APPENDIX R
JCP UTILITIES QUESTIONNAIRE RESPONSES

The JCP utility questionnaire elicited subjective values of distress and conditions scores rather than utilities, due to the facts that DS for an individual distress is its utility multiplied by 100 and that TxDOT engineers are used to DS rather than utilities. Analogous reasoning applies for questions about condition scores.

In addition, the questionnaires asked that the respondents to NOT provide their estimate of DS based on existing PMIS scores; rather, to give an estimate of DS and CS values they would like to see implemented in PMIS to better represent various JCP conditions.

Elicited Condition Scores for RSL Utility Recalibration

	Response 1			Response 2		
Questions	**Heavy**	**Medium**	**Low**	**Heavy**	**Medium**	**Low**
RS = 5.0	100	100	100	100	100	100
RS = 4.5	100	100	100	94	95	96
RS = 4.0	98	100	100	88	90	91
RS = 3.5	95	98	100	82	85	87
RS = 3.0	90	95	98	76	80	83
RS = 2.5	80	90	95	70	75	79
RS = 2.0	70	80	90	62	70	74
RS = 1.5	60	70	80	54	63	70
RS = 1.0	50	60	70	46	54	64
RS = 0.5	30	40	50	38	47	58
RS ≈ 0	0	10	15	<38	<47	<58
Lowest RS still receiving CS=100	4.5	4	3.5	5	5	5
Lowest RS still receiving CS=90	3	2.5	2	4.1	4	3.9
Lowest RS still receiving CS=80	2.5	2	1.5	3.3	3	2.6
Lowest RS that should remain untreated	2	1.5	1	2.5	2	1.5
Distress Score relevance to CS (%)	44%	45%	46%	60	70	80
Ride score relevance to CS (%)	56%	55%	54%	40	30	20

Elicited Distress Scores for JCP Distress Utilities

The questionnaire asked respondents: "please fill in the distress score values or range of values **you** (not PMIS!) believe would best represent a JCP section with no distresses manifestations other than those listed in the 1st column. If you agree with the existing method of NOT considering traffic levels in DS and utility calculations for this distress, please fill out any column and cross out the traffic level headers."

Important: Do not provide your estimate of DS based on existing PMIS scores; rather, respond in terms of values you would like to see implemented in PMIS to better represent various JCP conditions.

Failed Joints and Cracks (FJC)

	Respondent 1			Respondent 2		
% FJC	**Low**	**Medium**	**Heavy**	**Low**	**Medium**	**Heavy**
None	100	100	100	100	100	100
0< FJC <1	100	100	100	97-99	96-99	95-99
1≤ FJC <5	100	100	98	94-96	92-95	90-94
5≤ FJC <10	100	98	95	91-93	88-91	85-89
10≤ FJC <15	98	95	90	88-90	84-87	80-84
15≤ FJC <20	95	90	85	85-87	80-83	75-79
20≤ FJC <25	90	85	80	82-84	76-79	70-74
25≤ FJC <30	85	80	75	79-81	72-75	65-69
30≤ FJC <40	80	75	70	76-78	68-71	60-64
40≤ FJC <50	75	70	65	73-75	64-67	55-59
50≤ FJC <60	70	65	60	70-72	60-63	50-54
60≤ FJC <70	65	60	55	67-69	56-59	45-49
70≤ FJC <80	60	55	40	64-66	52-55	40-44
80≤ FJC <90	55	40	30	63-65	48-51	35-39
90≤ FJC <100	40	30	20	59-61	44-47	30-34
100 or greater	30	20	10	<59	<44	<30

Failures (FL)

	Respondent 1			Respondent 2		
Failures/mile	**Low**	**Medium**	**Heavy**	**Low**	**Medium**	**Heavy**
None	100	100	100	100	100	100
0< FL <5	100	100	98	91-99	90-99	89-99
5≤ FL <10	100	98	95	82-90	80-89	78-88
10≤ FL <15	98	95	90	73-81	70-79	67-77
15≤ FL <20	95	90	85	64-72	60-69	56-66
20≤ FL <25	90	85	80	55-63	50-59	45-55
25≤ FL <30	85	80	75	46-54	40-49	44-54
30≤ FL <40	80	75	70	37-45	30-39	33-43
40≤ FL <50	75	70	65	28-36	20-29	22-32
50≤ FL <60	70	65	60	19-27	10-19	11-21
60≤ FL <70	65	60	55	10-18	<10	<11
70≤ FL <80	60	55	50	<10	<10	<11
80≤ FL <90	55	50	45	<10	<10	<11
90≤ FL <100	50	45	40	<10	<10	<11
100≤ FL <110	45	40	35	<10	<10	<11
110 or greater	40	35	30	<10	<10	<11

Longitudinal Cracks (LC)

	Respondent 1			Respondent 2		
% w/LC	**Low**	**Medium**	**Heavy**	**Low**	**Medium**	**Heavy**
None	100	100	100	100	100	100
0< LC <5	100	100	98	94-99	93-99	92-99
5≤ LC <10	100	98	95	88-93	86-92	84-91
10≤ LC <15	98	95	90	82-87	79-85	76-83
15≤ LC <20	95	90	85	76-81	72-78	68-75
20≤ LC <30	90	85	80	70-75	65-71	60-67
30≤ LC <40	85	80	75	64-69	58-64	<60
40≤ LC <50	80	75	70	58-63	<58	<60
50≤ LC <60	75	70	65	<58	<58	<60
60≤ LC <70	70	65	60	<58	<58	<60
70≤ LC <80	65	60	55	<58	<58	<60
80≤ LC <90	60	55	50	<58	<58	<60
90≤ LC <100	55	50	40	<58	<58	<60

Concrete Patches (CP)

	Response 1			Response 2		
CPs/mile	**Low**	**Medium**	**Heavy**	**Low**	**Medium**	**Heavy**
None	100	100	100	100	100	100
0< CP <5	100	100	98	96-99	95-99	94-99
5≤ CP <10	100	98	95	92-95	87-91	88-93
10≤ CP <20	98	95	90	88-91	82-86	82-87
20≤ CP <30	95	90	85	84-97	77-81	76-81
30≤ CP <40	90	85	80	80-83	72-76	70-75
40≤ CP <50	85	80	75	76-79	67-71	64-69
50≤ CP <60	80	75	60	72-75	62-66	57-63
60≤ CP <70	75	65	50	68-71	57-61	51-56
70≤ CP <80	70	55	40	64-67	52-56	45-50
80≤ CP <90	60	45	30	60-63	47-51	39-44
90≤ CP <100	50	35	25	56-59	42-46	33-38
100 ≤ CP <120	40	30	20	52-55	37-41	27-32
120≤ CP <140	35	25	15	48-51	32-36	21-26
140≤ CP <160	30	20	10	44-47	27-31	15-20
160≤ CP <180	25	15	8	40-43	22-26	9-14
180 or greater	20	10	5	<40	<22	<9

Shattered Slabs

	Respondent 1			Respondent 2		
SS/mile	**% S**	**Medium**	**Heavy**	**Low**	**Medium**	**Heavy**
None	0	100	100	100	100	100
0< SS <1		100	98	92-99	91-99	90-99
1≤ SS <2		98	95	84-91	82-90	80-89
2≤ SS <5		95	90	76-83	73-81	70-79
5≤ SS <10		90	85	68-75	64-72	60-69
10≤ SS <15		85	80	60-67	55-63	<60
15≤ SS <20		80	75	<60	<55	<60
20≤ SS <25		75	70	<60	<55	<60
25≤ SS <30		70	65	<60	<55	<60
≥30		65	60	<60	<55	<60