NATIONAL PRACTICES FOR EARLY CHILDHOOD ROAD
SAFETY EDUCATION

Final Report

Prepared for:

VicRoads
on behalf of the Road Safety Education Reference Group
Australasia

Prepared by:

Child Health Promotion Research Centre
Edith Cowan University

May 2012
National Practices for Early Childhood Road Safety Education

Authors
Stacey Waters
Samantha Baker
Kaashifah Bruce

Contributors
Helen Lindner
Emma Clarkson

Funding partners
Department of Transport and Main Roads (Queensland)
VicRoads (Victoria)
Department of Planning, Transport, and Infrastructure (South Australia)
Department of Education and Early Childhood Development (Victoria)
New Zealand Land Transport
School Drug Education and Road Aware (Western Australia)

Citation
The citation below should be used when referencing this report:


© Edith Cowan University 2012
## EXECUTIVE SUMMARY

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>2  METHODS</td>
<td>2</td>
</tr>
<tr>
<td>2.1  Introduction</td>
<td>2</td>
</tr>
<tr>
<td>2.2  Ethics</td>
<td>2</td>
</tr>
<tr>
<td>2.3  Stage One: Literature Search and Review</td>
<td>2</td>
</tr>
<tr>
<td>2.4  Stage Two: Development of National Practices for Early Childhood Road Safety Education</td>
<td>3</td>
</tr>
<tr>
<td>2.5  Stage Three: Expert Consultation and Validation</td>
<td>3</td>
</tr>
<tr>
<td>2.5.1  Delphi Technique</td>
<td>4</td>
</tr>
<tr>
<td>2.5.2  Instruments</td>
<td>4</td>
</tr>
<tr>
<td>2.5.3  Data Analysis</td>
<td>5</td>
</tr>
<tr>
<td>2.6  Limitations</td>
<td>5</td>
</tr>
<tr>
<td>2.7  Summary</td>
<td>6</td>
</tr>
<tr>
<td>3  RESULTS</td>
<td>7</td>
</tr>
<tr>
<td>3.1  Introduction</td>
<td>7</td>
</tr>
<tr>
<td>3.2  Stage One: Literature Review</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1  Prevalence and incidence of road related injury for 0-5 year old children</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1.1  Risk factors for early childhood road related injuries</td>
<td>8</td>
</tr>
<tr>
<td>3.2.2  Mechanisms for how young children learn</td>
<td>8</td>
</tr>
<tr>
<td>3.2.2.1  Description of the Early Years Learning Framework</td>
<td>9</td>
</tr>
<tr>
<td>3.2.3  Road safety evidence and the Early Years Learning Framework</td>
<td>11</td>
</tr>
<tr>
<td>3.2.3.1  Early Years Learning Framework Principles</td>
<td>12</td>
</tr>
<tr>
<td>3.2.3.1.1  Secure, respectful and reciprocal relationships</td>
<td>12</td>
</tr>
<tr>
<td>3.2.3.1.2  Partnerships</td>
<td>13</td>
</tr>
<tr>
<td>3.2.3.1.3  High expectations and equity</td>
<td>15</td>
</tr>
<tr>
<td>3.2.3.1.4  Respect for diversity</td>
<td>15</td>
</tr>
<tr>
<td>3.2.3.1.5  Ongoing learning and reflective practice</td>
<td>16</td>
</tr>
<tr>
<td>3.2.3.2  Road safety evidence in the Early Years Learning Framework Practices</td>
<td>16</td>
</tr>
<tr>
<td>3.2.3.2.1  Holistic approaches</td>
<td>17</td>
</tr>
<tr>
<td>3.2.3.2.2  Responsiveness to children</td>
<td>17</td>
</tr>
<tr>
<td>3.2.3.2.3  Learning through play</td>
<td>18</td>
</tr>
<tr>
<td>3.2.3.2.4  Intentional teaching</td>
<td>19</td>
</tr>
<tr>
<td>3.2.3.2.5  Learning environments</td>
<td>19</td>
</tr>
<tr>
<td>3.2.3.2.6  Cultural competence</td>
<td>20</td>
</tr>
<tr>
<td>3.2.3.2.7  Continuity of learning and transitions</td>
<td>21</td>
</tr>
<tr>
<td>3.2.3.2.8  Assessment for learning</td>
<td>22</td>
</tr>
</tbody>
</table>
LIST OF TABLES AND FIGURES

- Table 1: Initially drafted National Practices for Early Childhood Road Safety Education  25
- Table 2: Group responses to Round 1 and 2 Questionnaire  32
- Table 3: National Practices for Early Childhood Road Safety Education  39
- Table 4: Final National Practices for Early Childhood Road Safety Education  41
- Figure 1: Early Years Learning Framework  10
EXECUTIVE SUMMARY

1. Road injury continues to be a significant public health problem for young Australian children with recent statistics indicating that it continues to be one of the leading causes of morbidity and mortality among children aged 0-5 years. In Australia, in 2007 there were 66 deaths (1.6 per 100 000) amongst children 0-14 years due to road transport crashes (Australian Institute of Health and Welfare, 2009). A further 836 children, aged 0-4 years, were seriously injured due to land transportation incidents (both traffic and non-traffic) between 2006-2007 (Australian Institute of Health and Welfare, Henley & Harrison, 2009). Despite the prominence of these road related injuries among young children, the implementation of early childhood road safety programs delivered in early childhood education settings is limited or the programs that do exist, lack a strong evidence-base or rigorous evaluation. As a consequence, in 2011, VicRoads, with funding from the Road Safety Education Reference Group Australasia (RSERGA) agencies, contracted the Child Health Promotion Research Centre (CHPRC) to develop National Practices for Early Childhood Road Safety Education. It is anticipated that these practices will guide early childhood educators and curriculum developers in implementing road safety education programs that maximise a child’s learning about road safety in the context of family and community.

2. The development of the National Practices for Early Childhood Road Safety Education comprised a three stage process. The first stage of this report describes the extensive literature search and review conducted to determine existing early childhood road safety programs as well as to explore the most appropriate pedagogy to teach young children and to maximise their learning. The second stage examines how this literature was utilised in the formation of the National Practices for Early Childhood Road Safety Education. Finally, the third stage describes how the devised practices were reviewed and validated by a panel of experts within the fields of early childhood pedagogy and road safety education.

3. In reviewing the literature, it was recognised that the Early Years Learning Framework (EYLF) plays a pivotal role in shaping the educational content delivered to young children in Australia’s early childhood education settings. This framework is built upon extensive research pertaining to how to best engage children in education and maximise their learning. Current road safety programs were therefore reviewed in light of this framework. Subsequently, the National Practices for Early Childhood Road Safety Education discussed in Stage 2 are aligned with the EYLF.

4. After being internally reviewed by the research team at the Child Health Promotion Research Centre (CHPRC) and by key staff at VicRoads, the National Practices for Early Childhood Road Safety Education were sent to a national expert panel. This expert panel comprised road safety and early childhood education experts convened for this project by VicRoads, with assistance from RSERGA members in each jurisdiction. Using the Delphi technique, panel members were asked to rate to what extent they agreed with the inclusion of each draft statement and how easily each could be implemented. A National Practices for Early Childhood Road Safety Education workshop,
held in Melbourne, Australia was also conducted to further validate these practices. Following this consultation and validation process, the practices were revised and finalised.

The final eight National Practices for Early Childhood Road Safety Education are described below:

**Practice 1**: Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education.

**Practice 2**: Deliver road safety education which is responsive to individual children and extends children’s strengths, knowledge and interests.

**Practice 3**: Through play-based learning seek opportunities to address road safety in a way that expands children’s thinking and encourages problem solving.

**Practice 4**: Engage in intentional teaching which extends and expands children’s learning about road safety.

**Practice 5**: Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.

**Practice 6**: Implement road safety education that is culturally relevant for the diversity of children, their families and the community.

**Practice 7**: Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education.

**Practice 8**: Together with children and families reflect on each child’s learning and application of road safety to plan for future learning.

5. By providing National Practices for Early Childhood Road Safety Education that are based on sound evidence, early childhood educators across Australia can develop, implement and evaluate road safety programs with the best opportunity of reducing road trauma for young children. This report provides recommendations to support and enhance the implementation of these practices in early childhood education settings across Australia.
1 INTRODUCTION

VicRoads manages the Victorian road network and its integral transportation system in order to deliver social, economic and environmental benefits to the Victorian community (State Government of Victoria, 2010). VicRoads has been at the forefront of road safety education research at a state, national and international level.

The Road Safety Education Reference Group Australasia (RSERGA) is a nationally representative group of senior managers who oversee the implementation of road safety education in early childhood services, primary and secondary schools. RSERGA endorses a nationally consistent approach to evidence-based road safety education.

In 2011, VicRoads, with funding from RSERGA agencies, contracted the Child Health Promotion Research Centre (CHPRC) at Edith Cowan University to develop National Practices for Early Childhood Road Safety Education. These practices were to align with the National Quality Framework for Early Childhood Education and Care, and guide early childhood services to implement evidence-based road safety education.

It is envisaged the National Practices for Early Childhood Road Safety Education will provide a broad, conceptual tool to inform the planning, development, implementation and evaluation of road safety education resources, policies and practices across Australian early childhood education settings.

This research will also inform the development of national safe travel and transport guidelines to support the development and implementation of policies by early childhood services.

The specific strategies of this formative research were to:

- Conduct a literature review of road safety for young children, its prevalence, risk factors and outcomes, as well as a review of current evidence-based early childhood road safety education programs. The literature review also encompassed published reports pertaining to frameworks used to optimise a child’s capacity to learn with specific focus upon the Early Years Learning Framework.
- Use the literature review evidence to compile National Practices for Early Childhood Road Safety Education; and
- Establish an expert advisory committee to validate the National Practices for Early Childhood Road Safety Education.

The outcomes of this research and the final National Practices for Early Childhood Road Safety Education are presented in section 3.
2 METHODS

2.1 Introduction

The development of the National Practices for Early Childhood Road Safety Education comprised a three stage process. Initially, an extensive search of current road safety programs and effective learning pedagogies for the early years was conducted. The literature was reviewed, compiled and refined in order to draft the National Practices for Early Childhood Road Safety Education, and reviewed and validated by a panel of experts within the fields of road safety and early childhood education. The three discrete stages of this research are presented throughout this section.

2.2 Ethics

To conduct this project, ethics was approved by the Edith Cowan University’s Human Research Ethics Committee. In order to comply with the requirements of the National Statement on Ethical Conduct in Human Research, participants involved in the consultation and validation stage of this project were provided an information letter detailing what the project was about and what being a participant involved. Written consent was also obtained from each of the participants willing to be involved in this project.

2.3 Stage One: Literature Search and Review

A comprehensive literature search was performed in order to retrieve currently published descriptive, empirical and theoretical literature that may be of benefit in the development of the National Practices for Early Childhood Road Safety Education The key focus of this search related to early childhood road related injury, road safety education and identifying the most appropriate and evidence based pedagogy to teach young children. The keywords and phrases searched include:

- Road safety and early childhood/ 0-6 years / pre-school/ pre-primary/ young children;
- Road injury and early childhood/ 0-6 years / pre-school/ pre-primary/ young children/ early childcare;
- Road safety education and early childhood/ 0-6 years / pre-school/ pre-primary;
- Road safety curriculum and pre-school/pre-primary;
- Early childhood framework and road safety;
- Early childhood research and road safety/ road injury;
- Early childcare and education/learning;
- Sustained shared thinking and early childhood;
- Sustained shared thinking and early childhood research;
Using these keywords and phrases, literature was searched using the ECU online library and credible scholarly databases. When an article was identified, the researcher reviewed the title then the abstract for its relevance to the research topic. All articles that were of interest and deemed appropriate were retrieved.

As a significant amount of the evidence relating to the effectiveness of early childhood road safety education in Australia is found in non-peer reviewed sources such as agency and research reports, a Google literature search was conducted using keywords and phrases from the search list and VicRoads assisted in identifying related government reports. This enabled all relevant literature pertaining to early childhood road safety education to be reviewed. New research in relation to the search process and reporting for systematic literature reviews advocate for the inclusion of such ‘grey’ literature (Blackhall, 2007).

In order to develop the draft National Practices for Early Childhood Road Safety Education, each article retrieved was reviewed and detailed notes were made. Documents and reports relating to how to engage young children and maximise their learning were first examined. As a result of this, the Early Years Learning Framework (EYLF) developed by the Council of Australian Government appeared to be the most suitable framework for organising the draft statements. The EYLF is an evidence-based framework for early childhood educators to guide their pedagogy and curriculum. Due to the extensive evidence-base of this framework and its national implementation within Australian early childhood education settings, it was decided that the draft National Practices for Early Childhood Road Safety Education would be aligned with this framework. Current road safety programs and additional empirical, descriptive and theoretical literature were then reviewed in light of this framework. The draft literature review was circulated to other members in the CHPRC research team and senior staff at VicRoads for comment. Amendments to the literature review were made in accordance with this feedback.

2.4 Stage Two: Development of National Practices for Early Childhood Road Safety Education

The National Practices for Early Childhood Road Safety Education were drafted in line with the principles and practices of the EYLF (see Figure 1). The draft statements were reviewed by senior staff at the CHPRC as well as by senior road safety staff at VicRoads. The draft statements were then modified based on feedback received and prepared for validation by the panel of experts in Stage 3.

2.5 Stage Three: Expert Consultation and Validation

To further validate and refine the National Practices for Early Childhood Road Safety Education, a panel of experts in the fields of early childhood education and road safety were consulted. Thirty potential panel
members identified by VicRoads with the assistance of RSERGA members in each jurisdiction were invited to participate. Twenty five participants provided written consent to participate. Consultation with the expert panel was conducted using two methods – the Delphi technique and a collaborative workshop.

2.5.1 Delphi Technique

In order to seek expert validation of the National Practices for Early Childhood Road Safety Education, the Delphi technique was undertaken in order to obtain group consensus (Delbecq, Van de Ven & Gustafson, 1975). This technique involves a multi-stage process whereby the panel of experts are required to respond to a series of questionnaires, with each questionnaire building upon the responses of the questionnaire that preceded it. This process is continued until the desired level of consensus is achieved.

This technique was chosen as the method of inquiry for two reasons. First, the Delphi technique enables group consensus to be achieved between a group of anonymous individuals from diverse backgrounds and locations (Goodman, 1987). This facilitates collaboration and the synthesis of national opinion on the topic. Furthermore, this technique provokes active and equal participation from all panel members. Secondly, this technique draws upon the current knowledge of experts, providing an opportunity for a more up-to-date exchange of information rather than solely relying on the published literature (Delbecq, Van de Ven & Gustafson, 1975).

2.5.2 Instruments

Round One

Within the first round questionnaire of the Delphi technique, the expert panel was asked to review each of the draft statements of the National Practices for Early Childhood Road Safety Education and indicate their level of agreement for including each, and the ease with which each could be incorporated into practice. Response options relating to the level of agreement for each practice included ‘strongly agree’, ‘agree’, ‘disagree’, ‘strongly disagree’ and ‘unsure’. Response options relating to the ease to which they believe each practice could be implemented included ‘very easy’, ‘moderately easy’, ‘not easy’ and ‘unsure’. Panel members were also given the opportunity to provide written comments to further express their opinion.

Twenty five panel members provided consent to participate, all of whom responded to the first round questionnaire (n=25, 100%). The expert panel’s responses to the Round 1 questionnaire were collated and analysed in IBM SPSS Statistics 19. Group responses to each question were presented as frequencies (%) and n) and common themes from the qualitative comments identified.

Road Safety Education Workshop

To further explore the feedback received in the Round 1 questionnaire, a National Practices for Early Childhood Road Safety Education workshop was conducted in Melbourne, Victoria. This four hour workshop
comprised 13 nationally representative road safety and early childhood education experts and provided the opportunity for the national draft statements to be refined further, prior to the Delphi Round 2. In addition, national experts were asked for their ideas on how these practices could be implemented. Discussion regarding potential barriers that may limit the implementation of the practices was also encouraged. Changes to the wording of the draft statements were made at the conclusion of the workshop in preparation for the Delphi Round 2.

Round Two
The Round 2 questionnaire followed the same format as the first Delphi questionnaire however with the addition of each panel member’s initial comments and ratings as well as group averages from Round 1. Feedback from the workshop was also taken into consideration for the second round questionnaire. This questionnaire was also personalised to each respondent by highlighting their Round 1 response choices. In Round 2, each respondent was again asked to rate how much they agreed with the inclusion of each practice and how easily they felt each practice could be implemented. This second round of the questionnaire resulted in 17 panel members responding by the due date. This sample represents 68% of the Round 1 respondents.

Using the feedback received in Rounds 1 and 2 of the Delphi process and feedback obtained from the workshop, further changes to the wording of the practices were made.

2.5.3 Data Analysis

Respondent feedback to both Round 1 and Round 2 surveys were entered into IBM SPSS Statistics 19. Frequencies were calculated to determine the extent to which respondents agreed with the inclusion of each practice as well as the ease with which they felt each practice could be implemented. Written feedback was reviewed to determine common themes, and was used to modify and refine the draft statements of the National Practices for Early Childhood Road Safety Education.

2.6 Limitations

Several potential limitations of this project were identified. While every attempt was made to compile all available and relevant literature pertaining to early childhood road safety education, there may be some publications which were not retrieved or reviewed. However, given the comprehensive search process and the inclusion of grey literature, this limitation is minimised. Furthermore, given that the practices have been aligned with the evidence-based Early Years Learning Framework, the National Practices for Early Childhood Road Safety Education encompass the most recent and extensive evidence currently available describing how young children learn about road safety.

Whilst the composition of the expert panel consisted of members from a broad number of academic backgrounds in road safety and early childhood education, there may be additional experts within the fields
that were equally qualified for inclusion that did not receive the opportunity to participate; potentially leading to sample bias.

Furthermore, whilst the Delphi technique played a pivotal role in the methodology, the inclusion of the workshop in between Rounds 1 and 2 of the Delphi questionnaires disrupted the traditional Delphi technique format. However, the research team felt that this modification to the format provided an advantage to this study, as the workshop enabled refinement of the practices prior to the second round questionnaire.

2.7 Summary

In order to develop evidence-based National Practices for Early Childhood Road Safety Education, three distinct research stages were conducted. Stage 1 involved an extensive review of all relevant empirical, descriptive, theoretical and grey literature. Following this review, a number of draft statements for the National Practices for Early Childhood Road Safety Education were compiled, with their foundations aligned with the Principles and Practices of the Early Years Learning Framework. In Stage 3, experts in the fields of road safety and early childhood education were asked to validate the proposed national practices. This validation occurred through both the implementation of the Delphi technique and the conduct of the workshop.
3 RESULTS

3.1 Introduction

This section presents the results of each of the three stages of this research. First, the reviewed literature from Stage 1 is presented in the context of the Principles and Practices of the EYLF. Stage 2 details the development process of the National Practices for Early Childhood Road Safety Education. Stage 3 provides respondent feedback on the first and second rounds of the Delphi technique along with the feedback received from the road safety education workshop.

3.2 Stage One: Literature Review

3.2.1 Prevalence and incidence of road related injury for 0-5 year old children

Injuries are largely preventable yet they still remain one of the leading causes of death and injury among children aged 1-14 years in Australia (Australian Institute of Health and Welfare, 2009). Furthermore, injury is also a major cause for hospitalisations and visits to both emergency departments and health professionals (Australian Institute of Health and Welfare, 2009).

Road related injury is one of the primary causes of injury during early childhood (Everison & Leeds, 2009). According to the Australian Institute of Health and Welfare (AIHW) (2009) in 2007 there were 66 deaths (1.6 per 100,000) among children 0-14 years due to road transport crashes. Approximately 75% of these children were vehicle passengers and a further 20% were pedestrians (AIHW, 2009). In addition, between 2006 – 2007, there was a national total of 836 children aged 0-4 years that were seriously injured due to land transportation (both traffic and non-traffic) (AIHW, Henley & Harrison, 2009). Nationally, the Northern Territory had the highest rate of serious injury from land transport for this age group (113.3 per 100,000) and the ACT had the lowest (43.5 per 100,000) (AIHW, Henley & Harrison, 2009). Of the 836 children aged 0-4 years old that were seriously injured due to a land transport incident, close to 30% were travelling in a car and approximately one-fifth were pedestrians. The high percentage of child deaths that occur as passengers in vehicles makes the partnership between early childhood services and parents and carers an essential component of effective early childhood road safety education. Of the children injured, 311 incidents occurred on a roadway, street, highway, cycleway or footpath. An additional 51 children were seriously injured in a home driveway where 28 of the 37 pedestrian incidences involved a collision with a motor vehicle (AIHW, Henley & Harrison, 2009).

Land transportation incidents can result in a significant number of health complications for children. In Western Australia, the Childhood Injury Surveillance System collected data from injury cases presenting to the Princess Margaret Hospital for Children (PMH) Emergency Department and a review of this data by
Everison and Leeds (2009) found that between 2000 – 2008, the most common injuries that were sustained due to motor vehicle accidents were contusions (38.1%) and head injuries (26.8%). Along with the physical injuries that can occur, land transport incidents can have a profound impact on a child’s cognitive and psychological development as well as their family’s wellbeing (Australian Institute of Health and Welfare, 2009; Al-Yaman, Bryant & Sargeant, 2002).

3.2.1.1 Risk factors for early childhood road related injuries

According to Schieber and Thompson (1996) children have not yet developed the necessary motor or complex cognitive skills required to cross a road safely or plan the safest route. Further, young children have not yet completely developed their sensory acuity and sensory information processing abilities nor have they developed the ability to adequately judge the distance, movement or speed of a vehicle (Schieber & Thompson, 1996). In other words, the exposure to traffic situations which exceed the cognitive, developmental, behavioural, physical and sensory capabilities of children places them at greater risk of road related injury. Consequently, it is imperative that environmental measures and adult supervision form an integral part of any early childhood road safety initiative established (Schieber & Thompson, 1996).

Research has also indicated that a number of demographic factors are also associated with child road related injury risk (Barton & Schwebel, 2007) such as gender, ethnicity and socioeconomic status. In particular, boys have been found to be twice as likely as girls to suffer pedestrian related injury. Furthermore, according to Barton and Schwebel (2007) those from an ethnic minority group or from a low socioeconomic background are at a greater risk of pedestrian injury due to the likelihood of riskier decision making. The external environmental factors such as heavy traffic can also contribute to increasing the risk of child road related injury (Barton & Schwebel, 2007). Due to the broad number of potential risk factors, it is evident that a multifaceted approach is required in order to reduce the incidence of early childhood road related injuries.

3.2.2 Mechanisms for how young children learn

The early childhood years are a period of significant growth and development. Physically, children grow at a rapid rate - learning to crawl, walk and eventually run (Pietro & Hughes, 2005). Both their gross and fine motor skills develop substantially and as they reach the ages of four to five years they become more adventurous, active and spontaneous (Pietro & Hughes, 2005). Cognitively, children develop the majority of their physical brain capacity for life by the age of five, therefore these early years represent a significant time for learning (Department of Education and Early Childhood Development, 2008). The level of attachment and the relationships that develop with parents, guardians and primary caregivers as well as the experiences that are shared all impact the learning process during these early years (Department of Education and Early Childhood Development, 2008).

With an understanding of these developmental characteristics coupled with recent research indicating the importance of early childhood education on a child’s future life opportunities, the Early Years Learning Framework (EYLF) was developed. This framework is embedded within the Australian Government’s
National Quality Framework and aims to ensure that all children in early childhood education settings experience quality teaching and learning (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). Furthermore, by early childhood educators using the EYLF to guide and shape their curriculum, it will enable children to maximise their opportunity and capacity to learn.

3.2.2.1 Description of the Early Years Learning Framework

The significant brain growth, development and learning that occur in the early years of a child’s life can have a dramatic impact upon their future physical and mental health, behaviour and learning capabilities (Catherwood 1999; Mustard 2010). This learning is greatly impacted by the interactions and relationships that a child develops with their parents, guardians and primary caregivers (Bergin & Bergin, 2009). Furthermore, early education and care research has indicated children who are exposed to concept formation in engaging, stimulating and culturally diverse learning environments are more likely to maximise their learning outcomes and perform better within their later school years (Department of Education and Early Childhood Development, 2008). It is these findings that have provided the background for the development of the Council of Australian Governments’ (COAG) EYLF.

According to the Australian Government Department of Education, Employment and Workplace Relations for COAG (2009), at the foundation of the EYLF is the view that a child’s life is built upon a sense of **belonging**, **being** and **becoming**. Having a sense of **belonging** is paramount for a child to develop relationships, a sense of who they are and who they want to become. **Being** refers to the concept of a child being able to take the time to seek current experiences and to make sense of the world in which they live. The rapid changes that occur and the vast number of experiences that a child is exposed to in early childhood has the ability to shape a child’s identity, knowledge, capacities and skills. This concept is encompassed within the term **becoming**.

At the core of the EYLF these concepts make learning the primary focus. This framework comprises three interrelated elements of Principles, Practices and Learning Outcomes (Australian Government Department of Education, Employment and Workplace Relations 2009). See Figure 1.
The EYLF principles reflect research evidence regarding how children learn and early childhood pedagogy (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009) and include:

1) Secure, respectful and reciprocal relationships;
2) Partnerships;
3) High expectations and equity;
4) Respect for diversity; and
5) Ongoing learning and reflective practice.
The principles help shape practice and ensure children are able to make sound educational progress. The practices identified in the EYLF encourage educators to promote the learning process for a child by:

1) Using holistic approaches;
2) Being responsive to children;
3) Encouraging learning through play;
4) Intentional teaching;
5) Creating positive learning environments;
6) Valuing the child’s and their family’s culture;
7) Promoting continuity of learning and smooth transitions; and
8) Effectively assessing learning.

The EYLF also encompasses five learning outcomes for children. These learning outcomes are ongoing and dependent upon personal capabilities (Australian Government Department of Education, Employment and Workplace Relations, 2009). These broad yet observable learning outcomes outlined within the framework are:

1) Children have a strong sense of identity;
2) Children are connected with and contribute to their world;
3) Children have a strong sense of wellbeing;
4) Children are confident and involved learners; and
5) Children are effective communicators.

When early childhood educators draw upon these inter-related elements of the EYLF, it should generate effective early childhood pedagogy and curriculum development. Furthermore, it helps promote continuity and cohesion in the educational programs delivered to children in their early and pre-schooling years (Department of Education, 2011).

### 3.2.3 Road safety evidence and the Early Years Learning Framework

The EYLF, developed in consultation with the early childhood sector, early childhood academics and the Australian government provides a strong foundation for educators to provide quality teaching to maximise children’s capacity to learn (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). Due to the strong evidence-based foundation of the EYLF the National Practices for Early Childhood Road Safety Education were aligned with the framework. Consequently, it was important to have a sound understanding of each element within the framework and to identify if and how current road safety programs have integrated these elements into their design.
3.2.3.1 Early Years Learning Framework Principles

The five principles in the EYLF reflect current theories and evidence concerning early childhood learning and pedagogy. The EYLF principles underpin pedagogical practices in early childhood education. Therefore, reviewing current literature and road safety programs in respect of the five EYLF principles, has enabled the National Practices for Early Childhood Road Safety Education to be developed in a manner that fosters a child’s learning and development.

3.2.3.1.1 Secure, respectful and reciprocal relationships

Support children’s road safety learning through everyday interactions and conversations with them and their families, in a respectful environment.

Research has indicated that a baby’s first attachments and interactions with family members and other primary caregivers influences their emotional wellbeing, social competence and their ability to develop future relationships (Booth, Kelly, Spieker & Zuckerman, 2003). The development of the brain is also significantly impacted as the manner in which a child interacts with their primary caregivers (through hugs, coos and smiles) stimulates neuronal activity within the brain (Perry, n.d). Therefore, the relationships that a child builds within their early years and the attachments they develop play a pivotal role in influencing their ability to learn. Educators who are able to recognise the importance of creating this bond with a child and are attuned to the child’s thoughts and feelings will inevitably contribute to the overall positive wellbeing of the child and their capacity to learn (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

The Kids and Traffic Early Childhood Road Safety Education Program (n.d.) funded by the NSW Centre for Road Safety has recognised the importance of the EYLF in providing best practice road safety education. This program focuses upon providing support for educators in regard to building an early childhood road safety curriculum that involves purposeful interactions with both children and families (Kids and Traffic Early Childhood Road Safety Education Program, n.d.). For example, parents are actively involved in community walks and excursions supporting best practice road safety education where children’s confidence is promoted and positive relationships are nurtured.

The Child Health Promotion Research Centre’s, Walk with your Kids project also emphasised the importance of secure, respectful and reciprocal relationships in their pedestrian safety program for early childhood (4-6 year old students) (Cross, Hall & Hamilton, 2007). In this program, teachers were encouraged to deliver a practical and interactive classroom curriculum which emphasised the importance of actively engaging students in practical learning strategies. This was supported by extensive parent education materials which encouraged parents to walk more with their children to model safer pedestrian strategies while talking with their children about what they were doing and why. This randomised comparison intervention trial found significant changes in parents' behaviour (hand holding), children’s road crossing behaviour and parent knowledge (Cross, Hall & Hamilton, 2007).
3.2.3.1.2 Partnerships

Families and educators collaborate and share responsibility to provide road safety education for children.

This EYLF principle identifies that families are a child’s most influential teachers (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). Therefore it is important that early childhood educators forge strong partnerships with families and have a shared understanding of one another’s expectations, attitudes and knowledge in order to further young children’s learning (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

According to Elliot (1999) as cited in Styles, Gan and Boschert (2007) parents are often able to identify they have a role in teaching road safety skills however they are less aware that children perceive them as their primary role models and imitate both their safe and unsafe road practices. Consequently, early childhood educators need to encourage parental involvement in road safety education as well as providing parents with the appropriate skills, knowledge and behaviours to be efficient trainers (Styles, Gan & Boschert, 2007). Educating parents on how to be effective trainers can present a number of challenges which may include resentment for being given the responsibility of teaching road safety instead of the education system, lack of understanding of how to teach their children about road safety and parents’ overestimating their child’s capabilities to adhering to safe road practices (NZ Transport Agency, 2009). Due to the primary role that parents play in promoting child road safety, it is essential that such barriers are overcome in order to equip parents with the required skills, knowledge and behaviours to become effective road safety educators.

A report by Styles, Gan and Boschert (2007) has reviewed currently published literature regarding the best approaches to implement when teaching preschool aged children about road safety. This report drew attention to appropriate road safety content preschool children, how and where they should be taught this information, whom should be involved in the delivery of this education and what resources should be utilised. From this reviewed research, a series of best practice guidelines for road safety education for preschool aged children were developed. These guidelines were divided into three sections, one of which discussed what a road safety education program should teach parents which included:
• Children’s limitation in coping with traffic
• To closely supervise their child when near traffic
• To create opportunities for road safety vocabulary development
• About getting in and out of vehicles and the importance and use of appropriate child-restraints
• About the importance of safe and unsafe places to walk and play
• How to be a good road safety role model
• The importance of continuous real-world lessons and practice; and
• How to be an effective trainer of their child

(Styles, Gan & Boschert, 2007, p.17)

The significant focus upon parental involvement in these guidelines reinforces the pivotal role that parents and families play in influencing their child’s learning. However, the fact that these guidelines are primarily educational content specific and lack the evidence and support of the EYLF limits their application and adaptability across different early childhood educational settings.

Styles, Gan and Boschert (2007) evaluated several road safety education programs against these best practice guidelines. The VicRoads Starting Out Safely early childhood road safety education program, which commenced in 1989, was developed with the aim of providing road safety education and support to parents and carers of children under six years of age. Starting Out Safely was found to have the greatest emphasis on parental involvement than the other evaluated programs. Within the evaluation of this program conducted in 2010, observational findings indicated that parents were more actively involved in their child’s road safety education post program implementation where almost half of all parents were observed to be stopping with their children to check traffic when crossing a road as compared to 26% before the program was implemented (Hall, Shaw & Cross, 2011).

The Walk with Your Kids program, also promoted the importance of partnerships by engaging both the early years teachers, parents and the broader school community in efforts to improve safe road crossing practices (Cross, Hall & Hamilton, 2007). This was achieved by encouraging parents to ‘walk with their kids’ more to provide practical, on-road, safe and opportunistic teaching practices. The underlying principles of this program were that parents could not effectively teach safe road crossing practices to their children if they did not walk more with their children. The combination of school and family-based resources was effective in improving intervention condition parents’ self-reported hand holding every time they crossed a road and their general pedestrian safety knowledge as well as specific road crossing knowledge and practice.
3.2.3.1.3 High expectations and equity

Educators make curriculum decisions that promote inclusion and participation of all children in road safety education.

This principle of the EYLF describes how children are able to progress their learning when they, their parents and educators have high expectations of what they can achieve (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). Achieving this principle requires educators to enhance their own professional development, knowledge and skills so they are able to recognise when curriculum changes need to be initiated to promote equitable opportunities for all children to participate and to maximise their opportunity to learn (Australian Government Department of Education, Employment and Workplace Relations, 2009).

The Kids and Traffic Early Childhood Road Safety Education Program (n.d) and the VicRoads Starting Out Safely early childhood road safety education program both have a strong emphasis on enhancing professional learning by providing free road safety education workshops to early childhood educators and students studying early childhood. These workshops, delivered by early childhood leaders, are designed to support educators to plan and implement early childhood road safety education. These workshops also provide educators with the opportunity to collaborate with colleagues, other educators and experts within the road safety field, to support effective road safety education.

Similarly, the Walk with Your Kids project, implemented as part of a randomised comparison trial, provided professional learning opportunities for teachers to enhance their practical understanding of young children’s developmental limitations when crossing roads as well as describing effective intervention strategies (Cross, Hall & Hamilton, 2007).

3.2.3.1.4 Respect for diversity

Respect diversity within families and communities when engaging parents, carers and children in road safety education.

Educators demonstrate their respect for diversity by actively engaging and working with families and communities in the development and delivery of road safety education. By respecting diversity, road safety education will be appropriate and highly relevant for the children in that community.

A key component of the VicRoads Starting Out Safely early childhood road safety education program is the delivery of child restraint education sessions for culturally and linguistically diverse communities (VicRoads 2012).
The Kids and Traffic Early Childhood Road Safety Education Program, promotes engagement with families about the travel journeys they have with their children and any support they may need relating to road safety. This educational strategy promotes respect towards the individual families and enables road safety learning to be tailored to each child (Kids and Traffic Early Childhood Road Safety Education Program, n.d).

3.2.3.1.5 **Ongoing learning and reflective practice**

*Engage in reflective practices and ongoing professional learning to inform road safety education for parents, carers, children and communities.*

Reflective practice is a tool often adopted by many professionals to promote ongoing learning whereby “Its intention is to gather information and gain insights that support, inform and enrich decision making...” (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 13). Within the early childhood education setting, educators engage in reflective practice to continually improve the learning environment for the children in their education and care.

The VicRoads Starting Out Safely early childhood road safety education program and the Kids and Traffic Early Childhood Road Safety Education Program (n.d) workshops both offer an opportunity for educators to reflect upon their practice and their delivery of road safety education. Furthermore, they provide an opportunity for collaboration with other educators to discuss how to optimize learning experiences, to brainstorm ideas and ways to assess and document a child’s progress. The Kids and Traffic Early Childhood Road Safety Education Program also highlights the importance of taking children on community walks or other excursions to facilitate practical road safety education as well as reflective practice (Kids and Traffic Early Childhood Road Safety Education Program, n.d).

3.2.3.2 **Road safety evidence in the Early Years Learning Framework Practices**

The five EYLF principles described in the previous section underpin pedagogical practices in early childhood education. The EYLF describes eight practices to promote children’s learning. The road safety literature was reviewed in relation to each EYLF practice.
3.2.3.2.1 Holistic approaches

Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education

A child’s ability to learn is a complex interplay between their physical, personal, social, emotional and spiritual wellbeing (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). When educators provide a learning environment recognising these connections and the connections between children, families and communities, the child’s ability to learn is maximised.

The Way2Go program is a multifaceted South Australian road safety program that has endeavoured to encompass a holistic approach. This program includes involvement from the education system as well as the local council and community groups and comprises three age appropriate resource kits (Early Years: Pre-primary to Year 1, Primary Years: Years 3 to 5 and Middle Years: Years 6 to 7) for schools (Raftery & Wundersitz, 2011). Within the Early Years component there is a focus upon pedestrian, passenger, cycling safety and play safety near roads (Raftery & Wundersitz, 2011). Local councils and community groups are encouraged to help improve children’s physical environment through improving infrastructure, such as footpaths and school crossings. This multifaceted approach and focus on adapting the physical environment demonstrates recognition for the fact that children learn through their interactions with their environment. At the time of writing this review, the Way2Go program has not been evaluated for its effectiveness.

The Walk with your Kids program, implemented by Edith Cowan University through a longitudinal intervention research trial also encompassed classroom, home and whole-school strategies to encourage parents to walk with their children to model safe road crossing behaviours (Cross, Hall & Hamilton, 2007). The combination of these three elements resulted in increases in parents’ self-reported hand holding every time they crossed a road and their general pedestrian safety knowledge as well as specific road crossing knowledge and practice.

3.2.3.2.2 Responsiveness to children

Deliver road safety education which is responsive to individual children and extends children’s strengths, knowledge and interests

When educators or caregivers are attuned and respond promptly to a child’s communication and interaction signals it can result in the child being able to build upon their strengths, skills and knowledge (Dunst & Trivette, 2009; Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). In addition, educators need to be receptive to children’s ideas and be able to incorporate these into the curriculum (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). Being responsive to children is pivotal when addressing road safety as it motivates children to learn and helps to build trust.
and respect between the educator and child (Australian Government Department of Education, Employment and Workplace Relations, 2009).

Very little evidence is available in the current scientific literature to describe how road safety programs are responsive to children and the effectiveness of these strategies. Future research is required to unpack the mechanisms for making road safety programs responsive to young children’s needs.

3.2.3.2.3 Learning through play

Through play-based learning seek opportunities to address road safety in a way that expands children’s thinking and encourages problem solving.

The Researching Effective Pedagogy in the Early Years (REPEY) project found the most effective early years learning setting provides a balance between intentional, teacher–driven work and child-selected, potentially instructive play activities (Siraj-Blatchford & Sylva, 2004). By enabling children to engage in such play activities, it enables them to “discover, create, improvise and imagine” (Australian Government Department of Education, Employment and Workplace Relations, 2009, p. 15). Furthermore, play provides children with the opportunity to engage in sustained-shared thinking, enhancing their ability to critically solve problems, ask questions and socially interact with others.

The VicRoads Starting Out Safely early childhood road safety education program is designed to support educators in developing play based learning opportunities for children. The program character, ThingleToodle, has physical features to visually engage children in learning about key road safety messages such as “Stop, Look, Listen and Think”. ThingleToodle has large feet (to stop), large eyes (to look) and large ears (to listen). ThingleToodle education sessions are delivered to kindergarten programs throughout Victoria. ThingleToodle evaluation statistics indicate that approximately 95% of children are able to recall the ThingleToodle character, post visit. Additionally, 60% or higher are able to recall a wide variety of the road safety messages delivered in the ThingleToodle program (Maddern & Wilson, 2007b).

The Smart Steps program developed by the School Drug Education and Road Aware (SDERA) also recognises the pivotal role of play in a child’s learning process. Smart Steps has devised a series of online resources such as games, puzzles, stories, songs, colouring in activities and cooking tasks (Department of Education, 2012). All of these resources deliver road safety messages in a fun, playful manner and like the VicRoads Starting Out Safety program, a character is at the centre of these activities – Izzy the dinosaur.
3.2.3.2.4 Intentional teaching

Engage in intentional teaching which extends and expands children's learning about road safety.

Educators engage in intentional teaching to support and extend children’s learning. Intentional teaching can be defined as “deliberate, purposeful and thoughtful” (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 15). Educators should be able to draw upon their knowledge, a range of strategies and resources to deliver their curriculum.

The Walk with your Kids project encouraged parents to adopt intentional teaching strategies whenever they were walking, riding or driving with their child in order to maximise the relevance of road safety education while in real-world situations (Cross, Hall & Hamilton, 2007). Intentional teaching strategies included holding their child’s hand, discussing road safety scenarios and solutions as they arise and describing the importance of key road safety strategies and actions.

3.2.3.2.5 Learning environments

Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.

To facilitate optimal learning for children within the early childhood years a warm, welcoming environment needs to be created. Such environments also need to be flexible, vibrant and cater for the different learning needs of children (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). In particular, the EYLF practice relating to ‘learning environments’ describes the importance of engaging in many different learning spaces including indoor and outdoor, technological learning environments and connecting young people with families and the broader community to enrich learning. Many of the resources reviewed demonstrate these principles where young people’s learning is extended through multiple learning environments.

Research shows that if children are exposed to a learning environment that merely focuses upon teaching the rules of road safety it is not likely they will be able to implement them in the required ‘real world’ situation (Elliot, 1999 as cited in Styles, Gan & Boschert, 2007). However, if these rules are coupled with a learning environment that promotes practical roadside training then it is more likely to be effective for children adopting appropriate road safety behavioural skills. Recent research has also described the need for a greater focus on concept formation in early childhood education settings in order to promote effective learning (Department of Education and Early Childhood Development, 2008) and practical roadside training enables this concept formation to take place. Indeed the EYLF also highlights the importance of embracing the outdoor learning environments to encourage “open-ended interactions, spontaneity, risk-taking, exploration, discovery and connection with nature” (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009, p. 16).
The WalkSafe program (Hotz et al., 2004) conducted in the United States recognised the need for a welcoming, interactive learning environment with a focus on roadside training. WalkSafe week formed part of this program and involved classroom education, videos and outdoor stimulation (Hotz et al., 2004). This program produced favourable outcomes, with children being more likely to stop and look when crossing the road. These favourable outcomes were more likely to occur within the kindergarten classes.

Similarly, the Walk with Your Kids project utilised parents to provide the on-road practical application of concepts introduced in the classroom. This approach was chosen to maximise the sustainability of the intervention beyond the life of the classroom curriculum by empowering parents to understand their important role as road safety ambassadors for their young children (Cross, Hall, Hamilton, 2007). Indeed, many resources and programs including the VicRoads Starting Out Safely Program and the Kids and Traffic Early Childhood Road Safety Education Program involve parents as critical partners in the learning process.

3.2.3.2.6 Cultural competence

Implement road safety education that is culturally relevant for the diversity of children, their families and the community.

Cultural diversity is a significant part of Australian life and forms a critical element for early childhood educators to demonstrate respect for the diversity of the children in their care and their families. Moreover the EYLF requires early childhood educators to move beyond simply being aware of cultural diversity to understanding how cultural differences shape young people’s sense of being and belonging. Early childhood educators are also charged with the role of increasing children’s cultural competence by developing positive attitudes toward differences, exploring new cultures and developing children’s skills to communicate and interact across cultures (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

Whilst there is limited evidence within current road safety programs in regard to how they have incorporated cultural competence, the 2009 evaluation report from the NSW Early Childhood Road Safety Education Program (Kids and Traffic) recognises the cultural diversity across many of their early childhood education centres. Almost 20% of the early childhood education centres had at least half of their children from non-English speaking families (Hodge, Merlene, Hart, Thaler, Maloney & Yorkston, 2009). Further, the VicRoads Starting Out Safely program delivers child restraint education sessions to culturally and linguistically diverse communities.

The Buckle Up Safely project is an educational intervention aimed at increasing the use of child restraints in 3-5 year olds (The George Institute, 2010). This program predominately aims to address child restraint issues among the Indigenous population (Hunter et al., n.d.). As part of this program, a key objective was to identify the barriers to child restraint use specific to the Australian Indigenous population and to devise interventions to overcome these barriers, in a culturally appropriate manner. The core components of the
program were workshops for carers and parents, strategies for educators to use to incorporate road safety messages into the curriculum and subsidised child restraints and booster seats (The George Institute, 2010). These core components were devised and based upon the inhibiting and facilitating factors to child restraint use identified through the running of focus groups (Hunter et al., n.d).

The resources used in the Walk with your Kids project were translated into many different languages to account for the significant non-English speaking student/family population in the study (Cross, Hall & Hamilton, 2007). While the translation of the resources was not evaluated, the significant changes in parental hand-holding behaviours in this population may be explained by the efforts to account for different population needs.

This Early Years Learning Framework practice should be apparent in an educator’s everyday teachings in order to promote a supportive learning environment. Educators should be aware of their own world, hold positive attitudes towards the cultural differences that may exist within their educational setting, gain an understanding of these cultural difference and seek the skills to be able to communicate to a diverse number of cultures (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

3.2.3.2.7 Continuity of learning and transitions

Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education.

Transitions include the move between home to an early childhood education setting or from an early childhood education setting to school. Each of these settings and transitional periods present unique learning opportunities. As a result, it is important for educators and parents to recognise these opportunities and work together in preparing the child for each transition. By educators and families working to build upon a child’s current experiences, encouraging confidence and feelings of security it contributes to a successful transition (Australian Government Department of Education, Employment and Workplace Relations, 2009).

The appropriate use of child restraints is an issue that commonly arises during the physical transition between home and the education setting. Ivers et al. (2011) recognised this issue and therefore developed a cluster intervention research trial to explore the effectiveness of using pre-school and child care settings to provide parental/educator information sessions and brochures on the appropriate use of child restraints. The results of this trial are yet to be published; however it aims to demonstrate that these settings are effective and credible in delivering such road safety education material to parents. The study also aims to demonstrate if such educational programs can change parental behaviours pertaining to the correct use of child restraints (Ivers et al., 2011). Consequently, this study will also examine the effectiveness of educators and families being able to work collaboratively and cohesively across the education and home settings.
3.2.3.2.8 Assessment for learning

Together with children and families, reflect on each child’s learning and application of road safety to plan for future learning.

This EYLF practice refers to the process of obtaining and analysing information on what each child is capable of doing, the knowledge they have learnt and what they understand. Being able to effectively assess and measure a child’s learning enables the child, families, educators and other professionals to evaluate how much a child has progressed in their learning. It also gives educators an insight into the concepts, activities or education programs that have worked well for that child, those that could be improved and the mechanisms for this improvement.

A number of strategies can be used by educators to obtain, document and evaluate the information they gather when assessing a child’s learning. Professional learning workshops, like those identified in the Kids and Traffic Early Childhood Road Safety Education Program and VicRoads Starting Out Safely program, enable educators, from a broad range of backgrounds, to collaborate and devise new ways of assessing learning.

The five learning outcomes of the Early Years Learning Framework, outlined in section 4.3, provides educators with a reference point to measure, document and evaluate a child’s progress.

3.2.4 Summary

Traditionally road safety programs for early childhood have focussed on teaching children how to cross a road safely, recognise safe and unsafe places to cross a road, get in and out of a vehicle safely and the importance of having adult supervision whilst near a road (Styles, Gan, Boschert, 2007). However, effectively delivering and evaluating these road safety messages to very young children and their parents or caregivers can pose a challenge.

The EYLF was developed from evidence-based research relating to how children learn during early childhood and the unique developmental phases that distinguish these years. The purpose of this review was to correlate road safety evidence to the EYLF however there is limited evaluated programs to draw upon.

The National Practices for Early Childhood Road Safety Education are aligned to the EYLF and seek to enhance and maximise a child’s capacity to learn about road safety in the context of family and community.
3.3 Stage Two: Development of National Practices for Early Childhood Road Safety Education

3.3.1 Framework

At the commencement of this project current theoretical frameworks which endeavour to explain how young children learn were examined. Upon reviewing this literature, it was well recognised that the EYLF currently plays a pivotal role in shaping the curriculum development and learning of young children within the Australian early childhood education system. For this reason, the decision was made to utilise this framework to develop the National Practices for Early Childhood Road Safety Education.

The EYLF has been developed through collaborative input from experts within the early childhood sector, early childhood academics and the Australian, State and Territory Governments (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009). This framework also draws upon conclusive research evidence that early childhood is an imperative period in a child’s learning and development (Australian Government Department of Education, Employment and Workplace Relations for the Council of Australian Governments, 2009).

A research paper developed by the Department of Education and Early Childhood Development (2008) highlights some of this evidence used to inform the development of the EYLF. These areas of research can be summarised as follows:

- **Recognition of the significance of the early childhood period.** Research conducted within this field demonstrates that early childhood learning, brain growth and development is significant and largely influenced by the relationships and attachments that children develop with their parents, carers and other caregivers.

- **Improving life chances.** Recent research has indicated that positive outcomes result when adults actively engage with children’s learning.

- **Quality early childhood education impacting upon later school success.** The importance of early childhood educators recognising and adopting concept formation into their education is paramount. Research has demonstrated that by providing a greater focus upon concept formation within early learning contexts, it enhances a child’s experiences and capacity to learn.

- **Better outcomes for children when learning contexts are engaging, responsive and stimulating.** In order to implement effective pedagogy, a balance between intentional and play based learning needs to be provided. This balance enables children to participate in engaging, responsive and stimulating learning opportunities that also provokes sustained shared thinking.

- **Better outcomes for children when learning contexts are mutually constituted through families and professionals working together.** The primary focus of this research relates to early childhood educators and families working together and promoting learning programs that are culturally sensitive and diverse.
This early education and care evidence eventually led to the development of the EYLF principles, practices and learning outcomes. These elements have been described in detail in section 3.2 of this report. This evidence-base of the EYLF enables the National Practices for Early Childhood Road Safety Education to be grounded in a systematic and firm framework, enhancing their applicability and implementation across Australian early education settings.

3.3.2 Development of the National Practices for Early Childhood Road Safety Education (first draft)

The development of the National Practices for Early Childhood Road Safety Education occurred after reviewing all available literature. Summaries of evidence such as the prevalence of road injury, road safety programs currently being taught and road safety risk factors for children in their early years, were prepared and reviewed. These summaries, along with the research conducted on the EYLF led to the development of the first draft statements. In this first draft, the CHPRC staff compiled one to three ‘statements’ for every principle and practice of the EYLF. The statements were then reviewed by the VicRoads team. These first draft statements are presented in the table below:
## Early Years Learning Framework Element

<table>
<thead>
<tr>
<th>Element description</th>
<th>Sub-components to the principles</th>
</tr>
</thead>
</table>
| 1. Secure, respectful and reciprocal relationships | 1.1.1 Implement early childhood road safety programs that build purposeful, engaging interactions between children, their families and educators.  
1.1.2 Promote the importance of helping young children choose safer places to walk and play and be a safer passenger in a vehicle.  
1.1.3 Ensure road safety programs are implemented with small carer to child ratios to ensure children are in a safe and secure environment when practising road safety skills. |
| 2. Partnerships with families | 1.2.1 Forge strong partnerships with families and have a shared understanding of one another’s expectations, attitudes and knowledge about effective road safety skills for children.  
1.2.2 Provide parents with the appropriate skills, knowledge and behaviours to be effective road safety education trainers.  
1.2.3 Engage parents in an understanding of the pivotal role they play in modelling safe road safety behaviours fostered by the unique and secure bond they have developed with their child. |
| 3. High expectations and equity | 1.3.1 Support early years’ educators and practitioners to continually enhance their own professional learning in relation to the key knowledge and skills required for early childhood road safety education.  
1.3.2 Provide parents with professional learning resources to ensure they are able to implement road safety strategies which have the greatest opportunity to improve their child’s road safety practices. |
| 4. Respect for diversity | 1.4.1 Actively engage and work with families and their specific communities in the development and delivery of early childhood road safety programs.  
1.4.2 Where appropriate, tailor road safety programs to the developmental and cultural needs of the target audience. |
| 5. Ongoing learning and reflective practice | 1.5.1 Encourage early years educators to regularly engage in reflective practice in order to continually improve early childhood road safety programs.  
1.5.2 As often as possible update educator and parent resources based on feedback from participants and current road safety evidence. |

## 2. Practices

<table>
<thead>
<tr>
<th>Element description</th>
<th>Sub-components to the principles</th>
</tr>
</thead>
</table>
| 1. Holistic approaches | 2.1.1 Implement early childhood road safety programs that promote childrens’ physical, social, emotional, spiritual and cognitive wellbeing.  
2.1.2 Ensure road safety programs consider children’s developing physical, sensory and cognitive abilities for crossing roads safely.  
2.1.3 Ensure road safety programs engage with early years’ educators, parents, local government, state government and other service providers who have a role in shaping the road environment in which young people learn. |
| 2. Responsiveness to children | 2.2.1 Develop early childhood road safety programs that are flexible and can provide children with the opportunity to add their own ideas to the curriculum, in an appropriate manner, such as engaging with young children through interactive media and practising road safety skills on road.  
2.2.2 Be attuned and respond appropriately to children's communication and interaction signals, particularly when in the road environment. |
| 3. Learning through play | 2.3.1 Implement early childhood road safety programs that have a focus on play based learning activities.  
2.3.2 Utilise music, stories and other developmentally appropriate 'play' based strategies to promote key road safety messages. |
| 4. Intentional teaching | 2.4.1 Establish early childhood road safety programs that include a variety of intentional teaching resources.  
2.4.2 Establish early childhood road safety programs that provide a balance between spontaneous and intentional teaching techniques.  
2.4.3 Engage parents in the implementation of road safety programs to embed intentional, opportunistic teaching practices into their everyday lives. |
| 5. Learning environments | 2.5.1 Implement early childhood road safety programs that provide a warm, welcoming and safe environment.  
2.5.2 Promote the use of a safe learning environment that encourages practical roadside training and concept formation.  
2.5.3 Promote parental understanding of their role as road safety ambassadors through their actions every time they drive, walk or cycle with their children.  
2.5.4 Engage parents to deliver on-road practical road safety skills sessions with their children every time they drive, walk or cycle together to enhance sustainability of the key messages. |
| 6. Cultural competence | 2.6.1 Implement early childhood road safety programs that demonstrate respect for the cultural diversity of children and their families. |
| 7. Continuity of learning and transitions | 2.7.1 Implement early childhood road safety programs that promote parent and educator collaboration.  
2.7.2 Implement road safety education by practitioners and families across all early years settings by practitioners and families for effective, ongoing learning. |
| 8. Assessment for learning | 2.8.1 Together with families, discuss and reflect on each child's learning about road safety, and use the Early Years Learning Framework Outcomes to document progress. |

| 3. Learning Outcomes | Children have a strong sense of identity  
Children are connected with and contribute to their world  
Children have a strong sense of wellbeing | 3.0 Establish and implement early childhood road safety programs that consider the Early Years Learning Framework Learning Outcomes. |
| Children are confident and involved learners  
| Children are effective communicators |
Upon review of these first draft statements the VicRoads team agreed that the statements be aligned with the EYLF. VicRoads, on behalf of RSERGA, recommended developing ‘higher level’ statements to reduce the number of statements. The second draft statements, developed in collaboration with VicRoads, were:

**National Practices for Early Childhood Road Safety Education (second draft)**

1.1 **Secure, respectful and reciprocal relationships**  
Engage young children in purposeful road safety education in a safe, supportive and respectful environment.

1.2 **Partnerships with families**  
Build meaningful partnerships with families to provide effective road safety education for children.

1.3 **High expectations and equity**  
Engage in professional learning to support equitable road safety education curriculum decisions.

1.4 **Respect for diversity**  
Consider and respond to diversity within families and local communities when engaging parents, carers and children in road safety education.

1.5 **Ongoing learning and reflective practice**  
Engage in reflective practices and ongoing learning to inform road safety education for parents, carers and children.

2.1 **Holistic approaches**  
Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education.

2.2 **Responsiveness to children**  
Deliver road safety education which is responsive to individual children and extends children’s skills, knowledge and interests.

2.3 **Learning through play**  
Provide play-based learning opportunities about road safety which expand children’s thinking and encourages problem solving.

2.4 **Intentional teaching**  
Engage in intentional teaching which extends and expands children’s learning about road safety.

2.5 **Learning environments**  
Provide opportunities in the learning environment, including local community, for safe and meaningful interaction with children, parents and carers about road safety.

2.6 **Cultural competence**  
Implement early childhood road safety programs that demonstrate respect for the cultural diversity of children and their families.
2.7 Continuity of learning and transitions
Support children’s transitions between and within early childhood settings by delivering developmentally appropriate road safety education in active partnership with children, families and the local community.

2.8 Assessment for learning
Together with families, discuss and reflect on each child’s learning about road safety, and use the Early Years Learning Framework Outcomes to document progress, and plan for future learning.

3.4 Stage Three: Expert Consultation and Validation
The second draft statements were next validated and refined by a panel of experts.

Please note: At this stage in the research, the statements were referred to as ‘principles’, not ‘practices.’

3.4.1 Delphi Technique Round One
Twenty five experts responded to the Round 1 of the Delphi process. Each expert was asked to review the drafted statements and indicate to what extent they (a) agreed with each principle’s inclusion; and (b) the ease by which each principle could be implemented into practice. A large percentage of the panel agreed with the inclusion of each of the suggested principles. Principle 2.1, for example produced a ‘strongly agree’ percentage of 87%, with an additional 4.3% agreeing with the inclusion of this principle.

Overall, the thirteen principles were rated positively by the panel in regards to how easy they would be to implement. Principle 1.1 and Principle 2.3 rated the highest with 41.7% and 45.8%, respectively, stating that these two principles would be “very easy” to implement. Some concern relating to implementing Principle 1.4: Consider and respond to diversity within families and local communities when engaging parents, carers and children in road safety education was apparent amongst the panel, with 50% stating that it would be “not easy” to implement. Within the qualitative data, general comments were made regarding making slight modifications to the wording of the principles to improve their readability. The quantitative results from Round 1 are presented in Table 2 alongside the Round 2 feedback.

3.4.2 Road Safety Education Workshop
In addition to the expert validation obtained via the Delphi technique, further feedback on the draft statements was sought through a workshop held in Melbourne, Victoria. This four hour workshop after the Round 1 Delphi feedback comprised 13 nationally representative road safety and early childhood experts. The purpose of this workshop was to refine the national principles prior to Round 2 of the Delphi technique. Group activities were also conducted at this workshop to determine how the panel
thought each of these principles could be applied in practice and what potential barriers may inhibit their implementation. In particular, the panel was asked to review each principle and comment on the following questions:

1. How does this principle address the EYLF?
2. Is this principle consistent with the intention of the EYLF?
3. Do you have any other comments or suggestions to make in regards to this principle?
4. What would this principle look like in practice?
5. What are the potential barriers to the principle’s implementation?

The feedback obtained from these group activities were obtained on graffiti sheets and are presented in Appendices 1 and 2.

Most workshop participants understood the intention of each principle and their alignment with the EYLF. The feedback presented in Appendices 1 and 2 were reviewed by the research team to depict common themes in the participants’ responses. Suggestions were made by the participants to consider the practicality of how these principles could be operationalised in early childhood education settings and to adjust the wording of some of the principles to improve their clarity. Further feedback focused on identifying some of the common barriers that may impact the implementation of these principles. Some of these barriers included:

- Educators, parents/carers have a lack of time to provide road safety education;
- Educators’ perception of the priority for road safety;
- Lack of knowledge or teaching road safety experience;
- Lack of resources or unable to find appropriate resources.

### 3.4.3 Revision of Draft Statements

At the conclusion of Round1 of the Delphi process and the road safety education workshop, recommendations were made for modifications to the draft statements. Examples of some of the specific wording changes that were made include:

- Deleting the word ‘purposeful’ in Principle 1.1 as this refers to road safety education always having to be deliberate and does encompass using everyday interactions to teach road safety;
- “And communities” added to Principle 1.5 as collaboration with local communities to shape curriculum development is a key part of utilising the EYLF;
- Rewording Principle 2.6 to include “culturally relevant” and “community”; and
- Rewording Principle 2.7 to include “use the opportunity of transitions”.

After taking into account this feedback, the draft statements for Early Childhood Road Safety Education were refined by the CHPRC team in consultation with VicRoads. The draft statements that incorporate these modifications are presented in sections 3.4.5 and 4.2.
3.4.4 Delphi Technique Round Two

After the workshop, the revised second draft statements were incorporated into a second Delphi questionnaire and sent to panel members. This second questionnaire followed the same format as the first with the addition of the panel member's initial comments, ratings and the group averages from Round 1. This round resulted in 68% (n=17) of the panel members responding to the questionnaire. Table 2 presents the group responses to both Round 1 and Round 2 of the Delphi process.
3.4.4.1 **Quantitative results from Round 1 and Round 2**

**Table 2: Group responses to Round 1 and 2 Questionnaire**

<table>
<thead>
<tr>
<th>National Principles for Early Childhood Education</th>
<th>Round 2 Revised Principles</th>
<th>To what extent do you agree or disagree with the inclusion of this principle?</th>
<th>How easy would this principle be to implement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1 Principles</td>
<td>Round 2 Revised Principles</td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td>1.1 Engage young children in purposeful road safety education in a safe, supportive and respectful environment.</td>
<td>Support children’s road safety learning through everyday interactions and conversations with them and their families, in a respectful environment.</td>
<td>R1</td>
<td>68% (n=17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
<td>76.5% (n=13)</td>
</tr>
<tr>
<td>1.2 Build meaningful partnerships with families to provide effective road safety education for children.</td>
<td>Families and educators collaborate and share responsibility to provide road safety education for children.</td>
<td>R1</td>
<td>76% (n=19)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
<td>82.4% (n=14)</td>
</tr>
<tr>
<td>1.3 Educators make curriculum decisions that promote inclusion and participation of all children in road safety education.</td>
<td>Educators make curriculum decisions that promote inclusion and participation of all children in road safety education.</td>
<td>R1</td>
<td>54.5% (n=12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
<td>76.5% (n=13)</td>
</tr>
</tbody>
</table>
### Table 2 (continued)

<table>
<thead>
<tr>
<th>National Principles for Early Childhood Education</th>
<th>To what extent do you agree or disagree with the inclusion of this principle?</th>
<th>How easy would this principle be to implement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1 Principles</td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td>1.4 Consider and respond to diversity within families and local communities when engaging parents, carers and children in road safety education.</td>
<td>Respect diversity within families and communities when engaging parents, carers and children in road safety education.</td>
<td>R1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
</tr>
<tr>
<td>1.5 Engage in reflective practices and ongoing learning to inform road safety education for parents, carers and children.</td>
<td>Engage in reflective practices and ongoing professional learning to inform road safety education for parents, carers, children and communities.</td>
<td>R1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
</tr>
<tr>
<td>2.1 Recognise that children's learning is integrated and interconnected when making curriculum decisions about road safety education.</td>
<td>Recognise that children's learning is integrated and interconnected when making curriculum decisions about road safety education</td>
<td>R1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R2</td>
</tr>
</tbody>
</table>
### Table 2 (continued)

<table>
<thead>
<tr>
<th>National Principles for Early Childhood Education</th>
<th>Round 2 Revised Principles</th>
<th>To what extent do you agree or disagree with the inclusion of this principle?</th>
<th>How easy would this principle be to implement?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td>2.2 Deliver road safety education which is responsive to individual children and extends children's skills, knowledge and interests.</td>
<td>R1</td>
<td>79.2% (n=19)</td>
<td>12.5% (n=3)</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>82.4% (n=14)</td>
<td>11.8% (n=2)</td>
</tr>
<tr>
<td>2.3 Provide play-based learning opportunities about road safety which expand children’s thinking and encourages problem solving.</td>
<td>R1</td>
<td>83.3% (n=20)</td>
<td>8.3% (n=2)</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>94.1% (n=16)</td>
<td>-</td>
</tr>
<tr>
<td>2.4 Engage in intentional teaching which extends and expands children’s learning about road safety.</td>
<td>R1</td>
<td>69.6% (n=16)</td>
<td>21.7% (n=5)</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>88.2% (n=15)</td>
<td>5.9% (n=1)</td>
</tr>
<tr>
<td>National Principles for Early Childhood Education</td>
<td>To what extent do you agree or disagree with the inclusion of this principle?</td>
<td>How easy would this principle be to implement?</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>2.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 1 Principles</td>
<td>Round 2 Revised Principles</td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>69.6% (n=16)</td>
<td>13% (n=3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.5% (n=13)</td>
<td>5.9% (n=1)</td>
</tr>
<tr>
<td>2.6 Implement road safety education that demonstrates respect for the cultural diversity of children and their families.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 1 Principles</td>
<td>Round 2 Revised Principles</td>
<td>62.5% (n=15)</td>
<td>4.2% (n=1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64.7% (n=11)</td>
<td>11.8% (n=2)</td>
</tr>
<tr>
<td>2.7 Support children's transitions between and within early childhood settings by delivering developmentally appropriate road safety education in active partnership with children, families and the local community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 1 Principles</td>
<td>Round 2 Revised Principles</td>
<td>70.8% (n=17)</td>
<td>8.3% (n=2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.5% (n=13)</td>
<td>-</td>
</tr>
</tbody>
</table>
### Table 2 (continued)

<table>
<thead>
<tr>
<th>National Principles for Early Childhood Education</th>
<th>Round 2 Revised Principles</th>
<th>To what extent do you agree or disagree with the inclusion of this principle?</th>
<th>How easy would this principle be to implement?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td><strong>Round 1 Principles</strong></td>
<td><strong>Round 2 Revised Principles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.8 Together with families, discuss and reflect on each child’s learning about road safety, and use the Early Years Learning Framework Outcomes to document progress, and plan for future learning.</td>
<td>Together with children and families, reflect on each child’s learning and application of road safety to plan for future learning.</td>
<td>Strongly agree</td>
<td>Agree</td>
</tr>
<tr>
<td><strong>R1</strong></td>
<td></td>
<td>58.3% (n=14)</td>
<td>29.2% (n=7)</td>
</tr>
<tr>
<td><strong>R2</strong></td>
<td></td>
<td>64.7% (n=11)</td>
<td>23.5% (n=4)</td>
</tr>
</tbody>
</table>

**Round 1 responses (n=25) and Round 2 (n=17)**
Overall, there was a positive response to the inclusion of each of the National Practices for Early Childhood Road Safety Education. The wording changes made due to feedback from Round 1 of the Delphi process and the road safety education workshop resulted in improved agreement with the revised principles and all but Principle 1.4 (Respect diversity within families and communities when engaging parents, carers and children in road safety education) and Principle 2.6 (Implement road safety education that is culturally relevant for the diversity of children, their families and the community) became easier to implement. This section highlights the principles that produced strong responses (positive or negative) amongst the panel members. Potential rationales for these responses were also analysed.

Principle 1.1 produced a strong level of agreement amongst panel members throughout the consultation and validation process with most respondents either agreeing (17.6%) or strongly agreeing (76.5%) with its inclusion by the end of round 2. Similarly, the majority of respondents believed this principle would be very easy (58.8%, n=10) or moderately easy (29.4%, n = 5) to implement in early childhood education settings. Comments made throughout the Delphi Round 2 questionnaire reflect these results with respondents stating that this principle was very important to include and reflects the EYLF well. Similar results were achieved for Principle 1.2 yet slightly more concern was apparent in regards to how easy this principle would be to implement with 23.5% (n=4) believing it would not be easy to implement.

Principle 1.4 was rated highly in terms of agreement with its inclusion as a National Principle for Early Childhood Road Safety Education, however, 58.8% (n=10) felt that this principle would be difficult to implement. This concern was encompassed well within one panel member’s comment stating that in order to successfully implement this principle “Educators will need support and resources for sensitive delivery.”

Recognising that children’s learning is integrated and interconnected when making curriculum decisions about road safety education (Principle 2.1) and seeking play-based learning opportunities about road safety which expand children’s thinking and encourage problem solving (Principle 2.3) both produced the strongest level of agreement for inclusion out of all of the proposed principles (94.1%, n=16) at the conclusion of Round 2. Yet a slightly higher percentage of respondents felt that Principle 2.3 would be very easy to implement (58.8%, n= 10) in comparison to Principle 2.1 (29.4%, n= 5).

While more than half the respondents (64.7%, n=11) strongly agreed with the inclusion of Principle 2.6, 37.5% (n=6) stated that this principle would not be easy to implement. Some of this concern is evident within the qualitative data, where several panel members questioned the meaning of this principle and what was meant by ‘culturally relevant’. Another respondent commented that this principle was more complex as “cultural contexts are more complex.”

The proportion of respondents who strongly agreed with the inclusion of Principle 2.8 increased from 58.3% at Round 1 to 64.7% at Round 2. Similarly, there was an increase from 41.7% to 58.8% of
respondents stating that this principle would be moderately easy to implement. A possible explanation for these ratings may be related to the modifications to wording made at the end of Round 1; to improve the readability of the principle.

In Round 2 of the Delphi, common themes were identified in the qualitative comments. Several members of the panel expressed concern that thirteen national principles were too many and that the underpinning meanings of these principles could be encapsulated within a total of six or seven broad principles. However, review of these qualitative comments also demonstrated that the panel recognised the importance of developing these National Practices for Early Childhood Road Safety Education. Furthermore, there was a general consensus amongst the panel that the finalised principles were consistent with the EYLF and the wording had been made clearer in comparison to the proposed principles of Round 1.

### 3.4.5 Final National Practices for Early Childhood Road Safety Education

The National Principles for Early Childhood Safety Education encompass findings from the extensive literature review along with the valuable feedback obtained from the expert consultation and validation stage. The National Principles for Early Childhood Road Safety Education are presented in Table 3.

After the CHPRC provided a draft report to VicRoads and the RSERGA committee, VicRoads, on behalf of RSERGA, requested the first five principles (1.1 – 1.5) based on the ‘Principles’ of the EYLF be removed so the focus of the final Practices were the eight statements based on the EYLF ‘Practices’. This decision was based on the following reasons:

- Several members of the expert panel expressed concern that thirteen national principles were too many and that the meaning of these principles could be encapsulated within a total of six or seven broad principles.
- The first five principles are aligned with the EYLF principles. These principles underpin early childhood pedagogy. In other words, early childhood educators will be doing these things anyway in their work with children. They can therefore be removed with no impact or adverse outcome.

This change was accepted by the research team and final National Practices for Early Childhood Road Safety Education are presented in Table 4.
### Table 3: National Principles for Early Childhood Road Safety Education

<table>
<thead>
<tr>
<th>Early Years Learning Framework Element</th>
<th>Element description</th>
<th>National Early Childhood Road Safety Education Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Principles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Secure, respectful and reciprocal relationships</td>
<td>1. Support children’s road safety learning through everyday interactions and conversations with them and their families, in a respectful environment.</td>
<td></td>
</tr>
<tr>
<td>2. Partnerships with families</td>
<td>1.2 Families and educators collaborate and share responsibility to provide road safety education for children.</td>
<td></td>
</tr>
<tr>
<td>3. High expectations and equity</td>
<td>1.3 Educators make curriculum decisions that promote inclusion and participation of all children in road safety education.</td>
<td></td>
</tr>
<tr>
<td>4. Respect for diversity</td>
<td>1.4 Respect diversity within families and communities when engaging parents, carers and children in road safety education.</td>
<td></td>
</tr>
<tr>
<td>5. Ongoing learning and reflective practice</td>
<td>1.5 Engage in reflective practices and ongoing professional learning to inform road safety education for parents, carers, children and communities.</td>
<td></td>
</tr>
<tr>
<td><strong>2. Practices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Holistic approaches</td>
<td>2.1 Recognise that children's learning is integrated and interconnected when making curriculum decisions about road safety education.</td>
<td></td>
</tr>
<tr>
<td>2. Responsiveness to children</td>
<td>2.2 Deliver road safety education which is responsive to individual children and extends children's strengths, knowledge and interests.</td>
<td></td>
</tr>
<tr>
<td>3. Learning through play</td>
<td>2.3 Through play-based learning seek opportunities to address road safety in a way that expands children’s thinking and encourages problem solving.</td>
<td></td>
</tr>
<tr>
<td>4. Intentional teaching</td>
<td>2.4 Engage in intentional teaching which extends and expands children's learning about road safety.</td>
<td></td>
</tr>
<tr>
<td>5. Learning environments</td>
<td>2.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.</td>
<td></td>
</tr>
<tr>
<td>6. Cultural competence</td>
<td>2.6 Implement road safety education that is culturally relevant for the diversity of children, their families and the community.</td>
<td></td>
</tr>
</tbody>
</table>
| 3. Learning Outcomes | Children have a strong sense of identity  
|                      | Children are connected with and contribute to their world  
|                      | Children have a strong sense of wellbeing  
|                      | Children are confident and involved learners  
|                      | Children are effective communicators |
| 7. Continuity of learning and transitions | 2.7 Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education. |
| 8. Assessment for learning | 2.8 Together with children and families, reflect on each child’s learning and application of road safety to plan for future learning. |
Table 4: Final National Practices for Early Childhood Road Safety Education

<table>
<thead>
<tr>
<th>Early Years Learning Framework Element</th>
<th>Element description</th>
<th>National Early Childhood Road Safety Education Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Practices</td>
<td>1. Holistic approaches</td>
<td>1.1 Recognise that children's learning is integrated and interconnected when making curriculum decisions about road safety education.</td>
</tr>
<tr>
<td></td>
<td>2. Responsiveness to children</td>
<td>1.2 Deliver road safety education which is responsive to individual children and extends children's strengths, knowledge and interests.</td>
</tr>
<tr>
<td></td>
<td>3. Learning through play</td>
<td>1.3 Through play-based learning seek opportunities to address road safety in a way that expands children's thinking and encourages problem solving.</td>
</tr>
<tr>
<td></td>
<td>4. Intentional teaching</td>
<td>1.4 Engage in intentional teaching which extends and expands children's learning about road safety.</td>
</tr>
<tr>
<td></td>
<td>5. Learning environments</td>
<td>1.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.</td>
</tr>
<tr>
<td></td>
<td>6. Cultural competence</td>
<td>1.6 Implement road safety education that is culturally relevant for the diversity of children, their families and the community.</td>
</tr>
<tr>
<td></td>
<td>7. Continuity of learning and transitions</td>
<td>1.7 Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education.</td>
</tr>
<tr>
<td></td>
<td>8. Assessment for learning</td>
<td>1.8 Together with children and families, reflect on each child's learning and application of road safety to plan for future learning.</td>
</tr>
</tbody>
</table>
3.5 Limitations

While the overall research process involved in establishing the National Practices for Early Childhood Road Safety Education was comprehensive, several limitations exist. The practices were based on a review of the literature available and although every attempt to identify all available literature relating to early childhood road safety education was made, this only applies up to the time of writing this report and as such there may be “gaps” in the literature presented. Every effort was made to minimise this risk by conducting an extensive search complemented by the involvement of VicRoads whom forwarded information not necessarily accessible in the scientific literature. In addition, by aligning the National Practices for Early Childhood Road Safety Education with the evidence-base of the Early Years Learning Framework, the most recent and extensive evidence available for engaging young children in learning is engaged.

The validation of the National Practices for Early Childhood Road Safety Education was based on feedback from the expert panel, however this panel comprised representatives identified and selected by VicRoads and RSERGA members. Consequently, there may be additional experts that were equally suitable for inclusion, but did not receive the opportunity to participate. Additionally, the inclusion of the workshop between the two Delphi rounds resulted in disrupting the traditional format of the Delphi technique. The research teams at both CHPRC and VicRoads, however, felt that this alteration to the format provided an advantage to the study as it enabled further refinement and validation of the national practices.

3.6 Summary

This section presents the findings of the three stage research process of developing and validating the National Practices for Early Childhood Road Safety Education. Literature was sourced from an array of empirical, descriptive and theoretical literature pertaining to early childhood education and road safety. A ‘grey’ literature search was also conducted to source relevant government reports and other unpublished information. The literature retrieved defined current road safety programs available in Australia and internationally that are applicable to children in their early years as well as defining age specific learning and teaching styles and developmental considerations for effective road safety education of young children.
The development of the National Practices for Early Childhood Road Safety Education was based on the literature review findings and the first draft was reviewed by CHPRC and VicRoads staff prior to being sent out for external review. Twenty five experts provided consent to participate in the Delphi process used to validate the National Practices for Early Childhood Road Safety Education. Of these 25 participants, 100% (n=25) participated in the first round questionnaire and 68% (n=17) in the second round. The Delphi process comprised two rounds of individual feedback and asked participants to rate the extent to which they agreed with the inclusion of the statement and the ease they felt with which each could be put into practice. This two round feedback along with a road safety education workshop conducted in Melbourne, resulted in changes to the wording of the National Practices for Early Childhood Road Safety Education.
4 SUMMARY OF FINDINGS

The purpose of this research was to develop evidence-based National Practices for Early Childhood Road Safety Education. Further, the national practices were to reflect current early childhood and road safety evidence and be relevant to contemporary practice in Australian early education settings. The development of the national practices represents a rigorous collaboration between research staff at both the Child Health Promotion Research Centre, VicRoads, the panel of experts and RSERGA members.

Feedback obtained within the consultation and validation process was in general supportive of the inclusion of each of the finalised national practices and the content underpinning each draft statement.

4.1 Recommendations

**Recommendation One:** Develop early childhood educator online resource materials to support and demonstrate how each National Practice for Early Childhood Road Safety Education can be implemented in early childhood settings.

**Recommendation Two:** The National Practices for Early Childhood Road Safety Education should be disseminated to all early childhood services within each jurisdiction of Australia and New Zealand.

**Recommendation Three:** Implementation of the National Practices for Early Childhood Road Safety Education should be supported by early childhood educator professional development.

**Recommendation Four:** The National Practices for Early Childhood Road Safety Education should be reviewed by RSERGA.

In section 4.2, the National Practices for Early Childhood Road Safety Education have been presented in a simple format. The practices will provide a contemporary and practical framework to guide early childhood educators and policy makers in designing and implementing evidence based road safety education. Future research is required to trial and evaluate the implementation of the practices across early childhood education settings. Through the implementation of these trials, a true understanding of how the National Practices for Early Childhood Road Safety Education transcend into practice will be gained. This will further guide the direction of future early childhood road safety education research.
4.2 National Practices for Early Childhood Road Safety Education

1. EARLY YEARS LEARNING FRAMEWORK PRACTICES

HOLISTIC APPROACHES

1.1 Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education.

RESPONSIVENESS TO CHILDREN

1.2 Deliver road safety education which is responsive to individual children and extends children’s strengths, knowledge and interests.

LEARNING THROUGH PLAY

1.3 Through play-based learning seek opportunities to address road safety in a way that expands children’s thinking and encourages problem solving.

INTENTIONAL TEACHING

1.4 Engage in intentional teaching which extends and expands children’s learning about road safety.

LEARNING ENVIRONMENTS

1.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.

CULTURAL COMPETENCE

1.6 Implement road safety education that is culturally relevant for the diversity of children, their families and the community.

CONTINUITY OF LEARNING AND TRANSITIONS

1.7 Use the opportunity of transitions, in active partnership with children, families and the local community, for road safety education.

ASSESSMENT FOR LEARNING

1.8 Together with children and families, reflect on each child’s learning and application of road safety to plan for future learning.
### National Principle for Early Childhood Road Safety Education

<table>
<thead>
<tr>
<th>EYLF Principles</th>
<th>How does this principle address the EYLF?</th>
<th>Is this principle consistent with the intention of the EYLF?</th>
<th>Any other comments or suggestions?</th>
</tr>
</thead>
</table>
| 1.1 Engage young children in purposeful road safety education in a safe, supportive and respectful environment. | • Needs to focus on relationships rather than environment.                                                | • Yes.                                                     | • Support children’s road safety learning through everyday interactions and conversation with them and their families. In a respectful environment.  
• Consider terminology of children.  
• Word purposeful means deliberate. |
| 1.2 Build meaningful partnerships with families to provide effective road safety education for children | • Yes, addresses the EYLF element relating to partnerships.                                               | • Doesn’t reflect families and educators responsibility – joint responsibility.  
• Needs to reflect families’ responsibility in a stronger way. | • Families and educators collaborate and share responsibility to provide and practice effective road safety education for children.  
• Want families and communities to practice road safety.  
• Perhaps if the ‘equity’ part is included in 1.4 the professional learning part is included in 1.5, this principle may be redundant.  
• The key is believing that all children have a capacity to understand road safety.  
• Children have an expectation that they have a say in their road safety.  
• There are some things children will not be able to do or understand. |
| 1.3 Engage in professional learning to support equitable road safety education curriculum decisions. | • Lacks clarity.                                                                                            |                                                            | • Ensure the diversity of children, families and local communities is embraced when engaging with parents, carers and children in road safety education.  
• We learn about diversity by doing it |
<p>| 1.4 Consider and respond to diversity within families and local communities when engaging parents, carers and children in road safety education | • Yes.                                                                                                    | • Yes.                                                     |                                   |</p>
<table>
<thead>
<tr>
<th>National Principle for Early Childhood Road Safety Education</th>
<th>How does this principle address the EYLF?</th>
<th>Is this principle consistent with the intention of the EYLF?</th>
<th>Any other comments or suggestions?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 Engage in reflective practices and ongoing learning to inform road safety education for parents, carers and children</td>
<td>• Addresses reflective practices – with parents and carers. &lt;br&gt;• How to apply information – informing and enriching.</td>
<td>• Consistent if reflective practices engage others. &lt;br&gt;• Consistent if informing and enriching.</td>
<td>• Use EYLF principle – road safety statement – how it will look in practice. &lt;br&gt;• Need to have the practicality addressed to complement operationalising. &lt;br&gt;• When operationalising, be clear what components of interconnected curriculum look like in Road Safety Education terms. &lt;br&gt;• Consider including &quot;strength based learning&quot; in the practical support.</td>
</tr>
<tr>
<td>ELYF Practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Recognise that children’s learning is integrated and interconnected when making curriculum decisions about road safety education</td>
<td>• Yes</td>
<td>• Yes.</td>
<td></td>
</tr>
<tr>
<td>2.2 Deliver road safety education which is responsive to individual children and extends children’s skills, knowledge and interests.</td>
<td>• Extends children’s strengths, knowledge and interest by responsive delivery of road safety education.</td>
<td>• Yes.</td>
<td></td>
</tr>
<tr>
<td>2.3 Provide play-based learning opportunities about road safety which expand children’s thinking and encourages problem solving</td>
<td>• Needs to be developmentally driven. &lt;br&gt;• ‘Provide’ is directive – is incongruent with EYLF but necessary because of the vulnerabilities of road safety. &lt;br&gt;• Intentional teaching is deliberate, purposeful and thoughtful.</td>
<td>• Yes.</td>
<td></td>
</tr>
<tr>
<td>2.4 Engage in intentional teaching which extends and expands children’s learning about road safety.</td>
<td></td>
<td></td>
<td>• Intentional teaching for early childhood should include ‘spontaneous’ teachable moments. &lt;br&gt;• The word ‘spontaneous’ has energy and describes intentional teaching and can be useful in communicating this.</td>
</tr>
<tr>
<td>National Principle for Early Childhood Road Safety Education</td>
<td>How does this principle address the EYLF?</td>
<td>Is this principle consistent with the intention of the EYLF?</td>
<td>Any other comments or suggestions?</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>2.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety.</td>
<td></td>
<td></td>
<td>• Prefer wording: provide...for meaningful interaction with children, parents and carers about road safety.</td>
</tr>
<tr>
<td>2.6 Implement road safety education that demonstrates respect for the cultural diversity of children and their families.</td>
<td></td>
<td></td>
<td>• Implement road safety education that is culturally relevant for the diversity of children, their families and the community</td>
</tr>
<tr>
<td>2.7 Support children’s transitions between and within early childhood settings by delivering developmentally appropriate road safety education in active partnership with children, families and the local community</td>
<td></td>
<td></td>
<td>• Final wording suggesting: Use the opportunity of transitions, in active partnership with children, families and the local community for road safety education</td>
</tr>
<tr>
<td>2.8 Together with families, discuss and reflect on each child's learning about road safety and use the Early Year's Learning Framework Outcomes to document progress and plan for future learning.</td>
<td></td>
<td></td>
<td>• Together with children and families reflect on each child's learning and application of road safety, to plan for future learning</td>
</tr>
</tbody>
</table>
**Appendix 2 - Workshop Feedback: How each practice will look in the education setting and potential barriers to implementation.**

<table>
<thead>
<tr>
<th>National Principle for Road Safety Education</th>
<th>Settings</th>
<th>Age</th>
<th>Parents/Carers</th>
</tr>
</thead>
</table>
| 1.1 Engage young children in purposeful road safety education in a safe, supportive and respectful environment. | What would this look like in practice? | • Purposeful – would have to fit in with children’s interests  
• Incorporate into whatever children are currently engaged in – riding tricycles, playing in sand, dramatic play, blocks.  
• Examples: Excursions, build into everyday routines (school drop of/pick up routine). | • You are building on information as children grow. | • Parents and carers should use everyday interactions and conversations to extend their children’s knowledge.  
• Role model — good practice. |
| | | | | |

What are the potential barriers to the principle’s implementation?

| | • Early childhood staff need prompts.  
• Onerous compliance can limit children’s experience. | | | • Parents are thinking that childcare providers are doing a lot of the work.  
• Knowledge – need to provide parents with the correct information; e.g. DVD, post cards and fridge magnet frames.  
• Confidence.  
• Language difficulties. |
| 1.2 Build meaningful partnerships with families to provide effective road safety education for children. | What would this look like in practice? | • Links to 1.1.  
• Involves communication, shared information.  
• Finding opportunities in existing routines and processes  
• Collaborating requires  
• Increased time and increased communication skills.  
• Educators may have other priorities. | • Same across ages. |  
| What are the potential barriers to the principle’s implementation? | | | • Same as settings. |  
| 1.3 Engage in professional learning to support equitable road safety education curriculum decisions | What would this look like in practice? | | |  
| What are the potential barriers to the principle’s implementation? | | | • Same as settings. |  
| 1.4 Consider and respond to diversity within families and local communities when engaging parents, carers and children in road safety education. | What would this look like in practice? | • Understanding diversity in each family/community setting. Need to consider: ethnicity, family structures, learning styles, family literacy levels, cultural different abilities, socio economic status of the community.  
• Awareness of cultural practices and engagement between families and educator. | • Build on experiences that they have |  
| | | | • Environment needs to be comfortable and welcoming for families.  
• Families need to have a sense of belonging to be engaged. |
What are the potential barriers to the principle’s implementation?

- Requires flexible resources.
- Lack of knowledge.
- Lack of meaningful resources.
- Lack of knowledge by the educator of their community.
- Time.
- Skills – ability to communicate.
- Lack of opportunity.

1.5 Engage in reflective practices and ongoing learning to inform road safety education for parents, carers and children.

What would this look like in practice?

- Road safety visitors/sessions could be organised.
- Policy/procedures handbook could be distributed to families.
- Need to make sure that this principle is incorporated in a developmentally appropriate manner.
- Conversations with families
- Distribution of information to parents: for example, handbooks that explain why certain road safety messages need to be taught to children.
- Lack of time.

What are the potential barriers to the principle’s implementation?

- Road Safety not being a high priority to educators.
- Knowledge of educators -not embedded in thinking.

What would this look like in practice?

- Use of the “moment” for intentional teaching.
- Using strength based approach to build skills.
- Utilising events as they happen.
- Two way transfer of information – communication.
- Have families involved in purposeful activities.
- Photo/stories of what’s happening for example, buying a bike.

What are the potential barriers to the principle’s implementation?

- Knowing where to find resources.
### 2.2 Deliver road safety education which is responsive to individual children and extends children’s skills, knowledge and interests.

<table>
<thead>
<tr>
<th>What would this look like in practice?</th>
<th>Opportunities to promote higher order thinking.</th>
<th>Parents/carers need to be involved, valued, welcomed and included.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the potential barriers to the principle’s implementation?</td>
<td>Environment reflective of local community.</td>
<td>Parents understanding and knowledge of subject matter and learning.</td>
</tr>
<tr>
<td></td>
<td>Use of ‘family’ stories for example, buying a new car.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge of what and how to deliver road safety.</td>
<td></td>
</tr>
</tbody>
</table>

### 2.3 Provide play-based learning opportunities about road safety which expands children’s thinking and encourages problem solving.

<table>
<thead>
<tr>
<th>What would this look like in practice?</th>
<th>Intentional teaching</th>
<th>Developmentally driven.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Environment provides materials/equipment required to expand child’s thinking. For example, problem solving.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Degree of educators experience and knowledge</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4 Engage in intentional teaching which extends and expands children’s learning about road safety.

<table>
<thead>
<tr>
<th>What would this look like in practice?</th>
<th>Utilise the indoor and outdoor environments. For example, excursions.</th>
<th>Enrolment – first and subsequent engagement.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Take into consideration the local contexts and local issues.</td>
<td>Active partnership.</td>
</tr>
<tr>
<td></td>
<td>Educators need to understand the local community, road safety research and be engaged/interested.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to relevant resources; easily accessible.</td>
<td></td>
</tr>
</tbody>
</table>

### What are the potential barriers to the principle’s implementation?

- Knowledge of what and how to deliver road safety.
- Parents understanding and knowledge of subject matter and learning.
- Access to relevant resources; easily accessible.
- Enrolment – first and subsequent engagement.
- Active partnership.
| 2.5 Provide opportunities in the learning environment, including the local community, for safe and meaningful interaction with children, parents and carers about road safety. | What would this look like in practice? | • Utilise indoor and outdoor environments.  
• Involve the local community.  
• Resources.  
• This principle links to intentional teaching.  
• Requires commitment and understanding from all.  
• Access to knowledge, and resources. Requires professional development. |
| --- | --- | --- |
| 2.6 Implement road safety education that demonstrates respect for the cultural diversity and their families. | What would this look like in practice? | • Protection of children from harm.  
• Policies → road safety and transport policy.  
• Can look very different across Australia.  
• A lack of understanding of cultural issues relating to road safety.  
• Model of support that is available in each jurisdiction. |
| 2.7 Support children’s transitions between and within early childhood settings by delivering developmentally appropriate road safety education in active partnership with children, families and the local community. | What would this look like in practice? | • The transition from early childhood to school.  
• Different modes of transport and moving between different environments enables physical transition learning opportunities.  
• Utilise story telling – story writing, share a story from each jurisdiction, e.g. how do you go to school/kindergarten.  
• Risk assessment knowledge. |
| 2.8 Together with families, discuss and reflect on each child’s learning about road safety, and use the Early Years Learning Framework Outcomes to document progress, and plan for future learning. | What would this look like in practice? | • Observation and assessment.  
• Story telling. This utilises intentional teaching and play based learning. Also enables reflection upon each child’s learning.  
• How educators are viewed by parents | • Sharing knowledge. |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What are the potential barriers to the principle’s implementation?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5 REFERENCES


