



## PATHWAY TO ZERO WASTE

The fast track to smarter resource use

### CASE STUDY: HAMPSHIRE COUNTY COUNCIL ZIP BUS PRIORITY CORRIDOR

Hampshire County Council, working collaboratively with its supply chain partners, has adopted sustainable policies for highway maintenance and construction works across Hampshire. This has substantially reduced the amount of waste going to landfill. One of the first projects to benefit from this approach was the construction of a bus priority corridor along the A3 between Portsmouth and Clanfield, completed by local firm, Dyer & Butler. Almost 8,000 tonnes of material was diverted from landfill by the end of the project.

*"A waste reduction and sustainability mind-set needs to be adopted from the outset... Not only are there many cost savings, there are also lots of other benefits. A key one is that all our work feeds back into our Aalborg Commitments helping to improve our score year-on-year. There is no turning back for us."*

**Chris Murray, ZIP project manager and project engineer for Hampshire County Council.**



#### The project

Officially opened in November 2008, the A3 'ZIP' bus priority corridor project was included in Hampshire County Council's Local Transport Plan 2001-06, and was a jointly championed initiative between Hampshire County Council and Portsmouth City Council.

The project was managed under a local authority and bus company partnership. It was designed to provide residents with the option of a reliable, convenient and safe service as an alternative to using a car, as well as improve connections with the wider transport network in south Hampshire.

The works took six years and affected a 15km stretch of road from Gunwharf Quays in the centre of Portsmouth to Clanfield. It involved road widening and carriageway and footway reconditioning, while some of the existing wide verges were reallocated for the bus lane.

#### Low waste benefits

Hampshire County Council signed up voluntarily to the Aalborg Commitments in June 2004 and so isolating ways and means of reducing waste produced during the project was vital to help it meet the Aalborg target for sustainable material use.

Central to ensuring this reduction was the creation of Material Use Sheets (see picture next page). Piloted on the project, the sheets were a generic spreadsheet splitting material to be used into three categories: re-use existing material, recycle existing material, procure new material.

#### The Aalborg Commitments

The Aalborg Commitments are a set of shared voluntary commitments to sustainability to be jointly implemented by local governments across Europe following the June 2004 Aalborg+10 conference in Aalborg, Denmark. There are ten fields of action - such as governance, local management towards sustainability, and responsible consumption and lifestyle choices - and each field is broken into five commitments. Authorities report back on the 50 commitments each year and receive a score benchmarking progress. [www.aalborgplus10.dk](http://www.aalborgplus10.dk)



**Hampshire**  
County Council

A3 BUS PRIORITY SCHEME SECTION 5A		MATERIALS USE SHEETS							07/08		MU SHEET STATUS:		START		Date		AUG 07	
Note:		This List is restricted to permanent materials and excludes all temporary works									C Clean / process for re-use R Recycle for Secondary Product							
Material	Sust Score	Quantity Proj Man	Unit	Does the Material contain Recycled products	Material Characteristics				Material Specification		Material Tonnage 05/06	QS Rates Nov 05						
					Can all or part of material be recycled %	Design Life of Material Years	Cost to install/ replace	Distance to place of supply Proj Man	C or R	Cost to remove/ process/ transport		Typical Rate New Supply	Typical Rate To Process	Tonnage Conversion Factor				
150mm Dia Pipes - Plastic -	4	55	m	NO/YES	Yes All	75	2120.25	Unknown	R	NCP	0	38.55	NCP	0.001				
100mm Dia Ducts - new plastic	3	127	m	NO	Yes All	50	2970.53	Unknown	R	NCP	0.1	23.39	NCP	0.001				
Gulley Type 1	3	41	No	NO	Yes All	75	8867.48	Unknown	C	266.5	9	216.28	6.50	0.223				
Traffic Signal Drawpit Type 2	3	4	No	NO/YES	Yes All	50	951.6	Unknown	C	85	6	237.90	21.25	1.530				
600x600 Cover & Frame Solid	3	41	No	YES	Yes All	50	2434.99	Unknown	C	553.5	5	59.39	13.50	0.130				
600x600 Cover & Frame Recessed	2	9	No	NO	Yes All	30	1277.64	Unknown	C	121.5	1	141.96	13.50	0.110				
Type 1 Granular Material	2	596	m3	NO	Yes All	indefinite	21295.08	Unknown	C	2980	1,073	35.73	5.00	1.800				
Type 3 Granular Material	2	5	m3	YES	Yes All	indefinite	171	Unknown	C	25	9	34.20	5.00	1.800				
Imported Topsoil Class 5B	3	95	m3	NO	Yes All	indefinite	1710	Unknown	R	0	137	18.00	0.00	1.440				
C5 Concrete (ST1)	3	24	m3	NO/YES	Yes All	50	2125.44	Unknown	R	378.72	56	88.56	15.78	2.350				
C25 Concrete (ST5)	3	22	m3	NO	Yes All	120	2089.56	Unknown	R	347.16	52	94.98	15.78	2.350				
Type 2 Deformed HY bar reinforcement	3			YES	Yes All	120	846.22	Unknown	R	85	1	846.22	85.00	1.000				
Aluminium				YES	Yes All		1590	Unknown	C	1590	1	1590	1590	1.000				

Sample of a Material Use Sheet used during the project

For example, early analysis showed that material excavated at site could be reused on the project, while other materials, such as a high value polished stone for laying the surface of the road, had to be sourced from virgin materials.

Project manager Chris Murray says the sheets allowed the project to save close to 8,000 tonnes of material from going to landfill, all of which went towards meeting the council's waste reduction and sustainable use targets, as well as saving landfill and material costs.

During 2004 alone the sheets led to 3,946 tonnes of material being diverted from landfill. In terms of cost this resulted in savings on landfill tax and the cost of new material to the value of almost £87,000. This was added to the scheme's pot of funds, allowing more of the ZIP corridor to be completed, and further savings to be made.

Road planings generated by the works were used in the capping layer of the widened road, in the sub-base for the footpaths and as trench fill material. Meanwhile, topsoil and subsoil were also recovered and reused, with any surplus being diverted to other works being carried out by contractor Dyer and Butler.

The sheets also aided Chris and the other stakeholders in devising a red to green scale of sustainability for procurement of materials. Thinking about the materials used in this way led them to consider whole-life sustainability as well as reduce waste levels.

*"The sheets worked out the tonnage of arisings and costs for new materials allowing us to make quick wins. For example, we had to replace the kerb line. The sheets showed us that it would be more sustainable to use a kerb planer and crush them on site."* says Chris Murray

He says: "We were originally going to use concrete pipes in the project. But cement has a high carbon footprint.

"We found we could use smaller diameter plastic pipes, which not only have a longer life but also use plastic off-cuts, reducing virgin plastic used during the project."

**Further environmental benefits secured during the project**

- ▶ The use of solar panels on street furniture instead of using traditional energy supplies
- ▶ Low noise crusher for processing concrete kerbs
- ▶ Use of more durable road surfacing, extending life of road and lowering future costs



**No turning back for Hampshire County Council**

The waste reduction approach taken during the ZIP project has been so successful that Hampshire County Council is attempting to roll out it out across all of its infrastructure projects.

It will have a key role to play in the new £20million Fareham to Gosport bus corridor given the go-ahead at the end of July 2009. This will be the Council's biggest on-going project.

Chris says that thinking carefully about waste reduction during the ZIP project was a springboard for further new practices to promote recycling and sustainability best practice. "It has opened our eyes to the savings that can be made by considering what happens to waste," he says.

Other councils can also share in the savings. "Simply ensure you consider all the options at the inception of the project because by the time you reach the construction stage it is too late to effect maximum change," Chris concludes.

**Contact details:**

Pathway To Zero Waste  
Kings Meadow House, Kings Meadow Road, Reading RG1 8DQ

Tel: 01189 535 932  
Email: info@ptzw.co.uk  
Web: www.ptzw.co.uk