

## **2008 Tucson Metropolitan Region Bicycle Count**

### **Introduction**

Beginning in 2008, Pima Association of Governments (PAG) initiated the Tucson metropolitan region's first annual bike count. There are five primary reasons why PAG initiated an annual bicycle count program:

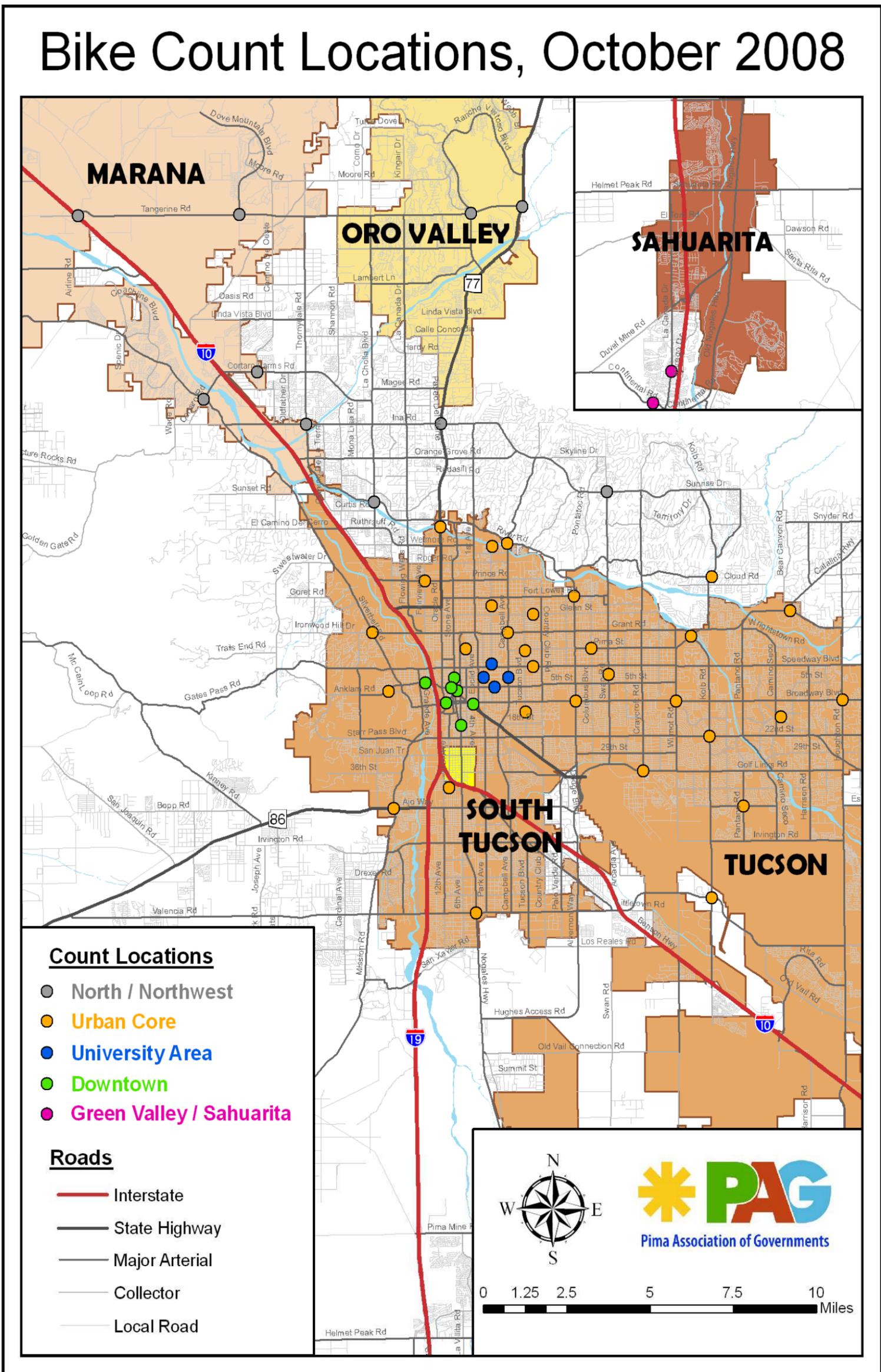
1. ***Conditions and trend analysis*** – document the number of people currently bicycling, how this number is changing over time, and characteristics of cyclists
2. ***Network planning*** – help prioritize improvements and find locations needing attention
3. ***Crash analysis*** – develop exposure measures (comparing crash data to actual levels of cycling)
4. ***Travel Demand Forecasting*** – calibrate models
5. ***Travel Demand Management*** – measure Travel Demand Management and Safety/Outreach program effectiveness by producing tangible data that can be compared over time

Counts were performed throughout the region by jurisdictional and regional staff, and by volunteers from the community, including members of the Tucson-Pima County Bicycle Advisory Committee (TPCBAC) and the Greater Arizona Bicycling Association (GABA). The number of cyclists was recorded at 15-minute intervals at over 50 intersections by approach direction. Other attributes were collected as well: gender, approximate age, helmet usage, sidewalk riding and wrong-way riding. Counts and attribute collection were performed via observation only—no cyclist surveys were conducted. See Appendix Item 1 for the data collection sheet used in the count.

The count took place in October, taking advantage of the prime cycling weather and the fact that the U of A—a major generator of bicycle-trips—was in session. In addition, October has been identified as the month with the most bicycle-related crashes in the region, a fact suggesting the month's high levels of bike-usage. A single AM and a single PM peak-hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively) count was taken on either Tuesday, Oct 21, Wednesday, Oct 22, OR Thursday, Oct 23. Locations were chosen based on estimated levels of cycling activity and achieving a reasonable regional/geographic distribution. **Figure 1** shows a map depicting count locations throughout the region.

Having no past standardized data makes it difficult to compare to past years. Data from this year's count will serve as a baseline for future analysis years.

Figure 1 – Regional Count Locations



### **Counts by Location and Area**

Count locations were divided into five categories for purposes of geographic comparison: University of Arizona, Downtown, Urban Core, North & Northwest and the Green Valley/Sahuarita area. Four count locations were sampled at main entryways to the University of Arizona main campus; seven count locations were sampled in and around the downtown area; the 'Urban Core' of the region included 30 count locations; the North & Northwest included 10 count locations; and two count locations were sampled in the Green Valley/Sahuarita area.

**Figure 2** shows a summary of data collected by count location and area. Figure 2 also indicates percentages of each attribute by count location and area. Overall, 8,316 bicyclists were counted at 53 locations throughout the region. During the PM peak hours 52 percent of all cyclists were counted, with 48 percent counted during the AM peak hours. Just under 75 percent of the cyclists counted were male, and more than 90 percent were between the ages of 18 and 65. Approximately 46 percent wore helmets, 5 percent were observed riding on the wrong side of the road and approximately 9 percent were riding on the sidewalk.

As can be seen from Figure 2, the University of Arizona's four count locations show the largest number of cyclists counted (3,613) in any area, representing the high levels of cycling in and around the university. The proportion of female cycling around the university was the highest in the region at 31 percent. Interestingly, while the university area exhibited the lowest levels of wrong-way riding, 3 percent, and sidewalk riding, 6 percent, (two discouraged behaviors), it also had the lowest level of helmet-wearing (an encouraged behavior) at 28 percent.

The seven Downtown count locations yielded 1,176 cyclists, 75 percent of which were male. Just under 50 percent of downtown cyclists wore helmets, 5 percent were observed wrong-way riding, and approximately 10 percent rode on the sidewalk.

At the 30 Urban Core locations, 3,025 cyclists were counted, over 75 percent of which were male. Over 90 percent were between the ages of 18 and 65, corresponding with the regional trend. More than 60 percent of the area's cyclists wore helmets, 7 percent were wrong-way riding (more than any other area), and almost 12 percent rode on the sidewalk (the second-highest proportion in the region).

The 10 North & Northwest area count locations saw 454 cyclists, 60 percent of which were counted in the AM peak hours. Roughly 85 percent were male, more than 9 out of 10 were between 18 years old and 65 years old, and 75 percent wore helmets (the second-highest proportion in the region). Just over 6 percent were wrong-way riders, and more than 12 percent rode their bikes on the sidewalk (the highest percentage in the region).

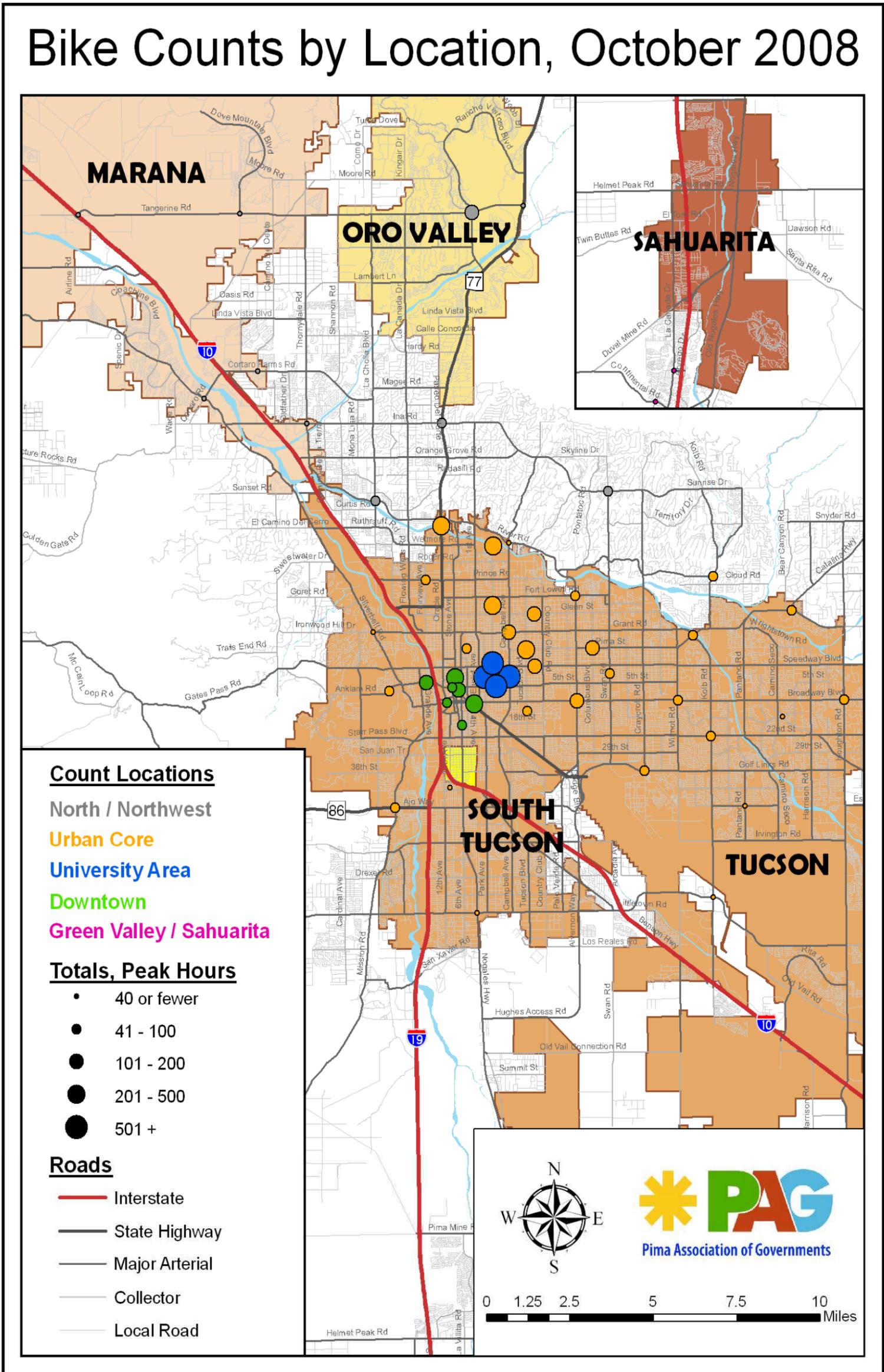
Finally, the two Green Valley/Sahuarita count locations showed 48 cyclists, over 70 percent of which rode in the AM peak hours. More than 75 percent of the counted cyclists were male, no cyclists under 18 years of age were observed, and almost 70 percent were over the age of 65. Almost 90 percent wore helmets (the highest proportion in the region), less than 5 percent rode wrong-way, and roughly 6 percent rode on the sidewalk.

Figure 2 – Data Summary Table

LOCATION		VOLUME				GENDER		AGE			OTHER ATTRIBUTES			PERCENTAGES									
Regional Location	Location	AM Total	PM Total	Total	Volume Rank	Female	Male	<18	18-65	>65	Wearing Helmet	Wrong-Way Riding	Sidewalk Riding	AM %	PM %	Female %	Male %	<18 %	18-65 %	>65 %	Helmet %	Wrong-Way %	Sidewalk %
UA	3rd & Campbell	559	670	1229	1	358	871	89	1088	52	389	14	27	45.5%	54.5%	29.1%	70.9%	7.2%	88.5%	4.2%	31.7%	1.1%	2.2%
UA	Park & University	475	583	1058	2	345	713	5	1024	29	242	10	19	44.9%	55.1%	32.6%	67.4%	0.5%	96.8%	2.7%	22.9%	0.9%	1.8%
UA	Mountain & Helen	400	425	825	3	260	565	2	804	19	282	33	25	48.5%	51.5%	31.5%	68.5%	0.2%	97.5%	2.3%	34.2%	4.0%	3.0%
UA	6th St & Highland Ave	197	304	501	4	171	330	9	483	9	112	55	136	39.3%	60.7%	34.1%	65.9%	1.8%	96.4%	1.8%	22.4%	11.0%	27.1%
<b>UofA Total</b>		<b>1631</b>	<b>1982</b>	<b>3613</b>		<b>1134</b>	<b>2479</b>	<b>105</b>	<b>3399</b>	<b>109</b>	<b>1025</b>	<b>112</b>	<b>207</b>	<b>45.1%</b>	<b>54.9%</b>	<b>31.4%</b>	<b>68.6%</b>	<b>2.9%</b>	<b>94.1%</b>	<b>3.0%</b>	<b>28.4%</b>	<b>3.1%</b>	<b>5.7%</b>
Downtown	Stone & University	177	162	339	6	109	230	5	331	3	161	7	12	52.2%	47.8%	32.2%	67.8%	1.5%	97.6%	0.9%	47.5%	2.1%	3.5%
Downtown	Snake Bridge (Bdwy/Aviation)	134	135	269	8	57	212	4	263	2	148	18	32	49.8%	50.2%	21.2%	78.8%	1.5%	97.8%	0.7%	55.0%	6.7%	11.9%
Downtown	St.Mary & Santa Cruz River	90	108	198	11	49	149	19	173	6	125	11	28	45.5%	54.5%	24.7%	75.3%	9.6%	87.4%	3.0%	63.1%	5.6%	14.1%
Downtown	7th St & 7th Ave	68	106	174	12	45	129	0	169	5	79	12	3	39.1%	60.9%	25.9%	74.1%	0.0%	97.1%	2.9%	45.4%	6.9%	1.7%
Downtown	Congress & Granada	32	46	78	27	13	65	0	76	2	26	4	22	41.0%	59.0%	16.7%	83.3%	0.0%	97.4%	2.6%	33.3%	5.1%	28.2%
Downtown	18th St./6TH Ave.	28	32	60	32	11	49	3	57	0	15	5	13	46.7%	53.3%	18.3%	81.7%	5.0%	95.0%	0.0%	25.0%	8.3%	21.7%
Downtown	9th Ave./6th St.	25	33	58	33	11	47	3	41	14	24	5	0	43.1%	56.9%	19.0%	81.0%	5.2%	70.7%	24.1%	41.4%	8.6%	0.0%
<b>Downtown Total</b>		<b>554</b>	<b>622</b>	<b>1176</b>		<b>295</b>	<b>881</b>	<b>34</b>	<b>1110</b>	<b>32</b>	<b>578</b>	<b>62</b>	<b>110</b>	<b>47.1%</b>	<b>52.9%</b>	<b>25.1%</b>	<b>74.9%</b>	<b>2.9%</b>	<b>94.4%</b>	<b>2.7%</b>	<b>49.1%</b>	<b>5.3%</b>	<b>9.4%</b>
Urban Core	Mountain/Blacklidge	195	177	372	5	115	257	22	350	0	224	7	7	52.4%	47.6%	30.9%	69.1%	5.9%	94.1%	0.0%	60.2%	1.9%	1.9%
Urban Core	Mountain & River Park	162	177	339	7	82	257	3	333	3	260	0	0	47.8%	52.2%	24.2%	75.8%	0.9%	98.2%	0.9%	76.7%	0.0%	0.0%
Urban Core	Oracle & Rillito Pathway	110	138	248	9	58	190	0	236	12	174	7	18	44.4%	55.6%	23.4%	76.6%	0.0%	95.2%	4.8%	70.2%	2.8%	7.3%
Urban Core	Tucson/Elm	129	94	223	10	74	149	2	219	2	133	4	9	57.8%	42.2%	33.2%	66.8%	0.9%	98.2%	0.9%	59.6%	1.8%	4.0%
Urban Core	Glenn/Treat	84	78	162	13	42	120	10	149	3	102	1	0	51.9%	48.1%	25.9%	74.1%	6.2%	92.0%	1.9%	63.0%	0.6%	0.0%
Urban Core	Speedway/Treat	74	73	147	14	46	101	21	119	7	81	6	17	50.3%	49.7%	31.3%	68.7%	14.3%	81.0%	4.8%	55.1%	4.1%	11.6%
Urban Core	Pima/Columbus	63	75	138	15	23	115	0	138	0	45	10	4	45.7%	54.3%	16.7%	83.3%	0.0%	100.0%	0.0%	53.6%	7.2%	2.9%
Urban Core	ALV/B'WAY	48	68	116	16	21	95	0	116	0	57	16	28	41.4%	58.6%	18.1%	81.9%	0.0%	100.0%	0.0%	49.1%	13.8%	24.1%
Urban Core	Campbell/Grant	29	78	107	17	31	76	2	103	2	41	22	42	27.1%	72.9%	29.0%	71.0%	1.9%	96.3%	1.9%	38.3%	20.6%	39.3%
Urban Core	3rd & Swan	44	50	94	20	20	74	7	86	1	52	5	11	46.8%	53.2%	21.3%	78.7%	7.4%	91.5%	1.1%	55.3%	5.3%	11.7%
Urban Core	Price & Fairview	45	46	91	22	5	86	8	80	3	13	13	26	49.5%	50.5%	5.5%	94.5%	8.8%	87.9%	3.3%	14.3%	14.3%	28.6%
Urban Core	St.Mary's/Anklam	42	48	90	23	19	71	6	84	0	73	1	2	46.7%	53.3%	21.1%	78.9%	6.7%	93.3%	0.0%	81.1%	1.1%	2.2%
Urban Core	Kolb & 22nd	37	50	87	24	7	80	48	38	1	28	29	57	42.5%	57.5%	8.0%	92.0%	55.2%	43.7%	1.1%	32.2%	33.3%	65.5%
Urban Core	Broadway/Wilmont	39	48	87	25	6	81	8	79	0	51	16	26	44.8%	55.2%	6.9%	93.1%	9.2%	90.8%	0.0%	58.6%	18.4%	29.9%
Urban Core	Alvernon/ Ft. Lowell	32	39	71	28	13	58	5	65	1	28	18	20	45.1%	54.9%	18.3%	81.7%	7.0%	91.5%	1.4%	39.4%	25.4%	28.2%
Urban Core	Sabino Canyon & River	47	17	64	29	13	51	3	58	3	54	2	1	73.4%	26.6%	20.3%	79.7%	4.7%	90.6%	4.7%	84.4%	3.1%	1.6%
Urban Core	Tanque Verde/Kolb	31	32	63	30	6	57	2	59	2	46	6	15	49.2%	50.8%	9.5%	90.5%	3.2%	93.7%	3.2%	73.0%	9.5%	23.8%
Urban Core	Mission /Ajo	45	16	61	31	6	55	0	61	0	55	3	3	73.8%	26.2%	9.8%	90.2%	0.0%	100.0%	0.0%	90.2%	4.9%	4.9%
Urban Core	Craycroft & Golf Links	22	34	56	34	4	52	1	52	3	33	9	12	39.3%	60.7%	7.1%	92.9%	1.8%	92.9%	5.4%	58.9%	16.1%	21.4%
Urban Core	Broadway & Houghton	20	27	47	35	11	36	5	41	1	32	2	5	42.6%	57.4%	23.4%	76.6%	10.6%	87.2%	2.1%	68.1%	4.3%	10.6%
Urban Core	Tucson /Arroyo Chico	19	27	46	36	16	30	2	42	2	24	4	5	41.3%	58.7%	34.8%	65.2%	4.3%	91.3%	4.3%	52.2%	8.7%	10.9%
Urban Core	Catalina Hwy & Tanque Verde	32	14	46	37	6	40	0	46	0	46	0	0	69.6%	30.4%	13.0%	87.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
Urban Core	4th Ave and Lester	16	28	44	38	16	28	3	41	0	11	1	0	36.4%	63.6%	36.4%	63.6%	6.8%	93.2%	0.0%	25.0%	2.3%	0.0%
Urban Core	Old Spanish / Kenyon	27	12	39	39	9	30	8	30	1	30	3	5	69.2%	30.8%	23.1%	76.9%	20.5%	76.9%	2.6%	76.9%	7.7%	12.8%
Urban Core	River & Campbell	18	21	39	40	9	30	0	39	0	32	0	5	46.2%	53.8%	23.1%	76.9%	0.0%	100.0%	0.0%	82.1%	0.0%	12.8%
Urban Core	Silverbell & Ironwood Hill	24	14	38	41	2	36	5	33	0	23	3	1	63.2%	36.8%	5.3%	94.7%	13.2%	86.8%	0.0%	60.5%	7.9%	2.6%
Urban Core	Escalante&Pantano	18	16	34	42	3	31	19	14	1	9	12	19	52.9%	47.1%	8.8%	91.2%	55.9%	41.2%	2.9%	26.5%	35.3%	55.9%
Urban Core	10th Ave & 43rd	14	19	33	43	7	26	4	29	0	10	6	9	42.4%	57.6%	21.2%	78.8%	12.1%	87.9%	0.0%	30.3%	18.2%	27.3%
Urban Core	Kolb/Valencia	16	10	26	46	1	25	0	25	1	22	1	3	61.5%	38.5%	3.8%	96.2%	0.0%	96.2%	3.8%	84.6%	3.8%	11.5%
Urban Core	Nogales / Valencia	9	8	17	49	0	17	1	16	0	11	3	2	52.9%	47.1%	0.0%	100.0%	5.9%	94.1%	0.0%	64.7%	17.6%	11.8%
<b>Urban Core Total</b>		<b>1491</b>	<b>1534</b>	<b>3025</b>		<b>671</b>	<b>2354</b>	<b>195</b>	<b>2781</b>	<b>49</b>	<b>1829</b>	<b>210</b>	<b>352</b>	<b>49.3%</b>	<b>50.7%</b>	<b>22.2%</b>	<b>77.8%</b>	<b>6.4%</b>	<b>91.9%</b>	<b>1.6%</b>	<b>60.5%</b>	<b>6.9%</b>	<b>11.6%</b>
North & NW	Tangerine & 1st Ave	67	36	103	18	18	85	4	99	0	86	1	2	65.0%	35.0%	17.5%	82.5%	3.9%	96.1%	0.0%	83.5%	1.0%	1.9%
North & NW	Ina / Oracle	67	28	95	19	10	85	0	94	1	87	1	2	70.5%	29.5%	10.5%	89.5%	0.0%	98.9%	1.1%	91.6%	1.1%	2.1%
North & NW	Swan & Sunrise	58	35	93	21	16	77	8	78	7	80	6	9	62.4%	37.6%	17.2%	82.8%	8.6%	83.9%	7.5%	86.0%	6.5%	9.7%
North & NW	River/ La Cholla	38	45	83	26	13	70	4	79	0	36	10	26	45.8%	54.2%	15.7%	84.3%	4.8%	95.2%	0.0%	43.4%	12.0%	31.3%
North & NW	Ina & Thornydale	10	17	27	45	5	22	4	23	0	11	9	14	37.0%	63.0%	18.5%	81.5%	14.8%	85.2%	0.0%	40.7%	33.3%	51.9%
North & NW	Silverbell/Cortaro	6	12	18	48	1	17	2	14	2	8	2	3	33.3%	66.7%	5.6%	94.4%	11.1%	77.8%	11.1%	44.4%	11.1%	16.7%
North & NW	Oracle & Tangerine	12	3	15	50	2	13	0	15	0	15	0	0	80.0%	20.0%	13.3%	86.7%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
North & NW	Tangerine Rd/Dove Mnt	6	3	9	51	1	8	1	8	0	8	0	0	66.7%	33.3%	11.1%	88.9%	11.1%	88.9%	0.0%	88.9%	0.0%	0.0%
North & NW	Cortaro/Camino de Oeste	3	6	9	52	0	9	0	9	0	6	0	0	33.3%	66.7%	0.0%	100.0%	0.0%	100.0%	0.0%	66.7%	0.0%	0.0%
North & NW	Tangerine/W.110 Front.	2	0	2	53	0	2	0	2	0	2	0	0	100.0%	0.0%								

**Figure 3** shows a map depicting the volume of cyclists per count location. Count volume symbols are color-coded by count area and proportional to the volume of cyclists at each location.

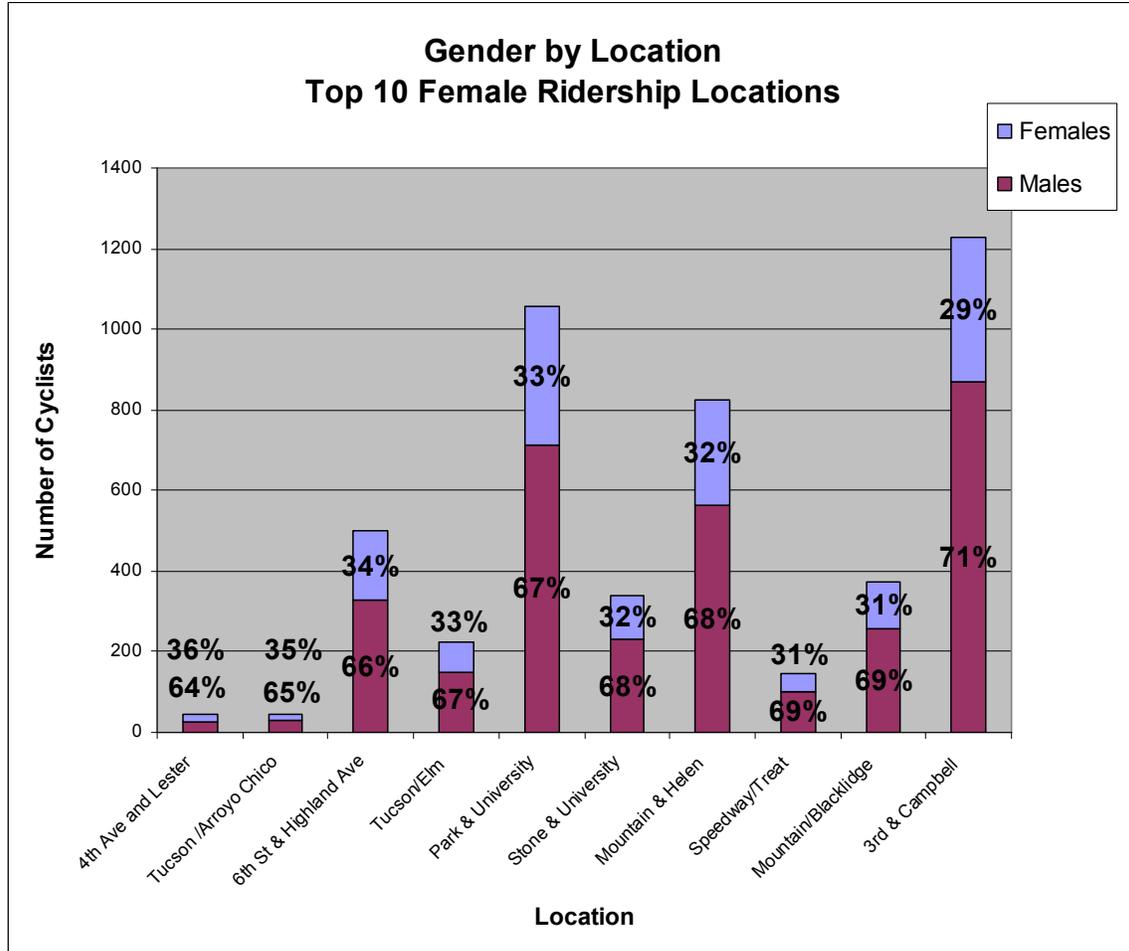
Figure 3 – Cyclist Volumes



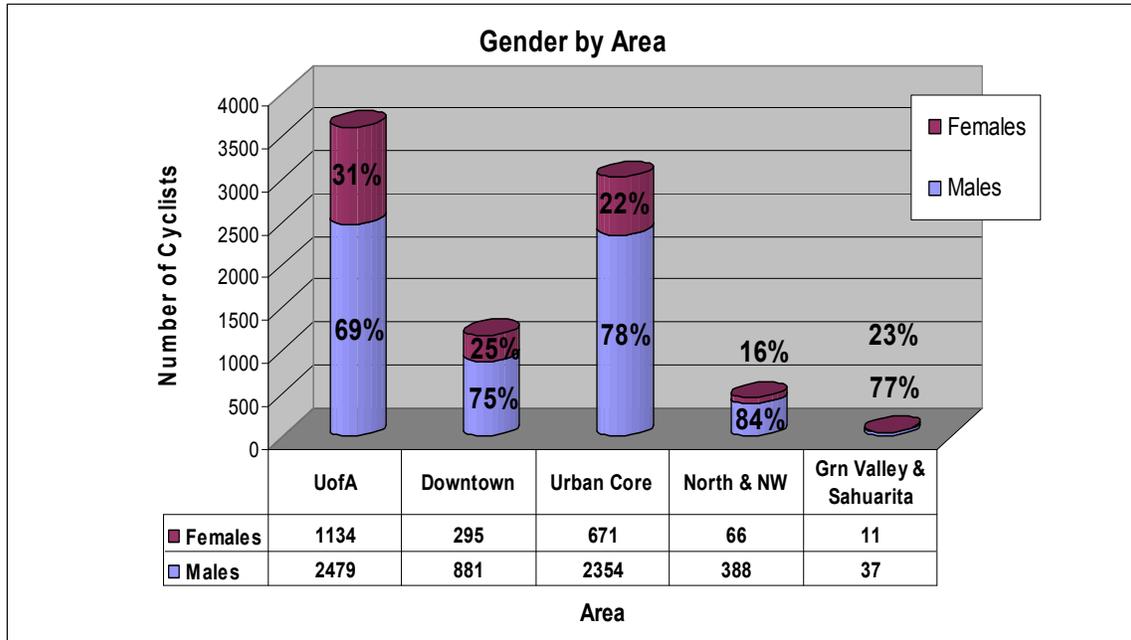
## Gender

Women represented just over one-quarter of all bicyclists counted in the region. The percentage of female cyclists varied between 0 percent and 36 percent, depending on count location. The University of Arizona area had the highest average of female cyclists, with 31.4 percent. Conversely, the North & Northwest area had the lowest average of women, with 14.5 percent. **Figure 4** shows the locations with the highest proportion of women, and **Figure 5** shows the percentage of women by area.

**Figure 4 – Top 10 Female Ridership Locations**

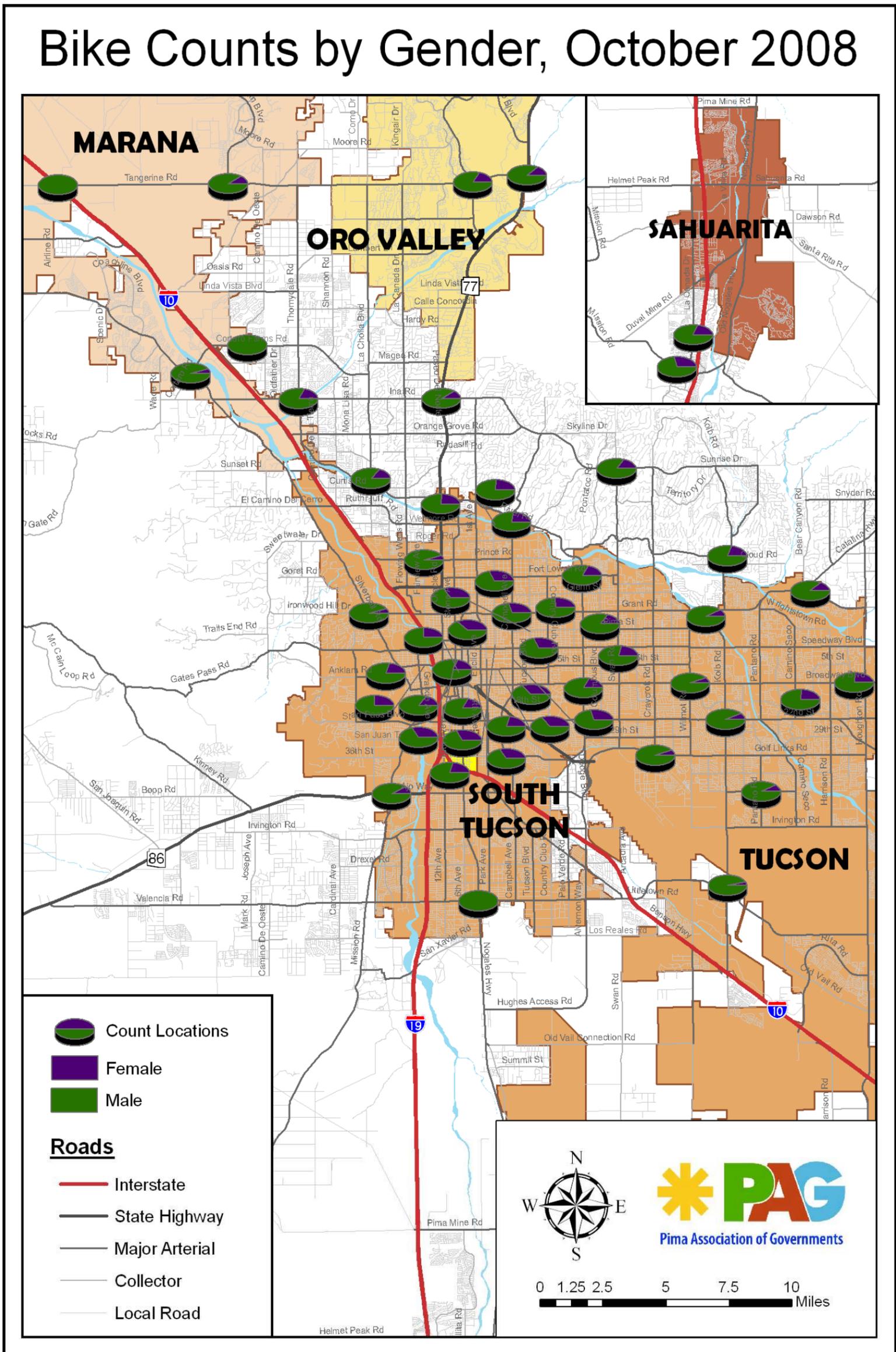


**Figure 5 – Gender by Area**



**Figure 6** shows a map depicting the gender-split throughout the region.

Figure 6 – Gender-Split

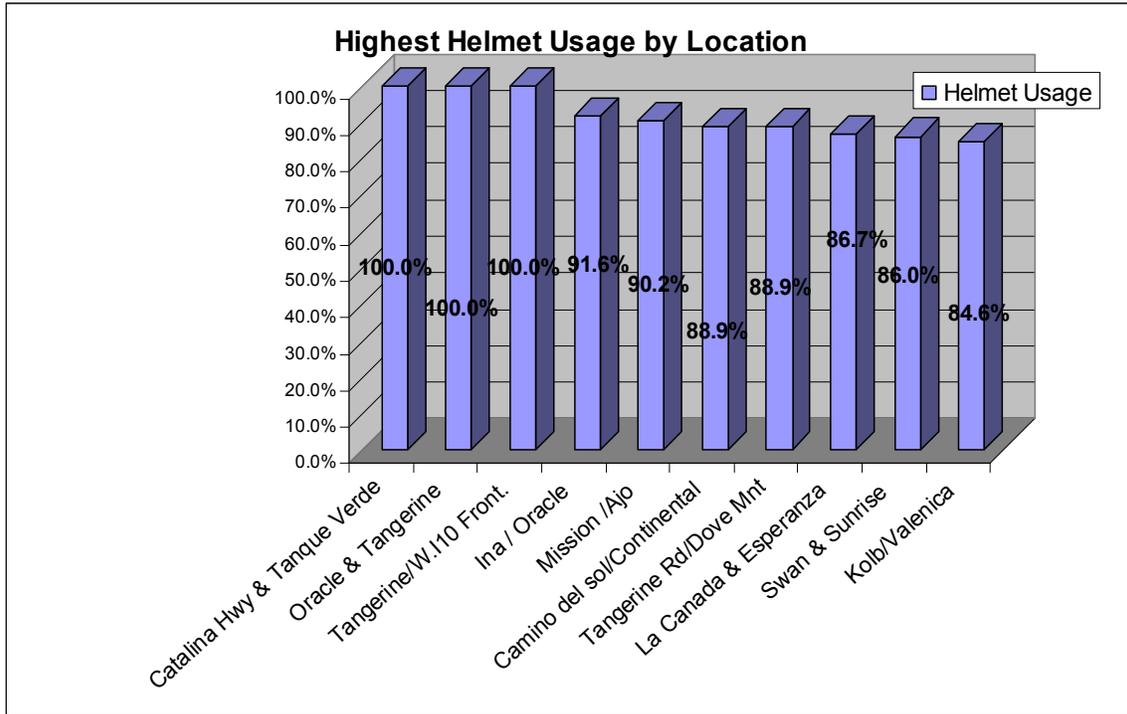


## Helmet Usage

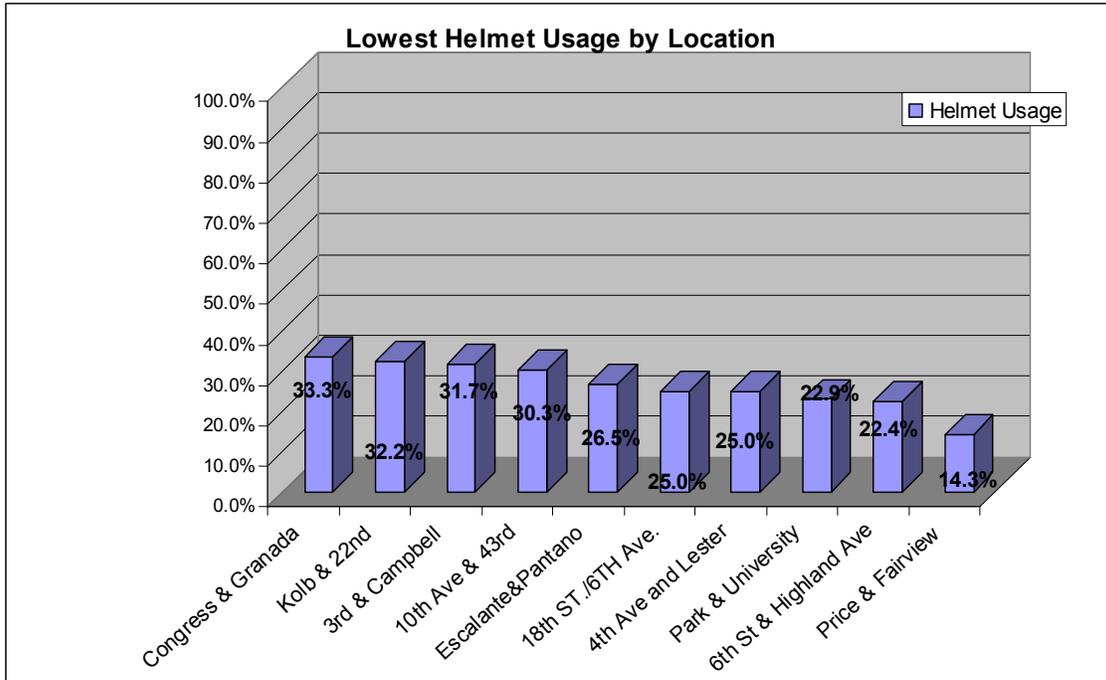
Bicycle helmets provide substantial protection against head injuries for cyclists of all ages involved in crashes, including crashes involving motor vehicles. Tracking helmet usage is an important way to gauge education and outreach efforts aimed at increasing safe riding behaviors.

Region wide, 46 percent of cyclists wore helmets. Helmet usage varied between 14 percent and 100 percent, depending on count location. **Figure 7** shows the locations with the highest rate of helmet usage, and **Figure 8** shows the locations with the lowest rate of usage.

**Figure 7 – Highest Helmet Usage Locations**



**Figure 8 - Lowest Helmet Usage Locations**



The Green Valley & Sahuarita area had the highest rate of helmet wearing at almost 90 percent. The University of Arizona had the lowest rate of helmet wearing at 28 percent. **Figure 9** shows the percentage of helmet usage by area. **Figure 10** shows a map depicting helmet usage throughout the region.

**Figure 9 – Helmet Usage by Area**

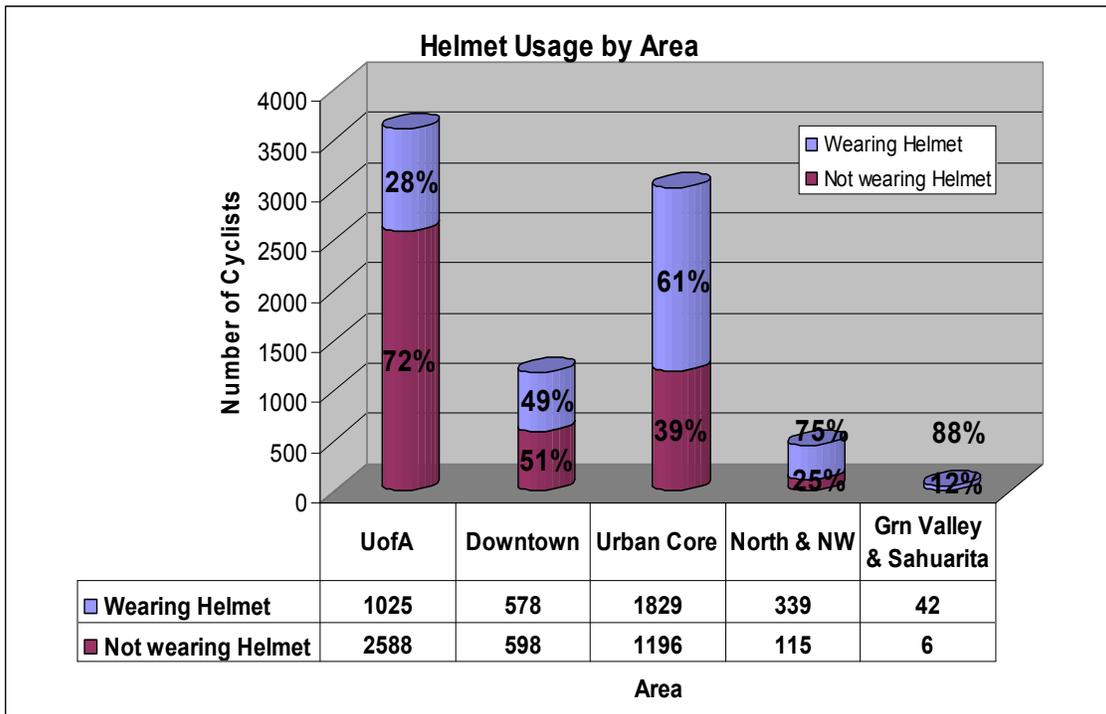
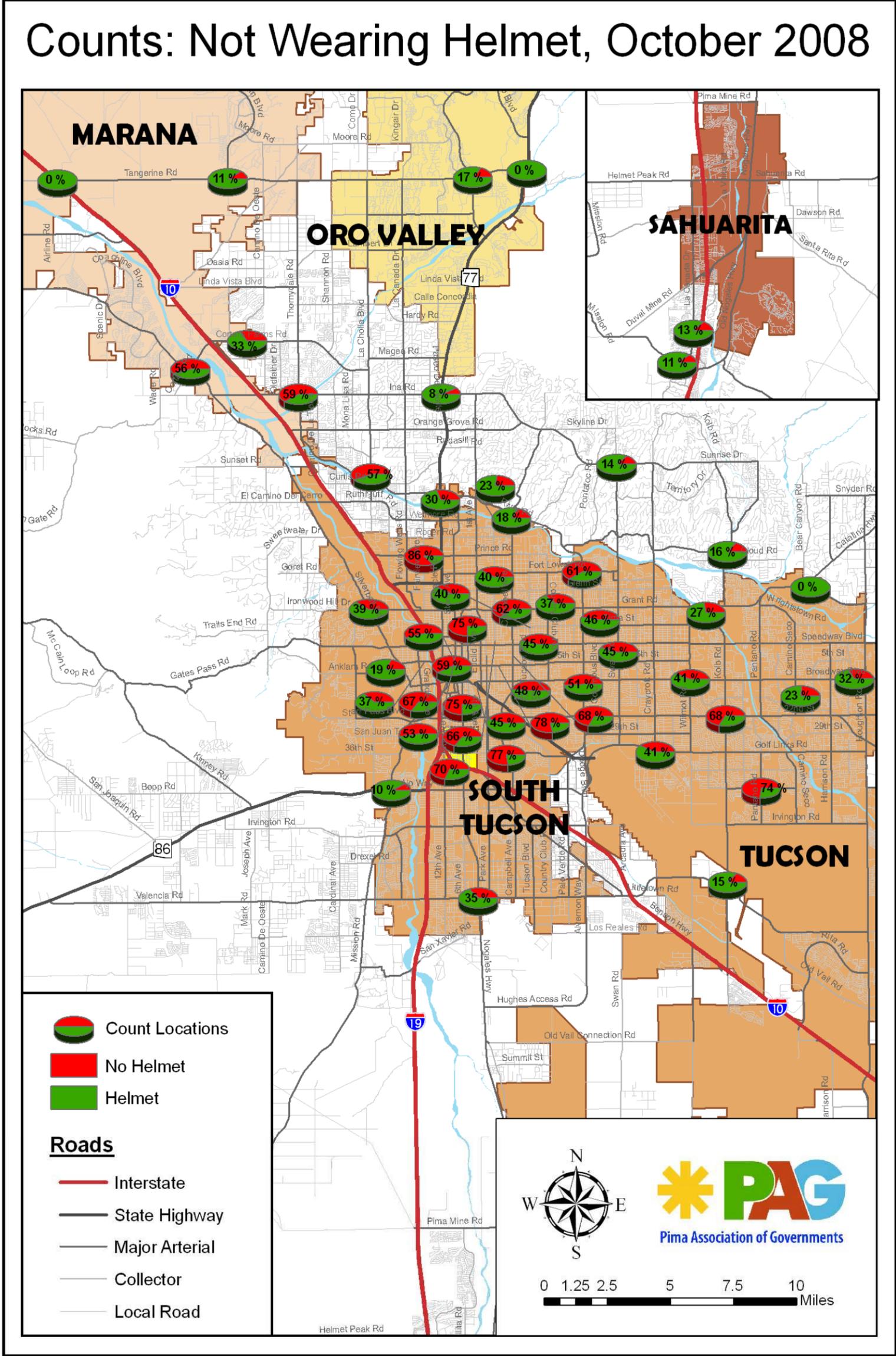


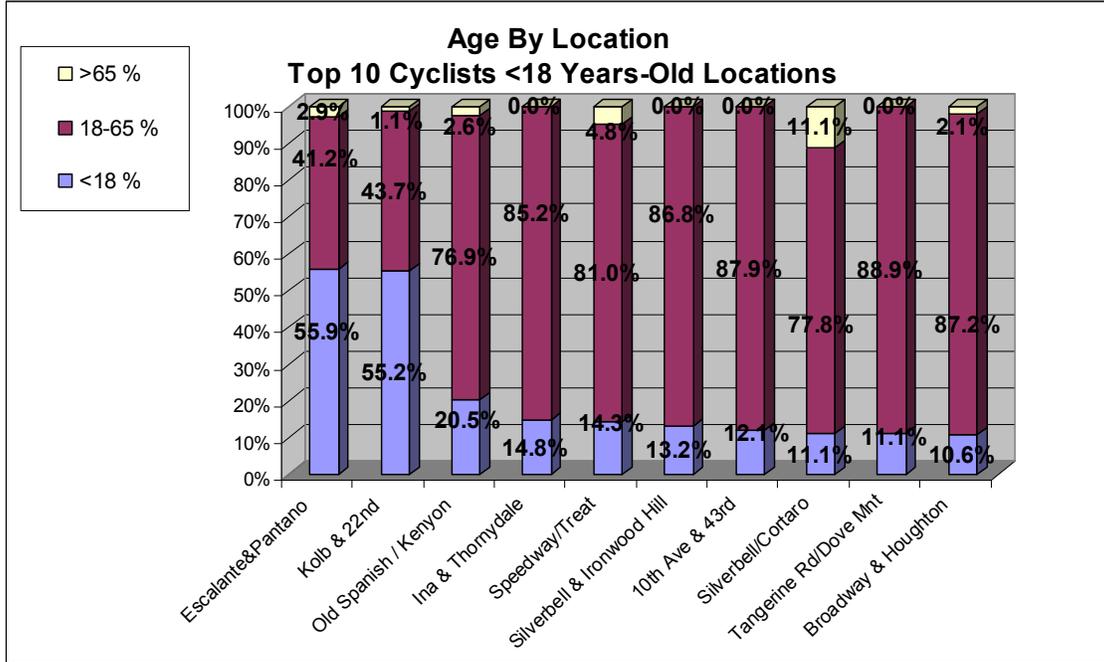
Figure 10 – Helmet Usage



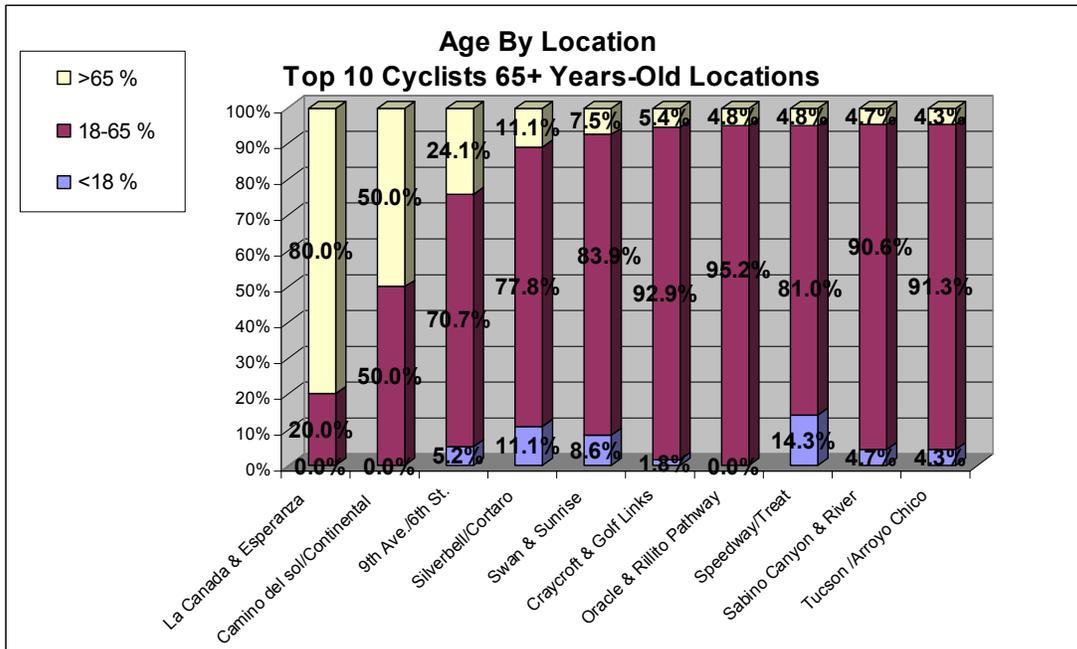
## Age

The vast majority of cyclists counted in the region were between the ages of 18 and 65. Cyclists under 18 years of age comprised 4 percent of the total and those over 65 made up 3 percent. **Figures 11 and 12** show locations with the highest rates for cyclists under 18 and over 65, respectively. **Figure 13** shows ages by area.

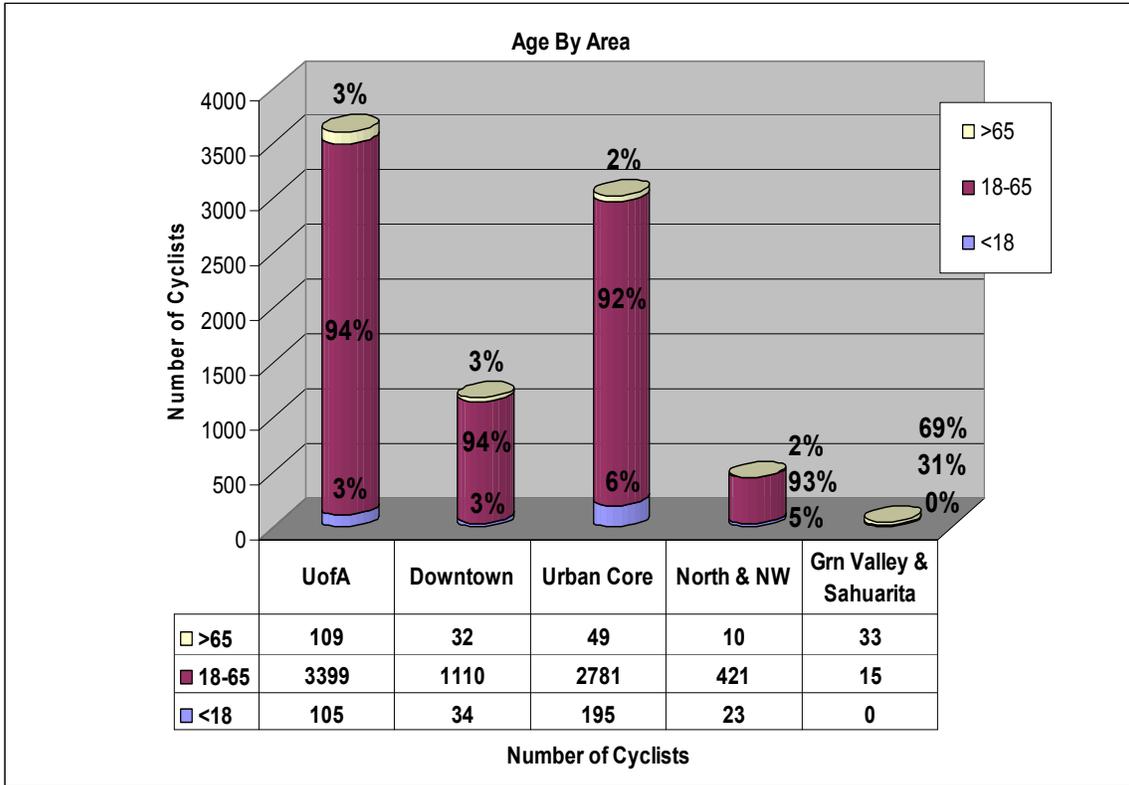
**Figure 11 – Top 10 Locations, Less Than 18-Years of Age**



**Figure 12 - Top 10 Locations, More Than 65-Years of Age**

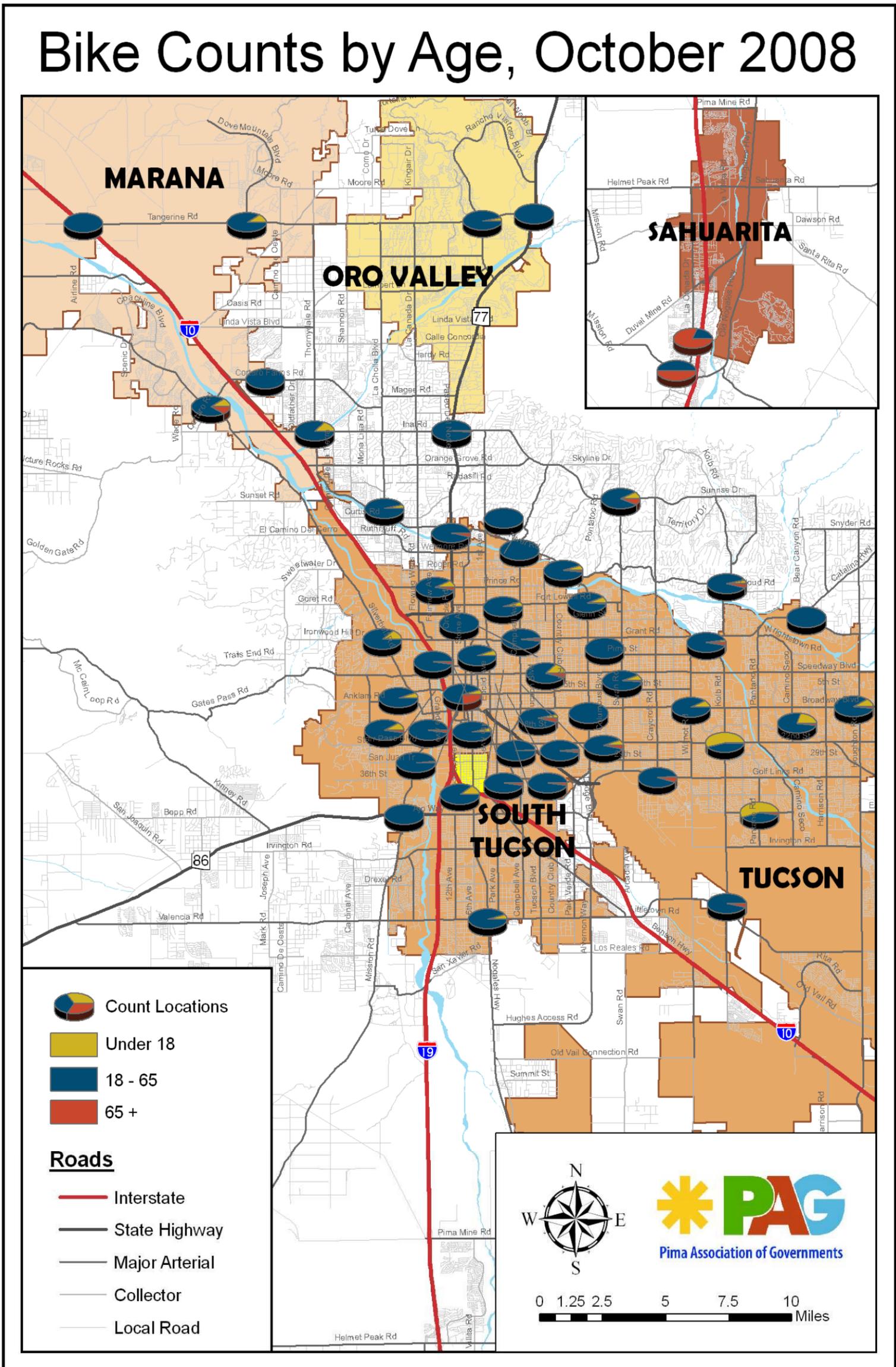


**Figure 13 – Age by Area**



**Figure 14** shows a map depicting age ranges through the region.

Figure 14 – Age Range

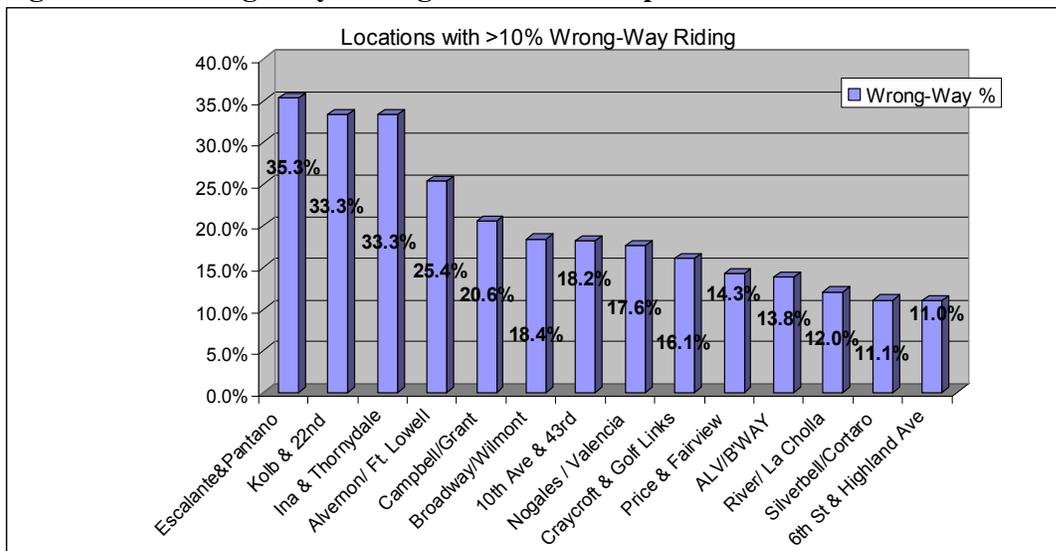


## Wrong-Way Riding

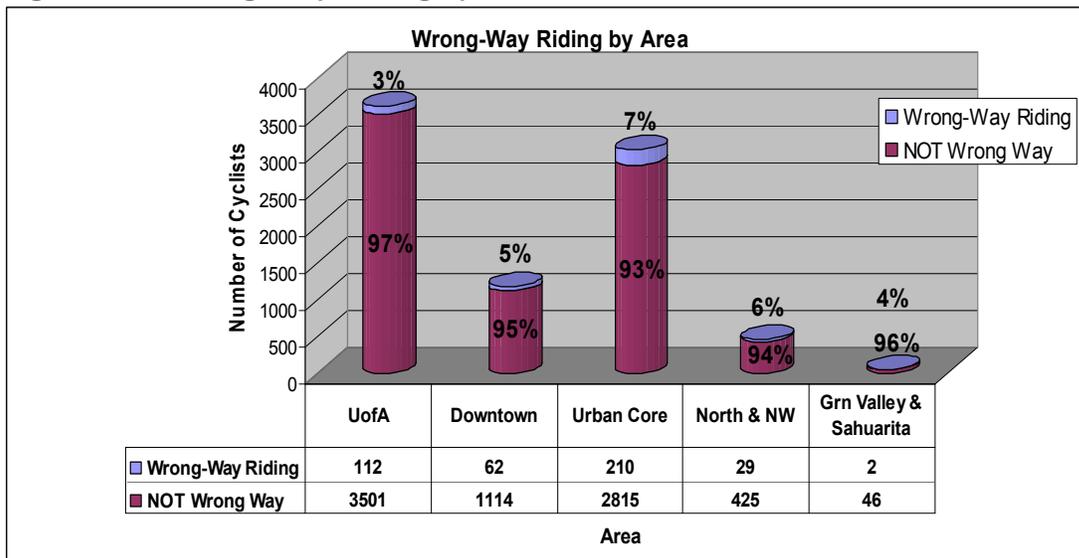
Bicycling on the left side of the road is a dangerous and illegal way to ride. Traffic signals and signs are posted for traffic traveling on the right side of the road, and drivers, when entering and exiting intersections and driveways, do not expect to see cyclists on that side of the roadway. Tracking wrong-way riding is an important way to gauge education and outreach efforts aimed at increasing safe riding behaviors, and to identify potentially needed improvements.

The region-wide 2008 count average for wrong-way riding was 5 percent. **Figure 15** shows locations that saw more than 10 percent wrong-way riding. The Urban Core and North & Northwest areas had the highest rates for wrong-way riding, at 7 percent and 6 percent, respectively. **Figure 16** shows wrong-way riding by area and **Figure 17** shows a map depicting wrong-way riding in the region.

**Figure 15 – Wrong-Way Riding More Than 10 percent**



**Figure 16 – Wrong-Way Riding by Area**





## Sidewalk Riding

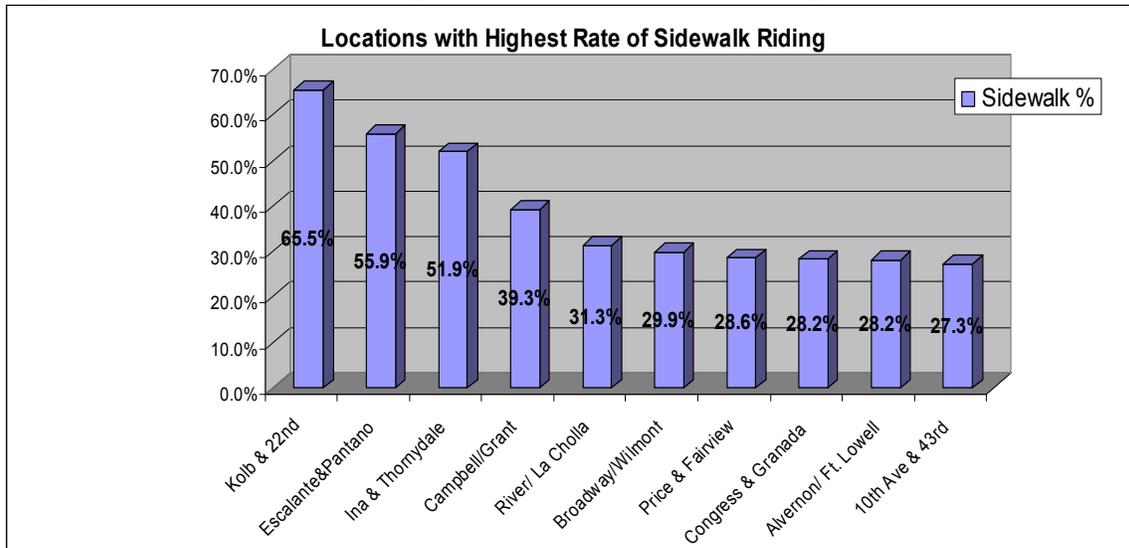
Much like wrong-way riding, riding on the sidewalk is an unsafe and prohibited activity. Cyclists riding on the sidewalk often go unseen by auto drivers and can constitute a danger to pedestrians due to their comparatively high speed. Tracking sidewalk riding is another important way to gauge education and outreach efforts aimed at increasing safe riding behaviors, and to identify potentially needed improvements.

The regional average for sidewalk riding for the 2008 count was just under 9 percent. Sidewalk riding varied from 0 percent to 66 percent, depending on count location.

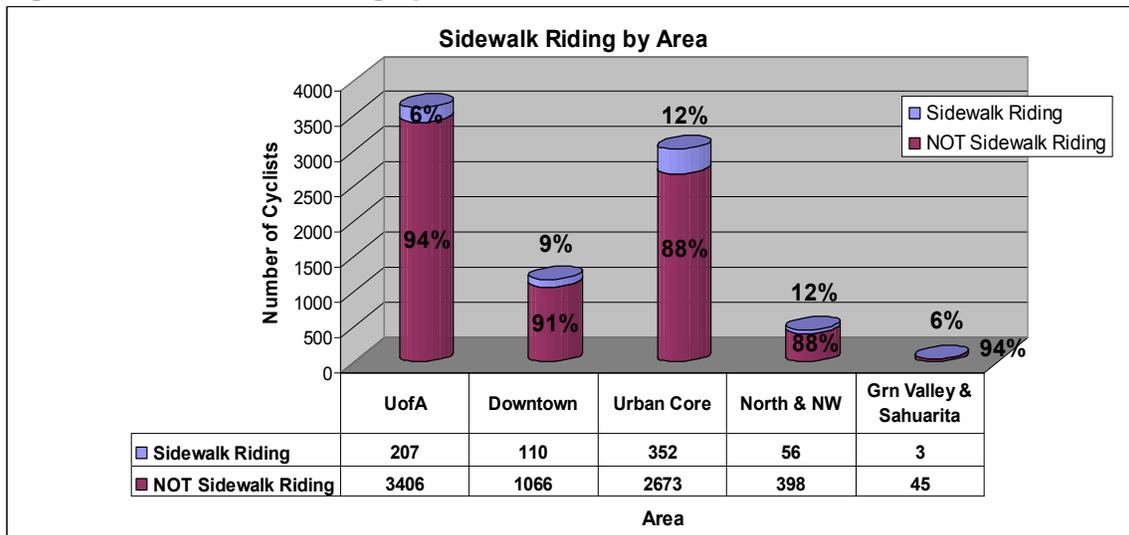
**Figure 18** shows locations with the highest rate of sidewalk riding. The Urban Core and North & Northwest areas had the highest rates for sidewalk riding, both at 12 percent.

**Figure 19** shows sidewalk riding by area. **Figure 20** shows a map depicting sidewalk riding throughout the region.

**Figure 18 – Locations with Highest Rates of Sidewalk Riding**



**Figure 19 – Sidewalk Riding by Area**





## **Conclusion**

Results from the first annual regional bike count demonstrate the comparatively high levels of bicycling in and around the University of Arizona. The university averaged 900 cyclists per count location, compared to 168 per location Downtown, 101 throughout the Urban Core, 45 in the North & Northwest and 24 in Green Valley & Sahuarita. These results confirm many of the previous assumptions of high levels of ridership in the university area and to a lesser extent, the more urbanized areas of the region.

The slight majority of bike trips took place in the evening peak hours, which mirrors trends for automobile traffic, and reflects the fact that evening periods tend to have higher travel demand in general. Men outnumbered women 3-to-1, a trend that generally corresponds to national statistics on gender and cycling.

Helmet usage was 46 percent for the Tucson region. In comparison, Portland's 2008 bike count showed 80 percent of cyclists wearing helmets and Seattle's 2007 count saw 89 percent of its cyclists wearing helmets. In contrast, a 2001 Ft. Lauderdale, Florida count observed only 25 percent its cyclists wearing helmets. A 2002 National Highway Traffic Safety Administration-sponsored poll found that 50 percent of national respondents wear a helmet for at least some trips, with 35 percent wearing one for all trips. Without a standardized mechanism for all communities to regularly report on helmet usage, it is challenging to identify how Tucson compares to other regions, let alone regions with similar demographics. Nevertheless, it appears that the Tucson region has a significantly lower average of helmet usage than other bike-friendly communities.

The vast majority of cyclists observed were between the ages of 18 and 65. However, in the areas of Green Valley and Sahuarita, communities with higher proportions of retirees, the counts showed a much higher amount of riders over the age of 65.

The region-wide average for wrong-way riding was 5 percent. Having limited data on wrong-way riding makes it difficult to compare to past years. As previously stated, 2008 will serve as a baseline with which to compare future years. That being said, compared to a university-area count performed in 2000, university wrong-way riding has essentially remained unchanged, at 3.1 percent in 2008 vs. 2.3 percent in 2000.

The region-wise average for sidewalk riding was 9 percent. As with the lack of wrong-way riding data, having limited data on sidewalk riding makes it difficult to compare to past years. However, compared to the previously referenced university-area count performed in 2000, university sidewalk riding has dipped slightly, from 8 percent in 2000 to 5.7 percent in 2008.

In future count-years, comparisons across time can be made and trends identified so that areas needing increases in targeted enforcement, education and outreach can be identified. In addition, these data can be used to identify areas with consistently high demand, and therefore the need for adequate facilities to provide for an acceptable level of service.

**Appendix Item 1 – Data Collection Sheet**

<b>Bike Count Sheet</b>								
<b>Date:</b>		<b>Location:</b>			<b>Type of Bikeway:</b>			
<b>HOUR</b>	<b>APPROACH DIRECTION</b>	<b>COUNT</b>	<b>INDICATE GENDER IF: FEMALE</b>	<b>INDICATE AGE IF:</b>		<b>WEARING HELMET</b>	<b>WRONG WAY RIDING</b>	<b>RIDING ON SIDEWALK</b>
				<b>&lt;18</b>	<b>65+</b>			
	NB							
	SB							
	EB							
	WB							
:00	NB							
	SB							
	EB							
	WB							
:15	NB							
	SB							
	EB							
	WB							
:30	NB							
	SB							
	EB							
	WB							
:45	NB							
	SB							
	EB							
	WB							

**Observations:**