

Part A: Analysis process

Overview

This **Part A** summarises the analysis process that has been adopted by the LIC. It sets out the assessment criteria, the community involvement processes, and the procedures and measurement standards adopted in the technical analysis.

2. Criteria for assessment of the road network

The LIC criteria and associated definitions are shown in **Figure 3**. The 13 criteria were selected to provide an important mix of economic, environmental and social aspects of a road network. The first three of these criteria were combined into one ‘congestion’ problem type. The other ten were both criteria and problem types.

3. Community involvement

The consultation strategy included opportunities for the community to be consulted on their perceptions of problem types and their locations. The two main mechanisms were: (1) a community telephone interview survey and (2) an invitation for stakeholders to make written submissions.

The community telephone interview survey of a random sample of over 600 residents and businesses in the study area was undertaken in December 2003. The survey tested for unprompted awareness of traffic problems and the perceived seriousness of the impacts on respondents.

Written submissions were received from local governments, Main Roads and the LIC members’ constituents.

Information from the survey and written submissions are summarised in the survey report *Community Consultation on Traffic Problems*. This report also analyses the information provided by the community regarding problems. This information has been used in the technical assessments to compare the community responses with the technical assessment.

Figure 3 LIC Assessment Criteria

Criterion	Definition
1. Freight efficiency	Amount of congestion (mid-block and intersection) hindering large trucks from travelling at a steady speed along the road
2. General traffic efficiency	Amount of congestion (mid-block and intersection) hindering cars and small trucks from travelling at a steady speed along the road
3. Public transport efficiency	Amount of congestion (mid-block and intersection) hindering public transport vehicles on public transport routes from travelling at a steady speed along the road
4. Safety	Number of crashes (fatal, injury, and property damage) relative to the amount of traffic. Later analysis will be used to consider the cause of the crashes.
5. Traffic noise	Degree of traffic noise – daytime and evening - night time
6. Air pollution	Effect of emissions from vehicular traffic, and from vehicle loads; ie fumes, soot and odour.
7. Community access	Degree of difficulty getting on/off roads when travelling to/from places along the road, when the difficulty is caused by vehicular traffic along the road
8. Community severance	Degree of difficulty for pedestrians and cyclists getting across a road, when the difficulty is caused by vehicular traffic along the road.
9. Vibration	Amount of disturbance to buildings, or annoyance to the people in those buildings, by vibration from vehicular traffic on the road
10. Water pollution	Concerns about pollution from vehicles travelling on the road getting into significant water sources; whether ground water, surface water, and/or wetlands
11. Built/Cultural heritage	Impact by vehicular traffic along the road on cultural heritage areas and buildings next to the road – maybe indigenous or non-indigenous heritage.
12. Natural heritage	Impact by vehicular traffic along the road on natural heritage areas such as severance of habitat area or severance of wildlife migratory routes. The impact may be on vegetation or on a wetland area.
13. Visual amenity	Intrusion by road infrastructure into views from adjacent land or buildings. Reduction in privacy of adjacent land and buildings from road users overlooking that land or buildings.

4. Technical analysis process

Technical analysis for each of the problem types included:

- 1) Analysis and selection of the most appropriate way to measure each problem.
- 2) Technical analysis and mapping of problem attributes and problem locations for 2001/3 and forecast years 2006, 2011 and 2031. The technical analysis was based on an assumption of no future major road improvements in the study area, except the completion of Roe Highway Stage 7 to Kwinana Freeway.
- 3) Comparison with problem locations identified by the community for 2001/3; comparison then carried forward to 2006, 2011 and 2031.
- 4) Selection of final combined community/ technical problem locations.

It should be noted that “problem” locations vary in nature. Some are existing problems, some are potential future problems, some problems are based on actual measurements (e.g. number of existing crashes, from crash statistics over the past 5 years), others are based on indicative desktop assessments (e.g. water pollution, where no measurements of water quality have been made, rather the assessment is based on risk of pollution). In this document the word “problem” should be read as having this range of meanings.

Appendix A contains further information about the analysis process for each of the problem locations.