



The Footway Network Survey

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Introduction



What is the FNS?

- Originally developed by FCMG
- Adapted by Sheffield CC/Appia-uk
- More detail than CVI
- Faster than DVI
- Inventory not required
- Four basic footway defect categories



As New



Aesthetically Impaired



Functionally Impaired





Structurally Unsound



Introduction



How will the data be used?

- Determine extent of footways
- Determine condition of footway network
- Identify treatments
- Prioritise works
- Support Asset Management



Case Study

The FNS in Sheffield

Steve Wibberley
Sheffield City Council

- Sheffield Highway Network – 1963 km

PFI Footway Categories	Code of Practice Footway Categories	Length (km)
Prestige	1a	16
High (Usage)	1 & 2	329
Low (Usage)	3 & 4 Adjacent to the Carriageway	2,585
Low (Usage)	3 & 4 Remote from the Carriageway	266
		3,666

- One-Third (33%) of the entire footway network surveyed annually (PFI)

- Equipment - HP iPAQ hx2490 (Windows Mobile 5.0)
- Software – 'Appia' Coarse Footway Inspection Software
- Survey Specification – Adopted FCMG methodology with amendments (kerb deterioration)
- Additional inventory data collected:
 - Average footway width.
 - Footway material type.



Appia Survey Software

Coarse Footway I 12:11

SectionI	RoadName	Description	SectionL
B6073/01	Bernard	BERNARD	80
B6073/01	Effingham	EFFINGHAM	379
B6073/01	Effingham	EFFINGHAM	715
B6073/02	Effingham	EFFINGHAM	116
B6073/01	Effingham	EFFINGHAM	90
B6073/00	Furnival	FURNIVAL	218
B6073/02	Lovetot	LOVETOT	66

Left Right CSV DataTable CSV View

123 1 2 3 4 5 6 7 8 9 0 - =

Tab q w e r t y u i o p []

CAP a s d f g h j k l ; ' ,

Shift z x c v b n m , . / ←

Ctrl á ü ` \ ↓ ↑ ← →

Exit

Pre-load Network

Coarse Footway I 12:12

Left Footway Clear

Reverse Direction

Start Chainage (m)

Defect Type

AN NF FI SI AI

Defect Extents Kerb Defect

25 50 100

Project Details Left Right CSV DataT

123 1 2 3 4 5 6 7 8 9 0 - =

Tab q w e r t y u i o p []

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Exit

Record Defects

INPUT REQUIRED 14:43 ok

Left
 Right


Please choose Majority Surface Type of previous section

Bituminous
 Concrete
 Block
 Flag

Please indicate Average Footway Width

Average Width (m)

123	1	2	3	4	5	6	7	8	9	0	-	=	←	
Tab	q	w	e	r	t	y	u	i	o	p	[]		
CAP	a	s	d	f	g	h	j	k	l	;	'			
Shift	z	x	c	v	b	n	m	,	.	/	←			
Ctl	á	ü	`	\							↓	↑	←	→

Exit 

Inventory Data

```

- <NewDataSet>
- <MyDefects>
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  <JobNumber />
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  <SectionLength> 2121 </SectionLength>
  <SurveyDate> 16/06/2009 </SurveyDate>
  <GeneralComments />
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  <LeftReverseChainage> ro </LeftReverseChainage>
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  <SurveyName> c5 </SurveyName>
  <JobNumber />
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  <Description> KIRK EDGE ROAD - MOOR ROAD TO WORRAL ROAD </Description>
  
```

XML Output Files

SCHEME ID	Scheme Type	ROAD NO	SECTION LABEL	SECTION DESCRIPTION	XSP	START CHAINAGE	END CHAINAGE	Length	AVERAGE CI	SCHEME EFFICIENCY	Structural Cost	Functional Cost	Aesthetic Cost	Kerb Cost
1	Structural	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	L	26	88	62	75.8	100	3060.32	0	0	0
2	Structural	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	L	11	61	50	50	100	2468	0	0	0
5	Structural	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	R	271	326	55	66.36	100	2714.8	0	0	0
6	Structural	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	R	469	524	55	50	100	2714.8	0	0	0
79	Kerb	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	L	0	26	26	0	81	0	0	0	390
80	Kerb	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	L	88	524	436	14.16	114	0	0	0	6540
81	Kerb	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	L	0	11	11	0	100	0	0	0	165
82	Kerb	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	L	61	316	255	5.49	147	0	0	0	3825
83	Functional	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	L	316	372	56	300	300	0	81.6	0	0
120	Kerb	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	R	0	271	271	2.02	100	0	0	0	4065
121	Kerb	C732	C732/014	HARTLEY BROOK ROAD - NETHER SHIRE LANE - DUNNINC ROAD	R	326	469	143	8.39	108	0	0	0	2145
122	Functional	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	R	0	79	79	91.13	100	0	81.6	0	0
123	Kerb	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	R	79	156	77	0	88	0	0	0	1155
124	Functional	C732	C732/016	HARTLEY BROOK ROAD/BUTTERTHWAIT ROAD - DUNNINC ROAD TO ECCLESFIELD ROAD	R	156	419	263	123.19	125	0	81.6	0	0

Example Report (Scheme Engineer):

Footway Condition Index (CI) >20 (excludes kerb)

Scheme Length >50m

Defect gap <30m

Future for FNS Survey & UKPMS

April 2010:

- FNS included in UKPMS (PCIS) rule set 9.01.
- FNS survey imported as a HMDIF.
- UKPMS footway performance indicator under development by TRL.
- Prioritised footway works list with costs.
- Accreditation of FNS software.
- Accreditation of FNS surveyors.



Case Study Housing Network Pilot Survey

Simon Burrows
Scott Wilson



Housing Network - Pilot Survey



Background



Housing Network - Pilot Survey



Nottingham City Homes is responsible for a network of;

- Common areas
- Drying areas
- Garage areas
- Footpaths to properties
- Linking footpaths



Housing Network - Pilot Survey

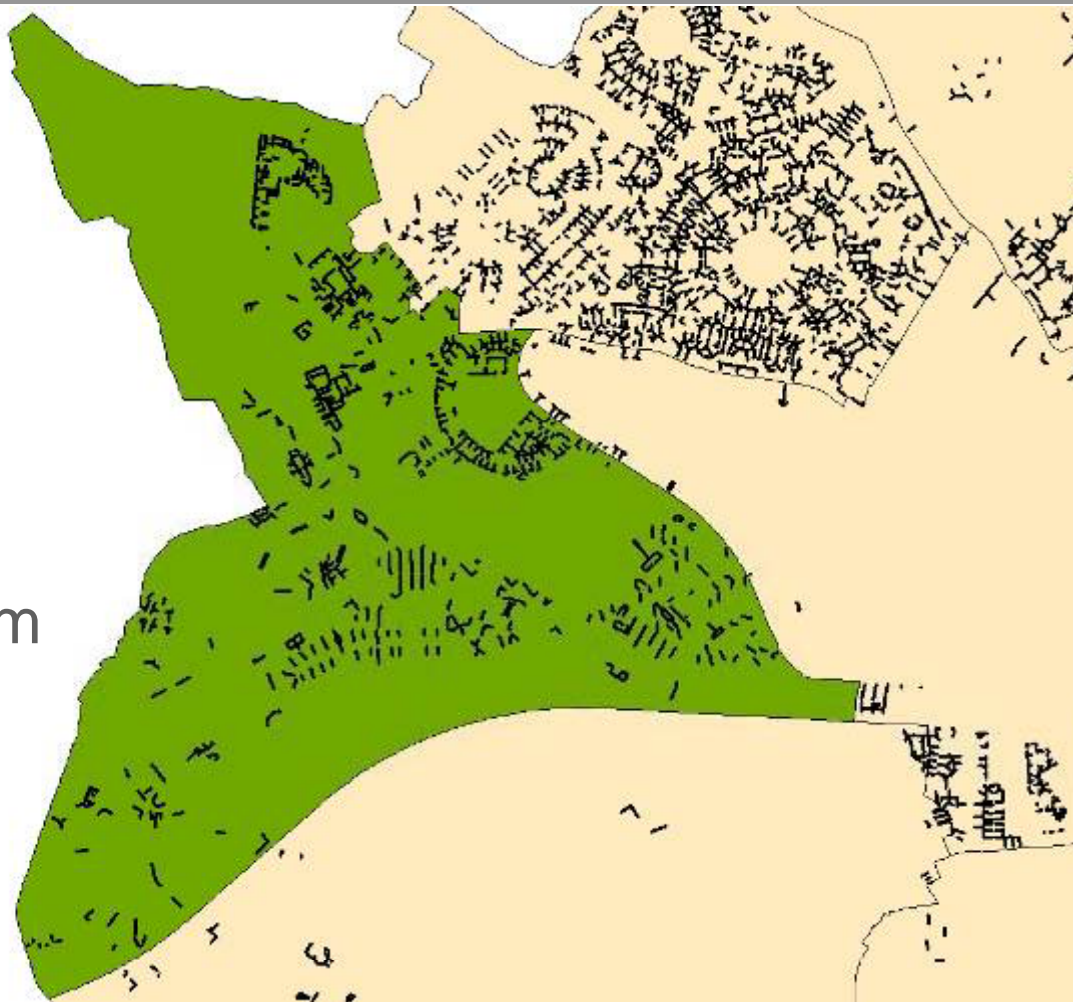


Stage 2: Assessment

- Suitable survey – ‘new’ Footway Network Survey
- Inventory and condition
- Data processing
- Feed into AMP

Housing Network - Pilot Survey

- 609 sections
- Length c24 km
- 2 surveyors/team



Housing Network - Pilot Survey





Housing Network - Pilot Survey





Housing Network - Pilot Survey



Housing Network - Pilot Survey

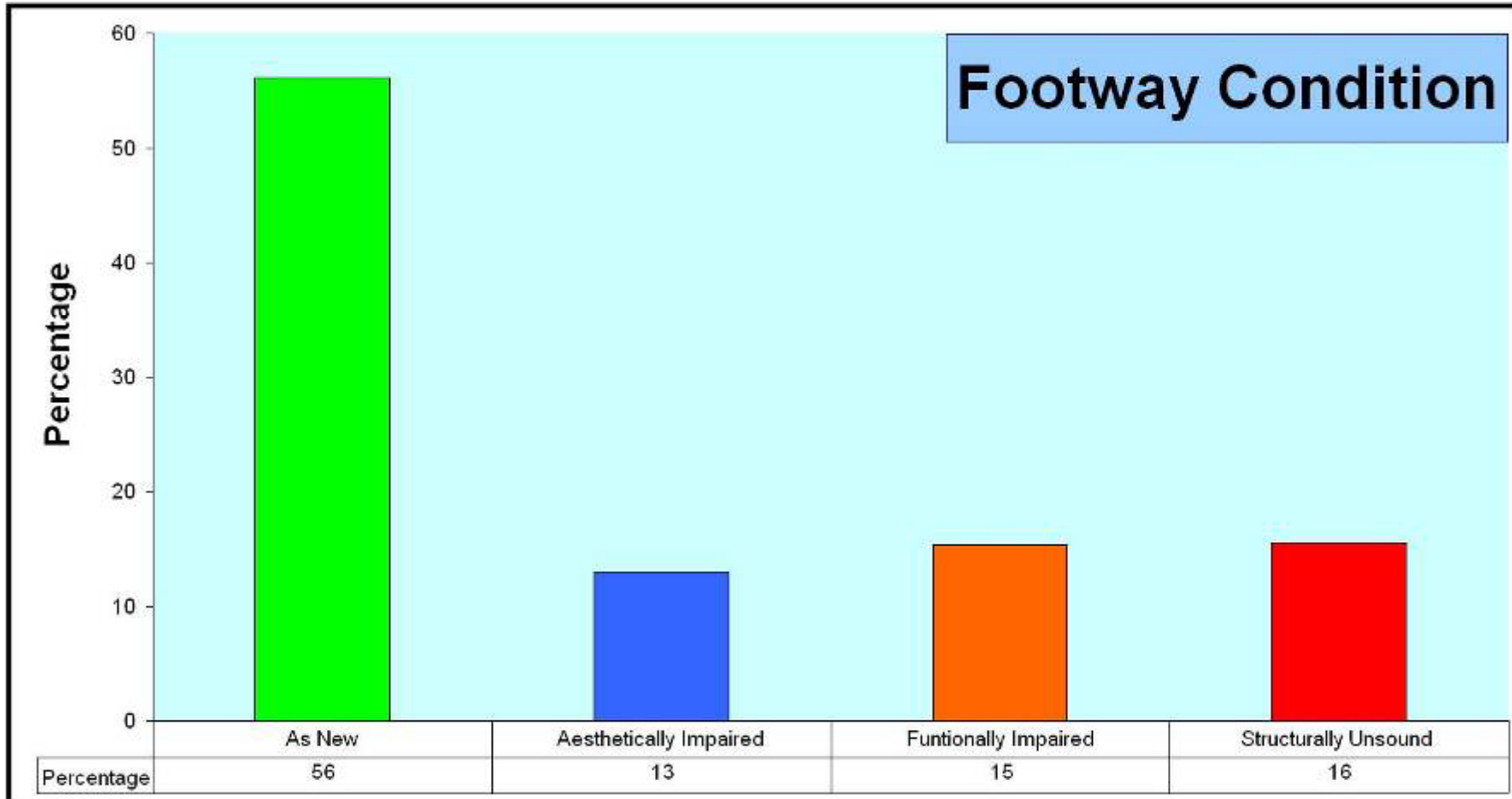




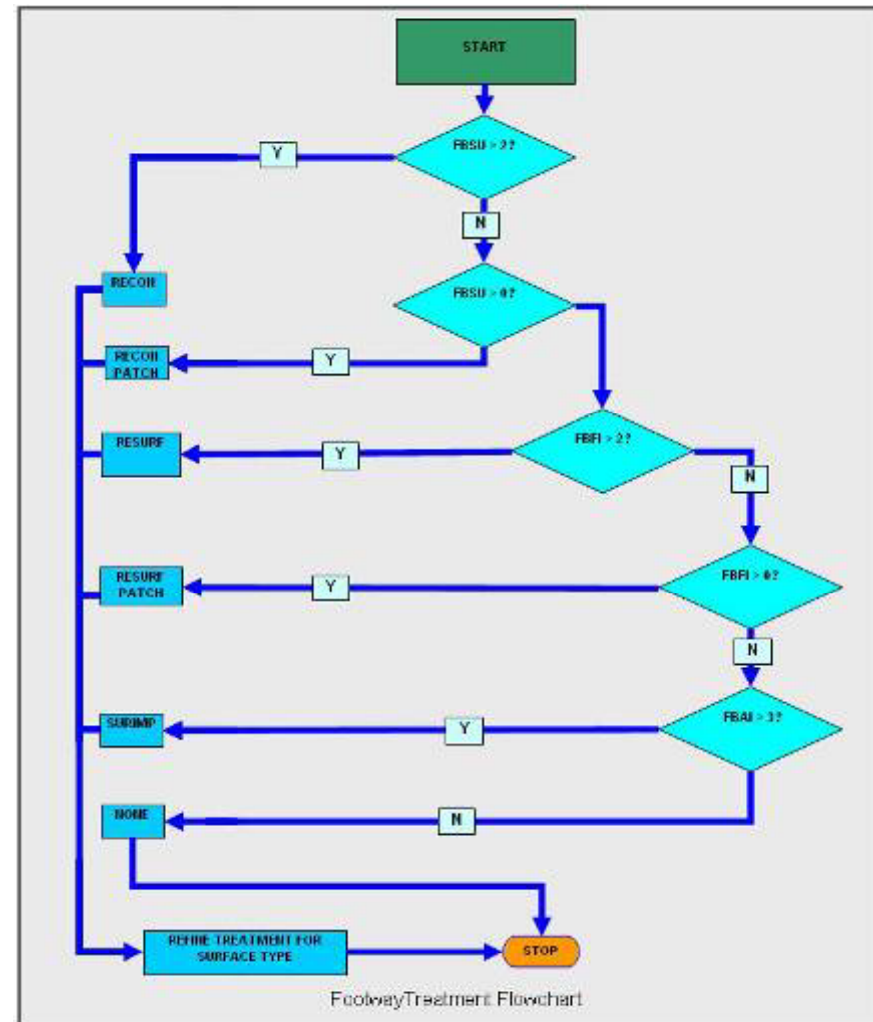
Housing Network - Pilot Survey

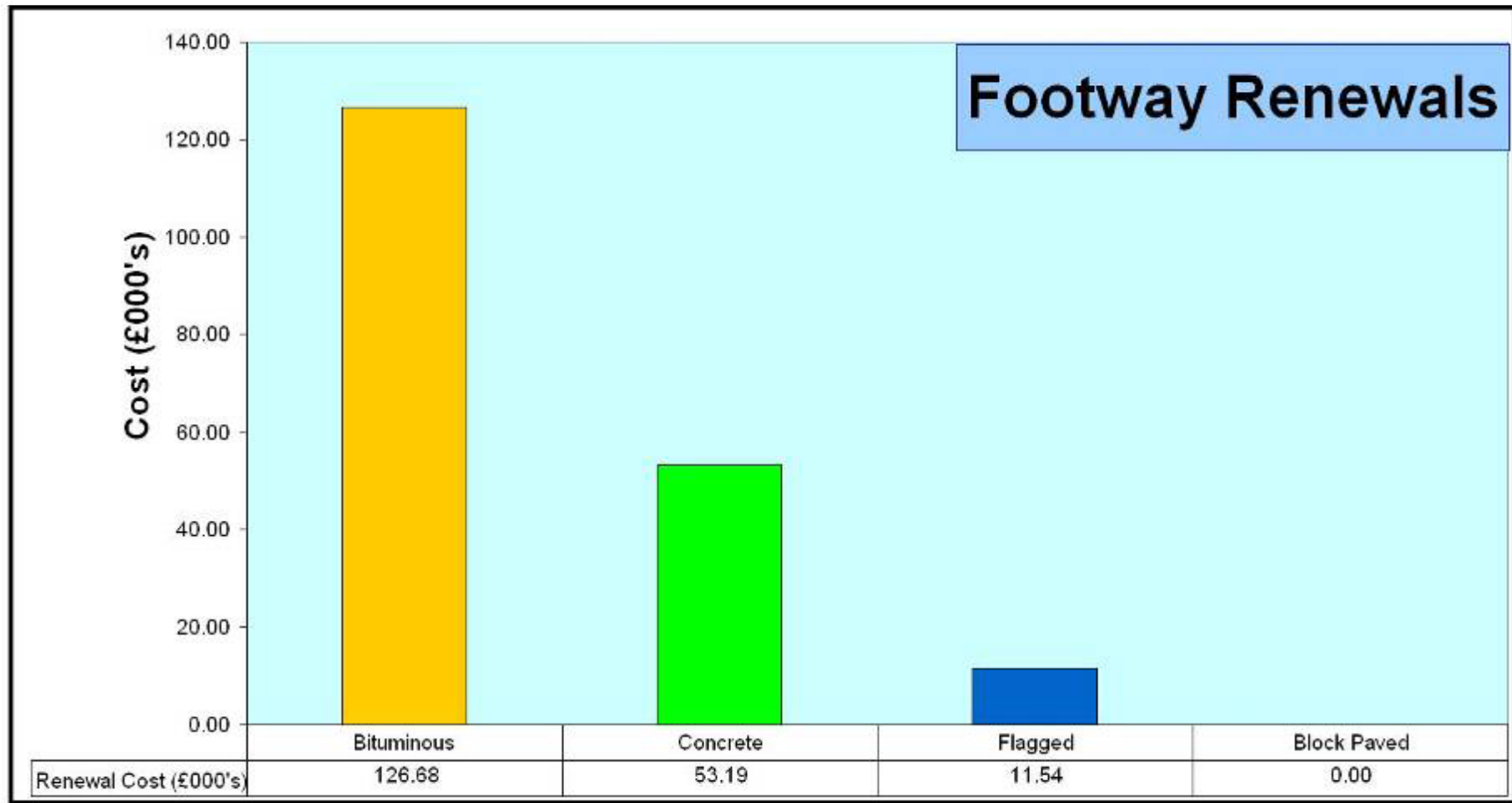


Data Analysis



Treatment Selection







Housing Network - Pilot Survey



Asset Valuation - Bilborough

ITEM	Value (£)
Footway Gross Replacement Cost	1,373,561
Accumulated Consumption	191,405
Depreciated Replacement Cost	1,182,155



Housing Network - Pilot Survey



Estimated Network Asset Valuation

ITEM	Value (£)
Footway Gross Replacement Cost	22,000,000
Accumulated Consumption	2,000,000
Depreciated Replacement Cost	<u>20,000,000</u>

Treatment

Legend

Treatment

Treat_Type

- NONE
- RECON
- RECON_PATCH
- RESURF
- RESURF_PATCH





Housing Network - Pilot Survey



Summary

- Base network mapped in GIS
- Pilot survey complete
- Productivity around 3 – 3.5 km/day
- Few practical problems
- Draft treatments and costs produced



Housing Network - Pilot Survey



Questions ?



The Footway Network Survey

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