Case Study: Does size matter? A critique of two urban block sizes and the affects on walkability

Portland, Oregon           Salt Lake City, Utah

April 20, 2016

URBN 6652
Brett Meek | Jamie Fogle

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A critical component of a livable society is having the option to walk within a 10 minute walk to basic needs and services.

Case Study Purpose: To examine the downtown block size and structure of two western US cities and their influence on walkability.

Indicators are a response to human health and well-being, economic prosperity and transportation infrastructure.
Background
Settlement History and Context

Year of Settlement: 1845
City’s Geographic Area (2016): 145 Sq. Mi.
City’s Population (2010): 583,776, 28th most populous in US
City’s Population Density: 4,026/ People per Sq. Mi.
Downtown Street Widths: 60’
Downtown Block Size: 200’ by 200’ grid
Demonym: Portlander
Climate: Temperate, Avg. High: 82°F, Avg. Low: 35.2°F
(Wikipedia)
PORTLAND, OR

Year of Settlement: 1847
City’s Population Density: 1,695/ People per Sq. Mi.
Downtown Street Widths: 132’
Downtown Block Size: 660’ by 660’ grid
Demonym: Salt Laker
(Wikipedia)
SALT LAKE CITY, UT
Development Forces

The original 1843 “Portland” land claim of William Overton was the basis of the grid system. The unique street grid of Portland was developed by Thomas Brown in 1845. He surveyed and developed a 200x200 foot grid for the first sixteen blocks of the city that extended two blocks west of the river and eight blocks running parallel to the river rather than true north points. This provided emphasis on the importance of the river and the city’s future growth through commerce. (City of Portland Bureau of Planning, 2)

One year after Portland’s incorporation as a city in 1851, a park strip extending through the city from north to south was deeded to the City for public use, known as the ‘Park Blocks’. (City of Portland Bureau of Planning, 12)

Development Forces:

- The ideas for the layout of Salt Lake City originated with Joseph Smith, the founder of The Church of Jesus Christ of Latter-day Saints. (McIntire)
- Smith’s concept of city planning originated in what was known as the City of Zion plan, prepared in 1833. The plan called for a grid pattern with streets 132 feet wide, multi-acre lots within each city block, backyard gardens, houses set 25 feet back from the street and staggered so that no house directly faced another on the opposite side of the street. (McIntire)
- The story goes that Brigham Young, who led Mormon settlers to the West in 1847, directed that the streets of Salt Lake City be made sufficiently wide so that a wagon team could turn around without “resorting to profanity”. (McIntire)
Downtown Comparisons

PORTLAND, OR

SALT LAKE CITY, UT
Block Figure Ground

**Downtown Block Size:** 200’ by 200’ grid
**Right-of-Way Width:** 60’
**Street Area:** 40%
**Block Area:** 60%
**Area Shown:** 1/4 Mile radius

**SALT LAKE CITY, UT**

**Downtown Block Size:** 660’ by 660’ grid
**Right-of-Way Width:** 132’
**Street Area:** 30%
**Block Area:** 70%
**Area Shown:** 1/4 Mile radius

PORTLAND, OR
Street Frontage and Intersections

**PORTLAND, OR**

- **Street Frontage (1/4 mi. radius):** 79,200 linear feet or 15 miles
- **Number of Intersections:** 76

**SALT LAKE CITY, UT**

- **Street Frontage (1/4 mi. radius):** 28,480 linear feet or 5.4 miles
- **Number of Intersections:** 9
1/4 Mile Radius Diagram

Intersection of SW Yamhill Street and SW 6th Avenue
Buckman Neighborhood

State Street and Main Street
Capitol Hill Neighborhood

PORTLAND, OR

SALT LAKE CITY, UT
Nolli Map

Higher Density
Buildings typically occupy entire block
Rigid formal repetition
More diversity of use and architectural character
Parking is minimal

Lower Density
More flexibility in block configuration
Less repetition
Less diversity of use
Significant surface parking
Street Character

PORTLAND, OR | SW 5TH STREET

SALT LAKE CITY, UT | MAIN STREET

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Public Amenity Character

PORTLAND, OR | PIONEER SQUARE

SALT LAKE CITY, UT | GALLIVAN CENTER

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Walkability Indicators

PORTLAND, OR | SALT LAKE CITY, UT
Walkability Principles

TEN PRINCIPLES OF WALKABILITY (Speck)

The Useful Walk
1 | Put cars in their place
2 | Mix the uses
3 | Get the parking right
4 | Let transit work

The Safe Walk
5 | Protect the pedestrian
6 | Welcome bikes

The Comfortable Walk
7 | Shape the spaces
8 | Plant trees

The Interesting Walk
9 | Make friendly and unique faces
10 | Pick your winners
Walk Score, Bike Score, Transit Score for study area intersection

What makes a neighborhood walkable?

A CENTER: Walkable neighborhoods have a center, whether it’s a main street or a public space.

PEOPLE: Enough people for businesses to flourish and for public transit to run frequently.

MIXED INCOME, MIXED USE: Affordable housing located near businesses.

PARKS AND PUBLIC SPACE: Plenty of public places to gather and play.

Walk Score

Portland 92
Salt Lake City 87

0 24 49 69 89 100
Car Dependent Somewhat Car Dependent Somewhat Walkable Very Walkable Paradise

Bike Score

Portland 100
Salt Lake City 72

0 49 69 89 100
Somewhat Bikeable Bikeable Very Bikeable Biker’s Paradise

Transit Score

Portland 75
Salt Lake City 67

0 24 49 69 89 100
Some Transit Minimal Transit Good Transit Excellent Transit Riders Paradise

Portland has an average walkscore of 63, bike score of 72 and transit score of 51.

14th most walkable large city in the US.

Portland has good public transportation and is very bikeable.

Salt Lake City has an average walkscore of 55, bike score of 69 and transit score of 43.

Salt Lake City has some public transportation and is somewhat bikeable.

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2014 Obesity Rankings, Gallup Healthway Well-Being Index, web.


2015 Community Well-Being Rankings and Access to Care, Gallup Healthway Well-Being Index

2015 WELL-BEING INDEX | 2015

D.A. Horchner/Designworkshop, 2005

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Conclusion
Small Block and Large Block Comparisons

**Strengths:**

**City Legibility**
- Ease of navigation

**Development Over Time**
- Easily adaptable to changing land uses
- Promotes reusability and urban infill redevelopment
- Fosters small business and entrepreneurial spirit

**Human Experience**
- Finer grain urban fabric
- Greater diversity of land use & architectural character
- More street frontage / groundstory activation

**Transportation**
- Greater pedestrian and vehicular connectivity
- Decrease in traffic congestion
- Variety of alternate routes

**Weaknesses:**

**Land Use Efficiency**
- Lower developable land ratio
- Higher infrastructure & maintenance costs

**Rigidity**
- Less flexibility in parcel assemblage
- Fewer options for formal arrangement

**Portland, OR**

**Strengths:**

**Land Use Efficiency**
- Higher developable land use ratios
- Lower infrastructure & maintenance costs

**Human Experience**
- Quality over quantity approach to streetscape
- Adequate space for complete street amenities

**Flexibility**
- Many options for parcel assemblage
- Numerous options for block and building configuration

**Weaknesses:**

**Land Use**
- Less practical in residential applications
- Encourage large scale “big box” development

**Transportation**
- Higher potential for traffic and congestion
- Fewer alternate routes

**Salt Lake City, UT**
The noticeable differences between the Portland and Salt Lake City block size are evident and a logical assumption is that the smaller block size makes for a more desirable pedestrian experience.

The case study critique reveals that the smaller block size has limited impact on walkability and the resulting health, well-being and economic benefits.
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