

# **Evaluation of the walking school bus program: can we explain the outcomes?**

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*Paper presented at the Australasian Evaluation Society 2004 International Conference, 13-15 October-Adelaide, South Australia [www.aes.asn.au](http://www.aes.asn.au)*

## **Abstract**

Walking School Bus (WSB) is an innovative way of regularly walking primary school children to and from school in groups with adult (volunteer) supervision along a predetermined safety-audited route. Victorian Health Promotion Foundation (VicHealth) funds local municipalities to implement the program.

The program aims to increase participation in physical activity, encourage community connectedness and develop pedestrian skills through strategies, such as organisational and community development.

The evaluation of the WSB program is premised upon the Realist principles. It helps not only to examine whether the program achieves desired outcomes, but to understand why the program has potential to induce change and how it informs and alters the balance of constrained choices of participants in various circumstances<sup>1</sup>.

Realist approach is a powerful methodology in creating evidence about the effectiveness of complex programs implemented in various contexts as it explains what works for whom and in what circumstances.

## **Introduction**

Walking School Bus (WSB) is an innovative way of regularly walking primary school children to and from school in groups with adult (volunteer) supervision along a predetermined safety-audited route.

VicHealth funds local municipalities to implement the WSB program. Local Shires/Councils, in collaboration with the schools and various State authorities and community organisations, facilitate establishment of the walking routes, registration of volunteers and liability insurance for volunteers. Each Council/Shire must engage at least four local primary schools during the project.

To date, thirty three councils have participated in the program with additional fifteen councils coming aboard shortly. In total, 135 schools have been involved in the program (which represents 6% of all government and non-government school) by April 2004.

The program commenced in 2001 with 4 councils piloting the program. Within two years, the program has expanded considerably to include more than half Victorian municipalities and is being trademarked to maintain the minimum standards and program quality.

During the program pilot, a demonstration evaluation<sup>ii</sup> was conducted to examine implementation issues and establish program's likelihood to achieve desired outcomes. This initial evaluation of the WSB collected large amount of anecdotal and observational evidence indicating that these outcomes would be possible to achieve. With the program expanding rapidly, the need for different type of evaluation had arisen.

The major assumption underpinning the development of WSB concept is its potential ability to shift passive modes of travelling to school in a private car to more active forms of travelling, such as walking, and therefore to provide opportunity to engage in regular physical activity for primary school aged children and volunteers participating in the program. Provision of the alternative to car use to transport children to and from school may also lead to fewer cars on the road, less pollution and a safer traffic environment around the schools.

The walking buses may also have beneficial social effect through facilitating the development of social networks and enhancing a sense of connectedness and belonging, therefore positively impacting on individual mental health.

Children who walk with the buses may have better levels of awareness of their local neighbourhoods and have higher level of independence moving around their immediate area.

Not less importantly, the walking buses have been envisaged to address individual safety through enabling the development of pedestrian skills by primary school children and improving the sense of personal security by making people more visible on the streets.

Although initial insights were gained through the demonstration evaluation of the walking bus program, the evidence was largely anecdotal and it is unclear in what circumstances and for what groups of children the program works best in addressing health determinants. Current collection of facts about the WSB program does not, for example, allow understanding how the program affects the choices and reasoning of parents in favour of allowing their child to participate in WSB program.

The impact of the WSB program at organisational level, for example on changes in policies and practice supporting active travelling to school at the school, council and other agencies' level, has not been extensively examined in the pilot evaluation of the WSB program.

### **Evaluation design: realist evaluation and program logic**

This program is evaluated using realist perspective. Realist evaluation was selected as the most suitable theory to apply to the current evaluation of the WSB for several reasons:

- by employing a complex interplay of strategies, the program is expected to produce a range of outcomes at different levels of influence, including individual behavioural influences, organisational impacts and outcomes in respect to policy and practice change and community level outcomes;
- the program is implemented in more than half of municipalities across Victoria, with targeting a diverse range of primary school populations, involving all types of primary schools and producing an array of implementation and management models depending on local circumstances;
- each walking school bus is implemented in different environments, with varying levels of readiness of the implementation structure and different mechanisms/strategies employed by the projects to achieve the WSB program goals; and
- the program has reached a critical mass with a sufficient number of schools and primary school children to enable application of Rea and for comparisons between sites.

In the end, Realist Evaluation will enable VicHealth to not only understand if the WSB program achieves outcomes it was designed to achieve, but also why it achieved/did not achieve them, for what groups of participants and in what circumstances. This is quite valuable in creating evidence of effective health promotion programs and ascertaining transferability of health promotion approaches to the sectors beyond health (in this case, transport).

Realist evaluation belongs within the realm of evaluation philosophy as one of the ways of thinking about causality. Program logic is a program analysis and evaluation planning tool to make explicit and examine the causal links between the components of a program using suitable and systematically selected research and data collection methods.

While both, realist theory and program logic are concerned with the notion of causality, it is interpreted differently. Program logic is an evaluation tool that enables an evaluator to investigate direct causality in the program: that is to ascertain whether strategy X produces the outcome Y. Realist theory is not concerned with demonstrating causal links between the interventions and outcomes but it is concerned with the causal potential of an initiative to induce change and alter the balance of constrained choices in suitable circumstances to enable participants to change<sup>iii</sup>.

Program logic and realist theory are not co-dependent but they are complementary and there is a benefit in using both frameworks in this evaluation. The value of program logic is in its power to comprehensively examine the program, providing that program logic is treated as dynamic, flexible and living framework that requires ongoing reflection, change and growth. It is useful to see program logic as a starting point which can be elaborated into a realist program theory either from the data

gathered during the evaluation or from the available theoretical and research literature<sup>iv</sup>, examining the reasons these (and not other) linkages occur in specific circumstances.

Through systematic program analysis, program logic helps in identifying the research and data collection methods that are most likely to provide information to examine the causality, whether it is direct (as in program logic) or underlying (as in realist theory).

### **Schematic program logic of the WSB program**

Building program logic in this evaluation began with identification and clarification of assumptions about the program. This is an important component of program logic development as the assumptions underpin program design. For example, local municipalities were selected to implement the program because WSB program fitted well with local government public health planning processes (Municipal Public Health Plans) and many municipalities at the time would have had developed some form of strategy support alternative travel to car. Local Councils/Shires coordinate volunteers and provide volunteer insurance.

The next steps in program logic development included identification of the hierarchy of outcomes<sup>i</sup> and establishing success criteria (on what dimensions must the program do well?<sup>v</sup>) and standards (how well should the program perform? <sup>vi</sup>) for outcomes. Program strategies<sup>2</sup> (e.g. partnership development, strengthening internal management), activities<sup>3</sup>, and performance measures<sup>4</sup> were linked to each of the outcomes. The last step in program logic development included identification of information sources, data collection methods and comparisons.

Two separate program logics were developed for outcomes occurring at the level of individual participants (primary school aged children), and for outcomes occurring at organisational level (councils/shires and schools). In a very simplified form, the program logic for the WSB program outcomes at the level of individual participants is presented in figure 1. As no data have been collected from individual participants in this point in time, the paper will not further elaborate on the program logic at this level.

Quality of program implementation by councils/shires and schools will affect the achievements of the outcomes at the individual level.

Figure 2 represents initial schematic program logic at the organisational level – municipalities and schools that implement the program. In this figure, boxes to the left represent hierarchy of process outcomes. While the hierarchy of outcomes is presented in linear order, the relationship between outcomes is rather cyclical (this is explained below). Boxes to the left contain performance indicators. The middle boxes

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<sup>1</sup> Outcomes are the effects of the program on the participants (this includes impacts, which are the effects occurring immediately after the program), whether the participants are individuals, organisations or communities. Hierarchy of outcomes is written in a logical progression from one outcome to another without big gaps between outcomes. Outcomes are written as general statements.

<sup>2</sup> An action that causes specific outcome to occur.

<sup>3</sup> Steps to implement each strategy, such as meetings, steering groups etc.

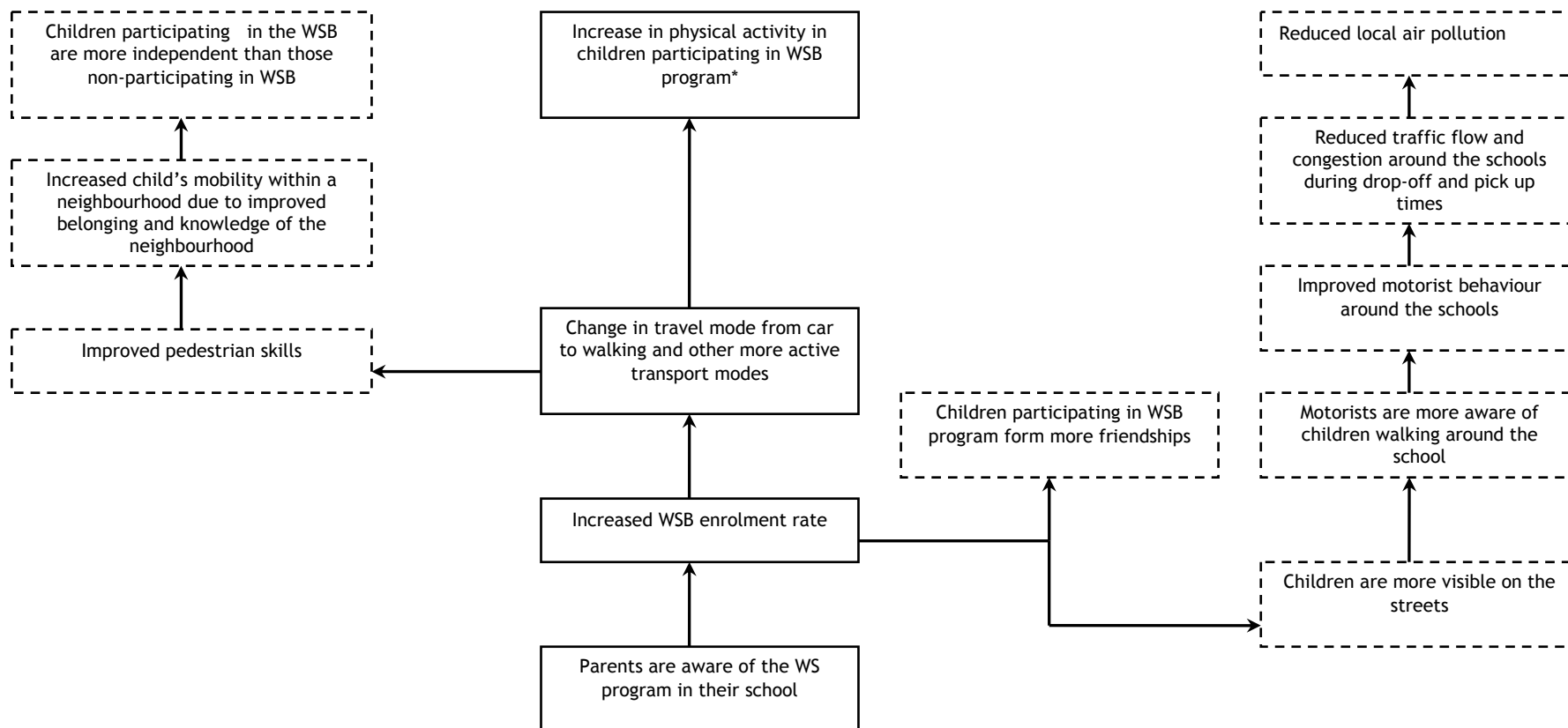
<sup>4</sup> The results of activities.

list the key strategies employed at each outcome level. It is important to note that this is an initial program logic that is based on original assumptions about the program and some information provided by WSB project officers employed by the councils/shires. The program logic is a dynamic tool, which will be reviewed as more information becomes available.

Program logic at the organisational level is based on the assumption that local municipalities will have long term commitment to the program. This assumption, in turn, is based on the fact that the program is consistent with council/shire's business and that initial funding will facilitate either inclusion of the WSB into one of the council/shire's main policies or programs or continuation of the program through inclusion of the WSB coordinating role in the current EFT.

Local municipality long term commitment to the program does not necessarily mean continuous day-to-day engagement with the program. As the program implementation progresses, it becomes apparent significant council/shire involvement is required during the first 8-10 months of the program. This time is spent on learning appreciating the dynamics of walking with the selected school by the project officer, trialling and adjusting the implementation model, communicating with schools, recruitment and training of volunteers and identification of routes. Most importantly, however,

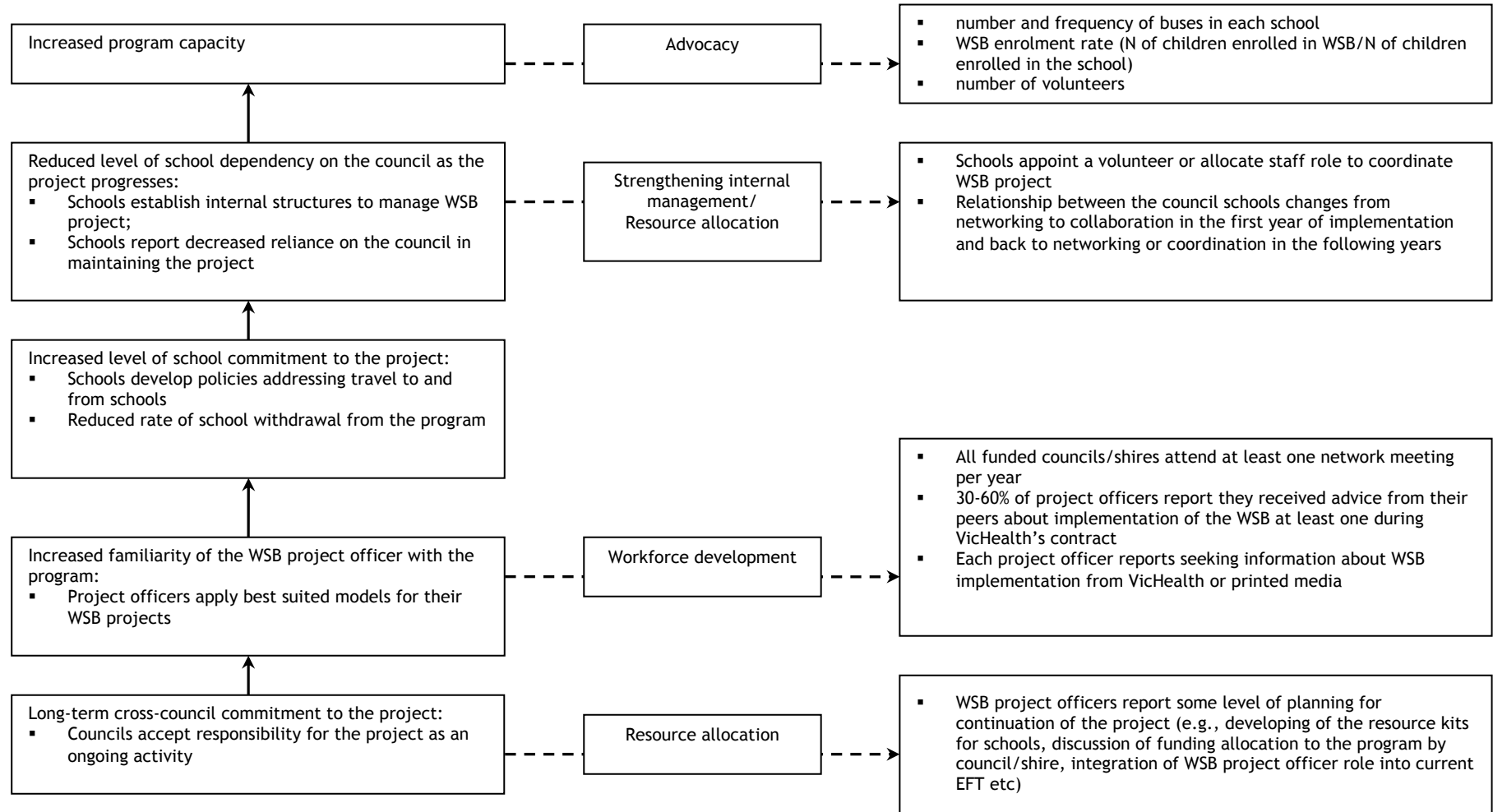
**Figure 1. Schematic program logic at the individual level (primary school children)**



\*the success criteria for this outcome included:

- By the completion of the WSB contracts with the Councils, walking on the bus contributes to 30% or more of recommended daily physical activity for primary school aged children;
- By the completion of the WSB contracts with the Councils, children participating in the program report higher engagement in physical activity during after school hours than those not involved in the program
- 10% of children participating in the WSB report getting more exercise than those non participating in WSB

**Figure 2. Initial program logic at the organisational level – municipalities and schools implementing the program**



this time is spent on building strong relationships with the participating schools. During the initial few months, the relationship between the council/shire and the selected schools progresses from networking to higher level of partnership<sup>5</sup> (such as cooperation). Once the schools settle in the routine in running the buses, the relationship becomes less intense and shifts down the partnership continuum towards coordinating or, in some cases, networking. This frees up the time for WSB project officer to recruit new schools and begin a new WSB cycle with new schools. In a meantime, having experienced the benefits of participating in the programs and having gained experience in running the buses, schools may think about expanding the capacity of WSB program in their schools. As the result, the overall capacity of the program will be increased.

### Data collection and study design

To examine the organisational level outcomes, one group pretest-posttest study design is used. It is a non experimental research design, examining the changes in variable of interest in one participant group before and after the intervention. This design is feasible for examining less tangible (in this case, process) outcomes.

To examine individual level outcomes, the post-implementation case-control design where the individual characteristics of participants are not matched is used.

A range of data collection methods is used to gather data from each information source. These are described in table 1.

**Table 1. Data collection methods**

| Participant      | Data collection method   | Focus on  |
|------------------|--------------------------|---|
| School principal | Face-to-face interview   | Implementation aspects of the WSB in each school  |
| Teachers         | Survey                   | Perceptions/observations of the impact of WSB project on participating children   |
| Children         | Facilitated group survey | Attitudes towards walking to school and perception of benefits they get (or would get, if they participated) from participating |

<sup>5</sup> **Networking** – involves exchange of information for mutual benefit. It requires little time, trust or sharing of turf between partners and is a useful strategy for organisations in initial stages of working relationships

**Coordinating** – involves exchange of information for mutual benefit and altering activities for a common purpose. It requires more time and trust but does not include sharing the turf.

**Cooperating** – involves exchange of information, altering activities and sharing resources for mutual benefit and a common purpose. It requires significant amounts of time, high level of trust and significant sharing turf and may require complex organisational processes and agreements in order to achieve the expanded benefits of mutual action.

**Collaborating** - involves all of the as above plus a willingness to enhance the capacity of another for mutual benefit and a common purpose. It requires the highest levels of trust, considerable amounts of time and extensive sharing of turf. It involves sharing risks and rewards and can produce the greatest benefits of mutual action.



|  |   |   |
|--|---|---|
| Parents                                  | Telephone interview                       | Views about the walking school bus program  |
| Volunteers                               | Face-to-face interview and survey         | Operation of the buses and the impact of walking on their sense of community connectedness and physical fitness |
| Council WSB coordinators                 | Face-to-face interview & evaluation diary | Program implementation (structural and implementation contexts, WSB management)                                 |
| Collaborating agencies and organisations | Telephone interview                       | A range of implementational contexts and ascertain strategic influences on the WSB                              |

In addition, a systematic document analysis will be undertaken to identify the context for initiation of WSB in each council.

### **Sample size**

Thirteen councils/shires from phase 2 funding round (October 2002-current) will participate in data collection. These councils have gone through at least one cycle of WSB (have had at least one round of school recruitment) and have gained sufficient experience to share with evaluation.

The sample size for data collection at the individual level is based on the school enrolments and a number of children walking on the buses. The sample is constructed using the probability proportional to size method.

Preliminary estimation of the sample size indicates that 25-30 schools from phase 2 WSB Councils/Shires, located both in metropolitan and regional areas, will participate in this data collection. Approximately 450 children who walk with the buses will be included in the study. In addition to children who walk to school with WSB, children from the same class who do not walk with the buses will participate in this data collection. Thus, the classes with students enrolled in the Walking School Bus program will participate in this data collection.

Parents of children (both walking and not walking with the buses) will be sampled randomly following parental consent for a child's participation in data collection. The sampling of parents will be random and based on grade level and gender of their child(ren). The sample of the parents will be smaller than those of the children.

### **Early findings about WSB implementation and the reflection on the findings from Realist perspective**

So far, all 13 councils/shires participating in this evaluation have completed the evaluation diaries. Several councils have been interviewed about implementation of the WSB program. The project officer feedback highlighted some interesting issues.

All councils/shires have at least four schools involved in the program with some councils having involved as many as sixteen schools at some point in time. Albeit a proportion of schools drop out of the program within a year of the program, most of

the schools continue the program successfully. Participating schools usually have more than one walking route. The enrolment rate<sup>6</sup> in the program has been increasing. The buses have high “travelling” rate - most of the children enrolled in the WSB program walk with the buses.

Figure 3 explores, using realist philosophy, some of the reasons for schools staying committed to the program or withdrawing from the program. The program logic conceptualises how level of commitment causes increase in program volume.

Most councils/shires select schools based on their interest in the program. Some of the councils have tried to select school using other criteria (such as selecting suburb with high car ownership or a suburb with high proportion of primary school aged children). These councils subsequently defaulted to selecting the schools based on level of interest in the program. In the context where the majority of schools are selected to participate based on the level of interest, several mechanisms<sup>7</sup> can be conceptualised.

The first mechanism relates to the school perceiving that WSB project is its “business” and decision-makers (usually principals and/or school council) select to proceed with the project based on their value judgements. One of the councils noted the following in this respect:

*“We find that the principal has a lot to do with the success of the program in school. How much they believe in it, and how much their policies (you know some school have had written policies), are genuinely operationalised... We find they have to have a policy and the principal has to take those values on board to be able to operationalise it really effectively”.*

The other council coordinator concludes:

*“with the schools that we already had contact with, they have an enthusiasm there, you are not going in and trying to put something to the school that they are going to see as a burden. You’ve already made that first step – they are enthused, they are excited, they can see the benefits for their schools. So you are over that first hurdle of school coming and saying – Oh! How much is this going to take, we’ve already been under resourced...”*

If the project is consistent with the values of decision-makers, then the school will support the project and have consistent and long-term commitments to it, and is unlikely to withdraw from the project (even if the problem arise).

The second mechanism relates to something less tangible – the quality and formality of the relationship between formal school structures (principal, school council) and the parental community. Where the relationship between the school structures and parental community is more formal, it affects the level of trust and cohesiveness within the school. It has been noted that such environment does not support the walking schools bus, perhaps because the level of commitment reduces over time and other issues take priority.

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<sup>6</sup> Number of children enrolled in the school out of the total school enrolment.

<sup>7</sup> Potential of an initiative to induce change and alter the balance of constrained choices in suitable circumstances to enable participants to change

*“they [school council] had their group dynamics, and we [the group from the council], were trying to enter their group dynamic, all of a sudden trying to present [information about the program]. They said, yes thank you very much, we will take it on board. And then nothing happened”.*

Schools having these dynamics have had significant issues in recruiting volunteers and some schools have had to withdraw from the program due to lack of volunteers.

In other schools, where the relationship was less formal (where the principal knew parents and children by their names), parents felt more comfortable with the “school set up” and were more willing to contribute to school’s activities.

The other context relates to high level of council/shire presentation in promoting the project to schools. All of the councils report that the most successful way to engage the school community in the project is for the project officer to personally conduct information sessions for parents, organised informal tea with parents, and present at school assemblies. The print-based promotion of the project has, so far, had limited success.

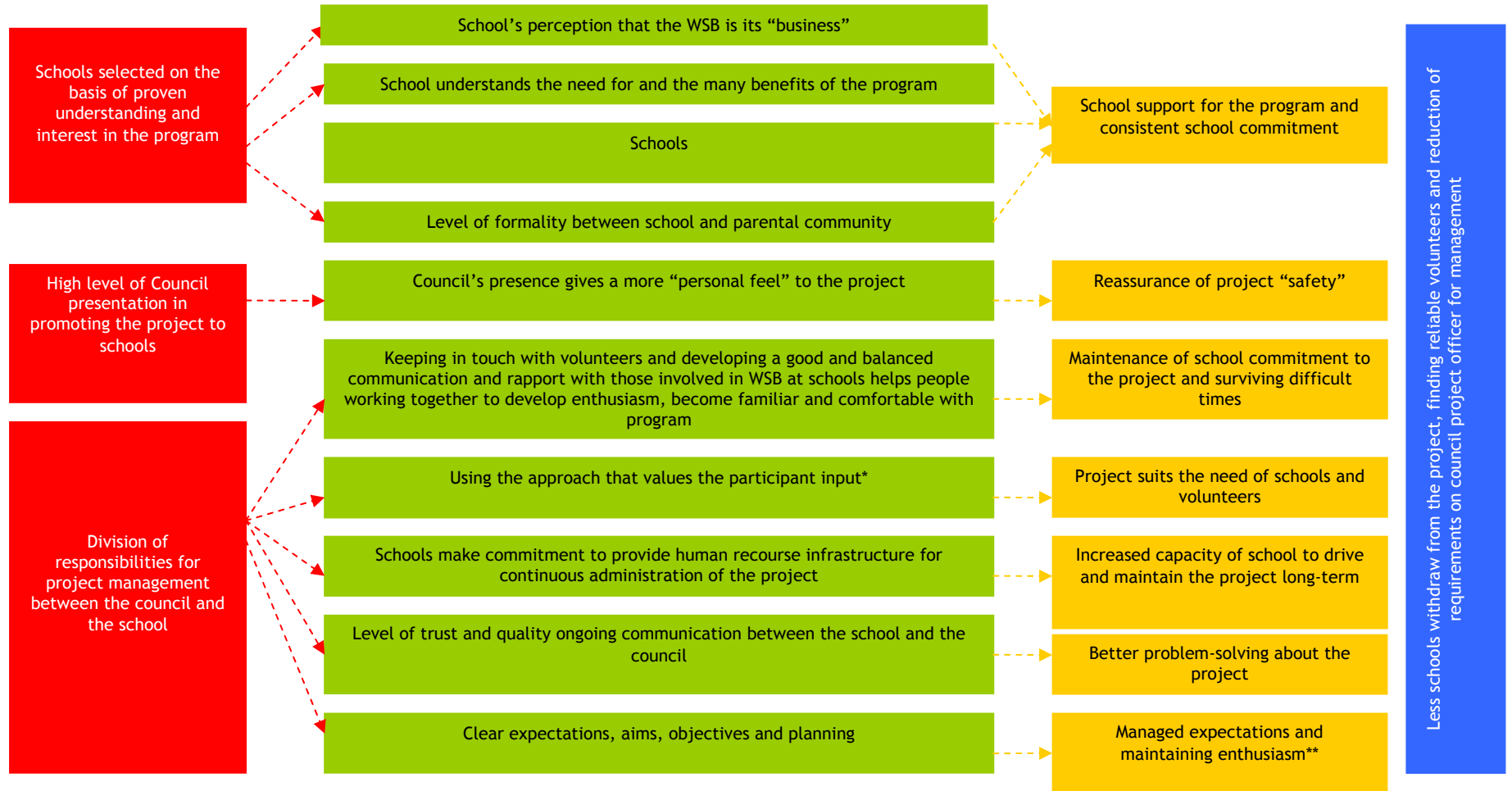
Council’s presence at schools (particularly in informal manner) gives the project a more “personal feel”. As council representatives are usually representing some sort of “authority”, school community is reassured about the “safety” of the project.

*“we really made an issue of being out, being seen and being known around the school”.*

This is particularly true, when the council representatives talk about the route safety audit, which is usually done together with council safety officers, traffic officers, VicRoads and the police. These perceptions may trigger the risk/benefit assessment (both by the schools and the parents) and the likely participants chose to “give the project a go”.

Lastly, there is a division of responsibility for project management between the council and the school. As shown in the organisational level program logic, the relationship between the council and the school changes over time from a less involved relationship (such as networking) early in the project, to the higher levels of collaboration (within the first 8-10 months of the project), and again down to networking or coordination during project maturity. This

**Figure 3. Context, mechanism and outcomes at the school level**



\*Routes design around where volunteers live rather than based on geographical or demographic characteristics

\*\* Schools that may be originally supportive and enthusiastic once faced with the amount of work required and/or problems give up or interest changes to reluctance

dynamic relationship activates different responses from the school at different point of relationship.

During the first 8-10 months of project development within a particular school, the council project officer spends a lot of effort on building relationship with volunteers. Many informal social activities (such as tea breaks, outings, informal information session) and formal activities (such as volunteer training and registration, police checks, route audits etc) occur in these few months. During this time, trust is built between the volunteers and the project officer. Volunteers get full appreciation of their roles and responsibility in the project and therefore become familiar and comfortable with the project and other people in the volunteer group. The momentum, enthusiasm and anticipation for the project to start form at this time. Volunteers consider their individual reasoning for involvement in the program (described below). As the result of forming stable relationship between the council and volunteers, the school is able to provide the program with the volunteers who are more likely to continue with the program for considerable length of time, likely to resolve arising issues on their own (without brining back the project officer, who is by this time less involved in the program), and promote the project to other parents in the school. On that issue, one of the project officers reflects:

“if I get three of four parents interested in it, it is enough. I did not go there trying to convert all the parents or get them thinking. There are keen parents who will be involved, and then others will be observing and saying “may be we could do it too”.

The majority of the councils/shires noted in their feedback that it is extremely important to the program that schools make commitment to provide human resource infrastructure for the project:

*“if the principal leaves the program up to other staff, then the program fizzles out. But when the principal takes it on board, that is the key [to project success]”.*

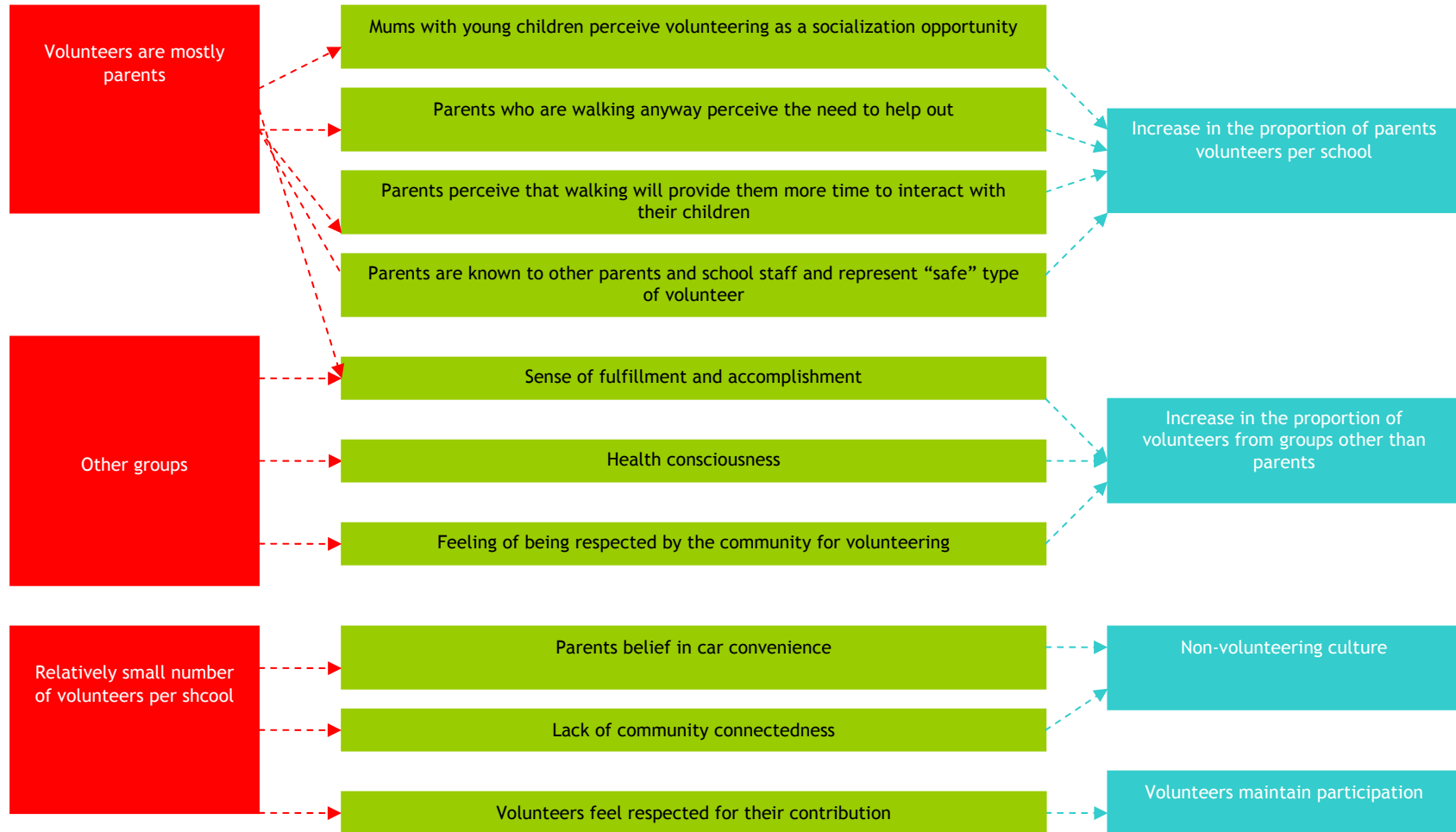
This will encourage schools to take the project over, make decisions about the project during implementation and maintain the project long-term.

As well, schools should build clear expectations about the project and participate in project planning. Participation in project planning will build ownership of the project. Setting clear expectations about how the school should be involved in the project and what it will contribute will help manage expectations in the long term, maintain enthusiasm and help in dealing with the issues during project implementation.

The two issues discussed above seem to be critical in program implementation and its long-term success and the mechanisms will be explored in more detail during the interviews with project officers and the school principals.

Most volunteers in the program are parents. Only few volunteers have been recruited from other sources, such as volunteer resource centres, local walking groups, council or school employees, and other members of community not connected to school. The

Figure 4. Context, mechanism and outcomes for the volunteers



most successful methods of volunteer recruitment include conducting information sessions or presentation at schools by councils. Recruitment and retaining of volunteers has been the most challenging part of the program.

Figure 4 provides some initial explanations. First, parents are known to other parents, school staff and the children, and they represent a “safe” type of volunteer. Therefore, parents are usually the first point of call for volunteers. When the volunteers are being recruited, some parents volunteer because they perceive the need to help out (these are possibly the parents most involved in other school activities). Other parents feel the pressure to volunteer because their close friend did or, in case of several schools with high number of volunteers, many other parents did. For other parents, additional time spent with their own child on the way to school with the walking bus, gives them that extra time for interaction with their children and learning about child’s school activities. Mothers with young children and/or those who are not in the workforce perceive volunteering for walking school bus as an additional socialisation opportunity.

For the volunteers from the community who are not directly connected to school, the reason for volunteering into the program may relate to achieving sense of fulfilment and accomplishment though contributing something to the community, gaining health benefits by regularly walking, and feeling respected in the community for volunteering. Because there not many volunteers from groups other than the parents and because this information was not collected directly from volunteers these mechanisms will be explored further in the interview with volunteers.

For those volunteers who participate in the program, receiving some form of recognition for their role triggers the sense of pride and encourages them to continue participating in the program.

*“having volunteers recognised by the school community is important. They are recognised at school functions, and school assemblies, and by letting other people know what great job they were doing. It really is boosting their self-esteem, confidence really, make them want to stay and be volunteers...”*

The project officers noted that relatively small proportion of parents volunteer for walking schools bus. Apart from the busyness, many parents believe in car convenience and prefer to drive to school rather than walk. For other parents coming from the disengaged communities, lack of community connectedness does not encourage them to volunteer.

*“I guess, community cohesiveness has probably been one of the things. We are trying to identify why we have not had as much success as some other Councils and it seems to be coming back a lot to community connection. And links between the schools and homes. And just that sense of volunteering”.*

### **Final note**

This article examined the operational aspects of implementation of the Walking School Bus program - a complex program, where implementation varies depending on the local context. Using realist philosophy, it is possible to explore the program in

great depth and provide explanation what strategies work for what group of participants and in what circumstances. This approach is invaluable in creating evidence for health promotion programs.

### References:

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<sup>ii</sup> Goodrick, D & Prilleltensky, I 2002, Evaluation of the Walking School Bus Pilot Pogram, Victorian University.

<sup>iii</sup> Pawson, R & Tilley, N 1997, Realistic Evaluation. Sage Publications.

<sup>iv</sup> Elsworth, G 2004, personal communication.

<sup>v</sup> Owen, JM & Rogers, PJ 1999, Program Evaluation: Forms and Approaches. Sage Publications.

<sup>vi</sup> Owen, JM & Rogers, PJ 1999, Program Evaluation: Forms and Approaches. Sage Publications.