

Guide to Conducting a Student Commute Study

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Introduction

Data on student commute patterns have the potential to inform a range of policy issues. From a child health perspective, active commuting serves as one possible mechanism for increasing physical activity among youth, a cornerstone for reducing pediatric obesity. From an environmental perspective, increased carpooling has the potential to reduce CO₂ emissions and contribute to cleaner air. From a transportation perspective, carpooling serves to reduce traffic congestion during peak commute hours, and public transportation routes must be carefully designated in cities with a high number of student riders. Policies implemented to increase active commuting, increase carpooling, or align public transportation routes with the needs of student riders hinge on a baseline evaluation of student commute patterns. Repeated assessments allow school and city officials to measure the impact over time of various policies designed to influence commute modes.

During the 2010-2011 school year, researchers from the University of California, San Francisco (UCSF) conducted an evaluation of commute patterns with over 12,000 students in kindergarten, 5th, 6th, and 9th grade in San Francisco Unified School District (SFUSD). This study provided baseline data for an assessment of the impact of SFUSD's new school-assignment policy on active commuting (the new policy places a greater importance on the proximity of a student's residence to school). The evaluation also identified schools in need of Safe Routes to School programming, with the intention of increasing active commuting to school. In partnership with SFUSD, UCSF will continue to conduct these assessments annually to monitor the influence of the new assignment policy and efficacy of Safe Routes to School programming.

The Travel Tally

The Travel Tally is a validated survey instrument that assesses student mode of transportation to and from school. To conduct the Travel Tally, an appointed individual asks a classroom of students, "How did you arrive at school this morning?" The individual then reads off a list of 7 possible commute options, and students respond by raising their hand to indicate their mode of transport. The number of students raising their hands for each option is recorded on the Travel Tally recording form. The individual administering the Travel Tally then asks the question, "How do you plan to leave school this afternoon?" The process of counting and recording the number of hands raised for each commute option is then repeated.

Data Entry and Analysis

Data should be entered as soon as possible following receipt of Travel Tally forms. Mistakes may be easily reconciled if detected early. A sample Excel data entry spreadsheet is available. A sample report is also available in Excel format.

Conducting a Commute Survey

Administration of the Travel Tally

We recommend planning a 4-week period for Travel Tally administration, as shown in Figure 1. During the first week, school principals are notified of the study and asked to contact researchers with any questions or concerns. At the end of the first week, researchers contact each school’s secretary to identify the best method of contacting classroom teachers (via email or via a letter in their office boxes). During week 2, researchers contact all participating classroom teachers to explain the study, elicit participation, and schedule a time to conduct the Travel

Week	Tasks
1	Contact school principals and receptionists
2	Contact classroom teachers
3	Administer Travel Tallies
4	Conduct the Travel Tally with classes that were unable to participate during the previous week

Figure 1: Timing for Travel Tally Administration

Tally on the following Tuesday and Wednesday. Week 3 serves as the primary data collection week. Researchers visit classrooms to conduct the Travel Tally on Tuesday and Wednesday of this week (the Travel Tally may also be conducted on Thursday, if necessary). During week 4, researchers conduct the Travel Tally with any classes unable to participate during week 3.

Data collection period

Since the Travel Tally may not take place on days of inclement weather, the study is best conducted during the fall or spring, avoiding winter months. Additionally, in order to maximize school compliance, the Commute Study should not coincide with state testing.

Individual Steps for Administration

Individual steps for conducting the Travel Tally are described in detail below. Sample document(s) available in Appendix I are indicated in bold and listed at the bottom of each section.

1. Obtaining support from the school district

Researchers must obtain support from the school district before beginning the Commute Study. The district should provide a letter of support that researchers may distribute to schools. Also, researchers should identify at least one person within the school district as someone that school principals may contact if they wish to verify support for the study.

2. Emailing school principals (week 1)

On Monday of Week 1, send the **Principal Email** to all school principals. Address these emails personally (do not send a mass email) and attach a **Study Description**, the **Travel Tally**, and the School District’s letter of support to this email.

Emailing school principals at the beginning of Week 1 allows principals to ask clarifying questions before the study begins. While principals may not respond to the email, we operate under the assumption that the email to the principal provides sufficient notice of the study.

[**Travel Tally**, **Principal Email**, and **Study Description** available in Appendix I.]

3. Contacting school receptionists (week 1)

On Thursday or Friday of week 1, contact school receptionists using the **School Script** to explain the study and ask about the best method for contacting classroom teachers. The ideal approach would be to obtain teachers’ email addresses so that you may communicate with them via email. However, school

receptionists may not feel comfortable providing this information; in this case you will need to visit the school and leave information about the study in teacher boxes.

If, for some reason, the receptionist will not let you leave materials in teacher boxes, ask if you would be able to speak with the principal about the study. If you are able to contact the principal, use the **Principal Script** to explain the study. Emphasize the importance of the study and the brevity of the Travel Tally. Hopefully, the principal will then allow you contact teachers. If the principal refuses to let you contact teachers, inform your district contact of this situation. The district contact may offer to contact the school principal to facilitate participation. If this attempt fails, the school must be dropped from the study. It is important to maintain positive relations with all schools, even if that means not including a given school.

[**School Script** and **Principal Script** available in Appendix I.]

4. Contacting classroom teachers (week 2)

On Monday of week 2, researchers should contact all participating classroom teachers. If you have obtained teacher email addresses, send the **Classroom Teacher Email** to all teachers, attaching the **Study Description** and District letter of support. If you have not obtained teacher email addresses, print out the **Classroom Teacher Email** on colored paper or letterhead and put one in each teacher's box, along with a study description.

Hopefully, all classroom teachers will email you schedule a time when you may conduct the Travel Tally in their class on the following Tuesday and Wednesday. Thursday may be used to schedule classroom visits, as well. If you do not hear back from a classroom teacher by Wednesday afternoon of week 2, call the school receptionist to ask how you should contact that teacher. It may be helpful to visit the school on Thursday, either before school or after school, to meet with the teacher in person.

[**Classroom Teacher Email** available in Appendix I.]

5. Conducting the Travel Tally (week 3; week 4 if necessary)

Conduct the Travel Tally with each participating class on Tuesday and Wednesday during data collection week. The Travel Tally may also be conducted on Thursday, if necessary. Two days of data collection are preferred in order to account for abnormalities in commute pattern on a single school day. *The Travel Tally may not take place on days of inclement weather or an abnormal school schedule* (shortened day, parent-teacher conferences, AP testing, field trip etc.)

Follow **Instructions for Conducting the Travel Tally** when conducting the Travel Tally in classrooms. When conducting the Travel Tally in kindergarten and 1st grade classes, review *Tips for Conducting the Travel Tally with Young Students* in order to obtain the most accurate data. It will also be helpful to use **Commute Images** with this population.

[**Instructions for Conducting the Travel Tally** and **Commute Images** available in Appendix I.]

Appendix I. Materials for Conducting the Travel Tally

Travel Tally

Travel Tally Recording Form

School: _____ Teacher: _____

Class Enrollment: _____ Date Conducted: _____

Instructions

- Please ask these questions **only of X grade students**
- Before asking your students to raise their hands, read aloud all possible answer choices so that they will know their choices. Each student may answer only once.
- Ask your students as a group: “How did you get to school today?” Then re-read each answer choice and record the number of students that raise their hand for each option in the blank box below each option.
- Follow the same procedure for the next question: “How do you plan to leave school today?” Please ask this question directly after you ask “How did you get to school today?”
- If a student used 2 commute options, mark the commute option that the student spent more time in.

Data

Weather conditions: _____ (S = sunny; R = rainy; O = overcast)

Number of students in class when count was made: _____

**Please make sure that the total number of responses to each question equals this number.*

MORNING COMMUTE: “How did you get to school this morning?”

Walk	Bike	School Bus	Family Vehicle (with people from your family)	Carpool (riding with other students)	Public Transit (city bus or Muni)	Other (Skateboard, scooter etc.)

AFTERNOON COMMUTE: “How do you plan to leave school this afternoon?”

Walk	Bike	School Bus	Family Vehicle (with people from your family)	Carpool (riding with other students)	Public Transit (city bus or Muni)	Other (Skateboard, scooter etc.)

Please record any disruptions to these counts or any unusual travel conditions on the days of the tally. Also, if a student chose “other”, please explain:

(See Commute Images)

Study Description

Study Name
XXXX-XXXX School Year
Research Institution or Organization
Principal Investigator: Name [if applicable]

Purpose

This District-approved evaluation will capture data on how **X** grade students commute to and from school during the **XXXX-XXXX** school year. Data collected will allow **[district name]** to identify schools in need of programmatic supports that encourage active commuting and carpooling to school. **[Enter any other study purposes here].**

Study Design

This cross-sectional study will involve **X** elementary schools, **X** middle schools and **X** high schools in **[district name]**. Data collection will take place during **[month year]**.

Study Measure

Data will be collected using the Student Travel Tally. The Student Travel Tally is a validated instrument that has been approved by the National Safe Routes to School Center and is currently used in schools across the country. To conduct the Travel Tally, a designated individual asks students how they arrived at school in the morning and how they plan to leave school in the afternoon (e.g., walking, car, bus). Students respond by a show of hands as each mode of transport is mentioned. The Travel Tally takes no more than 5 minutes to complete.

Data Collection

Data collectors will conduct the Travel Tally with all **X** grade classes on Tuesday and Wednesday during the week of **[enter date]**.

Dissemination of results

Upon completion of this study, **[organization or institution]** will provide a written report to **[district name]** detailing transportation results in aggregate, as well as broken down by grade and school.

Data collection will take place during the week of [enter date].

[Institution or organization] Contact Information:

- Study Coordinator: contact information
- Principal Investigator: contact information

[STUDY NAME]

[DATE]

Principal Email

Dear Principal _____,

During the week of **[enter date]**, **[school district]** and **[institution or organization]** will conduct an evaluation of commute patterns among **[X]** grade students in **[school district]**. This will entail having data collectors conduct a brief, 5-minute tally with all **X** grade ***[insert class period here if evaluating middle or high school grades]*** classes at your school on 2 school days. Data collectors will ask students how they got to school in the morning and how they plan to leave school in the afternoon, and students will respond by a show of hands for each commute choice presented (e.g. walk, car, bus).

We would like to contact your **[X]** grade ***[insert class period here if evaluating middle or high school grades]*** teachers schedule a time to conduct this tally with their classes. We will call your school secretary later in the week to determine how best to contact your teachers.

We thank you for your support of this important study. All **[school type]** schools are being asked to participate, and findings will allow us to identify schools in need of programmatic supports that encourage active commuting and carpooling. This study has been approved by **[school district]**'s Research Department and by **[research institution's]** Committee on Human Research **[if applicable]**. A one-page study description and a copy of **[school district]**'s approval letter are attached to this email.

Please contact me with any questions.

Best regards,

[Data collector]

[Data collector's contact info]

School Script

Hi, my name is [name] and I calling from [research institution or organization]. [Research institution or organization] and [school district] are working together on a study that will be conducted this [month] of how students in [school district] commute to and from school. All [school type] schools are being asked to participate in this study, which will include all [X] grade students. I need to contact your [X] grade [insert class period here if evaluating middle or high school grades] teachers to explain this study and arrange a time to conduct a 5-minute tally in their classrooms. Would it be best for me to email your [X] grade [insert class period here if evaluating middle or high school grades] teachers or to leave information about the study in their boxes? Which do you think they would be most responsive to?

[If email, record names and email addresses below]

Number of X grade teachers: _____

- 1. Name: _____ Email: _____
- 2. Name: _____ Email: _____
- 3. Name: _____ Email: _____
- 4. Name: _____ Email: _____
- 5. Name: _____ Email: _____
- 6. Name: _____ Email: _____
- 7. Name: _____ Email: _____

[If teacher boxes, confirm that you will visit the school on Monday of week 2 to drop off letter for the teachers.]

[Before ending the call, confirm the receptionist’s name]

Receptionist’s name: _____

Thank you very much. Goodbye.

[If the receptionist will not provide email addresses AND will not let you leave something in the teachers’ boxes, ask to speak with the principal. If the receptionist offers that you email the principal instead of speak with the principal on the phone, explain that you have already done so. Leave a message for the principal if he or she is not available].

Frequently Asked Questions

1. Does our school principal know about this study?
Yes. He or she received an email explaining this study last week.
2. Who in the district is supporting this study?
[District contact name and title]
3. What is the purpose of this study?
Findings from this evaluation will help **[school district]** identify schools in need of programmatic supports to encourage active commuting and carpooling to school.
4. What will classroom teachers need to do?
Classroom teachers will simply need to allow a data collector to conduct a 5-minute tally with their students on 2 school days.
5. When will this study take place?
Data collectors will conduct Travel Tallies with **[X]** grade ***[insert class period here if evaluating middle or high school grades]*** classes on Tuesday and Wednesday during the week of **[enter date]**.
6. Who can I contact for more information?
Study Coordinator: **[name; email; phone]**
Principal Investigator: **[name; email; phone]**

Principal Script

Principal Script

Hi, my name is [name] and I calling from [research institution or organization]. I sent you an email last week about a study that [research institution or organization] and [school district] are conducting of how [X] grade [insert class period here if evaluating middle or high school grades] students in [school district] commute to and from school. Did you see this email?

[Hopefully, principals will acknowledge receipt of this email. If not, apologize that they did not receive it and continue with your explanation of the study.]

We are asking that all [school type] schools participate in this study during the week of [enter date], which entails all [X] grade [insert class period here if evaluating middle or high school grades] teachers allowing a data collector to conduct a 5-minute tally with their classes on 2 school days. To conduct the tally, data collectors simply ask students how they got to school in the morning and how they plan to leave school in the afternoon, and students respond by a show of hands for each commute choice presented (e.g. walk, car, bus). Data collected from these tallies will help [school district] identify schools in need of programmatic supports to encourage active commuting and carpooling to school.

I am hoping to contact your [X] grade [insert class period here if evaluating middle or high school grades] teachers to explain this study and coordinate visiting their classrooms to conduct the tally. Would it be best to email your [X] grade teachers, or to leave information about the study in their boxes? Which do you think they would be most responsive to?

[If email, record names and email addresses below]

Number of X grade teachers: _____

- 1. Name: _____ Email: _____
- 2. Name: _____ Email: _____
- 3. Name: _____ Email: _____
- 4. Name: _____ Email: _____
- 5. Name: _____ Email: _____
- 6. Name: _____ Email: _____
- 7. Name: _____ Email: _____

[If teacher boxes, confirm that you will visit the school on Monday of week 2 to drop off letter for the teachers.]

Thank you very much. Goodbye.

[If the principal does not want his teachers to participate in the study, say thank you and end the call. Contact your district contact to inform them of the situation.]

Classroom Teacher Email

Dear Ms./Mr. _____,

I am the Study Coordinator for a study [school district] and [research institution or organization] are conducting of how [X] grade [insert class period here if evaluating middle or high school grades] students in [school district] commute to and from school. We are collecting these data in order to identify schools in need of programmatic supports that encourage walking, biking, and carpooling to school. Active commuting has been shown to increase students' daily levels of physical activity, and carpooling reduces carbon emissions as well as traffic congestion.

This study will take place during the week of [enter date]. We are hoping to visit all [X] grade [insert class period here if evaluating middle or high school grades] classes on Tuesday [enter date] and Wednesday [enter date] to conduct a brief, 5-minute tally with the students. This tally simply entails asking students how they arrived at school that morning and how they plan to leave school that afternoon, and students raise their hands as different commute options are presented.

Please email me back to let me know what time would be most convenient for me to visit your class on Tuesday [enter date] and Wednesday [enter date] to conduct this tally.

We really appreciate your participation in this study. Again, data should prove valuable in developing programs to support active commuting and carpooling, and the Travel Tally should take less than 5 minutes to complete. If you have questions, please contact me at any time.

Best regards,

[Data collector]

[Data collector's contact info]

Instructions for Conducting the Travel Tally

Instructions for Conducting the Travel Tally

1. First, count the number of students present in class.
2. Before asking students to raise their hands, read all possible answer choices aloud so that students will know their choices. You may use visuals to illustrate the differences between family vehicle, carpool, yellow bus or transit. Instruct students that they may only answer once.
3. Ask the students as a group, **“How did you arrive at school today?”**
4. Then, reread each answer choice and record the number of students that raise their hands for each choice. Place one number in each box; do not enter tally marks. Make sure that the total number of students responding to this question equals the number of students present in the class. If it does not, ask the question again and repeat the tally. Remind students that they must answer once and only once.
5. Follow the same procedure for the question **“How do you plan to leave for home after school?”**
6. If a student took more than one mode of transport to school (i.e. walked to the bus stop and then took the bus), count the mode that the student spent more time in.
7. You may conduct the counts at any time during the school day, but the arrival and departure questions *must be asked at the same time*.
8. The Travel Tally should not take place on days of inclement weather or an abnormal school schedule (shortened day, parent-teacher conferences, AP testing, field trip etc.). If the Travel Tally does take place on one of these days, the data should not be analyzed.
9. After the counts are collected, record weather information.

Tips for conducting the Travel Tally with young children (kinder and 1st grade)

Younger students (kindergarten and 1st grade) often have difficulty identifying their mode of transport. Many will respond that they walk AND take some other mode of transport, given that they walk into their school from the street or parking lot. Additionally (and not surprisingly), they have a very hard time telling the difference between a family car vs. a carpool, or city bus vs. a school bus.

Whenever possible, data collectors should enlist the help of the classroom teacher in identifying young students' modes of transport. Often, classroom teachers know how their students arrived at school and can make an educated guess about how their children will leave. Classroom teachers can also be very helpful in correcting inaccurate student responses. Data collectors should rely on classroom teachers as a resource whenever possible.

One method that works well with young students is to physically separate them based on their mode of transport. Raising hands proves difficult because kids often want to raise their hands for every option, and they don't fully understand the concept of answering only once. Start by having kids stand in one of 3 corners of the room based on whether they walked, took a car, or took a bus to school. This helps the kids understand that they can only pick one of these primary commute options. Use pictures to illustrate walking, taking a car, and

taking a bus. Once kids are completely separated into their respective corners, ask kids in the car group to raise their hand if they drove in a car with another kid who goes to their school, who is not in their family. Similarly, ask the kids in the bus group to raise their hands if they came on a big yellow school bus (versus a city bus).

Below is a suggested script to follow when conducting the Travel Tally with younger classes:

“When you were all done getting ready for school this morning and you left your house, how many of you got on a bus to come to school? [Hold up images of a school bus AND a city bus. Wait for hands to rise.] Perfect. If you got on a bus to come to school this morning, I want you to get up and go stand over there [indicate where you want them to stand.] [To the remaining kids] Okay, when you guys left your house this morning, how many of you got in a car to come to school? [Hold up image of a car. Wait for hand to rise.] Great. If you got in a car to come to school today, I want you to go stand over there [indicate a different location for them to stand in.] [To the remaining kids] So if you guys didn’t take a bus or a car to school today, you must have walked to school. Did you guys walk to school this morning? [Wait for their response. If any student says he or she didn’t walk, work with him or her individually to identify the correct commute mode.]”

Then, talk to the bus group separately to determine who took public transportation versus a school bus: “Okay so you guys all took a bus to school this morning, right? Sometimes kids take a big yellow school bus to school [hold up image of a school bus], and sometimes kids take another kind of bus called a city bus [hold up a picture of Muni and a city bus.] How many of you rode in a big yellow school bus this morning? [Wait for hand to rise.] Okay, perfect, keep your hands up. Did everyone who is not raising a hand take a city bus to school today?”

Lastly, determine which kids in the car group carpooled to school: “Okay so you guys all took a car to school this morning, right? Sometimes kids ride in a car with only people in their family, like their brother and sister and mom and dad. Sometimes, kids ride in a car with kids from another family. How many of you rode in a car this morning with a kid from another family?”