Behind the Bus Sign

Weigh evidence, limits, and ethics in a transit study

S.1.3 "Evaluate the strengths and weaknesses of the major methods of sociological research, including surveys and interviews, experiments, observations, content analysis, and research ethics."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one strength and circle one weakness for each research method in the passage, then number two actions that protect riders' privacy.

Do Arrival Signs Build Trust?

1. At a city bus stop, a digital sign promises the next bus in six minutes. Does that sign make riders trust the bus system more? A research team could give a brief anonymous survey to riders at several stops, asking how reliable they think arrival times are. Surveys collect many comparable answers quickly, but people who skip the survey may feel differently from those who respond. Interviews with a smaller group could reveal why a late bus feels unfair, yet questions can shape replies, and a few riders cannot represent the whole city. Neither method alone proves the sign caused trust to change.

2. To test cause and effect, researchers could randomly assign the sign at several stops to show live arrival times or the standard timetable on comparable days. Each stop would switch between the two conditions across days, while researchers keep the bus schedule and survey questions the same. This design reduces the chance that one stop's usual riders explain a difference in reported trust, though weather or delays could still affect results. Researchers could also observe how often riders ask drivers when a bus will arrive. Observation captures behavior as it happens, but a count of questions cannot reveal what silent riders believe.

3. Content analysis offers another angle: researchers could count complaints about arrival times in public transit agency meeting minutes before and after signs appear. Written records reveal concerns across months, but they exclude riders who never attend meetings and cannot prove why complaint numbers changed. Every method also raises ethical questions. Researchers should tell surveyed or interviewed riders that participation is voluntary, avoid collecting names, and report results without identifying individuals. If observers record people in public, they should count actions without noting faces or other identifying details. An agency should review plans for privacy and fairness before the study begins.

2 ANSWER WITH EVIDENCE

Use the passage

1. If the team wants to learn why riders feel a bus is unreliable, which would be more useful, a survey or an interview? Give one limitation of your choice.

2. How does switching each stop between the two sign conditions strengthen the experiment? Name one factor that could still affect the results.

3. What could meeting minutes show about riders' concerns, and why would using only those records give an incomplete picture?

4. Evaluate the plan to count riders' questions without recording their faces. What useful evidence does it provide, and what can it not reveal?

3 YOUR TURN

Your own words

Your school adds signs showing estimated cafeteria wait times. In five or six sentences, propose two different methods to study whether students think the lunch line is fair, explain one strength and one weakness of each, and name one ethical step you would take.

ANSWER KEY

Behind the Bus Sign

HIGH SCHOOL · S.1.3

PART 1 · READ AND MARK

Underline one strength and circle one weakness for each research method in the passage, then number two actions that protect riders' privacy. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	If the team wants to learn why riders feel a bus is unreliable, which would be more useful, a survey or an interview? Give one limitation of your choice.	**An interview could reveal riders' reasons, but a small interview group may not represent all riders. Interview questions could also shape replies.**
2	How does switching each stop between the two sign conditions strengthen the experiment? Name one factor that could still affect the results.	**Switching conditions makes it less likely that differences between stops explain the results. Weather or bus delays could still affect riders' reported trust.**
3	What could meeting minutes show about riders' concerns, and why would using only those records give an incomplete picture?	**Meeting minutes could show complaints about arrival times across months, but they leave out riders who never attend meetings.**
4	Evaluate the plan to count riders' questions without recording their faces. What useful evidence does it provide, and what can it not reveal?	**It records behavior as it happens while protecting riders' identities. The count cannot reveal what silent riders believe.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would anonymously survey students before and after the signs appear to compare their views of fairness. Surveys can gather many answers quickly, but students who do not respond might feel differently. I would also interview a few students about why they judge the line as fair or unfair. Interviews can reveal their reasons, but a few students may not represent everyone. I would explain that taking part is voluntary and leave names off all responses.

Accept other supported strengths and weaknesses when they fit the method named. For the open task, look for two distinct methods, a plausible strength and weakness for each, and a specific ethical step.