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UNIVERSITY OF STRATHCLYDE

DEPARTMENT OF MANAGEMENT SCIENCE

MODELLING RESPONSE BUILDING MAINTENANCE PROBLEMS WITH A LOCAL AUTHORITY

VOLUME 2

ALEXANDER JOHNSTON

SUBMITTED FOR THE AWARD OF PhD

1993

GLASGOW

APPENDICES

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APPENDIX 1

(Chapter 2)

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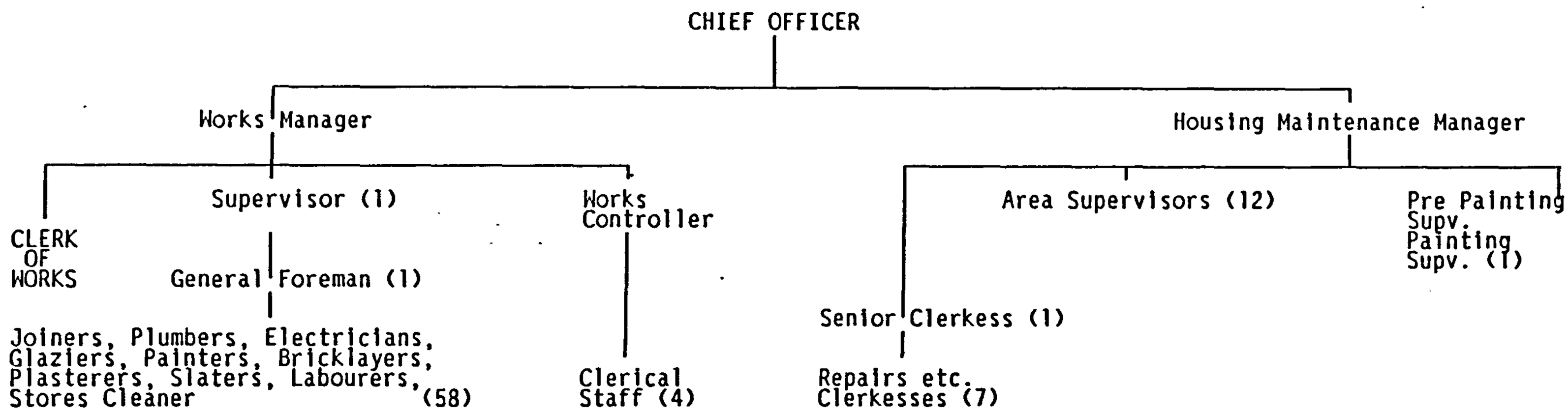

DEPARTMENT OF HOUSING - (MAINTENANCE SERVICES) - EXISTING

BREAKDOWN OF WORKS DEPARTMENT EMPLOYEES AS AT 1ST SEPTEMBER 1984

Plumbers	6 + 2 Apprentices	Squad (Labourers for footpaths, fences etc.)	19
Electricians	5 + 2 Apprentices		
Joiners	12 + 2 Apprentices	Bricklayer	1
Glaziers	2	Slaters/Plasterers	4
Painters	-	Storeman	1
		Store Apprentice	1
		Cleaner	1
	25 + 6 App.		27

Total = 58 ie. 51 + 6 Apprentices + 1 Cleaner

FIG 1

STRATHKELVIN DISTRICT COUNCIL

AREAS 1 - 11

AREA	LOCATION	NO OF D.C HOUSES	NO OF SSHA HOUSES	ANNUAL BUDGET	WORK ALLOCATED TO			
					CONTRACTOR	D.W.	BOTH	SUPERVISOR
1	HILLHEAD	923	-	£108,810		*	*	J TAIT
2	HILLHEAD	787	204	£92,079		*	*	T SPENCE
3	HARESTANES	596	594			*	*	M IRVINE
4	CENTRAL/GREENS	1008	-	£117,936	*			G PROVAN
5	CENTRAL/ AUCHINLOCH	900	-	£105,300	*			I RADCLIFF
6	TWECHAR WATERSIDE HARESTANES	1171	-			*	*	J CLELLAND
7	BISHOPBRIGGS TORRANCE	1075	19	£146,250	*			C GRAHAM
8	MILLERSTON STEPPS	985	64	£115,245	*			A McNEIL
9	MOODIESBURN	1368	-	£160,160	*			J MEEK
10	CHRYSTON MUIRHEAD	887	206	£103,779	*			W JARVIE
11	LENNOXTOWN MILTON OF CAMPSIE	1252	-	£146,484		*	*	J REID

TABLE 1

1.1 Housing Maintenance Managers Section - Operational Mode

The district covers an area of 64.5 sq miles and was divided into eleven smaller areas. Each area is allocated a supervisor (inspector) with one maintenance clerk servicing two areas.

Within each area there is District Council Housing stock and in some areas Scottish Special Housing stock which the section factors: allocating the repairs to the SSHA building and maintenance division.

The total number of houses under the care of the section is 12,039 of which 10,952 were owned by the Authority and an approximate sum of £115.00 is allocated to each house for budgeting pruposes. This sum is independent of house type, area, tenant, and age of property. Expenditure on repairs is monitored monthly on the basis of a thirteen month year.

In addition to routine repairs the section was responsible for the estimating of costs, allocation of works and post-repair inspections necessary or related property and also for the allocation of grants for central heating installations.

A list of areas 1 to 11 was given in Table 1 together with relevant statistics and information relating to: budgets, housing stock and contractor or direct works allocation.

The decision making routines are shown in Exhibit 2.

1.2 Maintenance Clerk Information Flow Procedure

The information flow is shown in Exhibit 1 and explained as follows:

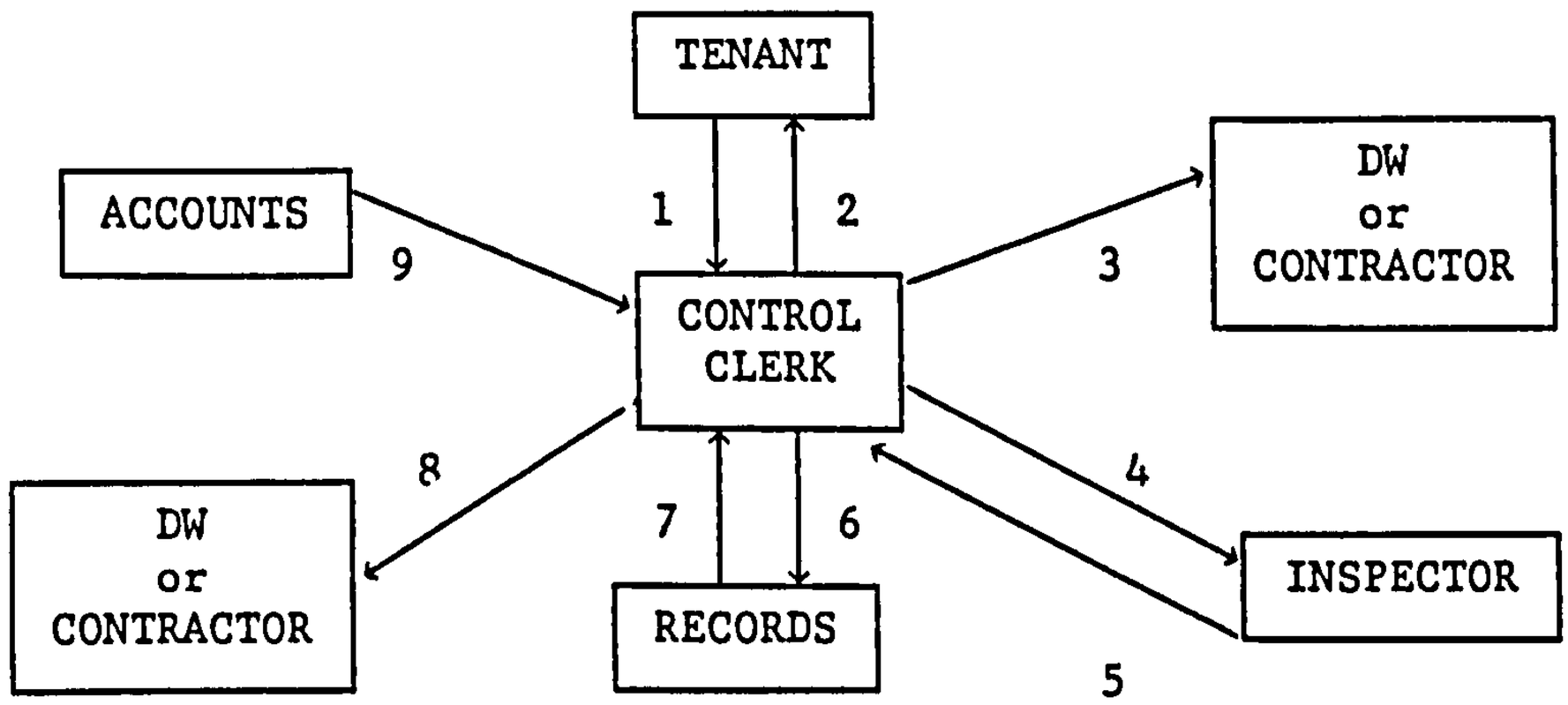

Exhibit 1

1 Tenant notifies maintenance control of defect by phonecall, card or letter - some defects may be reported to inspector in the field, the latter method of communication is dependant on individual inspectors.

2 The Tenants' description of the defect is examined by the maintenance clerk and priority rating is judged. An order is made out in triplicate and marked as emergency or non-emergency. The top copy (pink) is sent to tenant. In the first instance the clerk enters the repair request in a day to day diary.

3 An order for the execution of the "deemed to be emergency repair" may be made out by the clerk and dispatched to Direct Works or contractor as appropriate. Should the clerk doubt the priority rating of a defect a decision on rating is obtained from the area inspector. In the event of emergency repairs being required the clerk may phone the Controller at Direct Works, who will confirm the request and make out a new order - the clerk should then destroy her copy to avoid duplication.

4 All repair orders (yellow slips) are transferred to the area inspector including those which have been issued for execution. The third copy (white slip) is retained by the clerk in sequence. The area inspector makes a guesstimate of the emergency repair and records on a summary sheet, the following information: order number, contractor's name; date; inspected by; estimated cost; actual cost. In addition on a separate sheet the cusum of costs over a montly interval is retained.

The remaining non emergency repairs may be prioritised by the area inspector and inspections are organised within three days if possible.

5 The defect is inspected and repair cost estimated and any access problems are noted. The inspector records in duplicate in his repairs book the details of the repair and relevant data as in 4. One copy is retained by inspector and duplicate is passed to maintenance clerk who processes the order to contractor or Direct Works as appropriate.

6 During the processing of the repair order the repair data is transferred simultaneously onto the tenants house card and the schedule of repairs (master sheet). These two records contain the following data:

(a) Tenants House Card.
Chronological sequence of repairs to property, giving brief description of work, the contractor, date of issue, order number, costs, date account passed and general description of house type.

(b) Master Sheet.
Address of property; brief description of work; contractor; date of issue and order number. The schedule gives the chronological sequence of repairs as processed by the clerk. Additional information is available which has been accessed from (a) and (b) and the initial order made out in triplicate.

The recording system is referred to as the "Gilbert System".

vii) The clerk, inspectors, accounts clerk, housing manager etc. have access to the records in 6.

viii) The order for execution of repairs is dispatched to Direct Works or Contractor as appropriate. Different order forms are used in each case and copies of these and other records are endorsed.

ix) Account received; accounts clerk checks with inspector and compares actual cost with estimated cost and passes or rejects the account. From these records the number of repairs executed by the contractor is available.

This system although manual and since replaced by a fully computerised system, is not in essence, all that different in terms of the operational procedures from those of computer based routines.

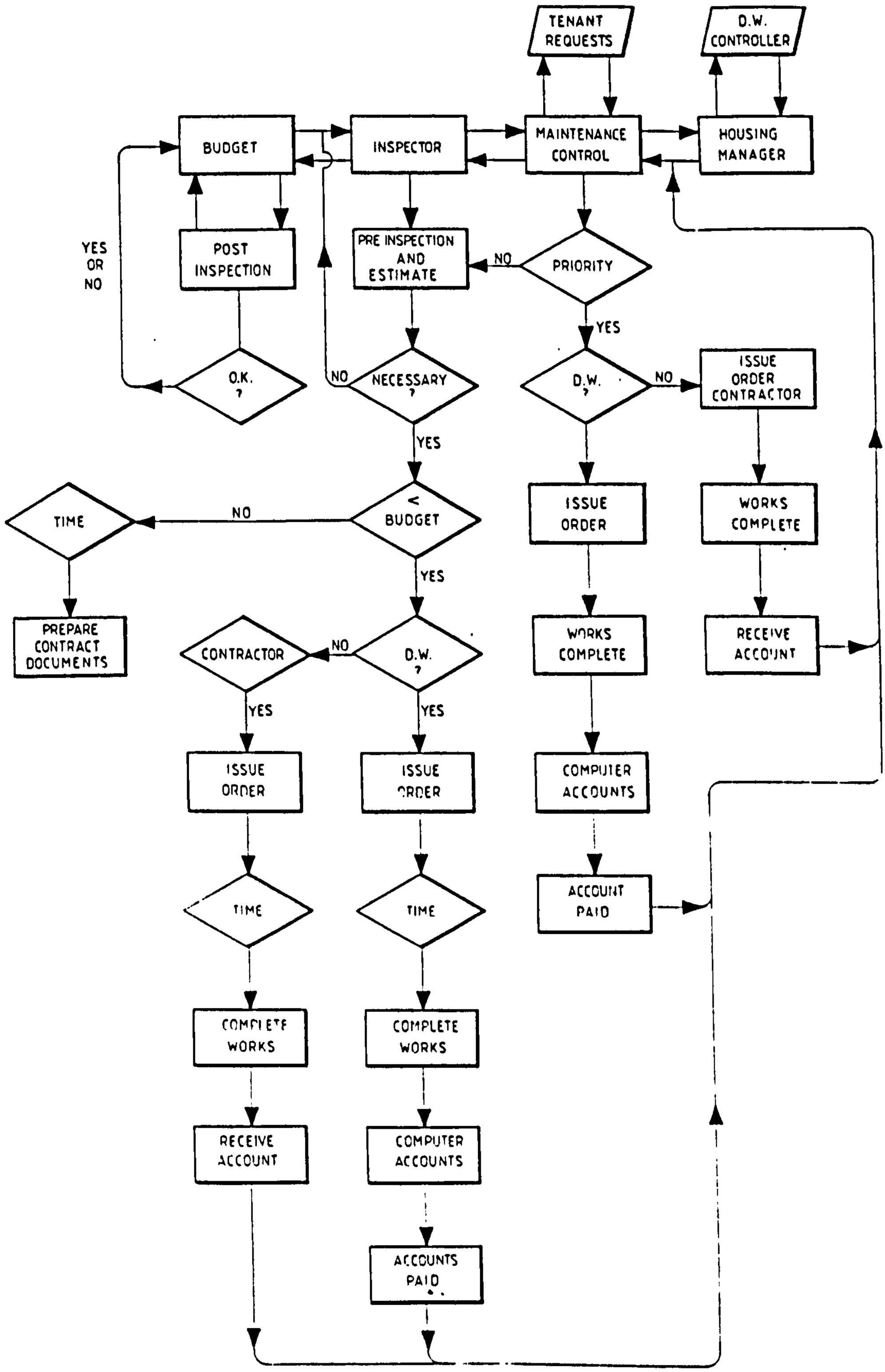

Exhibit 2

Information Flow and Decision Making Routines Old Structure

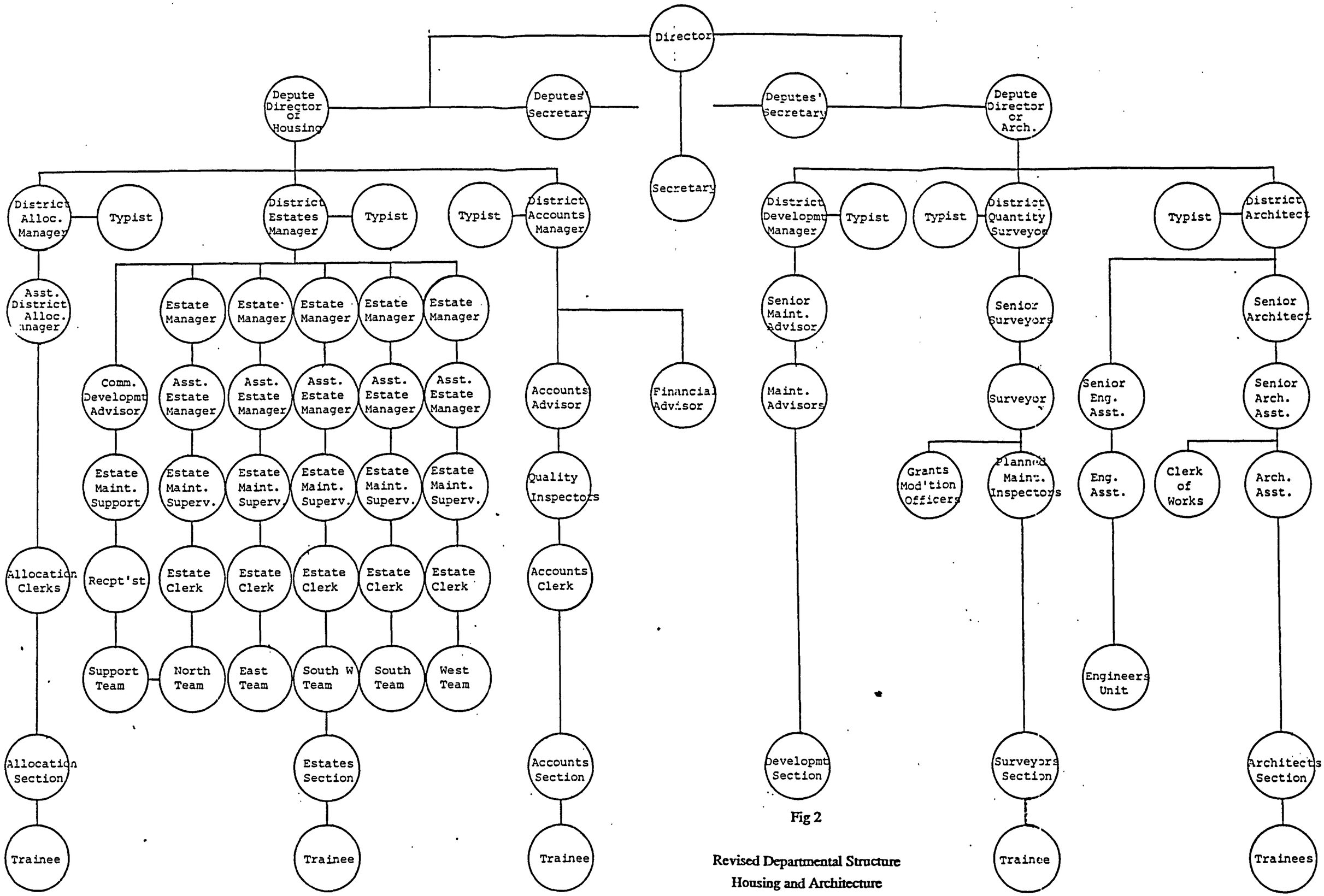

Fig 2

Revised Departmental Structure
Housing and Architecture

TECHNICAL SERVICES DEPARTMENT

CHIEF OFFICER – TECHNICAL SERVICES

ADMINISTRATION	ARCHITECTURE	HOUSING LIAISON	ENGINEERING	QUANTITY SURVEYING
1. SECRETARY/ADMIN. OFFICER	1. DISTRICT ARCHITECT	1. SEN. LIAISON OFFICER	1. ASST. ENGINEER	1. DISTRICT QUANT. SURVEYOR
1. (2) SHORTHAND TYPIST	2. PRINCIPAL ARCH.	4. ASST. LIAISON OFFICER	1. TRAINEE ENGINEER	1. SENIOR QUANT. SURVEYOR
1. TELEPHONIST	2. SENIOR ARCH. 1. SEN. C.O.W.			2. (3) ASST. QUANT SURVEYOR
1. CLERKESS TYPIST	4. ARCH. ASST. 4. C.O.W.			1. (2) TRAINEE Q.S
2. JUNIOR TYPIST	2. ARCH. TECH.			
1. JNR. CLERKESS/TYPIST	2. ARCH. TRAINEE			
1. CLERKESS				
8 (9)	13	5	2	6 (8)
TEMPORARY STAFF	TEMPORARY STAFF			
1. TYPIST (PART TIME)	1. QUALIFIED ARCH. CIVIC H.Q.			

Information Flow And Decision Making Routines
Housing Department C.M.S. Architecture Dept.

PROVISIONAL

A.J JULY 1991

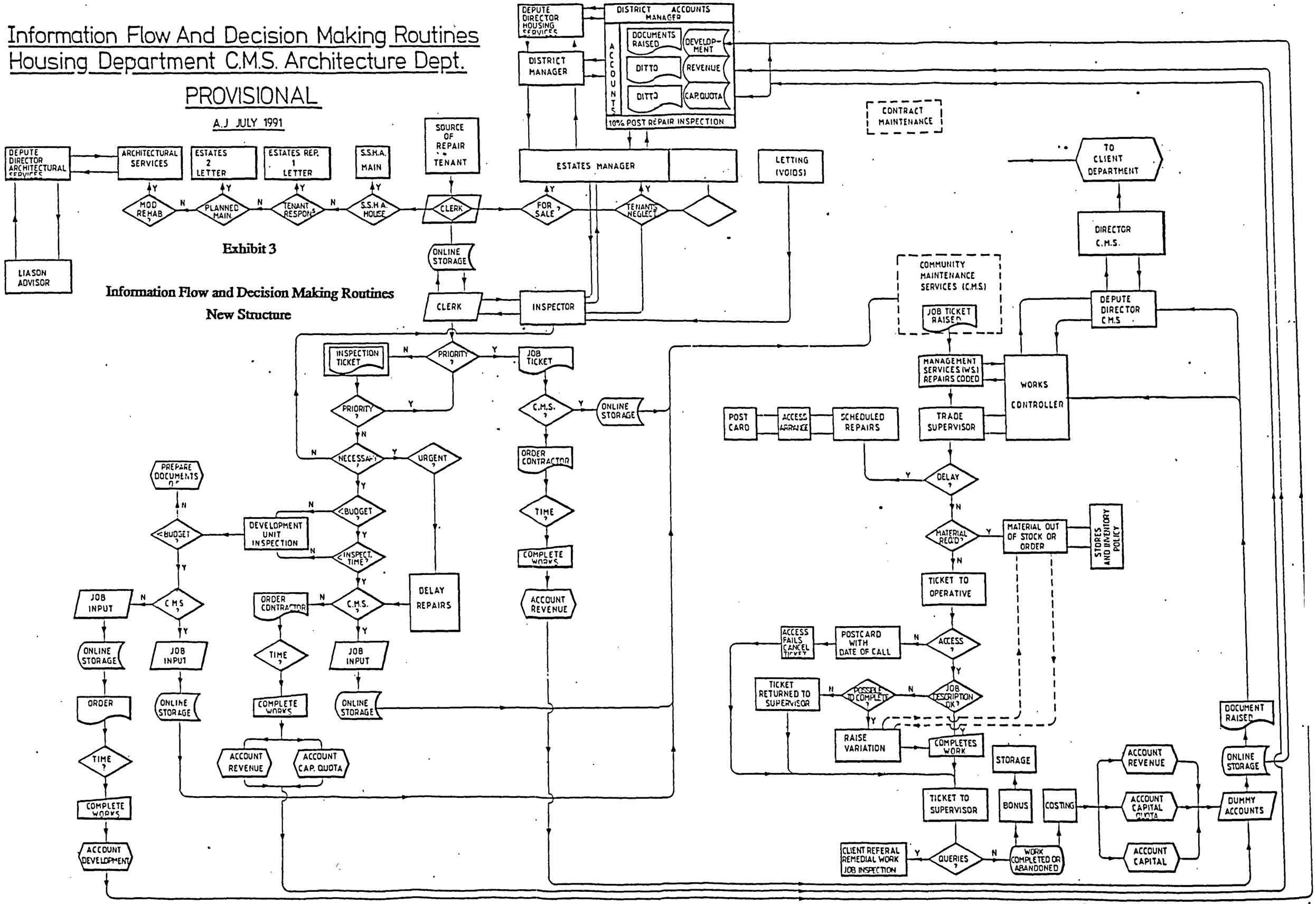

Exhibit 3

Information Flow and Decision Making Routines

New Structure

HOUSING DEPARTMENT

Allocation Section

- Interview and assist Housing Applicants
- Housing Info., Advice and Assistance
- Housing Allocations, Transfers & Exchanges
- Maintenance of Waiting Lists
- Implementation of Housing (Homeless Persons) Act

Estates Section

- Estates Services
- General Estates Management
- Tenant and Community Participation
- Tenant Welfare
- Enforcement of Tenancy Conditions
- Tenant Liaison at Modernisation
- Repairs and Maintenance
- Rent Arrears Control
- General Rebates Advice

Accounts Section

- Preparation and Monitoring of Revenue Maintenance Programme and Budget
- Process and Maintain Departmental Accounts

ARCHITECTS' DEPARTMENT

Development Section

- Assessment of Housing Need
- Housing Plans Preparation and Monitoring of Housing Capital Programme
- Brief Preparation. Maintenance Policy
- Maintenance Advice
- Planned Maintenance Policy
- Planned Maintenance Programmes
- Data base compiliation and Maintenance
- Liaison with Housing Assocs.
- Private Sector Initiatives
- Environmental Improvements
- Review of Land

Quantity Surveyors' Section

- Preparation of Preliminary Estimates
- Preparation of Contract Documentation
- Financial Management of
- Contractual Management of Contracts
- Financial Reporting
- Surveys and Deed Plan Preparation (House Sales)
- Preparation of Road, Sewer and Lighting Layouts
- Maintaining Road Register
- Street Naming, Numbering and Maintenance

Architects' Section

- Design and Supervision of all new Buildings
- Design and Supervision of Improvement Works
- Control of Maintenance of Public Buildings
- Advice and Implementation of Energy Conservation

Table 2

Housing and Architecture Department

Summary of Functions

APPENDIX 2

(Chapter 3)

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Weekly Job Arrivals Jan-Aug 1988	292
List of Private Contractors Available to Undertake Maintenance Work 1988	295
Trade Codings	296

JOINERWORK WEEKLY TOTALS

WARD	HOUSES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		WEEK															
1	1359	47	76	236	115	20	20	15	16	69	114	17	23	56	32	30	26
15	244	6	5	30	3	2	1	2	3	7	6	2	2	5	4	3	5
2	892	16	26	20	4	5	14	6	9	91	24	10	12	8	25	21	14
11	906	10	8	17	30	4	16	21	4	10	20	33	20	8	30	32	27
12	759	21	12	16	0	12	14	10		14	22	11	9	8	13	3	17
13	1244	9	12	24	22	14	23	22	5	27	32	15	14	7	14	18	43
3	610	7	7	107	11	17	7	8	2	30	13	16	17	12	9	12	28
4	390	4	2	27	8	8	5	10	2	4	10	4	6	5	6	14	14
5	541	7	9	6	33	11	14	19	5	4	29	2	5	4	5	11	2
14	704	9	11	12	9	7	11	7	3	12	14	1	5	21	3	9	16
6	46			9				2			3					1	
7	62	1		5	1	2	3	2	1	1	2			1		2	2
9	1064	20	41	29	5	25	14	11	5	35	26	15	6	3	24	39	30
10	972	32	48	34	24	10	20	12	6	9	20	6	3	5	10	37	30
TOTAL JOB PER WEEK																	
Estates	1	53	81	266	118	22	21	17	19	76	120	19	25	61	36	33	31
	2	26	34	37	54	9	30	27	13	103	44	51	32	16	55	53	41
	3	30	24	40	30	26	37	32	5	41	54	26	23	15	27	21	60
	4	27	29	152	61	43	37	44	12	50	66	23	33	42	23	46	60
	5	53	89	77	30	37	37	27	12	45	51	21	9	9	34	79	62
	TOTAL	189	257	572	293	137	162	147	61	315	335	140	122	143	175	232	254
Estates 1, 2, 5 TOTAL		132	204	300	202	60	88	71	44	224	215	91	66	86	125	165	134

WARD	HOUSES	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	1359	39	30	26	29	24	26	44	31	27	46	43	25	31	22	56	43	33	103	41
15	244	10	6	5		2	3	8	4	2	7	5	9	6	4	13	6	4	20	11
2	892	22	13	25	9	8	8	28	6	20	22	31	17	17	7	20	20	9	22	46
11	906	8	35	13	10	6	5	12	27	13	21	33	18	21	15	41	10	20	73	10
12	759	20	6	11	9	6	13	9	11	5	12	22	11	3	3	16	17	11	12	7
13	1244	25	22	36	19	22	31	11	30	35	16	25	11	10	9	19	19	13	30	26
3	610	10	15	6	5	10	11	3	5	2	12	5	8	22	5	8	11	13	41	15
4	390	6	4	6	4	3	11	4	3	5	9	3	1	6	2	5	3	12	18	2
5	541	14	5	0	7	3	10	2	9	6	10	5	6	7	3	1	4	15	22	9
14	704	7	11	3	19	3	13	3	11	4	7	6	17	6	17	5	1	5	17	2
6	46			1		1			2			3	2					2	1	
7	62	4		3	1		3			1	2	1	1		1	3		1		1
9	1064	30	12	22	27	14	20	32	19	10	30	33	32	31	20	20	9	25	57	16
10	972	12	20	23	11	13	2	10	12	10	17	64	21	9	8	25	6	23	30	8
TOTAL JOB PER WEEK																				
Estates	1	49	36	31	29	26	29	52	35	29	53	48	34	37	26	69	49	37	123	52
	2	30	48	30	27	14	13	40	33	31	43	64	35	38	22	61	30	29	95	56
	3	45	28	47	20	20	44	20	49	40	28	47	22	13	12	35	36	24	42	33
	4	37	35	23	35	19	45	12	28	17	30	19	32	41	27	19	19	45	98	28
	5	54	32	49	39	20	25	50	33	29	49	101	56	40	29	48	15	51	88	25
	TOTAL	215	179	180	158	115	156	174	178	148	211	279	179	169	116	232	149	186	446	194
Estates 1, 2, 5 TOTAL		133	116	110	95	60	67	142	101	91	145	213	125	115	77	178	94	117	306	133

WEEKLY JOB ARRIVALS

PLUMBERWORK WEEKLY TOTALS

WEEK

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	40	90	45	66	25	34	30	22	60	65	33	40	30	38	41	33
	3	4	22	5	4	2	7	3	9	12	3	3	8	7	4	10
	20	14	15	11	9	11	11	4	36	17	20	10	11	14	19	21
	21	19	22	27	16	15	17	10	32	22	20	29	18	32	33	36
	17	34	11	15	14	15	14	11	30	11	6	13	11	11	14	23
	30	17	37	29	27	22	32	15	37	29	13	27	30	31	45	43
	13	9	71	20	26	16	11	5	16	21	20	18	7	16	24	19
	5	3	37	6	12	20	9	3	9	12	3	4	4	10	3	11
	5	8	15	29	10	15	19	6	13	23	17	14	3	11	7	6
	9	16	26	13	18	16	22	6	23	22	9	30	12	4	11	21
			5	1	1	2		1	1	1		30				
	1	1	3	2	2		2	2	1	1		3	1	1	2	3
	18	17	59	20	14	24	15	11	17	20	9	11	12	23	23	29
	14	23	21	18	14	21	7	12	9	18	8	9	10	11	35	17
WEEKLEY TOTALS																
1	51	94	67	71	29	36	45	25	69	77	36	43	38	45	45	43
2	49	33	37	30	25	26	28	22	60	39	40	39	29	46	52	57
Estates 3	47	51	40	44	41	37	46	26	76	40	19	40	41	42	59	66
4	32	36	149	68	66	75	61	20	61	78	57	66	26	41	45	57
5	33	41	88	41	31	47	24	26	28	40	17	53	23	35	60	49
TOTAL	212	255	309	262	192	221	204	119	302	202	177	241	157	209	261	272
Estates 1,2,5 TOTAL	133	168	192	150	85	109	97	73	165	164	101	135	90	126	157	149

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	43	23	36	20	20	19	35	24	19	39	44	23	25	17	41	36	35	82	38
	7	6	0	4	2	2	4	1	1	5	9	13	3	3	11	8	6	14	7
	34	16	13	12	14	19	33	14	14	23	31	23	16	7	26	30	14	35	16
	22	32	17	20	10	15	19	10	20	32	35	34	25	14	36	24	29	39	20
	16	12	13	9	11	17	17	17	12	18	15	18	12	9	16	29	21	24	17
	33	36	32	22	33	30	33	42	18	31	34	15	28	18	23	27	31	36	18
	17	18	10	11	11	10	15	7	6	7	6	18	29	10	12	25	14	32	6
	11	6	2	6	4	9	3	3	5	14	3	4	7	4	9	6	13	21	8
	19	4	12	10	6	10	9	2	9	13	10	18	17	4	14	10	15	16	8
	6	16	5	18	8	15	13	8	10	13	17	28	19	23	13	20	11	26	5
		1				1			1	1	3	3			2	2	2		1
	5	2	2			1	1	2	4	5	6	5	1		3		1	2	
	24	28	22	30	21	27	26	24	15	24	20	46	20	10	13	27	25	40	25
	27	18	12	12	17	12	17	23	18	23	28	18	12	5	12	12	20	27	16
	50	29	44	24	30	21	39	25	20	44	53	36	28	20	52	44	41	96	45
	56	40	30	32	24	34	52	32	34	55	66	57	41	21	62	54	43	74	36
	49	48	45	31	44	55	50	59	30	51	49	33	40	27	39	56	52	60	35
	53	44	29	45	29	44	40	20	30	47	36	68	72	41	48	61	53	95	27
	56	49	36	50	30	41	44	49	30	51	57	72	33	15	30	41	48	69	42
	264	218	184	182	165	195	225	185	152	250	261	266	214	124	231	256	237	394	185
	162	126	110	106	92	96	115	106	92	152	176	165	102	56	144	139	132	239	123

WEEKLY JOB ARRIVALS

ELECTRICAL WEEKLY TOTALS

	WEEK 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	24	21	28	25	17	24	17	16	29	19	17	19	19	21	20	10
	9	5	7	8	3	1	4	2	1	3	5	4	3	4	2	6
	23	23	16	26	18	18	16	11	27	17	14	12	14	9	23	17
	12	22	15	13	11	13	6	7	14	8	19	15	7	5	7	10
	4	16	4	7	5	5	6	3	5	9	1	7	2	1	5	5
	23	21	20	19	19	13	15	5	19	12	15	26	11	16	20	23
	10	6	9	14	9	13	11	3	12	16	7	14	12	10	18	17
	9	2	7	8	4	5	1	3	5	13	4	9	4	6	7	10
	9	4	8	6	5	11	5	2	5	9	4	5	5	5	7	7
	8	16	10	7	7	7	5	3	14	12	9	2	4	5	2	9
										1			1	2		
	3				1				1	2						
	16	15	16	22	14	6	15	6	12	10	5	9	10	10	14	12
	8	8	16	12	12	10	8	8	45	14	11	4	8	6	8	4
WEEKLY TOTAL																
Estates 1	33	26	35	33	20	25	21	18	30	22	22	23	22	25	22	16
2	35	45	31	39	29	31	22	18	41	25	33	27	21	14	30	27
3	27	37	24	26	24	18	21	8	24	21	16	33	13	17	25	28
4	36	28	34	35	25	36	22	11	36	50	24	30	25	26	34	43
5	27	23	32	34	27	16	23	14	50	27	16	13	19	18	22	16
TOTAL	158	159	156	167	125	126	109	69	189	145	111	126	100	100	133	130
Estates 1,2,5 TOTALS	95	94	98	106	76	72	66	50	129	74	71	63	62	57	74	59

	WEEK 17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
	15	15	17	20	18	10	11	13	10	19	20	17	13	7	27	27	19	41	21
	4	6	7	3	5	1		1	3	1	9	10		4	9			3	6
	11	3	11	16	14	8	12	11	13	19	8	11	9	6	11	13	10	14	13
	7	8	11	10	4	5	10	11	3	4	11	7	5	5	10	4	6	10	6
	4	6	4	1	3	2	6	1	4	6	6	2	9	3	5	7	10	13	3
	7	21	21	13	11	20	16	12	7	15	13	11	23	21	10	26	7	20	8
	12	3	5	7	7	1	3	3	2	9	5	9	12	4	8	11	5	17	10
	7	3	2	2	6	8	2	7	2	3	4	3	1	3	5	6	13	13	3
	6	3	3	2	6	9	3	1	4	6	6	5	10	2	3	5	8	16	3
	7	5	6	6	2	12	4		1	6	5	10	9	8	6	5	3	16	7
				1	2		1		1		1	1					1		
									1			2		1				1	
	17	10	6	11	15	6	11	9	5	11	17	19	8	8	8	11	12	10	5
	7	13	4	7	4	2	7	9	5	10	9	20	15	9	9	15	9	12	9
Estates 1	19	21	24	23	23	11	11	14	13	20	29	27	13	11	36	27	19	44	27
2	18	11	22	26	10	13	22	22	16	23	19	18	14	11	21	17	16	24	19
3	11	27	25	14	14	22	22	13	11	21	19	13	32	24	15	33	17	33	11
4	32	14	16	17	21	30	12	11	9	24	20	27	32	17	22	27	29	62	23
5	24	23	10	19	21	8	19	10	12	21	27	42	23	18	17	26	22	23	14
TOTAL	104	96	97	99	97	84	86	70	61	109	114	127	114	81	111	130	103	186	94
Estates 1,2,5 TOTALS	61	55	56	60	62	32	52	54	41	64	75	87	50	40	74	70	57	91	60

WEEKLY JOB ARRIVALS

CONTRACTORS LIST

01	R ALLAN	(PL)	
02	W ALEXANDER	(JNR)	
03	J & A ANDERSON	(SL/BUILD) Works	Fireplace
04	W ANDERSON	(PL)	
05	BAILLIE & SPENCE	(JNR)	
06	BARRIE & HAMILTON	(BUILD) Works	Fireplace
07	R BELL	(JNR)	
08	D BOLTON	(GL/JOINER)	
09	D BROCKIE	(ELECT)	
10	BRYSON CONT(MUIRHEAD)	(BUILD/JOINER)	
11	R BURNS & SON LTD	(SL)	Gutters
12	CAMPSIE GLAZING	(GL)	
13	CARTER & COWAN	(PL/ELECT)	
14	CENTRAL ELECTRICS	(ELEC)	
15	J S CAMPBELL	(PL/HT ENG)	
16	CUROT CONTRACTORS	(JOINER/ TIMBER SPEC)	
17	MUIRHEAD PAINTERS LTD	(PAINT)	
18	T & D CRUICKSHANKS	(BLACKSMITH)	
19	DRAIN CLEANING SERV		
20	DYNO ROD		
21	D L HEATING	(HEATING)	
22	R EWING	(SL/PLAST)	
23	J B & C FORSYTH		
24	GLENHEAD LTD	PL/HEATING/ELECT/ JOINERS/BUILDERS/SL	
25	GRANT ALLAN	(FLOORING)	
26	W GRANT	(PAINT)	
27	HEAT REPLACEMENT SERV	(HEATING)	
28	HOME HEATING INSTALL	(HEATING)	
29	J HOUSTON	(FENCE)	
30	CAMPSIE IRONMONGERY	(KEY CUTTING)	
31	EASY HEAT	(HEATING ENG)	
32	LANDER ALARMS		
33	H MASON	(JNR)	
34	J MARSHALL	(PAINT)	
35	T MEADE	(PL/BUILD JOINER)	Fencing
36	MK SALES & HIRE SERV	(PLANT HIRE)	
37	MAC HEATING SERV	(HEATING)	
38	McEWAN BROS	(BLACKSMITH)	
39	R J McGAY	(FLOORING)	
40	J C McGEACH	(FLOORING)	
41	R D McGREGOR	(PL/ELECT)	
42	M GORMLEY & SON	(PAINTER/DEC)	
43	D McKENNA	(TV ARIEL)	
44	HOME DESIGN (JT) LTD	(PAINTERS)	
45	J.B.S	(PLANT HIRE)	
46	J RAE & SON	(BUILD/JOINER)	Fireplace Fencing
47	REGENT JOINERS	(JNR)	Fencing
48	L S RATTRAY	(BUILD)	
49	J REID & SONS	(PL)	
50	RENTOKIL		
51	DONALD SEMPLE	(PAINT)	
52	S.D.C CLEANSING		

59	J R STEWART	(PAINT)
60	THISTLE (CONT)	(ELECT/PL)
61	R TINNING & SON	(JNR)
62	H B TWEED	(PL)
63	WM WATT & SONS	(F/PLACE)
64	J WILSON	(GL)
65	R WILSON	(PAINT)
66	H & W WINDOW CARE	(METAL W'S)
67	D WRIGHT	(PL/HEAT)
68	R & J WYLLIE	(PAINT)
69	MISCELLANEOUS CONTRACTORS	
70	MISCELLANEOUS HOUSE PROPERTIES	
71	CLEANSING STEPPS	
72	S.S.E.B HAMILTON	
73	T & G PLUMBING	(PL)
74	K NOEL	(PAINT/DEC)
75	S.D.C RE IMBURSE	
76	BOYLE & UPTON	(JNRS/BLDS)
77	S R TAYLOR	(PLUMB/HEAT)
78	T LAIRD	(PLUMB/ELECT)
79	SMITH & McEWAN	(JNR)
80	ALEXANDER McFARLANE	(METAL WINDOW REPAIRS)
81	BISHOPBRIGGS MIRROR & GLASS	(GLAZIERS)
82	S.D.C - HOMELESS UNIT	
83	C LANGAN	(PLUMBER)
84	G McFALL	(SL/BLD/ELEC)
85	A FINDLAY MACKAY	(ELECT)
86	HUGH THOMSON (ASPHALT)	(PATHS)
87	TORWOOD FENCING	(FENCING)
88	C.M.S	ALL TRADES EX. GRATE BUILDER PAINTERS

STRATHKELVIN D.C. * CLIENT 1

CODE TRANSLATION

CODE		DESCRIPTION	
< 10 >	<	BUILDERWORK	>
< 20 >	<	SLATER/TRL/PLST	>
< 30 >	<	GRATEBUILDER	>
< 40 >	<	JOINERWORK	>
< 50 >	<	PAINTERWORK	>
< 60 >	<	PLUMBERWORK	>
< 70 >	<	ELECTRICAL WORK	>
< 80 >	<	GLAZIER WORK	>
< 90 >	<	FENCING WORK	>
< 91 >	<	SPECIALIST WORK	>
< 92 >	<	PLANT HIRE	>
< 93 >	<	CLEANSING DEPT	>
< 94 >	<	PARKS DEPT	>
< 95 >	<	SEV/TR PRO/RATA	>

APPENDIX 3

(Chapter 4)

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JOINER WORK

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TRADE JOINER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	2	1	1	-	-	-	-	-	-	-	2	1	1	-	-										
3	1	1	-	-	3	-	-	1	-	1	1	1	1	-	4										
4	4	2	11	3	-	-	-	-	-	3	4	2	11	3	3										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											7	4	20	3	-										
1	1	4	1	-	-	-	-	1	-	-	1	4	2	-	-										
2	-	3	1	-	-	-	1	-	-	-	-	4	1	-	-										
3	-	7	2	-	1	-	-	-	-	1	-	7	2	-	2										
4	1	2	1	2	-	-	-	-	-	-	1	2	1	2	-										
5	1	-	1	2	-	-	-	-	-	-	1	-	1	2	-										
Weekly Total											3	17	9	4	-										
1	-	1	-	-	-	-	-	1	-	-	-	1	1	-	-										
2	1	1	-	-	1	-	-	-	-	-	1	1	-	-	1										
3	1	7	4	-	-	1	-	-	-	-	2	7	4	-	-										
4	2	1	-	-	-	-	1	-	-	-	2	2	-	-	-										
5	-	1	2	-	1	-	-	-	-	-	-	1	2	-	1										
Weekly Total											5	12	9	-	-										

TRADE JOINER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	–	–	4	3	–	–	–	–	–	–	–	–	4	3	–										
2	–	5	–	–	–	–	–	1	–	–	–	5	1	–	–										
3	2	–	4	1	5	–	2	–	–	–	2	2	4	1	5										
4	1	1	6	1	–	–	2	2	–	–	1	3	8	1	–										
5	1	–	3	–	–	–	–	1	2	–	1	–	3	2	–										
Weekly Total											4	10	25	7	–										
1										E	19	43	63	14											
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE JOINER

Est Day	WARD 2 A	B	C	D	E	WARD 11 A	B	C	D	E	ESTATE 2 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	1	-	6	-	-	-	1	9	-	-	1	1	15	-	-										
3	-	-	2	-	-	-	-	11	-	-	-	-	13	-	-										
4	-	-	5	-	-	1	-	8	-	-	1	-	13	-	-										
5	1		1		1	-	-	4	-	-	1	-	5	-	1										
Weekly Total											3	1	47	-	-										
1	-	1	-	-	-	-	1	4	-	-	-	2	4	-	-										
2	-	1	2	-	-	-	2	-	-	2	-	3	2	-	2										
3	-	5	-	-	2	-	6	1	-	-	-	11	1	-	2										
4	-	1	-	-	5	-	2	-	-	-	-	3		-	5										
5	-	-	2	-	-	-	4	1	-	6	-	4	3	-	6										
Weekly Total											-	23	25	-	-										
1	-	3	1	-	-	-	8	2	-	-	-	11	3	-	-										
2	1	-	2	-	-	-	1	-	-	-	1	1	2	-	-										
3	-	1	-	-	-	-	6	1	-	-	-	7	1	-	-										
4	-	2	3	-	1	-	2	1	-	-	-	4	4	-	1										
5	-	-	-	-	-		2	3	-	-	-	2	3	-	-										
Weekly Total											1	25	14	-	-										

TRADE JOINER

Est Day	WARD 2 A	WARD 2 B	WARD 2 C	WARD 2 D	WARD 2 E	WARD 11 A	WARD 11 B	WARD 11 C	WARD 11 D	WARD 11 E	ESTATE 2 A	ESTATE 2 B	ESTATE 2 C	ESTATE 2 D	ESTATE 2 E	A	B	C	D	E	A	B	C	D	E
1	-	1	4	-	-	-	-	-	-	-	-	1	4	-	-										
2	-	-	10	1	-	-	-	-	-	-	-	-	10	1	-										
3	-	-	3	-	-	-	-	3	-	-	-	-	6	-	-										
4	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
5	-	-	3	-	-	1	-	3	-	-	1	-	6	-	-										
Weekly Total											1	1	27	1											
1											5	50	103	1									146		
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE JOINER

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	1	-	-	-	-	2	-	3	-	-	3	-	3										
3	-	-	3	-	-	-	-	1	-	7	-	-	4	-	7										
4	-	-	1	-	-	-	-	4	-	-	-	-	5	-	-										
5	-	-	1	-	-	-	-	-	2	2	-	-	1	2	2										
Weekly Total											-	-	25	2	-										
1	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-										
2	-	-	-	1	-	-	-	1	4	-	-	-	1	5	-										
3	-	-	3	-	-	-	-	2	2	-	-		5	2	-										
4	-	-		-	-	-	1	2	-	-	-	1	2	-	-										
5	-	-	-	-	-	-	-	5	-	-	-	-	5	-	-										
Weekly Total												1	15	7											
1	-	1	-	-	-	-	1	1	-	-	-	2	1	-	-										
2	-	-	3	-	1	-	-	2	-	2	-	-	5	-	3										
3	-	-	3	-	-	-	1	-	-	5	-	1	3	-	5										
4	-	1	1	-	6	-	-	8	2	1	-	1	9	8	1										
5	-	-	1	-	-	-	-	6	-	8	-	-	7	-	8										
Weekly Total											-	4	42	8	-										

TRADE JOINER

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	1	-	-	-	-	3	-	-	-	-	4	-										
2	-	-	3	3	-	-	-	1	2	7	-	-	4	5	7										
3	-	-	-	3	-	-	-	4	-	3	-	-	4	3	3										
4	-	-	1	5	-	-	-	1	-	-	-	-	2	5	-										
5	-	-	-	2	-	-	1	1	-	-	-	1	1	2	-										
Weekly Total											-	1	21	19	-										
1											-	6	103	36	-								146		
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE JOINER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	1	-	-	6	-	-	-	-	1	-	-	-	-	-	-	-	-	5	1	-	1	-	5	8	-
3	1	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1	2	-
4	2	-	1	3	-	1	-	-	-	-	3	-	1	-	-	1	-	2	-	-	7	-	4	3	-
5	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-	1	-	1	-	-	1	3	1	-
Weekly Total																					9	1	13	14	
1	2	2	-	-	-	-	3	-	-	-	-	3	-	-	-	-	1	-	-	-	2	9	-	-	-
2	-	2	-	-	-	-	-	1	1	-		1	-	1	-	-	-	-	3	-	-	3	1	5	-
3	2	-	-	2	-		-	1	-	-		-	-	1	-	1	1	-	2	-	3	1	1	5	-
4	-	-	-	-	-	-	2	1	-	-	-	-	-	1	-	-	-	-	1	-	-	2	1	2	-
5	-	1	1	-	-	-	-	3	1	-	-	-	2	1	-	-	-	-	-	-	-	1	6	2	-
Weekly Total																					5	16	9	14	
1	1	2	-	-	-	-	-	1	-	-	1	-	-	-	-	1	2	-	2	-	3	4	1	2	-
2	-	-	2	1	-	-	-	1	1	-	-	-	-	-	-	-	-	2	-	-	-	-	5	2	-
3	1	2	4	1	-	-	1	1	-	-	-	-	1	-	-	-	1	3	6	-	1	4	9	7	-
4	-	-	5	1	-	1	-	1	-	-	-	-	-	-	-	-	-	1	3	-	1	-	7	4	-
5	-	2	5	1	-	-	1	2	-	-	-	-	-	-	-	-	1	1	-	-	-	4	8	1	-
Weekly Total																					5	12	30	16	-

TRADE JOINER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	1	-	3	-	-	1	-	8	-	-
2	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2	-	-
3	1	-	1	1	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	1	2	-	2	1	1
4	-	-	3	1	-	-	-	1	-	-	-	-	-	4	-	-	-	1	-	-	-	-	5	5	-
5	1	-	1	-	-	-	-	2	1	-	-	-	2	2	-	-	-	-	-	-	1	-	5	2	1
Weekly Total																					4	1	24	8	-
1																					23	30	76	52	-
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE JOINER

Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-	6	-	-	-	1	8	-
4	-	-	-	-	-	-	-	-	1	-	-	-	-	7	-	-	-	-	2	1	-	-	-	10	1
5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	-	-	6	3	2	-	-	8	3
Weekly Total																					2	-	5	26	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	10	-	-
2	-	-	1	-	-	-	-	-	-	-	-	2	7	-	-	-	-	11	-	1	-	2	22	-	1
3	-	-	-	-	-		-	1	-	-	-	2	1	-	-	-	2	1	3	-	-	4	3	3	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	11	-	-	-	-	20	-
5	-	-	-	-	-	-	-	-	1	-	-	-	-	10	-	-	-	-	1	-	-	-	-	12	-
Weekly Total																					-	6	36	35	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	16	-	-	-	-	25	-
2	-	-	-	-	-	-	-	-	-	-	-	-	1	8	-	-	-	-	2	-	-	-	1	10	-
3	-	-	-	-	-	-	-	-	-	-	-	-	1	6	-	-	-	-	2	-	-	-	1	8	-
4	-	-	-	-	-	-	-	-	1	-	-	1	-	3	-	-	-	1	1	-	-	1	1	5	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-
Weekly Total																					-	1	4	49	-

TRADE JOINER

Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D.	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	1	-	1	-	4	-	-	-	-	-	1	-	1	-	4
2	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1	-	1	-	-	-	-	1	-	7	1
3	-	-	-	-	-	-	-	-	-	-	-	-	1	11	-	-	-	1	5	-	-	-	2	16	-
4	-	-	-	-	-	-	-	-	-	-	-	-	2	6	-	-	-	-	4	-	-	-	2	10	-
5	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-	-	-	-	-	2	-	-	-	5	2
Weekly Total																					1	1	12	38	
1					E1	19	43	63	-	125											3	8	57	148	
2					E2	5	50	103	-	158															
3					E3	-	6	103	-	109															
4					E4	23	30	76	-	129															
5					E5	3	8	57	-	68															
Weekly Total						50	137	401		588															
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	3	1	2.5
1	2	3	2	5.5
1	3	3	2	1.5
1	4	3	4	2.5
1	5	2	2	2.5
1	6	3	4	13.5
1	7	3	1	0.5
1	8	2	3	0.5
1	9	2	1	2.5
1	10	2	2	0.5
1	11	3	3	5.5
1	12	3	1	0.5
1	13	2	3	9.5
1	14	2	4	2.5
1	15	1	1	2.5
1	16	3	4	1.5
1	17	2	2	2.5
1	18	3	4	9.5
1	19	3	1	2.5
1	20	1	1	1.5
1	21	2	4	4.5
1	22	3	3	3.5
1	23	3	2	7.5
1	24	3	5	2.5
1	25	2	5	11.5
1	26	3	1	3.5

TOTAL HOURS FOR DAY 1 103 NO OF JOBS 26

TOTAL HOURS TO DAY 1 103 NO OF JOBS 26

2	1	3	1	0.5
2	2	2	3	4.5
2	3	3	4	7.5
2	4	3	4	3.5
2	5	3	1	1.5
2	6	2	2	1.5
2	7	3	2	0.5
2	8	3	4	1.5
2	9	2	1	3.5
2	10	2	1	3.5
2	11	3	5	19.5
2	12	3	3	3.5
2	13	3	1	11.5
2	14	2	1	5.5
2	15	3	4	4.5
2	16	2	5	3.5
2	17	3	5	0.5
2	18	3	2	1.5
2	19	1	4	1.5
2	20	1	3	1.5
2	21	1	1	2.5
2	22	3	2	7.5
2	23	3	4	1.5
2	24	2	5	11.5
2	25	3	1	2.5
2	26	3	4	2.5
2	27	2	1	9.5
2	28	3	2	1.5
2	29	3	4	7.5
2	30	2	2	1.5
2	31	3	5	2.5
2	32	3	1	5.5

TOTAL HOURS FOR DAY 2 137 NO OF JOBS 32

TOTAL HOURS TO DAY 2 240 NO OF JOBS 58

3	1	3	1	1.5
3	2	3	4	1.5
3	3	3	3	2.5
3	4	3	4	2.5
3	5	3	2	7.5
3	6	3	3	7.5
3	7	3	2	0.5
3	8	3	1	1.5
3	9	2	3	9.5
3	10	3	2	2.5
3	11	3	5	1.5
3	12	1	1	1.5
3	13	2	2	4.5
3	14	2	4	2.5
3	15	2	4	2.5
3	16	3	1	9.5
3	17	3	4	7.5
3	18	3	4	2.5
3	19	3	1	2.5
3	20	3	3	0.5
3	21	2	2	1.5
3	22	3	5	11.5
3	23	3	4	17.5
3	24	3	2	10.5
3	25	2	2	3.5
3	26	3	2	5.5

TOTAL HOURS FOR DAY 3 122 NO OF JOBS 26

TOTAL HOURS TO DAY 3 362 NO OF JOBS 84

4	1	3	2	7.5
4	2	3	3	9.5
4	3	3	3	3.5
4	4	3	4	5.5
4	5	2	5	3.5
4	6	3	4	0.5
4	7	3	3	3.5
4	8	2	5	5.5
4	9	2	4	3.5
4	10	3	4	4.5
4	11	2	3	1.5
4	12	3	2	6.5
4	13	3	4	2.5
4	14	3	1	0.5
4	15	3	2	11.5
4	16	1	5	5.5
4	17	3	5	2.5
4	18	3	3	3.5
4	19	3	2	1.5
4	20	3	3	4.5
4	21	2	5	2.5
4	22	3	1	15.5
4	23	3	1	1.5
4	24	2	1	13.5
4	25	2	5	1.5
4	26	3	1	1.5
4	27	3	1	3.5
4	28	3	2	0.5
4	29	2	1	3.5
4	30	3	1	2.5
4	31	3	2	2.5
4	32	1	4	9.5
4	33	1	1	2.5
4	34	3	4	0.5
4	35	2	5	7.5
4	36	3	1	2.5
4	37	3	4	1.5
4	38	3	1	8.5
4	39	2	3	1.5
4	40	3	3	1.5
4	41	3	1	0.5
4	42	3	2	7.5
4	43	3	3	8.5
4	44	3	4	4.5

TOTAL HOURS FOR DAY 4 192 NO OF JOBS 44

TOTAL HOURS TO DAY 4 554 NO OF JOBS 128

5	1	1	5	2.5
5	2	2	2	1.5
5	3	2	5	2.5
5	4	3	2	1.5
5	5	2	2	2.5
5	6	2	3	1.5
5	7	3	4	7.5
5	8	2	1	3.5
5	9	3	2	0.5
5	10	3	3	3.5
5	11	3	2	3.5
5	12	3	1	1.5
5	13	3	2	0.5
5	14	3	4	2.5
5	15	3	1	1.5
5	16	3	3	3.5
5	17	3	2	13.5
5	18	3	3	2.5
5	19	3	3	5.5
5	20	2	3	1.5
5	21	3	3	1.5
5	22	2	1	1.5
5	23	3	2	2.5
5	24	3	4	0.5
5	25	3	4	13.5
5	26	3	1	4.5
5	27	3	1	2.5
5	28	3	4	1.5
5	29	3	5	11.5
5	30	2	2	2.5
5	31	3	1	7.5
5	32	2	2	15.5
5	33	3	5	3.5
5	34	3	4	3.5

TOTAL HOURS FOR DAY 5 135 NO OF JOBS 34

TOTAL HOURS TO DAY 5 689 NO OF JOBS 162

Joiner All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	3	1	0.5
1	2	2	2	7.5
1	3	3	5	2.5
1	4	3	2	7.5
1	5	3	2	0.5
1	6	3	1	10.5
1	7	3	4	8.5
1	8	3	4	1.5
1	9	2	1	2.5
1	10	2	4	5.5
1	11	3	3	1.5
1	12	2	4	2.5
1	13	3	1	2.5
1	14	3	2	0.5
1	15	3	4	5.5
1	16	1	2	7.5
1	17	3	5	2.5
1	18	3	3	1.5

TOTAL HOURS FOR DAY 1 71 NO OF JOBS 18

TOTAL HOURS TO DAY 1 71 NO OF JOBS 18

2	1	3	5	2.5
2	2	3	5	7.5
2	3	3	5	5.5
2	4	2	4	15.5
2	5	3	4	4.5
2	6	3	3	2.5
2	7	2	3	0.5
2	8	3	2	7.5
2	9	3	4	1.5
2	10	2	1	5.5
2	11	3	1	1.5
2	12	3	2	0.5
2	13	3	3	2.5
2	14	3	3	5.5
2	15	3	5	1.5
2	16	3	1	3.5
2	17	3	4	4.5
2	18	3	5	3.5
2	19	3	2	0.5
2	20	3	4	4.5
2	21	2	3	4.5
2	22	3	4	3.5

TOTAL HOURS FOR DAY 2 89 NO OF JOBS 22

TOTAL HOURS TO DAY 2 160 NO OF JOBS 40

3	1	2	4	0.5
3	2	1	1	0.5
3	3	3	4	0.5
3	4	3	2	6.5
3	5	3	3	4.5
3	6	2	1	2.5
3	7	3	4	15.5
3	8	2	3	0.5
3	9	2	4	9.5
3	10	2	3	3.5
3	11	3	4	9.5
3	12	3	2	2.5
3	13	2	4	2.5
3	14	3	2	1.5
3	15	3	3	11.5
3	16	2	2	4.5
3	17	2	2	4.5
3	18	2	2	2.5
3	19	3	4	1.5
3	20	3	4	2.5

TOTAL HOURS FOR DAY 3 87 NO OF JOBS 20

TOTAL HOURS TO DAY 3 247 NO OF JOBS 60

4	1	3	3	1.5
4	2	3	4	2.5
4	3	3	2	2.5
4	4	3	4	2.5
4	5	3	2	1.5
4	6	3	3	1.5
4	7	3	4	1.5
4	8	3	2	1.5
4	9	3	4	8.5
4	10	3	4	1.5
4	11	3	2	1.5
4	12	3	3	0.5
4	13	3	3	3.5
4	14	3	2	2.5
4	15	3	1	2.5
4	16	2	2	2.5
4	17	3	2	0.5
4	18	1	2	0.5
4	19	2	3	1.5
4	20	3	1	1.5
4	21	3	1	2.5
4	22	3	1	1.5
4	23	2	1	2.5
4	24	2	2	1.5
4	25	3	1	1.5
4	26	2	4	7.5
4	27	3	1	1.5
4	28	3	1	12.5
4	29	3	5	2.5
4	30	2	1	4.5
4	31	2	5	7.5
4	32	3	1	11.5
4	33	3	2	2.5
4	34	3	1	8.5
4	35	3	4	4.5
4	36	3	1	3.5
4	37	1	2	11.5
4	38	2	3	7.5
4	39	3	4	0.5
4	40	2	1	2.5
4	41	2	1	15.5
4	42	3	4	1.5

TOTAL HOURS FOR DAY 4 157 NO OF JOBS 42

TOTAL HOURS TO DAY 4 404 NO OF JOBS 102

5	1	3	2	0.5
5	2	2	1	3.5
5	3	3	2	2.5
5	4	3	5	1.5
5	5	3	4	2.5
5	6	3	1	1.5
5	7	3	1	4.5
5	8	3	4	3.5
5	9	2	2	7.5
5	10	3	4	2.5
5	11	3	1	1.5
5	12	3	5	3.5
5	13	3	4	2.5
5	14	3	2	6.5
5	15	3	4	1.5
5	16	2	2	10.5
5	17	2	2	2.5
5	18	3	3	1.5
5	19	3	2	11.5
5	20	3	3	2.5
5	21	3	2	4.5
5	22	3	5	4.5
5	23	3	5	2.5
5	24	2	4	2.5
5	25	3	2	11.5
5	26	2	2	4.5
5	27	3	2	3.5
5	28	2	4	2.5
5	29	3	5	2.5
5	30	3	2	2.5
5	31	2	3	7.5
5	32	3	4	0.5
5	33	3	1	2.5
5	34	3	2	1.5
5	35	3	1	2.5
5	36	3	4	1.5

TOTAL HOURS FOR DAY 5 131 NO OF JOBS 36

TOTAL HOURS TO DAY 5 535 NO OF JOBS 138

Joiner All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 142 NO OF JOBS 36

TOTAL HOURS TO DAY 1 142 NO OF JOBS 36
TOTAL HOURS FOR DAY 2 154 NO OF JOBS 44

TOTAL HOURS TO DAY 2 296 NO OF JOBS 80
TOTAL HOURS FOR DAY 3 81 NO OF JOBS 22

TOTAL HOURS TO DAY 3 377 NO OF JOBS 102
TOTAL HOURS FOR DAY 4 60 NO OF JOBS 18

TOTAL HOURS TO DAY 4 437 NO OF JOBS 120
TOTAL HOURS FOR DAY 5 140 NO OF JOBS 34

TOTAL HOURS TO DAY 5 577 NO OF JOBS 154

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0 0 10.5 0 0 5
0 0.5 38 0 1 6
1.5 22.5 26.5 1 3 5
10 0 19.5 4 0 5
4.5 4.5 4 1 3 2
---
16 27.5 98.5 6 7 23

DAY= 2
2.5 7.5 6 1 3 2
1.5 7.5 17 1 3 6
0 12 35.5 0 2 7
0.5 0 27 3 0 10
11.5 6 11.5 1 2 3
---
24 33 97 6 10 28

DAY= 3
0 0 5.5 0 0 3
0 15.5 20 0 3 4
0 6 7 0 2 2
0 12.5 13 0 3 4
0 0 1.5 0 0 1
---
0 34 47 0 8 14

DAY= 4
0 1.5 13.5 0 1 3
0 0.5 14 0 1 4
0 0 6.5 0 0 3
0 14 2.5 0 2 1
3.5 0 4 1 0 2

3.5 16 40.5 1 4 13

DAY= 5
3.5 0 16 1 0 4
3.5 0 35.5 1 2 7
2.5 2.5 32.5 1 1 5
4.5 6.5 13 1 3 6
0 0 12 0 0 2
---
14 17 109 4 6 24

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 144 NO OF JOBS 34

TOTAL HOURS TO DAY 1 144 NO OF JOBS 34
TOTAL HOURS FOR DAY 2 146 NO OF JOBS 34

TOTAL HOURS TO DAY 2 290 NO OF JOBS 68
TOTAL HOERS FOR DAY 3 128 NO OF JOBS 36

TOTAL HOURS TO DAY 3 418 NO OF JOBS 104
TOTAL HOURS FOR DAY 4 86 NO OF JOBS 22

TOTAL HOURS TO DAY 4 504 NO OF JOBS 126
TOTAL HOURS FOR DAY 5 51 NO OF JOBS 18

TOTAL HOURS TO DAY 5 555 NO OF JOBS 144

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
1.5 2.5 26.5 1 1 3
2.5 15 25.5 1 6 7
2.5 2.5 16.5 1 1 5
0 0.5 31 0 1 4
0 0 17.5 0 0 3

6.5 20.5 117 3 9 22

DAY= 2
6 0.5 26 2 1 4
0 3.5 16 0 1 6
2.5 0 21.5 1 0 5
4.5 0 46.5 1 0 9
0 0 19 0 0 4
---
13 4 129 4 2 28

DAY= 3
0 6 1.5 0 2 1
0 3.5 30 0 3 8
0 3.5 28 0 1 8
0 0 31.5 0 0 9
0 0 24 0 0 4
---
0 13 115 0 6 30

DAY= 4
0 21.5 3 0 3 2
0 16.5 0.5 0 3 3
0 0 18 0 0 4
0 2.5 4.5 0 1 3
0 11.5 0 0 3 0
---
0 52 34 0 18 12

DAY= 5
0 0 0.5 0 0 3
0 3.5 6.5 0 1 3
0 0 5 0 0 2
0.5 4 16.5 1 2 3
0 1.5 5 0 1 2

0.5 9 41.5 1 4 13

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 125 NO OF JOBS 36

TOTAL HOURS TO DAY 1 125 NO OF JOBS 36
TOTAL HOURS FOR DAY 2 145 NO OF JOBS 36

TOTAL HOURS TO DAY 2 270 NO OF JOBS 72
TOTAL HOURS FOR DAY 3 127 NO OF JOBS 32

TOTAL HOURS TO DAY 3 397 NO OF JOBS 104
TOTAL HOURS FOR DAY 4 104 NO OF JOBS 26

TOTAL HOURS TO DAY 4 501 NO OF JOBS 130
TOTAL HOURS FOR DAY 5 166 NO OF JOBS 34

TOTAL HOURS TO DAY 5 667 NO OF JOBS 164

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0 2.5 18.5 0 1 5
7.5 5.5 17.5 1 1 7
3 7 14 2 2 6
0 0 36 0 0 8
0 2.5 11 0 1 2

10.5 17.5 97 3 5 28

DAY= 2
0 5.5 15.5 0 1 5
1.5 0.5 21 1 1 6
5.5 0 15 1 0 4
3 5.5 46 2 1 8
0 1.5 24.5 0 1 5
---
10 13 122 4 4 28

DAY= 3
2.5 0 9.5 1 0 5
0 0 26 0 0 4
0 5.5 19 0 1 6
0.5 11.5 43 1 1 8
0.5 0 9 1 0 4

3.5 17 106.5 3 2 27

DAY= 4
0 0 20 0 0 6
1.5 20 31.5 1 2 7
0 1.5 7 0 1 2
5.5 2.5 10.5 1 1 3
0 0 4 0 0 2
---
7 24 73 2 4 20

DAY= 5
0 0 44.5 0 0 7
0 26 33.5 0 4 5
0 3.5 9.5 0 1 3
0 0 14 0 0 4
0.5 6.5 28 1 3 6

0.5 36 129.5 1 8 25

Joiner All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 164 NO OF JOBS 36

TOTAL HOURS TO DAY 1 164 NO OF JOBS 36
TOTAL HOURS FOR DAY 2 126 NO OF JOBS 32

TOTAL HOURS TO DAY 2 290 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 50 NO OF JOBS 18

TOTAL HOURS TO DAY 3 340 NO OF JOBS 86
TOTAL HOURS FOR DAY 4 173 NO OF JOBS 34

TOTAL HOURS TO DAY 4 513 NO OF JOBS 120
TOTAL HOURS FOR DAY 5 86 NO OF JOBS 24

TOTAL HOURS TO DAY 5 599 NO OF JOBS 144
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0 0 31.5 0 2 5
0 12.5 19 0 3 6
21 7 17.5 2 2 5
11 5.5 22.5 2 1 5
0 0 8.5 0 0 3
---
32 33 99 4 8 24

DAY= 2
4.5 2.5 11 1 3 4
14.5 0 32 5 0 6
3.5 1.5 13.5 1 1 1
8.5 1.5 31.5 1 1 7
0 0 1.5 0 0 1
---
31 5.5 89.5 8 5 19

DAY= 3
0 0 17.5 0 0 5
0 1.5 15.5 0 1 5
1.5 3.5 0.5 1 1 1
0 0 0 0 0 0
0 7.5 2.5 0 3 1

1.5 12.5 36 1 5 12

DAY= 4
7 0 37 2 0 6
0 3 39 0 2 0
0 4.5 17.5 0 1 3
0 0 32 0 0 6
13.5 0 19.5 1 0 5

20.5 7.5 145 3 3 28

DAY= 5
0 0 26.5 0 0 5
2.5 5 9.5 1 2 5
0 0 0 0 0 0
0 29 1 0 4 2
4 0 0 5 2 0 3

6.5 34 45.5 3 6 15

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 147 NO OF JOBS 42

TOTAL HOURS TO DAY 1 147 NO OF JOBS 42
TOTAL HOURS FOR DAY 2 139 NO OF JOBS 32

TOTAL HOURS TO DAY 2 286 NO OF JOBS 74
TOTAL HOURS FOR DAY 3 64 NO OF JOBS 24

TOTAL HOURS TO DAY 3 350 NO OF JOBS 98
TOTAL HOURS FOR DAY 4 122 NO OF JOBS 32

TOTAL HOURS TO DAY 4 472 NO OF JOBS 130
TOTAL HOURS FOR DAY 5 89 NO OF JOBS 26

TOTAL HOURS TO DAY 5 561 NO OF JOBS 156
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0.5 7 12 1 2 6
10 6 43 2 2 10
0 0 3.5 0 0 1
2.5 17.5 16 1 5 2
1.5 15 12.5 1 4 5

14.5 45.5 87 5 13 24

DAY= 2
0 3 7 0 2 4
3.5 7.5 29 1 1 6
6.5 0 30 3 2 6
0 0 26 0 0 4
0 11 7.5 0 2 1
---
10 29.5 99.5 4 7 21

DAY= 3
0 0 12 0 2 4
0 2.5 11.5 0 1 5
0 0 10.5 0 0 3
0 3.5 5 0 1 2
0.5 0 10.5 1 0 5

0.5 14 49.5 1 4 19

DAY= 4
0 1.5 0 0 1 6
0 10 37 0 2 0
0.5 5.5 19 1 1 6
0 0 24 0 0 2
0.5 0 16 1 0 4
---
1 17 104 2 4 26

DAY= 5
7.5 3.5 24 1 1 4
0 0 16 0 0 6
0 3 17 0 2 4
0 4.5 5 0 1 2
0.5 2.5 5.5 1 1 3
---
0 13.5 67.5 2 5 19

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 123 NO OF JOBS 32

TOTAL HOURS TO DAY 1 123 NO OF JOBS 32
TOTAL HOURS FOR DAY 2 120 NO OF JOBS 34

TOTAL HOURS TO DAY 2 243 NO OF JOBS 66
TOTAL HOURS FOR DAY 3 133 NO OF JOBS 42

TOTAL HOURS TO DAY 3 376 NO OF JOBS 108
TOTAL HOURS FOR DAY 4 107 NO OF JOBS 34

TOTAL HOURS TO DAY 4 483 NO OF JOBS 142
TOTAL HOURS FOR DAY 5 167 NO OF JOBS 44

TOTAL HOURS TO DAY 5 650 NO OF JOBS 186
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
1.5 5 25 1 2 6
0 1.5 20 0 1 6
0 1.5 41 0 1 0
0 5 17 0 2 2
0 3 2.5 0 2 1

1.5 16 105.5 1 0 23

DAY= 2
8.5 0 17.5 1 0 7
9 14 16 2 2 0
0 1.5 12 0 1 4
0 0 22 0 0 6
0 8.5 11 0 1 2

17.5 24 78.5 3 4 27

DAY= 3
0 6.5 2.5 2 3 1
1.5 23 13.5 1 6 7
3 1.5 32 2 1 0
2.5 0 29 1 0 6
0 0 2 0 2 2
---
15 39 79 6 12 24

DAY= 4
0 0 13.5 0 0 5
0 12 9 0 4 4
0 6 22.5 0 2 3
3 5 7.5 2 2 3
0 13 15.5 0 4 5
---
3 36 68 2 12 20

DAY= 5
3.5 10.5 38.5 1 3 11
0 4 39 0 2 0
0 4 22 0 2 6
4.5 14 21.5 1 4 5
0 0 5.5 0 0 1
---
0 32.5 126.5 2 11 31

Joiner All Estates

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M SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

. HOURS FOR DAY  1  88  NO OF JOBS  26

. HOURS TO DAY  1  88  NO OF JOBS 26
. HOURS FOR DAY  2  62  NO OF JOBS  24

 HOURS TO DAY  2  150  NO OF JOBS 50
 HOURS FOR DAY  3  83  NO OF JOBS  34

 HOURS TO DAY  3  233  NO OF JOBS 84
 HOURS FOR DAY  4  166  NO OF JOBS  44

 HOURS TO DAY  4  399  NO OF JOBS 128
 HOURS FOR DAY  5  91  NO OF JOBS  36

 HOURS TO DAY  5  490  NO OF JOBS 164
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  2.5  13      0  1  6
 0.5  7.5  35.5      1  3  3
 1.5  0  2.5      1  0  1
 0  0  15      0  0  6
 0  1.5  0.5      0  1  3
---------  ---------
 2  11.5  74.5      2  5  19
---------  ---------
DAY= 2
 1.5  5.5  2.5      1  3  1
 2.5  2.5  14.5      1  1  5
 0  4.5  3      0  1  2
 0  5.5  9.5      0  1  3
 0  5  5.5      0  2  3
---------  ---------
 4  23  35      2  0  14
---------  ---------
DAY= 3
 5  2.5  3      4  1  2
 1.5  10  3.5      1  2  3
 3.5  0  14      1  0  4
 2  20  18      2  6  8
 0  0  0      0  0  0
---------  ---------
 12  32.5  38.5      8  9  17
---------  ---------
DAY= 4
 0  1.5  15.5      0  1  5
 11  11.5  41      2  3  8
 0  7.5  20      0  1  6
 0  7.5  26      2  3  8
 0  0  16.5      0  0  5
---------  ---------
 19  28  119      4  8  32
---------  ---------
DAY= 5
 5.5  0  5.5      1  0  5
 0  0  17      0  4  4
 2.5  4.5  8      1  3  4
 0  2.5  22.5      0  1  7
 8  5.5  1.5      2  3  1
---------  ---------
 16  20.5  54.5      4  11  21
---------  ---------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  55  NO OF JOBS  22

TOTAL HOURS TO DAY  1  55  NO OF JOBS 22
TOTAL HOURS FOR DAY  2  90  NO OF JOBS  36

TOTAL HOURS TO DAY  2  145  NO OF JOBS 58
TOTAL HOURS FOR DAY  3  89  NO OF JOBS  18

TOTAL HOURS TO DAY  3  234  NO OF JOBS 76
TOTAL HOURS FOR DAY  4  134  NO OF JOBS  36

TOTAL HOURS TO DAY  4  368  NO OF JOBS 112
TOTAL HOURS FOR DAY  5  170  NO OF JOBS  42

TOTAL HOURS TO DAY  5  538  NO OF JOBS 154
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0.5  2.5  2      1  1  2
 11  1.5  6      2  1  2
 0  0  11      0  0  6
 2.5  0  3      1  0  2
 0  0  15      0  0  4
---------  ---------
 14  4  37      4  2  16
---------  ---------
DAY= 2
 1.5  7.5  11.5      1  1  5
 10  13.5  21      2  5  10
 0  3  4      0  2  2
 0  0  18      0  0  8
 0  0  0      0  0  0
---------  ---------
 11.5  24  54.5      3  8  25
---------  ---------
DAY= 3
 0  13.5  10      0  1  2
 1.5  5  12.5      1  2  3
 5.5  15.5  0      1  3  0
 0  0.5  11      0  1  2
 0  0  6      0  0  2
---------  ---------
 7  42.5  39.5      2  7  9
---------  ---------
DAY= 4
 0  1.5  12      0  1  4
 1.5  4.5  13      1  1  4
 1.5  15.5  36      1  5  8
 0.5  4  35      1  2  6
 3.5  0  5.5      1  0  1
---------  ---------
 7  25.5  101.5      4  9  23
---------  ---------
DAY= 5
 0  0  38      0  0  0
 0  10.5  35      0  3  0
 3.5  1.5  24      1  1  4
 0  30  12      0  0  4
 1.5  4  10      1  2  2
---------  ---------
 5  46  119      2  14  26
---------  ---------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  146  NO OF JOBS  36

TOTAL HOURS TO DAY  1  146  NO OF JOBS 36
TOTAL HOURS FOR DAY  2  118  NO OF JOBS  34

TOTAL HOURS TO DAY  2  264  NO OF JOBS 70
TOTAL HOURS FOR DAY  3  81  NO OF JOBS  26

TOTAL HOURS TO DAY  3  345  NO OF JOBS 96
TOTAL HOURS FOR DAY  4  128  NO OF JOBS  34

TOTAL HOURS TO DAY  4  473  NO OF JOBS 130
TOTAL HOURS FOR DAY  5  82  NO OF JOBS  22

TOTAL HOURS TO DAY  5  555  NO OF JOBS 152
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  5  17.5      0  2  5
 5.5  4.5  20.5      1  3  5
 9  19.5  24.5      2  3  7
 0  1.5  19.5      0  1  3
 0  14  5      0  2  2
---------  ---------
 14.5  44.5  87      3  11  22
---------  ---------
DAY= 2
 0  20.5  27.5      0  3  7
 0  2.5  8.5      0  1  5
 0  1.5  10      0  1  6
 0  14.5  7.5      0  5  1
 0  9.5  16      0  1  4
---------  ---------
 0  48.5  69.5      0  11  23
---------  ---------
DAY= 3
 0  0  1.5      0  2  1
 0  14.5  24.5      0  3  7
 4.5  3  14      1  2  6
 0  0  0      0  0  0
 6  0  5      2  0  2
---------  ---------
 10.5  25.5  45      3  7  16
---------  ---------
DAY= 4
 0  0.5  17      0  1  6
 1.5  27.5  39.5      1  5  7
 0  4  14.5      0  2  5
 4.5  4.5  7.5      1  1  3
 0  4.5  2.5      0  1  1
---------  ---------
 6  41  81      2  10  22
---------  ---------
DAY= 5
 0  0  3.5      0  0  1
 0  7.5  19.5      0  1  5
 5.5  6.5  11      1  3  4
 0  15.5  1.5      0  3  1
 0  0  11.5      0  0  3
---------  ---------
 5.5  29.5  47      1  7  14
---------  ---------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 42 NO OF JOBS 14

TOTAL HOURS TO DAY 1 42 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 145 NO OF JOBS 32

TOTAL HOURS TO DAY 2 187 NO OF JOBS 46
TOTAL HOURS FOR DAY 3 59 NO OF JOBS 14

TOTAL HOURS TO DAY 3 246 NO OF JOBS 60
TOTAL HOURS FOR DAY 4 82 NO OF JOBS 20

TOTAL HOURS TO DAY 4 328 NO OF JOBS 80
TOTAL HOURS FOR DAY 5 67 NO OF JOBS 20

TOTAL HOURS TO DAY 5 395 NO OF JOBS 100

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  2.5  24        0  1  6
 8  1.5  3        2  1  2
 0  0  3        0  0  2
----------     ----------
 8  4  30        2  2  10
----------     ----------
DAY= 2
 12  7.5  22.5        2  1  5
 15.5  16  38.5        1  4  11
 0  5.5  27.5        0  1  7
----------     ----------
 27.5  29  88.5        3  6  23
----------     ----------
DAY= 3
 0  0  30.5        0  0  7
 2.5  12.5  13        1  3  2
 0  0.5  0        0  1  0
----------     ----------
 2.5  13  43.5        1  4  9
----------     ----------
DAY= 4
 6  0  4.5        2  0  5
 16  16.5  21.5        2  3  5
 0.5  0  17        1  0  2
----------     ----------
 22.5  16.5  43        5  3  12
----------     ----------
DAY= 5
 0  9  19        0  2  4
 0  11.5  14.5        0  5  5
 0  9  4        0  2  2
----------     ----------
 0  29.5  37.5        0  9  11
----------     ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 97 NO OF JOBS 20

TOTAL HOURS TO DAY 1 97 NO OF JOBS 20
TOTAL HOURS FOR DAY 2 71 NO OF JOBS 20

TOTAL HOURS TO DAY 2 168 NO OF JOBS 40
TOTAL HOURS FOR DAY 3 60 NO OF JOBS 18

TOTAL HOURS TO DAY 3 228 NO OF JOBS 58
TOTAL HOURS FOR DAY 4 43 NO OF JOBS 16

TOTAL HOURS TO DAY 4 271 NO OF JOBS 74
TOTAL HOURS FOR DAY 5 33 NO OF JOBS 12

TOTAL HOURS TO DAY 5 304 NO OF JOBS 86

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  6  10        0  2  2
 0  25  52        0  4  10
 0  4  0        0  2  0
----------     ----------
 0  35  62        0  8  12
----------     ----------
DAY= 2
 0  2.5  11.5        0  1  3
 0  4  41        0  2  10
 0  0  12        0  0  4
----------     ----------
 0  6.5  64.5        0  3  17
----------     ----------
DAY= 3
 0  0  18.5        0  0  5
 0  7.5  24.5        0  3  5
 0  1.5  8        0  1  4
----------     ----------
 0  9  51        0  4  14
----------     ----------
DAY= 4
 7  0  9.5        2  0  5
 0  1.5  14        0  1  4
 0  4.5  6.5        0  1  3
----------     ----------
 7  6  30        2  2  12
----------     ----------
DAY= 5
 0  5.5  18        0  3  4
 0  1.5  4        0  1  2
 0  0  4        0  0  2
----------     ----------
 0  7  26        0  4  8
----------     ----------
```

Joiner Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 157 NO OF JOBS 36

TOTAL HOURS TO DAY 1 157 NO OF JOBS 36
TOTAL HOURS FOR DAY 2 138 NO OF JOBS 36

TOTAL HOURS TO DAY 2 295 NO OF JOBS 72
TOTAL HOURS FOR DAY 3 80 NO OF JOBS 20

TOTAL HOURS TO DAY 3 375 NO OF JOBS 92
TOTAL HOURS FOR DAY 4 67 NO OF JOBS 20

TOTAL HOURS TO DAY 4 442 NO OF JOBS 112
TOTAL HOURS FOR DAY 5 54 NO OF JOBS 14

TOTAL HOURS TO DAY 5 496 NO OF JOBS 126

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 12  5  25        2  2  6
 3  33.5  27       2  7  8
 0  16  35.5       0  2  7
----------    ----------
 15  54.5  87.5       4  11  21
----------    ----------
DAY= 2
 2.5  1  58.5        1  2  11
 4  15  23        2  4  8
 4.5  22.5  7        1  3  4
----------    ----------
 11  38.5  88.5       4  9  23
----------    ----------
DAY= 3
 1.5  5  5        1  2  2
 4  6  50.5        2  2  7
 0  3  5        0  2  2
----------    ----------
 5.5  14  60.5       3  6  11
----------    ----------
DAY= 4
 0  0  30.5        0  0  7
 5.5  3.5  23        1  1  8
 0  2.5  2        0  1  2
----------    ----------
 5.5  6  55.5       1  2  17
----------    ----------
DAY= 5
 11.5  0  20        1  0  4
 3.5  11.5  3.5        1  3  3
 0  2.5  1.5        0  1  1
----------    ----------
 15  14  25        2  4  8
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 68 NO OF JOBS 14

TOTAL HOURS TO DAY 1 68 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 22 NO OF JOBS 8

TOTAL HOURS TO DAY 2 90 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 146 NO OF JOBS 32

TOTAL HOURS TO DAY 3 236 NO OF JOBS 54
TOTAL HOURS FOR DAY 4 22 NO OF JOBS 8

TOTAL HOURS TO DAY 4 258 NO OF JOBS 62
TOTAL HOURS FOR DAY 5 94 NO OF JOBS 22

TOTAL HOURS TO DAY 5 352 NO OF JOBS 84

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  20.5  20        0  3  4
 0  5.5  16        0  1  4
 0  0  6        0  0  2
----------    ----------
 0  26  42        0  4  10
----------    ----------
DAY= 2
 0  2.5  0.5        0  1  1
 5.5  1.5  12        1  1  4
 0  0  0        0  0  0
----------    ----------
 5.5  4  12.5        1  2  5
----------    ----------
DAY= 3
 0  10  52        0  2  10
 13  12.5  41        2  3  12
 0  0  17.5        0  0  3
----------    ----------
 13  22.5  110.5       2  5  25
----------    ----------
DAY= 4
 0  0  2.5        0  0  1
 0  3  5.5        0  2  3
 0  1.5  9.5        0  1  1
----------    ----------
 0  4.5  17.5        0  3  5
----------    ----------
DAY= 5
 0  4.5  8.5        0  3  3
 19  15.5  31        2  5  6
 0  2.5  13        0  1  2
----------    ----------
 19  22.5  52.5       2  9  11
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 110 NO OF JOBS 34

TOTAL HOURS TO DAY 1 110 NO OF JOBS 34
TOTAL HOURS FOR DAY 2 70 NO OF JOBS 14

TOTAL HOURS TO DAY 2 180 NO OF JOBS 48
TOTAL HOURS FOR DAY 3 114 NO OF JOBS 36

TOTAL HOURS TO DAY 3 294 NO OF JOBS 84
TOTAL HOURS FOR DAY 4 55 NO OF JOBS 18

TOTAL HOURS TO DAY 4 349 NO OF JOBS 102
TOTAL HOURS FOR DAY 5 81 NO OF JOBS 20

TOTAL HOURS TO DAY 5 430 NO OF JOBS 122

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 1.5  8.5  19.5      1  5  7
 7.5  12  32      3  4  8
 13.5  4  11.5      1  2  3
----------   ----------
 22.5  24.5  63      5  11  18
----------   ----------
DAY= 2
 0  4  14.5      0  2  3
 0  15.5  34.5      0  1  7
 0  0  1.5      0  0  1
----------   ----------
 0  19.5  50.5      0  3  11
----------   ----------
DAY= 3
 0  12  13.5      0  2  7
 0  10  30.5      0  6  11
 0  14  34      0  4  6
----------   ----------
 0  36  78      0  12  24
----------   ----------
DAY= 4
 0.5  4.5  14      1  1  4
 0  5.5  24.5      0  1  7
 0  0  6      0  0  4
----------   ----------
 0.5  10  44.5      1  2  15
----------   ----------
DAY= 5
 0  12  32      0  4  6
 3.5  24.5  3.5      1  7  1
 0  5.5  0      0  1  0
----------   ----------
 3.5  42  35.5      1  12  7
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 77 NO OF JOBS 20

TOTAL HOURS TO DAY 1 77 NO OF JOBS 20
TOTAL HOURS FOR DAY 2 96 NO OF JOBS 20

TOTAL HOURS TO DAY 2 173 NO OF JOBS 40
TOTAL HOURS FOR DAY 3 33 NO OF JOBS 12

TOTAL HOURS TO DAY 3 206 NO OF JOBS 52
TOTAL HOURS FOR DAY 4 55 NO OF JOBS 20

TOTAL HOURS TO DAY 4 261 NO OF JOBS 72
TOTAL HOURS FOR DAY 5 136 NO OF JOBS 34

TOTAL HOURS TO DAY 5 397 NO OF JOBS 106

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 2.5  0  6.5      1  0  3
 7.5  3  34.5      1  2  7
 0  3  20      0  2  4
----------   ----------
 10  6  61      2  4  14
----------   ----------
DAY= 2
 0  7  22      0  2  4
 19  12  12      2  2  4
 0  0  24      0  0  6
----------   ----------
 19  19  58      2  4  14
----------   ----------
DAY= 3
 4.5  0.5  12.5      1  1  5
 0  0  11.5      0  0  3
 0  0  4      0  0  2
----------   ----------
 4.5  0.5  28      1  1  10
----------   ----------
DAY= 4
 0  0  17      0  0.6
 3.5  9  11      1  2  6
 0  2.5  12      0  1  4
----------   ----------
 3.5  11.5  40      1  3  16
----------   ----------
DAY= 5
 0  10  13      0  2  4
 12  25  58      2  6  14
 7  2.5  8.5      2  1  3
----------   ----------
 19  37.5  79.5      4  9  21
----------   ----------
```

Joiner Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 49 NO OF JOBS 14

TOTAL HOURS TO DAY 1 49 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 106 NO OF JOBS 32

TOTAL HOURS TO DAY 2 155 NO OF JOBS 46
TOTAL HOURS FOR DAY 3 99 NO OF JOBS 20

TOTAL HOURS TO DAY 3 254 NO OF JOBS 66
TOTAL HOURS FOR DAY 4 48 NO OF JOBS 16

TOTAL HOURS TO DAY 4 302 NO OF JOBS 82
TOTAL HOURS FOR DAY 5 38 NO OF JOBS 12

TOTAL HOURS TO DAY 5 340 NO OF JOBS 94
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  20.5      0  0  5
 0  11  13      0  4  4
 0  0  4.5      0  0  1
----------   ----------
 0  11  38      0  4  10
----------   ----------
DAY= 2
 3.5  14  35      1  2  10
 0  8  26      0  2  10
 0  6  13.5      0  2  5
----------   ----------
 3.5  28  74.5      1  6  25
----------   ----------
DAY= 3
 0  2.5  24.5      0  1  7
 1.5  19.5  31.5      1  1  7
 15.5  0  4      1  0  2
----------   ----------
 17  22  60      2  2  16
----------   ----------
DAY= 4
 8  1.5  4.5      2  1  3
 0  12  6.5      0  4  1
 3.5  8.5  3.5      1  3  1
----------   ----------
 11.5  22  14.5      3  8  5
----------   ----------
DAY= 5
 0  0  17      0  0  4
 0  9.5  4      0  3  2
 3.5  0.5  3.5      1  1  1
----------   ----------
 3.5  10  24.5      1  4  7
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 122 NO OF JOBS 36

TOTAL HOURS TO DAY 1 122 NO OF JOBS 36
TOTAL HOURS FOR DAY 2 128 NO OF JOBS 32

TOTAL HOURS TO DAY 2 250 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 55 NO OF JOBS 20

TOTAL HOURS TO DAY 3 305 NO OF JOBS 88
TOTAL HOURS FOR DAY 4 62 NO OF JOBS 18

TOTAL HOURS TO DAY 4 367 NO OF JOBS 106
TOTAL HOURS FOR DAY 5 32 NO OF JOBS 8

TOTAL HOURS TO DAY 5 399 NO OF JOBS 114
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 11.5  11.5  31      3  3  6
 4  12  31.5      2  4  9
 0  5.5  15      0  3  6
----------   ----------
 15.5  29  77.5      5  10  21
----------   ----------
DAY= 2
 0  11  5.5      0  2  3
 16  4.5  40.5      2  3  9
 0.5  6  44      1  4  8
----------   ----------
 16.5  21.5  90      3  9  20
----------   ----------
DAY= 3
 5.5  13  17.5      1  4  7
 2.5  10  6.5      1  4  3
 0  0  0      0  0  0
----------   ----------
 8  23  24      2  8  10
----------   ----------
DAY= 4
 0  0.5  14      0  1  4
 11.5  3  19.5      3  2  5
 0  1.5  12      0  1  2
----------   ----------
 11.5  5  45.5      3  4  11
----------   ----------
DAY= 5
 0  1.5  2.5      0  1  1
 0  0  10.5      0  0  3
 0  3.5  14      0  1  2
----------   ----------
 0  5  27      0  2  6
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 66 NO OF JOBS 12

TOTAL HOURS TO DAY 1 66 NO OF JOBS 12
TOTAL HOURS FOR DAY 2 65 NO OF JOBS 20

TOTAL HOURS TO DAY 2 131 NO OF JOBS 32
TOTAL HOURS FOR DAY 3 152 NO OF JOBS 36

TOTAL HOURS TO DAY 3 283 NO OF JOBS 68
TOTAL HOURS FOR DAY 4 65 NO OF JOBS 14

TOTAL HOURS TO DAY 4 348 NO OF JOBS 82
TOTAL HOURS FOR DAY 5 36 NO OF JOBS 16

TOTAL HOURS TO DAY 5 384 NO OF JOBS 98

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 4.5  3  0       1  2  0
 2.5  9  35.5      1  2  5
 11.5  0  0      1  0  0
----------    ----------
 18.5  12  35.5      3  4  5
----------    ----------
DAY= 2
 0  1.5  43.5       0  1  9
 0  0  12       0  0  6
 0  0  8       0  0  4
----------    ----------
 0  1.5  63.5       0  1  19
----------    ----------
DAY= 3
 4.5  13  42       1  4  8
 0  24  62       0  6  16
 0  0  6.5       0  0  1
----------    ----------
 4.5  37  110.5       1  10  25
----------    ----------
DAY= 4
 1.5  5  1.5       1  2  1
 0  20  35.5       0  2  7
 0  1.5  0       0  1  0
----------    ----------
 1.5  26.5  37       1  5  8
----------    ----------
DAY= 5
 1.5  7.5  9       1  3  2
 1.5  1.5  10.5       1  1  5
 2  2.5  0       2  1  0
----------    ----------
 5  11.5  19.5       4  5  7
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 59 NO OF JOBS 20

TOTAL HOURS TO DAY 1 59 NO OF JOBS 20
TOTAL HOURS FOR DAY 2 135 NO OF JOBS 36

TOTAL HOURS TO DAY 2 194 NO OF JOBS 56
TOTAL HOURS FOR DAY 3 83 NO OF JOBS 20

TOTAL HOURS TO DAY 3 277 NO OF JOBS 76
TOTAL HOURS FOR DAY 4 51 NO OF JOBS 14

TOTAL HOURS TO DAY 4 328 NO OF JOBS 90
TOTAL HOURS FOR DAY 5 43 NO OF JOBS 14

TOTAL HOURS TO DAY 5 371 NO OF JOBS 104

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 10  6.5  13.5       2  3  7
 7.5  2.5  7.5       1  1  3
 0  0  11.5       0  0  3
----------    ----------
 17.5  9  32.5       3  4  13
----------    ----------
DAY= 2
 0  12.5  33.5       0  3  7
 0  6.5  30.5       0  3  11
 11  7  34       2  2  8
----------    ----------
 11  26  98       2  8  26
----------    ----------
DAY= 3
 0  0  23       0  0  6
 0  9  20.5       0  4  3
 0  7  23.5       0  2  5
----------    ----------
 0  16  67       0  6  14
----------    ----------
DAY= 4
 2.5  1.5  21.5       1  1  5
 4  9  11       2  2  2
 0  1.5  0       0  1  0
----------    ----------
 6.5  12  32.5       3  4  7
----------    ----------
DAY= 5
 0  3  6       0  2  2
 0  2.5  30       0  1  8
 0  1.5  0       0  1  0
----------    ----------
 0  7  36       0  4  10
----------    ----------
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Joiner Estates 1,2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  27  NO OF JOBS  14

TOTAL HOURS TO DAY  1  27  NO OF JOBS 14
TOTAL HOURS FOR DAY  2  56  NO OF JOBS  20

TOTAL HOURS TO DAY  2  83  NO OF JOBS 34
TOTAL HOURS FOR DAY  3  123  NO OF JOBS  34

TOTAL HOURS TO DAY  3  206  NO OF JOBS 68
TOTAL HOURS FOR DAY  4  34  NO OF JOBS  8

TOTAL HOURS TO DAY  4  240  NO OF JOBS 76
TOTAL HOURS FOR DAY  5  131  NO OF JOBS  34

TOTAL HOURS TO DAY  5  371  NO OF JOBS 110
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  6.5  5       0  3  2
 0  5.5  5       0  3  4
 0  0  5       0  0  2
----------    ----------
 0  12  15       0  6  8
----------    ----------
DAY= 2
 0  8.5  18       0  1  6
 6.5  0.5  15       3  1  6
 0  3  4.5       0  2  1
----------    ----------
 6.5  12  37.5       3  4  13
----------    ----------
DAY= 3
 0  20  34.5       0  2  11
 3.5  30  21.5       1  6  7
 0  4.5  9       0  3  4
----------    ----------
 3.5  54.5  65       1  11  22
----------    ----------
DAY= 4
 0  0  0       0  0  0
 0  9  21.5       0  2  5
 0  3.5  0       0  1  0
----------    ----------
 0  12.5  21.5       0  3  5
----------    ----------
DAY= 5
 2.5  9.5  31.5       1  1  9
 0  18  39.5       0  2  13
 2.5  13.5  14       1  3  4
----------    ----------
 5  41  85       2  6  26
----------    ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  89  NO OF JOBS  32

TOTAL HOURS TO DAY  1  89  NO OF JOBS 32
TOTAL HOURS FOR DAY  2  120  NO OF JOBS  36

TOTAL HOURS TO DAY  2  209  NO OF JOBS 68
TOTAL HOURS FOR DAY  3  72  NO OF JOBS  20

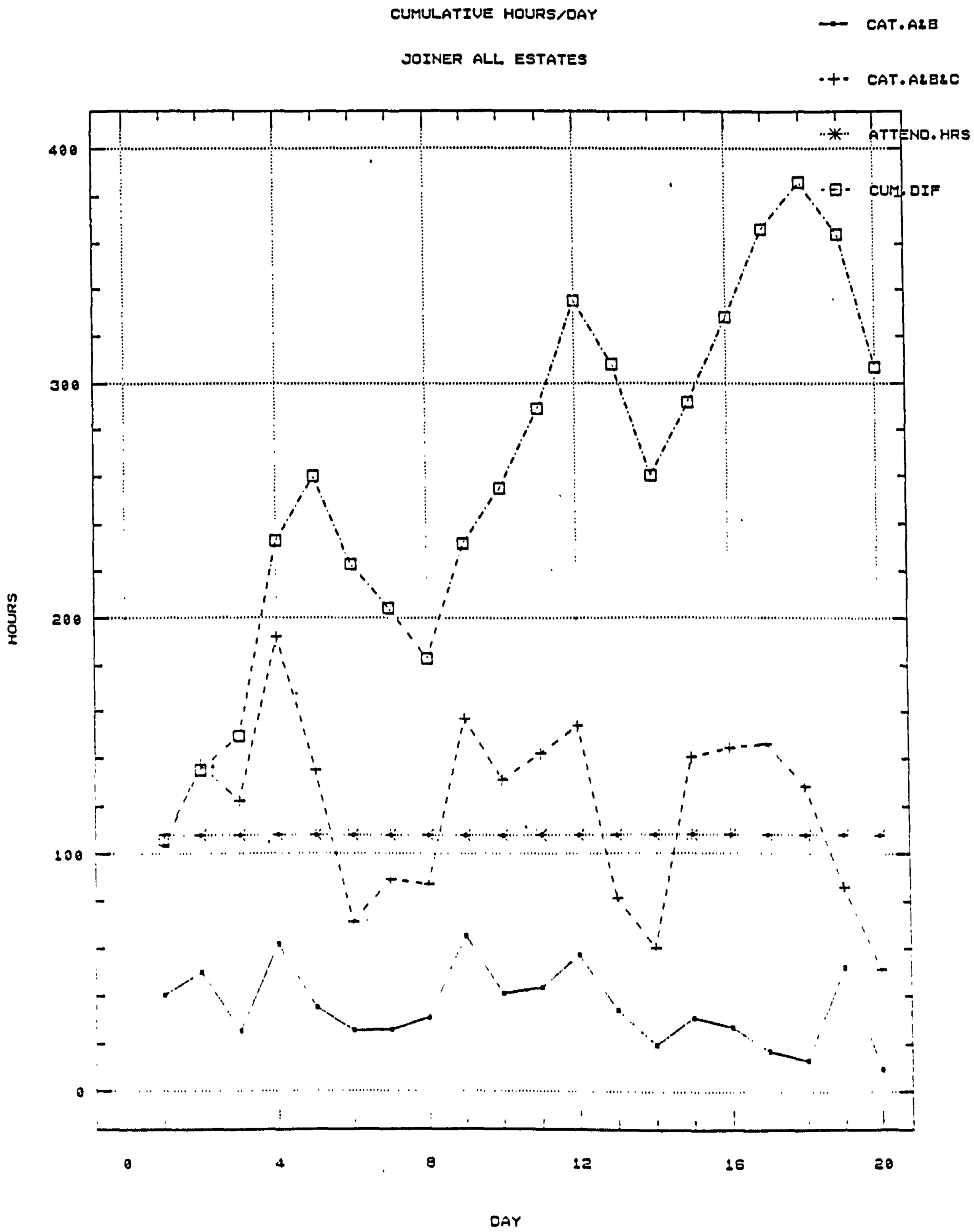
TOTAL HOURS TO DAY  3  281  NO OF JOBS 88
TOTAL HOURS FOR DAY  4  155  NO OF JOBS  34

TOTAL HOURS TO DAY  4  436  NO OF JOBS 122
TOTAL HOURS FOR DAY  5  40  NO OF JOBS  10

TOTAL HOURS TO DAY  5  476  NO OF JOBS 132
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  7.5  19.5       0  1  9
 0  8  21.5       0  4  9
 0  6  26.5       0  2  7
----------    ----------
 0  21.5  67.5       0  7  25
----------    ----------
DAY= 2
 0  3.5  45       0  3  12
 14  7  23       2  2  8
 0  15.5  12       0  3  6
----------    ----------
 14  26  80       2  8  26
----------    ----------
DAY= 3
 1.5  2  9.5       1  2  3
 11  7.5  9       2  3  4
 3.5  12  16       1  2  2
----------    ----------
 16  21.5  34.5       4  7  9
----------    ----------
DAY= 4
 2.5  23.5  43       1  5  10
 0  16.5  40       0  5  8
 0  16  13.5       0  2  3
----------    ----------
 2.5  56  96.5       1  12  21
----------    ----------
DAY= 5
 0  4  0       0  2  0
 8.5  2.5  10       1  1  2
 0.5  0  14.5       1  0  3
----------    ----------
 9  6.5  24.5       2  3  5
----------    ----------
```

Joiner Estates 1,2 & 5



WEEKS 16 TO 13

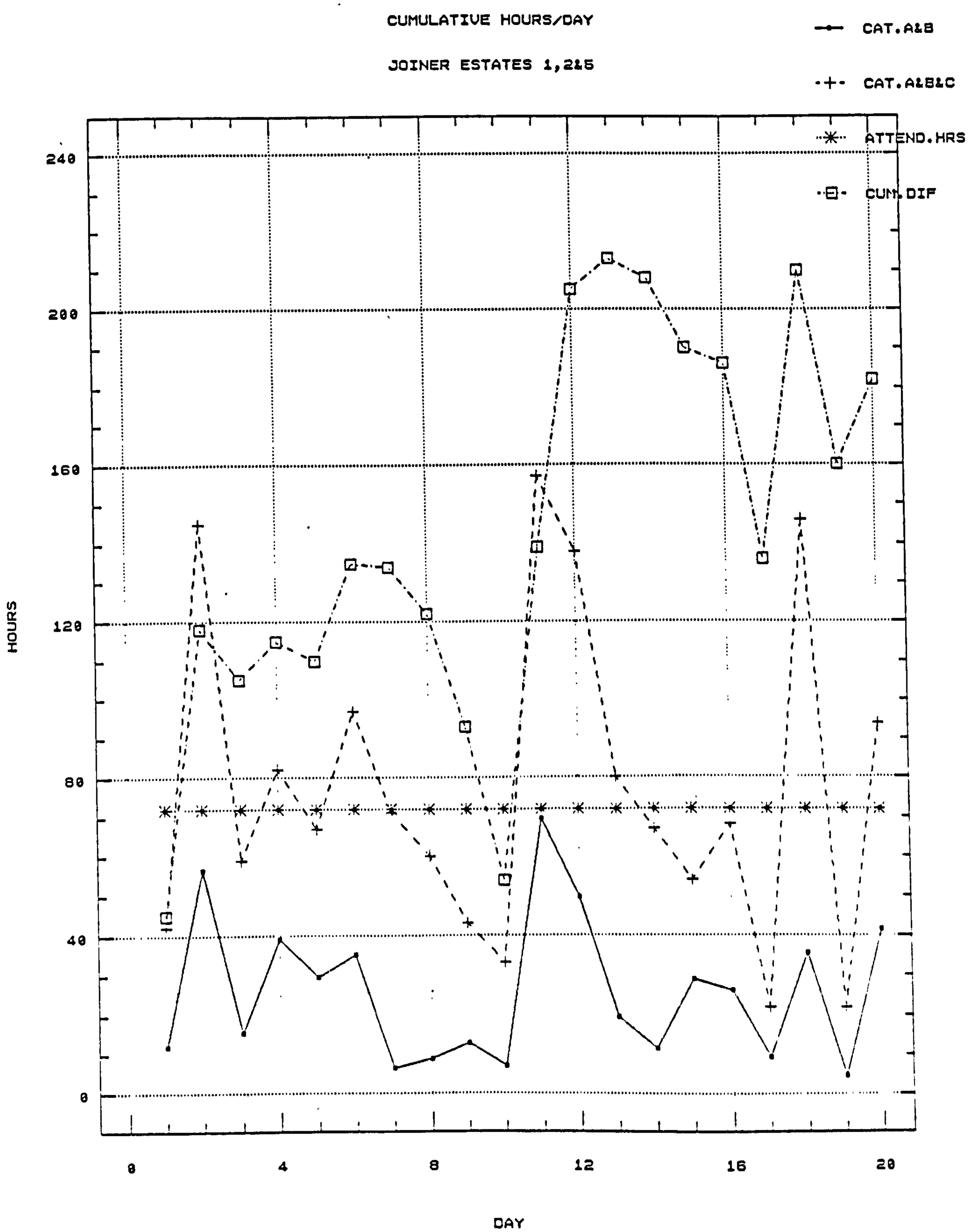
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
111	4	36.5	62.5	40.5	103	214	108	106	1	99	0.981481
106	5.5	44.5	87	50	137	243	108	135	2	131.5	1.25
135	1.5	24	96.5	25.5	122	257	108	149	3	120.5	1.379629
149	17.5	44	130.5	61.5	192	341	108	233	4	174.5	2.157407
233	2.5	32.5	100	35	135	368	108	260	5	132.5	2.407407
260	7.5	18	45.5	25.5	71	331	108	223	6	63.5	2.064814
223	0	26	63	26	89	312	108	204	7	89	1.888888
204	0.5	30.5	56	31	87	291	108	183	8	86.5	1.694444
183	12	53	92	65	157	340	108	232	9	145	2.148148
232	0	41	90	41	131	363	108	255	10	131	2.361111
255	16	27.5	98.5	43.5	142	397	108	289	11	126	2.675925
289	24	33	97	57	154	443	108	335	12	130	3.101851
335	0	34	47	34	81	416	108	308	13	81	2.851851
308	3.5	16	40.5	19.5	60	368	108	260	14	56.5	2.407407
260	14	17	109	31	140	400	108	292	15	126	2.703703
292	6.5	20.5	117	27	144	436	108	328	16	137.5	3.037037
328	13	4	129	17	146	474	108	366	17	133	3.388888
366	0	13	115	13	128	494	108	386	18	128	3.574074
386	0	52	34	52	86	472	108	364	19	86	3.370370
364	0.5	9	41.5	9.5	51	415	108	307	20	50.5	2.842592
										111.375	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
75	8	4	30	12	42	117	72	45	1	34	0.625
45	27.5	29	88.5	56.5	145	190	72	118	2	117.5	1.638888
118	2.5	13	43.5	15.5	59	177	72	105	3	56.5	1.458333
105	22.5	16.5	43	39	82	187	72	115	4	59.5	1.597222
115	0	29.5	37.5	29.5	67	182	72	110	5	67	1.527777
110	0	35	62	35	97	207	72	135	6	97	1.875
135	0	6.5	64.5	6.5	71	206	72	134	7	71	1.861111
134	0	9	51	9	60	194	72	122	8	60	1.694444
122	7	6	30	13	43	165	72	93	9	36	1.291666
93	0	7	26	7	33	126	72	54	10	33	0.75
54	15	54.5	87.5	69.5	157	211	72	139	11	142	1.930555
139	11	38.5	88.5	49.5	138	277	72	205	12	127	2.847222
205	5.5	14	60.5	19.5	80	285	72	213	13	74.5	2.958333
213	5.5	6	55.5	11.5	67	280	72	208	14	61.5	2.888888
208	15	14	25	29	54	262	72	190	15	39	2.638888
190	0	26	42	26	68	258	72	186	16	68	2.583333
186	5.5	4	12.5	9.5	22	208	72	136	17	16.5	1.888888
136	13	22.5	110.5	35.5	146	282	72	210	18	133	2.916666
210	0	4.5	17.5	4.5	22	232	72	160	19	22	2.222222
160	19	22.5	52.5	41.5	94	254	72	182	20	75	2.527777
										69.5	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

PLUMBER

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TRADE PLUMBER

Est Day	WARD 1 A	WARD 1 B	WARD 1 C	WARD 1 D	WARD 1 E	WARD 15 A	WARD 15 B	WARD 15 C	WARD 15 D	WARD 15 E	ESTATE 1 A	ESTATE 1 B	ESTATE 1 C	ESTATE 1 D	ESTATE 1 E	A	B	C	D	E	A	B	C	D	E
1																						–			
2	4	2	1	–	–	1	–	–	–	.	5	2	1	–	–							8			
3	–	1	–	–	1	–	–	1	–	1	–	1	1		2							4			
4	–	7	–	6	–	1	–	–	–	2	1	7		6	2							10			
5	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–							1			
Weekly Total											7	10	6	6								23			
1	7	–	1	–	–	–	1	–	–	–	7	1	1	–	–							9			
2	1	5	1	–	–	1	–	–	–	–	2	5	1	–	–							8			
3	3	4	1	–	–	–	–	–	–	–	3	4	1	–	–							8			
4	3	1	2	4		–	1	–	–	–	3	2	2	4								7			
5	4	3	–	–	–	–	1	–	–	–	4	4	–	–	–							8			
Weekly Total											19	16	5	4								40			
1	2	4	–	–	–	1	–	–	–	–	3	4	–	–	–							7			
2	1	3	–	–	2	1	–	–	–	–	2	3	–	–	2							7			
3	–	4	–	–	–	2	1	–	–	–	2	5	–	–	–							7			
4	3	2	1	–	–	1	2	–	–	–	3	4	1	–	–							8			
5	3	1	1	–	–	1	1	–	–	–	4	2	1	–	–							7			
Weekly Total											14	18	4	–								36			

TRADE PLUMBER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	4	7	2	2	-	-	1	-	-	-	4	8	2	2	-							14			
2	3	2	-	1	-	-	-	-	-	-	3	2	-	1	-							5			
3	2	1	1	1	2	2	1	-	-	-	4	3	1	1	2							10			
4	-	1	1	1	1	1	-	-	-	-	1	1	1	1	1							4			
5	6	-	2	-	-	-	-	-	1	-	6	-	2	1	-							8			
Weekly Total											18	14	9	6								41			
1																						140			
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE PLUMBER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	3	1	9	-	-	3	1	9	-	-							13			
3	1	-	-	-	-	-	-	3	-	-	1	-	3	-	-							4			
4	2	-	5	-	-	2	1	2	-	-	4	1	7	-	-							12			
5	2	-	-	-	-	4	-	1	-	-	6	-	1	-	-							7			
Weekly Total											14	2	20									36			
1	-	6	-	-	-	-	5	1	-	1	-	11	1	-	1							13			
2	-	3	-	-	-	-	4	-	-	-	-	7	-	-	-							7			
3	-	1	-	-	1	-	8	-	-	-	-	9	-	-	1							10			
4	-	3	-	-	1	-	4	1	-	-	-	7	1	-	1							9			
5	-	2		-	-	-	3	-	-	-	-	5	-	-	-							5			
Weekly Total											-	39	5	-	-							44			
1	-	2	2	-	-	-	5	1	-	-	-	7	3	-	-							10			
2	1	1	-	-	-	-	5	-	-	-	1	6	-	-	-							7			
3	1	6	-	-	-	-	11	-	-	-	1	17	-	-	-							18			
4	-	5	-	-	-	-	8	-	-	-	-	13	-	-	-							13			
5	1	1	-	-	-	-	1	-	-	-	1	2	-	-	-							3			
Weekly Total											3	45	3									51			

TRADE PLUMBER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	1	1	5	-	-	1	-	5	-	-	2	1	10	-	-							13			
2	4	1	9	-	-	3	-	1	-	-	7	1	10	-	-							18			
3	2	-	2	-	-	2	-	-	-	-	4	-	2	-	-							6			
4	1	2	2	-	-	2	-	1	-	-	3	2	2	-	-							7			
5	-	-	4	-	-	4	-	1	-	-	4	-	5	-	-							9			
Weekly Total											20	4	29									53			
1																									
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE PLUMBER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	1	1	5	-	-	1	-	5	-	-	2	1	10	-	-							13			
2	4	1	9	-	-	3	-	1	-	-	7	1	10	-	-							18			
3	2	-	2	-	-	2	-	-	-	-	4	-	2	-	-							6			
4	1	2	2	-	-	2	-	1	-	-	3	2	2	-	-							7			
5	-	-	4	-	-	4	-	1	-	-	4	-	5	-	-							9			
Weekly Total											20	4	29									53			
1																									
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE PLUMBER

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	1	-	-	-	-	3	1	-	-	-	4	1	-								4		5
3	-	-	5	1	-	-	-	7	9	-	-	-	12	10	-								12		22
4	1	-	2	-	-	-	-	6	2	-	1	-	8	2	-								9		12
5	-	-	2	-	-	-	-	1	1	2	-	-	3	1	2								5		6
Weekly Total													29	14											
1	-	3	-	2	-	-	10	1	-	-	-	13	1	2	-								14		16
2	-	1	1	3	-	-	5	4	1	-	-	6	5	4	-								11		15
3	-	-	2	-	-	-	3	3	2	-	-	3	5	2	-								8		10
4	-	-	-	-	-	-	4	-	3	-	-	4	-	3	-								4		7
5	-	2	1	-	-	-	1	3	-	-	-	3	4	-	-								7		7
Weekly Total											-	29	15	11											
1	-	4	-	-	-	-	2	3	1	-	-	6	3	1	-								9		10
2	-	4	1	1	-	-	5	2	1	1	-	9	3	2	1								13		15
3	-	-	2	-	-	-	1	2	-	-	-	1	4	-	-								5		5
4	-	1	2	3	-	-	4	4	3	-	-	5	6	6	-								11		17
5	-	2	-	-	-	-	1	1	7	-	-	3	1	7	-								4		11
Weekly Total												24	18	16											

TRADE PLUMBER

Est Day	WARD 12 A	B	C	D	L	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	1	-	-	1	-	-	-	9	5	-	1	-	9	6	-								10		16
2	-	-	-	2	-	-	-	1	1	-	-	-	1	3	-								1		4
3	1	-	3	1	-	1	-	3	1	-	2	-	6	2	-								8		10
4	-	-	1	2	-	1	-	5	2	-	1	-	6	4	-								7		11
5	-	-	1	3	-	-	1	2	-	-	-	1	3	3	-								4		7
Weekly Total											4	1	25	18											
1																							146		
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE PLUMBER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	6	2	-	-	-	1	-	-	1	-	-	-	-	-	-	4	-	2	1	-	11	2	2	2	-
3	1	1	2	-	-	-	-	-	-	-	2	-	-	-	-	1	1	-	-	-	4	2	2	-	-
4	2	-	2	-	-	-	1	1	-	-	-	-	-	-	-	1	2	2	-	-	3	3	5	-	-
5	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	2	-	2	-	-
Weekly Total																					20	7	11	2	
1	2	3	-	-	-	-	-	1	-	-	-	2	-	-	-	4	-	-	-	-	6	5	1	-	-
2	-	1		-	-	-	-	1	-	-	-	-	1	1	-	1	-	-	1	-	1	1	2	2	-
3	5	3	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	-	-	5	6	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
5	2	4	2	-	-	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	3	5	3	-	-
Weekly Total																					15	17	7	2	-
1	1	1	-	-	-	2	1	-	-	-	1	-	-	-	-	8		1	-	-	12	2	1	-	-
2	2	1	-	-	-	1	1	1	-	-	-	-	-	-	-	1	2	3	-	1	4	4	4	-	1
3	1	4	2	-	-	-	-	-	-	-	-	-	-	-	-	2	3	1	3	1	3	7	3	3	-
4	1	1	-	4	-	-	-	-	-	-	1	-	-	1	-	1	-	-	4	-	3	1	-	9	-
5	-	2	-	-	-	2	2	-	-	-	1	1	-	-	-	-	1	1	-	-	3	6	1	-	-
Weekly Total																					25	20	10	12	

TRADE PLUMBER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	5	-	4	-	-	1	-	3	-	-	5	-	5	-	-	-	-	1	-	-	11	-	13	-	-
2	1	-	-	-	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	4	-	2	-	-
3	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-	4	2	1
4	-	-	2	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	2	-	2	2	-
5	-	-	-	-	-	-	2	2	-	-	-	-	3	-	-	-	-	-	-	-	-	2	5	-	-
Weekly Total																					17	2	27	4	
1																									
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE PLUMBER

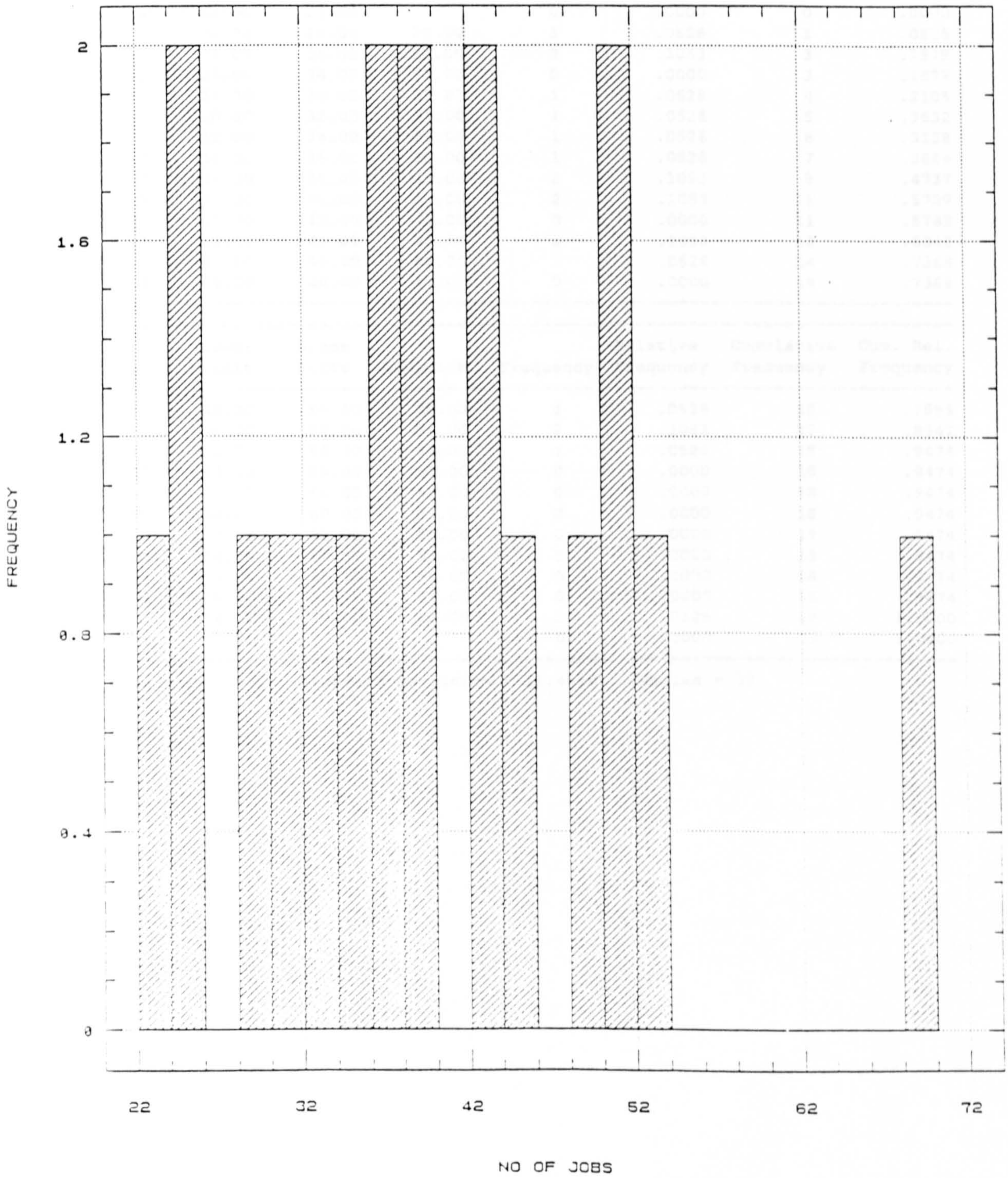
Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	1	-	-	1	-	8	3	-	1	-	2	1	-	2	-	11	4	-
3	-	-	-	-	-	-	-	-	1	-	1	1	5	2	-	1	-	-	2	-	2	1	5	5	-
4	1	-	-	-	-	-	1	-	1	-	-	-	1	1	-	-	-	1	-	3	1	1	2	2	3
5	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	2	4	-	-	5	2	4
Weekly Total																					5	2	30	13	
1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	1	-	-	-	2	2	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	5	-	1	1	1	6	-	1
3	-	-	-	-	-	1	1	-	-	-	-	8		-	-	-	5	-	5	-	1	14	-	5	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	1	-	4	-	1	1	-	8	-
5	-	-	-	-	-	-	-	-	-	-	-	1	1	3	-	-	2	1	-	1	-	3	2	3	1
Weekly Total																					3	21	12	16	-
1	-	-	-	-	-	-	-	-	1	-	-	2	-	4	-	-	1	-	4	-	-	3	-	9	-
2	-	-	-	-	-	-	-	-	1	-	-	2	1	6	-	-	-	-	-	-	-	2	1	7	-
3	-	-	-	-	-	-	-	-	-	-	-	-	3	7	-	-	-	-	5	-	-	-	3	12	-
4	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-		1	-	-	-	-	1	1	1	-
5	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	5	-	-	1	1	6	-
Weekly Total																					-	7	6	35	

TRADE PLUMBER

Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	1	-	-	-	-	4	-	-	-	-	3	-	-	-	-	8	-	-
2	-	-		-	-	-	-	-	-	-	-	-	4	1	1	-	-	2	-	-	-	-	6	1	1
3	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	3	2	-	-	-	5	2	-
4	-	-	-	-	-	-	-		1	-	-	-	6	1	-	-	-	3	8	-	-	-	9	10	-
5	-	-	-	-	-	-	-	-	2	-	1	-	1	2	-	-	-	-	1	-	1	-	1	5	-
Weekly Total																					1	-	30	18	
1																									
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

NUMBER OF JOBS/DAY

PLUMBER WORK ALL ESTATES



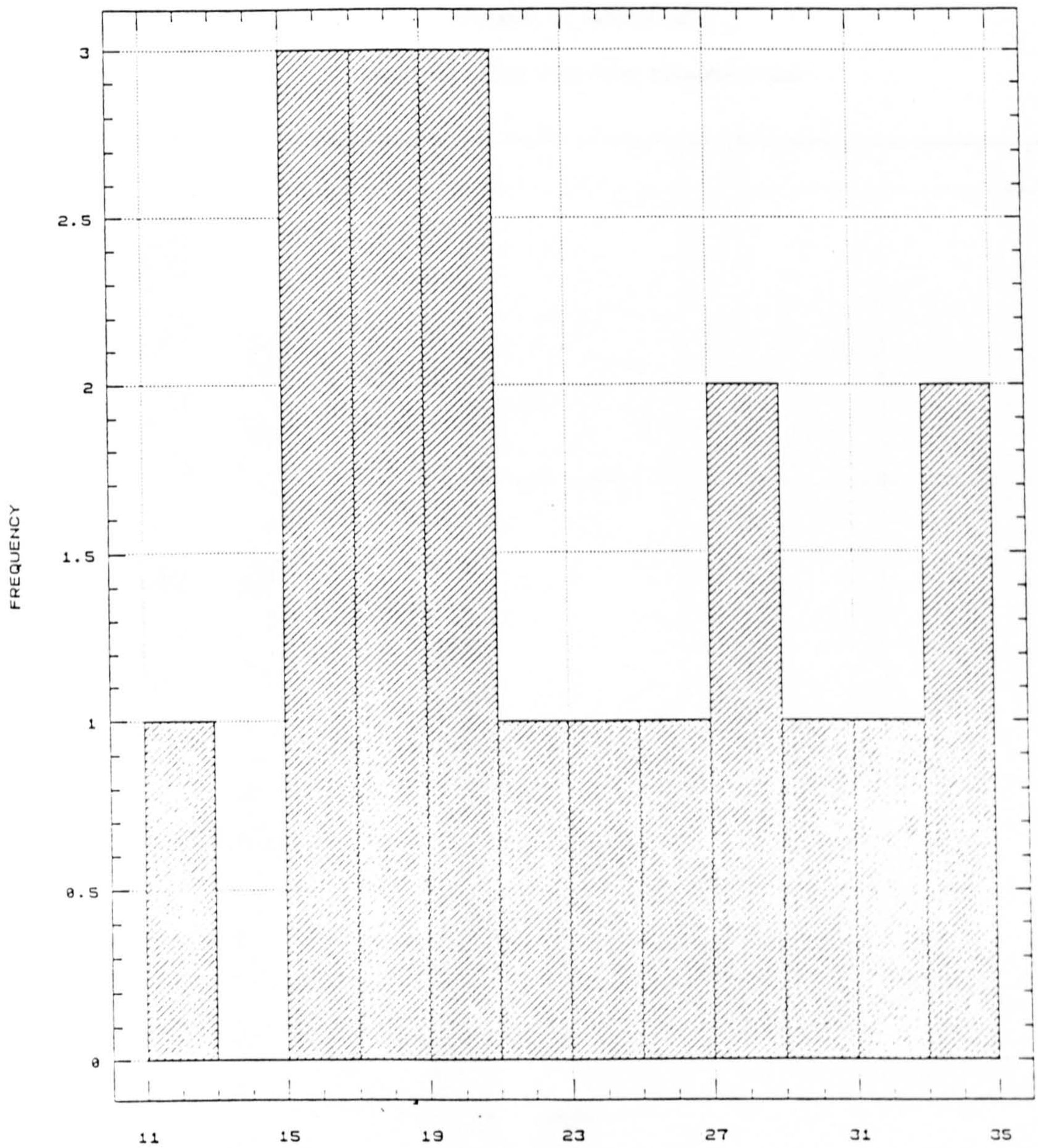
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		22.00		0	.0000	0	.0000
1	22.00	24.00	23.00	1	.0526	1	.0526
2	24.00	26.00	25.00	2	.1053	3	.1579
3	26.00	28.00	27.00	0	.0000	3	.1579
4	28.00	30.00	29.00	1	.0526	4	.2105
5	30.00	32.00	31.00	1	.0526	5	.2632
6	32.00	34.00	33.00	1	.0526	6	.3158
7	34.00	36.00	35.00	1	.0526	7	.3684
8	36.00	38.00	37.00	2	.1053	9	.4737
9	38.00	40.00	39.00	2	.1053	11	.5789
10	40.00	42.00	41.00	0	.0000	11	.5789
11	42.00	44.00	43.00	2	.1053	13	.6842
12	44.00	46.00	45.00	1	.0526	14	.7368
13	46.00	48.00	47.00	0	.0000	14	.7368
14	48.00	50.00	49.00	1	.0526	15	.7895
15	50.00	52.00	51.00	2	.1053	17	.8947
16	52.00	54.00	53.00	1	.0526	18	.9474
17	54.00	56.00	55.00	0	.0000	18	.9474
18	56.00	58.00	57.00	0	.0000	18	.9474
19	58.00	60.00	59.00	0	.0000	18	.9474
20	60.00	62.00	61.00	0	.0000	18	.9474
21	62.00	64.00	63.00	0	.0000	18	.9474
22	64.00	66.00	65.00	0	.0000	18	.9474
23	66.00	68.00	67.00	0	.0000	18	.9474
24	68.00	70.00	69.00	1	.0526	19	1.0000
above	70.00			0	.0000	19	1.0000

Mean = 40.3684 Standard Deviation = 11.4659 Median = 39

NUMBER OF JOBS/DAY

PLUMBER WORK ESTATES 1,2,5



NO OF JOBS

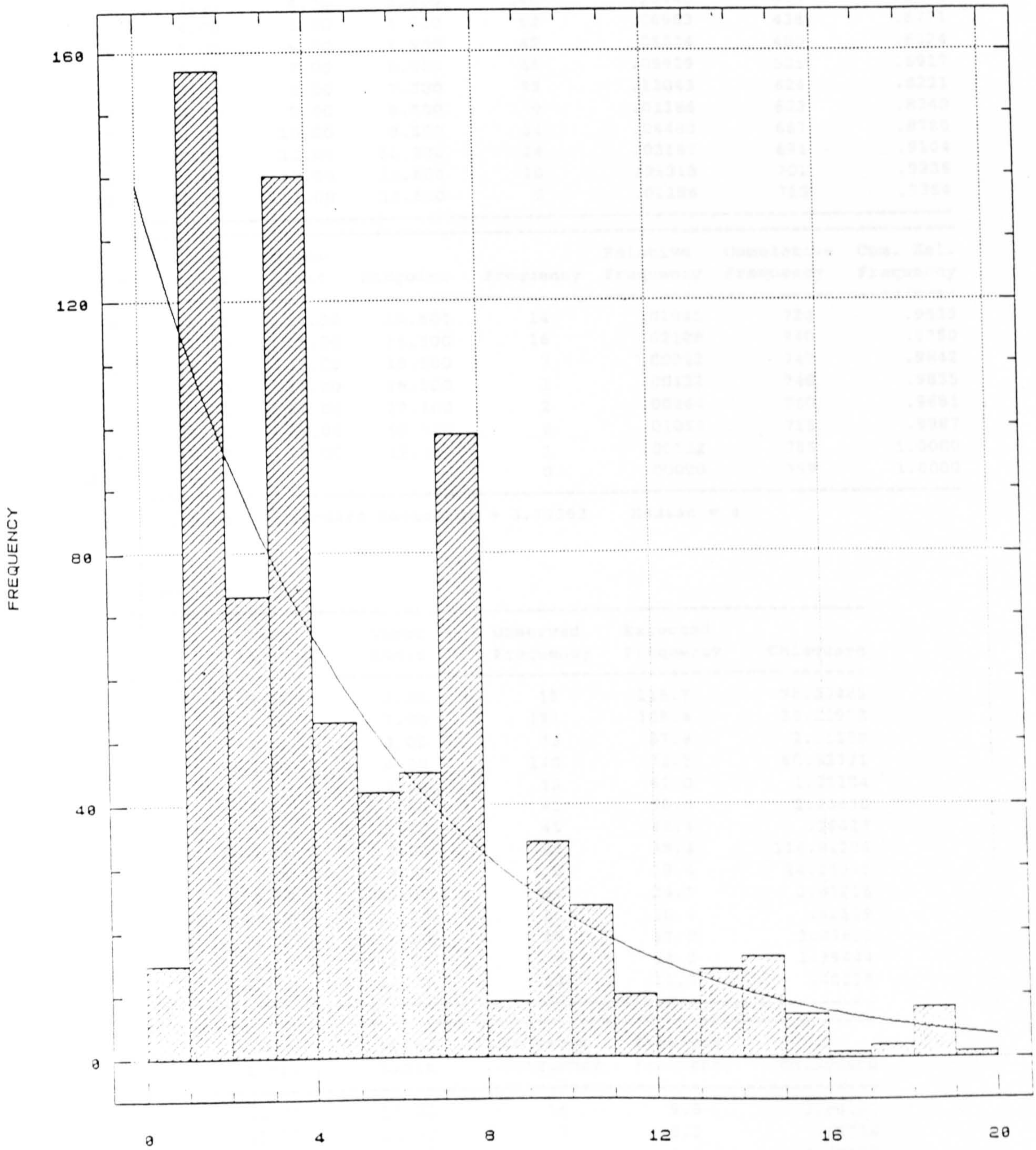
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		11.00		0	.0000	0	.0000
1	11.00	13.00	12.00	1	.0526	1	.0526
2	13.00	15.00	14.00	0	.0000	1	.0526
3	15.00	17.00	16.00	3	.1579	4	.2105
4	17.00	19.00	18.00	3	.1579	7	.3684
5	19.00	21.00	20.00	3	.1579	10	.5263
6	21.00	23.00	22.00	1	.0526	11	.5789
7	23.00	25.00	24.00	1	.0526	12	.6316
8	25.00	27.00	26.00	1	.0526	13	.6842
9	27.00	29.00	28.00	2	.1053	15	.7895
10	29.00	31.00	30.00	1	.0526	16	.8421
11	31.00	33.00	32.00	1	.0526	17	.8947
12	33.00	35.00	34.00	2	.1053	19	1.0000
above	35.00			0	.0000	19	1.0000

Mean = 23.2105 Standard Deviation = 6.68812 Median = 21

NUMBER OF HOURS/JOB

PLUMBER WORK PRIVATE CONTRACTORS



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.00000	0	.0000
1	.00	1.00	.500	15	.01976	15	.0198
2	1.00	2.00	1.500	157	.20685	172	.2266
3	2.00	3.00	2.500	73	.09618	245	.3228
4	3.00	4.00	3.500	140	.18445	385	.5072
5	4.00	5.00	4.500	53	.06983	438	.5771
6	5.00	6.00	5.500	42	.05534	480	.6324
7	6.00	7.00	6.500	45	.05929	525	.6917
8	7.00	8.00	7.500	99	.13043	624	.8221
9	8.00	9.00	8.500	9	.01186	633	.8340
10	9.00	10.00	9.500	34	.04480	667	.8788
11	10.00	11.00	10.500	24	.03162	691	.9104
12	11.00	12.00	11.500	10	.01318	701	.9236
13	12.00	13.00	12.500	9	.01186	710	.9354

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
14	13.00	14.00	13.500	14	.01845	724	.9539
15	14.00	15.00	14.500	16	.02108	740	.9750
16	15.00	16.00	15.500	7	.00922	747	.9842
17	16.00	17.00	16.500	1	.00132	748	.9855
18	17.00	18.00	17.500	2	.00264	750	.9881
19	18.00	19.00	18.500	8	.01054	758	.9987
20	19.00	20.00	19.500	1	.00132	759	1.0000
above	20.00			0	.00000	759	1.0000

Mean = 5.48355 Standard Deviation = 3.79363 Median = 4

Chisquare Test

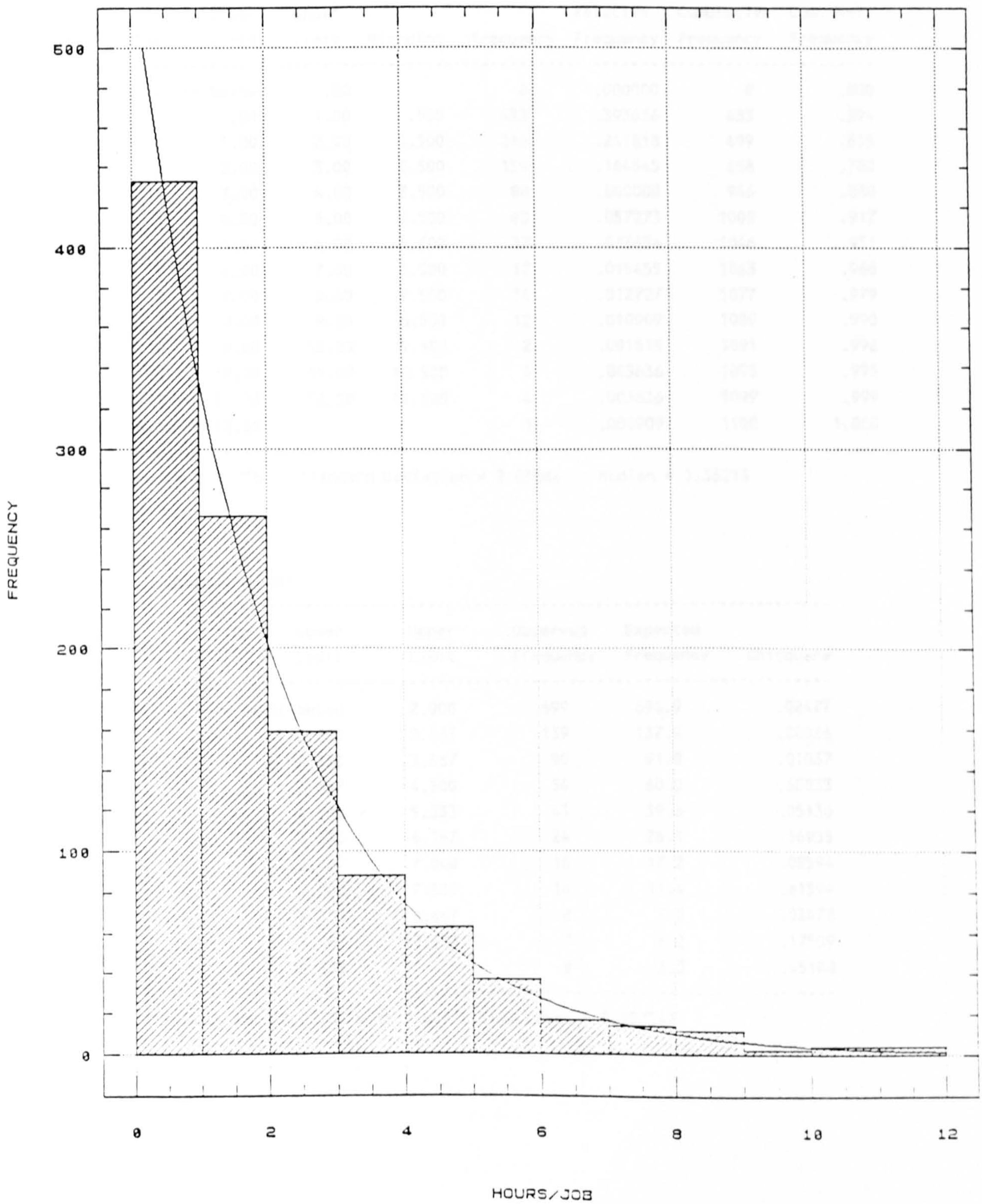
Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
at or below	1.00	15	126.5	98.30488
1.00	2.00	157	105.4	25.21958
2.00	3.00	73	87.9	2.51279
3.00	4.00	140	73.2	60.92721
4.00	5.00	53	61.0	1.05104
5.00	6.00	42	50.8	1.53630
6.00	7.00	45	42.4	.16417
7.00	8.00	99	35.3	114.94284
8.00	9.00	9	29.4	14.15973
9.00	10.00	34	24.5	3.67218
10.00	11.00	24	20.4	.62529
11.00	12.00	10	17.0	2.89615
12.00	13.00	9	14.2	1.89444
13.00	14.00	14	11.8	.40239

Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
14.00	15.00	16	9.8	3.84162
15.00	16.00	7	8.2	.17754
16.00	17.00	1	6.8	4.98517
17.00	18.00	2	5.7	2.40078
18.00	20.00	9	8.7	.00992
above 20.00		0	19.8	19.78115

Chisquare = 359.515 with 18 d.f. Sig. level = 0

NUMBER OF HOURS/JOB :RANDOM GENERATION

PLUMBER WORK ALL ESTATES



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.000000	0	.000
1	.00	1.00	.500	433	.393636	433	.394
2	1.00	2.00	1.500	266	.241818	699	.635
3	2.00	3.00	2.500	159	.144545	858	.780
4	3.00	4.00	3.500	88	.080000	946	.860
5	4.00	5.00	4.500	63	.057273	1009	.917
6	5.00	6.00	5.500	37	.033636	1046	.951
7	6.00	7.00	6.500	17	.015455	1063	.966
8	7.00	8.00	7.500	14	.012727	1077	.979
9	8.00	9.00	8.500	12	.010909	1089	.990
10	9.00	10.00	9.500	2	.001818	1091	.992
11	10.00	11.00	10.500	4	.003636	1095	.995
12	11.00	12.00	11.500	4	.003636	1099	.999
above	12.00			1	.000909	1100	1.000

Mean = 2.00238 Standard Deviation = 2.05866 Median = 1.36213

Chisquare Test

	Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
at or below		2.000	699	694.9	.02477
	2.000	2.833	139	137.9	.00836
	2.833	3.667	90	91.0	.01037
	3.667	4.500	54	60.0	.60033
	4.500	5.333	41	39.6	.05130
	5.333	6.167	24	26.1	.16935
	6.167	7.000	16	17.2	.08594
	7.000	7.833	14	11.4	.61594
	7.833	8.667	8	7.5	.03478
	8.667	10.333	7	8.2	.17509
above	10.333		8	6.3	.45108

Chisquare = 2.22732 with 9 d.f. Sig. level = 0.987342

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

1	1	2	3	3	1	1	5
1	2	1	3	3	2	2	2
1	3	2	4	3	3	3	4
1	4	1	1	3	4	1	2
1	5	1	2	3	5	3	5
1	6	1	4	3	6	3	4
1	7	3	4	3	7	3	2
1	8	3	4	3	8	3	4
1	9	2	1	3	9	3	1
1	10	3	2	3	10	1	4
1	11	3	1	3	11	2	1
1	12	1	1	3	12	2	4
1	13	3	1	3	13	2	3
1	14	1	4	3	14	3	3
1	15	3	3	3	15	3	4
1	16	3	3	3	16	2	4
1	17	3	5	3	17	1	4
1	18	3	5	3	18	1	1
1	19	3	3	3	19	2	3
1	20	3	5	3	20	3	3
1	21	2	2	3	21	2	2
1	22	2	4	3	22	2	4
1	23	3	2	3	23	2	3
1	24	2	3	3	24	2	5
1	25	1	3	3	25	3	1
1	26	2	4	3	26	1	1
1	27	2	5	3	27	2	3
1	28	1	4	3	28	3	4
1	29	1	4	3	29	3	4
1	30	2	1	3	30	2	1
1	31	2	5	3	31	1	2
1	32	3	1	3	32	3	5
1	33	2	3	3	33	2	1
1	34	3	4	3	34	1	1
1	35	3	4	3	35	3	1
1	36	2	4	3	36	2	3
1	37	2	5	3	37	2	3

TOTAL HOURS FOR DAY 1 139.5 NO OF JOBS 37

TOTAL HOURS TO DAY 1 139.5 NO OF JOBS 37

2	1	2	2	3	38	2	1
2	2	3	2	3	39	3	4
2	3	2	3	3	40	1	2
2	4	2	2	3	41	3	2
2	5	3	3	3	42	3	1
2	6	2	4	3	43	2	3
2	7	2	3	3	44	3	1
2	8	3	2	3	45	3	2
2	9	3	1	3	46	1	4
2	10	1	5	3	47	3	3
2	11	2	4	3	48	1	4
2	12	3	3	3	49	3	3
2	13	3	3	3	50	3	2
2	14	3	2	3	51	2	3
2	15	1	2	3	52	3	3
2	16	3	4	3	53	2	4
2	17	3	2	3	54	1	1
2	18	1	4	3	55	1	2
2	19	2	3	3	56	1	5
2	20	2	5	3	57	2	5
2	21	2	2	3	58	1	4
2	22	1	1	3	59	2	4
2	23	1	3	3	60	2	4
2	24	1	1	3	61	2	2
2	25	3	3	3	62	3	2
2	26	3	4	3	63	3	3
2	27	3	2	3	64	1	1
				3	65	3	3
				3	66	2	4
				3	67	3	4
				3	68	2	1
				3	69	3	5

TOTAL HOURS FOR DAY 2 153.5 NO OF JOBS 27

TOTAL HOURS TO DAY 2 293 NO OF JOBS 64

TOTAL HOURS FOR DAY 3 310.5 NO OF JOBS 69

TOTAL HOURS TO DAY 3 603.5 NO OF JOBS 133

4	1	2	1
4	2	3	2
4	3	3	1
4	4	3	3
4	5	3	2
4	6	3	1
4	7	2	1
4	8	2	5
4	9	1	5
4	10	3	4
4	11	2	2
4	12	3	3
4	13	2	4
4	14	3	4
4	15	2	5
4	16	2	2
4	17	3	5
4	18	3	3
4	19	3	3
4	20	2	3
4	21	1	1
4	22	2	3
4	23	1	4
4	24	2	4
4	25	3	3
4	26	3	1
4	27	3	2
4	28	2	5
4	29	1	1
4	30	1	2
4	31	2	3
4	32	3	4
4	33	2	2
4	34	2	1
4	35	2	5
4	36	3	3
4	37	2	1

TOTAL HOURS FOR DAY 4 180.5 NO OF JOBS 37

TOTAL HOURS TO DAY 4 784 NO OF JOBS 170

5	1	3	3
5	2	3	4
5	3	3	3
5	4	2	2
5	5	3	3
5	6	3	4
5	7	2	1
5	8	1	3
5	9	1	3
5	10	1	2
5	11	3	2
5	12	1	2
5	13	2	2
5	14	2	1
5	15	3	2
5	16	2	3
5	17	2	4
5	18	3	2
5	19	1	2
5	20	3	4
5	21	2	2
5	22	2	3
5	23	2	1
5	24	2	1
5	25	3	5
5	26	1	2
5	27	2	4
5	28	2	3
5	29	2	5
5	30	2	2
5	31	3	5
5	32	3	5
5	33	3	4
5	34	3	1
5	35	3	4
5	36	1	5
5	37	2	5
5	38	3	4
5	39	2	2
5	40	3	3
5	41	3	4
5	42	1	5
5	43	3	3
5	44	1	5
5	45	3	5

TOTAL HOURS FOR DAY 5 226.5 NO OF JOBS 45

TOTAL HOURS TO DAY 5 1010.5 NO OF JOBS 215

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 3  4  18.5        2  2  3
 7.5  6.5  11        1  1  2
 6  12.5  14.5        2  3  3
 13  14  13        4  4  4
 0  8.5  7.5        0  3  3
----------    ----------
 29.5  45.5  64.5        9  13  15
----------    ----------
DAY= 2
 9  0  4.5        2  0  1
 3.5  14.5  36.5        1  3  5
 3.5  18.5  19        1  3  4
 12.5  12  5        1  2  2
 4.5  10.5  0        1  1  0
----------    ----------
 33  55.5  65        6  9  12
----------    ----------
DAY= 3
 30.5  19.5  17.5        5  5  5
 27  10.5  25.5        4  3  5
 0  26  37.5        0  8  7
 16.5  35.5  32        5  7  8
 9  14  9.5        2  2  3
----------    ----------
 83  105.5  122        16  25  28
----------    ----------
DAY= 4
 3  32  7.5        2  4  3
 1.5  7.5  15.5  -    1  3  3
 0  13.5  20        0  3  6
 1.5  5  37.5        1  2  3
 6.5  28  1.5        1  4  1
----------    ----------
 12.5  86  82        5  16  16
----------    ----------
DAY= 5
 0  19  11.5        0  4  1
 28  25.5  16.5        4  5  3
 19  9.5  20.5        2  3  5
 0  6  19.5        0  2  7
 13.5  12  26        3  2  4
----------    ----------
 60.5  72  94        9  16  20
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Plumber All Estates

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RANDOM SAMPLING OF JOBS BY DURATIUN,CAIEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  230.5  NO OF JOBS  37

TOTAL HOURS TO DAY  1  230.5  NO OF JOBS 37
TOTAL HOURS FOR DAY  2  172.5  NO OF JOBS  37

TOTAL HOURS TO DAY  2  403  NO OF JOBS 74
TOTAL HOURS FOR DAY  3  268.5  NO OF JOBS  45

TOTAL HOURS TO DAY  3  671.5  NO OF JOBS 119
TOTAL HOURS FOR DAY  4  276.5  NO OF JOBS  49

TOTAL HOURS TO DAY  4  948  NO OF JOBS 168
TOTAL HOURS FOR DAY  5  162.5  NO OF JOBS  27

TOTAL HOURS TO DAY  5  1110.5  NO OF JOBS 195
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 33  12  10.5      4  2  1
 33  12.5  14      4  3  4
 3.5  7  30.5      1  2  5
 0  36.5  1.5      0  5  1
 0  15.5  21      0  3  2
----------   ----------
 69.5  83.5  77.5      9  15  13
----------   ----------
DAY= 2
 5  20.5  0      2  3  0
 15  10.5  11.5      4  3  3
 1.5  25  0      1  4  0
 8.5  33  10      1  6  2
 1.5  3.5  27      1  1  6
----------   ----------
 31.5  92.5  48.5      9  17  11
----------   ----------
DAY= 3
 2.5  24.5  32      1  5  4
 14  21.5  25.5      2  3  3
 25.5  18.5  27      5  1  4
 12.5  11.5  9.5      3  3  3
 10  24  10      2  4  2
----------   ----------
 64.5  100  104      13  16  16
----------   ----------
DAY= 4
 10  15  37      2  2  6
 6  67.5  16      2  7  4
 21  30.5  23      4  3  4
 4  31.5  0      2  7  0
 6.5  3.5  5      3  1  2
----------   ----------
 47.5  148  81      13  20  16
----------   ----------
DAY= 5
 21.5  6  8.5      3  2  3
 7  1.5  1.5      2  1  1
 10.5  0  5.5      1  0  1
 11  0  11.5      2  0  3
 40  12.5  25.5      4  1  3
----------   ----------
 90  20  52.5      12  4  11
----------   ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  205.5  NO OF JOBS  37

TOTAL HOURS TO DAY  1  205.5  NO OF JOBS 37
TOTAL HOURS FOR DAY  2  190.5  NO OF JOBS  37

TOTAL HOURS TO DAY  2  396  NO OF JOBS 74
TOTAL HOURS FOR DAY  3  276.5  NO OF JOBS  51

TOTAL HOURS TO DAY  3  672.5  NO OF JOBS 125
TOTAL HOURS FOR DAY  4  186.5  NO OF JOBS  37

TOTAL HOURS TO DAY  4  859  NO OF JOBS 162
TOTAL HOURS FOR DAY  5  211.5  NO OF JOBS  49

TOTAL HOURS TO DAY  5  1070.5  NO OF JOBS 211
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  13  27.5      0  4  5
 1.5  20  23.5      1  2  3
 10.5  41  30      1  6  4
 17.5  0  10.5      5  0  3
 5.5  5  0      1  2  0
----------   ----------
 35  79  91.5      8  14  15
----------   ----------
DAY= 2
 24.5  21  8.5      5  4  3
 0  10.5  3.5      0  3  1
 16  3.5  6.5      2  1  1
 10.5  15.5  18      1  5  2
 15  21  16.5      2  4  3
----------   ----------
 66  71.5  53      10  17  10
----------   ----------
DAY= 3
 0  35.5  29      0  5  6
 8.5  31  8.5      1  6  3
 3.5  10.5  44.5      1  3  7
 17  7.5  20      4  1  4
 19  24.5  17.5      4  3  3
----------   ----------
 48  109  119.5      10  18  23
----------   ----------
DAY= 4
 3.5  9.5  1.5      1  1  1
 4.5  24  19.5      3  4  5
 21  11  14.5      2  2  5
 8  7.5  1.5      2  1  1
 26  32  2.5      4  4  1
----------   ----------
 63  84  39.5      12  12  13
----------   ----------
DAY= 5
 15.5  2.5  9.5      3  1  3
 15.5  8.5  13.5      3  3  3
 7  32.5  5      2  7  2
 16.5  25  17.5      3  6  3
 3.5  16  23.5      1  4  5
----------   ----------
 58  84.5  69      12  21  16
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 243.5 NO OF JOBS 49

TOTAL HOURS TO DAY 1 243.5 NO OF JOBS 49
TOTAL HOURS FOR DAY 2 228.5 NO OF JOBS 43

TOTAL HOURS TO DAY 2 472 NO OF JOBS 92
TOTAL HOURS FOR DAY 3 173.5 NO OF JOBS 33

TOTAL HOURS TO DAY 3 645.5 NO OF JOBS 125
TOTAL HOURS FOR DAY 4 206.5 NO OF JOBS 33

TOTAL HOURS TO DAY 4 852 NO OF JOBS 158
TOTAL HOURS FOR DAY 5 237.5 NO OF JOBS 45

TOTAL HOURS TO DAY 5 1089.5 NO OF JOBS 203
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
3.5 4.5 16.5 1 1 3
0 26.5 17 0 5 4
14 38 18 2 8 4
4.5 25.5 29 1 5 6
21 23 2.5 2 6 1
---
43 117.5 83 6 25 18

DAY= 2
0 19.5 24.5 0 5 3
4.5 16.5 21 1 3 2
0 30.5 21.5 0 5 3
3 25.5 28 2 7 4
12 14 8 2 4 2

19.5 108 103 8 24 14

DAY= 3
9.5 23.5 1.5 1 5 1
3.5 10 8.5 1 2 3
18 13.5 7.5 4 1 1
15 17 15 2 4 2
0 4 27 0 2 4
---
46 68 59.5 8 14 11

DAY= 4
13 12 27 2 2 2
10 9 17.5 2 2 5
27.5 0 11.5 3 0 3
23.5 0 18 3 0 2
10 10.5 17 2 3 2
---
84 31.5 91 12 7 14

DAY= 5
10 9 6.5 2 2 3
21 39.5 15.5 4 7 3
13 12 10 2 2 4
11.5 26 31 3 4 4
14.5 3.5 14.5 1 1 3
---
70 90 77.5 12 16 17

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 181.5 NO OF JOBS 37

TOTAL HOURS TO DAY 1 181.5 NO OF JOBS 37
TOTAL HOURS FOR DAY 2 245.5 NO OF JOBS 43

TOTAL HOURS TO DAY 2 427 NO OF JOBS 80
TOTAL HOURS FOR DAY 3 195.5 NO OF JOBS 39

TOTAL HOURS TO DAY 3 622.5 NO OF JOBS 119
TOTAL HOURS FOR DAY 4 247.5 NO OF JOBS 51

TOTAL HOURS TO DAY 4 870 NO OF JOBS 170
TOTAL HOURS FOR DAY 5 184.5 NO OF JOBS 37

TOTAL HOURS TO DAY 5 1054.5 NO OF JOBS 207
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
20.5 12 9 5 4 2
1.5 13.5 18.5 1 5 3
0 4 9 0 2 2
31 17.5 9 4 3 2
0 25.5 10.5 0 3 1
---
53 72.5 56 10 17 10

DAY= 2
0 3.5 18 0 1 4
24 33 38 4 4 6
16 23.5 6 2 3 2
0 34.5 11 0 5 4
0 9 29 0 2 6
---
40 103.5 102 8 15 22

DAY= 3
8.5 20 26.5 1 2 3
11.5 23.5 38 3 5 8
7 14.5 3.5 2 3 1
5 9 15.5 2 4 3
0 8.5 4.5 0 1 1
---
32 75.5 88 8 15 16

DAY= 4
13 20 29 2 4 6
32 6.5 34 6 1 10
8.5 14.5 0 3 1 0
6 11.5 8 2 3 2
4.5 20.5 39.5 1 5 5
---
64 73 110.5 14 14 23

DAY= 5
3.5 1.5 16 1 1 2
16.5 3.5 30 3 1 4
16.5 17 7 3 4 2
10.5 11 29 3 2 4
9.5 4 9 3 2 2

56.5 37 91 13 10 14

Plumber All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 209.5 NO OF JOBS 43

TOTAL HOURS TO DAY 1 209.5 NO OF JOBS 43
TOTAL HOURS FOR DAY 2 164.5 NO OF JOBS 35

TOTAL HOURS TO DAY 2 374 NO OF JOBS 78
TOTAL HOURS FOR DAY 3 188.5 NO OF JOBS 35

TOTAL HOURS TO DAY 3 562.5 NO OF JOBS 113
TOTAL HOURS FOR DAY 4 190.5 NO OF JOBS 35

TOTAL HOURS TO DAY 4 753 NO OF JOBS 148
TOTAL HOURS FOR DAY 5 231.5 NO OF JOBS 49

TOTAL HOURS TO DAY 5 984.5 NO OF JOBS 197
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5.5  0  9      1  0  2
 7.5  26.5  6.5      3  5  3
 2.5  15  36.5      1  2  3
 8.5  18.5  35      3  5  6
 9.5  3.5  25.5      3  1  5
----------  ----------
 33.5  63.5  112.5      11  13  19
----------  ----------
DAY= 2
 8.5  8.5  26      3  3  4
 9  18.5  26      2  5  4
 1.5  12.5  7      1  3  2
 7.5  16.5  0      1  3  0
 4.5  1.5  17      1  1  2
----------  ----------
 31  57.5  76      8  15  12
----------  ----------
DAY= 3
 17  22  17      2  2  2
 11  1  40      2  2  6
 11  6.5  15.5      2  1  3
 7  21.5  5      2  3  2
 1.5  5.5  7      1  3  2
----------  ----------
 47.5  56.5  84.5      9  11  15
----------  ----------
DAY= 4
 9.5  20  18      1  4  2
 0  18  0      0  4  0
 17  42.5  20      2  7  2
 5  12.5  20      2  3  4
 1.5  5  1.5      1  2  1
----------  ----------
 33  98  59.5      6  20  9
----------  ----------
DAY= 5
 7  7.5  7.5      2  1  1
 26.5  17  35.5      5  4  7
 5  9.5  6.5      2  3  1
 14  15  23.5      2  6  7
 3.5  24.5  29      1  3  4
----------  ----------
 56  73.5  102      12  17  20
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 319.5 NO OF JOBS 51

TOTAL HOURS TO DAY 1 319.5 NO OF JOBS 51
TOTAL HOURS FOR DAY 2 198.5 NO OF JOBS 37

TOTAL HOURS TO DAY 2 518 NO OF JOBS 88
TOTAL HOURS FOR DAY 3 146.5 NO OF JOBS 27

TOTAL HOURS TO DAY 3 664.5 NO OF JOBS 115
TOTAL HOURS FOR DAY 4 178.5 NO OF JOBS 37

TOTAL HOURS TO DAY 4 843 NO OF JOBS 152
TOTAL HOURS FOR DAY 5 205.5 NO OF JOBS 37

TOTAL HOURS TO DAY 5 1048.5 NO OF JOBS 189
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 18.5  11  35      5  2  4
 18.5  49  2.5      3  6  1
 0  29  62.5      0  6  11
 31  16  9.5      4  2  1
 3.5  29  4.5      1  4  1
----------  ----------
 71.5  134  114      13  20  18
----------  ----------
DAY= 2
 7  22  33.5      2  4  3
 2.5  6.5  0      1  1  0
 5  11.5  17      2  3  4
 34  16.5  19.5      4  5  3
 0  4.5  19      0  1  4
----------  ----------
 48.5  81  89      9  14  14
----------  ----------
DAY= 3
 19.5  6.5  16      3  1  4
 11  9.5  4.5      2  3  1
 7.5  20.5  10.5      1  3  1
 11.5  7  13      3  2  2
 9.5  0  0      1  0  0
----------  ----------
 59  43.5  44      10  9  8
----------  ----------
DAY= 4
 6  26.5  10  .  2  3  2
 21.5  7.5  10.5      3  3  3
 2.5  16  17.5      1  2  3
 1.5  21  14.5      1  4  3
 4  13  6.5      2  2  3
----------  ----------
 35.5  84  59      9  14  14
----------  ----------
DAY= 5
 5  7.5  5.5      2  1  1
 5.5  28.5  4      1  5  2
 0  10  25      0  2  4
 26.5  48.5  14.5      3  5  5
 9  3.5  12.5      2  1  3
----------  ----------
 46  98  81.5      8  14  15
----------  ----------
```

Plumber All Estates

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  194.5  NO OF JOBS  35

TOTAL HOURS TO DAY  1  194.5  NO OF JOBS 35
TOTAL HOURS FOR DAY  2  157.5  NO OF JOBS  31

TOTAL HOURS TO DAY  2  352  NO OF JOBS 66
TOTAL HOURS FOR DAY  3  123.5  NO OF JOBS  23

TOTAL HOURS TO DAY  3  475.5  NO OF JOBS 89
TOTAL HOURS FOR DAY  4  194.5  NO OF JOBS  39

TOTAL HOURS TO DAY  4  670  NO OF JOBS 128
TOTAL HOURS FOR DAY  5  126.5  NO OF JOBS  23

TOTAL HOURS TO DAY  5  796.5  NO OF JOBS 151
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 27.5  0  0      3  0  0
 14  42.5  14      2  7  2
 1.5  1.5  7      1  1  2
 10  14  30      2  4  4
 1.5  11  20      1  2  4
----------  ----------
 54.5  69  71      9  14  12
----------  ----------
DAY= 2
 6  2.5  6.5      2  1  1
 9.5  23  30      3  6  4
 0  11.5  8.5      0  3  1
 8  5.5  5.5      2  1  1
 0  21  20      0  2  4
----------  ----------
 23.5  63.5  70.5      7  13  11
----------  ----------
DAY= 3
 10  3.5  20.5      2  1  3
 0  11  8.5      0  2  1
 1.5  6  2      1  2  2
 19.5  15.5  3.5      3  1  1
 0  9.5  12.5      0  1  3
----------  ----------
 31  45.5  47      6  7  10
----------  ----------
DAY= 4
 0  3  34      0  2  4
 6  31.5  26.5      2  5  5
 6  4  8      2  2  2
 7.5  11.5  32.5      1  3  5
 1.5  21  1.5      1  4  1
----------  ----------
 21  71  102.5      6  16  17
----------  ----------
DAY= 5
 11  0  0      2  0  0
 22  42  1.5      2  6  1
 0  4.5  3      0  1  2
 0  11.5  4.5      0  3  1
 8.5  4.5  12.5      1  1  3
----------  ----------
 42.5  62.5  21.5      5  11  7
----------  ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  165.5  NO OF JOBS  31

TOTAL HOURS TO DAY  1  165.5  NO OF JOBS 31
TOTAL HOURS FOR DAY  2  264.5  NO OF JOBS  43

TOTAL HOURS TO DAY  2  430  NO OF JOBS 74
TOTAL HOURS FOR DAY  3  119.5  NO OF JOBS  23

TOTAL HOURS TO DAY  3  549.5  NO OF JOBS 97
TOTAL HOURS FOR DAY  4  129.5  NO OF JOBS  23

TOTAL HOURS TO DAY  4  679  NO OF JOBS 120
TOTAL HOURS FOR DAY  5  220.5  NO OF JOBS  35

TOTAL HOURS TO DAY  5  899.5  NO OF JOBS 155
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 2.5  17  18.5      1  4  3
 1.5  18  17.5      1  2  3
 4.5  25  16.5      1  4  3
 7.5  16.5  3.5      1  3  1
 0  9  8      0  2  2
----------  ----------
 16  85.5  64      4  15  12
----------  ----------
DAY= 2
 50.5  6.5  39.5      5  1  5
 6.5  20.5  43.5      1  3  7
 1.5  23.5  3      1  3  2
 6  10  20.5      2  2  3
 8.5  7  17.5      3  2  3
----------  ----------
 73  67.5  124      12  11  20
----------  ----------
DAY= 3
 7.5  7.5  8      1  1  2
 0  8.5  7.5      0  3  3
 11.5  6  14      1  2  2
 1.5  5.5  18.5      1  1  3
 14.5  5.5  5.5      1  1  1
----------  ----------
 35  33  51.5      4  8  11
----------  ----------
DAY= 4
 0  15.5  0      0  3  0
 18  3.5  9.5      4  1  1
 1.5  2.5  37.5      1  1  5
 0  8.5  17.5      0  1  3
 0  8  7.5      0  2  1
----------  ----------
 19.5  38  72      5  8  10
----------  ----------
DAY= 5
 0  5  5      0  2  2
 9.5  15.5  31.5      1  3  3
 2.5  17.5  18      1  3  2
 25  33  27      2  6  4
 10  18.5  2.5      2  3  1
----------  ----------
 47  89.5  84      6  17  12
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 252.5 NO OF JOBS 39

TOTAL HOURS TO DAY 1 252.5 NO OF JOBS 39
TOTAL HOURS FOR DAY 2 112.5 NO OF JOBS 23

TOTAL HOURS TO DAY 2 365 NO OF JOBS 62
TOTAL HOURS FOR DAY 3 235.5 NO OF JOBS 45

TOTAL HOURS TO DAY 3 600.5 NO OF JOBS 107
TOTAL HOURS FOR DAY 4 248.5 NO OF JOBS 43

TOTAL HOURS TO DAY 4 849 NO OF JOBS 150
TOTAL HOURS FOR DAY 5 227.5 NO OF JOBS 45

TOTAL HOURS TO DAY 5 1076.5 NO OF JOBS 195
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5  25.5  16      2  3  2
 10.5  0  24      1  0  4
 33  11  40      4  2  4
 3.5  42  20      1  8  2
 3.5  12.5  6      1  3  2
----------  ----------
 55.5  91  106      9  16  14
 ---------  ----------
DAY= 2
 0  13.5  10.5      0  1  3
 13.5  0  1.5      3  0  1
 4  8  14.5      2  2  3
 4.5  10.5  5      1  1  2
 10  13.5  3.5      2  1  1
----------  ----------
 32  45.5  35      8  5  10
----------  ----------
DAY= 3
 7.5  26  8.5      1  6  3
 9  27.5  27.5      2  5  7
 0  11  7      0  2  2
 18  23  4.5      2  4  1
 23.5  10.5  32      3  1  6
----------  ----------
 58  98  79.5      8  18  19
----------  ----------
DAY= 4
 22  28.5  38      2  3  4
 26.5  29.5  4.5      3  7  3
 7.5  18  24.5      1  2  7
 2.5  14  0      1  4  0
 2.5  29  1.5      1  4  1
----------  ----------
 61  119  68.5      8  20  15
----------  ----------
DAY= 5
 0  5.5  43      0  1  6
 13  10.5  29      2  3  6
 7  11.5  14      2  3  2
 9  11  37.5      2  4  7
 8  21.5  7      2  3  2
----------  ----------
 37  60  130.5      8  14  23
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 172.5 NO OF JOBS 35

TOTAL HOURS TO DAY 1 172.5 NO OF JOBS 35
TOTAL HOURS FOR DAY 2 248.5 NO OF JOBS 43

TOTAL HOURS TO DAY 2 421 NO OF JOBS 78
TOTAL HOURS FOR DAY 3 186.5 NO OF JOBS 33

TOTAL HOURS TO DAY 3 607.5 NO OF JOBS 111
TOTAL HOURS FOR DAY 4 210.5 NO OF JOBS 39

TOTAL HOURS TO DAY 4 818 NO OF JOBS 150
TOTAL HOURS FOR DAY 5 219.5 NO OF JOBS 43

TOTAL HOURS TO DAY 5 1037.5 NO OF JOBS 193
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  9  28      0  2  4
 14.5  21  10.5      3  6  3
 1.5  3  15      1  2  2
 15.5  11.5  14.5      3  1  3
 11  10  7.5      2  2  1
----------  ----------
 42.5  54.5  75.5      9  13  13
----------  ----------
DAY= 2
 11.5  18  42      3  2  6
 0  29  11      0  4  4
 6.5  36.5  12      1  5  4
 26  23.5  16      4  5  2
 7.5  9  0      1  2  0
----------  ----------
 51.5  116  81      9  18  16
----------  ----------
DAY= 3
 14  4  17      2  2  2
 11  11  7.5      2  4  1
 2.5  18  0      1  4  0
 41.5  18.5  21.5      5  3  5
 1.5  18.5  0      1  1  0
----------  ----------
 70.5  70  46      11  14  8
----------  ----------
DAY= 4
 4.5  1.5  25      1  1  2
 18  10  44      4  4  6
 0  29.5  30      0  5  6
 3.5  13  8      1  2  2
 0  6  17.5      0  2  3
----------  ----------
 26  60  124.5      6  14  19
----------  ----------
DAY= 5
 10.5  29  7      3  6  2
 1.5  10  11      1  2  4
 22  2.5  2.5      2  1  1
 13.5  43.5  25      1  7  6
 36.5  5  0      5  2  0
----------  ----------
 84  90  45.5      12  18  13
----------  ----------
```

Plumber All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 252.5 NO OF JOBS 53

TOTAL HOURS TO DAY 1 252.5 NO OF JOBS 53
TOTAL HOURS FOR DAY 2 148.5 NO OF JOBS 27

TOTAL HOURS TO DAY 2 401 NO OF JOBS 80
TOTAL HOURS FOR DAY 3 179.5 NO OF JOBS 37

TOTAL HOURS TO DAY 3 580.5 NO OF JOBS 117
TOTAL HOURS FOR DAY 4 753.5 NO OF JOBS 69

TOTAL HOURS TO DAY 4 934 NO OF JOBS 186
TOTAL HOURS FOR DAY 5 319.5 NO OF JOBS 53

TOTAL HOURS TO DAY 5 1253.5 NO OF JOBS 239
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
6.5 26 5.5 3 4 1
27 32.5 62 6 5 10
1.5 14.5 12 1 3 4
9 21.5 14.5 2 5 3
2.5 3 14.5 1 2 3

46.5 97.5 108.5 13 19 21

DAY= 2
15 0 1.5 2 0 1
0 4.5 12 0 1 4
13 31 23.5 2 4 3
6.5 24.5 5 1 5 2
0 10.5 1.5 0 1 1

34.5 70.5 43.5 5 11 11

DAY= 3
3 7.5 24 2 3 4
4.5 27.5 17.5 1 7 5
10 25 20 2 2 4
1.5 21 14.5 1 2 3
3.5 0 0 1 0 0

22.5 81 76 7 14 16

DAY= 4
20.5 52.5 23.5 3 9 5
21.5 45 27 5 6 4
11.5 44.5 43.5 5 9 7
16.5 11.5 18.5 5 3 3
0 8.5 9 0 3 2
---
70 162 121.5 18 30 21

DAY= 5
0 19 56 0 6 8
9.5 10.5 9 3 1 2
18 29 19.5 4 4 3
27.5 30 21 3 6 4
4.5 13.5 52.5 1 3 5

59.5 102 158 11 20 22

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 245.5 NO OF JOBS 43

TOTAL HOURS TO DAY 1 245.5 NO OF JOBS 43
TOTAL HOURS FOR DAY 2 190.5 NO OF JOBS 35

TOTAL HOURS TO DAY 2 436 NO OF JOBS 78
TOTAL HOURS FOR DAY 3 158.5 NO OF JOBS 27

TOTAL HOURS TO DAY 3 594.5 NO OF JOBS 105
TOTAL HOURS FOR DAY 4 258.5 NO OF JOBS 45

TOTAL HOURS TO DAY 4 853 NO OF JOBS 150
TOTAL HOURS FOR DAY 5 356.5 NO OF JOBS 69

TOTAL HOURS TO DAY 5 1209.5 NO OF JOBS 219
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
7 38 12.5 2 6 3
10 21.5 38 4 3 8
24 13.5 18 4 1 4
2.5 0 18 1 0 2
5.5 21 16 1 2 2
---
49 94 102.5 12 12 19

DAY= 2
15.5 5.5 5 3 1 2
6 14.5 1.5 2 3 1
0 5.5 13 0 1 2
4.5 55 24.5 1 6 5
23 2.5 14.5 4 1 3
---
49 83 58.5 10 12 13

DAY= 3
8 17 21.5 2 2 3
0 21 9 0 2 2
0 29.5 16.5 0 3 3
8 10.5 4 2 3 2
13.5 0 0 3 0 0

29.5 78 51 7 10 10

DAY= 4
15.5 28.5 14.5 1 7 5
8.5 46 11.5 3 6 3
22 13 23 2 2 2
13 11 6 2 4 2
33.5 12.5 0 3 3 0

92.5 111 55 11 22 12

DAY= 5
6.5 14.5 22.5 3 3 3
25 30 30.5 4 6 7
5.5 48.5 38.5 1 7 7
27.5 27 26 5 4 8
0 32 22.5 0 8 3

64.5 152 140 13 28 28

Plumber All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 175 NO OF JOBS 34

TOTAL HOURS TO DAY 1 175 NO OF JOBS 34
TOTAL HOURS FOR DAY 2 149 NO OF JOBS 28

TOTAL HOURS TO DAY 2 324 NO OF JOBS 62
TOTAL HOURS FOR DAY 3 103 NO OF JOBS 20

TOTAL HOURS TO DAY 3 427 NO OF JOBS 82
TOTAL HOURS FOR DAY 4 95 NO OF JOBS 20

TOTAL HOURS TO DAY 4 522 NO OF JOBS 102
TOTAL HOURS FOR DAY 5 75 NO OF JOBS 16

TOTAL HOURS TO DAY 5 597 NO OF JOBS 118

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

20	14	14.5	4	2	5
2.5	51	16	1	8	4
28	19.5	9.5	4	3	3
50.5	84.5	40	9	13	12

DAY= 2

2	38	6.5	2	6	1
18.5	35.5	3.5	3	5	1
4.5	14	26.5	1	4	5
25	87.5	36.5	6	15	7

DAY= 3

2.5	2.5	38.5	1	1	5
0	23	7.5	0	4	3
9	10	10	2	2	2
11.5	35.5	56	3	7	10

DAY= 4

3.5	7.5	1.5	1	1	1
3.5	16	20.5	1	4	5
0	3.5	39	0	1	6
7	27	61	2	6	12

DAY= 5

0	0	5	0	0	2
10	14.5	18	2	3	4
0	15	12.5	0	2	3
10	29.5	35.5	2	5	9

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 100 NO OF JOBS 24

TOTAL HOURS TO DAY 1 100 NO OF JOBS 24
TOTAL HOURS FOR DAY 2 118 NO OF JOBS 16

TOTAL HOURS TO DAY 2 218 NO OF JOBS 40
TOTAL HOURS FOR DAY 3 119 NO OF JOBS 20

TOTAL HOURS TO DAY 3 337 NO OF JOBS 60
TOTAL HOURS FOR DAY 4 158 NO OF JOBS 26

TOTAL HOURS TO DAY 4 495 NO OF JOBS 86
TOTAL HOURS FOR DAY 5 98 NO OF JOBS 18

TOTAL HOURS TO DAY 5 593 NO OF JOBS 104

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	26	14	0	4	2
13	39.5	37.5	4	7	5
0	17.5	7.5	0	1	1
13	83	59	4	12	8

DAY= 2

6.5	29	0	3	6	0
18	25.5	61	2	3	8
0	45	9	0	6	2
24.5	99.5	70	5	15	10

DAY= 3

14	20.5	9	2	3	2
7	3.5	14.5	2	1	3
3.5	8	9	1	2	2
24.5	32	32.5	5	6	7

DAY= 4

11	15.5	10	2	3	2
2	1.5	17	2	1	2
7.5	9.5	26	1	1	2
20.5	26.5	53	5	5	6

DAY= 5

41.5	15	0	5	2	0
7.5	18	0	1	2	0
6.5	19	1.5	3	2	1
55.5	52	1.5	9	6	1

Plumber

Estates 1, 2 & 5

Plumber Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  155  NO OF JOBS  24

TOTAL HOURS TO DAY  1  155  NO OF JOBS 24
TOTAL HOURS FOR DAY  2  194  NO OF JOBS  30

TOTAL HOURS TO DAY  2  349  NO OF JOBS 54
TOTAL HOURS FOR DAY  3  89  NO OF JOBS  18

TOTAL HOURS TO DAY  3  438  NO OF JOBS 72
TOTAL HOURS FOR DAY  4  100  NO OF JOBS  16

TOTAL HOURS TO DAY  4  538  NO OF JOBS 88
TOTAL HOURS FOR DAY  5  109  NO OF JOBS  16

TOTAL HOURS TO DAY  5  647  NO OF JOBS 104
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 7.5  6.5  0      1  3  0
 11.5  19  29      3  6  6
 8  17  1.5      2  2  1
----------   ----------
 27  42.5  30.5      6  11  7
----------   ----------
DAY= 2
 0  24.5  30.5      0  3  3
 0  18  34.5      0  4  3
 5.5  5  0      1  2  0
----------   ----------
 5.5  47.5  65      1  9  6
----------   ----------
DAY= 3
 0  21.5  12      0  5  2
 25.5  11.5  5      3  1  2
 1.5  27.5  14.5      1  3  3
----------   ----------
 27  60.5  31.5      4  9  7
----------   ----------
DAY= 4
 19  36  16      2  4  2
 12.5  30.5  25.5      3  5  7
 7.5  3.5  7.5      1  1  1
----------   ----------
 39  70  49      6  10  10
----------   ----------
DAY= 5
 3.5  14.5  18      1  3  2
 9  16  20.5      2  4  3
 0  15  1.5      0  2  1
----------   ----------
 12.5  45.5  40      3  9  6
----------   ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  170  NO OF JOBS  28

TOTAL HOURS TO DAY  1  170  NO OF JOBS 28
TOTAL HOURS FOR DAY  2  224  NO OF JOBS  34

TOTAL HOURS TO DAY  2  394  NO OF JOBS 62
TOTAL HOURS FOR DAY  3  95  NO OF JOBS  20

TOTAL HOURS TO DAY  3  489  NO OF JOBS 82
TOTAL HOURS FOR DAY  4  73  NO OF JOBS  12

TOTAL HOURS TO DAY  4  562  NO OF JOBS 94
TOTAL HOURS FOR DAY  5  156  NO OF JOBS  28

TOTAL HOURS TO DAY  5  718  NO OF JOBS 122
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 3.5  32.5  0      1  5  0
 31  31  18      4  4  6
 3.5  29  21.5      1  4  3
----------   ----------
 38  92.5  39.5      6  13  9
----------   ----------
DAY= 2
 7  45.5  49.5      2  7  7
 1.5  36  41.5      1  4  5
 29  14  0      4  4  0
----------   ----------
 37.5  95.5  91      7  15  12
----------   ----------
DAY= 3
 22  9.5  14      2  3  4
 30.5  6  13      7  2  2
 0  0  0      0  0  0
----------   ----------
 52.5  15.5  27      9  5  6
----------   ----------
DAY= 4
 0  2.5  12.5      0  1  3
 0  28  0      0  4  0
 14.5  13  2.5      1  2  1
----------   ----------
 14.5  43.5  15      1  7  4
----------   ----------
DAY= 5
 9.5  9  35      1  2  6
 4.5  12  39.5      1  2  7
 15  14  17.5      2  4  3
----------   ----------
 29  35  92      4  8  16
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 107 NO OF JOBS 18

TOTAL HOURS TO DAY 1 107 NO OF JOBS 18
TOTAL HOURS FOR DAY 2 84 NO OF JOBS 18

TOTAL HOURS TO DAY 2 191 NO OF JOBS 36
TOTAL HOURS FOR DAY 3 112 NO OF JOBS 24

TOTAL HOURS TO DAY 3 303 NO OF JOBS 60
TOTAL HOURS FOR DAY 4 61 NO OF JOBS 16

TOTAL HOURS TO DAY 4 364 NO OF JOBS 76
TOTAL HOURS FOR DAY 5 166 NO OF JOBS 34

TOTAL HOURS TO DAY 5 530 NO OF JOBS 110
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
3.5 19.5 9 1 3 2
7.5 27.5 14 1 5 2
3.5 0 22.5 1 0 3

14.5 47 45.5 3 8 7

DAY= 2
4.5 7 19.5 1 2 3
1.5 6 6 1 4 2
13.5 22 4 1 2 2

19.5 35 29.5 3 8 7

DAY= 3
24 7.5 7 2 1 4
9.5 18.5 14 1 5 4
15.5 5.5 10.5 3 1 3
---
49 31.5 31.5 6 7 11

DAY= 4
0 2.5 0 0 1 0
14.5 11 3.5 3 4 1
3 14 12.5 2 2 3

17.5 27.5 16 5 7 4

DAY= 5
18 23.5 7.5 4 7 1
25 29 25.5 6 6 5
14 3.5 20 2 1 2
---
57 56 53 12 14 8

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 79 NO OF JOBS 16

TOTAL HOURS TO DAY 1 79 NO OF JOBS 16
TOTAL HOURS FOR DAY 2 177 NO OF JOBS 34

TOTAL HOURS TO DAY 2 256 NO OF JOBS 50
TOTAL HOURS FOR DAY 3 67 NO OF JOBS 18

TOTAL HOURS TO DAY 3 323 NO OF JOBS 68
TOTAL HOURS FOR DAY 4 97 NO OF JOBS 18

TOTAL HOURS TO DAY 4 420 NO OF JOBS 86
TOTAL HOURS FOR DAY 5 137 NO OF JOBS 24

TOTAL HOURS TO DAY 5 557 NO OF JOBS 110
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
35 3 1.5 4 2 1
1.5 5.5 3.5 1 1 1
0 5 24 0 2 4

36.5 13.5 29 5 5 6

DAY= 2
3.5 17.5 16 1 5 4
25.5 42 14 3 6 4
9 22 27.5 2 4 5
---
38 81.5 57.5 6 15 13

DAY= 3
0 11 2 0 2 2
21 9.5 3.5 4 3 1
6 3.5 10.5 2 1 3
---
27 24 16 6 6 6

DAY= 4
17 0 1.5 4 0 1
20 19 7.5 2 4 1
10.5 4.5 17 1 1 4

47.5 23.5 26 7 5 6

DAY= 5
40.5 16.5 18.5 3 3 5
2.5 12 6 1 4 2
19 13.5 8.5 2 1 3
---
62 42 33 6 8 10

Plumber Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  177  NO OF JOBS  34

TOTAL HOURS TO DAY  1  177  NO OF JOBS 34
TOTAL HOURS FOR DAY  2  175  NO OF JOBS  28

TOTAL HOURS TO DAY  2  352  NO OF JOBS 62
TOTAL HOURS FOR DAY  3  93  NO OF JOBS  18

TOTAL HOURS TO DAY  3  445  NO OF JOBS 80
TOTAL HOURS FOR DAY  4  131  NO OF JOBS  20

TOTAL HOURS TO DAY  4  576  NO OF JOBS 100
TOTAL HOURS FOR DAY  5  163  NO OF JOBS  30

TOTAL HOURS TO DAY  5  739  NO OF JOBS 130
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 3.5  5  68.5      1  2  11
 14  7  22.5      2  2  5
 16  18  22.5      4  2  5
----------   ----------
 33.5  30  113.5      7  6  21
----------   ----------
DAY= 2
 0  9  13      0  2  2
 19  33.5  57.5      4  7  5
 16  16  11      2  4  2
----------   ----------
 35  58.5  81.5      6  13  9
----------   ----------
DAY= 3
 12  34.5  22      2  5  4
 0  11.5  8      0  3  2
 0  1.5  3.5      0  1  1
----------   ----------
 12  47.5  33.5      2  9  7
----------   ----------
DAY= 4
 40  14  0      6  2  0
 0  14  42.5      0  4  5
 20.5  0  0      3  0  0
----------   ----------
 60.5  28  42.5      9  6  5
----------   ----------
DAY= 5
 17  22.5  16.5      2  5  5
 3.5  18.5  43      1  1  8
 0  23  19      0  4  4
----------   ----------
 20.5  64  78.5      3  10  17
----------   ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  122  NO OF JOBS  18

TOTAL HOURS TO DAY  1  122  NO OF JOBS 18
TOTAL HOURS FOR DAY  2  191  NO OF JOBS  30

TOTAL HOURS TO DAY  2  313  NO OF JOBS 48
TOTAL HOURS FOR DAY  3  104  NO OF JOBS  22

TOTAL HOURS TO DAY  3  417  NO OF JOBS 70
TOTAL HOURS FOR DAY  4  173  NO OF JOBS  30

TOTAL HOURS TO DAY  4  590  NO OF JOBS 100
TOTAL HOURS FOR DAY  5  114  NO OF JOBS  18

TOTAL HOURS TO DAY  5  704  NO OF JOBS 118
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 7.5  29  17.5      1  4  3
 28.5  24  1.5      3  2  1
 0  12.5  1.5      0  3  1
----------   ----------
 36  65.5  20.5      4  9  5
----------   ----------
DAY= 2
 28.5  18  13      3  4  4
 15.5  48.5  12.5      5  5  3
 0  17.5  37.5      0  3  3
----------   ----------
 44  84  63      8  12  10
----------   ----------
DAY= 3
 1.5  5.5  22.5      1  3  3
 15  29  20      4  4  4
 3.5  7  0      1  2  0
----------   ----------
 20  41.5  42.5      6  9  7
----------   ----------
DAY= 4
 23.5  16.5  35.5      3  5  7
 9  26  18      2  2  4
 12  8  24.5      2  2  3
----------   ----------
 44.5  50.5  78      7  9  14
----------   ----------
DAY= 5
 9  7.5  3.5      2  1  1
 7.5  29.5  31.5      1  5  5
 4.5  7.5  13.5      1  1  1
----------   ----------
 21  44.5  48.5      4  7  7
----------   ----------
```

Plumber

Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 242 NO OF JOBS 34

TOTAL HOURS TO DAY 1 242 NO OF JOBS 34
TOTAL HOURS FOR DAY 2 105 NO OF JOBS 20

TOTAL HOURS TO DAY 2 347 NO OF JOBS 54
TOTAL HOURS FOR DAY 3 183 NO OF JOBS 28

TOTAL HOURS TO DAY 3 530 NO OF JOBS 82
TOTAL HOURS FOR DAY 4 106 NO OF JOBS 16

TOTAL HOURS TO DAY 4 636 NO OF JOBS 98
TOTAL HOURS FOR DAY 5 150 NO OF JOBS 30

TOTAL HOURS TO DAY 5 786 NO OF JOBS 128

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 20  47  22      2  6  4
 56  14.5  40.5      6  3  7
 2.5  15.5  24      1  3  2
----------  ----------
 78.5  77  86.5      9  12  13
----------  ----------
DAY= 2
 5  25.5  15      2  3  2
 2.5  20  6.5      1  2  3
 9.5  9.5  11.5      1  3  3
----------  ----------
 17  55  33      4  8  8
----------  ----------
DAY= 3
 27.5  25.5  30      3  5  4
 2.5  33.5  17.5      1  3  3
 24.5  15.5  6.5      3  3  3
----------  ----------
 54.5  74.5  54      7  11  10
----------  ----------
DAY= 4
 9  7.5  11      2  1  2
 17  15.5  11.5      2  3  1
 20  0  14.5      2  0  3
----------  ----------
 46  23  37      6  4  6
----------  ----------
DAY= 5
 2.5  13.5  31      1  3  6
 17  38.5  1.5      4  7  1
 21  13  12      4  2  2
----------  ----------
 40.5  65  44.5      9  12  9
----------  ----------
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 117 NO OF JOBS 18

TOTAL HOURS TO DAY 1 117 NO OF JOBS 18
TOTAL HOURS FOR DAY 2 104 NO OF JOBS 18

TOTAL HOURS TO DAY 2 221 NO OF JOBS 36
TOTAL HOURS FOR DAY 3 155 NO OF JOBS 34

TOTAL HOURS TO DAY 3 376 NO OF JOBS 70
TOTAL HOURS FOR DAY 4 50 NO OF JOBS 16

TOTAL HOURS TO DAY 4 426 NO OF JOBS 86
TOTAL HOURS FOR DAY 5 71 NO OF JOBS 18

TOTAL HOURS TO DAY 5 497 NO OF JOBS 104

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  6.5  6.5      0  1  1
 22.5  20  17      3  4  2
 17  7.5  20      2  1  4
----------  ----------
 39.5  34  43.5      5  6  7
----------  ----------
DAY= 2
 0  20  14      0  4  2
 2.5  10.5  30.5      1  1  5
 9  0  17.5      2  0  3
----------  ----------
 11.5  30.5  62      3  5  10
----------  ----------
DAY= 3
 28.5  7.5  4.5      3  1  3
 10.5  15.5  27      3  5  6
 20  24  17.5      4  6  3
----------  ----------
 59  47  49      10  12  12
----------  ----------
DAY= 4
 3  12  7.5      2  2  3
 2.5  7  11      1  2  2
 5.5  1.5  0      3  1  0
----------  ----------
 11  20.5  18.5      6  5  5
----------  ----------
DAY= 5
 18  9  1.5      4  2  1
 7  3.5  4      2  1  2
 5.5  3.5  19      1  1  4
----------  ----------
 30.5  16  24.5      7  4  7
----------  ----------
```

Plumber

Estates 1, 2 & 5

Plumber Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  100  NO OF JOBS  18

TOTAL HOURS TO DAY  1  100  NO OF JOBS 18
TOTAL HOURS FOR DAY  2  89  NO OF JOBS  18

TOTAL HOURS TO DAY  2  189  NO OF JOBS 36
TOTAL HOURS FOR DAY  3  88  NO OF JOBS  16

TOTAL HOURS TO DAY  3  277  NO OF JOBS 52
TOTAL HOURS FOR DAY  4  96  NO OF JOBS  22

TOTAL HOURS TO DAY  4  373  NO OF JOBS 74
TOTAL HOURS FOR DAY  5  133  NO OF JOBS  28

TOTAL HOURS TO DAY  5  506  NO OF JOBS 102
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  23.5  10      0  5  2
 0  12  14      0  2  2
 0  6  34.5      0  2  5
----------   ----------
 0  41.5  58.5      0  9  9
----------   ----------
DAY= 2
 17  13.5  10.5      4  1  3
 5  7  0      2  2  0
 15  8  13      2  2  2
----------   ----------
 37  28.5  23.5      8  5  5
----------   ----------
DAY= 3
 7  23  2.5      2  2  1
 7  13  8      2  2  2
 0  9  18.5      0  2  3
----------   ----------
 14  45  29      4  6  6
----------   ----------
DAY= 4
 9  16  12.5      2  4  3
 7.5  22.5  8.5      1  5  3
 15.5  4.5  0      3  1  0
----------   ----------
 32  43  21      6  10  6
----------   ----------
DAY= 5
 9  3  26      2  2  6
 14  28  18      2  4  4
 1.5  2.5  31      1  1  6
----------   ----------
 24.5  33.5  75      5  7  16
----------   ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  162  NO OF JOBS  34

TOTAL HOURS TO DAY  1  162  NO OF JOBS 34
TOTAL HOURS FOR DAY  2  114  NO OF JOBS  24

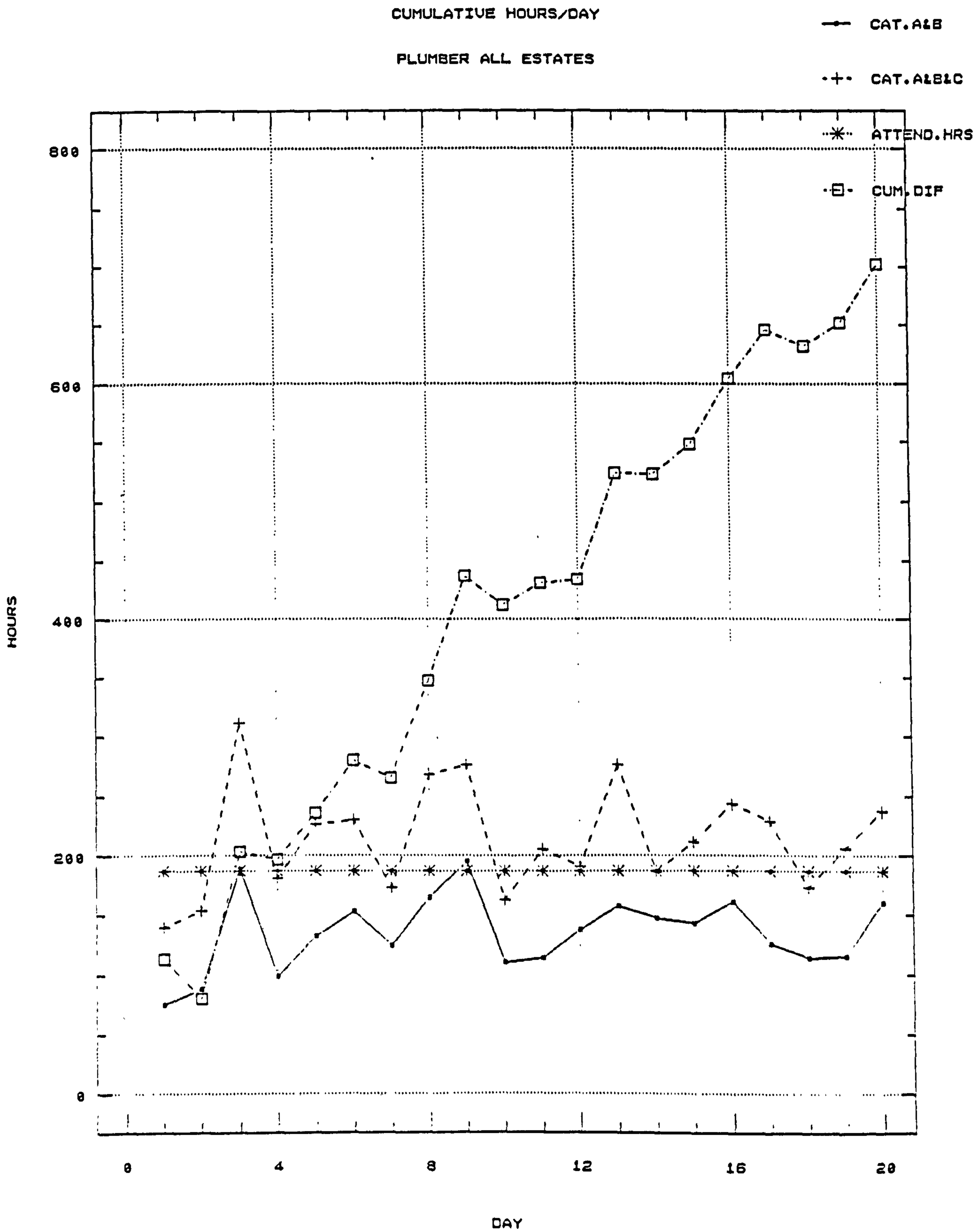
TOTAL HOURS TO DAY  2  276  NO OF JOBS 58
TOTAL HOURS FOR DAY  3  78  NO OF JOBS  16

TOTAL HOURS TO DAY  3  354  NO OF JOBS 74
TOTAL HOURS FOR DAY  4  72  NO OF JOBS  16

TOTAL HOURS TO DAY  4  426  NO OF JOBS 90
TOTAL HOURS FOR DAY  5  94  NO OF JOBS  18

TOTAL HOURS TO DAY  5  520  NO OF JOBS 108
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 16.5  6.5  22.5      3  3  5
 20.5  12.5  39      3  5  6
 5  20.5  19      2  3  4
----------   ----------
 42  39.5  80.5      8  11  15
----------   ----------
DAY= 2
 0  7.5  13      0  3  4
 14  27.5  25.5      4  5  3
 0  15.5  11      0  3  2
----------   ----------
 14  50.5  49.5      4  11  9
----------   ----------
DAY= 3
 12.5  7  11      3  2  2
 13  0  15      2  0  4
 2.5  17  0      1  2  0
----------   ----------
 28  24  26      6  4  6
----------   ----------
DAY= 4
 10.5  15  14.5      1  2  3
 8.5  14.5  4      3  3  2
 0  0  5      0  0  2
----------   ----------
 19  29.5  23.5      4  5  7
----------   ----------
DAY= 5
 19.5  7  7.5      5  2  1
 14.5  3.5  0      1  1  0
 0  34  8      0  6  2
----------   ----------
 34  44.5  15.5      6  9  3
----------   ----------
```



WEEKS 16 To 19

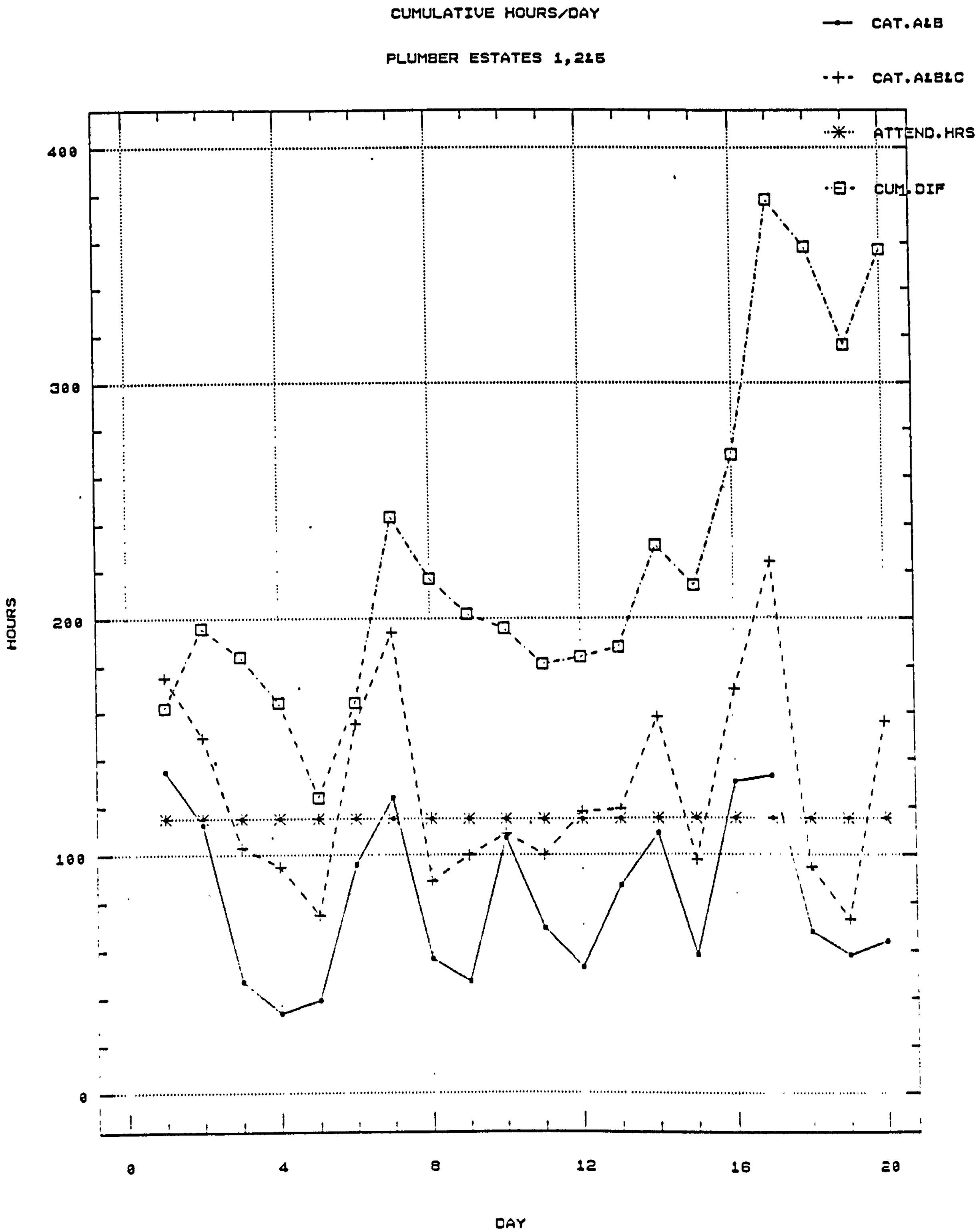
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
161	29.5	45.5	64.5	75	139.5	300.5	187	113.5	1	110	0.606951
113.5	33	55.5	65	88.5	153.5	267	187	80	2	120.5	0.427807
80	83	105.5	122	188.5	310.5	390.5	187	203.5	3	227.5	1.088235
203.5	12.5	86	82	98.5	180.5	384	187	197	4	168	1.053475
197	60.5	72	94	132.5	226.5	423.5	187	236.5	5	166	1.264705
236.5	69.5	83.5	77.5	153	230.5	467	187	280	6	161	1.497326
280	31.5	92.5	48.5	124	172.5	452.5	187	265.5	7	141	1.419786
265.5	64.5	100	104	164.5	268.5	534	187	347	8	204	1.855614
347	47.5	148	81	195.5	276.5	623.5	187	436.5	9	229	2.334224
436.5	90	20	52.5	110	162.5	599	187	412	10	72.5	2.203208
412	35	79	91.5	114	205.5	617.5	187	430.5	11	170.5	2.302139
430.5	66	71.5	53	137.5	190.5	621	187	434	12	124.5	2.320855
434	48	109	119.5	157	276.5	710.5	187	523.5	13	228.5	2.799465
523.5	63	84	39.5	147	186.5	710	187	523	14	123.5	2.796791
523	58	84.5	69	142.5	211.5	734.5	187	547.5	15	153.5	2.927807
547.5	43	117.5	83	160.5	243.5	791	187	604	16	200.5	3.229946
604	19.5	106	103	125.5	228.5	832.5	187	645.5	17	209	3.451871
645.5	46	68	59.5	114	173.5	819	187	632	18	127.5	3.379679
632	84	31.5	91	115.5	206.5	838.5	187	651.5	19	122.5	3.483957
651.5	70	90	77.5	160	237.5	889	187	702	20	167.5	3.754010
										161.35	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Plumber

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
102	50.5	84.5	40	135	175	277	115	162	1	124.5	1.408695
162	25	87.5	36.5	112.5	149	311	115	196	2	124	1.704347
196	11.5	35.5	56	47	103	299	115	184	3	91.5	1.6
184	7	27	61	34	95	279	115	164	4	88	1.426086
164	10	29.5	35.5	39.5	75	239	115	124	5	65	1.078260
124	13	83	59	96	155	279	115	164	6	142	1.426086
164	24.5	99.5	70	124	194	358	115	243	7	169.5	2.113043
243	24.5	32	32.5	56.5	89	332	115	217	8	64.5	1.886956
217	20.5	26.5	53	47	100	317	115	202	9	79.5	1.756521
202	55.5	52	1.5	107.5	109	311	115	196	10	53.5	1.704347
196	27	42.5	30.5	69.5	100	296	115	181	11	73	1.573913
181	5.5	47.5	65	53	118	299	115	184	12	112.5	1.6
184	27	60.5	31.5	87.5	119	303	115	188	13	92	1.634782
188	39	70	49	109	158	346	115	231	14	119	2.008695
231	12.5	45.5	40	58	98	329	115	214	15	85.5	1.860869
214	38	92.5	39.5	130.5	170	384	115	269	16	132	2.339130
269	37.5	95.5	91	133	224	493	115	378	17	186.5	3.286956
378	52.5	15.5	27	68	95	473	115	358	18	42.5	3.113043
358	14.5	43.5	15	58	73	431	115	316	19	58.5	2.747826
316	29	35	92	64	156	472	115	357	20	127	3.104347
										101.525	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Plumber

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

ELECTRICAL

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Job Arrivals/Day	363 - 372
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TRADE ELECTRICIAN

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	4	-	-	-	-	-	-	-	-	-	4	-	-	-										
3	-	2	-	-	3	-	-	-	-	1	-	2	-	-	4										
4	1	1	1	2	-	-	-	-	-	1	1	1	1	2	1										
5	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-										
Weekly Total											2	7	6	2	-										
1	1	2	-	-	-	-	-	-	-	-	1	2	-	-	-										
2	-	6	-	-	-	-	-	-	-	-	-	6	-	-	-										
3	1	6	-	-	1	-	-	-	-	1	1	6	-	-	2										
4	-	1	1	1	-	-	-	-	-	-	-	1	1	1	-										
5	1	-	-	-	-	1	-	-	-	-	2	-	-	-	-										
Weekly Total											4	15	3	1	-										
1	-	3	-	-	-	-	3	-	-	-	-	6	-	-	-										
2	-	2	-	-	2	-	-	-	-	-	-	2	-	-	2										
3	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-										
4	-	1	1	-	-	-	3	-	-	-	-	4	1	-	-										
5	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-										
Weekly Total											1	14	3	-	-										

TRADE ELECTRICIAN

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	1	2	-	1	-	-	-	-	1	-	1	2										
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3	-	-	-	1	4	-	1	-	-	-	-	1	-	1	4										
4	1	2	1	1	1	-	1	-	-	-	1	3	1	1	1										
5	1	1	-	-	-	-	1	-	-	-	1	2	-	-	-										
Weekly Total											2	7	8	3	1										
1											9	43	20	6	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE ELECTRICIAN

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	2	-	-	-	1	2	-	-	-	1	4	-	-										
3	-	-	-	4	-	-	-	1	-	-	-	-	1	4	-										
4	-	-	-	-	-	1	-	1	-	-	1	-	1	-	-										
5	-	-	1	-	3	-	-	-	-	-	-	-	1	-	3										
Weekly Total											1	1	10	4	-										
1	-	9	-	-	-	-	2	-	-	1	-	11	-	-	1										
2	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-										
3	-	1	-	-	2	-	2	-	-	-	-	3	-	-	2										
4	-	3	-	-	3	-	-	-	-	-	-	3	-	-	3										
5	1	2	-	-	-	-	-	-	-	-	1	2	-	-	-										
Weekly Total											1	20	6	-	-										
1	-	1	1	-	-	1	2	-	-	-	1	3	1	-	-										
2	-	3	-	-	-	-	2	-	-	-	-	5	-	-	-										
3	1	3	-	-	-	1	-	-	-	-	2	3	-	-	-										
4	-	4	-	-	-	-	1	1	-	-	-	5	1	-	-										
5	3	-	-	-	-	1	-	-	-	-	4	-	-	-	-										
Weekly Total											7	16	2	-	-										

TRADE ELECTRICIAN

Est Day	WARD 2 A	B	C	D	E	WARD 11 A	B	C	D	E	ESTATE 2 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	5	-	-	-	-	1	-	-	-	-	6	-	-										
2	1	-	2	-	-	1	-	-	-	-	2	-	2	-	-										
3	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-										
4	-	-	2	-	-	-	-	3	-	-	-	-	5	-	-										
5	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-										
Weekly Total											3	-	15	-	-										
1											12	37	33	4	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE ELECTRICIAN

Est Day	WARD 12					WARD 13					ESTATE 3														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	1	-	-	-	-	2	1	-	-	-	3	1	-										
3	-	-	2	-	-	-	-	4	-	-	-	-	6	-	-										
4	1	-	1	-	-	2	-	3	-	1	3	-	4	-	1										
5	-	-	-	1	-	-	-	5	-	1	-	-	5	1	1										
Weekly Total											3	-	20	2											
1	-	-	1	-	-	-	4	-	-	-	-	4	1	-	-										
2	-	1	-	-	-	-	4	-	1	1	-	5	-	1	1										
3	-	-	-	-	-	-	2	1	-	-	-	2	1	-	-										
4	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-										
5	-	1	-	-	-	-	4	1	-	-	-	5	1	-	-										
Weekly Total											-	18	4	1	-										
1	-	1	-	-	-	-	4	-	-	-	-	5	-	-	-										
2	-	1	1	1	-	-	4	-	-	3	-	5	1	1	3										
3	-	-	1	-	-	-	1	-	-	-	-	1	1	-	-										
4	-	-	-	-	-	-	2	2	-	1	-	2	2	-	1										
5	-	-	-	-	-	-	1	1	1	-	-	1	1	1	-										
Weekly Total											-	14	9	2	-										

TRADE ELECTRICIAN

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-										
2	-	-	1	2	-	-	-	2	-	2	-	-	3	2	2										
3	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
4	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-										
5	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
Weekly Total											-	-	10	3	-										
1											3	32	43	9	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE ELECTRICIAN

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	2	-	1
3	-	-	-	-	-	-	-	1	-	-	1	-	1	-	-	-	-	1	-	-	1	-	3	-	-
4	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	2	1	1	-	-
5	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-	-
Weekly Total																					6	1	7	-	-
1	1	6	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-	-	3	6	1	-	-
2	-	1	-	-	-	-	1	-	-	-	-	1	-	-	1	1	-	-	-	-	1	3	-	-	1
3	-	2	-	-	-	-	1	-	-	-	-	-	1	-	1	-	-	-	-	-	-	3	1	-	-
4	-	3	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	1	4	-	-	-
5	1	3	1	-	-	-	2	-	-	-	-	2	1	-	-	-	-	-	-	-	1	7	2	-	-
Weekly Total																					6	23	5	-	-
1	1	2	-	-	-	3	1	-	-	-	-	-	-	-	1	-	2	-	-	-	4	5	-	-	1
2	-	2	-	-	-	1	1	-	-	-	-	-	-	-	-	1	2	1	-	1	2	5	1	-	1
3	-	3	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	4	4	-	-
4	-	-	-	-	-	1	1	-	-	-	-	1	1	-	-	1	1	-	-	-	2	3	1	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
Weekly Total																					8	17	9	-	-

TRADE ELECTRICIAN

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	1	-	2	-	-	1	-	2	-	-	-	-	-	-	-	-	-	2	-	-	2	-	6	-	-
2	2	1	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-	1	4	1	1	-	1
3	2	-	2	-	-	-	-	-	-	-	1	-	1	-	1	-	-	-	-	2	3	-	3	-	3
4	-	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-	4	2	-
5	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1
Weekly Total																					9	1	19	2	-
1																					29	42	40	2	-
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE ELECTRICIAN

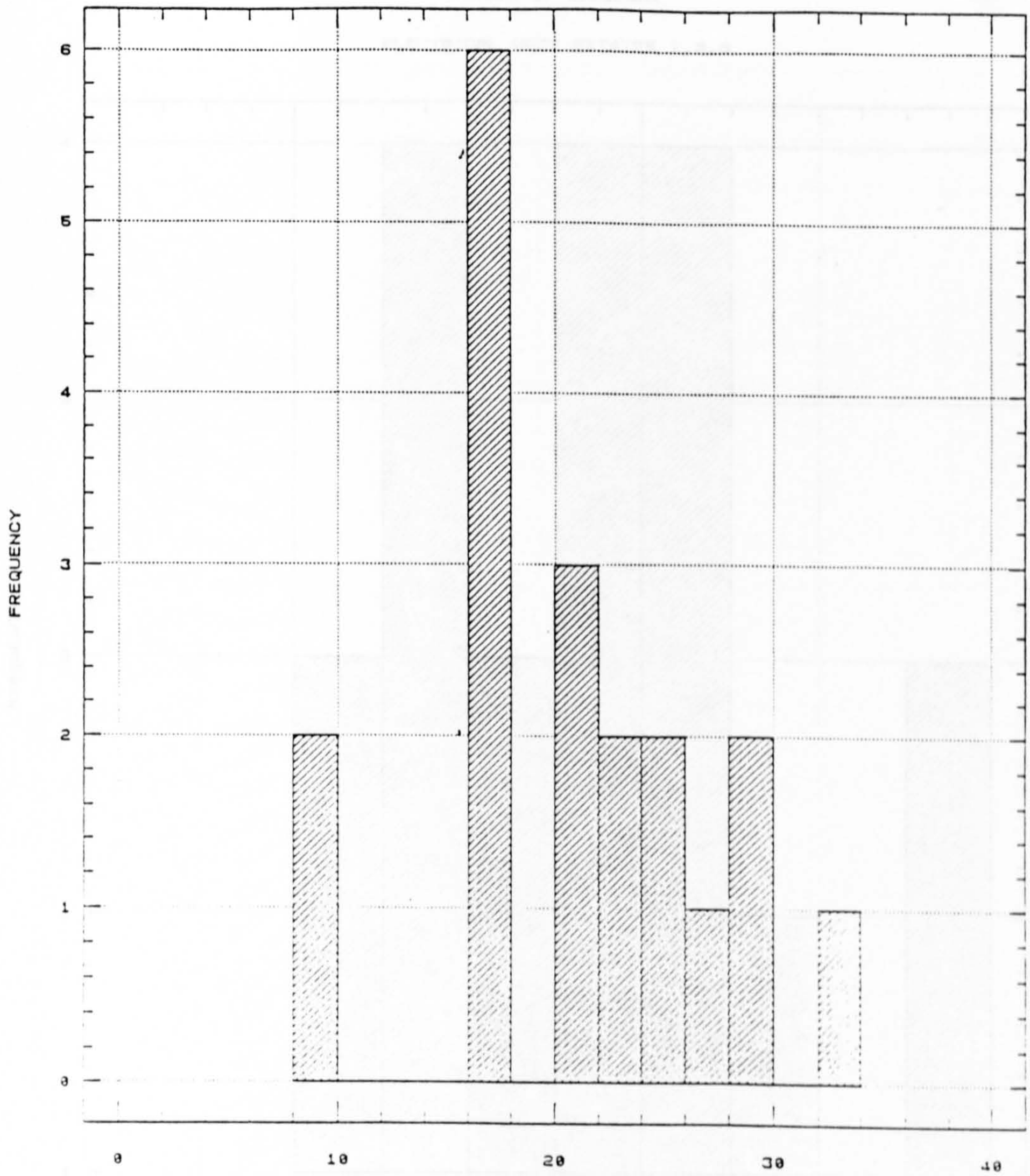
Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	1	1	-	-	-	3	2	-
3	-	-	-	-	-	-	-	-	-	-	-	1	2	2	-	-	-	3	2	-	-	1	5	4	-
4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	1	1	2	-	-	1
5	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	1	-	2	1	-	2	-	2
Weekly Total																					2	3	13	6	-
1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	4	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	1	-	-	-	1	1	-	1	-	2
3	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	4	-	-	-	-	5	1	-	-
4	-	-	-	-	-	-	-	-	-	-	-	3	2	-	-	-	-	-	-	1	-	3	2	-	1
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-	1	2	1	-
Weekly Total																					1	13	9	1	-
1	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	1	-	-	1	-	1	2	1	1	-
2	-	-	-	-	-	-	-	-	-	-	-	2	-	3	-	-	-	-	1	-	-	2	-	4	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-
4	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	1	1	-
5	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	-	-	-	2	-	1	-
Weekly Total																					1	6	2	9	-

TRADE ELECTRICIAN

Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	4	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	2	1
3	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	2	4	-	-	-	2	12	-
5	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-	-	1	1	-
Weekly Total																					-	-	9	16	-
1										E1	9	43	20	-	72						4	22	33	32	-
2										E2	12	37	33	-	82										
3										E3	3	32	43	-	78										
4										E4	29	42	40	-	111										
5										E5	4	22	33	-	59										
Weekly Total											57	176	169		402										
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

NUMBER OF JOBS/DAY

ELECTRICAL WORK ALL ESTATES



NO OF JOBS

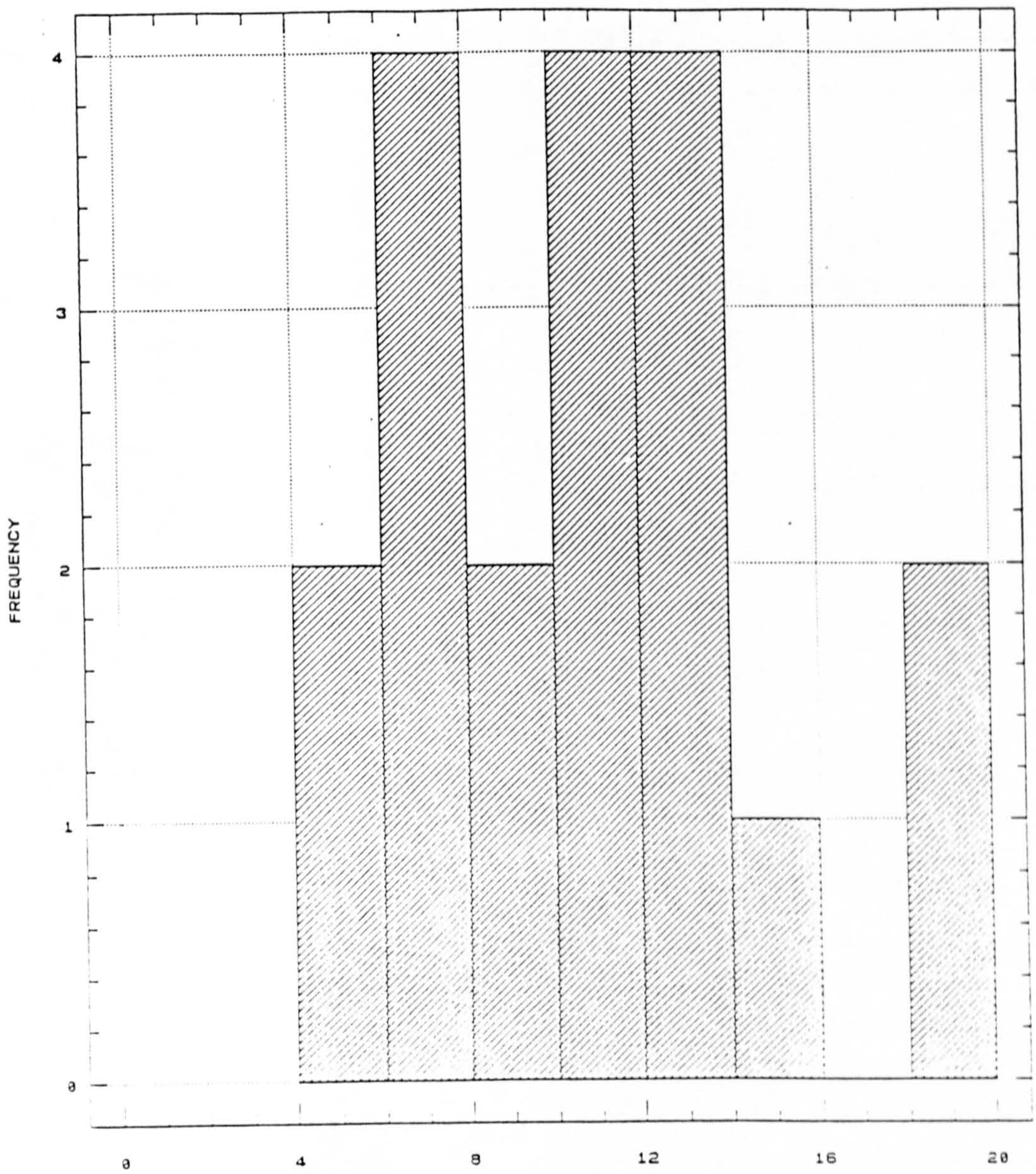
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		8.00		0	.0000	0	.000
1	8.00	10.00	9.00	2	.1053	2	.105
2	10.00	12.00	11.00	0	.0000	2	.105
3	12.00	14.00	13.00	0	.0000	2	.105
4	14.00	16.00	15.00	0	.0000	2	.105
5	16.00	18.00	17.00	6	.3158	8	.421
6	18.00	20.00	19.00	0	.0000	8	.421
7	20.00	22.00	21.00	3	.1579	11	.579
8	22.00	24.00	23.00	2	.1053	13	.684
9	24.00	26.00	25.00	2	.1053	15	.789
10	26.00	28.00	27.00	1	.0526	16	.842
11	28.00	30.00	29.00	2	.1053	18	.947
12	30.00	32.00	31.00	0	.0000	18	.947
13	32.00	34.00	33.00	1	.0526	19	1.000
above,	34.00			0	.0000	19	1.000

Mean = 21.2105 Standard Deviation = 6.36465 Median = 22

NUMBER OF JOBS/DAY

ELECTRICAL WORK ESTATES 1,2,5



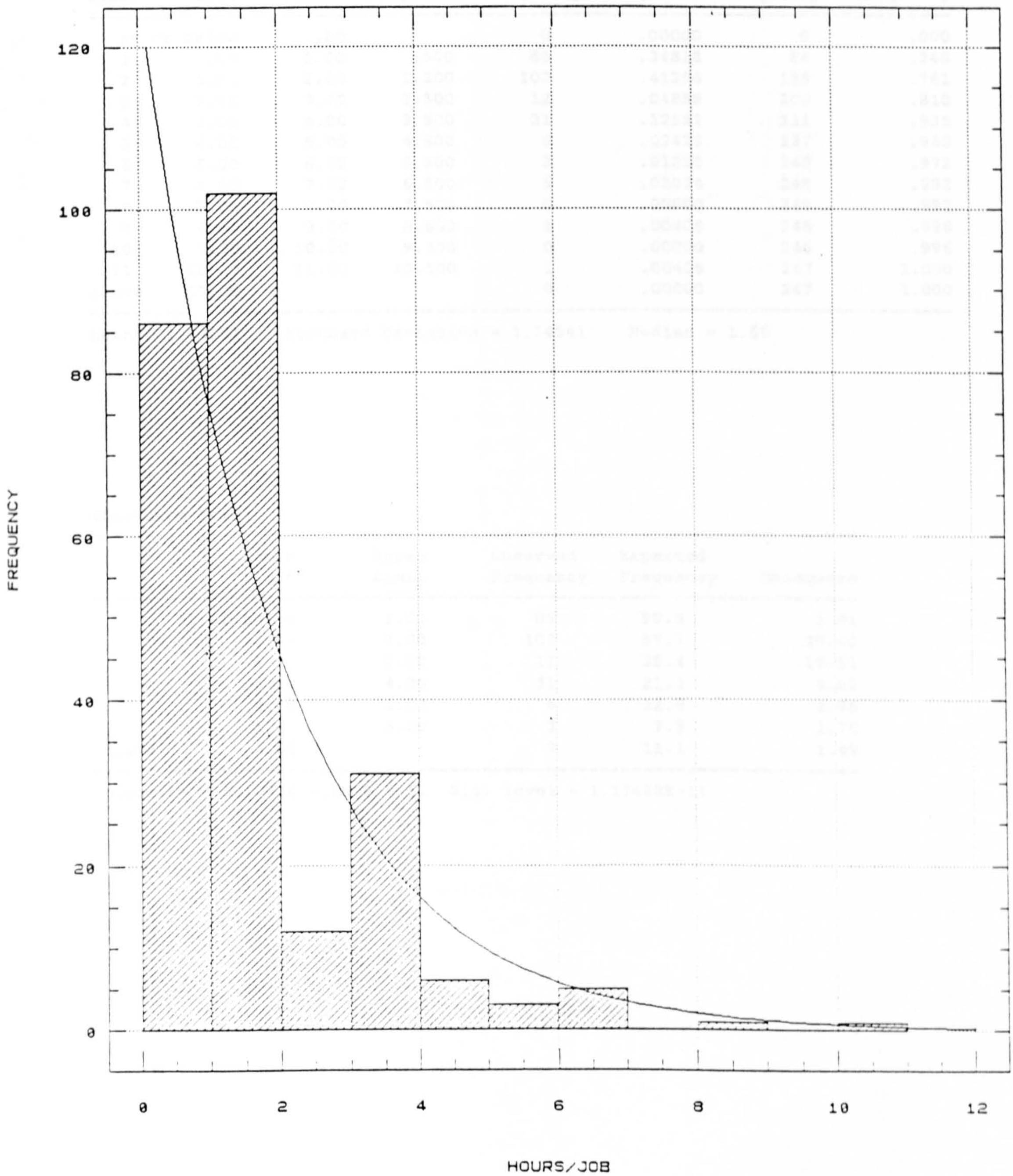
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		4.00		0	.0000	0	.000
1	4.00	6.00	5.00	2	.1053	2	.105
2	6.00	8.00	7.00	4	.2105	6	.316
3	8.00	10.00	9.00	2	.1053	8	.421
4	10.00	12.00	11.00	4	.2105	12	.632
5	12.00	14.00	13.00	4	.2105	16	.842
6	14.00	16.00	15.00	1	.0526	17	.895
7	16.00	18.00	17.00	0	.0000	17	.895
8	18.00	20.00	19.00	2	.1053	19	1.000
above	20.00			0	.0000	19	1.000

Mean = 11.2105 Standard Deviation = 4.1309 Median = 11

NUMBER OF HOURS/JOB

ELECTRICAL WORK PRIVATE CONTRACTOR



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.00000	0	.000
1	.00	1.00	.500	86	.34818	86	.348
2	1.00	2.00	1.500	102	.41296	188	.761
3	2.00	3.00	2.500	12	.04858	200	.810
4	3.00	4.00	3.500	31	.12551	231	.935
5	4.00	5.00	4.500	6	.02429	237	.960
6	5.00	6.00	5.500	3	.01215	240	.972
7	6.00	7.00	6.500	5	.02024	245	.992
8	7.00	8.00	7.500	0	.00000	245	.992
9	8.00	9.00	8.500	1	.00405	246	.996
10	9.00	10.00	9.500	0	.00000	246	.996
11	10.00	11.00	10.500	1	.00405	247	1.000
above	11.00			0	.00000	247	1.000

Mean = 1.93162 Standard Deviation = 1.34541 Median = 1.56

Chisquare Test

	Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
	at or below	1.00	86	99.8	1.91
	1.00	2.00	102	59.5	30.40
	2.00	3.00	12	35.4	15.51
	3.00	4.00	31	21.1	4.62
	4.00	5.00	6	12.6	3.45
	5.00	6.00	3	7.5	2.70
above	6.00		7	11.1	1.49

Chisquare = 60.0724 with 5 d.f. Sig. level = 1.17428E-11

Electrician All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	2	4	0.5
1	2	3	2	1.5
1	3	3	1	1.5
1	4	3	1	3.5
1	5	2	2	1.5
1	6	2	4	0.5
1	7	2	1	0.5
1	8	2	3	1.5
1	9	3	4	3.5
1	10	2	4	1.5
1	11	2	1	2.5
1	12	1	2	0.5
1	13	3	3	0.5
1	14	3	2	0.5
1	15	3	2	0.5
1	16	3	1	0.5
1	17	2	1	0.5
1	18	2	4	0.5
1	19	1	2	3.5
1	20	1	5	4.5
1	21	2	5	0.5
1	22	2	1	0.5
1	23	2	4	1.5
1	24	3	2	3.5
1	25	2	2	0.5
1	26	3	3	0.5
1	27	3	1	1.5
1	28	1	5	1.5
1	29	2	1	0.5

TOTAL HOURS FOR DAY 1 40.5 NO OF JOBS 29

TOTAL HOURS TO DAY 1 40.5 NO OF JOBS 29

2	1	3	4	1.5
2	2	1	5	0.5
2	3	2	2	3.5
2	4	3	4	0.5
2	5	3	4	0.5
2	6	2	1	0.5
2	7	2	1	1.5
2	8	2	5	1.5
2	9	3	2	0.5

TOTAL HOURS FOR DAY 2 10.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 51 NO OF JOBS 38

3	1	2	4	3.5
3	2	1	1	1.5
3	3	1	2	0.5
3	4	3	1	0.5
3	5	2	2	1.5
3	6	3	1	0.5
3	7	2	3	0.5
3	8	2	4	3.5
3	9	1	2	1.5
3	10	2	4	1.5
3	11	3	4	1.5
3	12	3	5	0.5
3	13	2	5	0.5
3	14	3	2	0.5
3	15	2	4	0.5
3	16	2	3	0.5
3	17	2	2	0.5

TOTAL HOURS FOR DAY 3 19.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 70.5 NO OF JOBS 55

4	1	3	1	0.5
4	2	3	1	0.5
4	3	2	2	0.5
4	4	2	4	3.5
4	5	1	5	0.5
4	6	3	3	0.5
4	7	2	3	1.5
4	8	1	1	1.5
4	9	1	3	5.5

TOTAL HOURS FOR DAY 4 14.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 85 NO OF JOBS 64

Electrician All Estates

5	1	3	5	2.5
5	2	3	1	0.5
5	3	3	2	5.5
5	4	3	5	0.5
5	5	1	3	1.5
5	6	3	5	1.5
5	7	2	5	0.5
5	8	1	4	1.5
5	9	2	5	0.5
5	10	3	4	1.5
5	11	2	2	0.5
5	12	3	1	0.5
5	13	2	1	1.5
5	14	3	1	1.5
5	15	2	5	1.5
5	16	3	3	1.5
5	17	3	2	3.5
5	18	2	1	1.5
5	19	3	4	6.5
5	20	2	2	0.5
5	21	3	4	1.5
5	22	2	4	1.5
5	23	3	5	0.5
5	24	1	3	5.5
5	25	3	3	1.5
5	26	3	3	3.5
5	27	2	3	0.5
5	28	2	3	1.5
5	29	3	1	1.5
5	30	1	5	0.5
5	31	3	2	1.5
5	32	1	3	2.5
5	33	2	1	0.5

TOTAL HOURS FOR DAY 5 57.5 NO OF JOBS 33

TOTAL HOURS TO DAY 5 142.5 NO OF JOBS 97

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  4.5  7      0  5  4
 4  2  6       2  2  4
 0  1.5  1      0  1  2
 0  4.5  3.5      0  5  1
 6  0.5  0      2  1  0
----------    ----------
 10  13  17.5      4  14  11
----------    ----------
DAY= 2
 0  2  0       0  2  0
 0  3.5  0.5      0  1  1
 0  0  0       0  0  0
 0  0  2.5      0  0  3
 0.5  1.5  0      1  1  0
----------    ----------
 0.5  7  3      1  4  4
----------    ----------
DAY= 3
 1.5  0  1      1  0  2
 2  2  0.5      2  2  1
 0  1  0       0  2  0
 0  9  1.5      0  4  1
 0  0.5  0.5      0  1  1
----------    ----------
 3.5  12.5  3.5      3  9  5
----------    ----------
DAY= 4
 1.5  0  1      1  0  2
 0  0.5  0      0  1  0
 5.5  1.5  0.5      1  1  1
 0  3.5  0      0  1  0
 0.5  0  0      1  0  0
----------    ----------
 7.5  5.5  1.5      3  3  3
----------    ----------
DAY= 5
 0  3.5  4      0  3  4
 0  1  10.5      0  2  3
 9.5  2  6.5      3  2  3
 1.5  1.5  9.5      1  1  3
 0.5  2.5  5      1  3  4
----------    ----------
 11.5  10.5  35.5      5  11  17
----------    ----------
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Electrician

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  15.5  NO OF JOBS  9

TOTAL HOURS TO DAY  1  15.5  NO OF JOBS 9
TOTAL HOURS FOR DAY  2  41.5  NO OF JOBS  23

TOTAL HOURS TO DAY  2  57  NO OF JOBS 32
TOTAL HOURS FOR DAY  3  21.5  NO OF JOBS  9

TOTAL HOURS TO DAY  3  78.5  NO OF JOBS 41
TOTAL HOURS FOR DAY  4  16.5  NO OF JOBS  9

TOTAL HOURS TO DAY  4  95  NO OF JOBS 50
TOTAL HOURS FOR DAY  5  33.5  NO OF JOBS  21

TOTAL HOURS TO DAY  5  128.5  NO OF JOBS 71
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  8.5      0  0  5
 0  3.5  2      0  1  2
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  1.5  0      0  1  0
----------   ----------
 0  5  10.5      0  2  7
----------   ----------
DAY= 2
 0  4  0.5      0  2  1
 0  2.5  4      0  1  4
 1  1  8.5      2  2  3
 0  0.5  4.5      0  1  3
 0.5  14  0.5      1  2  1
----------   ----------
 1.5  22  18      3  8  12
----------   ----------
DAY= 3
 1.5  0  0      1  0  0
 5.5  1.5  2      1  1  2
 0  0  5.5      0  0  1
 4  0  0      2  0  0
 0  1.5  0      0  1  0
----------   ----------
 11  3  7.5      4  2  3
----------   ----------
DAY= 4
 0  0  0.5      0  0  1
 0  0.5  0      0  1  0
 2.5  0  7      1  0  2
 0  2  1.5      0  2  1
 0  2.5  0      0  1  0
----------   ----------
 2.5  5  9      1  4  4
----------   ----------
DAY= 5
 4  0.5  3      2  1  2
 1.5  0  1.5      1  0  1
 0  0  12.5      0  0  5
 3  4.5  2.5      2  3  3
 0  0  0.5      0  0  1
----------   ----------
 8.5  5  20      5  4  12
----------   ----------
```

All Estates

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  31.5  NO OF JOBS  27

TOTAL HOURS TO DAY  1  31.5  NO OF JOBS 27
TOTAL HOURS FOR DAY  2  20.5  NO OF JOBS  9

TOTAL HOURS TO DAY  2  52  NO OF JOBS 36
TOTAL HOURS FOR DAY  3  42.5  NO OF JOBS  27

TOTAL HOURS TO DAY  3  94.5  NO OF JOBS 63
TOTAL HOURS FOR DAY  4  51.5  NO OF JOBS  21

TOTAL HOURS TO DAY  4  146  NO OF JOBS 84
TOTAL HOURS FOR DAY  5  45.5  NO OF JOBS  27

TOTAL HOURS TO DAY  5  191.5  NO OF JOBS 111
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  2  5.5      0  2  3
 0.5  5  2.5      1  4  3
 0  1.5  2      0  1  2
 0  1  7.5      0  2  5
 0.5  1.5  2      1  1  2
----------   ----------
 1  11  19.5      2  10  15
----------   ----------
DAY= 2
 1.5  0  3.5      1  0  1
 0  1.5  0      0  1  0
 1.5  0  10.5      1  0  3
 0  1.5  0.5      0  1  1
 0  0  0      0  0  0
----------   ----------
 3  3  14.5      2  2  5
----------   ----------
DAY= 3
 0  3.5  0      0  3  0
 1.5  11.5  3.5      1  3  3
 0  3.5  2      0  3  2
 0.5  7.5  4.5      1  3  5
 0  1.5  3      0  1  2
----------   ----------
 2  27.5  13      2  13  12
----------   ----------
DAY= 4
 0  7.5  5      0  3  2
 1.5  1.5  2      1  1  2
 0  0  15.5      0  0  5
 0  3.5  13.5      0  3  3
 0  0  1.5      0  0  1
----------   ----------
 1.5  12.5  37.5      1  7  13
----------   ----------
DAY= 5
 1.5  4  4      1  4  2
 0  1  2      0  2  2
 3.5  9  1.5      1  2  1
 0  5.5  1      0  5  2
 1.5  9.5  1.5      1  3  1
----------   ----------
 6.5  29  10      3  18  8
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 58.5 NO OF JOBS 29

TOTAL HOURS TO DAY 1 58.5 NO OF JOBS 29
TOTAL HOURS FOR DAY 2 34.5 NO OF JOBS 17

TOTAL HOURS TO DAY 2 93 NO OF JOBS 46
TOTAL HOURS FOR DAY 3 26.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 119.5 NO OF JOBS 63
TOTAL HOURS FOR DAY 4 49.5 NO OF JOBS 27

TOTAL HOURS TO DAY 4 169 NO OF JOBS 90
TOTAL HOURS FOR DAY 5 15.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 184.5 NO OF JOBS 99
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  7  0       0  4  0
 0.5  6  2.5       1  4  3
 0  4.5  5       0  1  4
 0  10  5       0  4  4
 0  12.5  5.5       0  3  1
----------    ----------
 0.5  40  18       1  16  12
----------    ----------
DAY= 2
 0  5.5  4.5       0  3  3
 0  12  0       0  2  0
 0  6  0       0  4  0
 0  3  0.5       0  2  1
 0  0  3       0  0  2
----------    ----------
 0  26.5  8       0  11  6
----------    ----------
DAY= 3
 0  3  1.5       0  2  1
 2  6  3       2  2  2
 0  0  0       0  0  0
 0  1.5  4.5       0  1  3
 0  1.5  3.5       0  1  3
----------    ----------
 2  12  12.5       2  6  9
----------    ----------
DAY= 4
 0  0.5  2.5       0  1  3
 1.5  7  0       1  2  0
 0  5.5  1.5       0  3  3
 5  7  7       2  4  4
 0  6.5  5.5       0  1  3
----------    ----------
 6.5  26.5  16.5       3  11  13
----------    ----------
DAY= 5
 0  0  0       0  0  0
 1.5  0  3.5       1  0  1
 2.5  0.5  1.5       1  1  1
 0  2  0       0  2  0
 1.5  0  2.5       1  0  1
----------    ----------
 5.5  2.5  7.5       3  3  3
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 38.5 NO OF JOBS 17

TOTAL HOURS TO DAY 1 38.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 2 37.5 NO OF JOBS 17

TOTAL HOURS TO DAY 2 76 NO OF JOBS 34
TOTAL HOURS FOR DAY 3 32.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 108.5 NO OF JOBS 51
TOTAL HOURS FOR DAY 4 26.5 NO OF JOBS 17

TOTAL HOURS TO DAY 4 135 NO OF JOBS 68
TOTAL HOURS FOR DAY 5 30.5 NO OF JOBS 27

TOTAL HOURS TO DAY 5 165.5 NO OF JOBS 95
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0.5  1       0  1  2
 0  0  2       0  0  2
 1.5  0  17.5       1  0  3
 3.5  0.5  5.5       1  1  3
 0  5.5  1       0  1  2
----------    ----------
 5  6.5  27       2  3  12
----------    ----------
DAY= 2
 0  7  7       0  2  2
 0  0  3.5       0  0  3
 1.5  3.5  3       1  3  2
 1.5  1.5  0.5       1  1  1
 0  8.5  0       0  1  0
----------    ----------
 3  20.5  14       2  7  8
----------    ----------
DAY= 3
 0.5  0  0       1  0  0
 0  2  3.5       0  2  1
 0  3  3       0  2  2
 0  8  11       0  2  6
 0  0  1.5       0  0  1
----------    ----------
 0.5  13  19       1  6  10
----------    ----------
DAY= 4
 1.5  1.5  1.5       1  1  3
 0  5  2.5       0  2  1
 0  4.5  3.5       0  3  1
 0.5  2  0       1  2  0
 0  3.5  0.5       0  1  1
----------    ----------
 2  16.5  8       2  9  6
----------    ----------
DAY= 5
 0  3.5  1       0  3  2
 0  2  5.5       0  2  5
 0.5  0  0.5       1  0  1
 3.5  4  1       3  4  2
 0  1.5  7.5       0  1  3
----------    ----------
 4  11  15.5       4  10  13
----------    ----------
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Electrician

All Estates

Electrician

All Estates

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  37.5  NO OF JOBS  29

TOTAL HOURS TO DAY  1  37.5  NO OF JOBS 29
TOTAL HOURS FOR DAY  2  26.5  NO OF JOBS  21

TOTAL HOURS TO DAY  2  64  NO OF JOBS 50
TOTAL HOURS FOR DAY  3  7.5  NO OF JOBS  9

TOTAL HOURS TO DAY  3  71.5  NO OF JOBS 59
TOTAL HOURS FOR DAY  4  37.5  NO OF JOBS  21

TOTAL HOURS TO DAY  4  109  NO OF JOBS 80
TOTAL HOURS FOR DAY  5  41.5  NO OF JOBS  29

TOTAL HOURS TO DAY  5  150.5  NO OF JOBS 109
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  3  0      0  2  0
 1.5  2.5  2      1  3  2
 6.5  5  3      3  4  2
 0  4.5  5.5      0  3  5
 0  3  1      0  2  2
----------   ----------
 8  18  11.5      4  14  11
----------   ----------
DAY= 2
 0  0  3      0  0  2
 0  1.5  6.5      0  3  3
 1.5  2  0      3  2  0
 3.5  3  0      1  2  0
 0  3.5  2      0  3  2
----------   ----------
 5  10  11.5      4  10  7
----------   ----------
DAY= 3
 0  0  0.5      0  0  1
 1.5  0  0      1  0  0
 0  2  0.5      0  2  1
 0  0  1      0  0  2
 0  0.5  1.5      0  1  1
----------   ----------
 1.5  2.5  3.5      1  3  5
----------   ----------
DAY= 4
 0  8.5  3.5      0  3  1
 0  4  4      0  4  2
 0  0.5  3      0  1  2
 0  0  10.5      0  0  5
 0.5  1.5  1.5      1  1  1
----------   ----------
 0.5  14.5  22.5      1  9  11
----------   ----------
DAY= 5
 0  0  2      0  0  2
 2.5  1.5  7      3  1  4
 5  4  2.5      2  4  1
 1.5  0  5      1  0  4
 0.5  7  3      1  4  2
----------   ----------
 9.5  12.5  19.5      7  9  13
----------   ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  24.5  NO OF JOBS  17

TOTAL HOURS TO DAY  1  24.5  NO OF JOBS 17
TOTAL HOURS FOR DAY  2  27.5  NO OF JOBS  21

TOTAL HOURS TO DAY  2  52  NO OF JOBS 38
TOTAL HOURS FOR DAY  3  24.5  NO OF JOBS  17

TOTAL HOURS TO DAY  3  76.5  NO OF JOBS 55
TOTAL HOURS FOR DAY  4  64.5  NO OF JOBS  33

TOTAL HOURS TO DAY  4  141  NO OF JOBS 88
TOTAL HOURS FOR DAY  5  22.5  NO OF JOBS  17

TOTAL HOURS TO DAY  5  163.5  NO OF JOBS 105
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  5      0  0  2
 0  8.5  2      0  5  2
 0  0  2      0  0  2
 0  0  3      0  0  2
 0  4  0      0  4  0
----------   ----------
 0  12.5  12      0  9  8
----------   ----------
DAY= 2
 0.5  6  1      1  4  2
 0  1.5  0      0  1  0
 1.5  3.5  2.5      1  1  3
 0.5  0  2      1  0  4
 0  8.5  0      0  3  0
----------   ----------
 2.5  19.5  5.5      3  9  9
----------   ----------
DAY= 3
 0  4  2      0  2  2
 0  3.5  0      0  3  0
 0  0  4      0  0  2
 0  2  5.5      0  2  3
 0.5  0  3      1  0  2
----------   ----------
 0.5  9.5  14.5      1  7  9
----------   ----------
DAY= 4
 0.5  5.5  8.5      1  3  3
 1.5  6  7.5      1  4  3
 0  3.5  4      0  3  2
 4.5  5  3      1  4  2
 3.5  8  3.5      1  2  3
----------   ----------
 10  28  26.5      4  16  13
----------   ----------
DAY= 5
 2.5  3  0      1  2  0
 0  1  1.5      0  2  1
 0.5  1.5  0.5      1  1  1
 1.5  1  0      1  2  0
 1.5  0.5  1.5      1  3  1
----------   ----------
 6  13  3.5      4  10  3
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 53.5 NO OF JOBS 27

TOTAL HOURS TO DAY 1 53.5 NO OF JOBS 27
TOTAL HOURS FOR DAY 2 29.5 NO OF JOBS 17

TOTAL HOURS TO DAY 2 83 NO OF JOBS 44
TOTAL HOURS FOR DAY 3 41.5 NO OF JOBS 23

TOTAL HOURS TO DAY 3 124.5 NO OF JOBS 67
TOTAL HOURS FOR DAY 4 38.5 NO OF JOBS 17

TOTAL HOURS TO DAY 4 163 NO OF JOBS 84
TOTAL HOURS FOR DAY 5 49.5 NO OF JOBS 25

TOTAL HOURS TO DAY 5 212.5 NO OF JOBS 109

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

6.5	1.5	4		1	1	2		
3	2	6	2	2	2			
2	0	5.5	2	0	3			
0	4.5	13.5		0	3	5		
1.5	1.5	2		1	1	2		
13	9.5	31		6	7	14		

DAY= 2

0	1.5	0.5		0	1	1		
1.5	0.5	0.5		1	1	1		
3 5	3.5	1.5		1	1	1		
3.5	7	0	1	4	0			
0	0	6	0	0	4			
8.5	12.5	8.5		3	7	7		

DAY= 3

0	0.5	6.5		0	1	1		
1.5	2.5	1.5		1	3	1		
0	7	2	0	2	2			
0	2	9	0	2	6			
0	7	2	0	2	2			
1.5	19	21		1	10	12		

DAY= 4

0	1.5	4		0	1	2		
0	0	0	0	0	0			
0	0	0	0	0	0			
9	8	5.5	2	2	5			
3.5	5.5	1.5		1	3	1		
12.5	15	11		3	6	8		

DAY= 5

7	2	0.5	2	2	1			
0	1.5	0	0	1	0			
0	0.5	11.5		0	1	5		
4	8.5	12	2	3	6			
0	2	0	0	2	0			
11	14.5	24		4	9	12		

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 42.5 NO OF JOBS 23

TOTAL HOURS TO DAY 1 42.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 2 48.5 NO OF JOBS 21

TOTAL HOURS TO DAY 2 91 NO OF JOBS 44
TOTAL HOURS FOR DAY 3 45.5 NO OF JOBS 29

TOTAL HOURS TO DAY 3 136.5 NO OF JOBS 73
TOTAL HOURS FOR DAY 4 37.5 NO OF JOBS 21

TOTAL HOURS TO DAY 4 174 NO OF JOBS 94
TOTAL HOURS FOR DAY 5 23.5 NO OF JOBS 17

TOTAL HOURS TO DAY 5 197.5 NO OF JOBS 111

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	1	0	0	2			
0	4	2	0	2	2			
0	4.5	4		0	3	2		
7.5	3	7		3	2	4		
3.5	6	0		1	2	0		
11	17.5	14		4	9	10		

DAY= 2

2	15	2	2	2	2			
0	4	1.5	0	4	1			
0	1.5	1.5		0	1	1		
0	5.5	0.5		0	3	1		
0	2.5	12.5		0	1	3		
2	28.5	18		2	11	8		

DAY= 3

1.5	6	0.5		1	2	1		
0.5	4.5	9.5		1	3	5		
0	3.5	3.5		0	3	3		
0	4.5	0	0	3	0			
0	1	10.5		0	2	5		
2	19.5	24		2	13	14		

DAY= 4

0	6.5	4	0	3	2			
0	7.5	0.5		0	3	1		
0	1.5	3.5		0	1	1		
2.5	4	1	1	4	2			
0	6	0.5	0	2	1			
2.5	25.5	9.5		1	13	7		

DAY= 5

1	0	0	2	0	0			
0	4	1.5	0	2	1			
1.5	3.5	4.5		1	1	3		
0	1.5	3	0	1	2			
0.5	2.5	0	1	3	0			
3	11.5	9		4	7	6		

Electrician

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 49.5 NO OF JOBS 25

TOTAL HOURS TO DAY 1 49.5 NO OF JOBS 25
TOTAL HOURS FOR DAY 2 43.5 NO OF JOBS 27

TOTAL HOURS TO DAY 2 93 NO OF JOBS 52
TOTAL HOURS FOR DAY 3 23.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 116.5 NO OF JOBS 69
TOTAL HOURS FOR DAY 4 40.5 NO OF JOBS 17

TOTAL HOURS TO DAY 4 157 NO OF JOBS 86
TOTAL HOURS FOR DAY 5 56.5 NO OF JOBS 23

TOTAL HOURS TO DAY 5 213.5 NO OF JOBS 109

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  2.5  1.5      0  3  1
 1.5  1  0.5      1  2  1
 6  1.5  17.5      2  1  5
 6.5  1.5  2      1  1  2
 2  2  3.5      2  2  1
----------    ----------
 16  8.5  25      6  9  10
----------    ----------
DAY= 2
 0  4.5  4.5      0  3  3
 0.5  1  1.5      1  2  1
 5  8.5  1.5      2  3  1
 5  4  5      2  2  4
 1  0  1.5      2  0  1
----------    ----------
 11.5  18  14      7  10  10
----------    ----------
DAY= 3
 0  4.5  0.5      0  3  1
 0  3.5  4.5      0  3  1
 0  2  3      0  2  2
 1.5  2  2      1  2  2
 0  0  0      0  0  0
----------    ----------
 1.5  12  10      1  10  6
----------    ----------
DAY= 4
 0  3.5  5      0  1  2
 0.5  8  2      1  2  2
 0  1.5  0      0  1  0
 0  8  7      0  2  2
 0  0.5  4.5      0  1  3
----------    ----------
 0.5  21.5  18.5      1  7  9
----------    ----------
DAY= 5
 0  6.5  1.5      0  3  1
 11.5  0  3      3  0  2
 1.5  12  1.5      1  2  1
 0  2.5  9      0  3  4
 0  0  7.5      0  0  3
----------    ----------
 13  21  22.5      4  8  11
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 36.5 NO OF JOBS 25

TOTAL HOURS TO DAY 1 36.5 NO OF JOBS 25
TOTAL HOURS FOR DAY 2 44.5 NO OF JOBS 23

TOTAL HOURS TO DAY 2 81 NO OF JOBS 48
TOTAL HOURS FOR DAY 3 19.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 100.5 NO OF JOBS 65
TOTAL HOURS FOR DAY 4 53.5 NO OF JOBS 25

TOTAL HOURS TO DAY 4 154 NO OF JOBS 90
TOTAL HOURS FOR DAY 5 43.5 NO OF JOBS 23

TOTAL HOURS TO DAY 5 197.5 NO OF JOBS 113

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 1.5  4  0      1  2  0
 0  4.5  1      0  3  2
 0.5  2  3.5      1  2  3
 0  9  3.5      0  4  3
 0  5  2      0  2  2
----------    ----------
 2  24.5  10      2  13  10
----------    ----------
DAY= 2
 1.5  3.5  15      1  1  4
 1.5  1.5  3      1  1  2
 0  3.5  0      0  3  0
 2.5  8  2      1  4  2
 0  2  0.5      0  2  1
----------    ----------
 5.5  18.5  20.5      3  11  9
----------    ----------
DAY= 3
 0  3  0.5      0  2  1
 0  1.5  2.5      0  3  3
 0  0  4      0  0  4
 0  3  0      0  2  0
 0  1.5  3.5      0  1  1
----------    ----------
 0  9  10.5      0  8  9
----------    ----------
DAY= 4
 0  6  2      0  4  2
 0  0.5  4      0  1  2
 0  3.5  1.5      0  1  1
 4.5  13  1      1  6  2
 12  5.5  0      2  3  0
----------    ----------
 16.5  28.5  8.5      3  15  7
----------    ----------
DAY= 5
 0  2  8.5      0  2  1
 0  2.5  3.5      0  3  3
 0  8  8.5      0  2  3
 0  3  12      0  2  4
 0.5  0  3      1  0  2
----------    ----------
 0.5  15.5  27.5      1  9  13
----------    ----------
```

Electrician

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 47.5 NO OF JOBS 29

TOTAL HOURS TO DAY 1 47.5 NO OF JOBS 29
TOTAL HOURS FOR DAY 2 40.5 NO OF JOBS 21

TOTAL HOURS TO DAY 2 88 NO OF JOBS 50
TOTAL HOURS FOR DAY 3 33.5 NO OF JOBS 21

TOTAL HOURS TO DAY 3 121.5 NO OF JOBS 71
TOTAL HOURS FOR DAY 4 54.5 NO OF JOBS 27

TOTAL HOURS TO DAY 4 176 NO OF JOBS 98
TOTAL HOURS FOR DAY 5 22.5 NO OF JOBS 17

TOTAL HOURS TO DAY 5 198.5 NO OF JOBS 115

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

Electrician			All Estates		
0	0	1.5	0	0	1
0	3.5	3.5	0	3	3
8	2	2	2	2	2
1.5	7.5	5	1	5	2
1	4.5	7.5	2	3	3
10.5	17.5	19.5	5	13	11

DAY= 2

0.5	5	0.5	1	2	1
4.5	1.5	0	1	1	0
1.5	0	1	1	0	2
3	3	7.5	2	2	3
8	1.5	3	2	1	2
17.5	11	12	7	6	8

DAY= 3

0	2.5	3	0	1	2
2.5	0	3.5	1	0	3
2	3.5	0	2	3	0
2.5	4	7.5	1	2	3
0.5	2	0	1	2	0
7.5	12	14	5	8	8

DAY= 4

1.5	0	7	1	0	2
0	5.5	8	0	3	4
0	3.5	0.5	0	1	1
0	12.5	12.5	0	7	5
1.5	2	0	1	2	0
3	23.5	28	2	13	12

DAY= 5

0	3	0	0	2	0
0	0	1.5	0	0	3
1.5	1.5	2	1	1	2
0	1	1	0	2	2
1.5	4	5.5	1	2	1
3	9.5	10	2	7	8

Electrician Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  28.5  NO OF JOBS  13

TOTAL HOURS TO DAY  1  28.5  NO OF JOBS 13
TOTAL HOURS FOR DAY  2  27.5  NO OF JOBS  13

TOTAL HOURS TO DAY  2  56  NO OF JOBS 26
TOTAL HOURS FOR DAY  3  12.5  NO OF JOBS  9

TOTAL HOURS TO DAY  3  68.5  NO OF JOBS 35
TOTAL HOURS FOR DAY  4  21.5  NO OF JOBS  13

TOTAL HOURS TO DAY  4  90  NO OF JOBS 48
TOTAL HOURS FOR DAY  5  10.5  NO OF JOBS  7

TOTAL HOURS TO DAY  5  100.5  NO OF JOBS 55
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  12  6       0  2  4
 0  1.5  3       0  1  2
 0  4.5  1.5       0  3  1
----------    ----------
 0  18  10.5       0  6  7
----------    ----------
DAY= 2
 0  4.5  3.5       0  1  3
 0  15.5  1.5       0  5  1
 0  0.5  2       0  1  2
----------    ----------
 0  20.5  7       0  7  6
----------    ----------
DAY= 3
 5  3.5  0.5       2  3  1
 0  0  2       0  0  2
 0  1.5  0       0  1  0
----------    ----------
 5  5  2.5       2  4  3
----------    ----------
DAY= 4
 0.5  8.5  0.5       1  3  1
 1.5  5.5  3.5       1  5  1
 0  1.5  0       0  1  0
----------    ----------
 2  15.5  4       2  9  2
----------    ----------
DAY= 5
 0  6.5  1.5       0  3  1
 0  0.5  2       0  1  2
 0  0  0       0  0  0
----------    ----------
 0  7  3.5       0  4  3
----------    ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  24.5  NO OF JOBS  19

TOTAL HOURS TO DAY  1  24.5  NO OF JOBS 19
TOTAL HOURS FOR DAY  2  15.5  NO OF JOBS  11

TOTAL HOURS TO DAY  2  40  NO OF JOBS 30
TOTAL HOURS FOR DAY  3  21.5  NO OF JOBS  13

TOTAL HOURS TO DAY  3  61.5  NO OF JOBS 43
TOTAL HOURS FOR DAY  4  8.5  NO OF JOBS  7

TOTAL HOURS TO DAY  4  70  NO OF JOBS 50
TOTAL HOURS FOR DAY  5  18.5  NO OF JOBS  11

TOTAL HOURS TO DAY  5  88.5  NO OF JOBS 61
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 2  0  5       2  0  2
 1.5  2.5  4.5       1  3  5
 0  1.5  7.5       0  1  5
----------    ----------
 3.5  4  17       3  4  12
----------    ----------
DAY= 2
 0  1.5  3       0  1  2
 2.5  3.5  2       1  3  2
 0  1.5  1.5       0  1  1
----------    ----------
 2.5  6.5  6.5       1  5  5
----------    ----------
DAY= 3
 0  3.5  10.5       0  5  3
 0  4  1.5       0  2  1
 0  2  0       0  2  0
----------    ----------
 0  9.5  12       0  9  4
----------    ----------
DAY= 4
 0  0  2.5       0  0  3
 0  3.5  0.5       0  1  1
 0.5  1.5  0       1  1  0
----------    ----------
 0.5  5  3       1  2  4
----------    ----------
DAY= 5
 1.5  0.5  3.5       1  1  1
 0  5.5  0       0  3  0
 1.5  3  3       1  2  2
----------    ----------
 3  9  6.5       2  6  3
----------    ----------
```

Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  14.5  NO OF JOBS  7

TOTAL HOURS TO DAY  1  14.5  NO OF JOBS 7
TOTAL HOURS FOR DAY  2  11.5  NO OF JOBS  7

TOTAL HOURS TO DAY  2  26  NO OF JOBS 14
TOTAL HOURS FOR DAY  3  20.5  NO OF JOBS  13

TOTAL HOURS TO DAY  3  46.5  NO OF JOBS 27
TOTAL HOURS FOR DAY  4  20.5  NO OF JOBS  11

TOTAL HOURS TO DAY  4  67  NO OF JOBS 38
TOTAL HOURS FOR DAY  5  42.5  NO OF JOBS  19

TOTAL HOURS TO DAY  5  109.5  NO OF JOBS 57
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  0       0  0  0
 0  8.5  3       0  3  2
 0  3  0       0  2  0
----------    ----------
 0  11.5  3       0  5  2
----------    ----------
DAY= 2
 0  0  5.5       0  0  3
 0  0  0       0  0  0
 0  0  6       0  0  4
----------    ----------
 0  0  11.5       0  0  7
----------    ----------
DAY= 3
 0.5  0  1       1  0  2
 0.5  5  2       1  2  2
 1.5  5  5       1  2  2
----------    ----------
 2.5  10  8       3  4  6
----------    ----------
DAY= 4
 1.5  0  4.5       1  0  3
 0  7.5  5       0  3  2
 0  0  2       0  0  2
----------    ----------
 1.5  7.5  11.5       1  3  7
----------    ----------
DAY= 5
 0  3.5  10.5       0  1  1
 2  12  5       2  6  4
 4  1.5  4       2  1  2
----------    ----------
 6  17  19.5       4  8  7
----------    ----------
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Electrician

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  10.5  NO OF JOBS  7

TOTAL HOURS TO DAY  1  10.5  NO OF JOBS 7
TOTAL HOURS FOR DAY  2  32.5  NO OF JOBS  15

TOTAL HOURS TO DAY  2  43  NO OF JOBS 22
TOTAL HOURS FOR DAY  3  18.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  61.5  NO OF JOBS 29
TOTAL HOURS FOR DAY  4  38.5  NO OF JOBS  19

TOTAL HOURS TO DAY  4  100  NO OF JOBS 48
TOTAL HOURS FOR DAY  5  13.5  NO OF JOBS  11

TOTAL HOURS TO DAY  5  113.5  NO OF JOBS 59
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  0       0  0  0
 0  8.5  0.5       0  5  1
 0  1.5  0       0  1  0
----------    ----------
 0  10  0.5       0  6  1
----------    ----------
DAY= 2
 0  6.5  4       0  3  2
 0  14  3.5       0  4  3
 1.5  1.5  1.5       1  1  1
----------    ----------
 1.5  22  9       1  8  6
----------    ----------
DAY= 3
 0  0  4       0  0  4
 0  0  14       0  0  2
 0  0  0.5       0  0  1
----------    ----------
 0  0  18.5       0  0  7
----------    ----------
DAY= 4
 0  12  5.5       0  4  3
 3.5  5.5  5.5       1  5  3
 0.5  6  0       1  2  0
----------    ----------
 4  23.5  11       2  11  6
----------    ----------
DAY= 5
 0.5  [illegible].5  3       1  3  2
 0  0  3       0  0  2
 1.5  1.5  1.5       1  1  1
----------    ----------
 2  4  7.5       2  4  5
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 20.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 20.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 2 23.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 44 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 31.5 NO OF JOBS 15

TOTAL HOURS TO DAY 3 75.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 18.5 NO OF JOBS 15

TOTAL HOURS TO DAY 4 94 NO OF JOBS 48
TOTAL HOURS FOR DAY 5 31.5 NO OF JOBS 19

TOTAL HOURS TO DAY 5 125.5 NO OF JOBS 67
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0 1.5 3 0 1 2
0 3.5 3 0 3 2
0 9.5 0 0 3 0
---
0 14.5 6 0 7 4

DAY= 2
0 4.5 1.5 0 1 1
1.5 0 10.5 1 0 1
0 0 5.5 0 0 3

1.5 4.5 17.5 1 1 5

DAY= 3
3.5 6.5 0.5 1 3 1
0 15.5 2 0 5 2
0 3 0.5 0 2 1

3.5 25 3 1 10 4

DAY= 4
1.5 0.5 0.5 3 1 1
5 1.5 1.5 2 3 1
0 2 6 0 2 2

6.5 4 8 5 6 4

DAY= 5
1.5 11 3.5 1 4 3
2 3.5 1.5 2 3 1
0 0.5 8 0 1 4

3.5 15 13 3 8 8

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 14.5 NO OF JOBS 5

TOTAL HOURS TO DAY 1 14.5 NO OF JOBS 5
TOTAL HOURS FOR DAY 2 17.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 32 NO OF JOBS 14
TOTAL HOURS FOR DAY 3 11.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 43.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 4 14.5 NO OF JOBS 13

TOTAL HOURS TO DAY 4 58 NO OF JOBS 36
TOTAL HOURS FOR DAY 5 13.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 71.5 NO OF JOBS 43
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
0 1.5 8.5 0 1 1
0 0 0.5 0 0 1
0.5 0 3.5 1 0 1

0.5 1.5 12.5 1 1 3

DAY= 2
1 5 6 2 2 2
0 0 1.5 0 0 1
0 0.5 3.5 0 1 1
---
1 5.5 11 2 3 4

DAY= 3
0 0 0 0 0 0
0 6 1.5 0 4 1
0 2 2 0 2 2
---
0 8 3.5 0 6 3

DAY= 4
0 0.5 0 0 1 0
1.5 6.5 1.5 1 5 3
0 1.5 3 0 1 2

1.5 8.5 4.5 1 7 5

DAY= 5
0 0 0 0 0 0
0 5.5 1.5 0 3 1
5 1.5 0 2 1 0
---
5 7 1.5 2 4 1

Electrician

Estates 1, 2 & 5

Electrician Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  14.5  NO OF JOBS  5

TOTAL HOURS TO DAY  1  14.5  NO OF JOBS 5
TOTAL HOURS FOR DAY  2  15.5  NO OF JOBS  11

TOTAL HOURS TO DAY  2  30  NO OF JOBS 16
TOTAL HOURS FOR DAY  3  19.5  NO OF JOBS  9

TOTAL HOURS TO DAY  3  49.5  NO OF JOBS 25
TOTAL HOURS FOR DAY  4  18.5  NO OF JOBS  11

TOTAL HOURS TO DAY  4  68  NO OF JOBS 36
TOTAL HOURS FOR DAY  5  8.5  NO OF JOBS  7

TOTAL HOURS TO DAY  5  76.5  NO OF JOBS 43
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  1.5  3.5      0  1  1
 0  1  8.5      0  2  1
 0  0  0      0  0  0
----------   ----------
 0  2.5  12      0  3  2
----------   ----------
DAY= 2
 0  5.5  0      0  5  0
 0  2  1.5      0  2  1
 0  3.5  3      0  1  2
----------   ----------
 0  11  4.5      0  8  3
----------   ----------
DAY= 3
 0  0  0.5      0  0  1
 0.5  8.5  9.5      1  3  3
 0  0  0.5      0  0  1
----------   ----------
 0.5  8.5  10.5      1  3  5
----------   ----------
DAY= 4
 0  2  3.5      0  2  3
 0  7  0.5      0  2  1
 0  3  2.5      0  2  1
----------   ----------
 0  12  6.5      0  6  5
----------   ----------
DAY= 5
 2  0  0      2  0  0
 3  3  0      2  2  0
 0.5  0  0      1  0  0
----------   ----------
 5.5  3  0      5  2  0
----------   ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  19.5  NO OF JOBS  9

TOTAL HOURS TO DAY  1  19.5  NO OF JOBS 9
TOTAL HOURS FOR DAY  2  13.5  NO OF JOBS  5

TOTAL HOURS TO DAY  2  33  NO OF JOBS 14
TOTAL HOURS FOR DAY  3  24.5  NO OF JOBS  15

TOTAL HOURS TO DAY  3  57.5  NO OF JOBS 29
TOTAL HOURS FOR DAY  4  23.5  NO OF JOBS  13

TOTAL HOURS TO DAY  4  81  NO OF JOBS 42
TOTAL HOURS FOR DAY  5  17.5  NO OF JOBS  9

TOTAL HOURS TO DAY  5  98.5  NO OF JOBS 51
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  3.5  0      0  3  0
 0  8.5  5      0  3  2
 2.5  0  0      1  0  0
----------   ----------
 2.5  12  5      1  6  2
----------   ----------
DAY= 2
 0  0  0      0  0  0
 0  1.5  0.5      0  1  1
 0  11.5  0      0  3  0
----------   ----------
 0  13  0.5      0  4  1
----------   ----------
DAY= 3
 0  3.5  4.5      0  3  3
 8  0  0      2  0  0
 1.5  2.5  4.5      1  3  3
----------   ----------
 9.5  6  9      3  6  6
----------   ----------
DAY= 4
 0  9.5  0.5      0  3  1
 0  1.5  1.5      0  1  1
 4.5  5  1      1  4  2
----------   ----------
 4.5  16  3      1  8  4
----------   ----------
DAY= 5
 0  2  2.5      0  2  1
 1.5  7.5  0.5      1  3  1
 0  3.5  0      0  1  0
----------   ----------
 1.5  13  3      1  6  2
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 20.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 20.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 22.5 NO OF JOBS 13

TOTAL HOURS TO DAY 2 43 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 22.5 NO OF JOBS 11

TOTAL HOURS TO DAY 3 65.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 18.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 84 NO OF JOBS 38
TOTAL HOURS FOR DAY 5 20.5 NO OF JOBS 13

TOTAL HOURS TO DAY 5 104.5 NO OF JOBS 51
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0 9	0 0 4
0 1.5 10	0 3 2
0 0 0	0 0 0
0 1.5 19	0 3 6

DAY= 2

0 3 7	0 2 2
0 2 0.5	0 2 1
0.5 4.5 5	1 3 2
0.5 9.5 12.5	1 7 5

DAY= 3

0.5 9 0.5	1 4 1
2.5 0 9	1 0 2
0.5 0.5 0	1 1 0
3.5 9.5 9.5	3 5 3

DAY= 4

1.5 0 3.5	1 0 1
0 0 3.5	0 0 1
0 3.5 6.5	0 1 1
1.5 3.5 13.5	1 1 3

DAY= 5

1.5 8.5 0	1 3 0
0 3 3	0 2 2
1.5 2 1	1 2 2
3 13.5 4	2 7 4

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 15.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 15.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 18.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 34 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 16.5 NO OF JOBS 11

TOTAL HOURS TO DAY 3 50.5 NO OF JOBS 29
TOTAL HOURS FOR DAY 4 10.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 61 NO OF JOBS 38
TOTAL HOURS FOR DAY 5 39.5 NO OF JOBS 19

TOTAL HOURS TO DAY 5 100.5 NO OF JOBS 57
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

2.5 0 2	1 0 2
0 1.5 5	0 1 2
0 0 4.5	0 0 1
2.5 1.5 11.5	1 1 5

DAY= 2

3.5 1 3.5	1 2 1
3.5 1.5 1.5	1 1 1
0 0.5 3.5	0 1 3
7 3 8.5	2 4 5

DAY= 3

0 1 3.5	0 2 3
0 6.5 0.5	0 3 1
0 5 0	0 2 0
0 12.5 4	0 7 4

DAY= 4

0 0 0	0 0 0
0 5 1	0 4 2
0 4 0.5	0 2 1
0 9 1.5	0 6 3

DAY= 5

0 4 3	0 2 2
6 3.5 14	2 3 4
0 4.5 4.5	0 3 3
6 12 21.5	2 8 9

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Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 15.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 15.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 13.5 NO OF JOBS 13

TOTAL HOURS TO DAY 2 29 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 18.5 NO OF JOBS 13

TOTAL HOURS TO DAY 3 47.5 NO OF JOBS 35
TOTAL HOURS FOR DAY 4 18.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 66 NO OF JOBS 44
TOTAL HOURS FOR DAY 5 9.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 75.5 NO OF JOBS 49
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 5 0	0 2 0
0 2 5.5	0 2 1
0 1.5 1.5	0 1 3
0 8.5 7	0 5 4

DAY= 2

0 0 0	0 0 0
0.5 3.5 1.5	1 3 1
0.5 4 3.5	1 4 3
1 7.5 5	2 7 4

DAY= 3

0 0 0	0 0 0
0 5 2.5	0 4 3
0 5.5 5.5	0 3 3
0 10.5 8	0 7 6

DAY= 4

6 1.5 1.5	2 1 1
0 5 2.5	0 2 1
0 0 2	0 0 2
6 6.5 6	2 3 4

DAY= 5

0 0 0	0 0 0
0 6.5 0	0 3 0
0 3 0	0 2 0
0 9.5 0	0 5 0

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 22.5 NO OF JOBS 13

TOTAL HOURS TO DAY 1 22.5 NO OF JOBS 13
TOTAL HOURS FOR DAY 2 11.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 34 NO OF JOBS 20
TOTAL HOURS FOR DAY 3 25.5 NO OF JOBS 13

TOTAL HOURS TO DAY 3 59.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 12.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 72 NO OF JOBS 40
TOTAL HOURS FOR DAY 5 13.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 85.5 NO OF JOBS 49
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 2.5 5.5	0 1 3
0 4 1	0 4 2
0.5 9 0	1 2 0
0.5 15.5 6.5	1 7 5

DAY= 2

0 2.5 2.5	0 1 1
0 3.5 1.5	0 1 1
0 1.5 0	0 3 0
0 7.5 4	0 5 2

DAY= 3

0 1 1	0 2 2
0 10 10.5	0 4 3
0 1.5 1.5	0 1 1
0 12.5 13	0 7 6

DAY= 4

0 2 1.5	0 2 1
1.5 0.5 0	1 1 0
0 0 7	0 0 2
1.5 2.5 8.5	1 3 3

DAY= 5

0 0.5 0	0 1 0
0 2.5 2	0 1 2
0 4.5 4	0 3 2
0 7.5 6	0 5 4

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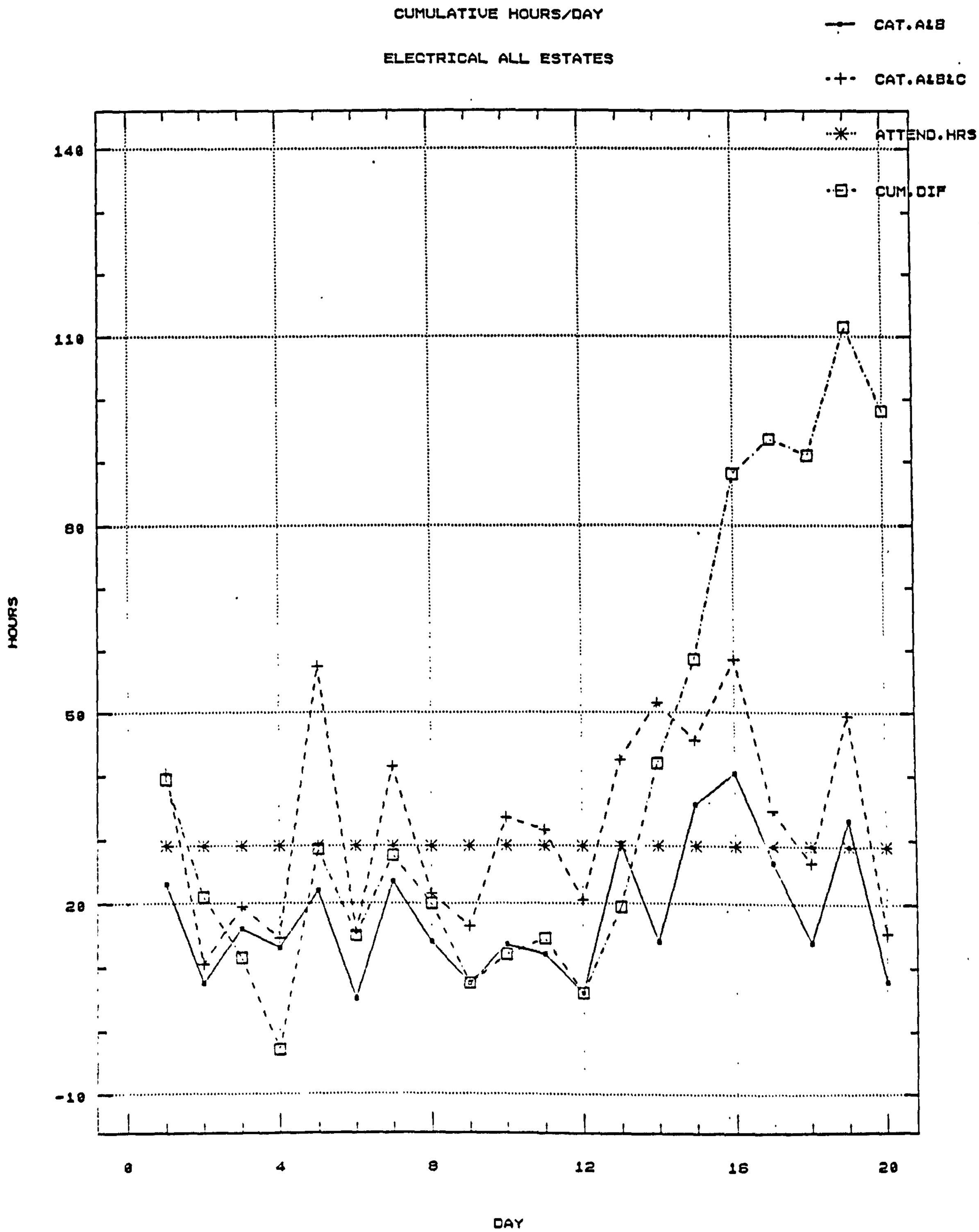
Estates 1, 2 & 5



WEEKS 16 To 19

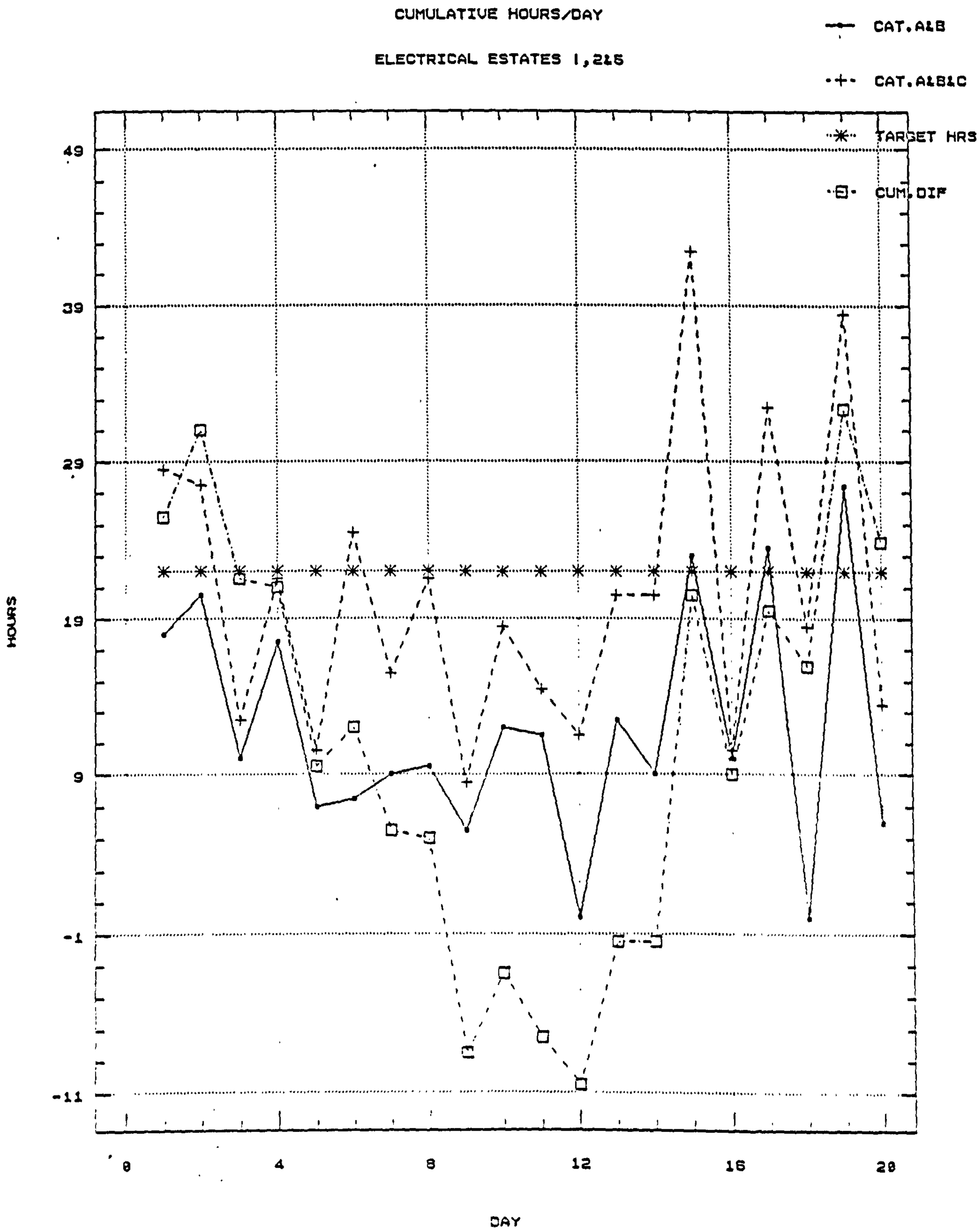
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
28	10	13	17.5	23	40.5	68.5	29	39.5	1	30.5	1.362068
39.5	0.5	7	3	7.5	10.5	50	29	21	2	10	0.724137
21	3.5	12.5	3.5	16	19.5	40.5	29	11.5	3	16	0.396551
11.5	7.5	5.5	1.5	13	14.5	26	29	-3	4	7	-0.10344
0	11.5	10.5	35.5	22	57.5	57.5	29	28.5	5	46	0.982758
28.5	0	5	10.5	5	15.5	44	29	15	6	15.5	0.517241
15	1.5	22	18	23.5	41.5	56.5	29	27.5	7	40	0.948275
27.5	11	3	7.5	14	21.5	49	29	20	8	10.5	0.689655
20	2.5	5	9	7.5	16.5	36.5	29	7.5	9	14	0.258620
7.5	8.5	5	20	13.5	33.5	41	29	12	10	25	0.413793
12	1	11	19.5	12	31.5	43.5	29	14.5	11	30.5	0.5
14.5	3	3	14.5	6	20.5	35	29	6	12	17.5	0.206896
6	2	27.5	13	29.5	42.5	48.5	29	19.5	13	40.5	0.672413
19.5	1.5	12.5	37.5	14	51.5	71	29	42	14	50	1.448275
42	6.5	29	10	35.5	45.5	87.5	29	58.5	15	39	2.017241
58.5	0.5	40	18	40.5	58.5	117	29	88	16	58	3.034482
88	0	26.5	8	26.5	34.5	122.5	29	93.5	17	34.5	3.224137
93.5	2	12	12.5	14	26.5	120	29	91	18	24.5	3.137931
91	6.5	26.5	16.5	33	49.5	140.5	29	111.5	19	43	3.844827
111.5	5.5	2.5	7.5	8	15.5	127	29	98	20	10	3.379310
										28.1	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE


CUMULATIVE HOURS/DAY
ELECTRICAL ESTATES 1,2&5
CAT.A&B
CAT.A&B&C
TARGET HRS
CUM.DIF
49
39
29
19
9
-1
-11
HOURS
0
4
8
12
16
20
DAY

:EEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
19	0	18	10.5	18	28.5	47.5	22	25.5	1	28.5	1.159090
25.5	0	20.5	7	20.5	27.5	53	22	31	2	27.5	1.409090
31	5	5	2.5	10	12.5	43.5	22	21.5	3	7.5	0.977272
21.5	2	15.5	4	17.5	21.5	43	22	21	4	19.5	0.954545
21	0	7	3.5	7	10.5	31.5	22	9.5	5	10.5	0.431818
9.5	3.5	4	17	7.5	24.5	34	22	12	6	21	0.545454
12	2.5	6.5	6.5	9	15.5	27.5	22	5.5	7	13	0.25
5.5	0	9.5	12	9.5	21.5	27	22	5	8	21.5	0.227272
5	0.5	5	3	5.5	8.5	13.5	22	-8.5	9	8	-0.38636
0	3	9	6.5	12	18.5	18.5	22	-3.5	10	15.5	-0.15909
0	0	11.5	.3	11.5	14.5	14.5	22	-7.5	11	14.5	-0.34090
0	0	0	11.5	0	11.5	11.5	22	-10.5	12	11.5	-0.47727
0	2.5	10	8	12.5	20.5	20.5	22	-1.5	13	18	-0.06818
0	1.5	7.5	11.5	9	20.5	20.5	22	-1.5	14	19	-0.06818
0	6	17	19.5	23	42.5	42.5	22	20.5	15	36.5	0.931818
20.5	0	10	0.5	10	10.5	31	22	9	16	10.5	0.409090
9	1.5	22	9	23.5	32.5	41.5	22	19.5	17	31	0.886363
19.5	0	0	18.5	0	18.5	38	22	16	18	18.5	0.727272
16	4	23.4	11	27.4	38.4	54.4	22	32.4	19	34.4	1.472727
32.4	2	4	7.5	6	13.5	45.9	22	23.9	20	11.5	1.086363
										18.895	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

BUILDER

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TRADE BUILDER

Est Day	WARD 1 A	WARD 1 B	WARD 1 C	WARD 1 D	WARD 1 E	WARD 15 A	WARD 15 B	WARD 15 C	WARD 15 D	WARD 15 E	ESTATE 1 A	ESTATE 1 B	ESTATE 1 C	ESTATE 1 D	ESTATE 1 E	A	B	C	D	E	A	B	C	D	E
1																									
2	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-										
3	-	-	-	-	3	-	1	-	-	1	-	1	-	-	4										
4	-	1	1	6	-	-	1	-	-	-	-	2	1	6	-										
5	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1										
Weekly Total											1	3	6	6	-										
1	1	1	-	-	-	-	-	-	-	-	1	1	-	-	-										
2	1	-	-	-	-	-	1	-	-	-	1	1	-	-	-										
3	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-										
4	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-										
5	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-										
Weekly Total											2	6	-	1	-										
1	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
2	-	-	1	-	2	-	-	-	-	-	-	-	1	-	2										
3	-	-	2	1	-	-	-	-	-	-	-	-	2	1	-										
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
5	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-										
Weekly Total											-	1	6	1	-										

TRADE BUILDER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
2	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-										
3	-	-	1	1	3	-	-	-	1	-			1	2	3										
4	1	1	1	1	-	-	-	1	-	-	1	1	2	1	-										
5	-	-	1	-	-	-	-	-	1	-	-	-	1	1	-										
Weekly Total											1	1	7	6	-										
1										E	4	11	19	14	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE BUILDER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-										
3	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-										
4	1	-	-	-	-	-	-	4	-	-	1	-	4	-	-										
5	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
Weekly Total											1	-	9	-	-										
1	-	-	-	-	-	1	-	2	-	1	1	-	2	-	1										
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3	-	-	2	-	1	-	-	-	-	-	-	-	2	-	1										
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1										
Weekly Total											1	-	7	-	-										
1	-	-	-	-	1	1	2	-	-	-	1	2	-	-	1										
2	-	-	1	1	-	-	2	-	-	-	-	2	1	1	-										
3	-	-	-	-	-	2	1	-	-	-	2	1	-	-	-										
4	-	1		-	-	1	-	-	-	-	1	1	-	-	-										
5	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-										
Weekly Total											4	7	2	1	-										

TRADE BUILDER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
2	1	-	1	-	-	-	-	-	-	-	1	-	1	-	-										
3	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
4	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-										
5	-	-	6	-	-	-	-	-	-	-	-	-	6	-	-										
Weekly Total											1	-	11	29	-										
1											7	7	29	-	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE BUILDER

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-										
3	-	-	-	-	-	-	-	1	3	-	-	-	1	3	-										
4	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
5	-	-	-	-	1	-	-	-	1	1	-	-	-	1	2										
Weekly Total											-	-	4	5	-										
1	-	-	1	-	-	-	1	-	1		-	1	1	1	-										
2	-	-	-	-	1	-	-	-	3	-	-	-	-	3	1										
3	-	-	-	-	1	-	1	-	3	-	-	1	-	3	1										
4	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
5	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-										
Weekly Total											-	3	4	7	-										
1	-	-	-	-	-	-	-	-	3	-	-	-	-	3	-										
2	-	-	-	1	-	-	-	-	-	2	-	-	-	1	2										
3	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-										
4	-	-	-	4	-	-	-	1	2	-	-	-	1	6	-										
5	-	-	2	-	-	-	-	2	6	-	-	-	4	6	-										
Weekly Total											-	1	7	16	-										

TRADE BUILDER

Est Day	WARD 12					WARD 13					ESTATE 3														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	1	-	-	-	-	2	-	-	-	-	3	-										
2	-	-	-	8	-	-	-	-	-	2	-	-	-	8	2										
3	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-										
4	-	-	-	2	-	-	-	-	1	-	-	-	-	3	-										
5	-	-	-	3	-	-	-	-	1	-	-	-	-	4	-										
Weekly Total											-	-	2	20	-										
1										E	-	4	17	48	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE BUILDER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	7	-	-	2	-	7	-
3	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	2	1	-
4	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	2	2	-
5	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Weekly Total																					1	3	5	10	-
1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	2	-
3	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-		-	2	-	-	1	-	3	1	-
4	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-		2	-
5	-	-	2	-	-	-	-	2	-	-	-	-	-	-	-	-	1	1	1	-	-	1	5	1	-
Weekly Total																					1	3	8	6	
1	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	1	4	-	1	-
2	-	-	1	-	-	-	1	-	-	-	-	-	1	-	-	1	1	-	1	2	1	2	2	1	2
3	-	1	3	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	3	-	-	1	7	3	-
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5	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	3	-
Weekly Total																					2	9	14	10	-

TRADE BUILDER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-
2	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	2	1	1
3	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	3	-	-	2	1
4	-	-	2	2	-	-	-	-	1	-	-	-	-	2	-	-	-	2	2	-	-	-	2	5	-
5	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	2	1	-
Weekly Total																					4	-	9	9	-
1																					8	15	36	35	-
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE BUILDER

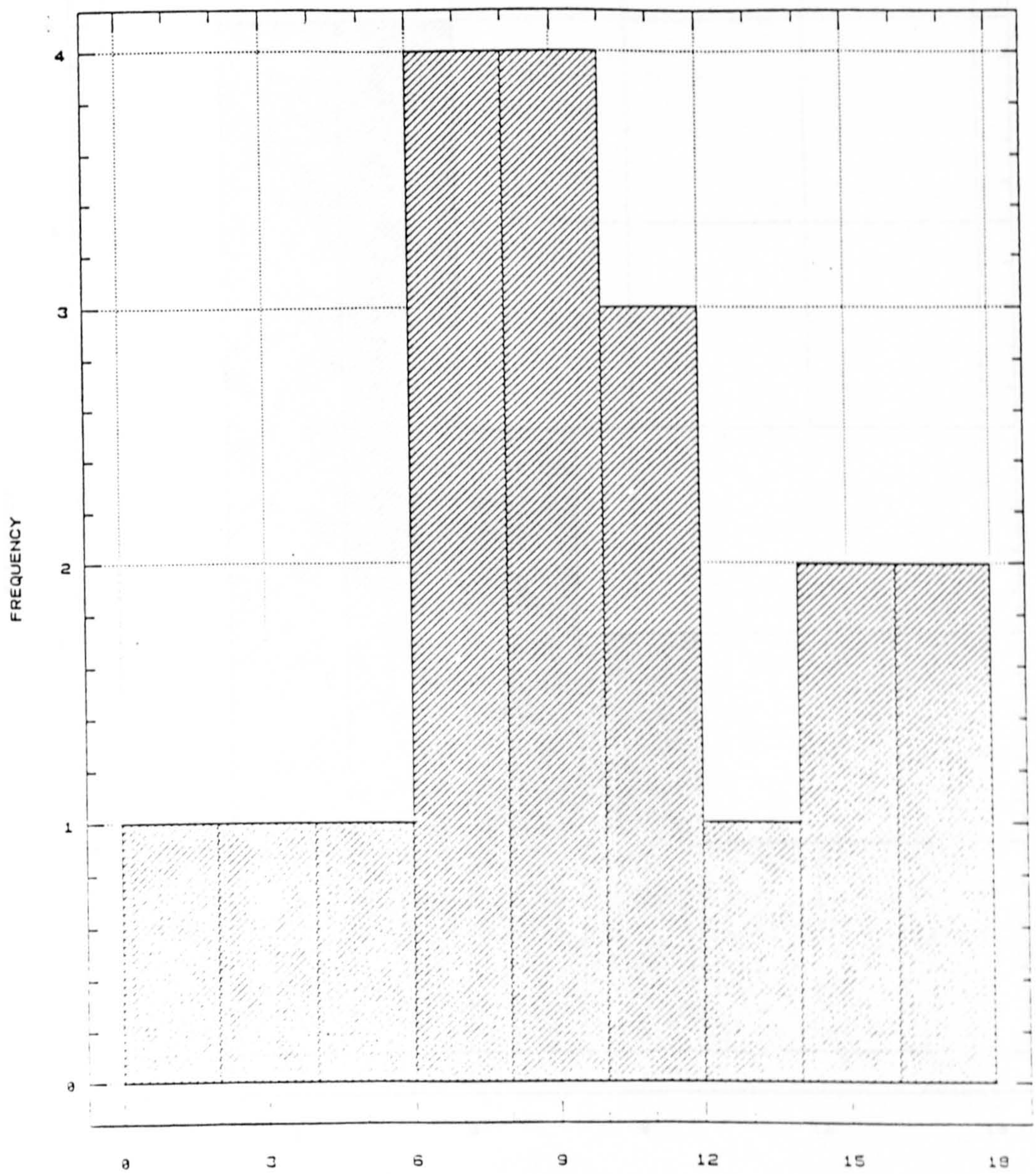
Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	9	1	-	1	-	9	1
4	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	3	2	-	2	-	3	2	-	9	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	1	-	-	-	4	1
Weekly Total																					5	3	2	22	-
1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	1	2	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	2	-	-	-	-	5	-	1
3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	2	-	-	-	-	7	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
Weekly Total																					-	1	11	7	-
1	-	-	-	-	-	-	-	-	-	-	1	-	5	-	-	1	-	-	6	-	2	-	5	6	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	3	-	-	-	-	8	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4	-	-	1	-	4	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	2	-	-	1	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-
Weekly Total																					4	2	5	19	-

TRADE BUILDER

Est Day	WARD 6 A	WARD 6 B	WARD 6 C	WARD 6 D	WARD 6 E	WARD 7 A	WARD 7 B	WARD 7 C	WARD 7 D	WARD 7 E	WARD 9 A	WARD 9 B	WARD 9 C	WARD 9 D	WARD 9 E	WARD 10 A	WARD 10 B	WARD 10 C	WARD 10 D	WARD 10 E	ESTATE 5 A	ESTATE 5 B	ESTATE 5 C	ESTATE 5 D	ESTATE 5 E
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	7	1	-	-	-	1	-	-	-	-	8	1
3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	5	-	-	-	-	6	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-		2	-	2	-	-	2	-
5	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	1	-		-	-	5	-
Weekly Total																					3	-	1	21	-
1										E1	4	11	19	-	34						12	6	19	69	-
2										E2	7	7	29	-	43										
3										E3	-	4	17	-	21										
4										E4	8	15	36	-	59										
5										E5	12	6	19	-	37										
Weekly Total											31	43	120		194										
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

NUMBER OF JOBS/DAY

BUILDER WORK ALL ESTATES



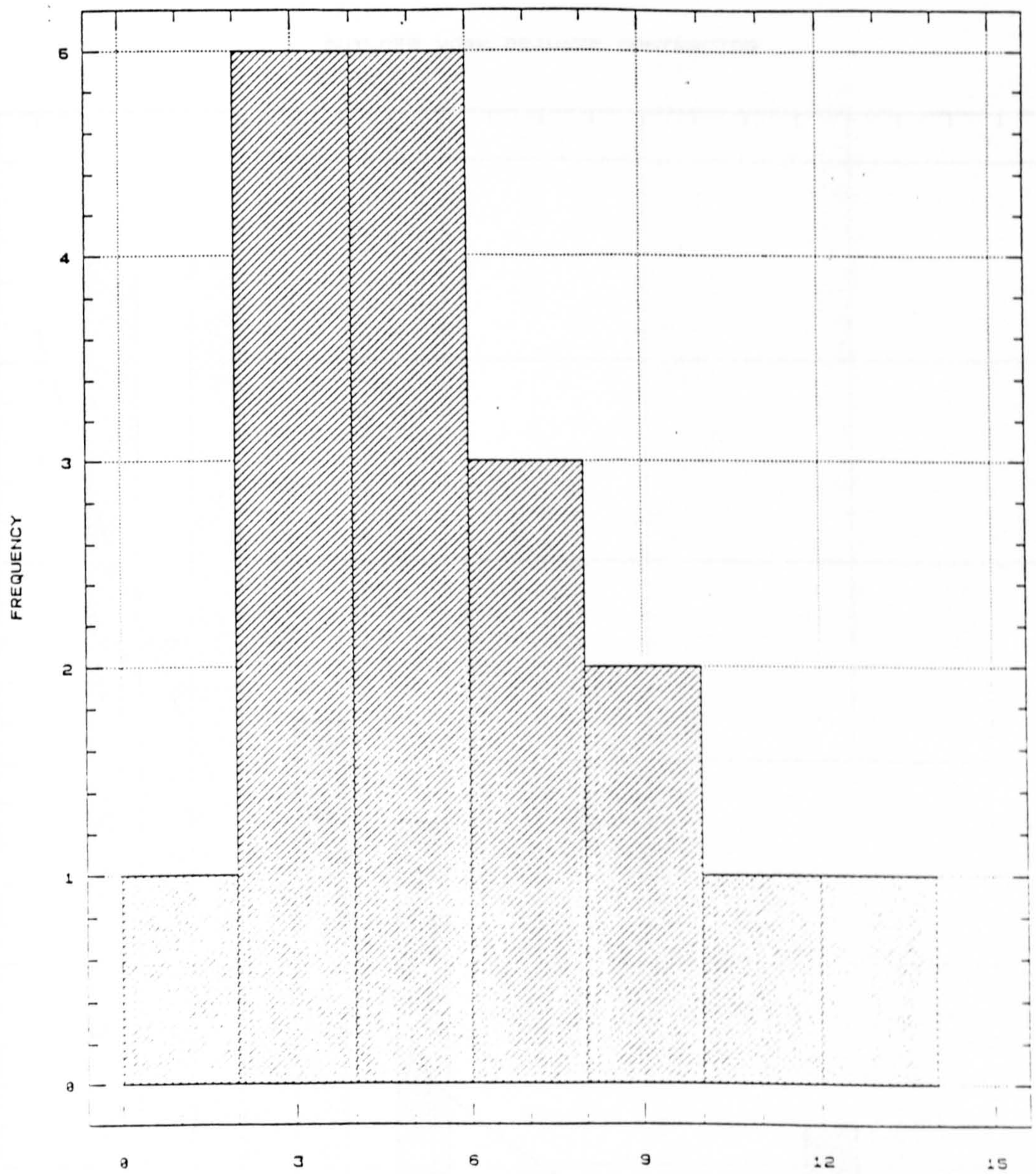
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.0000	0	.0000
1	.00	2.00	1.00	1	.0526	1	.0526
2	2.00	4.00	3.00	1	.0526	2	.1053
3	4.00	6.00	5.00	1	.0526	3	.1579
4	6.00	8.00	7.00	4	.2105	7	.3684
5	8.00	10.00	9.00	4	.2105	11	.5789
6	10.00	12.00	11.00	3	.1579	14	.7368
7	12.00	14.00	13.00	1	.0526	15	.7895
8	14.00	16.00	15.00	2	.1053	17	.8947
9	16.00	18.00	17.00	2	.1053	19	1.0000
above	18.00			0	.0000	19	1.0000

Mean = 10.0526 Standard Deviation = 4.23574 Median = 9

NUMBER OF JOBS/DAY

BUILDER WORK ESTATES 1,2,5



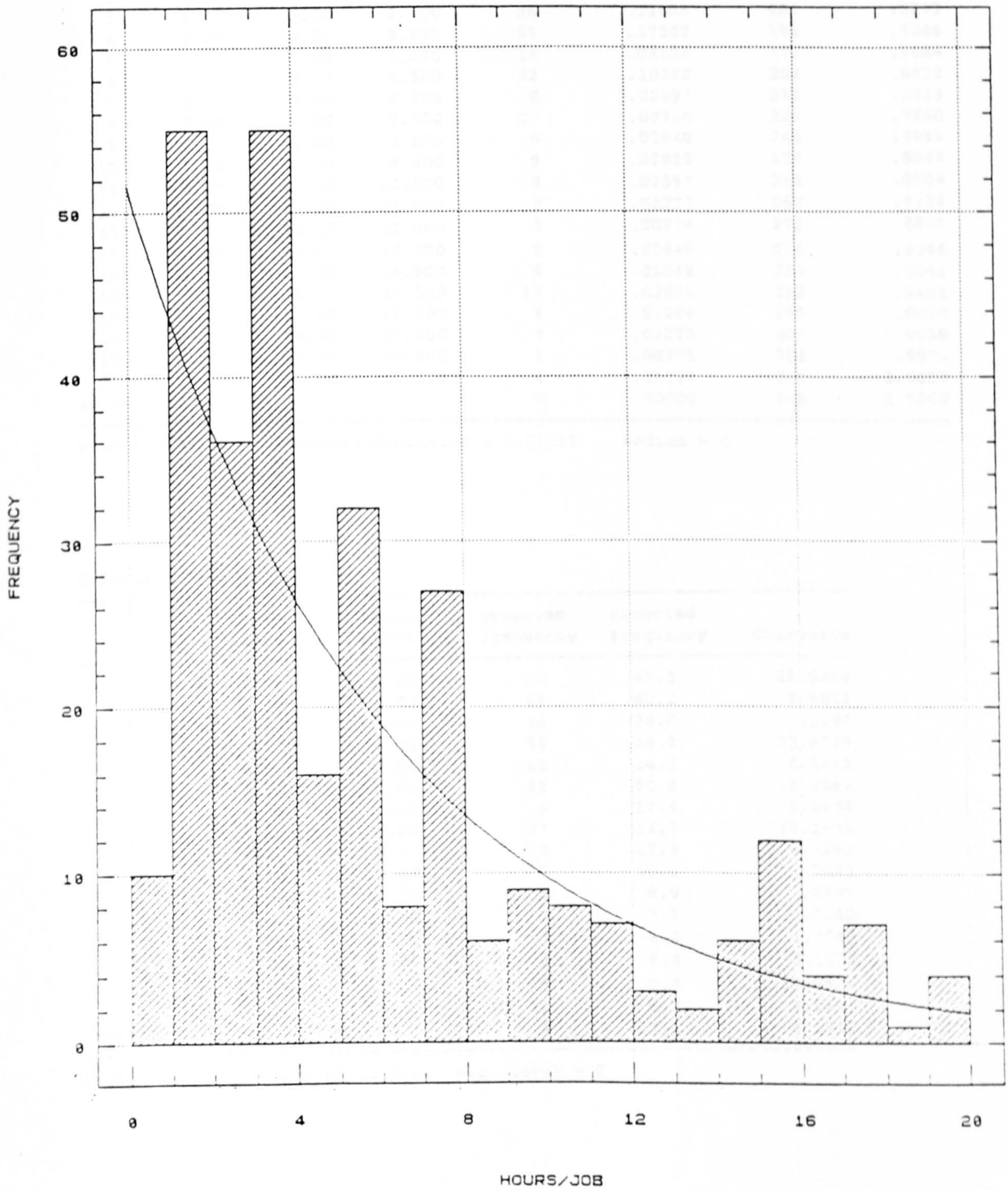
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		1	.0526	1	.0526
1	.00	2.00	1.00	1	.0526	2	.1053
2	2.00	4.00	3.00	5	.2632	7	.3684
3	4.00	6.00	5.00	5	.2632	12	.6316
4	6.00	8.00	7.00	3	.1579	15	.7895
5	8.00	10.00	9.00	2	.1053	17	.8947
6	10.00	12.00	11.00	1	.0526	18	.9474
7	12.00	14.00	13.00	1	.0526	19	1.0000
above	14.00			0	.0000	19	1.0000

Mean = 5.94737 Standard Deviation = 3.34122 Median = 6

NUMBER OF HOURS/JOB

BUILDER WORK PRIVATE CONTRACTOR



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.00000	0	.0000
1	.00	1.00	.500	10	.03247	10	.0325
2	1.00	2.00	1.500	55	.17857	65	.2110
3	2.00	3.00	2.500	36	.11688	101	.3279
4	3.00	4.00	3.500	55	.17857	156	.5065
5	4.00	5.00	4.500	16	.05195	172	.5584
6	5.00	6.00	5.500	32	.10390	204	.6623
7	6.00	7.00	6.500	8	.02597	212	.6883
8	7.00	8.00	7.500	27	.08766	239	.7760
9	8.00	9.00	8.500	6	.01948	245	.7955
10	9.00	10.00	9.500	9	.02922	254	.8247
11	10.00	11.00	10.500	8	.02597	262	.8506
12	11.00	12.00	11.500	7	.02273	269	.8734
13	12.00	13.00	12.500	3	.00974	272	.8831
14	13.00	14.00	13.500	2	.00649	274	.8896
15	14.00	15.00	14.500	6	.01948	280	.9091
16	15.00	16.00	15.500	12	.03896	292	.9481
17	16.00	17.00	16.500	4	.01299	296	.9610
18	17.00	18.00	17.500	7	.02273	303	.9838
19	18.00	19.00	18.500	1	.00325	304	.9870
20	19.00	20.00	19.500	4	.01299	308	1.0000
above	20.00			0	.00000	308	1.0000

Mean = 5.96575 Standard Deviation = 4.61891 Median = 4

Chisquare Test

Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
at or below	1.00	10	47.5	29.6368
1.00	2.00	55	40.2	5.4511
2.00	3.00	38	34.0	.1184
3.00	4.00	55	28.7	23.9739
4.00	5.00	16	24.3	2.8412
5.00	6.00	32	20.6	6.3667
6.00	7.00	8	17.4	5.0674
7.00	8.00	27	14.7	10.2845
8.00	9.00	6	12.4	3.3293
9.00	10.00	9	10.5	.2183
10.00	11.00	8	8.9	.0895
11.00	12.00	7	7.5	.0360
12.00	13.00	3	6.4	1.7747
13.00	14.00	2	5.4	2.1218
14.00	16.00	18	8.4	10.9924
16.00	18.00	11	6.0	4.1591
above 18.00		5	15.1	6.7312

Chisquare = 113.192 with 15 d.f. Sig. level = 0

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	3	1	9.5
1	2	3	1	18.5
1	3	3	2	3.5
1	4	1	1	2.5
1	5	2	4	0.5
1	6	1	1	2.5
1	7	3	5	3.5
1	8	3	2	7.5
1	9	3	2	3.5
TOTAL HOURS FOR DAY 1 51.5 NO OF JOBS 9				
TOTAL HOURS TO DAY 1 51.5 NO OF JOBS 9				
2	1	1	3	11.5
2	2	1	3	1.5
2	3	1	2	10.5
2	4	3	5	7.5
2	5	3	5	4.5
2	6	3	1	5.5
2	7	3	2	1.5
TOTAL HOURS FOR DAY 2 42.5 NO OF JOBS 7				
TOTAL HOURS TO DAY 2 94 NO OF JOBS 16				
3	1	3	5	2.5
3	2	3	2	3.5
3	3	3	4	1.5
3	4	3	3	12.5
3	5	3	2	3.5
3	6	3	4	5.5
3	7	3	4	2.5
3	8	2	2	1.5
3	9	1	5	1.5
3	10	2	5	7.5
3	11	3	4	1.5
3	12	3	5	7.5
3	13	3	2	17.5
3	14	1	5	7.5
3	15	3	1	3.5
3	16	3	5	3.5
3	17	3	1	1.5
TOTAL HOURS FOR DAY 3 84.5 NO OF JOBS 17				
TOTAL HOURS TO DAY 3 178.5 NO OF JOBS 33				
4	1	1	4	3.5
4	2	3	2	7.5
4	3	3	4	15.5
4	4	3	4	9.5
4	5	3	4	2.5
4	6	3	4	2.5
4	7	3	2	3.5
TOTAL HOURS FOR DAY 4 44.5 NO OF JOBS 7				
TOTAL HOURS TO DAY 4 223 NO OF JOBS 40				
5	1	3	2	7.5
5	2	3	3	7.5
5	3	3	4	3.5
5	4	3	2	1.5
5	5	2	1	16.5
TOTAL HOURS FOR DAY 5 36.5 NO OF JOBS 5				
TOTAL HOURS TO DAY 5 259.5 NO OF JOBS 45				

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5  0  28        2  0  2
 0  0  14.5        0  0  3
 0  0  0        0  0  0
 0  0.5  0        0  1  0
 0  0  3.5        0  0  1
----------    ----------
 5  0.5  46        2  1  6
----------    ----------
DAY= 2
 0  0  5.5        0  0  1
 10.5  0  1.5        1  0  1
 13  0  0        2  0  0
 0  0  0        0  0  0
 0  0  12        0  0  2
----------    ----------
 23.5  0  19        3  0  4
----------    ----------
DAY= 3
 0  0  5        0  0  2
 0  1.5  24.5        0  1  3
 0  0  12.5        0  0  1
 0  0  11        0  0  4
 9  7.5  13.5        2  1  3
----------    ----------
 9  9  66.5        2  2  13
----------    ----------
DAY= 4
 0  0  0        0  0  0
 0  0  11        0  0  2
 0  0  0        0  0  0
 3.5  0  30        1  0  4
 0  0  0        0  0  0
----------    ----------
 3.5  0  41        1  0  6
----------    ----------
DAY= 5
 0  16.5  0        0  1  0
 0  0  9        0  0  2
 0  0  7.5        0  0  1
 0  0  3.5        0  0  1
 0  0  0        0  0  0
----------    ----------
 0  16.5  20        0  1  4
----------    ----------
```

Builder All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 35.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 35.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 51.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 87 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 37.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 124.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 4 45.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 170 NO OF JOBS 30
TOTAL HOURS FOR DAY 5 61.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 231.5 NO OF JOBS 37
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  4.5      0  0  1
 9  0  1.5      2  0  1
 0  0  0      0  0  0
 3.5  0  0      1  0  0
 0  0  17      0  0  2
----------    ----------
 12.5  0  23      3  0  4
----------    ----------
DAY= 2
 0  3.5  3.5      0  1  1
 0  7.5  0      0  1  0
 0  0  17      0  0  2
 0  0  2.5      0  0  1
 1.5  0  16      1  0  2
----------    ----------
 1.5  11  39      1  2  6
----------    ----------
DAY= 3
 0  10.5  0      0  1  0
 0  0  3.5      0  0  1
 0  1.5  3.5      0  1  1
 0  0  15      0  0  2
 0  0  3.5      0  0  1
----------    ----------
 0  12  25.5      0  2  5
----------    ----------
DAY= 4
 3.5  0  0      1  0  0
 9.5  0  2.5      1  0  1
 0  0  0      0  0  0
 0  3.5  21      0  1  2
 0  0  5.5      0  0  1
----------    ----------
 13  3.5  29      2  1  4
----------    ----------
DAY= 5
 0  0  0      0  0  0
 0  17.5  5.5      0  1  1
 0  0  0      0  0  0
 0  2.5  36      0  1  4
 0  0  0      0  0  0
----------    ----------
 0  20  41.5      0  2  5
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 83.5 NO OF JOBS 17

TOTAL HOURS TO DAY 1 83.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 2 72.5 NO OF JOBS 13

TOTAL HOURS TO DAY 2 156 NO OF JOBS 30
TOTAL HOURS FOR DAY 3 54.5 NO OF JOBS 11

TOTAL HOURS TO DAY 3 210.5 NO OF JOBS 41
TOTAL HOURS FOR DAY 4 55.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 266 NO OF JOBS 48
TOTAL HOURS FOR DAY 5 70.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 336.5 NO OF JOBS 57
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  2  0      0  2  0
 0  4.5  23.5      0  1  5
 0  0  0      0  0  0
 0  0  38.5      0  0  7
 0  0  15      0  0  2
----------    ----------
 0  8.5  77      0  3  14
----------    ----------
DAY= 2
 0  0  19      0  0  2
 0  10.5  0      0  1  0
 0  2.5  0      0  1  0
 6  5.5  7      2  1  2
 11.5  0  10.5      1  0  1
----------    ----------
 17.5  18.5  36.5      3  5  5
----------    ----------
DAY= 3
 0  1.5  13.5      0  1  3
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  22.5      0  0  5
 0  3.5  13.5      0  1  1
----------    ----------
 0  5  49.5      0  2  9
----------    ----------
DAY= 4
 0  0  17      0  0  2
 0  0  1.5      0  0  1
 0  0  0      0  0  0
 0  0  26.5      0  0  3
 0  0  10.5      0  0  1
----------    ----------
 0  0  55.5      0  0  7
----------    ----------
DAY= 5
 19  0  0      2  0  0
 23  3.5  0      2  1  0
 0  0  0      0  0  0
 1.5  7.5  0      1  1  0
 0  0  16      0  0  2
----------    ----------
 43.5  11  18      5  2  2
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 51.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 51.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 33.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 85 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 108.5 NO OF JOBS 17

TOTAL HOURS TO DAY 3 193.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 48.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 242 NO OF JOBS 38
TOTAL HOURS FOR DAY 5 75.5 NO OF JOBS 11

TOTAL HOURS TO DAY 5 317.5 NO OF JOBS 49
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0      0  0  0
 0  0  3.5      0  0  1
 0  0  0      0  0  0
 5.5  0  28.5      1  0  3
 7.5  0  6.5      1  0  3
----------   ----------
 13  0  38.5      2  0  7
----------   ----------
DAY= 2
 0  3.5  0      0  1  0
 7.5  3.5  3.5      1  1  1
 0  0  0      0  0  0
 0  0  6.5      0  0  1
 0  0  9      0  0  2
----------   ----------
 7.5  7  19      1  2  4
----------   ----------
DAY= 3
 3.5  0  13      1  0  2
 0  17  21      0  2  2
 0  0  7.5      0  0  1
 4.5  8  18      1  2  2
 0  5.5  10.5      0  1  3
----------   ----------
 8  30.5  70      2  5  10
----------   ----------
DAY= 4
 1.5  0  0      1  0  0
 0  17.5  7.5      0  1  1
 0  0  3.5      0  0  1
 0  0  18.5      0  0  1
 0  0  0      0  0  0
----------   ----------
 1.5  17.5  29.5      1  1  3
----------   ----------
DAY= 5
 4.5  0  1.5      1  0  1
 0  3.5  3.5      0  1  1
 9.5  0  2.5      1  0  1
 3.5  17.5  3.5      1  1  1
 0  10.5  15.5      0  1  1
----------   ----------
 17.5  31.5  26.5      3  3  5
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 33.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 33.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 79.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 113 NO OF JOBS 20
TOTAL HOURS FOR DAY 3 50.5 NO OF JOBS 15

TOTAL HOURS TO DAY 3 163.5 NO OF JOBS 35
TOTAL HOURS FOR DAY 4 55.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 219 NO OF JOBS 44
TOTAL HOURS FOR DAY 5 83.5 NO OF JOBS 13

TOTAL HOURS TO DAY 5 302.5 NO OF JOBS 57
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  10.5      0  0  3
 0  0  0      0  0  0
 0  0  1.5      0  0  1
 0  13  7      0  2  2
 1  0  0      1  0  0
----------   ----------
 1.5  13  19      1  2  6
----------   ----------
DAY= 2
 0  13  0      0  2  0
 0  3.5  15.5      0  1  1
 0  0  9.5      0  0  1
 0  15.5  2.5      0  1  1
 0  5.5  14.5      0  1  3
----------   ----------
 0  37.5  42      0  5  6
----------   ----------
DAY= 3
 0  0  7      0  0  2
 0  10  12.5      0  2  3
 9  0  1.5      2  0  1
 0  6  1.5      0  2  1
 0.5  2.5  0      1  1  0
----------   ----------
 9.5  18.5  22.5      3  5  7
----------   ----------
DAY= 4
 14.5  0  0      1  0  0
 0  0  17      0  0  2
 11.5  0  0      1  0  0
 0  0  7      0  0  4
 0  0  5.5      0  0  1
----------   ----------
 26  0  29.5      2  0  7
----------   ----------
DAY= 5
 0  0  7      0  0  2
 0  0  5.5      0  0  1
 0  0  24.5      0  0  3
 0  0  30.5      0  0  5
 1.5  0  14.5      1  0  1
----------   ----------
 1.5  0  82      1  0  12
----------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 43.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 43.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 2 86.5 NO OF JOBS 15

TOTAL HOURS TO DAY 2 130 NO OF JOBS 26
TOTAL HOURS FOR DAY 3 40.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 170.5 NO OF JOBS 35
TOTAL HOURS FOR DAY 4 65.5 NO OF JOBS 17

TOTAL HOURS TO DAY 4 236 NO OF JOBS 52
TOTAL HOURS FOR DAY 5 3.5 NO OF JOBS 1

TOTAL HOURS TO DAY 5 239.5 NO OF JOBS 53

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0      0  0  0
 4.5  0  7      1  0  2
 0  0  1      0  0  2
 14.5  0  8      1  0  2
 1.5  3.5  3.5      1  1  1
----------  ----------
 20.5  3.5  19.5      3  1  7
----------  ----------
DAY= 2
 0  0  12      0  0  2
 0  0  12      0  0  2
 0  0  3      0  0  2
 3  0  20      2  0  2
 8.5  25  3      1  2  2
----------  ----------
 11.5  25  50      3  2  10
----------  ----------
DAY= 3
 0  0  0      0  0  0
 0.5  0  0      1  0  0
 0  5.5  0      0  1  0
 2  8.5  15      2  1  2
 0  0  11      0  0  2
----------  ----------
 2.5  12  26      3  2  4
----------  ----------
DAY= 4
 1.5  0  8.5      1  0  3
 2.5  0  17      1  0  2
 0  0  1.5      0  0  1
 5.5  3  16      1  2  4
 0  0  10      0  0  2
----------  ----------
 9.5  3  53      3  2  12
----------  ----------
DAY= 5
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  3.5  0      0  1  0
 0  0  0      0  0  0
----------  ----------
 0  3.5  0      0  1  0
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 1 1.5 NO OF JOBS 1
TOTAL HOURS FOR DAY 2 46.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 48 NO OF JOBS 10
TOTAL HOURS FOR DAY 3 35.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 83.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 4 33.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 117 NO OF JOBS 26
TOTAL HOURS FOR DAY 5 47.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 164.5 NO OF JOBS 31

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  1.5  0      0  1  0
 0  0  0      0  0  0
----------  ----------
 0  1.5  0      0  1  0
----------  ----------
DAY= 2
 0  10.5  0      0  1  0
 5.5  0  9.5      1  0  3
 0  0  3.5      0  0  1
 0  0  2.5      0  0  1
 0  13.5  1.5      0  1  1
----------  ----------
 5.5  24  17      1  2  6
----------  ----------
DAY= 3
 0  0  3.5      0  0  1
 0  4.5  5.5      0  1  1
 0  0  1.5      0  0  1
 7.5  0  0      1  0  0
 0  0  13      0  0  2
----------  ----------
 7.5  4.5  23.5      1  1  5
----------  ----------
DAY= 4
 0  0  9      0  0  2
 5.5  3.5  1.5      1  1  1
 0  0  0      0  0  0
 3.5  0  5.5      1  0  1
 0  0  5      0  0  2
----------  ----------
 9  3.5  21      2  1  6
----------  ----------
DAY= 5
 0  0  1.5      0  0  1
 0  0  14.5      0  0  1
 0  0  0      0  0  0
 0  0  31.5      0  0  3
 0  0  0      0  0  0
----------  ----------
 0  0  47.5      0  0  5
----------  ----------
```

Builder

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 50.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 50.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 67.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 118 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 123.5 NO OF JOBS 15

TOTAL HOURS TO DAY 3 241.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 52.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 294 NO OF JOBS 40
TOTAL HOURS FOR DAY 5 104.5 NO OF JOBS 17

TOTAL HOURS TO DAY 5 398.5 NO OF JOBS 57
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  29       0  0  4
 0  3.5  0       0  1  0
 0  1.5  0       0  1  0
 0  0  16.5       0  0  1
 0  0  0       0  0  0
----------    ----------
 0  5  45.5       0  2  5
----------    ----------
DAY= 2
 3.5  0  1.5       1  0  1
 1.5  3.5  2.5       1  1  1
 0  0  0       0  0  0
 0  7.5  0       0  1  0
 5.5  4.5  37.5       1  1  3
----------    ----------
 10.5  15.5  41.5       3  3  5
----------    ----------
DAY= 3
 0  0  9.5       0  0  1
 0  0  32       0  0  2
 0  0  11.5       0  0  1
 2.5  25  29.5       1  4  3
 0  3.5  10       0  1  2
----------    ----------
 2.5  28.5  92.5       1  5  9
----------    ----------
DAY= 4
 0  0  8       0  0  2
 0  0  25       0  0  2
 0  17.5  1.5       0  1  1
 0  0  0       0  0  0
 0  0  0.5       0  0  1
----------    ----------
 0  17.5  35       0  1  6
----------    ----------
DAY= 5
 0  0  20.5       0  0  5
 11.5  0  9       1  0  2
 0  0  9       0  0  2
 15  0  25       2  0  4
 0  0  14.5       0  0  1
----------    ----------
 26.5  0  78       3  0  14
----------    ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 92.5 NO OF JOBS 17

TOTAL HOURS TO DAY 1 92.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 2 36.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 129 NO OF JOBS 24
TOTAL HOURS FOR DAY 3 45.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 174.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 61.5 NO OF JOBS 11

TOTAL HOURS TO DAY 4 236 NO OF JOBS 44
TOTAL HOURS FOR DAY 5 49.5 NO OF JOBS 11

TOTAL HOURS TO DAY 5 285.5 NO OF JOBS 55
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5.5  0  14.5       1  0  3
 12.5  4.5  7.5       1  1  1
 2.5  4.5  0       1  1  0
 3.5  0  32.5       1  0  5
 0  1.5  3.5       0  1  1
----------    ----------
 24  10.5  58       4  3  10
----------    ----------
DAY= 2
 0  0  3.5       0  0  1
 0  0  5.5       0  0  1
 0  0  0       0  0  0
 1.5  0  16.5       1  0  3
 0  0  9.5       0  0  1
----------    ----------
 1.5  0  35       1  0  6
----------    ----------
DAY= 3
 6.5  2.5  0       1  1  0
 2.5  0  0       1  0  0
 0  0  5.5       0  0  1
 0  1.5  19       0  1  2
 3.5  0  4.5       1  0  1
----------    ----------
 12.5  4  29       3  2  4
----------    ----------
DAY= 4
 1  23  0       2  2  0
 0  0  6       0  0  2
 0  2.5  17       0  1  2
 0  2.5  0       0  1  0
 0  0  9.5       0  0  1
----------    ----------
 1  28  32.5       2  4  5
----------    ----------
DAY= 5
 0  0  5       0  0  2
 0  0  12       0  0  2
 0  0  5.5       0  0  1
 0  2.5  12       0  1  2
 0  0.5  12       0  1  2
----------    ----------
 0  3  46.5       0  2  9
----------    ----------
```

Builder

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 96.5 NO OF JOBS 13

TOTAL HOURS TO DAY 1 96.5 NO OF JOBS 13
TOTAL HOURS FOR DAY 2 40.5 NO OF JOBS 3

TOTAL HOURS TO DAY 2 137 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 53.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 190.5 NO OF JOBS 25
TOTAL HOURS FOR DAY 4 30.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 221 NO OF JOBS 32
TOTAL HOURS FOR DAY 5 45.5 NO OF JOBS 11

TOTAL HOURS TO DAY 5 266.5 NO OF JOBS 43
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 2.5  0  18.5      1  0  1
 0  1.5  0      0  1  0
 0  0  3.5      0  0  1
 0  5.5  31.5      0  1  5
 15.5  0  18      1  0  2
----------  ----------
 18  7  71.5      2  2  9
----------  ----------
DAY= 2
 0  17.5  0      0  1  0
 0  0  0      0  0  0
 0  0  15.5      0  0  1
 0  7.5  0      0  1  0
 0  0  0      0  0  0
----------  ----------
 0  25  15.5      0  2  1
----------  ----------
DAY= 3
 0  18.5  0      0  1  0
 1.5  0  7.5      1  0  3
 15.5  0  0      1  0  0
 0  1.5  0      0  1  0
 0  7.5  3.5      0  1  1
----------  ----------
 17  25.5  11      2  3  4
----------  ----------
DAY= 4
 0  0  0      0  0  0
 0  0  0      0  0  0
 9  0  0      2  0  0
 1.5  0  18.5      1  0  3
 0  0  1.5      0  0  1
----------  ----------
 10.5  0  20      3  0  4
----------  ----------
DAY= 5
 0  0  11      0  0  4
 6.5  0  3.5      1  0  1
 0  0  0      0  0  0
 0  0  2      0  0  2
 0  0  22.5      0  0  3
----------  ----------
 6.5  0  39      1  0  10
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 50.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 50.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 72.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 123 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 52.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 175.5 NO OF JOBS 27
TOTAL HOURS FOR DAY 4 3.5 NO OF JOBS 1

TOTAL HOURS TO DAY 4 179 NO OF JOBS 28
TOTAL HOURS FOR DAY 5 34.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 213.5 NO OF JOBS 37
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  22  0      0  2  0
 0  0  15      0  0  2
 0  0  0      0  0  0
 3.5  4.5  5.5      1  1  1
 0  0  0      0  0  0
----------  ----------
 3.5  26.5  20.5      1  3  3
----------  ----------
DAY= 2
 0  5.5  11      0  1  2
 0  20  17      0  2  2
 0  0  0      0  0  0
 3.5  5.5  4.5      1  1  1
 0  5.5  0      0  1  0
----------  ----------
 3.5  36.5  32.5      1  5  5
----------  ----------
DAY= 3
 4.5  0  2.5      1  0  1
 0  14  10.5      0  2  1
 0  0  0      0  0  0
 7.5  0  4.5      1  0  1
 0  3.5  5.5      0  1  1
----------  ----------
 12  17.5  23      2  3  4
----------  ----------
DAY= 4
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  3.5      0  0  1
----------  ----------
 0  0  3.5      0  0  1
----------  ----------
DAY= 5
 0  6  0      0  2  0
 6.5  0  7      1  0  2
 0  0  0      0  0  0
 0  0  9.5      0  0  3
 0  0  5.5      0  0  1
----------  ----------
 6.5  6  22      1  2  6
----------  ----------
```

Electrician All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 41.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 41.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 9.5 NO OF JOBS 1

TOTAL HOURS TO DAY 2 51 NO OF JOBS 8
TOTAL HOURS FOR DAY 3 81.5 NO OF JOBS 15

TOTAL HOURS TO DAY 3 132.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 4 105.5 NO OF JOBS 15

TOTAL HOURS TO DAY 4 238 NO OF JOBS 38
TOTAL HOURS FOR DAY 5 40.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 278.5 NO OF JOBS 47
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5.5  0  9      1  0  2
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  4.5  22.5      0  1  3
 0  0  0      0  0  0
---------   ----------
 5.5  4.5  31.5      1  1  5
---------   ----------
DAY= 2
 0  0  9.5      0  0  1
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
---------   ----------
 0  0  9.5      0  0  1
---------   ----------
DAY= 3
 20  2.5  15      2  1  2
 1.5  0  1.5      1  0  1
 12  0  0      2  0  0
 0  0  22      0  0  4
 1.5  0  5.5      1  0  1
---------   ----------
 35  2.5  44      6  1  8
---------   ----------
DAY= 4
 0  0  0      0  0  0
 0  33  16.5      0  2  1
 1.5  0  0      1  0  0
 11.5  0  23.5      3  0  5
 0  14  5.5      0  2  1
---------   ----------
 13  47  45.5      4  4  7
---------   ----------
DAY= 5
 0  2.5  0      0  1  0
 7.5  0  4.5      1  0  1
 0  0  0      0  0  0
 2.5  9  11      1  2  2
 0  3.5  0      0  1  0
---------   ----------
 10  15  15.5      2  4  3
---------   ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 81.5 NO OF JOBS 17

TOTAL HOURS TO DAY 1 81.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 2 77.5 NO OF JOBS 13

TOTAL HOURS TO DAY 2 159 NO OF JOBS 30
TOTAL HOURS FOR DAY 3 79.5 NO OF JOBS 15

TOTAL HOURS TO DAY 3 238.5 NO OF JOBS 45
TOTAL HOURS FOR DAY 4 40.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 279 NO OF JOBS 52
TOTAL HOURS FOR DAY 5 113.5 NO OF JOBS 17

TOTAL HOURS TO DAY 5 392.5 NO OF JOBS 69
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  24      0  0  4
 0  0  0      0  0  0
 0  1.5  0      0  1  0
 13.5  4.5  23      3  1  6
 7.5  7.5  0      1  1  0
---------   ----------
 21  13.5  47      4  3  10
---------   ----------
DAY= 2
 0  0  9      0  0  2
 16  0  15.5      2  0  1
 0  0  2.5      0  0  1
 1.5  3  8      1  2  2
 0  0  22      0  0  2
---------   ----------
 17.5  3  57      3  2  8
---------   ----------
DAY= 3
 2.5  3.5  21      1  1  4
 0  7.5  9      0  1  2
 0  7.5  0      0  1  0
 22.5  0  3.5      3  0  1
 2.5  0  0      1  0  0
---------   ----------
 27.5  18.5  33.5      5  3  7
---------   ----------
DAY= 4
 0  0  26.5      0  0  3
 0  0  0      0  0  0
 0  2.5  2.5      0  1  1
 0  0  1.5      0  0  1
 0  0  7.5      0  0  1
---------   ----------
 0  2.5  38      0  1  6
---------   ----------
DAY= 5
 7.5  0  2.5      1  0  1
 4.5  0  16      1  0  4
 0  0  20      0  0  2
 18  0  9.5      2  0  3
 17.5  0  18      1  0  2
---------   ----------
 47.5  0  66      5  0  12
---------   ----------
```

Builder

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 30.5 NO OF JOBS 5

TOTAL HOURS TO DAY 1 30.5 NO OF JOBS 5
TOTAL HOURS FOR DAY 2 29.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 60 NO OF JOBS 12
TOTAL HOURS FOR DAY 3 19.5 NO OF JOBS 3

TOTAL HOURS TO DAY 3 79.5 NO OF JOBS 15
TOTAL HOURS FOR DAY 4 12.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 92 NO OF JOBS 18
TOTAL HOURS FOR DAY 5 26.5 NO OF JOBS 3

TOTAL HOURS TO DAY 5 118.5 NO OF JOBS 21
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	22	4		0	2	2		
0	0	0		0	0	0		
0	4.5	0		0	1	0		
0	26.5	4		0	3	2		

DAY= 2

3.5	0	7.5		1	0	3		
5.5	10.5	0		1	1	0		
0	0	2.5		0	0	1		
9	10.5	10		2	1	4		

DAY= 3

9.5	0	7.5		1	0	1		
0	0	2.5		0	0	1		
0	0	0		0	0	0		
9.5	0	10		1	0	2		

DAY= 4

2.5	2.5	0		1	1	0		
0	0	0		0	0	0		
7.5	0	0		1	0	0		
10	2.5	0		2	1	0		

DAY= 5

0	0	0		0	0	0		
1.5	0	19.5		1	0	1		
0	0	5.5		0	0	1		
1.5	0	25		1	0	2		

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 58.5 NO OF JOBS 13

TOTAL HOURS TO DAY 1 58.5 NO OF JOBS 13
TOTAL HOURS FOR DAY 2 44.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 103 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 24.5 NO OF JOBS 5

TOTAL HOURS TO DAY 3 127.5 NO OF JOBS 27
TOTAL HOURS FOR DAY 4 27.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 155 NO OF JOBS 32
TOTAL HOURS FOR DAY 5 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 5 156.5 NO OF JOBS 33
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	5.5	7.5		0	1	1		
6	5.5	3.5		2	1	1		
8	3.5	19		2	1	4		
14	14.5	30		4	3	6		

DAY= 2

0	0	1.5		0	0	1		
14	0	17.5		2	0	1		
4.5	5	2		1	2	2		
18.5	5	21		3	2	4		

DAY= 3

1.5	0	0		1	0	0		
1.5	0	0.5		1	0	1		
5.5	0	15.5		1	0	1		
8.5	0	16		3	0	2		

DAY= 4

7.5	0	0		1	0	0		
0	0	5		0	0	2		
11.5	0	3.5		1	0	1		
19	0	8.5		2	0	3		

DAY= 5

0	0	1.5		0	0	1		
0	0	0		0	0	0		
0	0	0		0	0	0		
0	0	1.5		0	0	1		

Builder Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 17.5 NO OF JOBS 3

TOTAL HOURS TO DAY 1 17.5 NO OF JOBS 3
TOTAL HOURS FOR DAY 2 46.5 NO OF JOBS 5

TOTAL HOURS TO DAY 2 64 NO OF JOBS 8
TOTAL HOURS FOR DAY 3 60.5 NO OF JOBS 11

TOTAL HOURS TO DAY 3 124.5 NO OF JOBS 19
TOTAL HOURS FOR DAY 4 44.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 169 NO OF JOBS 26
TOTAL HOURS FOR DAY 5 37.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 206.5 NO OF JOBS 33
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0        0  0  0
 0  0  5.5        0  0  1
 2.5  0  9.5        1  0  1
----------     ----------
 2.5  0  15        1  0  2
----------     ----------
DAY= 2
 0  0  0        0  0  0
 19.5  0  16.5        1  0  3
 0  0  10.5        0  0  1
----------     ----------
 19.5  0  27        1  0  4
----------     ----------
DAY= 3
 11.5  4.5  5.5        1  1  1
 0  3  22.5        0  2  3
 0  7  6.5        0  2  1
----------     ----------
 11.5  14.5  34.5        1  5  5
----------     ----------
DAY= 4
 13.5  10.5  1.5        1  1  1
 4  0  0        2  0  0
 0  0  15        0  0  2
----------     ----------
 17.5  10.5  16.5        3  1  3
----------     ----------
DAY= 5
 0  0  17.5        0  0  5
 0  2.5  17.5        0  1  1
 0  0  0        0  0  0
----------     ----------
 0  2.5  35        0  1  6
----------     ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 0 NO OF JOBS 0

TOTAL HOURS TO DAY 1 0 NO OF JOBS 0
TOTAL HOURS FOR DAY 2 17.5 NO OF JOBS 3

TOTAL HOURS TO DAY 2 17.5 NO OF JOBS 3
TOTAL HOURS FOR DAY 3 32.5 NO OF JOBS 5

TOTAL HOURS TO DAY 3 50 NO OF JOBS 8
TOTAL HOURS FOR DAY 4 5.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 55.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 5 20.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 76 NO OF JOBS 16
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------     ----------
 0  0  0        0  0  0
----------     ----------
DAY= 2
 0  0  0        0  0  0
 5.5  0  4.5        1  0  1
 0  0  7.5        0  0  1
----------     ----------
 5.5  0  12        1  0  2
----------     ----------
DAY= 3
 3.5  0  0        1  0  0
 0  8.5  17        0  1  2
 0  0  3.5        0  0  1
----------     ----------
 3.5  8.5  20.5        1  1  3
----------     ----------
DAY= 4
 1.5  0  0        1  0  0
 0  0  1.5        0  0  1
 2.5  0  0        1  0  0
----------     ----------
 4  0  1.5        2  0  1
----------     ----------
DAY= 5
 0  0  2.5        0  0  1
 7.5  1.5  0        1  1  0
 0  1.5  7.5        0  1  1
----------     ----------
 7.5  3  10        1  2  2
----------     ----------
```

Builder Estates 1,2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  25.5  NO OF JOBS  5

TOTAL HOURS TO DAY  1  25.5  NO OF JOBS 5
TOTAL HOURS FOR DAY  2  10.5  NO OF JOBS  3

TOTAL HOURS TO DAY  2  36  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  20.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  56.5  NO OF JOBS 15
TOTAL HOURS FOR DAY  4  26.5  NO OF JOBS  3

TOTAL HOURS TO DAY  4  83  NO OF JOBS 18
TOTAL HOURS FOR DAY  5  46.5  NO OF JOBS  7

TOTAL HOURS TO DAY  5  129.5  NO OF JOBS 25
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0.5  0  0        1  0  0
 11.5  0  0       1  0  0
 5.5  0  8        1  0  2
----------       ----------
 17.5  0  8       3  0  2
----------       ----------
DAY= 2
 0  0  0        0  0  0
 0  0  5.5        0  0  1
 0  1.5  3.5        0  1  1
----------       ----------
 0  1.5  9        0  1  2
----------       ----------
DAY= 3
 0.5  4.5  3        1  1  2
 0  0  1.5        0  0  1
 11  0  0        2  0  0
----------       ----------
 11.5  4.5  4.5        3  1  3
----------       ----------
DAY= 4
 0  0  1.5        0  0  1
 0  25  0        0  2  0
 0  0  0        0  0  0
----------       ----------
 0  25  1.5        0  2  1
----------       ----------
DAY= 5
 0  0  11.5        0  0  1
 7.5  10.5  0        1  1  0
 4.5  9  3.5        1  2  1
----------       ----------
 12  19.5  15        2  3  2
----------       ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  20.5  NO OF JOBS  5

TOTAL HOURS TO DAY  1  20.5  NO OF JOBS 5
TOTAL HOURS FOR DAY  2  22.5  NO OF JOBS  3

TOTAL HOURS TO DAY  2  43  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  24.5  NO OF JOBS  3

TOTAL HOURS TO DAY  3  67.5  NO OF JOBS 11
TOTAL HOURS FOR DAY  4  69.5  NO OF JOBS  11

TOTAL HOURS TO DAY  4  137  NO OF JOBS 22
TOTAL HOURS FOR DAY  5  31.5  NO OF JOBS  9

TOTAL HOURS TO DAY  5  168.5  NO OF JOBS 31
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  1.5        0  0  1
 12  0.5  0        2  1  0
 0  0  6.5        0  0  1
----------       ----------
 12  0.5  8        2  1  2
----------       ----------
DAY= 2
 0  0  0        0  0  0
 0  0  2.5        0  0  1
 0  14.5  5.5        0  1  1
----------       ----------
 0  14.5  8        0  1  2
----------       ----------
DAY= 3
 0  3.5  15.5        0  1  1
 0  0  0        0  0  0
 5.5  0  0        1  0  0
----------       ----------
 5.5  3.5  15.5        1  1  1
----------       ----------
DAY= 4
 0  0  15.5        0  0  1
 4  0  26.5        2  0  5
 0  9.5  14        0  1  2
----------       ----------
 4  9.5  56        2  1  8
----------       ----------
DAY= 5
 1.5  2.5  0        1  1  0
 0  0  15.5        0  0  5
 1.5  0  10.5        1  0  1
----------       ----------
 3  2.5  26        2  1  6
----------       ----------
```

Builder Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 8.5 NO OF JOBS 3

TOTAL HOURS TO DAY 1 8.5 NO OF JOBS 3
TOTAL HOURS FOR DAY 2 14.5 NO OF JOBS 3

TOTAL HOURS TO DAY 2 23 NO OF JOBS 6
TOTAL HOURS FOR DAY 3 40.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 63.5 NO OF JOBS 15
TOTAL HOURS FOR DAY 4 8.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 72 NO OF JOBS 18
TOTAL HOURS FOR DAY 5 25.5 NO OF JOBS 3

TOTAL HOURS TO DAY 5 97.5 NO OF JOBS 21
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	0	0	0	0
0	0	7	0	0	2
0	1.5	0	0	1	0
0	1.5	7	0	1	2

DAY= 2

7.5	2.5	0	1	1	0
0	0	0	0	0	0
0	0	4.5	0	0	1
7.5	2.5	4.5	1	1	1

DAY= 3

1.5	2.5	0	1	1	0
1.5	0	19.5	1	0	3
0	0	15.5	0	0	3
3	2.5	35	2	1	6

DAY= 4

0	1.5	0	0	1	0
0	0	1.5	0	0	1
0	0	5.5	0	0	1
0	1.5	7	0	1	2

DAY= 5

0	0	0	0	0	0	
10.5	0	15	1	0		2
0	0	0	0	0	0	
10.5	0	15	1	0		2

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 70.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 70.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 2 31.5 NO OF JOBS 5

TOTAL HOURS TO DAY 2 102 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 52.5 NO OF JOBS 13

TOTAL HOURS TO DAY 3 154.5 NO OF JOBS 29
TOTAL HOURS FOR DAY 4 0 NO OF JOBS 0

TOTAL HOURS TO DAY 4 154.5 NO OF JOBS 29
TOTAL HOURS FOR DAY 5 3.5 NO OF JOBS 1

TOTAL HOURS TO DAY 5 158 NO OF JOBS 30
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	19.5	0	0	3
4.5	0	27	1	0	4
0	0	19.5	0	0	3
4.5	0	66	1	0	10

DAY= 2

0	0	7	0	0	2
15.5	0	5.5	1	0	1
3.5	0	0	1	0	0
19	0	12.5	2	0	3

DAY= 3

0	5.5	0	0	1	0
5.5	15.5	6.5	1	1	3
5	0	14.5	2	0	5
10.5	21	21	3	2	8

DAY= 4

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

DAY= 5

0	0	0	0	0	0
0	0	3.5	0	0	1
0	0	0	0	0	0
0	0	3.5	0	0	1

Builder Estates 1,2 & 5

Builder Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  9.5  NO OF JOBS  1

TOTAL HOURS TO DAY  1  9.5  NO OF JOBS 1
TOTAL HOURS FOR DAY  2  32.5  NO OF JOBS  7

TOTAL HOURS TO DAY  2  42  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  0  NO OF JOBS  0

TOTAL HOURS TO DAY  3  42  NO OF JOBS 8
TOTAL HOURS FOR DAY  4  12.5  NO OF JOBS  3

TOTAL HOURS TO DAY  4  54.5  NO OF JOBS 11
TOTAL HOURS FOR DAY  5  0  NO OF JOBS  0

TOTAL HOURS TO DAY  5  54.5  NO OF JOBS 11
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  9.5  0        0  1  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------     ----------
 0  9.5  0        0  1  0
----------     ----------
DAY= 2
 0  0  6        0  0  2
 0  0  10.5        0  0  1
 16  0  0        4  0  0
----------     ----------
 16  0  16.5        4  0  3
----------     ----------
DAY= 3
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------     ----------
 0  0  0        0  0  0
----------     ----------
DAY= 4
 0  0  1.5        0  0  1
 0  0  0        0  0  0
 7.5  0  3.5        1  0  1
----------     ----------
 7.5  0  5        1  0  2
----------     ----------
DAY= 5
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------     ----------
 0  0  0        0  0  0
----------     ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  24.5  NO OF JOBS  3

TOTAL HOURS TO DAY  1  24.5  NO OF JOBS 3
TOTAL HOURS FOR DAY  2  25.5  NO OF JOBS  5

TOTAL HOURS TO DAY  2  50  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  33.5  NO OF JOBS  5

TOTAL HOURS TO DAY  3  83.5  NO OF JOBS 13
TOTAL HOURS FOR DAY  4  61.5  NO OF JOBS  11

TOTAL HOURS TO DAY  4  145  NO OF JOBS 24
TOTAL HOURS FOR DAY  5  29.5  NO OF JOBS  7

TOTAL HOURS TO DAY  5  174.5  NO OF JOBS 31
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 11.5  0  9.5        1  0  1
 0  0  3.5        0  0  1
 0  0  0        0  0  0
----------     ----------
 11.5  0  13        1  0  2
----------     ----------
DAY= 2
 0  3.5  0        0  1  0
 1.5  12.5  0        1  1  0
 0  5.5  2.5        0  1  1
----------     ----------
 1.5  21.5  2.5        1  3  1
----------     ----------
DAY= 3
 0  0  0        0  0  0
 15.5  0  0        1  0  0
 1.5  0  16.5        1  0  3
----------     ----------
 17  0  16.5        2  0  3
----------     ----------
DAY= 4
 0  7.5  0        0  1  0
 3.5  7.5  5.5        1  1  3
 16  19.5  2        2  1  2
----------     ----------
 19.5  34.5  7.5        3  3  5
----------     ----------
DAY= 5
 0  1.5  3        0  1  2
 0.5  23  1.5        1  2  1
 0  0  0        0  0  0
----------     ----------
 0.5  24.5  4.5        1  3  3
----------     ----------
```

Builder Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  31.5  NO OF JOBS  5

TOTAL HOURS TO DAY  1  31.5  NO OF JOBS 5
TOTAL HOURS FOR DAY  2  22.5  NO OF JOBS  5

TOTAL HOURS TO DAY  2  54  NO OF JOBS 10
TOTAL HOURS FOR DAY  3  12.5  NO OF JOBS  3

TOTAL HOURS TO DAY  3  66.5  NO OF JOBS 13
TOTAL HOURS FOR DAY  4  9.5  NO OF JOBS  3

TOTAL HOURS TO DAY  4  76  NO OF JOBS 16
TOTAL HOURS FOR DAY  5  25.5  NO OF JOBS  3

TOTAL HOURS TO DAY  5  101.5  NO OF JOBS 19
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 2.5  0  14      1  0  2
 5.5  0  0      1  0  0
 0  0  9.5      0  0  1
----------     ----------
 8  0  23.5      2  0  3
----------     ----------
DAY= 2
 0  0  4.5      0  0  1
 0  2.5  13      0  1  2
 0  0  2.5      0  0  1
----------     ----------
 0  2.5  20      0  1  4
----------     ----------
DAY= 3
 0  5  0      0  2  0
 7.5  0  0      1  0  0
 0  0  0      0  0  0
----------     ----------
 7.5  5  0      1  2  0
----------     ----------
DAY= 4
 0  0  0      0  0  0
 0  0  7      0  0  2
 0  0  2.5      0  0  1
----------     ----------
 0  0  9.5      0  0  3
----------     ----------
DAY= 5
 0  0  0      0  0  0
 0  0  5.5      0  0  1
 0  20  0      0  2  0
----------     ----------
 0  20  5.5      0  2  1
----------     ----------
```
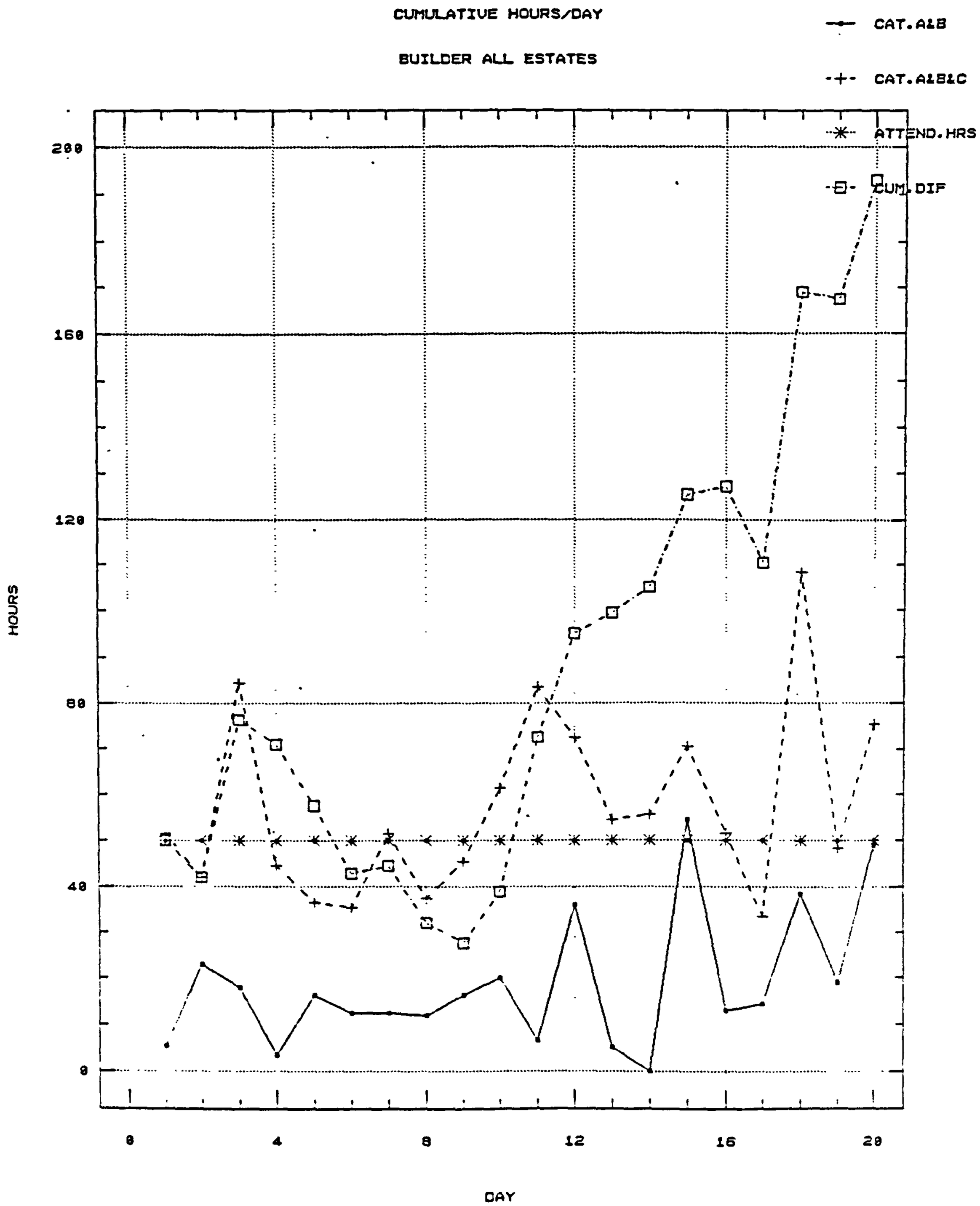

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  35.5  NO OF JOBS  9

TOTAL HOURS TO DAY  1  35.5  NO OF JOBS 9
TOTAL HOURS FOR DAY  2  54.5  NO OF JOBS  11

TOTAL HOURS TO DAY  2  90  NO OF JOBS 20
TOTAL HOURS FOR DAY  3  24.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  114.5  NO OF JOBS 27
TOTAL HOURS FOR DAY  4  24.5  NO OF JOBS  5

TOTAL HOURS TO DAY  4  139  NO OF JOBS 32
TOTAL HOURS FOR DAY  5  50.5  NO OF JOBS  5

TOTAL HOURS TO DAY  5  189.5  NO OF JOBS 37
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  13      0  0  4
 0  0  0      0  0  0
 15.5  3.5  3.5      3  1  1
----------     ----------
 15.5  3.5  16.5      3  1  5
----------     ----------
DAY= 2
 0  0  28      0  0  2
 0  3  11.5      0  2  3
 6  0  6      2  0  2
----------     ----------
 6  3  45.5      2  2  7
----------     ----------
DAY= 3
 3.5  0  3      1  0  2
 0  0  14.5      0  0  3
 0  0  3.5      0  0  1
----------     ----------
 3.5  0  21      1  0  6
----------     ----------
DAY= 4
 0  0  0      0  0  0
 8  0  9.5      2  0  1
 4.5  0  2.5      1  0  1
----------     ----------
 12.5  0  12      3  0  2
----------     ----------
DAY= 5
 0  16.5  0      0  1  0
 0  0  0.5      0  0  1
 0  15.5  18      0  1  2
----------     ----------
 0  32  18.5      0  2  3
----------     ----------
```

Builder Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  93.5  NO OF JOBS  13

TOTAL HOURS TO DAY  1  93.5  NO OF JOBS 13
TOTAL HOURS FOR DAY  2  23.5  NO OF JOBS  5

TOTAL HOURS TO DAY  2  117  NO OF JOBS 18
TOTAL HOURS FOR DAY  3  6.5  NO OF JOBS  3

TOTAL HOURS TO DAY  3  123.5  NO OF JOBS 21
TOTAL HOURS FOR DAY  4  28.5  NO OF JOBS  3

TOTAL HOURS TO DAY  4  152  NO OF JOBS 24
TOTAL HOURS FOR DAY  5  0  NO OF JOBS  0

TOTAL HOURS TO DAY  5  152  NO OF JOBS 24
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  10.5  36        0  1  4
 0  0  33        0  0  6
 14  0  0        2  0  0
----------      ----------
 14  10.5  69        2  1  10
----------      ----------
DAY= 2
 0  7.5  0        0  1  0
 1.5  0  1.5        1  0  1
 0  2.5  10.5        0  1  1
----------      ----------
 1.5  10  12        1  2  2
----------      ----------
DAY= 3
 0  0  0        0  0  0
 0  0  1.5        0  0  1
 0  3.5  1.5        0  1  1
----------      ----------
 0  3.5  3        0  1  2
----------      ----------
DAY= 4
 0  0  0        0  0  0
 0  0  0        0  0  0
 14.5  0  14        1  0  2
----------      ----------
 14.5  0  14        1  0  2
----------      ----------
DAY= 5
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 0  0  0        0  0  0
----------      ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  52.5  NO OF JOBS  9

TOTAL HOURS TO DAY  1  52.5  NO OF JOBS 9
TOTAL HOURS FOR DAY  2  28.5  NO OF JOBS  5

TOTAL HOURS TO DAY  2  81  NO OF JOBS 14
TOTAL HOURS FOR DAY  3  0  NO OF JOBS  0

TOTAL HOURS TO DAY  3  81  NO OF JOBS 14
TOTAL HOURS FOR DAY  4  42.5  NO OF JOBS  7

TOTAL HOURS TO DAY  4  123.5  NO OF JOBS 21
TOTAL HOURS FOR DAY  5  22.5  NO OF JOBS  3

TOTAL HOURS TO DAY  5  146  NO OF JOBS 24
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 7.5  0  6        1  0  2
 0.5  17.5  14        1  1  2
 0  0  7        0  0  2
----------      ----------
 8  17.5  27        2  1  6
----------      ----------
DAY= 2
 5.5  0  14.5        1  0  1
 0  0  5        0  0  2
 0  3.5  0        0  1  0
----------      ----------
 5.5  3.5  19.5        1  1  3
----------      ----------
DAY= 3
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 0  0  0        0  0  0
----------      ----------
DAY= 4
 0  2.5  0        0  1  0
 19.5  0  8        1  0  2
 7.5  5  0        1  2  0
----------      ----------
 27  7.5  8        2  3  2
----------      ----------
DAY= 5
 17.5  0  0        1  0  0
 0  1.5  0        0  1  0
 3.5  0  0        1  0  0
----------      ----------
 21  1.5  0        2  1  0
----------      ----------
```



WEEKS 16 To 19

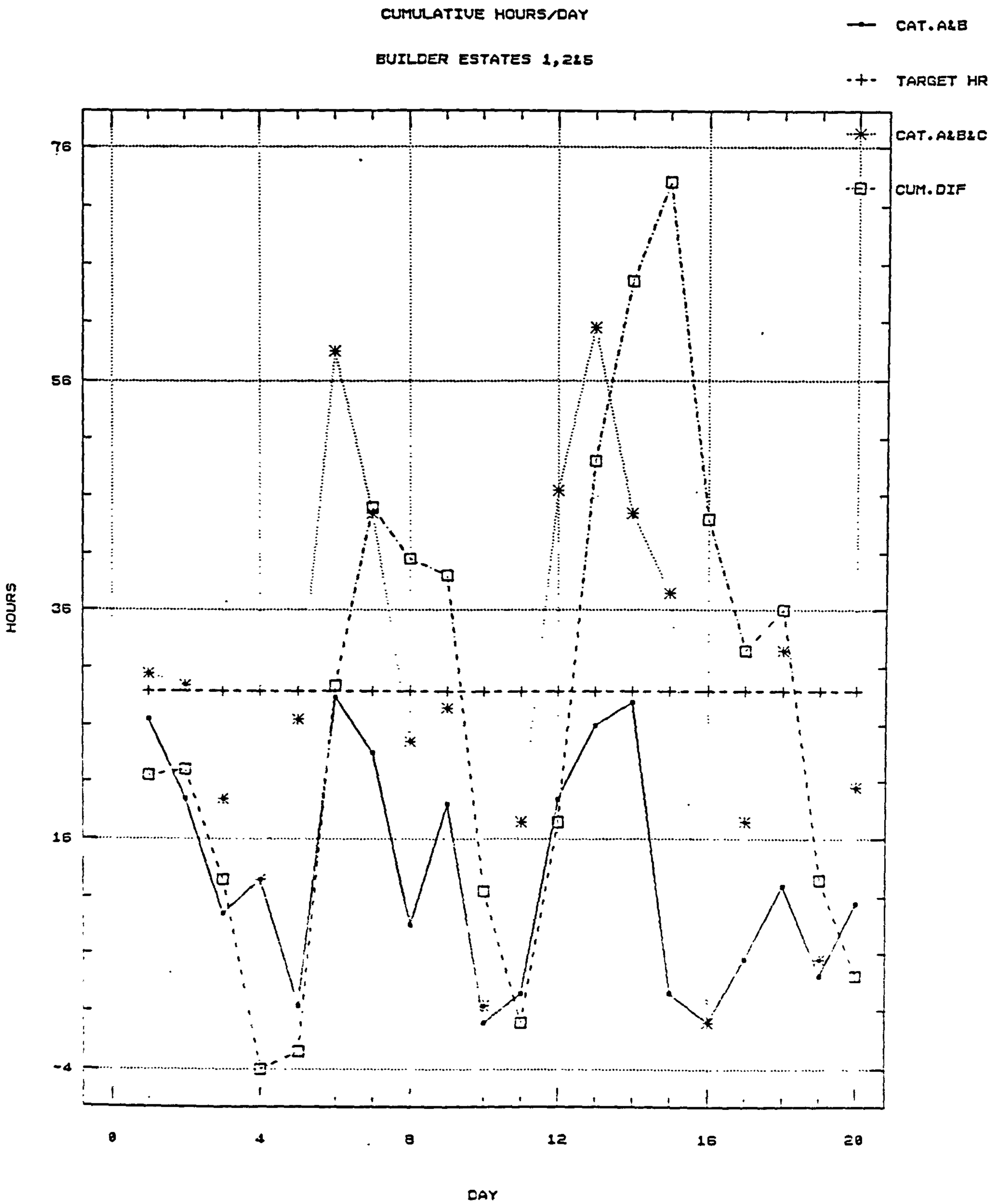
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
48.5	5	0.5	46	5.5	51.5	100	50	50	1	46.5	1
50	23	0	19	23	42	92	50	42	2	19	0.84
42	9	9	66.5	18	84.5	126.5	50	76.5	3	75.5	1.53
76.5	3.5	0	41	3.5	44.5	121	50	71	4	41	1.42
71	0	16.5	20	16.5	36.5	107.5	50	57.5	5	36.5	1.15
57.5	12.5	0	23	12.5	35.5	93	50	43	6	23	0.86
43	1.5	11	39	12.5	51.5	94.5	50	44.5	7	50	0.89
44.5	0	12	25.5	12	37.5	82	50	32	8	37.5	0.64
32	13	3.5	29	16.5	45.5	77.5	50	27.5	9	32.5	0.55
27.5	0	20	41.5	20	61.5	89	50	39	10	61.5	0.78
39	0	6.5	77	6.5	83.5	122.5	50	72.5	11	83.5	1.45
72.5	17.5	10.5	36.5	36	72.5	145	50	95	12	55	1.9
95	0	5	49.5	5	54.5	149.5	50	99.5	13	54.5	1.99
99.5	0	0	55.5	0	55.5	155	50	105	14	55.5	2.1
105	43.5	11	16	54.5	70.5	175.5	50	125.5	15	27	2.51
125.5	13	0	38.5	13	51.5	177	50	127	16	38.5	2.54
127	7.5	7	19	14.5	33.5	160.5	50	110.5	17	26	2.21
110.5	8	30.5	70	38.5	108.5	219	50	169	18	100.5	3.38
169	1.5	17.5	29.5	19	48.5	217.5	50	167.5	19	47	3.35
167.5	17.5	31.5	26.5	49	75.5	243	50	193	20	58	3.86
										48.425	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Builder

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
20	0	26.5	4	26.5	30.5	50.5	29	21.5	1	30.5	0.741379
21.5	9	10.5	10	19.5	29.5	51	29	22	2	20.5	0.758620
22	9.5	0	10	9.5	19.5	41.5	29	12.5	3	10	0.431034
12.5	10	2.5	0	12.5	12.5	25	29	-4	4	2.5	-0.13793
0	1.5	0	25	1.5	26.5	26.5	29	-2.5	5	25	-0.08620
0	14	14.5	30	28.5	58.5	58.5	29	29.5	6	44.5	1.017241
29.5	18.5	5	21	23.5	44.5	74	29	45	7	26	1.551724
45	8.5	0	16	8.5	24.5	69.5	29	40.5	8	16	1.396551
40.5	19	0	8.5	19	27.5	68	29	39	9	8.5	1.344827
39	0	0	1.5	0	1.5	40.5	29	11.5	10	1.5	0.396551
11.5	2.5	0	15	2.5	17.5	29	29	0	11	15	0
0	19.5	0	27	19.5	46.5	46.5	29	17.5	12	27	0.603448
17.5	11.5	14.5	34.5	26	60.5	78	29	49	13	49	1.689655
49	17.5	10.5	16.5	28	44.5	93.5	29	64.5	14	27	2.224137
64.5	0	2.5	35	2.5	37.5	102	29	73	15	37.5	2.517241
73	0	0	0	0	0	73	29	44	16	0	1.517241
44	5.5	0	12	5.5	17.5	61.5	29	32.5	17	12	1.120689
32.5	3.5	8.5	20.5	12	32.5	65	29	36	18	29	1.241379
36	4	0	1.5	4	5.5	41.5	29	12.5	19	1.5	0.431034
12.5	7.5	3	10	10.5	20.5	33	29	4	20	13	0.137931
										19.8	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Builder

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

SLATER : PLASTERER

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Job Arrivals/Day	429 - 437
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Cumulative Hours/Day	456 - 459

TRADE: SLATERER/PLASTERER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-										
3	-	1	-	1	-	-	1	-	-	-	-	2	-	1	-										
4	-	-	1	2	-	-	1	-	-	1	-	1	1	2	1										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											-	5	2	3	-										
1	1	-	2	-	-	-	-	-	-	-	1	-	2	-	-										
2	-	3	1	-	-	-	-	1	-	-	-	3	2	-	-										
3	-	2	1	-	-	-	-	-	-	-	-	2	1	-	-										
4	-	2	-	1	-	-	-	-	-	-	-	2	-	1	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											1	7	5	1	-										
1	-	5	1	-	-	-	-	-	-	-	-	5	1	-	-										
2	-	1	1	-	1	-	-	-	-	-	-	1	1	-	1										
3	1	2	1	-	-	-	-	-	-	-	1	2	1	-	-										
4	1	1	-	-	-	-	-	1	-	-	1	1	1	-	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											2	9	5	-	-										

TRADE SLATERER/PLASTERER

	WARD 1					WARD 15					ESTATE 1														
Est Day	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-										
2	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-										
3	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1										
4	-	1	2	-	-	-	-	-	-	-	-	1	2	-	-										
5	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-										
Weekly Total											-	4	5	-	-										
1										E	3	25	17	4	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE SLATERER/PLASTERER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3	-	-	-	-	-	-	-	5	-	-	-	-	5	-	-										
4	-	-	-	-	-	-	-	3	-	-	-	-	3	-	-										
5	-	-	2	-	-	-	-	-	-	-	-	2	-	-	-										
Weekly Total											-	2	8	-	-										
1	-	-	-	-	-	-	1	-	-	1	-	1	-	-	1										
2	-	1	-	-	-	-	2		-	-	-	3	-	-	-										
3	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-										
4	-	-	-	-	1	-	1	-	-	-	-	1	-	-	1										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											-	7	2	-	-										
1	-	1	2	-	-	-	5	-	-	-	-	6	2	-	-										
2	-	-	3	-	-	-	3	1	-	-	-	3	4	-	-										
3	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-										
4	-	3	-	-	-	-	5	-	-	-	-	8	-	-	-										
5	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-										
Weekly Total											-	20	7	-	-										

TRADE SLATERER/PLASTERER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-										
2	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-										
3	-	-	1	-	-	-	-	4	-	-	-	-	5	-	-										
4	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
5	-	-	1	-	-	-	-	2	-	-	-	-	3	-	-										
Weekly Total											-	1	12	-	-										
1											-	30	29	-	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE SLATERER/PLASTERER

Est Day	WARD 12					WARD 13					ESTATE 3														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	1	1	-	-	-	4	2	-	-	-	5	3	-										
3	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
4	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
5	-	-	-	2	1	-	-	-	-	-	-	-	-	2	1										
Weekly Total											-	-	8	5	-										
1	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-										
2	-	-	-	1	-	-	-	1	-	-	-	-	1	1	-										
3	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-										
4	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-										
5	-	1	1	-	-	-	1	2	-	-	-	2	3	-	-										
Weekly Total											-	3	9	1	-										
1	-	1	-	1	-	-	1	-	2	-	-	2	-	3	-										
2	-	-	-	-	-	-	-	1	-	1	-	-	1	-	1										
3	-	1	-	1	-	-	1	-	1	-	-	2	-	2	-										
4	-	-	2	-	-	-	-	3	-	-	-	-	5	-	-										
5	-	-	-	-	-	-	-	5	4	-	-	-	5	4	-										
Weekly Total											-	4	12	9	-										

TRADE SLATERER/PLASTERER

Est Day	WARD 12					WARD 11					ESTATE 3														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-										
2	-	-	1	1	-	-	-	-	-	-	-	-	1	1	-										
3	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-										
4	-	-	-	1	-	-	-	1	-	-	-	-	1	1	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											-	-	2	5	-										
1											-	7	31	20	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE SLATERER/PLASTERER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	1	-	-	-	-	-	-	-	-	-	3	-	-	-	-	2	-	-	-	-	6	-	-
2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
3	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	2	1	-
5	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
Weekly Total																					-	-	14	1	-
1																				E	3	34	31	15	-
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE SLATERER/PLASTERER

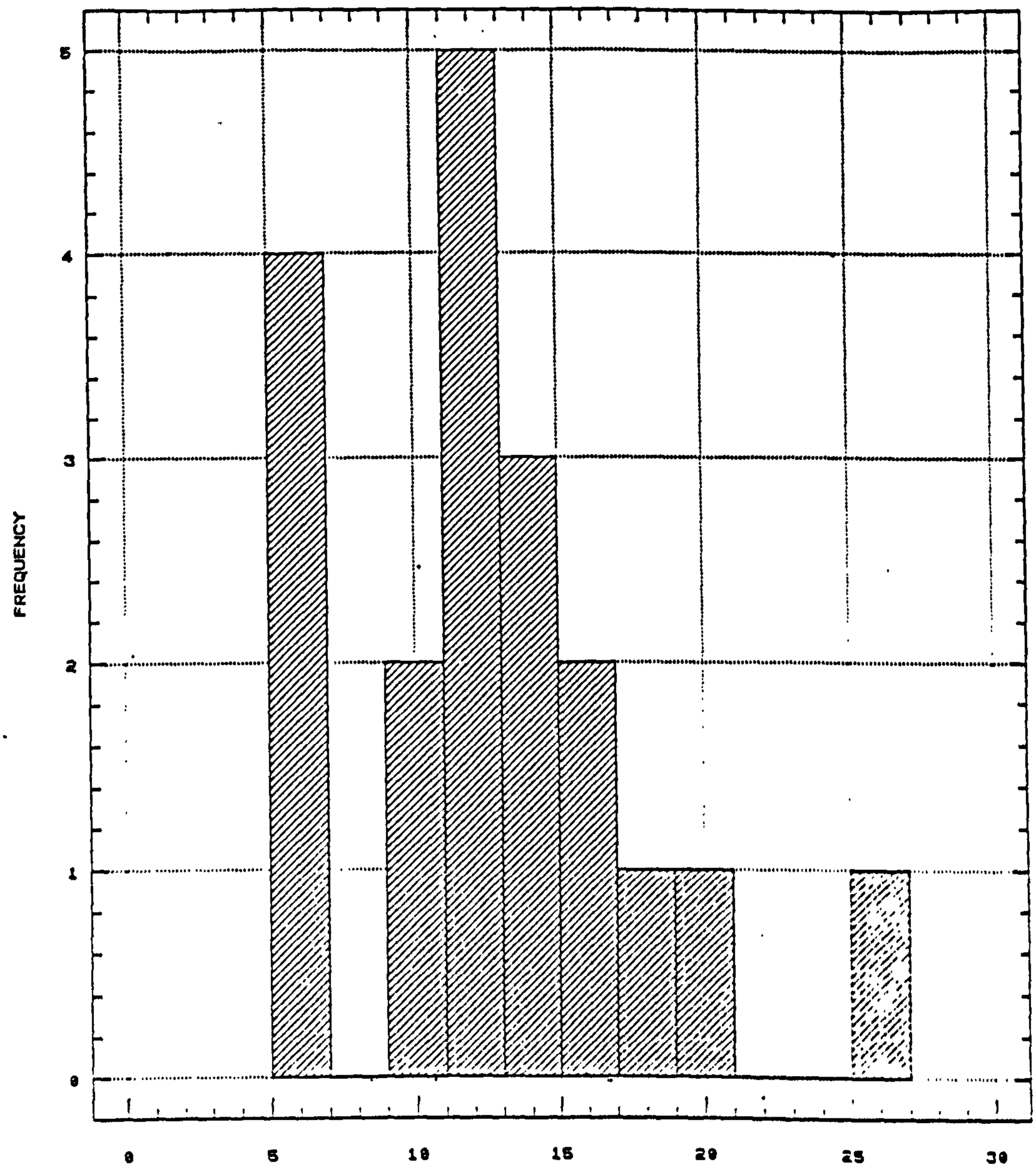
Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	2	-	-	-	3	2	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	3	-	-	-	2	4	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	-	-	-	-	1	-	-	4	-
5	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	4	-	-	-	1	4
Weekly Total																					1	-	9	11	-
1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1	-	-	-	-	4	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	3	-	-	-	-	5	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-	1	2		
4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-	-	4	-
5	-	-	-	-	-	-	-	-	1	-	-	1	-	2	-	-	-	-	-	-	-	1	-	3	-
Weekly Total																					-	2	11	7	-
1	-	-	-	-	-	-	-	1	-	-	-	3	-	3	-	-	1	1	4	-	-	4	2	7	-
2	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	-	-	-	1	-	-	1	1	3	-
3	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1	-	2	-	-	1	-	4	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	2	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-
Weekly Total																					-	6	4	16	-

TRADE SLATERER/PLASTERER

Est Day	WARD 6 A	WARD 6 B	WARD 6 C	WARD 6 D	WARD 6 E	WARD 7 A	WARD 7 B	WARD 7 C	WARD 7 D	WARD 7 E	WARD 9 A	WARD 9 B	WARD 9 C	WARD 9 D	WARD 9 E	WARD 10 A	WARD 10 B	WARD 10 C	WARD 10 D	WARD 10 E	ESTATE 5 A	ESTATE 5 B	ESTATE 5 C	ESTATE 5 D	ESTATE 5 E
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-
3	-	-	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	1	-	-	-	-	3	4	-
4	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	2	1	-	-	-	3	3	-
5	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	1	1	-	-	-	3	1
Weekly Total																					-	-	8	13	-
1					E1	3	25	17		45										E	1	8	32	47	-
2					E2	-	30	29		59															
3					E3	-	7	31		38															
4					E4	3	34	31		68															
5					E5	1	8	32		41															
Weekly Total						7	104	40		1															
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

NUMBER OF JOBS/DAY

SLATER/PLASTERER ALL ESTATES



NO OF JOBS

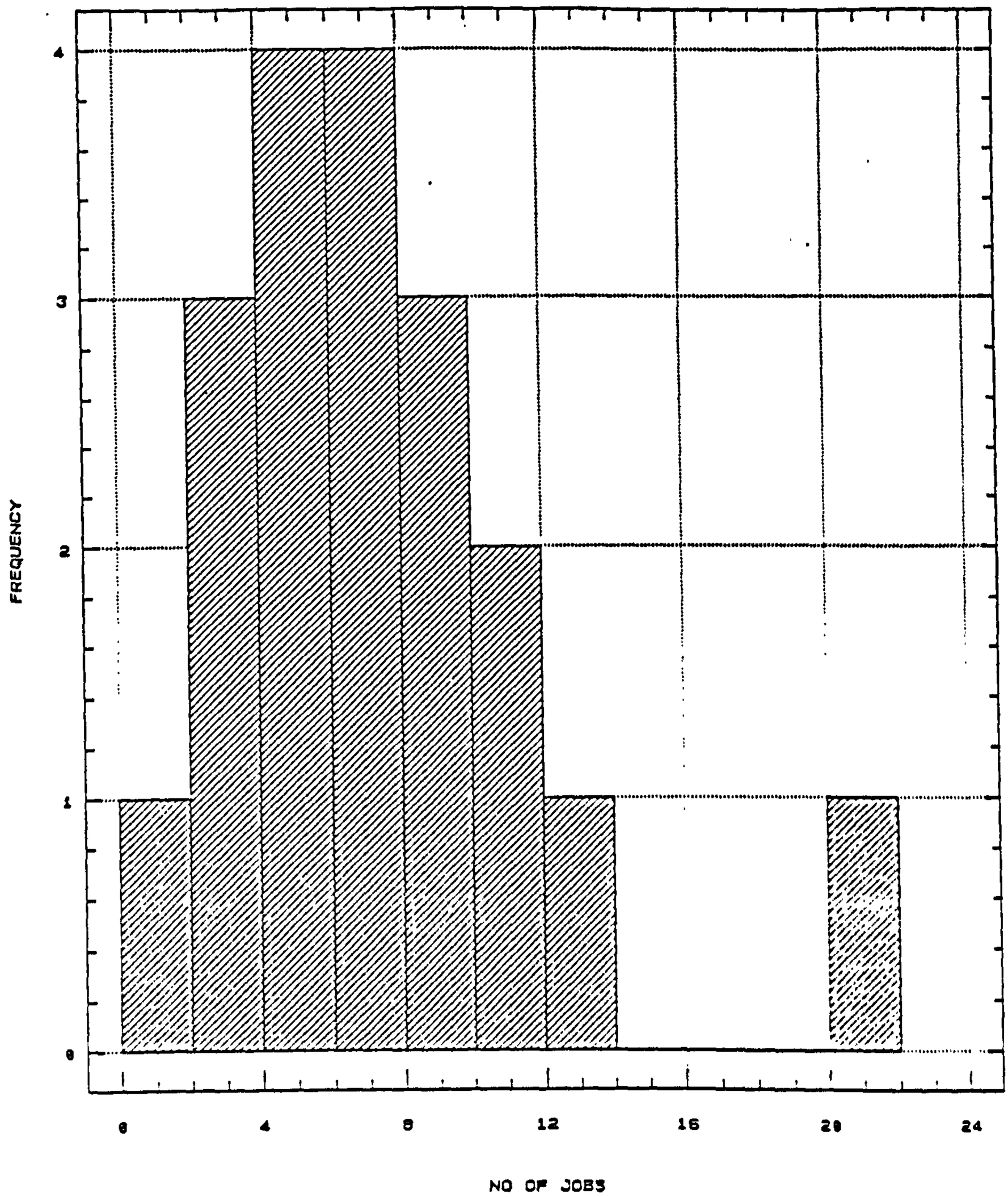
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		5.00		0	.0000	0	.000
1	5.00	7.00	6.00	4	.2105	4	.211
2	7.00	9.00	8.00	0	.0000	4	.211
3	9.00	11.00	10.00	2	.1053	6	.316
4	11.00	13.00	12.00	5	.2632	11	.579
5	13.00	15.00	14.00	3	.1579	14	.737
6	15.00	17.00	16.00	2	.1053	16	.842
7	17.00	19.00	18.00	1	.0526	17	.895
8	19.00	21.00	20.00	1	.0526	18	.947
9	21.00	23.00	22.00	0	.0000	18	.947
10	23.00	25.00	24.00	0	.0000	18	.947
11	25.00	27.00	26.00	1	.0526	19	1.000
above	27.00			0	.0000	19	1.000

Mean = 13.1579 Standard Deviation = 5.04715 Median = 12

NUMBER OF JOBS/DAY

SLATER/PLASTERER ESTATES 1,2,5



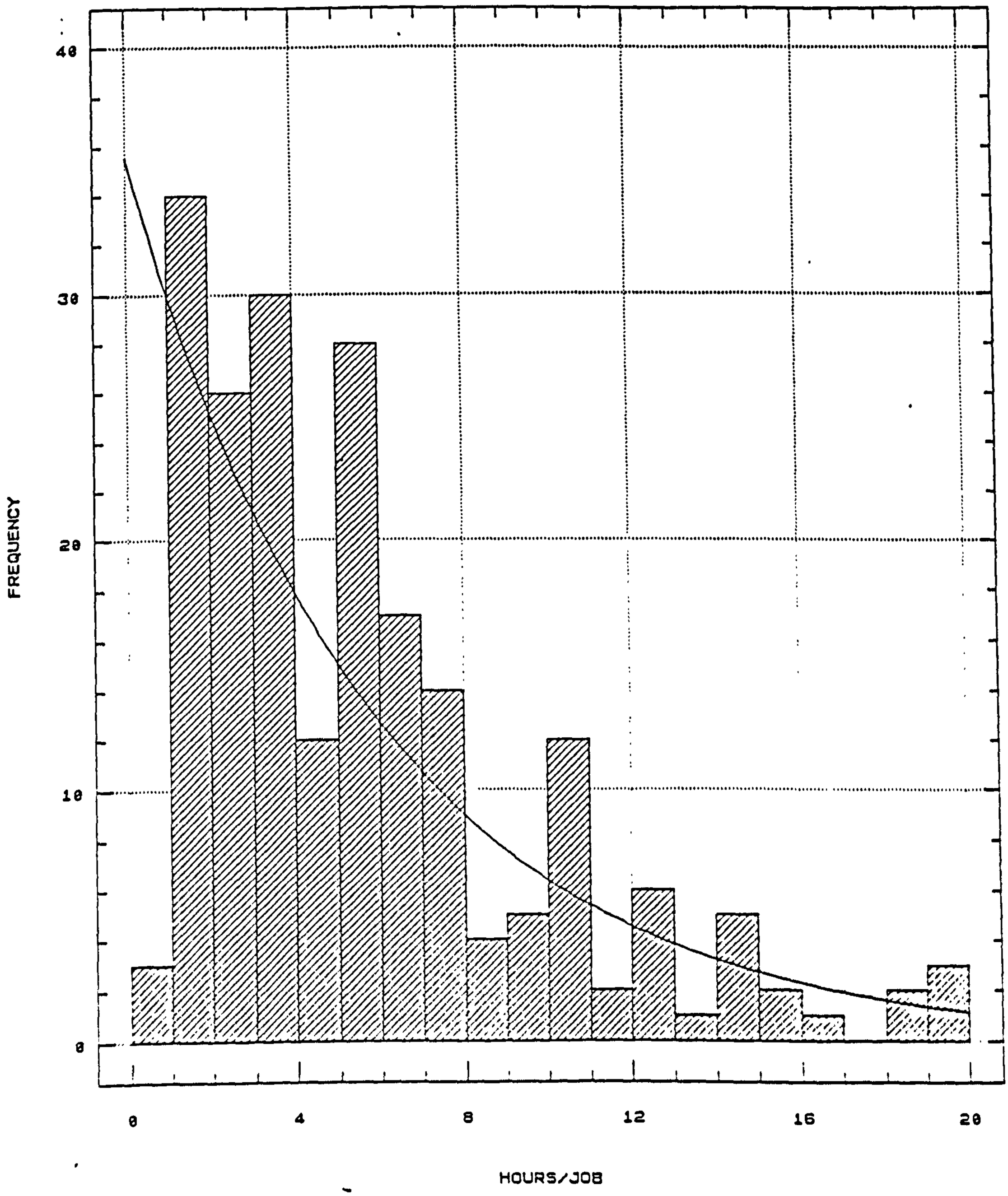
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.0000	0	.0000
1	.00	2.00	1.00	1	.0526	1	.0526
2	2.00	4.00	3.00	3	.1579	4	.2105
3	4.00	6.00	5.00	4	.2105	8	.4211
4	6.00	8.00	7.00	4	.2105	12	.6316
5	8.00	10.00	9.00	3	.1579	15	.7895
6	10.00	12.00	11.00	2	.1053	17	.8947
7	12.00	14.00	13.00	1	.0526	18	.9474
8	14.00	16.00	15.00	0	.0000	18	.9474
9	16.00	18.00	17.00	0	.0000	18	.9474
10	18.00	20.00	19.00	0	.0000	18	.9474
11	20.00	22.00	21.00	1	.0526	19	1.0000
above	22.00			0	.0000	19	1.0000

Mean = 7.78947 Standard Deviation = 4.61373 Median = 7

NUMBER OF HOURS/JOB

SLATER/PLASTERER PRIVATE CONTRACTOR



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.00000	0	.0000
1	.00	1.00	.500	3	.01449	3	.0145
2	1.00	2.00	1.500	34	.16425	37	.1787
3	2.00	3.00	2.500	26	.12560	63	.3043
4	3.00	4.00	3.500	30	.14493	93	.4493
5	4.00	5.00	4.500	12	.05797	105	.5072
6	5.00	6.00	5.500	28	.13527	133	.6425
7	6.00	7.00	6.500	17	.08213	150	.7246
8	7.00	8.00	7.500	14	.06763	164	.7923
9	8.00	9.00	8.500	4	.01932	168	.8116
10	9.00	10.00	9.500	5	.02415	173	.8357
11	10.00	11.00	10.500	12	.05797	185	.8937
12	11.00	12.00	11.500	2	.00966	187	.9034
13	12.00	13.00	12.500	6	.02899	193	.9324
14	13.00	14.00	13.500	1	.00483	194	.9372
15	14.00	15.00	14.500	5	.02415	199	.9614
16	15.00	16.00	15.500	2	.00966	201	.9710
17	16.00	17.00	16.500	1	.00483	202	.9758
18	17.00	18.00	17.500	0	.00000	202	.9758
19	18.00	19.00	18.500	2	.00966	204	.9855
20	19.00	20.00	19.500	3	.01449	207	1.0000
above	20.00			0	.00000	207	1.0000

Mean = 5.81581 Standard Deviation = 4.08628 Median = 4.67218

Chisquare Test

Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
at or below	1.00	3	32.7	26.9760
1.00	2.00	34	27.5	1.5180
2.00	3.00	26	23.2	.3418
3.00	4.00	30	19.5	5.6233
4.00	5.00	12	16.4	1.1984
5.00	6.00	28	13.8	14.4827
6.00	7.00	17	11.7	2.4513
7.00	8.00	14	9.8	1.7858
8.00	9.00	4	8.3	2.1997
9.00	10.00	5	7.0	.5510
10.00	11.00	12	5.9	6.4372
11.00	13.00	8	9.1	.1301
13.00	15.00	6	6.4	.0304
15.00	18.00	3	6.3	1.7490
above	18.00	5	9.4	2.0394

Chisquare = 67.5139 with 13 d.f. Sig. level = 2.29512E-9

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	3	1	3.5
1	2	3	2	5.5
1	3	3	1	5.5
1	4	3	5	3.5
1	5	2	2	10.5
1	6	3	1	1.5

TOTAL HOURS FOR DAY 1 30 NO OF JOBS 6

TOTAL HOURS TO DAY 1 30 NO OF JOBS 6

2	1	3	4	5.5
2	2	3	2	3.5
2	3	3	4	3.5
2	4	2	1	10.5
2	5	3	1	1.5
2	6	3	2	0.5

TOTAL HOURS FOR DAY 2 25 NO OF JOBS 6

TOTAL HOURS TO DAY 2 55 NO OF JOBS 12

3	1	2	1	5.5
3	2	3	2	2.5
3	3	3	4	6.5
3	4	3	5	2.5
3	5	3	4	6.5
3	6	3	4	4.5

TOTAL HOURS FOR DAY 3 28 NO OF JOBS 6

TOTAL HOURS TO DAY 3 83 NO OF JOBS 18

4	1	3	4	19.5
4	2	3	4	2.5
4	3	3	2	3.5
4	4	1	5	10.5
4	5	2	2	16.5
4	6	2	4	11.5
4	7	2	4	6.5
4	8	2	4	2.5
4	9	2	3	7.5
4	10	3	4	5.5
4	11	3	2	4.5
4	12	2	4	7.5

TOTAL HOURS FOR DAY 4 98 NO OF JOBS 12

TOTAL HOURS TO DAY 4 181 NO OF JOBS 30

5	1	3	4	1.5
5	2	3	3	9.5
5	3	3	3	3.5
5	4	3	4	2.5
5	5	3	5	2.5
5	6	2	4	6.5

TOTAL HOURS FOR DAY 5 26 NO OF JOBS 6

TOTAL HOURS TO DAY 5 207 NO OF JOBS 36

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  10.5      0  0  3
 0  10.5  5.5      0  1  1
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  3.5      0  0  1
---------   ---------
 0  10.5  19.5      0  1  5
---------   ---------
DAY= 2
 0  10.5  1.5      0  1  1
 0  0  4      0  0  2
 0  0  0      0  0  0
 0  0  9      0  0  2
 0  0  0      0  0  0
---------   ---------
 0  10.5  14.5      0  1  5
---------   ---------
DAY= 3
 0  5.5  0      0  1  0
 0  0  2.5      0  0  1
 0  0  0      0  0  0
 0  0  17.5      0  0  3
 0  0  2.5      0  0  1
---------   ---------
 0  5.5  22.5      0  1  5
---------   ---------
DAY= 4
 0  0  0      0  0  0
 0  16.5  8      0  1  2
 0  7.5  0      0  1  0
 0  28  27.5      0  4  3
 10.5  0  0      1  0  0
---------   ---------
 10.5  52  35.5      1  6  5
---------   ---------
DAY= 5
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  13      0  0  2
 0  6.5  4      0  1  2
 0  0  2.5      0  0  1
---------   ---------
 0  6.5  19.5      0  1  5
---------   ---------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 100 NO OF JOBS 16

TOTAL HOURS TO DAY 1 100 NO OF JOBS 16
TOTAL HOURS FOR DAY 2 28 NO OF JOBS 6

TOTAL HOURS TO DAY 2 128 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 39 NO OF JOBS 6

TOTAL HOURS TO DAY 3 167 NO OF JOBS 28
TOTAL HOURS FOR DAY 4 68 NO OF JOBS 12

TOTAL HOURS TO DAY 4 235 NO OF JOBS 40
TOTAL HOURS FOR DAY 5 67 NO OF JOBS 12

TOTAL HOURS TO DAY 5 302 NO OF JOBS 52

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 2.5 6	0 1 2
0 27 10	0 4 2
0 21 4.5	0 2 1
0 0 21.5	0 0 3
0 7.5 0	0 1 0
0 58 42	0 8 8

DAY= 2

0 2.5 1.5	0 1 1
0 8.5 0	0 1 0
0 0 0	0 0 0
9.5 3.5 2.5	1 1 1
0 0 0	0 0 0
9.5 14.5 4	1 3 2

DAY= 3

0 0 14.5	0 0 1
0 0 0	0 0 0
0 6 0	0 2 0
0 5.5 0	0 1 0
0 7.5 5.5	0 1 1
0 19 20	0 4 2

DAY= 4

1.5 3.5 12	1 1 2
0 0 10	0 0 2
0 0 5.5	0 0 1
0 6 2.5	0 2 1
0 0 27	0 0 2
1.5 9.5 57	1 3 8

DAY= 5

0 0 0	0 0 0
0 21 4.5	0 2 1
0 6.5 1.5	0 3 1
0 18 14	0 2 2
0 1.5 0	0 1 0
0 47 20	0 8 4

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 91 NO OF JOBS 16

TOTAL HOURS TO DAY 1 91 NO OF JOBS 16
TOTAL HOURS FOR DAY 2 98 NO OF JOBS 18

TOTAL HOURS TO DAY 2 189 NO OF JOBS 34
TOTAL HOURS FOR DAY 3 106 NO OF JOBS 18

TOTAL HOURS TO DAY 3 295 NO OF JOBS 52
TOTAL HOURS FOR DAY 4 102 NO OF JOBS 16

TOTAL HOURS TO DAY 4 397 NO OF JOBS 68
TOTAL HOURS FOR DAY 5 130 NO OF JOBS 20

TOTAL HOURS TO DAY 5 527 NO OF JOBS 88

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 20 11	0 2 2
0 16.5 7	0 3 2
0 9 0	0 2 0
0 8.5 16.5	0 1 3
0 0 2.5	0 0 1
0 54 37	0 8 8

DAY= 2

15.5 9.5 2.5	1 3 1
0 0 5.5	0 0 1
0 0 10.5	0 0 1
0 14.5 26	0 1 6
0 1.5 12.5	0 1 3
15.5 25.5 57	1 5 12

DAY= 3

0 5.5 16.5	0 1 5
0 0 37	0 0 4
0 1.5 8	0 1 2
0 10.5 11	0 1 2
0 14.5 1.5	0 1 1
0 32 74	0 4 14

DAY= 4

0 3.5 20	0 1 2
0 29.5 8	0 3 2
0 7 2.5	0 2 1
0 3.5 17.5	0 1 3
0 0 10.5	0 0 1
0 43.5 58.5	0 7 9

DAY= 5

0 0 17	0 0 2
6.5 3.5 12	1 1 2
0 3.5 17	0 1 2
0 28 16.5	0 2 3
0 3.5 22.5	0 1 5
6.5 38.5 85	1 5 14

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 67 NO OF JOBS 12

TOTAL HOURS TO DAY 1 67 NO OF JOBS 12
TOTAL HOURS FOR DAY 2 49 NO OF JOBS 6

TOTAL HOURS TO DAY 2 116 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 59 NO OF JOBS 12

TOTAL HOURS TO DAY 3 175 NO OF JOBS 30
TOTAL HOURS FOR DAY 4 62 NO OF JOBS 12

TOTAL HOURS TO DAY 4 237 NO OF JOBS 42
TOTAL HOURS FOR DAY 5 35 NO OF JOBS 6

TOTAL HOURS TO DAY 5 272 NO OF JOBS 48

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  26.5      0  0  5
 0  0  0      0  0  0
 13  13  0      2  2  0
 0  0  3.5      0  0  1
 0  6.5  4.5      0  1  1
----------  ----------
 13  19.5  34.5      2  3  7
----------  ----------
DAY= 2
 0  0  0      0  0  0
 0  6.5  0      0  1  0
 0  22  0      0  2  0
 0  0  15      0  0  2
 0  5.5  0      0  1  0
----------  ----------
 0  34  15      0  4  2
----------  ----------
DAY= 3
 0  6  18      0  2  2
 0  12.5  2.5      0  3  1
 0  0  17.5      0  0  3
 0  0  2.5      0  0  1
 0  0  0      0  0  0
----------  ----------
 0  18.5  40.5      0  5  7
----------  ----------
DAY= 4
 0  0  19.5      0  0  1
 0  0  0      0  0  0
 0  5.5  10.5      0  1  3
 0  0  12      0  0  2
 0  2.5  12      0  1  4
----------  ----------
 0  8  54      0  2  10
----------  ----------
DAY= 5
 0  0  10.5      0  0  1
 0  0  7      0  0  2
 0  12.5  1.5      0  1  1
 0  0  3.5      0  0  1
 0  0  0      0  0  0
----------  ----------
 0  12.5  22.5      0  1  5
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 152 NO OF JOBS 26

TOTAL HOURS TO DAY 1 152 NO OF JOBS 26
TOTAL HOURS FOR DAY 2 61 NO OF JOBS 10

TOTAL HOURS TO DAY 2 213 NO OF JOBS 36
TOTAL HOURS FOR DAY 3 25 NO OF JOBS 6

TOTAL HOURS TO DAY 3 238 NO OF JOBS 42
TOTAL HOURS FOR DAY 4 46 NO OF JOBS 12

TOTAL HOURS TO DAY 4 284 NO OF JOBS 54
TOTAL HOURS FOR DAY 5 56 NO OF JOBS 12

TOTAL HOURS TO DAY 5 340 NO OF JOBS 66

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  17.5  12      0  3  2
 0  19.5  11.5      0  3  3
 0  9  14      0  2  2
 0  6.5  6      0  1  2
 6.5  2.5  47      1  1  6
----------  ----------
 6.5  55  90.5      1  10  15
----------  ----------
DAY= 2
 0  0  5.5      0  0  1
 0  0  7.5      0  0  1
 0  0  16.5      0  0  3
 0  0  5      0  0  2
 0  0  26.5      0  0  3
----------  ----------
 0  0  61      0  0  10
----------  ----------
DAY= 3
 0  2.5  7.5      0  1  1
 0  0  7.5      0  0  1
 0  0  4      0  0  2
 0  0  0      0  0  0
 0  0  3.5      0  0  1
----------  ----------
 0  2.5  22.5      0  1  5
----------  ----------
DAY= 4
 0  1.5  15      0  1  4
 0  3.5  5.5      0  1  1
 0  0  4.5      0  0  1
 0  2.5  6      0  1  2
 0  7.5  0      0  1  0
----------  ----------
 0  15  31      0  4  8
----------  ----------
DAY= 5
 0  1.5  25.5      0  1  3
 0  1.5  2.5      0  1  1
 0  0  9      0  0  2
 0  5.5  7      0  1  2
 0  0  3.5      0  0  1
----------  ----------
 0  8.5  47.5      0  3  9
----------  ----------
```

Slater:Plasterer All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 75 NO OF JOBS 10

TOTAL HOURS TO DAY 1 75 NO OF JOBS 10
TOTAL HOURS FOR DAY 2 121 NO OF JOBS 20

TOTAL HOURS TO DAY 2 196 NO OF JOBS 30
TOTAL HOURS FOR DAY 3 100 NO OF JOBS 14

TOTAL HOURS TO DAY 3 296 NO OF JOBS 44
TOTAL HOURS FOR DAY 4 171 NO OF JOBS 26

TOTAL HOURS TO DAY 4 467 NO OF JOBS 70
TOTAL HOURS FOR DAY 5 109 NO OF JOBS 18

TOTAL HOURS TO DAY 5 576 NO OF JOBS 88

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	10.5	0	0	1	0
15.5	13	5.5	1	2	1
0	1.5	5.5	0	1	1
0	11.5	6.5	0	1	1
0	5.5	0	0	1	0
15.5	42	17.5	1	6	3

DAY= 2

0	5.5	24	0	1	2
0	0	20	0	0	4
0	5.5	2.5	0	1	1
0	20	19.5	0	4	3
0	19.5	4.5	0	3	1
0	50.5	70.5	0	9	11

DAY= 3

0	1.5	0	0	1	0
0	3.5	3.5	0	1	1
0	4.5	46	0	1	4
0	8.5	24.5	0	1	3
0	0	8	0	0	2
0	18	82	0	4	10

DAY= 4

0	12.5	42.5	0	3	5
0	20	23	0	2	4
0	6.5	11.5	0	1	1
0	21.5	6	0	5	2
0	16	11.5	0	2	1
0	76.5	94.5	0	13	13

DAY= 5

0	2.5	18.5	0	1	3
0	14.5	15	0	3	2
0	0	22	0	0	2
0	17	7	0	2	2
3.5	0	9	1	0	2
3.5	34	71.5	1	6	11

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 33 NO OF JOBS 6

TOTAL HOURS TO DAY 1 33 NO OF JOBS 6
TOTAL HOURS FOR DAY 2 59 NO OF JOBS 12

TOTAL HOURS TO DAY 2 92 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 90 NO OF JOBS 14

TOTAL HOURS TO DAY 3 182 NO OF JOBS 32
TOTAL HOURS FOR DAY 4 98 NO OF JOBS 14

TOTAL HOURS TO DAY 4 280 NO OF JOBS 46
TOTAL HOURS FOR DAY 5 99 NO OF JOBS 14

TOTAL HOURS TO DAY 5 379 NO OF JOBS 60

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	6.5	0	0	1	0
0	0	9	0	0	2
0	6.5	0	0	1	0
0	5.5	5.5	0	1	1
0	0	0	0	0	0
0	18.5	14.5	0	3	3

DAY= 2

0	0	17	0	0	2
0	6.5	8	0	1	2
0	11.5	7.5	0	3	1
0	3.5	3.5	0	1	1
0	1.5	0	0	1	0
0	23	36	0	6	6

DAY= 3

0	14.5	0	0	1	0
0	0	12	0	0	2
0	2.5	14.5	0	1	1
10.5	1	29.5	1	2	5
0	0	5.5	0	0	1
10.5	18	61.5	1	4	9

DAY= 4

0	12.5	10	0	1	2
0	19	27	0	2	2
0	3.5	7	0	1	2
0	1.5	14	0	1	2
0	3.5	0	0	1	0
0	40	58	0	6	8

DAY= 5

0	16.5	26.5	0	1	3
0	3.5	9	0	1	2
0	6.5	5.5	0	1	1
0	7.5	13	0	1	2
0	0	11	0	0	2
0	34	65	0	4	10

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 83 NO OF JOBS 16

TOTAL HOURS TO DAY 1 83 NO OF JOBS 16
TOTAL HOURS FOR DAY 2 105 NO OF JOBS 18

TOTAL HOURS TO DAY 2 188 NO OF JOBS 34
TOTAL HOURS FOR DAY 3 90 NO OF JOBS 16

TOTAL HOURS TO DAY 3 278 NO OF JOBS 50
TOTAL HOURS FOR DAY 4 65 NO OF JOBS 10

TOTAL HOURS TO DAY 4 343 NO OF JOBS 60
TOTAL HOURS FOR DAY 5 28 NO OF JOBS 6

TOTAL HOURS TO DAY 5 371 NO OF JOBS 66

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  3.5      0  0  1
 0  12.5  23.5      0  3  3
 0  0  3.5      0  0  1
 0  18.5  4.5      0  3  1
 0  7.5  9.5      0  1  3
---------  ----------
 0  38.5  44.5      0  7  9
---------  ----------
DAY= 2
 12.5  13  16      1  2  2
 0  20.5  7      0  3  2
 0  5.5  0      0  1  0
 6.5  0  12      1  0  4
 0  0  12      0  0  2
---------  ----------
 19  39  47      2  6  10
---------  ----------
DAY= 3
 0  7  0      0  2  0
 0  7.5  8      0  1  2
 0  8  0      0  2  0
 0  7.5  30.5      0  1  5
 7.5  14  0      1  2  0
---------  ----------
 7.5  44  38.5      1  8  7
---------  ----------
DAY= 4
 0  0  0      0  0  0
 0  6  11.5      0  2  1
 1.5  0  1.5      1  0  1
 1.5  0  32.5      1  0  3
 0  10.5  0      0  1  0
---------  ----------
 3  16.5  45.5      2  3  5
---------  ----------
DAY= 5
 0  13.5  4      0  3  2
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  10.5      0  0  1
 0  0  0      0  0  0
---------  ----------
 0  13.5  14.5      0  3  3
---------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 32 NO OF JOBS 6

TOTAL HOURS TO DAY 1 32 NO OF JOBS 6
TOTAL HOURS FOR DAY 2 98 NO OF JOBS 18

TOTAL HOURS TO DAY 2 130 NO OF JOBS 24
TOTAL HOURS FOR DAY 3 58 NO OF JOBS 12

TOTAL HOURS TO DAY 3 188 NO OF JOBS 36
TOTAL HOURS FOR DAY 4 81 NO OF JOBS 12

TOTAL HOURS TO DAY 4 269 NO OF JOBS 48
TOTAL HOURS FOR DAY 5 58 NO OF JOBS 12

TOTAL HOURS TO DAY 5 327 NO OF JOBS 60

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  12      0  0  2
 0  0  0      0  0  0
 0  0  3.5      0  0  1
 0  0  7.5      0  0  1
 0  1.5  7.5      0  1  1
---------  ----------
 0  1.5  30.5      0  1  5
---------  ----------
DAY= 2
 0  6.5  0      0  1  0
 5.5  5.5  14.5      1  3  3
 1.5  0  1.5      1  0  1
 0  22.5  24      0  3  4
 0  0  16.5      0  0  1
---------  ----------
 7  34.5  56.5      2  7  9
---------  ----------
DAY= 3
 10.5  2.5  0      1  1  0
 0  13  3.5      0  2  1
 0  0  9      0  0  2
 0  0  13      0  0  4
 0  0  6.5      0  0  1
---------  ----------
 10.5  15.5  32      1  3  8
---------  ----------
DAY= 4
 0  0  0      0  0  0
 0  0  24.5      0  0  3
 0  0.5  27      0  1  2
 0  1.5  8      0  1  2
 3.5  16  0      1  2  0
---------  ----------
 3.5  18  59.5      1  4  7
---------  ----------
DAY= 5
 0  0  18.5      0  0  3
 0  9.5  12      0  1  2
 0  0  0      0  0  0
 0  16  0.5      0  4  1
 0  0  1.5      0  0  1
---------  ----------
 0  25.5  32.5      0  5  7
---------  ----------
```

Slater:Plasterer All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 42 NO OF JOBS 6

TOTAL HOURS TO DAY 1 42 NO OF JOBS 6
TOTAL HOURS FOR DAY 2 46 NO OF JOBS 10

TOTAL HOURS TO DAY 2 88 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 56 NO OF JOBS 12

TOTAL HOURS TO DAY 3 144 NO OF JOBS 28
TOTAL HOURS FOR DAY 4 96 NO OF JOBS 18

TOTAL HOURS TO DAY 4 240 NO OF JOBS 46
TOTAL HOURS FOR DAY 5 158 NO OF JOBS 18

TOTAL HOURS TO DAY 5 398 NO OF JOBS 64

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  0  0      0  0  0
 0  6.5  6.5      0  1  1
 0  2.5  26.5      0  1  3
---------   ---------
 0  9  33      0  2  4
---------   ---------
DAY= 2
 0  0  10      0  0  2
 0  0  2.5      0  0  1
 0  0  2.5      0  0  1
 0  10.5  4      0  1  2
 5.5  5.5  5.5      1  1  1
---------   ---------
 5.5  16  24.5      1  2  7
---------   ---------
DAY= 3
 0  2.5  24.5      0  1  3
 0  0  5      0  0  2
 0  0  0      0  0  0
 0  17  3.5      0  4  1
 0  0  3.5      0  0  1
---------   ---------
 0  19.5  36.5      0  5  7
---------   ---------
DAY= 4
 0  19  12      0  2  4
 0  0  0      0  0  0
 0  15  11      0  2  2
 0  3.5  5.5      0  1  1
 0  16  14      0  2  4
---------   ---------
 0  53.5  42.5      0  7  11
---------   ---------
DAY= 5
 0  0  37.5      0  0  3
 0  22  19.5      0  2  1
 0  11.5  0      0  3  0
 0  3.5  1.5      0  1  1
 0  23.5  39      0  3  4
---------   ---------
 0  60.5  97.5      0  9  9
---------   ---------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 54 NO OF JOBS 12

TOTAL HOURS TO DAY 1 54 NO OF JOBS 12
TOTAL HOURS FOR DAY 2 104 NO OF JOBS 14

TOTAL HOURS TO DAY 2 158 NO OF JOBS 26
TOTAL HOURS FOR DAY 3 74 NO OF JOBS 12

TOTAL HOURS TO DAY 3 232 NO OF JOBS 38
TOTAL HOURS FOR DAY 4 92 NO OF JOBS 16

TOTAL HOURS TO DAY 4 324 NO OF JOBS 54
TOTAL HOURS FOR DAY 5 48 NO OF JOBS 6

TOTAL HOURS TO DAY 5 372 NO OF JOBS 60

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  11  0.5      0  2  1
 0  14.5  0      0  3  0
 0  0  0      0  0  0
 0  1.5  0      0  1  0
 6.5  14.5  5.5      1  3  1
---------   ---------
 6.5  41.5  6      1  9  2
---------   ---------
DAY= 2
 0  9.5  45.5      0  1  3
 0  0  14      0  0  2
 0  3.5  11      0  1  2
 0  0  16      0  0  4
 0  0  4.5      0  0  1
---------   ---------
 0  13  91      0  2  12
---------   ---------
DAY= 3
 0  12  6      0  2  2
 0  12.5  0      0  1  0
 0  28  3.5      0  2  1
 0  6.5  4      0  1  2
 0  0  1.5      0  0  1
---------   ---------
 0  59  15      0  6  6
---------   ---------
DAY= 4
 0  0  23      0  2  4
 0  19.5  6      0  1  2
 0  9.5  15      0  1  2
 0  0  6.5      0  0  3
 0  4.5  0      0  1  0
---------   ---------
 0  41.5  50 5      0  5  11
---------   ---------
DAY= 5
 0  0  16.5      0  0  1
 0  10.5  0      0  1  0
 0  1.5  5.5      0  1  1
 0  9.5  4.5      0  1  1
 0  0  0      0  0  0
---------   ---------
 0  21.5  26.5      0  3  3
---------   ---------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 92 NO OF JOBS 14

TOTAL HOURS TO DAY 1 92 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 62 NO OF JOBS 14

TOTAL HOURS TO DAY 2 154 NO OF JOBS 28
TOTAL HOURS FOR DAY 3 37 NO OF JOBS 6

TOTAL HOURS TO DAY 3 191 NO OF JOBS 34
TOTAL HOURS FOR DAY 4 59 NO OF JOBS 12

TOTAL HOURS TO DAY 4 250 NO OF JOBS 46
TOTAL HOURS FOR DAY 5 59 NO OF JOBS 10

TOTAL HOURS TO DAY 5 309 NO OF JOBS 56

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  17      0  0  2
 0  7  0       0  2  0
 0  27  11.5   0  4  1
 0  5  2.5     0  2  1
 0  22  0      0  2  0
---------     ---------
 0  61  31     0  10  4
---------     ---------
DAY= 2
 0  5.5  11.5   0  1  3
 0  11.5  9.5   0  3  3
 0  17  7       0  2  2
 0  0  0        0  0  0
 0  0  0        0  0  0
---------     ---------
 0  34  28      0  6  8
---------     ---------
DAY= 3
 0  5.5  0      0  1  0
 0  0  5.5      0  0  1
 0  0  11.5     0  0  1
 0  5.5  7.5    0  1  1
 0  0  1.5      0  0  1
---------     ---------
 0  11  26      0  2  4
---------     ---------
DAY= 4
 0  1.5  6.5    0  1  1
 0  14  7.5     0  2  1
 0  2.5  6.5    0  1  1
 0  8  6.5      0  2  1
 0  3.5  2.5    0  1  1
---------     ---------
 0  29.5  29.5  0  7  5
---------     ---------
DAY= 5
 0  0  3.5      0  0  1
 0  0  8.5      0  0  3
 0  0  3.5      0  0  1
 0  13.5  0     0  3  0
 0  0  30       0  0  2
---------     ---------
 0  13.5  45.5  0  3  7
---------     ---------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 102 NO OF JOBS 14

TOTAL HOURS TO DAY 1 102 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 47 NO OF JOBS 10

TOTAL HOURS TO DAY 2 149 NO OF JOBS 24
TOTAL HOURS FOR DAY 3 106 NO OF JOBS 16

TOTAL HOURS TO DAY 3 255 NO OF JOBS 40
TOTAL HOURS FOR DAY 4 74 NO OF JOBS 12

TOTAL HOURS TO DAY 4 329 NO OF JOBS 52
TOTAL HOURS FOR DAY 5 145 NO OF JOBS 26

TOTAL HOURS TO DAY 5 474 NO OF JOBS 78

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  17  0       0  2  0
 0  15.5  0     0  3  0
 0  9.5  0      0  1  0
 0  24  1.5     0  4  1
 0  10.5  24    0  1  2
---------     ---------
 0  76.5  25.5  0  11  3
---------     ---------
DAY= 2
 0  5  10       0  2  2
 0  14  10.5    0  2  1
 0  0  3.5      0  0  1
 0  0  0        0  0  0
 2.5  0  1.5    1  0  1
---------     ---------
 2.5  19  25.5  1  4  5
---------     ---------
DAY= 3
 0  18.5  25    0  1  4
 0  0  5.5      0  0  1
 0  0  5        0  0  2
 0  4.5  19.5   0  1  3
 0  15.5  12.5  0  3  1
---------     ---------
 0  38.5  67.5  0  5  11
---------     ---------
DAY= 4
 0  26.5  6.5   0  3  1
 0  7.5  14     0  1  2
 0  0  6.5      0  0  1
 0  0  4        0  0  2
 0  6.5  2.5    0  1  1
---------     ---------
 0  40.5  33.5  0  5  7
---------     ---------
DAY= 5
 0  12.5  25.5  0  1  5
 0  10  30      0  2  2
 0  12  12.5    0  2  3
 0  0  26       0  0  6
 0  5.5  11     0  1  4
---------     ---------
 0  40  105     0  6  20
---------     ---------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  22  NO OF JOBS  6

TOTAL HOURS TO DAY  1  22  NO OF JOBS 6
TOTAL HOURS FOR DAY  2  77  NO OF JOBS  10

TOTAL HOURS TO DAY  2  99  NO OF JOBS 16
TOTAL HOURS FOR DAY  3  40  NO OF JOBS  6

TOTAL HOURS TO DAY  3  139  NO OF JOBS 22
TOTAL HOURS FOR DAY  4  45  NO OF JOBS  6

TOTAL HOURS TO DAY  4  184  NO OF JOBS 28
TOTAL HOURS FOR DAY  5  53  NO OF JOBS  12

TOTAL HOURS TO DAY  5  237  NO OF JOBS 40
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  2.5  0        0  1  0
 0  7  6.5        0  2  1
 4.5  1.5  0        1  1  0
----------      ----------
 4.5  11  6.5        1  4  1
----------      ----------
DAY= 2
 0  10  16        0  2  2
 0  11.5  17        0  1  2
 0  15.5  7        0  1  2
----------      ----------
 0  37  40        0  4  6
----------      ----------
DAY= 3
 0  0  0        0  0  0
 0  5.5  22.5        0  1  3
 0  12  0        0  2  0
----------      ----------
 0  17.5  22.5        0  3  3
----------      ----------
DAY= 4
 0  6.5  18.5        0  1  1
 0  13  7        0  2  2
 0  0  0        0  0  0
----------      ----------
 0  19.5  25.5        0  3  3
----------      ----------
DAY= 5
 0  26  3.5        0  4  1
 0  11.5  3        0  3  2
 0  0  9        0  0  2
----------      ----------
 0  37.5  15.5        0  7  5
----------      ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  21  NO OF JOBS  6

TOTAL HOURS TO DAY  1  21  NO OF JOBS 6
TOTAL HOURS FOR DAY  2  29  NO OF JOBS  6

TOTAL HOURS TO DAY  2  50  NO OF JOBS 12
TOTAL HOURS FOR DAY  3  32  NO OF JOBS  10

TOTAL HOURS TO DAY  3  82  NO OF JOBS 22
TOTAL HOURS FOR DAY  4  104  NO OF JOBS  18

TOTAL HOURS TO DAY  4  186  NO OF JOBS 40
TOTAL HOURS FOR DAY  5  32  NO OF JOBS  6

TOTAL HOURS TO DAY  5  218  NO OF JOBS 46
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  7.5  1.5        0  1  1
 0  5  1.5        0  2  1
 0  0  5.5        0  0  1
----------      ----------
 0  12.5  8.5        0  3  3
----------      ----------
DAY= 2
 0  0  2.5        0  0  1
 0  1.5  19.5        0  1  3
 0  0  5.5        0  0  1
----------      ----------
 0  1.5  27.5        0  1  5
----------      ----------
DAY= 3
 0  7  1.5        0  2  1
 0  8.5  0        0  3  0
 0  6.5  8.5        0  1  3
----------      ----------
 0  22  10        0  6  4
----------      ----------
DAY= 4
 0  5.5  27        0  1  4
 0  25  23        0  4  2
 0  10.5  13        0  3  4
----------      ----------
 0  41  63        0  8  10
----------      ----------
DAY= 5
 0  0  10.5        0  0  1
 0  1.5  6        0  1  2
 0  0  14        0  0  2
----------      ----------
 0  1.5  30.5        0  1  5
----------      ----------
```

Slater:Plasterer Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 98 NO OF JOBS 14

TOTAL HOURS TO DAY 1 98 NO OF JOBS 14
TOTAL HOURS FOR DAY 2 71 NO OF JOBS 14

TOTAL HOURS TO DAY 2 169 NO OF JOBS 28
TOTAL HOURS FOR DAY 3 25 NO OF JOBS 6

TOTAL HOURS TO DAY 3 194 NO OF JOBS 34
TOTAL HOURS FOR DAY 4 27 NO OF JOBS 6

TOTAL HOURS TO DAY 4 221 NO OF JOBS 40
TOTAL HOURS FOR DAY 5 50 NO OF JOBS 12

TOTAL HOURS TO DAY 5 271 NO OF JOBS 52
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	36.5	0	0	5	0
0	6.5	20	0	1	4
0	0	35	0	0	4
0	43	55	0	6	8

DAY= 2

0	7	31.5	0	2	3
0	1.5	7	0	1	2
0	8	16	0	2	4
0	16.5	54.5	0	5	9

DAY= 3

0	0	4	0	0	2
0	2.5	12	0	1	2
0	6.5	0	0	1	0
0	9	16	0	2	4

DAY= 4

0	1.5	18.5	0	1	3
0	0	0	0	0	0
0	3.5	3.5	0	1	1
0	5	22	0	2	4

DAY= 5

0	7	16	0	2	2
0	0	12.5	0	0	3
0	5.5	9	0	3	2
0	12.5	37.5	0	5	7

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 146 NO OF JOBS 26

TOTAL HOURS TO DAY 1 146 NO OF JOBS 26
TOTAL HOURS FOR DAY 2 102 NO OF JOBS 16

TOTAL HOURS TO DAY 2 248 NO OF JOBS 42
TOTAL HOURS FOR DAY 3 87 NO OF JOBS 10

TOTAL HOURS TO DAY 3 335 NO OF JOBS 52
TOTAL HOURS FOR DAY 4 68 NO OF JOBS 12

TOTAL HOURS TO DAY 4 403 NO OF JOBS 64
TOTAL HOURS FOR DAY 5 64 NO OF JOBS 14

TOTAL HOURS TO DAY 5 467 NO OF JOBS 78
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	28	26	0	4	6
0	17.5	32.5	0	3	5
9	29.5	3.5	2	5	1
9	75	62	2	12	12

DAY= 2

4.5	7	10.5	1	2	1
0	31	24	0	4	4
0	1.5	23.5	0	1	3
4.5	39.5	58	1	7	8

DAY= 3

0	16	16	0	2	2
0	4.5	25	0	1	2
0	16.5	9	0	1	2
0	37	50	0	4	6

DAY= 4

5.5	14.5	15	1	1	4
0	16.5	10.5	0	3	1
0	0	6	0	0	2
5.5	31	31.5	1	4	7

DAY= 5

0	12	12.5	0	4	1
0	6	19	0	2	4
0	2.5	12	0	1	2
0	20.5	43.5	0	7	7

Slater:Plasterer Estates 1, 2 & 5

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  84  NO OF JOBS  12

TOTAL HOURS TO DAY  1  84  NO OF JOBS 12
TOTAL HOURS FOR DAY  2  71  NO OF JOBS  16

TOTAL HOURS TO DAY  2  155  NO OF JOBS 28
TOTAL HOURS FOR DAY  3  41  NO OF JOBS  6

TOTAL HOURS TO DAY  3  196  NO OF JOBS 34
TOTAL HOURS FOR DAY  4  31  NO OF JOBS  6

TOTAL HOURS TO DAY  4  227  NO OF JOBS 40
TOTAL HOURS FOR DAY  5  58  NO OF JOBS  12

TOTAL HOURS TO DAY  5  285  NO OF JOBS 52
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  11        0  0  2
 0  14.5  9       0  1  2
 0  35  14.5      0  4  3
----------    ----------
 0  49.5  34.5      0  5  7
----------    ----------
DAY= 2
 0  13  9        0  2  2
 0  12.5  13      0  1  4
 0  4  19.5       0  2  5
----------    ----------
 0  29.5  41.5      0  5  11
----------    ----------
DAY= 3
 0  15  10.5       0  2  1
 0  9.5  0       0  1  0
 0  0  6       0  0  2
----------    ----------
 0  24.5  16.5      0  3  3
----------    ----------
DAY= 4
 0  9  7.5        0  2  1
 0  0  4.5        0  0  1
 0  10  0       0  2  0
----------    ----------
 0  19  12       0  4  2
----------    ----------
DAY= 5
 0  1.5  15.5       0  1  3
 0  6  1.5       0  2  1
 0  15  18.5       0  2  3
----------    ----------
 0  22.5  35.5      0  5  7
----------    ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  19  NO OF JOBS  6

TOTAL HOURS TO DAY  1  19  NO OF JOBS 6
TOTAL HOURS FOR DAY  2  75  NO OF JOBS  12

TOTAL HOURS TO DAY  2  94  NO OF JOBS 18
TOTAL HOURS FOR DAY  3  90  NO OF JOBS  12

TOTAL HOURS TO DAY  3  184  NO OF JOBS 30
TOTAL HOURS FOR DAY  4  81  NO OF JOBS  14

TOTAL HOURS TO DAY  4  265  NO OF JOBS 44
TOTAL HOURS FOR DAY  5  19  NO OF JOBS  6

TOTAL HOURS TO DAY  5  284  NO OF JOBS 50
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  2.5        0  0  1
 0  11.5  5       0  3  2
 0  0  0       0  0  0
----------    ----------
 0  11.5  7.5      0  3  3
----------    ----------
DAY= 2
 0  5.5  7        0  1  2
 0  18  9       0  2  2
 12.5  10.5  12.5      1  1  3
----------    ----------
 12.5  34  28.5      1  4  7
----------    ----------
DAY= 3
 0  27  31.5       0  4  3
 0  5.5  10       0  1  2
 0  16  0       0  2  0
----------    ----------
 0  48.5  41.5      0  7  5
----------    ----------
DAY= 4
 0  11.5  12        0  1  2
 0  11.5  19.5       0  3  5
 0  13.5  13       0  1  2
----------    ----------
 0  36.5  44.5      0  5  9
----------    ----------
DAY= 5
 0  0  12.5        0  0  3
 0  5  1.5       0  2  1
 0  0  0       0  0  0
----------    ----------
 0  5  14       0  2  4
----------    ----------
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```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  58  NO OF JOBS  10

TOTAL HOURS TO DAY  1  58  NO OF JOBS 10
TOTAL HOURS FOR DAY  2  58  NO OF JOBS  14

TOTAL HOURS TO DAY  2  116  NO OF JOBS 24
TOTAL HOURS FOR DAY  3  30  NO OF JOBS  6

TOTAL HOURS TO DAY  3  146  NO OF JOBS 30
TOTAL HOURS FOR DAY  4  72  NO OF JOBS  12

TOTAL HOURS TO DAY  4  218  NO OF JOBS 42
TOTAL HOURS FOR DAY  5  56  NO OF JOBS  12

TOTAL HOURS TO DAY  5  274  NO OF JOBS 54
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  2.5  6.5      0  1  1
 0  20  0      0  4  0
 11.5  12.5  5      1  1  2
----------   ----------
 11.5  35  11.5      1  6  3
----------   ----------
DAY= 2
 0  11  6      0  2  2
 0  5.5  6.5      0  3  3
 0  9  20      0  2  2
----------   ----------
 0  25.5  32.5      0  7  7
----------   ----------
DAY= 3
 0  10.5  5.5      0  1  1
 0  2.5  0      0  1  0
 0  8  3.5      0  2  1
----------   ----------
 0  21  9      0  4  2
----------   ----------
DAY= 4
 0  23.5  3.5      0  3  1
 0  11  14.5      0  2  3
 0  16  3.5      0  2  1
----------   ----------
 0  50.5  21.5      0  7  5
----------   ----------
DAY= 5
 0  0  13      0  0  2
 0  10  24      0  4  4
 0  9  0      0  2  0
----------   ----------
 0  19  37      0  6  6
----------   ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  36  NO OF JOBS  6

TOTAL HOURS TO DAY  1  36  NO OF JOBS 6
TOTAL HOURS FOR DAY  2  57  NO OF JOBS  12

TOTAL HOURS TO DAY  2  93  NO OF JOBS 18
TOTAL HOURS FOR DAY  3  62  NO OF JOBS  10

TOTAL HOURS TO DAY  3  155  NO OF JOBS 28
TOTAL HOURS FOR DAY  4  79  NO OF JOBS  14

TOTAL HOURS TO DAY  4  234  NO OF JOBS 42
TOTAL HOURS FOR DAY  5  104  NO OF JOBS  16

TOTAL HOURS TO DAY  5  338  NO OF JOBS 58
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  0      0  0  0
 0  4  29.5      0  2  3
 0  0  2.5      0  0  1
----------   ----------
 0  4  32      0  2  4
----------   ----------
DAY= 2
 0  5.5  7.5      0  1  1
 0  18  1.5      0  4  1
 0  10  14.5      0  2  3
----------   ----------
 0  33.5  23.5      0  7  5
----------   ----------
DAY= 3
 0  14.5  11      0  1  2
 0  2.5  6      0  1  2
 0  25.5  2.5      0  3  1
----------   ----------
 0  42.5  19.5      0  5  5
----------   ----------
DAY= 4
 5.5  0  2.5      1  0  1
 0  27  21      0  4  4
 0  3.5  19.5      0  1  3
----------   ----------
 5.5  30.5  43      1  5  8
----------   ----------
DAY= 5
 0  14  16.5      0  2  1
 0  24.5  27      0  3  6
 0  22  0      0  4  0
----------   ----------
 0  60.5  43.5      0  9  7
----------   ----------
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Slater:Plasterer Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  43  NO OF JOBS  10

TOTAL HOURS TO DAY  1  43  NO OF JOBS 10
TOTAL HOURS FOR DAY  2  62  NO OF JOBS  12

TOTAL HOURS TO DAY  2  105  NO OF JOBS 22
TOTAL HOURS FOR DAY  3  51  NO OF JOBS  12

TOTAL HOURS TO DAY  3  156  NO OF JOBS 34
TOTAL HOURS FOR DAY  4  157  NO OF JOBS  26

TOTAL HOURS TO DAY  4  313  NO OF JOBS 60
TOTAL HOURS FOR DAY  5  66  NO OF JOBS  14

TOTAL HOURS TO DAY  5  379  NO OF JOBS 74
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  7  4        0  2  2
 0  12  18.5       0  2  3
 0  0  1.5        0  0  1
----------     ----------
 0  19  24        0  4  6
----------     ----------
DAY= 2
 0  2.5  13        0  1  2
 0  3  20        0  2  4
 0  5.5  18        0  1  2
----------     ----------
 0  11  51        0  4  8
----------     ----------
DAY= 3
 0  0  4        0  0  2
 0  21.5  16       0  3  4
 0  9.5  0        0  3  0
----------     ----------
 0  31  20        0  6  6
----------     ----------
DAY= 4
 0  35  11        0  6  4
 0  24  41.5       0  4  5
 2.5  31  12       1  4  2
----------     ----------
 2.5  90  64.5       1  14  11
----------     ----------
DAY= 5
 0  0  25        0  0  4
 0  5  14.5       0  2  5
 0  9  12.5       0  2  1
----------     ----------
 0  14  52        0  4  10
----------     ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  81  NO OF JOBS  12

TOTAL HOURS TO DAY  1  81  NO OF JOBS 12
TOTAL HOURS FOR DAY  2  98  NO OF JOBS  14

TOTAL HOURS TO DAY  2  179  NO OF JOBS 26
TOTAL HOURS FOR DAY  3  57  NO OF JOBS  14

TOTAL HOURS TO DAY  3  236  NO OF JOBS 40
TOTAL HOURS FOR DAY  4  38  NO OF JOBS  6

TOTAL HOURS TO DAY  4  274  NO OF JOBS 46
TOTAL HOURS FOR DAY  5  79  NO OF JOBS  16

TOTAL HOURS TO DAY  5  353  NO OF JOBS 62
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  20.5  0        0  3  0
 0  13.5  15.5       0  3  3
 0  7.5  24        0  1  2
----------     ----------
 0  41.5  39.5       0  7  5
----------     ----------
DAY= 2
 6.5  22  12.5       1  2  3
 0  16  13        0  2  2
 0  11  17        0  2  2
----------     ----------
 6.5  49  42.5       1  6  7
----------     ----------
DAY= 3
 0  11  2.5        0  2  1
 5.5  2.5  16       1  1  4
 0  1.5  18        0  1  4
----------     ----------
 5.5  15  36.5       1  4  9
----------     ----------
DAY= 4
 0  12.5  0        0  1  0
 6.5  0  0        1  0  0
 0  13  6        0  2  2
----------     ----------
 6.5  25.5  6       1  3  2
----------     ----------
DAY= 5
 0  0  16        0  0  2
 0  12  21        0  4  4
 0  14.5  15.5       0  3  3
----------     ----------
 0  26.5  52.5       0  7  9
----------     ----------
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Slater:Plasterer Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  94  NO OF JOBS  18

TOTAL HOURS TO DAY  1  94  NO OF JOBS 18
TOTAL HOURS FOR DAY  2  72  NO OF JOBS  14

TOTAL HOURS TO DAY  2  166  NO OF JOBS 32
TOTAL HOURS FOR DAY  3  65  NO OF JOBS  12

TOTAL HOURS TO DAY  3  231  NO OF JOBS 44
TOTAL HOURS FOR DAY  4  33  NO OF JOBS  6

TOTAL HOURS TO DAY  4  264  NO OF JOBS 50
TOTAL HOURS FOR DAY  5  77  NO OF JOBS  16

TOTAL HOURS TO DAY  5  341  NO OF JOBS 66
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  37  13        0  6  2
 6.5  4.5  19.5        1  1  3
 0  2.5  11        0  1  4
----------    ----------
 6.5  44  43.5        1  8  9
----------    ----------
DAY= 2
 0  5.5  0        0  1  0
 3.5  19.5  20.5        1  3  5
 0  13  10        0  2  2
----------    ----------
 3.5  38  30.5        1  6  7
----------    ----------
DAY= 3
 0  6.5  28.5        0  1  3
 0  2.5  0        0  1  0
 3.5  13.5  10.5        1  3  3
----------    ----------
 3.5  22.5  39        1  5  6
----------    ----------
DAY= 4
 0  8.5  0        0  1  0
 0  0  16.5        0  0  3
 0  0  8        0  0  2
----------    ----------
 0  8.5  24.5        0  1  5
----------    ----------
DAY= 5
 2.5  18  22.5        1  2  5
 1.5  0  10        1  0  2
 0  0  22.5        0  0  5
----------    ----------
 4  18  55        2  2  12
----------    ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  108  NO OF JOBS  12

TOTAL HOURS TO DAY  1  108  NO OF JOBS 12
TOTAL HOURS FOR DAY  2  82  NO OF JOBS  14

TOTAL HOURS TO DAY  2  190  NO OF JOBS 26
TOTAL HOURS FOR DAY  3  51  NO OF JOBS  10

TOTAL HOURS TO DAY  3  241  NO OF JOBS 36
TOTAL HOURS FOR DAY  4  43  NO OF JOBS  6

TOTAL HOURS TO DAY  4  284  NO OF JOBS 42
TOTAL HOURS FOR DAY  5  59  NO OF JOBS  12

TOTAL HOURS TO DAY  5  343  NO OF JOBS 54
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  14        0  0  2
 0  38  27.5        0  4  3
 0  6.5  22        0  1  2
----------    ----------
 0  44.5  63.5        0  5  7
----------    ----------
DAY= 2
 0  19  4        0  4  2
 0  20  10.5        0  4  1
 0  26  2.5        0  2  1
----------    ----------
 0  65  17        0  10  4
----------    ----------
DAY= 3
 0  11  18        0  2  2
 0  1.5  3.5        0  1  1
 0  2.5  14.5        0  1  3
----------    ----------
 0  15  36        0  4  6
----------    ----------
DAY= 4
 0  2.5  22.5        0  1  3
 0  14.5  0        0  1  0
 0  0  3.5        0  0  1
----------    ----------
 0  17  26        0  2  4
----------    ----------
DAY= 5
 0  16.5  6        0  3  2
 0  16  3.5        0  2  1
 0  9  8        0  2  2
----------    ----------
 0  41.5  17.5        0  7  5
----------    ----------
```

Slater:Plasterer Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  47  NO OF JOBS  6

TOTAL HOURS TO DAY  1  47  NO OF JOBS 6
TOTAL HOURS FOR DAY  2  88  NO OF JOBS  14

TOTAL HOURS TO DAY  2  135  NO OF JOBS 20
TOTAL HOURS FOR DAY  3  37  NO OF JOBS  6

TOTAL HOURS TO DAY  3  172  NO OF JOBS 26
TOTAL HOURS FOR DAY  4  84  NO OF JOBS  16

TOTAL HOURS TO DAY  4  256  NO OF JOBS 42
TOTAL HOURS FOR DAY  5  76  NO OF JOBS  12

TOTAL HOURS TO DAY  5  332  NO OF JOBS 54
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  2.5      0  0  1
 0  25  17      0  2  2
 0  2.5  0      0  1  0
----------    ----------
 0  27.5  19.5      0  3  3
----------    ----------
DAY= 2
 0  3.5  7.5      0  1  1
 0  8  12.5      0  2  3
 0  24.5  32      0  3  4
----------    ----------
 0  36  52      0  6  8
----------    ----------
DAY= 3
 0  0  3.5      0  0  1
 0  11  5.5      0  2  1
 0  11.5  5.5      0  1  1
----------    ----------
 0  22.5  14.5      0  3  3
----------    ----------
DAY= 4
 1.5  26  5.5      1  4  1
 0  0  25      0  0  6
 0  22  4      0  2  2
----------    ----------
 1.5  48  34.5      1  6  9
----------    ----------
DAY= 5
 0  0  31.5      0  0  5
 0  1.5  15      0  1  2
 0  9  19      0  2  2
----------    ----------
 0  10.5  65.5      0  3  9
----------    ----------
```
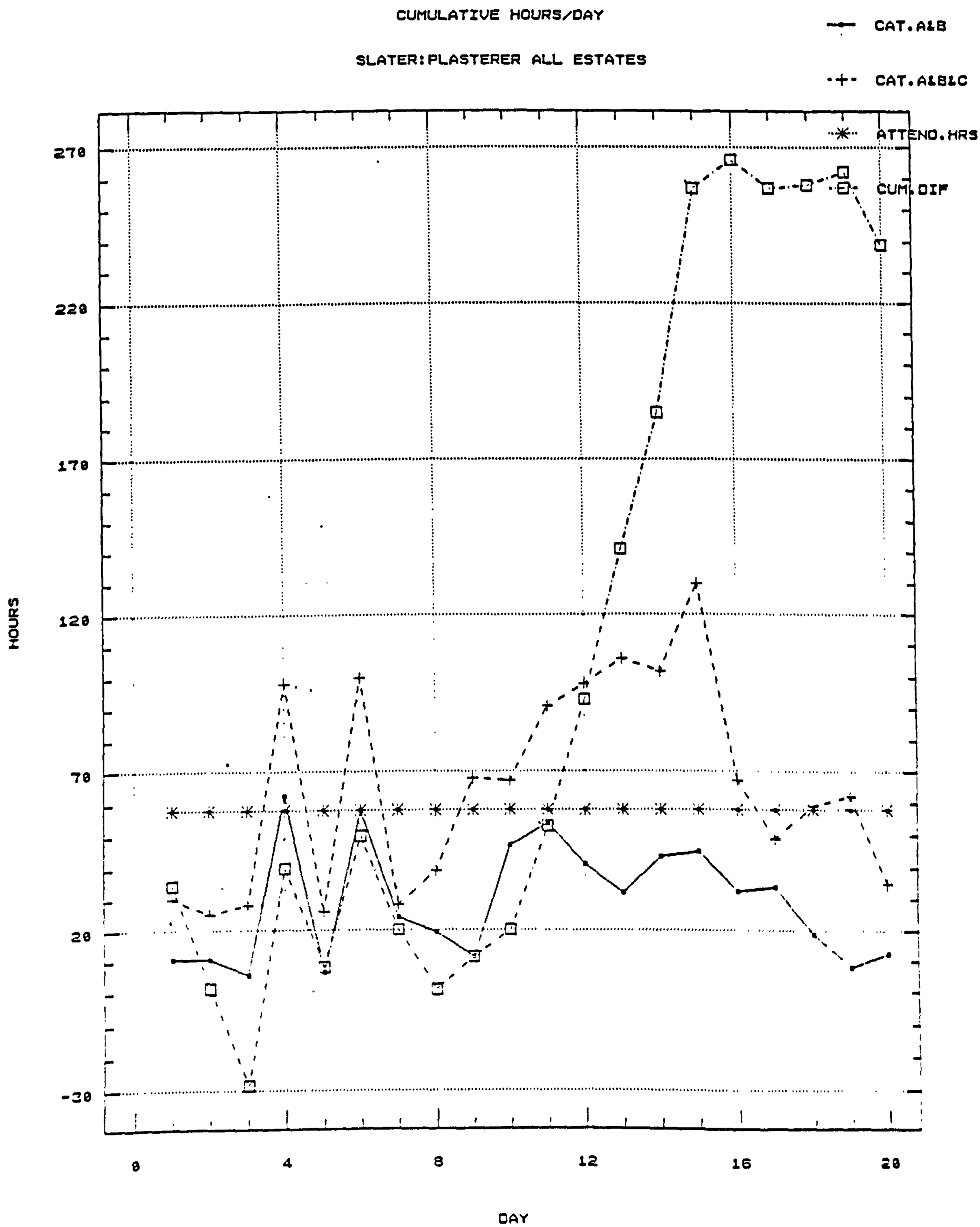

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  92  NO OF JOBS  16

TOTAL HOURS TO DAY  1  92  NO OF JOBS 16
TOTAL HOURS FOR DAY  2  73  NO OF JOBS  14

TOTAL HOURS TO DAY  2  165  NO OF JOBS 30
TOTAL HOURS FOR DAY  3  29  NO OF JOBS  6

TOTAL HOURS TO DAY  3  194  NO OF JOBS 36
TOTAL HOURS FOR DAY  4  68  NO OF JOBS  12

TOTAL HOURS TO DAY  4  262  NO OF JOBS 48
TOTAL HOURS FOR DAY  5  82  NO OF JOBS  12

TOTAL HOURS TO DAY  5  344  NO OF JOBS 60
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 2.5  26  13.5      1  4  3
 0  18.5  5.5      0  3  1
 0  26  0      0  4  0
----------    ----------
 2.5  70.5  19      1  11  4
----------    ----------
DAY= 2
 0  0  19      0  0  2
 0  20.5  14      0  3  4
 0  14.5  5      0  3  2
----------    ----------
 0  35  38      0  6  8
----------    ----------
DAY= 3
 0  3.5  4      0  1  2
 0  0  0      0  0  0
 0  19  2.5      0  2  1
----------    ----------
 0  22.5  6.5      0  3  3
----------    ----------
DAY= 4
 0  25  6      0  4  2
 4.5  22.5  10      1  3  2
 0  0  0      0  0  0
----------    ----------
 4.5  47.5  16      1  7  4
----------    ----------
DAY= 5
 0  2.5  6.5      0  1  1
 7.5  24  19      1  4  2
 0  5.5  17      0  1  2
----------    ----------
 7.5  32  42.5      1  6  5
----------    ----------
```

Slater:Plasterer Estates 1, 2 & 5



WEEKS 16 TO 19

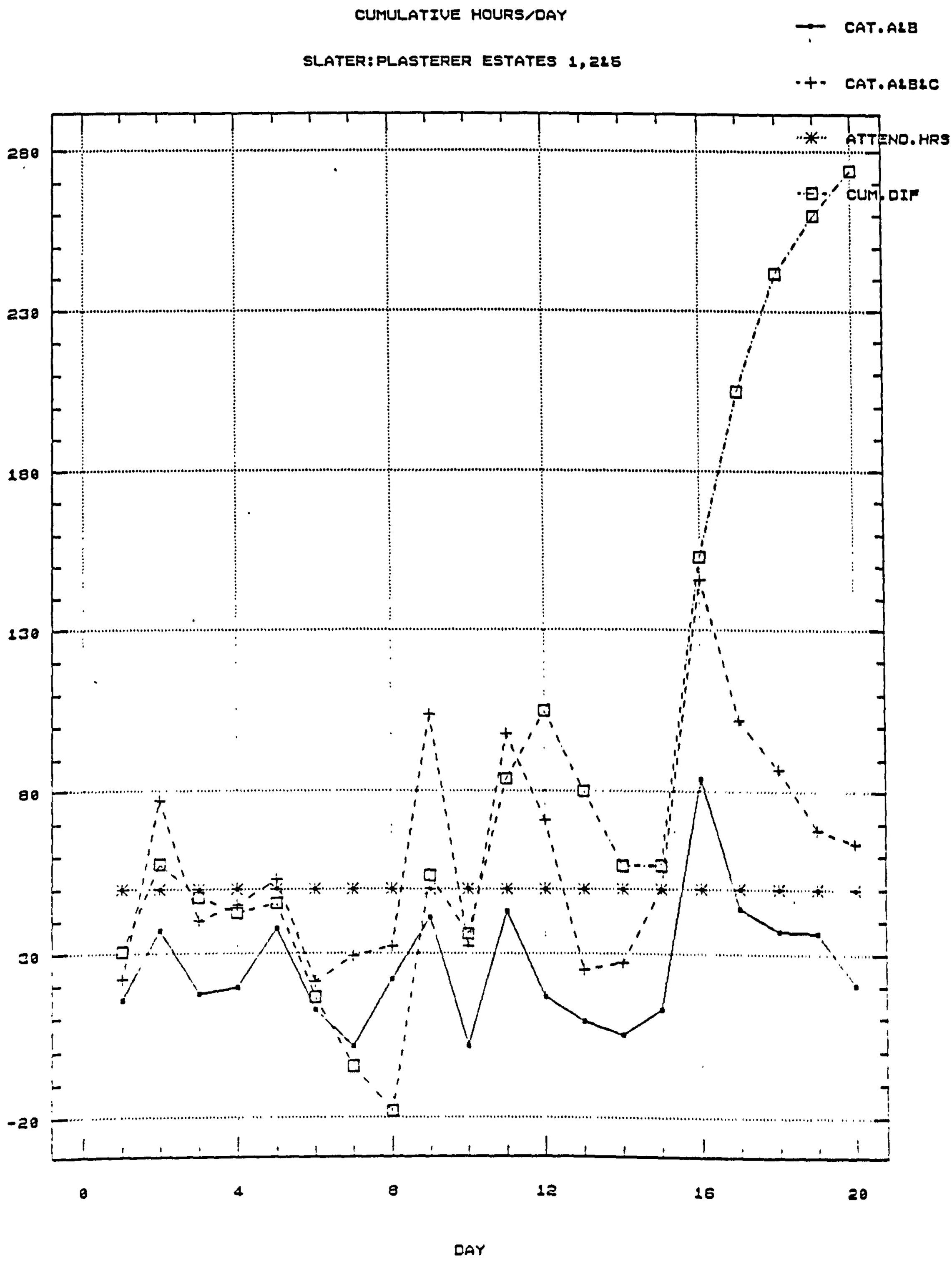
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
62.5	0	10.5	19.5	10.5	30	92.5	58	34.5	1	30	0.594827
34.5	0	10.5	14.5	10.5	25	59.5	58	1.5	2	25	0.025862
1.5	0	5.5	22.5	5.5	28	29.5	58	-28.5	3	28	-0.49137
0	10.5	52	35.5	62.5	98	98	58	40	4	87.5	0.689655
40	0	6.5	19.5	6.5	26	66	58	8	5	26	0.137931
8	0	58	42	58	100	108	58	50	6	100	0.862068
50	9.5	14.5	4	24	28	78	58	20	7	18.5	0.344827
20	0	19	20	19	39	59	58	1	8	39	0.017241
1	1.5	9.5	57	11	68	69	58	11	9	66.5	0.189655
11	0	47	20	47	67	78	58	20	10	67	0.344827
20	0	54	37	54	91	111	58	53	11	91	0.913793
53	15.5	25.5	57	41	98	151	58	93	12	82.5	1.603448
93	0	32	74	32	106	199	58	141	13	106	2.431034
141	0	43.5	58.5	43.5	102	243	58	185	14	102	3.189655
185	6.5	38.5	85	45	130	315	58	257	15	123.5	4.431034
257	13	19.5	34.5	32.5	67	324	58	266	16	54	4.586206
266	0	34	15	34	49	315	58	257	17	49	4.431034
257	0	18.5	40.5	18.5	59	316	58	258	18	59	4.448275
258	0	8	54	8	62	320	58	262	19	62	4.517241
262	0	12.5	22.5	12.5	35	297	58	239	20	35	4.120689
										62.575	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Slater:Plasterer

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
58.5	4.5	11	6.5	15.5	22	80.5	50	30.5	1	17.5	0.61
30.5	0	37	40	37	77	107.5	50	57.5	2	77	1.15
57.5	0	17.5	22.5	17.5	40	97.5	50	47.5	3	40	0.95
47.5	0	19.5	25.5	19.5	45	92.5	50	42.5	4	45	0.85
42.5	0	37.5	15.5	37.5	53	95.5	50	45.5	5	53	0.91
45.5	0	12.5	8.5	12.5	21	66.5	50	16.5	6	21	0.33
16.5	0	1.5	27.5	1.5	29	45.5	50	-4.5	7	29	-0.09
0	0	22	10	22	32	32	50	-18	8	32	-0.36
0	0	41	63	41	104	104	50	54	9	104	1.08
54	0	1.5	30.5	1.5	32	86	50	36	10	32	0.72
36	0	43	55	43	98	134	50	84	11	98	1.68
84	0	16.5	54.5	16.5	71	155	50	105	12	71	2.1
105	0	9	16	9	25	130	50	80	13	25	1.6
80	0	5	22	5	27	107	50	57	14	27	1.14
57	0	12.5	37.5	12.5	50	107	50	57	15	50	1.14
57	9	75	62	84	146	203	50	153	16	137	3.06
153	4.5	39.5	58	44	102	255	50	205	17	97.5	4.1
205	0	37	50	37	87	292	50	242	18	87	4.84
242	5.5	31	31.5	36.5	68	310	50	260	19	62.5	5.2
260	0	20.5	43.5	20.5	64	324	50	274	20	64	5.48
										58.475	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	$DIF/_{HRS}$

Slater:Plasterer

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

GLAZIER

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Job Arrivals/Day	461 - 470
Statistics	471 - 474
Computer Runs	475 - 487
Cumulative Hours/Day	488 - 491

TRADE GLAZIER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	1	4	-	-	-	-	-	-	-	-	1	4	-	-	-										
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
4	-	-	1	-	-	-	1	-	-	-	-	1	1	-	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											1	5	1	-	-										
1	4	2	-	-	-	-	1	-	-	-	4	3	-	-	-										
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
3	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
4	-	1	-	1	-	-	-	-	-	-	-	1	-	1	-										
5	1	2	-	-	-	-	1	-	-	-	1	3	-	-	-										
Weekly Total											5	7	1	1	-										
1	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-										
2	-	1	-	-	-	-		-	-	-	-	1	-	-	-										
3	-	1	4	-	-	-	-	-	-	-	-	1	4	-	-										
4	1	3	1	-	-	-	1	-	-	-	1	4	1	-	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											1	7	5	-	-										

TRADE GLAZIER

Est Day	WARD 1					WARD 15					ESTATE 1														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	2	2	-	1	-	-	-	-	-	-	2	2	-	1	-										
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3	1	2	1	-	-	-	1	-	-	-	1	3	1	-	-										
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5	-	2	-	-	-	-	-	1	-	-	-	2	1	-	-										
Weekly Total											4	8	3	1	-										
1											11	27	10	2	-										
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE GLAZIER

Est Day	WARD 2					WARD 11					ESTATE 2														
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	1	-	3	-	-	1	-	3	-	-										
3	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-										
4	-	-	-	-	-	1	-	2	-	-	1	-	2	-	-										
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											2	-	7	-	-										
1	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-										
2	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-										
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5	-	1	-	-	-	-	1	1	-	2	-	2	1	-	2										
Weekly Total											-	6	8												
1	-	-	1	-	-	-	1	1	-	-	-	1	2	-	-										
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
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5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
Weekly Total											-	1	2	-	-										

TRADE GLAZIER

	WARD 2					WARD 11					ESTATE 2														
Est Day	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
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2																									
3																									
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Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE GLAZIER

Est Day	WARD 12 A	B	C	D	E	WARD 13 A	B	C	D	E	ESTATE 3 A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	1	-	-	-	-	3	1	-	-	-	4	1	-										
3	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-										
4	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
5	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-										
Weekly Total											-	-	6	2	-										
1	-	1	-	-	-	-	4	3	-	-	-	5	3	-	-										
2	-	-	-	-	-	-	1	1	1	-	-	1	1	1	-										
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5	-	-	-	-	-	-	1	1	-	-	-	1	1	-	-										
Weekly Total											-	9	5	1	-										
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
2	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-										
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5	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-										
Weekly Total											-	-	4	-	-										

TRADE GLAZIER

	WARD 12					WARD 13					ESTATE 3														
Est Day	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	1	-	-	-	-	-	1	-	-	-	1	1	-										
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-										
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5	-	-	-	-	-	-	-	1	1	-	-	-	1	1	-										
Weekly Total											-	-	3	2	-										
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Weekly Total																									
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5																									
Weekly Total																									

TRADE GLAZIER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-
3	-	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	2	-	-
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5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weekly Total																					1	-	4	2	-
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Weekly Total																					-	3	1	2	-
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5	1	-	1	-	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	2	1	2	-	-
Weekly Total																					3	3	4	3	-

TRADE GLAZIER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 4				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
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5	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	-	-
Weekly Total																					3	-	7	-	-
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2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

TRADE GLAZIER

Est Day	WARD 6					WARD 7					WARD 9					WARD 10					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1																									
2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-
4	-	-	-	-	-	-	-	-	1	-	1	-	1	2	-	-	-	-	-	-	1	-	1	3	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	1
Weekly Total																					1	-	3	6	-
1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-	-	4	-	-
3	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	1	1	-	-
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5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weekly Total																					-	1	7	-	-
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5	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	1	-	1	-
Weekly Total																					-	8	-	9	-

TRADE GLAZIER

Est Day	WARD 3					WARD 4					WARD 5					WARD 14					ESTATE 5				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	1
4	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	-	-
Weekly Total																					3	-	7	-	-
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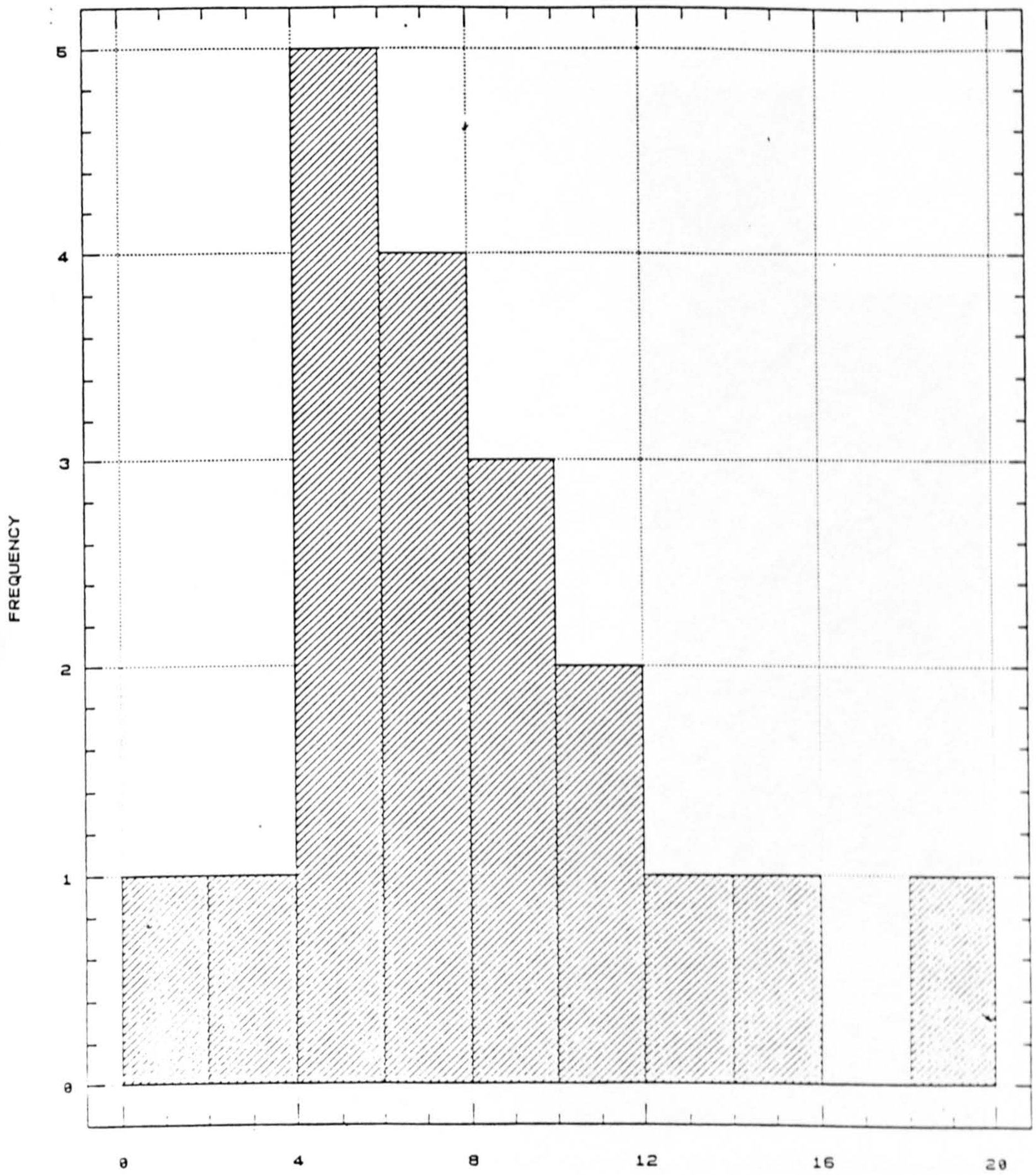
2																									
3																									
4																									
5																									
Weekly Total																									
1																									
2																									
3																									
4																									
5																									
Weekly Total																									

NUMBER OF JOBS/DAY

GLAZIER WORK ALL ESTATES



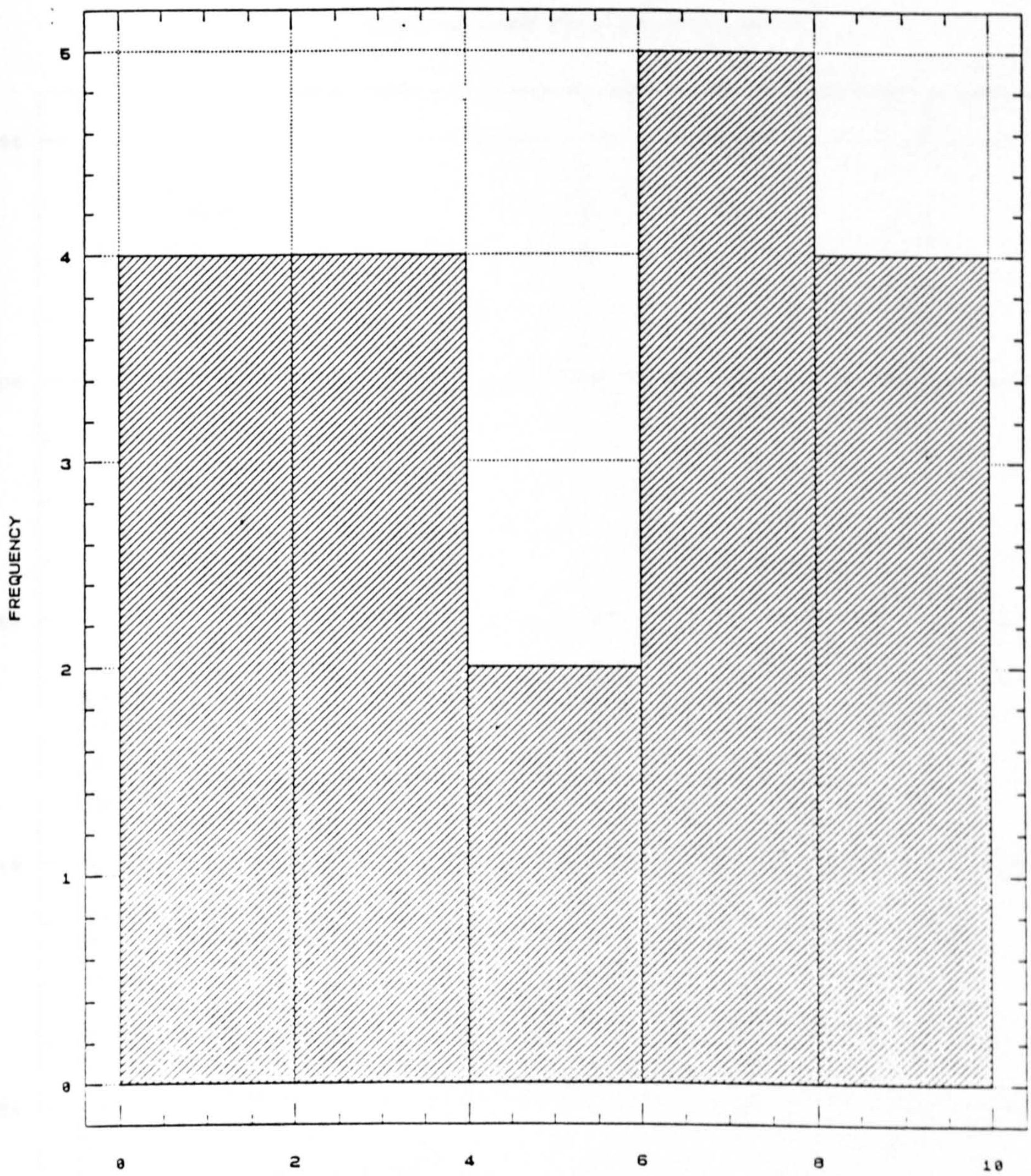
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.0000	0	.0000
1	.00	2.00	1.00	1	.0526	1	.0526
2	2.00	4.00	3.00	1	.0526	2	.1053
3	4.00	6.00	5.00	5	.2632	7	.3684
4	6.00	8.00	7.00	4	.2105	11	.5789
5	8.00	10.00	9.00	3	.1579	14	.7368
6	10.00	12.00	11.00	2	.1053	16	.8421
7	12.00	14.00	13.00	1	.0526	17	.8947
8	14.00	16.00	15.00	1	.0526	18	.9474
9	16.00	18.00	17.00	0	.0000	18	.9474
10	18.00	20.00	19.00	1	.0526	19	1.0000
above	20.00			0	.0000	19	1.0000

Mean = 8.42105 Standard Deviation = 4.16754 Median = 8

NUMBER OF JOBS/DAY

GLAZIER WORK ESTATES 1,2,5



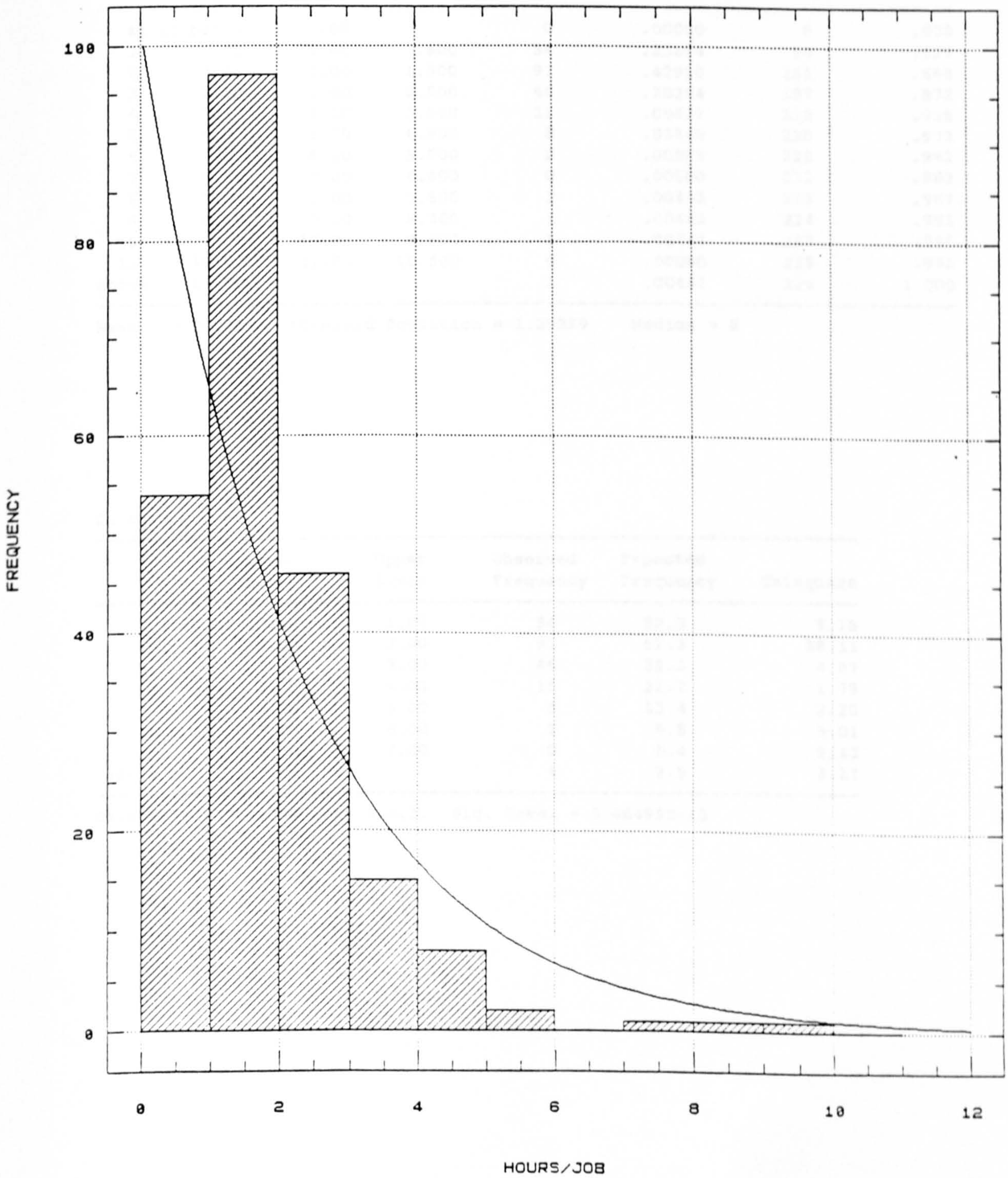
Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.000	0	.000
1	.00	2.00	1.00	4	.211	4	.211
2	2.00	4.00	3.00	4	.211	8	.421
3	4.00	6.00	5.00	2	.105	10	.526
4	6.00	8.00	7.00	5	.263	15	.789
5	8.00	10.00	9.00	4	.211	19	1.000
above	10.00			0	.000	19	1.000

Mean = 5.47368 Standard Deviation = 3.07983 Median = 5

NUMBER OF HOURS/JOB

GLAZIER WORK PRIVATE CONTRACTOR



Frequency Tabulation

Class	Lower Limit	Upper Limit	Midpoint	Frequency	Relative Frequency	Cumulative Frequency	Cum. Rel. Frequency
at or below		.00		0	.00000	0	.000
1	.00	1.00	.500	54	.23894	54	.239
2	1.00	2.00	1.500	97	.42920	151	.668
3	2.00	3.00	2.500	46	.20354	197	.872
4	3.00	4.00	3.500	15	.06637	212	.938
5	4.00	5.00	4.500	8	.03540	220	.973
6	5.00	6.00	5.500	2	.00885	222	.982
7	6.00	7.00	6.500	0	.00000	222	.982
8	7.00	8.00	7.500	1	.00442	223	.987
9	8.00	9.00	8.500	1	.00442	224	.991
10	9.00	10.00	9.500	1	.00442	225	.996
11	10.00	11.00	10.500	0	.00000	225	.996
above	11.00			1	.00442	226	1.000

Mean = 2.20725 Standard Deviation = 1.39359 Median = 2

Chisquare Test

	Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chisquare
at or below		1.00	54	82.3	9.75
	1.00	2.00	97	52.3	38.11
	2.00	3.00	46	33.3	4.87
	3.00	4.00	15	21.2	1.79
	4.00	5.00	8	13.4	2.20
	5.00	6.00	2	8.5	5.01
	6.00	7.00	0	5.4	5.43
above	7.00		4	9.5	3.17

Chisquare = 70.3384 with 6 d.f. Sig. level = 3.48499E-13

RANDOM SAMPLIng OF JOBS BY DURATION,CATEGORY AND LOCATOION

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

DAY	JOB	CATEGORY	ESTATE	HOURS
1	1	3	3	2.5
1	2	3	5	1.5
1	3	3	2	1.5
1	4	3	4	1.5
1	5	2	2	1.5
1	6	1	3	2.5
1	7	2	1	1.5
1	8	3	3	0.5
1	9	3	4	0.5
1	10	3	4	1.5
1	11	3	5	3.5

TOTAL HOURS FOR DAY 1 18.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 18.5 NO OF JOBS 11

2	1	3	3	0.5
2	2	3	4	1.5
2	3	3	2	2.5
2	4	3	2	3.5
2	5	3	1	0.5

TOTAL HOURS FOR DAY 2 8.5 NO OF JOBS 5

TOTAL HOURS TO DAY 2 27 NO OF JOBS 16

3	1	2	4	0.5
3	2	1	5	1.5
3	3	1	2	3.5
3	4	3	1	2.5
3	5	3	3	4.5
3	6	2	2	1.5
3	7	3	5	0.5
3	8	1	2	0.5
3	9	3	5	1.5
3	10	2	1	1.5
3	11	1	5	1.5

TOTAL HOURS FOR DAY 3 19.5 NO OF JOBS 11

TOTAL HOURS TO DAY 3 46.5 NO OF JOBS 27

4	1	3	1	1.5
4	2	2	1	2.5
4	3	3	2	1.5
4	4	2	1	4.5
4	5	3	1	2.5
4	6	3	5	1.5
4	7	2	5	1.5
4	8	3	3	1.5
4	9	2	2	1.5
4	10	2	4	0.5
4	11	3	1	3.5
4	12	3	4	4.5
4	13	3	1	1.5
4	14	2	5	1.5
4	15	2	5	1.5
4	16	3	1	2.5
4	17	3	2	1.5
4	18	1	1	8.5
4	19	3	4	0.5

TOTAL HOURS FOR DAY 4 36.5 NO OF JOBS 19

TOTAL HOURS TO DAY 4 83 NO OF JOBS 46

5	1	1	4	2.5
5	2	3	4	4.5
5	3	3	3	1.5
5	4	2	4	0.5
5	5	2	3	1.5

TOTAL HOURS FOR DAY 5 10.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 93.5 NO OF JOBS 51

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 1.5 0	0 1 0
0 1.5 1.5	0 1 1
2.5 0 3	1 0 2
0 0 3.5	0 0 3
0 0 5	0 0 2
---	---
2.5 3 13	1 2 8
---	---

DAY= 2

0 0 0.5	0 0 1
0 0 6	0 0 2
0 0 0.5	0 0 1
0 0 1.5	0 0 1
0 0 0	0 0 0
---	---
0 0 8.5	0 0 5
---	---

DAY= 3

0 1.5 2.5	0 1 1
4 1.5 0	2 1 0
0 0 4.5	0 0 1
0 0.5 0	0 1 0
3 0 2	2 0 2
---	---
7 3.5 9	4 3 4
---	---

DAY= 4

0.5 7 11.5	1 2 5
0 1.5 3	0 1 2
0 0 1.5	0 0 1
0 0.5 5	0 1 2
0 4.5 1.5	0 3 1
---	---
0.5 13.5 22.5	1 7 11
---	---

DAY= 5

0 0 0	0 0 0
0 0 0	0 0 0
0 1.5 1.5	0 1 1
2.5 0.5 4.5	1 1 1
0 0 0	0 0 0
---	---
2.5 2 6	1 2 2
---	---

Glazier All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 36.5 NO OF JOBS 19

TOTAL HOURS TO DAY 1 36.5 NO OF JOBS 19
TOTAL HOURS FOR DAY 2 8.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 45 NO OF JOBS 26
TOTAL HOURS FOR DAY 3 9.5 NO OF JOBS 5

TOTAL HOURS TO DAY 3 54.5 NO OF JOBS 31
TOTAL HOURS FOR DAY 4 26.5 NO OF JOBS 11

TOTAL HOURS TO DAY 4 81 NO OF JOBS 42
TOTAL HOURS FOR DAY 5 11.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 92.5 NO OF JOBS 49

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0.5	5.5	1.5	1	3	1
1.5	1.5	1.5	1	1	1
0	1.5	4.5	0	1	3
5.5	2	5	1	2	2
0.5	0	5.5	1	0	1
8	10.5	18	4	7	8

DAY= 2

0	0	1.5	0	0	1
0	0	0	0	0	0
2.5	0	0	1	0	0
0	0	2	0	0	2
0	0.5	2	0	1	2
2.5	0.5	5.5	1	1	5

DAY= 3

0	0	3.5	0	0	3
0	0	0	0	0	0
0	2.5	0	0	1	0
0	0	0	0	0	0
0	0	3.5	0	0	1
0	2.5	7	0	1	4

DAY= 4

0	3.5	3.5	0	1	1
0	5	2.5	0	2	3
0	0	3.5	0	0	1
0	0	5	0	0	2
0	3.5	0	0	1	0
0	12	14.5	0	4	7

DAY= 5

0	5.5	0	0	3	0
0	0	3	0	0	2
0	3	0	0	2	0
0	0	0	0	0	0
0	0	0	0	0	0
0	8.5	3	0	5	2

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 15.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 15.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 2 18.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 34 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 3.5 NO OF JOBS 1

TOTAL HOURS TO DAY 3 37.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 4 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 54 NO OF JOBS 32
TOTAL HOURS FOR DAY 5 5.5 NO OF JOBS 3

TOTAL HOURS TO DAY 5 59.5 NO OF JOBS 35

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

3	0	8	2	0	4
0	0	0.5	0	0	1
0	0	1	0	0	2
0	0	0	0	0	0
0	0	3	0	0	2
3	0	12.5	2	0	9

DAY= 2

0.5	4	0	1	2	0
0	0	1.5	0	0	1
0	1.5	4	0	1	2
0	0	0	0	0	0
0.5	4	2.5	1	2	1
1	9.5	8	2	5	4

DAY= 3

0	0	3.5	0	0	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	3.5	0	0	1

DAY= 4

0	3	0	0	2	0
0	1.5	0	0	1	0
0	0	2.5	0	0	1
1.5	2.5	0.5	1	1	1
0	2.5	2.5	0	1	1
1.5	9.5	5.5	1	5	3

DAY= 5

0	1.5	1.5	0	1	1
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	2.5	0	0	1
0	1.5	4	0	1	2

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 23.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 23.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 25.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 49 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 42.5 NO OF JOBS 19

TOTAL HOURS TO DAY 3 91.5 NO OF JOBS 35
TOTAL HOURS FOR DAY 4 29.5 NO OF JOBS 15

TOTAL HOURS TO DAY 4 121 NO OF JOBS 50
TOTAL HOURS FOR DAY 5 10.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 131.5 NO OF JOBS 59

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 8 1.5	0 2 1
0 0 1.5	0 0 1
4.5 1.5 0	1 1 0
0 0 1.5	0 0 1
0 2.5 2.5	0 1 1
4.5 12 7	1 4 4

DAY= 2

0 21 1.5	0 4 1
0 0 0	0 0 0
0 0 1.5	0 0 1
1.5 0 0	1 0 0
0 0 0	0 0 0
1.5 21 3	1 4 2

DAY= 3

0.5 11.5 6	1 3 2
1.5 0 1.5	1 0 1
0 7 4	0 2 2
0.5 0 0	1 0 0
0 4.5 5.5	0 1 5
2.5 23 17	3 6 10

DAY= 4

0 0 1.5	0 0 1
0 0 10.5	0 0 3
0 4 2.5	0 2 1
1.5 4 3.5	1 2 3
1.5 0 0.5	1 0 1
3 8 18.5	2 4 9

DAY= 5

0 0 3	0 0 2
0 0 3	0 0 2
0.5 0 1.5	1 0 1
0 0 0.5	0 0 1
1.5 0.5 0	1 1 0
2 0.5 8	2 1 6

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 20.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 20.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 8.5 NO OF JOBS 5

TOTAL HOURS TO DAY 2 29 NO OF JOBS 12
TOTAL HOURS FOR DAY 3 15.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 44.5 NO OF JOBS 21
TOTAL HOURS FOR DAY 4 10.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 55 NO OF JOBS 26
TOTAL HOURS FOR DAY 5 26.5 NO OF JOBS 15

TOTAL HOURS TO DAY 5 81.5 NO OF JOBS 41

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0 2.5	0 0 1
3.5 0 0	1 0 0
0 0 1.5	0 0 1
0 13 0	0 4 0
0 0 0	0 0 0
3.5 13 4	1 4 2

DAY= 2

1.5 0 3	1 0 2
0 0 0	0 0 0
0 0 0	0 0 0
0 1.5 2.5	0 1 1
0 0 0	0 0 0
1.5 1.5 5.5	1 1 3

DAY= 3

0 5.5 2.5	0 3 1
0 0.5 3	0 1 2
0 0 0	0 0 0
0 4 0	0 2 0
0 0 8	0 0 0
0 10 5.5	0 6 3

DAY= 4

0 4.5 0	0 1 0
0 0 2.5	0 0 1
0 0 0.5	0 0 1
0 1.5 0	0 1 0
1.5 0 0	1 0 0
1.5 6 3	1 2 2

DAY= 5

3 3.5 1.5	2 3 1
0 0 0.5	0 0 1
0 10 1.5	0 2 1
0 0 2	0 0 2
0 3 1.5	0 2 1
3 16.5 7	2 7 6

Glazier

All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 24.5 NO OF JOBS 11

TOTAL HOURS TO DAY 1 24.5 NO OF JOBS 11
TOTAL HOURS FOR DAY 2 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 2 26 NO OF JOBS 12
TOTAL HOURS FOR DAY 3 16.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 42.5 NO OF JOBS 19
TOTAL HOURS FOR DAY 4 27.5 NO OF JOBS 15

TOTAL HOURS TO DAY 4 70 NO OF JOBS 34
TOTAL HOURS FOR DAY 5 11.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 81.5 NO OF JOBS 41

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

1.5	1.5	2.5				1	1	1
2.5	0	2.5				1	0	1
5	1.5	0				2	1	0
0	2.5	0				0	1	0
0	0.5	4.5				0	1	1
9	6	9.5				4	4	3

DAY= 2

0	0	0				0	0	0
0	0	0				0	0	0
0	0	0				0	0	0
0	0	1.5				0	0	1
0	0	0				0	0	0
0	0	1.5				0	0	1

DAY= 3

0	2.5	6.5				0	1	3
0	0	0				0	0	0
0	0	0.5				0	0	1
0	0	7				0	0	2
0	0	0				0	0	0
0	2.5	14				0	1	6

DAY= 4

5	0	5				2	0	4
0	0	1.5				0	0	1
0	4	0				0	2	0
0	1.5	6				0	1	2
0	1.5	3				0	1	2
5	7	15.5				2	4	9

DAY= 5

2.5	0.5	1.5				1	1	1
0	0	0				0	0	0
0	0	0				0	0	0
0	0.5	3				0	1	2
0	0	3.5				0	0	1
2.5	1	8				1	2	4

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 6.5 NO OF JOBS 5

TOTAL HOURS TO DAY 1 6.5 NO OF JOBS 5
TOTAL HOURS FOR DAY 2 22.5 NO OF JOBS 13

TOTAL HOURS TO DAY 2 29 NO OF JOBS 18
TOTAL HOURS FOR DAY 3 14.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 43.5 NO OF JOBS 25
TOTAL HOURS FOR DAY 4 8.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 52 NO OF JOBS 30
TOTAL HOURS FOR DAY 5 10.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 62.5 NO OF JOBS 39

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	2	0				0	2	0
0	0	0				0	0	0
0	0	2.5				0	0	1
0	0	0.5				0	0	1
1.5	0	0				1	0	0
1.5	2	3				1	2	2

DAY= 2

5.5	5	0.5				3	2	1
0	0	0				0	0	0
2.5	0	3				1	0	2
0	0	2.5				0	0	1
1.5	1.5	0.5				1	1	1
9.5	6.5	6.5				5	3	5

DAY= 3

0	0	3				0	0	2
0	0	0				0	0	0
0	0.5	0				0	1	0
1.5	0	7.5				1	0	1
0	0.5	1.5				0	1	1
1.5	1	12				1	2	4

DAY= 4

0	0	0				0	0	0
1.5	0	0				1	0	0
2.5	3	0				1	2	0
0	0	0				0	0	0
0	0	1.5				0	0	1
4	3	1.5				2	2	1

DAY= 5

0	0	0.5				0	0	1
1.5	1.5	1.5				1	1	1
0.5	0.5	1.5				1	1	1
0	0	1.5				0	0	1
0	1.5	0				0	1	0
2	3.5	5				2	3	4

Glazier All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 13.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 13.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 15.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 29 NO OF JOBS 14
TOTAL HOURS FOR DAY 3 36.5 NO OF JOBS 19

TOTAL HOURS TO DAY 3 65.5 NO OF JOBS 33
TOTAL HOURS FOR DAY 4 9.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 75 NO OF JOBS 38
TOTAL HOURS FOR DAY 5 13.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 88.5 NO OF JOBS 47

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 2.5  0  0        1  0  0
 0  0  3        0  0  2
 0  0  2.5        0  0  1
 3.5  0  1.5        1  0  1
 0.5  0  0        1  0  0
----------      ----------
 6.5  0  7        3  0  4
----------      ----------
DAY= 2
 1.5  6.5  2.5        1  3  1
 3.5  0  0        1  0  0
 0  1.5  0        0  1  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 5  8  2.5        2  4  1
----------      ----------
DAY= 3
 0  0.5  4        0  1  4
 0  8  2.5        0  4  1
 1.5  0  4        1  0  2
 2.5  0  3        1  0  2
 0.5  2.5  7.5        1  1  1
----------      ----------
 4.5  11  21        3  6  10
----------      ----------
DAY= 4
 0  0  2        0  0  2
 0  0  0        0  0  0
 1.5  0  0        1  0  0
 0  2.5  3.5        0  1  1
 0  0  0        0  0  0
----------      ----------
 1.5  2.5  5.5        1  1  3
----------      ----------
DAY= 5
 0.5  0  0        1  0  0
 0  1.5  7.5        0  1  3
 0  0.5  0        0  1  0
 0  0  0.5        0  0  1
 0  3  0        0  2  0
----------      ----------
 0.5  5  8        1  4  4
----------      ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 35.5 NO OF JOBS 15

TOTAL HOURS TO DAY 1 35.5 NO OF JOBS 15
TOTAL HOURS FOR DAY 2 5.5 NO OF JOBS 5

TOTAL HOURS TO DAY 2 41 NO OF JOBS 20
TOTAL HOURS FOR DAY 3 3.5 NO OF JOBS 3

TOTAL HOURS TO DAY 3 44.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 4 7.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 52 NO OF JOBS 28
TOTAL HOURS FOR DAY 5 10.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 62.5 NO OF JOBS 33

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  1.5        0  0  1
 0  0.5  7        0  1  2
 0  3.5  10        0  1  6
 1.5  0  0        1  0  0
 1.5  1.5  8.5        1  1  1
----------      ----------
 3  5.5  27        2  3  10
----------      ----------
DAY= 2
 0  0  0.5        0  0. 1
 1.5  0  0        1  0  0
 0  0  0        0  0  0
 0  0.5  0        0  1  0
 0  1.5  1.5        0  1  1
----------      ----------
 1.5  2  2        1  2  2
----------      ----------
DAY= 3
 0  0  0        0  0  0
 0  0  0        0  0  0
 0  1.5  0        0  1  0
 0  2  0        0  2  0
 0  0  0        0  0  0
----------      ----------
 0  3.5  0        0  3  0
----------      ----------
DAY= 4
 0  0  2        0  0  2
 0  3.5  0        0  1  0
 0  0.5  0        0  1  0
 0  0  0        0  0  0
 0  0  1.5        0  0  1
----------      ----------
 0  4  3.5        0  2  3
----------      ----------
DAY= 5
 0  0  0        0  0  0
 0  0  0        0  0  0
 0.5  1.5  0.5        1  1  1
 4.5  0  3.5        1  0  1
 0  0  0        0  0  0
----------      ----------
 5  1.5  4        2  1  2
----------      ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 7.5 NO OF JOBS 5

TOTAL HOURS TO DAY 1 7.5 NO OF JOBS 5
TOTAL HOURS FOR DAY 2 13.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 21 NO OF JOBS 12
TOTAL HOURS FOR DAY 3 7.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 28.5 NO OF JOBS 19
TOTAL HOURS FOR DAY 4 4.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 33 NO OF JOBS 22
TOTAL HOURS FOR DAY 5 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 49.5 NO OF JOBS 31

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0 1.5	0 0 1
0 0 0	0 0 0
0 0 4	0 0 2
0 0.5 0	0 1 0
0 0 1.5	0 0 1
0 0.5 7	0 1 4

DAY= 2

2 6 0	2 2 0
0 0 1.5	0 0 1
0 0 0	0 0 0
0 0 1.5	0 0 1
0 0 2.5	0 0 1
2 6 5.5	2 2 3

DAY= 3

0 3 0	0 2 0
0 0 0.5	0 0 1
0 0.5 0	0 1 0
0 0 0	0 0 0
0 0.5 3	0 1 2
0 4 3.5	0 4 3

DAY= 4

0 1.5 0	0 1 0
0 0 0	0 0 0
0 0 1.5	0 0 1
0 0 0	0 0 0
0 0 1.5	0 0 1
0 1.5 3	0 1 2

DAY= 5

0 1.5 5.5	0 1 3
0 0.5 0	0 1 0
0 0 7.5	0 0 3
0 1.5 0	0 1 0
0 0 0	0 0 0
0 3.5 13	0 3 6

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 3.5 NO OF JOBS 3

TOTAL HOURS TO DAY 1 3.5 NO OF JOBS 3
TOTAL HOURS FOR DAY 2 30.5 NO OF JOBS 19

TOTAL HOURS TO DAY 2 34 NO OF JOBS 22
TOTAL HOURS FOR DAY 3 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 50.5 NO OF JOBS 31
TOTAL HOURS FOR DAY 4 6.5 NO OF JOBS 5

TOTAL HOURS TO DAY 4 57 NO OF JOBS 36
TOTAL HOURS FOR DAY 5 11.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 68.5 NO OF JOBS 41

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0 0	0 0 0
0 0 0.5	0 0 1
0 0 0	0 0 0
1.5 0 1.5	1 0 1
0 0 0	0 0 0
1.5 0 2	1 0 2

DAY= 2

0 6.5 6	0 3 4
0 0 4.5	0 0 5
0 0 0	0 0 0
1.5 2.5 7	1 1 4
0 2.5 0	0 1 0
1.5 11.5 17.5	1 5 13

DAY= 3

0 4 8.5	0 2 3
0 1.5 0	0 1 0
0 0.5 0.5	0 1 1
0 0 1.5	0 0 1
0 0 0	0 0 0
0 6 10.5	0 4 5

DAY= 4

0 0.5 1.5	0 1 1
0 0 0	0 0 0
0 0 2.5	0 0 1
0.5 0 1.5	1 0 1
0 0 0	0 0 0
0.5 0.5 5.5	1 1 3

DAY= 5

0 3.5 1.5	0 1 1
0 0 0	0 0 0
0 2.5 0	0 1 0
0 0 0	0 0 0
0 1.5 2.5	0 1 1
0 7.5 4	0 3 2

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 26.5 NO OF JOBS 15

TOTAL HOURS TO DAY 1 26.5 NO OF JOBS 15
TOTAL HOURS FOR DAY 2 17.5 NO OF JOBS 11

TOTAL HOURS TO DAY 2 44 NO OF JOBS 26
TOTAL HOURS FOR DAY 3 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 3 45.5 NO OF JOBS 27
TOTAL HOURS FOR DAY 4 20.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 66 NO OF JOBS 34
TOTAL HOURS FOR DAY 5 36.5 NO OF JOBS 15

TOTAL HOURS TO DAY 5 102,5 NO OF JOBS 49

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

3.5	2.5	0	1	1	0
3	0.5	7.5	2	1	3
0	0	4.5	0	0	3
0	0	1.5	0	0	1
0.5	0	3	1	0	2
7	3	16.5	4	2	9

DAY= 2

1	2.5	4.5	2	1	3
1.5	0	0	1	0	0
0	2.5	2.5	0	1	1
0	1.5	0	0	1	0
0	0	1.5	0	0	1
2.5	6.5	8.5	3	3	5

DAY= 3

0	0	0	0	0	0
1.5	0	0	1	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
1.5	0	0	1	0	0

DAY= 4

0	2.5	3.5	0	1	1
8.5	0.5	2.5	1	1	1
0	0.5	0	0	1	0
2.5	0	0	1	0	0
0	0	0	0	0	0
11	3.5	6	2	3	2

DAY= 5

3	4	2.5	2	2	1
0	2.5	4	0	1	2
0	8.5	1.5	0	1	1
0	0.5	4.5	0	1	1
0	0	5.5	0	0	3
3	15.5	18	2	5	8

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 2.5 NO OF JOBS 1

TOTAL HOURS TO DAY 1 2.5 NO OF JOBS 1
TOTAL HOURS FOR DAY 2 8.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 11 NO OF JOBS 8
TOTAL HOURS FOR DAY 3 9.5 NO OF JOBS 5

TOTAL HOURS TO DAY 3 20.5 NO OF JOBS 13
TOTAL HOURS FOR DAY 4 24.5 NO OF JOBS 15

TOTAL HOURS TO DAY 4 45 NO OF JOBS 28
TOTAL HOURS FOR DAY 5 17.5 NO OF JOBS 11

TOTAL HOURS TO DAY 5 62.5 NO OF JOBS 39

PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	0	0	0	0
0	2.5	0	0	1	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	2.5	0	0	1	0

DAY= 2

3.5	0	1.5	1	0	1
0	0	0	0	0	0
0	0.5	0.5	0	1	1
1.5	0	0	1	0	0
0	0.5	0.5	0	1	1
5	1	2.5	2	2	3

DAY= 3

1.5	0	2	1	0	2
0	0	2.5	0	0	1
0	0	0	0	0	0
0	0	0	0	0	0
0	3.5	0	0	1	0
1.5	3.5	4.5	1	1	3

DAY= 4

0	3	11.5	0	4	5
1.5	0	0	1	0	0
1.5	0	0	1	0	0
0	1.5	1.5	0	1	1
1.5	0	2.5	1	0	1
4.5	4.5	15.5	3	5	7

DAY= 5

0	2.5	2	0	1	2
0	2	0	0	2	0
0	0	0	0	0	0
0	0	0	0	0	0
2	7	2	2	2	2
2	11.5	4	2	5	4

Glazier Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  7.5  NO OF JOBS  3

TOTAL HOURS TO DAY  1  7.5  NO OF JOBS 3
TOTAL HOURS FOR DAY  2  14.5  NO OF JOBS  7

TOTAL HOURS TO DAY  2  22  NO OF JOBS 10
TOTAL HOURS FOR DAY  3  7.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  29.5  NO OF JOBS 17
TOTAL HOURS FOR DAY  4  2.5  NO OF JOBS  1

TOTAL HOURS TO DAY  4  32  NO OF JOBS 18
TOTAL HOURS FOR DAY  5  14.5  NO OF JOBS  9

TOTAL HOURS TO DAY  5  46.5  NO OF JOBS 27
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  1.5  0        0  1  0
 2.5  3.5  0        1  1  0
 0  0  0        0  0  0
---------      ---------
 2.5  5  0        1  2  0
---------      ---------
DAY= 2
 0  5.5  1.5        0  3  1
 0  1.5  0        0  1  0
 4.5  0  1.5        1  0  1
---------      ---------
 4.5  7  3        1  4  2
---------      ---------
DAY= 3
 1.5  0  0.5        1  0  1
 1.5  0  0        1  0  0
 0  3.5  0.5        0  3  1
---------      ---------
 3  3.5  1        2  3  2
---------      ---------
DAY= 4
 2.5  0  0        1  0  0
 0  0  0        0  0  0
 0  0  0        0  0  0
---------      ---------
 2.5  0  0        1  0  0
---------      ---------
DAY= 5
 1.5  1.5  1.5        1  1  1
 0  3  0        0  2  0
 0  0  7        0  0  4
---------      ---------
 1.5  4.5  8.5        1  3  5
---------      ---------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  10.5  NO OF JOBS  7

TOTAL HOURS TO DAY  1  10.5  NO OF JOBS 7
TOTAL HOURS FOR DAY  2  13.5  NO OF JOBS  7

TOTAL HOURS TO DAY  2  24  NO OF JOBS 14
TOTAL HOURS FOR DAY  3  1.5  NO OF JOBS  1

TOTAL HOURS TO DAY  3  25.5  NO OF JOBS 15
TOTAL HOURS FOR DAY  4  15.5  NO OF JOBS  7

TOTAL HOURS TO DAY  4  41  NO OF JOBS 22
TOTAL HOURS FOR DAY  5  10.5  NO OF JOBS  7

TOTAL HOURS TO DAY  5  51.5  NO OF JOBS 29
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  2.5        0  0  1
 2.5  0.5  1.5        1  1  1
 0  3  0.5        0  2  1
---------      ---------
 2.5  3.5  4.5        1  3  3
---------      ---------
DAY= 2
 3.5  1.5  2.5        1  1  1
 4  0  0        2  0  0
 0  2  0        0  2  0
---------      ---------
 7.5  3.5  2.5        3  3  1
---------      ---------
DAY= 3
 0  0  0        0  0  0
 0  0  1.5        0  0  1
 0  0  0        0  0  0
---------      ---------
 0  0  1.5        0  0  1
---------      ---------
DAY= 4
 0  4  6        0  2  2
 0  0  0        0  0  0
 0  2.5  3        0  1  2
---------      ---------
 0  6.5  9        0  3  4
---------      ---------
DAY= 5
 0  3  5.5        0  2  3
 0  0  0        0  0  0
 0  0.5  1.5        0  1  1
---------      ---------
 0  3.5  7        0  3  4
---------      ---------
```

Glazier Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  16.5  NO OF JOBS  7

TOTAL HOURS TO DAY  1  16.5  NO OF JOBS 7
TOTAL HOURS FOR DAY  2  3.5  NO OF JOBS  1

TOTAL HOURS TO DAY  2  20  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  14.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  34.5  NO OF JOBS 15
TOTAL HOURS FOR DAY  4  2.5  NO OF JOBS  1

TOTAL HOURS TO DAY  4  37  NO OF JOBS 16
TOTAL HOURS FOR DAY  5  12.5  NO OF JOBS  9

TOTAL HOURS TO DAY  5  49.5  NO OF JOBS 25
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  10  0        0  2  0
 0  0.5  0        0  1  0
 0  3  3        0  2  2
----------      ----------
 0  13.5  3        0  5  2
----------      ----------
DAY= 2
 0  0  0        0  0  0
 3.5  0  0        1  0  0
 0  0  0        0  0  0
----------      ----------
 3.5  0  0        1  0  0
----------      ----------
DAY= 3
 0  5  2        0  2  2
 0  0  2.5        0  0  1
 0  1.5  3.5        0  1  1
----------      ----------
 0  6.5  8        0  3  4
----------      ----------
DAY= 4
 0  0  2.5        0  0  1
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 0  0  2.5        0  0  1
----------      ----------
DAY= 5
 0.5  4  0        1  2  0
 0  0  1.5        0  0  1
 1.5  3.5  1.5        1  3  1
----------      ----------
 2  7.5  3        2  5  2
----------      ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  10.5  NO OF JOBS  3

TOTAL HOURS TO DAY  1  10.5  NO OF JOBS 3
TOTAL HOURS FOR DAY  2  0.5  NO OF JOBS  1

TOTAL HOURS TO DAY  2  11  NO OF JOBS 4
TOTAL HOURS FOR DAY  3  27.5  NO OF JOBS  9

TOTAL HOURS TO DAY  3  38.5  NO OF JOBS 13
TOTAL HOURS FOR DAY  4  7.5  NO OF JOBS  3

TOTAL HOURS TO DAY  4  46  NO OF JOBS 16
TOTAL HOURS FOR DAY  5  1.5  NO OF JOBS  1

TOTAL HOURS TO DAY  5  47.5  NO OF JOBS 17
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0.5  0        0  1  0
 0.5  0  0        1  0  0
 0  0  9.5        0  0  1
----------      ----------
 0.5  0.5  9.5        1  1  1
----------      ----------
DAY= 2
 0  0  0        0  0  0
 0  0  0.5        0  0  1
 0  0  0        0  0  0
----------      ----------
 0  0  0.5        0  0  1
----------      ----------
DAY= 3
 0  5  13        0  2  2
 0  2.5  1.5        0  1  1
 2.5  0  3        1  0  2
----------      ----------
 2.5  7.5  17.5        1  3  5
----------      ----------
DAY= 4
 2.5  3.5  1.5        1  1  1
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 2.5  3.5  1.5        1  1  1
----------      ----------
DAY= 5
 0  1.5  0        0  1  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------      ----------
 0  1.5  0        0  1  0
----------      ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 4.5 NO OF JOBS 1

TOTAL HOURS TO DAY 1 4.5 NO OF JOBS 1
TOTAL HOURS FOR DAY 2 17.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 22 NO OF JOBS 10
TOTAL HOURS FOR DAY 3 7.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 29.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 4 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 4 31 NO OF JOBS 18
TOTAL HOURS FOR DAY 5 11.5 NO OF JOBS 5

TOTAL HOURS TO DAY 5 42.5 NO OF JOBS 23
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  0  0        0  0  0
 4.5  0  0        1  0  0
 0  0  0        0  0  0
----------     ----------
 4.5  0  0        1  0  0
----------     ----------
DAY= 2
 0.5  3.5  5        1  1  2
 0  3  4        0  2  2
 0  1.5  0        0  1  0
----------     ----------
 0.5  8  9        1  4  4
----------     ----------
DAY= 3
 0.5  2.5  0.5        1  3  1
 2.5  0  0        1  0  0
 1.5  0  0        1  0  0
----------     ----------
 4.5  2.5  0.5        3  3  1
----------     ----------
DAY= 4
 0  0  0        0  0  0
 0  1.5  0        0  1  0
 0  0  0        0  0  0
----------     ----------
 0  1.5  0        0  1  0
----------     ----------
DAY= 5
 0  0  4        0  0  2
 0  0  0        0  0  0
 1.5  2.5  3.5        1  1  1
----------     ----------
 1.5  2.5  7.5        1  1  3
----------     ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 16.5 NO OF JOBS 7

TOTAL HOURS TO DAY 1 16.5 NO OF JOBS 7
TOTAL HOURS FOR DAY 2 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 2 18 NO OF JOBS 8
TOTAL HOURS FOR DAY 3 14.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 32.5 NO OF JOBS 15
TOTAL HOURS FOR DAY 4 11.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 44 NO OF JOBS 18
TOTAL HOURS FOR DAY 5 15.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 59.5 NO OF JOBS 25
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 1.5  4.5  2.5        1  1  1
 0  0  5        0  0  2
 2.5  0.5  0        1  1  0
----------     ----------
 4  5  7.5        2  2  3
----------     ----------
DAY= 2
 0  0  0        0  0  0
 0  0  1.5        0  0  1
 0  0  0        0  0  0
----------     ----------
 0  0  1.5        0  0  1
----------     ----------
DAY= 3
 0  3  5        0  2  2
 0  2.5  4        0  1  2
 0  0  0        0  0  0
----------     ----------
 0  5.5  9        0  3  4
----------     ----------
DAY= 4
 2.5  1.5  0        1  1  0
 0  7.5  0        0  1  0
 0  0  0        0  0  0
----------     ----------
 2.5  9  0        1  2  0
----------     ----------
DAY= 5
 1.5  0  7.5        1  0  3
 0  4  0        0  2  0
 0  2.5  0        0  1  0
----------     ----------
 1.5  6.5  7.5        1  3  3
----------     ----------
```

Estates 1, 2 & 5

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 1.5 NO OF JOBS 1

TOTAL HOURS TO DAY 1 1.5 NO OF JOBS 1
TOTAL HOURS FOR DAY 2 15.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 17 NO OF JOBS 8
TOTAL HOURS FOR DAY 3 17.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 34.5 NO OF JOBS 17
TOTAL HOURS FOR DAY 4 15.5 NO OF JOBS 7

TOTAL HOURS TO DAY 4 50 NO OF JOBS 24
TOTAL HOURS FOR DAY 5 9.5 NO OF JOBS 3

TOTAL HOURS TO DAY 5 59.5 NO OF JOBS 27
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0 0	0 0 0
0 0 1.5	0 0 1
0 0 0	0 0 0
0 0 1.5	0 0 1

DAY= 2

4.5 3 2.5	1 2 1
0 1.5 1.5	0 1 1
0 0 2.5	0 0 1
4.5 4.5 6.5	1 3 3

DAY= 3

0 4.5 0	0 1 0
0.5 2 3	1 2 2
0 2.5 5	0 1 2
0.5 9 8	1 4 4

DAY= 4

0 1 9	0 2 2
0 0 5.5	0 0 3
0 0 0	0 0 0
0 1 14.5	0 2 5

DAY= 5

0 2.5 0	0 1 0
0 0 2.5	0 0 1
0 0 4.5	0 0 1
0 2.5 7	0 1 2

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 16.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 6.5 NO OF JOBS 3

TOTAL HOURS TO DAY 2 23 NO OF JOBS 12
TOTAL HOURS FOR DAY 3 27.5 NO OF JOBS 9

TOTAL HOURS TO DAY 3 50.5 NO OF JOBS 21
TOTAL HOURS FOR DAY 4 13.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 64 NO OF JOBS 30
TOTAL HOURS FOR DAY 5 14.5 NO OF JOBS 7

TOTAL HOURS TO DAY 5 78.5 NO OF JOBS 37
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0 0.5 5	0 1 4
0 0 8	0 0 2
0 0 3	0 0 2
0 0.5 16	0 1 8

DAY= 2

0.5 0 0	1 0 0
4.5 0 0	1 0 0
0 0 1.5	0 0 1
5 0 1.5	2 0 1

DAY= 3

2.5 14 1.5	1 4 1
7 0 2.5	2 0 1
0 0 0	0 0 0
9.5 14 4	3 4 2

DAY= 4

1.5 2 2	1 2 2
0 0 4.5	0 0 1
0 1.5 2	0 1 2
1.5 3.5 8.5	1 3 5

DAY= 5

0,5 2.5 0	1 1 0
0 1.5 3.5	0 1 1
1.5 2.5 2.5	1 1 1
2 6.5 6	2 3 2

Glazier Estates 1, 2 & 5

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  17.5  NO OF JOBS  7

TOTAL HOURS TO DAY  1  17.5  NO OF JOBS 7
TOTAL HOURS FOR DAY  2  2.5  NO OF JOBS  1

TOTAL HOURS TO DAY  2  20  NO OF JOBS 8
TOTAL HOURS FOR DAY  3  13.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  33.5  NO OF JOBS 15
TOTAL HOURS FOR DAY  4  13.5  NO OF JOBS  7

TOTAL HOURS TO DAY  4  47  NO OF JOBS 22
TOTAL HOURS FOR DAY  5  19.5  NO OF JOBS  9

TOTAL HOURS TO DAY  5  66.5  NO OF JOBS 31
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  10.5  0        0  3  0
 0  0  3        0  0  2
 0  0  4        0  0  2
----------     ----------
 0  10.5  7        0  3  4
----------     ----------
DAY= 2
 0  2.5  0        0  1  0
 0  0  0        0  0  0
 0  0  0        0  0  0
----------     ----------
 0  2.5  0        0  1  0
----------     ----------
DAY= 3
 0  1.5  4        0  1  2
 0  0  0        0  0  0
 4.5  3  0.5        1  2  1
----------     ----------
 4.5  4.5  4.5        1  3  3
----------     ----------
DAY= 4
 0  1.5  3        0  1  2
 0  2.5  4        0  1  2
 0  0  2.5        0  0  1
----------     ----------
 0  4  9.5        0  2  5
----------     ----------
DAY= 5
 0.5  6  3.5        1  2  1
 0  0  1.5        0  0  1
 0  5.5  2.5        0  3  1
----------     ----------
 0.5  11.5  7.5        1  5  3
----------     ----------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  7.5  NO OF JOBS  1

TOTAL HOURS TO DAY  1  7.5  NO OF JOBS 1
TOTAL HOURS FOR DAY  2  2.5  NO OF JOBS  3

TOTAL HOURS TO DAY  2  10  NO OF JOBS 4
TOTAL HOURS FOR DAY  3  20.5  NO OF JOBS  7

TOTAL HOURS TO DAY  3  30.5  NO OF JOBS 11
TOTAL HOURS FOR DAY  4  21.5  NO OF JOBS  9

TOTAL HOURS TO DAY  4  52  NO OF JOBS 20
TOTAL HOURS FOR DAY  5  2.5  NO OF JOBS  3

TOTAL HOURS TO DAY  5  54.5  NO OF JOBS 23
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0  0        0  0  0
 0  0  7.5        0  0  1
 0  0  0        0  0  0
----------     ----------
 0  0  7.5        0  0  1
----------     ----------
DAY= 2
 1.5  0.5  0        1  1  0
 0  0  0        0  0  0
 0  0  0.5        0  0  1
----------     ----------
 1.5  0.5  0.5        1  1  1
----------     ----------
DAY= 3
 2.5  10  5        1  2  2
 0  0  3        0  0  2
 0  0  0        0  0  0
----------     ----------
 2.5  10  8        1  2  4
----------     ----------
DAY= 4
 0  1.5  4        0  1  2
 0  2.5  0        0  1  0
 0  9.5  4        0  3  2
----------     ----------
 0  13.5  8        0  5  4
----------     ----------
DAY= 5
 0  0  2        0  0  2
 0  0  0        0  0  0
 0  0.5  0        0  1  0
----------     ----------
 0  0.5  2        0  1  2
----------     ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 9.5 NO OF JOBS 5

TOTAL HOURS TO DAY 1 9.5 NO OF JOBS 5
TOTAL HOURS FOR DAY 2 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 2 26 NO OF JOBS 14
TOTAL HOURS FOR DAY 3 10.5 NO OF JOBS 7

TOTAL HOURS TO DAY 3 36.5 NO OF JOBS 21
TOTAL HOURS FOR DAY 4 4.5 NO OF JOBS 3

TOTAL HOURS TO DAY 4 41 NO OF JOBS 24
TOTAL HOURS FOR DAY 5 4.5 NO OF JOBS 3

TOTAL HOURS TO DAY 5 45.5 NO OF JOBS 27
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	7	0	0	2
0	1.5	0.5	0	1	1
0	0.5	0	0	1	0
0	2	7.5	0	2	3

DAY= 2

0	3.5	2.5	0	3	1
0	2.5	5	0	1	2
0	3	0	0	2	0
0	9	7.5	0	6	3

DAY= 3

0	2.5	2.5	0	1	1
0.5	1.5	2	1	1	2
0	0	1.5	0	0	1
0.5	4	6	1	2	4

DAY= 4

0	3	0	0	2	0
0	1.5	0	0	1	0
0	0	0	0	0	0
0	4.5	0	0	3	0

DAY= 5

0	3	1.5	0	2	1
0	0	0	0	0	0
0	0	0	0	0	0
0	3	1.5	0	2	1

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 19.5 NO OF JOBS 9

TOTAL HOURS TO DAY 1 19.5 NO OF JOBS 9
TOTAL HOURS FOR DAY 2 9.5 NO OF JOBS 7

TOTAL HOURS TO DAY 2 29 NO OF JOBS 16
TOTAL HOURS FOR DAY 3 6.5 NO OF JOBS 5

TOTAL HOURS TO DAY 3 35.5 NO OF JOBS 21
TOTAL HOURS FOR DAY 4 16.5 NO OF JOBS 9

TOTAL HOURS TO DAY 4 52 NO OF JOBS 30
TOTAL HOURS FOR DAY 5 12.5 NO OF JOBS 9

TOTAL HOURS TO DAY 5 64.5 NO OF JOBS 39
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

0	0	8	0	0	4
0	0	5.5	0	0	1
0	5.5	0.5	0	3	1
0	5.5	14	0	3	6

DAY= 2

0	0	2.5	0	0	3
0	1.5	0	0	1	0
0	0.5	5	0	1	2
0	2	7.5	0	2	5

DAY= 3

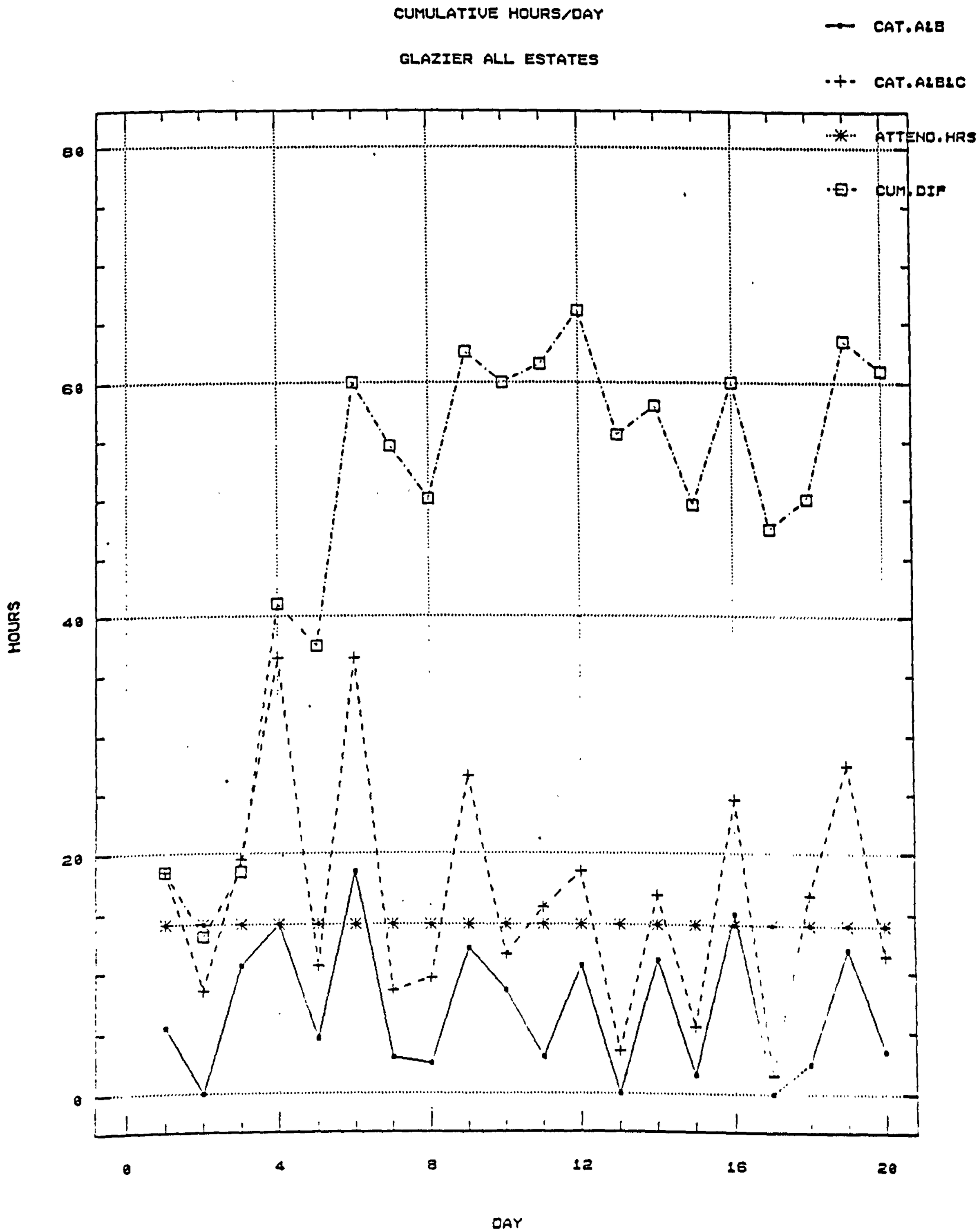
0.5	2.5	1.5	1	1	1
0	0	0	0	0	0
0	0	2	0	0	2
0.5	2.5	3.5	1	1	3

DAY= 4

0	1.5	7	0	1	4
0	0	6	0	0	2
0	0.5	1.5	0	1	1
0	2	14.5	0	2	7

DAY= 5

0	5	3	0	2	2
0	1	0	0	2	0
0	1.5	2	0	1	2
0	7.5	5	0	5	4



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
14	2.5	3	13	5.5	18.5	32.5	14	18.5	1	16	1.321428
18.5	0	0	8.5	0	8.5	27	14	13	2	8.5	0.928571
13	7	3.5	9	10.5	19.5	32.5	14	18.5	3	12.5	1.321428
18.5	0.5	13.5	22.5	14	36.5	55	14	41	4	36	2.928571
41	2.5	2	6	4.5	10.5	51.5	14	37.5	5	8	2.678571
37.5	8	10.5	18	18.5	36.5	74	14	60	6	28.5	4.285714
60	2.5	0.5	5.5	3	8.5	68.5	14	54.5	7	6	3.892857
54.5	0	2.5	7	2.5	9.5	64	14	50	8	9.5	3.571428
50	0	12	14.5	12	26.5	76.5	14	62.5	9	26.5	4.464285
62.5	0	8.5	3	8.5	11.5	74	14	60	10	11.5	4.285714
60	3	0	12.5	3	15.5	75.5	14	61.5	11	12.5	4.392857
61.5	1	9.5	8	10.5	18.5	80	14	66	12	17.5	4.714285
66	0	0	3.5	0	3.5	69.5	14	55.5	13	3.5	3.964285
55.5	1.5	9.5	5.5	11	16.5	72	14	58	14	15	4.142857
58	0	1.5	4	1.5	5.5	63.5	14	49.5	15	5.5	3.535714
49.5	9	6	9.5	15	24.5	74	14	60	16	15.5	4.285714
60	0	0	1.5	0	1.5	61.5	14	47.5	17	1.5	3.392857
47.5	0	2.5	14	2.5	16.5	64	14	50	18	16.5	3.571428
50	5	7	15.5	12	27.5	77.5	14	63.5	19	22.5	4.535714
63.5	2.5	1	8	3.5	11.5	75	14	61	20	9	4.357142
										14.1	

LEGEND

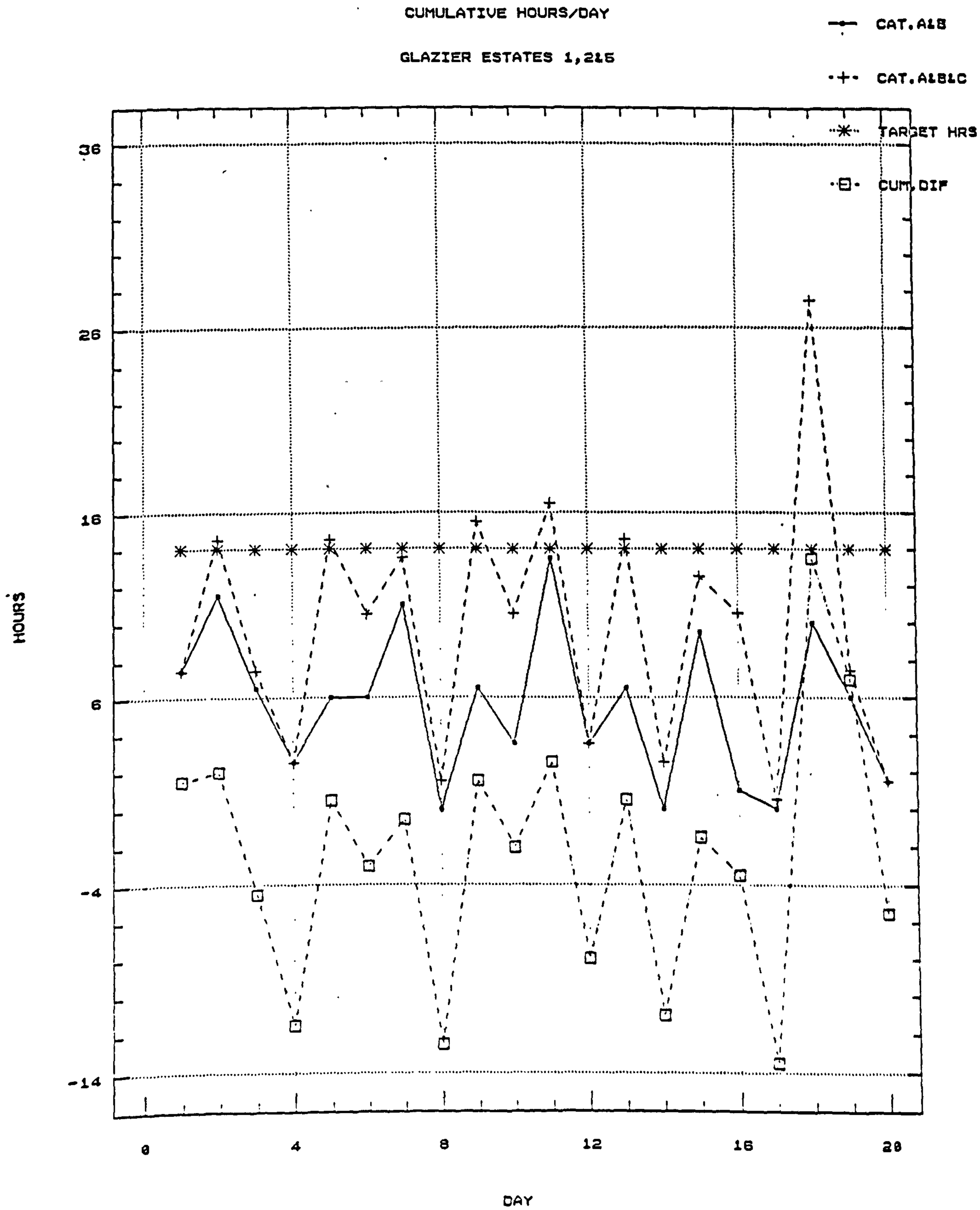
BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Glazier

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

CUMULATIVE HOURS/DAY

GLAZIER ESTATES 1,2&5



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
8	2.5	5	0	7.5	7.5	15.5	14	1.5	1	5	0.107142
1.5	4.5	7	3	11.5	14.5	16	14	2	2	10	0.142857
2	3	3.5	1	6.5	7.5	9.5	14	-4.5	3	4.5	-0.32142
0	2.5	0	0	2.5	2.5	2.5	14	-11.5	4	0	-0.82142
0	1.5	4.5	8.5	6	14.5	14.5	14	0.5	5	13	0.035714
0.5	2.5	3.5	4.5	6	10.5	11	14	-3	6	8	-0.21428
0	7.5	3.5	2.5	11	13.5	13.5	14	-0.5	7	6	-0.03571
0	0	0	1.5	0	1.5	1.5	14	-12.5	8	1.5	-0.89285
0	0	6.5	9	6.5	15.5	15.5	14	1.5	9	15.5	0.107142
1.5	0	3.5	7	3.5	10.5	12	14	-2	10	10.5	-0.14285
0	0	13.5	3	13.5	16.5	16.5	14	2.5	11	16.5	0.178571
2.5	3.5	0	0	3.5	3.5	6	14	-8	12	0	-0.57142
0	0	6.5	8	6.5	14.5	14.5	14	0.5	13	14.5	0.035714
0.5	0	0	2.5	0	2.5	3	14	-11	14	2.5	-0.78571
0	2	7.5	3	9.5	12.5	12.5	14	-1.5	15	10.5	-0.10714
0	0.5	0.5	9.5	1	10.5	10.5	14	-3.5	16	10	-0.25
0	0	0	0.5	0	0.5	0.5	14	-13.5	17	0.5	-0.96428
0	2.5	7.5	17.5	10	27.5	27.5	14	13.5	18	25	0.964285
13.5	2.5	3.5	1.5	6	7.5	21	14	7	19	5	0.5
7	0	1.5	0	1.5	1.5	8.5	14	-5.5	20	1.5	-0.39285
										8	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Glazier

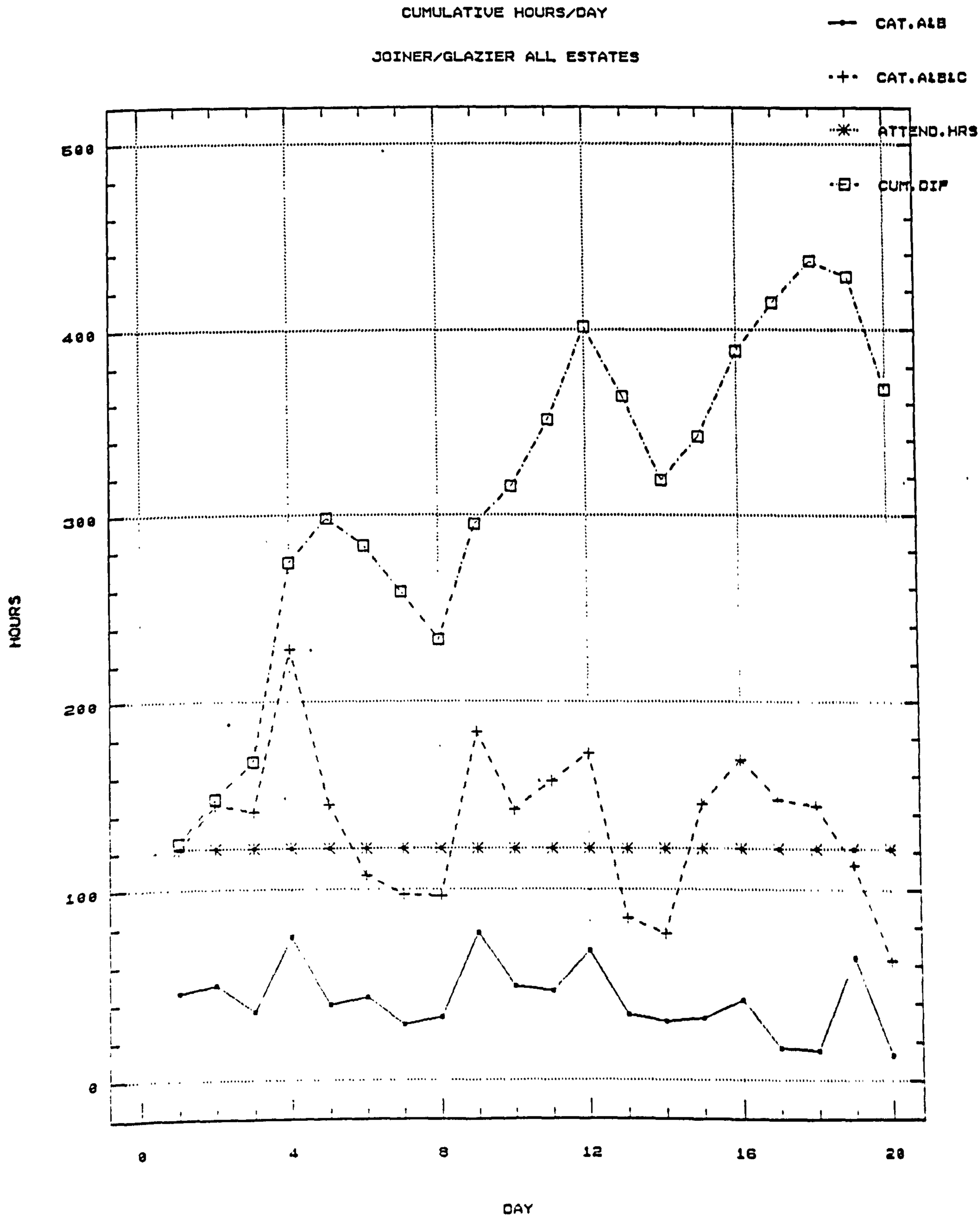
NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

TRADE AMALGAMATIONS

CUMULATIVE HOURS

ALL ESTATES and ESTATES 1, 2 and 5

WEEKS 16 to 19



WEEKS 16 TO 19

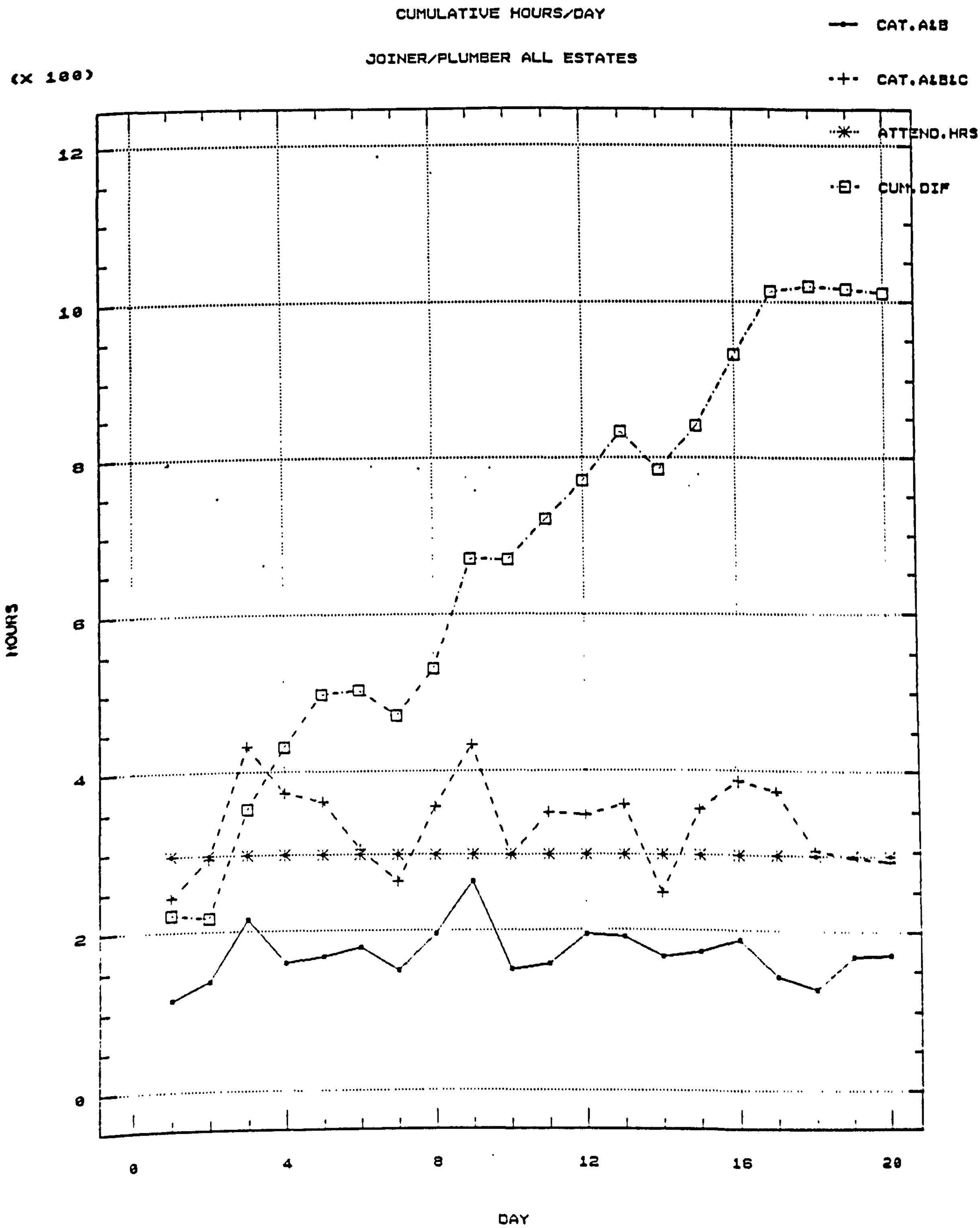
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
125.5	6.5	39.5	75.5	46	121.5	247	122	125	1	115	1.024590
125	5.5	44.5	95.5	50	145.5	270.5	122	148.5	2	140	1.217213
148.5	8.5	27.5	105.5	36	141.5	290	122	168	3	133	1.377049
168	18	57.5	153	75.5	228.5	396.5	122	274.5	4	210.5	2.25
274.5	5	34.5	106	39.5	145.5	420	122	298	5	140.5	2.442622
298	15.5	28.5	63.5	44	107.5	405.5	122	283.5	6	92	2.323770
283.5	2.5	26.5	68.5	29	97.5	381	122	259	7	95	2.122950
259	0.5	33	63	33.5	96.5	355.5	122	233.5	8	96	1.913934
233.5	12	65	106.5	77	183.5	417	122	295	9	171.5	2.418032
295	0	49.5	93	49.5	142.5	437.5	122	315.5	10	142.5	2.586065
315.5	19	27.5	111	46.5	157.5	473	122	351	11	138.5	2.877049
351	25	42.5	105	67.5	172.5	523.5	122	401.5	12	147.5	3.290983
401.5	0	34	50.5	34	84.5	486	122	364	13	84.5	2.983606
364	5	25.5	46	30.5	76.5	440.5	122	318.5	14	71.5	2.610655
318.5	14	18.5	113	32.5	145.5	464	122	342	15	131.5	2.803278
342	15.5	26.5	126.5	42	168.5	510.5	122	388.5	16	153	3.184426
388.5	13	4	130.5	17	147.5	536	122	414	17	134.5	3.393442
414	0	15.5	129	15.5	144.5	558.5	122	436.5	18	144.5	3.577868
436.5	5	59	49.5	64	113.5	550	122	428	19	108.5	3.508196
428	3	10	49.5	13	62.5	490.5	122	368.5	20	59.5	3.020491
										125.475	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Glazier

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

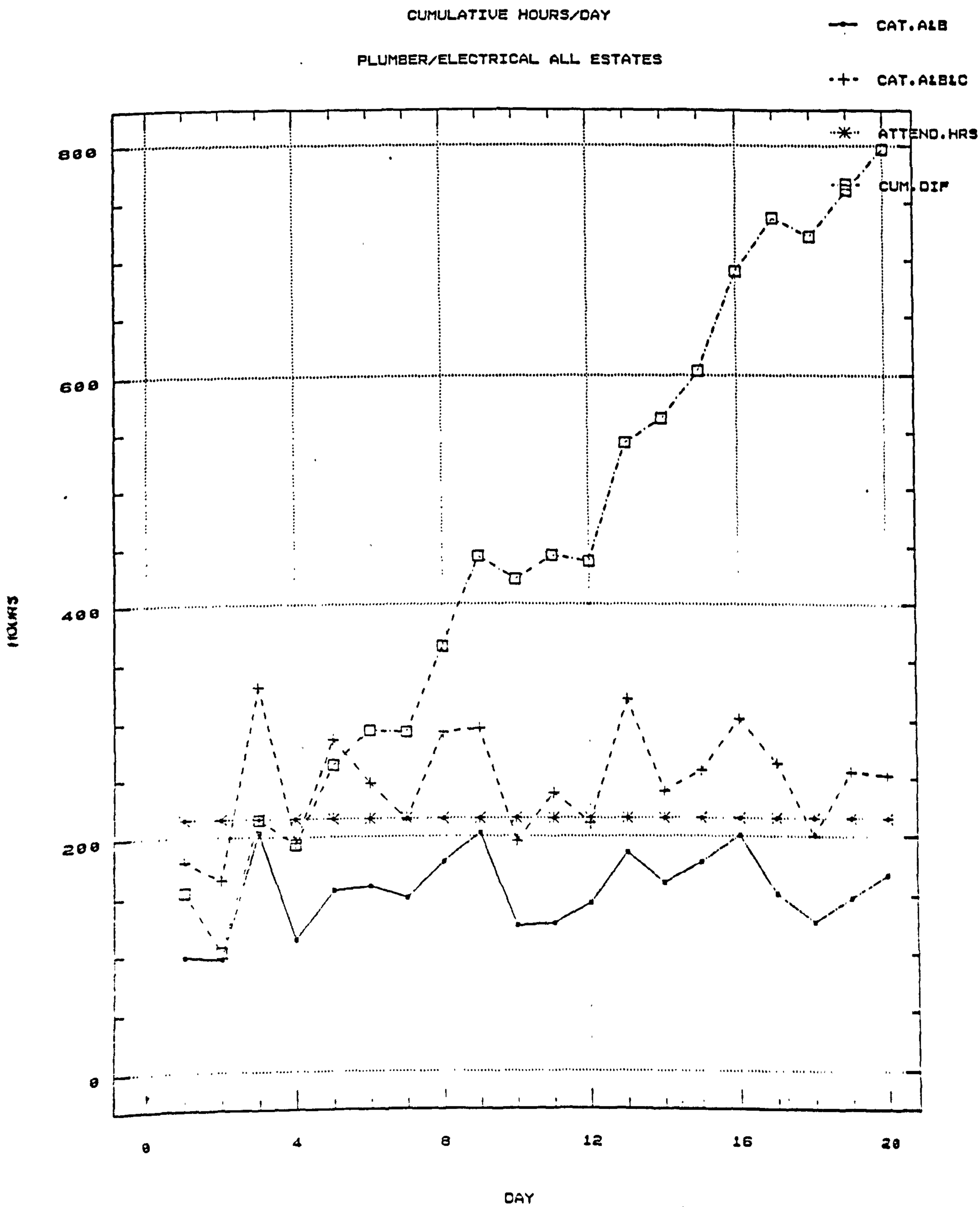
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
273	33.5	82	127	115.5	242.5	515.5	295	220.5	1	209	0.747457
220.5	38.5	100	152	138.5	290.5	511	295	216	2	252	0.732203
216	84.5	129.5	218.5	214	432.5	648.5	295	353.5	3	348	1.198305
353.5	30	130	212.5	160	372.5	726	295	431	4	342.5	1.461016
431	63	104.5	194	167.5	361.5	792.5	295	497.5	5	298.5	1.686440
497.5	77	101.5	123	178.5	301.5	799	295	504	6	224.5	1.708474
504	31.5	118.5	111.5	150	261.5	765.5	295	470.5	7	230	1.594915
470.5	65	130.5	160	195.5	355.5	826	295	531	8	290.5	1.8
531	59.5	201	173	260.5	433.5	964.5	295	669.5	9	374	2.269491
669.5	90	61	142.5	151	293.5	963	295	668	10	203.5	2.264406
668	51	106.5	190	157.5	347.5	1015.5	295	720.5	11	296.5	2.442372
720.5	90	104.5	150	194.5	344.5	1065	295	770	12	254.5	2.610169
770	48	143	166.5	191	357.5	1127.5	295	832.5	13	309.5	2.822033
832.5	66.5	100	80	166.5	246.5	1079	295	784	14	180	2.657627
784	72	101.5	178	173.5	351.5	1135.5	295	840.5	15	279.5	2.849152
840.5	49.5	138	200	187.5	387.5	1228	295	933	16	338	3.162711
933	32.5	110	232	142.5	374.5	1307.5	295	1012.5	17	342	3.432203
1012.5	46	81	174.5	127	301.5	1314	295	1019	18	255.5	3.454237
1019	84	83.5	125	167.5	292.5	1311.5	295	1016.5	19	208.5	3.445762
1016.5	70.5	99	119	169.5	288.5	1305	295	1010	20	218	3.423728
										272.725	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Plumber

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

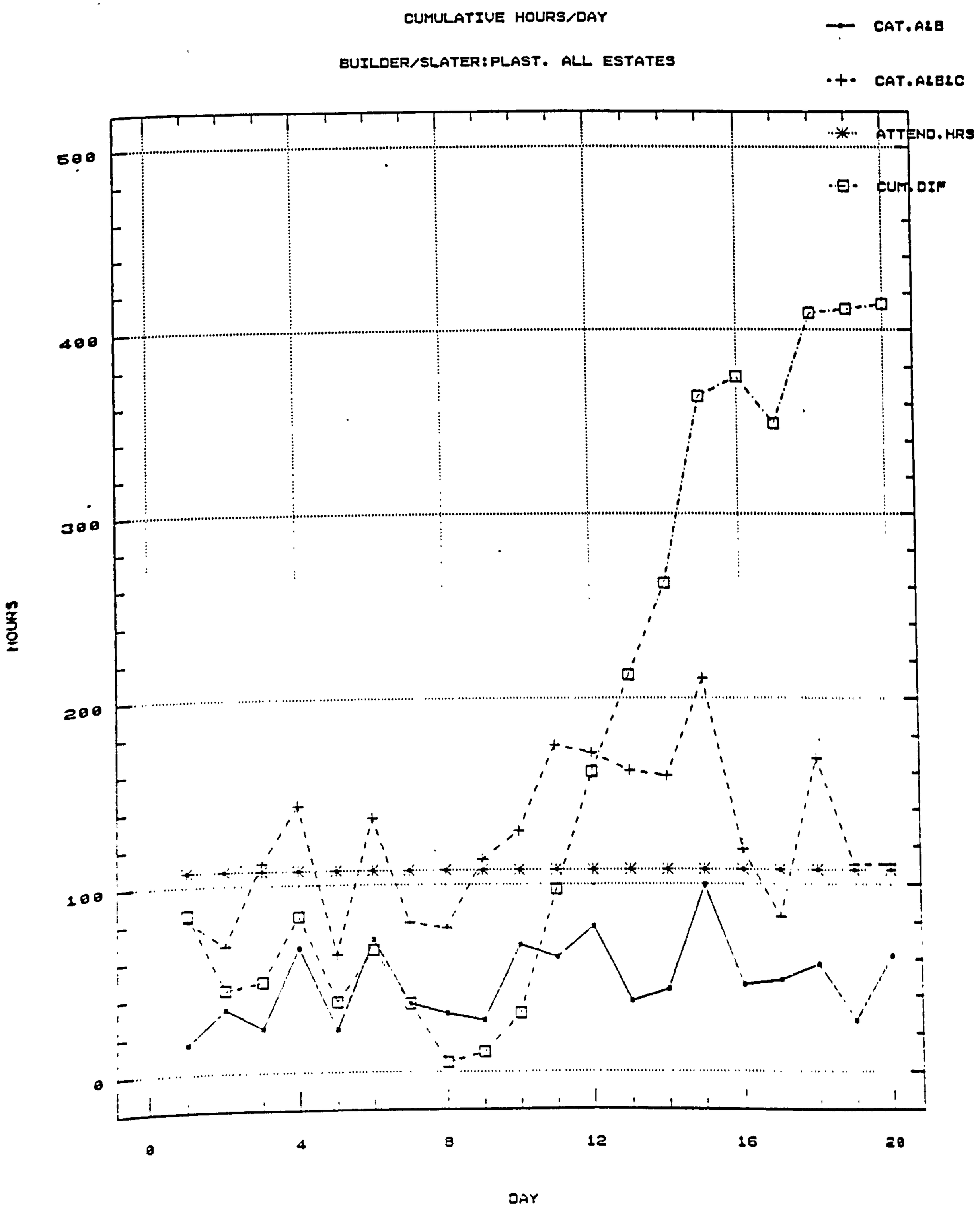
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
189.5	39.5	58.5	82	98	180	369.5	216	153.5	1	140.5	0.710648
153.5	33.5	62.5	68	96	164	317.5	216	101.5	2	130.5	0.469907
101.5	86.5	117.5	125.5	204	329.5	431	216	215	3	243	0.995370
215	20	91.5	83.5	111.5	195	410	216	194	4	175	0.898148
194	72	82.5	129.5	154.5	284	478	216	262	5	212	1.212962
262	69.5	88.5	88	158	246	508	216	292	6	176.5	1.351851
292	33	114.5	66.5	147.5	214	506	216	290	7	181	1.342592
290	75.5	103.5	111.5	179	290.5	580.5	216	364.5	8	215	1.6875
364.5	50	153	90	203	293	657.5	216	441.5	9	243	2.043981
441.5	98.5	25	72.5	123.5	196	637.5	216	421.5	10	97.5	1.951388
421.5	36	90	111	126	237	658.5	216	442.5	11	201	2.048611
442.5	69	74.5	67.5	143.5	211	653.5	216	437.5	12	142	2.025462
437.5	50	136.5	132.5	186.5	319	756.5	216	540.5	13	269	2.502314
540.5	64.5	96.5	77	161	238	778.5	216	562.5	14	173.5	2.604166
562.5	64.5	113.5	79	178	257	819.5	216	603.5	15	192.5	2.793981
603.5	43.5	157.5	101	201	302	905.5	216	689.5	16	258.5	3.192129
689.5	19.5	132.5	111	152	263	952.5	216	736.5	17	243.5	3.409722
736.5	48	80	72	128	200	936.5	216	720.5	18	152	3.335648
720.5	90.5	58	107.5	148.5	256	976.5	216	760.5	19	165.5	3.520833
760.5	75.5	92.5	85	168	253	1013.5	216	797.5	20	177.5	3.692129
										189.45	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Plumber/Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

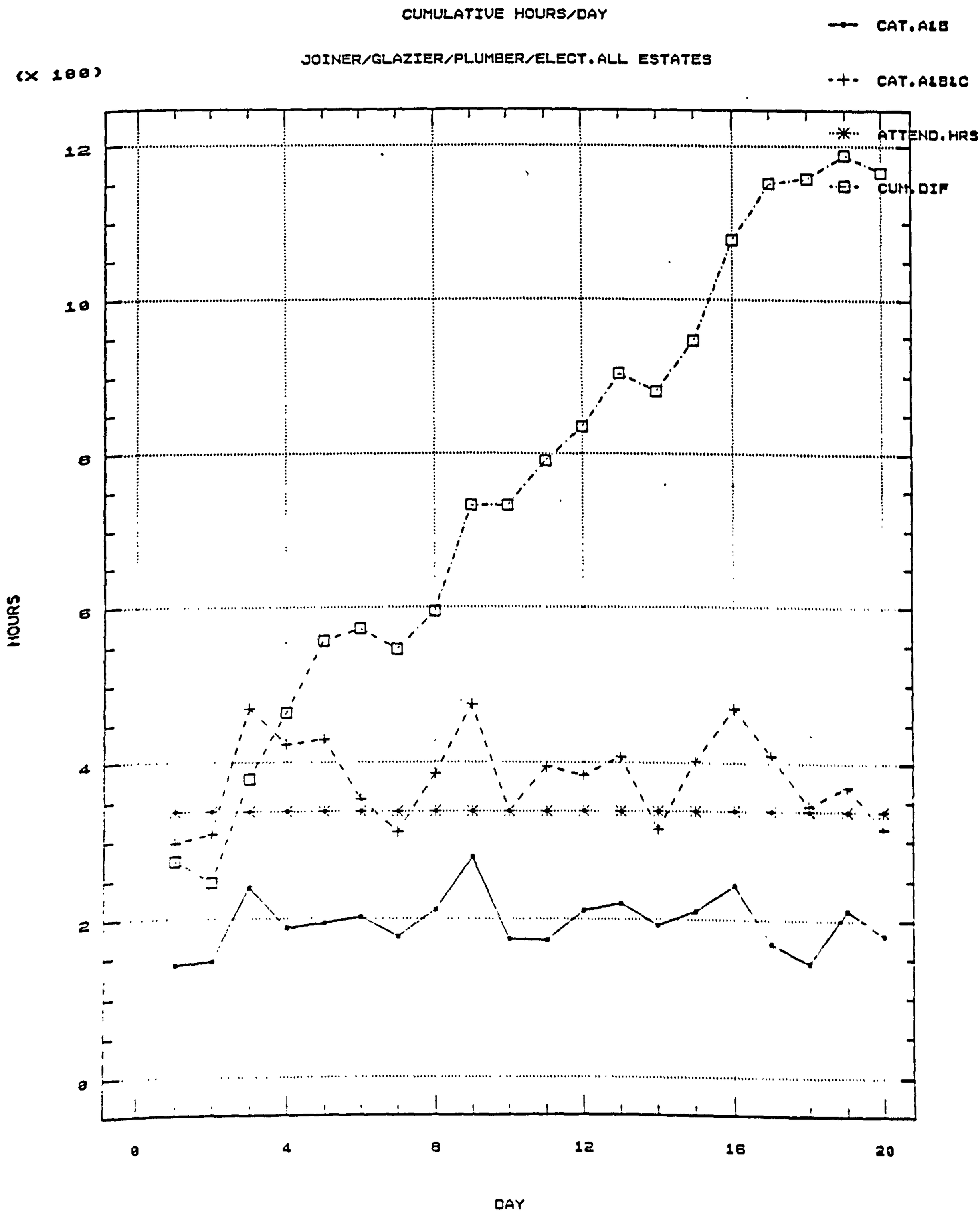
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
111.5	5	11	65.5	16	81.5	193	108	85	1	76.5	0.787037
85	23.5	10.5	33.5	34	67.5	152.5	108	44.5	2	44	0.412037
44.5	9	14.5	88.5	23.5	112	156.5	108	48.5	3	103	0.449074
48.5	14	52	76.5	66	142.5	191	108	83	4	128.5	0.768518
83	0	23	39.5	23	62.5	145.5	108	37.5	5	62.5	0.347222
37.5	12.5	58	65	70.5	135.5	173	108	65	6	123	0.601851
65	11	25.5	43	36.5	79.5	144.5	108	36.5	7	68.5	0.337962
36.5	0	31	45.5	31	76.5	113	108	5	8	76.5	0.046296
5	14.5	13	86	27.5	113.5	118.5	108	10.5	9	99	0.097222
10.5	0	67	61.5	67	128.5	139	108	31	10	128.5	0.287037
31	0	60.5	114	60.5	174.5	205.5	108	97.5	11	174.5	0.902777
97.5	33	44	93.5	77	170.5	268	108	160	12	137.5	1.481481
160	0	37	123.5	37	160.5	320.5	108	212.5	13	160.5	1.967592
212.5	0	43.5	114	43.5	157.5	370	108	262	14	157.5	2.425925
262	50	49.5	111	99.5	210.5	472.5	108	364.5	15	160.5	3.375
364.5	26	19.5	73	45.5	118.5	483	108	375	16	92.5	3.472222
375	7.5	41	34	48.5	82.5	457.5	108	349.5	17	75	3.236111
349.5	8	49	110.5	57	167.5	517	108	409	18	159.5	3.787037
409	1.5	25.5	83.5	27	110.5	519.5	108	411.5	19	109	3.810185
411.5	17.5	44	49	61.5	110.5	522	108	414	20	93	3.833333
										111.475	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Builder/Slater:Plasterer

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

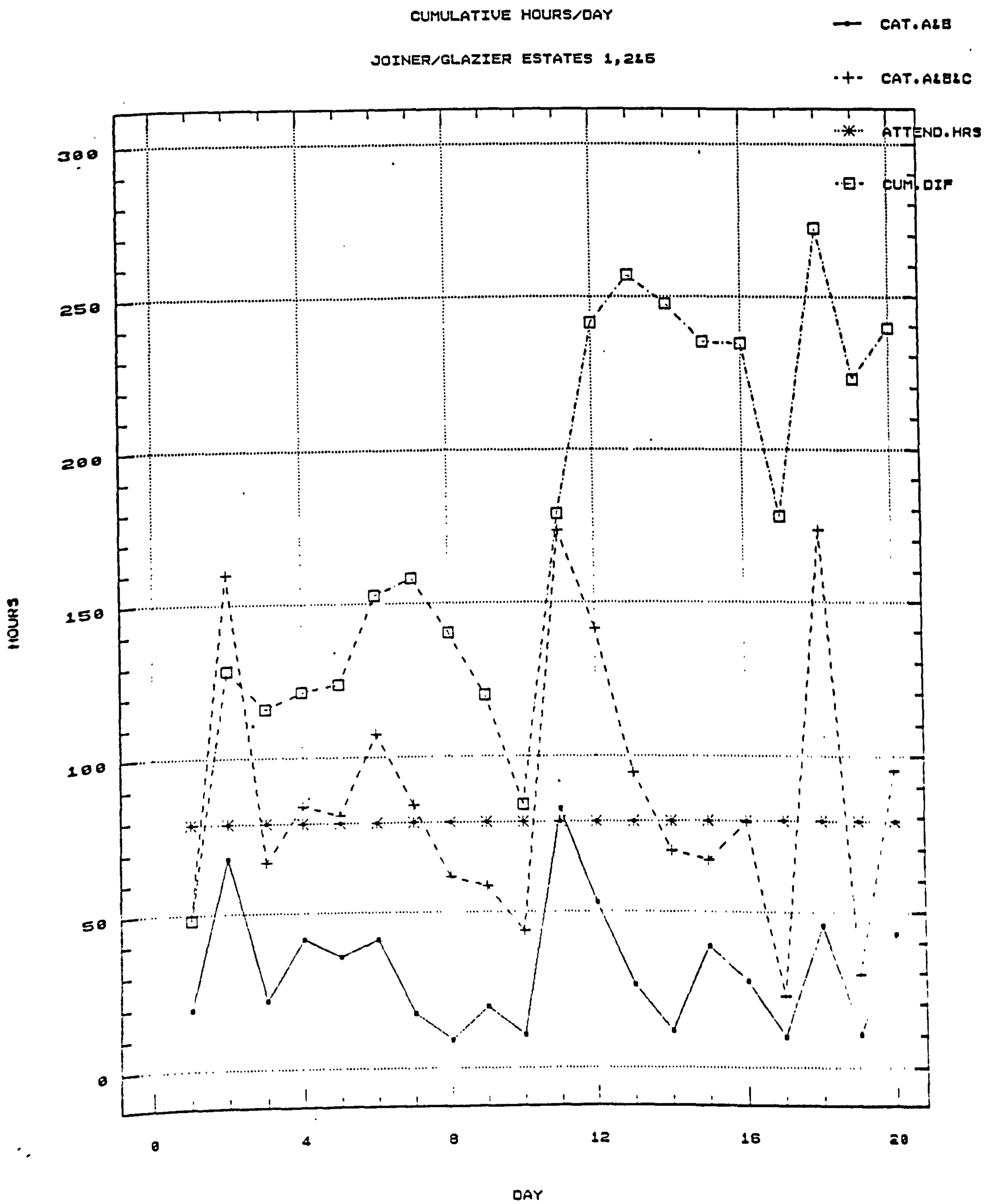
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
315	43	98	157.5	141	298.5	613.5	338	275.5	1	255.5	0.815088
275.5	39	107	163.5	146	309.5	585	338	247	2	270.5	0.730769
247	95	145	231	240	471	718	338	380	3	376	1.124260
380	38	149	236.5	187	423.5	803.5	338	465.5	4	385.5	1.377218
465.5	77	117	235.5	194	429.5	895	338	557	5	352.5	1.647928
557	85	117	151.5	202	353.5	910.5	338	572.5	6	268.5	1.693786
572.5	35.5	141	135	176.5	311.5	884	338	546	7	276	1.615384
546	76	136	174.5	212	386.5	932.5	338	594.5	8	310.5	1.758875
594.5	62	218	196.5	280	476.5	1071	338	733	9	414.5	2.168639
733	98.5	74.5	165	173	338	1071	338	733	10	239.5	2.168639
733	55	117.5	222	172.5	394.5	1127.5	338	789.5	11	339.5	2.335798
789.5	94	117	172.5	211	383.5	1173	338	835	12	289.5	2.470414
835	50	170.5	187	220.5	407.5	1242.5	338	904.5	13	357.5	2.676035
904.5	69.5	122	123	191.5	314.5	1219	338	881	14	245	2.606508
881	78.5	132	192	210.5	402.5	1283.5	338	945.5	15	324	2.797337
945.5	59	184	227.5	243	470.5	1416	338	1078	16	411.5	3.189349
1078	32.5	136.5	241.5	169	410.5	1488.5	338	1150.5	17	378	3.403846
1150.5	48	95.5	201	143.5	344.5	1495	338	1157	18	296.5	3.423076
1157	95.5	117	157	212.5	369.5	1526.5	338	1188.5	19	274	3.516272
1188.5	78.5	102.5	134.5	181	315.5	1504	338	1166	20	237	3.449704
										315.075	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Glazier/Plumber/Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

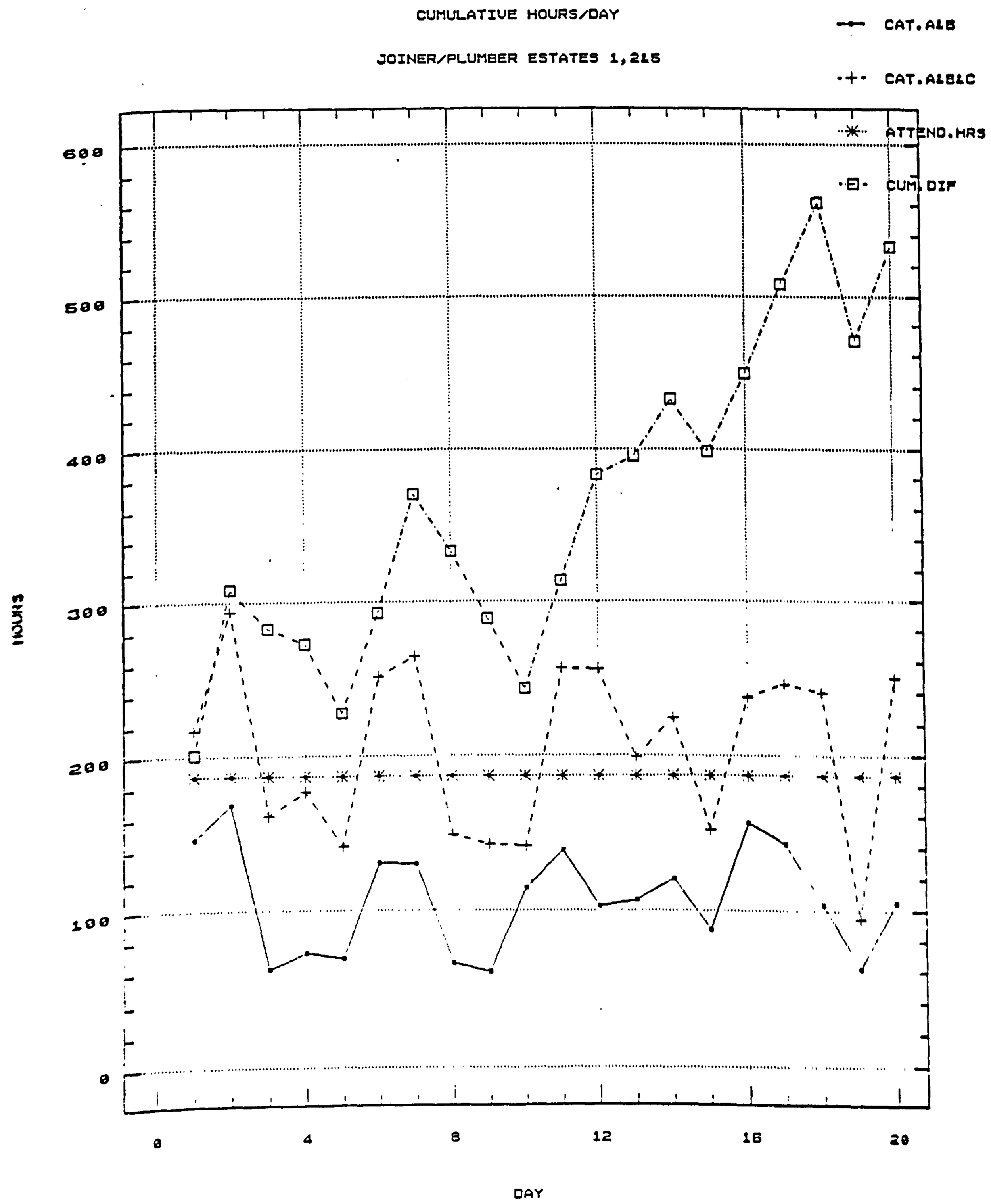
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
77.5	10.5	9	30	19.5	49.5	127	79	48	1	39	0.607594
48	32	36	91.5	68	159.5	207.5	79	128.5	2	127.5	1.626582
128.5	5.5	16.5	44.5	22	66.5	195	79	116	3	61	1.468354
116	25	16.5	43	41.5	84.5	200.5	79	121.5	4	59.5	1.537974
121.5	1.5	34	46	35.5	81.5	203	79	124	5	80	1.569620
124	2.5	38.5	66.5	41	107.5	231.5	79	152.5	6	105	1.930379
152.5	7.5	10	67	17.5	84.5	237	79	158	7	77	2
158	0	9	52.5	9	61.5	219.5	79	140.5	8	61.5	1.778481
140.5	7	12.5	39	19.5	58.5	199	79	120	9	51.5	1.518987
120	0	10.5	33	10.5	43.5	163.5	79	84.5	10	43.5	1.069620
84.5	15	68	90.5	83	173.5	258	79	179	11	158.5	2.265822
179	14.5	38.5	88.5	53	141.5	320.5	79	241.5	12	127	3.056962
241.5	5.5	20.5	68.5	26	94.5	336	79	257	13	89	3.253164
257	5.5	6	58	11.5	69.5	326.5	79	247.5	14	64	3.132911
247.5	17	21.5	28	38.5	66.5	314	79	235	15	49.5	2.974683
235	0.5	26.5	51.5	27	78.5	313.5	79	234.5	16	78	2.968354
234.5	5.5	4	13	9.5	22.5	257	79	178	17	17	2.253164
178	15.5	30	128	45.5	173.5	351.5	79	272.5	18	158	3.449367
272.5	2.5	8	19	10.5	29.5	302	79	223	19	27	2.822784
223	19	24	52.5	43	95.5	318.5	79	239.5	20	76.5	3.031645
										77.5	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Glazier

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

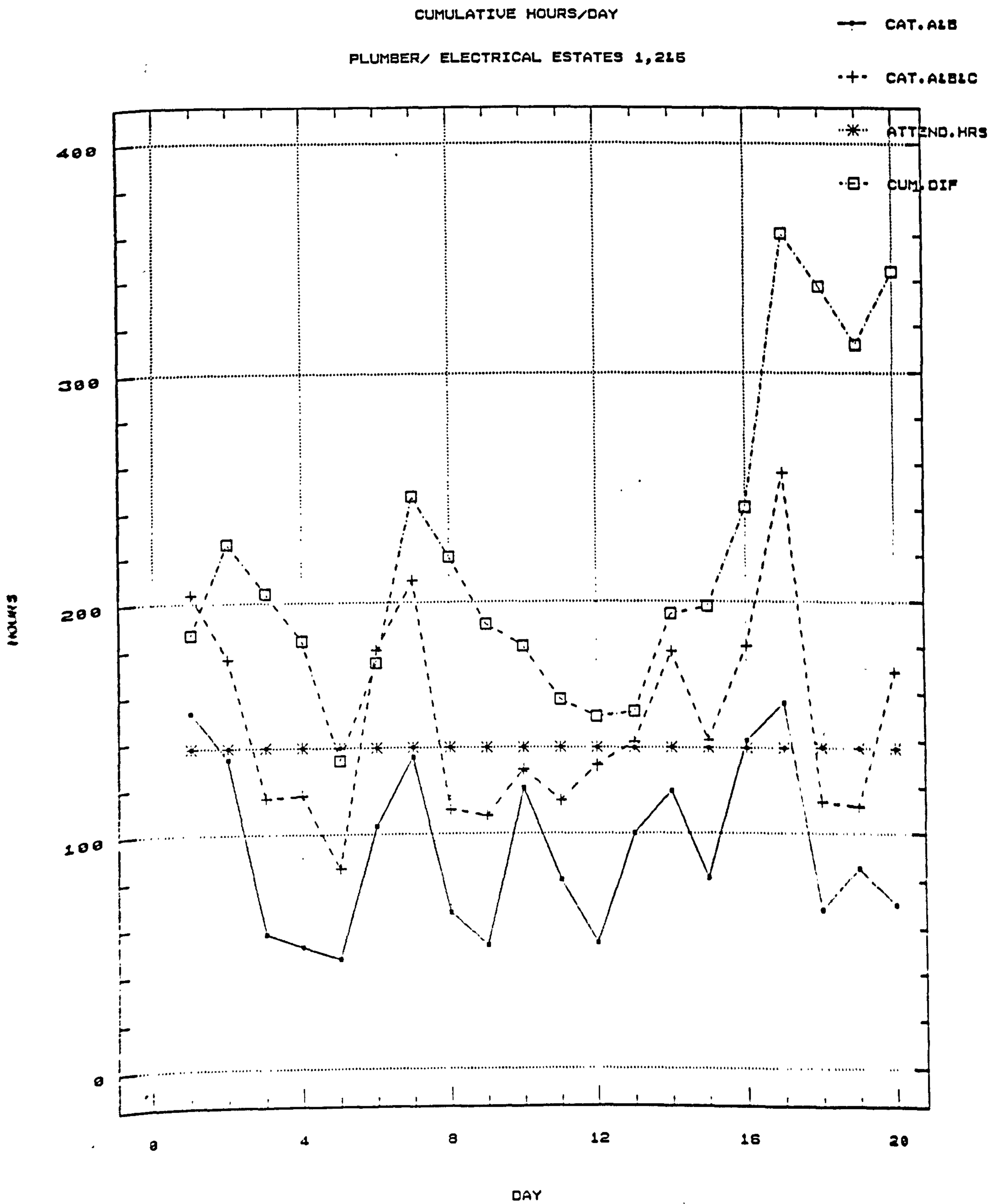
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
171	58.5	88.5	70	147	217	388	187	201	1	158.5	1.074866
201	52.5	116.5	125	169	294	495	187	308	2	241.5	1.647058
308	14	48.5	99.5	62.5	162	470	187	283	3	148	1.513368
283	29.5	43.5	104	73	177	460	187	273	4	147.5	1.459893
273	10	59	73	69	142	415	187	228	5	132	1.219251
228	13	118	121	131	252	480	187	293	6	239	1.566844
293	24.5	106	134.5	130.5	265	558	187	371	7	240.5	1.983957
371	24.5	41	83.5	65.5	149	520	187	333	8	124.5	1.780748
333	27.5	32.5	83	60	143	476	187	289	9	115.5	1.545454
289	55.5	59	27.5	114.5	142	431	187	244	10	86.5	1.304812
244	42	97	118	139	257	501	187	314	11	215	1.679144
314	16.5	86	153.5	102.5	256	570	187	383	12	239.5	2.048128
383	32.5	74.5	92	107	199	582	187	395	13	166.5	2.112299
395	44.5	76	104.5	120.5	225	620	187	433	14	180.5	2.315508
433	27.5	59.5	65	87	152	585	187	398	15	124.5	2.128342
398	38	118.5	81.5	156.5	238	636	187	449	16	200	2.401069
449	43	99.5	103.5	142.5	246	695	187	508	17	203	2.716577
508	65.5	38	137.5	103.5	241	749	187	562	18	175.5	3.005347
562	14.5	48	32.5	62.5	95	657	187	470	19	80.5	2.513368
470	48	57.5	144.5	105.5	250	720	187	533	20	202	2.850267
										171.025	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Plumber

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

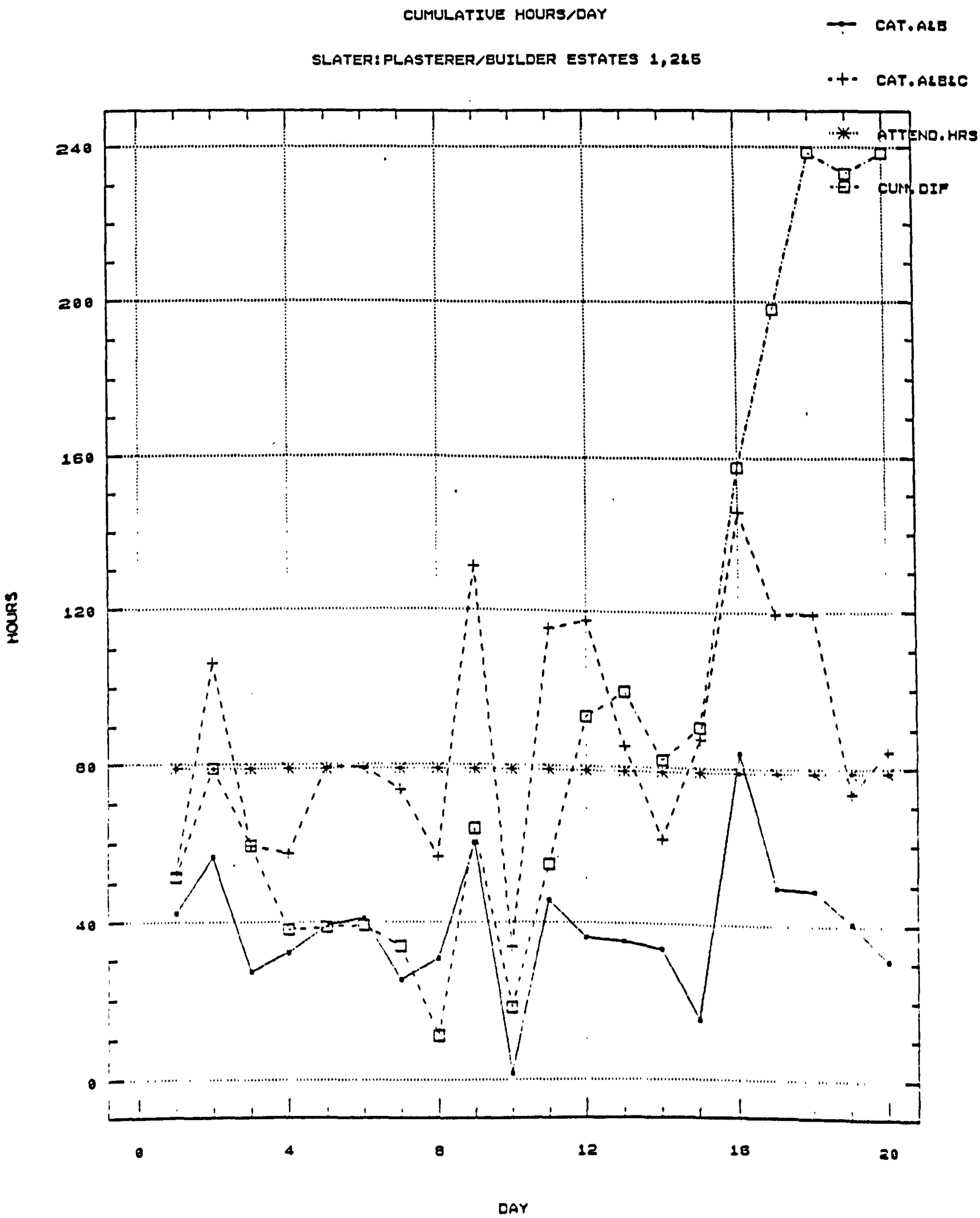
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
120	50.5	102.5	50.5	153	203.5	323.5	137	186.5	1	153	1.361313
186.5	25	107.5	43.5	132.5	176	362.5	137	225.5	2	151	1.645985
225.5	16.5	40.5	58.5	57	115.5	341	137	204	3	99	1.489051
204	9	42.5	65	51.5	116.5	320.5	137	183.5	4	107.5	1.339416
183.5	10	36.5	38.5	46.5	85	268.5	137	131.5	5	75	0.959854
131.5	16.5	87	76	103.5	179.5	311	137	174	6	163	1.270072
174	27	106	76	133	209	383	137	246	7	182	1.795620
246	24.5	41.5	44.5	66	110.5	356.5	137	219.5	8	86	1.602189
219.5	20.5	31.5	56	52	108	327.5	137	190.5	9	87.5	1.390510
190.5	58.5	61	8	119.5	127.5	318	137	181	10	69	1.321167
181	27	53.5	33.5	80.5	114	295	137	158	11	87	1.153284
158	5.5	47.5	76.5	53	129.5	287.5	137	150.5	12	124	1.098540
150.5	29.5	70.5	39.5	100	139.5	290	137	153	13	110	1.116788
153	40.5	77.5	60.5	118	178.5	331.5	137	194.5	14	138	1.419708
194.5	18.5	62.5	59.5	81	140.5	335	137	198	15	122	1.445255
198	38	102.5	40	140.5	180.5	378.5	137	241.5	16	142.5	1.762773
241.5	39	117.5	100	156.5	256.5	498	137	361	17	217.5	2.635036
361	52.5	15.5	45.5	68	113.5	474.5	137	337.5	18	61	2.463503
337.5	18.5	67	26	85.5	111.5	449	137	312	19	93	2.277372
312	31	39	99.5	70	169.5	481.5	137	344.5	20	138.5	2.514598
										120.325	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Plumber/Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

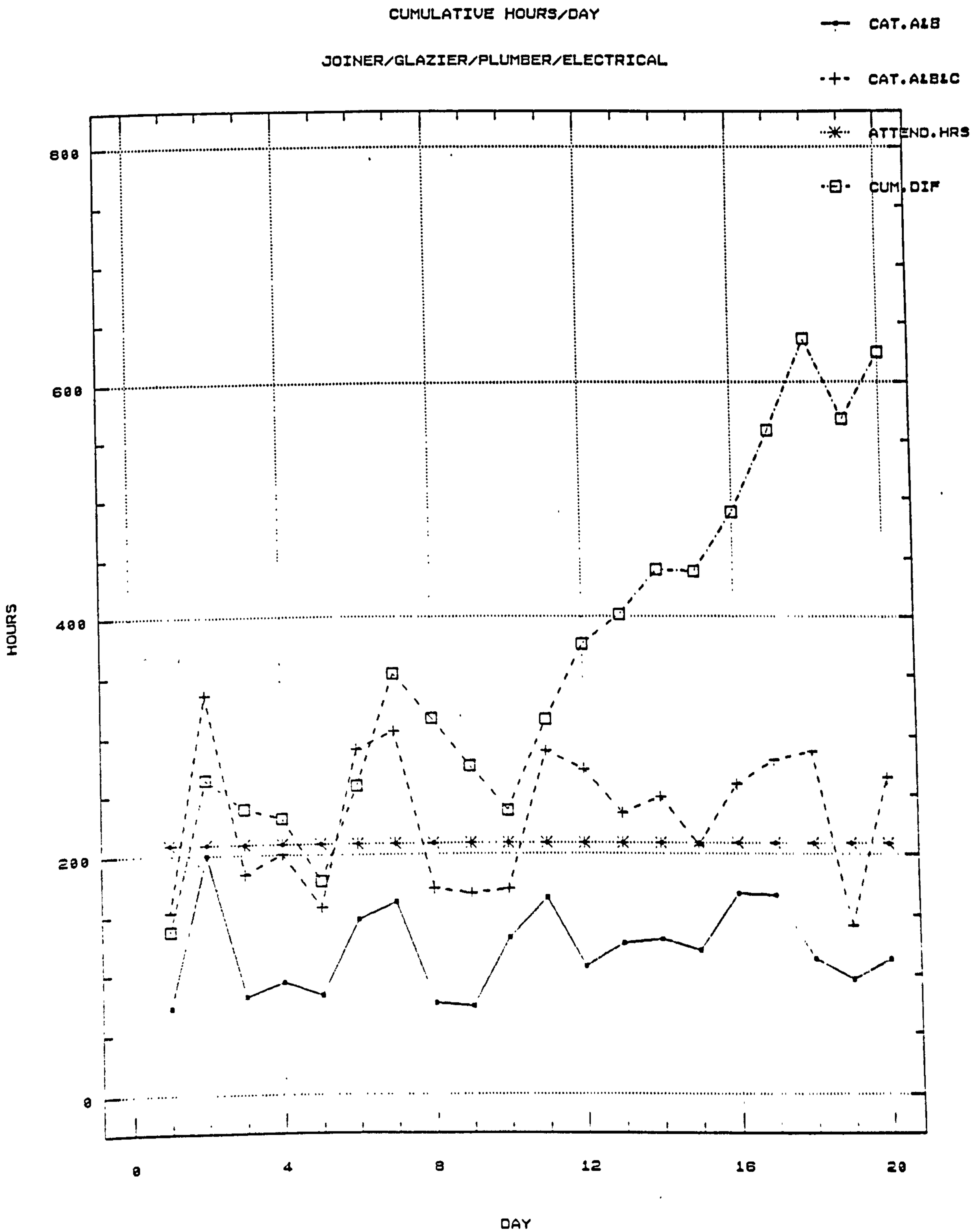
BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
78	4.5	37.5	10.5	42	52.5	130.5	79	51.5	1	48	0.651898
51.5	9	47.5	50	56.5	106.5	158	79	79	2	97.5	1
79	9.5	17.5	32.5	27	59.5	138.5	79	59.5	3	50	0.753164
59.5	10	22	25.5	32	57.5	117	79	38	4	47.5	0.481012
38	1.5	37.5	40.5	39	79.5	117.5	79	38.5	5	78	0.487341
38.5	14	27	38.5	41	79.5	118	79	39	6	65.5	0.493670
39	18.5	6.5	48.5	25	73.5	112.5	79	33.5	7	55	0.424050
33.5	8.5	22	26	30.5	56.5	90	79	11	8	48	0.139240
11	19	41	71.5	60	131.5	142.5	79	63.5	9	112.5	0.803797
63.5	0	1.5	32	1.5	33.5	97	79	18	10	33.5	0.227848
18	2.5	43	70	45.5	115.5	133.5	79	54.5	11	113	0.689873
54.5	19.5	16.5	81.5	36	117.5	172	79	93	12	98	1.177215
93	11.5	23.5	50.5	35	85.5	178.5	79	99.5	13	74	1.259493
99.5	17.5	15.5	28.5	33	61.5	161	79	82	14	44	1.037974
82	0	15	72.5	15	87.5	169.5	79	90.5	15	87.5	1.145569
90.5	9	75	62	84	146	236.5	79	157.5	16	137	1.993670
157.5	10	39.5	70	49.5	119.5	277	79	198	17	109.5	2.506329
198	3.5	45.5	70.5	49	119.5	317.5	79	238.5	18	116	3.018987
238.5	9.5	31	33	40.5	73.5	312	79	233	19	64	2.949367
233	7.5	23.5	53.5	31	84.5	317.5	79	238.5	20	77	3.018987
										77.775	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hours Available	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Builder/Slater:Plasterer

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE



WEEKS 16 TO 19

BF	A	B	C	AB	ABC	TOT	HRS	DIF	DAY	BC	DAYS
193	61	11.5	80.5	72.5	153	346	209	137	1	92	0.655502
137	57	143.5	135	200.5	335.5	472.5	209	263.5	2	278.5	1.260765
263.5	22	59	103	81	184	447.5	209	238.5	3	162	1.141148
238.5	34	59	108	93	201	439.5	209	230.5	4	167	1.102870
230.5	11.5	70.5	74.5	82	156.5	387	209	178	5	145	0.851674
178	19	127	142.5	146	288.5	466.5	209	257.5	6	269.5	1.232057
257.5	34.5	126	143.5	160.5	304	561.5	209	352.5	7	269.5	1.686602
352.5	24.5	50.5	97	75	172	524.5	209	315.5	8	147.5	1.509569
315.5	27.5	45	95	72.5	167.5	483	209	274	9	140	1.311004
274	58.5	71.5	41	130	171	445	209	236	10	112.5	1.129186
236	42	121.5	124	163.5	287.5	523.5	209	314.5	11	245.5	1.504784
314.5	20	86	165	106	271	585.5	209	376.5	12	251	1.801435
376.5	35	91	108	126	234	610.5	209	401.5	13	199	1.921052
401.5	46	83.5	118.5	129.5	248	649.5	209	440.5	14	202	2.107655
440.5	35.5	84	87.5	119.5	207	647.5	209	438.5	15	171.5	2.098086
438.5	38.5	129	91.5	167.5	259	697.5	209	488.5	16	220.5	2.337320
488.5	44.5	121.5	113	166	279	767.5	209	558.5	17	234.5	2.672248
558.5	68	45.5	173.5	113.5	287	845.5	209	636.5	18	219	3.045454
636.5	21	75	45	96	141	777.5	209	568.5	19	120	2.720095
568.5	50	63	152	113	265	833.5	209	624.5	20	215	2.988038
										193.075	

LEGEND

BF	Work Brought Forward	
A	Emergency Work (Old Definition)	TRT ≤ 24 hrs
B	Very Urgent Work	TRT ≤ 2 Days
C	Urgent	TRT ≤ 5 Days
TOT	Sum of A, B and C	
HRS	Nett Attendance Hourse Avalaible	
DIF	TOT - HRS	
DAYS	Numbers of Days Work Outstanding	DIF/HRS

Joiner/Glazier/Plumber/Electrician

NETT ATTENDANCE TIME AND CUMULATIVE HOURS OF SERVICE

COMPUTER SIMULATION RESULTS

THEORETICAL DISTRIBUTIONS FOR

JOINER and PLUMBERWORK

WEEKS 16 to 19

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 131 NO OF JOBS 40

TOTAL HOURS TO DAY 1 131 NO OF JOBS 40
TOTAL HOURS FOR DAY 2 114 NO OF JOBS 36

TOTAL HOURS TO DAY 2 245 NO OF JOBS 76
TOTAL HOURS FOR DAY 3 215 NO OF JOBS 50

TOTAL HOURS TO DAY 3 460 NO OF JOBS 126
TOTAL HOURS FOR DAY 4 140 NO OF JOBS 46

TOTAL HOURS TO DAY 4 600 NO OF JOBS 172
TOTAL HOURS FOR DAY 5 81 NO OF JOBS 34

TOTAL HOURS TO DAY 5 681 NO OF JOBS 206
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0.5  8  12.5      1  2  5
 9.5  31  12      1  6  6
 0  0  23      0  0  8
 0  12  21      0  4  6
 0  1.5  0      0  1  0
----------  ----------
 10  52.5  68.5      2  13  25
----------  ----------
DAY= 2
 0  2  3      0  2  2
 0.5  0.5  37.5      1  1  9
 0  1.5  27.5      0  1  7
 9.5  0.5  19      3  1  4
 2.5  6.5  3.5      1  1  3
----------  ----------
 12.5  11  90.5      5  6  25
----------  ----------
DAY= 3
 1.5  1.5  9.5      1  1  5
 0  11.5  77.5      0  5  9
 1.5  8  23      1  2  10
 15.5  7.5  33      1  3  6
 0  24  1      0  4  2
----------  ----------
 18.5  52.5  144      3  15  32
----------  ----------
DAY= 4
 0  4.5  18.5      0  1  7
 7  3  23      2  2  10
 1.5  4.5  37      1  1  8
 0  0  22      0  0  8
 0  11  8      0  2  4
----------  ----------
 8.5  23  108.5      3  6  37
----------  ----------
DAY= 5
 0.5  0  5      1  0  2
 0  2  29      0  2  10
 0  0  7      0  0  4
 0.5  8  21      1  2  8
 5  0  3      2  0  2
----------  ----------
 6  10  65      4  4  26
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 155 NO OF JOBS 48

TOTAL HOURS TO DAY 1 155 NO OF JOBS 48
TOTAL HOURS FOR DAY 2 49 NO OF JOBS 20

TOTAL HOURS TO DAY 2 204 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 142 NO OF JOBS 44

TOTAL HOURS TO DAY 3 346 NO OF JOBS 112
TOTAL HOURS FOR DAY 4 141 NO OF JOBS 40

TOTAL HOURS TO DAY 4 487 NO OF JOBS 152
TOTAL HOURS FOR DAY 5 168 NO OF JOBS 36

TOTAL HOURS TO DAY 5 655 NO OF JOBS 188
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5.5  2  20.5      1  2  7
 0  16  16      0  6  6
 4.5  5  28.5      1  2  7
 3.5  2  38      3  2  8
 0  0  13.5      0  0  3
----------  ----------
 13.5  25  116.5      5  12  31
----------  ----------
DAY= 2
 1.5  0.5  4      1  1  2
 1.5  1.5  15.5      1  1  3
 0  4  1      0  2  2
 0  3.5  16      0  1  6
 0  0  0      0  0  0
----------  ----------
 3  9.5  36.5      2  5  13
----------  ----------
DAY= 3
 3.5  2.5  15      1  1  6
 1.5  23.5  10      1  5  6
 12.5  6.5  21      1  3  2
 5  0.5  28.5      2  1  9
 0  6.5  5.5      0  3  3
----------  ----------
 22.5  39.5  80      5  13  26
----------  ----------
DAY= 4
 0  5  16.5      0  2  5
 3  5.5  16.5      2  1  7
 0  5.5  16.5      0  1  5
 4.5  18  29      1  4  8
 7.5  0  13.5      1  0  3
----------  ----------
 15  34  92      4  8  28
----------  ----------
DAY= 5
 0  0.5  21.5      0  1  5
 14.5  7  19      3  2  6
 17.5  0  53.5      3  0  7
 2.5  0.5  16.5      1  1  5
 0  0  15      0  0  2
----------  ----------
 34.5  8  125.5      7  4  25
----------  ----------
```

Joiner All Estates

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  91  NO OF JOBS  30

TOTAL HOURS TO DAY  1  91  NO OF JOBS 30
TOTAL HOURS FOR DAY  2  129  NO OF JOBS  36

TOTAL HOURS TO DAY  2  220  NO OF JOBS 66
TOTAL HOURS FOR DAY  3  76  NO OF JOBS  30

TOTAL HOURS TO DAY  3  296  NO OF JOBS 96
TOTAL HOURS FOR DAY  4  173  NO OF JOBS  42

TOTAL HOURS TO DAY  4  469  NO OF JOBS 138
TOTAL HOURS FOR DAY  5  157  NO OF JOBS  42

TOTAL HOURS TO DAY  5  626  NO OF JOBS 180
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  4.5  5        0  1  6
 0  4  12        0  2  4
 0  0  34        0  0  8
 0  7  18        0  2  4
 3.5  0.5  2.5        1  1  1
----------    ----------
 3.5  16  71.5        1  6  23
----------    ----------
DAY= 2
 0.5  4.5  16.5        1  1  5
 8.5  0  31        1  0  6
 0.5  0.5  27.5        1  1  5
 0  0  16.5        0  0  7
 3.5  0  19.5        1  0  7
----------    ----------
 13  5  111        4  2  30
----------    ----------
DAY= 3
 0  0.5  9        0  1  6
 0  0  10.5        0  0  5
 10  1.5  8        2  1  4
 8  0  10        2  0  4
 0  0.5  18        0  1  4
----------    ----------
 18  2.5  55.5        4  3  23
----------    ----------
DAY= 4
 5.5  15.5  14.5        1  3  3
 0  19  51.5        0  4  13
 0  2  10        0  2  4
 0  23.5  9.5        0  3  5
 0  5  17        0  2  2
----------    ----------
 5.5  65  102.5        1  14  27
----------    ----------
DAY= 5
 2.5  1  19        1  2  6
 6  13.5  22.5        2  3  7
 0  0  4.5        0  0  3
 1.5  19  37.5        1  2  9
 0  0  30        0  0  6
----------    ----------
 10  33.5  113.5        4  7  31
----------    ----------
```

```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  83  NO OF JOBS  24

TOTAL HOURS TO DAY  1  83  NO OF JOBS 24
TOTAL HOURS FOR DAY  2  42  NO OF JOBS  18

TOTAL HOURS TO DAY  2  125  NO OF JOBS 42
TOTAL HOURS FOR DAY  3  102  NO OF JOBS  32

TOTAL HOURS TO DAY  3  227  NO OF JOBS 74
TOTAL HOURS FOR DAY  4  101  NO OF JOBS  40

TOTAL HOURS TO DAY  4  328  NO OF JOBS 114
TOTAL HOURS FOR DAY  5  85  NO OF JOBS  24

TOTAL HOURS TO DAY  5  413  NO OF JOBS 138
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  1.5  12.5        0  1  3
 0  0  29        0  0  8
 6.5  0  16.5        1  0  3
 0.5  2.5  13.5        1  1  5
 0  0  0.5        0  0  1
----------    ----------
 7  4  72        2  2  20
----------    ----------
DAY= 2
 1.5  0  1        1  0  2
 0  0.5  8        0  1  4
 0  10  9.5        0  2  3
 0  0  10.5        0  0  3
 0  0.5  0.5        0  1  1
----------    ----------
 1.5  11  29.5        1  4  13
----------    ----------
DAY= 3
 2.5  1.5  12.5        1  1  5
 3.5  0.5  10.5        1  1  5
 0.5  3.5  14        1  1  4
 2.5  0  26        3  0  6
 0  0  24.5        0  0  3
----------    ----------
 9  5.5  87.5        6  3  23
----------    ----------
DAY= 4
 14.5  0  7        1  0  6
 0.5  6  5.5        1  4  5
 1.5  1.5  12.5        1  1  3
 13.5  15  7.5        3  4  5
 0  3.5  12.5        0  3  3
----------    ----------
 30  26  45        6  12  22
----------    ----------
DAY= 5
 0  12  2.5        0  2  3
 3.5  0.5  18        1  1  4
 0  5.5  23.5        0  3  3
 0  0.5  14.5        0  1  3
 1.5  0  3        1  0  2
----------    ----------
 5  18.5  61.5        2  7  15
----------    ----------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  146  NO OF JOBS  38

TOTAL HOURS TO DAY  1  146  NO OF JOBS 38
TOTAL HOURS FOR DAY  2  170  NO OF JOBS  40

TOTAL HOURS TO DAY  2  316  NO OF JOBS 78
TOTAL HOURS FOR DAY  3  77  NO OF JOBS  26

TOTAL HOURS TO DAY  3  393  NO OF JOBS 104
TOTAL HOURS FOR DAY  4  130  NO OF JOBS  46

TOTAL HOURS TO DAY  4  523  NO OF JOBS 150
TOTAL HOURS FOR DAY  5  139  NO OF JOBS  38

TOTAL HOURS TO DAY  5  662  NO OF JOBS 188
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  25  26.5      0  6  9
 7  0.5  44      2  1  10
 0  0  5.5      0  0  1
 0  5.5  15.5      0  1  3
 0  0  16.5      0  0  5
---------   ---------
 7  31  108      2  8  28
---------   ---------
DAY= 2
 0  7  11.5      0  4  3
 0.5  20.5  12.5      1  5  5
 0.5  4.5  47.5      1  3  7
 2.5  13  12      1  2  4
 0  0  38      0  0  4
---------   ---------
 3.5  45  121.5      3  14  23
---------   ---------
DAY= 3
 0  4.5  0      0  1  0
 0  0.5  9      0  1  4
 0  3.5  10.5      0  3  5
 0  20  4      0  4  2
 0  8.5  16.5      0  3  3
---------   ---------
 0  37  40      0  12  14
---------   ---------
DAY= 4
 1.5  5.5  30.5      1  1  13
 3.5  7  37      1  2  8
 0  8  4      0  4  2
 4.5  20.5  7      1  5  6
 0  0  1      0  0  2
---------   ---------
 9.5  41  79.5      3  12  31
---------   ---------
DAY= 5
 0  2.5  22      0  1  4
 4.5  1.5  23      1  1  6
 0  9  21      0  2  8
 0  11  33      0  2  6
 0  8.5  3      0  5  2
---------   ---------
 4.5  32.5  102      1  11  26
---------   ---------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  132  NO OF JOBS  44

TOTAL HOURS TO DAY  1  132  NO OF JOBS 44
TOTAL HOURS FOR DAY  2  147  NO OF JOBS  36

TOTAL HOURS TO DAY  2  279  NO OF JOBS 80
TOTAL HOURS FOR DAY  3  53  NO OF JOBS  18

TOTAL HOURS TO DAY  3  332  NO OF JOBS 98
TOTAL HOURS FOR DAY  4  115  NO OF JOBS  38

TOTAL HOURS TO DAY  4  447  NO OF JOBS 136
TOTAL HOURS FOR DAY  5  95  NO OF JOBS  46

TOTAL HOURS TO DAY  5  542  NO OF JOBS 182
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  15  40      0  6  6
 5  1.5  14.5      2  1  5
 0  10.5  11      0  3  6
 0  2  15.5      0  2  7
 0  0  17      0  0  6
---------   ---------
 5  29  98      2  12  30
---------   ---------
DAY= 2
 0  1  53      0  2  10
 0.5  5  12.5      1  2  3
 0  8  12      0  2  6
 15.5  2.5  35      1  1  6
 0  0  2      0  0  2
---------   ---------
 16  16.5  114.5      2  7  27
---------   ---------
DAY= 3
 0.5  0  8.5      1  0  3
 0.5  0  11.5      1  0  5
 0  0  14      0  0  2
 0  3.5  10.5      0  1  3
 0  0  4      0  0  2
---------   ---------
 1  3.5  48.5      2  1  15
---------   ---------
DAY= 4
 5.5  1.5  13      1  1  2
 6  13.5  18.5      2  5  9
 1.5  6.5  7      1  3  2
 2.5  6  7.5      1  2  3
 0  19  7      0  2  4
---------   ---------
 15.5  46.5  53      5  13  20
---------   ---------
DAY= 5
 4  0  7      2  0  6
 4.5  0.5  18      1  1  8
 2.5  4.5  22.5      1  3  11
 0.5  16  8.5      1  2  3
 1.5  3  2      1  2  4
---------   ---------
 13  24  58      6  8  32
---------   ---------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  87  NO OF JOBS  28

TOTAL HOURS TO DAY  1  87  NO OF JOBS 28
TOTAL HOURS FOR DAY  2  135  NO OF JOBS  46

TOTAL HOURS TO DAY  2  222  NO OF JOBS 74
TOTAL HOURS FOR DAY  3  87  NO OF JOBS  24

TOTAL HOURS TO DAY  3  309  NO OF JOBS 98
TOTAL HOURS FOR DAY  4  65  NO OF JOBS  28

TOTAL HOURS TO DAY  4  374  NO OF JOBS 126
TOTAL HOURS FOR DAY  5  131  NO OF JOBS  36

TOTAL HOURS TO DAY  5  505  NO OF JOBS 162
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 5.5  0  7        1  0  4
 7  17.5  16        2  3  6
 0  0  6        0  0  2
 0  1.5  9.5        0  1  5
 11  0  6        2  0  2
----------      ----------
 23.5  19  44.5        5  4  19
----------      ----------
DAY= 2
 0  0  21.5        0  0  7
 0  6  40        0  2  10
 0  6  12.5        0  2  7
 0  6.5  29.5        0  3  9
 0  8.5  4.5        0  3  3
----------      ----------
 0  27  108        0  10  36
----------      ----------
DAY= 3
 0  14.5  21        0  3  4
 0  17  17.5        0  4  7
 0  0  0.5        0  0  1
 0  0  7        0  0  4
 0  0  9.5        0  0  1
----------      ----------
 0  31.5  55.5        0  7  17
----------      ----------
DAY= 4
 1.5  2  12.5        1  2  7
 0  2.5  8.5        0  3  5
 0  0  1        0  0  2
 0  0  20        0  0  4
 0  10  7        0  2  2
----------      ----------
 1.5  14.5  49        1  7  20
----------      ----------
DAY= 5
 5.5  9.5  2.5        1  3  3
 13.5  0.5  38        3  1  10
 5  0.5  12.5        2  1  3
 0  3  10.5        0  2  3
 0  6  24        0  2  2
----------      ----------
 24  19.5  87.5        6  9  21
----------      ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  104  NO OF JOBS  30

TOTAL HOURS TO DAY  1  104  NO OF JOBS 30
TOTAL HOURS FOR DAY  2  139  NO OF JOBS  50

TOTAL HOURS TO DAY  2  243  NO OF JOBS 80
TOTAL HOURS FOR DAY  3  114  NO OF JOBS  40

TOTAL HOURS TO DAY  3  357  NO OF JOBS 120
TOTAL HOURS FOR DAY  4  155  NO OF JOBS  44

TOTAL HOURS TO DAY  4  512  NO OF JOBS 164
TOTAL HOURS FOR DAY  5  58  NO OF JOBS  18

TOTAL HOURS TO DAY  5  570  NO OF JOBS 182
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 3.5  0  20.5        1  0  7
 0  0  21        0  0  4
 0  2  22.5        0  2  7
 0  1  11.5        0  2  5
 0  15.5  6.5        0  1  1
----------      ----------
 3.5  18.5  82        1  5  24
----------      ----------
DAY= 2
 0  0.5  26        0  1  4
 5.5  5.5  27.5        1  3  11
 3.5  10.5  31.5        1  5  9
 4.5  0  13        1  0  8
 0  4  7        0  2  4
----------      ----------
 13.5  20.5  105        3  11  36
----------      ----------
DAY= 3
 7  0.5  8.5        2  1  5
 5.5  2  15.5        1  2  9
 0  8.5  9.5        0  3  5
 8  2.5  23.5        2  3  3
 0  0  23        0  0  4
----------      ----------
 20.5  13.5  80        5  9  26
----------      ----------
DAY= 4
 4  13  32.5        2  2  7
 0  2.5  21        0  3  6
 0  4  14.5        0  2  5
 2.5  6  20.5        1  4  5
 6  10  18.5        2  2  3
----------      ----------
 12.5  35.5  107        5  13  26
----------      ----------
DAY= 5
 0  6  13        0  2  2
 2.5  3  4.5        1  2  3
 0  0  6.5        0  0  3
 6.5  0  2.5        1  0  1
 13.5  0  0        3  0  0
----------      ----------
 22.5  9  26.5        5  4  9
----------      ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  93  NO OF JOBS  26

TOTAL HOURS TO DAY  1  93  NO OF JOBS 26
TOTAL HOURS FOR DAY  2  64  NO OF JOBS  24

TOTAL HOURS TO DAY  2  157  NO OF JOBS 50
TOTAL HOURS FOR DAY  3  145  NO OF JOBS  48

TOTAL HOURS TO DAY  3  302  NO OF JOBS 98
TOTAL HOURS FOR DAY  4  181  NO OF JOBS  46

TOTAL HOURS TO DAY  4  483  NO OF JOBS 144
TOTAL HOURS FOR DAY  5  125  NO OF JOBS  44

TOTAL HOURS TO DAY  5  608  NO OF JOBS 188
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 3.5  0  3        1  0  2
 0  8.5  19        0  3  4
 0  13.5  11        0  3  4
 0  10  8.5        0  2  3
 0  1.5  14.5        0  1  3
----------    ----------
 3.5  33.5  56        1  9  16
----------    ----------
DAY= 2
 0  11.5  2        0  3  2
 0  24.5  2        0  5  4
 1.5  6  6.5        1  2  3
 0  2.5  5.5        0  1  1
 1.5  0  0.5        1  0  1
----------    ----------
 3  44.5  16.5        2  11  11
----------    ----------
DAY= 3
 2.5  4  8        1  2  4
 0  1.5  27        0  1  12
 3.5  6  7.5        1  2  5
 1.5  18  44.5        1  4  11
 0  1.5  19.5        0  1  3
----------    ----------
 7.5  31  106.5        3  10  35
----------    ----------
DAY= 4
 0  1  4        0  2  2
 1.5  4  42        1  2  8
 0  7.5  63        0  3  12
 0  9  49        0  2  14
 0  0  0        0  0  0
----------    ----------
 1.5  21.5  158        1  9  36
----------    ----------
DAY= 5
 0.5  4  10.5        1  2  9
 0  3  23.5        0  2  7
 0  6  23        0  4  6
 0  1  24        0  2  4
 0  17  12.5        0  2  5
----------    ----------
 0.5  31  93.5        1  12  31
----------    ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  147  NO OF JOBS  40

TOTAL HOURS TO DAY  1  147  NO OF JOBS 40
TOTAL HOURS FOR DAY  2  199  NO OF JOBS  48

TOTAL HOURS TO DAY  2  346  NO OF JOBS 88
TOTAL HOURS FOR DAY  3  58  NO OF JOBS  18

TOTAL HOURS TO DAY  3  404  NO OF JOBS 106
TOTAL HOURS FOR DAY  4  138  NO OF JOBS  50

TOTAL HOURS TO DAY  4  542  NO OF JOBS 156
TOTAL HOURS FOR DAY  5  111  NO OF JOBS  26

TOTAL HOURS TO DAY  5  653  NO OF JOBS 182
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 1.5  7.5  34        1  3  6
 2.5  8  29        1  2  8
 0  15  5.5        0  2  3
 7.5  4.5  25        1  1  10
 0  0  7        0  0  2
----------    ----------
 11.5  35  100.5        3  8  29
----------    ----------
DAY= 2
 15  9  24.5        2  4  7
 0  14.5  55.5        0  3  11
 0  7  30.5        0  2  5
 0  1.5  28        0  1  8
 6.5  4  3        1  2  2
----------    ----------
 21.5  36  141.5        3  12  33
----------    ----------
DAY= 3
 0  0.5  1        0  1  2
 0  0  7.5        0  0  3
 0  0.5  0        0  1  0
 0  5.5  22        0  1  6
 1.5  18  1.5        1  2  1
----------    ----------
 1.5  24.5  32        1  5  12
----------    ----------
DAY= 4
 0  0.5  14.5        0  1  9
 4.5  19  26.5        1  4  7
 0.5  10  15        1  2  4
 15.5  0  17        5  0  6
 0  8.5  6.5        0  5  5
----------    ----------
 20.5  38  79.5        7  12  31
----------    ----------
DAY= 5
 11.5  13  4.5        1  2  1
 0  1  21.5        0  2  5
 2.5  21.5  7        1  3  2
 7.5  1.5  16.5        1  1  5
 0  0.5  2.5        0  1  1
----------    ----------
 21.5  37.5  52        3  9  14
----------    ----------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  121  NO OF JOBS  42

TOTAL HOURS TO DAY  1  121  NO OF JOBS 42
TOTAL HOURS FOR DAY  2  83  NO OF JOBS  22

TOTAL HOURS TO DAY  2  204  NO OF JOBS 64
TOTAL HOURS FOR DAY  3  123  NO OF JOBS  44

TOTAL HOURS TO DAY  3  327  NO OF JOBS 108
TOTAL HOURS FOR DAY  4  92  NO OF JOBS  28

TOTAL HOURS TO DAY  4  419  NO OF JOBS 136
TOTAL HOURS FOR DAY  5  49  NO OF JOBS  18

TOTAL HOURS TO DAY  5  468  NO OF JOBS 154
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 9.5  1.5  7.5      1  3  5
 2  3.5  18      2  3  10
 3.5  9  21      1  2  4
 0.5  0  14      1  0  4
 2.5  17  11.5      1  4  1
----------  ----------
 18  31  72      6  12  24
----------  ----------
DAY= 2
 0  4.5  3.5      0  1  1
 0  13  7      0  2  2
 0  20.5  7.5      0  1  3
 0  9  13      0  4  4
 0  1.5  3.5      0  1  3
----------  ----------
 0  48.5  34.5      0  9  13
----------  ----------
DAY= 3
 0  2.5  3.5      0  1  1
 0  4.5  21      0  3  8
 0  10  21      0  4  8
 0.5  6.5  19.5      1  3  9
 0  16:5  17.5      0  1  5
----------  ----------
 0.5  40  82.5      1  12  31
----------  ----------
DAY= 4
 0  8  9      0  2  6
 0  2.5  5.5      0  3  3
 0  5.5  1.5      0  1  3
 0  0  38.5      0  0  5
 0  5.5  16      0  1  4
----------  ----------
 0  21.5  70.5      0  7  21
----------  ----------
DAY= 5
 0  0  10.5      0  0  5
 0  4.5  6      0  1  2
 0  0  6      0  0  2
 0  0  13.5      0  0  5
 5.5  0  3      1  0  2
----------  ----------
 5.5  4.5  39      1  1  16
----------  ----------
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```
RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  124  NO OF JOBS  50

TOTAL HOURS TO DAY  1  124  NO OF JOBS 50
TOTAL HOURS FOR DAY  2  55  NO OF JOBS  26

TOTAL HOURS TO DAY  2  179  NO OF JOBS 76
TOTAL HOURS FOR DAY  3  34  NO OF JOBS  18

TOTAL HOURS TO DAY  3  213  NO OF JOBS 94
TOTAL HOURS FOR DAY  4  68  NO OF JOBS  34

TOTAL HOURS TO DAY  4  281  NO OF JOBS 128
TOTAL HOURS FOR DAY  5  139  NO OF JOBS  40

TOTAL HOURS TO DAY  5  420  NO OF JOBS 168
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 6.5  4.5  22.5      3  3  7
 7.5  7  13.5      1  4  7
 2.5  5  13.5      1  2  5
 1.5  9  11      1  6  4
 5.5  3.5  11      1  1  4
----------  ----------
 23.5  29  71.5      7  16  27
----------  ----------
DAY= 2
 0  7.5  8      0  1  6
 5.5  10  6      1  4  4
 0  1.5  1      0  1  2
 5  0  6      2  0  4
 4.5  0  0      1  0  0
----------  ----------
 15  19  21      4  6  16
----------  ----------
DAY= 3
 1.5  0  8      1  0  4
 0  1.5  9      0  1  4
 0  2  8.5      0  2  3
 0  0  2      0  0  2
 0  1.5  0      0  1  0
----------  ----------
 1.5  5  27.5      1  4  13
----------  ----------
DAY= 4
 0  4.5  8      0  3  6
 0  1.5  21      0  3  6
 0  4.5  6.5      0  3  3
 0  2.5  13      0  1  4
 0  0  6.5      0  0  5
----------  ----------
 0  13  55      0  10  24
----------  ----------
DAY= 5
 0.5  4  16      1  2  6
 14.5  17.5  15.5      3  3  5
 0  14  29      0  4  8
 0  11  13.5      0  2  5
 3.5  0  0      1  0  0
----------  ----------
 18.5  46.5  74      5  11  24
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 40.5 NO OF JOBS 23

TOTAL HOURS TO DAY 1 40.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 2 74.5 NO OF JOBS 45

TOTAL HOURS TO DAY 2 115 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 118.5 NO OF JOBS 53

TOTAL HOURS TO DAY 3 233.5 NO OF JOBS 121
TOTAL HOURS FOR DAY 4 94.5 NO OF JOBS 37

TOTAL HOURS TO DAY 4 328 NO OF JOBS 158
TOTAL HOURS FOR DAY 5 90.5 NO OF JOBS 51

TOTAL HOURS TO DAY 5 418.5 NO OF JOBS 209
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 5.5  0  1        1  0  2
 1.5  1.5  8.5       3  1  5
 2  2.5  12.5       2  1  3
 0  0  3        0  0  2
 0.5  0.5  1.5       1  1  1
----------  ----------
 9.5  4.5  26.5       7  3  13
----------  ----------
DAY= 2
 8  1.5  2        2  1  2
 3.5  3.5  6       3  3  6
 5  0.5  1.5       2  1  3
 12  2.5  11.5       6  3  5
 1  15.5  0.5       2  5  1
----------  ----------
 29.5  23.5  21.5       15  13  17
----------  ----------
DAY= 3
 1  18  1        2  4  2
 22  4.5  10.5       8  3  5
 3.5  6.5  12       3  1  4
 14  0.5  5.5       8  1  5
 4.5  12  3       3  2  2
----------  ----------
 45  41.5  32       24  11  18
----------  ----------
DAY= 4
 1.5  4  4        1  2  4
 5  10  22.5       2  4  5
 7.5  6  7       3  2  2
 1.5  0  5       1  0  2
 7  5.5  8       2  3  4
----------  ----------
 22.5  25.5  46.5       9  11  17
----------  ----------
DAY= 5
 0.5  8  1.5       1  6  3
 1  11.5  1       2  7  2
 11  10  4       4  4  2
 5  6  13.5       2  4  5
 2.5  8  7       1  4  4
----------  ----------
 20  43.5  27       10  25  16
----------  ----------
```

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 78.5 NO OF JOBS 37

TOTAL HOURS TO DAY 1 78.5 NO OF JOBS 37
TOTAL HOURS FOR DAY 2 70.5 NO OF JOBS 39

TOTAL HOURS TO DAY 2 149 NO OF JOBS 76
TOTAL HOURS FOR DAY 3 56.5 NO OF JOBS 33

TOTAL HOURS TO DAY 3 205.5 NO OF JOBS 109
TOTAL HOURS FOR DAY 4 102.5 NO OF JOBS 51

TOTAL HOURS TO DAY 4 308 NO OF JOBS 160
TOTAL HOURS FOR DAY 5 68.5 NO OF JOBS 43

TOTAL HOURS TO DAY 5 376.5 NO OF JOBS 203
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

```
DAY= 1
 0  10  8.5        0  2  5
 8.5  1  1        5  2  2
 0.5  3  6.5       1  2  3
 5.5  20.5  2.5       3  5  3
 2.5  6  2.5       1  2  1
----------  ----------
 17  40.5  21       10  13  14
----------  ----------
DAY= 2
 10.5  5.5  5       3  3  2
 1.5  1.5  5       1  3  4
 4  5.5  0.5       2  3  1
 0  5  2        0  4  2
 0.5  9  15       1  4  6
----------  ----------
 16.5  26.5  27.5       7  17  15
----------  ----------
DAY= 3
 0.5  2  7       1  2  6
 0  9  2.5       0  6  1
 1  0  1.5       2  0  1
 11.5  1.5  4.5       3  1  3
 9.5  0.5  5.5       3  1  3
----------  ----------
 22.5  13  21       9  10  14
----------  ----------
DAY= 4
 0  14.5  6       0  5  4
 4  3.5  0.5       2  3  1
 19  3  6.5       6  4  3
 9  4.5  9.5       4  1  5
 4.5  9  9       5  4  4
----------  ----------
 36.5  34.5  31.5       17  17  17
----------  ----------
DAY= 5
 1  7  16       2  4  8
 0  0.5  4.5       0  1  5
 1.5  3  4       1  4  2
 9  5  5.5       4  2  3
 1.5  6  4       1  4  2
----------  ----------
 13  21.5  34       8  15  20
----------  ----------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  107.5  NO OF JOBS  49

TOTAL HOURS TO DAY  1  107.5  NO OF JOBS 49
TOTAL HOURS FOR DAY  2  74.5  NO OF JOBS  39

TOTAL HOURS TO DAY  2  182  NO OF JOBS 88
TOTAL HOURS FOR DAY  3  114.5  NO OF JOBS  51

TOTAL HOURS TO DAY  3  296.5  NO OF JOBS 139
TOTAL HOURS FOR DAY  4  95.5  NO OF JOBS  51

TOTAL HOURS TO DAY  4  392  NO OF JOBS 190
TOTAL HOURS FOR DAY  5  42.5  NO OF JOBS  23

TOTAL HOURS TO DAY  5  434.5  NO OF JOBS 213
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 18.5  3  3      5  2  4
 5  12  8      2  4  4
 0.5  25  3.5      1  8  1
 0  7  4      0  6  2
 7.5  6.5  4      3  5  2
----------  ----------
 31.5  53.5  22.5      11  25  13
----------  ----------
DAY= 2
 0  0.5  2.5      0  1  1
 0  22.5  9      0  7  6
 1.5  3.5  5.5      1  1  5
 3.5  11  9.5      3  4  5
 2.5  0  3      1  0  4
----------  ----------
 7.5  37.5  29.5      5  13  21
----------  ----------
DAY= 3
 11  12.5  10.5      6  5  3
 18  14  6.5      6  6  5
 0.5  9.5  7      1  3  2
 1.5  1  2      1  2  4
 5.5  1.5  13.5      1  1  5
----------  ----------
 36.5  38.5  39.5      15  17  19
----------  ----------
DAY= 4
 4  3  1.5      4  2  3
 3  6  4.5      4  4  3
 0  6  10      0  4  4
 4  23  13      2  8  6
 1.5  7.5  8.5      1  3  3
----------  ----------
 12.5  45.5  37.5      11  21  19
----------  ----------
DAY= 5
 0  2  9      0  2  4
 0.5  0  3.5      1  0  3
 8.5  8  1.5      3  2  1
 2  2.5  4      2  1  2
 0.5  0  0.5      1  0  1
----------  ----------
 11.5  12.5  18.5      7  5  11
----------  ----------
```

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  66.5  NO OF JOBS  37

TOTAL HOURS TO DAY  1  66.5  NO OF JOBS 37
TOTAL HOURS FOR DAY  2  51.5  NO OF JOBS  31

TOTAL HOURS TO DAY  2  118  NO OF JOBS 68
TOTAL HOURS FOR DAY  3  129.5  NO OF JOBS  69

TOTAL HOURS TO DAY  3  247.5  NO OF JOBS 137
TOTAL HOURS FOR DAY  4  37.5  NO OF JOBS  23

TOTAL HOURS TO DAY  4  285  NO OF JOBS 160
TOTAL HOURS FOR DAY  5  57.5  NO OF JOBS  39

TOTAL HOURS TO DAY  5  342.5  NO OF JOBS 199
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 4  4  3.5      2  4  3
 0  3.5  2      0  3  2
 0.5  8  11.5      1  4  3
 4.5  9.5  11      3  5  4
 0  3  1.5      0  2  1
----------  ----------
 9  28  29.5      6  18  13
----------  ----------
DAY= 2
 4.5  7  3.5      1  4  3
 6  4  0      2  2  0
 3  9  0.5      2  4  1
 2.5  2.5  4      1  3  4
 1.5  0  3.5      1  0  3
----------  ----------
 17.5  22.5  11.5      7  13  11
----------  ----------
DAY= 3
 14  4  15.5      4  4  9
 1  5.5  5.5      2  3  3
 7.5  2.5  8      3  3  6
 11.5  12  12      5  8  8
 0.5  28  2      1  8  2
----------  ----------
 34.5  52  43      15  26  28
----------  ----------
DAY= 4
 0  1  8      0  2  4
 0.5  2  0.5      1  2  1
 7  1  0      4  2  0
 0  12.5  0.5      0  3  1
 3.5  0.5  0.5      1  1  1
----------  ----------
 11  17  9.5      6  10  7
----------  ----------
DAY= 5
 0  6  8.5      0  4  7
 6  1  3.5      4  2  1
 0  2.5  0.5      0  3  1
 4  11.5  1      2  5  2
 2.5  2  8.5      3  2  3
----------  ----------
 12.5  23  22      9  16  14
----------  ----------
```

Plumber All Estates

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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  54.5  NO OF JOBS  23

TOTAL HOURS TO DAY  1  54.5  NO OF JOBS 23
TOTAL HOURS FOR DAY  2  96.5  NO OF JOBS  45

TOTAL HOURS TO DAY  2  151  NO OF JOBS 68
TOTAL HOURS FOR DAY  3  140.5  NO OF JOBS  51

TOTAL HOURS TO DAY  3  291.5  NO OF JOBS 119
TOTAL HOURS FOR DAY  4  82.5  NO OF JOBS  45

TOTAL HOURS TO DAY  4  374  NO OF JOBS 164
TOTAL HOURS FOR DAY  5  105.5  NO OF JOBS  39

TOTAL HOURS TO DAY  5  479.5  NO OF JOBS 203
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 0  0.5  11       0  1  2
 0  5.5  7       0  3  4
 0.5  8  0       1  4  0
 0.5  5.5  16       1  3  4
 0  0  0       0  0  0
---------       ---------
 1  19.5  34       2  11  10
---------       ---------
DAY= 2
 0  8  9       0  4  4
 6  16  12.5       4  6  5
 0.5  2  7.5       1  2  3
 4.5  11.5  11       3  3  4
 0  2  6       0  2  4
---------       ---------
 11  39.5  46       8  17  20
---------       ---------
DAY= 3
 0  4  1.5       0  4  1
 6  6.5  36       2  5  10
 4  7.5  22       2  3  4
 6  19  11.5       2  8  3
 5.5  5.5  5.5       1  3  3
---------       ---------
 21.5  42.5  76.5       7  23  21
---------       ---------
DAY= 4
 1.5  7.5  4.5       1  5  5
 2  4.5  28       2  3  10
 1.5  4.5  4       1  3  2
 5.5  0.5  1       3  1  2
 11.5  4  2       3  2  2
---------       ---------
 22  21  39.5       10  14  21
---------       ---------
DAY= 5
 4.5  1.5  4.5       1  1  3
 23.5  15  5       5  8  2
 0  0.5  13       0  1  4
 1.5  5  4.5       1  2  5
 15.5  11  0.5       3  2  1
---------       ---------
 45  33  27.5       10  14  15
---------       ---------
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RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY  1  96.5  NO OF JOBS  43

TOTAL HOURS TO DAY  1  96.5  NO OF JOBS 43
TOTAL HOURS FOR DAY  2  93.5  NO OF JOBS  37

TOTAL HOURS TO DAY  2  190  NO OF JOBS 80
TOTAL HOURS FOR DAY  3  103.5  NO OF JOBS  53

TOTAL HOURS TO DAY  3  293.5  NO OF JOBS 133
TOTAL HOURS FOR DAY  4  72.5  NO OF JOBS  39

TOTAL HOURS TO DAY  4  366  NO OF JOBS 172
TOTAL HOURS FOR DAY  5  105.5  NO OF JOBS  53

TOTAL HOURS TO DAY  5  471.5  NO OF JOBS 225
PROGRAM 2  JOBS BY CATEGORY AND ESTATE

DAY= 1
 6.5  3  0       5  2  0
 3.5  8  5.5       3  4  3
 5.5  18.5  12.5       3  3  3
 1.5  11.5  1.5       1  5  1
 4  9  6       2  6  2
---------       ---------
 21  50  25.5       14  20  9
---------       ---------
DAY= 2
 9.5  3.5  11.5       5  3  3
 7  14.5  9.5       2  3  5
 0  5  4.5       0  4  1
 1  8.5  11.5       2  1  5
 1.5  0  6       1  0  2
---------       ---------
 19  31.5  43       10  11  16
---------       ---------
DAY= 3
 0.5  5  16       1  4  8
 4.5  6  4       3  4  4
 4  5  8.5       4  2  5
 15  11  5       4  2  4
 1.5  3  14.5       1  2  5
---------       ---------
 25.5  30  48       13  14  26
---------       ---------
DAY= 4
 3  4  9.5       4  2  5
 7.5  7  8       3  2  2
 1  10.5  0       2  5  0
 4  4  13       4  4  4
 0.5  0.5  0       1  1  0
---------       ---------
 16  26  30.5       14  14  11
---------       ---------
DAY= 5
 0.5  4  2.5       1  2  1
 2  10  15       2  6  8
 0  8  5.5       0  2  5
 8  8  8       4  4  6
 16.5  5.5  12       3  3  6
---------       ---------
 27  35.5  43       10  17  26
---------       ---------
```

Plumber All Estates

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 45.5 NO OF JOBS 23

TOTAL HOURS TO DAY 1 45.5 NO OF JOBS 23
TOTAL HOURS FOR DAY 2 98.5 NO OF JOBS 43

TOTAL HOURS TO DAY 2 144 NO OF JOBS 66
TOTAL HOURS FOR DAY 3 80.5 NO OF JOBS 43

TOTAL HOURS TO DAY 3 224.5 NO OF JOBS 109
TOTAL HOURS FOR DAY 4 95.5 NO OF JOBS 43

TOTAL HOURS TO DAY 4 320 NO OF JOBS 152
TOTAL HOURS FOR DAY 5 144.5 NO OF JOBS 69

TOTAL HOURS TO DAY 5 464.5 NO OF JOBS 221
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

1.5	3.5	0		1	3	0		
4	3.5	2.5		2	3	3		
5	3.5	0		2	1	0		
0	12	7.5		0	4	3		
0	0	2.5		0	0	1		
10.5	22.5		12.5				5	11	7

DAY= 2

7	5.5	2		2	3	4		
4.5	1	18		1	2	4		
2.5	4	9		1	2	2		
4	3	18		2	2	8		
4	6	10		2	4	4		
22	19.5	57					8	13	22

DAY= 3

2.5	3	0.5		1	2	1		
8	12	8.5		4	6	3		
0.5	3.5	8.5		1	3	5		
14	1	4		4	2	4		
2	7	5.5		2	4	1		
27	26.5	27					12	17	14

DAY= 4

0.5	9	0		1	4	0		
0.5	2.5	7		1	1	4		
9.5	12	0.5		5	4	1		
4.5	2.5	22.5		5	3	7		
4.5	12	8		1	4	2		
19.5	38	38					13	16	14

DAY= 5

7.5	16.5	1.5		5	9	1		
11	12	4		4	6	4		
3.5	4.5	9.5		1	3	5		
5	19	25.5		4	8	7		
14	3.5	7.5		6	3	3		
41	55.5	48					20	29	20

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 63.5 NO OF JOBS 27

TOTAL HOURS TO DAY 1 63.5 NO OF JOBS 27
TOTAL HOURS FOR DAY 2 82.5 NO OF JOBS 43

TOTAL HOURS TO DAY 2 146 NO OF JOBS 70
TOTAL HOURS FOR DAY 3 33.5 NO OF JOBS 23

TOTAL HOURS TO DAY 3 179.5 NO OF JOBS 93
TOTAL HOURS FOR DAY 4 76.5 NO OF JOBS 39

TOTAL HOURS TO DAY 4 256 NO OF JOBS 132
TOTAL HOURS FOR DAY 5 55.5 NO OF JOBS 33

TOTAL HOURS TO DAY 5 311.5 NO OF JOBS 165
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

1.5	11	2.5		1	6	1		
4	5.5	6		2	3	2		
5	1.5	0		2	1	0		
3	1.5	11		2	1	4		
0	0	11		0	0	2		
13.5	19.5		30.5				7	11	9

DAY= 2

7	5	7		4	4	2		
4	15	14.5		2	6	3		
4.5	2.5	3		3	3	2		
5.5	4	3.5		1	4	3		
1	0.5	5.5		2	1	3		
22	27	33.5					12	18	13

DAY= 3

0.5	5.5	0		1	3	0		
2	7	3.5		2	4	1		
3	5.5	2		2	3	2		
1	0.5	3		2	1	2		
0	0	0		0	0	0		
6.5	18.5	8.5					7	11	5

DAY= 4

0	4	11		0	2	2		
5	10.5	1.5		6	7	1		
9	5	5.5		2	2	3		
10	8.5	0.5		4	5	1		
3	2.5	0.5		2	1	1		
27	30.5	19					14	17	8

DAY= 5

2	7	0		2	4	0		
3.5	6.5	10		1	5	6		
5.5	0.5	0.5		1	1	1		
4	0	9		2	0	4		
2	5	0		2	4	0		
17	19	19.5					8	14	11

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 101.5 NO OF JOBS 53

TOTAL HOURS TO DAY 1 101.5 NO OF JOBS 53
TOTAL HOURS FOR DAY 2 66.5 NO OF JOBS 37

TOTAL HOURS TO DAY 2 168 NO OF JOBS 90
TOTAL HOURS FOR DAY 3 89.5 NO OF JOBS 39

TOTAL HOURS TO DAY 3 257.5 NO OF JOBS 129
TOTAL HOURS FOR DAY 4 90.5 NO OF JOBS 43

TOTAL HOURS TO DAY 4 348 NO OF JOBS 172
TOTAL HOURS FOR DAY 5 80.5 NO OF JOBS 43

TOTAL HOURS TO DAY 5 428.5 NO OF JOBS 215
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

8.5	10.5	6.5			3	5	3				
7	14	13		2	6	6					
0	4	10.5		0	2	5					
2.5	7	8		3	4	6					
2.5	2.5	5			3	1	4				
20.5	38	43			11	18	24				

DAY= 2

4	2.5	4.5			4	1	1				
1.5	8.5	3.5			1	3	3				
4.5	3.5	6.5			3	3	3				
0.5	13	9		1	4	4					
1.5	1.5	2		1	3	2					
12	29	25.5			10	14	13				

DAY= 3

12	0	7		6	0	4					
16.5	11	0			3	4	0				
1.5	8	4.5			1	2	3				
5	4	5	4	2	2						
3.5	3.5	8			1	5	2				
38.5	26.5	24.5				15	13	11			

DAY= 4

5	16	12.5			4	6	5				
3.5	5	9.5			3	2	3				
2.5	8.5	0			1	5	0				
3	9	1.5		2	6	1					
0	13	1.5		0	4	1					
14	51.5	25			10	23	10				

DAY= 5

7	4.5	12.5			4	3	5				
5	3.5	2		2	3	4					
3	0.5	6.5		2	1	5					
13	4	3.5		4	2	3					
5.5	9.5	0.5			1	3	1				
33.5	22	25			13	12	18				

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 52.5 NO OF JOBS 31

TOTAL HOURS TO DAY 1 52.5 NO OF JOBS 31
TOTAL HOURS FOR DAY 2 71.5 NO OF JOBS 37

TOTAL HOURS TO DAY 2 124 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 143.5 NO OF JOBS 69

TOTAL HOURS TO DAY 3 267.5 NO OF JOBS 137
TOTAL HOURS FOR DAY 4 48.5 NO OF JOBS 23

TOTAL HOURS TO DAY 4 316 NO OF JOBS 160
TOTAL HOURS FOR DAY 5 90.5 NO OF JOBS 45

TOTAL HOURS TO DAY 5 406.5 NO OF JOBS 205
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1

1.5	2.5	11.5			1	1	7				
2.5	0	5.5		1	0	3					
0.5	1	1		1	2	2					
1	18	3		2	6	4					
0	0	4.5		0	0	1					
5.5	21.5	25.5			5	9	17				

DAY= 2

0	2.5	3		0	1	2					
10.5	13	7		3	8	4					
1.5	4.5	18		1	3	4					
0	3.5	4		0	3	4					
0.5	3.5	0		1	3	0					
12.5	27	32			5	18	14				

DAY= 3

13	4.5	15.5			6	1	5				
9	9.5	9		6	7	8					
16	15.5	10			4	5	4				
0	13	12.5		0	8	7					
1.5	1.5	13			1	1	6				
39.5	44	60			17	22	30				

DAY= 4

4.5	0.5	1.5			1	1	1				
1	4	3.5		2	2	1					
0	8	0.5		0	2	1					
0.5	0.5	7		1	1	2					
7.5	5.5	4		3	3	2					
13.5	18.5	16.5			7	9	7				

DAY= 5

5	3	4		2	2	4					
1	10	16.5		2	4	5					
0.5	11.5	4		1	5	2					
10	2.5	9		4	3	4					
1.5	10.5	1.5			1	5	1				
18	37.5	35			10	19	16				

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 70.5 NO OF JOBS 31

TOTAL HOURS TO DAY 1 70.5 NO OF JOBS 31
TOTAL HOURS FOR DAY 2 72.5 NO OF JOBS 37

TOTAL HOURS TO DAY 2 143 NO OF JOBS 68
TOTAL HOURS FOR DAY 3 65.5 NO OF JOBS 31

TOTAL HOURS TO DAY 3 208.5 NO OF JOBS 99
TOTAL HOURS FOR DAY 4 106.5 NO OF JOBS 51

TOTAL HOURS TO DAY 4 315 NO OF JOBS 150
TOTAL HOURS FOR DAY 5 46.5 NO OF JOBS 23

TOTAL HOURS TO DAY 5 361.5 NO OF JOBS 173
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
4 0 0.5 2 0 1
10.5 3 4.5 5 2 3
1.5 8 10 1 2 4
4.5 0 11 3 0 2
9 0 4 4 0 2

29.5 11 30 15 4 12

DAY= 2
0 6 1 0 4 2
3.5 11.5 5.5 1 5 3
9.5 7 11.5 1 4 3
2 0 6.5 2 0 5
4.5 0.5 3.5 3 1 3

19.5 25 28 7 14 16

DAY= 3
1.5 13 1.5 1 4 1
5.5 10 0.5 1 6 1
2.5 10 1.5 1 2 1
1.5 5 10.5 1 4 5
0 0.5 2 0 1 2
---
11 38.5 16 4 17 10

DAY= 4
2.5 8 4.5 1 6 3
6.5 2.5 17 3 3 6
12.5 3.5 8 5 3 4
10 4 5 4 4 2
2.5 19.5 0.5 1 5 1
---
34 37.5 35 14 21 16

DAY= 5
0 1.5 3 0 1 2
3 0.5 4 2 1 2
1.5 13 0 3 4 0
0 5.5 1.5 0 3 1
1.5 8 3.5 1 2 1
---
6 28.5 12 6 11 6

RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATOION

TOTAL HOURS FOR DAY 1 89.5 NO OF JOBS 37

TOTAL HOURS TO DAY 1 89.5 NO OF JOBS 37
TOTAL HOURS FOR DAY 2 104.5 NO OF JOBS 53

TOTAL HOURS TO DAY 2 194 NO OF JOBS 90
TOTAL HOURS FOR DAY 3 28.5 NO OF JOBS 23

TOTAL HOURS TO DAY 3 222.5 NO OF JOBS 113
TOTAL HOURS FOR DAY 4 62.5 NO OF JOBS 37

TOTAL HOURS TO DAY 4 285 NO OF JOBS 150
TOTAL HOURS FOR DAY 5 87.5 NO OF JOBS 51

TOTAL HOURS TO DAY 5 372.5 NO OF JOBS 201
PROGRAM 2 JOBS BY CATEGORY AND ESTATE

DAY= 1
1.5 16.5 3 1 3 2
4.5 3 7 1 2 4
0 6.5 0 0 1 0
13.5 2.5 19.5 5 3 7
7 2 3 2 2 4

26.5 30.5 32.5 9 11 17

DAY= 2
10 7 6.5 4 4 3
12.5 3.5 10.5 5 3 5
2 27.5 2.5 2 5 5
6 3 8.5 4 4 5
1.5 3 0.5 1 2 1
---
32 44 28.5 16 18 19

DAY= 3
3.5 3 1 3 2 2
3.5 1.5 0.5 3 1 1
2.5 3 0 3 2 0
0 5 4.5 0 2 3
0 0 0.5 0 0 1

9.5 12.5 6.5 9 7 7

DAY= 4
4.5 6 12.5 3 2 5
0.5 1.5 3.5 1 1 3
0 1.5 1.5 0 1 3
7 3.5 0 6 3 0
5 9 6.5 2 4 3
---
17 21.5 24 12 11 14

DAY= 5
4 7.5 0.5 4 5 1
4.5 14.5 7.5 3 5 3
0 6 8 0 4 4
1 13.5 2.5 2 7 3
0.5 4.5 13 1 3 6
---
10 46 31.5 10 24 17

Plumber All Estates

SUMMARY STATISTICS

OF JOBS/DAY

FOR

JOINER, PLUMBER, ELECTRICAL, BUILDER, SLATER: PLASTERER AND GLAZIER

AND

PROPORTIONS OF WORK BY CATEGORY AND ESTATE

WEEKS 16 to 19

TRADE	JOINER		PLUMBER		ELECTRICIAN		BUILDER		SLAT:PLAST		GLAZIER		
ESTATES	ALL	1,2,5	ALL	1,2,5	ALL	1,2,5	ALL	1,2,5	ALL	1,2,5	ALL	1,2,5	DAY
	34	21	53	34	17	12	7	5	12	5	15	10	1
	34	21	36	16	23	13	12	9	12	9	6	2	2
	51	35	49	29	22	10	17	13	11	7	9	7	3
	19	12	26	17	17	8	6	3	7	6	1	1	4
	36	23	52	26	33	19	13	9	17	9	19	10	5
	42	37	39	24	22	11	9	8	16	13	8	5	6
	42	32	52	33	27	20	12	6	14	8	9	8	7
	18	12	23	18	21	14	1	0	7	4	6	3	8
	27	15	37	19	26	10	11	4	14	1	11	9	9
	27	16	44	20	30	15	17	12	26	22	8	7	10
	21	8	43	17	29	11	15	6	20	12	6	4	11
	45	22	46	28	17	7	15	6	15	7	7	5	12
	34	15	38	23	25	12	8	4	19	11	9	7	13
	37	10	26	12	10	7	9	3	13	3	8	1	14
	24	15	69	35	23	13	4	2	12	6	11	8	15
	32	18	37	30	17	5	8	3	6	4	3	3	16
	33	21	34	21	18	8	9	5	12	9	13	9	17
	22	15	31	20	17	13	10	8	10	7	5	2	18
	22	13	30	19	9	5	8	7	7	5	6	3	19

SUMMARY OF JOB ARRIVALS/DAY
WEEKS 16 to 19
CATEGORIES A, B and C

TRADE JOINER

CATEGORY	A	B	C	SUM
ESTATE 1	19	43	63	125
ESTATE 2	5	50	103	154
ESTATE 3	0	6	103	109
ESTATE 4	23	30	76	129
ESTATE 5	3	8	57	68
SUM	50	137	401	589

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.152	.496	1	.2122
	.03165	.3482	1	.4804
	0	.055	1	.6655
	.1783	.4108	1	.8845
	.0441	.1617	1	1
MEAN	.085	.3176	1	

TRADE PLUMBER

CATEGORY	A	B	C	SUM
ESTATE 1	58	58	24	140
ESTATE 2	37	90	57	184
ESTATE 3	5	54	87	146
ESTATE 4	77	46.	55	178
ESTATE 5	9	30	78	117
SUM	186	278	301	765

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.4143	.8286	1	.183
	.2011	.6902	1	.4235
	.0342	.4041	1	.6144
	.4326	.6910	1	.8470
	.0769	.3333	1	1
MEAN	.2307	.6173	1	

TRADE ELECTRICAL

CATEGORY	A	B	C	SUM
ESTATE 1	9	43	20	72
ESTATE 2	12	37	33	82
ESTATE 3	3	32	43	78
ESTATE 4	29	42	40	111
ESTATE 5	4	22	33	59
SUM	57	176	169	402

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.125	.7222	1	.1791
	.1463	.5975	1	.3831
	.0385	.4487	1	.5771
	.2613	.6396	1	.8532
	.0678	.4407	1	1
MEAN	.1418	.5796	1	

TRADE BUILDER

CATEGORY	A	B	C	SUM
ESTATE 1	4	11	19	34
ESTATE 2	7	7	29	43
ESTATE 3	0	4	17	21
ESTATE 4	8	15	36	59
ESTATE 5	12	6	19	37
SUM	31	43	12	194

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.1176	.4421	1	.1753
	.1628	.3256	1	.3969
	0	.1905	1	.5051
	.1356	.3898	1	.8093
	.3243	.4865	1	1
MEAN	.1598	.3814	1	

TRADE SLATER/PLASTERER

CATEGORY	A	B	C	SUM
ESTATE 1	3	25	17	45
ESTATE 2	0	30	28	58
ESTATE 3	0	7	31	38
ESTATE 4	3	34	31	68
ESTATE 5	1	8	32	41
SUM	7	104	139	250

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.0666	.6222	1	.180
	0	.5172	1	.4120
	0	.1842	1	.564
	.04412	.5441	1	.836
	.0244	.2195	1	1
MEAN	.028	.444	1	

TRADE GLAZIER

CATEGORY	A	B	C	SUM
ESTATE 1	11	27	10	48
ESTATE 2	3	7	19	29
ESTATE 3	0	9	18	27
ESTATE 4	7	6	16	29
ESTATE 5	1	9	17	27
SUM	22	58	80	160

	CUM. PROBABILITY CATEGORIES			CUM. PROBABILITY
	.2291	.7917	1	.30
	.1035	.3448	1	.4812
	0	.3333	1	.650
	.2414	.4483	1	.8312
	0.370	.3703	1	1
MEAN	.1375	.500	1	

SIMULATION GENERATED DATA

(TRADE AMALGAMATION MODEL)

SUMMARY STATISTICS

Variable:	JOINH
Sample size	60
Average	116.067
Median	123.5
Mode	89
Geometric mean	109.883
Variance	1299.45
Standard deviation	36.0479
Standard error	4.65377
Minimum	48
Maximum	192
Range	144
Lower quartile	86.5
Upper quartile	143
Interquartile range	56.5
Skewness	-0.130747
Standardized skewness	-0.413457
Kurtosis	-0.363117
Standardized kurtosis	-1.36471

Joiner All Estates

Variable:	PLUMH
Sample size	60
Average	207.183
Median	202
Mode	194.5
Geometric mean	200.893
Variance	2683.98
Standard deviation	51.8072
Standard error	6.68828
Minimum	112.5
Maximum	353.5
Range	241
Lower quartile	173
Upper quartile	240.5
Interquartile range	67.5
Skewness	0.521352
Standardized skewness	1.64866
Kurtosis	0.304644
Standardized kurtosis	0.481685

Plumber All Estates

Variable:	ELECH
Sample size	60
Average	35.7667
Median	37.5
Mode	37.5
Geometric mean	32.8722
Variance	176.199
Standard deviation	13.274
Standard error	1.71367
Minimum	7.5
Maximum	64.5
Range	57
Lower quartile	24.5
Upper quartile	45
Interquartile range	20.5
Skewness	-0.068937
Standardized skewness	-0.217998
Kurtosis	-0.704194
Standardized kurtosis	-1.11343

Electrician All Estates

Variable:	BUILH
Sample size	60
Average	54.95
Median	50.5
Mode	45.5
Geometric mean	45.8318
Variance	647.845
Standard deviation	25.4528
Standard error	3.28594
Minimum	1.5
Maximum	123.5
Range	122
Lower quartile	40.5
Upper quartile	71.5
Interquartile range	31
Skewness	0.416504
Standardized skewness	1.3171
Kurtosis	0.449074
Standardized kurtosis	0.710049

Builder All Estates

Variable:	SLAPH
Sample size	60
Average	73
Median	66
Mode	59
Geometric mean	65.0951
Variance	1170.31
Standard deviation	34.2097
Standard error	4.41646
Minimum	25
Maximum	171
Range	146
Lower quartile	47
Upper quartile	98
Interquartile range	51
Skewness	0.694616
Standardized skewness	2.19657
Kurtosis	0.317335
Standardized kurtosis	0.501751

Slater:Plasterer All Estates

Variable:	GLASH
Sample size	60
Average	16.235
Median	14
Mode	10.5
Geometric mean	12.8955
Variance	103.895
Standard deviation	10.1929
Standard error	1.3159
Minimum	1.5
Maximum	42.5
Range	41
Lower quartile	8.5
Upper quartile	23
Interquartile range	14.5
Skewness	0.767987
Standardized skewness	2.42859
Kurtosis	-0.190872
Standardized kurtosis	-0.301795

Glazier All Estates

Variable:	JGH
Sample size	60
Average	132.302
Median	136
Mode	145.5
Geometric mean	126.788
Variance	1393.09
Standard deviation	37.3241
Standard error	4.81852
Minimum	62.5
Maximum	228.5
Range	166
Lower quartile	99.5
Upper quartile	154.5
Interquartile range	55
Skewness	0.0946652
Standardized skewness	0.299358
Kurtosis	-0.438118
Standardized kurtosis	-0.692725

JOINER/GLAZIER All Estates

Variable:	JPH
Sample size	60
Average	323.25
Median	315
Mode	301.5
Geometric mean	317.98
Variance	3451.21
Standard deviation	58.747
Standard error	7.5842
Minimum	202.5
Maximum	480.5
Range	278
Lower quartile	293
Upper quartile	359.5
Interquartile range	66.5
Skewness	0.337686
Standardized skewness	1.06786
Kurtosis	0.418183
Standardized kurtosis	0.661206

JOINER/PLUMBER All Estates

Variable:	EPH
Sample size	60
Average	242.95
Median	240.5
Mode	228
Geometric mean	237.431
Variance	2803.74
Standard deviation	52.9504
Standard error	6.83587
Minimum	156
Maximum	408
Range	252
Lower quartile	203
Upper quartile	283.5
Interquartile range	80.5
Skewness	0.553827
Standardized skewness	1.75135
Kurtosis	0.284778
Standardized kurtosis	0.450273

PLUMBER/ELECTRICAL All Estates

Variable:	JGPE
Sample size	60
Average	375.252
Median	369.5
Mode	369.5
Geometric mean	370.408
Variance	3742.9
Standard deviation	61.1792
Standard error	7.8982
Minimum	250.5
Maximum	555.5
Range	305
Lower quartile	339.5
Upper quartile	407
Interquartile range	67.5
Skewness	0.45184
Standardized skewness	1.42884
Kurtosis	0.544862
Standardized kurtosis	0.861503

JOINER/GLAZIER/PLUMBER/ELECTRICAL All Estates

Variable:	BSPH
Sample size	60
Average	127.95
Median	126
Mode	118.5
Geometric mean	121.342
Variance	1632.39
Standard deviation	40.4028
Standard error	5.21598
Minimum	34.5
Maximum	236.5
Range	202
Lower quartile	104
Upper quartile	144.5
Interquartile range	40.5
Skewness	0.428268
Standardized skewness	1.3543
Kurtosis	0.244545
Standardized kurtosis	0.38666

BUILDER/SLATERER:PLASTERER All Estates

Variable:	JEST
Sample size	60
Average	78.5833
Median	67.5
Mode	55
Geometric mean	69.4866
Variance	1450.31
Standard deviation	38.083
Standard error	4.91649
Minimum	22
Maximum	157
Range	135
Lower quartile	50
Upper quartile	108
Interquartile range	58
Skewness	0.548946
Standardized skewness	1.73592
Kurtosis	-0.799184
Standardized kurtosis	-1.26362

Joiner Estates 1, 2 & 5

Variable:	PEST
Sample size	60
Average	122.567
Median	110.5
Mode	100
Geometric mean	115.81
Variance	1773.1
Standard deviation	42.1082
Standard error	5.43614
Minimum	50
Maximum	242
Range	192
Lower quartile	94.5
Upper quartile	157
Interquartile range	62.5
Skewness	0.710176
Standardized skewness	2.24577
Kurtosis	-0.0313933
Standardized kurtosis	-0.0496372

Plumber Estates 1, 2 & 5

Variable:	EEST
Sample size	60
Average	19.1667
Median	18.5
Mode	18.5
Geometric mean	17.9032
Variance	55.7175
Standard deviation	7.46442
Standard error	0.963652
Minimum	8.5
Maximum	42.5
Range	34
Lower quartile	13.5
Upper quartile	22.5
Interquartile range	9
Skewness	1.17822
Standardized skewness	3.72587
Kurtosis	1.52816
Standardized kurtosis	2.41624

Electrician Estates 1, 2 & 5

Variable:	BEST
Sample size	60
Average	27.185
Median	25.5
Mode	24.5
Geometric mean	-32768
Variance	309.655
Standard deviation	17.597
Standard error	2.27177
Minimum	0
Maximum	70.5
Range	70.5
Lower quartile	13.5
Upper quartile	34.55
Interquartile range	21.05
Skewness	0.577683
Standardized skewness	1.8268
Kurtosis	-0.0383774
Standardized kurtosis	-0.0606799

Builder Estates 1, 2 & 5

Variable:	SEST
Sample size	60
Average	63.1667
Median	60.5
Mode	58
Geometric mean	56.4478
Variance	857.362
Standard deviation	29.2807
Standard error	3.78013
Minimum	19
Maximum	157
Range	138
Lower quartile	40.5
Upper quartile	80
Interquartile range	39.5
Skewness	0.812228
Standardized skewness	2.56849
Kurtosis	1.12367
Standardized kurtosis	1.77668

Slater:Plasterer Estates 1, 2 & 5

Variable:	GEST
Sample size	60
Average	11.1
Median	11.5
Mode	7.5
Geometric mean	8.38689
Variance	43.2949
Standard deviation	6.57989
Standard error	0.84946
Minimum	0.5
Maximum	27.5
Range	27
Lower quartile	5.5
Upper quartile	15.5
Interquartile range	10
Skewness	0.221397
Standardized skewness	0.700117
Kurtosis	-0.366278
Standardized kurtosis	-0.579137

Glazier Estates 1, 2 & 5

Variable:	JGEST
Sample size	60
Average	89.6833
Median	82
Mode	66.5
Geometric mean	81.1345
Variance	1547.41
Standard deviation	39.3371
Standard error	5.0784
Minimum	22.5
Maximum	173.5
Range	151
Lower quartile	60
Upper quartile	119
Interquartile range	59
Skewness	0.552576
Standardized skewness	1.7474
Kurtosis	-0.566895
Standardized kurtosis	-0.89634

JOINER/GLAZIER Estates 1, 2 & 5

Variable:	JPEST
Sample size	60
Average	201.15
Median	200
Mode	217
Geometric mean	192.239
Variance	3482.2
Standard deviation	59.0101
Standard error	7.61818
Minimum	95
Maximum	335
Range	240
Lower quartile	151
Upper quartile	246.5
Interquartile range	95.5
Skewness	0.137804
Standardized skewness	0.435775
Kurtosis	-0.804218
Standardized kurtosis	-1.27158

JOINER/ PLUMBER Estates 1, 2 & 5.

Variable:	PEEST
Sample size	60
Average	141.733
Median	129
Mode	127.5
Geometric mean	135.578
Variance	1862.35
Standard deviation	43.155
Standard error	5.57128
Minimum	60.5
Maximum	262.5
Range	202
Lower quartile	111.5
Upper quartile	177.5
Interquartile range	66
Skewness	0.726948
Standardized skewness	2.29881
Kurtosis	0.215385
Standardized kurtosis	0.340554

PLUMBER/ELECTRICAL Estates 1, 2 & 5

Variable:	JGPEEST
Sample size	60
Average	231.417
Median	234.5
Mode	195
Geometric mean	223.787
Variance	3497.94
Standard deviation	59.1434
Standard error	7.63538
Minimum	126
Maximum	371
Range	245
Lower quartile	180
Upper quartile	278.5
Interquartile range	98.5
Skewness	0.172262
Standardized skewness	0.544741
Kurtosis	-0.713564
Standardized kurtosis	-1.12824

JOINER/GLAZIER/PLUMBER/ELECTRICAL Estates 1, 2 & 5

Variable:	BSEST
Sample size	60
Average	90.3517
Median	86.5
Mode	81.5
Geometric mean	85.3425
Variance	888.53
Standard deviation	29.8082
Standard error	3.84823
Minimum	33.5
Maximum	169.5
Range	136
Lower quartile	69
Upper quartile	109.5
Interquartile range	40.5
Skewness	0.356542
Standardized skewness	1.12748
Kurtosis	-0.255166
Standardized kurtosis	-0.403452

BUILDER/SLATERER:PLASTERER Estates 1, 2 & 5

Man Job Hours/day

1st sixty days

Summary of Computer Outputs Estates 1, 2 and 5

JLST	HLST	JHLST	EFST	PEEST	BEST	SEST	BSEST	GEST	JGEST	JGPEEST
42	175	217	20.5	203.5	30.5	22	52.5	7.5	49.5	253
145	149	294	27.5	176.5	29.5	77	106.5	14.5	159.5	336
59	103	162	12.5	115.5	19.5	40	59.5	7.5	66.5	182
82	95	177	21.5	116.5	12.5	45	57.5	2.5	84.5	201
67	75	142	10.5	85.5	26.5	53	79.5	14.5	81.5	167
97	155	252	24.5	179.5	50.5	21	79.5	10.5	107.5	287
71	194	265	15.5	209.5	44.5	29	73.5	13.5	84.5	294
60	89	149	21.5	110.5	24.5	32	56.5	1.5	61.5	172
41	100	143	0.5	100.5	27.5	104	131.5	15.5	58.5	167
33	109	142	10.5	127.5	1.5	32	33.5	10.5	43.5	171
157	100	257	14.5	114.5	17.5	98	115.5	16.5	173.5	288
126	110	236	11.5	129.5	46.5	71	117.5	3.5	141.5	271
101	119	199	20.5	139.5	60.5	25	85.5	14.5	94.5	234
67	158	225	20.5	178.5	44.5	27	71.5	2.5	69.5	248
54	98	152	42.5	140.5	37.5	50	87.5	12.5	66.5	207
60	170	230	10.5	180.5	0	146	146	10.5	78.5	259
32	224	246	32.5	256.5	17.5	102	119.5	0.5	22.5	279
146	95	241	18.5	113.5	32.5	87	119.5	27.5	173.5	287
22	73	95	30.5	111.5	5.5	68	73.5	7.5	29.5	141
94	156	250	13.5	169.5	20.5	64	84.5	1.5	95.5	265
110	107	217	20.5	127.5	25.5	84	109.5	4.5	114.5	242
70	84	154	23.5	107.5	10.5	71	81.5	17.5	87.5	195
114	112	226	31.5	143.5	20.5	41	61.5	7.5	121.5	265
55	61	116	10.5	79.5	26.5	31	57.5	1.5	56.5	136
81	166	247	31.5	197.5	46.5	58	104.5	11.5	92.5	290
77	79	156	14.5	93.5	20.5	19	39.5	16.5	93.5	187
96	177	273	17.5	194.5	22.5	75	97.5	1.5	97.5	292
31	67	101	11.5	70.5	24.5	90	114.5	14.5	47.5	126
135	137	152	14.5	111.5	69.5	81	150.5	11.5	66.5	170
176	177	273	13.5	150.5	31.5	19	50.5	15.5	151.5	302
49	177	226	14.5	191.5	8.5	58	66.5	1.5	50.5	242
106	125	201	15.5	190.5	14.5	58	72.5	15.5	121.5	312
91	91	182	19.5	112.5	40.5	30	70.5	17.5	116.5	229
40	131	179	18.5	149.5	8.5	72	80.5	15.5	63.5	213
38	163	201	8.5	171.5	25.5	56	81.5	9.5	47.5	219
122	122	244	19.5	141.5	20.5	36	106.5	16.5	138.5	280
128	191	319	13.5	204.5	31.5	57	88.5	6.5	134.5	339
53	106	159	24.5	120.5	52.5	62	114.5	27.5	82.5	211
42	173	215	23.5	196.5	0	79	79	13.5	75.5	272
22	114	146	17.5	131.5	3.5	104	107.5	14.5	46.5	178
65	242	307	20.5	262.5	9.5	43	52.5	17.5	83.5	346
52	105	157	22.5	127.5	32.5	62	94.5	2.5	67.5	195
25	101	126	22.5	205.5	0	51	51	13.5	165.5	371
25	146	171	10.5	124.5	12.5	157	169.5	13.5	78.5	203
25	90	116	20.5	170.5	0	66	66	19.5	55.5	226
55	117	176	15.5	132.5	24.5	81	105.5	7.5	66.5	199
15	104	219	18.5	122.5	26.5	97	123.5	2.5	137.5	260
11	115	191	16.5	131.5	31.5	57	90.5	20.5	103.5	235
51	31	101	18.5	60.5	61.5	30	93.5	21.5	72.5	133
43	71	114	31.5	110.5	29.5	79	108.5	2.5	45.5	156
27	104	127	15.5	115.5	31.5	91	125.5	9.5	36.5	152
36	101	145	13.5	102.5	22.5	72	94.5	16.5	72.5	175
19	81	211	18.5	102.5	12.5	65	77.5	10.5	133.5	240
31	101	132	18.5	114.5	9.5	33	42.5	4.5	38.5	153
11	111	244	9.5	142.5	25.5	77	102.5	4.5	135.5	278
11	111	251	22.5	104.5	35.6	109	143.6	19.5	108.5	253
18	102	229	11.5	125.5	51.5	85	136.5	9.5	129.5	255
15	114	150	25.5	101.5	24.5	51	75.5	6.5	78.5	182
22	81	227	12.5	81.5	24.5	43	67.5	16.5	171.5	256
28	94	134	13.5	107.5	50.5	58	109.5	12.5	52.5	169

Man Job Hours/day

1st sixty days

Summary of Computer Outputs All Estates

JOIIIII	MMMM	JMM	EIICM	LMM	GLMSH	JGH	BUILH	SLMPH	BSPH	JGPE
111	191.5	242.5	40.5	100	10.5	121.5	51.5	30	81.5	301.5
137	151.5	290.5	10.5	164	8.5	145.5	45.5	25	70.5	309.5
122	310.5	412.5	19.5	310	19.5	141.5	84.5	28	112.5	471.5
192	100.5	372.5	14.5	195	36.5	228.5	44.5	98	142.5	423.5
135	236.5	361.5	57.5	204	10.5	145.5	36.5	26	62.5	429.5
71	280.5	301.5	15.5	246	36.5	107.5	35.5	100	135.5	353.5
60	172.5	261.5	41.5	214	8.5	97.5	51.5	20	79.5	311.5
07	260.5	305.5	21.5	290	9.5	96.5	37.5	39	76.5	386.5
157	275.5	432.5	16.5	292	26.5	183.5	45.5	68	113.5	475.5
171	162.5	291.5	33.5	196	11.5	142.5	61.5	67	128.5	338.5
142	205.5	347.5	31.5	237	15.5	157.5	83.5	91	174.5	394.5
154	190.5	344.5	20.5	211	10.5	172.5	72.5	90	170.5	383.5
81	276.5	357.5	42.5	319	3.5	84.5	54.5	106	160.5	403.5
60	106.5	246.5	51.5	238	16.5	76.5	55.5	102	157.5	314.5
140	211.5	351.5	45.5	257	5.5	145.5	70.5	130	200.5	402.5
144	241.5	307.5	50.5	302	24.5	160.5	51.5	67	118.5	470.5
146	290.5	374.5	34.5	263	1.5	147.5	33.5	49	82.5	410.5
170	173.5	301.5	26.5	200	16.5	144.5	108.5	59	167.5	344.5
06	206.5	292.5	49.5	256	27.5	113.5	48.5	62	110.5	369.5
51	237.5	200.5	15.5	253	11.5	62.5	75.5	35	110.5	315.5
125	101.5	306.5	30.5	220	6.5	131.5	33.5	152	105.5	351.5
145	245.5	390.5	37.5	283	22.5	167.5	79.5	61	140.5	450.5
127	196.5	322.5	32.5	220	14.5	141.5	50.5	25	75.5	369.5
104	247.5	351.5	26.5	274	8.5	112.5	55.5	46	101.5	306.5
106	104.5	350.5	30.5	215	10.5	176.5	83.5	56	139.5	391.5
164	209.5	373.5	37.5	247	23.5	187.5	43.5	75	118.5	434.5
126	164.5	290.5	26.5	191	25.5	151.5	86.5	121	207.5	342.5
50	100.5	230.5	7.5	196	42.5	92.5	40.5	100	140.5	200.5
173	190.5	363.5	37.5	220	29.5	202.5	65.5	171	236.5	430.5
06	231.5	317.5	41.5	273	10.5	96.5	3.5	109	112.5	369.5
147	319.5	466.5	24.5	344	20.5	167.5	1.5	33	34.5	511.5
139	190.5	337.5	27.5	226	8.5	147.5	46.5	59	105.5	373.5
64	146.5	210.5	24.5	171	15.5	79.5	35.5	90	125.5	250.5
122	170.5	300.5	64.5	243	10.5	132.5	33.5	90	131.5	375.5
09	206.5	294.5	22.5	220	26.6	115.6	47.5	99	146.5	343.6
123	194.5	317.5	53.5	240	13.5	136.5	50.5	83	133.5	304.5
120	157.5	277.5	29.5	102	15.5	135.5	67.5	105	172.5	322.5
133	123.5	256.5	41.5	165	36.5	169.5	123.5	90	213.5	334.5
107	194.5	301.5	30.5	233	9.5	116.5	52.5	65	117.5	319.5
167	126.5	293.5	49.5	176	13.5	160.5	104.5	28	132.5	356.5
00	165.5	253.5	42.5	200	35.5	123.5	92.5	32	124.5	331.5
62	264.5	326.5	40.5	313	5.5	67.5	36.5	90	131.5	300.5
03	119.5	202.5	45.5	165	3.5	86.5	45.5	50	103.5	251.5
166	129.5	256.5	37.5	167	7.5	173.5	61.5	81	142.5	340.5
91	220.5	311.5	23.5	244	10.5	101.5	49.5	50	107.5	315.5
55	252.5	307.5	49.5	302	7.5	62.5	96.5	42	130.5	364.5
81	112.5	310.5	43.5	126	13.5	103.5	40.5	46	86.5	259.5
00	206.5	194.5	21.5	270	7.5	96.5	53.5	36	109.5	376.5
131	240.5	302.5	40.5	200	4.5	130.5	30.5	96	136.5	427.5
120	227.5	307.5	56.5	204	16.5	186.5	45.5	150	203.5	470.5
146	172.5	310.5	36.5	200	3.5	149.5	50.5	54	104.5	350.5
110	240.5	362.5	44.5	300	30.5	160.5	72.5	104	176.5	441.5
00	106.5	267.5	19.5	246	16.5	97.5	52.5	74	126.5	303.5
150	210.5	300.5	53.5	224	6.5	134.5	3.5	92	95.5	370.5
02	219.5	310.5	43.5	223	11.5	93.5	34.5	40	82.5	356.5
40	252.5	300.5	47.5	300	26.5	74.5	41.5	92	133.5	374.5
164	140.5	312.5	40.5	109	17.5	180.5	9.5	62	71.5	320.5
120	170.5	303.5	33.5	213	1.5	125.5	81.5	37	118.5	330.5
127	363.5	400.5	51.5	400	20.5	147.5	105.5	59	164.5	555.5
09	319.5	404.5	22.5	302	36.5	121.5	40.5	59	99.5	463.5

Statistical Rationale referred to in Chapter 4
Section 4.4.2, Testing the Models for Dispersion using the Coefficients of Variation

A general result in statistics which the simulation illustrates is that if we have two, independent non-negative quantities (such as job times per day for joinery and job times per day for glazing), the distribution of the sum of these quantities has a lower coefficient of variation than the larger of the coefficients of variation of the original distributions.

Let the quantities be A and B. Let A have mean m_A and standard deviation, s_A. Let B have mean m_B and standard deviation s_B. The the coefficients of variation, c_A and c_B, are:

$c_A = s_A/m_A$ and $c_B = s_B/m_B$. We assume $c_A > c_B$.

If S = A + B, the sum of the two quantities, then it is a standard result in statistics that:

$m_S = m_A + m_B$; and s_S = sqr root $(s_A^2 + s_B^2)$. Hence c_S^2 which is of course s_S^2/m_S^2 may be written as

$$
\begin{aligned}
c_S &= (s_A^2 + s_B^2)/(m_A + m_B)^2 \\
&= (c_A^2 m_A^2 + c_B^2 m_B^2)/(m_A + m_B)^2 \text{ since } s_A = c_A m_A \text{ and similarly for } s_B, \\
< &= c_A^2 (m_A^2 + m_B^2)/(m_A + m_B)^2 \\
< & \quad c_A \text{ since } m_A \text{ and } m_B \text{ are both} > 0 \text{ by definition.}
\end{aligned}
$$

N L LAWRIE

PROGRAM 1

SIMULATING MAN/JOB HOURS ARRIVALS PER DAY

UNPLANNED RESPONSE MAINTENANCE

```
2 LPRINT "RANDOM SAMPLING OF JOBS BY DURATION,CATEGORY AND LOCATION"
3 LPRINT "    "
5 REM..RAND SAMPLING JOBS/DAY :CATEGORY:HRS/JOB:ESTATE
10 PRINT "MENU"
12 PRINT " TO ENTER DATA - PRESS 1"
14 PRINT " LIST JOBS IN CATEGORIES - PRESS 2"
18 INPUT "PROGRAM ",y
20 IF y=1 GOTO 30
22 IF y=2 GOTO 1000
28 GOTO 10
30 DIM cp1(60),j(60),cp2(3),c(3),cp3(20),h1(20),cp4(5),est(5),r(300,4),hrs(5,3)
 ,jobs(5,3),chrs(5,3),cjobs(5,3)
40 READ n1,n2,n3,n4
50 FOR k=1 TO n1
60 READ cp1(k),j(k)
70 NEXT k
80 FOR k=1 TO n2
90 READ cp2(k),c(k)
100 NEXT k
110 FOR k=1 TO n3
120 READ cp3(k),h1(k)
130 NEXT k
168 FOR k=1 TO n4
170 READ cp4(k),est(k)
172 NEXT k
175 wsum=0
180 nojw=0
290 count=1
300 FOR d=1 TO 5
302 nojd=0
305 dsum=0
310 LET k=1
320 LET x=RND
325 x=ROUND(x*10000)/10000
340 WHILE x >cp1(k)
350 k =k+1
360 WEND
455 jd=j(k)
460 FOR n=1 TO jd
470 LET l=1
480 LET x=RND
485 x=ROUND(x*10000)/10000
495 WHILE x>cp2(l)
500 l=l+1
510 WEND
515 c=c(l)
520 IF c=1 GOTO 600
530 IF c=2 GOTO 600
540 IF c=3 GOTO 600
600 LET t=1
610 LET x=RND
615 x=ROUND(x*10000)/10000
630 WHILE x>cp3(t)
640 t=t+1
650 WEND
655 h=h1(t)
661 GOTO 760
760 LET e=1
770 LET x=RND
775 x=ROUND(x*10000)/10000
790 WHILE x>cp4(e)
800 e=e+1
810 WEND
825 e=est(e)
840 r(count,1)=d
842 r(count,2)=c
844 r(count,3)=e
846 r(count,4)=h
870 count=count+1
876 nojd=nojd+1
877 dsum=dsum+h
880 NEXT n
882 LPRINT  "TOTAL HOURS FOR DAY ";d;dsum;" NO OF JOBS ";nojd
884 LPRINT "  "
885 wsum=wsum+dsum:nojw=nojw+nojd
887 LPRINT "TOTAL HOURS TO DAY ";d;wsum;" NO OF JOBS";nojw
888 NEXT d
890 r(count,1)=6
900 GOTO 10
1000 REM TOTAL HOURS FOR EACH CATEGORY & ESTATE
1002 LPRINT "PROGRAM 2  JOBS BY CATEGORY AND ESTATE"
1003 LPRINT "    "
1005 s$="       ":e$="        "
```

```
1011 n=1
1020 FOR d=1 TO 5
1030 FOR i=1 TO 5
1040 FOR j=1 TO 3
1050 hrs(i,j)=0
1060 jobs(i,j)=0
1062 x=0
1063 y=0
1064 z=0
1066 u=0
1067 v=0
1068 w=0
1070 NEXT j
1080 NEXT i
1100 LPRINT "DAY="d
1110 WHILE r(n,1)=d
1120 c=r(n,2)
1130 e=r(n,3)
1140 hrs(e,c)=hrs(e,c)+r(n,4)
1150 jobs(e,c)=jobs(e,c)+1
1160 n=n+1
1170 WEND
1180 FOR e=1 TO 5
1190 PRINT hrs(e,1);hrs(e,2);hrs(e,3);jobs(e,1);jobs(e,2);jobs(e,3)
1200 LPRINT hrs(e,1);hrs(e,2);hrs(e,3);"    "jobs(e,1);jobs(e,2);jobs(e,3)
1212 x=x+hrs(e,1):y=y+hrs(e,2):z=z+hrs(e,3)
1213 u=u+jobs(e,1):v=v+jobs(e,2):w=w+jobs(e,3)
1215 NEXT e
1216 LPRINT "----------""   ""----------"
1217 LPRINT x;y;z;"    "u;v;w
1218 LPRINT "----------""   ""----------"
1220 NEXT d
1230 GOTO 10
2000 DATA 11,3,17,5
2010 DATA .105,18,.158,20,.263,22,.316,24,.421,26,.526,32,.684,34,.789,36,.895,
42,.947,44,1,50
2020 DATA .085,1,.3176,2,1,3
2030 DATA .127,.5,.381,1.5,.582,2.5,.706,3.5,.779,4.5,.843,5.5,.854,6.5,.904,7.
5,.919,8.5,.942,9.5,.948,10.5,.972,11.5,.973,12.5,.985,13.5,.994,15.5,.995,17.5
,1,19.5
2040 DATA .2122,1,.4804,2,.6655,3,.8845,4,1,5

2050 END
```

PROGRAM 2

SIMULATING MATERIALS COST

JOINER WORK ALL ESTATES

RESPONSE MAINTENANCE

```
10 REM  MEAN,VARIANCE OF CUMULATIVE MAN JOB HRS
20 DIM cp1(600),j(600),cp2(500),j2(500),cp3(10),j3(10)
30 READ n1,n2,n3
40 FOR k=1 TO n1
50 READ cp1(k),j(k)
51 NEXT k
60 FOR k=1 TO n1
80 NEXT k
90 FOR k=1 TO n2
100 READ cp2(k),j2(k)
110 NEXT k
111 FOR k=1 TO n3
112 READ cp3(k),j3(k)
113 NEXT k
114 LPRINT "CUM TOTALS SAMPLE VALUES RAN V JOBS/WEEK + HRS/JOB"
120 sj=0
130 shrl=0
132 shrt=0
133 shrs=0
134 a=0
135 b=0
136 c=0
137 a1=0
138 b1=0
139 c1=0
140 a2=0
141 b2=0
142 c2=0
149 FOR m=1 TO 52
150 LET k=0
160 LET x=RND
170 PRINT x
190 WHILE x>cp1(k)
200 k=k+1
210 WEND
220 sj=sj+j(k)
221 a=a+1
222 b=b+j(k)
223 c=c+(j(k))^2
240 FOR n=1 TO j(k)
250 LET l=0
251 LET t=0
260 x=RND
290 WHILE x>cp2(l)
300 l=l+1
301 WEND
302 WHILE x>cp3(t)
303 t=t+1
310 WEND
320 shrl=shrl+j2(l)
322 a1=a1+1
323 b1=b1+j2(l)
324 c1=c1+(j2(l))^2
332 shrt=shrt+j3(t)
333 a2=a2+1
334 b2=b2+j3(t)
335 c2=c2+(j3(t))^2
337 shrs=shrl+shrt
338 NEXT n
340 NEXT m
370 LPRINT "TOTAL COST  shrl =";shrl
371 LPRINT "SUM OF HRS shrt =";shrt
372 LPRINT "SUM OF HRS SHRS=";shrs
380 PRINT sj
390 LPRINT "SUM OF JOBS=";sj
400 LET u=b/a
401 LET s=((c/a)-(b/a)^2)^0.5
402 LET h=b1/a1
403 LET d=((c1/a1)-(b1/a1)^2)^0.5
404 LET v=b2/a2
405 LET w=((c2/a2)-(b2/a2)^2)^0.5
406 LET p=a1+a2
407 LET q=(b1+b2)/p
408 LET z=(((c1+c2)/p)-((b1+b2)/p)^2)^0.5
409 LPRINT "MEAN OF JOBS u=";u
410 LPRINT "SD JOBS s=";s
411 LPRINT "MEAN COST  l=";h
412 LPRINT "SD COST l=";d
413 LPRINT "MEAN OF HRS t=";v
414 LPRINT "SD HRS t=";w
415 LPRINT "CUM MEAN  OF HRS q=";q
416 LPRINT "SD CUM HRS=";z
417 DATA 19,50,2
418 DATA .0286,65,.0857,115,.1143,125,.1714,135,.2857,145,.3429,155,.4,165,.542
```

```
9,175,.6286,185,.6571,195,.7143,215,.7714,235,.8286,255,.8571,275,.8857,295,.91
43,315,.9429,335,.9714,445,1,575
419 DATA .222,0,.409,2.5,.571,7.5,.645,12.5,.727,17.5,.764,22.5,.792,27.5,.817,
32.5,.813,37.5,.842,42.5,.849,47.5,.855,52.5,.863,57.5,.869,62.5,.875,67.5,.881
,77.5,.886,82.5,.892,87.5,.896,92.5,.902,97.5
420 DATA .906,102.5,.908,107.5,.914,112.5,.919,117.5,.927,122.5,.951,127.5,.959
,132.5,.962,137.5,.965,142.5,.967,147.5,.972,157.5,.971,162.5,.974,167.5,.976,1
72.5,.979,182.5,.979,192.5,.982,197.5,.983,205.5
421 DATA .984,207.5,.985,222.5,.989,232.5,.990,242.5,.991,247.5,.993,252.5,.994
,257.5,.955,267.5,.996,272.5,.998,292.5,.999,322.5,1,327.5
425 DATA .5,0,1,0
430 END
```

PROGRAM OUTPUTS

```
CUM TOTALS SAMPLE VALUES RAN V JOBS/WEEK + HRS/JOB
TOTAL COST  shrl = 270382
SUM OF HRS shrt = 0
SUM OF JOBS= 10320
MEAN OF JOBS u= 198.461538
SD JOBS s= 73.8731923
MEAN COST  l= 26.1998062
SD COST l= 47.3249068
MEAN OF HRS t= 0
SD HRS t= 0
```

Interpretation of Outputs

Total materials costs for year	=	£270,382
Total number of jobs/year	=	10,320
Mean number of jobs/week	=	198
Standard deviation of jobs/week	=	74
Mean materials cost/job	=	£26
Standard deviation of materials cost/job	=	£47

Programs 2 and 3 were adapted from program 1 and enable additional work category (while) loops to be included in the event of job costs or materials costs being category dependent. The programs could be shortened and refined however they are presented as shown to illustrate adaptability.

One output only is given as an illustration. Clearly each output may yield a different result and more analysis is required in the event of the raw data becoming more accurate and the ideas developed further.

PROGRAM 3

SIMULATING TOTAL CONTRACTS COSTS

JOINER WORK ALL ESTATES

RESPONSE MAINTENANCE

```
10 REM  MEAN,VARIANCE OF CUMULATIVE MAN JOB HRS
20 DIM cp1(600),j(600),cp2(500),j2(500),cp3(10),j3(10)
30 READ n1,n2,n3
40 FOR k=1 TO n1
50 READ cp1(k),j(k)
51 NEXT k
60 FOR k=1 TO n1
80 NEXT k
90 FOR k=1 TO n2
100 READ cp2(k),j2(k)
110 NEXT k
111 FOR k=1 TO n3
112 READ cp3(k),j3(k)
113 NEXT k
114 LPRINT "CUM TOTALS SAMPLE VALUES RAN V JOBS/WEEK + HRS/JOB"
120 sj=0
130 shrl=0
132 shrt=0
133 shrs=0
134 a=0
135 b=0
136 c=0
137 a1=0
138 b1=0
139 c1=0
140 a2=0
141 b2=0
142 c2=0
149 FOR m=1 TO 52
150 LET k=0
160 LET x=RND
170 PRINT x
190 WHILE x>cp1(k)
200 k=k+1
210 WEND
220 sj=sj+j(k)
221 a=a+1
222 b=b+j(k)
223 c=c+(j(k))^2
240 FOR n=1 TO j(k)
250 LET l=0
251 LET t=0
260 x=RND
290 WHILE x>cp2(l)
300 l=l+1
301 WEND
302 WHILE x>cp3(t)
303 t=t+1
310 WEND
320 shrl=shrl+j2(l)
322 a1=a1+1
323 b1=b1+j2(l)
324 c1=c1+(j2(l))^2
332 shrt=shrt+j3(t)
333 a2=a2+1
334 b2=b2+j3(t)
335 c2=c2+(j3(t))^2
337 shrs=shrl+shrt
338 NEXT n
340 NEXT m
370 LPRINT "TOTAL COST  shrl =";shrl
371 LPRINT "SUM OF HRS shrt =";shrt
372 LPRINT "SUM OF HRS SHRS=";shrs
380 PRINT sj
390 LPRINT "SUM OF JOBS=";sj
400 LET u=b/a
401 LET s=((c/a)-(b/a)^2)^0.5
402 LET h=b1/a1
403 LET d=((c1/a1)-(b1/a1)^2)^0.5
404 LET v=b2/a2
405 LET w=((c2/a2)-(b2/a2)^2)^0.5
406 LET p=a1+a2
407 LET q=(b1+b2)/p
408 LET z=(((c1+c2)/p)-((b1+b2)/p)^2)^0.5
409 LPRINT "MEAN OF JOBS u=";u
410 LPRINT "SD JOBS s=";s
411 LPRINT "MEAN COST  l=";h
412 LPRINT "SD COST l=";d
413 LPRINT "MEAN OF HRS t=";v
414 LPRINT "SD HRS t=";w
415 LPRINT "CUM MEAN  OF HRS q=";q
416 LPRINT "SD CUM HRS=";z
417 DATA 19,33,2
418 DATA .0286,65,.0857,115,.1143,125,.1714,135,.2857,145,.3429,155,.4,165,.542
```

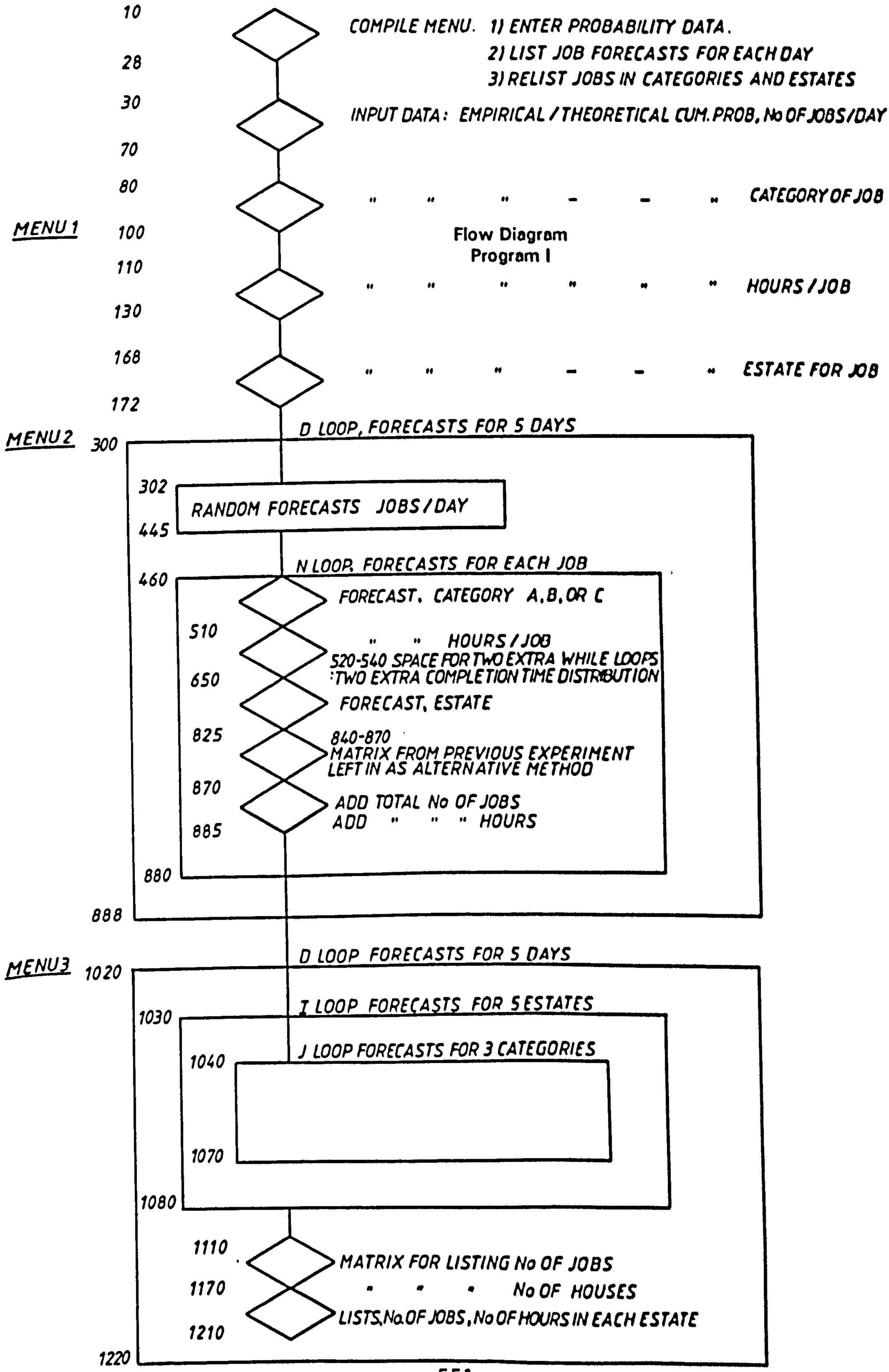
```
9,175,.6286,185,.6571,195,.7143,215,.7714,235,.8286,255,.8571,275,.8857,295,.91
43,315,.9429,335,.9714,445,1,575
419 DATA .132,5,.352,15,.529,25,.633,35,.712,45,.752,55,.786,65,.808,75,.823,85
,.837,95,.847,105,.86,115,.889,125,.898,135,.904,145,.914,155,.928,165,.942,175
,.953,185,.962,195,.966,205,.967,215,.968,225,.972,235,.974,245
420 DATA .979,255,.982,275,.983,285.985,315,.988,325,.989,345,.993,365,1,405
425 DATA .5,0,1,0
430 END
```

PROGRAM OUTPUTS

```
CUM TOTALS SAMPLE VALUES RAN V JOBS/WEEK + HRS/JOB
TOTAL COST  shrl = 403816.824
SUM OF HRS shrt = 0
SUM OF JOBS= 10350
MEAN OF JOBS u= 199.038462
SD JOBS s= 89.9628045
MEAN COST  l= 39.0161182
SD COST l= 40.9197385
MEAN OF HRS t= 0
SD HRS t= 0
```

Interpretation of Outputs

Total cost of Contract for year	=	£403,816
Total number of jobs/year	=	10,350
Mean number of jobs/week	=	199
Standard deviation of jobs/week	=	90
Mean cost of jobs	=	£39
Standard deviation of cost of jobs	=	£41


10
COMPILE MENU. 1) ENTER PROBABILITY DATA.
2) LIST JOB FORECASTS FOR EACH DAY
3) RELIST JOBS IN CATEGORIES AND ESTATES
28
30
INPUT DATA: EMPIRICAL / THEORETICAL CUM. PROB, No OF JOBS/DAY
70
80
" " " - - " CATEGORY OF JOB
MENU 1
100
Flow Diagram
Program I
110
" " " " " " HOURS / JOB
130
168
" " " - - " ESTATE FOR JOB
172
MENU 2
300
D LOOP, FORECASTS FOR 5 DAYS
302
RANDOM FORECASTS JOBS / DAY
445
N LOOP, FORECASTS FOR EACH JOB
460
FORECAST. CATEGORY A, B, OR C
510
" " HOURS / JOB
520-540 SPACE FOR TWO EXTRA WHILE LOOPS
650
:TWO EXTRA COMPLETION TIME DISTRIBUTION
FORECAST, ESTATE
825
840-870
MATRIX FROM PREVIOUS EXPERIMENT
LEFT IN AS ALTERNATIVE METHOD
870
ADD TOTAL No OF JOBS
ADD " " " HOURS
885
880
888
MENU 3
1020
D LOOP FORECASTS FOR 5 DAYS
1030
I LOOP FORECASTS FOR 5 ESTATES
1040
J LOOP FORECASTS FOR 3 CATEGORIES
1070
1080
1110
MATRIX FOR LISTING No OF JOBS
1170
" " " No OF HOUSES
1210
LISTS, No. OF JOBS, No OF HOURS IN EACH ESTATE
1220

APPENDIX 4

(Chapter 5)

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MATHEMATICAL EXPRESSION FOR $C_{(T)}$

It may also be possible to fit a p.d.f. of f(h) to the statistical frequency distribution F(h). Christer and Waller[25] suggest that a negative exponential distribution is possible for lapse times; there referred to as delay times; for mechanical plant.

In this eventuality for f(h) $\alpha e^{-\alpha h}$ we have from equation 1.

$$b_{(T)} = \int_{h=0}^{T} \frac{T-h}{T} f(h)\, dh \qquad (1)$$

That: $$b_{(T)} = \int_{h=0}^{T} \alpha e^{-\alpha h}\, dh - \int_{h=0}^{T} \frac{h}{T} \alpha e^{-\alpha h}\, dh$$

$$b_{(T)} = \int_{h=0}^{T} \frac{1-h}{T} e^{-\alpha h}$$

Integrating gives

$$b_{(T)} = \left| 1 - \frac{1}{\alpha T} (1 - e^{-\alpha T}) \right|$$

sub for $b_{(T)}$ in equation 4, Chapter 5 gives

$$C_{(T)} = k \left[Cr \left(1 - \frac{1}{\alpha T} (1 - e^{-\alpha T}) \right) + BCr \left(1 - \left(1 - \frac{1}{\alpha T} (1 - e^{-\alpha T}) \right) \right) \right] + \frac{I}{T}$$

It was not however the intention of this investigation to pursue a mathematical analysis of the problem and the above illustration is cited as an example of this approach, given that a pdf of f(h) of the above form is achievable.

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
*				*	*							*				*				*				1
*												*				*				*				1
	*		*									*						*	*			2		
*			*									*			*					*				<1
*				*								*				*				*				3
	*		*									*				*				*			1	
				*									*			*				*				4
*										*		*				*			*				2	
	*		*									*				*				*			1	
*			*									*			*					*				<1
*			*									*			*					*				<1
	*	*										*				*			*				4.5	
	*		*									*					*			*		1		
	*									*		*				*				*			1	
*				*								*				*				*				4
	*				*												*		*				2.5	
*			*									*			*					*				4
*			*									*				*				*				4
	*						*					*						*	*			8		
*		*										*					*		*				3	
*			*									*				*			*	*				4
	*		*									*					*		*			3		
*				*								*				*				*				4
*			*									*				*				*				4
*				*								*				*				*				4
*																*				*				4
*			*									*				*				*				4
*			*	*								*				*				*				4
*				*								*				*			*				2.5	
*				*								*				*			*				2.5	
*												*				*				*				1
	*	*										*					*		*					
*				*								*				*				*		4.5		4

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
	*					*						*						*	*			6		
*			*									*				*				*				<1
*			*									*				*				*				<1
*				*								*				*			*					8
*										*		*				*				*				4
	*				*							*					*		*			2		
*				*								*				*			*				3	
*				*								*				*				*				2
*										*		*				*				*				4
*				*								*				*				*				4
	*	*										*					*		*			2.5		
*				*								*				*				*				<1
*		*										*			*					*				1
*				*								*				*			*					10
*					*							*				*				*				1
	*									*		*						*	*			2		
*				*								*				*				*				<1
*				*								*				*				*				4
*				*								*				*				*				1
	*		*									*				*			*			2		
	*									*		*					*		*			8		
*					*						*					*				*				1
	*		*									*					*		*			2.5		
	*	*			*							*					*		*			3		
*					*						*					*				*				1
	*	*										*					*			*		2.5		
	*	*									*						*		*			3		
	*		*								*						*			*		1		
	*					*						*					*			*		2		
	*										*						*			*		2		
	*									*		*						*		*			4		
	*										*	*						*		*			3		
	*												*					*			*		1		
	*								*				*					*		*			3		

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
	*											*					*			*		1		
	*	*										*					*		*			3		
	*	*										*					*			*		1		
	*									*	*					*				*				3
	*			*								*					*			*			1	
	*			*							*				*				*			1	
	*									*		*				*				*			1	
	*	*										*				*				*				1
	*	*	*									*					*			*			1	
	*											*					*			*		1		
	*								*			*						*	*		1			
	*	*											*				*			*		1		
	*	*										*					*			*			1	
	*		*									*				*				*				4
	*		*									*				*			*			2		
	*			*								*					*			*			2.5	
*									*			*				*				*				4
	*			*								*				*			*			2		
	*									*		*					*			*			2	
	*									*		*						*	*			5		
	*		*								*						*			*		3		
	*	*										*					*		*			9		
	*		*									*				*			*			5		
	*	*										*				*				*				4
*			*									*				*				*				4
	*									*		*						*	*			3		
*											*	*				*				*			1	
	*					*						*				*				*				1
	*									*		*						*	*			6		
	*	*										*						*	*			4		
	*	*										*					*			*			3	
*				*								*				*				*				4
	*							*				*					*			*			3	
	*		*									*					*			*			3	

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
	*			*							*					*				*				4
	*	*									*						*		*		1			
	*		*													*				*				4
*			*								*				*					*				1
	*		*								*					*				*				4
*			*								*									*				<1
	*								*	*								*		*	1			
	*											*					*		*			9		
	*	*									*						*		*				7	
*		*									*				*					*				<1
	*		*									*					*			*			7	
	*	*									*						*		*			2		
*			*								*				*					*				<1
	*		*								*						*			*			2	
	*	*											*					*	*		1			
*								*			*				*					*				<1
*			*								*				*					*				1
*			*								*				*					*				<1
	*									*		*					*		*			9		
	*			*								*					*			*			3	
*				*								*			*					*				4
	*	*									*						*			*		1		
	*									*		*				*				*				4
	*									*	*					*				*				4
	*			*						*	*					*				*				4
	*											*				*				*			2	
	*		*								*					*				*			1	
	*	*		*								*					*		*			1		
	*										*					*				*				4
	*	*										*					*		*			6.5		
	*									*		*					*			*			3	
	*	*											*				*			*			2.5	
	*								*			*					*		*			1		
	*					*					*						*			*			1	

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM.	Y	N	YEARS	MONTHS	WEEKS	DAYS
*										*		*			*					*				<1
*										*	*				*					*				<1
	*	*												*		*				*				1
	*			*								*				*				*				4
	*									*		*				*				*			1	
	*			*							*					*				*				4
	*		*									*				*				*				1
	*	*										*				*				*			1	
*				*								*				*				*				1

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
	*							*				*					*		*		1			
*				*								*				*				*				3
*		*									*					*				*				1
	*				*						*						*			*		1		
*										*			*			*				*				1
	*	*										*					*			*		1		
*			*									*			*					*				1
	*	*									*						*			*		1		
*			*									*				*				*				1
*			*								*					*				*				1
	*								*			*						*	*		1			
	*	*									*						*		*			2		
*					*							*				*				*				4
	*			*								*					*			*			1	
	*					*											*		*			9		
	*	*											*				*		*		1			
*			*									*				*				*				1
*				*								*				*				*			1	
*			*							*		*				*				*				1
	*		*									*				*			*				1	
	*						*					*						*	*		1			
	*			*								*					*		*			1		
*			*									*			*					*				1
	*									*	*						*			*			3	
	*		*									*					*		*			4		
	*								*		*						*		*			7		
*			*								*				*					*				1
	*	*												*				*		*		8		
	*												*			*				*				4
	*	*										*					*		*			2.5		
	*	*											*					*		*		2		
			*										*			*				*			1	
	*											*						*		*	1			
	*	*						*						*				*		*	1			

DATA SUMMARY SHEET

EMERGENCY	NONEMERGENY	TRADE									TENANTS DESCRIPTION				PRIORITY CATEGORY				INSPECTABLE		LAPSE TIME			
		JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD	OTHERS	EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	YEARS	MONTHS	WEEKS	DAYS
	*		*								*					*				*			1	
	*									*	*					*				*			1	
	*								*		*						*			*		1.5		
	*									*		*						*	*			9		
	*							*			*						*		*			6		
	*		*									*						*	*		1			
*										*			*		*					*				4
	*		*														*		*			9		
	*					*											*		*			9		
	*	*										*					*		*			6		
	*	*										*					*		*			6		
*									*							*				*				3
	*	*											*							*			3	

DATA SUMMARY SHEET

EMERGENCY	NON EMERGENCY	DESCRIPTION				CATEGORY				PREVENTION		INSPECTION		LAPSE TIME				AREA 7 PLUMBER
		EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	Y	N	YEARS	MONTHS	WEEKS	DAYS	
	*		*						*	*		*			2 (1-1)			Leaking Gutter
*			*			*				*			*					Burst Pipe
	*		*				*				*		*			1 (1-0)		Water Supply
	*		*				*				*		*			1 (1-0)		Cistern Valve
*			*			*					*		*				<1 (1-0)	Burst Pipe
*			*			*					*		*				<1 (1-0)	Burst Pipe
	*		*					*			*		*		1 (1-0)			Leaking Gutter
*			*			*				*			*				<1 (1-0)	Burst Pipe
*			*				*				*		*				4 (4-0)	Bath Waste Leak
*			*				*				*		*				4 (4-0)	Hot Water System
	*		*					*		*		*			3 1-2			Central Heating
*			*				*				*		*				4 (4-0)	Bath Waste
*			*				*				*		*				4 (4-0)	Overflow from Loft
*			*				*				*		*				4 (4-0)	Choked Drain
*			*				*				*		*				<1 (1-0)	Sink Leak
*			*				*			*			*				<1 (1-0)	W C Choked
	*		*					*			*	*			2 (5-15			Sink Leak
	*		*					*			*	*			2.5 (.5-2			Wash Hand Basin
	*	*						*			*		*		1 (1-0)			Water Supply
	*	*						*			*		*		2 (2-0)			Leaking Gutter
	*		*					*			*		*		1 (1-0)			Leaking Gutter
	*		*					*			*		*		1 (1-0)			Leaking Gutter
	*		*				*				*		*				4 (4-0)	Cistern Handle

BREAKDOWN OF PLUMBERWORK

AREA 7

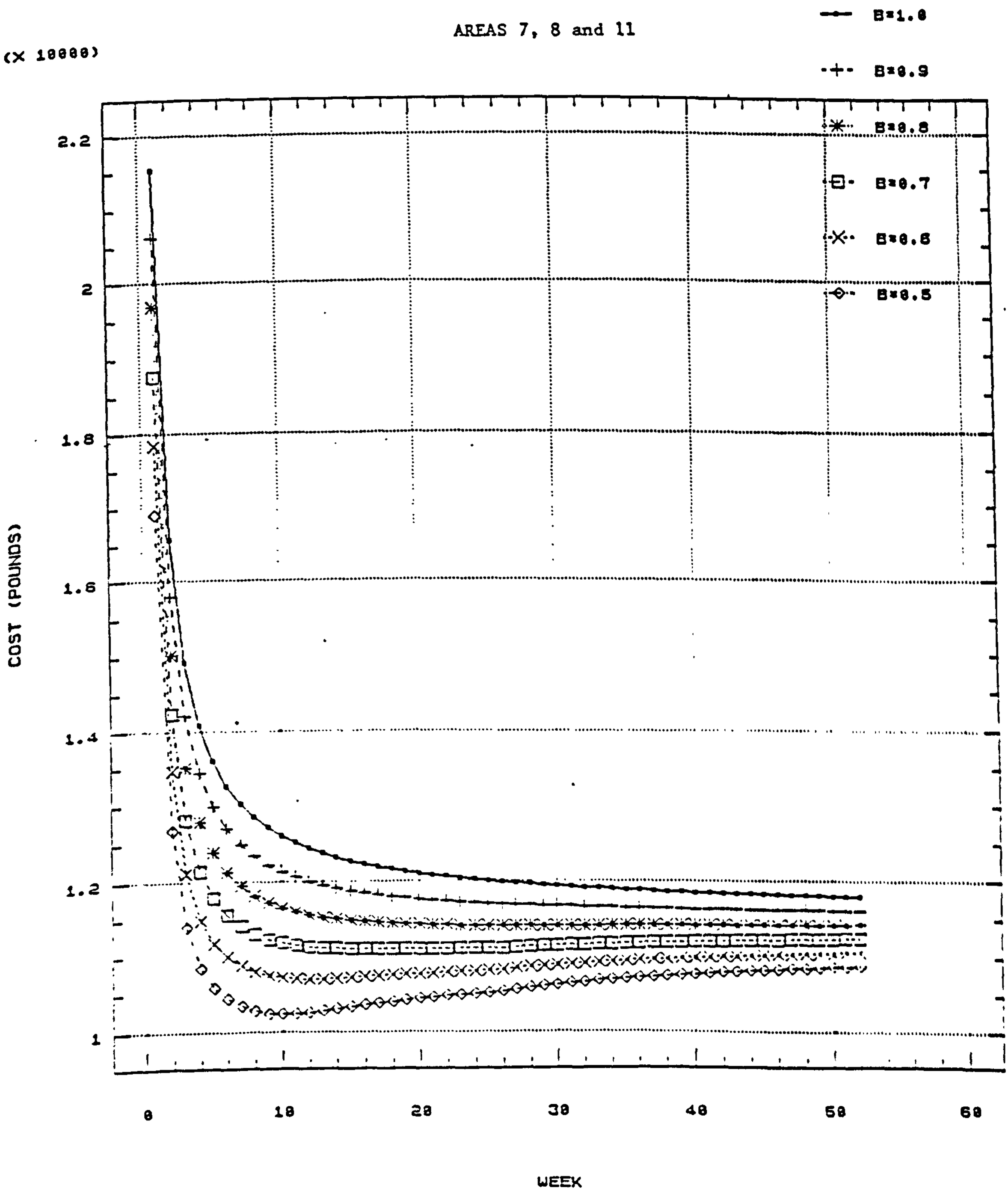
EMERGENCY	NON EMERGENCY	DESCRIPTION				CATEGORY				PREVENTION		INSPECTION		LAPSE TIME				AREA 7 PLUMBER
		EXACTLY	CLOSE	NOT V CLOSE	NOT AT ALL	EMERGENCY	URGENT	NORMAL	LONG TERM	Y	N	Y	N	YEARS	MONTHS	WEEKS	DAYS	
	*		*				*				*	*			2 (2-0)			Central Heating
	*	*						*			*		*		3 (3-0)			Leaking Gutter
	*		*				*				*	*			5 (1-4)			Storage Tank
*			*				*				*		*				4 (4-0)	Blocked Sink
	*		*					*			*		*		3 (1-2)			Leaking Gutter
*		*					*				*		*					W C Choked
														(HML - HLA)				

BREAKDOWN OF PLUMBERWORK

AREA 7

INSPECTION COST/UNIT TIME MODEL

AREAS 7, 8 and 11



The Economics of Inspection - Analysis of The Model **AREAS 7, 8 and 11**

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=1.0 I=9950

200	58	1	9950

Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	11600.0	9950.0	21550.0
2	.108	.508	.362	.327	11600.0	4975.0	16575.0
3	.036	.544	.452	.393	11600.0	3316.7	14916.7
4	.062	.606	.669	.439	11600.0	2487.5	14087.5
5	.067	.673	.9705	.479	11600.0	1990.0	13590.0
6	.005	.678	.998	.512	11600.0	1658.3	13258.3
7	.005	.683	1.0305	.536	11600.0	1421.4	13021.4
8	.015	.698	1.143	.555	11600.0	1243.8	12843.8
9	.062	.76	1.67	.574	11600.0	1105.6	12705.6
10	0	.76	1.67	.593	11600.0	995.0	12595.0
11	.021	.781	1.8905	.609	11600.0	904.5	12504.5
12	0	.781	1.8905	.623	11600.0	829.2	12429.2
13	.062	.843	2.6655	.638	11600.0	765.4	12365.4
14	0	.843	2.6655	.653	11600.0	710.7	12310.7
15	0	.843	2.6655	.665	11600.0	663.3	12263.3
16	0	.843	2.6655	.676	11600.0	621.9	12221.9
17	.01	.853	2.8305	.687	11600.0	585.3	12185.3
18	0	.853	2.8305	.696	11600.0	552.8	12152.8
19	.005	.858	2.923	.704	11600.0	523.7	12123.7
20	0	.858	2.923	.712	11600.0	497.5	12097.5
21	.015	.873	3.2305	.719	11600.0	473.8	12073.8
22	0	.873	3.2305	.726	11600.0	452.3	12052.3
23	0	.873	3.2305	.733	11600.0	432.6	12032.6
24	0	.873	3.2305	.738	11600.0	414.6	12014.6
25	0	.873	3.2305	.744	11600.0	398.0	11998.0
26	.062	.935	4.8115	.750	11600.0	382.7	11982.7
27	0	.935	4.8115	.757	11600.0	368.5	11968.5
28	0	.935	4.8115	.763	11600.0	355.4	11955.4
29	0	.935	4.8115	.769	11600.0	343.1	11943.1
30	0	.935	4.8115	.775	11600.0	331.7	11931.7
31	0	.935	4.8115	.780	11600.0	321.0	11921.0
32	0	.935	4.8115	.785	11600.0	310.9	11910.9
33	0	.935	4.8115	.789	11600.0	301.5	11901.5
34	0	.935	4.8115	.793	11600.0	292.6	11892.6
35	0	.935	4.8115	.798	11600.0	284.3	11884.3
36	0	.935	4.8115	.801	11600.0	276.4	11876.4
37	0	.935	4.8115	.805	11600.0	268.9	11868.9
38	0	.935	4.8115	.808	11600.0	261.8	11861.8
39	0	.935	4.8115	.812	11600.0	255.1	11855.1
40	0	.935	4.8115	.815	11600.0	248.8	11848.8
41	0	.935	4.8115	.818	11600.0	242.7	11842.7
42	0	.935	4.8115	.820	11600.0	236.9	11836.9
43	0	.935	4.8115	.823	11600.0	231.4	11831.4
44	0	.935	4.8115	.826	11600.0	226.1	11826.1
45	0	.935	4.8115	.828	11600.0	221.1	11821.1
46	0	.935	4.8115	.830	11600.0	216.3	11816.3
47	0	.935	4.8115	.833	11600.0	211.7	11811.7
48	0	.935	4.8115	.835	11600.0	207.3	11807.3
49	0	.935	4.8115	.837	11600.0	203.1	11803.1
50	0	.935	4.8115	.839	11600.0	199.0	11799.0
51	0	.935	4.8115	.841	11600.0	195.1	11795.1
52	.0667	1.0017	8.24655	.843	11600.0	191.3	11791.3

The Economics of Inspection - Analysis of The Model

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T **AREAS 7, 8 and 11**

K=200 Cr=58 B=0.9 I=9950

	200	58	.9	9950			
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	10672.0	9950.0	20622.0
2	.108	.508	.362	.327	10819.3	4975.0	15794.3
3	.036	.544	.452	.393	10896.3	3316.7	14212.9
4	.062	.606	.669	.439	10949.0	2487.5	13436.5
5	.067	.673	.9705	.479	10995.5	1990.0	12985.5
6	.005	.678	.998	.512	11033.5	1658.3	12691.9
7	.005	.683	1.0305	.536	11061.5	1421.4	12482.9
8	.015	.698	1.143	.555	11083.9	1243.8	12327.7
9	.062	.76	1.67	.574	11106.4	1105.6	12211.9
10	0	.76	1.67	.593	11127.9	995.0	12122.9
11	.021	.781	1.8905	.609	11146.6	904.5	12051.1
12	0	.781	1.8905	.623	11163.2	829.2	11992.4
13	.062	.843	2.6655	.638	11180.0	765.4	11945.4
14	0	.843	2.6655	.653	11197.0	710.7	11907.7
15	0	.843	2.6655	.665	11211.7	663.3	11875.1
16	0	.843	2.6655	.676	11224.6	621.9	11846.5
17	.01	.853	2.8305	.687	11236.3	585.3	11821.6
18	0	.853	2.8305	.696	11247.1	552.8	11799.8
19	.005	.858	2.923	.704	11256.8	523.7	11780.5
20	0	.858	2.923	.712	11265.7	497.5	11763.2
21	.015	.873	3.2305	.719	11274.2	473.8	11748.0
22	0	.873	3.2305	.726	11282.3	452.3	11734.6
23	0	.873	3.2305	.733	11289.8	432.6	11722.4
24	0	.873	3.2305	.738	11296.5	414.6	11711.1
25	0	.873	3.2305	.744	11302.8	398.0	11700.8
26	.062	.935	4.8115	.750	11309.9	382.7	11692.6
27	0	.935	4.8115	.757	11317.9	368.5	11686.4
28	0	.935	4.8115	.763	11325.3	355.4	11680.6
29	0	.935	4.8115	.769	11332.1	343.1	11675.2
30	0	.935	4.8115	.775	11338.6	331.7	11670.2
31	0	.935	4.8115	.780	11344.6	321.0	11665.5
32	0	.935	4.8115	.785	11350.2	310.9	11661.1
33	0	.935	4.8115	.789	11355.5	301.5	11657.0
34	0	.935	4.8115	.793	11360.4	292.6	11653.1
35	0	.935	4.8115	.798	11365.1	284.3	11649.4
36	0	.935	4.8115	.801	11369.6	276.4	11646.0
37	0	.935	4.8115	.805	11373.8	268.9	11642.7
38	0	.935	4.8115	.808	11377.7	261.8	11639.6
39	0	.935	4.8115	.812	11381.5	255.1	11636.6
40	0	.935	4.8115	.815	11385.1	248.8	11633.8
41	0	.935	4.8115	.818	11388.5	242.7	11631.2
42	0	.935	4.8115	.820	11391.7	236.9	11628.6
43	0	.935	4.8115	.823	11394.8	231.4	11626.2
44	0	.935	4.8115	.826	11397.8	226.1	11623.9
45	0	.935	4.8115	.828	11400.6	221.1	11621.7
46	0	.935	4.8115	.830	11403.3	216.3	11619.6
47	0	.935	4.8115	.833	11405.8	211.7	11617.6
48	0	.935	4.8115	.835	11408.3	207.3	11615.6
49	0	.935	4.8115	.837	11410.7	203.1	11613.8
50	0	.935	4.8115	.839	11413.0	199.0	11612.0
51	0	.935	4.8115	.841	11415.2	195.1	11610.3
52	.0667	1.0017	8.24655	.843	11418.0	191.3	11609.4

The Economics of Inspection - Analysis of The Model **AREAS 7, 8 and 11**

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.8 I=9950

200	58	.8	9950				
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	9744.0	9950.0	19694.0
2	.108	.508	.362	.327	10038.6	4975.0	15013.6
3	.036	.544	.452	.393	10192.5	3316.7	13509.2
4	.062	.606	.669	.439	10297.9	2487.5	12785.4
5	.067	.673	.9705	.479	10391.0	1990.0	12381.0
6	.005	.678	.998	.512	10467.1	1658.3	12125.4
7	.005	.683	1.0305	.536	10523.0	1421.4	11944.5
8	.015	.698	1.143	.555	10567.9	1243.8	11811.6
9	.062	.76	1.67	.574	10612.7	1105.6	11718.3
10	0	.76	1.67	.593	10655.8	995.0	11650.8
11	.021	.781	1.8905	.609	10693.2	904.5	11597.7
12	0	.781	1.8905	.623	10726.4	829.2	11555.6
13	.062	.843	2.6655	.638	10760.1	765.4	11525.5
14	0	.843	2.6655	.653	10794.0	710.7	11504.8
15	0	.843	2.6655	.665	10823.5	663.3	11486.8
16	0	.843	2.6655	.676	10849.3	621.9	11471.1
17	.01	.853	2.8305	.687	10872.7	585.3	11458.0
18	0	.853	2.8305	.696	10894.1	552.8	11446.9
19	.005	.858	2.923	.704	10913.6	523.7	11437.3
20	0	.858	2.923	.712	10931.5	497.5	11429.0
21	.015	.873	3.2305	.719	10948.5	473.8	11422.3
22	0	.873	3.2305	.726	10964.7	452.3	11417.0
23	0	.873	3.2305	.733	10979.5	432.6	11412.1
24	0	.873	3.2305	.738	10993.1	414.6	11407.7
25	0	.873	3.2305	.744	11005.6	398.0	11403.6
26	.062	.935	4.8115	.750	11019.9	382.7	11402.6
27	0	.935	4.8115	.757	11035.8	368.5	11404.3
28	0	.935	4.8115	.763	11050.5	355.4	11405.9
29	0	.935	4.8115	.769	11064.3	343.1	11407.4
30	0	.935	4.8115	.775	11077.1	331.7	11408.8
31	0	.935	4.8115	.780	11089.1	321.0	11410.1
32	0	.935	4.8115	.785	11100.4	310.9	11411.3
33	0	.935	4.8115	.789	11110.9	301.5	11412.5
34	0	.935	4.8115	.793	11120.9	292.6	11413.5
35	0	.935	4.8115	.798	11130.3	284.3	11414.6
36	0	.935	4.8115	.801	11139.1	276.4	11415.5
37	0	.935	4.8115	.805	11147.5	268.9	11416.4
38	0	.935	4.8115	.808	11155.4	261.8	11417.3
39	0	.935	4.8115	.812	11163.0	255.1	11418.1
40	0	.935	4.8115	.815	11170.1	248.8	11418.9
41	0	.935	4.8115	.818	11176.9	242.7	11419.6
42	0	.935	4.8115	.820	11183.4	236.9	11420.3
43	0	.935	4.8115	.823	11189.6	231.4	11421.0
44	0	.935	4.8115	.826	11195.5	226.1	11421.6
45	0	.935	4.8115	.828	11201.1	221.1	11422.3
46	0	.935	4.8115	.830	11206.5	216.3	11422.8
47	0	.935	4.8115	.833	11211.7	211.7	11423.4
48	0	.935	4.8115	.835	11216.6	207.3	11423.9
49	0	.935	4.8115	.837	11221.4	203.1	11424.5
50	0	.935	4.8115	.839	11225.9	199.0	11424.9
51	0	.935	4.8115	.841	11230.3	195.1	11425.4
52	.0667	1.0017	8.24655	.843	11236.0	191.3	11427.4

The Economics of Inspection - Analysis of The Model AREAS 7, 8 and 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.7 I=9950

200	58	.7	9950				
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	8816.0	9950.0	18766.0
2	.108	.508	.362	.327	9258.0	4975.0	14233.0
3	.036	.544	.452	.393	9488.8	3316.7	12805.5
4	.062	.606	.669	.439	9646.9	2487.5	12134.4
5	.067	.673	.9705	.479	9786.6	1990.0	11776.6
6	.005	.678	.998	.512	9900.6	1658.3	11558.9
7	.005	.683	1.0305	.536	9984.5	1421.4	11406.0
8	.015	.698	1.143	.555	10051.8	1243.8	11295.6
9	.062	.76	1.67	.574	10119.1	1105.6	11224.6
10	0	.76	1.67	.593	10183.6	995.0	11178.6
11	.021	.781	1.8905	.609	10239.8	904.5	11144.3
12	0	.781	1.8905	.623	10289.6	829.2	11118.8
13	.062	.843	2.6655	.638	10340.1	765.4	11105.5
14	0	.843	2.6655	.653	10391.1	710.7	11101.8
15	0	.843	2.6655	.665	10435.2	663.3	11098.6
16	0	.843	2.6655	.676	10473.9	621.9	11095.8
17	.01	.853	2.8305	.687	10509.0	585.3	11094.3
18	0	.853	2.8305	.696	10541.2	552.8	11094.0
19	.005	.858	2.923	.704	10570.5	523.7	11094.2
20	0	.858	2.923	.712	10597.2	497.5	11094.7
21	.015	.873	3.2305	.719	10622.7	473.8	11096.5
22	0	.873	3.2305	.726	10647.0	452.3	11099.3
23	0	.873	3.2305	.733	10669.3	432.6	11101.9
24	0	.873	3.2305	.738	10689.6	414.6	11104.2
25	0	.873	3.2305	.744	10708.4	398.0	11106.4
26	.062	.935	4.8115	.750	10729.8	382.7	11112.5
27	0	.935	4.8115	.757	10753.7	368.5	11122.2
28	0	.935	4.8115	.763	10775.8	355.4	11131.2
29	0	.935	4.8115	.769	10796.4	343.1	11139.5
30	0	.935	4.8115	.775	10815.7	331.7	11147.3
31	0	.935	4.8115	.780	10833.7	321.0	11154.6
32	0	.935	4.8115	.785	10850.5	310.9	11161.5
33	0	.935	4.8115	.789	10866.4	301.5	11167.9
34	0	.935	4.8115	.793	10881.3	292.6	11174.0
35	0	.935	4.8115	.798	10895.4	284.3	11179.7
36	0	.935	4.8115	.801	10908.7	276.4	11185.1
37	0	.935	4.8115	.805	10921.3	268.9	11190.2
38	0	.935	4.8115	.808	10933.2	261.8	11195.0
39	0	.935	4.8115	.812	10944.5	255.1	11199.6
40	0	.935	4.8115	.815	10955.2	248.8	11203.9
41	0	.935	4.8115	.818	10965.4	242.7	11208.1
42	0	.935	4.8115	.820	10975.1	236.9	11212.0
43	0	.935	4.8115	.823	10984.4	231.4	11215.8
44	0	.935	4.8115	.826	10993.3	226.1	11219.4
45	0	.935	4.8115	.828	11001.7	221.1	11222.8
46	0	.935	4.8115	.830	11009.8	216.3	11226.1
47	0	.935	4.8115	.833	11017.5	211.7	11229.2
48	0	.935	4.8115	.835	11025.0.	207.3	11232.3
49	0	.935	4.8115	.837	11032.1	203.1	11235.1
50	0	.935	4.8115	.839	11038.9	199.0	11237.9
51	0	.935	4.8115	.841	11045.5	195.1	11240.6
52	.0667	1.0017	8.24655	.843	11054.0	191.3	11245.4

The Economics of Inspection - Analysis of The Model AREAS 7, 8 and 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.6 I=9950

200	58	.6	9950				
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	7888.0	9950.0	17838.0
2	.108	.508	.362	.327	8477.3	4975.0	13452.3
3	.036	.544	.452	.393	8785.1	3316.7	12101.7
4	.062	.606	.669	.439	8995.8	2487.5	11483.3
5	.067	.673	.9705	.479	9182.1	1990.0	11172.1
6	.005	.678	.998	.512	9334.1	1658.3	10992.5
7	.005	.683	1.0305	.536	9446.0	1421.4	10867.5
8	.015	.698	1.143	.555	9535.8	1243.8	10779.5
9	.062	.76	1.67	.574	9625.4	1105.6	10731.0
10	0	.76	1.67	.593	9711.5	995.0	10706.5
11	.021	.781	1.8905	.609	9786.4	904.5	10690.9
12	0	.781	1.8905	.623	9852.8	829.2	10682.0
13	.062	.843	2.6655	.638	9920.1	765.4	10685.5
14	0	.843	2.6655	.653	9988.1	710.7	10698.8
15	0	.843	2.6655	.665	10047.0	663.3	10710.3
16	0	.843	2.6655	.676	10098.5	621.9	10720.4
17	.01	.853	2.8305	.687	10145.4	585.3	10730.7
18	0	.853	2.8305	.696	10188.3	552.8	10741.1
19	.005	.858	2.923	.704	10227.3	523.7	10751.0
20	0	.858	2.923	.712	10263.0	497.5	10760.5
21	.015	.873	3.2305	.719	10296.9	473.8	10770.7
22	0	.873	3.2305	.726	10329.4	452.3	10781.7
23	0	.873	3.2305	.733	10359.0	432.6	10791.6
24	0	.873	3.2305	.738	10386.2	414.6	10800.7
25	0	.873	3.2305	.744	10411.1	398.0	10809.1
26	.062	.935	4.8115	.750	10439.7	382.7	10822.4
27	0	.935	4.8115	.757	10471.5	368.5	10840.1
28	0	.935	4.8115	.763	10501.1	355.4	10856.4
29	0	.935	4.8115	.769	10528.6	343.1	10871.7
30	0	.935	4.8115	.775	10554.2	331.7	10885.9
31	0	.935	4.8115	.780	10578.2	321.0	10899.2
32	0	.935	4.8115	.785	10600.7	310.9	10911.7
33	0	.935	4.8115	.789	10621.9	301.5	10923.4
34	0	.935	4.8115	.793	10641.8	292.6	10934.4
35	0	.935	4.8115	.798	10660.5	284.3	10944.8
36	0	.935	4.8115	.801	10678.3	276.4	10954.6
37	0	.935	4.8115	.805	10695.0	268.9	10963.9
38	0	.935	4.8115	.808	10710.9	261.8	10972.7
39	0	.935	4.8115	.812	10726.0	255.1	10981.1
40	0	.935	4.8115	.815	10740.3	248.8	10989.0
41	0	.935	4.8115	.818	10753.9	242.7	10996.6
42	0	.935	4.8115	.820	10766.8	236.9	11003.7
43	0	.935	4.8115	.823	10779.2	231.4	11010.6
44	0	.935	4.8115	.826	10791.0	226.1	11017.1
45	0	.935	4.8115	.828	10802.3	221.1	11023.4
46	0	.935	4.8115	.830	10813.1	216.3	11029.4
47	0	.935	4.8115	.833	10823.4	211.7	11035.1
48	0	.935	4.8115	.835	10833.3	207.3	11040.6
49	0	.935	4.8115	.837	10842.8	203.1	11045.8
50	0	.935	4.8115	.839	10851.9	199.0	11050.9
51	0	.935	4.8115	.841	10860.6	195.1	11055.7
52	.0667	1.0017	8.24655	.843	10872.0	191.3	11063.4

The Economics of Inspection - Analysis of The Model AREAS 7, 8 and 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.5 I=9950

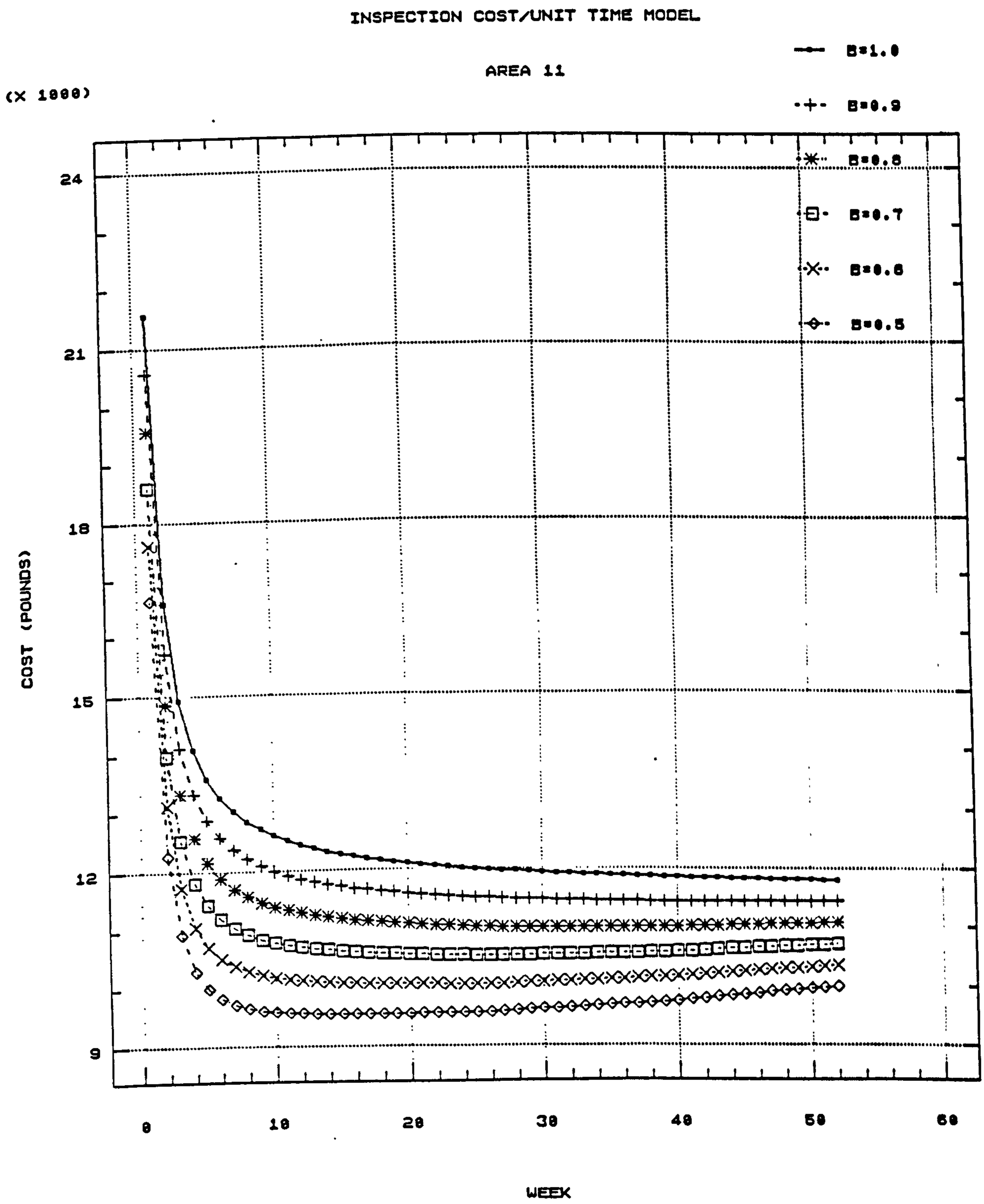
	200	58	.5	9950			
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.4	.4	.2	.200	6960.0	9950.0	16910.0
2	.108	.508	.362	.327	7696.6	4975.0	12671.6
3	.036	.544	.452	.393	8081.3	3316.7	11398.0
4	.062	.606	.669	.439	8344.8	2487.5	10832.3
5	.067	.673	.9705	.479	8577.6	1990.0	10567.6
6	.005	.678	.998	.512	8767.7	1658.3	10426.0
7	.005	.683	1.0305	.536	8907.6	1421.4	10329.0
8	.015	.698	1.143	.555	9019.7	1243.8	10263.5
9	.062	.76	1.67	.574	9131.8	1105.6	10237.3
10	0	.76	1.67	.593	9239.4	995.0	10234.4
11	.021	.781	1.8905	.609	9333.0	904.5	10237.5
12	0	.781	1.8905	.623	9416.1	829.2	10245.2
13	.062	.843	2.6655	.638	9500.2	765.4	10265.6
14	0	.843	2.6655	.653	9585.1	710.7	10295.8
15	0	.843	2.6655	.665	9658.7	663.3	10322.1
16	0	.843	2.6655	.676	9723.2	621.9	10345.0
17	.01	.853	2.8305	.687	9781.7	585.3	10367.0
18	0	.853	2.8305	.696	9835.4	552.8	10388.1
19	.005	.858	2.923	.704	9884.1	523.7	10407.8
20	0	.858	2.923	.712	9928.7	497.5	10426.2
21	.015	.873	3.2305	.719	9971.2	473.8	10445.0
22	0	.873	3.2305	.726	10011.7	452.3	10464.0
23	0	.873	3.2305	.733	10048.8	432.6	10481.4
24	0	.873	3.2305	.738	10082.7	414.6	10497.3
25	0	.873	3.2305	.744	10113.9	398.0	10511.9
26	.062	.935	4.8115	.750	10149.7	382.7	10532.4
27	0	.935	4.8115	.757	10189.4	368.5	10557.9
28	0	.935	4.8115	.763	10226.3	355.4	10581.7
29	0	.935	4.8115	.769	10260.7	343.1	10603.8
30	0	.935	4.8115	.775	10292.8	331.7	10624.4
31	0	.935	4.8115	.780	10322.8	321.0	10643.8
32	0	.935	4.8115	.785	10350.9	310.9	10661.9
33	0	.935	4.8115	.789	10377.3	301.5	10678.9
34	0	.935	4.8115	.793	10402.2	292.6	10694.9
35	0	.935	4.8115	.798	10425.7	284.3	10710.0
36	0	.935	4.8115	.801	10447.8	276.4	10724.2
37	0	.935	4.8115	.805	10468.8	268.9	10737.7
38	0	.935	4.8115	.808	10488.6	261.8	10750.5
39	0	.935	4.8115	.812	10507.4	255.1	10762.6
40	0	.935	4.8115	.815	10525.3	248.8	10774.1
41	0	.935	4.8115	.818	10542.3	242.7	10785.0
42	0	.935	4.8115	.820	10558.6	236.9	10795.5
43	0	.935	4.8115	.823	10574.0	231.4	10805.4
44	0	.935	4.8115	.826	10588.8	226.1	10814.9
45	0	.935	4.8115	.828	10602.9	221.1	10824.0
46	0	.935	4.8115	.830	10616.3	216.3	10832.6
47	0	.935	4.8115	.833	10629.2	211.7	10840.9
48	0	.935	4.8115	.835	10641.6	207.3	10848.9
49	0	.935	4.8115	.837	10653.5	203.1	10856.5
50	0	.935	4.8115	.839	10664.9	199.0	10863.9
51	0	.935	4.8115	.841	10675.8	195.1	10870.9
52	.0667	1.0017	8.24655	.843	10690.1	191.3	10881.4

The Economics of Inspection - Analysis of The Model

$C(T) = K(Cr*b(T)+B*Cr*(1 - b(T))) + I/T = K*g(T) + I/T$

AREAS 7, 8 and 11

Inspect. Period T	B=1.0	B=0.9	B=0.8	B=0.7	B=0.6	B=0.5
1	21550.0	20622.0	19694.0	18766.0	17838.0	16910.0
2	16575.0	15794.3	15013.6	14233.0	13452.3	12671.6
3	14916.7	14212.9	13509.2	12805.5	12101.7	11398.0
4	14087.5	13436.5	12785.4	12134.4	11483.3	10832.3
5	13590.0	12985.5	12381.0	11776.6	11172.1	10567.6
6	13258.3	12691.9	12125.4	11558.9	10992.5	10426.0
7	13021.4	12482.9	11944.5	11406.0	10867.5	10329.0
8	12843.8	12327.7	11811.6	11295.6	10779.5	10263.5
9	12705.6	12211.9	11718.3	11224.6	10731.0	10237.3
10	12595.0	12122.9	11650.8	11178.6	10706.5	10234.4
11	12504.5	12051.1	11597.7	11144.3	10690.9	10237.5
12	12429.2	11992.4	11555.6	11118.8	10682.0	10245.2
13	12365.4	11945.4	11525.5	11105.5	10685.5	10265.6
14	12310.7	11907.7	11504.8	11101.8	10698.8	10295.8
15	12263.3	11875.1	11486.8	11098.6	10710.3	10322.1
16	12221.9	11846.5	11471.1	11095.8	10720.4	10345.0
17	12185.3	11821.6	11458.0	11094.3	10730.7	10367.0
18	12152.8	11799.8	11446.9	11094.0	10741.1	10388.1
19	12123.7	11780.5	11437.3	11094.2	10751.0	10407.8
20	12097.5	11763.2	11429.0	11094.7	10760.5	10426.2
21	12073.8	11748.0	11422.3	11096.5	10770.7	10445.0
22	12052.3	11734.6	11417.0	11099.3	10781.7	10464.0
23	12032.6	11722.4	11412.1	11101.9	10791.6	10481.4
24	12014.6	11711.1	11407.7	11104.2	10800.7	10497.3
25	11998.0	11700.8	11403.6	11106.4	10809.1	10511.9
26	11982.7	11692.6	11402.6	11112.5	10822.4	10532.4
27	11968.5	11686.4	11404.3	11122.2	10840.1	10557.9
28	11955.4	11680.6	11405.9	11131.2	10856.4	10581.7
29	11943.1	11675.2	11407.4	11139.5	10871.7	10603.8
30	11931.7	11670.2	11408.8	11147.3	10885.9	10624.4
31	11921.0	11665.5	11410.1	11154.6	10899.2	10643.8
32	11910.9	11661.1	11411.3	11161.5	10911.7	10661.9
33	11901.5	11657.0	11412.5	11167.9	10923.4	10678.9
34	11892.6	11653.1	11413.5	11174.0	10934.4	10694.9
35	11884.3	11649.4	11414.6	11179.7	10944.8	10710.0
36	11876.4	11646.0	11415.5	11185.1	10954.6	10724.2
37	11868.9	11642.7	11416.4	11190.2	10963.9	10737.7
38	11861.8	11639.6	11417.3	11195.0	10972.7	10750.5
39	11855.1	11636.6	11418.1	11199.6	10981.1	10762.6
40	11848.8	11633.8	11418.9	11203.9	10989.0	10774.1
41	11842.7	11631.2	11419.6	11208.1	10996.6	10785.0
42	11836.9	11628.6	11420.3	11212.0	11003.7	10795.5
43	11831.4	11626.2	11421.0	11215.8	11010.6	10805.4
44	11826.1	11623.9	11421.6	11219.4	11017.1	10814.9
45	11821.1	11621.7	11422.3	11222.8	11023.4	10824.0
46	11816.3	11619.6	11422.8	11226.1	11029.4	10832.6
47	11811.7	11617.6	11423.4	11229.2	11035.1	10840.9
48	11807.3	11615.6	11423.9	11232.3	11040.6	10848.9
49	11803.1	11613.8	11424.5	11235.1	11045.8	10856.5
50	11799.0	11612.0	11424.9	11237.9	11050.9	10863.9
51	11795.1	11610.3	11425.4	11240.6	11055.7	10870.9
52	11791.3	11609.4	11427.4	11245.4	11063.4	10881.4


INSPECTION COST/UNIT TIME MODEL
AREA 11
(X 1000)
B=1.0
B=0.9
B=0.8
B=0.7
B=0.6
B=0.5
24
21
18
15
12
9
COST (POUNDS)
0
10
20
30
40
50
60
WEEK

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=1.0 I=9950

200	58	1	9950

Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	11600.0	9950.0	21550.0
2	.128	.426	.341	.256	11600.0	4975.0	16575.0
3	0	.426	.341	.312	11600.0	3316.7	14916.7
4	.043	.469	.4915	.346	11600.0	2487.5	14087.5
5	.085	.554	.874	.379	11600.0	1990.0	13590.0
6	0	.554	.874	.408	11600.0	1658.3	13258.3
7	.021	.575	1.0105	.431	11600.0	1421.4	13021.4
8	0	.575	1.0105	.449	11600.0	1243.8	12843.8
9	.043	.618	1.376	.465	11600.0	1105.6	12705.6
10	0	.618	1.376	.480	11600.0	995.0	12595.0
11	.021	.639	1.5965	.494	11600.0	904.5	12504.5
12	0	.639	1.5965	.506	11600.0	829.2	12429.2
13	0	.639	1.5965	.516	11600.0	765.4	12365.4
14	0	.639	1.5965	.525	11600.0	710.7	12310.7
15	0	.639	1.5965	.533	11600.0	663.3	12263.3
16	0	.639	1.5965	.539	11600.0	621.9	12221.9
17	.021	.66	1.943	.546	11600.0	585.3	12185.3
18	0	.66	1.943	.552	11600.0	552.8	12152.8
19	0	.66	1.943	.558	11600.0	523.7	12123.7
20	0	.66	1.943	.563	11600.0	497.5	12097.5
21	0	.66	1.943	.567	11600.0	473.8	12073.8
22	0	.66	1.943	.572	11600.0	452.3	12052.3
23	0	.66	1.943	.576	11600.0	432.6	12032.6
24	0	.66	1.943	.579	11600.0	414.6	12014.6
25	0	.66	1.943	.582	11600.0	398.0	11998.0
26	0	.66	1.943	.585	11600.0	382.7	11982.7
27	.063	.723	3.6125	.589	11600.0	368.5	11968.5
28	0	.723	3.6125	.594	11600.0	355.4	11955.4
29	0	.723	3.6125	.598	11600.0	343.1	11943.1
30	0	.723	3.6125	.603	11600.0	331.7	11931.7
31	.021	.744	4.253	.607	11600.0	321.0	11921.0
32	0	.744	4.253	.611	11600.0	310.9	11910.9
33	0	.744	4.253	.615	11600.0	301.5	11901.5
34	0	.744	4.253	.619	11600.0	292.6	11892.6
35	0	.744	4.253	.622	11600.0	284.3	11884.3
36	0	.744	4.253	.626	11600.0	276.4	11876.4
37	.021	.765	5.0195	.629	11600.0	268.9	11868.9
38	0	.765	5.0195	.633	11600.0	261.8	11861.8
39	0	.765	5.0195	.636	11600.0	255.1	11855.1
40	.085	.85	8.377	.641	11600.0	248.8	11848.8
41	0	.85	8.377	.646	11600.0	242.7	11842.7
42	0	.85	8.377	.651	11600.0	236.9	11836.9
43	0	.85	8.377	.655	11600.0	231.4	11831.4
44	0	.85	8.377	.660	11600.0	226.1	11826.1
45	0	.85	8.377	.664	11600.0	221.1	11821.1
46	0	.85	8.377	.668	11600.0	216.3	11816.3
47	0	.85	8.377	.672	11600.0	211.7	11811.7
48	0	.85	8.377	.675	11600.0	207.3	11807.3
49	0	.85	8.377	.679	11600.0	203.1	11803.1
50	0	.85	8.377	.682	11600.0	199.0	11799.0
51	0	.85	8.377	.686	11600.0	195.1	11795.1
52	.1489	.9989	16.04535	.690	11600.0	191.3	11791.3

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.9 I=9950

200	58	.9	9950

Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	10612.8	9950.0	20562.8
2	.128	.426	.341	.256	10736.4	4975.0	15711.4
3	0	.426	.341	.312	10802.3	3316.7	14119.0
4	.043	.469	.4915	.346	10841.5	2487.5	13329.0
5	.085	.554	.874	.379	10879.9	1990.0	12869.9
6	0	.554	.874	.408	10913.7	1658.3	12572.0
7	.021	.575	1.0105	.431	10939.5	1421.4	12361.0
8	0	.575	1.0105	.449	10960.5	1243.8	12204.2
9	.043	.618	1.376	.465	10979.5	1105.6	12085.1
10	0	.618	1.376	.480	10997.3	995.0	11992.3
11	.021	.639	1.5965	.494	11012.9	904.5	11917.4
12	0	.639	1.5965	.506	11026.9	829.2	11856.1
13	0	.639	1.5965	.516	11038.8	765.4	11804.2
14	0	.639	1.5965	.525	11049.0	710.7	11759.7
15	0	.639	1.5965	.533	11057.8	663.3	11721.1
16	0	.639	1.5965	.539	11065.5	621.9	11687.4
17	.021	.66	1.943	.546	11073.0	585.3	11658.3
18	0	.66	1.943	.552	11080.4	552.8	11633.2
19	0	.66	1.943	.558	11087.0	523.7	11610.7
20	0	.66	1.943	.563	11092.9	497.5	11590.4
21	0	.66	1.943	.567	11098.3	473.8	11572.1
22	0	.66	1.943	.572	11103.2	452.3	11555.4
23	0	.66	1.943	.576	11107.6	432.6	11540.2
24	0	.66	1.943	.579	11111.7	414.6	11526.3
25	0	.66	1.943	.582	11115.4	398.0	11513.4
26	0	.66	1.943	.585	11118.9	382.7	11501.6
27	.063	.723	3.6125	.589	11123.5	368.5	11492.0
28	0	.723	3.6125	.594	11129.0	355.4	11484.4
29	0	.723	3.6125	.598	11134.2	343.1	11477.3
30	0	.723	3.6125	.603	11139.0	331.7	11470.7
31	.021	.744	4.253	.607	11143.9	321.0	11464.9
32	0	.744	4.253	.611	11148.9	310.9	11459.8
33	0	.744	4.253	.615	11153.5	301.5	11455.1
34	0	.744	4.253	.619	11157.9	292.6	11450.6
35	0	.744	4.253	.622	11162.1	284.3	11446.4
36	0	.744	4.253	.626	11166.0	276.4	11442.4
37	.021	.765	5.0195	.629	11170.0	268.9	11439.0
38	0	.765	5.0195	.633	11174.2	261.8	11436.0
39	0	.765	5.0195	.636	11178.1	255.1	11433.2
40	.085	.85	8.377	.641	11183.1	248.8	11431.8
41	0	.85	8.377	.646	11189.0	242.7	11431.7
42	0	.85	8.377	.651	11194.6	236.9	11431.5
43	0	.85	8.377	.655	11200.0	231.4	11431.4
44	0	.85	8.377	.660	11205.2	226.1	11431.3
45	0	.85	8.377	.664	11210.1	221.1	11431.2
46	0	.85	8.377	.668	11214.8	216.3	11431.1
47	0	.85	8.377	.672	11219.2	211.7	11431.0
48	0	.85	8.377	.675	11223.6	207.3	11430.8
49	0	.85	8.377	.679	11227.7	203.1	11430.7
50	0	.85	8.377	.682	11231.7	199.0	11430.7
51	0	.85	8.377	.686	11235.5	195.1	11430.6
52	.1489	.9989	16.04535	.690	11240.8	191.3	11432.1

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.8 I=9950

200	58	.8	9950				
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	9625.7	9950.0	19575.7
2	.128	.426	.341	.256	9872.8	4975.0	14847.8
3	0	.426	.341	.312	10004.6	3316.7	13321.3
4	.043	.469	.4915	.346	10083.0	2487.5	12570.5
5	.085	.554	.874	.379	10159.7	1990.0	12149.7
6	0	.554	.874	.408	10227.3	1658.3	11885.7
7	.021	.575	1.0105	.431	10279.1	1421.4	11700.5
8	0	.575	1.0105	.449	10321.0	1243.8	11564.7
9	.043	.618	1.376	.465	10359.1	1105.6	11464.6
10	0	.618	1.376	.480	10394.5	995.0	11389.5
11	.021	.639	1.5965	.494	10425.8	904.5	11330.3
12	0	.639	1.5965	.506	10453.8	829.2	11283.0
13	0	.639	1.5965	.516	10477.6	765.4	11243.0
14	0	.639	1.5965	.525	10497.9	710.7	11208.6
15	0	.639	1.5965	.533	10515.6	663.3	11178.9
16	0	.639	1.5965	.539	10531.0	621.9	11152.9
17	.021	.66	1.943	.546	10546.0	585.3	11131.3
18	0	.66	1.943	.552	10560.8	552.8	11113.5
19	0	.66	1.943	.558	10573.9	523.7	11097.6
20	0	.66	1.943	.563	10585.8	497.5	11083.3
21	0	.66	1.943	.567	10596.5	473.8	11070.4
22	0	.66	1.943	.572	10606.3	452.3	11058.6
23	0	.66	1.943	.576	10615.2	432.6	11047.8
24	0	.66	1.943	.579	10623.4	414.6	11038.0
25	0	.66	1.943	.582	10630.9	398.0	11028.9
26	0	.66	1.943	.585	10637.8	382.7	11020.5
27	.063	.723	3.6125	.589	10647.0	368.5	11015.5
28	0	.723	3.6125	.594	10658.0	355.4	11013.4
29	0	.723	3.6125	.598	10668.4	343.1	11011.5
30	0	.723	3.6125	.603	10678.0	331.7	11009.7
31	.021	.744	4.253	.607	10687.8	321.0	11008.8
32	0	.744	4.253	.611	10697.7	310.9	11008.7
33	0	.744	4.253	.615	10707.1	301.5	11008.6
34	0	.744	4.253	.619	10715.9	292.6	11008.5
35	0	.744	4.253	.622	10724.2	284.3	11008.5
36	0	.744	4.253	.626	10732.0	276.4	11008.4
37	.021	.765	5.0195	.629	10740.1	268.9	11009.0
38	0	.765	5.0195	.633	10748.3	261.8	11010.2
39	0	.765	5.0195	.636	10756.2	255.1	11011.3
40	.085	.85	8.377	.641	10766.1	248.8	11014.9
41	0	.85	8.377	.646	10778.0	242.7	11020.7
42	0	.85	8.377	.651	10789.3	236.9	11026.2
43	0	.85	8.377	.655	10800.0	231.4	11031.4
44	0	.85	8.377	.660	10810.3	226.1	11036.4
45	0	.85	8.377	.664	10820.1	221.1	11041.2
46	0	.85	8.377	.668	10829.5	216.3	11045.8
47	0	.85	8.377	.672	10838.5	211.7	11050.2
48	0	.85	8.377	.675	10847.1	207.3	11054.4
49	0	.85	8.377	.679	10855.4	203.1	11058.4
50	0	.85	8.377	.682	10863.3	199.0	11062.3
51	0	.85	8.377	.686	10870.9	195.1	11066.0
52	.1489	.9989	16.04535	.690	10881.6	191.3	11072.9

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.7 I=9950

200	58	.7	9950				
Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	8638.5	9950.0	18588.5
2	.128	.426	.341	.256	9009.1	4975.0	13984.1
3	0	.426	.341	.312	9206.9	3316.7	12523.6
4	.043	.469	.4915	.346	9324.5	2487.5	11812.0
5	.085	.554	.874	.379	9439.6	1990.0	11429.6
6	0	.554	.874	.408	9541.0	1658.3	11199.3
7	.021	.575	1.0105	.431	9618.6	1421.4	11040.1
8	0	.575	1.0105	.449	9681.4	1243.8	10925.2
9	.043	.618	1.376	.465	9738.6	1105.6	10844.1
10	0	.618	1.376	.480	9791.8	995.0	10786.8
11	.021	.639	1.5965	.494	9838.6	904.5	10743.2
12	0	.639	1.5965	.506	9880.7	829.2	10709.9
13	0	.639	1.5965	.516	9916.3	765.4	10681.7
14	0	.639	1.5965	.525	9946.9	710.7	10657.6
15	0	.639	1.5965	.533	9973.3	663.3	10636.7
16	0	.639	1.5965	.539	9996.5	621.9	10618.4
17	.021	.66	1.943	.546	10019.1	585.3	10604.4
18	0	.66	1.943	.552	10041.2	552.8	.10593.9
19	0	.66	1.943	.558	10060.9	523.7	10584.6
20	0	.66	1.943	.563	10078.7	497.5	10576.2
21	0	.66	1.943	.567	10094.8	473.8	10568.6
22	0	.66	1.943	.572	10109.5	452.3	10561.7
23	0	.66	1.943	.576	10122.8	432.6	10555.4
24	0	.66	1.943	.579	10135.1	414.6	10549.6
25	0	.66	1.943	.582	10146.3	398.0	10544.3
26	0	.66	1.943	.585	10156.7	382.7	10539.4
27	.063	.723	3.6125	.589	10170.4	368.5	10538.9
28	0	.723	3.6125	.594	10187.1	355.4	10542.4
29	0	.723	3.6125	.598	10202.5	343.1	10545.6
30	0	.723	3.6125	.603	10217.0	331.7	10548.7
31	.021	.744	4.253	.607	10231.7	321.0	10552.7
32	0	.744	4.253	.611	10246.6	310.9	10557.5
33	0	.744	4.253	.615	10260.6	301.5	10562.1
34	0	.744	4.253	.619	10273.8	292.6	10566.5
35	0	.744	4.253	.622	10286.3	284.3	10570.5
36	0	.744	4.253	.626	10298.0	276.4	10574.4
37	.021	.765	5.0195	.629	10310.1	268.9	10579.0
38	0	.765	5.0195	.633	10322.5	261.8	10584.4
39	0	.765	5.0195	.636	10334.3	255.1	10589.4
40	.085	.85	8.377	.641	10349.2	248.8	10598.0
41	0	.85	8.377	.646	10367.0	242.7	10609.7
42	0	.85	8.377	.651	10383.9	236.9	10620.8
43	0	.85	8.377	.655	10400.0	231.4	10631.4
44	0	.85	8.377	.660	10415.5	226.1	10641.6
45	0	.85	8.377	.664	10430.2	221.1	10651.3
46	0	.85	8.377	.668	10444.3	216.3	10660.6
47	0	.85	8.377	.672	10457.7	211.7	10669.4
48	0	.85	8.377	.675	10470.7	207.3	10678.0
49	0	.85	8.377	.679	10483.1	203.1	10686.1
50	0	.85	8.377	.682	10495.0	199.0	10694.0
51	0	.85	8.377	.686	10506.4	195.1	10701.5
52	.1489	.9989	16.04535	.690	10522.4	191.3	10713.7

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.6 I=9950

200	58	.6	9950

Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	7651.4	9950.0	17601.4
2	.128	.426	.341	.256	8145.5	4975.0	13120.5
3	0	.426	.341	.312	8409.2	3316.7	11725.9
4	.043	.469	.4915	.346	8566.0	2487.5	11053.5
5	.085	.554	.874	.379	8719.5	1990.0	10709.5
6	0	.554	.874	.408	8854.7	1658.3	10513.0
7	.021	.575	1.0105	.431	8958.2	1421.4	10379.6
8	0	.575	1.0105	.449	9041.9	1243.8	10285.7
9	.043	.618	1.376	.465	9118.1	1105.6	10223.7
10	0	.618	1.376	.480	9189.1	995.0	10184.1
11	.021	.639	1.5965	.494	9251.5	904.5	10156.1
12	0	.639	1.5965	.506	9307.6	829.2	10136.8
13	0	.639	1.5965	.516	9355.1	765.4	10120.5
14	0	.639	1.5965	.525	9395.8	710.7	10106.5
15	0	.639	1.5965	.533	9431.1	663.3	10094.4
16	0	.639	1.5965	.539	9462.0	621.9	10083.9
17	.021	.66	1.943	.546	9492.1	585.3	10077.4
18	0	.66	1.943	.552	9521.5	552.8	10074.3
19	0	.66	1.943	.558	9547.9	523.7	10071.6
20	0	.66	1.943	.563	9571.6	497.5	10069.1
21	0	.66	1.943	.567	9593.1	473.8	10066.9
22	0	.66	1.943	.572	9612.6	452.3	10064.9
23	0	.66	1.943	.576	9630.4	432.6	10063.0
24	0	.66	1.943	.579	9646.8	414.6	10061.3
25	0	.66	1.943	.582	9661.8	398.0	10059.8
26	0	.66	1.943	.585	9675.6	382.7	10058.3
27	.063	.723	3.6125	.589	9693.9	368.5	10062.4
28	0	.723	3.6125	.594	9716.1	355.4	10071.4
29	0	.723	3.6125	.598	9736.7	343.1	10079.8
30	0	.723	3.6125	.603	9756.0	331.7	10087.7
31	.021	.744	4.253	.607	9775.6	321.0	10096.5
32	0	.744	4.253	.611	9795.5	310.9	10106.4
33	0	.744	4.253	.615	9814.2	301.5	10115.7
34	0	.744	4.253	.619	9831.8	292.6	10124.4
35	0	.744	4.253	.622	9848.3	284.3	10132.6
36	0	.744	4.253	.626	9864.0	276.4	10140.4
37	.021	.765	5.0195	.629	9880.1	268.9	10149.0
38	0	.765	5.0195	.633	9896.7	261.8	10158.5
39	0	.765	5.0195	.636	9912.4	255.1	10167.5
40	.085	.85	8.377	.641	9932.3	248.8	10181.0
41	0	.85	8.377	.646	9956.0	242.7	10198.7
42	0	.85	8.377	.651	9978.5	236.9	10215.4
43	0	.85	8.377	.655	10000.1	231.4	10231.5
44	0	.85	8.377	.660	10020.6	226.1	10246.7
45	0	.85	8.377	.664	10040.2	221.1	10261.3
46	0	.85	8.377	.668	10059.0	216.3	10275.3
47	0	.85	8.377	.672	10077.0	211.7	10288.7
48	0	.85	8.377	.675	10094.2	207.3	10301.5
49	0	.85	8.377	.679	10110.7	203.1	10313.8
50	0	.85	8.377	.682	10126.6	199.0	10325.6
51	0	.85	8.377	.686	10141.9	195.1	10337.0
52	.1489	.9989	16.04535	.690	10163.2	191.3	10354.5

The Economics of Inspection - Analysis of The Model AREA 11

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

K=200 Cr=58 B=0.5 I=9950

200	58	.5	9950

Inspect. Period T	f(T)	Sigma f(T)	Sigma (T-0.5)*f(T)	b(T)	K*g(T)	I/T	C(T)
1	.298	.298	.149	.149	6664.2	9950.0	16614.2
2	.128	.426	.341	.256	7281.9	4975.0	12256.9
3	0	.426	.341	.312	7611.5	3316.7	10928.2
4	.043	.469	.4915	.346	7807.5	2487.5	10295.0
5	.085	.554	.874	.379	7999.4	1990.0	9989.4
6	0	.554	.874	.408	8168.3	1658.3	9826.7
7	.021	.575	1.0105	.431	8297.7	1421.4	9719.2
8	0	.575	1.0105	.449	8402.4	1243.8	9646.1
9	.043	.618	1.376	.465	8497.6	1105.6	9603.2
10	0	.618	1.376	.480	8586.3	995.0	9581.3
11	.021	.639	1.5965	.494	8664.4	904.5	9569.0
12	0	.639	1.5965	.506	8734.6	829.2	9563.7
13	0	.639	1.5965	.516	8793.9	765.4	9559.3
14	0	.639	1.5965	.525	8844.8	710.7	9555.5
15	0	.639	1.5965	.533	8888.9	663.3	9552.2
16	0	.639	1.5965	.539	8927.5	621.9	9549.3
17	.021	.66	1.943	.546	8965.1	585.3	9550.4
18	0	.66	1.943	.552	9001.9	552.8	9554.7
19	0	.66	1.943	.558	9034.9	523.7	9558.6
20	0	.66	1.943	.563	9064.5	497.5	9562.0
21	0	.66	1.943	.567	9091.4	473.8	9565.2
22	0	.66	1.943	.572	9115.8	452.3	9568.0
23	0	.66	1.943	.576	9138.0	432.6	9570.6
24	0	.66	1.943	.579	9158.4	414.6	9573.0
25	0	.66	1.943	.582	9177.2	398.0	9575.2
26	0	.66	1.943	.585	9194.6	382.7	9577.3
27	.063	.723	3.6125	.589	9217.4	368.5	9585.9
28	0	.723	3.6125	.594	9245.1	355.4	9600.5
29	0	.723	3.6125	.598	9270.9	343.1	9614.0
30	0	.723	3.6125	.603	9295.0	331.7	9626.7
31	.021	.744	4.253	.607	9319.5	321.0	9640.4
32	0	.744	4.253	.611	9344.3	310.9	9655.3
33	0	.744	4.253	.615	9367.7	301.5	9669.2
34	0	.744	4.253	.619	9389.7	292.6	9682.3
35	0	.744	4.253	.622	9410.4	284.3	9694.7
36	0	.744	4.253	.626	9430.0	276.4	9706.4
37	.021	.765	5.0195	.629	9450.2	268.9	9719.1
38	0	.765	5.0195	.633	9470.9	261.8	9732.7
39	0	.765	5.0195	.636	9490.5	255.1	9745.6
40	.085	.85	8.377	.641	9515.3	248.8	9764.1
41	0	.85	8.377	.646	9545.0	242.7	9787.6
42	0	.85	8.377	.651	9573.2	236.9	9810.1
43	0	.85	8.377	.655	9600.1	231.4	9831.5
44	0	.85	8.377	.660	9625.8	226.1	9851.9
45	0	.85	8.377	.664	9650.3	221.1	9871.4
46	0	.85	8.377	.668	9673.8	216.3	9890.1
47	0	.85	8.377	.672	9696.2	211.7	9907.9
48	0	.85	8.377	.675	9717.8	207.3	9925.1
49	0	.85	8.377	.679	9738.4	203.1	9941.5
50	0	.85	8.377	.682	9758.3	199.0	9957.3
51	0	.85	8.377	.686	9777.3	195.1	9972.4
sz	.1489	.9989	16.04535	.690	9803.9	191.3	9995.3

The Economics of Inspection - Analysis of The Model

C(T) = K(Cr*b(T)+B*Cr*(1 -b(T))) + I/T = K*g(T) + I/T

AREA 11

Inspect. Period T	B=1.0	B=0.9	B=0.8	B=0.7	B=0.6	B=0.5
1.0	21550.0	20562.8	19575.7	18588.5	17601.4	16614.2
2.0	16575.0	15711.4	14847.8	13984.1	13120.5	12256.9
3.0	14916.7	14119.0	13321.3	12523.6	11725.9	10928.2
4.0	14087.5	13329.0	12570.5	11812.0	11053.5	10295.0
5.0	13590.0	12869.9	12149.7	11429.6	10709.5	9989.4
6.0	13258.3	12572.0	11885.7	11199.3	10513.0	9826.7
7.0	13021.4	12361.0	11700.5	11040.1	10379.6	9719.2
8.0	12843.8	12204.2	11564.7	10925.2	10285.7	9646.1
9.0	12705.6	12085.1	11464.6	10844.1	10223.7	9603.2
10.0	12595.0	11992.3	11389.5	10786.8	10184.1	9581.3
11.0	12504.5	11917.4	11330.3	10743.2	10156.1	9569.0
12.0	12429.2	11856.1	11283.0	10709.9	10136.8	9563.7
13.0	12365.4	11804.2	11243.0	10681.7	10120.5	9559.3
14.0	12310.7	11759.7	11208.6	10657.6	10106.5	9555.5
15.0	12263.3	11721.1	11178.9	10636.7	10094.4	9552.2
16.0	12221.9	11687.4	11152.9	10618.4	10083.9	9549.3
17.0	12185.3	11658.3	11131.3	10604.4	10077.4	9550.4
18.0	12152.8	11633.2	11113.5	10593.9	10074.3	9554.7
19.0	12123.7	11610.7	11097.6	10584.6	10071.6	9558.6
20.0	12097.5	11590.4	11083.3	10576.2	10069.1	9562.0
21.0	12073.8	11572.1	11070.4	10568.6	10066.9	9565.2
22.0	12052.3	11555.4	11058.6	10561.7	10064.9	9568.0
23.0	12032.6	11540.2	11047.8	10555.4	10063.0	9570.6
24.0	12014.6	11526.3	11038.0	10549.6	10061.3	9573.0
25.0	11998.0	11513.4	11028.9	10544.3	10059.8	9575.2
26.0	11982.7	11501.6	11020.5	10539.4	10058.3	9577.3
27.0	11968.5	11492.0	11015.5	10538.9	10062.4	9585.9
28.0	11955.4	11484.4	11013.4	10542.4	10071.4	9600.5
29.0	11943.1	11477.3	11011.5	10545.6	10079.8	9614.0
30.0	11931.7	11470.7	11009.7	10548.7	10087.7	9626.7
31.0	11921.0	11464.9	11008.8	10552.7	10096.5	9640.4
32.0	11910.9	11459.8	11008.7	10557.5	10106.4	9655.3
33.0	11901.5	11455.1	11008.6	10562.1	10115.7	9669.2
34.0	11892.6	11450.6	11008.5	10566.5	10124.4	9682.3
35.0	11884.3	11446.4	11008.5	10570.5	10132.6	9694.7
36.0	11876.4	11442.4	11008.4	10574.4	10140.4	9706.4
37.0	11868.9	11439.0	11009.0	10579.0	10149.0	9719.1
38.0	11861.8	11436.0	11010.2	10584.4	10158.5	9732.7
39.0	11855.1	11433.2	11011.3	10589.4	10167.5	9745.6
40.0	11848.8	11431.8	11014.9	10598.0	10181.0	9764.1
41.0	11842.7	11431.7	11020.7	10609.7	10198.7	9787.6
42.0	11836.9	11431.5	11026.2	10620.8	10215.4	9810.1
43.0	11831.4	11431.4	11031.4	10631.4	10231.5	9831.5
44.0	11826.1	11431.3	11036.4	10641.6	10246.7	9851.9
45.0	11821.1	11431.2	11041.2	10651.3	10261.3	9871.4
46.0	11816.3	11431.1	11045.8	10660.6	10275.3	9890.1
47.0	11811.7	11431.0	11050.2	10669.4	10288.7	9907.9
48.0	11807.3	11430.8	11054.4	10678.0	10301.5	9925.1
49.0	11803.1	11430.7	11058.4	10686.1	10313.8	9941.5
50.0	11799.0	11430.7	11062.3	10694.0	10325.6	9957.3
51.0	11795.1	11430.6	11066.0	10701.5	10337.0	9972.4
52.0	11791.3	11432.1	11072.9	10713.7	10354.5	9995.3

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UNIVERSITY OF STRATHCLYDE

DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address 23 DORLIN RD ..... Area 8 ..... House Type 4 IN BLOCK FLAT
CARDIJAN ..... Repair Type [Emergency | Non-Emergency ✓]

2. Date of receipt of Repair 8.3.85 Date of Completion of Repair .....

3. Brief description of type and nature of defect (see Note a).

RAIN (PAN) L/R WINDOW

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER ✓	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY ✓	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL ✓	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
				✓				

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	✓
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	✓
FAIR WEAR AND TEAR	

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES ✓ | NO]

If 'YES' please indicate HOW. WITH UPGRADING. WINDOW WHEN PREPAINTING ROGRAM IS DONE.

9. Could this defect have been noticed beforehand at an inspection? YES ✓ NO

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more
								✓	

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£
ESTIMATED i.e. Defect Inspected	£ 150
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ SAME

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR | COMBINATION OF BOTH ✓

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION | INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ B

17. Any general comments?

DATE .....

SIGNED .....

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UNIVERSITY OF STRATHCLYDE

DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address ....36...STATION...RD.... Area ....6.... House Type 4IN BLOCK FLAT
.....CARDOWAN..... Repair Type [Emergency | Non-Emergency]

2. Date of receipt of Repair ..6/3/85... Date of Completion of Repair ..9.3.85.....

3. Brief description of type and nature of defect (see Note a).

NO LIGHTS KITCHEN L/ROOM & BATHROOM

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER	PLUMBER	ELECTRICIAN ✓	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY ✓	CLOSELY	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT ✓	NORMAL	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days ✓	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	
FAIR WEAR AND TEAR	✓

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES | NO ✓]

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? YES | NO ✓

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ 30
ESTIMATED i.e. Defect Inspected	£ SAME
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ SAME

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR | COMBINATION OF BOTH ✓

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ B

17. Any general comments?

DATE .....

SIGNED .....

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UNIVERSITY OF STRATHCLYDE

DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address .....16 CARGILL SQ.... Area ....8.... House Type ..TERRACE...
.....AUCHINAIRN..... Repair Type [Emergency | Non-Emergency ✓]

2. Date of receipt of Repair ...6/3/85... Date of Completion of Repair ..8.3.85....

3. Brief description of type and nature of defect (see Note a).

SNIBS BROKEN KITCHEN & BEDROOM WINDOWS

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER ✓	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY ✓	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL ✓	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
				✓				

8. What, in your opinion, caused this fault to occur?

POOR DESIGN		VANDALISM	
POOR WORKMANSHIP		ACCIDENT	
CHOICE OF MATERIAL		TENANT MISUSE	
LACK OF MAINTENANCE		WIND	
FAIR WEAR AND TEAR	✓	OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES | NO ✓]

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? YES ✓ NO

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more
					✓				

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£
ESTIMATED i.e. Defect Inspected	£ 20
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ SAME

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £ SAME

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR | COMBINATION OF BOTH ✓

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION | INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ B

17. Any general comments?

DATE .....

SIGNED .....

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DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address 42 DOBLIN RD CASDOWAN Area 8 House Type TERRACE FLAT

Repair Type | Emergency | Non-Emergency ✓ |

2. Date of receipt of Repair 6/3/85 Date of Completion of Repair 7/3/85

3. Brief description of type and nature of defect (see Note a).

FAULTY TAP KITCHEN (WASHER)

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER	PLUMBER ✓	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

OTHERS

Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY ✓	CLOSELY	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT ✓	NORMAL	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
		✓						

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	
FAIR WEAR AND TEAR	✓

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? | YES | NO ✓ |

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? YES | NO ✓

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ 20
ESTIMATED i.e. Defect Inspected	£
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ 20

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR ✓ | COMBINATION OF BOTH

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION | INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ | B

17. Any general comments?

DATE .....

SIGNED .....

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DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address ...1....HAWTHORN..AVE... Area ....7.... House Type ...TER.....
.....B/B..... Repair Type [Emergency | Non-Emergency]

2. Date of receipt of Repair .18..3..85. Date of Completion of Repair .....

3. Brief description of type and nature of defect (see Note a).

CONTROL SWITCH FAULTY
(RAEBURN RHAPSODY FIRE)

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate ..GAS TECH. RHAPSODY.

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY	NOT VERY CLOSE	NOT AT ALL
	✓		

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL	LONG TERM
	✓		

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
			✓					

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	
FAIR WEAR AND TEAR	✓

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES | NO]

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? YES | NO ✓

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ 40
ESTIMATED i.e. Defect Inspected	£ 30
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ —

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £ —

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR ✓ | COMBINATION OF BOTH

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION | INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ | B

17. Any general comments?

DATE .....

SIGNED .....

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DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address ..81..CAMPSIE..RD..... Area ....7..... House Type ..TSR.....
.....TORRANCE..... Repair Type [Emergency | Non-Emergency ✓]

2. Date of receipt of Repair .14.3.85. Date of Completion of Repair .....

3. Brief description of type and nature of defect (see Note a).

FAULTY DOOR LOCK.

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER ✓	PLUMBER	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY ✓	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL ✓	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
					✓			

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	
FAIR WEAR AND TEAR	

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

TENANTS RESPONSIBILITY

9. Could this repair have been PREVENTED? [YES | NO ✓]

If 'YES' please indicate HOW.

S.D.L. WINDOW FIT LOOSE IN SUBFRAME.

9. Could this defect have been noticed beforehand at an inspection? YES | NO ✓

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ 25
ESTIMATED i.e. Defect Inspected	£ 20
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ —

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £ —

14. Into which CATEGORY would you place this repair?

REPLACEMENT ✓ | REPAIR | COMBINATION OF BOTH

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION | INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A | B ✓

17. Any general comments?

DATE ..... SIGNED .....

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DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address 23 EMERSON RD Area 7 House Type FLAT

B/B Repair Type [Emergency | Non-Emergency] ✓

2. Date of receipt of Repair 13.3.85 Date of Completion of Repair .....

3. Brief description of type and nature of defect (see Note a).

1 CRACKED PANE
1 WINDOW CORD BROKEN
REQUESTS PANTRY REMOVED (TENANTS RESPONSIBILITY

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER (B) ✓	PLUMBER	ELECTRICIAN	GLAZIER (A) ✓	SLATER	PLASTERER	BRICKLAYER	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY ✓	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL ✓	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month	3 months	6 months	more (indicate)
					✓			

8. What, in your opinion, caused this fault to occur?

POOR DESIGN		VANDALISM	
POOR WORKMANSHIP		ACCIDENT	
CHOICE OF MATERIAL		TENANT MISUSE	
LACK OF MAINTENANCE		WIND	
FAIR WEAR AND TEAR	✓	OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES | NO ✓]

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? B [YES] [NO]

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

B

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more
						✓			

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ A 2C B 1.5
ESTIMATED i.e. Defect Inspected	£ A 2C B 1.5
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST [£ —]

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS [£ —]

14. Into which CATEGORY would you place this repair?

[REPLACEMENT] [REPAIR] [COMBINATION OF BOTH] ✓

15. Please indicate ACCESS availability.

[EXTERNAL INSPECTION] [INTERNAL INSPECTION] ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

[A] ✓ [B]

17. Any general comments?

DATE .....

SIGNED ..

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DEPARTMENT OF OPERATIONAL RESEARCH/STRATHKELVIN DISTRICT COUNCIL

HOUSING MAINTENANCE SURVEY

1. Address ....11....MAVIS....BANK. Area ....7.... House Type ..FLAT.....
.....B/B..... Repair Type [Emergency | Non-Emergency ✓]

2. Date of receipt of Repair .13.3.85. Date of Completion of Repair .....

3. Brief description of type and nature of defect (see Note a).

A LEAKING GUTTERS
B STEPS REQUIRE ATTENTION.

4. Please indicate TRADE CATEGORY(IES) of Repair.

JOINER	PLUMBER (A) ✓	ELECTRICIAN	GLAZIER	SLATER	PLASTERER	BRICKLAYER (B) ✓	SQUAD

[OTHERS] Please indicate .....

5. How does your description of the defect correspond to that given by tenant?

EXACTLY	CLOSELY ✓	NOT VERY CLOSE	NOT AT ALL

6. Into which PRIORITY CATEGORY would you place this repair request?(see Note b)

EMERGENCY	URGENT	NORMAL ✓	LONG TERM

7. In your opinion how much longer could the repair be delayed? (see Note C)

Not at all	1 day	3 - 5 days	1 week	2 - 3 weeks	1 month ✓	3 months	6 months	more (indicate)

8. What, in your opinion, caused this fault to occur?

POOR DESIGN	
POOR WORKMANSHIP	
CHOICE OF MATERIAL	
LACK OF MAINTENANCE	
FAIR WEAR AND TEAR	✓

VANDALISM	
ACCIDENT	
TENANT MISUSE	
WIND	
OTHERS(PLEASE INDICATE)	

9. Could this repair have been PREVENTED? [YES | NO ✓]

If 'YES' please indicate HOW.

9. Could this defect have been noticed beforehand at an inspection? YES ✓ | NO

10. If answer to Q9 is 'YES' how long ago could this defect have been reasonably expected to be noticed at an inspection? (see note d).

< 1 day	1 day	2 - 5 days	1 week	2 weeks	4 weeks	2 months	4 months	6 months	more
						✓			

11. What are the relevant costs relating to the repair? (see Note e)

GUESTIMATED i.e. Defect Unseen	£ 0 30 / 0 25
ESTIMATED i.e. Defect Inspected	£ 0 32 / 0 25
ACTUAL i.e. Contractor's Cost	£

12. If the repair was left until the delayed time estimated in Q7, please give an estimate of any ADDITIONAL COST which might be incurred.

ADDITIONAL COST £ —

13. If the defect HAD BEEN REPAIRED near the inspection time estimated in Q10, please given an estimate of any COST SAVINGS which might have been made.

COST SAVINGS £ —

14. Into which CATEGORY would you place this repair?

REPLACEMENT | REPAIR ✓ | COMBINATION OF BOTH

15. Please indicate ACCESS availability.

EXTERNAL INSPECTION ✓ INTERNAL INSPECTION ✓

16. Who, in your opinion, should be RESPONSIBLE for effecting this repair? (See Note f)

A ✓ B

17. Any general comments?

DATE ..... SIGNED .

HOUSING MAINTENANCE SURVEY

SUPPMENTARY NOTES

Question 3 (Note a)

Please give a brief but accurate description of the repair, sufficient to allow Primary, Secondary and Maintenance Operation number coding to be assigned. Additionally this description should allow us to determine any dependency of this repair on any immediate preceding or subsequent repair.

Question 6 (Note b)

EMERGENCY	ie	effect repair immediately
URGENT	ie	within a few days
NORMAL	ie	repair which could be scheduled, ie several weeks
LONGTERM	ie	pre-paint repairs

Question 7 (Note c)

Please indicate as accurately as you can, for how long this repair could REASONABLY be delayed, taking account of say -

(i) The defect could endanger life or limb;
(ii) The defect could constitute a fire risk;
(iii) The defect could cause the tenant unacceptable distress or lack of amenity;
(iv) The defect could contribute to further defects occuring;
(v) The defect could constitute a security risk;
(vi) The defect could be cosmetic;
(vii) The defect could be an intermittant problem;
(viii) The defect may simply be a nuisance;
(ix) And so on.

Question 10 (Note d)

Please indicate as accurately as you can, how long ago this defect would have been spotted at an inspection, assuming that the property was being constantly inspected.

Question 11 (Note e)

GUESSTIMATED COST, ie cost allowed by you for this repair which has been issued as an EMERGENCY repair and the defect assumed to have been unseen (as would normally be the case).

ESTIMATED COST, ie cost estimated by you, after inspecting this defect which should be in the NON-EMERGENCY category.

ACTUAL COST, ie CONTRACTOR or DIRECT WORKS account, as passed by Accounts Clerk.

Question 16 (Note f)

Take A = COUNCIL RESPONSIBILITY
B = TENANT

For guidance, take account of the following -

(i) The defect could be cosmetic or trivial;
(ii) The defect requires unskilled treatment;
(iii) The tenant may be aged or infirm;
(iv) And so on.

SAMPLING PROCEDURE

(a) Clerk to list repairs in order as received (ie randomly received; unranked) and numbered 1 to n say.

(b) (i) For each AREA estimate the frequency of receipt of repair requests Monday to Friday and aim for approximately 10% sample.

(ii) Determine the Range for each day

eg	Monday	30 - 50	∴	sample 4
	Tuesday	25 - 45	∴	sample 3
	Wednesday	20 - 40	∴	sample 3
	Thursday	20 - 40	∴	sample 3
	Friday	15 - 35	∴	sample 3

Proportion daily according to median of range.

(c) Generate Random numbers for each day; the Random numbers corresponding to repair of same number on clerk's list.

eg Monday - need to generate six random numbers < 30,
ie 16, 5, 12, 7