Reasons for Urban Trail Use Predict Trail-related Physical Activity

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USCIPR2 You need to add a t to the end of donna's first last name
USC IPR, 10/30/2007

Urban Multi-use Trails

- Physical activity in urban settings limited by traffic (Duncan et al., 2005) and safety (Trost et al ., 2002).
- Walking and biking trails are convenient and cost-effective (Wang et al., 2004).
- Effects of trail development on walking and biking rates have been mixed (e.g., Brownson et al 2004; Evanson et al., 2005; Merom et al., 2003).
- Need to identify factors underlying trail use to enhance promotional strategies.

Factors Predicting Urban Trail Use

- Demographic factors (e.g., age, sex) (Reed et al., 2004).
- Environmental factors (e.g., natural features, trailside facilities) (Reynolds et al., 2007).
- Less is known about the role of cognitive and motivational factors.
- Understanding *reasons* for participation is important for effective physical activity promotion (Dishman & Sallis, 1994).

Reasons for Urban Trail Use

- Various reasons for participation in physical activity.
  - Recreation, fun, pleasure.
  - Health, fitness, relaxation.
  - Appearance, body-shape, weight management.
  - Relaxation and social interaction.
- Little is known about reasons for activity in specific settings such as on an urban trail.
- Also unclear whether reasons predict levels of trail-related physical activity.

Slide 4

USCIPR3 strickly a style issue so feel free to ignore, but I prefer the first letter in Caps in bullet items. Your call however, and this looks fine if that is the way you prefer it.
USC IPR, 10/30/2007

USCIPR1 I would insert the word "of" here.
USC IPR, 10/30/2007

Study Aims

1) Describe the most frequently mentioned reasons for urban trail use.

2) Determine whether reasons for trail use are associated with demographic and environmental characteristics.

3) Determine whether reasons for trail use predict levels of trail-related physical activity.

Study Design

- Part of larger project called Research on Urban Trail Environments (ROUTES).
- Trails were chosen to reflect variability of climate, metropolitan form, and race/ethnicity and income.

Slide 6

USCIPR5 Not sure its needed but I usually also mention the buffer of 1 mile on each side of the trail.
USC IPR, 10/30/2007

USCIPR4 it probably will not come up but in case it does, we tried to get at least two ethic/race groups transected by each trail from the options of white, hispanic and black. We started out to get all three covered but could only achieve at least two within each trail. Income we also tried to vary within each trail. climate varied acorss trails although we tried to ensure that the trails would be warm when we did our assessments.
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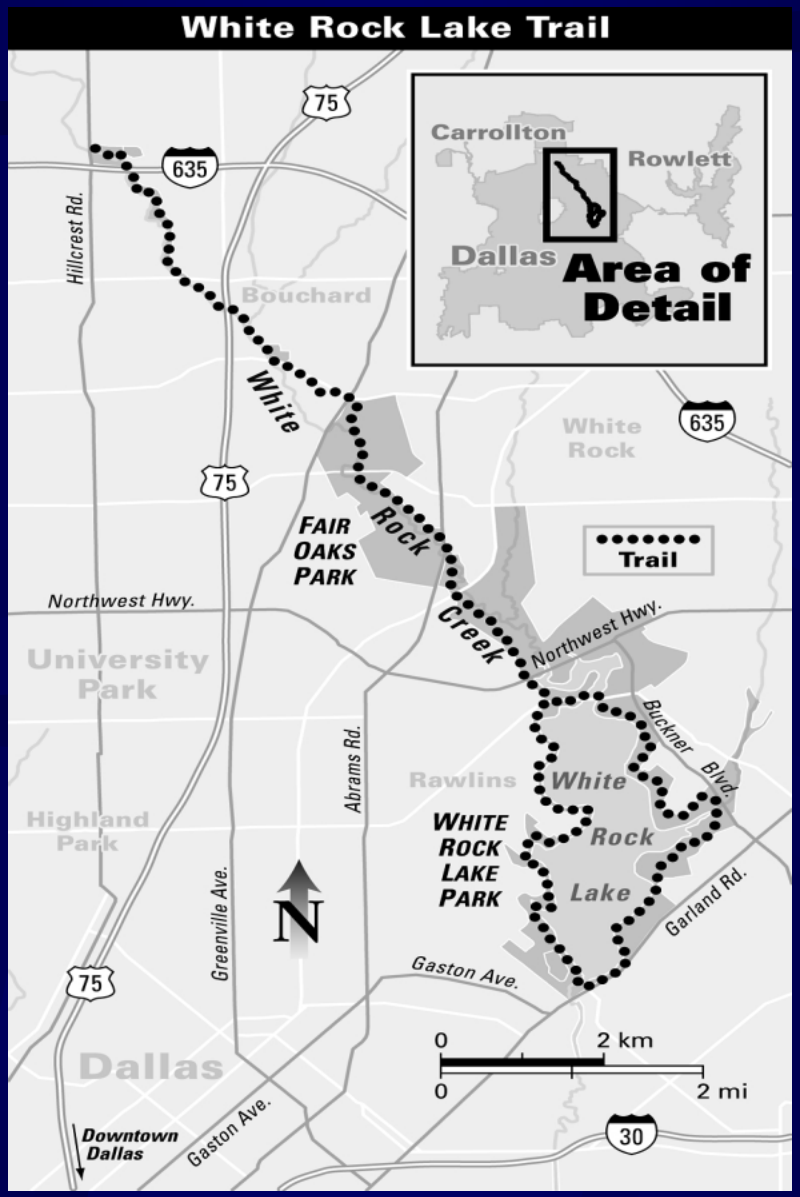
Chicago Lakefront Trail

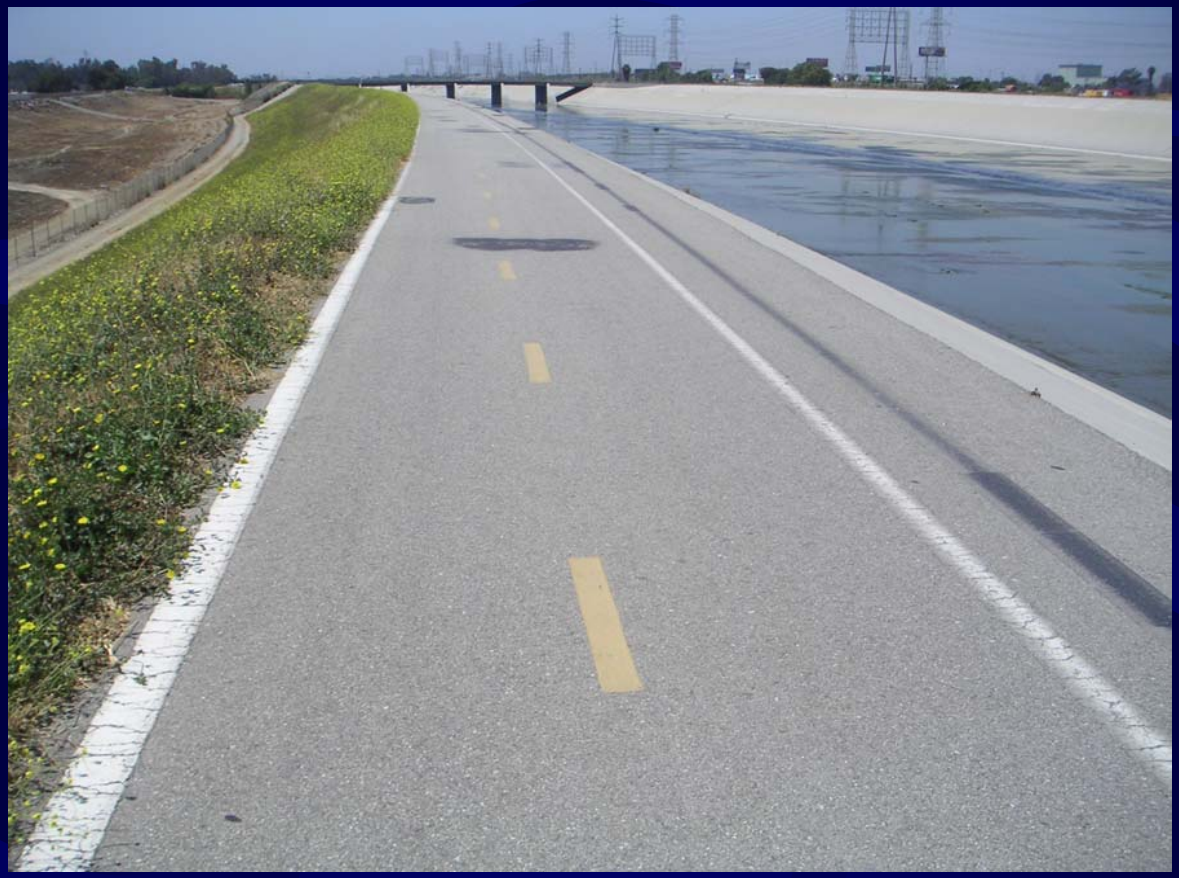
USCIPR6

USCIPR6 Let me know if you have questions about any of the three trails what they were like etc. We can talk by phone or meet in DC to go over it.
USC IPR, 10/30/2007

Dallas White Rock Lake Trail



Los Angeles River Trail



Recruitment

- Letters sent to random sample of adults living within a 1-mile buffer zone of each trail (*N* = 9,502).

- Eligibility Criteria (screening call 5-7 days later).
  1) Age 18 and older.
  2) Living within one mile of trail.
  3) Ability to give informed consent.
  4) Adequate cognition and literacy to complete questionnaires in English.
  5) Physically able to use the trail.

- *N* = 517 individuals were eligible and provided consent.
  N = 490 completed the questionnaire.

Measures

- *Ever/never used urban trail.*

- *Reason for trail use.*
  1) Recreational use (e.g., health, social activity, exercise, enjoy nature).
  2) Transportation use (e.g., avoid traffic, parking costs, air pollution, exercise).

- *Environmental trail characteristics* (modified version of SPACES instrument assessed 1/2-mile trail seg.) (Pikora et al., 2002).

- *Demographics* (age, sex, income, race).

- *Total physical activity* (CSA accelerometer).

- *Trail-related physical activity* (MET-hours/week).

Data Analysis

- Multilevel random coefficient modeling in HLM (version 6.0).

  - Level-1 unit of analysis was the individual.

    Trail-related PA (Y) = β_0 + Demog.(β_1) + Total PA(β_2) + Reasons(β_3) + r

  - Level-2 unit was the half-mile trail segment.

    Avg. Trail-related PA (β_0) = γ_{00} + Environ. char(γ_{01}) + *u*
    Demog. (β_1) = γ_{10} + *u*
    Total PA (β_2) = γ_{20} + *u*
    Reasons (β_3) = γ_{30} + *u*

- Separate models were run for trail-related recreation and transportation physical activity.

Results: Descriptive Statistics

- *n* = 335 (68%) who had ever used the trail.
- Reasons for not using the trail (don't have enough time, trail is unsafe, go to a different trail, trail is ugly).
- Differences between users and nonusers.
  - Younger (mean = 47.0 years, *SD* = 13.7)
  - Male (55%)
  - Lower BMI (mean = 26.02, *SD* = 5.08)
  - Better health (71.9% excellent or good)
  - College graduate (69.2%)
  - Higher income (33.7% over $100,000/year)
  - Caucasian/White (68.4%)

Results: Descriptive Statistics

- Type of trail use:
  - *n* = 201 recreational purposes only
  - *n* = 12 transportation purposes only
  - *n* = 122 recreation and transportation purposes
- Mode of trail use:

  Recreational: walking (55.5%), bicycling (24.6%), jogging or running (15.5%), roller/inline skating (1.2%), horseback riding (0.6%), and other (2.2%).

  Transportation: walking (53.6%), bicycling (35.7%), jogging or running (5.7%), horseback riding (0.7%), roller/inline skating (0.7%) and other (3.6%).
- Trail-related physical activity:

  Recreational- 8.82 MET·hours/week (*SD* = 13.24)
  Transportation- 3.10 MET·hours/week (*SD* = 5.84).

Aim 1: Frequent Reasons for Trail Use

Table 1: *Reasons for Recreational Trail Use (n = 323).*

	N (%)
Get exercise	93 (29.1%)
My health and well-being	87 (27.2%)
Be outdoors	43 (13.4%)
Enjoy nature	25 (7.8%)
Walk with my dog or other animal	17 (5.3%)
Reduce stress	15 (4.7%)
Train for a competition	9 (1.9%)
Lose weight	7 (2.2%)
A source of social activity	6 (1.9%)
Escape the city, other people or cars	5 (1.6%)
Experience peace and quiet	4 (1.3%)
Participate in or feel connected to my community	2 (0.6%)
See or hear wildlife or birds	2 (0.6%)
Other	8 (2.5%)

Aim 1: Frequent Reasons for Trail Use

Table 2: *Reasons for Transportation Trail Use (n =134).*

	N (%)
Get exercise	84 (62.7%)
Avoid traffic congestion	15 (11.2%)
Avoid the cost of parking or maintaining a car	9 (6.7%)
As a faster route	7 (5.2%)
Experience fewer people or cars	5 (3.7%)
As a safer mode of transportation	4 (3.0%)
Avoid the cost of transit fee	1 (0.7%)
Contribute to reducing air pollution	1 (0.7%)
Benefit form employer subsidies	1 (0.7%)
I don't like being a driver	1 (0.7%)
Other	6 (4.5%)

Reasons for trail use categories

Reasons for Recreational Trail Use

1. Exercise
   - Get exercise
   - Train for a competition
2. Health
   - My health and well-being
   - Reduce stress
   - Lose weight
   - Escape the city, other people or cars
   - Experience peace and quiet
3. Other
   - Be outdoors
   - Enjoy nature
   - Walk with my dog or other animal
   - A source of social activity
   - Participate in or feel connected to my community
   - See or hear wildlife or birds
   - Other

Reasons for trail use categories

Reasons for Transportation Trail Use
1. Exercise
Get exercise
2. Other
Avoid traffic congestion
Avoid the cost of parking or maintaining a car
As a faster route
Experience fewer people or cars
As a safer mode of transportation
Avoid the cost of transit fee
Contribute to reducing air pollution
Benefit form employer subsidies
I don't like being a driver

Aim 2: Relationship of Reasons for trail use with Demographics and Trail Characteristics

- Relationship: Reasons for trail use and Demographics.

  - Women were more likely to report exercise as the main reason transportation use ($\chi 2(df = 1) = 4.32$, $p = .038$).

  - Individuals with better health were more likely to report exercise as the main reason for transportation use ($F(1,125) = 4.96$, $p = .028$).

- Relationship: Reasons for trail use and Trail characteristics.

  - No significant associations.

USCIPR7 This is interesting in light of the lower PA rates of women. The promotion of trail use for recreation may be a particularly good way to get women more active. Implies a targeting strategy for health promotion.
USC IPR, 10/30/2007

USCIPR8 Not sure what you mean here. Relationship of reasons to characteristics of the trail as reported by sPACES?
USC IPR, 10/30/2007

Aim 3: Relationship Between Reasons and Trail-Related Activity

Table 3: *Summary of Hierarchical Linear Modeling Analysis for Variables Predicting Recreational Trail Physical Activity.*

	Gamma Coeff.	SE	*t*	*p*
Environmental Characteristics				
Count of Natural Features	-0.100	0.046	-2.168	.03
Count of Trailside Facilities	0.013	0.029	0.457	.647
Vegetation Density	0.162	0.057	2.840	.005
Population Density	0.001	0.002	0.612	.540
Natural vs. Other View	0.012	0.100	0.123	.902
Demographic Characteristics				
Age	0.001	0.003	0.172	.864
Sex (1 = male, 0 = female)	0.016	0.077	0.202	.840
Income	0.070	0.046	1.520	.127
Race (1 = Caucasian, 0 = non-Caucasian)	-0.042	0.117	-0.356	.722
Total MVPA	0.007	0.002	3.460	.001
Health vs. Other Reason	0.257	0.085	3.019	.003
Exercise vs. Other Reason	0.284	0.119	2.390	.017

n = 251 after listwise deletion of missing data.

USCIPR9

USCIPR9 These tables are good but dense for a conference presentation. Plan to spend some time explaining them and don't rush through them. You might also be able to delete some of the note material at the bottom and just cover this verbally to give a simpler visual appearance.

USC IPR, 10/30/2007

Aim 3: Relationship Between Reasons and Trail-Related Activity

Table 4: *Summary of Hierarchical Linear Modeling Analysis for Variables Predicting Transportation Trail Physical Activity.*

	Gamma Coeff.	SE	*t*	*p*
Environmental Characteristics				
Count of Natural Features	0.126	0.081	1.556	.126
Count of Trailside Facilities	0.111	0.038	2.900	.006
Vegetation Density	0.027	0.095	0.282	.779
Population Density	0.010	0.003	3.081	.004
Natural vs. Other View	-0.236	0.185	-1.275	.209
Demographic Characteristics				
Age	0.002	0.003	0.511	.611
Sex (1 = male, 0 = female)	0.295	0.100	2.939	.005
Income	-0.077	0.058	-1.316	.194
Race (1 = Caucasian, 0 = non-Caucasian)	0.031	0.142	0.219	.828
Total MVPA	0.001	0.002	0.566	.573.
Exercise vs. Other Reason	0.030	0.116	0.262	.794

n = 99 after listwise deletion of missing data.

Summary and Discussion

- Controlling for demographic and environmental factors, and total MVPA; reasons explained recreational trail PA.
- Higher PA for health and exercise vs. "other" (e.g. socializing, nature, pet walking) reasons.

Possible Explanation: "Other" reasons have lower intensity, duration, and frequency of PA.

1) Additional equipment.
2) Scheduling conflicts with companions.
3) Time of day and seasonal restrictions for viewing wildlife.

Slide 25

USCIPR10 You might give some emphasis to the fact that reasons predicted above and beyond other robust determinants that often swamp psychosocial effects (e.g., gender, SES). You mention it here, just saying for the presentation itself.
USC IPR, 10/30/2007

USCIPR11 You don't say anything about the significant effect for MVPA. you will need to mention this verbally if not on the slide.
USC IPR, 10/30/2007

Summary and Discussion

- Transportation trail PA was not related to reason for trail use.

Possible Explanations:

1) Demog. and environ. factors more important for transportation PA than psychosocial factors (Troped et al., 2003).

2) Transportation trail PA explained by other psychosocial variables (e.g., self-efficacy, barriers) *(Dunton et al., 2006).*

Limitations

- Cross-sectional study→ cannot determine causality.
- Selection bias and limited generalizability (5% response rate).
- Low statistical power.

Implications

- Supplement trail development with promotional materials and campaigns.
  - Emphasize health and exercise reasons for using trail.

RU1

- Add trail features related to health and exercise.
  - Mileage markers, drinking fountains, and exercise equipment.

RU1 Particularly when targeting women
Registered User, 10/31/2007

Acknowledgments

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Thank You