

**Quadrennial  
Need Study**

**Report on  
Highways, Roads,  
and Streets**

**for Study Years  
1998-2017**

**Fourth Annual Update – January 2002**

## INTRODUCTION

This report is a supplement to the secondary road portion of the Iowa Quadrennial Need Study for the 20-year period, 1998 through 2017. The quadrennial report was compiled and published by the Iowa Department of Transportation in May 1999 as required under Iowa Code Section 307A.2.14. It documented the estimated construction, maintenance, and administrative needs of the primary, secondary, municipal, county parkway, and state park and institutional road systems by jurisdictional responsibility, as they existed on January 1, 1998.

All sections of Iowa's roadway systems initially were classified according to their principal function. Roadway systems serving statewide or interregional traffic and municipal streets serving as extensions of these rural systems logically should be administered by the state. Systems serving regional and local travel are most effectively administered by local governments. When the function of a section of a roadway system changes due to construction, reconstruction, or other activity, it becomes necessary to occasionally transfer these sections among jurisdictions.

In 1992, Section 307A.2.14A of the Code of Iowa was enacted to require the Iowa Department of Transportation to annually recalculate the construction and maintenance needs of roads under the jurisdiction of each county to take into account the needs of roads whose jurisdiction has been transferred to or from the department during the previous year.

The fourth annual recalculation of the 1998-2017 Quadrennial Need Study analysis is documented in this report, adjusting those findings for jurisdictional transfers that occurred in calendar year 2001.

When a county assumes responsibility for transferred road sections, it assumes ongoing maintenance, administrative expense, and future improvement costs for the road section and the associated bridges, culverts, and at-grade rail crossings. For this work, the county must depend upon its traditional sources of revenue including tax levies and statewide road use tax receipts. Conversely, when a county transfers a roadway to the state, it no longer is responsible for the expenses of maintenance and future improvement.

State law mandates the distribution of statewide road use tax revenues to the counties in two categories: to the secondary road fund; 24.5 percent, and to the farm-to-market road fund; 8 percent. These funds are further distributed among the counties of Iowa on the basis of each county's construction, maintenance, and related administrative dollar needs, as well as each county's land area.

The secondary road fund is divided and 30 percent of the fund is distributed based upon each county's relative share of the state's total area. The remaining 70 percent is distributed based upon each county's relative share of statewide total secondary road construction, maintenance, and administrative needs.

Similarly, the farm-to-market fund is divided and 30 percent of the fund is distributed based upon each county's relative share of the state's total area. The remaining 70 percent is distributed based upon each county's relative share of only farm-to-market system statewide construction, maintenance, and administrative needs.

Because of the change in financial responsibility a county assumes when accepting the transfer of a roadway section from the primary system or when transferring a section to the state, the annual recalculation of each county's existing and 20-year construction, maintenance, and administration needs maintains an equitable distribution of the secondary and farm-to-market funds among all of Iowa's counties.

## METHODOLOGY

The Highway Needs Committee, a committee formed from the membership of the Iowa County Engineers Association, represents the interests of counties in matters concerning the quadrennial need study. This committee provided guidance to Iowa Department of Transportation staff in the selection of the procedure used to determine the dollar needs on transferred road sections.

Transfer agreements and other sources were examined to determine if substantial work had been done by either the state or county, or alternatively if payment had been made for such work to prepare for transfer. Remaining needs were then determined by estimating the appropriate cost to the receiving county for 20 years of maintenance and construction needs existing and expected within the 20-year study period. Appropriate administration costs for the county were also added to determine the final total dollar needs. If the county receives a cash payment at the time of transfer in lieu of work on the road segment, the amount of cash payment is subtracted from the estimated 20-year needs for the road segment.

Construction and maintenance costs take into consideration the expected traffic volume and the classification of the roadway after transfer at the end of the calendar year (i.e. Farm-to-Market vs. Area Service). Cost area adjustment factors as described in the 1998 Quadrennial Need Study report are applied to adjust for variation in costs due to geographic location within the state.

The Iowa Department of Transportation researched the transfer agreements and verified the effective date of the transfer of all road segments during the period from January 1, 2001 to December 31, 2001. The Highway Needs Committee reviewed the list of transfers and preliminary results prior to publication.

Ten transfers between state and county jurisdictions are documented in this update. The transfers occurred in Bremer County, Floyd County, Marion County, Ringgold County, Union County, and Winnebago County.

In addition to the adjustment for transferred road sections, a review was conducted of past annual updates to the 1998 Need Study. This review involved comparing the estimated traffic for road sections that were transferred as a result of new construction with actual traffic counts that are now available. If the actual traffic was significantly higher than the traffic estimated at the time of transfer, an adjustment is made to the needs of the road section. This adjustment accounts for the fact that maintenance and construction costs increase as traffic increases. The review conducted this year identified no past transfers that had significantly higher traffic counts than estimated at the time of transfer.

## RESULTS

A summary of the results of the original 1998 Quadrennial Need Study for rural county roads, in thousands of dollars, is shown below:

<u>System</u>	Construction			<u>Administration</u>	<u>Total</u>
	<u>Backlog</u>	<u>Accruing</u>	<u>Maintenance</u>		
Farm-to-Market	3,217,856	3,737,028	1,657,488	387,568	8,999,940
Area Service	1,671,531	2,020,349	2,795,527	164,141	6,651,548
Total	4,889,387	5,757,377	4,453,015	551,709	15,651,488

Adding the first annual update to include the road section transfers that occurred from January 1, 1998 to December 31, 1998, the adjusted 1998 needs for county roads as of January 1, 1999, in thousands of dollars, were:

<u>System</u>	Construction			<u>Administration</u>	<u>Total</u>
	<u>Backlog</u>	<u>Accruing</u>	<u>Maintenance</u>		
Farm-to-Market	3,217,856	3,737,396	1,657,912	387,612	9,000,776
Area Service	1,671,531	2,020,348	2,795,527	164,141	6,651,547
Total	4,889,387	5,757,744	4,453,439	551,753	15,652,323

Adding the second annual update to include the road section transfers that occurred from January 1, 1999 to December 31, 1999, the adjusted 1998 needs for county roads as of January 1, 2000, in thousands of dollars, are:

<u>System</u>	Construction			<u>Administration</u>	<u>Total</u>
	<u>Backlog</u>	<u>Accruing</u>	<u>Maintenance</u>		
Farm-to-Market	3,217,856	3,737,396	1,657,912	387,612	9,000,776
Area Service	1,671,531	2,020,350	2,795,532	164,141	6,651,554
Total	4,889,387	5,757,746	4,453,444	551,753	15,652,330

Adding the third annual update to include the road section transfers that occurred from January 1, 2000 to December 31, 2000, the adjusted 1998 needs for county roads as of January 1, 2001, in thousands of dollars, are:

<u>System</u>	<u>Construction</u>				<u>Total</u>
	<u>Backlog</u>	<u>Accruing</u>	<u>Maintenance</u>	<u>Administration</u>	
Farm-to-Market	3,217,856	3,741,274	1,658,426	387,881	9,005,437
Area Service	1,671,531	2,020,350	2,795,532	164,141	6,651,554
Total	4,889,387	5,761,624	4,453,958	552,022	15,656,991

Adding the fourth annual update to include the road section transfers that occurred from January 1, 2001 to December 31, 2001, the adjusted 1998 needs for county roads as of January 1, 2002, in thousands of dollars, are:

<u>System</u>	<u>Construction</u>				<u>Total</u>
	<u>Backlog</u>	<u>Accruing</u>	<u>Maintenance</u>	<u>Administration</u>	
Farm-to-Market	3,217,856	3,742,176	1,658,645	387,964	9,006,641
Area Service	1,671,531	2,025,380	2,796,606	164,537	6,658,054
Total	4,889,387	5,767,556	4,455,251	552,501	15,664,695

The reader will note there has been no increase in backlog construction needs. Section 313.2 of the Code of Iowa provides the county board of supervisors and the department may agree on improving the road and all such improvements shall be completed and all actual costs paid or reimbursed prior to the transfer effective date. Therefore, only construction costs, estimated to accrue later within the 20-year study period, along with annual maintenance and administration, are considered in this update.

Table I includes a tabulation of all road sections transferred to individual counties during the period from January 1, 2001 to December 31, 2001 and their estimated 20-year calculated needs.

Table II reports the recalculated needs as of January 1, 2002, for each county and the resulting combination factors. These factors, when applied to the annual total secondary and farm-to-market statewide allocations, calculate the share of each fund each county will receive.

The “combined” factors in Table II take into account both the portion of the county road use tax distribution based upon area and the portion based upon roadway needs.

Table I  
Rural Road Needs by Section  
Transferred between State and County Jurisdictions from January 1, 2001 to December 31, 2001

									Structures			Road Sections			TOTAL	
									Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Total	
									Future	Future	Future	Future	Future	Future	Future	
Co				Fm-Mkt	Est	Work Needed	Payment or	Estimated	20-Yr Const	20-Yr Const't	20-Yr Maint	20-Yr Admin	20-Yr Const't	20-Yr Maint	20-Yr Admin	20-Yr
County	No	Rte	Description	Miles Area Ser.	AAADT	Transfer	For Transfer	Needs		Cost	Cost	Cost	Cost*	Cost	Cost	Needs
Bremer	9	IA 431 (Old US 218)	Near SE Cor 30-92-14 to WCL Waverly	1.09 Fm-Mkt	1,370	Overlay	Overlay	Reconstruct		\$0	\$2,140	\$140	\$674,702	\$89,600	\$38,195	\$804,777
Floyd	34	IA 122(Old US 18)	ECL Nora Springs to NCL Rudd	4.59 Area Ser.	2,550	Overlay	Overlay	Reconstruct		\$369,096	\$21,356	\$27,318	\$2,450,600	\$374,940	\$112,982	\$3,356,292
Floyd	34	IA 122 (Old US 18)	ECL Rudd to Jct US 18	0.93 Area Ser.	550	Overlay	Overlay	Reconstruct		\$0	\$0	\$0	\$336,277	\$38,480	\$11,228	\$385,985
Floyd	34	IA 337(Old US 18)	Cedar Heights Dr to NCL Charles City	1.66 Area Ser.	3,320	Structure Replacement	\$2,444,900	Reconstruct		\$743,369	\$26,790	\$53,891	(\$1,824,372)	\$135,560	\$30,220	(\$834,542)
Floyd	34	IA 162(Old US 218)	SCL Charles City to Underwood Ave	2.93 Area Ser.	2,080	--	--	Reconstruct		\$43,187	\$9,080	\$3,643	\$1,853,017	\$239,360	\$83,680	\$2,231,967
Floyd	34	Co Rd T-64	SCL Charles City to Jct US 218	0.05 Fm-Mkt	1,060	--	--	--		\$0	\$0	\$0	\$0	(\$4,084)	(\$204)	(\$4,288)
Marion	63	IA 335(Old IA 163)	N Jct IA 163 to S Jct IA 163	1.54 Area Ser.	300	Overlay/Drainage	Overlay/Drainage	Reconstruct		\$0	\$0	\$0	\$481,622	\$77,940	\$16,273	\$575,835
Ringgold	80	IA 344	Jct US 169 to End Route	1.07 Fm-Mkt	170	--	\$350,000	Reconstruct		\$0	\$0	\$0	(\$175,669)	\$47,280	\$8,852	(\$119,537)
Union	88	IA 186	NCL Creston to Green Valley St Park	3.13 Area Ser.	360	--	\$900,000	Reconstruct		\$198,376	\$16,770	\$15,056	\$377,645	\$133,740	\$42,308	\$783,895
Winnebago	95	IA 971(Old IA 105)	ECL Lake Mills to Worth Co Line	1.02 Fm-Mkt	1,670	Overlay	\$220,000	Reconstruct		\$0	\$0	\$0	\$403,970	\$84,140	\$35,398	\$523,508
TOTALS				18.01						\$1,354,028	\$76,136	\$100,048	\$4,577,792	\$1,216,956	\$378,932	\$7,703,892

\* Minus payment if payment taken in lieu of improvement.

**Table II**  
**2002 Fourth Annual Update of**  
**The 1998 Iowa Quadrennial Need Study**  
**(Combined Area & Needs Factors)**

County	2002 Total	2002 Total	2002 Combined	2002 Combined
	Secondary System	Fm-to-Mkt System	Secondary	Fm-to-Mkt
	Needs (In Dollars)	Needs (In Dollars)	Distribution Factor (Percent)	Distribution Factor (Percent)
Adair	\$155,415,628	\$67,409,492	1.000658	0.830070
Adams	103,505,488	46,199,340	0.690681	0.587214
Allamakee	175,074,865	98,877,567	1.140871	1.127004
Appanoose	122,131,706	64,087,638	0.819865	0.772194
Audubon	113,004,368	59,929,429	0.741677	0.702474
Benton	241,505,806	147,994,129	1.459634	1.530647
Black Hawk	227,963,028	145,586,223	1.321107	1.433923
Boone	191,837,223	119,766,049	1.166085	1.239659
Bremer	134,658,554	71,690,081	0.833633	0.789070
Buchanan	151,683,992	87,624,564	0.980777	0.983977
Buena Vista	130,733,052	84,412,477	0.894101	0.965958
Butler	221,657,778	139,365,231	1.298808	1.391450
Calhoun	119,060,585	70,830,690	0.837132	0.855591
Carroll	148,272,253	88,271,105	0.968203	0.991673
Cass	123,794,910	53,859,356	0.854548	0.719949
Cedar	190,330,125	114,074,132	1.159350	1.195421
Cerro Gordo	94,725,154	45,451,721	0.730523	0.660482
Cherokee	185,096,394	118,302,359	1.133291	1.225612
Chickasaw	114,370,780	57,291,503	0.776636	0.710825
Clarke	118,831,376	70,339,186	0.759701	0.775364
Clay	140,071,055	95,813,088	0.932089	1.050824
Clayton	231,451,629	150,659,557	1.456382	1.593039
Clinton	190,420,133	104,235,226	1.229747	1.188948
Crawford	187,481,311	90,536,284	1.219821	1.085685
Dallas	180,499,333	95,661,862	1.122900	1.059801
Davis	146,542,739	81,688,148	0.923072	0.903108
Decatur	138,887,030	87,583,373	0.905425	0.965490
Delaware	186,398,901	97,631,581	1.138043	1.063889
Des Moines	157,242,259	100,190,016	0.931880	1.007901
Dickinson	91,074,782	50,080,158	0.626583	0.608827
Dubuque	224,646,220	132,159,372	1.333001	1.356284
Emmet	89,311,338	50,512,902	0.621909	0.615396
Fayette	176,350,552	100,631,512	1.174890	1.168954
Floyd	108,627,987	53,445,172	0.749905	0.679862



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	Secondary System Needs (In Dollars)	Fm-to-Mkt System Needs (In Dollars)	Secondary Distribution Factor (Percent)	Fm-to-Mkt Distribution Factor (Percent)
Franklin	105,716,827	59,475,340	0.781243	0.771077
Fremont	156,855,416	101,005,391	0.979842	1.063929
Greene	118,353,464	72,078,658	0.836643	0.867962
Grundy	201,337,362	120,131,436	1.167396	1.201357
Guthrie	148,683,484	75,737,654	0.983398	0.907620
Hamilton	159,240,593	99,011,668	1.016148	1.074081
Hancock	131,622,965	68,001,509	0.894337	0.834671
Hardin	161,685,399	92,669,632	1.026538	1.024256
Harrison	197,348,444	119,389,912	1.262311	1.308333
Henry	111,575,172	72,193,640	0.726741	0.789243
Howard	97,583,228	46,499,658	0.686123	0.611455
Humboldt	70,582,807	37,447,728	0.547301	0.522937
Ida	83,591,784	48,438,072	0.603296	0.606217
Iowa	131,857,599	74,087,740	0.900729	0.887317
Jackson	193,006,063	125,379,955	1.209244	1.321227
Jasper	260,637,170	140,778,855	1.554743	1.484187
Jefferson	105,687,069	69,163,611	0.702567	0.767831
Johnson	261,538,152	168,745,005	1.495186	1.637958
Jones	214,341,363	133,404,366	1.261839	1.340848
Keokuk	154,242,859	92,412,832	0.998089	1.027069
Kossuth	246,577,587	121,659,676	1.622288	1.465964
Lee	172,654,284	109,090,300	1.062731	1.139054
Linn	308,514,151	153,432,419	1.761743	1.575585
Louisa	102,670,885	66,085,582	0.686417	0.741237
Lucas	105,935,201	49,097,175	0.704210	0.612408
Lyon	110,930,165	60,838,748	0.806677	0.783811
Madison	173,591,869	101,198,507	1.076538	1.087337
Mahaska	175,525,076	88,359,019	1.091589	0.993959
Marion	193,362,699	112,777,580	1.172368	1.184810
Marshall	158,850,343	98,887,146	1.015473	1.074181
Mills	137,883,289	81,621,696	0.854989	0.873205
Mitchell	121,049,573	72,677,414	0.788314	0.812238
Monona	143,015,030	90,719,843	1.017376	1.083371
Monroe	117,584,809	71,596,967	0.756802	0.787812

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	Secondary System Needs (In Dollars)	Fm-to-Mkt System Needs (In Dollars)	Secondary Distribution Factor (Percent)	Fm-to-Mkt Distribution Factor (Percent)
Montgomery	113,120,138	62,931,028	0.732042	0.715651
Muscatine	116,536,077	64,302,745	0.763870	0.742875
O'Brien	93,213,178	41,315,237	0.720560	0.625127
Osceola	79,724,855	40,200,446	0.567315	0.523493
Page	172,760,580	104,914,008	1.055726	1.099116
Palo Alto	90,814,910	53,376,444	0.711446	0.720470
Plymouth	263,295,633	129,514,688	1.636618	1.466636
Pocahontas	179,421,479	109,152,846	1.111672	1.158241
Polk	351,581,301	244,200,471	1.889543	2.216386
Pottawattamie	315,072,349	178,528,945	1.919818	1.899405
Poweshiek	149,542,207	86,289,128	0.978152	0.980544
Ringgold	122,038,945	63,860,535	0.833877	0.784855
Sac	135,212,238	77,132,921	0.911979	0.907244
Scott	113,387,664	63,120,909	0.757816	0.741705
Shelby	168,414,544	80,837,419	1.067295	0.942981
Sioux	179,896,601	114,500,216	1.209971	1.295977
Story	194,002,994	111,559,499	1.169886	1.170000
Tama	184,995,456	96,787,295	1.211384	1.136939
Taylor	114,592,534	62,084,713	0.797396	0.767847
Union	119,960,838	68,253,594	0.764214	0.758621
Van Buren	118,401,869	75,343,901	0.790909	0.847389
Wapello	161,050,615	102,066,650	0.953707	1.027295
Warren	194,948,700	110,484,271	1.176249	1.163780
Washington	153,827,319	98,516,664	0.986080	1.064356
Wayne	95,422,651	51,812,103	0.706390	0.682665
Webster	188,077,978	104,860,313	1.226762	1.201286
Winnebago	115,314,014	63,073,044	0.728488	0.703397
Winneshiek	227,619,379	131,069,972	1.383689	1.385219
Woodbury	296,113,792	163,117,160	1.792354	1.736879
Worth	89,358,166	59,693,064	0.612501	0.677127
Wright	120,685,583	57,455,890	0.848134	0.755382
Total	\$15,664,695,102	\$9,006,641,376	100.000000	100.000000