IOWA CITY BIKE LIBRARY
KEY FINDINGS

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Awareness Residuals

Services	19-25	26-40	Over 40
Bike Check Out	-16.59%	-3.10%	19.69%
Public Bench	-6.86%	12.75%	-5.88%
WTF Tuesday	9.69%	3.18%	-12.86%
Wednesday Night Salvage	3.96%	-3.02%	-0.94%
Outspoken Teens	1.37%	-3.73%	2.35%
Friday Night Rides	7.02%	2.63%	-9.65%
Cycling Without Age	-1.92%	-3.02%	4.94%
Saturday Stay Cozy	9.22%	-1.76%	-7.45%
Mujeres en Bici	7.25%	-3.73%	-3.53%
Bike-In Beats	-4.59%	2.31%	2.27%
Farm Cycle	-8.59%	-1.45%	10.04%
Witches Take Flight	0.04%	-1.06%	1.02%

[Bike Check Out]
- 19-25 unaware
- Over 40 aware

[Public Bench]
- Only 26-40 aware

[WTF Tuesday]
- 19-25 aware
- Over 40 unaware

[Friday Night Rides]
- Over 40 unaware

[Farm Cycle]
- 19-25 not aware
- Over 40 aware

Services	19-25	26-40	Over 40
Volunteered	0.88%	-3.71%	2.84%
Donated	-7.05%	-5.52%	12.56%
Checked Out a Bike	2.92%	-1.91%	-1.01%
Purchased a Bike	-10.26%	0.92%	9.35%
Purchased Bike Accessories	-3.20%	10.33%	-7.12%
Donated a Bike	-3.05%	-1.75%	4.80%
Public Bench	8.64%	-1.59%	-7.05%
Group Ride	-6.34%	-1.05%	7.39%
Outspoken Teens	6.84%	2.01%	-8.85%
WTF Night	4.17%	7.35%	-11.52%
Cycling Without Age	4.88%	0.05%	-4.93%
Salvage Night	1.58%	-5.12%	3.54%

[Donated]
- Over 40 donated

[Purchased a Bike]
- 19-25 did not purchase
- Over 40 did purchase

[Purchased Bike Accessories]
- 26-40 did purchase
- 19-25 and 40+ did not purchase

[Group Ride]
- 19-25 did not ride
- Over 40 did ride

[WTF Night]
- Over 40 did not attend

Interest Residuals

Services	19-25	26-40	Over 40
Donating Financially	-12.66%	1.71%	10.95%
Donating Bike	-20.05%	6.82%	13.22%
Volunteering	4.39%	-4.77%	0.39%
Checking Out Bike	6.89%	-2.09%	-4.80%
Public Bench	11.92%	4.23%	-16.15%
Group Rides	0.65%	-2.63%	1.98%
Social Events	8.24%	-0.18%	-8.06%
Cylcing without age	-0.32%	0.57%	-0.25%
WTF Tuesdays	-2.53%	10.86%	-8.33%
Wed Night Salvage	-5.12%	-2.34%	7.46%
Gatos en Ronda	14.10%	-10.99%	-3.10%
Outspoken Teens	-5.51%	-1.19%	6.70%

[Donating Financially]
- 19-25 are not interested
- Over 40 are interested

[Donating Bike]
- 19-25 are not interested
- Over 40 are interested

[Public Bench]
- 19-25 are interested
- Over 40 not interested

[Gatos en Ronda]
- 19-25 are interested
- 26-40 are not interested

[Outspoken Teens]
- 19-25 are not interested
- Over 40 are interested

InfoSource Residuals

	19-25	26-40	41-64
Facebook	-0.35%	2.47%	-2.12%
Instagram	-10.94%	17.76%	-6.82%
Twitter/X	-2.08%	0.04%	2.04%
TikTok	-3.41%	2.71%	0.71%
Email	-6.71%	-14.24%	20.94%
Posters/flyers	16.12%	-12.82%	-3.29%
Community bulletin	9.61%	0.20%	-9.80%
Word of mouth	11.33%	-3.25%	-8.08%
Local media	-10.08%	4.27%	5.80%
Other local events	-3.49%	2.86%	0.63%

[Facebook, X, TikTok]
- No age significant

[Instagram]
- 19-25 and 41-64 not used
- 26-40 used

[Email]
- 26-40 not used
- 41-64 used

[Posters/flyers]
- 19-25 used
- 26-40 not used

[Community bulletin]
- 19-25 are interested
- 41-64 are not interested

AWARENESS VS. UIOWA AFFILIATION

- Significant relationship between Awareness and UIowa Affiliation

- Students are less aware

- Community is very aware

- What this means for marketing…

  - What is your goal?

  - Reinforce community engagement

    - Focus on repeat customers

  - If reach students

    - Flyers

    - Word of mouth
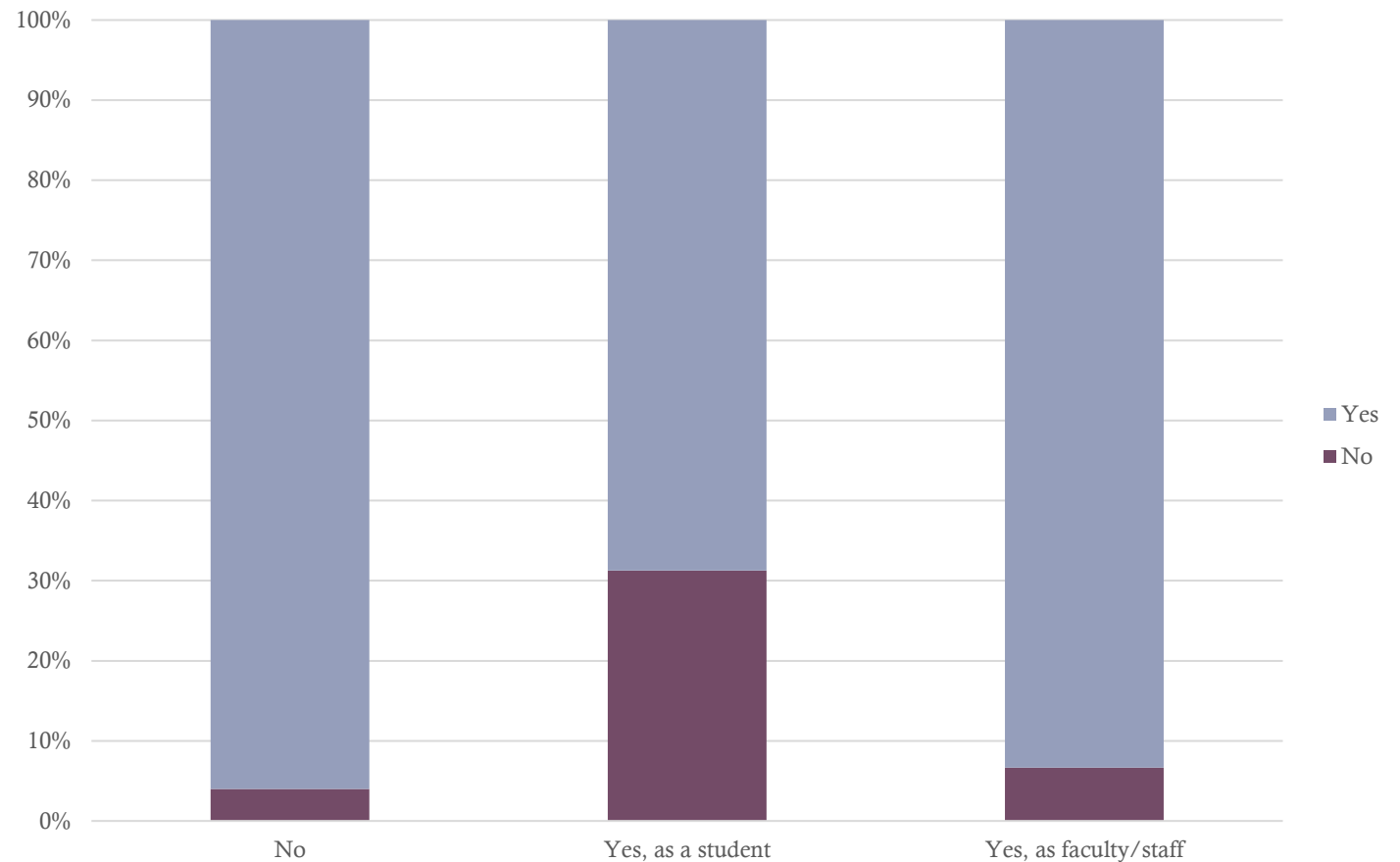
Constraint: All survey respondents took the survey at some sort of bike shop or are around bike culture, results may be skewed

ENGAGEMENT BY GENDER- ANOVA TESTING

- 3 significant tests out of 9
  - Group Ride
  - Public Bench
  - WTF Night
- Group Ride and WTF Night sees more active engagement from women; men are consistently lower.
- Public Bench sees more active engagement from men.

KEY TAKEAWAYS

- Strong awareness among the biking community of Iowa City

- People over 40 years old are far more aware of the Bike Check Out than 19-25 who show little to no awareness

- 19-25 year olds are more community event driven (but not financially driven), 26-40 year olds are more consumer-oriented (spending on accessories and events), and 40+ year olds are the major financial supporters

- Community-based physical methods (posters, word of mouth, and bulletin) resonate best with the 19-25 age range, Instagram is only effective to the 26-40 year olds, and emails are the most impactful for the 40+ year olds (but not for the other age ranges)

APPENDIX: AWARENESS VS. UIOWA AFFILIATION

- Chi-Square Test

- Actual vs. Expected

- Expected = Column Total*(Row Total/Total Responses

- Expected values are values we would see if there was no relationship between variables

- P-Value of 0.026504
  - Alpha = 0.05
  - 0.026504 < 0.05

Actual			
Count of Response ID	Column Labels		
Row Labels	No	Yes	Grand Total
No	1	24	25
Yes, as a student	5	11	16
Yes, as faculty/staff	1	14	15
Grand Total	7	49	56

Expected		
Count of Response ID	Column Labels	
Row Labels	No	Yes
No	3.125	21.875
Yes, as a student	2	14
Yes, as faculty/staff	1.875	13.125

APPENDIX: RESIDUALS

Services	19-25	26-40	Over 40	Row Avg.	Row Effect
Volunteered	11.76%	12.00%	29.41%	**17.73%**	**3.05%**
Donated	17.65%	24.00%	52.94%	**31.53%**	**16.85%**
Checked Out a Bike	0.00%	0.00%	11.76%	**3.92%**	**-10.76%**
Purchased a Bike	0.00%	16.00%	35.29%	**17.10%**	**2.42%**
Purchased Bike Accessories	17.65%	36.00%	29.41%	**27.69%**	**13.01%**
Donated a Bike	5.88%	12.00%	29.41%	**15.76%**	**1.08%**
Public Bench	29.41%	24.00%	29.41%	**27.61%**	**12.93%**
Group Ride	5.88%	16.00%	35.29%	**19.06%**	**4.38%**
Outspoken Teens	0.00%	0.00%	0.00%	**0.00%**	**-14.68%**
WTF Night	0.00%	8.00%	0.00%	**2.67%**	**-12.01%**
Cycling Without Age	0.00%	0.00%	5.88%	**1.96%**	**-12.72%**
Salvage Night	5.88%	4.00%	23.53%	**11.14%**	**-3.54%**
Column Avg.	**7.84%**	**12.67%**	**23.53%**	14.68%	
Column Effect	**-6.84%**	**-2.01%**	**8.85%**		

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- Used pivot tables to find % of each age group per activity
- Calculated row, column, and overall averages
- Computed residuals using: cell – (common mean + row effect + column effect)
- Applied formula across all cells and added heat map

APPENDIX: ANOVA MEN VS. WOMEN VS. NON-BINARY

Anova: Single Factor

Group Ride Anova

SUMMARY

Groups	Count	Sum	Average	Variance
Female	206	73	0.35436893	0.70795643
Male	333	54	0.16216216	0.28085314
Non-binary	30	3	0.1	0.09310345

ANOVA

urce of Variat	SS	df	MS	F	P-value	F crit
Between Grc	5.22445857	2	2.61222928	6.13305402	0.00231686	3.01164422
Within Group	241.074311	566	0.42592634			
Total	246.29877	568				

Anova: Single Factor

Public Bench

SUMMARY

Groups	Count	Sum	Average	Variance
Female	206	99	0.48058252	0.89474307
Male	333	283	0.84984985	1.23642317
Non-binary	30	22	0.73333333	1.9954023

ANOVA

urce of Variat	SS	df	MS	F	P-value	F crit
Between Grc	17.3714106	2	8.68570528	7.54257258	0.00058505	3.01164422
Within Group	651.781489	566	1.1515574			
Total	669.1529	568				

Anova: Single Factor

WTF Night

SUMMARY

Groups	Count	Sum	Average	Variance
Female	206	115	0.55825243	2.67707791
Male	333	7	0.02102102	0.02666522
Non-binary	30	35	1.16666667	9.04022989

ANOVA

urce of Variat	SS	df	MS	F	P-value	F crit
Between Grc	61.8596502	2	30.9298251	21.3537978	0.0000000011	3.01164422
Within Group	819.82049	566	1.4484461			
Total	881.680141	568				