Focused Policy Assessment

Green-Schools Travel Programme

18 February 2015

This Focused Policy Assessment has been carried out by the Department Transport Tourism and Sports, Economic and Financial Evaluation Unit (EFEU), which is a part of the Irish Government Economic & Evaluation Service, in accordance with the provisions of the Public Spending Code. It does not necessarily reflect the policy position of the Department, the Minister for Transport Tourism and Sport or the Government.
Executive Summary

Green-School Travel (GST) is an activity based mobility management programme which, following a two-year pilot in the Greater Dublin Area (GDA) has been in operation nationally since 2008. It is rolled out in schools that have completed the first three themes of the Green-Schools Programme (Litter and Waste, Energy and Water). Schools take two years to complete the travel programme.

GST is funded by the Department of Transport, Tourism and Sport (DTTAS), with funding provided through the National Transport Authority (NTA) to An Taisce, who operate the programme. Up to 2012 An Taisce employed two types of school engagement officers. The first Green-School Travel Development Officer (GSTDO) engage with schools in the final year of their core programme (i.e. Litter and Waste, Energy and Water) and get them ready not only to agree to participate in the Travel Theme but also to have all the necessary structures in place within the school to ensure success. The second type of school engagement staff employed by An Taisce is Green-School Travel Officers (GSTO). These officers delivered the travel programme in participating schools, as well as carrying out other activities including administration, liaising with Local Authorities (LAs), organising workshops and training. Throughout the process the contribution of teachers within the schools in leading, organising and contributing positively to the programme was highlighted as central to the success of the programme.

Whilst an annual allocation of €1.9m to €2m has been made available each year from 2008 to 2012, the average annual expenditure on the programme between 2008 and 2012 was €1.77m. Total drawdown over the period 2008-2011 was €6.89m, with an estimated 177,000 students participating in the programme over that period.

The Service Level Agreement (SLA) under which funding is provided states that the objectives of the scheme are to:

- Increase the number of schools participating in the programme;
- Increase the number of children participating in the programme;
- Improve the geographic spread of the participating schools; and
• Achieve and sustain a shift from reliance on the private car for school transport.

A further objective of building awareness of the impact of travel on the environment can be inferred from the text within the SLA.

The key objective with regard to realisable benefits for transport was achieving the shift away from car use. Specific targets for such mode shift are within the SLA, for example, “car passenger use will have decreased by 15%”.

This focused policy assessment (FPA) analyses the GST Programme from the viewpoint of Value for Money (VFM) over the period 2008 to 2012. It considers (i) the rationale for the intervention, (ii) the efficiency of delivery of the programme, and (iii) the effectiveness of the programme in delivering the agreed objectives. Finally some conclusions and key issues are highlighted, and recommendations are drawn based on the findings of the analysis.

In terms of rationale, it is found that there is a clear problem to be addressed in terms of pollution and congestion and that there is policy support for intervention in this area. However, there appears to be lack of clarity around the core objective of the intervention, for example, whether the extent of the scheme is more important than its efficiency, whether behavioural change is more important than attitudinal change, or whether addressing congestion or emissions is more important. In addition the detailed targets in the 2008 to 2012 SLA that result from the objectives of the programme were unsatisfactory. Firstly, a focus on number of schools, number of students and geographic spread may take the focus away from the core purpose of achieving mode share shift from the car. Secondly, the mode shift targets agreed were not coherent – with proposed shift away from the car far larger than the proposed shift towards alternative modes. Thirdly, a focus on “mixed modes” (e.g. car and walking) may have limited real benefits from a transport viewpoint as it does not actually reduce car use. Finally, the scale of the targeted change was out of line with the accepted impact of mobility management schemes. Achieving a 15% shift away from the car seems infeasible. Based on evidence from the pilot and similar schemes in other countries a target of 5-8% would have been more realistic.
In terms of efficiency the analysis developed a range of metrics which attempt to measure inputs (i.e. financial and staff) relative to outputs (i.e. activities and school visits). There was a lack of clarity around the inputs to these metrics (e.g. staff numbers) which points to the need for improvement. There was a poor link between the range of activities delivered and the associated costs of delivery. In 2012 there were 18 Full Time Equivalent (FTE) GSTOs and nine FTE GSTDOs, these were complemented with four FTE positions in An Taisce's head office also supported by the programme. Total programme costs per school engagement officer in 2012 equated to €62,553. Given a total of 3,153 school visits by school engagement officers in 2012, this is approximately 119 schools visits in 2012 by each school engagement officer. Whilst other tasks such as administration, and obviously travel, would take up a portion of officers time, it is felt that this is a low number of contact visits per GSTO – in particular for a scheme which is largely based on achieving behavioural and attitudinal change in students. The trend of costs between 2010 and 2012 raise a particular concern. Programme costs decrease by €425,430 (24%) from 2010 to 2011 but increase by €345,390 (26%) from 2011 to 2012 despite staff numbers, which make up 72% of the total costs of the programme, remaining between 28 and 31 FTEs.

Effectiveness of the scheme was assessed with regard to the targets agreed in the SLA. The programme has partially achieved the target number of pupils and the target number of schools agreed in the SLA. Geographically both Lenister and Connaught are well below target levels of schools. The difference between these targets and the actual level has increased year on year, which is a concerning trend. It should, however, be noted that the full allocation had not been drawn down in the years analysed.

With regard to the effectiveness of achieving the mode shift targets, as penetration of the scheme across counties varied from 5% to 45% this allowed an assessment of the linear association between scheme penetration and mode share changes from Census data in 2006 and 2011. This method was not attempting to assess whether a 15% mode shift away from the car was achieved. As we have noted, these targets seem unrealistic and, most likely, unachievable. Instead it was seeking to find strong linear association between the level of scheme intensity within counties and mode share changes from 2006 to 2011. No significant linear association is found with the eight most intensive counties in the programme.
Mode share changes, as surveyed by An Taisce themselves, are reported in their annual reports. The results of these surveys differ from Census analysis in that they appear to show more positive mode share changes, with up to 16% reductions in the level of car passenger trips. The largest beneficiary was a shift to "mixed modes" – but increases in other modes also occur, for example, up to 9% increases in cycling and/or walking. There are issues around the An Taisce survey methodology such as sample design, sample sizes and independence that would need to be addressed in the future. Given the independent nature of the Census, and the fact that it has no sample design or sample bias issues, this FPA places more weight on those results. It is difficult to envisage that the Census would not detect such marked behavioural changes in areas with extensive programme operations. Finally, the An Taisce results do suggest large changes in "attitudes" to travel – however, once again the reliability of such measures would again be improved through independent surveying.

In terms of summarising the outcomes of this report the key issues are:

1. The overarching objectives of the programme were unclear – for example whether behavioural change or attitude change is most important – or whether the volume of students in the programme is more important than the mode share change achieved.
2. The specific targets for the programme were poorly defined, drove expansion of the scheme rather than effectiveness, and potentially do not target the key goal of mode shift away from the car;
3. Programme management, and specifically the links between inputs (financial & staff) and outputs (activities) and outcomes were poor;
4. Efficient delivery will not be assured through current programme management and measurement;
5. The programme had a limited and/or uncertain effect on travel behaviour; and
6. There was a lack of robust evidence regarding the impacts of the programme and uncertainty will remain around independence of measures of success.

The report notes that the main options around future delivery include continued direct grant award, tender, or discontinuation. With regard to the latter it is felt that there remains sufficient policy rationale to intervene to address pollution and congestion issues including through some form of mobility management scheme in schools. This does not necessarily have to be the Green-Schools scheme in its current form. However, should
delivery continue through either the direct grant award mechanism, or through a tender process, the recommendations made remain valid through either approach.

To ameliorate the issues raised in the report a number of recommendations are made:

- Deciding on clear and coherent objectives for the programme;
- Revising the targets so that they are consistent with the objectives, achievable and measurable. Specifically the targets should focus on those areas that can deliver most benefits – such as concentrating on walking and cycling rather than mixed modes;
- Improving efficiency of the programme by using efficiency metrics to benchmark and set cost per school/pupil/etc. targets;
- Improving design and delivery of the programme by considering options associated with direct award versus tendering;
- Measuring the value of each activity in terms of achieving modal change;
- Putting in place an independent monitoring and evaluation process and improving data management; and
- Developing a long-term plan of continuous development that considers the merits of a sunset clause, making the programme self-sustaining and the benefits of working with similar programmes such as the Health Service Executive Active Flag Programme.
Green-Schools Travel Programme (2008-2012)

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<td>ASF</td>
<td>Active School Flag</td>
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<tr>
<td>COW</td>
<td>Cycle on Wednesdays</td>
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<td>CSO</td>
<td>Central Statistics Office</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<td>DART</td>
<td>Dublin Area Rapid Transit</td>
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<td>DES</td>
<td>Department of Education and Skills</td>
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<td>DPER</td>
<td>Department of Public Expenditure and Reform</td>
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<td>DTO</td>
<td>Dublin Transportation Office</td>
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<td>DTTAS</td>
<td>Department of Transport Tourism and Sport</td>
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<td>EFEU</td>
<td>Economic and Financial Evaluation Unit</td>
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<td>FEE</td>
<td>Foundation for Environmental Education</td>
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<td>FPA</td>
<td>Focused Policy Assessment</td>
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<td>FTE</td>
<td>Full Time Equivalents</td>
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<td>GDA</td>
<td>Greater Dublin Area</td>
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<td>GST</td>
<td>Green-School Travel</td>
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<td>GSTO</td>
<td>Green-School Travel Officer</td>
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<td>GSTDO</td>
<td>Green-School Travel Development Officer</td>
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<td>GWST</td>
<td>Greater Wellington School Travel</td>
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<td>LA</td>
<td>Local Authority</td>
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<td>NTA</td>
<td>National Transportation Authority</td>
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<td>PLM</td>
<td>Programme Logic Model</td>
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<td>PSC</td>
<td>Public Spending Code</td>
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<td>SLA</td>
<td>Service Level Agreement</td>
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<td>STD</td>
<td>Sustainable Travel Division</td>
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<td>STP</td>
<td>School Travel Plan</td>
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<td>TTSI</td>
<td>Travel to School Initiative</td>
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<td>VFM</td>
<td>Value for Money</td>
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<td>WOW</td>
<td>Walk on Weekdays/Wednesdays</td>
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Chapter 1 Introduction and Programme Background

The aim of this evaluation is to review the appropriateness/rationale, efficiency and effectiveness of the Green-Schools Travel (GST) programme. The evaluation is an interim evaluation, focusing on recipient schools and pupils of the programme from 2008-2012. Some inferences may be drawn from the schools that took part in the pilot programme but all cost comparisons will refer to the period 2008 – 2011 and also to 2012 where data allows. This Focused Policy Assessment (FPA) forms part of the Department of Transport, Tourism and Sports (DTTAS) commitment to the Public Spending Code (PSC) and evidence informed policy making as is outlined in the Departments Statement of Strategy 2011-2014.

In terms of rationale, one of the guiding principles of the DTTAS Statement of Strategy 2005-2007 was to encourage modal shift, manage demand and tackle congestion. Statistics at the time indicated that cars ownership had increased substantially and sustainable transport mode use had declined. Figure 1 presents Census travel to education mode share from 1986 to 2006, for pupils aged 5-12, which shows such trends were apparent in terms of travel to school. Due to this increase, externalities such as congestion and effects of emissions on climate change had become issues that needed to be addressed by policy intervention. A mobility management programme was the approach that DTTAS selected to address these externalities in a schools context. Mobility management is a concept to promote sustainable transport and manage the demand for car use by changing travellers’ attitudes and behaviour.
In 2005, the Dublin Transportation Office (DTO), the predecessor of the NTA, appointed An Taisce to conduct a two-year pilot school mobility management programme, as part of the Green-Schools Environmental Education programme. This pilot programme was conducted in the Greater Dublin Area (GDA). A DTO summary results document from this pilot reported positive results in the form of reduced car use and increased walking in the 29 schools considered. This success saw the full introduction of a fourth theme – Travel – to the Green-Schools Programme with year on year targets for the programme. The estimated resource allocation for the programme for five years was €10m (€2m per year) with a ratio of one Green-School Travel Officer (GSTO) for every 10 schools at development stage. It was envisaged that when the travel theme was established in the schools, minimal resources would be needed to maintain the programme. Subsequently at the beginning of the roll out of the programme in 2008, the DTTAS agreed to another staff role Green-School Travel Development Officer (GSTDO) to ensure that schools in the core programme (i.e. Litter and Waste, Energy and Water) were primed to undertake GST quickly and effectively. This role became obsolete in 2013.
Green-Schools, or Eco-Schools, as it is internationally known, is one of the main programmes promoted by the Foundation for Environmental Education (FEE). It is a long term voluntary, accredited programme that encourages school action towards a sustainable life. An Taisce introduced the Green-Schools programme to Ireland in 1997. Schools implement a seven step process over a two year process on each GS themes. Schools are awarded a Green Flag accreditation after successful implementation of the seven steps for a particular theme and add a new theme every two years. There are currently 93% of all children in Ireland participating in the overall GS programme, with 68% of participating schools having been awarded a Green Flag. The programme is supported by the Department of Environment, Community & Local Government, the DTTAS, Department if the Arts Heritage & Gaeltacht, the Department of Foreign Affairs, Irish Water and The Wrigley Company. Each Local Authority (LA) is also very important to the delivery of the programme. The Environmental Awareness Officers, where present, works with schools in their area to support the programme in the non-travel themes of the programme.

This programme is the largest sustainable schools programme in the world. There are over 30 international partners involved in providing Eco-Schools Travel. The Eco-Schools programme is based on ISO14001:2004 that requires an environmental management system to enable an organization to develop and implement a policy that takes into account legal and other requirements to which the organisation subscribes, and information about significant environmental aspects. FEE is an international umbrella organisation with one national member organisation per country representing FEE and in charge of implementing FEE programmes nationally. An Taisce is currently the national member for Ireland. FEE awards a Green Flag, an internationally acknowledged symbol for environmental excellence, to schools that are successful in implementing their environment management system. Green-Schools Travel is one of the themes schools can engage with to achieve environmental excellence.

In terms of background to the travel programme, the GST programme is an activity based mobility management programme aimed at encouraging students in the scheme to walk,

1 More information on the seven step process is available at http://www.greenschoolsireland.org/seven-steps-90.html
cycle, carpool, park and stride or get the bus as an alternative to private car for education based trips. The GST staff work directly with the schools to support sustainable travel to and from schools. The programme uses educational resources and initiatives to promote active modes as well as organising workshops and safety audits of routes to school to encourage modal shift. Schools have to complete three other Green-Schools modules (Litter and Waste, Energy and Water) before they are eligible for GST accreditation. The travel theme is more intensive than the Litter and Waste, Energy and Water themes, with five FTEs\(^2\) required to operate and manage the other themes compared to, on average, 29 FTEs required to operate and manage the travel theme. The Litter and Waste, Energy and Water themes mainly put the emphasis on the school to analyse the problem, devise an action plan, measure the outcomes and maintain the success of the programme. The travel theme has a higher level of interaction with schools and stakeholders in the local areas. GSTOs collate and analyse in school surveys, deliver summer courses to teachers, liaise with LAs and carry out other related activities.

Each eligible school spends one year in development phase of the programme and a further two years in the travel programme before they get GST accreditation. Once this is achieved there is no formal follow up interactions or measurements. However, schools must renew their flag every two years, and as part of the renewal process schools are asked to outline how they maintain and monitor the other three themes. Schools are also still invited to participate in events and challenges such as travel competitions, Walk to School Week, Bike Week, National Walk on Wednesday (WOW) and Cycle on Wednesdays (COW) as well as being invited to apply for cycle training grants.

### 1.1. Report Structure

As previously noted, this FPA will consider the rationale, efficiency and effectiveness of the GST programme – mainly in the context of the 2008 to 2012 period. The report will take the following structure:

- This chapter has introduced the broad aims of the FPA process, and background to the programme under consideration;

\(^2\) Correspondence with AN Taise indicates that 17 FTE of Local Authority Environmental Awareness Officers work on these themes but these officers are funded by the Local Authority directly
Chapter 2 will outline the terms of references of the evaluation, the detailed evaluation methodology and the data sources used in the report;

Chapter 3 will consider policy relevance, programme objectives and programme targets;

Chapter 4 will assess the efficiency of the GST programme;

Chapter 5 will examine the effectiveness of the programme;

Chapter 6 will introduce the relevant international programmes and compare cost associated with similar programmes in the UK and New Zealand against GST costs;

Chapter 7 will outline the possible alternative forms of delivery for the programme; and

Chapter 8 will conclude and outline the key issues and recommendations. Supplementary information is provided in the Appendices.
Chapter 2 Evaluation Methodology

This chapter aims to make clear the Terms of Reference, Programme Logic Model (PLM), report headings and data under which the programme was evaluated. The first section introduces the terms of reference that guided the overall analysis section. The second section introduces the PLM, the third section lists the headings under which the programme was analysed and introduces the general outputs under each heading and the final section introduces the data sources that were used to arrive at some of the conclusions outlined in Chapter 8.

2.1. Terms of Reference

The following are the Terms of Reference agreed by the technical group to guide this FPA. The Economic and Financial Evaluation Unit (EFEU), with the support and assistance of Sustainable Transport Division (STD), of the DTTAS was tasked to carry out a Focused Policy Assessment of the GST programme administered by the NTA and funded by the DTTAS. This review will cover the operation of the Scheme from 2008 to 2012.

This FPA is to be carried out in conformity with the Public Spending Code. The objectives of the FPA are:

1. Identify programme objectives and the continuing validity of those objectives and their compatibility with Government policy (Chapter 3);
2. Define the outputs associated with the programme services and identify the level, unit cost and trend of those outputs (Chapter 4);
3. Examine the extent that the programme’s objectives have been achieved, and review the effectiveness with which they have been achieved (Chapter 5);
4. Quantify the level and trend of costs, staffing resources and income supporting the programme (including grant assistance from all State sources and revenue from user charges) and review the programme’s efficiency and specify potential future performance indicators (Chapter 4, Chapter 5); and

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3 This FPA was guided by a technical group which was made up of members from DPER, DTTAS and DES. The members assessed the methodology of the evaluation and the interpretation of data to ensure fairness and accuracy in the report.
5. Evaluate the degree to which the objectives warrant the allocation of public funding on a continuing basis, examine the scope for alternative policy or organisational approaches to achieving these objectives on a more efficient and/or effective basis (Chapter 7 and Chapter 8).

2.2. Programme Logic Model – Green-Schools Travel (2008-2012)

A PLM was defined before the evaluation took place and edited as the process evolved. This model allowed the evaluators to visually consider the relationship among the resources and the activities associated with the programme and the link between these to the outcomes and impacts.

Objectives
- To increase school numbers each year
- To increase student participation in the programme each year
- To expand the geographic spread of the schools to ensure it is nationally representative
- To achieve and sustain a shift from private car based travel to school
- To build awareness of the impact of travel on the environment

Inputs
- Overall cost of scheme
  - Resource absorbed by An Taisce
  - Resource absorbed by NTA
- Number of staff and cost of administration in DTTAS and NTA

Activities (Inputs into Outputs)
- School Visits
  - Walk to School Week
  - Cycle/Walk on Wednesdays/Weekdays
- Park ‘n’ Stride

Outputs
- Number of school visits
- Number of training and travel seminars
- Geographic spread of scheme
- Increase in target group coverage

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4 Service Level Agreement – 2008 and Green-Schools Travel Annual Report 2012

5 The authors of this report, with the agreement of the technical group, have inferred the fifth objective of attitude change from the SLA due to the narrative in the SLA around changing “individual awareness” and “prepare to use other modes of travel, such as cycling, confidently and safely”
2.3. Report Structure - Main Headings and Outputs

In line with the Terms of Reference and PLM the analysis and report takes the following structure.

- **Data sources**
- **Rationale**
  - What is the problem to be addressed?
  - Alignment with policy at the inception of the programme
  - Appropriateness of targets
- **Efficiency**
  - Inputs and activities

### Outcomes & Impacts
- **Cumulative numbers of schools and pupils engaged in the programme:**
  - Cumulative number of pupils engaged in the scheme
  - Cumulative number of pupils in the scheme
  - Geographic spread of the scheme
- **Effects on Travel Mode Choice:**
  - Behavior Change
    - National and county level car mode share change between 2006 and 2011
    - National and county level cycling and walking mode share change between 2006 and 2011
  - Attitudinal change
    - Change in travel preferences in journey to and from school

### Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cost per:</th>
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<tbody>
<tr>
<td>Walking Bus</td>
<td>Active school, Active pupil, GSTO,</td>
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<tr>
<td>Bicycle training</td>
<td>Visit, Contact hour</td>
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<tr>
<td>Bicycle Parking</td>
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<tr>
<td>Cycleability Audits</td>
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<td>Get in Gear Course</td>
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<td>Workshops</td>
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<td>Teacher Training Course</td>
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<td>Travel Seminars</td>
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<td>Student Workshops</td>
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<td>Number of contact hours</td>
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Overall costs, staff costs, cost per school, cost per pupil, cost per GSTO and cost per contact hour.

- Effectiveness
  - Analysis of targets in SLA against NTA data
  - Mode of transport for those between the ages of 5 and 12 in 2006 and 2011:
    - Examination of the overall trend
    - Comparison of counties with low intensity versus areas high intensity.
  - Behavioural change
    - Behaviour change between baseline survey and other surveys on schools that participated in a GST programme.
  - Attitude change
    - Attitude change between baseline survey and other surveys on schools that participated in a GST programme.

- International comparison
- Alternative forms of delivery for the programme
- Conclusions, key issues, and recommendations

2.4. Data sources
This evaluation used several data sources as inputs to the analysis presented. Over the course of the evaluation there were issues with consistency of data from the programme operators specifically in relation to school, pupil and staff numbers. Information sourced as part of this analysis came from the following sources; NTA GST School list, Department of Education and Skills (DES) special and primary pupil lists, GST annual reports, An Taisce annual reports, direct correspondence with An Taisce and NTA and CSO Census 2006 & 2011.

2.4.1. NTA Green-School Travel school list
At the request of DTTAS the NTA provided a list of all schools involved in the programme from 2005 to 2011. This data included the name of the school, address, type (i.e. primary, secondary, etc.) start date and theme (i.e. pilot or travel). The data provided didn't have any reference information on the number of pupils engaged in the country. The main problem with the data was that schools were not linked to any unique ID, making it
difficult to distinguish between schools that had similar names or school that were recorded in English but officially known by their Irish name or vice versa. The data contained 775 entries; this included 4 adult schools, 4 pre-schools, 13 special schools, 63 secondary schools and 691 primary schools. This analysis will focus on primary schools because these are a key focus of the programme and due to the small samples of other types of schools.

2.4.2. Department of Education and Skills special and primary list

The DES maintains a database of all the schools in the country, the data is presented by roll number (i.e. unique ID), official school name, address, county, phone number, email address, ethos, Irish classification, total boys, total girls and total pupils. This data was manually cross referenced with the NTA GST school list by school name or address, in some cases name and address didn’t match, the approach in this case was to find the schools website and use information such as email addresses or telephone numbers to match the data. Data from 2012 was used to as a proxy for all school years in the evaluation.

2.4.3. Green-School Annual Reports

An Taisce, via the GST website, have published GST annual reports since 2008. The data contained in these reports have been used throughout the report but specifically for information on the; type and number of activities delivered each year, student travel patterns and student travel preferences. In order to monitor the progress and performance of participating schools over the two-year period of the programme An Taisce conducts up to four surveys per school at various stages across both academic years on a sample of schools. Schools undertake an initial baseline travel survey during the first two months of the programme (e.g. November 2010, followed by another survey towards the end of the first academic year which would be April 2011 in this case). To ensure a comprehensive and complete set of results this methodology is repeated over the

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6 Dept. of Education and Skills Pupil and school data can be found at http://www.education.ie/en/Publications/Statistics/Data-on-Individual-Schools/
7 Green-School Travel annual reports can be found at http://www.greenschoolsireland.org/mediaezines/publications-and-reports-1113.html
second year of the programme, continuing the example, with surveys in November 2011 and in April 2012. This process allows An Taisce to monitor the overall performance of the programme and provide information at an individual school level throughout the year. Teachers also monitor and measure progress themselves as part of the programme.

The surveys monitor travel patterns (i.e. behavioural change) and attitudinal change of pupils and staff over the period of the programme. GST staff survey students, via a class questionnaire, where pupils respond to questions by raising their hands. In a minority of cases, the class teacher conducts student surveys. Staff surveys are carried out in a similar format and usually in the staffroom by travel staff.

In addition to the regular student surveys carried out for the period 2010 to 2012, An Taisce conducted a longitudinal survey\(^8\) with approximately 1,000 students from participating schools (primary and secondary), for the same period. Each of the students were surveyed a total of four times (October 2010, May 2011, October 2011 and May 2012) to monitor their mode of travel to and from school. The results of these surveys are presented in Chapter 5.

### 2.4.4. An Taisce Annual Accounts\(^9\)

An Taisce annual accounts were also used to confirm the number of GSTOs and the proportions of spending that corresponded to the GST programme. The information within these annual reports formed the basis of figures used for the resources allocated to the programme - however additional information requests to An Taisce were necessary to confirm these figures.

### 2.4.5. CSO Census 2006 and 2011\(^10\)

Between 2006 and 2011, 109,839 primary pupils and 539 primary schools took part in the GST programme between 2006 and 2011, this accounts for 17% of all primary schools and

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\(^8\) A longitudinal survey is where the researchers conduct several observations of the same subjects over a period of time in this case two years.

\(^9\) [http://www.antaisce.org/governance](http://www.antaisce.org/governance)

21% of Irish primary students compared to 55 secondary schools and 28,114 secondary pupils which account for 8% of the secondary population. Based on this information the analysis focused only on the population of primary school going age. One should note that the Census is a survey of the entire population. It, therefore, offers full coverage of the cohort being considered in this review, and is not subject to any sample selection biases.

Data from question 19 in the CSO Census – “How do you usually travel to work, school or college?” was used to analyse the travel patterns of the relevant cohort. Census data from 2006 and 2011 for the age cohort of 5 to 12 year olds\(^{11}\) by county was used to calculate the observed mode share change between those two years. Inferences from these data are used in Chapters 4 and 5. The following chapter (Chapter 3) describes the programme and its targets in detail.

### 2.5. Summary and Discussion

This report draws on five key data sources which together form a comprehensive data set to inform the evaluation of the programme. The significant additional information was obtained directly from An Taisce throughout the FPA process. Throughout the evaluation it was recognised that, at times, different data sources pointed to conflicting findings. These problems mainly arose when comparing; (i) the number of pupils and schools participating in the programme in the annual reports compared to the data received from NTA, (ii) the number of active pupils\(^ {12}\) in the programme according to the GST annual report compared to the data from the NTA (iii) measures of behavioural change reported in GST annual reports versus the Census data and (iv) the level of GSTOs, GSTDOs and administration staff associated with programme. These specific issues are discussed throughout the report as they arise.

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\(^{11}\) School attendees between 5 and 12 are of the typical primary school attending age.

\(^{12}\) Active pupils refer to those students in the programme for a given calendar year. For example in 2009 students that started the programme at any time in 2009 and at any time in 2008 would be considered to be active due to the fact that the programme is 2 years in duration.
Chapter 3  Policy Relevance & Targets

This chapter will outline the relevant policies and strategies that brought about the introduction of the programme and those that continue to prioritise the concept of mobility management as policy tool for mitigating carbon emissions and reducing congestion. The second section of the chapter will present the targets as set out in the SLA, the third section will discuss the appropriateness of these targets and the final section will present the summary and conclusions of the chapter.

3.1. Policy Relevance and Programme Rationale

The Programme for Government (2007) highlighted a reduction in congestion and protecting the environment as key objectives of transport policy. Following this, the DTTAS incorporated an objective of promoting increased use of sustainable modes of travel and transport into its Statement of Strategy (2008-2012). The Smarter Travel Policy 2009-2020 was introduced as the key policy in addressing this problem. Specifically the GST programme, which launched in 2008, is one of the instruments employed in achieving the aims of the Smarter Travel policy through mobility management. These aims include: (i) reducing overall travel demand, (ii) maximising the efficiency of the transport network, (iii) reducing reliance on fossil fuels, (iv) reducing transport emissions and (v) improving accessibility to transport.

Furthermore, objective 10 in the National Cycling Framework, “improving the image of cycling and promote cycling using “soft interventions” such as promotional campaigns, events, etc.” is achieved through mobility management schemes such as GST. The GST programme, if successful, can influence these goals by encouraging car user’s shift to more efficient and sustainable behaviour (i.e. Car Pooling, Park and Walk, Public Transport, Cycling or Walking) thus assisting in the achievement of the goals and objectives above.

In response to this policy focus the NTA Statement of Strategy 2010-2011\(^\text{13}\) prioritised the encouragement of using more sustainable modes of transport by promoting a shift from the car to more sustainable modes of transport. One of the milestones to deliver this shift was supporting the GST programme. In the most recent NTA Statement of Strategy 2012-

2014\textsuperscript{14} the aim of encouraging use of sustainable modes of transport is still a priority but the milestones for delivery in relation to schools is now focused on guidelines and project management that support the raising of awareness among primary school pupils of sustainable transport options.

There is also significant evidence that developed countries similar to Ireland aim to address these issues through similar programmes at a school level. A detailed summary of these practices is provided in Chapter 6.

As of 2014 the programme continues to align with overall Government policy of reducing emissions, which is made explicit in the document Government for National Recovery 2011-2016. At a departmental level, the DTTAS Statement of Strategy for 2011-2014 highlights the promotion and advancement of greater sustainability in travel and transport as a key goal. One of the instruments used to achieve this is mobility management.

In terms of rationale, the rationale for government intervention is to ameliorate negative externalities that come in the form of pollution and congestion. Congestion results from car use on roads because they are a quasi-public good and access to the limited available space on roads is not restricted. Congestion is a negative externality because it imposes additional costs on other road users. Pollution is an additional negative externality from road transport that occurs with or without congestion. Negative externalities occur when the actions of one agent impose a cost on third parties for which they are not compensated. In this case, pollution and congestion from private car use are imposing costs on society such as increased travel times, serious health impacts and climate change. Thus, intervention is needed to encourage the target population to move to more efficient and sustainable modes.

### 3.2. Programme Targets

The GST programme is a mobility management scheme aimed at reducing the proportion of people in schools using private car as both their preferred and practical mode. The

Sustainable Transport Division (STD) within the DTTAS and the NTA (formerly the DTO) agreed the objectives of the programme and the respective targets to address the trend of increasing car use. The objectives and targets as set out in the terms of agreement between the Department and the NTA are:

- Increase the number of schools participating
  - From 49 schools in 2007 to 899 in 2011

- Increase the number of children participating
  - From 20,000 in 2007 to 222,000 in 2011

- Improve the geographic spread of the participating schools
  - In Leinster the number of schools should have increased to 411 by 2011,
  - In Munster the number of schools should have increased to 185 by 2011,
  - In Connaught the number of schools should increase to 252 by 2011, and
  - In Ulster the number of schools should increase to 51 by 2011.

- Achieve and sustain a shift from reliance on the private car for school transport by 2011:
  - Car mode share for those students that have participated or are participating should have decreased by 15%;
  - Mixed-mode mode share for those students that have participated or are participating should have increased by 3%;
  - Public transport mode share for those students that have participated or are participating should have increased by 2%; and
  - Walking and/or cycling mode share for those students that have participated or are participating should have increased by 11%.

- To build awareness of the impact of travel on the environment

15 While this was not explicitly mentioned in the targets, narrative in SLA refers to preparing young people to use more sustainable modes of travel.
Table 1: Summary of GST targets

<table>
<thead>
<tr>
<th>Targets</th>
<th>Cumulative number of Schools Participating</th>
<th>Cumulative number of Pupils Participating</th>
<th>Geographic spread of programme</th>
<th>Decreases/increase in reliance on mode of transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric</td>
<td>Schools</td>
<td>Pupils</td>
<td>Schools</td>
<td>%</td>
</tr>
<tr>
<td>By 2011</td>
<td>899</td>
<td>222,000</td>
<td>Lenister - 411</td>
<td>Car -15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Munster - 185</td>
<td>Mixed mode +3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Connaught - 252</td>
<td>Public Transport +2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ulster - 51</td>
<td>Walking and/or Cycling +10%</td>
</tr>
<tr>
<td>Source: GST SLA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The authors of this report, with the agreement of the technical group, have inferred the fifth objective of attitude change from the SLA due to the narrative in the SLA around changing “individual awareness” and “prepare to use other modes of travel, such as cycling, confidently and safely”.

3.3. Appropriateness of Programme Targets

The first 3 targets of increasing numbers of schools, pupils and geographic spread, do not encourage the providers of the scheme to target delivery of the programme to the pupils and schools most likely to change their modes. While the programme should be commended for outlining targets and objectives, the targets of the programme don’t drive efficiency or effectiveness of the programme rather they drive roll out of the programme. This points to a lack of an agreed, overarching, objective.

Transport for London states that School Travel Plans (STP), on average, have led to a 7% \(^{16}\) reduction in car trips. The summary report of Smarter Choice programme\(^ {17}\) in the sustainable travel towns in the UK estimates that car based trips to school reduced by 9-17%. However, more complete analysis of school based mobility management in the UK\(^ {18}\) found, through a comparison of data for schools with and without a STP, that STPs have not had a significant impact on average mode share figures, at an aggregate level, to date. An evaluation of STPs in New Zealand states that safe STPs are associated with an overall

\(^{16}\) http://www.tfl.gov.uk/static/corporate/media/newscentre/archive/5984.html


reduction in car travel of approximately 5%\textsuperscript{19}. The GST Pilot which focused on 29 schools in the Dublin, Wicklow and Kildare indicated that car use decreased by 8% in the journey to school and by 9% in the journey from school. These results were for the first year of the pilot in which there were 15 schools taking part in the programme. Taken together these all point to less ambitious targets being appropriate.

It was also noted during the analysis that the real targets inferred by the percentage target as set in the SLA did not add up. According to objective number four in SLA, the proportion of pupils in the programme (21%) between 2006 and 2011 and the number of trips by mode for Census 2006:

- Car passenger use will have decreased by 15%:
  - Reduction of 7,774 trips based on 2006 Census figures
- Mixed mode\textsuperscript{20} will have increased by 3%:
  - Not measurable through Census
- Public transport increase by 2%; and
  - Increase of 285 trips based on 2006 Census figures
- Walking or cycling increase by 10%:
  - Increase of 2,375 trips based on 2006 Census figures.

Summing the public transport and walking and cycling trips, the increase in sustainable modes would be 2,660, while mixed modes are not measurable, it is clear the targeted increase for mixed modes would not make up the difference between the increase in sustainable mode trips and the reduction in car passenger mode trips.

Notwithstanding the issues raised around these targets, it is clear that the most important target is achieving and sustaining a shift from reliance on the private car for school transport which will deliver the majority of societal benefits. It should be noted that the scale of these targets are extremely ambitious and most likely unachievable.


\textsuperscript{20} Mixed mode refers to a trip that uses a number of transport options. Park and Stride is the most common example of mixed modes. Park and stride is where parents driving their children to school can park in a nearby car park for a short time so that their children can walk the rest of the way to or from the school gate.
An overarching concern is the lack of clarity around the main objective of the intervention, for example whether congestion, GHG emissions, or health, is the main reason for intervention. Or, indeed, whether attitudinal change is as important as actual behavioural change. Without clarity around the key objective, the targets flowing from the objective will remain unclear.

3.4. Summary and Conclusions
This section considers whether the programme has a valid rationale and was appropriate with policies of the day as well as whether the targets were suitable.

The programme is undoubtedly aiming to address an identifiable negative externality in the form of congestion and pollution, and the programme is aligned with Governmental and Departmental strategy of reducing congestion and promoting the use of sustainable modes.

The targets set do not drive either efficiency or effectiveness of the programme. Three of the targets around school numbers, student numbers and geographic spread drive the extent of the programme rather than efficiency or effectiveness. The mode share targets expressed in the SLA are not internally consistent – the targeted reduction in car use cannot be met by the targeted increase in other modes. A key learning from the differences in the outlined percentage target and the inferred trip numbers is to explicitly outline both the number of trips and the percentage change in the mode share expected from the programme. Notwithstanding this issue, the scale of mode share targets is overly ambitious compared with available evidence. The evidence presented above, indicates that the targets set at the start of the programme were overambitious and should be scaled back to a level similar to evidence from other counties and the pilot (5%-8%).

Furthermore, future SLAs of GST should explicitly outline the key resources needed to deliver the programme. Staff numbers in particular should be outlined with the specific roles of each staff type outlined. Staff delivery of the programme within schools is essential to the success of the programme according to the An Taisce annual report and the results of the pilot.
Objectives should be ordered by priority with a clearly identifiable primary objective. The main benefits of the programme are from decreases in congestion, pollution and accidents as a result of reduced car trips, this should be reflected in the priority of the targets, with reducing car use as the main objective of the programme going forward. Finally, there is an overarching concern around lack of clarity on the key objective e.g. whether congestion, GHG emissions, or health, is the main reason for intervention. Or, indeed, whether attitudinal change is as important as actual behavioural change. Without clarity around the key objective, the targets flowing from the objective will remain unclear.
Chapter 4 Efficiency

An important aspect of an FPA is to examine the efficiency of delivery of the programme in question. Efficiency is considered here as the level of activities carried out for a given resource and cost. It is measured across a number of metrics including overall costs of the programme, costs of delivering certain activities and the efficiency of the staff resource employed to deliver the activities. These metrics will be presented in the following chapter.

4.1. Staff Structures and Programme Delivery

The GST programme has three strands of staff carrying out the programme. The first two strands focus on school engagement at different stages.

GSTDOs worked with schools in the final year of their core programme to ensure they were ready not only to agree to participate in the travel theme but also to have all the necessary structures in place within the school to ensure success. They profiled schools and their wider communities from the viewpoint of capacity and requirement for Green-Schools Travel, identify any barriers or negative perceptions that existed and resolved these issues. The key role of these officers is to hand over as many of the schools as possible in a high state of preparedness and readiness at the start of each school year. This is a direct description provided by An Taisce. This role became obsolete in 2013.

GSTOs work directly with schools in the programme, carrying out in-school visits, delivering programme activities such as bike maintenance, training teachers, organising stakeholder meetings, attending Green-Schools Awards for Travel and also the Green-Schools Competition Awards as well as carry out significant administration, travel and other activities such as liaison with LAs and organising workshops.

Finally the GST programme has management and administrative staff associated with the programme. The staff are associated with overall management, the positions include, a programme director, a programme manager, financial administrator and a communications officer.
The following sections and subsections will give more details on the efficiency associated with primarily the GSTDOs and GSTOs with some limited commentary on the administrative staff.

4.2. Expenditure

Over the period 2008-2012 the DTTAS allocated approximately €2m per annum (Table 2) over five years with an average draw down rate of 88%.

Table 2: DTTAS direct allocation to GST

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation</td>
<td>€2m</td>
<td>€2m</td>
<td>€2m</td>
<td>€1.905m</td>
<td>€1.905m</td>
<td>€9.81m</td>
</tr>
<tr>
<td>Drawdown</td>
<td>€1.449m</td>
<td>€1.940m</td>
<td>€1.997m</td>
<td>€1.508m</td>
<td>€1.785m</td>
<td>€8.679m</td>
</tr>
</tbody>
</table>

Source: DTTAS

In December 2012 the NTA commissioned Mazars to carry out an internal report which disaggregated costs for the programme over two years, staff costs accounted for approximately 72% of the total cost. Additional overheads costs of the programme consist of resources and materials (8.7%), cycle parking and training (4.5%), competition and awards (1.7%), other costs (3.2%), administration (2.2%) and overheads (8.1%). The additional costs associated with management (i.e. administration and overheads) seem high in proportion to the direct programme expenditure.

4.2.1. Staff Cost within DTTAS and NTA

During the period 2008 to 2012, the NTA and DTTAS staff administered grants and monitored the programme. The average proportion of their time and the costs associated with this over the evaluation period are below in Table 3.

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21 Staff calculations are inclusive of “management” costs which are associated with 3-4 support staff
Table 3: Average annual staff costs for GST, DTTAS and NTA, 2008-2012

<table>
<thead>
<tr>
<th></th>
<th>HEO</th>
<th>AO (Higher Scale)</th>
<th>AP</th>
<th>PO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Staff</td>
<td>1.25</td>
<td>1</td>
<td>1.25</td>
<td>1</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>5%</td>
<td>16%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>committed to programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-point salary</td>
<td>54,528</td>
<td>51,531</td>
<td>72,932</td>
<td>93,802</td>
</tr>
<tr>
<td>Wage total</td>
<td>3,408</td>
<td>8,245</td>
<td>6,382</td>
<td>8,442</td>
</tr>
<tr>
<td>+ PRSI @ 10.75%</td>
<td>366</td>
<td>886</td>
<td>686</td>
<td>908</td>
</tr>
<tr>
<td>+ Pension (13% for</td>
<td>443</td>
<td>824</td>
<td>830</td>
<td>844</td>
</tr>
<tr>
<td>DTTAS and 10% for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTA &amp; An Taisce of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mid-point Salary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+25% of Mid-point</td>
<td>852</td>
<td>2061</td>
<td>1,595</td>
<td>2,111</td>
</tr>
<tr>
<td>salary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average annual cost</td>
<td>5,069</td>
<td>12,017</td>
<td>9,492</td>
<td>12,304</td>
</tr>
</tbody>
</table>

The methodology for estimating the total support staff costs is clearly set out in the Public Spending Code (section E-01). The technical reference section recommends including PRSI, pension costs and an administrative overhead to arrive at total staff costs. For these calculations we assumed that:

- Employees were hired after April 1995 giving the value of 10.75% for PRSI;
- Pension costs in relation to NTA are 10%, the value given for a state sponsored body and in relation to DTTAS the value is assumed to be the 13%; and
- Administrative overhead according to E-01 in the Public Spending Code is 25%.

When all of the costs detailed above are applied to the programme the total cost of outside administrative assistance to the GST programme for the period 2008-2012 is €194,410 or €38,882 per annum. The total cost (allocation plus additional costs) of the programme between 2008 and 2012 was €8.87m, or €1.77m per annum.

4.3. Activities

As part of the GST programme a number of initiatives and activities are delivered in some schools over the two year programme. The following gives a brief introduction to the main activities carried out as part of the programme.

School visits support schools in implementing the programme on the ground and aim to provide advice, support and training to students, staff and parents. GST tailors and plans
each individual school visit to ensure all participating schools have access to timely and effective interventions for implementing their sustainable travel programmes.

**Walk on Wednesday (WOW) Days** or Walk Once a Week initiatives have been adopted by participating schools primarily to increase initial awareness around the benefits and possibilities of walking to school. They are often highly visible mass walking events and may be held on the same day for a series of weeks or months throughout the year. Many schools will use WOW to introduce the concept of walking to students that have previously avoided walking due to either real or perceived barriers.

**Cycle on Wednesday (COW) initiative** was developed by GST to encourage cycling to school at least once a week. The idea is that those students, teachers and parents that can or want to cycle are collectively encouraged to cycle to school once a week, usually a Wednesday (but it can be any day of the school week). COW can also be combined with other initiatives such as; making posters to raise awareness, making a healthy breakfast and organising cycling training or games in the yard.

**Park 'n' Stride** initiatives aim to encourage parents driving their children to school to park in a nearby car park for a short time so that their parents can walk their children the rest of the way to or from the school gate.

**Walking Bus initiative** is a term given to a group of school children who walk to and from school, supervised by volunteers (usually parents or guardians). This initiative allows parents to share responsibility on the school run and enables young people to walk, who would otherwise be driven to school by car.

**Cycleability/Walkability Audits** are used as an education tool to change attitudes and raise awareness of the issues faced by walkers and cyclers on the journey to school. It also allows children to take part in the decision making process and learn about their local environment. It improves students’ spatial awareness of their local environment.

**Cycle Training** aims to increase on and off-road cycling proficiency and skills among primary level pupils and second level students. Cycle training is promoted and supported by way of a grant system which interested schools may apply for during the academic
An Taisce is not in a position to carry out the training itself and schools are therefore responsible for sourcing and choosing their cycle training provider.

**Bike Maintenance** workshops focus on maintaining and looking after your bicycle to fixing punctures and replacing brakes. Bike maintenance sessions can be undertaken by GSTOs or if you have a willing bike mechanic in your community.

**Get in Gear Course** provides an introduction to cycling for adults; including parents, teachers and non-teaching staff associated or involved with the travel programme in participating schools. The course includes practical information and demonstrations on how to maintain a bike, bike safety and an element of basic cycle training and can be tailored for individual participants.

The following activities are taken from the annual reports of GST. A total of 1113 schools were visited 7759 times between 2009 and 2012. The table below summarises the total number of activities by year. According to the 2012 annual report, these activities are believed to be key in delivering a successful programme, “Direct engagement with schools is a key aspect of the Green-Schools Travel programme... These visits support schools in implementing the programme on the ground and aim to provide advice, support and training to students, staff and parents.”
### Table 4: All GST activities by year

<table>
<thead>
<tr>
<th>Activity</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Visits</td>
<td>1614</td>
<td>1875</td>
<td>2116</td>
<td>2,154</td>
<td>7759</td>
</tr>
<tr>
<td>WOW Days</td>
<td>205</td>
<td>307</td>
<td>1554</td>
<td>1,513</td>
<td>3579</td>
</tr>
<tr>
<td>COW Days</td>
<td>83</td>
<td>201</td>
<td>483</td>
<td>685</td>
<td>1452</td>
</tr>
<tr>
<td>Park ‘n’ Stride</td>
<td>118</td>
<td>248</td>
<td>1068</td>
<td>1,108</td>
<td>2542</td>
</tr>
<tr>
<td>Walking Bus</td>
<td>28</td>
<td>82</td>
<td>335</td>
<td>345</td>
<td>790</td>
</tr>
<tr>
<td>Cycle/Walkability Audits</td>
<td>10</td>
<td>126</td>
<td>251</td>
<td>217</td>
<td>604</td>
</tr>
<tr>
<td>Cycle Training</td>
<td>2301</td>
<td>137</td>
<td>177</td>
<td>150</td>
<td>2696</td>
</tr>
<tr>
<td>Bike Maintenance</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>Get in Gear Course</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>73</td>
<td>73</td>
</tr>
</tbody>
</table>


Further explanation and details on each activity can be found in the GST annual reports. All data above has been sourced from official An Taisce reports or correspondence with An Taisce.

#### 4.4. Number of Active Schools and Active Pupils

In the following section the metrics “active schools” and “active pupils” are introduced. Active in this case represents the number of schools or pupils currently participating in the programme for that particular calendar year and the preceding calendar year. The programme duration is two years, so at any one time there are two groups at different stages of development engaged in the programme. For example the number of active schools in 2009 is the schools that started the programme at any time in 2008 and those that joined the programme at any time in 2009. Continuing the example, 2010 active schools includes schools that started the programme at any time 2009 and those that started the programme at any time in 2010.

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22 2008 data is not available in annual reports  
23 Cycle/Walkability audits commenced in 2010  
24 Bike maintenance course commenced in 2012  
25 Gear course commenced in 2012  
26 Active schools and active pupil metrics are different from the “number of schools/pupils participating” metric presented in the effectiveness chapter (Chapter 5). The latter is a cumulative measure indicating the overall number of schools/pupils that have been engaged in the programme  
27 Calendar year is used for comparability with the drawdown rates.
4.4.1.1 Cost per Active School

In order to calculate the cost per active school, it was necessary to calculate the number of active schools for each year. For example, the number of schools active in the programme in 2009 is the number of schools that joined the programme at any time in 2009 and those that joined at any time 2008. Data for the number of schools in the programme was provided by the NTA and cross checked with data from the DES. Unfortunately the data supplied did not have full information for 2012, so 2012 is not included in the school or pupil metrics.

Over the period costs ranged from €3,916 per school in 2011 to €5,570 in 2009, a variance of €1,654 per year. The average (2009-2011) cost per school over the period is €4,826.

Table 5: cost per active school

<table>
<thead>
<tr>
<th>Number of active schools</th>
<th>Total Costs*(€)</th>
<th>Cost per Active School (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>303</td>
<td>1,687,800</td>
</tr>
<tr>
<td>2010</td>
<td>348</td>
<td>1,737,390</td>
</tr>
<tr>
<td>2011</td>
<td>335</td>
<td>1,311,960</td>
</tr>
</tbody>
</table>

*Total costs are exclusive of capital costs and inclusive of DTTAS and NTA administrative cost

4.4.1.2 Cost per Active Pupil

To estimate the cost per active pupil it was necessary to calculate the number of active pupils for each year. The number of active pupils was calculated using data supplied by the NTA linked to data from the DES, with 2012 pupil numbers used as a proxy for each active school. As with active schools, the number of pupils active in the programme in 2009 was the number of pupils that joined the programme in 2009 and those that joined in 2008.

From 2009-2011 cost per active pupil varied from €23 per pupil to €20 per pupil. The average number of active pupils involved over these years (2009-2011) is 72,060 at an average cost of €22 per pupil.

Table 6: Cost per active pupil

<table>
<thead>
<tr>
<th>Number of active pupils</th>
<th>Total Costs*(€)</th>
<th>Cost per Active pupil (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>76,171</td>
<td>1,687,800</td>
</tr>
<tr>
<td>2010</td>
<td>74,404</td>
<td>1,737,390</td>
</tr>
<tr>
<td>2011</td>
<td>65,605</td>
<td>1,311,960</td>
</tr>
</tbody>
</table>

*Total costs are exclusive of capital costs and inclusive of DTTAS and NTA administrative cost
4.5. School Engagement - Efficiency Metrics

The following section will present the cost of school engagement staff associated with the programme. The results for 2012 are unavailable for some metrics due to the time period of the data supplied by NTA. In order to arrive at costs for the programme some general evidence based assumptions had to be made in the absence of specific data, these assumptions are presented at the start of each subsection. The first subsection will detail the metrics associated with the overall school engagement staff associated with the programme, the second subsection will detail the metrics associated with GSTOs which according to the annual reports are the main staff aspect of the programme and the main in-school delivery mechanism of the programme. The third subsection will detail the main metrics for GSTDOs and the final subsection will give a brief commentary of the other costs associated administrative staff.

4.5.1. School Engagement Staff

The following subsection develops two key metrics that give an indication of efficiency associated with all school engagement staff. School engagement staff only refers to GSTO and GS DTOs. The metrics are:

- Cost per officer; and
- Cost per visit.

To develop these metrics the following assumptions were provided by An Taisce:

1. School engagement staff are responsible for GST in 25-30 schools per year – assumed average number of schools per GSTO of 28.
2. GSTDOs make on average three to four visits per school per year – assumed average number of four.
3. According to an internal Mazars report²⁸ on the GST programme, 87% of costs of the programme refer to current expenditure on the programme and 13% refers to capital expenditures. For this FPA, total cost has been discounted to reflect only current expenditure. Therefore, the efficiency metrics presented below are calculated on 87% of the total drawn down.

²⁸ Green-Schools Travel programme – Cost Allocation by School Size. December 2012
The reader should note that staff numbers referred to here are in specific reference to staff delivering the programme in schools and not to administrative and management staff of the programme. The number of administrative and management have ranged from two to four depending on the year in question. Although metrics surrounding efficiency of key specific activities could have proved valuable in assessing the efficiency of such activities, unfortunately there are no other data available that would allow the development of further metrics.

### 4.5.1.1 Cost per GST Officer

The table below presents costs per officer, the figures are calculated by summing the number of GSTOs and GSTDO and then dividing this sum by the total costs of the programme. The cost per officer ranges from €68,810 in 2010 to €49,664 in 2011, this is quite a large variance (28%) between years when staff numbers, which accounts for 72% of the programme costs, only increases by one over the period. The average cost per officer between 2009 and 2012 was €60,106.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Officers $^{29}$</th>
<th>Total Costs* (€)</th>
<th>Cost per Officer (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>24</td>
<td>1,260,630</td>
<td>52,656</td>
</tr>
<tr>
<td>2009</td>
<td>25</td>
<td>1,687,800</td>
<td>66,846</td>
</tr>
<tr>
<td>2010</td>
<td>25</td>
<td>1,737,390</td>
<td>68,810</td>
</tr>
<tr>
<td>2011</td>
<td>26</td>
<td>1,311,960</td>
<td>49,664</td>
</tr>
<tr>
<td>2012</td>
<td>26</td>
<td>1,657,350</td>
<td>62,553</td>
</tr>
</tbody>
</table>

*Total costs are exclusive of capital costs and inclusive of DTTAS and NTA administrative cost

### 4.5.1.2 Cost per Visit

Cost per visit metric was arrived at by adding the number of GSTO visits in the annual reports to the number of visits per GSTDO, as reported by An Taisce and dividing this sum by the total costs of the programme. From 2009 to 2012, 11,691 visits were carried out which is an average of 2,922 visits per year. The average cost per visit was €553, the highest cost per visit was €655 in 2009 and the lowest was €420 in 2011.

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$^{29}$ Numbers may not add up due to rounding
4.5.2. GSTO – Efficiency Metrics

The following subsection develops five key metrics that give an indication of efficiency associated with GSTOs. The metrics are:

- Cost per GSTO;
- Cost per school visit; and
- Cost per contact hour.

To develop these metrics the following assumptions were provided by An Taisce:

1. GSTO are responsible for GST in 25-30 schools per year – assumed average number of schools per GSTO of 28 30.
2. GSTO spends between one and six hours on a school visit – assumed average visits of three hours.
3. According to an internal Mazars report 31 on the GST programme, 87% of costs of the programme refer to current expenditure on the programme and 13% refers to capital expenditures. For this FPA, total cost has been discounted to reflect only current expenditure. Therefore, the efficiency metrics presented below are calculated on 87% of the total draw drawdown.
4. Due to the separate definitions of GSTO and GSTDO provided in section 4.1, cost in the following section refers to the number of GSTOs as a proportion of the total school engagement staff (e.g. 2012 GSTOs staff as a proportion of total staff was 72%).

30 These figures are not consistent with an average of 319 active schools and 17 GSTOs – which equates to 19 schools per GSTO.
31 Green-Schools Travel programme –Cost Allocation by School Size. December 2012
4.5.2.1 Cost per GSTO

The overall costs per GSTO are calculated by dividing the number of GSTOs, as provided by An Taisce, by the proportion of programme costs associated with GSTOs. These calculations were based on data sourced from the GST annual reports and An Taisce annual reports. Average total cost (2008-2012) per GSTO is €60,106 with the highest cost of €68,810 in 2010 and the lowest cost of €49,664 in 2011. A 28% reduction in cost per GSTO is significant and this change is driven from the non-salary cost of the programme. This is a notable variation in cost per GSTO over the period in question. It is important to note that this is not the salary associated with a GSTO – rather it is the total current expenditure on the programme per GSTO.

Table 9: Cost per GSTO

<table>
<thead>
<tr>
<th>Number of GSTO</th>
<th>Costs (€)</th>
<th>Cost per GSTO (FTE, €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>17</td>
<td>874,400</td>
</tr>
<tr>
<td>2009</td>
<td>17</td>
<td>1,140,585</td>
</tr>
<tr>
<td>2010</td>
<td>17</td>
<td>1,145,912</td>
</tr>
<tr>
<td>2011</td>
<td>17</td>
<td>864,983</td>
</tr>
<tr>
<td>2012</td>
<td>18</td>
<td>1,097,315</td>
</tr>
</tbody>
</table>

4.5.2.2 Cost per GSTO Visit

According to An Taisce, a school visit can take between one and six hours, without any other information regarding visit duration. Based on this information three hours is assumed to be the average time associated with a school visit. The number of visits below indicates that GSTOs are visiting, on average, three schools per week. This is based on the school year of 36.6 weeks – rather than the full working year of a GSTO.

Considering Table 10 below, between 2009 and 2012 cost per visit ranged from €690 to €409, with an average cost (2009-2012) of €555 per visit. Whilst this variation essentially reflects the variation in total costs between years – it is again notable.

32 Numbers may not add up due to rounding
4.5.2.3 Cost per GSTO Contact Hour

Visits to active schools by GSTO are a central aspect of the GST programme. Therefore, metrics around cost per contact hour are informative. This information, which is sourced from correspondence with An Taisce and GST annual reports, together with average time associated with a school visit allows for a per contact hour calculation. The number of contact hours in 2009 was 4,842 where as in 2011 there were 6,348 contact hours, the cost of a contact hour was €230 and €136, respectively. The average cost of a contact hour from 2009-2012 was €185.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of visits</th>
<th>Average time per visit</th>
<th>Total visit time (hours)</th>
<th>Total Costs (€)</th>
<th>Cost per contact hour (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,614</td>
<td>3</td>
<td>4,842</td>
<td>1,140,585</td>
<td>230</td>
</tr>
<tr>
<td>2010</td>
<td>1,875</td>
<td>3</td>
<td>5,625</td>
<td>1,145,912</td>
<td>204</td>
</tr>
<tr>
<td>2011</td>
<td>2,116</td>
<td>3</td>
<td>6,348</td>
<td>864,983</td>
<td>136</td>
</tr>
<tr>
<td>2012</td>
<td>2,150</td>
<td>3</td>
<td>6,450</td>
<td>1,097,315</td>
<td>170</td>
</tr>
</tbody>
</table>

In summary this subsection has examined the cost of delivery of GSTOs across a number of metrics. Table 12 below summaries five key efficiency metrics GSTOs, between 2009 and 2011/2012, costs are relatively variable. More discussion on the efficiency of these metrics is provided in the following sections and conclusions.
Table 12: Summary of costs of GSTOs

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost per Active School (€)</th>
<th>Cost per Active Pupil (€)</th>
<th>Cost per GSTO (FTE, €)</th>
<th>Cost per School Visit (€)</th>
<th>Cost per Contact Hour (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>…</td>
<td>…</td>
<td>52,656</td>
<td>…</td>
<td>…</td>
</tr>
<tr>
<td>2009</td>
<td>5,570</td>
<td>22.16</td>
<td>66,846</td>
<td>690</td>
<td>230</td>
</tr>
<tr>
<td>2010</td>
<td>4,993</td>
<td>23.35</td>
<td>68,810</td>
<td>611</td>
<td>204</td>
</tr>
<tr>
<td>2011</td>
<td>3,916</td>
<td>20.90</td>
<td>49,664</td>
<td>409</td>
<td>136</td>
</tr>
<tr>
<td>2012</td>
<td>…</td>
<td>…</td>
<td>62,553</td>
<td>510</td>
<td>170</td>
</tr>
<tr>
<td>Average</td>
<td>4,826</td>
<td>21.84</td>
<td>60,106</td>
<td>555</td>
<td>185</td>
</tr>
</tbody>
</table>

4.5.2.4 Consideration of Efficiency of GSTO

The previous section referred to the cost of GSTO. These GSTOs deliver numerous GST activities but unfortunately there is no data on the relationship between GSTOs and the activities they carry out. In an effort to gauge the level of efficiency of the GST staff resource, we have carried out some high level analysis which is presented below. All data used in this analysis is sourced either directly from correspondence with An Taisce or from official sources (An Taisce annual reports, DES). It should be noted that these are estimates and averages based on the information available.

Based on the total number of visits per year per officer cited in GST annual reports, over the period 2008 to 2012 each travel officer, GSTO and GSTDO, makes an average of 113 school visits per year. For one officer this is the equivalent of three visits per week of the school year (school year is 36.6 weeks). This seems to be a low amount of contact per week considering that the travel officers are seen as key to the success and uptake of the programme. An Taisce did provide information that indicates that GSTOs also carry out significant administration, travel and other activities such as liaison with LAs, organising workshops and training.
Stakeholders, namely NTA and An Taisce, have reported that GSTOs interactions with schools are key to the success of the programme. During the process of developing these metrics, it was noted that GSTOs are currently contracted for a 32.75 hours per week. Increasing contracted hours to a level similar to public and civil servants would increase the efficiency of the programme. Increasing contracted hours to 39 hours per week would represent 19% increase in capacity or increasing to 37 hours per week would represent a 13% increase in capacity. By increasing hours worked the programme would immediately see an increase in the number of visits per officer and an increase in the activities carried out by officers as they would have more capacity.

### 4.5.3. GSTDO – Efficiency Metrics

This subsection develops efficiency metrics for GSTDOs. The metrics give an indication of efficiency associated with GSTDOs and may act as a benchmark for future analysis and performance monitoring. The metrics are:

- Cost per GSTDO; and
- Cost per GSTDO visits.

To develop these metrics the following assumptions were provided by An Taisce:

1. GSTDOs are responsible for between 25-30 schools per year – assumed average number of school per GSTDO of 28.
2. GSTDOs make on average three to four visits per school per year – assumed average number of four.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Visits</th>
<th>Contact Visits (academic year)</th>
<th>Yearly Visits per GSTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,614</td>
<td>2.6</td>
<td>97</td>
</tr>
<tr>
<td>2010</td>
<td>1,875</td>
<td>3.1</td>
<td>113</td>
</tr>
<tr>
<td>2011</td>
<td>2,116</td>
<td>3.3</td>
<td>121</td>
</tr>
<tr>
<td>2012</td>
<td>2,150</td>
<td>3.3</td>
<td>123</td>
</tr>
<tr>
<td>Average</td>
<td>1,939</td>
<td>3</td>
<td>113</td>
</tr>
</tbody>
</table>
3. According to an internal Mazars report on the GST programme, 87% of costs of the programme refer to current expenditure on the programme and 13% refers to capital expenditures. For this FPA, total cost has been discounted to reflect only current expenditure. Therefore, the efficiency metrics presented below are calculated on 87% of the total draw drawdown.

4. Due to the separate definitions of GSTO and GSTDO provided in section 4.1, cost in the following section refers to the number of GSTDOs as a proportion of the total school engagement staff.

4.5.3.1 Cost per GSTDO

To calculate the cost per GSTDO it was necessary to calculate the total FTE associated with the GSTDO and then divide by the costs associated with GSTDOs. The numbers of GSTDOs increase from seven in the first year of the programme to nine for the all other years. The trend of total cost per GSTDO increases to €68,810 in 2010 and then decreases by 28% in 2011 but then increases by 26% in 2012, the last period of the series. The average total cost of the GSTDO is €60,106. Again, it is important to note that this is not the salary associated with a GSTDO – rather it is the total current expenditure on the programme per GSTDO.

Table 14: Cost per GSTDO, 2008-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>GSTDO (FTE)</th>
<th>Total Costs* (€)</th>
<th>Cost per GSTDO (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>7</td>
<td>386,230</td>
<td>52,656</td>
</tr>
<tr>
<td>2009</td>
<td>9</td>
<td>574,595</td>
<td>66,846</td>
</tr>
<tr>
<td>2010</td>
<td>9</td>
<td>591,478</td>
<td>68,810</td>
</tr>
<tr>
<td>2011</td>
<td>9</td>
<td>446,977</td>
<td>49,664</td>
</tr>
<tr>
<td>2012</td>
<td>9</td>
<td>560,035</td>
<td>62,553</td>
</tr>
</tbody>
</table>

*Total costs are exclusive of capital costs and inclusive of DTTAS and NTA administrative cost

4.5.3.2 Cost per GSTDO visit

According to An Taisce, GSTDOs are responsible for 25-30 schools and make between three and four visits per school per year. Without any other detailed information the table

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33 Green-Schools Travel programme – Cost Allocation by School Size. December 2012
34 Numbers may not add up due to rounding
below has been developed. Table 15 below shows the total cost per GSTDO visit, these visits are to actively encourage and prepare schools for the travel programme. The cost of visits is arrived at by calculating the total number of visits per year, for example in 2012 an average of 1,003 schools were visited by GSTDOs, and then dividing this number by the proportion of costs\textsuperscript{35} associated with GSTDOs for that year.

Cost per visit over the period is variable, the highest cost per visit is observed in 2010 and the lowest cost is observed in 2011 – the variability between these two years is significant considering there were no major changes in staff\textsuperscript{36}. The difference between 2011 and 2012 is caused by a slightly lower number of FTEs (8.95) working on the programme in 2012 compared to exactly nine FTEs working on the programme in 2011. The average cost per visit over the period was €537.

\textbf{Table 15: Cost per GSTDO visits}

<table>
<thead>
<tr>
<th>GSTDO (FTE)\textsuperscript{37}</th>
<th>Number of Schools per Officer</th>
<th>Number of Visits per School per Year</th>
<th>Total Number of Visits per Year</th>
<th>Total Costs</th>
<th>Cost per GSTDO Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>7</td>
<td>28</td>
<td>4</td>
<td>822</td>
<td>386,230</td>
</tr>
<tr>
<td>2009</td>
<td>9</td>
<td>28</td>
<td>4</td>
<td>963</td>
<td>574,595</td>
</tr>
<tr>
<td>2010</td>
<td>9</td>
<td>28</td>
<td>4</td>
<td>963</td>
<td>591,478</td>
</tr>
<tr>
<td>2011</td>
<td>9</td>
<td>28</td>
<td>4</td>
<td>1,008</td>
<td>446,977</td>
</tr>
<tr>
<td>2012</td>
<td>9</td>
<td>28</td>
<td>4</td>
<td>1,003</td>
<td>560,035</td>
</tr>
</tbody>
</table>

In summary this subsection has presented two metrics that aim to assess the efficiency of the GSTDOs. The merits of this role and its functions are uncertain considering the performance of the programme which is discussed in Chapter 5.\textsuperscript{38} We also note that these

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\textsuperscript{35} Total costs are 87\% of the total drawdown of the programme plus the supplementary administrative costs of DTTAS and NTA in managing the programme.

\textsuperscript{36} According to the internal Mazars report staff costs account for approximately 72\% of total costs.

\textsuperscript{37} Numbers may not add up due to rounding

\textsuperscript{38} The existence and role of GSTDOs, and accordingly attributable impact, was only notified when the review had already been substantially progressed, prior to which GSTOs were the only officer type referred to by An Taisce. It could also be argued that purpose of the GSTDO duplicates the requirement that schools complete three Green Flags before commencing the Travel Programme. Furthermore, according to the 2012 Green-Schools annual report, activities associated with the GSTDO role are attributed to GSTOs.
GSTDOs are not mentioned in any material way in the annual reports. This excerpt from page 37 of the 2012 GST annual report suggests that the GSTOs may actually be carrying out some of the GSTDOs roles - “Throughout the academic year Green-Schools Travel Officers organised and facilitated various teacher training seminars and workshops across the country...The format of the seminars generally included; an introduction to the Travel theme and concepts of sustainable travel, highlighting successes to date, and providing ideas for how to implement the programme successfully. Teachers were presented with case-studies from their local areas to show-case local initiatives and to demonstrate how barriers to sustainable travel have been overcome by other school.” Further commentary on efficiency on the GSTDOs is provided below and in Chapter 8.

4.6. Non-Staff Costs

The above sections have considered the staff costs associated with the programme. It should be noted that the non-staff cost of the programme relate to approximately 28% of the total costs of the programme, these costs include resources and materials, cycle parking and training, competitions and awards, administration, overheads and other. While staff numbers increased by two from 29 to 31 between 2011 and 2012, total costs increased by 26% - this suggests that the non-staff costs have been driving the large variability between 2011 and 2012.

4.7. Summary

According to the analysis above An Taisce are spending the majority of their funding allocation (88%), the total cost of the programme between 2008 and 2012 was €8.84m (€1.77m annually) inclusive of DTTAS and NTA staff costs over the period. This expenditure delivered significant levels of activities with 21,234 activities delivered between 2008 and 2012.

In terms of current expenditure, costs of school engagement staff between 2008 and 2012 are on average €60,106 and the average cost per visit of these engagement staff between 2009 and 2012 are €553. When the costs are broken down further for GSTO specifically between 2008 or 2009 and 2011 or 2012 where data allows; average cost (2009-2011)

per active school was €4,826, average cost (2009-2011) per active pupil was €22, average cost (2009-2012) per contact hour was €185, average cost (2008-2012) per GSTO was €60,106 and average cost (2009-2012) per visit was €555. When costs are broken down for GSTDOs between 2008 and 2012 the average total cost per GSTDO was €60,106 and the average total cost per GSTDO visit was €537. These metrics could improve future monitoring of the programme.

The large variance in the cost per GSTO, cost per GSTO visit, cost per GSTO contact hour, cost per GSTDO and cost per GSTDO visit between 2011 and 2012 along with the fact that efficiency improved dramatically in the period between 2010 and 2011 despite no material changes in staff numbers, which accounts for 72% of the costs of the programme, is concerning.

While An Taisce could not provide any detailed breakdown of the number of activities per school or per GSTO some consideration was given to the efficiency of the GSTOs. According to data received from An Taisce, GSTOs make on average 113 visits per year to schools. There was also an issue with inconsistencies in the data particularly with the number of schools per officer. According to An Taisce GSTOs are responsible for between 25-30 schools per year, but calculations based on the number of active schools and the number of GSTOs suggests the number of schools per GSTO is closer to 18-20. Both of these results seem low considering the cost of the GSTOs as a share of total expenditure. Correspondence with An Taisce, GST annual reports and the pilot results indicate that GSTO contact with schools is important from the schools point of view to encourage and drive the success of the programme. Going forward options should be considered to increase the amount of visits and total contact hours per school by GSTOs.

The efficiency of GSTDO is difficult to gauge with current information. The actual role of GSTDO is not explicit in any public documents (i.e. GST Annual Reports) and considering the findings in the effectiveness chapter the merits of this role are uncertain particularly when evidence from the annual report suggests GSTOs carry out activities which should be carried out by GSTDOs.
Finally, the four other themes of the Green-Schools programme require five directly employed FTEs to administer and deliver\textsuperscript{40}, compared to an average of 29 directly employed FTEs required to administer and deliver the travel theme. Although the GST theme is more intensive than these themes, future consideration of relative scale of resources may be merited. More detailed conclusions around efficiency are provided in Chapter 7 and Chapter 8.

\textsuperscript{40} Local Authority staff, in the form of Environment Awareness officers also contribute to programme delivery – An Taisce state that 50% of their time is spent on the GS Programme.
Chapter 5 Effectiveness

This chapter will assess the degree to which the objectives and targets of the programme were achieved. The targets were previously outlined in section 3.2; the first three targets of the programme will be assessed against the actual number of schools participating according to data provided by NTA. The fourth and most important target of the programme is assessed on an aggregate level and county level using CSO Census data to gauge if there is strong linear association between the level of programme activity and county level trends in car passenger mode share and walking and cycling mode share. The assessment of target four will also include information on travel to school patterns of pupils as monitored by An Taisce in a school hands up survey and a longitudinal survey of the GST programme. Having considered the evidence with regard to behavioural change, finally this section will consider attitudinal changes in the form of student's travel preference before and after the programme as presented in GST annual reports.

While it is acknowledged the targets are inappropriate and should be revised, the programme administrators and operators were working towards targets as outlined in the SLA and therefore at least the first three targets of increasing participation by increasing the number of schools, pupils and geographic spread of the programme should be assessed against the targets set out. The fourth target will be assessed slightly differently as the targets of this are likely unachievable. Therefore the analysis will look at whether there is a strong linear association between the level of intensity\(^4\) of the programme and mode share changes between 2006 and 2011. More detail on the approach is provided below.

5.1. Targets and Results

Target one according to the SLA was to increase the number of schools participating. Table 12 below details the target and the actual number of schools. The number of schools in the programme exceeds the target for 2007 and 2008. However, post 2008 the number of schools participating is below the target. The trend of the actual number of schools being

\(^4\) Intensity refers to the primary school pupils engaged in the programme as a percentage of the total primary pupils in that county
below the target is increasing from 2009. The data presented here is sourced from the NTA list of Green-Schools.

**Table 16: Target of increasing number of participating schools versus actual number of schools**

<table>
<thead>
<tr>
<th>Year</th>
<th>Target No. of Schools Participating</th>
<th>Number of Schools Participating (Cumulative)</th>
<th>Difference between Target and Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>49</td>
<td>133</td>
<td>84</td>
</tr>
<tr>
<td>2008</td>
<td>274</td>
<td>274</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>450</td>
<td>435</td>
<td>-15</td>
</tr>
<tr>
<td>2010</td>
<td>683</td>
<td>622</td>
<td>-61</td>
</tr>
<tr>
<td>2011</td>
<td>899</td>
<td>770</td>
<td>-129</td>
</tr>
</tbody>
</table>

Considering target two, increasing the number of pupils participating, 2007 was the only year the programme exceeded the target. Post 2007 the difference between the actual number of students and the target increases year on year from a difference of 25,239 in 2008 to 44,583 in 2011. Again the data presented here is sourced from the NTA list of Green-Schools, with pupil numbers calculated from matching 2012 pupil numbers from the DES data.

**Table 17: Target of increasing number of participating pupils versus actual number of pupils**

<table>
<thead>
<tr>
<th>Year</th>
<th>Target No. of Children Participating</th>
<th>Number of Pupils Participating (Cumulative)</th>
<th>Difference between Target and Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>20,000</td>
<td>35,641</td>
<td>15,641</td>
</tr>
<tr>
<td>2008</td>
<td>99,000</td>
<td>73,761</td>
<td>-25,239</td>
</tr>
<tr>
<td>2009</td>
<td>140,000</td>
<td>111,812</td>
<td>-28,188</td>
</tr>
<tr>
<td>2010</td>
<td>180,000</td>
<td>148,165</td>
<td>-31,835</td>
</tr>
<tr>
<td>2011</td>
<td>222,000</td>
<td>177,417</td>
<td>-44,583</td>
</tr>
</tbody>
</table>

The third target focused on the geographic spread of schools participating. Table 18 below shows that the scheme out performed its targets in every year in Munster and in all years but 2011 in Ulster. On the other hand the target for Lenister and the target for Connacht is

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42 These cumulative figures relate to all students (including primary, secondary and special schools) that are taking part or have completed the programme. For example those in the programme in 2008 include the 2007 figure of 70 schools plus those that entered the programme in 2008. This metric is different from the active pupil metric presented in Chapter 4. The active metric refers to the schools that are currently taking part in the programme.

43 Figures for 2007 in this table include all schools that are in the programme in 2007 and the years previous to 2007 (i.e. 2005 and 2006)

44 Figures for 2007 in this table include all pupils that are in the programme in 2007 and all years previous to 2007 (i.e. 2005 and 2006)
only achieved in 2007. It is particularly concerning that the targets are not being met in Lenister as it is has the largest urban areas where congestion and pollution costs would be higher. The data is sourced from the NTA list of Green-Schools.

<table>
<thead>
<tr>
<th>Year</th>
<th>Lenister</th>
<th>Munster</th>
<th>Connaught</th>
<th>Ulster</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>10</td>
<td>34</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>2008</td>
<td>-15</td>
<td>18</td>
<td>-5</td>
<td>3</td>
</tr>
<tr>
<td>2009</td>
<td>-38</td>
<td>30</td>
<td>-10</td>
<td>4</td>
</tr>
<tr>
<td>2010</td>
<td>-60</td>
<td>26</td>
<td>-28</td>
<td>2</td>
</tr>
<tr>
<td>2011</td>
<td>-86</td>
<td>20</td>
<td>-58</td>
<td>-4</td>
</tr>
</tbody>
</table>

In summary, as of 2011, the first three targets agreed in the SLA have been partially achieved. Target one of increasing the number of schools participating in the programme outperformed the target in 2007 and 2008 but in the three preceding years targets have not been achieved and the difference between the target and the actual number is increasing. Target two of increasing the number of pupils is much the same. Actual pupil numbers exceed the programme target for 2007 but in all years post 2007 the difference increases. Finally target three is achieved in Munster and Ulster up to 2010. But Lenister and Connacht the targets are not achieved continually from 2008 to 2011.

5.2. Behavioural Change - Analysis of Mode Shares

This section will consider the impact of the programme on the fourth target which aims to increase sustainable modal share and reduce car mode share. This section will first consider the aggregate picture of mode share change for all primary students between 2006 and 2011, and then the mode share changes for each of the targets on a county basis. Both are based on CSO Census data.

As previously discussed, the main target group of the programme are children attending primary school. Therefore, this analysis focuses on the 5 to 12 years old age cohort within the Census.

Again, as previously outlined, the list of Green-Schools that was provided by the NTA was manually linked to the 2012 primary schools from the DES. Manual data linking was necessary due to the fact that the Green-School data was not labelled with a school roll number or unique ID. The most recent pupil numbers (2012) were used to estimate the numbers of students involved in the programme.
Based on the above it was calculated that 109,839 primary pupils and 539 primary schools took part in the GST programme between 2006 and 2011, this accounts for 17% of all primary schools and 21% of Irish primary students.

The aggregate picture with regard to mode share for travel to school for 5 to 12 year olds between 2006 and 2011 is presented in Figure 2 below. Primary pupil numbers increased by 13% from 455,45545 in 2006 to 516,45846 in 2011. However, as the SLA targets refer to mode shares the increased numbers in primary schools is not of significant relevance in terms of understanding behavioural change. Cycling mode share increased from 0.9% in 2006 to 1.3% in 2011 and car passenger mode share increased in the 5-12 year old age cohort from 56% to 61%. On the other hand public transport saw a mode share reduction from 16% to 12% and walking mode share also reduced from 24.9% to 24.3%.

Figure 2: Children aged between 5 and 12, mode share for travel to school

Source: CSO Census 2006 and 2011

5.3. Primary School – Analysis of Evidence for Behavioural Change

The chart below shows both GST primary schools as a proportion of total primary schools (green) and GST primary school pupils as a proportion of total primary pupils (red), by county. The data is sourced from the GST list provided by the NTA, the details of this data are explained in Chapter 2.

GST schools and pupils were lowest in Monaghan, only 3% of schools and 5% of the students were engaged in the programme. The greatest pupil coverage was in Sligo with 45% of students (30% of schools) involved in GST and Galway also has a notably high numbers of schools (32%) and pupils (42%). Data that was provided on a city and council basis was combined to form a county data point for each of the counties.
Figure 3: Green-Schools and pupils as % of total primary school population, by county

Source: NTA and Department of Education, 2012

5.3.1. County Analysis Methodology Using CSO Census Data

In order to evaluate target four (Appendix 1), the data was prepared to give the intensity of the programme as measured by the percentage of primary school students engaged in the programme in each county (Figure 4 - green area chart, right axis) and the percentage change in mode share for those aged between 5 and 12 years old, between Census 2006 and 2011 by county (Figure 4 blue column chart, left axis) for the given mode. By using Census data for those aged between 5 and 12 years old the analysis focuses on the largest cohort of pupils engaged in the programme47.

When the change in car passenger mode is compared against the intensity of Green-Schools (Figure 4) no trend is obvious, although two of the counties (Kerry and Sligo) with a high proportion of pupils in GST see some of the highest increases in car passenger mode.

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47 One should note that the Census is a survey of the entire population and as such this survey includes all of the travel preferences of the whole primary school population.
share – which is not the trend expected given the goals and targets of the programme. The average percentage point increase in car passenger mode share for all counties was 5.8%. Meath has seen the smallest increase in car passenger mode shares and Longford has experienced the largest car passenger mode share increase. The main conclusion of this analysis that that there is no evidence of strong linear association\(^{48}\) (Appendix 6) between the intensity of the programme at the primary school level within counties and mode share outcomes observed between Census 2006 and Census 2011.

*Figure 4: Car passenger mode-share and intensity of GST programme by county, 5 to 12 year olds*

![Car passenger mode-share and intensity of GST programme by county, 5 to 12 year olds](image)


The rationale behind using this approach is to see if there was evidence of better mode share performance at primary school level (i.e. greater sustainable mode share increase or a lower car mode share increases) in those counties that had the highest intensity than in those with lower intensity. Counties that received little or no intervention at a primary

\(^{48}\) When a correlation coefficient is calculated an R value of 0.17 is found which indicates that there is a weak positive linear relationship between car passenger mode share change and programme intensity. Basically as intensity of the programme increases car mode share increases – more detail is provided in Appendix 6
school level (Cavan, Cork Meath and Monaghan) act as the counterfactual. The expected outcome of the analysis if the programme is effective on an aggregate level is a strong linear association between the intensity of the programme and modal change. The justification for using this data is that there was very little GST intervention in 2006 compared to a fully operational programme in 2011 so one should expect to see some linear association between the county intensity of the programme and the county mode share change between 2006 and 2011.

Figure 5 below presents the walking and cycling mode share by county and the intensity of the programme by county, again for the age cohort 5-12. Those counties that received the least support, in terms of numbers of pupils that have taken part in the programme, actually saw the largest increase in those walking or cycling. There is no obvious pattern although the areas that would expect to see the largest positive mode share change experienced the largest decrease in walking or cycling as a mode. The counties that saw the largest positive increase in cycling and walking are, Meath, Laois and Louth. When cycling and walking are considered separately, cycling has experienced an average increase across the majority of countries with an average decrease of 0.24% in mode share. On the other hand walking has declined across the majority of counties by an average of 0.34%. In line with the finding for car mode share, there is no evidence of strong positive linear association between the programme intensity at a primary school level and an improved performance in walking and cycling mode share changes from Census 2006 and 2011.

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49 Unfortunately there was no way to measure Park and Stride because the Census does not measure this mode. It is also very challenging to measure the benefits of Park and Stride because it is difficult to calculate what proportion of the journey is carried out by car and the proportion of the journey by foot.

50 School data that was segregated by county or city was aggregated by county to ensure comparability with Census data.

51 When a correlation coefficient is calculated an R value of -0.48 is found which suggests that there is a weak negative linear relationship between walking and cycling mode share change and programme intensity. This means that as intensity of the programme increases walking and cycling mode share decreases – more detail is provided in Appendix 6.
Figure 5: Walking and cycling mode-share and intensity of GST programme, 12 to 5 years old

Source: NTA GST data and Dept. of Education pupil data and CSO Census 2006 & 2011.

Further breakdown of the cycling, walking and public transport modes are provided in Appendix 4. While the SLA did explicitly mention public transport as a target the analysis does not read much into to the results between 2006 and 2011. One factor may be the significant changes that occurred to the school bus transport environment over this period. From the start of the 2011/2012 school year the Primary School Transport Scheme experienced three key changes; introduction of charges, changes to school transport provision under the Central/Closed School Rule and changes to minimum numbers required for the establishment and retention of a service. In conclusion, for travel to school for children aged 5 to 12 car passenger mode share across all counties increased by an average of 5.8% between Census 2006 and Census 2011. The target agreed in the GST SLA was a reduction in car passenger mode share of 15%. Although the target is

52 More information on these changes can be found at http://www.schooldays.ie/articles/Primary-School-Transport-Scheme.
unrealistic compared to academic studies that show the target range should be closer to 5%, the Census does not provide evidence of a strong positive linear association between the intensity of the scheme and the observed mode share changes between 2006 and 2011. When considering cycling and walking mode share change the evidence suggests that the counties in which the programme is most intense have actually reduced their cycling and walking mode share. It is also of note that results of the Go Dundalk project found that schools which have not received GST support are as much or more likely than those involved in the programme to record positive sustainable modal shift patterns.

5.3.2. An Taisce Survey Results – Travel patterns of GST Pupils to School

As noted, a key indicator for the GST programme was modal shift from the car to other more sustainable modes. Accordingly, the most applicable statistics are how pupils travelled to school before the programme and how they travelled to school at the end of the programme. The analysis above looked at this issue using CSO Census data for 2006 and 2011. However, An Taisce also monitor behavioural change themselves as part of the programme. The data used in this section is sourced from the Green-School annual reports. The following section will present these statistics as collected from a sample of schools in each tranche of Green-Schools. It should be noted that these are surveys of samples of students rather than the whole population.

The following tables and discussion presents the survey results of the travel to school patterns of GST pupils that were collected via an in-school survey for three cohorts; 2008-2010, 2009-2011 and 2010-2012, this information is extracted from GST Annual reports. Chapter 2 explains in detail the methodology behind these surveys.

The results of these surveys for schools that first engaged in the programme between 2008 and 2010 are below in Table 19. The trend of reducing car use is evident with a reduction in car mode share of -16%. The use of more sustainable modes such as walking (8%), cycling (1%), mixed modes (5%) and train (4%) all increased whereas bus mode share decreased by 7%.
Table 19: Travel patterns of GST pupils to school, 2008-2010 cohort

<table>
<thead>
<tr>
<th>Mode</th>
<th>Baseline Survey N=94</th>
<th>Final Follow on Survey N=107</th>
<th>Increases/Decreases in Mode Share between Baseline 2008 &amp; Final Follow-on Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>58.8%</td>
<td>42.7%</td>
<td>-16%</td>
</tr>
<tr>
<td>Walk</td>
<td>18.4%</td>
<td>26.6%</td>
<td>8%</td>
</tr>
<tr>
<td>Cycle</td>
<td>3.6%</td>
<td>4.8%</td>
<td>1%</td>
</tr>
<tr>
<td>Mixed Modes (Park ’n’ Stride)</td>
<td>6.0%</td>
<td>11.0%</td>
<td>5%</td>
</tr>
<tr>
<td>Bus</td>
<td>17.5%</td>
<td>11.0%</td>
<td>-7%</td>
</tr>
<tr>
<td>Train</td>
<td>0.0%</td>
<td>3.7%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: GST Annual report, 2010

Considering the cohort that started GST in 2009 and finished the programme in 2011 the results are mixed across the different modes. Private and public bus use has declined while those walking or cycling has increased by 3%. Mixed modes saw the largest relative increase at 7%, car transport for this cohort reduced by 9%.

Table 20: Travel patterns of GST pupils to school, 2009-2011 cohort

<table>
<thead>
<tr>
<th>Mode</th>
<th>Baseline Survey N=103</th>
<th>Final Follow on Survey N=178</th>
<th>Increases/decreases in Mode Share between Baseline 2009 &amp; Final Follow-on Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>51%</td>
<td>42%</td>
<td>-9%</td>
</tr>
<tr>
<td>Walk or Cycle</td>
<td>29%</td>
<td>32%</td>
<td>3%</td>
</tr>
<tr>
<td>Mixed Modes (Park ’n’ Stride)</td>
<td>6%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>Private Bus</td>
<td>12%</td>
<td>11%</td>
<td>-1%</td>
</tr>
<tr>
<td>Public Bus</td>
<td>3%</td>
<td>2%</td>
<td>-1%</td>
</tr>
</tbody>
</table>

Source: GST Annual Report, 2011

Table 21 below shows the difference in students actual travel patterns at the start of the programme (2010) and at the end of the programme (2012). The largest percentage increase was in the mixture of modes category with an increase in mode share of 9%. Walking and cycling mode share increased by 6% and 2%, respectively. Bus mode share reduced by 4% for private bus and those using public bus declined by 0.1%.

53 This refers to the number of schools surveyed – the number of pupils surveyed are not reported.
Table 21: Travel patterns of GST pupils to school, 2010-2012 cohort

<table>
<thead>
<tr>
<th>Mode</th>
<th>Baseline Survey N= 181</th>
<th>Final Follow on Survey N= 175</th>
<th>Increases/decreases in Mode Share between Baseline 2010 &amp; Final Follow-on Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>55%</td>
<td>40%</td>
<td>-15%</td>
</tr>
<tr>
<td>Walk</td>
<td>23%</td>
<td>29%</td>
<td>6%</td>
</tr>
<tr>
<td>Cycle</td>
<td>4%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Mixed Modes (Park ‘n’ Stride)</td>
<td>4%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Private Bus</td>
<td>11%</td>
<td>7%</td>
<td>-4%</td>
</tr>
<tr>
<td>Public Bus</td>
<td>2.1%</td>
<td>2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Other</td>
<td>0.5%</td>
<td>1.77%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: GST Annual Report, 2012

In summary, according to the An Taisce Surveys, students in all three cohorts have reduced their car use significantly (16%, 9%, 15%). The statistics suggest that both private and public bus use is declining. The decrease in bus may, at least in part, be attributed to changes to the Primary School Transport Scheme. The scheme experienced three key changes; introduction of charges, changes to school transport provision under the Central/Closed School Rule and changes to minimum numbers required for the establishment and retention of a service. Mixed modes had one of the largest proportionate increases across all sustainable modes. Walking and cycling recorded increases across all the groups. The differences in the modes categories between surveys makes comparison difficult, particularly when cycling and walking are presented together and when train is represented in one survey but not in the others.

As noted above, mixed modes saw the largest positive changes across all three samples. While this signals students are changing their behaviour the benefits of mixed modes are uncertain. It is also worth noting that mixed modes formed only a small part of the targeted change in the SLA. The programme’s main benefits stem from reduced congestion and pollution, while mixed modes can reduce the direct congestion from the school, these trips are still adding congestion to the school route and stop off areas may just be pushing the congestion to a different point on the network. Mixed modes ability to reduce pollution is also questionable. The benefits of mixed modes are very difficult to estimate, the closeness of the school to the drop off point(s) is unknown making any estimates about the benefits of this mode difficult to estimate consistently for all participants in the
programme. Going forward the programme administrators should consider the value of the benefits of mixed modes and whether mixed mode is an appropriate and measurable target.

A further issue that should be addressed with these surveys in the future are around how surveys carried out. Surveys are carried out in the school via a stated preference hands up survey and in some instances these surveys are administered by teachers. Stated preference surveys may not be the best method to carry out these surveys as the respondents are aware of what is being measured so there may be an element of survey bias. Perhaps of more concern would be to ensure that sample design and selection follows best practice. The programme managers should consider setting aside some of the budget to carry out continuous independent evaluation of the outcomes of the programme. Such independent evaluation should ensure that best practice survey design and survey methods are used – and that the risks of self-assessment of performance removed.

The surveys report figures that are not replicated at a national or county level calling into question how representative the samples are of the total population. This poses questions around survey design, the previous section showed that the number of schools in the samples varied from the baseline to the follow on and no counterfactual group was assessed making the value added of the programme difficult to estimate.

| Table 22: Summary of travel patterns of GST pupils to School |
|-----------------|-----------|-----------|-----------|-----------|
| Mode            | 2008-2010 | 2009-2011 | 2010-2012 | Average   |
| Car             | -16%      | -9%       | -15%      | -13%      |
| Walk or Cycle   | 9%        | 3%        | 8%        | 7%        |
| Mixed Modes     | 5%        | 7%        | 9%        | 7%        |
| Public Transport| -3%       | -2%       | -4%       | -3%       |

5.4. Attitudinal Change – Green-School Annual report

Previous sections have covered the issue of behavioural change. This section focuses on changes in attitude – again as measured by An Taisce themselves. The aim of this segment of the survey was to measure students attitudes towards different modes during the
course of the programme. More detail on the technical aspects of this survey is provided in Chapter 2.

5.4.1. **Attitudinal Impacts**

One of the inferred objectives of the programme is to achieve attitudinal change in the target group, of school pupils. In any refresh of the programme this objective should be explicitly targeted and monitored, furthermore if future travel sustainability as a result of attitude change is the aim of the programme this should be listed and ranked in the objectives and targets of the programme.

Over the duration of the programme An Taisce collected student’s preferences and other information via a school survey conducted by either the teacher or GST staff. The attitudinal impacts are sourced from GST annual reports that document the change in attitudes over the course of the programme.

5.4.1.1. **Stated Preferences for Travel to School**

Surveys are carried out with cohorts of students over three periods, 2008-2010, 2009-2011 and 2010-2011, the detailed survey methodology is explained in Chapter 2. Students were asked how they would prefer to travel to school given the choice of any mode of transport. In summary students who preferred car as a mode of transport declined in all three of the cohorts, the earliest cohort 2008-2010 saw the largest change in preferences towards car as a mode. Walking as a preferred mode increased in two of the three cohorts, the two groups that saw a positive increase experienced increases of over 10%, whereas the 2010-2012 group saw a decline of 2% (Table 23).

Cycling as a preferred mode increased over the three groups, the 2009-2011 cohort saw the largest increase (28%) of any mode over the all the groups. In terms of students preferences for public transport the results are mixed, the first cohort (2008-2010) preference decreased while the second (2009-2011) remained neutral, the preference for public transport in the third group of students (2010-2012) increased. From the surveys private bus as a mode choice has declined, and mixed modes, remained stable in the second and third cohort but declined by 4% in the first group.

Considering over 170,000 students took part in the programme up to 2011 – on the basis of the An Taisce attitudinal surveys the programme is having a substantial effect on the attitudes of those children/schools/teachers who have engaged in the programme.
However as highlighted in the behavioural change discussion above, concerns remain over the appropriateness of the survey techniques used to collect this information.

**Table 23: Summary of student travel preference to school, mode change**

<table>
<thead>
<tr>
<th>Mode</th>
<th>2008-2010</th>
<th>2009-2011</th>
<th>2010-2012</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>-15%</td>
<td>-6%</td>
<td>-1%</td>
<td>-7%</td>
</tr>
<tr>
<td>Walk</td>
<td>13%</td>
<td>12%</td>
<td>-2%</td>
<td>8%</td>
</tr>
<tr>
<td>Cycle</td>
<td>11%</td>
<td>28%</td>
<td>1%</td>
<td>13%</td>
</tr>
<tr>
<td>Mixed modes (Park ‘n’ Stride)</td>
<td>-4%</td>
<td>0%</td>
<td>0%</td>
<td>-1%</td>
</tr>
<tr>
<td>Private Bus</td>
<td>-10%</td>
<td>0%</td>
<td>-1%</td>
<td>-4%</td>
</tr>
<tr>
<td>Public bus</td>
<td>-4%</td>
<td>0%</td>
<td>1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Other</td>
<td>n/a*</td>
<td>n/a</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Other was not a reported category

**5.5. Longitudinal Student Survey - Final Results May 2012**

An Taisce also carried out a longitudinal student survey over the 2010 to 2012 period, the details of this longitudinal survey are explained in Chapter 2. The longitudinal survey recorded a 20.1% mode share reduction in the private car on the journey to school. This compares with 15% reduction recorded in the survey above (Table 21) for the same period. Overall results from the longitudinal survey indicate an increase in walking of 27% and reduction in car use of 45% over the period of the programme - as compared to 26.8% & 46.5% respectively for the student preference survey questions. Cycling increased two fold from the baseline longitudinal survey.

There are variations in the results for travel mode ‘to’ and ‘from’ school recorded in the longitudinal survey. They do however follow a similar pattern with both showing an overall decrease in the car mode and increase in other more sustainable modes over the study period. The variations in to and from school patterns were:

i. Walking was typically 3-4% higher from school than to school;

ii. Car usage was higher by approximately 5% to school than from school; and

iii. There was no difference in the cycling mode share to and from school.

When comparing urban to rural schools the modal share shift from the private car is slightly better for rural schools. The only area of better performance from the urban catchment was in walking to school, however rural schools are starting from a lower base for sustainable travel and higher levels of car travel.
5.6. Discussion on the Difference between Census Data and Green-Schools Data

Results on behavioural change presented above differ between the data sources. The Census data indicates that there is no evidence of strong linear association between the programme intensity and positive mode share changes. However, the GST annual report survey data indicates that on average students in the programme reduce their car use by 13%, increase their walking and cycle use by 7%, increase their mixed mode use by 7% and decrease their public transport use by 3%.

It is worth considering what these stated mode share changes in the GST surveys would mean in real terms. Concentrating on car mode share on a county basis and taking Sligo as a county level example. The 2011 statistics for Sligo indicate that car mode share increased from 55% in 2006 to 63% in 2011, and approximately 45% of the primary student population completed or started the programme. If those primary school students who were involved in the programme reduced their car mode share by 13% a reduction of 226 car trips would have occurred. In mode share terms, this would mean the GST schools car mode share in 2011 would be 48% whereas those not in GST programme car mode share would have increased to 76%. This translates to the non-GST population increasing car mode share by 21% from 2006 to 2011 to compensate for the increase in the GST population.

Looking at the State as a whole, 2011 Census statistics show that car mode share increased from 58% in 2006 to 62% in 2011 and approximately 21% of the primary school population had completed or started the programme by 2011. If those primary students involved in the programme reduced their car use by 13%, their car mode share would have decreased from 58% in 2006 to 50% in 2011(reduction of 8,236 trips). To compensate for this, those students not in the programme would have had to increase their mode share from 58% in 2006 to 65% in 2011. For these GST survey results to be plausible large increases in mode share would have had to occur in areas where GST does not operate. However, the previous analysis in section 5.3.1 has shown that this is not the case, with mode share changes at county level essentially independent of level of GST activity.
For the purposes of this report the Census results are considered to represent a more robust and independent way to analyse the impacts of the programme given the national nature of the programme.

5.7. Summary and Conclusions

This section presents an analysis of the effectiveness of the GST programme – based on the objective and targets agreed in the SLA.

According to results of this analysis four of the five targets set in the SLA were partially achieved. The first three targets of increasing school, student and geographic participation were partially achieved as of 2011, the trends show that the difference between the target and actual figures is increasing year on year.

Census analysis indicated that there was a variable distribution of the scheme throughout the country with relatively high intensity in counties such as Sligo and Kerry and low intensity in other counties (i.e. Cavan, Monaghan, etc.).

With regard to behavioural change, analysis of Census 2006 and 2011 results for the age 5-12 cohort shows no strong linear association at a county level between programme intensity and positive sustainable mode share changes over the period. Although the results of the in-school surveys carried out by An Taisce indicate that significant car passenger mode share decreases occurring in the programme population analysis suggests these results imply implausible increases in car use amongst the non-programme population. Furthermore issues around survey design, sampling and the independence of monitoring arise with regard to the An Taisce data. A further issue of note with regard to behavioural change is the fact that large increases in mixed mode use are reported in the An Taisce survey. This mode has a low target value in the SLA and consideration is needed on the role of mixed mode in terms of promoting sustainable travel.

With regard to attitudinal change, again using An Taisce survey data, the attitudinal preferences for sustainable modes increased across all three cohorts. The findings were variable across each cohort particularly for mixed modes; but across all surveys the preference for car, mixed modes (i.e. Park and Stride) and public transport reduced and the preferences for walking and cycling increased.
Chapter 6  International Comparators

This chapter seeks to compare similar programmes in other countries. According to FEE officials, 30 of the 58 countries involved in providing FEE services support a travel theme\textsuperscript{54}. The most comparable countries are England, Northern Ireland, Wales, New Zealand and US. The evaluators contacted these providers directly but programme operators did not have or could not share the detailed programme information therefore this section will concentrate on the publicly available information. This chapter will explain the programmes in operation in Scotland, Northern Ireland, United States, Denmark and Norway as well as providing detailed cost information on programmes in England and New Zealand that can be used to compare against the GST programme. It is however recognised that each programme has differing levels of resources and delivery mechanisms. This chapter also shows that school based mobility management do form part of the sustainable transport policy tool kit across a wide range of countries.

6.1. England & Scotland

The travel theme of Eco-Schools in the UK is funded from multiple sources including the Department for Transport, Scottish Government, Translink NI, City Bridge Trust, Esmée Fairbairn Trust and the Big Lottery Fund.

The Eco-Schools initiative is delivered in a similar manner to the programme in Ireland. Keep Britain Tidy manage the Eco-Schools programme, but the main delivery of schemes and information packs are designated by a charity called Sustrans with some of the walking initiatives provided by Living Streets.

Sustrans provides more than 120 expert officers working intensively in over 1,400 schools across the UK and they support several hundred more schools. According to their website officers have an enormous impact in the first year of working with a school, typically achieving:

- Double the number of children cycling to school every day;
- Over a quarter of children regularly cycling to school; and
- Fewer cars on the school run.

\textsuperscript{54} A comprehensive list of the countries is provided in the Appendix.
They also provide resources to help schools and professionals working with young people to encourage active, sustainable travel:

- **Bike to School Week guide** 55 - schools can run a bike to school week any time of year with their step-by-step programme to successfully promote cycling to school
- **Suss It Out** 56 - 5 themed sheets, each with 10, 20 and 30-minute simple, snappy activities to inspire action and discussion on active travel
- **Big Street Survey** 57 - a curriculum resource where young people study the area around their school to identify the positive and negative features, draw up a manifesto for change and deliver it to local and national decision-makers to make it happen.

Wherever possible they also work with their partners to make the streets around schools safer for children by improving crossings or building new walking and cycling routes linking schools to their community and the National Cycle Network. They focus on:

i. Auditing existing walking and cycling provision in and around schools
ii. Conducting walking and cycling feasibility studies
iii. Design and delivery of improvements to crossings and access points around schools, and reducing traffic speed
iv. Design and delivery of walking and cycling routes to schools
v. Installing cycle and scooter storage.

According to Sustrans, 340,000 pupils in 1,400 schools have worked with them resulting in an 80% increase in the number of children regularly cycling to school and a 100% increase in those cycling every day.

6.1.1.1. **Travelling to School Initiative (TTSI)**

TTSI is a joint undertaking by the Department for Transport and the Department for Children, Schools and Families, which launched in September 2003. The scheme compromises a series of measures to increase healthy and sustainable mode of transport and reduce congestion in relation to pupils travel to and from schools in England. The main aim is to reduce the trend towards greater car dependency in school travel.

A key focus for the programme has been to work with schools in developing STPs supported by a number of local and regional travel advisors.

**6.1.1.2. Outputs**

The UK government has provided capital and revenue funding to the scheme, by March 2010 £35m (€42m) of revenue funding was provided principally for TTSI staffing roles. This money has funded 263 Travel Advisors (250 school travel advisors, 11 Regional School Travel Advisors and 2 Regional School Travel Curriculum Advisors) which resulted in 81% of schools England having a STP in place by March 2009. This equates to a cost per school of €2,344 and cost per pupil of €8.74 (Appendix 3).

**6.1.1.3. Outcomes**

A detailed evaluation considering statistically significant differences between modes finds small decreases in the proportion of pupils travelling to school by car, an increase in car share activity and small but statistically significant, increases in walking and cycling. However the authors note that these changes are not directly attributable to the TTSI. When these results are examined through a comparison of schools with and without a STP the evaluation found that STPs have not had a significant impact on average mode share figures, at an aggregate level. The authors of the report do note that the data may underestimate the effect of the programme on school travel behaviour.

The evaluation concluded that the programme delivered a cost benefit analysis ranging room 0.1 to 1.2, signalling poor to low value for money using Department for Transport guidance. Again authors caveat this by saying if all the benefits of reducing car traffic only are directly attributable to the programme the returns are equal to the implementation costs and health benefits of students are not included in the cost benefit analysis.

The evaluators recommend that the programme continues in an adapted form, suggesting the sources of the funding be considered due to the current climate of constraints on the public sector funding and the relationship between local and central Government. In conclusion they recommend a focus on the following areas:

- STP should focus attention on maximising mode shift;
- Develop accreditation schemes to encourage schools to develop high quality and effective STPs;
Addressing the parental concerns regarding road safety to ensure potential benefits associated with the implementation of on and off site infrastructure are realised;

Developing an understanding on where there is greatest potential for influencing travel behaviour, to enable scarce resources to be prioritised effectively; and

Sharing of best practice amongst schools and LAs in terms of engaging with pupils and parents, influencing attitudes and travel behaviour, and benefitting from lessons learnt in general.

6.2. New Zealand

The New Zealand Transport Authority provide guidance on their website on how to develop a STP and they also run an active transportation initiative for schools called Feet First which is designed to complement STPs. Participation in this programme has grown from 170 schools in 2007 to 428 schools in December 2009.

6.2.1.1. Regional Programmes

More specific sustainable programmes were run at a regional level in New Zealand. Since 2005 Auckland Transport has managed the Travelwise programme, over this time objectives have developed from reducing single occupancy car travel to also including reducing accidents and improving road safety. In 2012 a number of new processes were introduced to make the programme more efficient and more focused on safety and congestion. These change included:

(i) Introduction of a Safe STP;

(ii) Clustering of schools to provide greater efficiencies for delivery – schools located a congestion points on critical urban arteries were prioritised; and

(iii) Development of whole school approach, in line with guidance from New Zealand Transport Authority (this includes approximately 11.5 STP coordinators who deliver the programme in partnership with an equivalent number of staff from seven local councils).

The Travelwise School programme delivers a number of activities. The following is a list of the types of activities provided:

- Bike Safety - an initiative that develops a partnership with the New Zealand Police School Community Officers to deliver a programme that provides cycle safety
education and cycle training to Year 5 and Year 6 students across the Auckland region.

- Scoot Skills training – A pilot initiative introduced in 2012 aimed to increase basic scooter skills and safety. The pilot initiative saw the number of students increase by 1,784 to 2,246 students. The programme was rolled out in full to the Auckland region in 2013.

- Infrastructure improvements – The Travelwise School programme focuses on delivering Safe School Transport activities and initiatives in areas where major infrastructure improvements are underway. A key part of the programme is delivering pedestrian crossing improvements, electronic warning signs and 40km speed zone restrictions within the vicinity of schools.

- School Buses – A considerable investment into school buses occurred in 2012 to provide 400 dedicated school buses servicing 154 schools, carrying a total of 2,645,141 passenger trips.

- Pasifika Road Safety Book - a report by NZTA indicated that Pacific Island children have a 31% higher risk of road traffic injury compared to other children. Auckland Transport has therefore developed a road safety book for pre-schoolers in a number of languages. This was the first book of its kind for pre-schoolers.

- Walking School Bus – a safe and supervised way for children to walk to school. The success of these walking buses depends on parent volunteers to make the initiative successful.

Targets for the programme for the period 2006-2016 are (i) a 9% reduction in car trips to school (equivalent to 5.5% modal shift) (ii) 12,600 fewer trips to school by car during the morning peak and (iii) full coverage of STP in all Auckland schools by 2014. In 2012 160,000 students in 103 schools joined the programme. Since the introduction of the

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58 Pasifika refers to indigenous people of the Pacific Islands
programme walking and cycling trips increased by 6.7% (2,220 daily trips) and car trips decreased by 6.5% (11,097 daily trips), indicating the programme is having some effect.

In Wellington, Greater Wellington School Travel (GWST) planning was introduced in late 2006, it is coordinated by the Greater Wellington Regional Council in partnership with the surrounding local councils. The GWST provides training, resources, and other support to local council staff delivering school travel programme.

In Christchurch School Travel Planning is a component of the Greater Christchurch Travel Demand Management Strategy which had the objective of developing STPs in 20% of schools by 2012 and 80% by 2019 leading to a 20% reduction in car travel to school.

6.2.1.2. *Average STP Costs*

Data is collected on the programme metrics at a regional level. According to its annual evaluation report of the Auckland Travel wise programme average cost of developing and implementing a STP is €15,595 (NZ$25,000) per school, whereas in Wellington the average cost is €11,228 (NZ$18,000) and in Christchurch the average cost is estimated at €10,604 (NZ$17,000) which includes a one off grant of €2,495 (NZ$4000)\(^{59}\). Average cost of programme across the three regions is €11,644. This cost is inclusive of capital expenditure on cycle and walking facilities.

6.3. *Northern Ireland*

Northern Ireland has been operating Eco-Schools since 2008 with 10 ten themes for schools to complete and sustain. Over 90% of schools in Northern Ireland are registered as Eco-Schools\(^{60}\). Translink\(^{61}\) sponsor the transport theme of Green-Schools. One key difference is that Eco-Schools NI has partnered with the local town councils and boroughs as well as a large employer to provide “in-school” support such as educating, informing and facilitating practical interventions.


\(^{60}\) http://www.eco-schoolsni.org/facts.aspx

\(^{61}\) Translink is the brand name of the three operating companies which operate scheduled bus and rail services in Northern Ireland, including cross-border and cross-channel links.
6.4. US

In December 2008, the National Wildlife Federation (NWF), a non-profit organisation, was granted Eco-School host status for K-12\(^{62}\) schools in the United States.

4.5.3.3 Objectives

- To raise awareness about the impact of travel on the environment and people's health
- To inspire and enable children and parents to walk, cycle and use public transportation
- To implement an effective road safety awareness program for students and their families
- To provide adequate support and information for students and staff who wish to walk, cycle or use public transport

6.5. Denmark

The Outdoor Council is a non-governmental organisation founded in 1942. It operates as an umbrella organisation, today with 94 individual member organisations. These are all national organisations and together they cover practically all types of outdoor recreational activities as well as nature protection interests. The aim of the Outdoor Council is to promote outdoor recreation for organisations and the general public under consideration of both environmental needs and needs for nature protection. The member organisations are all represented in the General Assembly, the highest body of authority of the Council. The daily operation of the Outdoor Council is managed by a board and carried out by a secretariat.

6.6. Norway

Similar to other countries transport is a theme of the Eco-Schools Norway. The programme here has more of a focus on pre-schools. The programme supports over 900 schools in 17 counties and 92 municipalities including:

- 530 Nursery Schools

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\(^{62}\) The K-12 school system is the one that most Americans are familiar with. It is comprised of 13 grades (kindergarten-12th grade), and K-12 schools are found in the US, Canada, Britain, and some parts of Europe.
While conducting background research for this paper it was clear that evaluation in this field is at a very early stage and published evaluation results were difficult to find. Two countries that did publish evaluation reports were the UK and New Zealand.

The costs of the programmes considered are in Table 24 below, readers should use some caution because the programmes are not identical. Based on the table below the GST unit costs per school and per pupil are high compared to UK, which as a benchmark has an annual cost per pupil of €8.74 and annual cost per school of €2,344. While cost per school is available for New Zealand it was not possible to remove the infrastructure element of the cost so it is not directly comparable. The figure for the UK is based solely on non-infrastructure costs and detailed breakdown of the workings to arrive at UK costs is provided in Appendix 3.

Table 24: Cost comparison, €

<table>
<thead>
<tr>
<th>Country</th>
<th>Average annual cost per School</th>
<th>Average annual cost per student</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>11,644*</td>
<td>n/a</td>
</tr>
<tr>
<td>UK</td>
<td>2,344</td>
<td>8.74</td>
</tr>
<tr>
<td>Ireland</td>
<td>4,826</td>
<td>21.84</td>
</tr>
</tbody>
</table>

* This figure is inclusive of infrastructure improvements mentioned in section 6.2.1

From the above analysis it's clear that other countries similar to Ireland have identified school travel as an issue that needs considerable policy attention. The delivery approach differs across countries with Norway implementing the Eco-Schools programme at the Nursery level, New Zealand allow regional authorities to run individualised programmes for schools that fall within their remit and the UK programme is operated on a county wide basis by LA – one should note that a detailed evaluation of TTSI found poor value for money. Furthermore the objectives and targets also differ – with the US objectives notably attitudinal based, whereas the New Zealand targets and firmly behavioural change targets.

Some consideration should be given to whether GST in its current form can deliver mode share change or whether a programme operated regionally or by LAs can deliver a more
effective and efficient programme considering their role of developing sustainable mode options for their areas.

The next chapter presents different forms of delivery mechanisms that could be considered to improve the programme.
Chapter 7  Alternative Forms of Delivery

Based on the analysis presented in previous chapters, and consideration of the delivery models in other countries, this chapter considers possible alternative forms of delivery for a school mobility management programme. These options are high level suggestions that have only been considered in theory by the authors of the report and also considered by the technical group. Any decision on changing the delivery mechanisms should be considered in more detail by programme managers. This chapter will consider three forms of delivery; continued direct award, open tender and discontinuation of the programme, and the options associated with each of these practices.

7.1. Direct Award

Direct award in the form of a grant without a call for proposals is the current practice under which Green-Schools is funded. The benefits of a direct award are that the mechanism can enhance strategic dialogue between the NTA and An Taisce, it offers the possibility to target specific sectors or actors of strategic importance and makes it possible to support Civil Society Organisations (CSOs). If direct award is the best mechanism for delivery a contract should be awarded for three years to allow the programme managers to plan from year to year and to allow robust monitoring.

7.1.1. Continue with An Taisce

An Taisce currently provide the programme. As the provider of the programme since 2007 An Taisce has several advantages; GSTOs are a highly educated workforce with at least a third level qualification in environmental studies or education or research, along with knowledge of environmental issues, communication and interpersonal skills, facilitation skills and ability to work to tight deadlines. An Taisce have formed a relationship with schools and teachers who give a significant amount of their time to encouraging sustainable travel at no cost. They have also an established network of approximately 18 GSTOs that have built up experience of training teachers, parents and students across a number of sustainable travel initiatives. Furthermore these GSTOs have built up a network with schools and LAs which allow them to interact at a community level. An Taisce also have an established network of approx. nine GSTDOs, who work with schools before they start the travel theme to ensure they are prepared and have the necessary factors to be successful in the programme. The presence of the GSTDO resource does, however, call into
question the criteria for selection for the GST programme, which is that schools have to complete three other themes (Litter and Waste, Energy and Water) before they are eligible for the travel theme. The rationale behind this is that by completing the first three themes, schools show a strong indication of commitment and dedication to the Green-School programme. However, the GSTDOs should be able to gauge if particular schools are showing commitment and dedication by interacting with them (approx. four times per annum) through ensuring school principals are committed and aware of all the issues and ensuring all the necessary structures are in place within the school to achieve success. In short, the duplication of roles, the resourcing devoted to programme preparation and other complexities surrounding preparation for and delivery of the programme by GSTDOs and GSTOs should be addressed in any future delivery by An Taisce.

An Taisce also have the benefit being the Irish FEE representative, although a sustainable travel programme could be provided outside the FEE format as has been shown in New Zealand. It must, however, be acknowledged that the direct award option may mitigate against achieving best VFM in delivery of this programme because of the efficiency advantages normally associated with delivering the programme through other mechanisms such as tendering.

7.1.2. Commission the Active School Flag providers to run a school travel programme

The Active School Flag (ASF) is a DES initiative which was launched in 2009. The ASF programme is a whole school initiative that encourages community links, physical education and physical activity. It is an opt in programme whereby schools register online and sign up to a programme that involves a number of planning and targeting processes that are assessed at the end of the process which takes between 9 to 15 months to complete. The steps associated with the programme are presented in Figure 6 below.
The ASF requires schools to review and implement improvements in the areas of active transport so increasing the travel emphasis could be an option. The programme is already in place and take up of the programme is growing by 30% - 50% year on year. The cost of the programme is substantially less than GST - at a cost of €80,000-€120,000 per year. However, it must be noted that mobility management planning is recognised as being resource intensive. The possible downside to this type of programme would be that the schools would no longer have the well-educated resource of GST staff driving the programme within the schools and community. Further consideration of this issue – and in particular any transfer of undertaking requirements – would be required. There are other programme objectives such as increasing participation in other sporting activities which may dilute the travel message and there is an issue around whether the DES would be open to increasing the emphasis on active travel within the existing programme. There is no evidence to show that replacing one direct award with another would yield any efficiency or effectiveness benefits.

7.1.3. Local Authorities take responsibility for promoting sustainable school travel

In the sustainable travel area LA’s are responsible for planning, submitting proposals, liaising with community stakeholders (i.e. schools in the Green-School programme) and building and maintaining infrastructure. Taking the example of New Zealand where Auckland Transport, the regional authority, runs the Travelwise programme. The regional nature of this programme has allowed Auckland Transport to focus on clustering schools...
and travel advisors to allow more efficiency in delivery. They also focused on the schools located closest to the high congestion points on the network to achieve the best pollution and congestion return. Auckland Transport is responsible for delivering infrastructure associated with active travel. These infrastructure investments encourage cycling and walking by making routes safer for cyclers and walkers - one of the perceived barriers to walking and cycling. By combining infrastructure development and school travel scheme LA's may be one of the most effective delivery mechanisms for this type of intervention. If the programme was delivered through the LA's consideration of ensuring the maintenance of the GSTOs experience and networks would be necessary. A further option would be to reduce the programme to a level similar to the other Green-Schools themes (e.g. Litter and Waste, Energy and Water). Whereby the programme is mainly delivered by Travel Education Officers within the LAs and a small complement of "other staff" that manages and assists these LAs in delivering the programme. This mechanism may scale back the interaction between programme staff and pupils which has previously been highlighted as a strength of the programme. It must be noted that there is no evidence of such a scheme delivering an effective and efficient mobility management programme.

7.1.4. Introduce active travel to the school curriculum

Currently the programme is delivered independently of the curriculum although significant buy in from the teachers within the school is required and without the current buy in from the teachers the programme would not be possible. If the main aspects of the GST programme could be incorporated into the curriculum of subjects such as Physical Education and Social Personal and Health Education at a primary level and Civic, Social and Political Education and Physical Education at a post-primary level, it would engrain a sustainable culture in school attending children. Currently the programme is delivered in a school for two years and that school never receives intensive support again, this option would make the programme continuous. This may lead to changes in students current and future travel behaviour because students would be more responsible as they would be informed regarding risks benefits and overall costs to society of using car. There may also be a requirement to introduce a module to teaching colleges that educate teachers about the best methods to encourage and support students to change to active modes. This option would have the potential to reduce costs significantly as the programme would not need any financing as it would be provided for in the curriculum, although there is no evidence to suggest that this form of delivery would be effective or more effective than the current programme. The DES document "Education for Sustainability - The National
Strategy on Education for Sustainable Development in Ireland, 2014-2020” is evidence of DES commitment to increasing sustainable travel within schools. This document sets ambitious targets for sustainable travel which include increasing the number of children and young people who travel to school by sustainable means by 20% by 2020 and increasing the proportion of staff travelling to work by sustainable means by at least an additional 10% by 2020. Along with these targets the strategy recommends that each school and education institution should have a travel plan to encourage students to take more sustainable alternatives to the car as well as recommending that DES in conjunction with the NTA and the Department of Environment and Local Government produce guidance on integrated planning and guidance for new school development by the end of 2014. An obvious difficulty with this approach would be that changing the curriculum is a difficult process that needs to be firmly supported with robust evidence. This proposal is perhaps, therefore, not viable.

7.1.5. **NTA directly provide the programme**

The NTA currently administer the Smarter Travel Work Places and Smarter Travel Campus programmes which are the equivalent of GST programme in the workplace and third level campus. Smarter Travel Workplaces is a public awareness programme working with large employers to implement voluntary workplace travel plans. Smarter Travel Campus is a hands-on programme working with third level institutions to implement campus travel plans – or actions to encourage and support students and staff to walk, cycle, take public transport or car-share on the commute to campus. The disadvantages of this type of mechanism would be that the NTA would have to hire more staff to operate the programme which would be difficult in the current climate of limited funds for supplementary staff numbers and the employment costs associated with hiring extra staff (i.e. pension costs, training costs, etc.). The advantages of this mechanism is that the NTA are the national experts in operating programmes of this kind to a high standard (i.e. Smarter Travel Workplaces) and it would remove one layer of administration from the programme. However, directly employing staff within the NTA to carry out such mobility management would be subject to recruitment challenges – and may result in unforeseen longer term costs.
7.2. Tender

A second option for delivering the programme would be to offer the programme to the market. Tendering is generally considered to be a process that encourages efficiency through enhanced competition. This would enable a competitive process which would encourage bidders to provide a programme at the market rate and increase efficiencies of the programme. To reduce administrative burden and to send a positive signal to the market, a programme of this type should be granted an initial three year contract to enable the successful organisation a period of time to plan and monitor the programme. As previously noted there may be some issue around a transfer of undertakings with regard to existing GSTOs.

It is, however, important to note that, regardless of whether delivery continues through either direct award or a tender process the issues with regard to programme efficiency and effectiveness outlined in this FPA would need to be considered in future programme design and agreements.

7.3. Discontinue the programme

A third option would be to discontinue the programme. By discontinuing the programme there would be approximately €1.77m available for saving or reprioritisation within the transport envelope. There may also be some impacts on the jobs currently associated with the delivering the programme. Assuming the programme can deliver some positive impacts, there would also be an increase in externalities on society in the form of pollution and congestion. If there are no positive impacts, this does not arise. There are two options in relation to discontinuing the programme. The first option would be to see out the current SLA and end the programme immediately after this date. The second option would be to stop new schools entering the programme and run the programme for two years until all schools in the programme have completed the programme.

The main rationale for discontinuation relates to the evidence regarding unclear objectives, poor efficiency and insufficient evidence of effectiveness for the scheme. Conversely, it is emphasised that there is a clear rationale to address the issues of congestion and pollution and need to address the increasing car dependency in the primary and post-primary school going population. The removal of a scheme would also create a gap in the policy of mobility management at primary and post-primary level that
would be counter to DTTAS policy objectives. However, this gap could be met through other types of interventions – for example a scaled down version of the scheme in line with the other Green Flag Schemes.

This increased dependency on car transport also impacts on our European energy and emission targets which Ireland is committed to achieving. GST is part of the overall suite of mobility management initiatives which forms part of the policy response that aims to mitigate emissions and congestion. Nonetheless, there is clearly a need to better measure and understand the impacts and outcomes of a programme should funding be continued into the future.

7.4. Sponsorship

The above considered the three potential delivery options; continued direct award, tender, or discontinuation.

However, the technical group also noted that should the programme continue there may be some potential to reduce direct costs through sponsorship.

One option that is yet to be considered in this context is private sponsorship of the programme. Private sector companies regularly take part in or lead initiatives that integrate social and environmental concerns in their business operations and interactions with their stakeholders, this is sometimes referred to as Corporate Social Responsibility (CSR). The benefits associated with CSR are increased sales and profits, operational cost savings, improved productivity and quality, improved brand image and reputation and enhanced customer loyalty. A current example of a private company sponsoring a public initiative is Coke Zero’s Bikes. This came about following an agreement by Coca-Cola Ireland to partner with the DTTAS, the NTA and the Cities of Cork, Galway, Limerick and Dublin in delivering a public bike scheme.

If a sustainable travel programme could secure sponsorship, the sponsoring company would have the benefit of having their brand name associated with either the programme or activities associated with the programme which would give the sponsor exposure to approximately 300 schools per year with the benefits of reducing cost to the exchequer or
even possibly making the programme self-financing. However, there is a clear need to carefully consider this option given the young age of the targeted cohort for this programme.

The potential for this option may also be limited for two distinct reasons. The first is Advertising Standards Authority of Ireland regulations with regard to children, say that marketing communications addressed to children should not exploit loyalty, credulity, vulnerability or lack of experience for children. While there is no direct guidance for advertising in an education setting there may be a risk of exploiting children’s lack of experience, credulity or loyalty by linking a commercial brand to a school environment. The second barrier is that the International Food and Beverage Alliance (IFBA) who represent large companies such as Coca-Cola, Mars, Kellogg, McDonalds, Nestlé PepsiCo among other have recently committed to only advertising products to children under the age of 12 years old that meet common nutritional criteria which are based on accepted science-based dietary guidance or not to advertise their product at all to children under the age of 12. In addition, IFBA members agree not to engage in food or beverage product marketing communications to children in primary schools.

These factors may make it difficult to find sponsorship that would significantly reduce the commitment of DTTAS towards the programme. In any case before any brand or product is approved for sponsorship of the programme, its proposals should be set against strict criteria that have the well-being of pupils as the focus.

7.5. Summary

This chapter has presented high level suggestions on the three possible mechanisms for delivery; direct grant, tender, and discontinuation of the programme. These mechanisms and options have not been discussed with stakeholders and thus if any are to be considered there would need to be in depth consideration of the impacts, efficiency and effectiveness of delivering a similar programme through any of the alternative means above.

Whilst direct award to An Taisce has advantages, such as the benefits of being part of the wider Green-Schools programme and the network of GSTOs and GSTDOs that they have developed, it must be acknowledged that there is potential for a tender process to yield
efficiencies based on a more competitive environment for delivery of this programme. Whilst discontinuation is discussed – it is felt that there is rationale for a mobility management intervention, and policy support exists. However, it is an open question for further analysis as to which option is optimal and whether this necessarily requires the current level of public expenditure. Finally, should the programme continue through either direct award or tender – the issues around efficiency and effectiveness flagged in this FPA would need to be addressed in the programme design and management.

The next chapter represents the final chapter of the report which collates the conclusions, key issues and recommendations that this analysis has arrived at in the previous chapters.
Chapter 8  Conclusions, Key Issues and Recommendations

This chapter will first present conclusions around the appropriateness, efficiency and effectiveness based on the analysis in the previous chapters. Following this, key issues with regard to the operation of the programme in its current form will be outlined, along with recommendations to address these issues.

8.1. Appropriateness

In terms of appropriateness, the programme is coherent with both past and present Government policy and the existence of a school mobility management programme reflects international practice in developed economies.

The SLA agreement for the programme outlined objectives and targets for the programme. These objectives and targets lack clarity, and were not prioritised or analytically assessed before the programme commenced. Three out of the five objectives were about expanding the delivery of the programme. While coverage of the scheme is important there should be an emphasis on delivering the programme to the schools where it would have most effect therefore driving the efficiencies of the programme. There was a need for clearer objectives and targets – and a need for the key overall objective of the programme to be well defined.

The fourth, and most important, objective of achieving behavioural change had associated targets for modal shift. The targets (set out in Appendix 1) were to decrease car dependency through increases in cycling and walking, mixed modes and public transport. When the percentage targets were translated to real numbers, the targets were not coherent – the proposed increase in students using sustainable mode is far less than the proposed decrease in car use. With regard to the car mode share targets – it is also considered that a 15% reduction in car use, this was an unrealistic target compared to other comparable programmes and the pilot results. The fifth target related to building awareness of the impact of transport on the environment. An Taisce's own surveys suggest this was achieved with student's preferences for car reducing and preferences for the most sustainable modes (i.e. walking and cycling) increasing.
In summary it is considered that there is sound rationale for a school mobility management programme. However, there are a number of issues around the objectives and targets of the 2008-2012 scheme. There was a need for a clear overall key objective for this programme. The specific targets relating to well defined objectives need to be consistent, measurable, and achievable.

8.2. Efficiency

Turning to the measurement of efficiency, the DTTAS allocation for this programme was €2m per annum with annual drawdown since the inception of the scheme of some €1.8m.

This FPA has developed a number of efficiency metrics based on a range of data sources. Table 25 presents a summary of these metrics. The metrics show considerable variation from year to year. For example, the cost per active school varies from a low of €3,916 in 2011 to a high of €5,570 in 2009. Of particular concern is that the costs per school, costs per engagement officer reduced significantly between 2010 and 2011, despite the fact that the number of school engagement staff, which accounts for 72% of the costs of the programme staff, only increased by one. When the programme is compared to an international programme namely the Travelling to School Initiative (TTSI) in the UK the costs of the programme seem comparatively high. While the UK programme does not provide the same number of activities that GST provides, shared objectives include reducing car passenger mode share, reducing the trend towards greater car dependency in school travel and increasing sustainable modes of transport. When GST is compared to the TTSI non-infrastructure costs per pupil and per school, costs are €13.1 and €2,482 higher respectively. When the programme is compared against the other Green-Schools themes it is clear that GST, one of five themes, required approximately 29 FTE directly employed by An Taisce to run the programme between 2008-2012 whereas all the other four programmes (Litter and Waste, Energy, Water and biodiversity) only require five FTEs directly employed by An Taisce to run all four. Local Authority staff, viz. 17 FTE Environment Awareness Officers also contribute a significant amount of their time to programme delivery – An Taisce states that 50% of their time is spent on GST. These findings suggest that the programme could be delivered more efficiently. Aside from the issue of allowing some basic comparison with programmes in other countries, the metrics identified could be used in the future to monitor improvements in programme efficiency.
The merits of the GSTDOs role in the programme are uncertain particularly in the context of very limited effectiveness, given that their primary role was in the year before the schools entered the programme to prepare schools and to ensure they had all the necessary structures in place to participate successfully in the programme. There was also evidence in the GST 2012 annual report to suggest that the GSTOs actually introduce teachers to the programme which would suggest that the GSTDOs were not active in all schools before they “graduated” to the travel theme.

The issues around programme efficiency can be seen through consideration of the efficiency of GSTOs themselves. The first issue is that GSTOs were contracted to work a 32.75 hour week. The efficiency of the programme could be immediately improved by increasing the hours worked by GSTOs from 32.75 to a level comparable with civil and public servants (i.e. 37 or 39 hours). The metrics also suggest that GSTOs were not operating at a high frequency of school visits – which are reported by An Taisce to be key to the programme. According to our estimates each GSTO undertook an average of 113 school visits per year – or three per week. Considering the importance of contact between the GSTOs and the school in driving the success of the programme this seems like a low level of direct contact.

### Table 25: Summary of programme costs

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost per active school (€)</th>
<th>Cost per active pupil (€)</th>
<th>Cost per Engagement Officer (€)</th>
<th>Cost per school visit (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>...</td>
<td>...</td>
<td>52,656</td>
<td>...</td>
</tr>
<tr>
<td>2009</td>
<td>5,570</td>
<td>22.16</td>
<td>66,846</td>
<td>655</td>
</tr>
<tr>
<td>2010</td>
<td>4,993</td>
<td>23.35</td>
<td>68,810</td>
<td>612</td>
</tr>
<tr>
<td>2011</td>
<td>3,916</td>
<td>20.00</td>
<td>49,664</td>
<td>420</td>
</tr>
<tr>
<td>2012</td>
<td>...</td>
<td>...</td>
<td>62,553</td>
<td>526</td>
</tr>
<tr>
<td>Average</td>
<td>4,826</td>
<td>21.84</td>
<td>60,106</td>
<td>553</td>
</tr>
</tbody>
</table>

Along with the considerably high costs of the programme, it was clear that the programme management had scope for improvement. At a basic level, as noted in Chapter 2, data provided did not contain pupil numbers or a unique school identifier (e.g. roll number) that would have facilitated cross referencing with databases in relation to the agreed target of increasing school pupil numbers. Of more significance is the lack of data on issues  

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63 GSTDO role became obsolete in 2013
such as activities within schools, the level of activity within specific areas, and specific cost allocations beyond staff costs. Even with regard to staff costs, attribution of costs to aspects of the programme was not consistent.

Specific consideration has also been given to delivery mechanisms – with three options identified – continued direct grant award, competitive tender or discontinuation of the programme. Given the need for intervention to address what is a significant policy issue the latter is not recommended. However, should the scheme continue through either direct award or competitive tender, the efficiency and effectiveness issues identified in this FPA would need to be addressed.

8.3. Effectiveness
While it is acknowledged that the objectives and targets were overambitious and should be revised, the programme administrators and operators were working towards these specified targets as outlined in the SLA and therefore this FPA has largely focused on these targets. As of 2011, the first three targets as set out in the SLA are partially achieved. Target one of increasing the number of schools participating in the programme outperformed the target in the first two years but in the three preceding years targets had not been achieved. Target two of increasing the number of pupils is much the same. Actual pupil numbers exceeded the programme target for 2007 but in all the years post 2007 the difference increases. Target three was fully achieved in Munster and Ulster up to 2010 while the Leinster and Connacht targets were not achieved continually from 2008 to 2011. The issue around underperformance in Leinster – where congestion costs are likely highest – is specifically noted.

Whilst the first three targets relate to scheme coverage, the fourth relates to achieving specific behavioural change targets. As noted these mode share targets were inconsistent. Furthermore, the car mode share target was much higher than evidence would suggest is achievable. Given the unrealistic nature of the mode share targets the FPA took the approach of analysing whether positive mode share effects were associated with the programme at a county level. Analysis of CSO Census data suggests no strong linear association between GST activity in a county and mode share changes between 2006 and 2011.
However, the hands up surveys carried out by An Taisce pointed to a marked increase in those surveyed in terms of pupil’s attitudes and observed modal change, it is noted that issues around survey design and implementation are of concern in relation to these results. Thus independent monitoring of both behavioural change and attitudinal change would have improved the certainty of outcome related to this programme. As is explained earlier in the report (section 4.5) the FPA puts more weight on the Census data. Based on analysis of this data, the contribution to sustainable mode shift of the programme is questionable.

8.4. Key Issues
The above sections have drawn together conclusions on the appropriateness, efficiency and effectiveness of GST programme in the period 2008-2012, based on the analysis in the preceding chapters. From these conclusions a number of key issues have been identified if the programme continues in its current format the key issues are:

1. The overarching objectives of the programme were unclear – for example whether behavioural change or attitude change is most important – or whether the volume of students in the programme is more important than the mode share change achieved;
2. The specific targets for the programme were also poorly defined, drive expansion of the scheme rather than effectiveness, and potentially not target the key goal of mode shift away from the car;
3. Programme management, and specifically the links between inputs (financial & staff) and outputs (activities) and outcomes were poor;
4. Efficient delivery was not assured through current programme management and measurement;
5. The programme had a limited and/or uncertain effect on travel behaviour;
6. There was a lack of robust evidence regarding the impacts of the programme and uncertainty will remain around the independence of the measures of success.

8.5. Recommendations
Given the above key issues, the recommendations below should be taken into account in future programme design and funding agreements:

1. The overarching objective of the programme, and subsequent targets of the programme should be revised to increase the effectiveness of programme. All targets should be consistent with the overarching objective, achievable and measureable.
Specifically in the SLA, revised mode share targets should be achievable, at a level between 5% and 8% for mode shift away from the car. Cycling and walking should be measured and reported separately. Programme managers should reconsider the appropriate scale of a mixed mode target, because of both the small benefits associated with such change and the difficulty in measuring the change in mode share. Possible options for the treatment of mixed modes going forward would be that mixed modes assume the lowest priority in terms of targets. Cycling and walking would be the highest priority because these modes completely reduce the emission associated with the journey and would assist in congestion reduction. Public transport would be the second highest priority because there are some emissions associated with this mode but congestion benefits accrue. Mixed modes would assume the lowest priority. These priorities are already reflected in the mode share targets set by the programme but putting more weight on the most beneficial modes is essential. This approach would still present the problem of measuring mixed modes and the proportion of the journey that is sustainable. Furthermore, attitude change should be made explicit in any new targets with robust methodology for measurement.

2. In terms of improving the links between inputs and outputs - the metrics provided in the report (cost per active school, cost per active pupil, cost per visit and cost per contact hour) can be used as benchmark for target setting both in terms of outputs delivered and monetary allocation to the provider. The use of these metrics will allow programme managers set cost targets linked to outputs of the programme (i.e. number of schools or pupils that should be in the programme for a given cost). However, monitoring of other activities should also be improved in future programme management. Finally, future SLAs between the DTTAS and providers of the programme should specifically outline the numbers of staff and how these numbers break down in terms of their roles given the importance of the staff (particularly in relation to teacher and pupil contact) in administering the programme. In the event of any changes, a new SLA should be negotiated to ensure transparency.

3. In terms of delivery and programme management this report considered a number of options for future delivery - continued direct grant award, competitive tender, or discontinuation. There may well be other options but it is outside the scope of this report to carry out a detailed options analysis.
i. **Direct grant award** - the current programme is operated on a direct grant award to An Taisce. Several options present themselves under this mechanism:
   a) Continue with An Taisce
   b) Incorporate sustainable school travel as part of the ASF programme
   c) Give LAs the responsibility for promoting sustainable transport
   d) Introduce active travel to school curriculum
   e) NTA directly provide the programme.

ii. **Tender** - The second option would be to openly tender the programme which would allow access to a bigger pool of potential suppliers which enhances competition, more competition can lead to more competitive prices both in the short and long term. The programme should be tendered for a three year period\(^{64}\) to allow for continuous planning and robust evaluation. In the current format the programme would have to be rebranded due to An Taisce being the current Irish FEE member.

iii. **Discontinue the programme** - The third and final option would be to discontinue the programme. The terms of reference of this assessment require this option to be considered. If the programme was to cease operation a policy gap would emerge in the DTTAS climate change policy response to increased car mode share at the primary and secondary level. Of course, there may be other options to meet this gap other than the Green-Schools programme in its current form e.g. local initiatives.

Recommendations 1, 2, 4, 5 and 6 in this section are important regardless if any of the above options are put into practice. The delivery options presented above have not been considered in detail and changing the method of delivery should be considered in more detail by programme managers. Whilst there are benefits associated with continued direct grant award, it is noted that competitive tendering could yield efficiency gains with regard

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\(^{64}\) Assuming the programme continues to be a two year programme– a three year award would allow the new programme to carry out its work and then be evaluated independently at the start of year three to determine outcomes and impacts.
to operating cost. In any case, any award to operate the programme should be for a three year period to allow for continuous planning and robust evaluation.

4. The value of each activity in achieving modal change should be assessed to establish which activities are achieving most change in schools. This analysis could be carried out, for example, by considering the mode share change in a group of schools that received the same basket of interventions compared to a school that is not in the programme or to a group of schools that received a different set of interventions. The difference in the average mode share change between the groups would give an indication of effectiveness of the set of interventions. The activities that are found to be least effective and efficient activities should then be improved or removed from the activity offering. If new activities emerge that are effective in other countries, adoption should be considered on a pilot basis to determine their effects in an Irish context. Since November 2013, the NTA have been routinely collecting the types and number of activity carried out in each school. This data can be used in future years to compare which schools achieve positive mode share changes and which combination of activities is the most effective at achieving this.

5. The level and quality of monitoring can be improved by closely monitoring the level of activities including cost per activity and efficiency of the GSTO. The outcomes also need to be monitored more robustly – not least in terms of measuring behavioural and attitudinal change. This monitoring should be carried out by qualified independent evaluators to ensure unbiased reporting. Data management standards should be improved, for example school roll numbers and school pupil numbers for the school year during which the programme is first delivered should be added to data. Any further data collection (i.e. number of activities delivered per school) should have a standardised method for inputting data to enable comparisons to made in future assessments.

6. A long term plan of continuous improvement should be developed that considers a strategy to make the programme self-sufficient similar to the waste energy and water elements of Green-Schools. If self-sufficiency can be achieved once the programme has reached all schools it would come to a natural finish. The merits of a maintenance
programme that increases or maintains the level of mode share change for those schools that have already received the two-year programme should be examined. Without such plans it is difficult to envisage the long term benefits of indefinitely running such a programme. The plan should develop the possibility of benchmarking mode share changes and costs against other similar countries and investigate synergies that could be developed between the programme and programmes operated in the same area such as the initiatives run by the LAs or the Health Service Executive ASF programme. A sunset clause for the programme should be considered, possibly in keeping with a three year award, as this report has highlighted issues around the efficiency of the programme, including the fact that costs of the programme appear high compared to similar international programmes. Furthermore, the analysis suggests the effectiveness of the programme is currently questionable. Improved monitoring of a future programme should ensure any enactment of a sunset clause is fully informed with robust data.
Chapter 9 Appendix

9.1. Appendix 1 – Targets and Objectives

Table 26: Target 1 - number of schools participating (cumulative)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target No. of Schools Participating (cumulative)</th>
<th>No of Schools Participating Actual (cumulative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>49</td>
<td>134</td>
</tr>
<tr>
<td>2008</td>
<td>274</td>
<td>276</td>
</tr>
<tr>
<td>2009</td>
<td>450</td>
<td>437</td>
</tr>
<tr>
<td>2010</td>
<td>683</td>
<td>624</td>
</tr>
<tr>
<td>2011</td>
<td>899</td>
<td>772</td>
</tr>
</tbody>
</table>

Table 27: Target 2 - Numbers of children participating (cumulative)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target No. of children participating (cumulative)</th>
<th>Actual number of pupils (cumulative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>20,000</td>
<td>35,641</td>
</tr>
<tr>
<td>2008</td>
<td>99,000</td>
<td>73,761</td>
</tr>
<tr>
<td>2009</td>
<td>140,000</td>
<td>111,812</td>
</tr>
<tr>
<td>2010</td>
<td>180,000</td>
<td>148,165</td>
</tr>
<tr>
<td>2011</td>
<td>222,000</td>
<td>177,417</td>
</tr>
</tbody>
</table>

Table 28: Target 3 - Geographic spread of participating schools (cumulative)

<table>
<thead>
<tr>
<th>Year</th>
<th>Leinster</th>
<th>Munster</th>
<th>Connaught</th>
<th>Ulster</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>129</td>
<td>60</td>
<td>73</td>
<td>12</td>
</tr>
<tr>
<td>2009</td>
<td>217</td>
<td>90</td>
<td>120</td>
<td>23</td>
</tr>
<tr>
<td>2010</td>
<td>318</td>
<td>136</td>
<td>191</td>
<td>38</td>
</tr>
<tr>
<td>2011</td>
<td>411</td>
<td>185</td>
<td>252</td>
<td>51</td>
</tr>
</tbody>
</table>

Table 29: Target 3 - Actual geographic spread of participating schools (cumulative)

<table>
<thead>
<tr>
<th>Year</th>
<th>Leinster</th>
<th>Munster</th>
<th>Connaught</th>
<th>Ulster</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>60</td>
<td>0</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>2008</td>
<td>115</td>
<td>73</td>
<td>68</td>
<td>15</td>
</tr>
<tr>
<td>2009</td>
<td>180</td>
<td>120</td>
<td>110</td>
<td>27</td>
</tr>
<tr>
<td>2010</td>
<td>245</td>
<td>191</td>
<td>163</td>
<td>40</td>
</tr>
<tr>
<td>2011</td>
<td>310</td>
<td>252</td>
<td>194</td>
<td>47</td>
</tr>
</tbody>
</table>
### Table 30: Target 4 - modal shift from car

<table>
<thead>
<tr>
<th>Year</th>
<th>Car</th>
<th>Mixed Mode</th>
<th>Public Transport</th>
<th>Walk or Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>-10%</td>
<td>1%</td>
<td>1%</td>
<td>8%</td>
</tr>
<tr>
<td>2008</td>
<td>-12%</td>
<td>2%</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td>2009</td>
<td>-13%</td>
<td>3%</td>
<td>2%</td>
<td>9%</td>
</tr>
<tr>
<td>2010</td>
<td>-14%</td>
<td>3%</td>
<td>2%</td>
<td>9%</td>
</tr>
<tr>
<td>2011</td>
<td>-15%</td>
<td>3%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>2012</td>
<td>-16%</td>
<td>3%</td>
<td>2%</td>
<td>11%</td>
</tr>
</tbody>
</table>
9.2. Appendix 2 – FEE Countries and Themes

Table 31: FEE Themes by country

<table>
<thead>
<tr>
<th>Country</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Biodiversity, Energy, Litter, School grounds, Waste, Water</td>
</tr>
<tr>
<td>Bahamas</td>
<td>Biodiversity, Climate Change, Energy, Greening, Health and Well-being, Litter, School grounds, Transport, Waste</td>
</tr>
<tr>
<td>Belgium-Flanders</td>
<td>Biodiversity, Climate Change, Energy, Greening, Health and Well-being, Litter, School grounds, Transport, Waste</td>
</tr>
<tr>
<td>Bermuda</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>Energy, Transport, Waste, Water</td>
</tr>
<tr>
<td>Brunei</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Health and Well-being, Litter, Other, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>China</td>
<td>Biodiversity, Climate Change, Energy, Greening, Health and Well-being, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Croatia</td>
<td>Biodiversity, Climate Change, Energy, Greening, Health and Well-being, Litter, Other, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Health and Well-being, Litter, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Biodiversity, Climate Change, Energy, Litter, Other, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>Denmark</td>
<td>Climate Change, Energy, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>Climate Change, Energy, Litter, Waste, Water</td>
</tr>
<tr>
<td>Finland</td>
<td>Energy, School grounds, Waste, Water</td>
</tr>
<tr>
<td>France</td>
<td>Biodiversity, Energy, Litter, Other, Waste, Water</td>
</tr>
<tr>
<td>Germany</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Health and Well-being, Litter, School grounds, Transport, Waste, Water</td>
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<tr>
<td>Greece</td>
<td>Biodiversity, Energy, Litter, School grounds, Waste, Water</td>
</tr>
<tr>
<td>Iceland</td>
<td>Biodiversity, Climate Change, Energy, Health and Well-being, Other, Transport, Waste, Water</td>
</tr>
<tr>
<td>India</td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>Biodiversity, Climate Change, Energy, Greening, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Ireland</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Italy</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Health and Well-being, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Japan</td>
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<tr>
<td>Jordan</td>
<td>Annual</td>
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<td>Kazakhstan</td>
<td>Biodiversity, Climate Change, Energy, Greening, Health and Well-being, Litter, Transport, Waste, Water</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>Climate Change, Energy, Greening, Health and Well-being, Litter, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>Macedonia FYR</td>
<td>Biodiversity, Energy, Health and Well-being, Litter, Other, School grounds, Transport, Waste, Water</td>
</tr>
<tr>
<td>Country</td>
<td>Issues</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Malaysia</td>
<td>Biodiversity, Climate Change, Energy, Health and Well-being, Litter, Other, School grounds, Transport, Waste, Water</td>
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<td>Malta</td>
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<td>Netherlands</td>
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<td>Poland</td>
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<td>Portugal</td>
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<td>Puerto Rico</td>
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<td>Romania</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Litter, Water</td>
</tr>
<tr>
<td>Russia</td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td>Biannual</td>
</tr>
<tr>
<td>Serbia</td>
<td>Biodiversity, Energy, Waste</td>
</tr>
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<td>Singapore</td>
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<td>Slovakia</td>
<td>Energy, Greening, Other, Transport, Waste, Water</td>
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<td>Biodiversity, Citizenship, Climate Change, Energy, Health and Well-being, Litter, School grounds, Waste, Water</td>
</tr>
<tr>
<td>South Africa</td>
<td>Annual</td>
</tr>
<tr>
<td>Spain</td>
<td>Biodiversity, Climate Change, Energy, Litter, Waste, Water</td>
</tr>
<tr>
<td>Sweden</td>
<td>Biodiversity, Climate Change, Energy, Health and Well-being, Litter, Other, School grounds, Waste, Water</td>
</tr>
<tr>
<td>Tunisia</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>Biodiversity, Climate Change, Energy, Health and Well-being, Litter, Other, Waste, Water</td>
</tr>
<tr>
<td>Uganda</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Litter, Other, School grounds, Waste, Water</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td></td>
</tr>
<tr>
<td>United States of America</td>
<td>Biodiversity, Citizenship, Climate Change, Energy, Greening, Health and Well-being, Litter, Other, School grounds, Transport, Waste, Water</td>
</tr>
</tbody>
</table>

Source: FEE international
9.3. Appendix 3 – Active School Flag - Travel Objectives

Active Travel Objectives

- Increase primary children walking to school from 21% to 40% by 2020;
- Increase primary children cycling to school from 1% to 5% by 2020;
- Increase post primary walking to school from 40% to 50% by 2020;
- Increase post primary cycling to school from 3% to 5% by 2020.
9.4. Appendix 4 – UK Comparator

Travel to School Initiative (TTSI)65

<table>
<thead>
<tr>
<th>Non capital spend (2010)</th>
<th>£</th>
<th>35,000,000.00</th>
</tr>
</thead>
</table>

- The average number of students per school is 268 \((13,428/3,600,000)\) (p22)
- The scheme covered 81% of schools (p7), footnote (p 22) reports that are 21,565 schools in the UK (primary, secondary and special), therefore 81% of schools is 17,468 and 81% of the students is 4,683,016 \((17468*268 = 4,683,016)\)
- Average cost per School in Euro assuming an exchange rate of 1.17 is €2344 \((35m/17,468)*1.17\)
- Average cost per pupil in Euro assuming an exchange rate of 1.1766 is €8.74 \((35m/4,683,016)*1.17\)


9.5. Appendix 5 – Cycling and Walking analysis

While the target in the SLA outlined that walking and cycling increases should be taken together, a breakdown of each mode provides insights into the drivers of the trends.

The modal share of walking has increased sporadically across the counties, Meath Laois and Monaghan saw the largest increases in walking mode-share. In Donegal and Limerick walking mode share decreased by 2.6% and 2.8%. Overall, the trend shows that over half of the counties walking mode share decreased in the period.

*Figure 7: Walking mode share and intensity of GST programme by county, 12 to 5 years olds*

When cycling mode share is considered the results are more positive than Figure 7. The majority of counties (23) have had positive mode share changes, Wicklow Dublin and Meath saw increases of 0.80%, 0.71% and 0.66% respectively. In only three counties, Carlow, Kilkenny and Cavan cycling mode share decreased since 2006.
As mentioned above an increase in public transport mode share in this cohort is explicitly stated as a target area to increase. Green-Schools programme targeted a 2% increase in public transport mode share. Figure 9 below shows that all counties public transport mode share decreased, Longford, Mayo and Laois saw the largest decrease whereas Clare, Wicklow and Wexford experienced the smallest decrease in public transport mode share between 2006 and 2011. One should note that during the period school bus transport for this cohort has experienced significant external changes.

67 From the start of the 2011/2012 school year the Primary School Transport Scheme experienced 3 key changes; Introduction of charges, changes to school transport provision under the Central/Closed School Rule and changes to minimum numbers required for the establishment and retention of a service. More information on these changes can be found at http://www.schooldays.ie/articles/Primary-School-Transport-Scheme
Figure 9: public transport mode share mode share and intensity of GST programme by county, 12 to 5 years olds
9.6. Appendix 6 – Looking at the relationship between intensity and mode share change

Chapter 5 considered the mode share change in 5 to 12 years olds between 2006 and 2011, via Census statistics. This appendix will explain the relationship or lack of, between observed mode share change and GST programme intensity.

The hypothesis of this research is that there should be a positive relationship between the intensity of the scheme at county level and the mode share changes at a county level, what we expect to observe is the slope of intensity of the programme to be similar to the slope of the mode share change, as measured by a correlation coefficient. The following sections will look at the relationship between mode share in both car passenger and walking and cycling between 2006 and 2011 and the percentage of students in the scheme in each county.

**Car Passenger Mode share**

Car passenger mode share increased across all counties between 2006 and 2011. The average increase across all counties was 5.8%. The scatter chart below shows that there is no relationship between the intensity of the programme and the mode share change across 26 counties. For comparisons purposes we have provided the ideal slope (in red) if there was strong positive linear association between intensity and mode share change.
When a correlation coefficient is calculated, which is a measure of strength of the linear relationship between intensity and mode share change, an R value of 0.31 is arrived at. This value suggests that there is a weak positive linear association between the intensity of the scheme and car passenger mode share change.

Cycling and Walking Mode share

Walking and cycling mode share change was variable across counties. Meath had the highest positive mode share change walking and cycling increasing by 4.17%, while limerick had the largest decrease in walking and cycling mode share, a decrease of 2.83% between 2006 and 2011. The average across all counties was a decrease of 0.11%. The scatter plot below shows that there is no evidence of strong positive linear association between intensity of the programme and mode share changes over the period between 2006 and 2011, the red data points are provided to give an illustration of strong linear association between mode share change and intensity.
The correlation coefficient of the relationship between programme intensity and mode share change in walking and cycling, is -0.46. This value suggests that there is a weak negative relationship between intensity of the programme at a county level and mode share change.
9.7. Appendix 7 - Service level Agreement

Green-Schools Travel Module

The following is the terms of agreement between the Department of Transport and the Dublin Transportation Office in relation to managing the Green-Schools Travel Module and terms on condition of the funding grant.

The Government's vision is to achieve sustainable transport for Ireland by year 2020. Key elements are to:

- significantly reduce traffic congestion
- achieve a considerable shift to more sustainable modes of travel
- reduce emissions from transport
- heighten individual awareness to accept the changes in behaviour necessary

An important objective relates to schoolchildren, not only to reverse the growth in car travel to and from schools but to prepare young people to use other modes of travel, such as cycling, confidently and safely.

The Green-Schools initiative helps deliver this objective and is in keeping with the Government's Sustainable Travel and Transport Action Plan. This agreement sets out the Department of Transport's and the Dublin Transportation Office's shared understanding of the framework within which support will be provided to the Green-Schools initiative in the coming period.

1. The Department of Transport ('the Department') agrees, in accordance with the following arrangements, that it will, in 2006, pay to the Dublin Transportation Office ('DTO') a sum not exceeding €2 million for the purposes of supporting the Travel module of the Green-Schools programme operated by An Taisce ('the module').

2. The Department further agrees, subject to delivery of progress towards the targets outlined in schedule 1, that it will seek to secure funding of €2 million for each of the years 2009 to 2012 inclusive to support the module.

3. Payments will be made by the Department, by way of quarterly instalments on foot of certification by the Director of the DTO that the project has complied with conditions attached in schedule 2.

4. The DTO shall seek agreement from the Department before approving contractual commitments that extend across financial years. Approval shall be in accordance with the terms and conditions attached in schedule 2.

5. Eligible costs, for the purposes of paragraph 3, shall comprise—
- reasonable payments to persons engaged specifically by An Taisce as facilitators for the module;
- payments made by An Taisce in respect of the production of promotional and educational material in respect of the module;
- payments made by An Taisce in respect of the provision of facilities or materials in schools that support, and are directly relevant to, the module.
9. Engagement of facilitators for the module shall be a matter exclusively for An Taisce and neither the Department nor the DTO will accept responsibility for the employment of such persons.

7. The DTO shall participate in a Stakeholder Group to oversee and advise on implementation of the programme that shall be established by the Department and shall be representative of key players including An Taisce, the Department, the Department of Health and Children, the Department of Education and Science, the Road Safety Authority and local authorities.

8. The DTO shall, when submitting each quarterly claim for payment in respect of the module, provide to the Department a summary report on the operation of the module to include:
   - The number of schools participating in the module with a comparison to the numbers of schools participating in the previous quarter;
   - The numbers of students participating in the module;
   - The number of facilitators engaged by An Taisce.

9. The DTO shall, on an annual basis, or on request, provide to the Department a report on the operation of the module specifying:
   - The number of schools, by local authority area and by level (i.e. primary or secondary), participating in the module with a comparison to the numbers of schools participating in the previous year;
   - The numbers of students by level participating in the module with a comparison to the number participating in the previous year;
   - The number of facilitators engaged by An Taisce compared to the number engaged in the previous year;
   - An indication of the outcome from the module in terms of shift to more sustainable forms of travel;
   - A projection of the number of additional schools, by local authority area and by level, that are expected to engage in the module in each of the coming two years.

Signed on behalf of Department of Transport, Tourism and Sport

[Signature]

April 2008

Signed on behalf of Dublin Transportation Office

[Signature]

April 2008
### Green-Schools Travel Module

**OBJECTIVES SCHEDULE 1**

1. The first objective shall be to increase the numbers of schools participating in the module:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 2007</td>
<td>49</td>
</tr>
<tr>
<td>2008</td>
<td>274</td>
</tr>
<tr>
<td>2009</td>
<td>450</td>
</tr>
<tr>
<td>2010</td>
<td>683</td>
</tr>
<tr>
<td>2011</td>
<td>899</td>
</tr>
<tr>
<td>2012</td>
<td>1158</td>
</tr>
</tbody>
</table>

2. The second objective shall be to increase the numbers of children participating in the module:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 2007</td>
<td>29,000</td>
</tr>
<tr>
<td>2008</td>
<td>99,000</td>
</tr>
<tr>
<td>2009</td>
<td>140,000</td>
</tr>
<tr>
<td>2010</td>
<td>180,000</td>
</tr>
<tr>
<td>2011</td>
<td>222,000</td>
</tr>
<tr>
<td>2012</td>
<td>265,000</td>
</tr>
</tbody>
</table>

3. The third aim shall be to improve the geographic spread of the schools participating in the module:

<table>
<thead>
<tr>
<th>Year</th>
<th>GDA</th>
<th>Leinster (ex GDA)</th>
<th>Munster</th>
<th>Connacht</th>
<th>Ulster</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2008</td>
<td>97</td>
<td>32</td>
<td>60</td>
<td>73</td>
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</tr>
<tr>
<td>2009</td>
<td>154</td>
<td>63</td>
<td>99</td>
<td>126</td>
<td>23</td>
</tr>
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<td>2010</td>
<td>228</td>
<td>90</td>
<td>126</td>
<td>191</td>
<td>38</td>
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<tr>
<td>2011</td>
<td>283</td>
<td>128</td>
<td>185</td>
<td>252</td>
<td>51</td>
</tr>
<tr>
<td>2012</td>
<td>364</td>
<td>171</td>
<td>264</td>
<td>294</td>
<td>65</td>
</tr>
</tbody>
</table>

4. The fourth aim shall be to achieve and to sustain a shift from reliance on the private car for school transport:

<table>
<thead>
<tr>
<th>Year</th>
<th>Car</th>
<th>Mixed mode</th>
<th>Public transport</th>
<th>Walk or cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>-10%</td>
<td>+1%</td>
<td>+1%</td>
<td>+8%</td>
</tr>
<tr>
<td>2008</td>
<td>-12%</td>
<td>+2%</td>
<td>+2%</td>
<td>+8%</td>
</tr>
<tr>
<td>2009</td>
<td>-13%</td>
<td>+2.5%</td>
<td>+2%</td>
<td>+8.5%</td>
</tr>
<tr>
<td>2010</td>
<td>-14%</td>
<td>+3%</td>
<td>+2%</td>
<td>+9%</td>
</tr>
<tr>
<td>2011</td>
<td>-15%</td>
<td>+3%</td>
<td>+2%</td>
<td>+10%</td>
</tr>
<tr>
<td>2012</td>
<td>-16%</td>
<td>+3%</td>
<td>+2%</td>
<td>+11%</td>
</tr>
</tbody>
</table>

(Note all targets are relative to time in programme, i.e. schools build up their knowledge, confidence and capacity to change over time. In year one of the programme they can be expected to generate a 10% reduction in reliance of car transport, year two build to a 12% reduction etc.)
h) ensure that any intellectual property right established as a result of the work of the project shall be registered as the shared property of the Dublin Transportation Office and An Taisce and shall not be sold or otherwise disposed of without the prior written consent of the DTO.

i) make reference to the funding received from the Department of Transport via the DTO in any publicity or promotional activities.

j) ensure that no publication of the findings of any project (including any interim findings) takes place in advance of the prior written consent of the DTO.

k) monitor and submit adequate impact indicators on any project during bi-monthly progress reviews of the project.

l) demonstrate that funding will not be used to replace expenditure on management measures which would otherwise have been incurred from own resources (including State or partner grants);

m) supply reports and completed forms when requested, to meet DTO requirements for information;

n) Comply with the relevant EU and national public procurement requirements. Any contract of employment created pursuant to a project will be a contract solely between An Taisce and the relevant individual. The DTO will not have any responsibility for any matter arising from any such contract of employment.

3. ADJUSTMENTS TO COSTINGS

Funding will be based on the costs set out in the Schedule of Costs and Project Plan. No cost overruns are to be entered into by An Taisce without the prior approval of the DTO. Monies under this grant should only be used for the purpose for which they are intended.

4. REPORTING, MONITORING AND ACCOUNTING

An Taisce shall maintain proper books of accounts and records in relation to all aspects of the project which books of accounts and records shall be:

- distinct from those concerning other operations or business of An Taisce;
- maintained for a period of five years after the termination of the project.

An Taisce shall keep such books of accounts and records available on demand, together with such other documents as may be required by the DTO, its representative or any auditor or inspector with a legitimate interest in the project, for the purposes of any financial or physical verification or evaluation of project progress or performance.

An Taisce shall furnish to the DTO a quarterly report on the progress of the projects, as per the agreed project timeline. This report shall cover the following:
6. CANCELLATION AND REVOCATION OF GRANT

The Dublin Transportation Office may, at any time during the currency of the grant or following the termination of the project, by written notice to An Taisce stop or cancel payment of funding to An Taisce or require An Taisce to refund or demand amounts previously paid to it if any one or more of the following events should occur where:

- there is a breach by An Taisce of any of the terms and conditions;
- The DTO is satisfied that the project has encountered fundamental and undue delay or that the project has ceased.
- Where the actual annual costs incurred are at variance to the monies paid.

7. TRANSFER AND ASSIGNMENT

An Taisce shall not transfer or assign directly or indirectly duties or benefits under these terms and conditions without the prior written consent of the DTO.

8. INDEMNITY

An Taisce shall indemnify and keep indemnified the Minister for Transport, the DTO and its Chairman, the State and the Commission of the European Communities against all and any actions, expenses, costs, claims, demands and any other liabilities in respect of the death of or injury to any person or persons or damage to any property however arising directly or indirectly from the operation of the project and shall effect a Policy of Insurance against all such contingencies to the satisfaction of the DTO.

9. AUDIT

The DTO may also itself or by a third party carry out an audit of the execution of any Approved Project. The cost of such audit will be borne by the DTO except where the An Taisce has caused undue delay resulting in extra audit costs. Audit costs arising from undue delay by the Grantee will be payable by the Grantee.

10. COMPLIANCE WITH LAW AND APPLICABLE RULES

Grantees shall carry out Approved Projects in accordance with Law and the Applicable Rules.

11. INSURANCE

An Taisce shall maintain suitable insurance, including public liability, employer’s liability and professional indemnity insurance in respect of the conduct of an Approved Project and shall produce to DTO evidence of such insurance when requested.
12. VARIATION

Any variation of or amendment to these terms and conditions (other than a generally applicable amendment of them made by DTO) shall only be effective if it is in writing, refers expressly to these terms and conditions and signed by both parties.

13. WAIVER

Failure by DTO to enforce or exercise, at any time or for any period, any of these terms or conditions, does not constitute, and shall not be construed as, a waiver of such term or condition and shall not affect any future right to enforce that or any other term or condition.


The relationship of the Department of Transport and the DTO to An Taisce is that of an independent agency dealing at arm’s length and nothing in these terms and conditions shall be construed so as to constitute An Taisce an agent or employee of Department of Transport or the DTO, and an Applicant or Grantee is not authorised to represent as such.