Count Methodology Guide for the California Active Transportation Program (ATP)

Updated December 4, 2025

This Count Methodology Guide (Guide) is intended to guide ATP project awardees in meeting the minimum requirements for conducting user counts, surveys, and other evaluations for active transportation projects funded through the California Active Transportation Program (ATP).

This Guide covers the following topics that represent central steps to ensure that ATP awardees provide consistent and uniform project-user data in project progress and completion reports.

The guide provided here shall be used for any ATP projects that receive allocation for any phase at or after the January 2026 California Transportation Commission (CTC) meeting. Any infrastructure project that has already completed the pre-construction phase counts shall use this guide for the post-project evaluations.

1. Determining the Type of User Data Collection Needed

The ATP currently funds Infrastructure, Non-infrastructure (NI), and Combination (Infrastructure and NI components) project types, as well as Plans. While these project types necessitate different data collection methods, all projects (except for Plans) are required to collect user data so that Caltrans can report on the impact of ATP investments in relation to the ATP's legislated goals and the CTC's SB 1 Accountability and Transparency Guidelines requirements.

Table 1 summarizes the required types of user data for each project type. For projects that include infrastructure and NI components (i.e. Combination projects), a combination of data collection strategies shall be used such that the infrastructure and NI components are measured individually. Infrastructure projects require active transportation (walking and bicycling) counts with a minimum duration of one week (7 continuous days) to assure that annual average daily pedestrian or bicyclist traffic (AADPT or AADPT) may be estimated with minimal error. Each count shall be conducted three (3) times, once before the project, once near-term after the project, and once long-term after the project (See Section 3 for specific guidance on timing of counts). As shown in Table 1, for Safe Routes to School (SRTS) and community/jurisdiction- wide NI projects, obtaining field counts is not considered an ideal methodology for

project evaluation purposes. School tallies are recommended for SRTS NI and project-specific surveys and/or modeling for community/jurisdiction-wide projects. SRTS NI projects can opt to conduct week-long (7 continuous days) counts in lieu of school tallies. Additional details are provided in Appendix A of this document. If an agency believes an alternative method of data collection would be more suitable for NI projects, they must have its methodology approved by the Caltrans ATP NI Program Manager prior to implementing their method of data collection by sending an email to ATP-NI@dot.ca.gov (see Section 6). Agencies will be asked to provide detailed documentation of their proposed methodology to a level that ensures consistency in user data collection throughout the project. Infrastructure projects are required to meet the guidelines in Table 1 without exception.

For Plans, obtaining user counts will not show any meaningful difference in volumes until an improvement identified in the plan is implemented. Therefore, agencies awarded an ATP grant for a Plan are not required to conduct or report user data, but they may do so if they wish to obtain current user levels.

A variety of methods exist for collecting user data, including screenline counts (see the diagram below), intersection turning movement counts (TMC), student travel tallies, and parent and/or community-wide surveys. In addition, within a particular method there are often many varieties of counting or enumerating active travel. For example, screenline counts can be completed manually, by video, using automated technologies, etc. Surveys can be administered online or in-person and can measure general travel patterns or specific travel patterns. This Guide provides standard expectations for estimating user data for each type of ATP project; and seeks to follow national best practices and accommodate existing regional pedestrian and bicycle count methodologies across California.

For infrastructure projects, the selection of a screenline count or TMC shall be based on the design of the project. For projects that include linear infrastructure elements, a screenline count shall be used. For projects that include intersection treatments, a TMC shall be used. For projects with both linear and intersection elements, either a screenline count or TMC may be used.

Screenline counts: As shown in Figure 1, a screenline count is one in which bicyclists and pedestrians are counted separately across the screenline by the direction of travel.

Turning Movement Count (TMC): As shown in Figure 2, a TMC enumerates the bicyclists' movement to and from each intersection leg, and pedestrians

crossing each crosswalk leg by direction.

See Section 5 Reporting Data for the specific count data requirements.

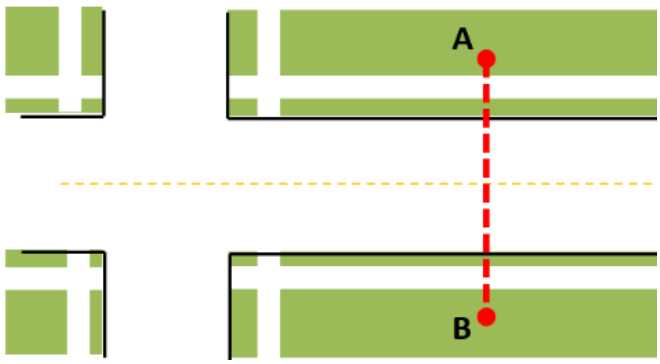
Screenline counts are user counts taken across an imaginary line which is perpendicular to the direction of travel.	

Figure 1. Screenline Count Diagram

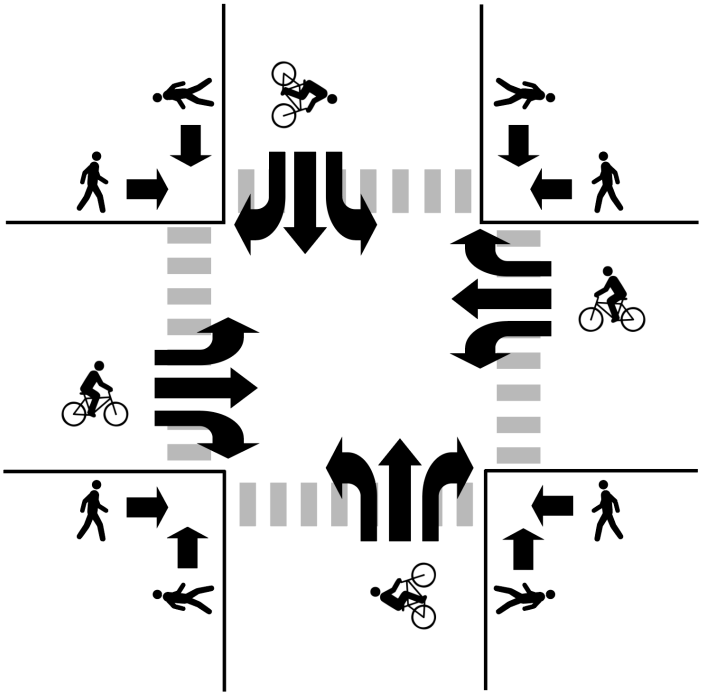


Figure 2. Diagram of movements captured in turning movement count study

Count Data Collection Methods (Table 1)

ATP Project Types	**Minimum Required # Locations**		**Recommended Count Type & Method**	**Alternative Method/ Minimum Requirement**	**Duration**
Infrastructure*	Small	1	Manual Count from Video	Automated** (e.g., tubes, infrared, video/lidar analytics, etc.)	One Week (7 continuous days) at each location
	Medium	2			
	Large	3			
Safe Routes to School Non-Infrastructure	1 Set of Tallies per school***		Classroom Student Travel Tallies (at each school in project)***	Manual Count from Video or Automated** (e.g., tubes, infrared, video/lidar analytics, etc.)	Two Days for Tallies (averaged) or if conducting counts follow Duration for counts.
Community-Wide /Jurisdiction-Wide Non-Infrastructure	NA (Survey or Modeling)****		Surveys****/Modeling	NA	NA

* Note: Infrastructure projects that are composed of *entirely* new facilities, such as a new Class 1 trail, do not require pre-construction user counts. The initial user count will be assumed to be zero. An agency may elect to do field counts at location(s) that have an existing facility, such as a dirt trail, for reporting purposes.
** See Appendix A for counter validation procedure.
*** See Appendix B for details on the Student Travel Tallies.
****Mineta Institute's Pedestrian and Bicycle Survey is the recommended general travel survey for ATP projects. Additional ideas for collecting data to inform community-wide non-infrastructure evaluation can also be found in Alta Planning + Design's Measure for Success: New Tools for Shaping Transportation Behavior. Your MPO may also have suggested tools and methods.

2. Selecting Count Locations

It is critical that awardees carefully select the most effective locations for their counts. There is no set formula for determining the best count locations, but instead there are some generally accepted best practices that need to be combined with the project implementer's knowledge and judgement of the project limits and/or project scale. Awardees are encouraged to use existing data and collect counts on nearby facilities to help evaluate projects. However,

the guidance below is specifically for the required counts on the project footprint.

The following guidance was adapted from the National Bicycle and Pedestrian Documentation (NBPD) Project. This guide requires only one consideration to be met, it is encouraged to choose location(s) meet multiple criteria if possible.

Select a count location on the project footprint where:

a. Existing pedestrian and bicyclist activity is highest (downtowns, near schools, parks, etc.)
b. Either bicyclist and/or pedestrian collision numbers are highest
c. Gaps or pinch points exist that will be targeted for improvement by the project
d. The most significant intervention is occurring

The following considerations are also recommended:

- For corridors where a single count is being conducted, it should be centrally located along the corridor and where volumes are expected to be highest;
- For long corridors, multiple count locations should be evenly distributed along the corridor.

Additional guidance on determining count locations can be found in the following resources:

- 2022 FHWA Traffic Monitoring Guide (TMG) (Chapter 4): https://rosap.ntl.bts.gov/view/dot/74643
- National Cooperative Highway Research Program (NCHRP) 797 – Guidebook on Pedestrian and Bicycle Volume Data Collection (Chapter 3): https://www.nap.edu/catalog/22223/guidebook-on-pedestrian-and-bicycle- volume-data-collection
- Washington State Department of Transportation – Collecting Network-wide Bicycle and Pedestrian Data: A Guidebook for When and Where to Count (Chapter 4): https://www.wsdot.wa.gov/research/reports/800/collecting-network-wide-bicycle-and-pedestrian-data-guidebook-when-and-where

3. Conducting Pedestrian and Bicycle Counts:

In an effort to create consistency for ATP project counts, this guide establishes baseline requirements for user counts and requires that all field-counts be

consistent with California Active Transportation Data Portal guidelines.

The timing of counts shall follow the following steps:

- General consistency for all methods
    a. Three (3) count periods for each project shall be conducted at the same location during the same month of the year. They are: Before (within 6 months of construction or project implementation), near-term after (6-18 months after project completion), and long-term after (5 years after project completion).

Count Data Collection Timeline (Table 2)

Project Milestone	**Time Period**
Before	0-6 months before construction or project implementation
Near-term After	6-18 months after project completion (same month as before counts)
Long-term After	5 years after project completion (same month as before counts)

i. If inclement weather or another constraint is present, counts should be rescheduled to the next possible day.
ii. If geometrical or traffic conditions have changed since the before-project user counts were conducted due to a change unrelated to the ATP funded project, the agency should contact their Caltrans ATP Program Manager for assistance before completing the near-term after user counts.
iii. If items i or ii make it impossible to satisfy the timing requirements above, the agency should request and receive approval for an alternative date from their Caltrans ATP Program Manager.

    b. Consistency related to location, time of year and weather conditions is extremely important and should be accounted for prior to initiating user data collection.
- Consistency in tracking and recording data:
    a. Each time-period count must be delivered in the following format:
        i. Following the CSV Format description in the CAT Data Portal tutorial
        ii. Separated by active transportation modes (bicycle, pedestrian, wheelchair, other wheeled vehicle, and mixed)
        iii. At 15 minute intervals
- Safe Routes to School Non-Infrastructure
    a. Appendix A has additional guidance for conducting student travel tallies.
    b. If the project only spans one school year, tallies should be taken on the same days of the week on days with similar temperature and weather conditions.
- Community-wide/Jurisdiction-wide Non-Infrastructure
    a. Surveys can utilize in-person or electronic methods, but implementers should consider how the target community will access the platform and resource the effort accordingly. This may require paid staff to conduct surveys in person.
    b. To best measure impacts, surveys should target the same population involved in the program or event before and after the intervention. For projects including an open street event or encouragement program addressing a subset of the population, for instance, the before survey may be conducted up until the first project activity, and the after survey during or after the activity. Community-wide programs should try to survey a representative sample of community members.
    c. Modeling of mode shift impacts of projects should be conducted in partnership with county and regional planning organizations whenever possible.
    d. The Pedestrian and Bicycling Survey (PABS) from MTI Report 10-3 Appendix A is the recommended basis for community travel surveys. The survey can be adjusted to meet the needs of the community, but it must contain questions that can track mode shift.

Reporting data:

For count data, awardees shall upload data to the California Active Transportation Data Portal (CAT Data Portal) in a timely manner after collection. To submit data, follow the CAT Data Portal tutorial. Once the data is submitted, awardees shall submit cumulative summaries generated by CAT Data Portal to Calsmart. Before-project counts must be reported in CalSMART starting with the first Progress Report to indicate an Actual Begin Construction milestone - in other words, once construction or non-infrastructure events are reported to have started. Near- and long-term counts must be reported to CalSMART in the Final Delivery Report.

Approval Process for Other Count Methodologies:

If an agency determines that none of the previously mentioned methodologies are appropriate for their project, it can request that Caltrans Office of State Programs approve a substitute methodology. The process is as follows:

- Contact your Caltrans ATP Program Manager and notify them that you are planning to request approval of a count method that does not conform and/or is not mentioned in this guidance.
- E-mail the Caltrans ATP Program Manager your proposed count methodology and equations along with a map that indicates your proposed count locations.
    - Include any reference literature that supports your proposed method.
- Count methodology approval will be made via an e-mail and may take up to one month for approval.

Glossary:

- Allocation
  When a project is ready to proceed, the CTC must vote to allocate the funds. Any work that is started prior to the allocation of funds is not eligible for reimbursement.

- Centerline or Centerlane mile
  The length of a roadway from its starting point to its endpoint.

- Non-Infrastructure (NI)
  A project that does not result in construction; but does education and encouragement activities.

- Infrastructure

A project that constructs facilities, such as bike lanes or sidewalks.

- Plan project
  A community-wide active transportation plan, including bike, pedestrian, safe routes to schools, or comprehensive active transportation plans.

- Screenline Counts or Segment Counts
  User counts taken across an imaginary line which is perpendicular to the direction of travel.

- Parent Survey
  A survey of a school's parents designed to help understand the various forms of travel used by students to get to and from the school.

- Student Travel Tallies
  Data collected by teachers or another data collector in classrooms to gather how students travel from home to school and back.

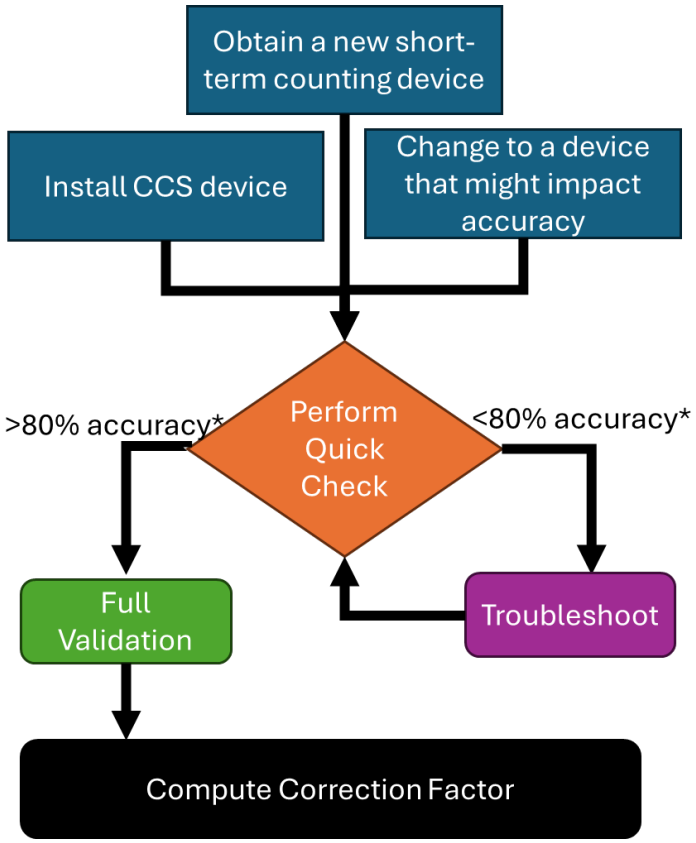
- Screenline Count
  A screenline count is one in which bicyclists and pedestrians are counted separately across the screenline by the direction of travel.

- Turning Movement Count (TMC)
  A TMC enumerates the bicyclists' movement to and from each intersection leg, and pedestrians crossing each crosswalk leg by direction.

Appendix A – Pedestrian & Bicycle Counter Validation

Use this procedure:

- When you install a new continuous counter station (CCS)
- When you obtain a new short-term counting device
- When you make changes to a continuous counter that might impact accuracy, such as changing settings, replacing loops, or installing a new data logger.



**Accuracy = 1 - |Total Device Count-Total Groundtruth| /Total Groundtruth*

Compute Correction Factor (CF)

CF=(ground truth count for full validation period, including those who bypass the detection zone)

(device count for full validation period)

Per Traveler Quick Check and Full Validation Form

This form only works for devices that provide immediate feedback that the counter has correctly counted an active traveler, or which provide timestamped per traveler records, similar to “per vehicle record” format for motor vehicles. Additional sheets can be printed for longer validation.

Eco-Counter Specific Per Traveler Quick Check or Full Validation Form

ECO-COUNTER VALIDATION WORKSHEET

Date ____________________ Human Observer ____

Location ____
What steet or path? What side of the street?

Weather and other notes ____

IN = towards ______________________ OUT = towards ____________________________

Device Settings ____

HUMAN COUNT: Peds counted by human observer		DEVICE COUNT: Peds counted by the device				HUMAN COUNT: Bikes counted by human		DEVICE COUNT: Bikes counted by the device				TIME (to nearest minute)	DEVICE TALLY (from Eco-Link)	Correction Factor = (Sum of Human Counts)= __________ (Sum of Device Counts) = __________
		IN		OUT				IN		OUT				
IN	OUT	Peds count-ed by device	Eco-Link Count	Peds count-ed by device	Eco-Link Count	IN	OUT	Bikes count-ed by device	Eco-Link Count	Bikes count-ed by device	Eco-Link Count			NOTES
											Start Time->			<-Initial Device Tally from Eco-Link

Eco-Counter Specific Quick Check Form

ECO-COUNTER INSTALLATION QUICK CHECK WORKSHEET

Installation Notes

Installation Date:

Agency/Contractor Contact(s):	Cell Number(s):

Counter Serial Number

Location:

GPS Coordinates:

Example: 35°46'49.3"N 78°40'41.6"W
Example: 35.785895, -78.671442

Inbound Direction:	Outbound Direction:
Toward:	Toward:

☐ **Write installation date on battery**

☐ **Install Eco-Link on laptop computer or Android phone (if not already installed):** https://www.eco-visio.net/Download/ecolink.zip

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Appendix B – SRTS NI Count Guidance

This guidance addresses minimum standards for evaluation data collection for ATP Safe Routes to School Non-Infrastructure awardees. All ATP applicants and awardees must do the necessary advanced preparation to ensure pre- and post-project data collection protocols meet the following requirements for each school targeted by the project or covered under the umbrella of the project for a school district/region-wide project:

- Utilization of the National Center for Safe Routes to School (NCSRTS) Student Travel Tally form and protocol OR utilization of an existing regional or local Student Travel Tally form that captures student travel mode data similar to the NCSRTS tool. The NCSRTS Student Travel Tally form is available from Caltrans at https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/active-transportation-program/report under "NI Resources." Please check with your MPO to see if an alternate form may be available
- Administration of the Student Travel Tally on two (2) separate days within the same week and averaging for each time-period (before and after).
- Consistent timing of pre-project implementation ('Before') data collection:
  - Within six (6) months prior to the implementation of the first ATP public education, encouragement or enforcement activity, and
  - Within the regular school year.
- Consistent timing of post-project implementation ('After') data collection:
  - Within six (6) months after the completion of the last ATP public education, encouragement, or enforcement activity;
  - Within the regular school year; and, if possible,
  - Within the same month and roughly the same days during which the 'Before' data collection occurred.

Agencies must verify this allowance with the Caltrans ATP NI Program Manager and will need to document this information as part of their ATP reporting requirements.

ATP awardees must submit tally summary reports for each school and/or aggregate reports that combine data from multiple schools as part of their applications and/or project reporting requirements. Additional assistance on meeting the data collection requirements are available from the Active

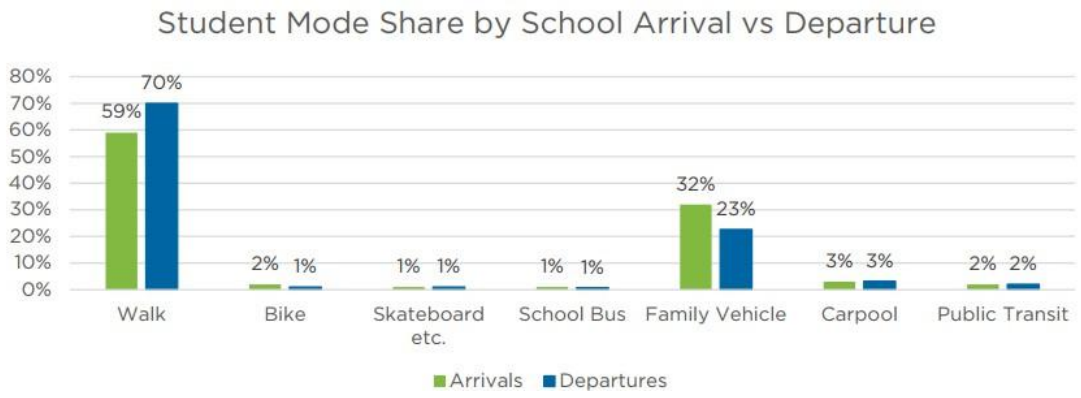
Transportation Resource Center by emailing ATP-NI@dot.ca.gov.

Student Tally report conversion to Average Daily Bicycle and Pedestrian Volumes

The Travel Tally Project is a TWO (2) DAY in-classroom data collection exercise to capture how students travel to and from school. Analysis of students' travel behavior assists Safe Routes to School (SRTS) in developing plans to reduce speed and promote responsible travel by adults and children on our city streets.

Dates of Data Collection: Sept 13th and 14th, 2017
Weather: Sunny

Students:
- Enrollment 715
- Survey Participation 71%



The calculations for the Safe Routes to Schools Average Daily Bicycle and Pedestrian Volumes will be as follows (the data from this report shows that the data for kindergarten was collected, but was not utilized in calculating the percentages shown above):

Average Daily Mode Volume

$$Enrollment \times (Arrivals\ Share\ for\ Mode + Departures\ Share\ for\ Mode) \div 2$$

Average Daily Pedestrian Volume = 715 * (.59 + .70) / 2 = 922.4 / 2 = **461**

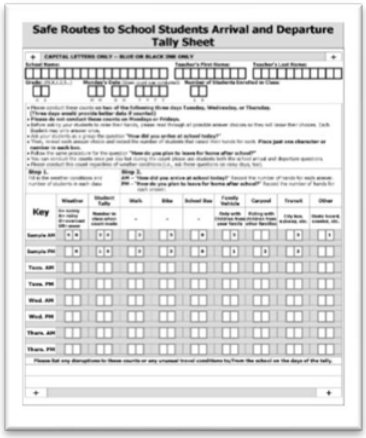
Average Daily Bicycle Volume = 715 * (.02 + .01) / 2 = 21.4 / 2 = **11**

Overview of CAT Data Portal Student Travel Tally

The Student Travel Tally form captures how students get to and from school over a few days (Tuesday – Thursday) in a given week**.** This form requires an in-class hand-raising protocol to collect data and a prepared individual to count and

record the data on either electronic or paper form.

The NCSRTS Student Travel Tally demonstrates high test-retest reliability and validity with parental responses. More information is available here: https://activelivingresearch.org/reliability-and-validity-safe-routes-school-parent-and- student-surveys


Safe Routes to School Students Arrival and Departure Tally Sheet

It is planned for the CAT Data Portal to include NI data, including student travel tallies, in the future. For now, data should be submitted to ATP-NI@dot.ca.gov.

Data collection will require close coordination with the school. Schools may have rules about collecting information from students. Data collection will require time and commitment from teachers, school staff, and administrators in order to be successful.