

SCOMM

111:20

Southeast Region

	FY97	FY98	FY95	FY98 (Planned)	Capital Need	Operating Need
Management & Training						
58135 INSPECTIONS	190.5	220.9	215.0	190.0	0.0	10.0
58138 TRAINING	124.1	130.7	49.8	125.0	0.0	5.0
58140 SPECIAL EVENT	66.2	27.8	41.7	50.0	0.0	0.0
ENGINEERING & TESTING	105.4	110.5	108.9	105.0	0.0	5.0
M&O SUPPORT/LEASING ETC.	403.0	428.0	384.2	430.0	0.0	20.0
AIRPORT APRON MANAGEMENT	0.0	0.0	3.8	20.0	0.0	20.0
Total Management & Training	889.2	917.9	803.4	920.0	0.0	60.0
Transportation System Maint. & Operations						
Airport Safety, Security, Arff & Haz. Mat.						
58168 BIRD/ANIMAL CONTROL	14.8	17.4	4.5	20.0	40.0	0.0
58136 SECURITY & ARFF	459.9	381.5	309.4	490.0	0.0	0.0
Total Airport Safety, Security, etc.	473.7	378.9	313.9	510.0	40.0	0.0
Floats & Docks						
58166 MINOR REPAIRS	70.8	111.4	118.6	70.0	See Harbors	See Harbors
MAJOR REPAIRS						
Total Minor & Major Repairs	70.8	111.4	118.6	70.0		
Transportation System Maint. & Operations						
Structural & Surface Maintenance						
58137 HAZ. MAT CLEANUP	22.7	6.8	32.7	10.0	0.0	0.0
58145 PAVEMENT REPAIRS	635.3	494.2	502.6	575.0	2,890.0	150.0
58147 EMBANK REPAIRS	2.2	2.4	19.2	50.0	300.0	38.0
58148 SURFACE BLADINIG	321.2	395.5	491.0	320.0	0.0	480.0
58149 DUST CONTROL	4.5	2.0	12.5	5.0	0.0	35.0
58150 GRAVEL RESURFACING	98.3	169.0	151.0	88.9	14,590.0	401.0
58151 SWEEPING	208.1	202.4	191.1	210.0	0.0	85.0
58152 BRIDGE MAINTENANCE	57.6	18.9	10.0	50.0	1,250.0	200.0
58154 ROCK SLIDES	44.7	57.1	146.1	50.0	350.0	50.0
Total Structural & Surface Maintenance	1,395.1	1,348.3	1,556.2	1,368.8	19,380.0	1,437.0
Drainage & Roadside Maintenance						
58160 DRAINAGE STRUCTURE	89.2	64.3	173.6	90.0	880.0	240.0
58161 SHOULDERS, SLOPE, DITCHING	197.9	205.5	354.5	200.0	1,500.0	200.0
58162 GUARDRAIL	42.6	39.2	22.6	50.0	690.0	115.0
58163 VEG. CONTROL	220.7	307.4	528.3	250.0	1,560.0	865.0
58164 SIDEWALKS	5.9	69.2	15.1	8.0	100.0	77.0
58165 LITTER	20.9	30.3	34.6	20.0	0.0	30.0
58167 BIKE PATHS	4.5		9.4	5.0	0.0	70.0
Total Drainage & Roadside Maintenance	581.7	715.9	1,138.1	621.0	4,730.0	1,598.0
Traffic Safety & Control Devices						
58176 SIGNS, ETC	131.6	106.3	135.5	120.0	180.0	80.0
58177 PAVE. MRKGS, DELINEATORS, ETC.	320.7	259.5	387.1	325.0	200.0	259.0
58178 SIGNALS/LIGHTS	417.7	325.8	127.4	400.0	0.0	100.0
Total Traffic Safety & Control Devices	870.0	691.6	650.0	845.0	380.0	439.0
Winter Operations						
58170 SNOW PLOWING, ICE CONTROL	2,539.5	2,920.0	2,778.3	2,700.0		978.0
58171 SNOW REMOVAL	5.2	25.4	33.1	10.0		75.0
58172 AVALANCH	2.9	8.5	14.2	25.0	100.0	35.0
58173 DRAINAGE	73.7	69.8	9.9	50.0		0.0
58183 FAC. SNOW/ICE	2.1	2.1	5.6	2.0		28.0
FLEET COSTS	1,310.5	1,403.0	1,070.9	1,315.0		155.0
Total Winter Operations	3,933.9	4,428.8	3,912.0	4,102.0	100.0	1,269.0
H&A Buildings & Other Support Facilities						
Misc.						
58109 PARKING AREAS	17.8	13.4	36.8	20.0		40.0
58181 GROUNDS	5.9	4.7	9.3	6.0		9.0
58182 PARKING/TURNOUTS			2.0	10.0		20.0
58184 MISC. SITE IMPROVEMENTS	9.8	2.5	19.6	10.0		5.0
58185 HAZ. MAT		0.8	0.4	0.0		4.0
58111 MISC. BUILDING REPAIRS	107.6	187.3	45.5	160.0	350.0	0.0
Total Misc. Buildings Costs	141.1	208.7	113.7	206.0	350.0	78.0
Utilities						
58121 ON-SITE UTIL. SUPPL.	6.2	1.2	7.9	5.0		0.0
Summary UTIL. COSTS, POWER, ETC.	107.5	33.6	238.4	200.0		50.0
Total Utilities Costs	113.7	34.8	247.3	205.0	0.0	50.0
Miscellaneous Fleet Costs - Not Distributed	406.6	284.1	2.0	175.8	0.0	176.0
Total Effective Budgets	8,878.8	9,120.4	8,855.2	9,028.8	24,980.0	4,759.0

**Alaska Department Of Transportation
And Public Facilities
DESIGN AND ENGINEERING SERVICES DIVISION**

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Date: 1-6-98

From: ☐ Michael L. Downing, P.E., Director
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☐ _____

Total number of pages (including this sheet): 2

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Comments: _____

Hwy, Apt, fry

Highways, Airports, Marine Highway									
	total	%	fy 99	fy00	FY01	FY 02	FY 03	FY 04	Total Across
Northern Region	\$107,085.8	37.0%							
Interior Dist	\$47,203.4	16.3%	\$9,000.0	\$9,281.9	\$8,312.5	\$8,412.5	\$6,746.2	\$5,450.2	\$47,203.3
So. Central Dist	\$45,751.3	15.8%	\$9,000.0	\$8,558.8	\$8,056.8	\$8,217.5	\$6,441.8	\$5,476.4	\$45,751.3
Western Dist	\$14,131.1	4.9%	\$2,800.0	\$2,788.5	\$2,488.5	\$2,537.8	\$1,879.2	\$1,637.2	\$14,131.2
Central Region	\$131,953.0	45.6%							
Anchorage Dist.	\$14,725.0	5.1%	\$2,800.0	\$2,903.0	\$2,593.1	\$2,593.1	\$2,073.3	\$1,762.6	\$14,725.0
Mat-Su	\$61,017.0	21.1%	\$10,102.7	\$12,745.1	\$11,218.4	\$11,100.9	\$8,691.2	\$7,158.7	\$61,017.0
Kenai Pen. Dist	\$37,652.0	13.0%	\$17,817.3	\$6,630.5	\$4,030.5	\$4,265.4	\$3,101.4	\$1,806.9	\$37,652.0
Southwest Dist.	\$12,395.0	4.3%	\$2,400.0	\$2,401.0	\$2,182.8	\$2,282.8	\$1,845.2	\$1,283.2	\$12,395.0
M Hwy Shore	\$471.5	0.2%	\$471.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$471.5
M Hwy Vessels	\$5,692.5	2.0%	\$0.0	\$0.0	\$0.0	\$3,007.2	\$2,685.3	\$0.0	\$5,692.5
Southeast Region	\$50,556.6	17.5%							
SE Dist	\$24,500.0	8.5%	\$3,800.0	\$4,769.9	\$5,233.4	\$4,364.5	\$3,499.6	\$2,832.6	\$24,500.0
M Hwy Shore	\$5,218.6	1.8%	\$3,000.0	\$919.0	\$919.0	\$380.6			\$5,218.6
M Hwy Vessels	\$20,838.0	7.2%	\$0.0	\$0.0	\$5,962.8	\$3,806.5	\$3,812.3	\$7,256.6	\$20,838.2
Total Column	\$289,595.4		\$61,191.5	\$50,997.7	\$50,997.7	\$50,968.8	\$40,775.5	\$34,664.4	\$289,595.6
									\$289,595.6
The Department of Transportation and Public Facilities will prepare a work plan each year to outline specific deferred maintenance projects for roads and airports in each district consistent with designated appropriation. The Marine Highway expenditures are identified by Facility and Vessel. (see attached sheet) DOT/PF will provide specific work plans for each vessel and facility prior to appropriation.									

Marine Highway Deferred Maintenance			
For Shore Facilities and Vessels			
	FY 1999		
ED	Item	Amount	
35	Cordova	\$155.3	
35	Valdez	\$28.8	
35	Whittier	\$155.3	
	Clark Bay	\$132.3	
5	Skagway	\$1,822.3	
4	Auke Bay	\$155.3	
2	Wrangell	\$57.5	
2	Petersburg	\$575.0	
5	Hollis	\$169.1	
5	Kake	\$149.5	
5	Metlakatla	\$71.1	
	Total	\$3,471.5	
	FY 2000		
5	Metlakatla	\$89.9	
1	Ketchikan	\$523.3	
5	Pelican	\$201.3	
5	Haines	\$104.5	
	Total	\$919.0	
	FY 2001		
	MV Columbia	\$5,962.8	
5	Haines	\$717.8	
5	Angoon	\$68.3	
5	Tenakee	\$57.5	
5	Hoona	\$75.4	
	Total	\$6,881.8	
	FY 2002		
	MV Matanuska	\$3,806.5	
	MV Bartlett	\$3,007.3	
5	Hoona	\$53.4	
2	Sitka	\$327.2	
	Total	\$7,194.4	
	FY 2003		
	MV Tustamena	\$2,685.3	
	MV LeConte	\$3,812.3	
	Total	\$6,497.6	
	FY 2004		
	MV Aurora	\$3,501.8	
	MV Taku	\$3,754.8	
	Total	\$7,256.6	
	Grand Total	\$32,220.9	

hwy calc

	Shore side				
	Southeast Region			Central Region	
ED	Facility	Amount	ED	Facility	Amount
5	Angoon	\$68.3 ✓	35	Cordova	\$155.3
3-4	Auke Bay	\$155.3 ✓	35	Valdez	\$28.8
5	Haines	\$822.3 ✓	35	Whittier	\$155.3
5	Hollis	\$169.1 ✓		Clark Bay	\$132.3
5	Hoona	\$128.8			
5	Kake	\$149.5 ✓		Total	\$471.5
1	Ketchikan	\$523.3 ✓			
2	Petersburg	\$575.0 ✓			
2	Sitka	\$327.8 ✓			
5	Skagway	\$1,822.3 ✓			
5	Tenakee	\$57.5 ✓			
2	Wrangell	\$57.5 ✓			
5	Metlakatla	\$161.0 ✓			
5	Pelican	\$201.3 ✓			
	total	\$5,218.6			
	VESSELS				
ED	Southeast Region		ED	Central Region	
	Vessel	Amount		Vessel	Amount
	Columbia	\$5,962.8		Tustamena	\$2,685.3
	Matanuska	\$3,806.5		Bartlett	\$3,007.3
	Taku	\$3,754.8			
	LeConte	\$3,812.3		Total	\$5,692.5
	Aurora	\$3,501.8			
	Total	\$20,838.0			
	TOTAL Marine Hwy			\$32,220.6	
	Used est cost + 15% Design & CE				
	No funding for Malaspina				

MARINE Hwy

Ships

~~WATER~~

Columbia

5,962,750

MANANUSKA

3,806,500

TAKU

3,754,750

Le Conte

3,812,250

Aurora

3,501,750

2,685.25

TASTUMENA

~~2,335,001~~

BARTLETT

3,007,250

1 DWT Shore Side
SE

5	Angoon	86.250
4	Ank Bay	155.250
5	Haines	822.250
5	Hollis	169,050
5	Hoonah	128,800
5	Kille	149,500
1	Ketchikan	523,250
2	Petersburg	575,000
2	Sitka	327,750
5	Skagway	1,822,275
5	Tenakee	57,500
2	Wrangell	57,500
5	METLA/KATLA	161,000
5	Polson	201,250

Santa Barbara
Shore Side

SE 35-	CORONA	155,250
35	PADEZ	28,750
35	WHITTIER	155,250
	CLARK BAY	132,250

DEFERRED MAINTENANCE**HIGHWAYS & AVIATION**

	DEFERRED	DESIRED ANNUAL FUNDING
SOUTHEAST	24.5	5.0
CENTRAL	125.8	40.6
NORTHERN	107.1	43.0

NOTES TO D.O.T. SUMMARIES

NORTHERN REGION SUMMARY - encompasses the entire northern region by named maintenance station. Page one contains core management information; page two contains information by activity type.

Contains FY 97, 96, 95 actual M&O costs, plus a column for the three-year average.

Contains CAPITAL NEEDS column, which are the deferred maintenance needs.

Contains OPERATING NEEDS column, which is the amount which would be added to the base M&O figures in future budgets if we were to avoid building up deferred maintenance needs again.

KOTZEBUE STATION - contains same format and information as above, relative to Kotzebue. Also contains a listing of the individual projects in this community.

NOME STATION - contains same format and information as above, relative to Nome.

BARROW STATION - contains same format and information as above, relative to Barrow.

Northern Region Summary

Summary			
	Lane Miles	Cost	Cost / Lane Mile
Highways	8,331.4	\$27,124,281	\$3,256
Airports	1,461.0	\$7,775,506	\$5,322
	9,792.4	\$34,899,787	\$3,564
Management		\$1,312,603	
Grand Total		\$36,212,389	
Highway Lane Miles / Operator 40.5			

AIRPORT COSTS					
Personnel	Travel	Contracts	Supplies	Capital	Total
\$3,180,279	\$196,005	\$3,668,231	\$722,857	\$8,133	\$7,775,506

HIGHWAY COSTS					
Personnel	Travel	Contracts	Supplies	Capital	Total
\$13,136,498	\$317,556	\$11,513,619	\$1,561,676	\$194,933	\$27,124,281

MANAGEMENT COSTS					
Personnel	Travel	Contracts	Supplies	Capital	Total
\$1,088,199	\$80,915	\$85,142	\$37,911	\$20,436	\$1,312,603

HIGHWAY LANE MILES (By Category and Surface)								
I			II			III		
Total Lane Miles	Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd
8331.4	7247.2	1084.2	9792.4	8585.5	1206.9	9792.4	8585.5	1206.9

AIRPORT LANE MILES				
Non-Certified	Certified	Contracted	Total	Airport
Gvl	Pvd	Gvl	Pvd	Cost
1461.0	1461.0	0.0	1461.0	\$7,775,506

STATE EQUIPMENT FLEET VEHICLES

Trucks	ARFF	Backhoes	Brooms	Dozers	Dumps	Graders	Loaders	Sanders	Snowblowers	Snowplows	Sweepers	Attachments	Other	TotEquip
124	12	14	9	61	107	122	71	41	32	101	9	315	274	1292

FACILITIES

Type	#	Sq. Ft.
Warehouse	97	141,693
Other	13	15,492
Office/Shop	86	583,947
Equipment	153	321,198
	349	1,062,330

Bridges

373

PERSONNEL

Allocated		Filled	
PFT	PPT/S	PFT	PPT/S
208	91	205	77

Northern Region - Program Activity Totals

		FY97	FY96	FY95	Average	Capital Need	Operating Need
		36,212,389	36,376,068	37,043,079	36,543,845	107,085,770	11,916,050
10		279			93		
58101	Admin & Support	279			93		
58100	M&O ACTIVITY SUMMA	279			93		
58101	Admin & Support	3,387,292	3,483,049	3,447,617	3,439,319		
58101	Admin & Support	3,387,292	3,483,049	3,447,617	3,439,319		
58101	ADMIN & SUPPORT ACT	164,798	128,398	251,947	181,714		
58135	INSPECTION	1,466,642	1,337,367	1,296,780	1,366,930		
58136	SECURITY & ARFF	893,012	1,040,193	1,138,264	1,023,823		
58138	ALL TRAINING	582,997	748,019	538,477	623,165		
58140	SPEC EVENT & VIP REQ	279,843	229,071	222,149	243,687		
58102	Transportation	30,863,518	30,796,737	31,622,439	31,094,231	107,085,770	11,916,050
58105	Roadway/Runway	9,662,346	10,587,013	10,754,533	10,334,631	91,248,170	8,472,300
58102	TRANSPORTATN ACTVI	143,155	53,048	180,332	125,512		
58105	M&O ROADWAY/RUNW		75,676	52,310	42,662		
58137	HAZ MATLS CLNUP&M	27,456	85,943	140,640	84,680	10,456,800	170,500
58145	MAJOR PVMNT REPAIR	2,821,476	2,848,606	2,621,437	2,763,840	29,232,100	3,306,500
58146	MINOR PVMNT REPAIR	1,089,640	1,100,467	1,573,131	1,254,413		
58147	EMBANKMENT REPAIR	189,424	533,634	265,273	329,444		
58148	BLADING	3,211,215	2,965,650	2,813,938	2,996,934		
58149	DUST CONTROL	721,514	879,117	573,633	724,754		
58150	GRAVEL RESURFACING	1,078,321	1,376,769	1,348,975	1,268,021	49,505,400	4,483,900
58151	PAVEMENT SWEEPING	263,081	171,904	318,064	251,016		
58152	BRIDGE MAINTENANCE	111,600	483,132	862,868	485,867	2,053,870	511,400
58154	ROCK&LANDSLIDE CLN	5,465	13,067	3,932	7,488		
1106	Drainage & Roadside	2,225,003	2,771,062	2,156,473	2,384,179	11,452,400	2,317,600
58106	DRNAGE & RDSIDE MN	1,191	29,105	43,803	24,700		
58160	DRAIN STRC/NOT SNO	575,951	676,567	534,165	595,561	2,836,500	498,500
58161	SHLDER, SLOPE, DITCH	335,334	509,777	453,248	432,786	1,180,400	345,000
58162	GURDRL,FENCE,BARRI	311,763	331,579	196,624	279,989	3,517,700	313,000
58163	ROADSIDE VEGETATIO	742,510	979,718	710,111	810,779	2,664,300	767,600
58164	PARKLOTS,SDEWLK&T	42,309	38,593	43,862	41,588		
58165	LITTER & TRASH REMO	207,663	190,943	163,783	187,463	766,000	323,500
58166	FLOATS & DOCKS	155	1,979		711		
58167	BIKE PATH&TRAIL MNT	2,070	9,184	1,797	4,350	487,500	70,000
58168	ANIMAL/BIRD CONTRO	6,058	3,615	9,080	6,251		
58107	Snow & Ice Control	16,475,555	14,702,174	16,250,401	15,809,377		
58107	SNOW & ICE CONTROL	24,107	110,083	95,546	76,579		
58170	SNOW PLOW & ICE CNT	14,211,897	12,736,242	13,660,708	13,536,282		
58171	SNOW REMOVAL & DIS	1,531,368	793,257	2,013,477	1,446,034		
58172	AVLNCH CNTRL & CL	72,426	66,062	101,040	79,843		
58173	DRNGE STRUC THAW/C	635,756	996,531	379,631	670,639		
58108	Traffic Control	2,500,614	2,736,487	2,461,032	2,566,044	4,385,200	1,126,150
58108	TRAFFIC CONTROL SER		1,782	1,573	1,118		
58176	SIGNS & DELINEATORS	492,293	510,070	538,073	513,479	1,460,300	276,650
58177	PAVEMENT MARKING	988,303	955,265	814,371	919,313	2,361,800	720,500
58178	SIGNALS,LIGHTS,RR-X	1,020,017	1,269,369	1,107,015	1,132,134	563,100	129,000
58103	Facilities	1,961,300	2,096,282	1,973,023	2,010,202		

NORTHERN REGION

HIGHWAYS AND AVIATION STATION PROFILES

Kotzebue Station

	Lane Miles	Cost	Cost / Lane Mile
Highways	30.8		
Airports	173.7	\$1,195,780	\$6,884
	204.5	\$1,195,780	\$5,848

Lane Miles / Operator

HIGHWAY LANE MILES (By Category and Surface)

HwyName	Route	Begin	End	I			II			III		
				Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total
Deering Airport Road	225060	0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Deering Road	225000	0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	22.3	0.0	22.3
New Point Hope Road	222100	0	2.5	4.6	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
Shungnak Airport Road	205000	0	0.93	1.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Third Ave	220000	0	1.1	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lane Miles	30.8			8.2		8.2				22.6		22.6

AIRPORT LANE MILES

Airport	Non-Certified		Certified		Contracted Cost
	Gvl	Pvd	Gvl	Pvd	
Ambler Airport	13.3	0.0	0.0	0.0	30,000
Buckland Airport	5.2	0.0	0.0	0.0	\$5,500
Dahl Creek Airport	7.5	0.0	0.0	0.0	
Deering Airport	11.3	0.0	0.0	0.0	20,000
Kiana Airport	11.3	0.0	0.0	0.0	32,000
Kivalina Airport	8.6	0.0	0.0	0.0	20,470
Kobuk Airport	4.1	0.0	0.0	0.0	10,000
Kotzebue Airport	0.0	0.0	0.0	59.6	
Noatak Airport	10.6	0.0	0.0	0.0	15,600
Noorvik Airport	10.0	0.0	0.0	0.0	35,000
Point Hope Airport	0.0	10.5	0.0	0.0	45,000
Selawik Airport	13.0	0.0	0.0	0.0	24,000
Shungnak Airport	8.6	0.0	0.0	0.0	20,000
	103.6	10.5	0.0	59.6	\$257,570

STATE EQUIPMENT FLEET VEHICLES

Trucks	ARFF	Backhoes	Brooms	Dozers	Dumps	Graders	Loaders	Sanders	Snowblowers	Snowplows	Sweepers	Attachments	Other	TotEquip
3	1		2	9	3	11	6	2	4	1		18	2	62

FACILITIES

Type	#	Sq. SF
Warehouse	1	5,760
Office/Shop	1	5,647
Equipment	12	23,092
	14	34,499

Bridges

3

PERSONNEL

Allocated		Filled	
PFT	PPT/S	PFT	PPT/S
5	2	5	2

EXPENDITURE DETAIL

AIRPORT COSTS

	Personnel	Travel	Contracts	Supplies	Capital	Total
Ambler Airport	\$493	\$4,396	\$41,061	\$6,085		\$52,034

NORTHERN REGION**HIGHWAYS AND AVIATION STATION PROFILES**

Buckland Airport	\$3,047	\$3,360	\$14,491	\$3,413		\$24,311
Dahl Creek Airport		\$209	\$7,125	\$834		\$8,167
Deering Airport	\$271	\$2,231	\$29,032	\$4,287		\$35,821
Kiana Airport	\$3,653	\$2,688	\$46,038	\$2,682		\$55,060
Kivalina Airport	\$3,039	\$2,272	\$36,848	\$2,085		\$44,244
Kobuk Airport		\$482	\$18,425	\$1,613		\$20,520
Kotzebue Airport	\$511,885	\$12,288	\$26,303	\$124,859		\$675,336
Noatak Airport	\$3,759	\$4,711	\$24,879	\$8,818	\$90	\$42,256
Noorvik Airport	\$4,153	\$7,878	\$49,198	\$4,613		\$65,843
Point Hope Airport		\$209	\$58,349	\$834		\$59,391
Selawik Airport	\$12,324	\$13,450	\$36,806	\$9,644	\$0	\$72,225
Shungnak Airport	\$932	\$1,955	\$28,953	\$8,732		\$40,571
	<u>\$543,557</u>	<u>\$36,127</u>	<u>\$417,507</u>	<u>\$178,499</u>	<u>\$90</u>	<u>\$1,195,780</u>

Kotzebue Station		FY97	FY96	FY95	Average	Capital Need	Operating Need
		1,195,240	1,010,683	1,100,917	1,102,280	3,449,200	154,500
58100					0		
3101	Admin & Support				0		
58100	M&O ACTIVITY SUMMA				0		
58101	Admin & Support	335,148	320,725	238,112	297,995		
58101	Admin & Support	335,148	320,725	238,112	297,995		
58101	ADMIN & SUPPORT ACT				0		
58135	INSPECTION	11,067	16,978	38,067	22,037		
58136	SECURITY & ARFF	272,257	244,710	152,967	223,311		
58138	ALL TRAINING	50,764	58,647	44,584	51,332		
58140	SPEC EVENT & VIP REQ	1,060	389	2,494	1,314		
58102	Transportation	759,221	577,485	678,224	671,643	3,449,200	154,500
58105	Roadway/Runway	61,179	14,552	36,573	37,435	3,220,500	123,000
58102	TRANSPORTATN ACTVI				0		
58105	M&O ROADWAY/RUNW				0		
58137	HAZ MATLS CLNUP&M		882	1,067	650	1,775,000	10,000
58145	MAJOR PVMNT REPAIR	15,474		1,328	5,601	40,500	5,000
58146	MINOR PVMNT REPAIR	28,154	6,678	1,309	12,047		
58147	EMBANKMENT REPAIR	193	1,556	498	749		
58148	BLADING	9,125	4,091	14,828	9,348		
58149	DUST CONTROL	686	544	2,744	1,325		
58150	GRAVEL RESURFACING	3,224		2,282	1,835	1,330,000	100,000
58151	PAVEMENT SWEEPING	4,322	802	12,516	5,880		
58152	BRIDGE MAINTENANCE				0	75,000	8,000
58154	ROCK&LANDSLIDE CLN				0		
58106	Drainage & Roadside	15,643	12,599	18,012	15,418	139,006	14,000
58106	DRNAGE & RDSIDE MN				0		
58160	DRAIN STRC/NOT SNO	1,525		4,493	2,006	7,500	3,500
58161	SHLDER, SLOPE, DITCH			662	221	64,000	4,000
58162	GURDRL,FENCE,BARRI	3,297		1,389	1,562	25,000	2,500
58163	ROADSIDE VEGETATIO		697		232	42,500	4,000
58164	PARKLOTS,SDEWLK&T			1,354	451		
58165	LITTER & TRASH REMO	10,666	11,157	5,622	9,148		
58166	FLOATS & DOCKS	155			52		
58167	BIKE PATH&TRAIL MNT				0		
58168	ANIMAL/BIRD CONTRO		745	4,492	1,746		
58107	Snow & Ice Control	632,530	524,280	584,765	580,525		
58107	SNOW & ICE CONTROL				0		
58170	SNOW PLOW & ICE CNT	627,393	484,327	525,442	545,721		
58171	SNOW REMOVAL & DIS	2,512	37,610	28,225	22,782		
58172	AVLNCH CNTRL & CL		409		136		
58173	DRNGE STRUC THAW/C	2,625	1,934	31,098	11,886		
58108	Traffic Control	49,869	26,054	38,874	38,266	89,700	17,500
58108	TRAFFIC CONTROL SER				0		
58176	SIGNS & DELINEATORS	7,565	29	9,344	5,646	24,100	3,000
58177	PAVEMENT MARKING	1,726	1,620	697	1,348	57,000	10,000
58178	SIGNALS LIGHTS,RR-X	40,577	24,405	28,834	31,272	8,600	4,500
58103	Facilities	100,871	112,473	184,581	132,642		

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
1055	Asphalt	58145	Major Pavement Repair	CTP	Kotzebue	3rd Avenue	37	8.0	Asphalt Repairs
1050	Asphalt	58145	Major Pavement Repair		Kotzebue	Kotzebue Airport	37	20.0	Runway/Apron Repair and Asphalt Apron/Runway Repair
1047	Asphalt	58145	Major Pavement Repair		Kotzebue	Pl. Hope Airport	37	3.5	Crack Sealing
1498	Asphalt	58145	Major Pavement Repair	CTP	Kotzebue	Kotzebue	37	9.0	Portapatch (2) Freight
1619	Bridges	58152	Bridge Maintenance		Kotzebue	Deering Airport	37	75.0	Repair Bridge Approaches-Smith Creek
1538	Drainage-Culverts	58160	Drainage Structure (not s		Kotzebue	Ambler Airport	37	7.5	Culvert - Airport Access
1749	Environmental Compliance	58137	Hazardous Mat Mgmt &	CTP	Kotzebue	Kotzebue Station Quansel Hut	37	10.0	Hazmat/cleanup
1364	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Kotzebue	New Point Hope Road	37	1,025.0	
1362	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Kotzebue	Third Ave	37	30.0	
1365	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Kotzebue	Deering Airport Road	37	250.0	
1110	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Kotzebue	Deering Road	37	25.0	
1762	Guardrail	58162	Guardrails, Fences & Bar	CTP	Kotzebue	Kotzebue Station	37	25.0	Kotzebue Slough/Swan Lake r App RI
1496	Paint Striping	58177	Pavement Marking		Kotzebue	Pl. Hope Airport	37	27.0	Striping
1059	Paint Striping	58177	Pavement Marking	CTP	Kotzebue	3rd Avenue	37	3.0	Pavement Marking
1494	Paint Striping	58177	Pavement Marking		Kotzebue	Kotzebue Airport	37	27.0	Striping
712	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Kotzebue	Deering Airport	37	25.0	Runway Slope Crack Repair (Gravel)
1553	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Kotzebue	Kiana Airport	37	5.0	Shoulders/Slope Repairs
1637	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch	CTP	Kotzebue	3rd Avenue	37	4.0	Shoulders/Slope Repairs
1554	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Kotzebue	Ambler Airport	37	8.0	Airport Access Road & Runway
1556	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Kotzebue	Kobuk Airport	37	2.0	Shoulders/Slope Repairs
1560	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Kotzebue	Deering Airport	37	20.0	Shoulders/Slope/Ditches - Airport Access Road
1572	Signs	58176	Signs & Delineators		Kotzebue	Kiana Airport	37	0.8	Reflective Markers, Replace Windsock
1577	Signs	58176	Signs & Delineators		Kotzebue	Selawik Airport	37	0.4	Reflective Markers
1587	Signs	58176	Signs & Delineators		Kotzebue	Deering Airport	37	13.8	Runway Markers, Windsocks, Marker Boards

DEFERRED MAINTENANCE

29-Aug-97

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Prepared by: Lynne Franklin, MQ Admin 451-2209

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
1567	Signs	58176	Signs & Delineators		Kotzebue	Ambler Airport	37	1.0	Reflective Markers, Replace Windsock
1582	Signs	58176	Signs & Delineators		Kotzebue	Shungnak Airport	37	0.4	Reflective Markers
1573	Signs	58176	Signs & Delineators		Kotzebue	Kobuk Airport	37	7.7	Reflective Markers, Replace Windsock
1601 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Selawik Airport	37	0.8	Runway Light Repairs
1599 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Shungnak Airport	37	0.8	Runway Light Repairs
1597 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Deering Airport	37	2.2	Runway Light Repairs; Replaced Beacon, Windsocks
1600 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Kobuk Airport	37	1.8	Runway Light Repairs; Beacon
1591 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Ambler Airport	37	1.9	Runway Light Repairs
1592 Tr	Signals/Luminaries/Airpt Lit	58178	Signals/Lights/Railroad C		Kotzebue	Kiana Airport	37	1.1	Runway Light Repairs
1625	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Noatak	37	6.7	Brushcutting
1625	Vegetation Mgmt	58163	Roadside Vegetation	CTP	Kotzebue	Ambler	37	6.7	Brushcutting
1543	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Ambler Airport	37	2.0	Brushcutting-Safety Area
1624	Vegetation Mgmt	58163	Roadside Vegetation	CTP	Kotzebue	Base Road	37	3.0	Brushcutting
1625	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Buckland	37	6.7	Brushcutting
1545	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Kiana Airport	37	2.0	Brushcutting-Safety Area
1625	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Kobuk Airport	37	6.7	Brushcutting
1625	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Deering	37	6.7	Brushcutting
1547	Vegetation Mgmt	58163	Roadside Vegetation		Kotzebue	Kobuk Airport	37	2.0	Brushcutting-Safety Area
Total								1684.2	

DEFERRED MAINTENANCE

29-Aug-97

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Prepared by: Lynne Franklin, MO Admin 451-2209

NORTHERN REGION

HIGHWAYS AND AVIATION STATION PROFILES

Nome Station

	Lane Miles	Cost	Cost / Lane Mile
Highways	246.3	\$1,387,394	\$5,633
Airports	164.3	\$1,347,428	\$8,200
	410.6	\$2,734,823	\$6,660
Lane Miles / Operator 24.6			

HIGHWAY LANE MILES (By Category and Surface)

HwyName	Route	Begin	End	I			II			III		
				Gvl	Pvd	Total	Gvl	Pvd	Total	Gvl	Pvd	Total
Center Creek Road	168200	0	2.56	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	6.0
Council Road	166500	0	21	0.0	0.0	0.0	49.2	0.0	49.2	0.0	0.0	0.0
Dexter Road	168700	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	12.0
Doyle Drive	167820	0	0.45	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
Glacier Creek Road	168900	0	17.82	0.0	0.0	0.0	0.0	0.0	0.0	20.8	0.0	20.8
Nome By-Pass	168000	1.42	1.77	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
Nome Port Access Road	168115	0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Nome/Taylor Hwy	160000	0	35	0.0	0.0	0.0	93.2	0.0	93.2	0.0	0.0	0.0
Nome/Teller Hwy	160000	0	26	0.0	0.0	0.0	52.2	0.0	52.2	0.0	0.0	0.0
Osborne Road	168400	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	7.2
Seppala Drive	168100	0	1.32	3.5	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
Stedman Street	167800	0	0.41	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
Total Lane Miles 246.3				3.5		3.5	194.6		194.6	48.2		48.2

AIRPORT LANE MILES

Airport	Non-Certified		Certified		Contracted Cost
	Gvl	Pvd	Gvl	Pvd	
Basin Creek Airport	0.9	0.0	0.0	0.0	
Brevig Mission Airport	4.4	0.0	0.0	0.0	15,000
Council Airport	7.8	0.0	0.0	0.0	
Diomedea Airport	0.2	0.0	0.0	0.0	20,000
Gambell Airport	0.0	9.9	0.0	0.0	35,000
Golovin Airport	8.6	0.0	0.0	0.0	19,200
Nome Airport	0.0	0.0	0.0	64.4	
Nome City Airport	9.5	0.0	0.0	0.0	
Quartz Creek Airport	3.5	0.0	0.0	0.0	
Salmon Lake Airport	1.6	0.0	0.0	0.0	
Savoonga Airport	12.3	0.0	0.0	0.0	45,000
Shishmaref Airport	0.0	14.0	0.0	0.0	23,725
Teller Airport	8.0	0.0	0.0	0.0	30,900
Wales Airport	11.5	0.0	0.0	0.0	20,000
White Mtn Airport	7.8	0.0	0.0	0.0	23,499
	76.0	23.9	0.0	64.4	\$232,324

STATE EQUIPMENT FLEET VEHICLES

Trucks	ARFF	Backhoes	Brooms	Dozers	Dumps	Graders	Loaders	Sanders	Snowblowers	Snowplows	Sweepers	Attachments	Other	TotEquip
9	2	3	2	10	9	13	8	2	4	2	1	22	19	106

FACILITIES

Type	N	Sq. SF
Warehouse	18	26,177
Office/Shop	6	39,155

Bridges

12

PERSONNEL

Allocated		Filled	
PFT	PPT/S	PFT	PPT/S

NORTHERN REGION

HIGHWAYS AND AVIATION STATION PROFILES

Equipment	11	29,996
	35	95,328

10	5	9	2
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EXPENDITURE DETAIL

AIRPORT COSTS

	Personnel	Travel	Contracts	Supplies	Capital	Total
Basin Creek Airport	\$87		\$2,316	\$317		\$2,720
Brevig Mission Airport	\$957	\$296	\$22,454	\$1,322		\$25,030
Council Airport			\$2,316	\$317		\$2,633
Diomed Airport		\$176	\$22,600	\$1,489		\$24,264
Gambell Airport		\$3,725	\$50,545	\$3,882		\$58,153
Golovin Airport	\$260	\$3,793	\$27,282	\$7,887		\$39,222
Nome Airport	\$424,178	\$985	\$368,173	\$92,133		\$885,469
Nome City Airport	\$15,513		\$2,658	\$589		\$18,760
Quartz Creek Airport	\$5,212		\$3,136	\$317		\$8,665
Salmon Lake Airport	\$263		\$4,544	\$317		\$5,124
Savoonga Airport	\$626	\$4,315	\$50,602	\$1,463		\$57,007
Shishmaref Airport		\$816	\$34,188	\$9,528		\$44,532
Teller Airport	\$51,639		\$58,174	\$492		\$110,304
Wales Airport			\$25,564	\$2,113		\$27,677
White Mtn Airport		\$600	\$33,671	\$3,598		\$37,869
	\$498,735	\$14,706	\$708,222	\$125,765		\$1,347,428

HIGHWAY COSTS

Personnel	Travel	Contracts	Supplies	Capital	Total
\$683,604	\$11,854	\$583,353	\$104,497	\$4,087	\$1,387,394

Nome Station		FY97	FY96	FY95	Average	Capital Need	Operating Need
		2,471,096	2,689,167	2,739,408	2,633,224	3,749,300	399,000
58100					0		
58101	Admin & Support				0		
58100	M&O ACTIVITY SUMMA				0		
58101	Admin & Support	305,706	477,210	558,845	447,254		
58101	Admin & Support	305,706	477,210	558,845	447,254		
58101	ADMIN & SUPPORT ACT				0		
58135	INSPECTION	161,119	149,491	204,631	171,747		
58136	SECURITY & ARFF	110,257	250,739	304,126	221,708		
58138	ALL TRAINING	34,330	72,874	47,348	51,517		
58140	SPEC EVENT & VIP REQ		4,107	2,739	2,282		
58102	Transportation	2,029,822	2,072,071	2,047,523	2,049,805	3,749,300	399,000
58105	Roadway/Runway	439,881	458,619	328,639	409,047	2,838,000	256,500
58102	TRANSPORTATN ACTVI				0		
58105	M&O ROADWAY/RUNW				0		
58137	HAZ MATLS CLNUP&M	2,230		24,249	8,826	606,500	2,000
58145	MAJOR PVMNT REPAIR		618	15,471	5,363	691,900	101,000
58146	MINOR PVMNT REPAIR	55,306	14,698	26,552	32,185		
58147	EMBANKMENT REPAIR	32,548	4,290	4,863	13,900		
58148	BLADING	87,616	62,580	44,934	65,043		
58149	DUST CONTROL	34,542	35,427	7,654	25,874		
58150	GRAVEL RESURFACING	180,642	305,642	148,891	211,725	1,494,600	150,000
58151	PAVEMENT SWEEPING	31,628	14,195	40,508	28,777		
58152	BRIDGE MAINTENANCE	15,370	21,170	15,517	17,352	45,000	3,500
58154	ROCK&LANDSLIDE CLN				0		
58106	Drainage & Roadside	53,230	81,638	124,435	86,434	777,900	122,500
58106	DRNAGE & RDSIDE MN		71		24		
58160	DRAIN STRC/NOT SNO	11,870	23,736	35,609	23,738	166,500	80,000
58161	SHLDER, SLOPE, DITCH	9,729	31,788	7,841	16,453	15,000	6,000
58162	GURDRL,FENCE,BARRI	1,248	4,205	52,251	19,235	435,200	18,000
58163	ROADSIDE VEGETATIO	1,258	5,592		2,283	148,700	15,000
58164	PARKLOTS,SDEWLK&T	643	11	516	390		
58165	LITTER & TRASH REMO	28,481	16,235	28,218	24,311	10,000	1,000
58166	FLOATS & DOCKS				0		
58167	BIKE PATH&TRAIL MNT				0	2,500	2,500
58168	ANIMAL/BIRD CONTRO				0		
58107	Snow & Ice Control	1,482,311	1,417,576	1,482,909	1,460,932		
58107	SNOW & ICE CONTROL				0		
58170	SNOW PLOW & ICE CNT	1,308,869	1,304,490	1,405,850	1,339,737		
58171	SNOW REMOVAL & DIS	142,652	38,567	57,116	79,445		
58172	AVLNCH CNTRL & CL				0		
58173	DRNGE STRUC THAW/C	30,789	74,519	19,943	41,750		
58108	Traffic Control	54,400	114,238	111,540	93,393	133,400	20,000
58108	TRAFFIC CONTROL SER				0		
58176	SIGNS & DELINEATORS	12,622	13,787	25,501	17,303	15,800	2,000
58177	PAVEMENT MARKING	12,045	4,561	2,952	6,519	95,000	15,000
58178	SIGNALS,LIGHTS,RR-X	29,734	95,891	83,088	69,571	22,600	3,000
58103	Facilities	135,568	139,886	133,041	136,165		

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
704	Asphalt	58145	Major Pavement Repair	CTP	Nome	Nome	38	9.0	Portapatch (2) Freight
402	Asphalt	58145	Major Pavement Repair	CTP	Nome	Nome (City) Streets	38	75.0	Pavement Patching and Chip Sealing
706	Asphalt	58145	Major Pavement Repair	CTP	Nome	Glacier Creek Road	38	50.0	Rehabilitation, MP 5-10
1058	Asphalt	58145	Major Pavement Repair	CTP	Nome	Bering & Seppala	38	137.0	Asphalt Leveling
1057	Asphalt	58145	Major Pavement Repair	CTP	Nome	Front Street	38	10.0	Asphalt Leveling
1056	Asphalt	58145	Major Pavement Repair	CTP	Nome	Nome-Teller Hwy, MP 0-7	38	8.0	Asphalt Repairs MP 0-4
1049	Asphalt	58145	Major Pavement Repair		Nome	Nome Airport	38	26.0	AAOF Taxiway Repair and Runway 27 East Crack Repair
1048	Asphalt	58145	Major Pavement Repair		Nome	Shishmaref Airport	38	8.0	Crack Sealing
1125	Asphalt	58145	Major Pavement Repair		Nome	Nome Airport	38	18.0	Raise, Pave, and Culvert Taxiway F North
1438	Asphalt	58145	Major Pavement Repair	CTP	Nome	EF to Farleys	38	350.9	Chip Seal
1062	Bikepaths	58167	Bike Path & Trail Mainten	CTP	Nome	Beltz	38	2.5	Bike Path
1620	Bridges	58152	Bridge Maintenance		Nome	Wales Airport	37	10.0	Repair Bridge Approaches
1757	Bridges	58152	Bridge Maintenance	CTP	Nome	Nome Station	38	35.0	Snake River Deck Replank
585	Drainage-Culverts	58160	Drainage Structure (not s		Nome	Nome Airport	38	100.0	Ditching and Culvert Repairs
1539	Drainage-Culverts	58160	Drainage Structure (not s		Nome	Wales Airport	35	4.5	Culvert Rehab - Airport Access
1760	Drainage-Culverts	58160	Drainage Structure (not s	CTP	Nome	Nome Station	38	60.0	Nome-Front Street Drain Rehab
1540	Drainage-Culverts	58160	Drainage Structure (not s		Nome	Teller Airport	38	2.0	Access-Drainage (Replace 24")
1733	Environmental Compliance	58137	Hazardous Mat Mgmt &		Nome	Nome Airport Shop	38	20.0	Hazmat/cleanup
1609	Environmental Compliance	58137	Hazardous Mat Mgmt &		Nome	Teller Airport	38	3.0	Repair Fuel Storage Tank
1607	Fences	58162	Guardrails, Fences & Bar		Nome	Shishmaref Airport	38	5.0	Repair Snow Fence Panels
1726	Fences	58162	Guardrails, Fences & Bar		Nome	Nome Airport	38	30.0	Security Fencing - North End of Runway and National Guard Hangar Area
1764	Fences	58162	Guardrails, Fences & Bar		Nome	Nome Airport	38	18.0	FAA Security Fence
700	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Nome-Council Rd, MP 0-22	38	160.0	Beam Road to Farleys 4 mile "Star Seal", MP 2-6
401	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Nome-Taylor Hwy, MP 0-35	38	250.0	Raise a One-mile Section of the Road, MP 26

DEFERRED MAINTENANCE

29-Aug-97

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Prepared by: Lynne Franklin, MO Admin 451-2209

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
703	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Pitkas Point Road, MP 0-2	38	20.0	Grade Raise/Culverts (Portions)
1351	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Nome/Teller Hwy, MP 0-7	38	560.0	
1355	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Osborne Road	38	25.0	
1344	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Center Creek Road	38	150.0	
1349	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Nome Port Access Road	38	15.0	
1360	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Nome By-Pass	38	93.8	
1342	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Doyle Drive	38		
1354	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Glacier Creek Road	38	80.0	
1353	Gravel Surface Repairs	58150	Gravel Resurfacing	CTP	Nome	Dexter Road	38	140.8	
1502	Guardrail	58162	Guardrails, Fences & Bar	CTP	Nome	Nome-Teller Hwy, MP 0-7	38	77.4	Guardrail
1763	Guardrail	58162	Guardrails, Fences & Bar	CTP	Nome	Nome Station	38	150.0	Tisuk/Eldor/Golden Feather App
1063	Guardrail	58162	Guardrails, Fences & Bar	CTP	Nome	Nome-Council Rd, MP 0-22	38	77.4	Guardrail
1501	Guardrail	58162	Guardrails, Fences & Bar	CTP	Nome	Kougarok	38	77.4	Guardrail
1061	Paint Striping	58177	Pavement Marking	CTP	Nome	Nome-Teller Hwy, MP 0-7	38	5.0	Pavement Marking, MP 0-4
1060	Paint Striping	58177	Pavement Marking	CTP	Nome	Front Street	38	9.0	Pavement Marking
583	Paint Striping	58177	Pavement Marking		Nome	Nome Airport	38	27.0	Striping
1495	Paint Striping	58177	Pavement Marking		Nome	Gambell Airport	38	27.0	Striping
1497	Paint Striping	58177	Pavement Marking		Nome	Shishmaref Airport	38	27.0	Striping
1767	Roadside Facilities	58165	Litter & Trash Removal	CTP	Nome	Nome Station	38	10.0	Teller Highway Bike/Ft Davis Wayside
1067	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Nome	Wales Airport	37	5.0	Runway Shoulder Repairs
1559	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Nome	Shishmaref Airport	38	5.0	Runway Shoulder Repairs (Safety Area)
1548	Shoulders/Slopes/Ditches	58161	Shoulders/Slopes/Ditch		Nome	Teller Airport	38	5.0	Runway Shoulder Repairs
1570	Signs	58176	Signs & Delineators		Nome	Gambell Airport	38	0.4	Reflective Markers
1584	Signs	58176	Signs & Delineators		Nome	Teller Airport	38	2.8	Runway Markers, Replace Windsock, and Replace Marker Boards

DEFERRED MAINTENANCE

29-Aug-97

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Prepared by: Lynne Franklin, MQ Admin 451-2209

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
1581	Signs	58176	Signs & Delineators		Nome	Shishmaref Airport	38	0.8	Reflective Markers, Replace Windsock
1576	Signs	58176	Signs & Delineators		Nome	Savoonga Airport	38	0.6	Reflective Markers
1586	Signs	58176	Signs & Delineators		Nome	White Mountain Airport	38	0.4	Runway Markers
1585	Signs	58176	Signs & Delineators		Nome	Wales Airport	37	0.8	Reflective Markers, Replace Windsock
1640	Signs	58176	Signs & Delineators	CTP	Nome	Nome Station	38	10.0	Purchase and Install Road Signs
1562	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Nome Airport	38	14.0	Lighting Vault Rehab
1598	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Shishmaref Airport	38	1.8	Runway Light Repairs; Replace Beacon
1603	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Teller Airport	38	1.1	Runway Light Repairs
1596	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Savoonga Airport	38	1.8	Runway Light Repairs, Replace Beacon
1065	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Wales Airport	37	1.8	Runway Light Repairs; Replace Beacon
1590	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	Gambell Airport	38	0.8	Runway Light Repairs
1589	Tr Signals/Luminaries/Arpt Ltg	58178	Signals/Lights/Railroad C		Nome	White Mountain Airport	38	1.3	Runway Light Repairs, Replace Beacon
405	Vegetation Mgmt	58163	Roadside Vegetation	CTP	Nome	Nome Station	38	140.0	Purchase of Brushcutter (replaces 1972 machine)
1541	Vegetation Mgmt	58163	Roadside Vegetation		Nome	White Mountain Airport	38	2.0	Brushcutting-Safety Area
1625	Vegetation Mgmt	58163	Roadside Vegetation	CTP	Nome	Council	38	6.7	Brushcutting
Total								3165.8	

29-Aug-97

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DEFERRED MAINTENANCE

NORTHERN REGION

HIGHWAYS AND AVIATION STATION PROFILES

Barrow Station

	Lane Miles	Cost	Cost / Lane Mile
Highways			
Airports	38.5	\$523,291	\$13,605
	38.5	\$523,291	\$13,605
Lane Miles / Operator			

AIRPORT LANE MILES					
Airport	Non-Certified		Certified		Contracted
	Gvl	Pvd	Gvl	Pvd	
Barrow Airport	0.0	0.0	0.0	38.5	
	0.0	0.0	0.0	38.5	

STATE EQUIPMENT FLEET VEHICLES

Trucks	ARFF	Backhoes	Brooms	Dozers	Dumps	Graders	Loaders	Sanders	Snowblowers	Snowplows	Sweepers	Attachments	Other	TotEquip
1	2				1	1	1	1	1	1		2	3	14

FACILITIES

Type	#	Sq. SF
Office/Shop	2	9,760
Equipment	1	480
	3	10,240

PERSONNEL

Allocated		Filled	
PFT	PPT/S	PFT	PPT/S
3	0	3	

EXPENDITURE DETAIL

AIRPORT COSTS

	Personnel	Travel	Contracts	Supplies	Capital	Total
Barrow Airport	\$307,096	\$16,457	\$148,847	\$49,749	\$1,143	\$523,291

Barrow Station		FY97	FY96	FY95	Average	Capital Need	Operating Need
		492,985	476,545	367,279	445,603	912,000	68,000
58100					0		
58101	Admin & Support				0		
58100	M&O ACTIVITY SUMMA				0		
58101	Admin & Support	203,560	160,611	161,921	175,364		
58101	Admin & Support	203,560	160,611	161,921	175,364		
58101	ADMIN & SUPPORT ACT	9,232	3,557	15,387	9,392		
58135	INSPECTION	103,037	35,933	36,805	58,592		
58136	SECURITY & ARFF	78,177	106,772	94,151	93,033		
58138	ALL TRAINING	13,115	11,836	15,577	13,510		
58140	SPEC EVENT & VIP REQ		2,512		837		
58102	Transportation	248,014	276,612	194,023	239,550	912,000	68,000
58105	Roadway/Runway	41,232	57,135	34,665	44,344	697,000	42,000
58102	TRANSPORTATN ACTVI				0		
58105	M&O ROADWAY/RUNW				0		
58137	HAZ MATLS CLNUP&M	8,126	1,815	4,960	4,967	647,000	20,000
58145	MAJOR PVMNT REPAIR	5,492			1,831	50,000	22,000
58146	MINOR PVMNT REPAIR	11,055	18,230	7,616	12,300		
58147	EMBANKMENT REPAIR	13,188	30,214	3,183	15,528		
58148	BLADING	2,643	2,910	5,869	3,807		
58149	DUST CONTROL	186	11	1,334	510		
58150	GRAVEL RESURFACING			7,168	2,389		
58151	PAVEMENT SWEEPING	542	3,955	4,535	3,011		
58152	BRIDGE MAINTENANCE				0		
58154	ROCK&LANDSLIDE CLN				0		
58106	Drainage & Roadside	31,049	19,096	18,114	22,753	180,000	11,000
58106	DRNAGE & RDSIDE MN				0		
58160	DRAIN STRC/NOT SNO				0	20,000	2,000
58161	SHLDER, SLOPE, DITCH		6,674	6,229	4,301		
58162	GURDRL,FENCE,BARRI				0	160,000	4,000
58163	ROADSIDE VEGETATIO				0		
58164	PARKLOTS,SDEWLK&T	156			52		
58165	LITTER & TRASH REMO	30,665	12,422	11,485	18,191		5,000
58166	FLOATS & DOCKS				0		
58167	BIKE PATH&TRAIL MNT			400	133		
58168	ANIMAL/BIRD CONTRO	228			76		
58107	Snow & Ice Control	151,304	122,617	110,785	128,235		
58107	SNOW & ICE CONTROL				0		
58170	SNOW PLOW & ICE CNT	133,929	68,504	104,526	102,320		
58171	SNOW REMOVAL & DIS	17,374	52,991	5,560	25,308		
58172	AVLNCHE CNTRL & CL		1,123		374		
58173	DRNGE STRUC THAW/C			700	233		
58108	Traffic Control	24,430	77,765	30,459	44,218	35,000	15,000
58108	TRAFFIC CONTROL SER				0		
58176	SIGNS & DELINEATORS	509	4	107	207		
58177	PAVEMENT MARKING	8,970	61,083	10,992	27,015	25,000	10,000
58178	SIGNALS,LIGHTS,RR-X	14,952	16,677	19,360	16,996	10,000	5,000
58103	Facilities	41,410	39,321	11,335	30,689		

**NORTHERN REGION MAINTENANCE AND OPERATIONS
NEEDS LIST**

REF	TASK FORCE DEFINITION	PROGRAM CODE	AKSAS DEFINITION	HWY CLASS	STATION	HIGHWAY/AIRPORT/BLDG	ELECTION DISTRICT	COST	PROJECT
710	Asphalt	58145	Major Pavement Repair		Barrow	Barrow Airport	37	50.0	Crack Sealing and Pavement Patching
1849	Drainage-Culverts	58160	Drainage Structure (not s		Barrow	Barrow Airport	37	20.0	Install heat tapes in culverts
1851	Environmental Compliance	58137	Hazardous Mat Mgmt &		Barrow	Barrow Airport	37	200.0	Hazardous material cleanup
147	Fences	58162	Guardrails, Fences & Bar		Barrow	Barrow Airport	37	150.0	Fencing Repairs
580	Paint Striping	58177	Pavement Marking		Barrow	Barrow Airport	37	25.0	Runway Painting
1890	Roadside Facilities	58162	Litter & Trash Removal		Barrow	Barrow Airport	37	10.0	Remove litter and trash
713	Tr Signals/Luminaries/Airpt Ltg	58178	Signals/Lights/Railroad C		Barrow	Barrow Airport	37	10.0	Airport Lighting Repairs
Total								465.0	

29-Aug-97

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Prepared by: Lynne Franklin, MQ Admin 451-2209

DEFERRED MAINTENANCE

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Alaska Department of Transportation & Public Facilities 1997 Pavement Condition Report

8-1-97

Denny -

I attended the DOT Pavement, Roads, and Materials meeting today, which was good, and Gary Hogins & Gene Kulwik wanted me to send you a copy of this. I have

also. This is just for your info.; no action required!

- Tim B.

by

R. Scott Gartin, P.E.

Pavement Management Engineer

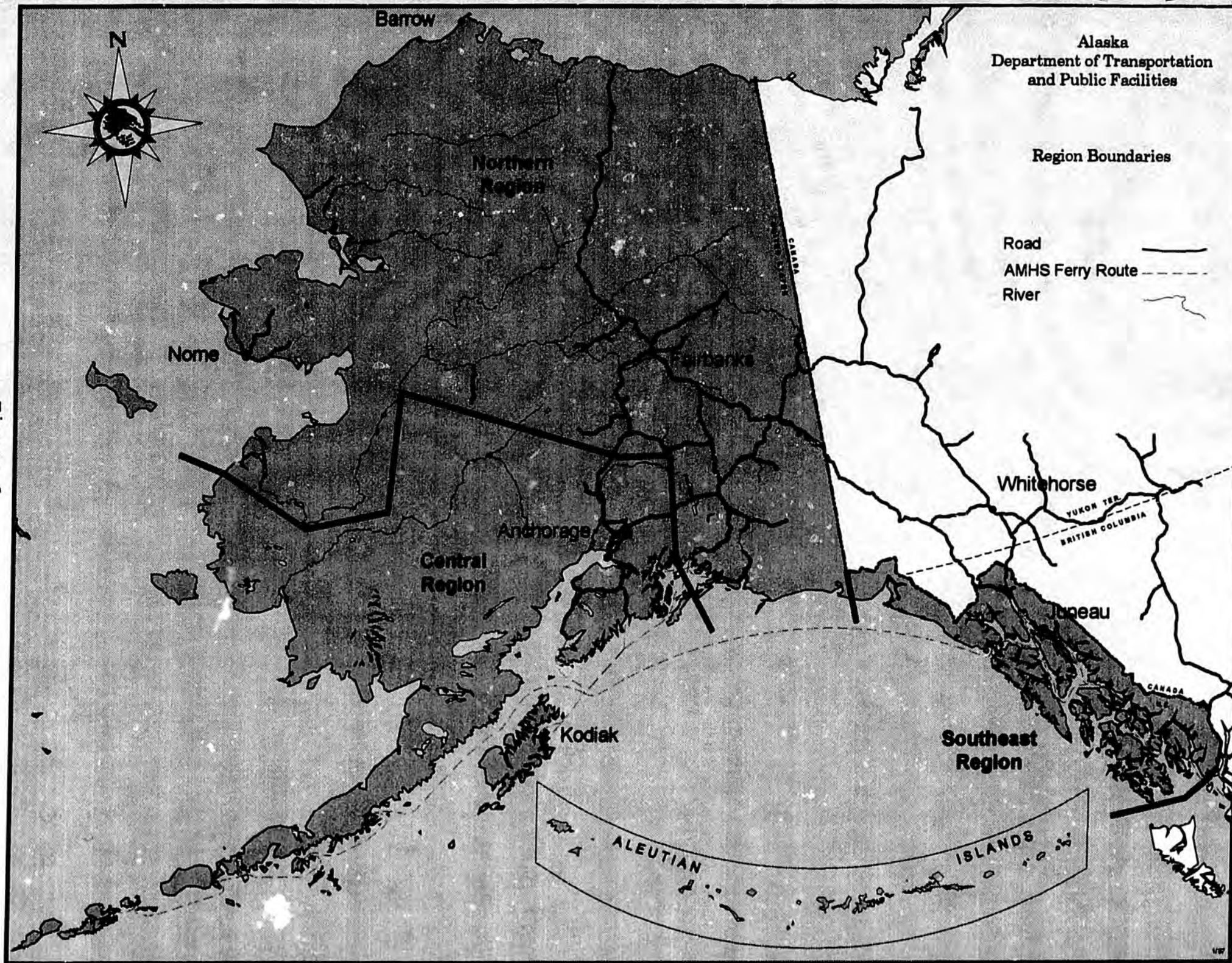
and

Tony D. Barter, P.E.

State Materials Engineer

July 31, 1997

Figure 1



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Alaska Department of Transportation 1997 Pavement Condition Report

Summary

This report presents pavement conditions and trends for the years 1988 to 1996. Particular emphasis is on 1996. Comparisons of pavement conditions between the three Alaska Department of Transportation and Public Facilities (ADOT&PF) Regions are included. Figure 1 shows regional boundaries. Brief descriptions of current pavement management practices used in Alaska are also included. The Appendices show pavement conditions on the National Highway System (NHS) routes in each region.

A Pavement Management System (PMS) is an objective tool to aid decision makers in finding optimum strategies for maintaining pavements in a serviceable condition. The pavement management tasks involve studying pavement networks and conditions, deciding on reconstruction, rehabilitation, maintenance strategies, setting priorities, and making investment decisions. This is a complex management challenge. The PMS identifies segments which require complete or partial rehabilitation and areas where preventative maintenance will increase pavement life. With limited budgets, this type of analysis may suggest allowing a pavement to completely deteriorate and then rehabilitate for a better cost to benefit ratio.

The pavement management engineer performs life cycle cost analysis on each mile of the state highway system. The goal is to objectively select cost effective projects resulting in the greatest overall benefit to the condition index for the network. This requires the engineer to consider cost effective repairs of low to moderate levels of pavement distress. Pavement research indicates that repair of pavements while distress is at a low level provides a significant return on pavement life at a relatively low cost. Early preventative maintenance can minimize the life-cycle cost of maintaining a pavement. This system can predict future ramifications to all or part of the network based on various maintenance and rehabilitation budget levels. It is the goal of the pavement management engineer to provide information on pavement performance predictions, remaining service life, life cycle costing, project benefit/cost analysis, project development tracking, optimization models, and financial needs forecasting.

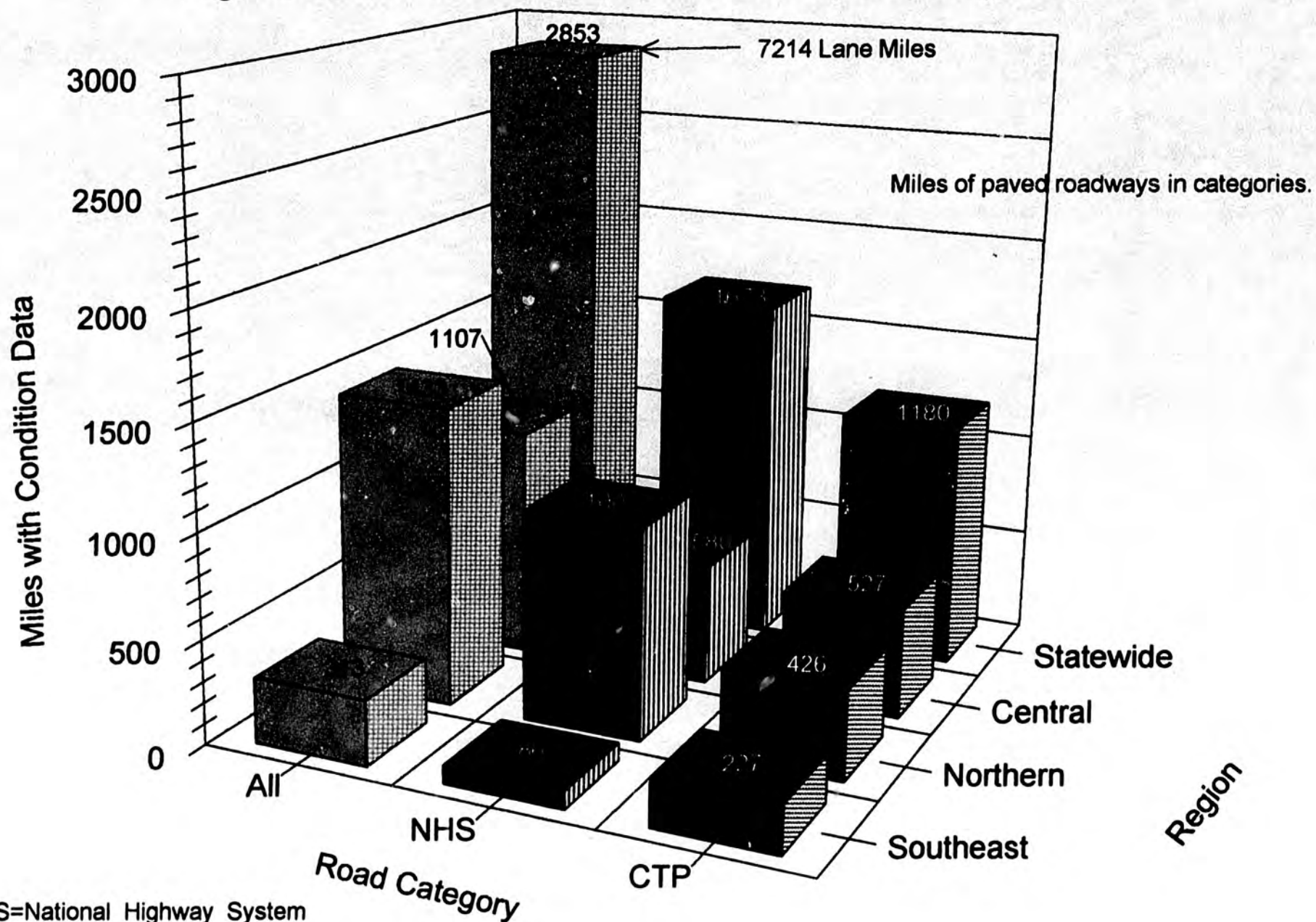
Annual data collection of field conditions are required in order to perform a system analysis. This includes automated collecting of information on rutting, cracking, patching and roughness. Condition data for the entire state is collected on a two year cycle. Wet skid resistance of pavements is measured approximately every 5 years.

The ADOT&PF is responsible for design, construction and maintenance of 5,585 centerline miles of surfaced roadways. That is 14,146 lane miles. Of this, there are approximately 3,000 centerline miles (7,500 lane miles) of paved routes, including the NHS and the Community Transportation Program (CTP). Figure 2 shows the distribution of paved roads between the three regions that pavement that have management data.

All pavements have a finite life span. Pavements are at their best on the day they are placed. Thereafter, they begin to deteriorate due to traffic loading and environmental conditions. Deterioration appears slowly at first, then gradually accelerates resulting in visible structural distress and a tangible reduction in ride quality. If the damage is observed and corrected in a timely manner, low cost strategies will restore the road to nearly it's original condition. However, if early treatment is neglected or postponed, the accumulated damage will require a more costly repair. Recognizing that damage accumulates and accelerates is key to understanding the need for early, low cost preventive maintenance treatments.

Figure 3 shows overall (average) pavement conditions in Alaska from 1988 to 1996. In 1996, Statewide the overall condition of the paved roads surveyed was *fair* and starting to decline. Pavement management analysis generally recommends that the State invests approximately \$42 million in rehabilitation and

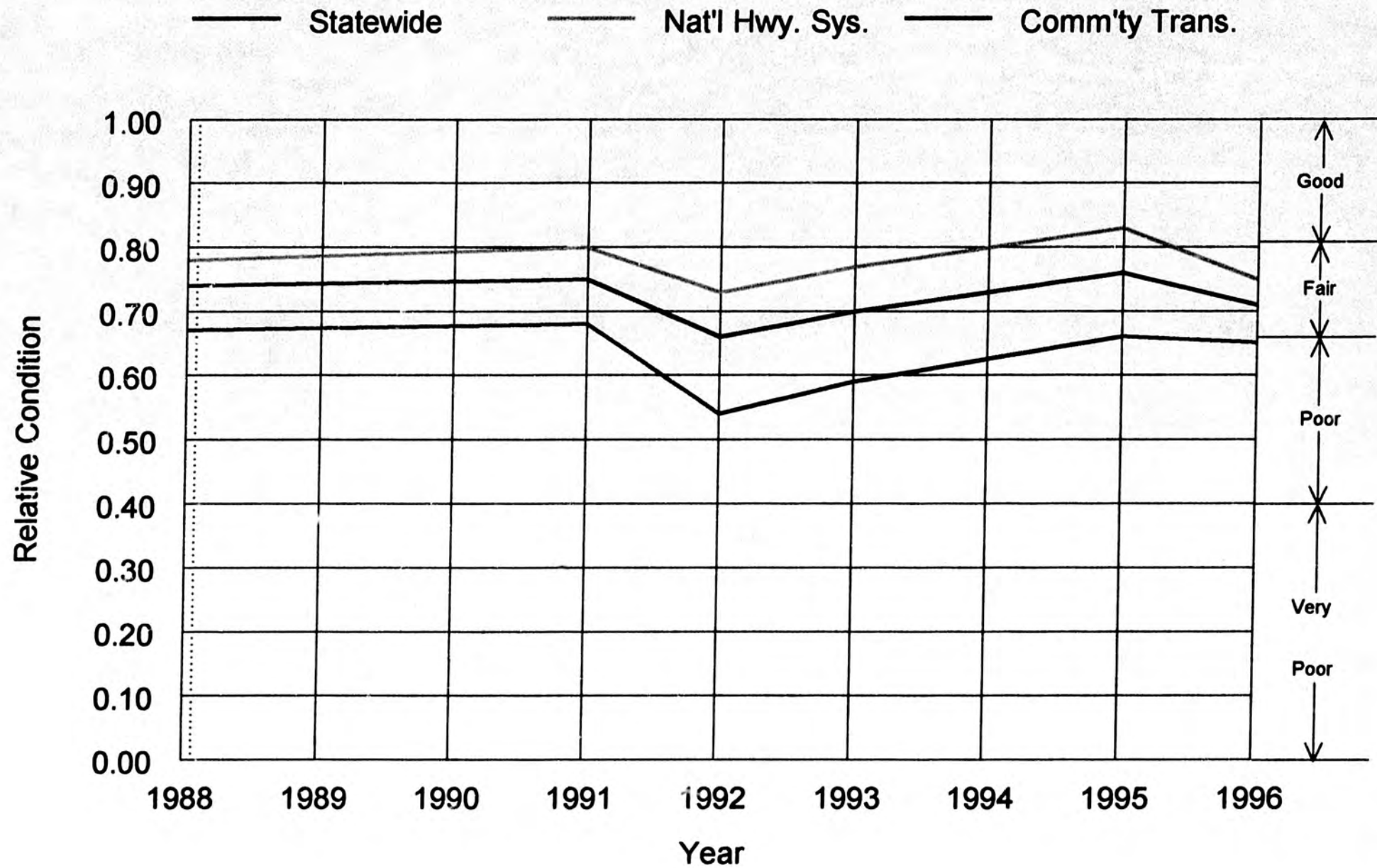
Figure 2: Miles of Paved Roads Reported by Region



NHS=National Highway System

CTP=Community Transportation Program routes

Figure 3: Overall Pavement Relative Conditions



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maintenance projects (Note: this estimate is for pavement related costs only, such as paving materials, striping, traffic control and engineering, and may not necessarily reflect total project costs). This investment level is needed to maintain and slowly improve overall pavement conditions in Alaska.

The 1997 State Transportation Improvement Plan (STIP) allocates \$23.6 million for rehabilitation and maintenance. The STIP shows \$49.3 million spending in 1998. These are *total* project costs and therefore less than is needed. Figure 4 shows the predicted affects on overall pavement conditions of the total 1997 and total 1998 STIP, including reconstruction projects. Notice that the overall pavement condition is still declining.

An ideal pavement management circumstance is called a *steady state condition*. That is a situation where the agency rehabilitates and maintains each section of roadway repeatedly in the same manner and timing. Project costs are theoretically minimized in the steady state condition and this was the goal in past pavement management practices. However, we have not reached this condition in Alaska and due to changing highway needs, traffic and climate. Unfortunately project selection often finds us reacting to failed pavements or political motivation.

Using effective pavement management strategies can reverse the decline, improving the condition of our road system, minimize variations and decrease user costs. If we fail to make the necessary investments, the number of miles slipping into the poorer categories will grow at an increasing rate. Costs of improving a system of pavements that has declined can be expected to be much more than \$42 million per year. Timely and proper maintenance will also save in the long term by preventing premature pavement and foundation failures.

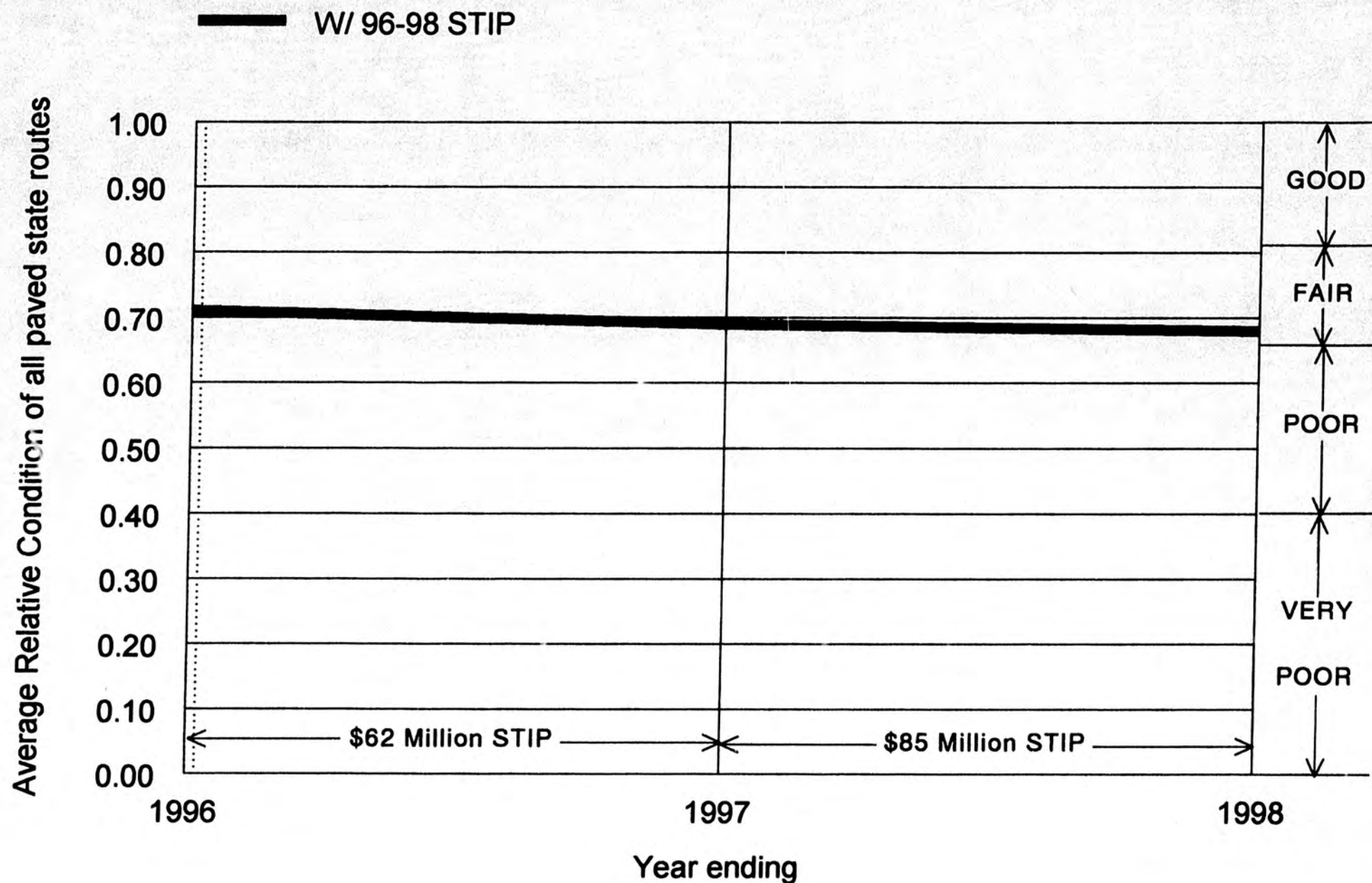
Project Costs

Rehabilitation projects include grinding (reclaiming) old pavement then overlaying, planing and replace with new pavement, asphalt treated bases, stone mastic asphalt, and new superpave options. Typical maintenance activities include crack sealing, patching, overlays, chip seals and high float surface treatment. When different rehabilitation and maintenance alternatives are being considered, the PMS can determine the life cycle cost of each alternative. Life cycle costing at the design level will provide an estimate of the most effective alternative to construct.

There are two costs when estimating a rehabilitation project. The first refers to costs of rehabilitating the asphalt surface. These costs typically are limited to a high grade maintenance effort and include costs for design and construction of asphalt rehabilitation, traffic control, and striping. With some projects there can be other expenditures relating to updating standards for other aspects of the road such as: right-of-way purchases; utility relocation's; widening; shoulder improvements; ADA requirements; safety improvements; drainage improvements and; pathways. These other improvements significantly increase project costs resulting in major rehabilitation or what would be considered reconstruction of the highway. Typically, a rehabilitation project should address preserving the structural integrity of the asphalt and embankment through asphalt surface treatments. In this case the asphalt surface treatment recommendations may only be 10% to 40% of a reconstruction project.

It costs approximately \$100,000 on average to rehabilitate one lane mile of pavement that has degenerated to Poor condition. A lane mile is a stretch of pavement one mile long by 12 feet wide. Improvement costs vary widely depending on the severity of pavement damage. Pavements that have not degenerated to Poor condition can be asphalt surface treated for approximately \$30,000 per lane mile. Simple crack sealing projects can be done for \$2,000 per lane-mile. To completely rebuild the structural section with shoulders, a pavement from the foundation up can cost \$300,000 per lane-mile. At a minimum, routine maintenance should be performed on highways to keep pavements in good condition. Table 1 presents some typical pavement rehabilitation alternatives that are used in Alaska along with relative costs.

Figure 4: Predicted Statewide Pavement Relative Condition



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Table 1: Pavement Rehabilitation Alternatives - Costs are relative to 50mm asphalt overlay		Relative Costs
50mm(2inch) Asphalt Concrete Pavement Overlay		\$1.00
50 mm Asphalt Concrete Pavement Overlay using Recycled Asphalt		\$1.00
Reclaim existing pavement + 50mm of Asphalt Concrete Pavement Overlay		\$1.20
50mm Superpave Asphalt Concrete Pavement Overlay		\$1.35
Plane existing pavement + 50mm Asphalt Concrete Overlay		\$1.50
50 mm Stone Mastic Asphalt Overlay		\$1.50
Plane existing pavement + 50 mm Stone Mastic Asphalt Overlay		\$2.00
Typical Maintenance Activities:		
Crack Sealing		\$0.02
Chip Seal - single shot asphalt surface treatment (AST) on pavement		\$0.25
Level with crushed aggregate and apply High Float AST		\$0.40-\$0.60
Bituminous Surface Treatment (BST) double shot AST		\$0.60

Factors Affecting Pavement Condition

The condition of the highway network is influenced by a number of factors. These include drainage, traffic loading, pavement age, surface type, prior maintenance and rehabilitation, studded tire usage, material types and thicknesses. Environmental influences such as precipitation, high and low temperatures, frost heaving, depths to water table and depths to perennially frozen layers also affect pavement condition. The wide variety of conditions in Alaska presents unique challenges to engineers in design, construction and maintenance of roads.

Many pavement problems in the DOT&PF Northern Region are due to thawing of permafrost or unstable soils under the road. Extreme cold temperatures also contribute to a high degree of thermal cracking in the Northern and Central Regions. High volumes of vehicles with studded tires in the Central Region combined with warmer temperatures contribute to a high degree of pavement wearing and rutting. Frequent freeze-thaw cycles during the winter also increase pot-holing and other forms of pavement damage. The Southeast Region experiences studded tire damage similar to Central Region, and has other problems relating to the high levels of precipitation.

Damage caused by the heavy pavement loads imparted by large trucks is of particular concern. In non-urban areas this is a large contributing factor in pavement deterioration.

For several years after construction of a new paving project there are few visible signs of deterioration, such as reduced ride quality or cracking. Eventually the effect of traffic loading repeated millions of times reduces the strength provided by the pavement, leading to cracking. Moisture can enter the road structure through cracks, edges or from below by frost action. Freeze and thaw cycles on wet materials weakens them and accelerates the deterioration process. Voids may develop below cracked asphalt leading to potholes. Repair costs increase exponentially if this condition is allowed to exist without any corrective action.

A Relative Condition (numerical value, 0.00 to 1.00) is given to each roadway segment, usually 1 mile in length. The relative condition number is based on the combination of ride quality, rutting and cracking that has been measured on the segment. Pavement Condition Categories are determined from the relative conditions as shown in Table 2.

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Table 2: Relative Conditions	
Numerical Values	Pavement Condition Category
0.81 - 1.00	Very Good/Good
0.66 - 0.80	Fair
0.40 - 0.65	Poor
0.00 - 0.39	Very Poor

One of the most important criteria for identifying the need to repair a highway is ride quality. This is measured by driving a van equipped with a profilometer over a pavement at highway speeds recording the road profile. Pavement roughness is calculated from the profile using an internationally standardized scale, called the International Ride Index (IRI). An IRI number has units of inches per mile or meters per kilometer. It can be thought of as the total vertical suspension travel of a typical car over a given length of roadway. The IRI is influenced by roughness, cracking, and patching.

Pavement rutting is another important criteria in determining the need for repairs. Rut depths are measured simultaneously with ride quality in the profilometer van. Rut depth is the difference between measurements from the van's front bumper at the center and in the wheel paths. The average of measurements made at less than 1 foot on centers is used as the characteristic rut depth for each roadway segment.

Cracking types and limits have been measured by visual surveys. Accurate measurement of cracking in this way depends on light conditions, moisture conditions, speed of travel and attentiveness of the surveyor. Since repeatability of crack surveys is questionable and ride quality measurements pick up influences of cracking this type of survey was discontinued in 1997.

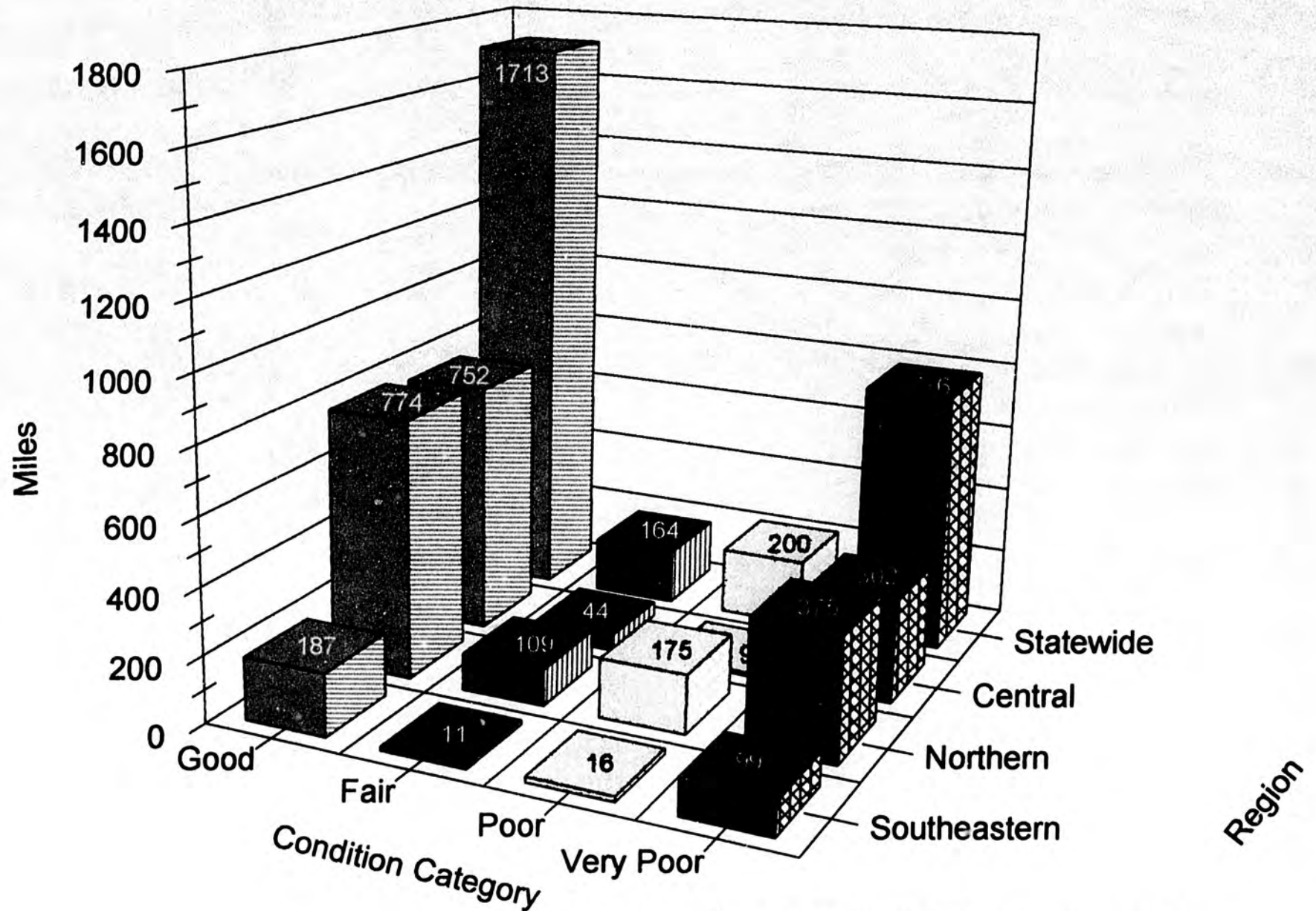
The structural capacity of a roadway, in terms of its ability to withstand repeated loads, is measured using a falling weight deflectometer (FWD). The State currently owns four FWDs which are used in pavement design. An FWD imparts loads, similar to standard dual truck tires on a pavement structure while measuring pavement deflections. This information is used to predict the remaining life of the structure in terms of fatigue cracking, roughness and rutting. Starting next year, Alaska's pavement management process will also use FWD measurements. This will improve our ability to predict future pavement conditions.

Comparisons of Regional Pavement Conditions

Figure 5 shows overall statewide and regional pavement conditions. Notice that, statewide, there were 976 miles in poor and very poor condition categories. That is 34% of the 2853 mile road system considered in pavement management at this time. The Northern Region, with 550 miles, has the greatest portion, with 38% of the paved roads in that area in these categories. The Southeast and Central Regions have 36% and 28% of the pavements in poor and very poor condition. The Southeast Region shows 115 miles and the Central Region shows 311 miles in these conditions. Regional overviews will be discussed separately in sections below.

Pavement conditions on the NHS are shown with Figure 6. There are 520 miles of a total 1,673 miles or 31% in poor and very poor condition. Again, the Northern Region has the highest portion in these condition categories with 365 miles or 36% of the NHS there. The Northern Region also has the most NHS miles in the state. The Central and Southeast Regions both have 23% of the NHS contained therein at this condition. That is, 135 miles in the Central Region and 20 miles in the Southeast Region.

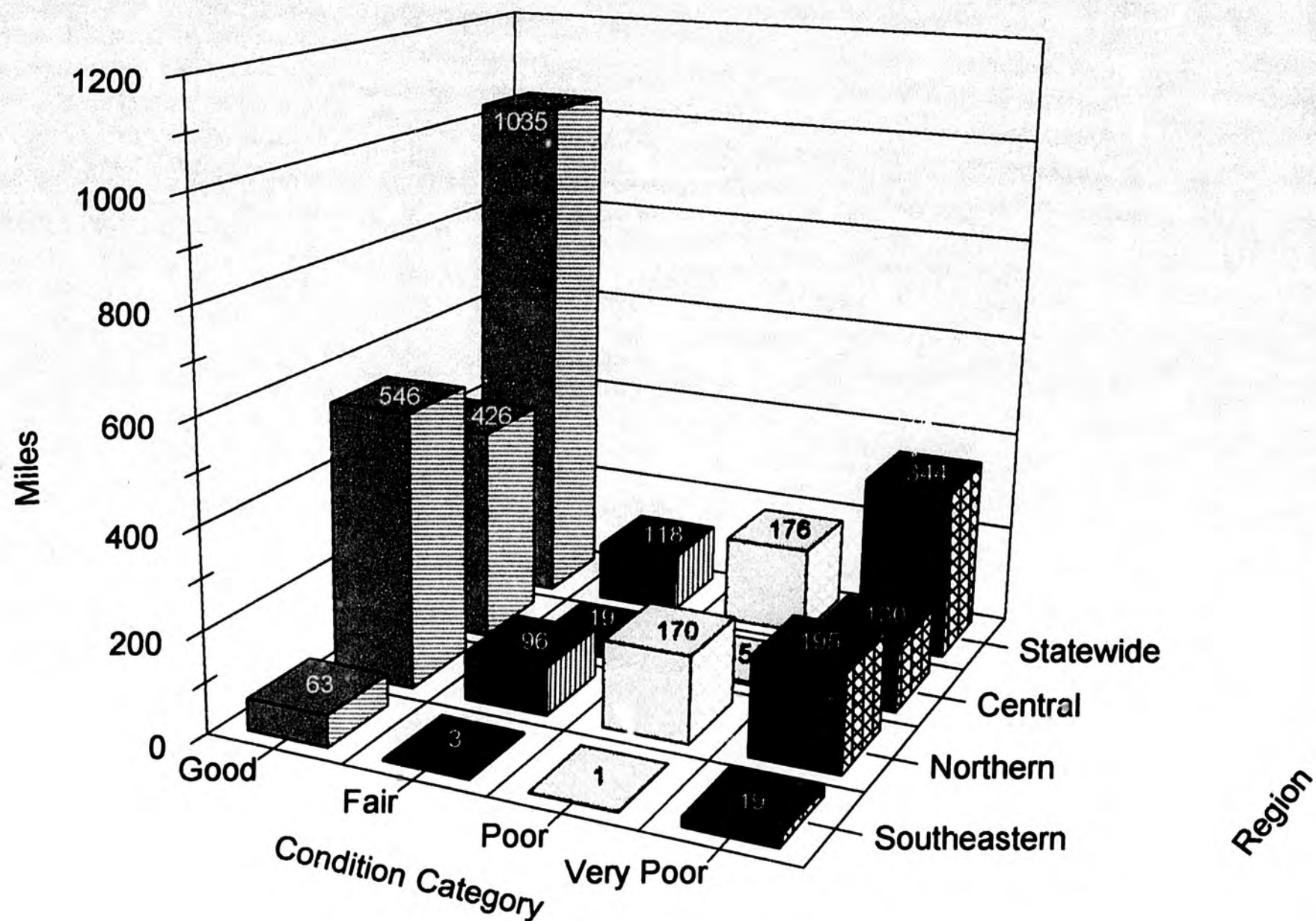
Figure 5: Statewide and Regional Pavement Conditions
Based on 1995 and 1996 Data



Number of miles in Categories shown on bars.

Figure 6: National Highway System Pavement Conditions

Based on 1996 Data



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Figure 7 shows the pavement conditions on the CTP routes. Shown are 456 miles of 1,180 miles in poor and very poor condition statewide. That is 39% of the CTP routes centerline miles. The Central Region has the greatest number of paved CTP route miles. There are 176 miles of 527 total (33%) CTP miles in the Central Region in poor or worse condition. The Northern Region has about the same length in these condition categories at 185, but with a total of 426 CTP miles it amounts to 43%. The Southeastern Region has 95 miles or 42% of 227 CTP miles in poor and very poor condition.

With the large number of miles in such low condition, wise actions must be taken in order to getting the pavement conditions to a desirable state. Future projects will have to be selected from the very poor condition categories in order to get serviceability and user costs down. Careful selection of projects within funding limits will maximize the benefits to the users. Routes with poor ride quality and higher average daily traffic cost users more money.

Figure 8 shows trends on overall pavement conditions by Regions from 1988 to 1996. After reaching a low in 1992, the conditions gradually improved until 1995. The 1996 data shows the start of a downward trend. In 1996, the average overall conditions in each of the regions is *Fair*. The Southeastern and Northern Regions are shown to be in slightly lower conditions than the Central Region.

Areas that have not reached the poorest condition due to excessive roughness or rutting are candidates for less costly maintenance alternatives for rehabilitation. Once very poor ride quality or high levels of rutting have occurred, more expensive rehabilitation or reconstruction must take place in order to bring serviceability back up to an acceptable level.

Central Region Pavement Conditions

The CTP routes in the Central Region have consistently been in worse condition than the NHS routes. See Figure 9. In 1992 the average condition on the CTP routes dipped into the *Poor* category. With work, by 1995 the CTP routes came back up into the *Fair* category. The NHS routes in this region have generally been kept in good condition. However, we see a steep downward trend on the NHS routes in 1996. This appears to be primarily due to increased rutting on the rural routes.

Many of the CTP routes in the Central Region are very old and in need of repairs. This is particularly true of CTP routes in the Palmer, Anchorage and Kenai areas.

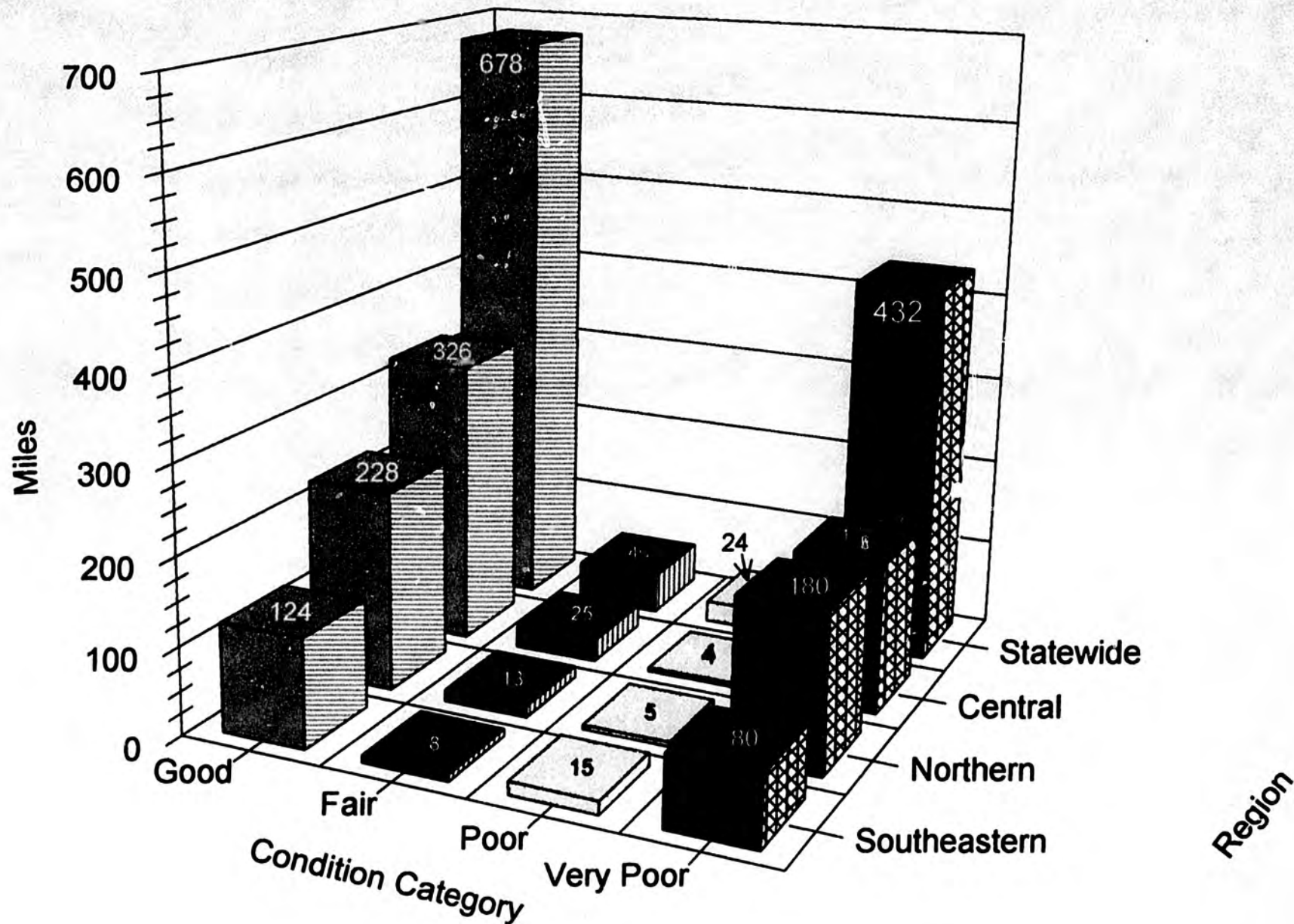
Appendix A contains "strip charts" of the NHS route conditions in the Central Region. Kenai Spur Highway has the greatest portion in poor and very poor condition categories. This is primarily on the older rutted and cracked pavement north of Kenai.

The Sterling Highway has rutting problems from Mile Post (MP) 37 to MP 57 and MP 70 to MP 81. There are ongoing construction and design projects between MP 37 and MP 57. From MP 95 to MP 110 there are rutting and cracking problems. This includes the town of Soldotna.

The Seward Highway has scattered rutting and cracking problem areas from MP 25 to 44. Similar problems areas are found in the Turnagain Pass area from MP 66 to MP 75. The pavement between MP 112 to MP 117 is found to be rough and rutted. Very poor conditions were also found on the Seward Highway project areas near Hope Road, MP 91 to MP 97 and 36th Avenue to the Glenn Highway.

The Parks Highway is generally in not too bad of shape, except where projects are ongoing. That is, in the first 6 miles and Big Lake Road to Willow Creek.

Figure 7: Community Transportation Program Pavement Conditions
Based on 1995 & 1996 Data



Number of miles shown on bars.

Figure 8: Trends in Pavement Relative Conditions by Region

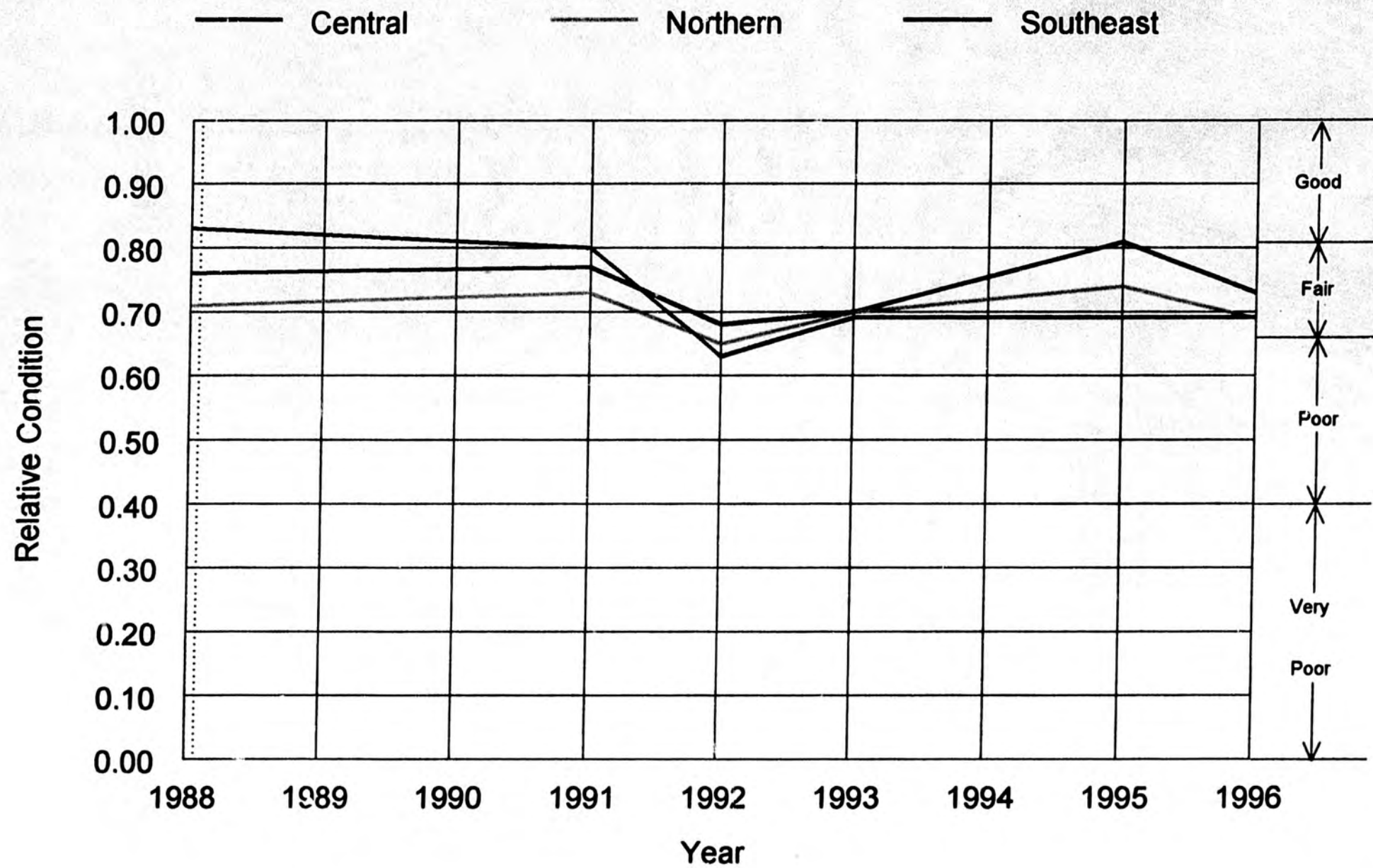
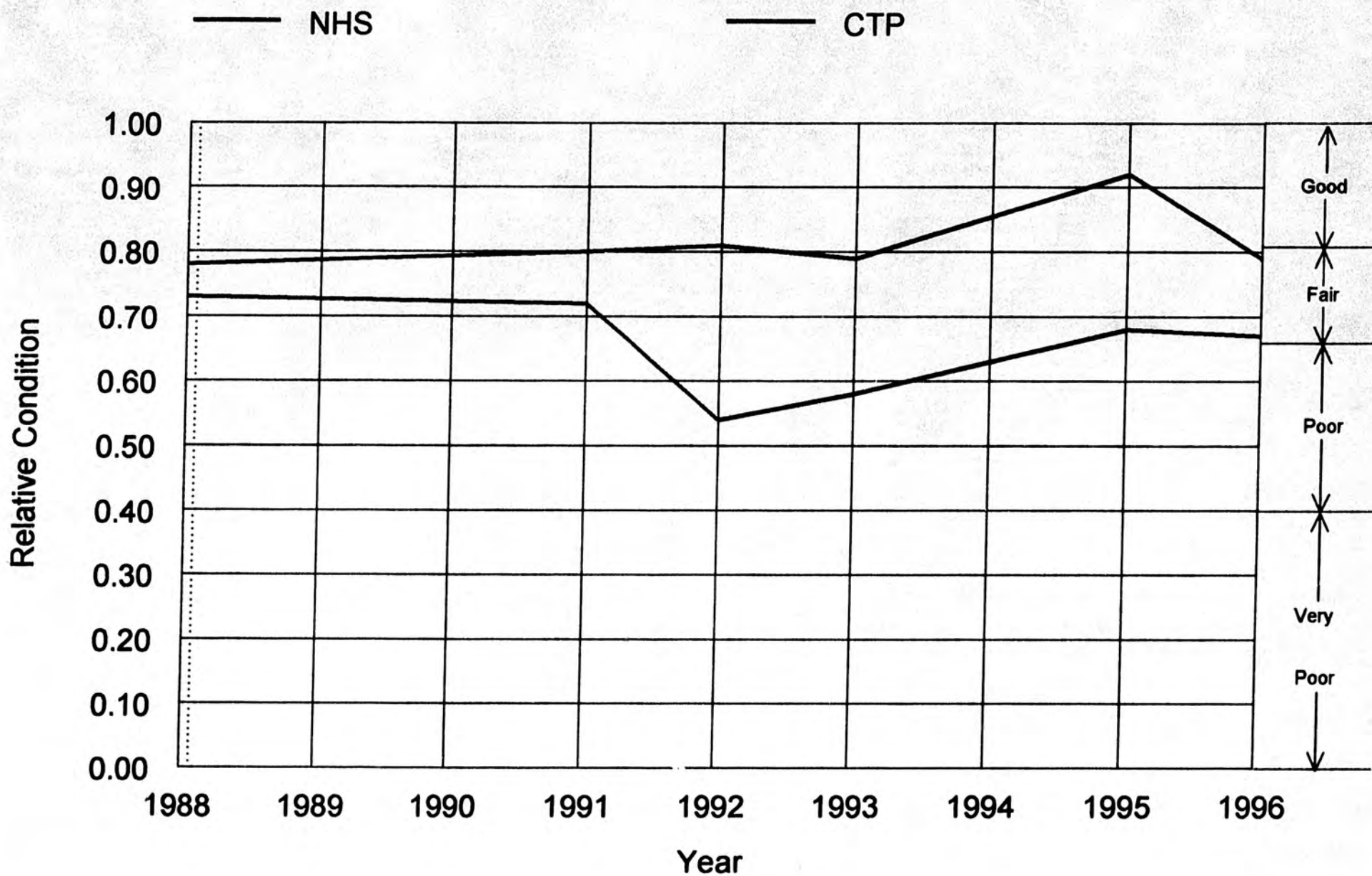


Figure 9: Trends in Pavement Relative Conditions, Central Region



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The Glenn Highway is getting rutted on two miles, just south of the Knik River Bridge. There are also rutting problems near the Jonesville Road area (MP 57 to 62). Rutted and cracked areas were found from MP 85 to MP 91. The Hicks Creek/Pinochle Hill area, MP 95 to MP 106 has ride quality, cracking and rutting problems. A project is out to bid for repairing part of that area (MP 96 to MP 100).

International Airport Road, especially between Jewel Lake Road and the Old Seward Highway is getting rutted, potholed and cracked. There are ongoing design projects for this.

Fifth and Sixth Avenues in Anchorage are rutted between L Street and Gamble. There is an ongoing design project in this vicinity.

The Minnesota Bypass from just south of International Airport Road to 100th Avenue is rutting excessively. Some rutting is also occurring from 100th Avenue to the Old Seward Highway.

Northern Region Pavement Conditions

Portions of the Alaska, Glenn, Elliott, Parks, Richardson and Tok Cutoff Highways are very rough, primarily due to differential thaw settlement of permafrost. This is being addressed by Maintenance operations leveling or reclaiming and applying asphalt surface treatments. Limitations on funding, manpower, equipment and materials make don't allow for all the poorest areas are fixed annually. However, this maintenance program, initiated last year, is beginning to really help. It is very effective since only the very poor areas, which may be only a few hundred feet in length are repaired. The decrease in overall NHS pavement condition in 1996 shown in Figure 10 may be partially due to the fact that some areas were profiled prior to the repairs.

The CTP or non-NHS routes have decreased into poor condition in the last few years. Many have not been rehabilitated for quite some time. The hard surfaced road system is expanding in the Northern Region with ASTs being planned for the Taylor Highway and some gravel portions of the Dalton and Elliott Highways.

Condition data on the Northern Region often appears better than is actually felt by Managers. This is due to the fact that conditions are currently averaged over 1 mile increments while some of the real problems are only 100 to 300 feet in length. Pavement management in the Northern Region often requires reducing data to 250 foot increments in order to identify areas with the worst ride quality. Maintenance personnel work up lists of their worst problem areas and we work together to make a list of the areas that will be repaired within the limitations mentioned previously. It is recommended that we consider contract construction projects to perform those maintenance operations in problem areas that exceed approximately 1 mile in length.

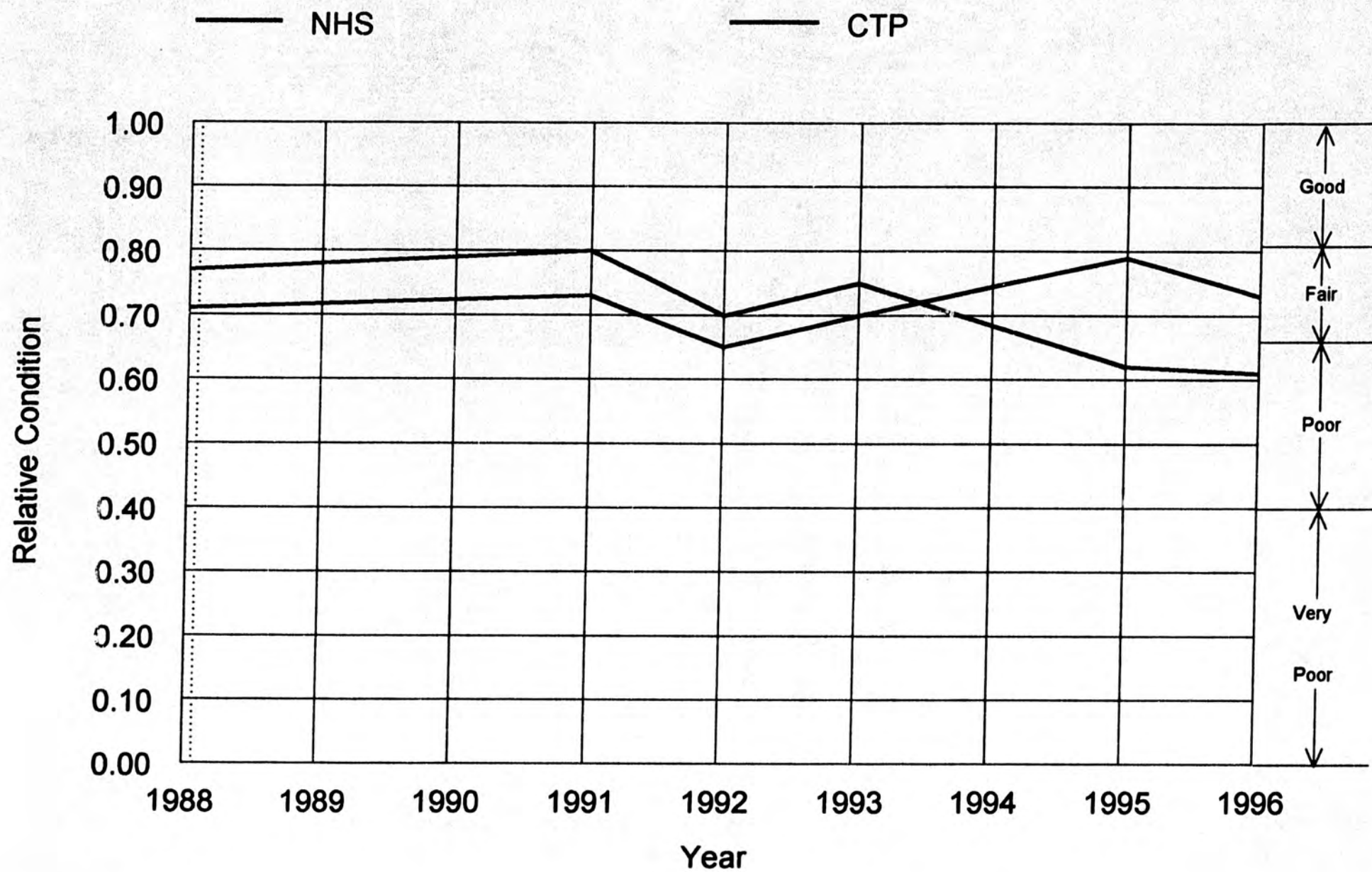
See Appendix B for specific information on NHS routes in the Northern Region. Percentages of the routes that are in the various condition categories are presented along with strip charts of the major routes.

The Alaska Highway, near the Gerstle River, approximately MP 1386 to 1398, is very old pavement, built in 1963. This area is very rutted. It also has localized ride quality and cracking problems. The highway is only 20 feet wide in this area.

A large portion of the Elliot Highway is shown in very poor condition due to poor ride quality. It is known that this route was profiled prior to 1996 Maintenance operations. The 1997 condition data will be more informative on this route.

Over 50% (29 miles) of the Glenn Highway in the Northern Region was in poor and very poor condition at time of the 1996 survey. The data indicates that this was primarily due to many patches. The relative condition uses patching as negative criteria. From MP 157.5 to MP 160.5 the pavement is cracked and

Figure 10: Trends in Pavement Relative Conditions, Northern Region



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there are rough areas. From MP 171 to MP 175.5 fatigue cracking is taking place. These areas will be considered for future projects.

On the Parks Highway, there are many areas with excessive rutting and cracking between MP 267 and MP 284. That is 14 of the 17 miles, south from Anderson Road. Between MP 346 and MP 354 there are some areas with severe fatigue cracking.

From approximately MP 5 to MP 15 and MP 54 to MP 60 on the Richardson Highway there is severe fatigue cracking. Between the Gulkana River and MP 155 there are many areas of very poor ride quality. The surfacing is falling apart in several areas within these limits. Pavement rutting is getting severe between MP 172 and MP 176. In the Whistler Creek area, MP 222 to MP 227, there are fatigue cracking and rutting problems. Similar problem areas occur sporadically from MP 233 to Delta Junction. The pavement is block cracked in areas between North Pole and Fairbanks.

The Tok Cutoff Highway has poor ride quality problems, especially in the first 50 miles on the south end. Most of the problems are subgrade related. There is a continuous stretch between MP 7 and MP 24 with high roughness. Most of the area between MP 39 and MP 50 has very poor ride quality.

The urban NHS routes in the Northern Region, including Airport Way, the Johansen Expressway and the Steese Highway are in relatively good condition. However, from MP 3 to MP 5 on the Steese Highway is getting rough.

Southeast Region Pavement Conditions

Pavement condition surveys in 1988 indicate the Southeast Region averaged in good condition. By 1992, the CTP routes had fallen into poor and the NHS routes into fair average conditions. In 1996 this was still true, but slightly higher in the respective categories. Figure 11 shows these trends. Appendix C shows results of the 1996 pavement condition surveys for the NHS in the Southeast Region.

South Tongass Avenue in Ketchikan was found to be rutted, rough and partially fatigue cracked. The NHS portion of South Tongass Avenue is approximately 2.5 miles in length, starting at the junction with the Ketchikan Ferry Terminal Road and ending at Bawden/Dock Street. A major portion of this is built on pilings. There is an ongoing design project to rehabilitate it.

The Haines Highway is in very poor condition through the city of Haines and near the Canadian Border. Approximately 6 miles through the city has ride quality and rutting problems with the pavement. The last 6 miles before the border have ride quality problems, excess rutting and some block cracking.

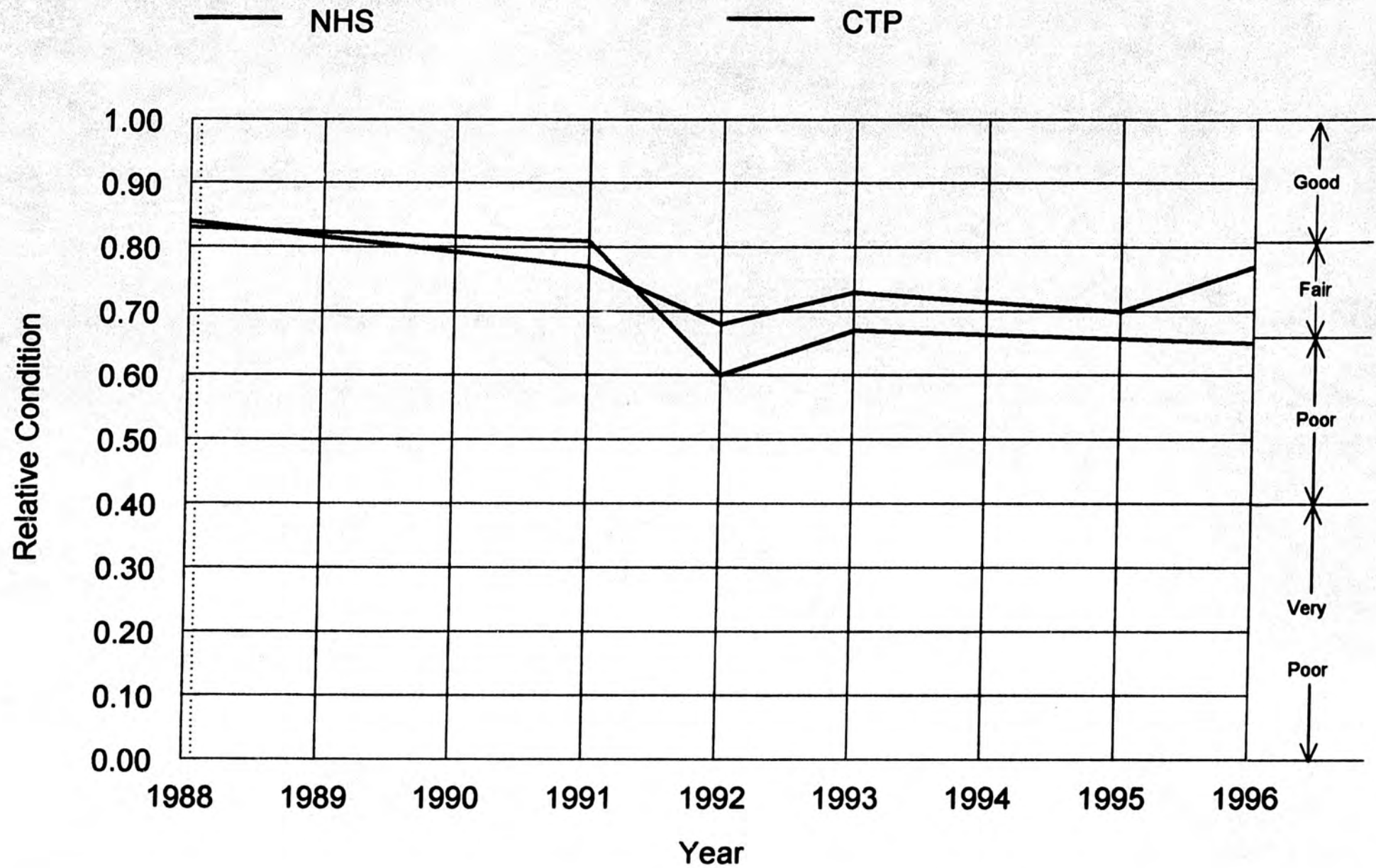
The rest of the NHS routes in Southeast have good to fair pavement conditions with one exception. The first mile of the Klondike Highway tested to be very rough. This needs further investigation.

Improvement Goals

Substantial investments must be made to prevent premature pavement damage. Failure to make the necessary investments will cause an alarming growth in the number of miles deteriorating into the Poor and Very Poor condition. If additional funding is not provided this accelerates the downward pavement condition spiral.

Poorer pavement condition increases the burden on highway maintenance. In the face of continued pressure to reduce the State Operating Budget there is little possibility of meaningful maintenance budget increases. The result is to further accelerate the decline in pavement condition.

Figure 11: Trends in Pavement Relative Conditions, Southeast Region



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Implementing effective pavement management strategies offers significant potential to reverse these trends. The Pavement Management estimates that at present the State should invest approximately \$42 million annually in resurfacing projects to maintain the status quo. The current STIP shows less than this for pavement maintenance and rehabilitation. The \$42 million figure is in current dollars and only includes pavement related costs. Maintenance & Operations project costs come much closer to this figure than Design and Construction project costs. Design and Construction projects often involve many secondary upgrades such as lighting, signals, guard rails, curbs, gutters, sidewalks, bike paths, etc. This makes them cost 2 to 3 times more than the pavement rehabilitation. This is not to say that we should go all to Maintenance & Operations projects. Some roads need other types of upgrades than just paving. Other types of improvements needed must be considered in project selection and funding given to the appropriate Division.

Adjusting our STIP to increase funding for rehabilitation projects to \$42 million annually for the next 5 years would reduce the number of Poor or Very Poor pavement miles and improve the overall condition of the state road system. After that, it is expected that the higher level of service could be sustained with a lower annual rehabilitation investment.

Initially, additional investments would largely be used to address needs on the poorest sections our major highways, including the Parks, Richardson, Glenn, Tok Cutoff, Alaska, Seward, South Tongass, Haines and Sterling Highways. Once these major highways are providing an acceptable level of service, we would turn more of our attention to Community Transportation Program needs.

Maintenance and Operations

The longer repairs are put off, the more they will cost. It is comparable to patching a leaking roof before moisture can cause damage to rafters and other hard to repair items. It is generally far more cost effective to repair pavement before damage reaches into the foundation layers. At low levels of distress or damage, low cost pavement repair strategies may be used, such as chip seals and overlays. If the foundation is allowed to fail, then the repairs will cost much more and in future inflated dollars.

Improvement of our pavement performance results in reduction of ongoing maintenance funding requirements. Total program expenditures following attainment of our performance goal would likely decrease to reflect reduced needs and greater emphasis on maintaining pavements at lower levels of distress. This would allow available funding to be directed at other infrastructure maintenance needs.

New construction continues to add lane-miles of pavement along with other costly installations such as traffic signals and street lighting. Additions to the highway system in recent years have not been matched with commensurate increases in maintenance budgets.

Conclusions

The overall pavement conditions on the Alaska road system are in fair condition. They appear to be slipping towards poor overall condition. This needs to be monitored and projects selected that will benefit the users to the highest degree possible.

The Pavement Management System is intended to provide information on the relative condition of the highway system and provide recommendations for cost effective repairs. Pavement management is the tool which will assist in maintaining the states highways in an acceptable condition. It is not a one man operation. It takes input from all involved to make pavement management work effectively.

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Pavement management can be used to confirm or adjust the STIP. It can be used to predict the results of future projects on the overall pavement conditions.

A new Pavement Management System has been obtained. It has the ability to consider structural criteria as well as pavement condition information in analysis and prediction. The new system also considers user costs, in terms of delays and estimates of their costs of running vehicles depending on the level of service and AADT. This system is brand new and data bases have to be created before output can be obtained. We expect it will take approximately two years for it to come fully on line.

Pavement management has to be dynamic, annually checking pavement conditions and reacting to them as well as political and budgetary situations. The 1997 pavement condition survey is ongoing. It is recommended that this type of report be written annually.

Definitions

Annual Average Daily traffic - AADT- Average daily traffic over an entire year

asphalt cement - a black cement material called Bitumen derived from crude petroleum

AC- Asphalt Concrete, consisting of sand, gravel, and a petroleum binder called bituminous pavement.

Asphalt Concrete Overlay - placing asphalt concrete over an existing roadway. Most appropriately applied before an existing pavement has become too rough, cracked or rutted.

Bituminous Surface treatment (BST) - a BST is a double application of the Chip Seal

crack sealing- Most maintenance crack sealing is done within 3 years after construction. Cracks are sealed in order to prevent the intrusion of water which reduces the strength of underlying materials.

chip seal - single shot asphalt surface treatment of emulsified asphalt with a single sized aggregate rolled immediately into the oil.

emulsified asphalt - a combination of asphalt, emulsifying agents, and water. This product may contain approximately 40% water and cures with the evaporation of the water.

high float emulsion surface treatment - high float emulsion derived its name from the fact that the residue from distillation must satisfy a minimum float test in water at 60 degrees centigrade. High float surface treatments provide the possibility of constructing a surface similar to a double shot chip seal in a single pass of the equipment.

maintenance - use of low level to moderate level of surface treatments to extend the life of the pavement up to 7 years

plane existing pavements - When the existing pavement is greater than 100mm(4inch) and the surface is rough, cracked, or rutted then the surface is rotomilled or planned. Areas with curb and gutter may require this type of rehabilitation.

Reclaim asphalt pavement- The existing pavement is ground up and mixed with the base course or blended at the hot plant with new material. This process is used when the existing pavement has become rough, cracked and is less than 100 mm (4inches)

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rehabilitation - use of moderate to high level treatments to reconstruct the pavement, extending it's life by up to 10 years

seal coat- a sealant applied uniformly to the entire pavement surface, usually embedded with sand or gravel, primarily to prevent water infiltration and improve traction

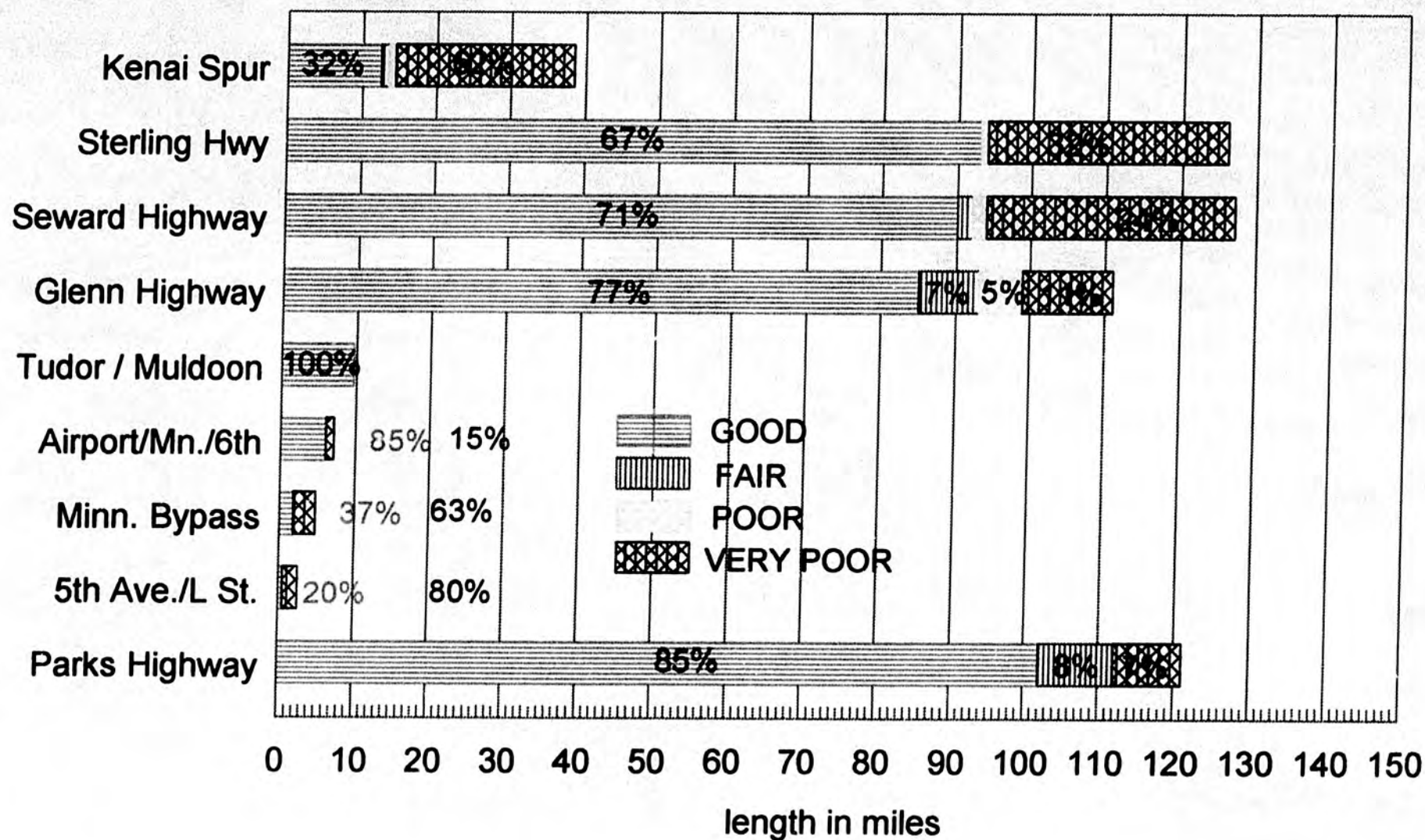
slurry seal - a petroleum based emulsion seal coat without sand or gravel

stone mastic asphalt (SMA) - SMA optimizes stone on stone contact in the mix, making it more rut resistant.

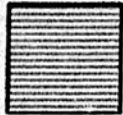
APPENDIX A
1996 PAVEMENT CONDITIONS
NATIONAL HIGHWAY SYSTEM
CENTRAL REGION

Central Region NHS

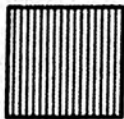
Length of routes and % in pavement condition categories



KEY FOR HIGHWAY CONDITION CHARTS



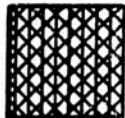
AREAS IN GOOD AND VERY GOOD CONDITION



AREAS IN FAIR CONDITION



AREAS IN POOR CONDITION

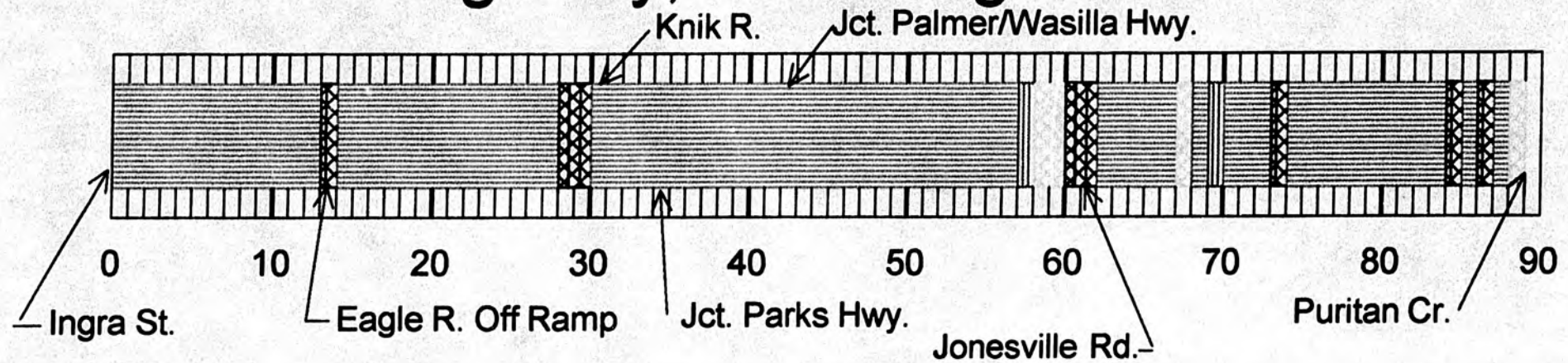


AREAS IN VERY POOR CONDITION

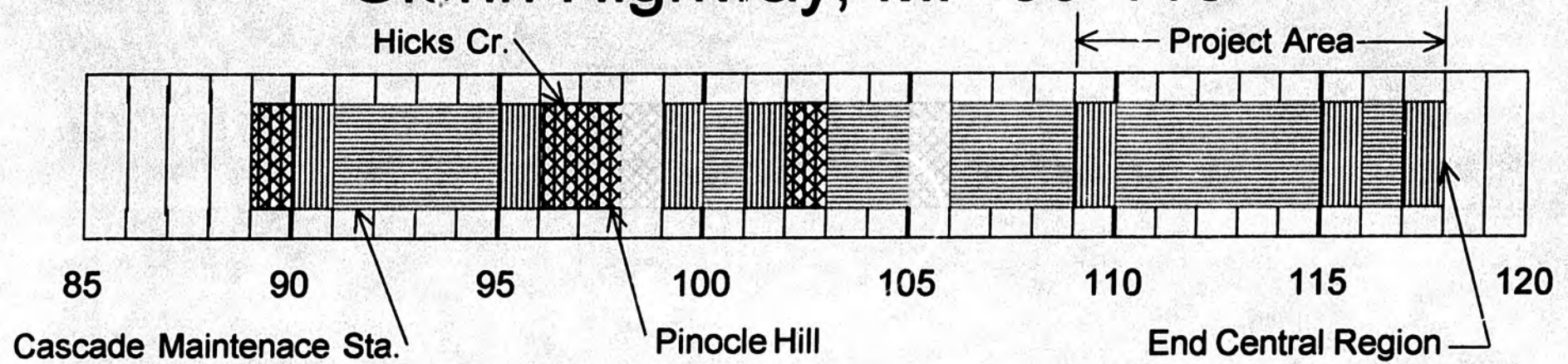
NOTES:

1. ALL CONDITIONS SHOWN ARE BASED ON 1996 SURVEYS.
2. CONDITION CATEGORIES ARE BASED ON MEASURED: ROUGHNESS, RUTTING AND CRACKING.

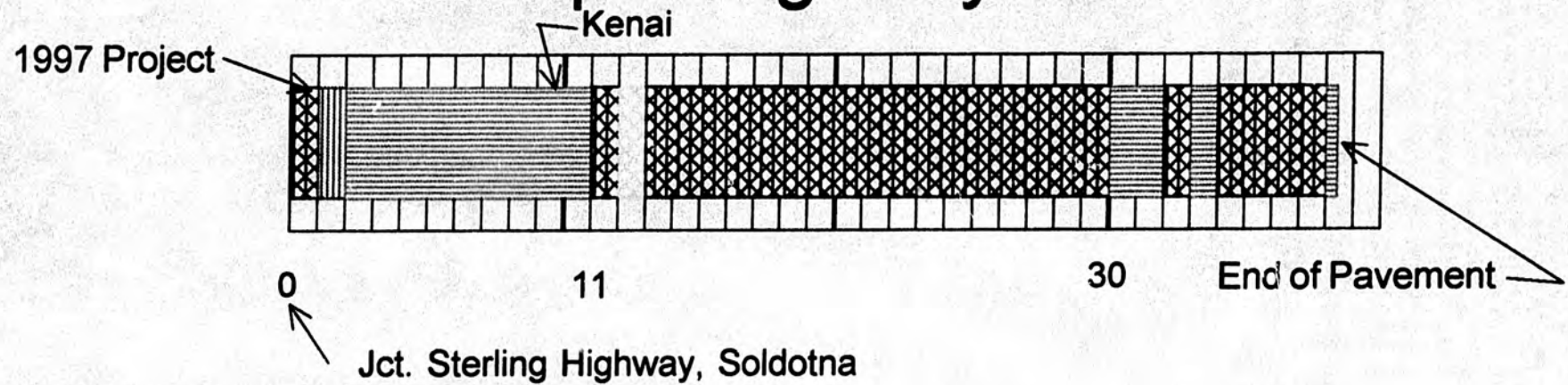
Glenn Highway, Anchorage to MP 89



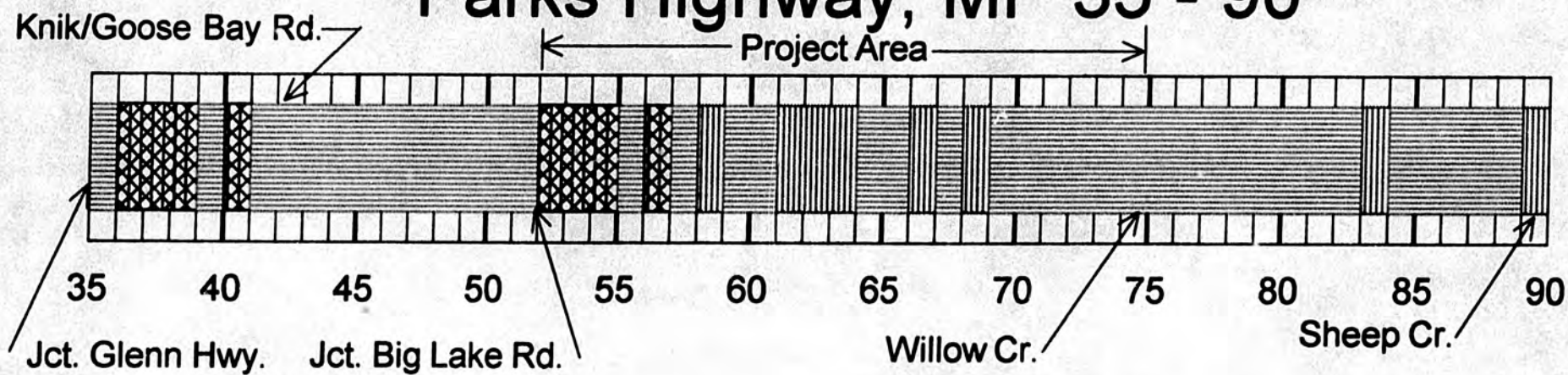
Glenn Highway, MP 89-118



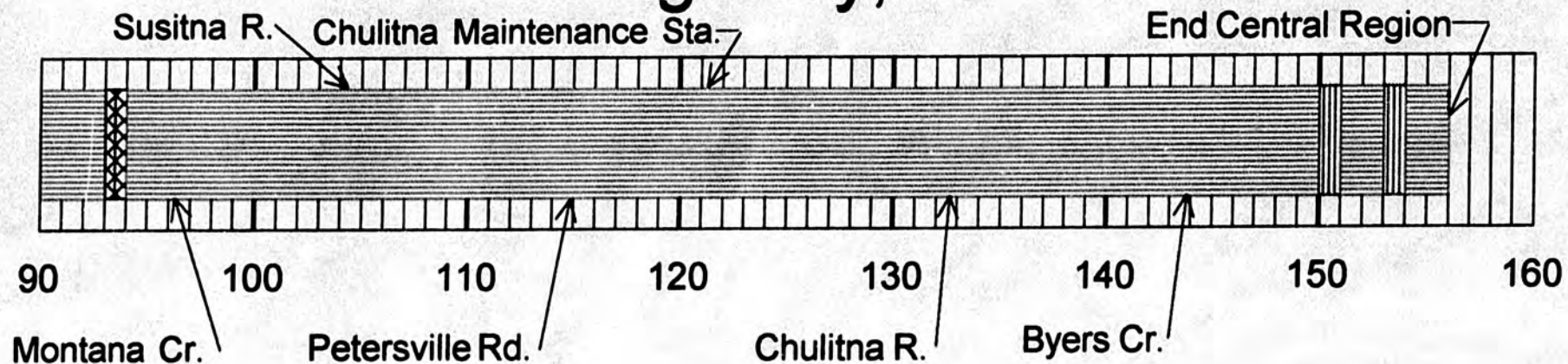
Kenai Spur Highway MP 0-38.4



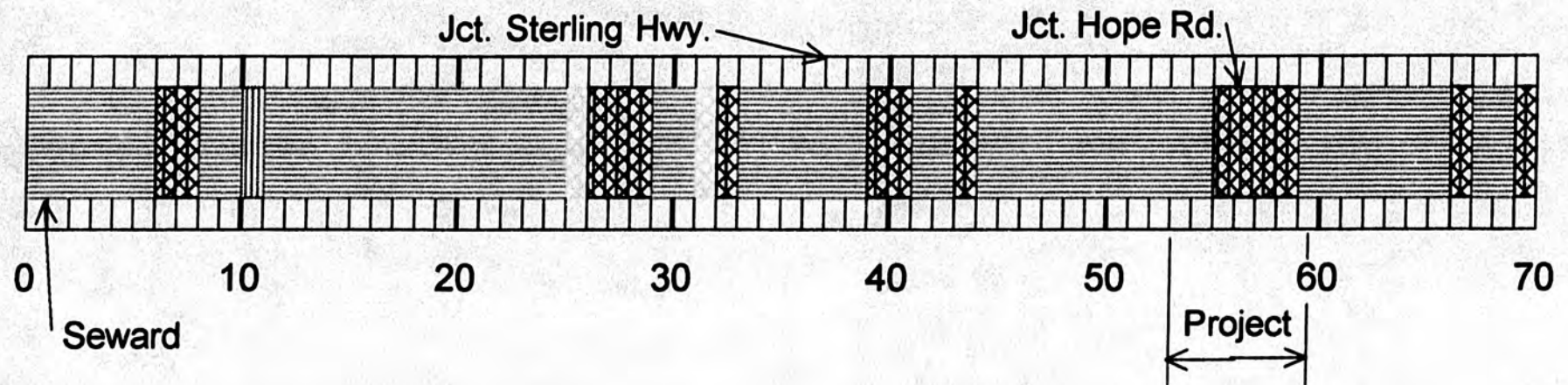
Parks Highway, MP 35 - 90



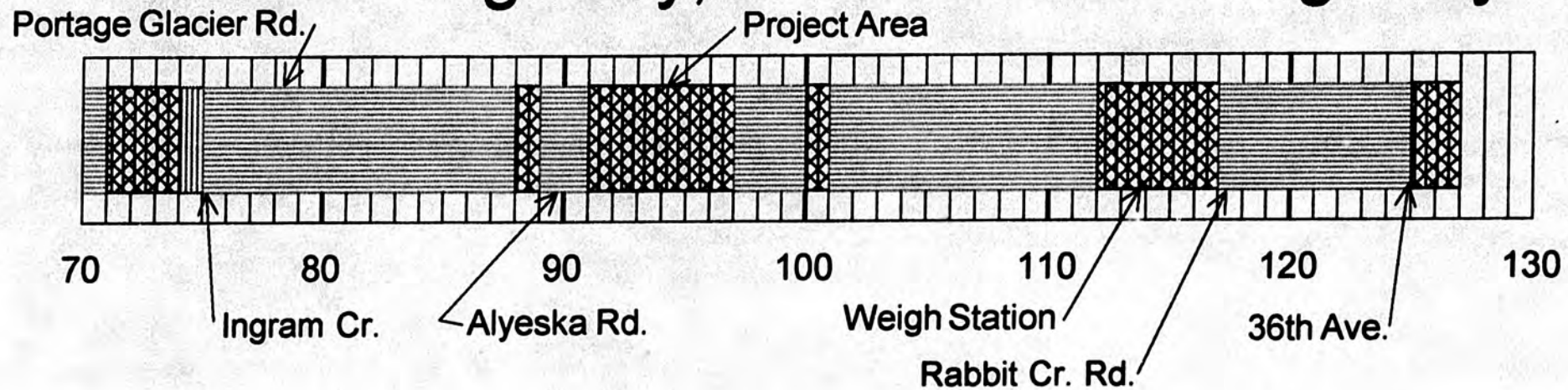
Parks Highway, MP 90-156



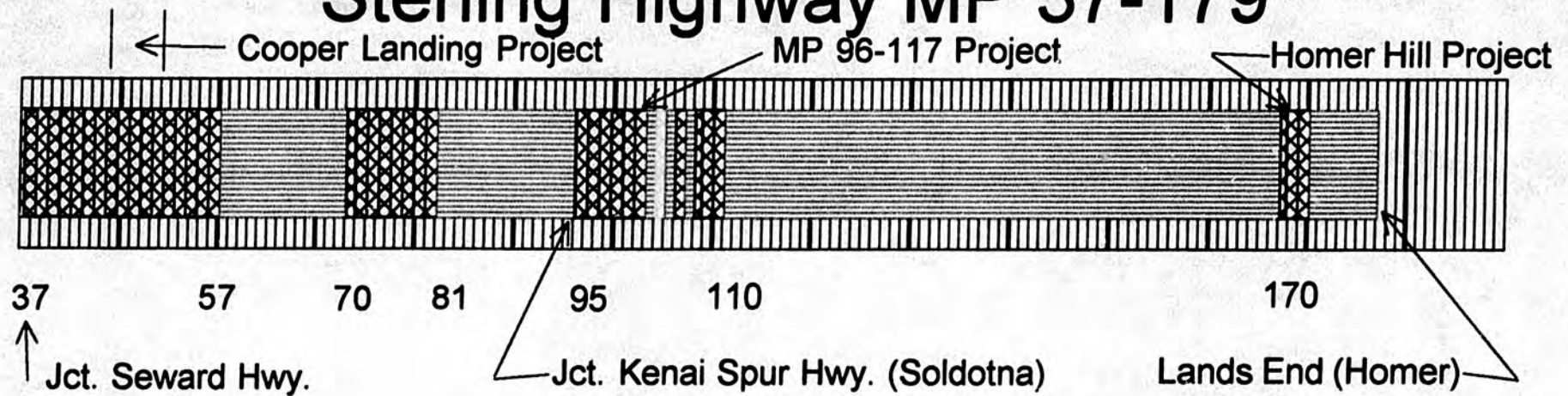
Seward Highway, MP 0 - 70



Seward Highway, MP 70 - Glenn Highway



Sterling Highway MP 37-179



APPENDIX B

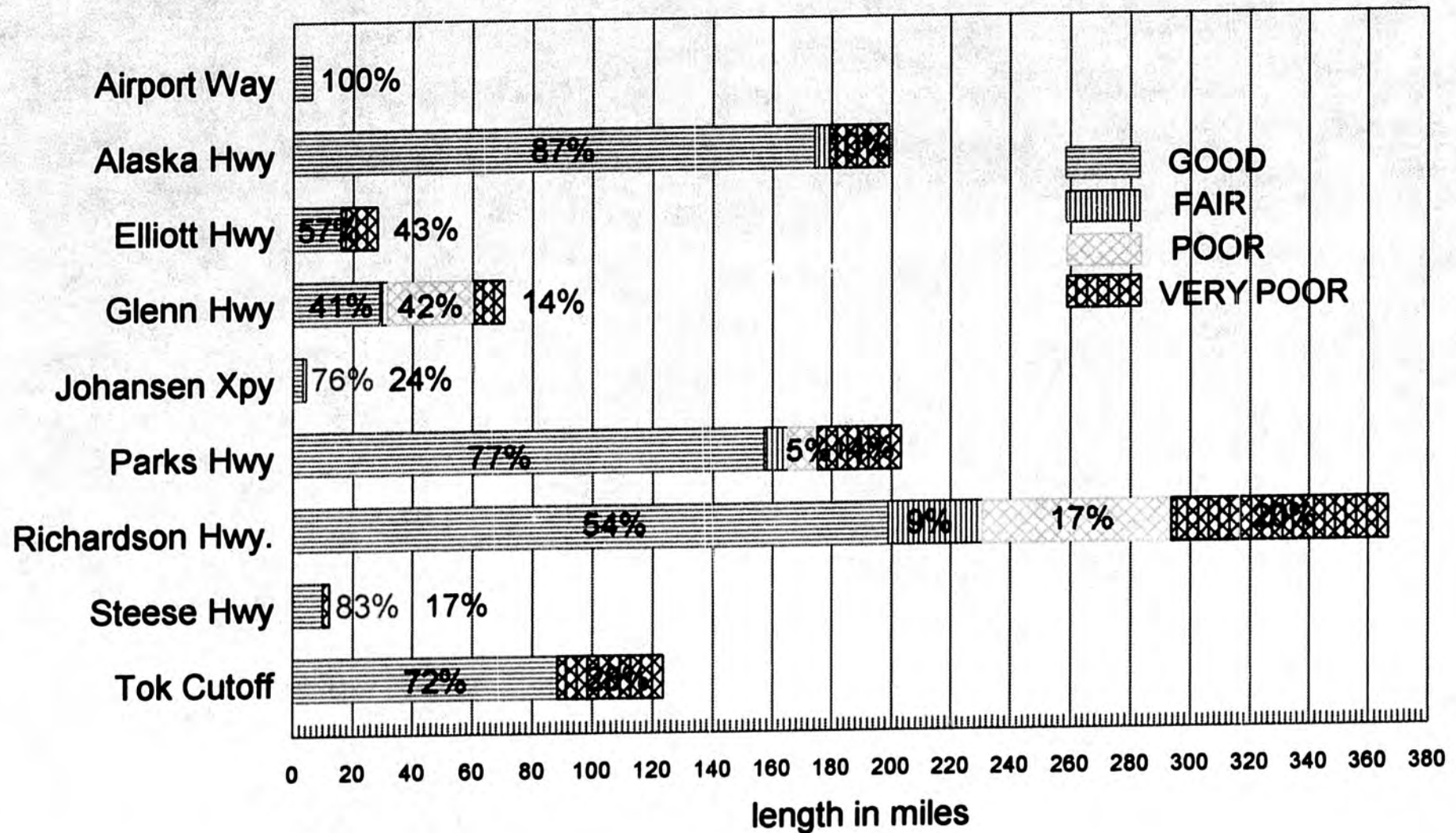
1996 PAVEMENT CONDITIONS

NATIONAL HIGHWAY SYSTEM

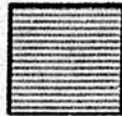
NORTHERN REGION

Northern Region NHS

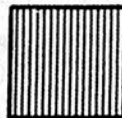
Length of routes and % in pavement condition categories



KEY FOR HIGHWAY CONDITION CHARTS



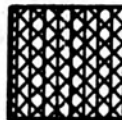
AREAS IN GOOD AND VERY GOOD CONDITION



AREAS IN FAIR CONDITION



AREAS IN POOR CONDITION

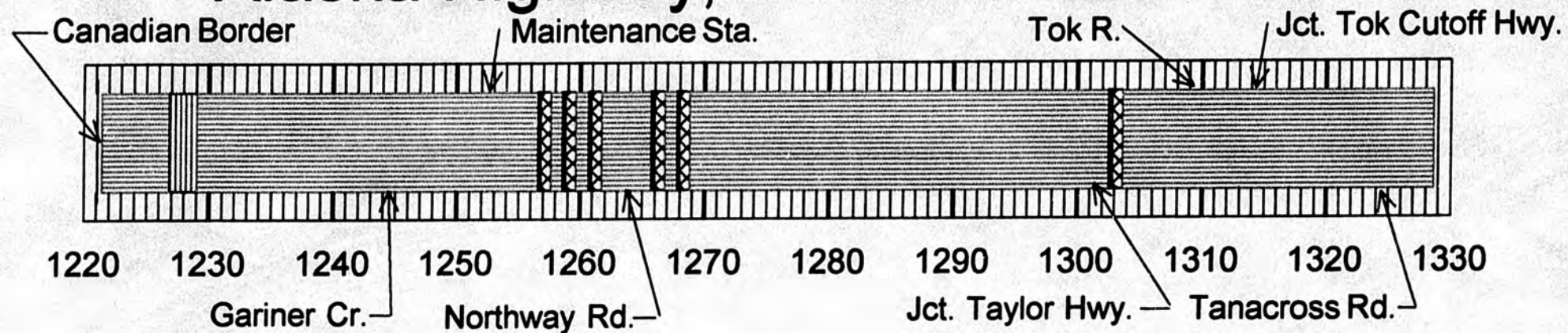


AREAS IN VERY POOR CONDITION

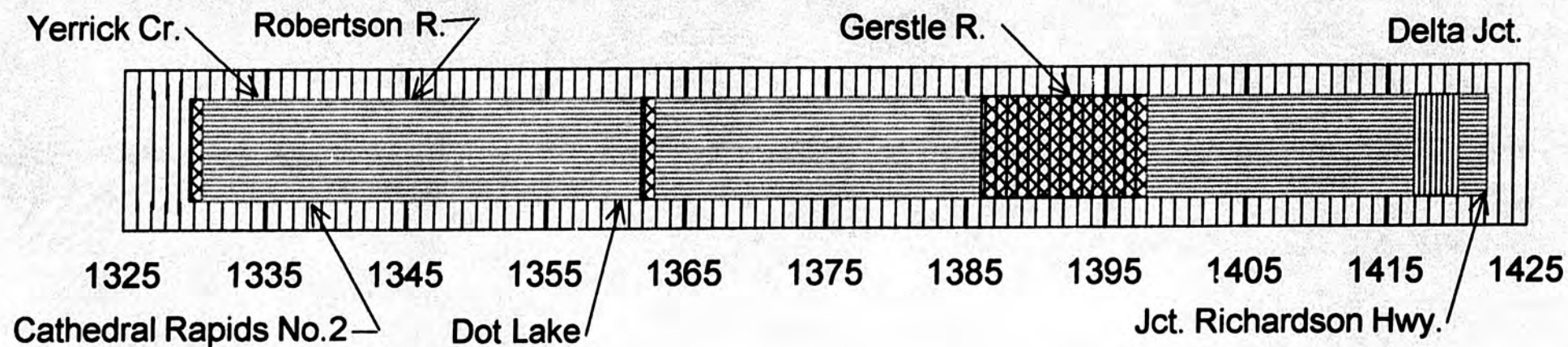
NOTES:

1. ALL CONDITIONS SHOWN ARE BASED ON 1996 SURVEYS.
2. CONDITION CATEGORIES ARE BASED ON MEASURED: ROUGHNESS, RUTTING AND CRACKING.

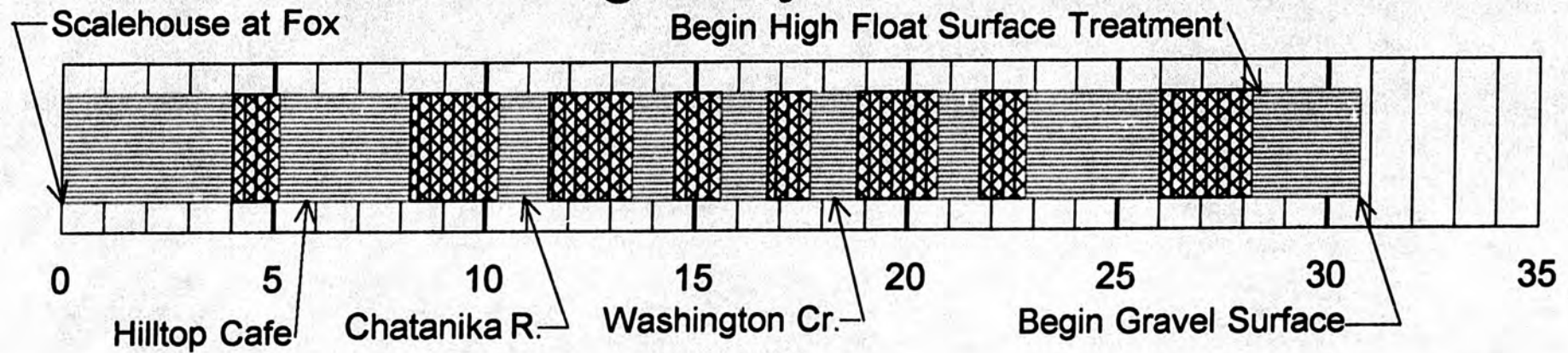
Alaska Highway, Border to MP 1329



Alaska Highway, MP 1329 To Delta Junction

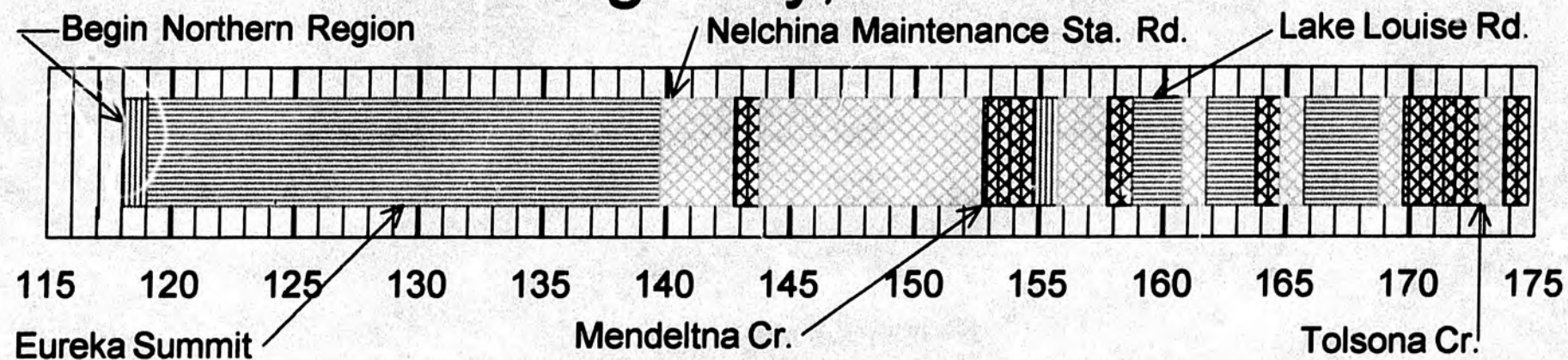


Elliott Highway, MP 0 to 31

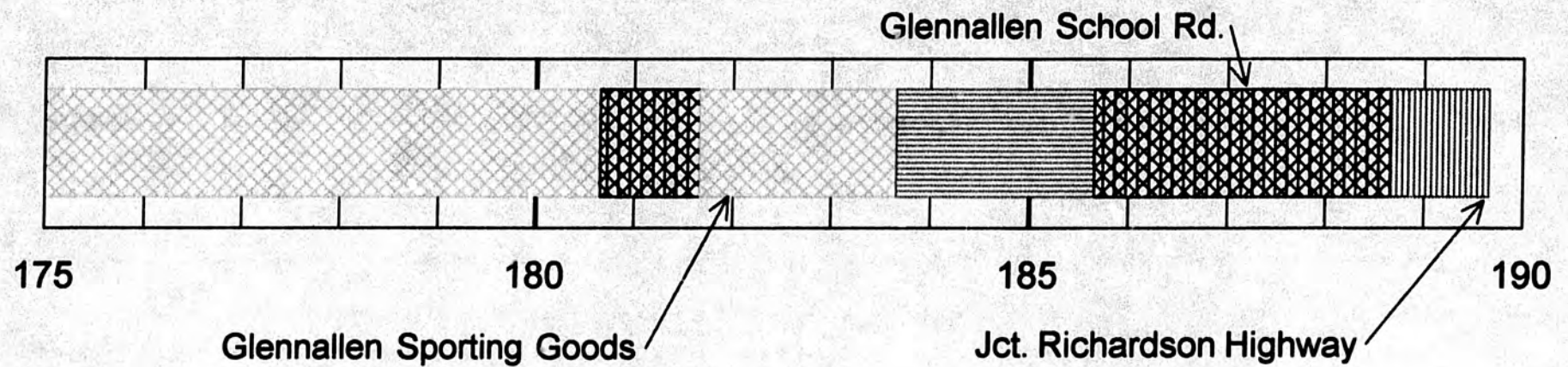


Note: Condition data shown here was collected prior to M&O patching done in 1996.

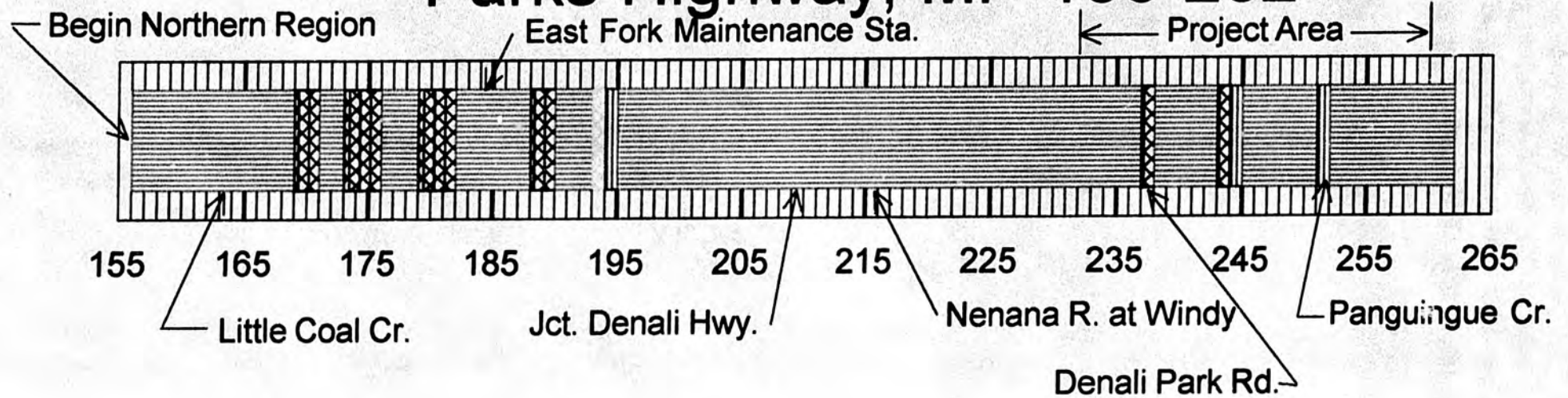
Glenn Highway, MP 118-175



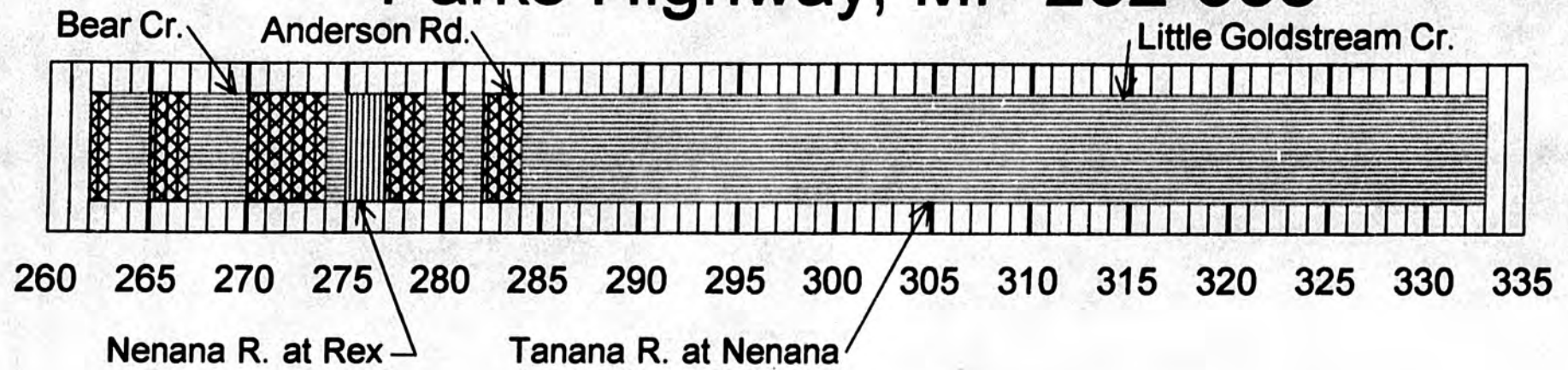
Glenn Highway, MP 175 to Richardson Hwy.



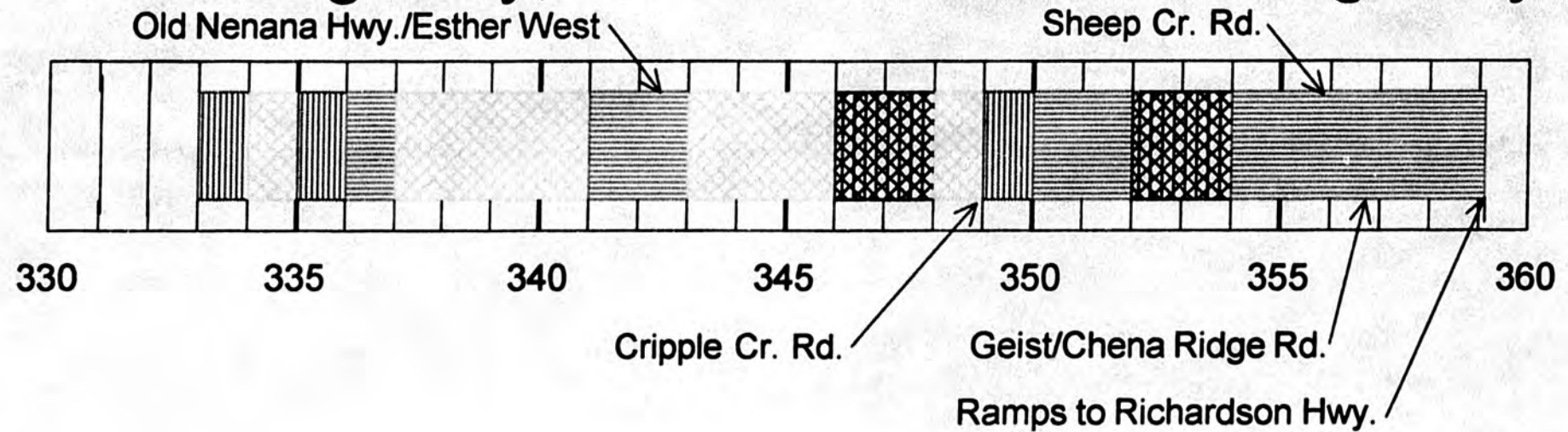
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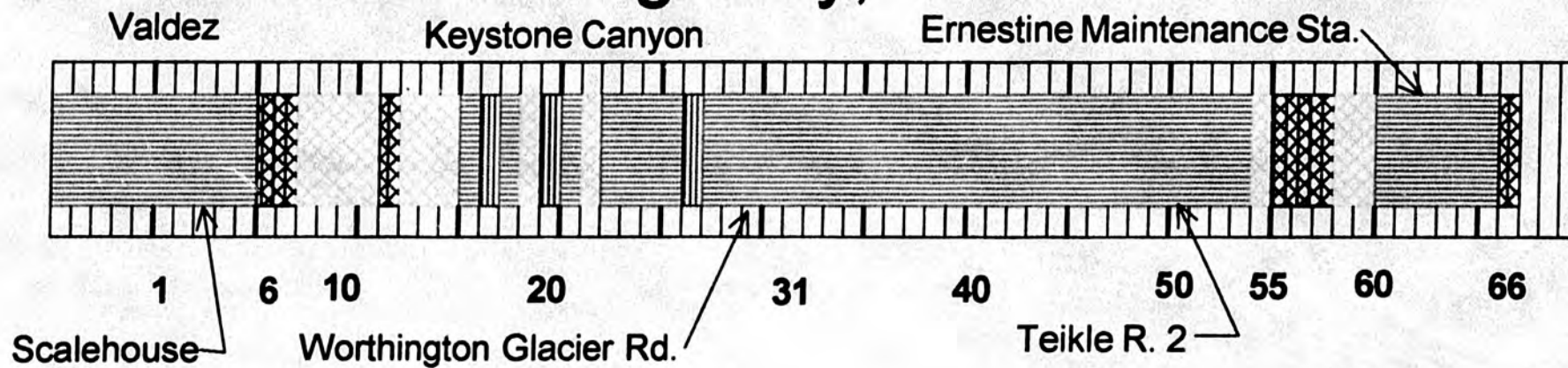
Parks Highway, MP 262-333



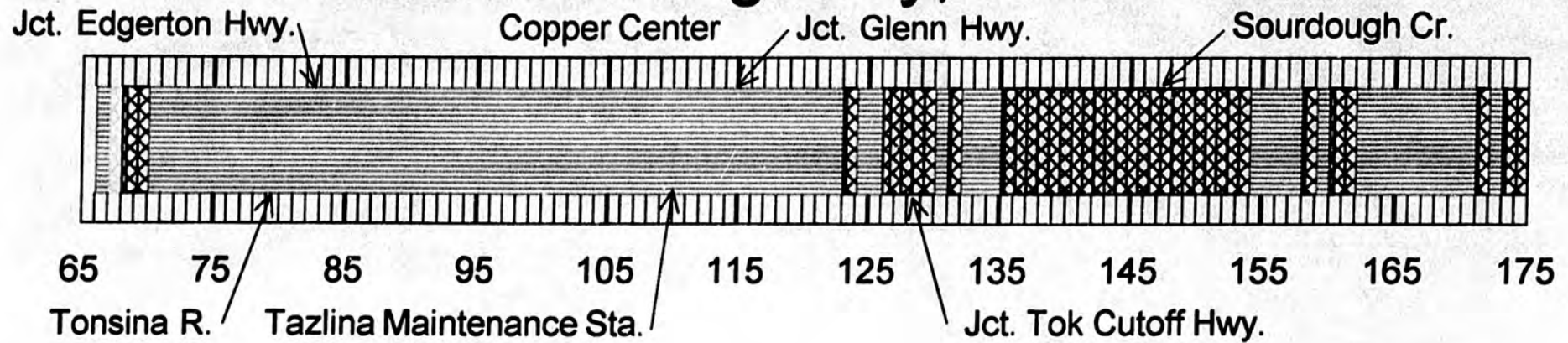
Parks Highway, MP 333-Richardson Highway



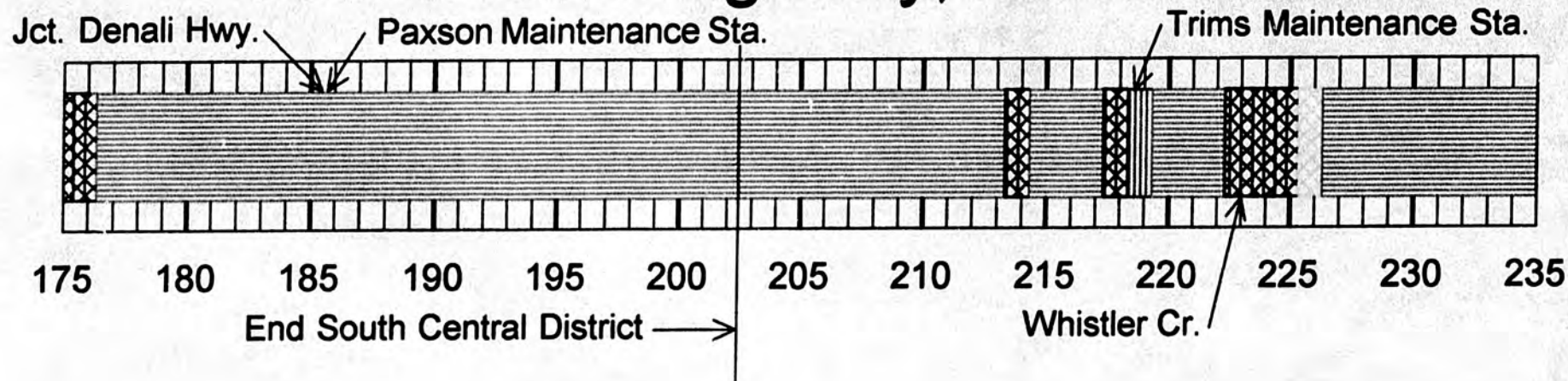
Richardson Highway, Valdez to MP 66



Richardson Highway, MP 66-175



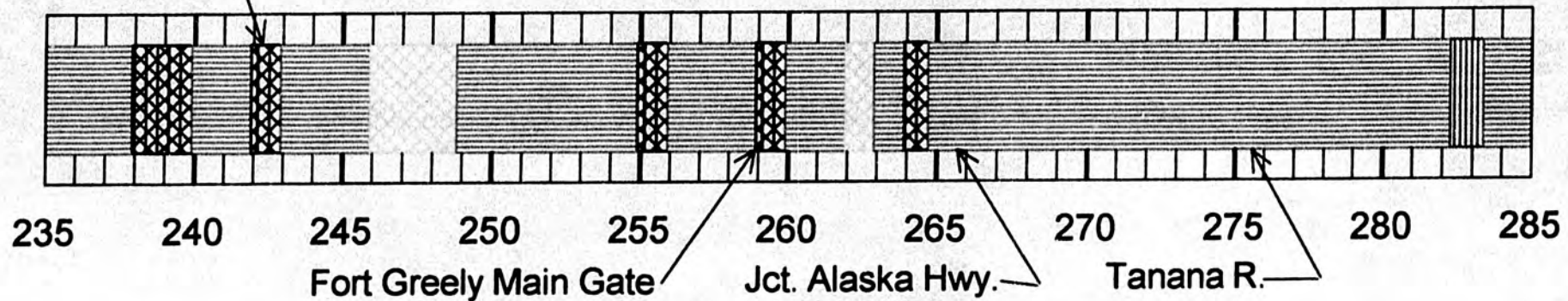
Richardson Highway, MP 175-235



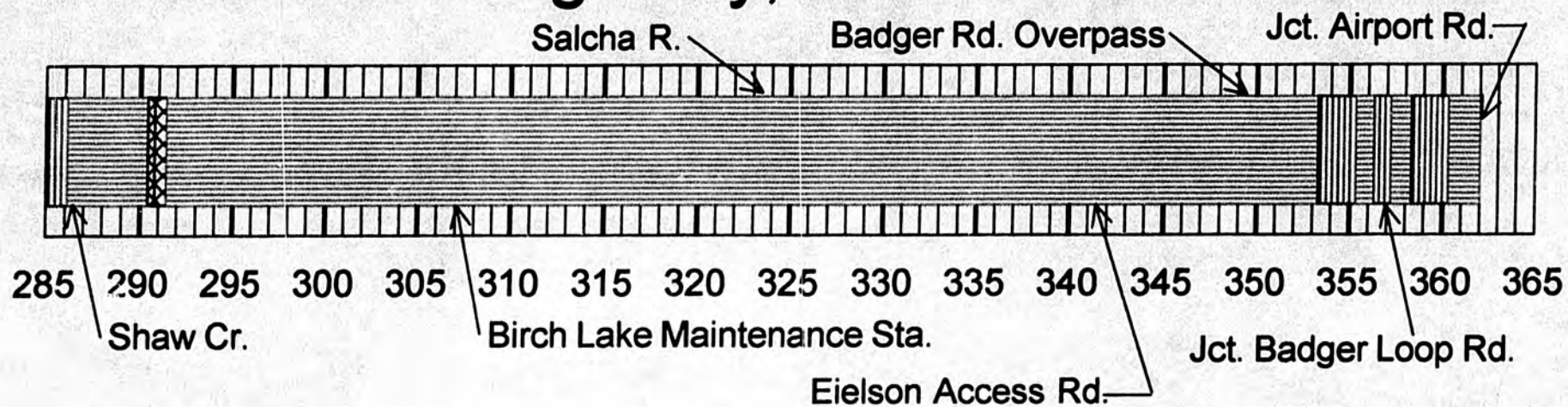
Richardson Highway, MP 235-285

Jct. Coal Mine Rd.

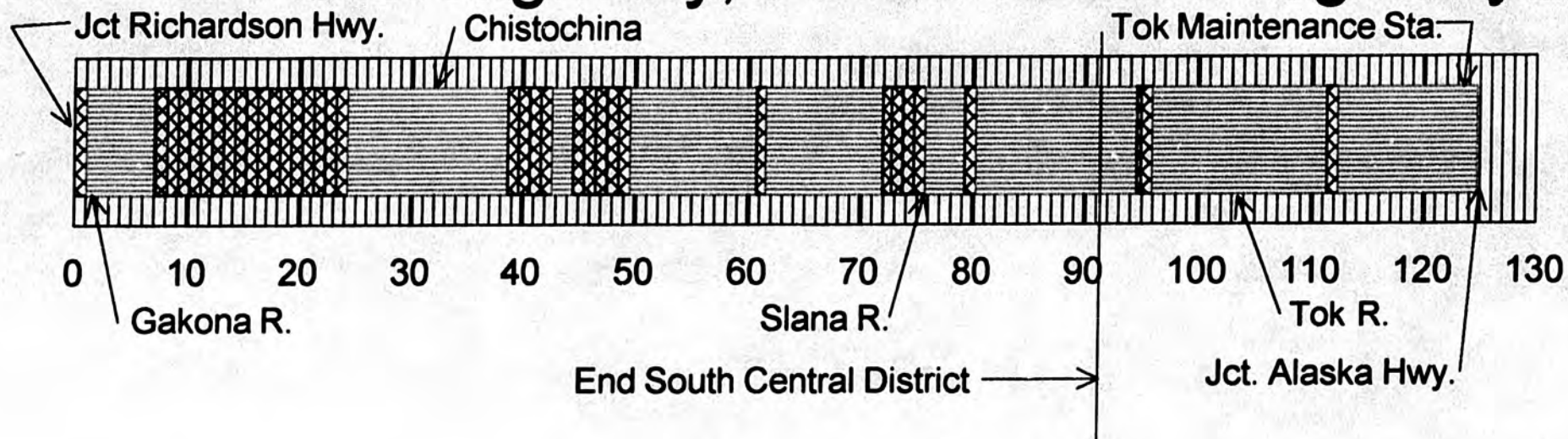
Delta Junction



Richardson Highway, MP 285 to Fairbanks



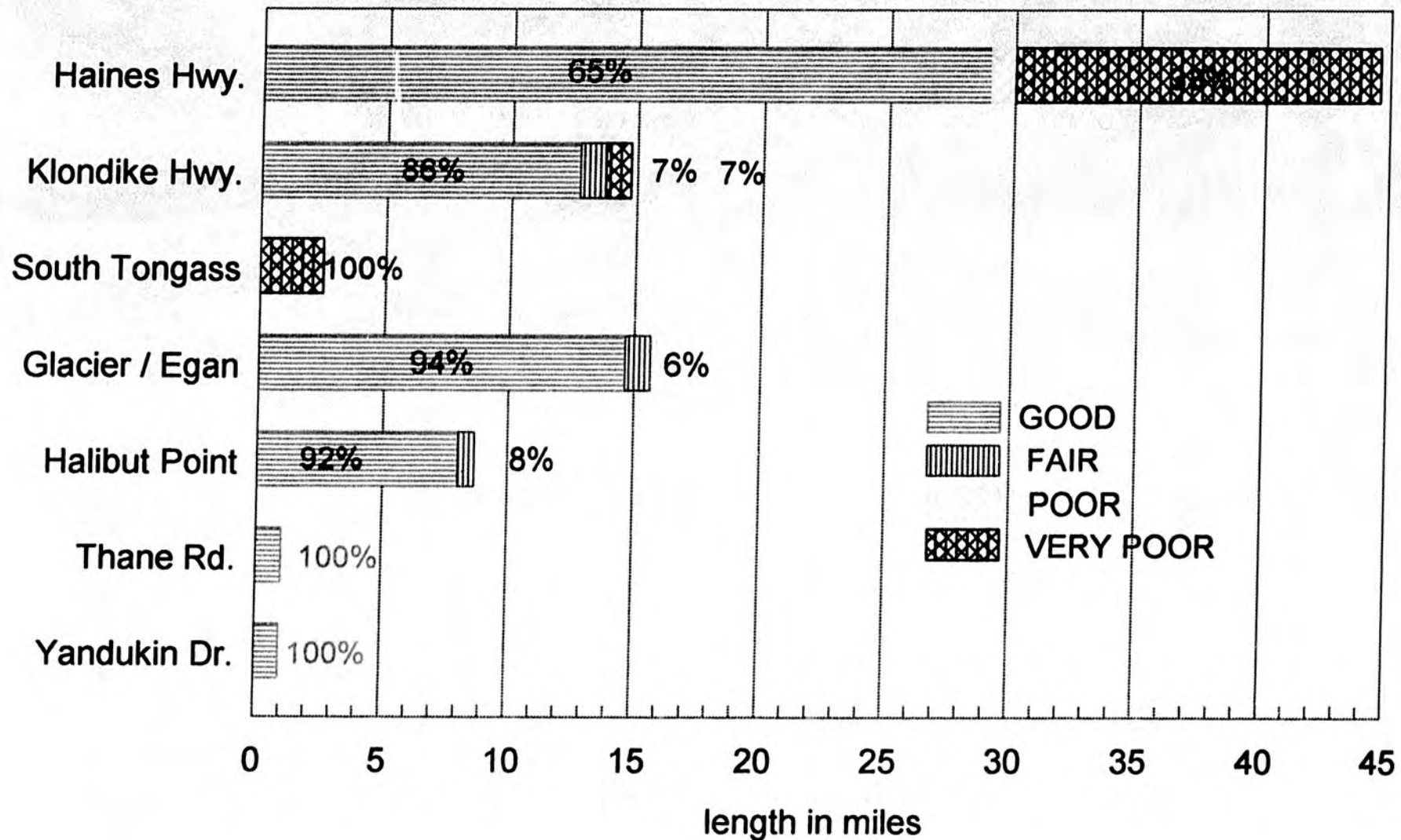
Tok Cutoff Highway, MP 0 - Alaska Highway



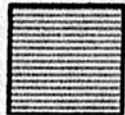
APPENDIX C
1996 PAVEMENT CONDITIONS
NATIONAL HIGHWAY SYSTEM
SOUTHEAST REGION

Southeast Region NHS

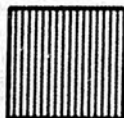
Length of routes and % in pavement condition categories



KEY FOR HIGHWAY CONDITION CHARTS



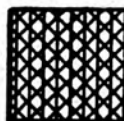
AREAS IN GOOD AND VERY GOOD CONDITION



AREAS IN FAIR CONDITION



AREAS IN POOR CONDITION

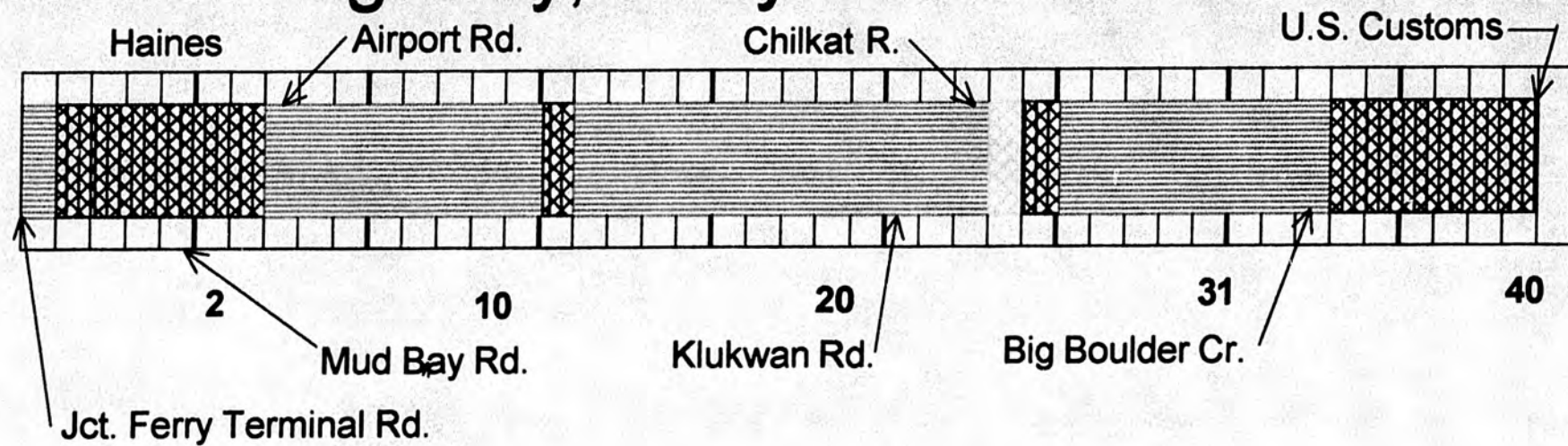


AREAS IN VERY POOR CONDITION

NOTES:

1. ALL CONDITIONS SHOWN ARE BASED ON 1996 SURVEYS.
2. CONDITION CATEGORIES ARE BASED ON MEASURED: ROUGHNESS, RUTTING AND CRACKING.

Haines Highway, Ferry Terminal Road to Border



Klondike Highway, Skagway to Border

