Purpose

This document introduces the concept of the pedestrian count and provides instructions for performing a manual intersection count to interested data collectors.

Counts provide valuable data for planners and pedestrian advocates alike. Groups interested in performing intersection counts may contact CDOT for additional training assistance. Further information can be found at the CDOT Pedestrian Program page. CDOT appreciates your assistance with volunteer counts!

www.chicagocompletestreet.org/your-streets/pedestrians
Overview

Why count pedestrians?

Pedestrian counts are conducted to measure pedestrian demand; trends in walking based on weather, season, and surrounding land uses; and pedestrian exposure to vehicular traffic. Consistent, targeted counts will help the CDOT Pedestrian Program evaluate the effect of policies and improved pedestrian facilities on the safety and walkability of the city.

How are pedestrian count data used?

Pedestrian count data may be used for roadway design and evaluating infrastructure improvements. Counts may also be used to calculate mode share and perform crash analysis. As the Pedestrian Program prioritizes pedestrian improvements, it is valuable to have an understanding of pedestrian activity and behavior before and after projects. Pedestrian count data may also be used to educate the public and local officials about the popularity and importance of walking for mobility and transportation, and to support ongoing investments.
Pedestrian counts can provide community groups empirical data of pedestrian activity in their neighborhood. Findings can be used to demonstrate liveliness along a commercial corridor, or make a case for an improved crossing. Methods for collecting pedestrian data vary with count goals. No matter the method, however, pedestrian counts are a great way to spend time with neighbors and observe the ebb and flow of street life in your community.
Types of Pedestrian Counts

Pedestrians can be counted manually by data collectors, or automatically by cameras and sensors. Manual counts allow for the collection of pedestrian characteristics and behaviors and include:

**Intersection**
Measures the number of pedestrians crossing the street at each leg of a study intersection

**Mid-Block**
Measures number of pedestrians crossing the street away from the intersection

**Screen Line/Block Face**
Measures number of pedestrians passing through a discrete line along a sidewalk or path

**Tracking Survey**
Documents where and how people cross a street, intersection, or plaza.

**Yielding Behavior**
Documents when pedestrians cross a street or intersection and whether vehicles yield or stop
Intersection Counts

The simplest intersection counts quantify the number of pedestrian crossings at each leg of an intersection (in the crosswalk and within 50 feet—i.e. at the intersection but not necessarily within the painted crosswalk) as shown at right.

Intersection counts enable planners to study pedestrian crash risk and estimate the magnitude of pedestrian activity at an intersection or in a particular crosswalk.
Additional detail can be obtained during intersection counts including pedestrian gender, age, and direction of travel. These factors require additional training and are not recommended for first-time counters or for counts with high numbers of pedestrians.
Staffing an Intersection Count

Intersection counts require between one and four data collectors, depending on pedestrian volumes.

- Intersections with low pedestrian activity can be observed by one data collector observing crossings at all four crosswalks. This collector might also have the ability to record bicyclists or demographic characteristics of pedestrians.

- Intersections with high pedestrian activity should have two data collectors, positioned to count pedestrians at two crosswalks each (see next page). These collectors should only count pedestrian crossings.

- Intersections with very high pedestrian activity (such as in the Loop) should have one data collector per crosswalk, four total. These collectors should only count pedestrian crossings.

Accuracy and consistency are of the utmost importance. Consider the complexity of the intersection, volumes, and collector experience before collecting additional information. While counting seems easy, doing so accurately and consistently is hard.
Staffing an Intersection Count, cont.

Example:
This intersection, Ashland Avenue and Division Street, has high volumes, especially at peak hour transit times.

Platoons, or groups of pedestrians crossing with the light, are usually under 20 persons, and few people cross against the light. Thus two collectors, positioned diagonally from each other (shown as blue triangles) are sufficient.
Scheduling an Intersection Count

Intersection counts should be scheduled based on project goals. For example, Safe Routes to Schools groups would count at different times than those looking at rush hour volumes. Counts should be performed at a location on two consecutive weekdays (e.g. Tuesday & Wednesday) and the following Saturday.

Ideal times:
Weekday: Tuesday, Wednesday, Thursday
  — 4 p.m. to 6 p.m. (typical PM rush hour)
  — 5 p.m. to 7 p.m. (NBPD)
  — 2 p.m. to 4 p.m. near schools
Weekend: Saturday
  — 9 a.m. to 11 a.m.
  — 12 p.m. to 2 p.m. (NBPD)
  — 3 p.m. to 5 p.m.

CDOT Volunteer Pedestrian Counts follow National Bicyclist and Pedestrian Documentation Project (NBPD) dates and times.
Required Materials

Intersection counts require minimal materials. Data collectors should have the following items:

Checklist:

- 4 Data Collection sheets per hour, e.g. 8 sheets for a 2-hour count (see next page for CDOT sheet)
- A clipboard/hard backing for writing
- A pen or pencil
- A timepiece, preferably with a countdown setting
- Water and snacks
- Weather appropriate clothing (cold weather counts can be particularly unpleasant without adequate insulation)
Filling Out the Sheet

Fill out one Intersection Pedestrian Count Sheet per 15-minute period.

Fill out the information in the top right corner on the first sheet.

Label each sheet with the appropriate time and cross streets. Hold sheets with the Northing arrow pointed North to minimize error.
Intersection Counts

COMPLETE ON FIRST SHEET

COMPLETE ON EVERY SHEET

15-Minute Period:

COMPLETE ON EVERY SHEET

Street Name (A to C):

COMPLETE ON EVERY SHEET

Street Name (B to D):

COMPLETE ON EVERY SHEET

Intersection Pedestrian Count Sheet

Mainline Roadway:

Intersecting Roadway:

Observer Name(s):

Date: ___________ Observation Time: (Start) ___________ (End) ___________

Temp. (°F): ___________ Sunny, cloudy, rainy, etc.: ___________

Description of Specific Observation Location: ___________

CDOT Pedestrian Program
Contact: eric.hanss@activetrans.org

Based on form developed by Robert Schneider, SafeTREC, 2010

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION
Note: 15-minute periods should fall on the hour and 15-minute increments thereafter, for example:

- 5:00-5:15
- 5:15-5:30
- 5:30-5:45
- 5:45-6:00

Counts need not start on the hour, but they should start at a 15-minute interval to remain consistent with other types of data.
Following the example of a count taken at Ashland Avenue and Division Street, Collector 1 is positioned on the northwest corner of the intersection. Collector 1 observes pedestrians crossing leg A (corner 4 to 1 & 1 to 4) and Leg B (corner 4 to 3 and 3 to 4).

Collector 1 fills in the top-most and left-most boxes corresponding to the intersection legs under observation (either with hash marks or numbers), changing to a new sheet every 15 minutes.

This is an example of a properly completed count sheet.
Don’t Forget: Collector 1 has to watch for pedestrians crossing in the crosswalk and within 50 feet of the crosswalk, regardless of signal (i.e. count pedestrians crossing during Walk Phase, Flashing Do Not Walk, and Solid Do Not Walk)
Certain pedestrians can be distinguished by other marks, such as Os and Xs for Females and Males (not recommended at high volume locations). Be sure to provide a legend explaining chosen symbology.
Who SHOULd be counted? A person:

Crossing the street within a crosswalk or within roughly 50’ of a crosswalk (i.e. crossing at the intersection, but not necessarily in the painted crosswalk)

- On foot
- With an assistive device (including a wheelchair, motorized and non-motorized)
- In a stroller or carried by another person
- On a skateboard/scooter/rollerskates
- Walking a Bicycle

**NOTE:** A pedestrian need not be crossing during the walking phase to be counted!
How Many Pedestrians Crossing?
How Many Pedestrians Crossing?

11 pedestrians crossing (including woman walking her bike)
How Many Pedestrians Crossing?
How Many Pedestrians Crossing?

12 pedestrians crossing (including child in stroller and 3 pedestrians behind figures in foreground)
Who SHOULDN’T be counted? A person:

- Crossing within a crosswalk or roughly 50’ of a crosswalk
  - Riding a bicycle
  - Driving a motor vehicle
- Crossing greater than 50’ away from a crosswalk (i.e. mid block)
- Not crossing the street (e.g. rounding a corner, walking on the sidewalk, stepping into street to hail a cab)
Submitting Counts

Completed count sheets should be submitted to CDOT. Please contact the appropriate staff member listed on CDOT Pedestrian Counts page (http://chicagocompletestreets.org/your-streets/pedestrians/ped-counts/) to arrange a pick up or a digital submission. Your participation is highly appreciated.
Resources

• National Bicycle and Pedestrian Documentation Project: http://bikepeddocumentation.org/

• University of California Berkeley SafeTREC – data collection and analysis for active transportation: http://safetrec.berkeley.edu/active-transportation/data

• For more information on the CDOT Pedestrian Program, Pedestrian Counts, and Volunteer Opportunities, please visit: www.chicagocompletestreet.org/your-streets/pedestrians