

Seasonality and Active Saskatoon Kids: Understanding Active Living in an Urban Environment

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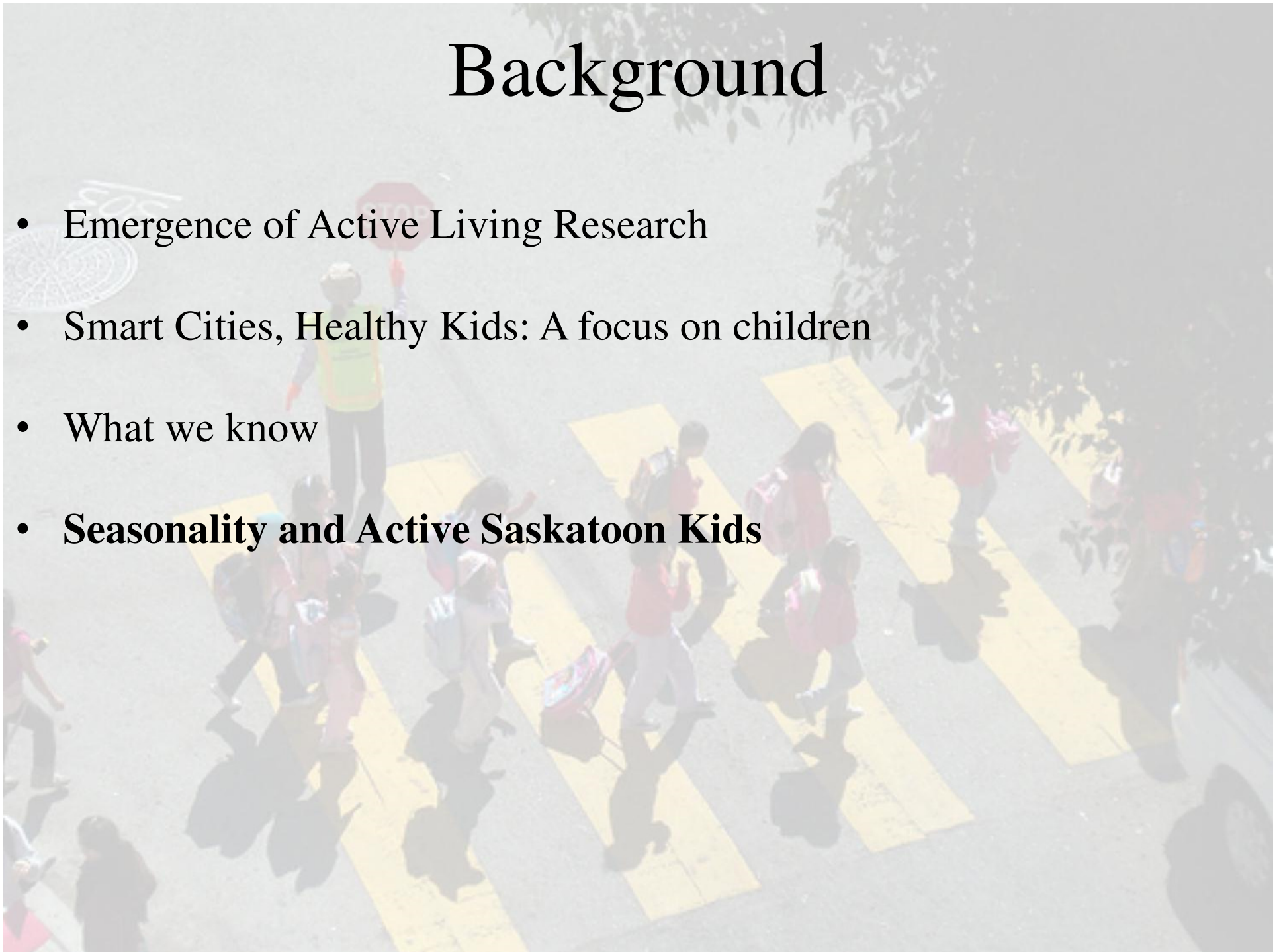
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**Canadian Institute for Transportation
Engineers Conference, Regina 2014**

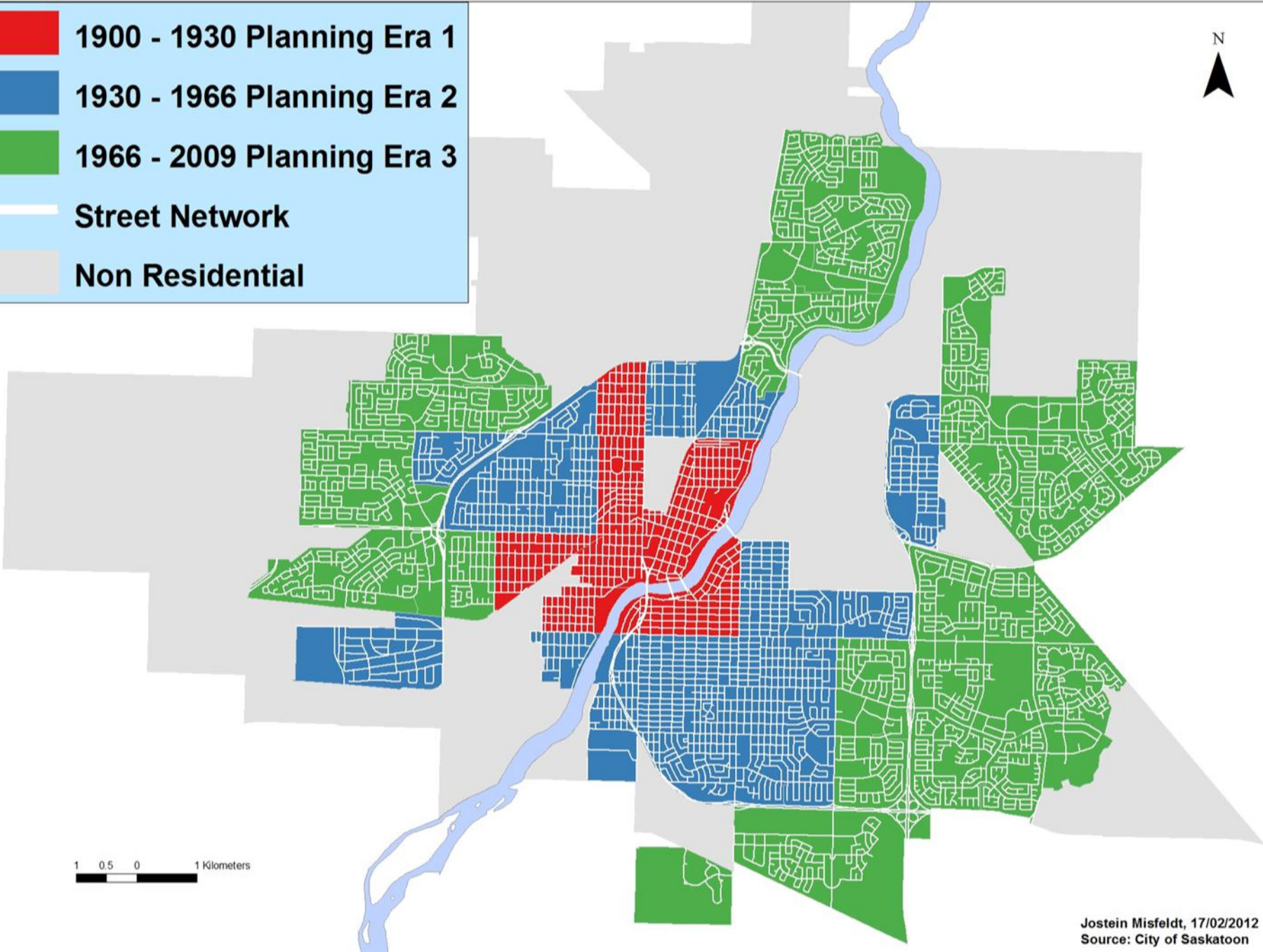
Background

- Emergence of Active Living Research
- Smart Cities, Healthy Kids: A focus on children
- What we know
- **Seasonality and Active Saskatoon Kids**



Saskatoon Neighbourhood Planning Eras 1900 - 2009

-  1900 - 1930 Planning Era 1
-  1930 - 1966 Planning Era 2
-  1966 - 2009 Planning Era 3
-  Street Network
-  Non Residential



1 0.5 0 1 Kilometers

Methodology

Study design

Built environment:

*Neighbourhood Active Living potential
Irvine Minnesota Inventory*

Recruitment: neighbourhoods, schools and sample size

Children:

In transition from preadolescence to adolescence

Methodology



Capturing children's perception of urban environment:

Custom built questionnaire

Capturing active living:

*Global Positioning system (GPS) equipped
accelerometry*

Accelerometry

- Detect, measure and record body movement in digital counts
- Counts categorized into counts per minute values
- Counts per minute values converted to intensity outcomes



Intensity Outcomes

Intensity (minutes)	Active Energy Expenditure (kcal· kg⁻¹· min⁻¹)	Example	Actual Accelerometer counts per min
Sedentary (SED)	Less than 0.01	Car/bus travel, standing, reclining	Less than 100
Light	0.01 to less than 0.04	Walking less than 3.2 km/h, light play	100 to less than 1500
Moderate to Vigorous (MVPA)	0.04 to less than 0.10	Walking more than 3.2 km/h, aerobics	More than 1500

GPS Equipped Accelerometry

Deployment of GPS data loggers and accelerometers:

- Around the waist for 7 consecutive days
- 5 weekdays (school days) and 2 weekend days
- 24 hour deployment to minimize measurement bias
- Measurement bias in accelerometry: smart cities, healthy kids' contribution to active living research

Data integration:

Time stamped data from GPS data loggers and accelerometers

Analytical Approach

The background features a map of an urban area with a network of nodes and edges overlaid. A large blue polygon highlights a specific region on the left. A red path with arrows winds through the network on the right. Various nodes are highlighted in different colors: yellow (3), purple (0), orange (1), teal (23), and blue (24). A stack of colored cylinders (green, grey, blue, red) is visible on the left side of the map.

Identification of urban spaces of interest based on existing evidence

Matching urban spaces of interest with activity intensities

Mapping urban spaces of active living

Identifying urban spaces of sedentary behaviour

Knowledge Translation

An aerial photograph of a city, likely Pittsburgh, showing a river (the Allegheny River) winding through the urban landscape. A large bridge spans the river in the middle ground. The city is densely packed with buildings of various heights and colors. The background shows more greenery and distant hills under a clear sky.

Schools

Parents and children

Urban planners

Cross-Canadian and international dissemination

Generating evidence to support the creation of active living communities



Acknowledgements

Research Staff: Nazeem Muhajarine (PI), Tracy Ridalls, Mel Brockman, Melissa Gan, Duvaraga Sivajohanathan, Joel Heitmar, Larisa Lotoski

Research Team: Nazeem Muhajarine (PI), Tarun Katapally, Kevin Stanley, Nathaniel Osgood, Daniel Rainham and Daniel Fuller

College of Medicine, University of Saskatchewan

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Funding Agencies



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