

# National Bicycle and Pedestrian Documentation Project

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## **INSTRUCTIONS**

The National Documentation Project (NBPD) is an annual bicycle and pedestrian count and survey effort sponsored by the Institute of Transportation Engineers Pedestrian and Bicycle Council. The goals of the NBPD are to: (1) Establish a consistent national bicycle and pedestrian count and survey methodology;(2) Establish a national database of bicycle and pedestrian count information generated by these consistent methods and practices; and (3) Use the count and survey information to begin analysis on the correlations between local demographic, climate and land-use factors and bicycle and pedestrian activity.

Alta Planning + Design, a national bicycle and pedestrian planning firm, initiated this effort through the ITE Pedestrian & Bicycle Council in 2003, when it was identified as a priority for the Council and will continue to lead this effort along with the ITE Pedestrian and Bicycle Council. Alta has been responsible for the development of the draft methodology and materials.

This document is a draft effort and any recommendations, corrections or suggestions can be addressed to the National Bicycle and Pedestrian Project at:

*info@bikepeddocumentation.org*

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## Introduction

This document provides detailed instructions on conducting bicycle and pedestrian counts and surveys as part of the National Documentation Project. The document first reviews the proposed dates and times, provides instructions for counts and then provides instructions for surveys.

## 1. Proposed Count and Survey Dates and Times

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### Dates

The second week in September is proposed as the official annual national bicycle and pedestrian count and survey week. Participants in the National Documentation Project shall pick at least one weekday (Tuesday, Wednesday, or Thursday) and a Saturday following or preceding the official count dates. Optional counts can be conducted in January, May and July to understand seasonal changes in walking and cycling.

Proposed National Count Dates

Official	Optional	Optional	Optional
<b>Sept. 14-19, 2010</b>	January 12-14, 2010	May 11-13, 2010	July 6-8, 2010
<b>Sept. 13-18, 2011</b>	January 11-13, 2011	May 10-12, 2011	July 5-7, 2011

To reduce the chance that data is skewed by weather, sports events, or other outside factors, local participants may choose to conduct counts and surveys on more than one weekday during the count week and on the Saturdays preceding and following the count week.

**Note 1:** The collection of year-long data has allowed us to be able to adjust counts done at any time of the year in most locations. However, we recommend using the National count dates whenever possible.

**Note 2:** If your agency or group has been conducting counts at other times of the year, continue to do those counts at the same time period rather than change to these dates.

### Rationale for Dates

The National Count Date in mid-September was selected because it represents a peak period for walking and bicycling, both work- and school-related. Weather conditions across the country are generally conducive, schools have been underway for several weeks, and people have returned from vacations and are back at work.

At least one weekday and one weekend day should be selected to obtain a sampling of weekday and weekend activity levels. There should be little statistical difference

between counts conducted on a Tuesday, Wednesday, or Thursday of the same week, and this provides agencies and organizations some scheduling flexibility.

The other dates were selected to provide a representative sampling of activity during a typical spring (May) and winter (January) period. The 4<sup>th</sup> of July period was selected because it will afford both a typical summer weekday and what is typically the busiest holiday period and activity period for recreational facilities and activities.

Having an official count week is also important for generating enthusiasm around the date. Much like nationwide Bike to Work Weeks, we hope that the National Documentation Project Week in September will become a much-anticipated annual event in localities around the nation.

## Times

Based on our research, we are recommending new time periods for 2009 onwards (see below). However, if you have been doing counts using the old time periods, please keep using these same time periods for all future counts in order to be consistent.

### ***RECOMMENDED TIMES:***

Weekday, 5-7 PM

Saturday, 12 noon – 2PM

### ***SECONDARY TIMES:***

Weekday, 7 AM to 7 PM

Saturday, 7 AM to 7 PM

## Rationale for Time Periods

Time periods are more important for counts than for surveys. Weekday PM peak periods were chosen since the afternoon peak typically has the largest volume of travelers, with commuters, school children and people running errands. Counts conducted during these periods will provide an excellent snapshot of walking and bicycling during the peak periods of the year. Mid-day weekend periods are another peak period. Actual local peak periods may vary with considerably. It is recommended that the national count time periods be collected along with supplementary time periods if it is determined that this period captures the true peak period of activity.

## Automatic Machines

While the NBPD is based on manual counts, we strongly encourage agencies and groups conducting counts to consider conducting automatic machine counts in their community. These machines will give invaluable information for estimating annual usage, benefits and other information.

## Weather

Weather may be a determinant in selecting one of the three proposed weekdays to conduct counts and surveys, but a participant should not be worried if the weather is poor or unusual during the count period. Weather conditions will be recorded for each

count in the Background Data Sheet and be considered as a factor in future analysis. Over time, counts and surveys will average out and overall trends in activity will become apparent.

### **Number of Counts per Location**

We suggest that between 1 and 3 counts be conducted at every location on sequential days and weeks, based on the approximate levels of activity. Areas with high volumes (over 100 people per hour during mid-day periods) can usually be counted once on a weekday and weekend day, unless there is some unusual activity that day or land use nearby.

Areas with lower activity levels and/or with unusual nearby land uses (with any irregular activity, such as a ball park) or activity (such as a special event) should be counted on sequential days or weeks at least one more and possibly two more times.

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## 2. Counts

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### 2.1 Count Methodology

#### Count Variables

The proposed counts are intended to identify the numbers of bicyclists and pedestrians passing a specific point or intersection. A person who passes by a point more than once is counted each time they pass by the point. Localities may wish to record additional variables in addition to the number of people passing by, such as bicyclists versus pedestrians, the number of people using wheelchairs or the estimated number of children, teens and adults.

#### Number of Count Locations

In the interest of maximizing participation, a minimum number of count locations has not been set for the NBPD. Participants may submit data for a single location. However, to understand walking and cycling in a local area, we recommend that participants count at more than one location.

Should an agency wish to conduct more counts, which is recommended, we estimated that, at a minimum, one count should be conducted per 15,000 of population. This was considered a reasonable balance between obtaining representative counts throughout a community, and budget limitations.

#### Count Location Criteria

Criteria for count and survey locations include:

- Pedestrian and bicycle activity areas or corridors (downtowns, near schools, parks, etc.)
- Representative locations in urban, suburban, and rural locations
- Key corridors that can be used to gauge the impacts of future improvements
- Locations where counts have been conducted historically
- Locations where there are on-going counts being conducted by other agencies through a variety of means, including video taping
- Gaps and pinch points for bicyclists and pedestrians (potential improvement areas)
- Locations where bicycle and pedestrian collision numbers are high
- Select locations that meet as many of the criteria as possible.

It is important to note that a random selection of locations is statistically the best way to estimate area-wide activity levels. However, there is no methodology available today to

extrapolate from counts to area-wide estimates—which is currently done using a combination of aggregate-type models. More importantly, a random selection of count locations is likely to result in locations with very little if any activity to count!

## Screen Line and Intersection Crossing Counts

The National Count periods are proposed to be manual screen line and intersection crossing counts, conducted by trained counters.

Intersection crossing counts should be conducted at high collision locations and where safety studies are desired. Depending on the volumes of bicyclists and pedestrians, intersection counts may be more complicated and require additional counters because they record two streets as well as turning movements.

Screen line counts are primarily used to identify general trends in volumes, and to see how demographics, land use, and other factors influence walking and bicycling.

The sponsoring agency should determine which method, intersection crossing counts or screenline counts, is better suited to their needs such as safety studies or determining factors that influence walking and bicycling.

## 2.2 Pre-Count Preparation

To ensure that data received from different participants is comparable and consistent, participants should agree to follow the instructions and guidelines identified below:

### *STEP 1: IDENTIFY COUNT MANAGER*

An agency or organization interested in participating in this process will designate a Count Manager who will serve as the primary contact and manager of the count effort. Because this effort will require time and other resources, prior approval should be obtained prior to embarking on this effort. It is estimated that the lead person will need approximately 8 initial hours of management time and 1 hour of management time for every 8 hours of count time being conducted.

### *STEP 2: OBTAIN MATERIALS*

Count forms and the Background Data Sheet are available from the National Bicycle and Pedestrian Documentation Project website at: [www.bikepeddocumentation.org](http://www.bikepeddocumentation.org). The Count Manager should check the website to ensure that s/he has the latest versions of the Count Instructions and Forms. Materials can be reproduced freely. The documents provided are:

- Count Instructions (This document)

Included in “National Bicycle and Pedestrian Documentation Project: Forms”:

- Screenline Count Forms

- Intersection Count Forms
- Background Data Sheet
- Background Data Sheet Code and Instructions

***STEP 3: SELECT GENERAL COUNT LOCATIONS***

Participants may count at only one location, or they may conduct counts at many locations. The following considerations and suggested criteria are provided to help in the selection of general count locations:

- Pedestrian and bicycle activity areas or corridors (downtowns, near schools, parks, etc.)
- Representative locations in urban, suburban, and rural locations
- Key corridors that can be used to gauge the impacts of future improvements
- Locations where counts have been conducted historically
- Locations where there are on-going counts being conducted by other agencies through a variety of means, including video taping
- Gaps and pinch points for bicyclists and pedestrians (potential improvement areas)
- Locations where bicycle and pedestrian collision numbers are high
- Select locations that meet as many of the criteria as possible.

***STEP 4: SELECT SPECIFIC COUNT LOCATIONS***

Once general locations have been selected, the Count Manager will need to inspect the sites to determine exactly where counters can be positioned. Guidelines for this inspection trip include:

- For multi-use paths and parks, locations near the major access points are best.
- For on-street bikeways, locations where there are few if any alternative parallel routes are best.
- For traditional downtown areas, a location near a transit stop or in the center of downtown is best.
- For shopping malls, a location near the main entrance and transit stop is best. Count at one access point.
- For employment areas, either on the main access roadway or near off-street multiuse paths is best. Count at one access point, typically a sidewalk and street.
- For residential areas, locations near higher density developments or near parks and schools are the best. Count at one access point, typically a sidewalk and street.

For all locations:

- Counts should include travel in both directions.
- Counters will need to be in a safe, visible location and should be on public property in a location that does not block pedestrians or bicyclists.
- You must receive written permission from property owners if you will be on private property.
- If at all possible locate the counters in an area that will be comfortable for them: shade in the summer, protection from the wind in winter.

## Rationale for Locations

The recommended locations are based on finding places where bicyclists and pedestrians can be expected to be counted, either now or after improvements have been made. The purpose of the counts is to understand peak bicycle and pedestrian activity on a typical day; while it may be useful to conduct a few counts where pedestrians and cyclists are not expected, it is preferable to understand existing use.

### *STEP 5: COMPLETE THE BACKGROUND SHEET*

This sheet will provide valuable information on the setting and conditions in which the counts take place. Researchers will be able to cross-tabulate things such as usage with land use, density, weather, income, and the survey results. If conducting annual surveys, background data from prior counts should be updated if necessary.

Use the 'Background Data Sheet', available in "National Documentation Project: Forms" to record characteristics of the count locations. A detailed description of each of the background items is provided in the document "National Documentation Project: Forms."

### *STEP 6: OBTAIN COUNTERS*

Each location should require one counter, unless you have selected an extremely busy downtown intersection. You will want to identify and secure a counter for each location plus one backup counter for every 5 locations. Counters can be agency employees, temporary employees, students, volunteers, or a professional data collection firm. You may need to secure insurance coverage for counters, or have them sign a waiver indemnifying your organization.

### *STEP 7: TRAIN COUNTERS*

Counters will need to be trained how to complete forms and interpret field conditions. Trainings can be conducted prior to count times, with a follow-up briefing in the field prior to the actual count times. Counters need to be instructed how to respond to questions from the public on their activities. They should also be instructed on how to fill out the count form, how to count people (specifically, every time a person passes by) and what not to count.

## 2.3 The Day of the Count

### *STEP 8: COUNTER EQUIPMENT*

All counters should be provided high visibility jerseys, along with name tags identifying the agency/organization they are working for. They should be provided business cards of the lead contact. They should also be provided clip boards and pens, and have a functioning watch. Emergency contact information should be provided for counters. Counts in hot, cold or inclement weather, counters should be provided folding chairs, water, umbrellas (as needed). In very busy areas, a manual clicker may help counters take more accurate counts.

### *STEP 9: COUNT FORMS*

Distribute count forms to counters. Count forms can be reproduced from the document “National Documentation Project: Forms” available on the National Bicycle and Pedestrian Documentation project website: [www.bikepeddocumentation.org](http://www.bikepeddocumentation.org).

### *STEP 10: TRANSPORTING AND MANAGING COUNTERS*

Counters will need to arrive at the count locations at least 15 minutes ahead of schedule. The count manager should visit each count location to ensure that counters are on schedule. If the count locations are numerous or dispersed, designated supervisors may be needed to visit locations. Counters working in excess of 2 hours will need to be relieved for restroom breaks at least every 2 hours, and 30 minutes for lunch periods.

### *STEP 11: QUALITY CONTROL*

The Count Manager and any location supervisors should conduct a random review of counters during the count period to ensure they are on-duty and tabulating information correctly. Count results that either varies significantly from one time period to the next or that are unusually consistent may need to be explained sufficiently to the Count Manager’s satisfaction, or discarded.

### *STEP 12: COLLECTING FORMS*

All forms should be collected by the Count Manager at the conclusion of the count period. The Count Manager should double-check to ensure that the count forms have been completed accurately.

## 2.4 Submitting Count Data

### *STEP 13: SUBMITTING DATA*

Completed count forms should be reviewed for accuracy and legibility. Any illegible forms should be copied neatly to a fresh count form. After forms are completed they can be submitted along with each location's Background Data Sheet, to [data@bikepeddocumentation.org](mailto:data@bikepeddocumentation.org). Participants should keep copies of their forms.

Completed counts can also be entered on the Data Sheet available at [www.bikepeddocumentation.org](http://www.bikepeddocumentation.org) and then submitted to [data@bikepeddocumentation.org](mailto:data@bikepeddocumentation.org). Intersection crossing counts should be entered as two locations. See the count forms for tally instructions.

## 3. SURVEYS

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### 3.1 Survey Methodology

#### Types of Surveys

There are numerous ways to conduct surveys or questionnaires, including phone interviews, insertion questionnaires into utility bills and paychecks, newsletters, web sites, and in field interviews. The proposed system for this survey is random interviews in the field. This approach will yield the best cross section of a community and higher quality information than any other approach. Phone interviews and other approaches will have a significant bias in the sampling group, since entire groups may be under represented. Additionally, in person interviews will provide details on the person being interviewed that other approaches will not allow.

Surveys are more difficult to administer and more likely to have biased results than counts. In part this is due to the fact that surveyors interact with the person being surveyed and can subconsciously influence the outcome. With counts, observers do not generally interact with the people being counted, and thus have less of a chance to subconsciously influence the outcome. With surveys, the surveyor's choice of who to ask, the surveyor's wording of the questions, and language barriers between the surveyor and the survey taker can bias results. The instructions below serve as a basic guideline for conducting bicycle and pedestrian surveys.

Surveys or questionnaires should be administered during the same general time period (within 3 weeks) as the counts. Step-by-step instructions for performing the surveys are presented below.

### 3.2 Pre-Survey Preparation

#### *STEP 1: IDENTIFY SURVEY MANAGER*

An agency or organization interested in participating in this process will designate a lead person who will serve as the primary contact and manager of the survey effort. Because this effort will require time and other resources, prior approval should be obtained prior to embarking on this effort. It is estimated that the Survey Manager will need approximately 8 initial hours of management and an additional 1 hour of management time for every 2 hours of survey time being conducted.

#### *STEP 2: DOWNLOAD MATERIALS*

Survey forms and the Background Data Sheet are available from the National Bicycle and Pedestrian website at: [www.bikepeddocumentation.org](http://www.bikepeddocumentation.org). The Survey Manager should check the website to ensure that s/he has the latest versions of the Survey Instructions and Forms. Materials can be reproduced freely. The documents provided are:

- Survey Instructions (This document)

Included in “National Bicycle and Pedestrian Documentation Project: Forms”:

- Standardized Survey Forms
- Survey Tabulation Forms
- Background Data Sheet
- Background Data Sheet Code and Instructions

### ***STEP 3: SELECT GENERAL SURVEY LOCATIONS***

There are two types of surveys: Pedestrian and Bicycle. There are no minimum or maximum number of survey locations that participants need to conduct, but if possible conduct the surveys in the same location as the counts. The following considerations and suggested criteria are provided to help in the selection of general survey locations:

- Pedestrian and bicycle activity areas or corridors
- Representative locations in urban, suburban, and rural locations
- Key corridors that can be used to gauge the impacts of future improvements
- Locations where surveys have been conducted historically
- Locations where bicycle and pedestrian collision numbers are high
- Locations where there are on-going surveys being conducted
- Gaps and pinch points for bicyclists and pedestrians

### ***STEP 4: SELECT SPECIFIC SURVEY LOCATIONS***

Once general locations have been selected, the Survey Manager will need to inspect the sites to determine exactly where surveyors can be positioned. Guidelines for this inspection trip include:

#### ***Path Survey***

1. For multi-use paths, locations near the major access points are best.

#### ***On-Street Bikeway Survey***

1. For on-street bikeways, locations at signalized intersections or bicycle parking areas are best.
2. Alternatively, bicyclists could be interviewed at their end points, such as work, shopping, or other areas.

#### ***Sidewalk Surveys***

1. For traditional downtown areas, a location near the center of the downtown is best.
2. For shopping malls, a location near the main entrance and transit stop is best.
3. For employment areas, either on the main access roadway or near an off-street multiuse path is best.
4. For residential areas, locations near higher density developments or near parks and schools are the best.

*For all locations:*

Surveyors will need to be in a safe, visible location and on public property. You may be able to get permission to conduct surveys on private property such as a mall or major employer. Locations should provide shade and seating for surveyors.

## **Rationale for Locations**

The recommended locations are based on finding places where bicyclists and pedestrians can be expected to congregate, either now or after improvements have been made. There is little point in conducting surveys in locations where pedestrians and bicyclists are almost non-existent.

### ***STEP 5: COMPLETE THE BACKGROUND SHEET***

This sheet will provide valuable information on the setting and conditions in which the surveys take place. Researchers will be able to cross-tabulate things such as usage with land use, density, weather, income, setting, trip purpose, and the survey results. If you have already done this for the counts, simply add the information under Surveys. If conducting annual surveys, background data from prior counts should be updated if necessary.

Use the 'Background Data Sheet', available in "National Documentation Project: Forms" to record characteristics of the survey locations. A detailed description of each of the background items is provided in the document "National Documentation Project: Forms."

### ***STEP 6: OBTAIN SURVEYORS***

Each location should require two surveyors, unless you have selected an extremely busy location in which case, more surveyors will be needed. You will want to identify and secure two surveyors for each location plus one backup counter for every 5 locations. Surveyors can be agency employees, temporary help, students, volunteers, or a professional data collection firm. You may need to secure insurance coverage for surveyors, or have them sign a waiver indemnifying your organization.

### ***STEP 7: TRAIN SURVEY TAKERS***

Surveyors will need to be trained carefully, since the general public is reluctant to be stopped and questioned. The surveys are designed to be completed in less than five minutes. The surveyor should be warned not to be aggressive and respect people's wishes not to be bothered. The ideal surveyor is a person who can speak clearly, is somewhat outgoing, and presents him or herself well. It is best if surveyors live or work in the neighborhood in which the surveys are being conducted. Surveyors need to be able to ask questions and write responses at the same time. Bilingual speakers may be needed in some locations.

Surveyors should ask the following question as people approach:

“Hello, do you have time to answer a few questions about walking and biking?”

If yes:

“My name is \_\_\_\_\_ and I’m conducting this survey for \_\_\_\_\_. The information will be used to better understand why people walk and bike where they do. The survey will take about 5 minutes.

“You don’t have to answer all the questions, and you can stop taking the survey at any time. I won’t ask for any personal information. Would you like to take the survey?”

In an area where residents primarily speak another language besides English, survey takers should ask the above question in the appropriate language, and survey forms should be translated into the appropriate language.

To reduce bias inherent in surveying, the Survey Manager should create a methodology for randomly sampling passing pedestrians and cyclists. This could be to ask every single pedestrian and cyclist, or in areas with a lot of traffic, this could be to ask every third or fifth passing pedestrian or cyclist. The important part is to keep it consistent. If a person asks to take the survey, you should let them, but their data should not be counted as it can potentially bias the results. In all cases, surveyors should keep track of the number of people they asked to take the survey so that a refusal rate can be calculated.

To ensure accuracy of the data, surveyors should fill out the form for the survey taker.

Surveyors should be given answers to a list of anticipated questions and trained to refer all other questions to the Survey Manager. Surveyors should have copies of the Survey Manager’s business cards on hand.

### 3.3 Day of the Survey

#### *STEP 8: SURVEY TAKER EQUIPMENT*

Survey takers will need to have a clear identification badge and color jersey. A simple sign measuring 2 feet by 2 feet may be placed at the survey location that reads: SURVEY ON PUBLIC USE IN PROGRESS: [AGENCY OR ORGANIZATION NAME].

Survey takers will need to have a method of recording the number of people they asked to calculate the refusal rate. This could be a clipboard and tick marks or a hand held clicker.

#### *STEP 9: SURVEY FORMS*

Distribute survey forms to counters. Reproduce survey forms from the appendix materials.

***STEP 10: TRANSPORTING AND MANAGING SURVEY TAKERS***

Survey takers will need to be driven to the survey locations and arrive at least 15 minutes ahead of schedule. Survey takers working in excess of 2 hours will need to be relieved for restroom breaks at least every 2 hours, and 30 minutes for lunch periods.

***STEP 11: QUALITY CONTROL***

The Survey Manager should conduct a random review of survey takers during the survey period to ensure they are on-duty and tabulating information correctly. Survey results that either varies significantly from one time period to the next, or that are unusually consistent, may need to be explained sufficiently to the Survey Manager's satisfaction, or discarded.

### **3.4 Post-Survey Data Tabulation and Submission**

***STEP 12: COLLECTING FORMS***

All forms should be collected by the Survey Manager at the conclusion of the survey period. The Survey Manager should double-check to ensure that the survey forms have been completed accurately.

***STEP 13: TABULATING DATA***

Once the survey forms are collected, they need to be tabulated. A Survey Tabulation Form and detailed instructions are available at [www.bikepeddocumentation.org](http://www.bikepeddocumentation.org)

***STEP 14: SUBMITTING DATA***

Please submit the completed Survey Tabulation Forms and Background Data Sheet for each location to [data@bikepeddocumentation.org](mailto:data@bikepeddocumentation.org).