Alley Inventory and Truck Load/Unload Occupancy Study
Urban Freight Lab
Final 50’: Goods Delivery System Research Project
Task Order 4

Training Session - Winter 2018
Study Area

SDOT has engaged the Urban Freight Lab to identify the geospatial locations and features of alleyway infrastructure in One Center City.

The urban centers include:

- Downtown
- Uptown
- South Lake Union
- Capitol Hill
- First Hill

Credit: 
http://onecentercity.org/
Four Data Collection Principles

The Urban Freight Lab adheres to four principles when designing data collection approaches. To be widely used, the method must be:

1. Replicable;
2. Available at a reasonable cost;
3. Groundtruthed;
4. And have quality control measures built into each step.
Data collection Plan

• We work in teams of two
• Your assigned shift can be Monday through Saturday, anytime between 8:00 am and 5:00 pm, depending on your availability.
• Data collection will involve walking around city blocks looking for alleyways.
• We set short term goals with subareas.
Data Collection Tools

Laser device

PC Tablet

City blocks map

Measuring wheel
Data Collection App
Data Collection Tools: Integrated System
Security Protocol

- UW letter and security vest
- Seattle Shield Blast
- SDOT website – Final 50 Feet Program
Alleyways’ Extreme Points

Categories

Access Points
Dead End
Intersections
Located in the public right away with access to street.
Alleyways’ Extreme Points - Dead end (1/3)

Dead end Type 1:
Ending at a to building outline.
Dead end Type 2:
Ending at a driveway with access to street.
Dead end Type 3: Ending at open property.
Alleyways’ Extreme Points - Intersection

Intersection within the city block between:
• Two alleyways
• An alleyway and a street
Revising King County alleyway database

Question to be answer:
Is the alleyway shown on the base map?
Selecting the survey start point

If the alleyway exists in field, then:

a. Compare the width of the alleyway extremes UNLESS the extremes are (1) dead end ending at a building outline or (2) an intersection.

a. Start the survey at the narrower extreme. For example:

- If width_A > width_B,
  
  *Then Point_B = survey start point.*
Features at the extreme point - Survey start point

We will collect:

A. Geolocation
B. Width within 30ft. Into the alley
C. Street name closest to extreme point
D. Apron features

Note: (depending on extreme point category)
Limitations to survey within the alleyway

Safety Parameter

Obstructed alleyway

Note:
Don’t enter the alley if any of the team members feel uncomfortable!
Security Protocol within the alleyway

Note:
*If any of the team members feel **uncomfortable at ANY point** while collecting the features within the alley, get out of the alley!*

*If able, go to the second access point (i.e. the endpoint of the survey) to finish your data collection (unless the alley ends in a dead end).*
Features within alleyways

We will collect:

A. Narrower points and sections
B. Parking facilities
C. Main entrances to buildings
D. Driveways
E. Alleyway Length
F. Pavement conditions
G. Count of obstructions
H. Presence of temporal obstructions
A. Narrower points & sections

\[ W = \text{Width of Extreme Point B} \]
A. Narrower points - width restriction

- $w'3 > W - 1\text{ft.}$ (Cross)
- $w'2 < W - 1\text{ft.}$ (Tick)
- $w'1 < W - 1\text{ft.}$ (Tick)

$W =$ Width of Extreme Point B
A. Narrower sections - width restriction

$W = \text{Width of Extreme Point B}$

$w'1a < W-1\text{ft.}$

$w'1b < W-1\text{ft.}$

$L1 > 10 \text{ ft.}$

T-Net layer

Extreme Point

Before entering

Within Alley

Extreme Point
A. Narrower points & sections - height restriction

Obstructions that are:

- Width restrictions
- Located within 16ft. from the ground
A. Narrower points & sections - Types (1/2)

- Transformer Equip.
- Electric Panels
- Fire escape
- Projecting Lights

Within Alley
A. Narrower points & sections - Types (2/2)

Signs

Chutes

Bollards

Parking/ Commercial Vent intakes or exhaust

Within Alley
B. Parking facilities - Types (1/2)

Parking garages
parking lots

T-Net layer  Extreme Point  Before entering  Within Alley  Extreme Point

Surface

29
B. Parking facilities - Types (2/2): Freight facilities

- **Outside of building walls**
  - **EXTERIOR LOADING DOCK**
  - **EXTERIOR LOADING AREA**

- **Interior of exterior wall**
  - **INTERNAL LOADING BAY**

**T-Net layer**

**Within Alley**

**Extreme Point**

**Before entering**

**Extreme Point**
B. Parking facilities - Freight facilities

To link both databases, we will use readily available data:

• Location (basemap)
• Facility ID number
• Pictures
Data Collection Method: A 5 step survey

Step 1. Checking of King County database
Step 2. Alleyway’s “Extreme Point”
Step 3. Before entering the alleyway
Step 4. Within the alleyway
Step 5. Alleyway’s “Extreme Point”
Features at the extreme point - D. Apron

Extreme Point B = Survey start point

length

Cross slope (3x)

Apron width

T-Net layer | Extreme Point | Before entering | Within Alley | Extreme Point
B. Parking facilities

Features to be collected:

• Geolocation
• Distance from start of alley
• Pictures
C. Main entrances to buildings

![Diagram showing entrances to buildings with labels for Bldg. 1 and Bldg. 2, andExtreme Point and Within Alley labels.](image)
D. Driveways

T-Net layer

Extreme Point

Before entering

Within Alley

Extreme Point
E. Alleyway Length

We will measure total length of alleyway with a measuring wheel.
F. Pavement Conditions

Pavement in bad conditions shows:

- Uplift or Non-flush
- Settling
- Faulting
- Utility vaults

T-Net layer | Extreme Point | Before entering | Within Alley | Extreme Point
G. Count of obstructions

- Fire escapes
- Garbage bins or cans
- Garbage bins or cans for oil
H. Presence of temporal obstructions

- Debris
- Street Furniture
Features at the extreme point - Survey endpoint

We will collect:

A. **Geolocation**

B. Width within 30ft. Into the alley

C. Street name closest to extreme point

D. Apron features

*Note: (depending on extreme point category)*
Save the date!

- **Friday, January 5:**
  Submit your Winter Quarter availability

- **Before Monday, January 15:**
  Attend training session in field, specific time to be defined
  Attend training session in data cleaning session in office, specific time to be defined

- **Before appointment of training in-field:**
  Self-review the materials of theoretical training session
Communication
City Block Round

Data collectors will do a city block round before starting any survey in a new city block. During the round, they will indicate the following information on the hard copy map:

→ Access points width
→ Access points location
Data Quality Process: In field

Keep track of the surveyed alleyways!
- Thoroughly inspect every city block in the assigned map and do not leave spaces behind where you did not walk
- Progressively fill the map with the alleyways collected in field

Always be aware of your location!
- Orient yourself and be confident about your location before starting a new survey

Be careful collecting the data!
- Correctly collect GPS readings
- Correctly collect the measuring wheel readings
- Collect clear and useful pictures, these are key for quality control.

Note: If you have any questions, refer to training materials or contact us
Data Quality Control:
“Don’ts” of taking pictures (Weird angles)
Data Quality Control:
“Don’ts” of taking pictures (No context)
Data Quality Control: “Don’ts” of taking pictures (Lack of clarity)
Data Quality Control: “Dos” of taking pictures (enough context)
Data Quality Control:
**Dos** of taking pictures
(important additional details)
Data Quality Process:
In office

After every data collection shift one member of the team is responsible for the following task:

**Task 1** - Review geopoints
- Extreme points
- Loading bays
- Parking facilities

**Task B** - Review remaining features collected of each survey.

*Note: Data collectors will follow a Data quality process manual.*
Data Quality Control: Online ESRI platform