

Revised Outlook for Irrigated and Non-Irrigated Cash Rents in Kansas

2021 Ag Lenders Conference

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Purpose of publications

NOT an endorsement for what a tenant should actually pay a landlord

Instead, they are provided to give a **starting point** in lease negotiations

What is a “fair” or “equitable” lease?

- Any lease that a tenant and landlord willingly agree to in which they have both utilized the best information they have available to them in making a decision, is considered here to be a “fair” and/or “equitable” lease.



Why produce these publications

Nearly every farm leases some land

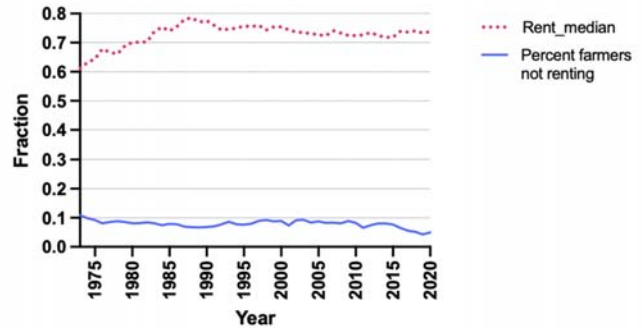
Local rental rates may not reflect the ability of the land to support going market rental rates

Issues from surveys of county rental rates

- Information may be outdated – time from survey until reported
- Truthfulness in survey responses
- Surveys could reflect multi-year leases from previous year

A lack of information about lease rates that incorporate land productivity into the rate calculation

Renting in Kansas

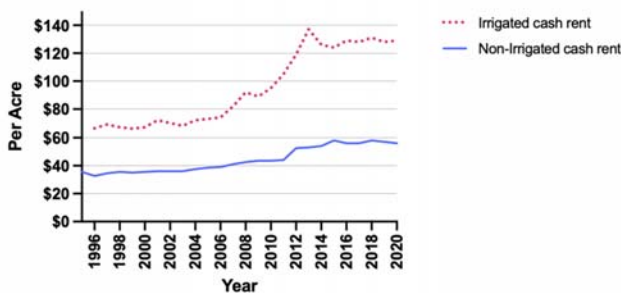


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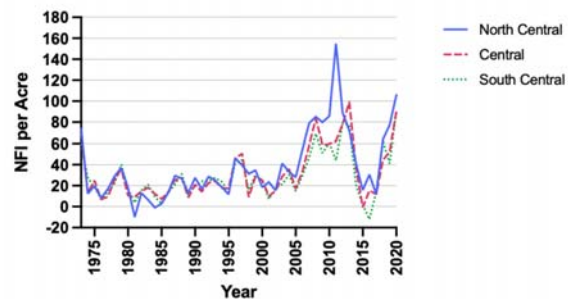
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Why survey data may not be the best

State Cash Rents



Central Kansas



USDA-NASS Estimate of Kansas Irrigated and Non-Irrigated Cash Lease Rates



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Why leasing is important to farmers

Farmland will never cashflow

- Land is non-depreciable
- Typically, half of a farm's real net returns occur as land appreciation

Because land will not cashflow, land income will not cover principle and interest payments

- Rented land is thus needed to help cover cashflow needs from purchased land.



Our approach

Tenant's residual method

- County yield history
- Recent grain prices
- KFMA farm expenses

Covers all expenses

- Cash or direct cost of production
- Includes fixed costs on machinery
- Includes unpaid operator labor
- Includes overhead and management fees

FULL ECONOMIC COSTS



Details of tenant's residual approach

Income – yields, prices, and government payments

- Yields – NASS no longer provides separate irrigated and non-irrigated yields
 - FSA does have this info and also number of crop acres in a county
 - Use of last 5 years of data
- Prices – Use of weighted average with more weight being given to most recent years

Expenses

- Use of KFMA data
- Developed at the enterprise level to account for different crop mixes each year
- Only corn, soybeans, wheat, and grain sorghum used
- Developed at the farm level but then aggregated up to the Crop Reporting District level
 - This might account for some of the differences you see on the graphs



Other details

75% of unpaid operator labor is included

- This allows for farm activities not related to crop production

2% management fee based on gross revenue

- This includes management and also the interest charge for any owned machinery equity on the farm.

Weights used for the estimates

- 2021 – 20%
- 2020 – 25%
- 2019 – 25%
- 2018 – 20%
- 2017 – 10%



Other details

Adjustment to NASS reported cash rent

- Helps to smooth the estimate

Adjustment for land use intensity

- Needed to account for fallow and double cropping

Incorporating a range of values

- 25th and 75th percentile



2020 NON-IRRIGATED CROP LEASING ARRANGEMENTS IN KANSAS

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November 2020

2020 Kansas Non-Irrigated Farmland Lease Survey

Xianghong Li & Leah Tsoodle

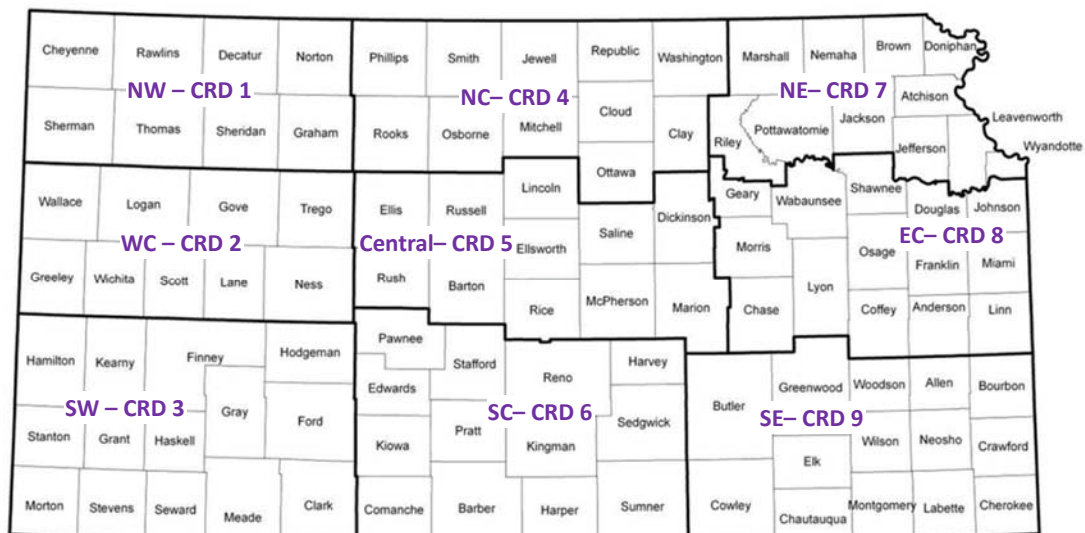
The **2020 Non-Irrigated Farm Lease Arrangement Survey** was distributed to individuals leasing non-irrigated cropland across the 9 Kansas **Crop Reporting Districts (CRD)** USDA NASS

Who participated in the Survey?

- 34.4% were landlords (*lessors*)
- 50.4% were renters who leased land from landowners in the 2019 crop year (*lessees*)
- 13% *both* leased out land (landowner) & rented land from landlords (renter)
- 1.5% were land managers
- 0.8% trustees of land (other than landlords, tenants, and land managers)

The information provided in this report is based solely upon the 2020 KSU survey responses for non-irrigated crop-share leasing arrangements. Additional information pertaining to the survey is available from **Leah Tsoodle** (ltsoodle@ksu.edu) at the **KSU Department of Agricultural Economics**.

Kansas Crop Reporting Districts



Non-Irrigated Cropland Lease Types

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoodle}

District	Crop Share	Fixed Cash	Crop Share & Cash Rent	Flexible Cash	Net Share	Other Type
Northwest-10	50.0%	29.5%	2.3%	4.5%	11.4%	2.3%
West Central-20	49.2%	40.0%	1.5%	1.5%	6.2%	1.5%
Southwest-30	43.3%	40.0%	3.3%	6.7%	6.7%	0.0%
North Central-40	57.1%	38.1%	0.0%	4.8%	0.0%	0.0%
Central-50	49.1%	42.1%	1.8%	3.5%	3.5%	0.0%
South Central-60	44.8%	43.1%	3.4%	3.4%	5.2%	0.0%
Northeast-70	29.4%	50.0%	2.9%	5.9%	11.8%	0.0%
East Central-80	31.6%	47.4%	0.0%	7.9%	13.2%	0.0%
Southeast-90	42.9%	50.0%	0.0%	3.6%	3.6%	0.0%
State	44.5%	41.9%	1.9%	4.3%	6.9%	0.5%

Cash Rent Breakdown by Type

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoodle}

	Number of Reports	Lease Percentage (%)	Average Rent (\$/Acre per Year)
Fixed Cash Rent	277	88.2%	57.16
Flexible Cash Rent	37	11.8%	61.70
Flexible Cash Rent Based on Revenue	27	73.0%	63.78
Flexible Cash Rent Based on Yield	4	10.8%	58.75
Flexible Cash Rent Based on Price	1	2.7%	52.00
Flexible Cash Rent Based on Other	5	13.5%	54.76

Average Cash Rent Payment by Crop

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoodle}

Crop	Cash Rent Payment (\$/Acre per Year)					
	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Corn	102	65.00	65.20	63.84	19	200
Wheat	83	46.62	46.91	44.26	19	130
Soybeans	64	78.64	78.05	82.22	10	185
Grain Sorghum	43	43.64	43.49	45.69	20	70
Cotton	5	40.70	40.70	No Responses	26	50
Fallow	6	34.71	31.65	50.00	19	50
Pasture	4	20.00	20.00		10	28
Brome	3	30.00	30.00		25	40
Hay & Alfalfa	2	35.00	35.00	No Responses	25	45
cane Feed	1	30.00	30.00		30	30
Peas	1	25.00	25.00		25	25
State	314	57.70	57.16	61.70	10	200

Average Cash Rent Payment by CRD

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoodle}

Districts	Cash rent Payment (\$/Acre per Year)					
	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Northwest-10	34	44.18	44.15	44.29	25	65
West Central-20	50	42.67	43.09	38.89	25	60
Southwest-30	41	31.98	31.15	42.50	19	50
North Central-40	16	91.91	87.54	105.00	50	130
Central-50	41	48.48	46.69	65.00	10	70
South Central-60	31	45.47	46.43	39.00	14	75
Northeast-70	46	109.04	111.53	92.50	10	200
East Central-80	36	64.67	64.63	65.00	25	95
Southeast-90	19	50.42	50.42	No Responses	30	90
State	314	57.70	57.16	61.70	10	200

Importance of Factors Affecting Rental Rates

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoddle}

Factors Affecting Rental Rate	# of Responses	Average	Percentage of Responses (%)				
			Most Important			Least Important	
			1	2	3	4	5
Crop Price	191	2.41	34.6%	26.2%	16.8%	8.4%	14.1%
Input Price	184	2.83	20.1%	23.9%	25.5%	14.1%	16.3%
Land Size	181	3.50	7.7%	13.3%	28.2%	22.7%	28.2%
Land Quality	198	2.40	31.3%	27.8%	21.7%	7.6%	11.6%
Land Location	190	2.84	19.5%	27.4%	20.0%	15.8%	17.4%
Length of the Lease	160	3.44	10.6%	19.4%	18.1%	19.4%	32.5%
Relationship between Landowner and Tenant	168	2.51	41.7%	14.3%	14.3%	10.7%	19.0%
Other	14	1.79	50.0%	35.7%	0.0%	14.3%	0.0%

Average Cash Rent Payment by Crop

2020 KSU Non-Irrigated Farmland Lease Survey ^{Li & Tsoddle}

Crop	Cash Rent Payment (\$/Acre per Year)					
	Number of Reports	Average Rent	Fixed Cash Rent	Flexible Cash Rent	Min	Max
Corn	102	65.00	65.20	63.84	19	200
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Brome	3	30.00	30.00		25	40
Hay & Alfalfa	2	35.00	35.00	No Responses	25	45
cane Feed	1	30.00	30.00		30	30
Peas	1	25.00	25.00		25	25
State	314	57.70	57.16	61.70	10	200



Cornhusker Economics

Figure 2. Nebraska Agricultural Statistics Districts



Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics District^a
Preliminary

Type of Land	Agricultural Statistics District							
	Northwest	North	Northeast	Central	East	Southwest	South	Southeast
----- Dollars Per Acre -----								
Dryland Cropland								
Average	30	57	225	98	220	42	83	170
% Change	9	11	5	8	7	12	10	3
High Third Quality	42	91	265	120	240	54	120	195
Low Third Quality	24	47	180	89	175	35	57	135

Source: ^a Reporters' estimated cash rental rates (both averages and ranges) from the UNL Nebraska Farm Real Estate Market Survey, 2020 and 2021.

Non-Irrigated Versus 2017

SW	South	SE
\$40	\$74	\$105

Irrigated Avg. Cash Rent Payment by CRD

2017 KSU Irrigated Farmland Lease Survey ^{Tsoodle & Li}

District	Cash Rent Payment (\$/Acre per Year)					
	# Reports	Average Payment	Min	Max		
Northwest-10	10	137.00	\$174	100	200	\$254
West Central-20	13	84.46	\$105	32	125	\$159
Southwest-30	24	99.08	\$125	60	200	\$254
North Central-40	17	135.00	\$171	90	185	\$235
Central-50	7	126.57	\$161	100	200	\$254
South Central-60	20	123.35	\$157	37	200	\$254
State	91	115.32	\$146	32	200	\$254

Question: How much inflation Farmland Cash Rental Rates has occurred since year 2017?

Kansas Irrigated Farmland values increased 27%, from \$2,910 ²⁰¹⁷ to \$3,700 ²⁰²¹ (USDA)

Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics District^a

Preliminary

Type of Land	Agricultural Statistics District							
	Northwest	North	Northeast	Central	East	Southwest	South	Southeast
----- Dollars Per Acre -----								
Gravity Irrigated Cropland								
Average	115	180	280	215	260	170	210	240
% Change	10	6	8	5	2	6	2	4
High Third Quality	145	210	320	255	280	195	245	285
Low Third Quality	90	140	225	175	230	140	175	210
Center Pivot Irrigated Cropland^b								
Average	150	210	305	235	290	195	235	280
% Change	7	8	5	2	4	5	7	6
High Third Quality	170	255	340	270	330	235	265	310
Low Third Quality	130	180	260	190	250	165	190	240

CP-Irrigated Versus 2017

	SW	South	SE
Average	\$200	\$225	\$265
High	\$255	\$275	\$315
Low	\$180	\$195	\$225

Source: ^a Reporters' estimated cash rental rates (both averages and ranges) from the UNL Nebraska Farm Real Estate Market Survey, 2020 and 2021.

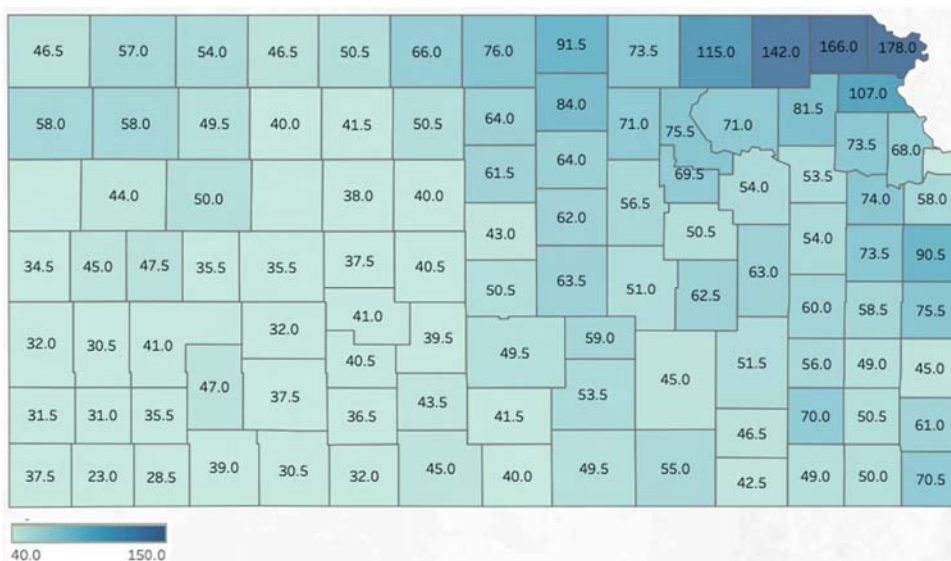
^b Cash rents on center pivot land assumes landowners own total irrigation system.

Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2021 Averages, Percent Change from 2020 and Quality Ranges by Agricultural Statistics District^a
Preliminary

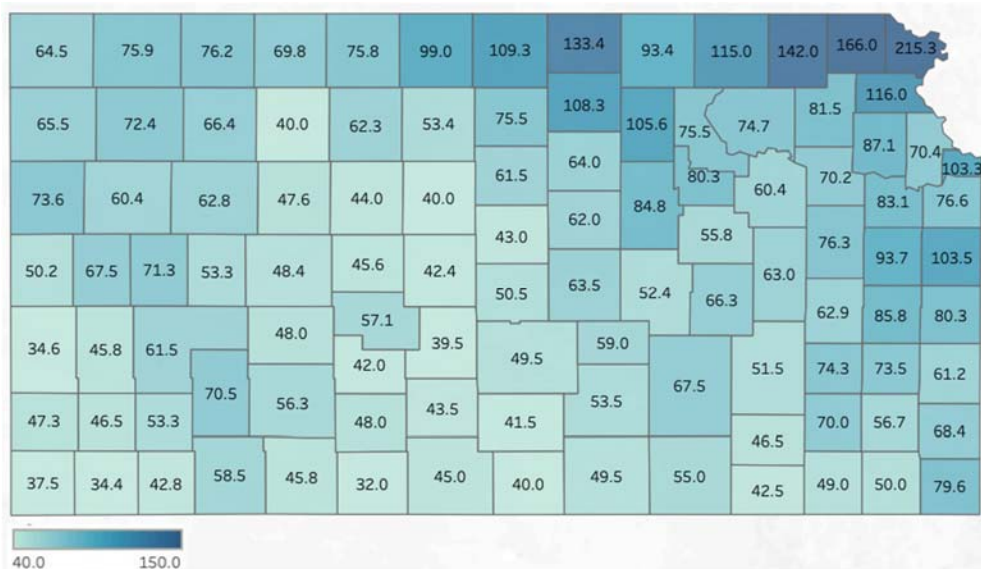
Type of Land	Agricultural Statistics District								
	Northwest	North	Northeast	Central	East	Southwest	South	Southeast	
----- Dollars Per Acre -----									
Pasture									
Average	13	28	66	37	53	22	38	49	
% Change	10	8	4	6	3	7	4	1	
High Third Quality	18	41	84	45	72	30	46	59	
Low Third Quality	11	15	49	32	40	16	28	40	
----- Dollars Per Month -----									
Cow-Calf Pair Monthly Rates^c									
Average	39.60	63.15	60.75	58.85	55.20	51.60	49.80	54.80	
% Change	4	3	5	8	7	3	6	9	
High Third Quality	48.75	69.45	72.10	68.70	65.90	59.70	61.20	64.20	
Low Third Quality	32.90	52.70	47.85	42.15	45.50	43.35	39.80	38.45	

^c A cow-calf pair is typically considered to be 1.25 to 1.30 animal units (animal unit being 1,000 lb. animal) for a five month grazing season. However, this can vary depending on weight of cow and age of calf.

2021 NASS Survey - Non-Irrigated Crop Land in Kansas



2022 K-State Estimate - Non-Irrigated Crop Land in Kansas



Crop Reporting Districts

		KSU	NASS
EAST	Northeast	109	103
	East Central	80	62
	Southeast	58	52
CENTRAL	North Central	92	66
	Central	52	48
	South Central	44	43
WEST	Northwest	65	48
	West Central	61	39
	Southwest	58	33



Irrigation details

Based on growing corn only

Center pivot irrigation

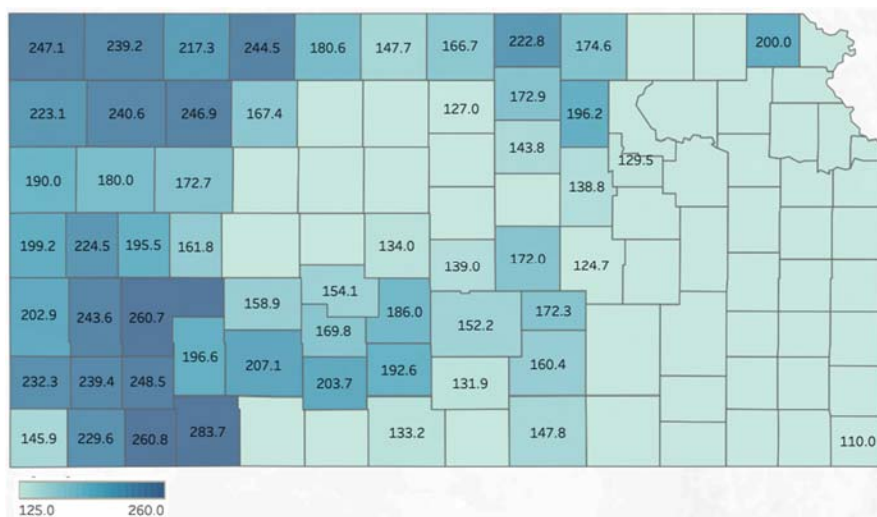
Landlord owns all irrigation equipment

- Adjustment if tenant owns part

	Western, KS	Central, KS
Center Pivot	\$ 61.20	\$ 61.20
Power unit	\$ 22.86	\$ 12.84
Well, pump, and gearhead	\$ 78.61	\$ 52.57



Irrigated Crop Land in Kansas



Irrigated comparison

Region	County	2019		2020	2021	25th	75th	
		NASS	NASS	NASS	KSU	Percentile	Percentile	
North Central	Clay	139	157		196	165	227	
	Cloud		135		173	145	200	
	Jewell				167	140	193	
	Mitchell	128	127		127	107	147	
	Osborne							
	Ottawa				144	121	167	
	Phillips	95			181	152	209	
	Republic		211		223	187	258	
	Rooks							
	Smith				148	124	171	
	Washington			158	175	146	202	
	Central	Barton	122	134		134	107	164
		Dickinson				139	111	170
Ellis								
Ellsworth								
Lincoln								
Marion		86			125	100	153	
McPherson		147			172	138	211	
Rice		120	139		139	111	170	
Rush								
Russell								
Saline								
South Central		Barber				133	110	167
		Comanche						
	Edwards	122	123		170	140	212	
	Harper							
	Harvey	116	152		172	142	215	
	Kingman		108		132	109	165	
	Kiowa	139			204	167	255	
	Pawnee	122	132		154	127	193	
	Pratt	127	138		193	158	241	
	Reno	125			152	125	190	
	Sedgwick	145	144		160	132	201	
	Stafford	133	151		186	153	233	
	Sumner		143		148	122	185	

Region	County	2019		2020	2021	25th	75th	
		NASS	NASS	NASS	KSU	Percentile	Percentile	
Northwest	Cheyenne				247	155	351	
	Decatur				217	136	309	
	Graham			126	167	105	238	
	Norton				244	153	348	
	Rawlins		126		239	150	340	
	Sheridan		145	162	247	154	351	
	Sherman		135		223	140	317	
	Thomas				241	151	342	
	West Central	Gove				123	111	234
		Greeley				123	128	270
Lane						162	104	
Logan						180	115	
Ness								
Scott			96		196	125	265	
Trego								
Wallace			125		190	122	258	
Wichita			132		225	144	305	
Southwest		Clark						
	Finney		144	138	261	186	318	
	Ford		123	104	207	148	252	
	Grant		96		239	171	292	
	Gray		101	91	197	141	240	
	Hamilton		133		203	145	247	
	Haskell		89	112	248	178	303	
	Hodgeman			103	159	114	294	
	Kearny		135	116	244	174	297	
	Meade		134	143	284	203	346	
	Morton				146	104	178	
	Seward			119	261	187	318	
	Stanton			93	232	166	283	
Stevens		87	93	230	164	280		



Thank you!

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