



# Engineering research project: literature review

## Using tables to organise your literature - example

In the below example, the authors have summarised the large amount of literature on the topic into a table.

- The literature is categorised according to land use characteristics discussed in the literature, such as distance of residence from the urban centre, settlement size and so on;
- It is organised according to different travel patterns, such as distance, frequency, mode, time and energy consumption;
- The table allowed the author to identify areas the literature has focused on, and any gaps;
- It allowed them to examine similarities and differences in the literature;
- The table provided a structure for the presentation of the literature review.

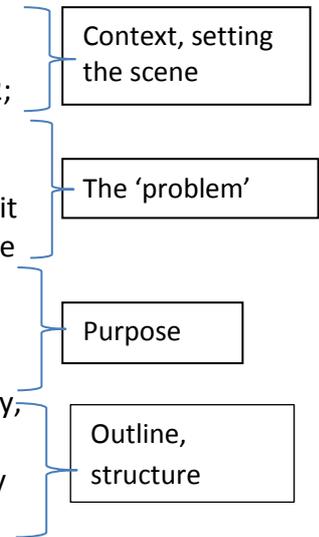
**Table 1. Studies Classified According to Land Use Characteristics and Travel Patterns**

Land use characteristics → Travel patterns ↓	Distance of residence from the urban centre	Settlement size	Mixing of land uses	Provision of local facilities	Density of development	Proximity to main transport networks	Availability of residential parking	Road network type	Neighbourhood type
DISTANCE	Average journey distance	Gordon et al., 1989a Johnston-Anumonwo, 1992 Spence and Frost, 1995	Orfeuil and Salomon, 1993	Cervero and Landis, 1992 Hanson, 1982 Winter and Farthing, 1997	ECOTEC, 1993				
	Average journey distance by car		Hillman and Whalley, 1983	Cervero and Landis, 1992 Farthing et al., 1997	ECOTEC, 1993 Hillman and Whalley, 1983 Levinson and Kumar, 1997	Levinson and Kumar, 1997		Marshall and Banister, 2000	Crane and Crepeau, 1998
	Travel distance (all modes)	Næss et al., 1995 Curtis, 1995 Stead, 1999	ECOTEC, 1993 Hillman and Whalley, 1983 Stead, 1999	Stead, 1999	Stead, 1999	Dunphy and Fisher, 1996 ECOTEC, 1993 Hillman and Whalley, 1983 Kenworthy and Laube, 1999 Stead, 1999	Headicar and Curtis, 1994 Stead, 1999	Stead, 1999	Crane and Crepeau, 1998 Rutherford et al., 1996
FREQUENCY	Journey frequency	Curtis, 1995	Ewing et al., 1996	Hanson, 1982; ECOTEC, 1993	Dunphy and Fisher, 1996 ECOTEC, 1993 Ewing et al., 1996				Berman, 1996 Cervero and Gorham, 1995 Crane and Crepeau, 1998 Friedman et al., 1994 McNally and Kulkarni, 1997

(Stead & Marshall 2001, p. 114)

## Writing a literature review: example introduction

Traditionally the approach to infrastructure planning and decision-making is highly directive and strongly organized in stages. Such an approach can help progress of a project or a process by defining manageable pieces (Cooper 1972; Prahabkar 2008). A more overarching approach to lifecycle integration, which looks into the possibility and potential added value of tailoring and integrating separate initiatives, is currently absent. To investigate its potential in practice, it is crucial to gain insight into recently obtained experiences of public and private parties with separate integration initiatives. Therefore this literature review aims to firstly provide greater insight into public and private experiences with various lifecycle integration initiatives in practice, and, secondly to explore the potential of integrating these initiatives throughout the planning cycle. Thereby, this review specifically focuses on experiences with integration initiatives in projects exhibiting a high degree of complexity. The outline is as follows. Firstly the review provides a .... (*section omitted*)



(Adapted from Stead & Marshall 2001, p. 114)

## Writing a literature review: example body section

### 2.1 Vehicle fires

#### 2.1.1 Impact of vehicle fires

In 2006, the NFPA reported that roughly 490 civilians died in vehicle fires. These 490 civilian deaths represent 13.7% of the total deaths associated with fire for 2006, including residential and non-residential structures. Also in 2006, vehicle fires accounted for \$1.3 billion in property loss (National Safety Council 2006). *Additionally*, 1200 civilian injuries were reported (National Safety Council 2006). These numbers indicate that, while survivability of automotive accidents has increased substantially in the last few decades due to advances in vehicle safety, vehicle fire safety is still a major concern. The numbers of deaths in accidents has decreased while the number of fire deaths in accidents has remained relatively constant. Until recently, little research has been conducted concerning the problem of fire safety; in recent years, the U.S. motor vehicle industry has spent nearly \$14 million per year researching the problem of motor vehicle fire safety (Tewarson, Quintiere & Purser 2007).

This research by the U.S. motor vehicle industry has unveiled some major issues related to fires and their victims; the most compelling results.....

**Headings and sub-headings**  
To clearly indicate the focus of each section

**Topic sentence**  
What the focus of the paragraph is

*Signposting, linking language*  
Connects the different literature, builds discussion

Interpretation  
The writer interprets the literature and highlights the significance of the information to the topic

Connecting paragraphs  
Adds cohesion and flow to the review

(Adapted from Patronik 2008, p. 5)

## Writing a literature review: example conclusion

### Heading

To clearly indicate the focus of this section

### 23.5 Outcomes of the literature review

This review of relevant aspects of the literature points to the significance of the professional skills already possessed by part-time students in relation to the development that all engineering students must undergo in developing from students to engineers. It sets out the context in which students may act as mentors for fellow students. It provides confirmation that composition of groups can have an effect on aspects of group project work. No close equivalents of the initiatives involving part-time students carried out at Coventry have been found in the literature and this confirms the validity and interest of the research questions posed for this investigation:

- How do the full-time students learn from part-time students?
- What are the benefits and problems in creating this contact?

### Summary

Gap

Link to research questions

(Davies & Rutherford 2012, p. 358-359)

## References

Davies, JW & Rutherford, U 2012, 'Learning from fellow engineering students who have current professional experience', *European Journal of Engineering Education*, vol. 37, no. 4, pp. 354-365.

Patronik, EA 2008, *An analysis of vehicle fires and potential methods to reduce their severity through more stringent material standards*, ProQuest, UMI Dissertations Publishing.

Stead, D., & Marshall, S. (2001). The relationships between urban form and travel patterns. An international review and evaluation. *European Journal of Transport and Infrastructure Research*, 1(2), 113-141.