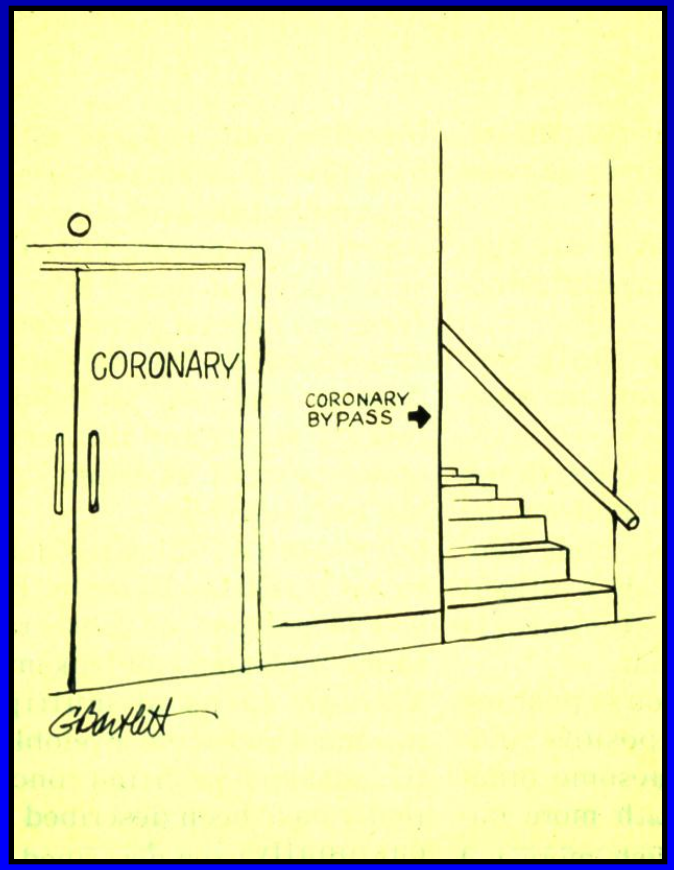
Effects of the Rural Built Environment on Physical Activity

Stephanie S. Frost, MAOM
R. Turner Goins, PhD

Department of Community Medicine
Center on Aging
West Virginia University

Physical Activity and Health

- Reduces risk of cardiovascular disease (CVD), hypertension, obesity, breast cancer, colon cancer
- Helps manage arthritis, type 2 diabetes, and cognitive function



Why Rural?

- Higher rates of CVD, cancer, arthritis, and diabetes
- Higher rates of physical inactivity
- Lower % meeting physical activity (PA) recommendations
- Greater proportions of older adults

Built Environment

Robert Wood Johnson Foundation

- Recreational resources
- Land use characteristics
- Neighborhood form
- Community environment

Transportation Research Board

- Land use patterns
- Transportation systems
- Design

Physical Activity and Built Environment

Urban and Suburban Studies

- Pleasant scenery (+)
- Safety (+)
- Walkable destinations (+)
- Presence of sidewalks (+)
- Light Traffic (+)

Specific Aims

1. Determine the current state of scientific literature

2. Examine how the built environment in rural areas has been evaluated

3. Consider how the rural built environment effects older adults engaging in physical activity

Current Literature Findings

Methods

- Identified through Pubmed, Google scholar, Web of Science
- Inclusion Criteria
  - 2000-2007
  - Rural sample
  - Assessed relationship between 1 or more element of built environment (BE) and physical activity
  - Quantitative, Qualitative, and Objective
- Exclusion Criteria
  - No measure of built environment
  - Descriptive only
  - Reliability studies
  - Intervention studies

Results

18 studies

- 15 quantitative and 3 qualitative
- 18 cross-sectional

Sample Sizes

- Quantitative n = 274 – 2,338
- Qualitative n = 26 – 44

Data Collection

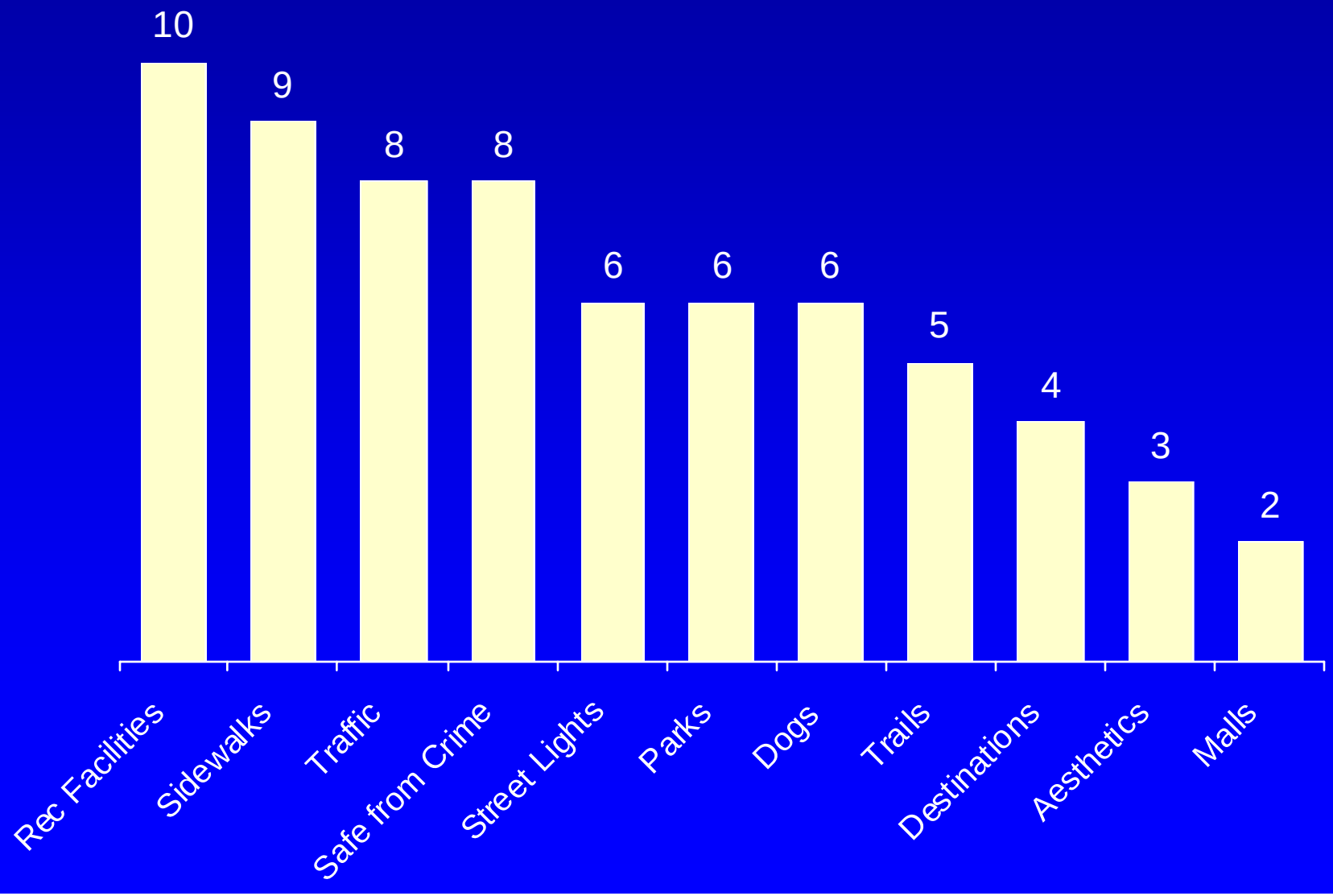
- Self report
- Focus group
- Objective

Results

- Rural only n = 15
- 14 random and 4 convenience samples
- 14 telephone / 4 in-person
- 17 U.S. / 1 Canadian
  - 7 states
- 7 provided discussion of parameters used to define rural

How the Built Environment in Rural Areas Has Been Evaluated

Evaluation of Rural BE



	Strengths of Evidence			
	Strong	Moderate	Weak	None
Malls				x
Aesthetics	+			
Destinations			+	
Trails	+			
Unattended Dogs				x
Parks		+		
Street light			+	
Safe from crime		+		
Traffic		-		
Sidewalks		+		
Rec. facility		+		

Qualitative Results

Barriers

- Traffic, safety, lack of sidewalks, facilities, transportation, unattended dogs, and travel distance

Motivators

- Presence of facilities, paved roads

Built Environment and Rural Older Adults

Older Adults

Qualitative studies

- 3 qualitative
- 1 mixed methods

Quantitative

- 1 = age 50+ sample
- 1 = age 40+ sample

Qualitative Findings

Barriers

- Lack of…
  - Indoor facilities
  - Programs/age appropriate classes
  - Transportation
  - Senior centers
- Presence of…
  - Uneven surfaces
  - Dogs
  - Traffic
- Travel distance to facilities

Qualitative Findings

Confounding variables

- Health status
- Fear of injury
- Weather/Climate

Quantitative Findings

	Physical Activity Scale for the Elderly	No leisure time physical activity
Safety from crime	+	NS
Sidewalks	+	NS
Traffic	+	NS
Lights	NS	NS
Dogs	NS	NS
Park	NS	N/A
Scenery	N/A	+
Access to facilities	N/A	NS

Conclusions

Weaknesses

- Only cross sectional studies
- Few older adult
- Select areas represented
- Definition of rural not enforced
- Repeated sample

  (11 samples for 18 studies)

Strengths

- Different sub-groups studied
- Random selection
- Use of subjective and objective
- Examine neighborhood, community, and county data

Future Research

- Longitudinal studies
- Objective
  - Built environment
  - Physical activity
- Additional rural locations
- Rural definition stated
- Older adult focus
  - Barriers
  - Mediators
- Consistent physical activity measures
- Chronic disease

Acknowledgements

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