
Who, When, Where and Why: *The Importance of Trail Evaluation*

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Why Evaluate Trails?

- Mostly Free and Egalitarian
 - Distribute Resources Equitably
 - Contextual Elements Impacting Use
 - Open Environment
 - Was the Intervention Effective?
 - NEED OBJECTIVE DATA TO SUGGEST CHANGES
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Methodologies

- Direct Observation
 - Intercept Surveys of Users
 - Non-User Random Digit Dial (RDD)
 - Focus Groups of Users and Non-Users
 - Business Interviews
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What is Direct Observation (DO)?

- DO is a methodology to classify free living behaviors into distinct categories in order to be analyzed (McKenzie, 2002).
 - DO of human behavior in both natural and built environments has been used as an objective methodology to study human behavior for over a century.
 - It has been frequently overlooked by researchers in the disciplines of exercise science, and activity (Montoye et al., 1996).
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DO and Surveys

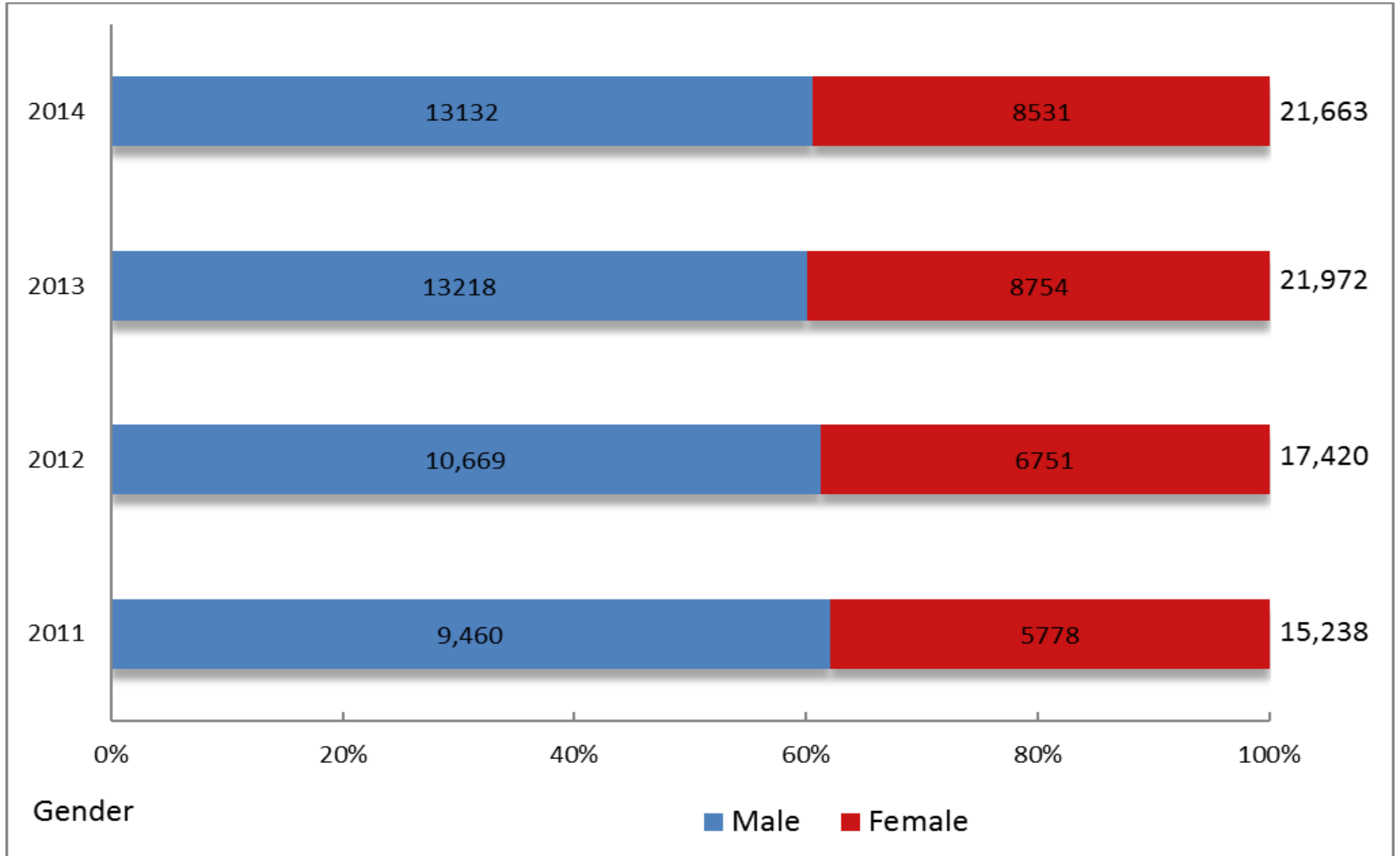
- Objective methodologies in concert with survey methods should be utilized.
 - Surveys are limited to respondents' perceptions and do not provide contextual information (e.g., trail terrain, air temperature, time of day of trail use, etc.) that could be related to activity behavior.
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The System for Observing Play and Recreation in Communities (SOPARC)^a

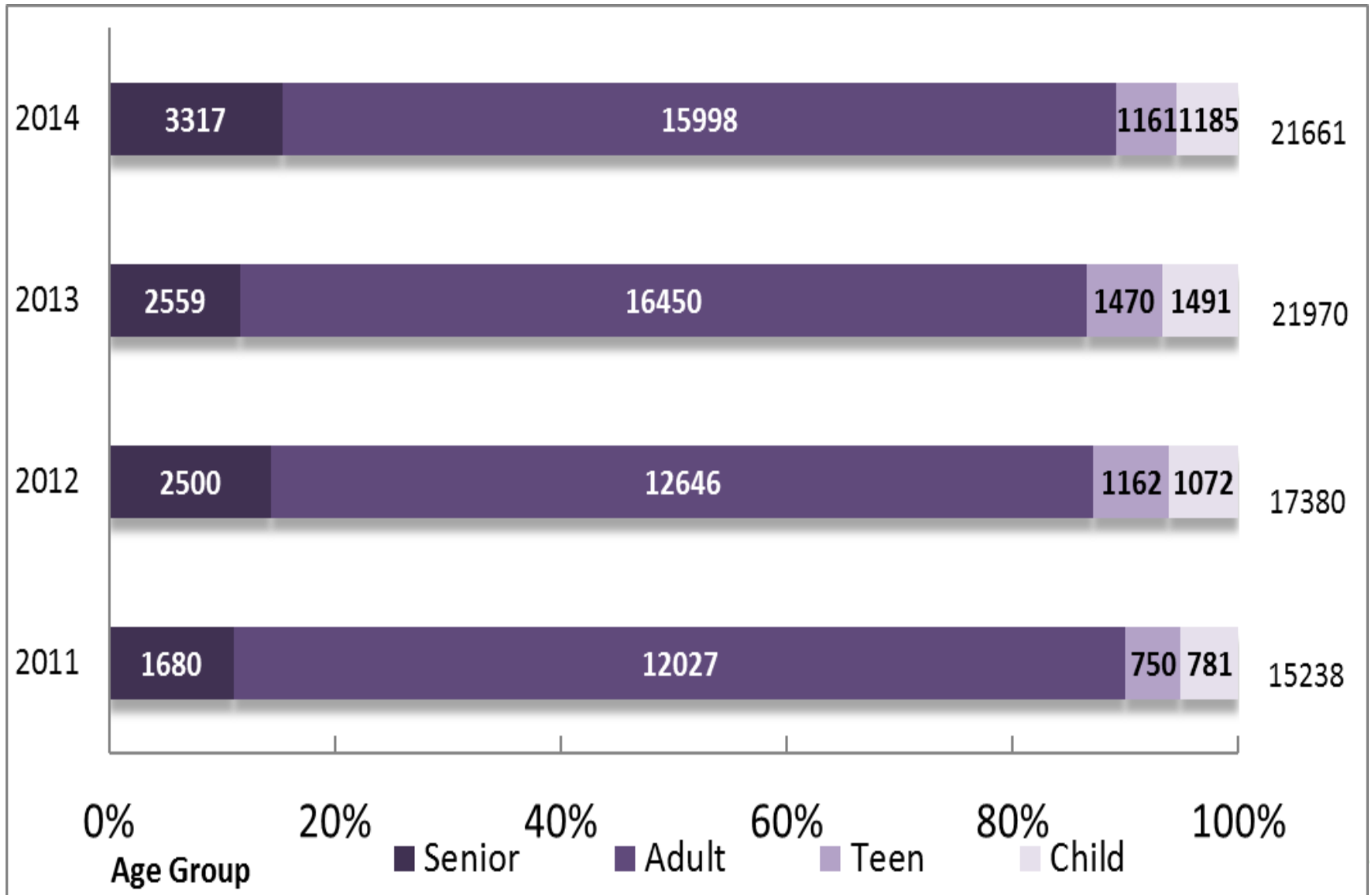
- ❑ Based on momentary time-sampling
- ❑ Separate scans are made for females and males, and for estimating the age and ethnic groupings of participants.
- ❑ Summary counts describe the number of participants by gender, activity modes and levels, and estimated age and gender groupings.
- ❑ Proven valid and reliable for gathering data on:
 - user demographics (e.g., age, sex, race)
 - environmental features (e.g., temperature, weather, equipment)
 - user features (e.g., type of activity)
 - physical activity level (e.g., sedentary, walking, very active)

^aMcKenzie et al. System for observing play and recreation in communities (SOPARC): reliability and feasibility measures. *Journal of Physical Activity and Health*. 2006;3:S208-S222.

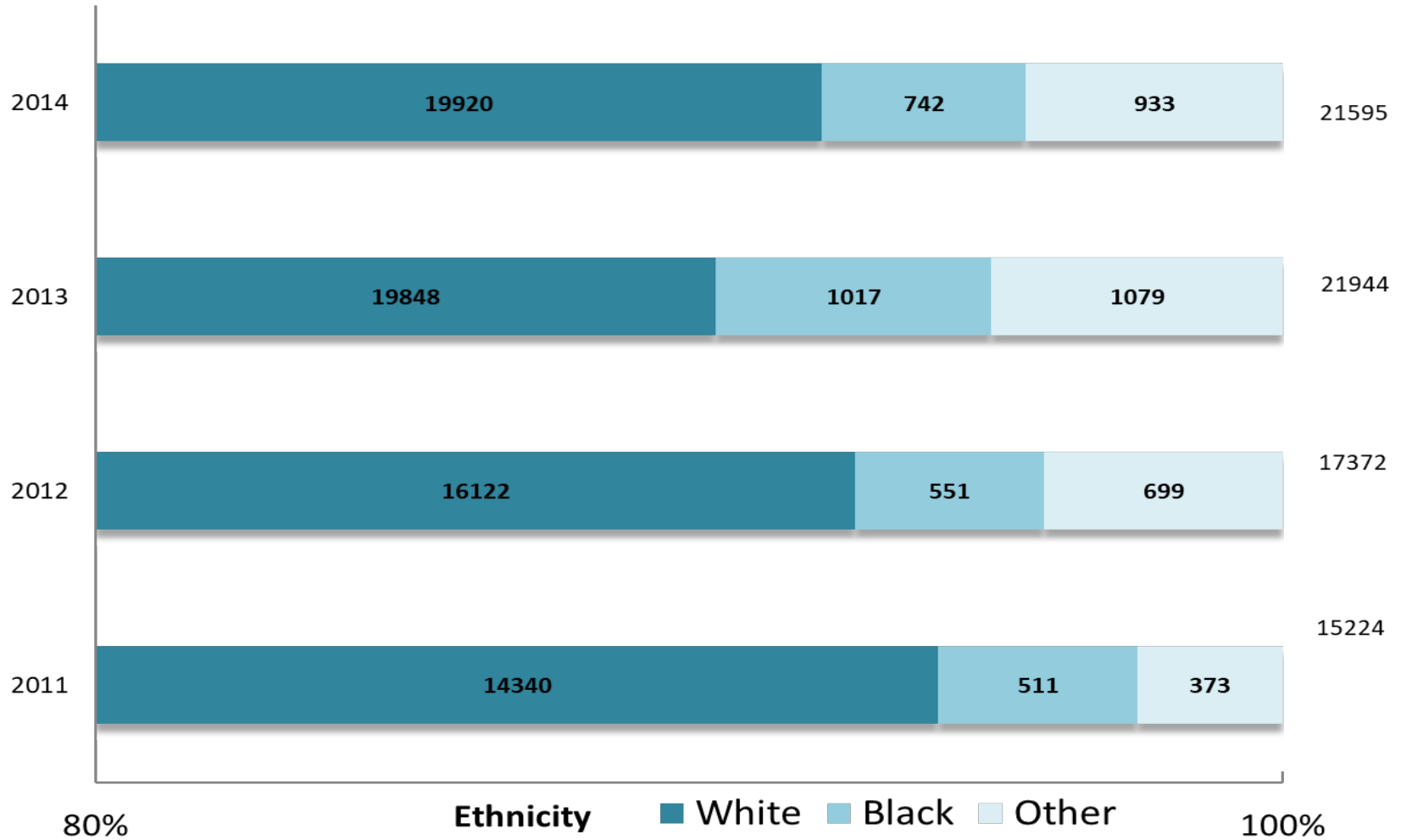
DO Sample



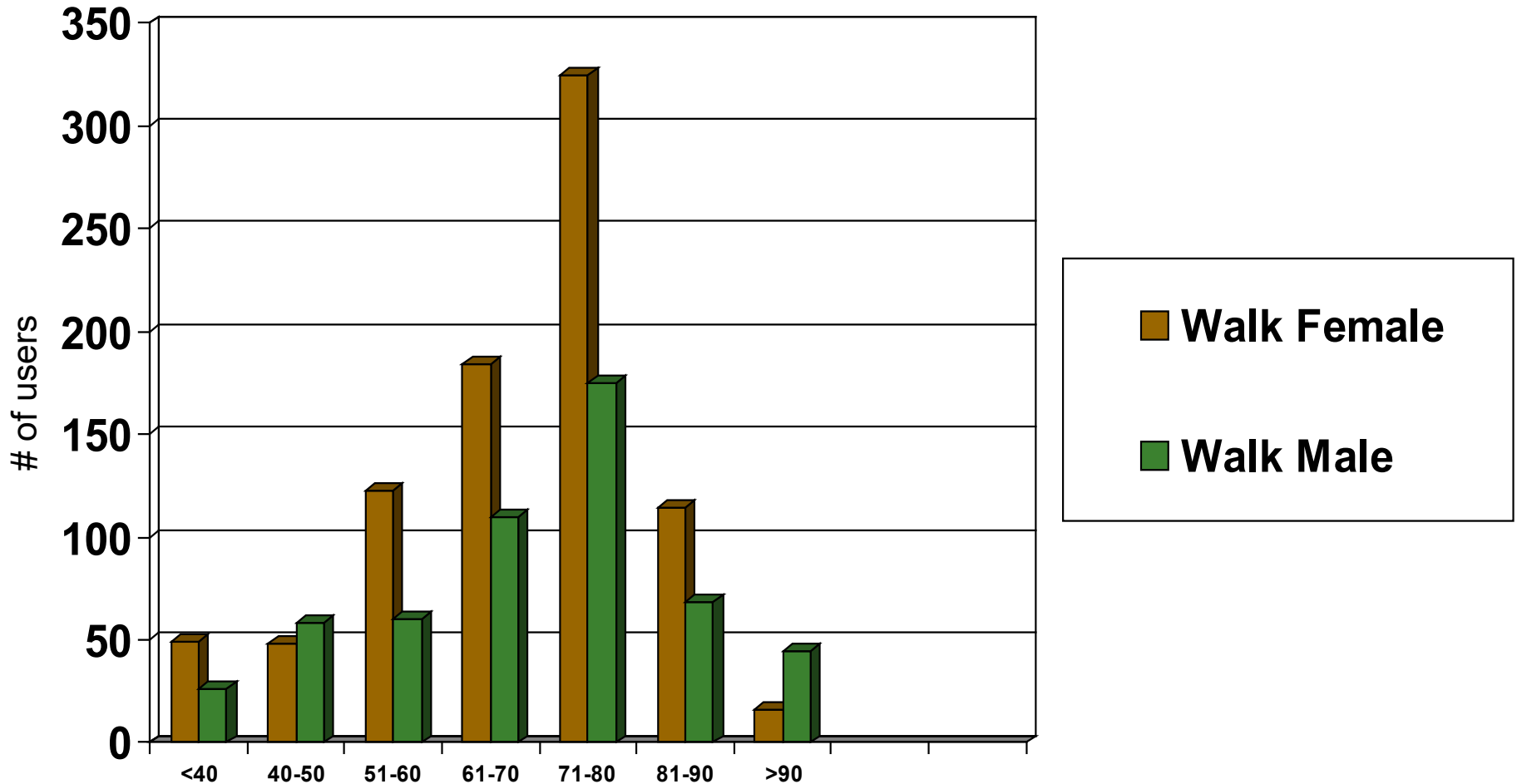
DO Sample



DO Sample



Walking DO by Temperature



- Temperature changes significantly impacted trail use ($F = 4.65$; $p < .01$).

Prisma Health System Swamp Rabbit Trail (DO)

- 80% of all males observed on the were bicyclists compared to 70% of all females.
 - Approximately 14% of females were observed walking on the compared to 7% of males.
 - The greatest numbers of users were observed during the winter months.
 - The greatest numbers of both male and female trail users were observed in when it was sunny with temperatures between 61-70 degrees.
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Intercept Survey Protocol

- Subset (~10%) of users asked by trained students if they would be willing to participate in a brief (5-10 minute) survey about the rail-trail segment
 - Purpose of the survey and confidentiality explained, and verbal consent to proceed obtained
 - Questions asked pertaining to:
 - Personal demographics (age, race, income, education)
 - Purpose, frequency, and duration of using the segment
 - Time and means of travel to access the segment
 - How the user became aware of the segment
 - Perceptions of maintenance, aesthetics, and safety
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Prisma Health System Swamp Rabbit Trail (Intercept Surveys)

- Approximately 52% of female and 74% of male intercept survey respondents were bicycling when asked to complete the survey. This finding was consistent with the direct observation data.
 - The majority of female (64.6%) respondents reported using the trail with 'others'; while (59.1%) of male respondents reported using the trail 'alone'.
 - The majority of female (60%) and male (61%) respondents resided less than 15 minutes from the trail.
 - Males reported the safety and security of the trail to be 'excellent' compared to 'good' among female respondents.
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Prisma Health System Swamp Rabbit Trail (Intercept Surveys)

- ~ 89% of males and females used the trail for exercise and recreational activity.
 - ~89% of female users reported the safety and security along the trail to be 'excellent' or 'good'.
 - Male and female users tended to be college graduates.
 - Males on average reside 8 miles from the trails compared to 11 miles for females.
 - ~40% of females and ~52% of males accessed the trail from downtown Greenville, followed by Travelers Rest.
 - ~22% of females and ~17% of males spent between \$5 and \$10 on food and beverage per trail visit.
 - ~23% of females and ~ 20% of males reported making their food and beverage purchase at the Swamp Rabbit Café per trail visit.
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Prisma Health System Swamp Rabbit Trail (RDD)

- Random Digit Dial (RDD) survey was administered to 639 Greenville County residents to identify barriers and determinants linked to Prisma SRT use and non-use and its impact on health.
 - Height and weight were used to calculate body mass index (BMI) and respondents were categorized as normal weight or overweight/obese.
 - Self-rated health was dichotomized into low and high. Approximately 25% of respondents reported using the trail. About 64% were overweight/obese and approximately half of participants reported high self-rated health (48.4%).
 - Trail users were half as likely to be overweight/obese compared to non-users.
 - Similarly, trail users were nearly **two and a half times** more likely to report high self-rated health compared to non-users.
 - These findings suggests that trails are key community facilities positively influencing weight status and perceptions of health and provide evidence to support development, maintenance, and promotion of these important active living resources.
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Prisma Health System SRT (RDD)

Prisma SRT non-users frequently cited:

Not interested, too busy, lack of awareness of the trail and perceived inconvenience (~63%) as the reasons they did not use the trail.

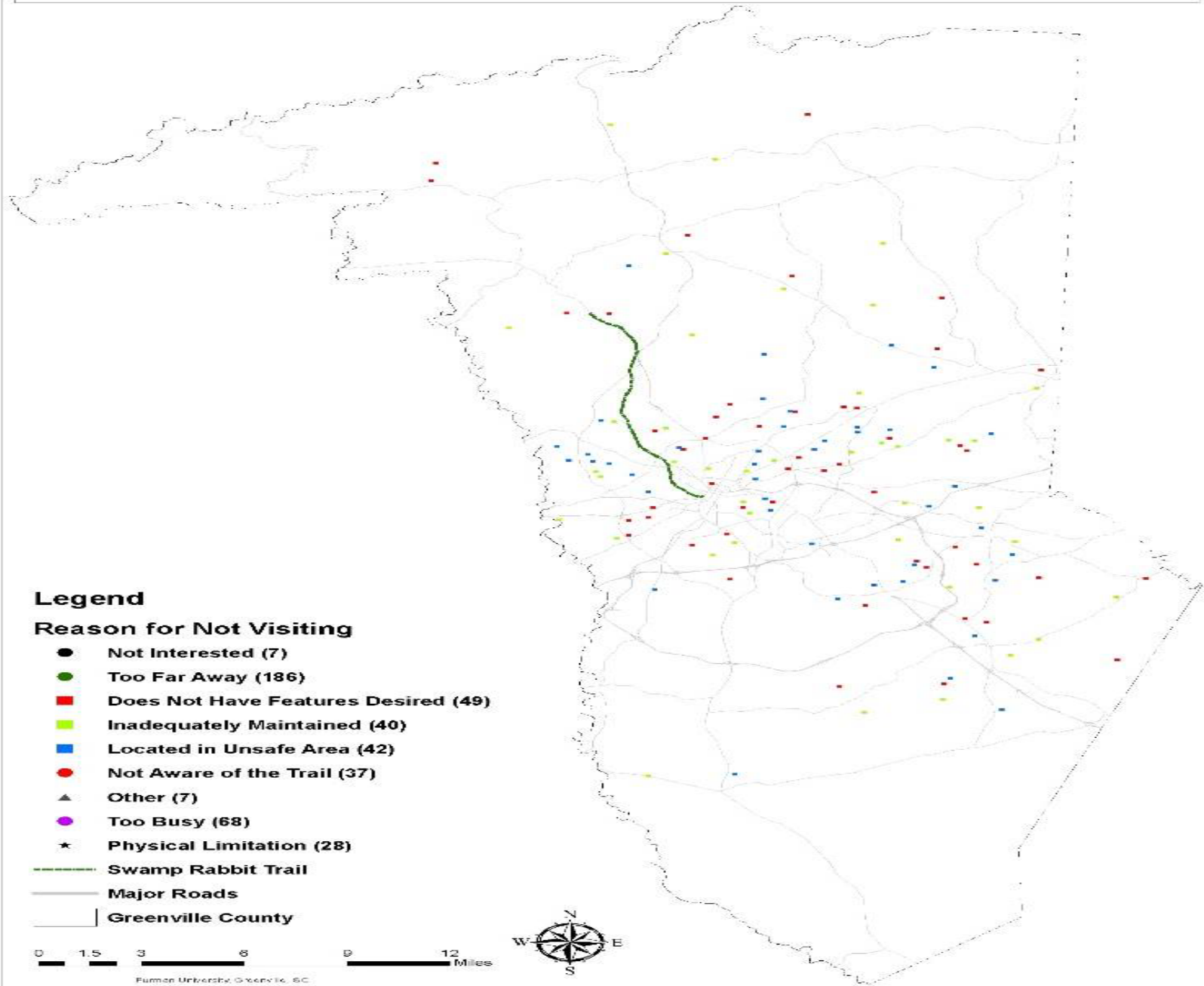
Prisma SRT users frequently cited:

- Almost all RDD respondents who reported using the trail did so for recreation (92.5%) rather than for transportation (3.1%) or both recreation and transportation (4.4%).
- 3% of respondents used the trail for less than 30 minutes, 26.6% used the trail for 30-59 minutes, and ~68% used the trail for 60 minutes or more.
- ~53% of RDD respondents cited walking as the most popular activity on the trail compared to 31% for biking. These findings are NOT consistent with the direct observations and intercept surveys.

Prisma SRT and Proximity of Trail

- Both males and female non-users reported the trail was too far away from their place of residence; however trail users and non-trail users lived ~8 miles away from the nearest access point on the trail. This finding suggests that proximity to the trail did not impact trail use among RDD respondents.
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GHS Swamp Rabbit Trail Non-Use



Focus Groups

English Speaking Focus Groups

- 91% were college graduates with 4 or more years of college experience
- Males ranged in age from 19 to 40 years old.
- Females ranged in age from 25 to 39 years old.
- 55% of participants reported a total yearly household income/family income of greater than \$50,000.

Question: What are some reasons why you do NOT use the trail?

- ***Theme #1 Too far away/inconveniently located***
 - ***Theme #2 Too Crowded on the Weekends***
 - ***Theme #3 Safety Concerns/Located in unsafe area***
 - ***Theme #4 Lack of awareness of access points for trail***
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Focus Groups

Question: Based on observation and survey data, the vast majority of trail users were White adults. What suggestions do you have for promoting the trail among youth, elderly and minorities?

- ***Theme #1 Events/Cultural celebrations on the trail***
 - ***Theme #2 Intentional marketing showing multi-cultural users***
 - ***Theme #3 Perceptions of safety limited use***
 - ***Theme #4 Lack of awareness of the trail impacted use***
 - ***Theme #5 Add pocket parks/places to rest***
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Focus Groups

Spanish Speaking Focus Groups

- Males ranged in age from 27 to 31 years old.
- Females ranged in age from 43 to 64 years old.
- 100% of participants reported a total yearly household income/family income ranged from \$10,000-\$39,000.

Question: What are some reasons why you do NOT use the trail?

- ***Theme # 1 Too Busy***
- ***Theme #2 Do not own a bike***
- ***Theme #3 Lack of awareness where to access the trail***

Question: Based on observation and survey data during the past three years, the vast majority of trail users were White adults. What suggestions do you have for promoting the trail among youth, elderly and minorities?

- ***Theme #1 Events/Cultural celebrations on the trail***
 - ***Theme #2 Intentional marketing showing multi-cultural users***
 - ***Theme #3 Market that it is free and promotes health***
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Economic Impact of the Prisma Health System Swamp Rabbit Trail

Selection criteria for the business interviews were as follows :

- Retail business (i.e., food/entertainment; clothing/equipment; services).
- Must directly abut trail or be located within 250 yards of an access point. The trail segment for the business interviews was from Travelers Rest to Linky Stone Park in downtown Greenville.

Questions for the business interviews were taken from Stewart and Barr examining promotion methods used by hospitality-related firms in close proximity to rail/trails. The business interviews were primarily designed to determine: ***If businesses located near the access points have observed any change in business after the trail was built?***

The businesses surveyed in reported increases in sales/revenue ranging from 10% to as high as 100% with an average of 40% of sales/revenue linked to trail users.

- Many new businesses opened their doors specifically selecting a site in close proximity to Prisma SRT.
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Economic Impact of the Prisma Health System Swamp Rabbit Trail

When asked has the formation of the trail had any impact on your business? In what ways? How much? Can you estimate the percentage of customers that come from the trail and the annual revenue generated from this group the following sample anecdotes were provided:

- “It has had a huge impact. It has brought more people to Travelers Rest which brings more people to our business. I would say it is maybe 25% of our customers who come from the trail and they generate about 15% of our revenue.”
 - “Over 50% of revenue from the trail customer.”
 - “Close to 65% of sales are from trail users”
 - “It has quadrupled as far as foot traffic in to our store. It has also had a huge impact on our community with about half a dozen new places opening up due to all the traffic being generated in this area from the trail.”
 - “We opened after the trail opened and picked this location due to its proximity to the trail. Our business is visible from the trail so we did not have to advertise. Most of our business comes from trail traffic.”
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