

Improvement Alternatives

INTRODUCTION

Chapter III presents the results of the criteria used to score and rank the transportation projects for Garfield County over the next 20 years, as discussed in Chapter II. Chapter III also groups the projects into transportation alternatives. Each of the transportation alternatives provides a different approach to meeting the needs of the Garfield County residents. The alternatives will be utilized in the preliminary transportation plan to develop the final project groups that will best fit the community's needs now and into the future.

TRANSPORTATION ALTERNATIVES

The transportation alternatives are based upon several strategies that range from no changes to implementing all projects. The transportation alternatives are: no build, maintenance, existing need, future level of service improvements, modal choice, and preferred improvement. As the number of projects increase in each alternative, so does the cost increase for each alternative. The following is a description of the transportation alternatives and the projects included in each alternative.

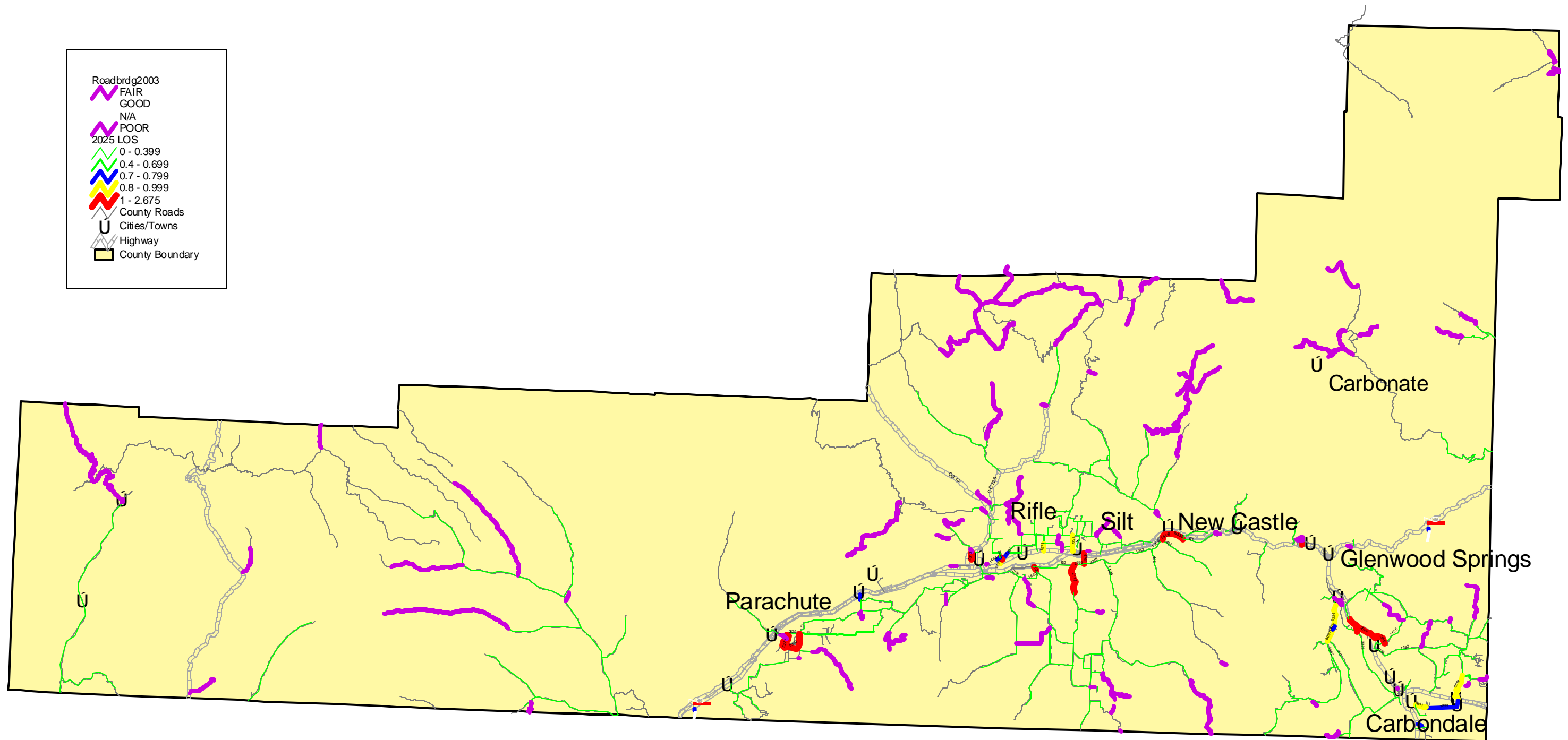
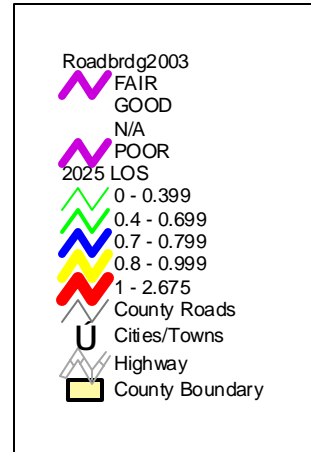
No Build

The “no build” alternative assumes that Garfield County will not have the funding for current or future transportation improvements. Figure III-1 presents the level of service (LOS) and surface condition deficiencies for the county in the year 2025 based upon the “no build” alternative. Figure III-1 shows that a greater amount of roadways will be deficient by the year 2025 than are deficient currently.

Improvement Alternatives

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**Figure III-1
No Build Alternative
Deficiencies in Year 2025**



Maintenance

The “maintenance” alternative assumes that Garfield County will improve the roadways that are deficient due to poor surface conditions. The county will not improve the roadways that are deficient due to poor level of service. Table III-1 lists the “maintenance” transportation projects, along with the score and estimated cost for each project. The projects were scored using the criteria from Chapter II. The scores ranged from 7 points to 23 points. The projects with the highest scores should be completed first, as they are given priority importance.

The total estimated cost for the “maintenance” projects is \$30.5 million over 20 years (in year 2004 dollars). The cost will be adjusted for inflation in the Draft Plan. With inflation, the estimated cost can range from \$44.5 million (with a 3.5 percent inflation rate) to \$52.5 million (with a 5 percent inflation rate). The total cost is based upon the per-square-yard cost to repair asphalt, chipseal, and gravel roadways (which ranges from \$1.50 per square yard for overlay to \$7 per square yard for asphalt) according to the Garfield County Roadway and Bridge Department. Another assumption made in the “maintenance” alternative is that all unimproved roadways which will become deficient over the next 20 years will be repaired by upgrading them to gravel roadways.

Figure III-2 presents the roadways that will be deficient in the year 2025 based upon the “maintenance” alternative. The amount of deficient roadways that have been improved under the “maintenance” alternative is significant. While this is true, the key connections with the state highway system are still congested and deficient. This deficiency will affect the mobility of residents to access work, shopping, and other destinations. In summary, the amount of deficient roadways is small in comparison with the other alternatives, but the roadways that are deficient in the “maintenance” alternative are key to the operation of the transportation system within Garfield County.

Table III-1 Maintenance Alternative						
Name	To	From	Surface type	Wide (ft)	Cost	Score
BATTLEMENT PY	grand valley wy	str (bridge)	Asphalt	22	\$ 7,825	23
COMANCHERO TR	457	END	Gravel	14	\$ 8,760	19
COMANCHERO TR	460	457	Gravel	14	\$ 22,395	15
NAVAJO ST	BGN	460	Gravel	14	\$ 8,486	15
COMANCHERO TR	BGN	460	Gravel	14	\$ 7,871	15
UTE AV	245	459	Gravel	16	\$ 14,240	15
UTE AV	459	458	Gravel	16	\$ 7,603	15
66	BGN	162	Unimproved	12	\$ 57,150	15
NAVAJO ST	460	END	Gravel	14	\$ 16,568	15
SHAEFFER RD	srfch	315	Unimproved	20	\$ 41,158	15
CHIPPERFIELD LN	closed gate	end stream	Unimproved	8	\$ 77,211	15
EAST DIVIDE CREEK RD	COLI	nfor (cattle guard)	Unimproved	14	\$ 94,428	15
CEMETERY RD	gate barbed wire	srfch gravel	Unimproved	8	\$ 37,984	15
FISHER CEMETERY RD	115	END	Unimproved	16	\$ 88,714	15
SPRUCE CREEK RD	350	CG GT	Unimproved	10	\$ 40,303	15
82	115	PCG	Gravel	24	\$ 45,561	15
APACHE DR	459	END	Unimproved	12	\$ 38,197	15
290	5 rocks in the road keeps going	244	Unimproved	10	\$ 118,417	14
COAL CREEK RD	159	LOCKED GATE USFS	Unimproved	16	\$ 212,066	14
334	317	334A	Unimproved	8	\$ 102,217	14
DIVIDE CREEK RD	344	311	Unimproved	8	\$ 3,360	14
ATV ACCESS TO 219EXT	BLM8090	atv rd & foot/horseback trl	Unimproved	8	\$ 304,116	14
DIVIDE CREEK RD	WYE	BGN stream bed/lower end going south	Unimproved	8	\$ 71,637	14
ATV ACCESS TO 219EXT	atv	CR 219 extension	Unimproved	8	\$ 120,426	14
CLARK RIDGE RD	FORK	top of hill-rd continues	Unimproved	10	\$ 200,628	14
ATV ACCESS TO 219EXT	CR-219	BLM8091	Unimproved	10	\$ 163,436	14
ELK CREEK RD	GATE	NFOR end (cds) near walking bridge	Unimproved	8	\$ 46,431	14
BISON LAKE RD	srfch	END road continues	Unimproved	8	\$ 259,796	14
SPRUCE CREEK RD	beg locked gate	350	Unimproved	10	\$ 180,792	14
SILT MESA RD	lg	223	Gravel	18	\$ 136,120	14
RAMS HORN LAKE RD	end	159	Unimproved	12	\$ 238,242	14
MINER SPRINGS	245	COLI	Unimproved	8	\$ 283,705	14
289	233	251	Unimproved	10	\$ 178,289	14
NORTH HASSE LN	srfch	gate (blm-sign)	Gravel	16	\$ 236,294	14
SILT MESA RD	289	locked gate	Unimproved	10	\$ 175,196	14
DIVIDE CREEK RD	344	WYE	Unimproved	8	\$ 4,255	14
NORTH HASSE LN	gate (blm sign)	end	Unimproved	12	\$ 209,442	13
MARVIN RD	y in rd	rd continues (stop)	Unimproved	10	\$ 162,201	13
COULTER CREEK RD	pg	pg end	Unimproved	10	\$ 487,149	13
INDIAN CAMP RD	SRFCH	END white river resort budges	Unimproved	10	\$ 556,118	13
ELK CREEK RD	NFOR	cds near foot bridge	Unimproved	10	\$ 183,951	13
FISHER CREEK RD	113	END	Unimproved	12	\$ 187,574	13
BRUSH CREEK RD	pg srfch	TREE ACROSS ROAD	Unimproved	9	\$ 385,579	13
EAST DIVIDE CREEK RD	nfor cattle guard	srfch	Unimproved	9	\$ 640,120	13
CARDIFF CT	cr-163	10	Asphalt	14	\$ 11,756	11
HUNTER MESA RD	333A	352	Gravel	16	\$ 80,871	11
FRAVERT RESERVOIR RD	srfch/cg	SH13 BYPASS	Asphalt	20	\$ 22,645	11
WEST DIVIDE RD	COLI	STR BRIDGE	Unimproved	14	\$ 20,822	11
YELLOW SLIDE RD	srfch	gate	Gravel	12	\$ 86,163	11
DRY HOLLOW RD	10	342	Gravel	10	\$ 46,181	11
RIVERBEND DR	367	367	Asphalt	22	\$ 9,450	11
RIVERBEND DR	368	367	Asphalt	22	\$ 7,031	11
UKELE LN	236	216	Asphalt	18	\$ 42,675	11
WILDWOOD LN	BGN	129	Gravel	10	\$ 13,650	11
ATCHEE RD	201	locked gate	Unimproved	18	\$ 46,751	11
SMITH DOLL COAL MINE RD	214	10	Unimproved	9	\$ 255,333	11
HIDE AWAY LN	129	END	Chipseal	10	\$ 1,167	11
HOSPITAL HILL RD	ECL	3RD ST	Chipseal	18	\$ 2,091	11
GARDNER LN	308	gate (yellow)	Gravel	12	\$ 12,024	11

Table III-1, continued Maintenance Alternative						
WEST ELK STOCK DRIVEWAY	cr-245	end (fence line) rd continues	Unimproved	8	\$ 78,096	11
MAIN ELK RD	284	283	Gravel	15	\$ 11,123	11
MAIN ELK RD	str (bridge)	white river nfor sign & gate	Gravel	15	\$ 30,198	11
PONDEROSA CI	130 DONEGAN RD	148	Chipseal	36	\$ 4,755	11
SATANK RD	RRX	STR bridge CLOSED	Chipseal	18	\$ 598	11
SECOND ST	10	CL RIFLE	Chipseal	14	\$ 7,348	11
MICHAELS CI	481	481	Gravel	12	\$ 36,970	11
UKELE LN	216	233	Chipseal	18	\$ 11,973	11
RALEY RD	CL SILT	CL SILT	Gravel	18	\$ 23,653	11
SILT MESA RD	END GT	289	Unimproved	10	\$ 95,116	11
RIVERBEND DR	srfch	gate	Unimproved	10	\$ 10,731	11
OLD CR211	204	10	Unimproved	10	\$ 99,886	11
MARION MINE RD	END large clearing	nfor gate	Unimproved	10	\$ 69,509	11
JQS RD	cg	srfch	Unimproved	12	\$ 82,292	11
YELLOW SLIDE RD	10	srfch	Unimproved	8	\$ 62,195	11
MAIN ELK RD	283	282	Gravel	15	\$ 61,827	11
MICHAELS CI	129	481	Gravel	12	\$ 4,040	11
LIME STONE QUARRY RD	STRECA	SH325	Gravel	10	\$ 20,303	11
BALDY CREEK RD	srfch	natural ford	Unimproved	11	\$ 5,386	11
BALDY CREEK RD	natural ford	lg	Unimproved	11	\$ 51,243	11
SHAEFFER RD	srfch	srfch	Gravel	18	\$ 37,466	11
LIME STONE QUARRY RD	END	STRECA	Gravel	10	\$ 42,128	11
LITTLE BOX CANYON RD	224	274	Gravel	14	\$ 26,921	11
BAR HL RD	230	245	Unimproved	12	\$ 65,942	11
CLARK RIDGE RD	245	FORK	Unimproved	12	\$ 82,980	11
PINON DR	130	133	Chipseal	18	\$ 1,357	10
PONDEROSA DR	13B MOUNTAIN SHADOW DR	148A SAGE CI	Asphalt	28	\$ 20,924	10
SWEETWATER LAKE RD	srfch	152	Chipseal	18	\$ 30,725	10
BRUSH CREEK RD	gate	pg srfch	Gravel	12	\$ 263,796	10
MOUNTAIN SHADOW DR	148	133	Chipseal	28	\$ 9,733	10
CEMETERY RD	srfch gravel	309	Gravel	10	\$ 109,119	10
MEL RAY RD	148 PONDEROSA DR	END LOCKED CHAIN	Gravel	16	\$ 14,913	10
RIVERBEND DR	335	368	Asphalt	22	\$ 5,054	10
JUNIPER RD	130	END CDS	Chipseal	22	\$ 916	10
MIDDLE RIFLE CREEK EXT	gate BLM 8091	end (open gate-private property)	Gravel	10	\$ 267,959	10
AIRPORT RD	CL GLENWOOD	163	Asphalt	24	\$ 45,947	10
MOUNTAIN SHADOW DR	cds	148	Chipseal	18	\$ 2,917	10
RAMSEY GULCH RD	srfch	srfch	Gravel	14	\$ 11,772	10
CHAPPARAL CI	130	133	Chipseal	28	\$ 4,786	10
SAGE CI	148	END	Gravel	16	\$ 6,769	10
PONDEROSA DR	130 DONEGAN RD	130A PONDEROSA CI	Asphalt	28	\$ 10,287	10
HUNTER MESA RD	str cattle guard	333A	Gravel	16	\$ 272,028	10
UKELE LN	SH6	236	Asphalt	18	\$ 16,281	10
SUNLIGHT SKI AREA RD	sunlight ski area	srfch	Gravel	24	\$ 82,666	10
UNDERWOOD LN	cg (green)	END	Gravel	12	\$ 299,802	10
UNDERWOOD LN	srfch (big blk rock on l side of road))	t in road	Gravel	14	\$ 289,774	10
UNDERWOOD LN	t in road	cg (green)	Gravel	18	\$ 125,334	10
PONDEROSA DR	130A PONDEROSA CI	133B MOUNTAIN SHADOW DR	Asphalt	28	\$ 5,932	10
PONDEROSA DR	148A SAGE CI	133 MEL RAY RD	Asphalt	28	\$ 8,783	10
33	142	END	Unimproved	10	\$ 112,000	10
83	102	10	Unimproved	12	\$ 104,503	10
FRAVERT RESERVOIR RD	290	gate cable on ground	Unimproved	14	\$ 199,385	10
AIRPORT RD	160	CL GLENWOOD	Asphalt	24	\$ 6,883	10
350	fork in the road	329	Unimproved	10	\$ 244,490	10
350	end / gas well	fork in road	Unimproved	8	\$ 114,038	10
490	COLI	222	Unimproved	8	\$ 143,654	10
AIRPORT RD	163	CL GLENWOOD	Asphalt	22	\$ 26,288	10
AIRPORT RD	CL GLENWOOD	END CL GLENWOOD	Asphalt	22	\$ 15,643	10
HEART LAKE RD	140	142	Unimproved	12	\$ 93,564	10
HAY CANYON RD	SH139	locked gate	Unimproved	18	\$ 305,570	10
HADLEY GULCH RD	243	rd continues	Unimproved	10	\$ 220,395	10

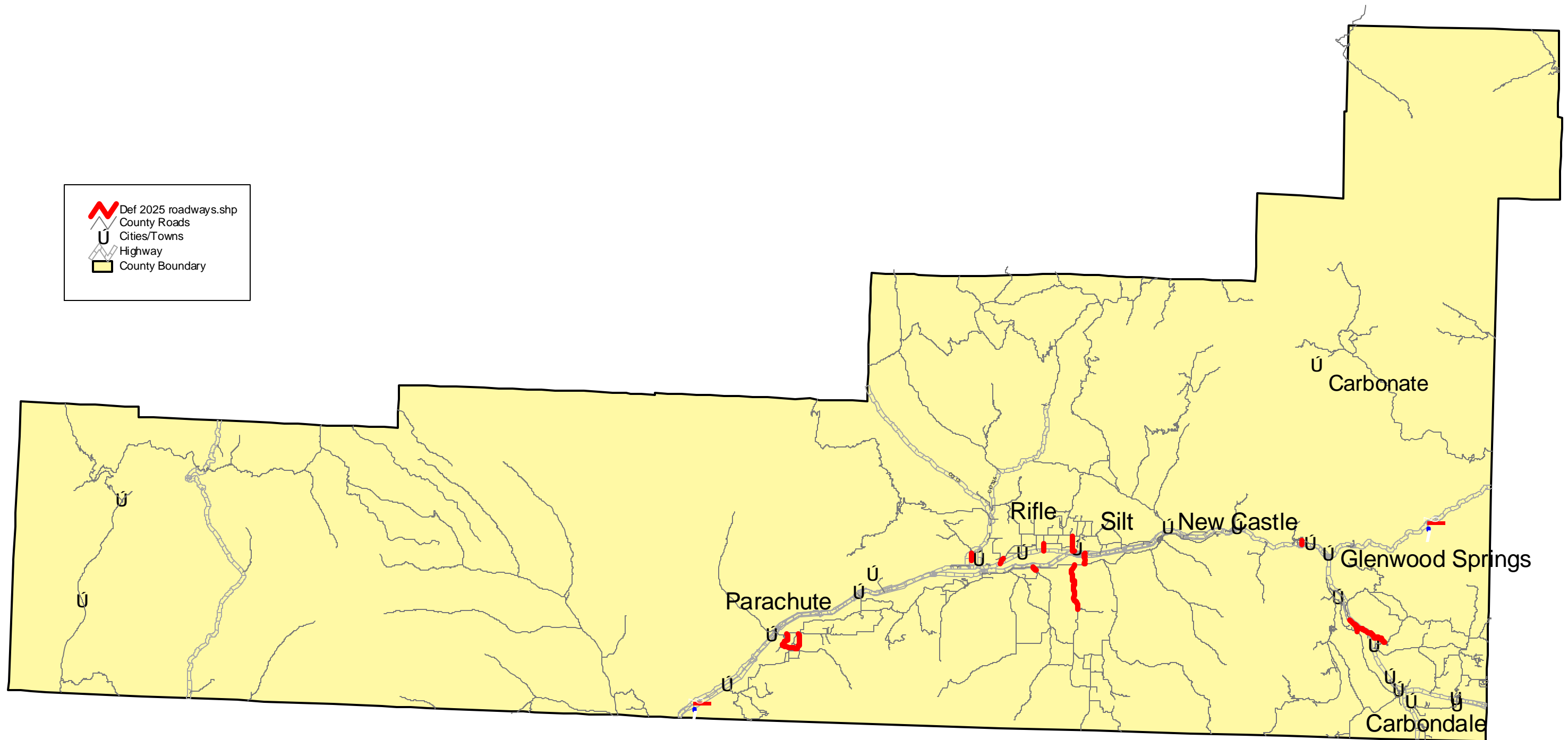
Table III-1, continued Maintenance Alternative						
MIDDLE MOUNTAIN	245	10	Unimproved	10	\$ 193,431	10
BAR HL RD	1	234	Unimproved	12	\$ 342,496	10
BAR HL RD	271	1	Unimproved	12	\$ 173,651	10
RAMSEY GULCH RD	srfch	10	Unimproved	10	\$ 65,235	10
UNCLE BOB MOUNTAIN RD	FORK	311	Unimproved	15	\$ 228,984	10
MESA DR	cds	10	Unimproved	8	\$ 211,151	10
MARVIN RD	243	end (y in rd)	Unimproved	10	\$ 366,420	10
AIRPORT RD	117	160	Asphalt	24	\$ 21,775	10
COLORADO RIVER RD	srfch	lg	Unimproved	18	\$ 2,664	10
SLAUGHTER GULCH RD	widch	10	Unimproved	9	\$ 123,290	10
MARION MINE RD	nfor gate open	locked gate	Unimproved	18	\$ 129,729	10
LAKE CREEK RD	USFS	10	Unimproved	12	\$ 97,398	10
KING RD	SH139	END very poor road continues	Unimproved	16	\$ 325,065	10
CLINETOP COW CAMP RD	243	10	Unimproved	10	\$ 173,115	9
DEEP LAKE EAST RD	srfch	end - piled timbers to right - road continues	Unimproved	10	\$ 268,458	9
COW LAKE RD	COLI	END top of hill rd continues	Unimproved	12	\$ 544,733	9
GRAVEL PIT RD	10	width change	Gravel	10	\$ 32,225	9
DIVIDE CREEK RD	345	343	Unimproved	15	\$ 276,920	9
BRUSH CREEK RD	204	gate	Gravel	10	\$ 653,638	9
KINDALL RD	114	srfch	Unimproved	16	\$ 340,629	9
BAR HL RD	234	NFOR LOCKED GATE	Unimproved	10	\$ 876,564	9
LAKE CREEK RD	151	USFS	Unimproved	12	\$ 218,362	9
MAIN ELK RD	white river nfor sign & gate	end (cds)	Gravel	15	\$ 1,809,958	9
BISON LAKE RD	141	srfch	Gravel	12	\$ 324,651	9
LITTLE BOX CANYON RD	274	230	Gravel	14	\$ 696,064	9
BUTLER CREEK RD	cr-230	cr-224	Unimproved	12	\$ 683,407	9
BAR HL RD	217	272	Unimproved	12	\$ 525,565	9
212	COLI	256	Unimproved	8	\$ 251,662	9
BISON LAKE RD	141	srfch	Gravel	12	\$ 107,064	9
BAR HL RD	272	271	Unimproved	12	\$ 795,653	9
BAXTER PASS RD	286	1	Gravel	16	\$ 878,782	9
MAIN ELK RD	282	END	Gravel	15	\$ 488,266	9
SCARROW RD	230	COLI	Unimproved	12	\$ 491,988	9
SHAEFFER RD	319	srfch	Gravel	18	\$ 418,837	9
BAXTER PASS RD	1	COLI	Gravel	16	\$ 1,328,476	9
HEART LAKE RD	142	146	Unimproved	8	\$ 329,762	9
GRAVEL PIT RD	srfch	300a	Chipseal	18	\$ 2,961	9
TROJAN LN	230	END	Unimproved	8	\$ 503,780	9
KIMBALL CREEK RD	LOCKED GATE CATTLE GUARD	y intersection in rd	Gravel	12	\$ 1,404,527	9
ROAN CREEK DR	207	2 LOCKED GATES	Unimproved	18	\$ 833,704	8
DIVIDE CREEK RD	10	345	Unimproved	12	\$ 92,031	8
ROAN CLIFFS RD	BEGIN	242	Gravel	12	\$ 1,246,278	7
Total Cost					\$30,516,638	

Source: Garfield County 2003, LSC 2004

Figure III-2
Maintenance Alternative
Deficiencies in Year 2025



Def 2025 roadways.shp
County Roads
Cities/Towns
Highway
County Boundary



Existing Need

The “existing need” alternative assumes that Garfield County will improve the roadways that are currently deficient in LOS. The county will not improve the roadways that are currently deficient due to surface condition or the roadways that will become deficient in the future. Table III-2 lists the “existing need” transportation projects, along with the score and estimated cost of each project. The projects were scored using the criteria from Chapter II and were ranked within two categories—widening and bridges. The scores ranged from 20 points to 32 points. The projects with the highest scores should be completed first, as they are given priority importance.

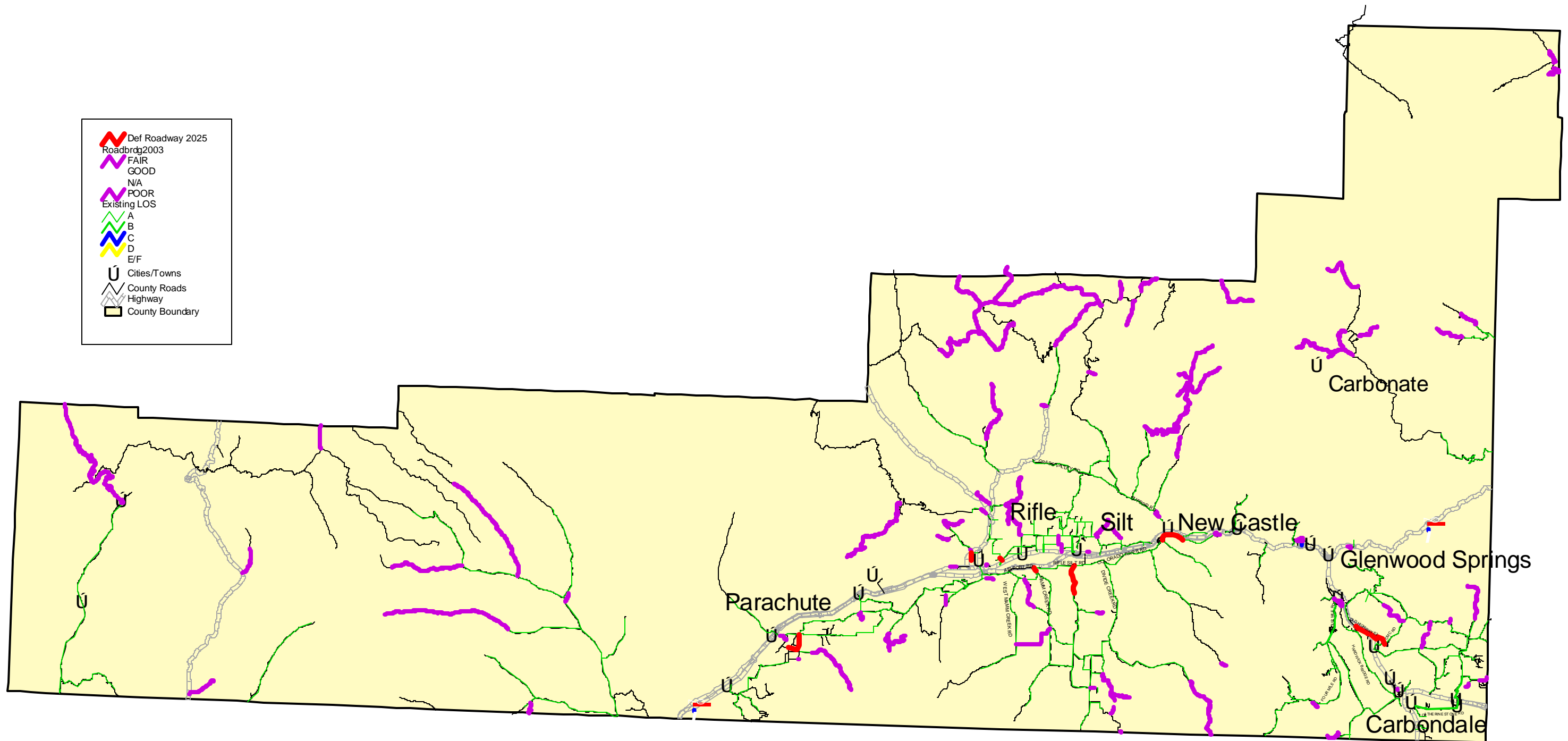
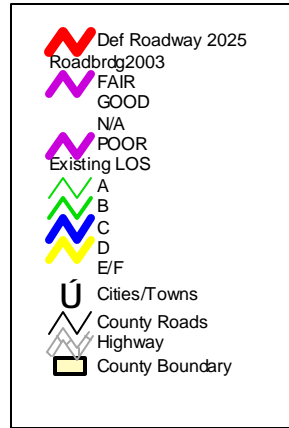
The total estimated cost of the “existing need” projects is \$19.5 million over 20 years (in year 2004 dollars). The costs will be adjusted for inflation in the Draft Plan. The total cost for widening the roadways is based upon a \$524 per linear foot cost according to the Garfield County Roadway and Bridge Department. This per linear foot cost does include the cost for additional right-of-way.

Figure III-3 shows the deficient roadways in the year 2025 based upon the “existing need” alternative. Figure III-3 reflects that there are still significant deficiencies across the Garfield County transportation system with the “existing need” alternative. The deficiencies are mainly due to the poor surface conditions and future LOS deficiencies. There are significant areas where the LOS and surface condition are still deficient—particularly near the urban areas, state highways, and the interstate highways. This could affect the viability of the major employment areas within Garfield County and cause leapfrog development which spreads out to avoid congested areas.

Table III-2 Existing LOS Deficient Garfield County Roadways										
NAME	FROM	TO	LENGTH (m)	SURFACE	CONDITION	WIDTH_USFT	Type of Improvement	Cost	Score	
STONE QUARRY RD	307	371	178.468	Asphalt	GOOD	46	Widen (2 lanes)	\$306,737	25	
STONE QUARRY RD	371	300A	1148.793	Asphalt	GOOD	46	Widen (2 lanes)	\$1,974,454	24	
SILT RIFLE			997.000	Gravel			Widen (2 lanes)	\$1,713,564	23	
COOP RR SIDING RD	RRX		188.041		N/A		Widen (2 lanes)	\$323,190	23	
DRY HOLLOW RD			1165.000	Asphalt	GOOD		Widen (2 lanes)	\$2,002,309	22	
HARDWICK BRIDGE RD	69	str	668.074	Asphalt	GOOD	55	Widen (2 lanes)	\$1,148,232	22	
COOP RR SIDING RD	BARR	RRX	98.022		N/A		Widen (2 lanes)	\$168,472	20	
Bridge Location	TYPE	Length (m)	Width	Deck Square ft	State Insp		Type of Improvement	Cost	Score	
Old Highway 82	Wood	240.00	34.00	8,160	NO		Widen (2 lanes)	\$4,275,840	32	
Divid Creek	Steel	290.00	33.00	9,570	YES		Widen (2 lanes)	\$5,014,680	22	
Divid Creek	Steel	140.00	35.00	4,900	YES		Widen (2 lanes)	\$2,567,600	22	
								Total Cost	\$19,495,078	

Source: Garfield County 2003, LSC 2004

Figure III-3
Existing Alternative
Deficiencies in Year 2025



Future Level of Service Improvements

The “future level of service improvements” alternative assumes that Garfield County will improve only the roadways that have a current or future LOS deficiency. The county will not improve the roadways that are deficient due to poor surface condition. The “future LOS improvements” alternative is an addition to the “existing” alternative presented in the above section, and consists of a phased approach. Table III-3 lists the “future LOS improvements” transportation projects, along with the score and estimated cost of each project. The projects listed in Table III-3 are an addition to the projects from Table III-2. The projects were scored using the criteria from Chapter II. The scores ranged from 16 points to 30 points. The projects with the highest scores should be completed first, as they are given priority importance.

The total estimated cost of the “future LOS improvements” projects is \$58.3 million over the next 20 years (in year 2004 dollars). The costs will be adjusted for inflation in the Draft Plan. With inflation, the total cost could be as high as \$78 million over 20 years. The total cost for widening the roadways is based upon a \$524 per linear foot cost according to the Garfield County Roadway and Bridge Department. This per linear foot cost does include the cost for additional right-of-way.

Figure III-4 shows the deficient roadways in the year 2025 based upon the “future LOS improvements” alternative. By the year 2025, the number of deficient roadways due to poor surface condition increases (as in the “no build” alternative). The “LOS improvements” alternative only addresses the mobility of the regional and urban areas. Hence, the mobility and access to employment and shopping areas are improved. This alternative does not address the access to rural, local, or less developed areas throughout Garfield County.

**Table III-3
2025 Deficient Roadways**

NAME	FROM	TO	LENGTH (m)	SURFACE	CONDITION	WIDTH_USFT	Type of Improvement	Cost	Score
DIVIDE CREEK RD	335	frontage road	909.0	Asphalt	GOOD	25	Widen (2 lanes)	\$1,562,237	30
MEL RAY RD	CL	130 DONEGAN RD	296.9	Asphalt	GOOD	24	Widen (2 lanes)	\$510,212	29
BATTLEMENT PY	300C	300B	995.1	Chipseal	GOOD	60	Widen (2 lanes)	\$1,710,341	28
OLD HIGHWAY 82	rrx	109	1666.2	Asphalt	GOOD	22	Widen (2 lanes)	\$2,863,748	26
COLORADO RIVER DR	465	240	2823.0	Chipseal	GOOD	20	Widen (2 lanes)	\$8,502,767	26
BATTLEMENT PY	301	300C	1364.6	Chipseal	GOOD	60	Widen (2 lanes)	\$2,345,353	24
OLD HIGHWAY 82	rrx	SH82	181.7	Asphalt	GOOD	22	Widen (2 lanes)	\$312,310	23
OLD HIGHWAY 82	109	rrx	784.0	Asphalt	GOOD	28	Widen (2 lanes)	\$1,347,437	22
NORTH GRAHAM RD	294	210	496.8	Chipseal	GOOD	24	Widen (2 lanes)	\$853,932	21
DRY HOLLOW RD	326	SCL SILT	4947.2	Asphalt	GOOD	24	Widen (2 lanes)	\$4,851,947	21
PREFONTAINE RD	7th st rifle	244	927.2	Chipseal	GOOD	20	Widen (2 lanes)	\$1,593,546	19
CMC RD	SH82	110	2467.7	Chipseal	GOOD	24	Widen (2 lanes)	\$4,241,246	18
STONE QUARRY RD	371	371	246.8	Asphalt	GOOD	46	Widen (2 lanes)	\$424,239	18
STONE QUARRY RD	371	300A	1148.8	Asphalt	GOOD	46	Widen (2 lanes)	\$1,974,454	18
GARFIELD COUNTY AIRPORT	srch	315	998.1	Asphalt	GOOD	24	Widen (2 lanes)	\$1,715,418	18
FIRST ST	grand ave	236	405.1	Asphalt	GOOD	20	Widen (2 lanes)	\$696,253	18
MAMM CREEK RD	352	346	443.2	Asphalt	GOOD	24	Widen (2 lanes)	\$761,733	18
MILE POND RD	SH6	293	683.6	Asphalt	GOOD	20	Widen (2 lanes)	\$1,174,862	18
STONE QUARRY RD	300A	307	827.2	Asphalt	GOOD	46	Widen (2 lanes)	\$1,421,772	16





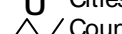

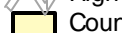

Source: Garfield County 2003, LSC 2004

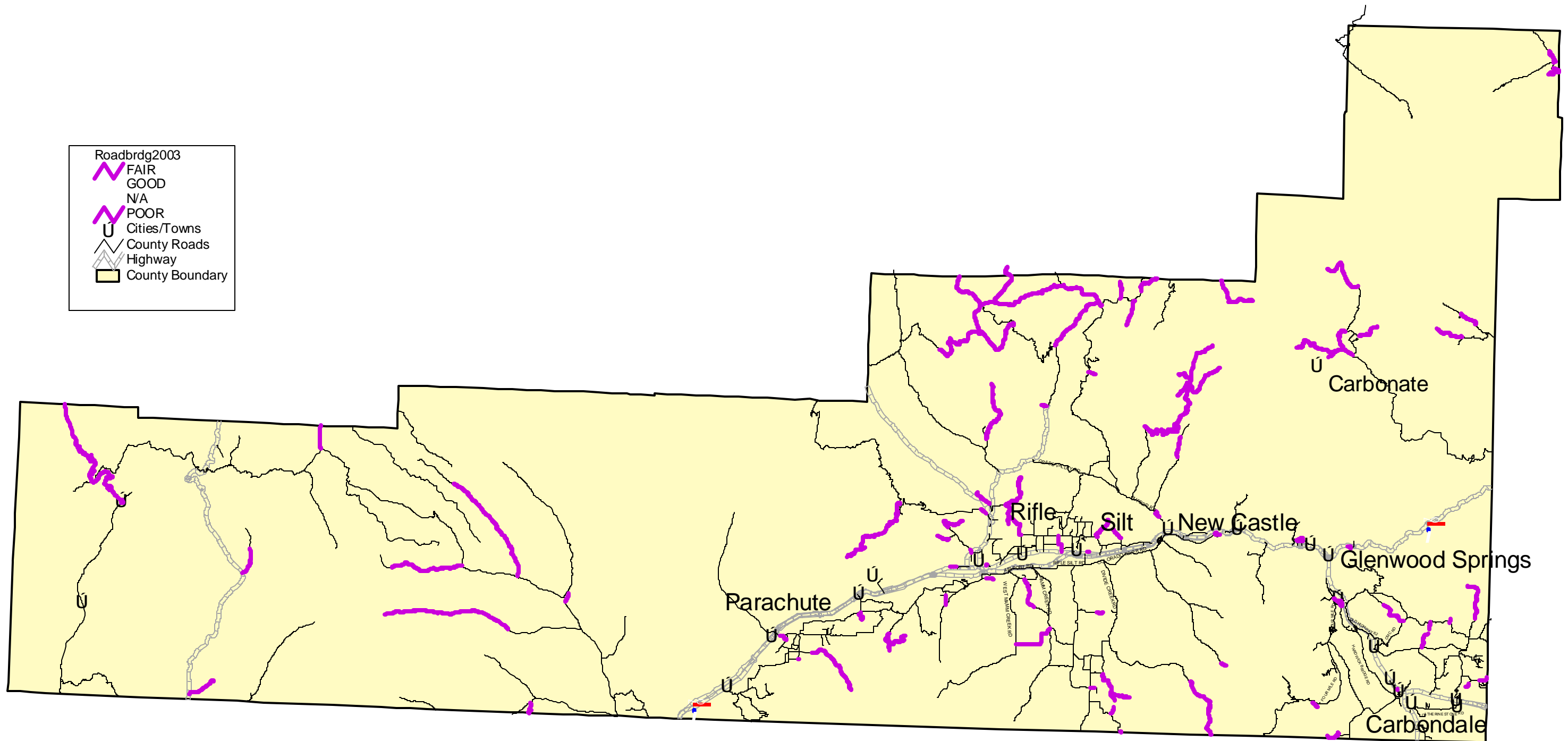
Total Cost \$38,863,808

**Figure III-4
Future Alternative
Deficiencies in Year 2025**



Roadbrdg2003

-  FAIR
-  GOOD
-  N/A
-  POOR
-  Cities/Towns
-  County Roads
-  Highway
-  County Boundary



Modal Choice

The “modal choice” alternative involves using transit service in combination with any of the above alternatives. Table III-4 presents the estimated ridership and costs in the year 2025 based upon the “modal choice” alternative (at a one percent, five percent, and ten percent modal split for the future trips). The cost and trips per revenue-hour are based upon the production rates of the Roaring Fork Transportation Authority (RFTA). The “modal choice” alternative assumes that Garfield County would operate transit service between the communities within the county. If the transit service was developed in combination with the RFTA, the costs would be lower.

Table III-4			
Modal Split Alternative Production			
	Modal Split Rate		
	1%	5%	10%
Trips per day	986	4,929	9,859
Trips per hours	10	15	20
Cost/Hour	\$55	\$55	\$55
Day of Operation	250	250	250
Annual Hours	24,646	82,154	123,231
Annual Cost	\$1,355,546	\$4,518,486	\$6,777,729
Fare Box (Revenue)	\$246,463	\$1,232,314	\$2,464,629
Net Annual Cost	\$1,109,083	\$3,286,171	\$4,313,100

Another method to obtain the modal split at a much lower cost would be for Garfield County to create public education and trip broker programs. The cost for these types of programs can range from \$60,000 to \$130,000 annually (based upon two staff members working 2,080 hours annually at a rate of \$.05 per trip) at the modal split rate of ten percent. With a modal split rate of one percent, the cost is reduced to \$13,000 to \$15,000 annually (which equates to about 400 to 500 staff hours annually). If successful, the cost-to-benefit ratio can be very high. For every dollar invested in the public education and trip broker programs, the number of trips can be as high as 18.9 trips (or a 1 to 18.9 ratio). Therefore, for every \$1 million dollars invested in the programs annually, the return is 18.9 million trips

annually. This assumes that the trips being shifted are utilizing the RFTA service, carpooling, or vanpooling.

Preferred Improvement

The “preferred improvement” alternative is a combination of the “maintenance,” “existing need,” and “future level of service improvements” alternatives discussed above. The “preferred improvement” alternative assumes that Garfield County will improve every roadway that has a LOS deficiency or surface condition deficiency over the next 20 years.

Table III-1 lists the transportation projects for surface condition deficiencies, along with the score and estimated cost for each project. The scores ranged from 7 points to 23 points. Table III-2 lists the “existing need” transportation projects, along with the score and estimated cost of each project. The scores ranged from 20 points to 32 points. Table III-3 lists the “future LOS improvements” transportation projects, along with the score and estimated cost of each project. The scores ranged from 16 points to 30 points. The projects were scored using the criteria from Chapter II. The projects with the highest scores should be completed first, as they are given priority importance.

The total estimated cost for the “preferred improvement” projects is \$88.3 million over 20 years (in year 2004 dollars). The costs will be adjusted for inflation in the Draft Plan. With inflation, the estimated cost could be as high as \$176 million over 20 years.

Figure III-5 presents the deficient roadways (shown in red) in Garfield County for the year 2025. As shown in Figure III-5, the amount of linear miles of deficient roadway is zero in the year 2025. Hence, there would be no LOS or surface condition deficiencies. If the “preferred improvement” alternative is selected, the mobility and access problems (which arose in the other alternatives) will be non-existent. The “preferred improvement” alternative address the issues of access and mobility for the regional, urban, developed, rural, local, and less developed areas.

This alternative allows for the continued economic viability of Garfield County to handle the future growth impacts.

SUMMARY

Chapter III presented several alternatives to improving the transportation system within Garfield County—no build, maintenance, existing need, future level of service improvements, and preferred improvement. The alternatives range from a do-nothing approach to an approach wherein all of the deficient roadways throughout the county are improved. The total estimated costs range from zero to over \$88 million over the next 20 years. Chapter III also presented the “modal choice” alternative, which costs from \$100,000 annually (for public education and trip broker programs) to over \$4 million annually (to operate the county’s own transit system).

The results of Working Paper #3 will be utilized in the analysis and development of the final recommendations, which will be presented in the Draft Plan. The next step will be to use this information in the fiscally-constrained plan for Garfield County.

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**Figure III-5
Preferred Alternative
Deficiencies in Year 2025**



2025 LOS

- A
- B
- C
- D
- E/F
- Cities/Towns
- County Roads
- Highway
- County Boundary

