From People To Data

Measuring People-friendly Streets
Global Designing Cities Initiative

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Gehl Institute for public life
A Paradox:

“We know very much about the habitat of Siberian tigers and mountain gorillas, but only very little about the habitat of homo sapiens.”

Enrique Peñalosa,
Mayor of Bogotá, Columbia
A Daily Reality:

LET'S SOLVE THIS PROBLEM BY USING THE BIG DATA NONE OF US HAVE THE SLIGHTEST IDEA WHAT TO DO WITH

© marketoonist.com
"we measure what we care about" - Jan
A shared vision: cities for people

Gehl Institute creates conditions for cities for people by creating knowledge and cultivating champions.

Gehl makes cities for people through consulting and design.
How We Measure The Public Realm Today

- Speed
- Reliability
- Flow
- Capacity
- Efficiency

...?
It Seems Like We Care A Lot About...
Poor Quality Places Inhibit Well-Being

And lower income and minority neighborhoods are more likely to have poor quality open space, lacking sidewalks, street trees, clean streets and walkways, and appealing scenery and architecture. This makes it less likely that residents will walk in their communities and enjoy time outside.
The 21st Century Street Is Also a PLACE
Where What We Value Isn’t Just Efficiency, Numbers and Geometry...
...It's Also About The Experience
Pioneers of People-First Planning
People-first Planning, Policy + Design

Gehl Institute enables cities for people...

...through knowledge creation that advances systemic change.
Public Life Is…

Public life is what a collective group of people create when they live their lives outside their homes, workplaces, and cars.

Public space is the backdrop for our:
- Everyday Routines
- Culture
- Community
- Social Activities
- Physical Activity
- Civic life

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Public Life Is A Driver Of…

1. PHYSICAL AND MENTAL HEALTH
2. SUSTAINABLE MOBILITY
3. SOCIAL BENEFITS
4. IDENTITY AND SENSE OF PLACE
5. SAFETY
6. ECONOMIC DEVELOPMENT
Can We Realign Our Priorities?
People Are The Key!

Cultures and climates are different from city to city...

...but we all experience our environment from the same starting point...
How Do YOU Experience the City?

Average speed: 5 km/h

6m 1 unit 6m 1 unit 6m 1 unit

4 sec 4 sec 4 sec

Hearing

Smell

Sight

Need for stimuli

Average human viewpoint

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Stimuli activate our senses.
A happy brain needs 1000 stimuli per hour.

That’s once every 4 seconds!
A City Based on the Human Dimension
Understanding public life requires understanding many different components.
Transport Capacity
Connectivity
Socio-economics
Speed
Accessibility
Property Values
People Moving
Demographics
Waste
Public works
People Staying
Air Quality
Ecology
Retail performance
Business Potential
Accessibility
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Global Best Practices Will Be Needed
How does this translate to streets?
Seeing a Place with Fresh Eyes

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Times Square consists of
89% road space
11% people space
Understanding Impacts and Change

90% of users were pedestrians

10% of users were motorists

10% of area for people

90% of area for cars
Highlights from Our Toolkit
What Do We Measure?

- Counting people walking and cycling
- Tallying age and gender
- Mapping how people spend time
- Surveying social dimensions of public space
- Observing design – spatial interaction
- Evaluating Spatial components

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Observation, Surveys & Analysis

We look at both quantitative factors...

Pedestrian Activity on 53rd Street, New York

- Weekday: 23,950/Day
- Weekend: 5,250/Day
Observation, Surveys & Analysis

…and qualitative ones.

<table>
<thead>
<tr>
<th>TWELVE URBAN QUALITY CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION:</td>
</tr>
<tr>
<td>Protection</td>
</tr>
<tr>
<td>Options for mobility.</td>
</tr>
<tr>
<td>Comfort</td>
</tr>
<tr>
<td>Options for seeing, hearing.</td>
</tr>
<tr>
<td>Enjoyment</td>
</tr>
<tr>
<td>Scale</td>
</tr>
<tr>
<td>Opportunities to enjoy the positive aspects of climate.</td>
</tr>
<tr>
<td>Experience of aesthetic qualities and positive sensory experiences.</td>
</tr>
</tbody>
</table>

- **Protection:**
  - Is the public space perceived to be safe both day and night? Are there people and activities at all hours of the day because the area has for example, both residents and offices? Does the lighting provide safety at night as well as a good atmosphere?
- **Options for mobility:**
  - Are there physical elements that might limit or enhance personal mobility in the form of walking, using of a wheelchair, or pushing a stroller? It evident how to move through the space without having to take an illogical detour?
- **Options for seeing, hearing:**
  - Are seating options placed so there are interesting things to look at?
- **Scale:**
  - Is the public space and the building that surrounds it at a human scale? If people are on the edges of the space, can we still relate to them as people or are they lost in their surroundings?
- **Opportunities to enjoy the positive aspects of climate:**
  - Are local climatic aspects such as wind and sun taken into account? Are there varied conditions for spending time in public spaces at different times of the year? With this in mind, where are the seating options placed? Are they located entirely in the shadows or the sun? And how are they oriented placed in relation to wind? Are they protected?

**Scoring:**
- 3 = YES
- 2 = IN BETWEEN
- 1 = NO

**Note:**
- Gehl Institute for Public Life
Public Life Toolkit

Counting
Counting is a widely used tool in public life studies. In principle, everything can be counted, which provides numbers for making before-and-after comparisons between different geographic areas over time.

Plotting
Activities, people, places for staying and much more can be plotted in, i.e. drawn as symbols on a plan of an area being studied to mark the number and type of activities and where they take place. This is also called behavioral mapping.

Tracing
People’s movements inside or crossing limited spaces can be drawn as lines of movement on the plan of the study area.

Tracking
In order to observe people’s movements over a large area or for a longer time, observers can discreetly follow people without their knowing it or follow someone who knows and agrees to be followed and observed. This is also called shadowing.

Looking for traces
Human activity often leaves traces, which can give the observer information about city life. Traces can be counted, photographed or drawn on a map.

Photographing
Photographing is an essential part of public life studies as it helps to document situations where urban life and form either interact or don’t after changes have been made.

Keeping a diary
Keeping a diary can register details and nuances about the interaction between public life and space. Noting observations can later be categorized and/or quantified.

Test walks
Taking a walk while observing is underway can be made more or less systematic, so that the observer sees problems and potentials for himself on any given route.
Telling Stories About Impact

Longitudinal Analysis  Investment  Surveys or Testimonials  Impact on Public Life

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Democratizing Data

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People Moving Count
12 Quality Criteria
Stationary Activity Mapping

See All Tools
Connecting Action and Evaluation

PLAN
DESIGN
DO
MEASURE
ADAPT
More Ways To Understand Public Life

New knowledge: Inclusive Healthy Places
Open, standard language: Public Life Data Protocol
Learning experiences: Public Life Dialogues
Dialogues: Public x Design

Targeted Reference Guides
Implementation Experiments
Open resources: Public Life Tools
Applied engagement: Study Tours/Policy Labs
Shift focus to people, life, and culture to tackle urban challenges.
What Can We Learn From This Approach?
New York City Plaza Study

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Economic impacts are often the sole metric. Social impacts have been less explored.
NYC Plazas: Evaluation Methods

- Engagement records
- Social media analysis
- Online surveys
- Intercept surveys
- Observational analysis
- Prototype evaluation
- Photo surveys
- In-depth interviews
Use Increased

Has this plaza increased the time you spend in public space?

- No
- Yes

Neighborhoods that lack open space the most reported a greater increase in time spent outside.
Plazas foster *social connections.*

53% across all 7 plazas recognize or know more people since the plaza opened.
Everyday Spaces Create Cohesion

“Since the plaza opened, do you recognize or know more people in the neighborhood?”

Plazas in residential communities, where users are local, seem to foster more interaction.

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“Everyday” Spaces Do More With Less

Flatiron
45,000 sq ft.
Operations Budget (2014)
$375,000

Corona
13,500 sq ft.
Operations Budget (2014)
$65,000

3x the space. 6x the budget.
Corona does a lot for a little

Everyday” Spaces Do More With Less

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Despite only 3% of all surveyed saying they participated in the plaza planning.

<table>
<thead>
<tr>
<th>Plaza</th>
<th>100%</th>
<th>75%</th>
<th>50%</th>
<th>25%</th>
<th>0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flatiron Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meatpacking Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversity Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corona Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roosevelt Plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zion Triangle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Lots Triangle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>No, not interested</th>
<th>No, just visiting</th>
<th>Not really</th>
<th>YES!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your plaza</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No, not interested
No, just visiting
Not really
YES!

Respondents in outer-borough plazas responded YES at a higher percentage than in the Manhattan plazas.
Corridor Performance

Seattle DOT’s MISSION:
• Deliver high-quality transportation system for Seattle

Seattle DOT’s VISION:
• Connected people, places, and products

Seattle DOT’s CHALLENGE:

Five fastest-growing cities

Five slowest-growing cities
Shifting the commute

Transit use has increased to 47 percent of central-city commuters, while solo driving has dipped to 30 percent.

<table>
<thead>
<tr>
<th>Mode</th>
<th>2010</th>
<th>2016</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit</td>
<td>85,446</td>
<td>116,831</td>
<td>+31,385</td>
</tr>
<tr>
<td>Single-occupancy vehicle</td>
<td>71,104</td>
<td>73,359</td>
<td>+2,255</td>
</tr>
<tr>
<td>Walk, bike, telework</td>
<td>26,058</td>
<td>35,074</td>
<td>+9,016</td>
</tr>
<tr>
<td>Carpool/Vanpool</td>
<td>19,392</td>
<td>21,736</td>
<td>+2,344</td>
</tr>
</tbody>
</table>

*Bus, rail, walk-on ferry

Source: Commute Seattle

MARK NOWLIN / THE SEATTLE TIMES
Study Locations

- Amazon
- Microsoft
- Center for Infectious Disease Research
- Anthropologie
- Ross Dress for Less
- Nordstrom
- Young Tree
- Uwajimaya
- Little Sheep
- Westlake (Mercer & Republican)
- Westlake (Thomas & John)
- Bell St (2nd - 4th)
- 5th Ave (Pike & Pine)
- 3rd Ave (Pike & Union)
- S Jackson St (7th & 8th)
- S Jackson St (6th & Maynard)
- S Weller St (7th & 8th)
- S Weller St (6th & Maynard)
Study:
• Amount, type of activity
• How activity aligns with pedestrian infrastructure provided
• Relationship to retail activity/active uses

Study:
• Amount, type of activity
• Pedestrian
• Bike
• How activity aligns with pedestrian infrastructure provided

Study:
• Type of stationary activities present
• Emphasis on social behaviors and transit queuing
Adapting The Tools

STATIONARY ACTIVITY
One Center City
5th Ave between Pine St and Pike St
WEST SIDE

Date:*
Day of week:*

Temperature:*
Weather:*

# public seating provided:
# private seating provided:

---

<table>
<thead>
<tr>
<th>Activity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Outfitters</td>
<td></td>
</tr>
<tr>
<td>At Home</td>
<td></td>
</tr>
<tr>
<td>At Work</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Adapting The Tools

### Pedestrian Counts

#### Count 1

Number of pedestrians, split by group size. 10 minutes.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>TALLY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;8 people</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Count 2

Number of pedestrians, split by age. Indicate also if pedestrian is carrying a shopping bag. 10 minutes.

<table>
<thead>
<tr>
<th>AGE</th>
<th>TALLY</th>
<th>with shopping bag</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 (children/ toddlers)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-14 (teens)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24 (teen/ young adults)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-44 (adults)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-64 (middle age adults)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;65 (seniors)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL:  

---

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Seattle Department of Transportation
Seattle’s Findings

Indicator: age

<table>
<thead>
<tr>
<th>Location</th>
<th>Pedestrian Counts</th>
<th>Staying Still Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Weller St</td>
<td>20%</td>
<td>16%</td>
</tr>
<tr>
<td>S Jackson St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westlake Ave N</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Bell St</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th Ave</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>3rd Ave</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Youth (<15 years old) & Senior (65+ years old)
People staying still

<table>
<thead>
<tr>
<th>Street</th>
<th>Total Number of People</th>
<th>Percent of Stationary Pedestrians</th>
<th>Seating Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Ave</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>3rd Ave</td>
<td>11</td>
<td>11%</td>
<td>54</td>
</tr>
<tr>
<td>Westlake Ave N</td>
<td>73</td>
<td>73%</td>
<td>73</td>
</tr>
<tr>
<td>Bell St</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>S Weller St</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>S Jackson St</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

Stationary activity
Waiting for transit
Seattle’s Findings

Indicator: gender

<table>
<thead>
<tr>
<th></th>
<th>Pedestrian counts</th>
<th>Stationary activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Ave</td>
<td>38%</td>
<td>52%</td>
</tr>
<tr>
<td>5th Ave</td>
<td>24%</td>
<td>33%</td>
</tr>
<tr>
<td>Bell St</td>
<td>40%</td>
<td>33%</td>
</tr>
<tr>
<td>Westlake Ave N</td>
<td>46%</td>
<td>49%</td>
</tr>
<tr>
<td>S Jackson St</td>
<td>48%</td>
<td>43%</td>
</tr>
<tr>
<td>S Weller St</td>
<td>48%</td>
<td>43%</td>
</tr>
</tbody>
</table>

- One Center City
- Market to MOHAI
- Age Friendly Design

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for public life
Thank you!

Jennifer Gardner
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