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Attitudes & Behaviors Surrounding Active Commuting in Chittenden County, VT

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Background

Climate Change, Active Commuting, and Health

- Climate change contributes to 7 million deaths/year globally¹
- Negative health outcomes from increased carbon emissions include heat-related illness, mental health issues, and respiratory and allergic disease²
- Active commuting reduces carbon emissions, promotes physical activity, and reduces chronic diseases such as hypertension, diabetes, and obesity³

Active Commuting in Chittenden County

- Only 8.5% of Vermonters commute actively
- Burlington has been intensely promoting active commuting through developments in infrastructure and safety
- Most Burlington residents still commute by car

Project Goal

- Compare how active commuters and non-active commuters in Chittenden County differ on attitudes and beliefs on health, vehicle emissions, economics, convenience, and safety.
- Advise VTCHA on possible targets for the promotion of active commuting.

Methods

- We conducted surveys at two large open-air events in Burlington, Vermont in September 2018.
- Those under the age of 18 and those who did not leave home to work were excluded
- Survey included:
 - Demographics
 - Report of commuting status
 - Questions probing attitudes on active commuting and its effects, graded on a Likert Scale
- Active commuters were identified as those in the top quartile of active commuting days per month, and non-active commuters were identified as those in the bottom quartile
- T-tests were used to compare attitudes on Economics, Safety, Health, Climate Change, and Convenience between active and non-active commuters

Results

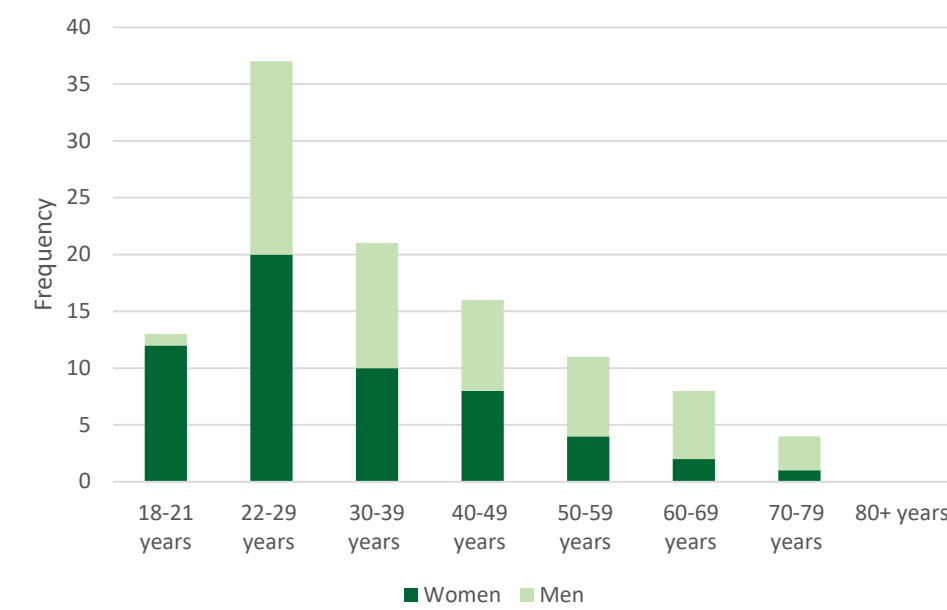


Fig. 1. Population Demographics.

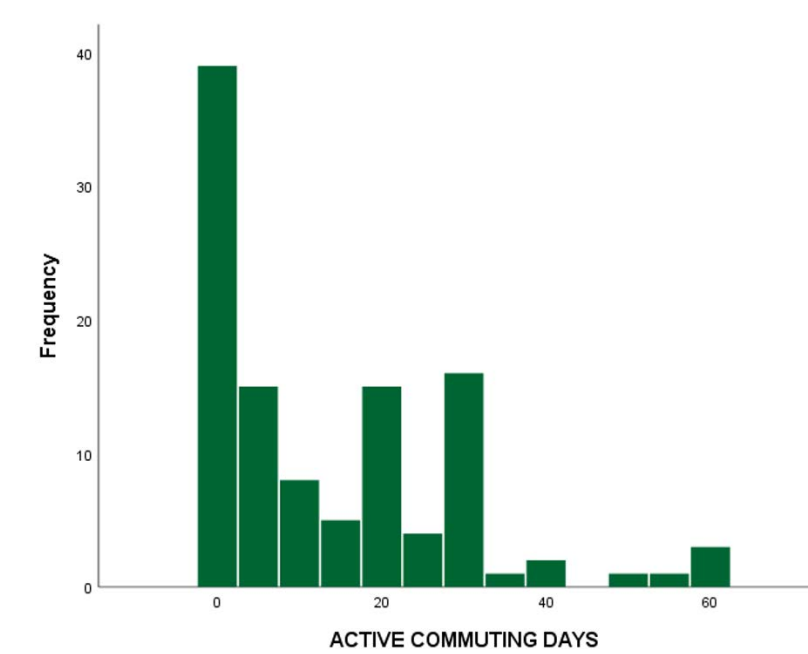


Fig. 2. Frequency of Active Commuting Instances in Total Sample

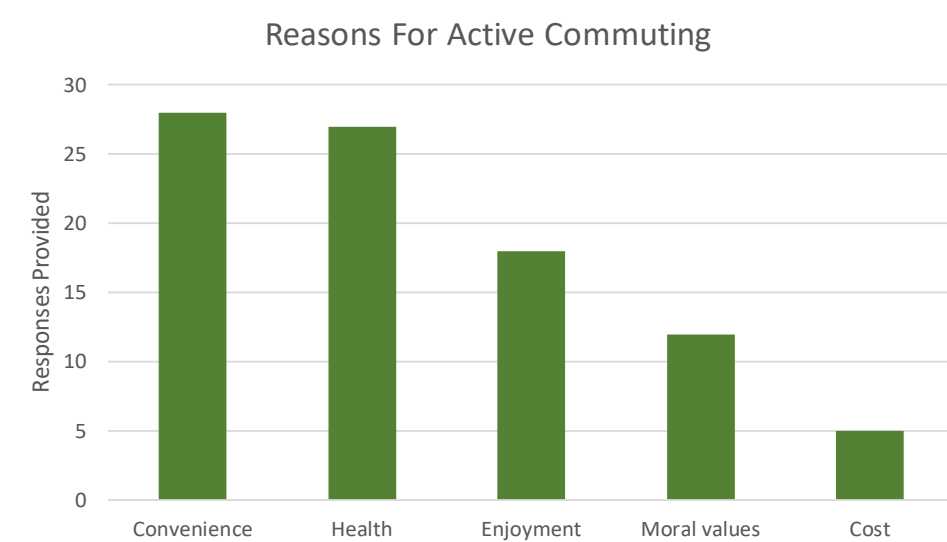


Fig. 3. Primary reason for actively commuting (free responses categorized by theme) n=90.

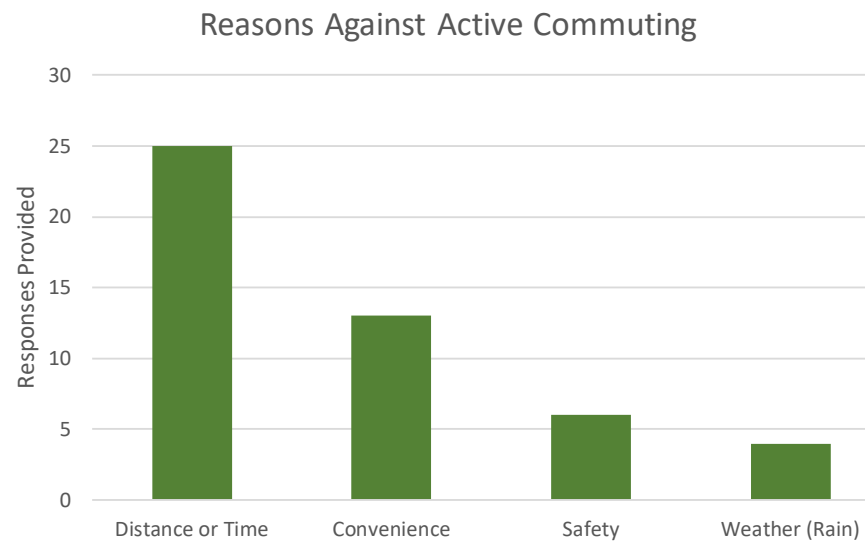


Fig. 4. Primary reasons for not actively commuting (free responses categorized by theme) n=48.

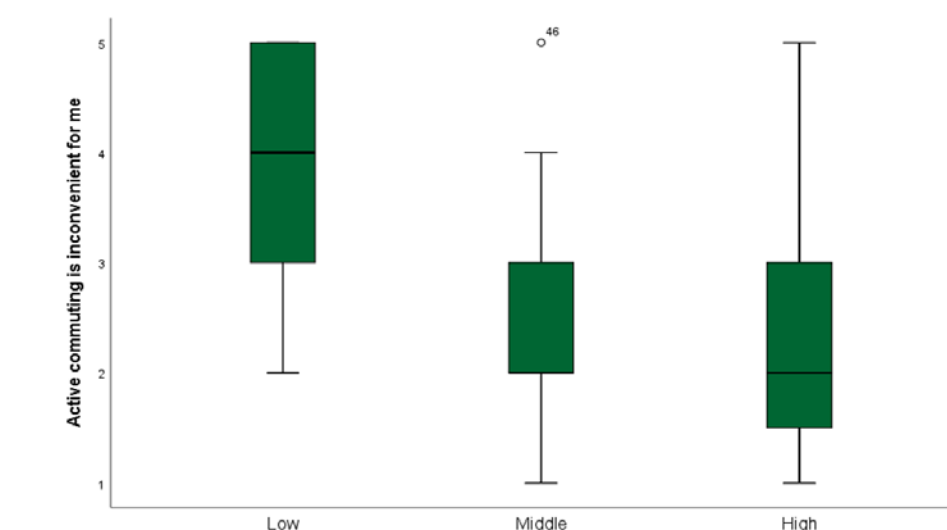


Fig. 5. Box plot representing average Likert scores for Convenience among top, middle, and bottom 25% of active commuters. When comparing top and bottom 25%, p-value < 0.001

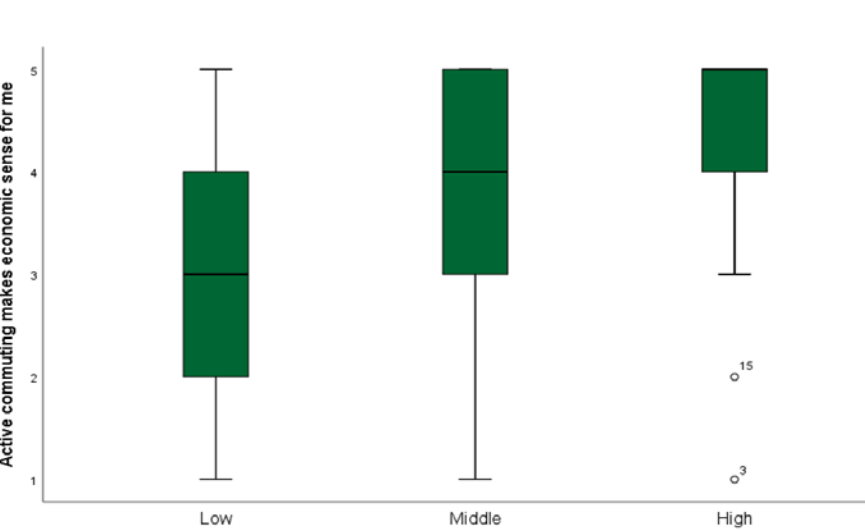


Fig. 6. Box plot representing average Likert scores for Economics among top, middle, and bottom 25% of active commuters. When comparing top and bottom 25%, p-value < 0.001

- Collected 111 surveys
- Demographics and frequency of active commuting are shown in Figure 1 and Figure 2, respectively
- Convenience and economics were the two factors that distinguished active commuters from non-active commuters. P-values were both <0.001.
- The most frequency cited reason for active commuting amongst our sample was convenience, with health reasons being a close second (figure 3)
- Distance/time was cited as the greatest deterrent for active commuting. Inconvenience was the second most common reason against active commuting (figure 4)
- No significant difference was found in attitudes on health, safety or vehicle emissions between active commuters and non-active commuters.

Conclusions and Future Directions

- Explore what convenience means to the community since it was reported as a reason for both actively commuting and non-actively commuting.
- Possibly lower the need to target safety or attitudes surrounding vehicle emissions and health in active commuting public health communication.
- Our data suggests that economic incentives could be an effective intervention to promote active commuting.
- Actively target the reduction in cost burden as one way to promote more active commuting.

1. Patz Public Health Reviews (2016) 37:30
 2. Patz et al. Climate Change: Challenges and Opportunities for Global Health. JAMA. 2014;312(15):1565-1580
 3. Grabow et.al. Environ Health Perspect. 2012 Jan; 120(1): 68-76