

## 22. THREE OR MORE VEGETABLES PER DAY

**Measure Definition:** “How often do you eat vegetables including carrots, potatoes, green salad, or other vegetables?” [*Eat at least three vegetables per day*]

### **Why is three or more vegetables per day important to public health?**

The 2005 Dietary Guidelines for Americans recommends a person eat 5 to 13 servings of fruits and vegetables each day, depending on their caloric level, for better health.<sup>17</sup> For example, 2½ cups of vegetables per day are recommended for a reference 2,000-calorie intake. Vegetables provide a variety of micronutrients and phytochemicals that help the body fight off infection and aid in cell reproduction and other cell functions. The guidelines recommend that a variety of vegetables be consumed including vegetables from each of the five subgroups: dark green vegetables, orange vegetables, legumes (dry beans), starchy vegetables, and other vegetables.<sup>17</sup>

Comparisons between people who include few fruits and vegetables in their diet and people who include generous amounts of fruits and vegetables as part of a healthful diet show that people with a higher intake of fruits and vegetables are likely to have reduced risk for chronic diseases, type 2 diabetes, and cancers (oral cavity and pharynx, larynx, lung, esophagus, stomach, and colon-rectum).<sup>17</sup> Additionally, diets rich in foods containing fiber, like vegetables, may reduce the risk of coronary heart disease by helping to remove cholesterol from the bloodstream thus reducing blood lipid levels.<sup>17,46</sup>

### **Risk factors for fewer than three vegetables per day**

Only 20% of Americans eat five or more servings of vegetables and fruits a day. Teen boys, men 45 and older, and women 55 and older consume more fruits and vegetables daily. Older people consume fruits and vegetables more frequently, partially because they consume more meals at home, and men and teen boys simply consume a large volume of food by consuming larger portions. Of families with children, only 13% eat at least five or more servings. It appears that both parents and children contribute to this non-achievement. Additionally, all family members eat about 10% fewer fruits and vegetables when the mother works outside the home.<sup>47</sup>

### **Three or more vegetables per day in Utah**

Rates of people who eat at least three vegetables a day have remained relatively unchanged over the past decade. Data collected between 2001–2005 show that the age-adjusted percentage of Utah adults who ate at least three vegetables a day was 22.2%. The rate varied by local health district, from a low of 9.7% to a high of 32.8%. Two local health districts had a rate that was significantly higher than the state rate. Summit County and Tooele County had the highest and lowest rates in the state, respectively. Nine of Utah’s 61 small areas had age-adjusted rates that were significantly lower than the state rate, and two small areas had rates that were significantly higher than the state rate. Overall, Utah’s rate was significantly lower than the U.S. rate.

Women were significantly more likely to eat at least three vegetables per day ( $p < 0.001$ ) for all age groups. Consumption of at least three vegetables per day also increased with age.

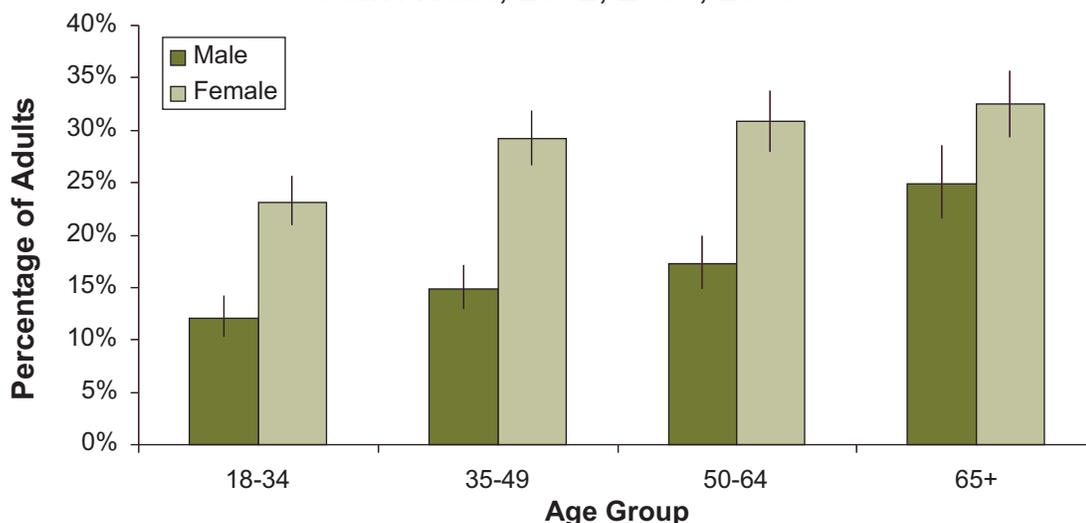
**Utah Objective:** Same as HP2010 objective.

**HP2010 Objective (related) 19-6:** Increase the proportion of persons aged 2 years and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables to 50% (age-adjusted to the U.S. 2000 standard population).

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### Three or more vegetables per day in Utah (continued)

Figure 22.A: 3+ Vegetables per Day by Age and Sex, Utah Adults, 2002, 2003, 2005

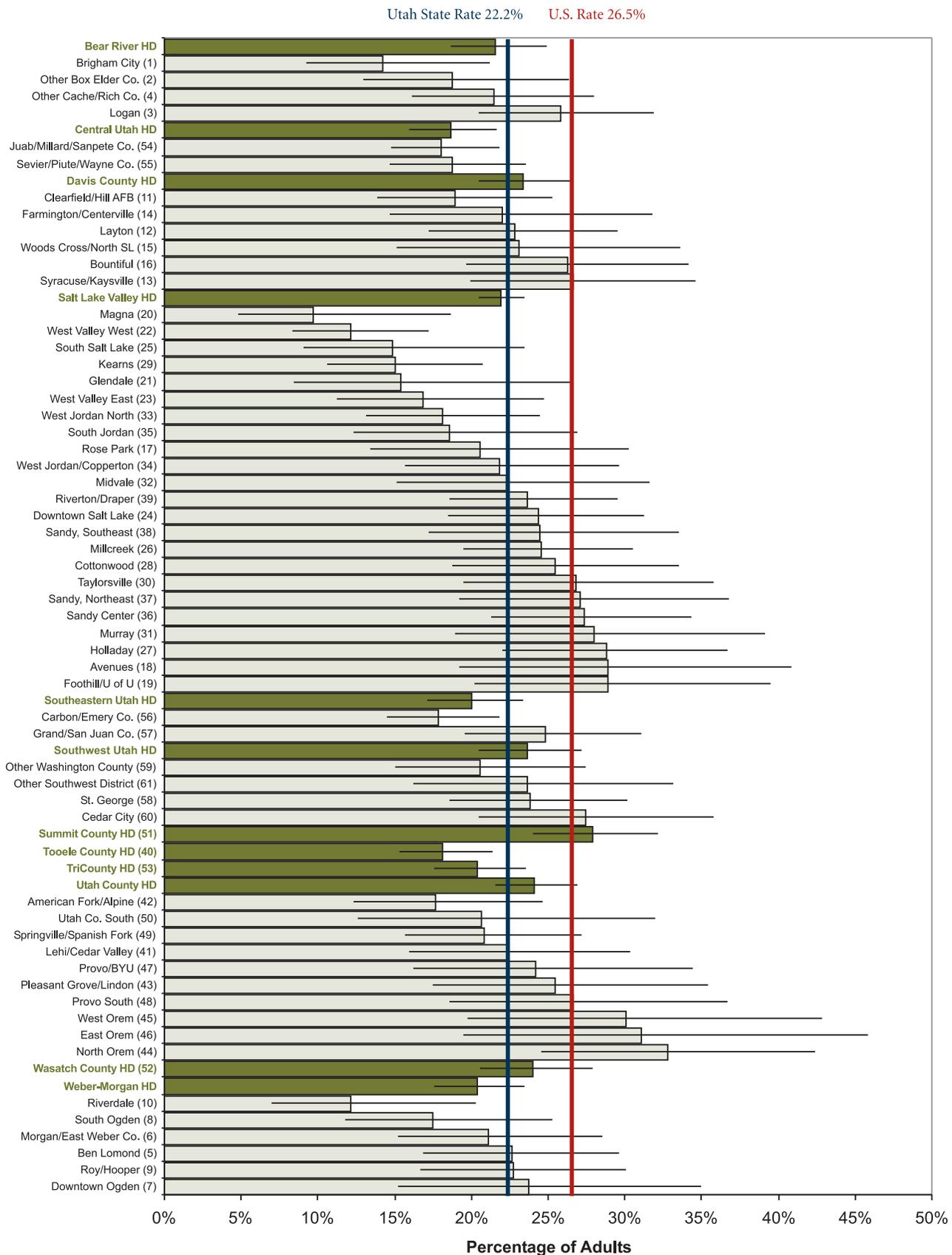


### Prevention/Resources

The Heart Disease and Stroke Prevention Program at the Utah Department of Health works with various public and private partners promoting the 5 A Day message in schools, communities, health care settings, and families. The message to increase intake of vegetables is incorporated into the Gold Medal Schools Program, 5 A Day school newsletter, Grocery Store Tours for third grade students, and the website [www.hearthishighway.org](http://www.hearthishighway.org). The Check Your Health Campaign provides 5 A Day messages intended for families at [www.checkyourhealth.org](http://www.checkyourhealth.org). Additional nutrition information can be found at [www.mypyramid.gov](http://www.mypyramid.gov).

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Figure 22.1: Percentage of Adults Reporting Three or More Vegetables per Day by Local Health District and Small Area, Utah Adults Aged 18+, 2002, 2003, 2005 (Age-adjusted)



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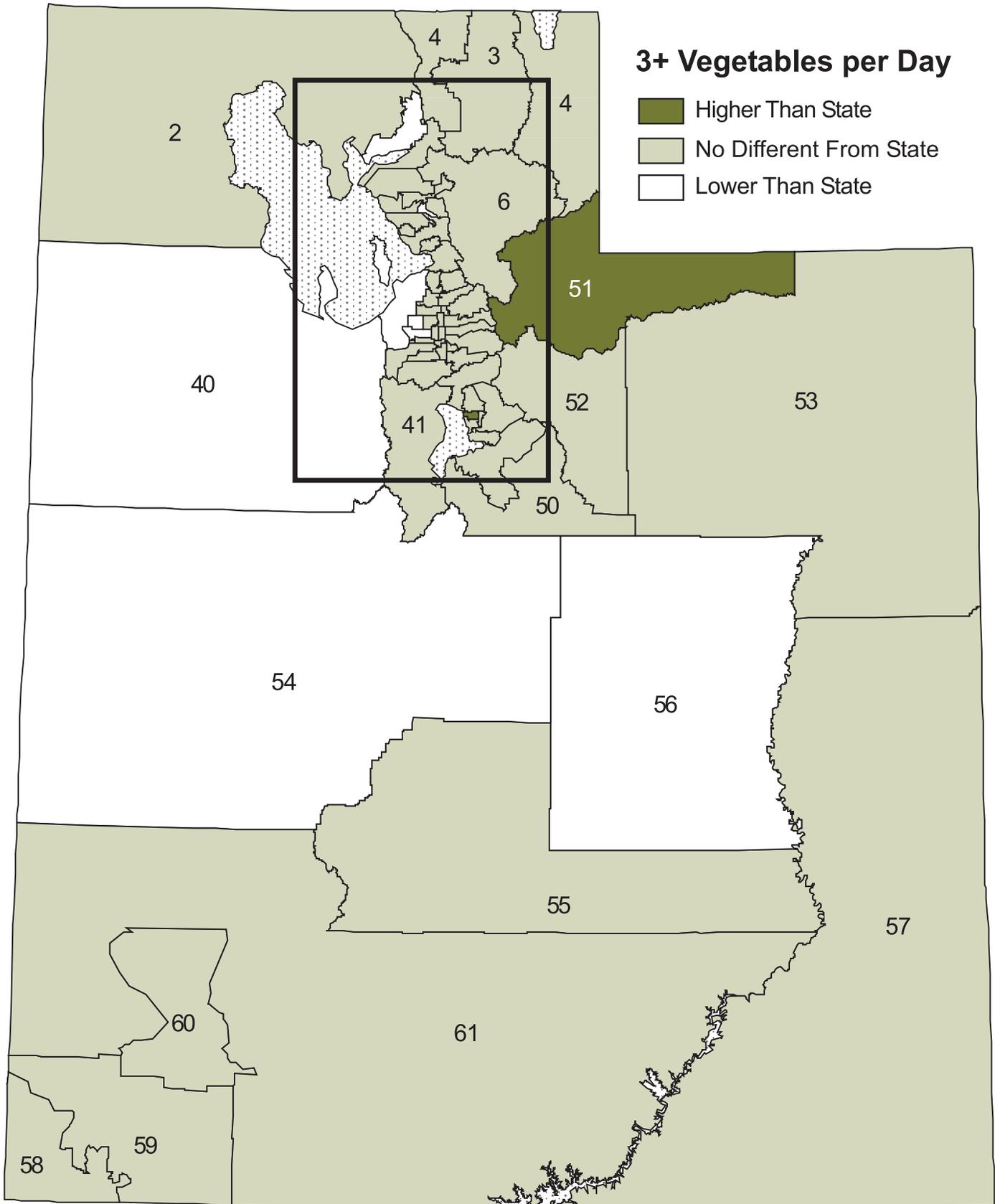
Table 22: 3+ Vegetables per Day by Health District, Small Area, Utah, and U.S., 2002, 2003, 2005

State Rank*	State, Health District, or Small Area	2003 Population 18+	Number of Adults		Crude Rate	Age-adjusted Rate	95% Confidence Interval	
			Reporting 3+ Vegetables per Day				Lower	Upper
	U.S.	217,803,051	57,848,490		26.6%	26.5%	26.3%	26.7%
	State of Utah	1,657,454	354,198		21.4%	22.2%	21.3%	23.2%
	<b>Bear River HD</b>	98,027	20,125		20.5%	21.6%	18.7%	24.9%
4	Brigham City (1)	14,566	1,984		13.6%	14.2%	9.2%	21.2%
46	Logan (3)	45,904	10,861		23.7%	25.8%	20.5%	31.9%
17	Other Box Elder Co. (2)	14,636	2,784		19.0%	18.8%	13.0%	26.4%
25	Other Cache/Rich Co. (4)	22,921	4,600		20.1%	21.4%	16.1%	28.0%
	<b>Central Utah HD</b>	47,558	8,689		18.3%	18.6%	15.9%	21.6%
12	Juab/Millard/Sanpete Co. (54)	31,637	5,669		17.9%	18.0%	14.8%	21.9%
16	Sevier/Piute/Wayne Co. (55)	15,921	3,009		18.9%	18.7%	14.7%	23.5%
	<b>Davis County HD</b>	175,027	38,873		22.2%	23.4%	20.5%	26.5%
47	Bountiful (16)	33,318	8,196		24.6%	26.3%	19.7%	34.1%
18	Clearfield/Hill AFB (11)	37,329	6,458		17.3%	18.9%	13.9%	25.3%
27	Farmington/Centerville (14)	19,034	4,218		22.2%	22.0%	14.7%	31.8%
32	Layton (12)	46,815	10,613		22.7%	22.8%	17.2%	29.6%
48	Syracuse/Kaysville (13)	24,542	6,096		24.8%	26.6%	19.9%	34.6%
33	Woods Cross/North SL (15)	13,989	3,360		24.0%	23.1%	15.1%	33.6%
	<b>Salt Lake Valley HD</b>	658,810	139,141		21.1%	21.9%	20.4%	23.4%
57	Avenues (18)	18,959	5,360		28.3%	28.9%	19.2%	40.9%
45	Cottonwood (28)	33,297	8,264		24.8%	25.4%	18.7%	33.5%
40	Downtown Salt Lake (24)	42,808	9,675		22.6%	24.3%	18.5%	31.3%
58	Foothill/U of U (19)	17,778	4,425		24.9%	28.9%	20.2%	39.5%
7	Glendale (21)	18,642	2,207		11.8%	11.8%	8.4%	26.6%
56	Holladay (27)	35,956	10,967		30.5%	28.8%	22.0%	36.7%
6	Kearns (29)	42,995	5,430		12.6%	15.0%	10.6%	20.7%
1	Magna (20)	15,623	1,564		10.0%	9.7%	4.8%	18.6%
28	Midvale (32)	21,672	4,950		22.8%	22.3%	15.1%	31.7%
42	Millcreek (26)	44,008	10,425		23.7%	24.6%	19.5%	30.5%
55	Murray (31)	24,072	6,473		26.9%	27.9%	18.9%	39.2%
34	Riverton/Draper (39)	41,391	8,916		21.5%	23.6%	18.6%	29.5%
21	Rose Park (17)	22,639	4,652		20.6%	20.6%	13.4%	30.3%
52	Sandy Center (36)	36,106	9,525		26.4%	27.3%	21.3%	34.4%
51	Sandy, Northeast (37)	18,245	4,461		24.5%	27.1%	19.2%	36.8%
41	Sandy, Southeast (38)	20,781	6,070		29.2%	24.5%	17.2%	33.5%
15	South Jordan (35)	20,931	3,954		18.9%	18.5%	12.3%	26.9%
5	South Salt Lake (25)	18,456	3,078		16.7%	14.8%	9.0%	23.4%
50	Taylorsville (30)	27,372	6,112		22.3%	26.8%	19.5%	35.8%
13	West Jordan North (33)	30,391	5,759		19.0%	18.1%	13.1%	24.5%
26	West Jordan/Copperton (34)	26,360	4,985		18.9%	21.9%	15.6%	29.7%
8	West Valley East (23)	35,527	5,944		16.7%	16.9%	11.2%	24.7%
2	West Valley West (22)	44,794	5,380		12.0%	12.1%	8.4%	17.2%
	<b>Southeastern Utah HD</b>	36,828	7,244		19.7%	20.0%	17.0%	23.3%
11	Carbon/Emery Co. (56)	21,451	3,805		17.7%	17.8%	14.5%	21.8%
43	Grand/San Juan Co. (57)	15,377	3,566		23.2%	24.9%	19.6%	31.0%
	<b>Southwest Utah HD</b>	116,150	27,957		24.1%	23.7%	20.5%	27.2%
53	Cedar City (60)	22,401	5,869		26.2%	27.4%	20.4%	35.8%
35	Other Southwest District (61)	15,384	4,080		26.5%	23.6%	16.2%	33.2%
20	Other Washington County (59)	32,503	6,806		20.9%	20.5%	15.0%	27.4%
37	St. George (58)	45,862	11,759		25.6%	23.9%	18.5%	30.2%
54	<b>Summit County HD (51)</b>	24,525	6,624		27.0%	27.9%	24.0%	32.2%
14	<b>Tooele County HD (40)</b>	32,458	5,696		17.6%	18.1%	15.3%	21.4%
19	<b>TriCounty HD (53)</b>	28,023	5,644		20.1%	20.4%	17.6%	23.6%
	<b>Utah County HD</b>	278,832	62,124		22.3%	24.1%	21.5%	26.9%
10	American Fork/Alpine (42)	26,819	4,739		17.7%	17.6%	12.3%	24.7%
60	East Orem (46)	14,955	3,872		25.9%	31.1%	19.4%	45.8%
29	Lehi/Cedar Valley (41)	18,752	3,942		21.0%	22.4%	16.0%	30.4%
61	North Orem (44)	25,965	7,483		28.8%	32.8%	24.5%	42.4%
44	Pleasant Grove/Lindon (43)	24,636	5,957		24.2%	25.4%	17.5%	35.4%
39	Provo/BYU (47)	39,401	10,453		26.5%	24.1%	16.2%	34.4%
49	Provo South (48)	48,138	10,003		20.8%	26.7%	18.5%	36.7%
23	Springville/Spanish Fork (49)	41,036	7,982		19.5%	20.8%	15.7%	27.1%
22	Utah Co. South (50)	17,363	2,967		17.1%	20.6%	12.6%	32.0%
59	West Orem (45)	21,774	5,581		25.6%	30.1%	19.8%	42.8%
38	<b>Wasatch County HD (52)</b>	12,514	2,975		23.8%	24.0%	20.5%	27.9%
	<b>Weber-Morgan HD</b>	148,702	29,517		19.9%	20.3%	17.5%	23.4%
30	Ben Lomond (5)	33,215	7,191		21.7%	22.6%	16.9%	29.7%
36	Downtown Ogden (7)	21,684	5,332		24.6%	23.7%	15.3%	35.0%
24	Morgan/East Weber Co. (6)	24,131	4,636		19.2%	21.1%	15.2%	28.5%
3	Riverdale (10)	15,522	2,080		13.4%	12.1%	7.0%	20.3%
31	Roy/Hooper (9)	27,898	5,900		21.2%	22.7%	16.7%	30.1%
9	South Ogden (8)	26,255	4,781		18.2%	17.5%	11.8%	25.2%

\*State rank is by 61 small areas for age-adjusted rate; 1 is always the lowest rate in the state and 61 is always the highest rate in the state.

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Figure 22.2: 3+ Vegetables per Day by Small Area, Utah Adults Aged 18+, 2002, 2003, 2005 (Age-adjusted)



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Figure 22.3: 3+ Vegetables per Day by Small Area, Wasatch Front Adults 18+, 2002, 2003, 2005 (Age-adjusted)

