

Transport Engineer interview questions

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What to expect

Transport Engineer interviews assess your technical modelling and design skills alongside your ability to work with authorities, stakeholders and communities. You will likely face a mix of technical and behavioural questions, with some scenario-based problems to test your judgement.

- **Technical:** Technical questions probe your knowledge of traffic modelling software, design standards and analysis methods. Expect to explain your process in detail.
- **Behavioural:** Behavioural questions ask for examples of how you have worked with stakeholders, managed projects or handled competing priorities.
- **Scenario:** Scenario questions present a realistic transport problem, such as a congested intersection or a disputed development application, and ask how you would respond.
- **Safety and compliance:** Safety and compliance questions check your familiarity with Australian standards, road safety audits and approval processes.
- **Client-facing:** Client-facing questions explore how you communicate with councils, communities and other stakeholders who may disagree with your recommendations.

The interview usually starts with a phone or video screen with a recruiter. If you progress, you meet a panel that typically includes a hiring manager and a senior engineer. Some employers ask you to complete a technical exercise beforehand, such as interpreting a traffic model or reviewing a design, and you may present your findings to the panel. The process often finishes with a conversation about how you work in a team and your understanding of local transport context.

1. Walk me through how you model a new intersection in SIDRA Intersection, from data inputs to interpreting the results.

Why they ask

This tests your hands-on modelling ability and whether you understand the assumptions behind the software.

How to structure your answer

Use a step-by-step walk-through: data collection, network coding, calibration, scenario testing, and interpretation of outputs like degree of saturation and average delay.

Example answer

"First, I gather traffic volume data, often from surveys or council counts, and confirm peak periods. Then I code the intersection geometry, signal phasing and give-way rules in SIDRA. I calibrate the model against observed queue lengths or delays if that data is available. Next, I run scenarios for the design year and test options like adding a turn lane or changing signal timing. I interpret outputs such as degree of saturation, average delay and level of service. Finally, I check that the results are sensible and document the assumptions for the report."

2. Tell me about a time you had to explain a complex transport model to a non-technical stakeholder.

Why they ask

This assesses your communication skills and your ability to translate technical detail for councillors, community groups or clients.

How to structure your answer

Use STAR: situation, task, action, result. Focus on how you simplified the model without losing accuracy.

Example answer

"At a previous role, I was presenting a traffic model for a new supermarket development to a council committee. The model showed acceptable delays, but the committee members were worried about queue lengths. I prepared a simple visual that showed the before and after traffic flows on a map, and I explained what the colours meant without using technical jargon. I also brought a one-page summary that translated the model outputs into everyday language. The committee approved the development with conditions, and the planning officer later asked me to use the same approach for other applications."

3. You are assessing a proposed development and the traffic impact assessment shows unacceptable delays at a nearby intersection. How do you proceed?

Why they ask

This tests your judgement under pressure and your ability to balance safety, efficiency and stakeholder needs.

How to structure your answer

Frame your answer around a clear sequence: identify the problem, consider options, consult, and recommend. Show you would not simply reject the proposal without exploring solutions.

Example answer

"First, I would check the model inputs and assumptions to make sure the delays are real and not an artefact of the data. If the delays are genuine, I would look at mitigation options, such as signal timing changes, a new turn lane, or a contribution to a larger intersection upgrade. I would discuss these options with the developer and the council to see what is feasible. I would also consider whether the delays are acceptable under the relevant guidelines. If no reasonable mitigation works, I would recommend refusing the application and explain why, with evidence from the model."

4. Describe your approach to preparing a road safety audit.

Why they ask

This probes your familiarity with a standard Australian process and your attention to safety and compliance.

How to structure your answer

Walk through the stages: scope, site inspection, analysis, reporting, and follow-up. Mention relevant guidelines like Austroads.

Example answer

"I start by confirming the audit stage, whether it is concept, design or pre-opening. Then I review the drawings and any traffic data, and I conduct a site inspection at different times of day if possible. I look for potential hazards, such as poor sight lines, confusing layouts or inadequate lighting. I document each issue with a risk rating and a suggested treatment. Finally, I prepare a report that follows Austroads guidance and discuss the findings with the design team to agree on actions. I also check that the agreed changes are implemented."

5. How do you manage a situation where a council or community group disagrees with your recommended road design?

Why they ask

This tests your stakeholder management and your ability to handle conflict while staying focused on evidence.

How to structure your answer

Use a mix of STAR and judgement. Describe how you would listen, explain, and find common ground.

Example answer

"I would start by listening to their concerns and asking questions to understand what is driving the disagreement. Often it is about safety, noise or loss of parking. I would then explain the evidence behind my recommendation, using simple language and visuals. If there is a genuine issue, I would explore alternatives with them, such as a different alignment or additional traffic calming. I would also bring in other experts if needed, like a road safety auditor. The goal is to reach a solution that meets the transport objectives and addresses the community's main worries, even if it is not exactly what either side first wanted."

6. What Australian standards and guidelines do you apply when designing a new road or intersection?

Why they ask

This checks your knowledge of local requirements and your ability to work within a regulatory framework.

How to structure your answer

List the key documents and explain how you use them. Keep it practical rather than reciting a list.

Example answer

"I rely on Austroads guides for road design, such as the Guide to Road Design, and the relevant Australian Standards, including AS 1742 for traffic control devices and AS 2890 for parking facilities. I also follow state road authority supplements, like those from Transport for NSW or VicRoads, depending on the jurisdiction. For safety, I apply the road safety audit process from Austroads. I use these documents to check geometric standards, signage, lighting and drainage. I also make sure my designs meet local council requirements and any planning conditions."