 13%	4%	3% to 4%
Method 2	7% to 10%	1% to 12%	1%-6%	-3% to 11%

5.6 Taking account of the robustness of the different calculations, the following are the recommended assumed central estimates of Eco Station related demand growth at Accrington:

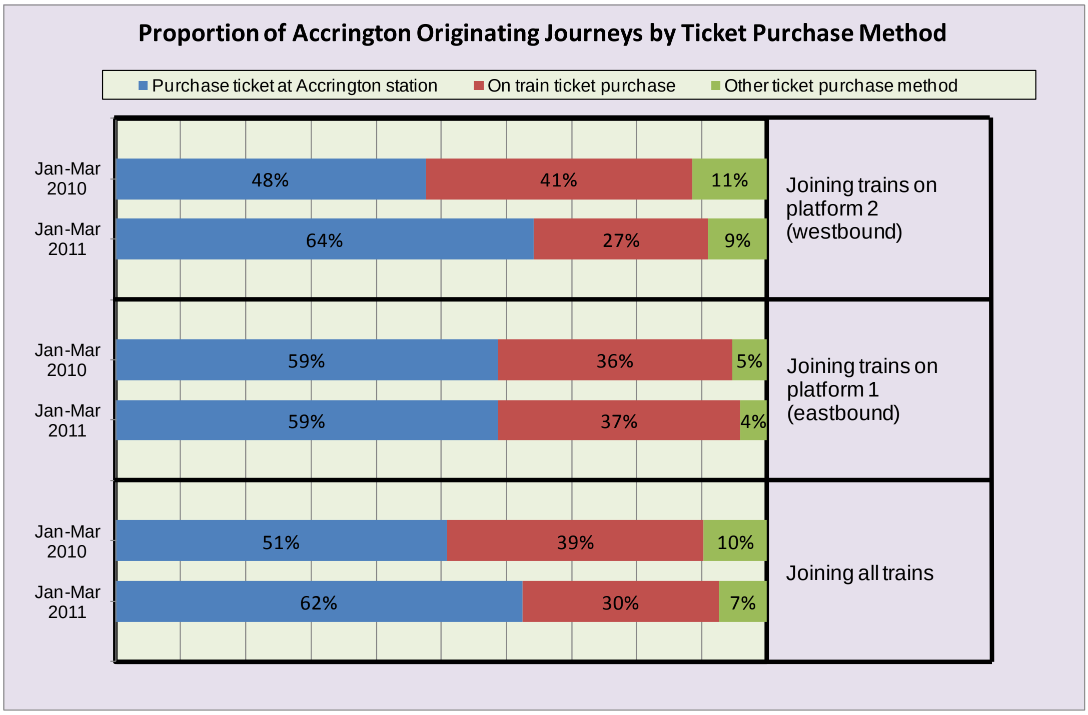
Originating journeys	9%	i.e. 47 journeys per day
Destinating journeys	4%	i.e. 13 journeys per day
Total journeys	7%	i.e. 60 journeys per day

5.7 The above figures are based on the first 6 months after opening. National research into the time lags associated with rail improvement schemes suggests that in this time only about 75% of longer term benefits will have been achieved. Some further modest growth in demand can, therefore, be expected during the next year or so.

6. CHANGES IN TICKET PURCHASE METHOD

6.1 The two main ticket purchase methods for Accrington originating passengers are: the station ticket office and the on train conductor.

6.2 Although there has been no change in staffing levels or ticket office opening times, the proportion of originating journeys from Accrington associated with tickets purchased there has increased with the opening of the Eco Station. The improved location of the ticket office for many users, as well as its improved quality, probably explains the increase. The growth in ticket office use has been particularly marked among passengers joining westbound trains (i.e. joining trains on platform 2, the platform adjacent to the new ticket office). The change will have helped to improve revenue protection.



6.3 In the first few weeks after the new ticket office opened the proportion of originating journeys from platform 1 associated with Accrington station ticket purchase fell to below 40%, but recovered to previous levels a few weeks later – presumably as awareness of the new ticket office increased.

Former ticket office adjacent to platform 1 (closed October 2010)

New ticket office in Eco Station building adjacent to platform 2 (opened October 2010)

7. STATION ACCESS

7.1 There do not appear to have been any significant changes to access mode shares or access journey time resulting from the Eco Station project. Although some changes were noted between the June 10 and March 2011 surveys none were statistically significant.

Main access mode	Jun 10	Mar 11
Walk	62%	59%
Cycle	2%	1%
Car – parked at or near station	7%	7%
Car – dropped off	12%	12%
Train (changing trains)	1%	2%
Taxi	6%	9%
Bus	10%	10%
Other	0%	0%
	100%	**100%**

Time to get to the station	Jun 10	Mar 11
5 minutes or less	37%	37%
6 to 10 minutes	32%	27%
11 to 15 minutes	14%	15%
16 to 20 minutes	10%	8%
More than 20 minutes	8%	13%
	100%	**100%**

Walk

7.2 The majority of station users walk to/from the station.

7.3 47% of those who did not walk indicated they could have walked. The main reasons for not walking among those who could have walked were: too far / long (51%); can't be bothered / lazy (16%); luggage etc (7%); lift available (6%); and health (6%).

Cycle

7.4 Of the 547 interviewees only 7 (1.3%) had accessed the station by non-folding bicycle. All of these respondents took their bicycle on the train. No folding bicycles were noted. No bicycles were parked at the station during the June 2010 or March 2011 survey days.


March 2011

7.5 18% of those who did not cycle indicated they had a bicycle available and could have cycled. The main reasons for not cycling among those who could have cycled were: didn't feel like it (30%); short distance (14%); luggage etc (12%); no secure cycle parking (10%); too far or takes too long (9%); don't like cycling (6%); lack of cycle routes or road safety concern (4%); find cycling difficult (4%).

Car

7.6 In late 2008 "car parked at or near the station" was estimated at 9.5%. In June 2010 it was 6.5% and in March 2011 was 7.5%. Although not statistically significant, the dip may be explained by the closure of the main station car park during Eco Station construction work (in June 2010).

7.7 During the June 2010 survey the only station car park was the small one adjacent to platform 1. On the Wednesday of this survey all 8 spaces were taken by 08:00. In the March 2011 survey the main new 40 space Eco Station car park was also available and on the Wednesday of this survey the car park became full by about 10:00. On the Saturday of the March survey the main car park did not become full – the maximum spaces occupied were 15.

7.8 There are about 550 on-street or off-street, free, public, non-time-restricted car parking spaces within about 500 metres of Accrington station. During both surveys there were always vacant spaces to be found west of the station. However, the spaces to the east, which are closer to the town centre, became largely occupied from about 09:00 on the Wednesday of the June 2010 survey. Also those particularly close to the town centre became full from about 09:30 on the Saturday of this survey. In the March 2011 survey in areas east of the station, capacity was reached a little later and there were about 10-20 more spaces available at busy times. Otherwise car parking around the station in March was similar to that in June.

Bus

7.9 In late 2008 bus access mode share was estimated at 15%. However, in both the June 2010 and March 2011 surveys bus share was 10%.

7.10 40% of those who did not get to the station by bus indicated they could have used a bus. The main reasons for not using a bus among those who could have used one were: takes too long (20%); like walking (20%); cost (15%); lift available (8%); short distance (6%); buses infrequent (6%); don't like bus (6%); lack of information (4%).

Satisfaction with ease of access

7.11 The proportions of users "satisfied" or "very satisfied" with the ease of access to the station were:

Oct / Nov 2008	82%
June 2010	87%
March 2011	92%

7.12 In the June 2010 survey respondents were asked for suggested improvements to access. Two main problem areas were highlighted:

- The steepness of the access slope next to platform 1; and
- The difficulty of providing a route between platforms for the disabled and those with pushchairs / luggage.

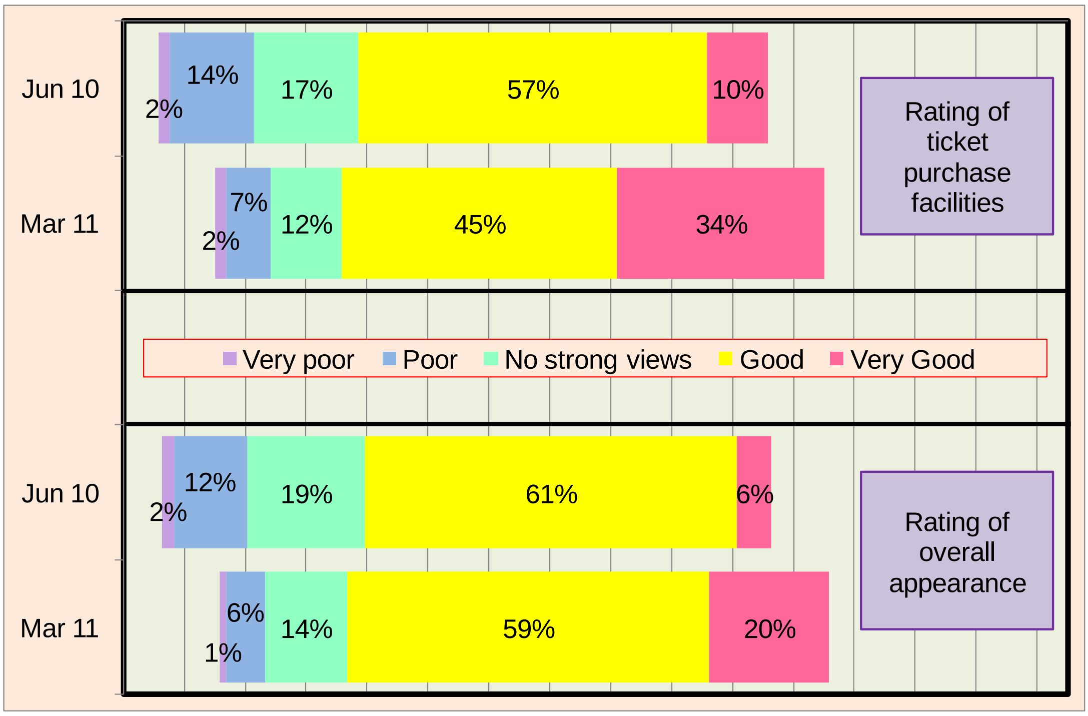
8. PASSENGER RATINGS OF STATION FACILITIES

8.1 In the June 2010 and March 2011 surveys passengers rated 8 selected station facilities / features. In the March survey ratings for all 8 showed an improvement – and 6 of these were statistically significantly different. The table lists the 8 features in descending order of average rating score in the March survey.

Facility / feature	Mean score			Statistically significant at 95%
	Jun 10	Mar 11	Difference	
Ticket purchase facilities	3.59	4.02	0.43	Yes
Ease of moving about the station	3.75	4.00	0.25	Yes
Overall appearance	3.56	3.90	0.34	Yes
Direction Signs	3.51	3.78	0.28	Yes
Cleanliness	3.65	3.77	0.12	No
Information on train times	3.39	3.69	0.30	Yes
Waiting Facilities	3.47	3.55	0.09	No
Information on delays	2.65	3.27	0.62	Yes

Scores based on 1 = Very Poor, 2 = Poor, 3 = No strong views, 4 = Good, 5 = Very Good.

8.2 As well as expected improvements to the rating of ticket purchase facilities and overall appearance, the Eco Station project has impacted on the overall perception of quality. The improvement to information on delays may be partly linked to better train punctuality (on the June 2010 survey dates 76% of trains were on time or less than 5 minutes late; in March 2011 the figure was 88%).



8.3 The proportion rating ticket purchase facilities as "very good" has increased from 10% to 34%. The proportion rating the overall appearance of the station as "very good" has increased from 6% to 20%.

9. ECO STATION PROJECT AWARENESS

9.1 In the June 2010 survey, while the Eco Station was under construction, passengers were asked about awareness of the construction of a new station building.

56% were not aware before it was mentioned by the interviewer
9% had become aware of it within the last month
35% had been aware of it for over a month

9.2 Those already aware were asked how they became aware. Four main methods were indicated:

The presence of the site or guessed from the building work or car park closure	32
Local newspaper	28
Notices by the station or main road	27
From friends, family, neighbours or colleagues	21

Numbers indicate number of responses received.

9.3 Of those who were aware of the construction of a new station building before the survey, 46% were also aware of the projects eco-friendly objectives.


June 2010


June 2010

10. USER OPINIONS OF THE NEW STATION BUILDING

10.1 Respondents to the March 2011 survey were prompted to make good or bad points about the new station building. 188 (70%) made one or more good points and 82 (31%) made one or more bad points.

10.2 The tables below summarise the main points, together with the number of comments for each. Some comments fitted more than one heading.

Good points	
128	**General appearance.** Adjectives used: nice, modern, new, smart, lovely, stylish, fresh, attractive, welcoming. A few commented on how well the building sits with the surroundings. A few were particularly complimentary: "fantastic - very impressed".
50	**Better / improvement.** Compared favourably with former ticket office: "A lot better - more friendly - invites you in"; "ten times better than it was"
45	**Cleanliness.** "Lot brighter and cleaner"; "Clean and tidy"
24	**More spacious and bright / light.** "A lot more space inside", "Clean, airy and very nice", "Roomy, pleasant and modern",
16	**Staff / customer service.** The efficiency, helpfulness and politeness of the staff were mentioned.
9	**Access / location.** Easier access e.g. Automatic doors, step free access; "on the right side of town now".
29	**Examples of other comments**. Warmer; "I like the environmental credentials"; toilets; extra ticket window; safer feel; better car parking.

Bad points	
24	**Seating / waiting / shelter.** Many specifically commented on the lack of seating in the new building.
16	**Limited ticket office opening hours.** E.g. "“always shut when I'm here”, “closes at random times”, “could be open later than it is”.
15	**Access / location.** The difficulty of moving between platforms was highlighted. Some commented on the distance from platform 1 and lack of ticketing facility on platform 1.
14	**Toilets.** Most comments were that there was no public toilet facility.
28	**Examples of other comments**. Lack of information (particularly train running); poor communication of the buildings function; insufficient staff numbers; lack of refreshment facility.

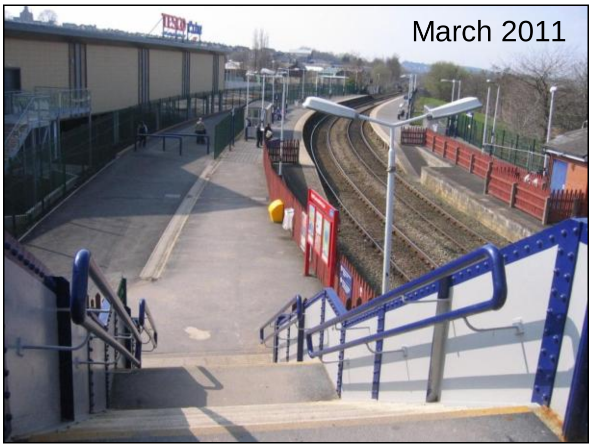
11. SCOPE FOR FURTHER IMPROVEMENTS

11.1 In the June 2010 survey respondents were asked to suggest improvements to the station. Most suggestions related to access, toilets, information, and waiting facilities.

11.2 Respondents to the March 2011 survey were invited to make “suggested other improvements to this station”. The four main issues highlighted in the June survey arose again.

11.3 The table summarises the 174 suggestions made during the March 2011 survey, together with the number for each. They were made by 137 (51%) of respondents – some making more than one suggestion.

46	**Seating / waiting / shelter.** Many appealed for better shelter and seating for use when waiting for trains. Warmth, protection from bad weather and enclosed waiting rooms were suggested.
31	**Information.** The majority of suggestions implied better real time train running information. Better announcements and better information provision in general were also requested.
19	**Access / footbridge issues.** Various suggestions were made to improve access between the platforms: lifts, subways, ramps. Some commented on the steepness of the access slope or the need to generally improve access.
16	**Toilets.** Most suggestions were just for the provision of toilets. However, 3 suggestions related to making the disabled toilet available for anyone.
15	**General station appearance**. Suggestions included: flowers, plants, hanging baskets and a "general tidy up". Improvements to fencing and litter bins were also suggested.
12	**Refreshments.**
8	**Longer ticket office opening hours.**
7	**Security related.** Better lighting, better enforcement of "no smoking", a gate/door, CCTV, more staff presence.
7	**Ticketing.** Ticket machine or ability to purchase a ticket on platform 1.
13	**Other suggestions.** Including better signage, more trains, improved cycle storage and requests to generally "update the rest of the station".



12. CONCLUSIONS

12.1 The research has shown that there has been a very positive reaction to the new station and that this has contributed to the increase in ridership to/from it. In the year to the 31st March 2011 the station saw an annual increase of 12% in usage reaching its highest total in recent years of 314,000 passenger journeys.

12.2 Accrington Eco Station is the first of four demonstration projects that form part of the SusStations project and the experiences gained from Accrington can now be used to inform the development of the remaining projects.

12.3 The project demonstrates that station improvements combined with good marketing can achieve better than forecast results.

12.4 Accrington is also one of the 24 national Station Travel Plan pilot locations and in 2010, to coincide with the opening of the new booking office, a 'Z' card was produced as part of this initiative and distributed to all households in Accrington.

12.5 The research highlights some further improvements that passengers would like to see and these will be taken forward as opportunities and funding become available.