

REPORT TO: PLANNING & TRANSPORT COMMITTEE - 27 OCTOBER 2008

REPORT ON: DUNDEE AND ANGUS BUS PUNCTUALITY IMPROVEMENT PARTNERSHIP

REPORT BY: DIRECTOR OF PLANNING & TRANSPORTATION

REPORT NO: 486-2008

1 PURPOSE OF REPORT

- 1.1 This report seeks committee approval for Dundee City Council to participate in the Dundee and Angus Bus Punctuality Improvement Partnership

2 RECOMMENDATION

- 2.1 It is recommended that the Committee approve the participation of Dundee City Council in the Dundee and Angus Bus Punctuality Improvement Partnership (BPIP).

3 FINANCIAL IMPLICATIONS

- 3.1 The required management and monitoring of the BPIP will be contained within existing resources. In the longer term weaknesses of the road network that affect bus reliability will require assessment and may require significant investment to address.

4 BACKGROUND

- 4.1 Dundee City Council, in partnership with the Scottish Government, Travel Dundee and Stagecoach Strathtay have, in recent years, delivered a range of new high quality public transport facilities to the City of Dundee.

- 4.2 In 2004/05 Dundee City Council and Travel Dundee (in partnership with the Scottish Government) agreed to work together towards the creation of a;

- i Bus Punctuality Improvement Partnership; and a
- ii Quality Bus Partnership

Owing to a series of organisational and operational changes the development work has been delayed and in any case progress has had to await the release of the Scottish Government's 'Action Plan for Buses'.

- 4.3 Since that initial agreement, Stagecoach East Scotland and Angus Council have approached the partners and asked to widen the partnership and this report includes these additional partners in a proposed partnership.
- 4.4 Four routes have been chosen to test the BPIP and these represent a typical range of bus services operating in and around Dundee. The BPIP will continuously monitor reliability and punctuality using the Real Time Passenger Information System to monitor each bus every 21 seconds.
- 4.5 In 2004 the Dundee Public Transport Partnership Concordat (Appendix 1) was signed by Dundee City Council, Travel Dundee, Strathtay Scottish and Tayside Police. In 2005 a Quality Partnership (Appendix 2) agreement was entered into

between Dundee City Council and Travel Dundee. These two documents gave commitments to continue the development work that had been undertaken through the Bringing Confidence to Public Transport and SmartBus projects.

- 4.6 A series of improvement targets have been defined and agreed with the Traffic Commissioner (Bus Industry Regulator). The continual monitoring of these will allow improvements to reliability by reworking timetables, re-routing on bus priority measures implemented on the road network, etc. It is intended to include many important, but not directly involved, agencies such as Transport Scotland, Tayside Police, Scottish Roadworks Commissioner, Dundee City Council, Parkwise who will help support the need to ensure bus punctuality and reliability.
- 4.7 It is planned to commence the Dundee and Angus Bus Punctuality Improvement Partnership on 01 January 2009 with a sign up ceremony proposed during December 2008. The development of a Statutory Quality Bus Partnership is ongoing and a report will be presented to the Planning and Transport Committee early in 2009.

5 POLICY IMPLICATIONS

- 5.1 This Report has been screened for any policy implications in respect of Sustainability, Strategic Environmental Assessment, Anti-Poverty, Equality Impact Assessment and Risk Management. There are no major issues.

6 CONSULTATIONS

- 6.1 The Chief Executive, Depute Chief Executive (Support Services), Depute Chief Executive (Finance), Head of Finance and Assistant Chief Executive (Community Planning) have been consulted and are in agreement with the contents of this report.

7 BACKGROUND PAPERS

- 7.1 None

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2 October 2008

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Dundee and Angus Bus Punctuality Improvement Partnership

January 2009 - December 2014

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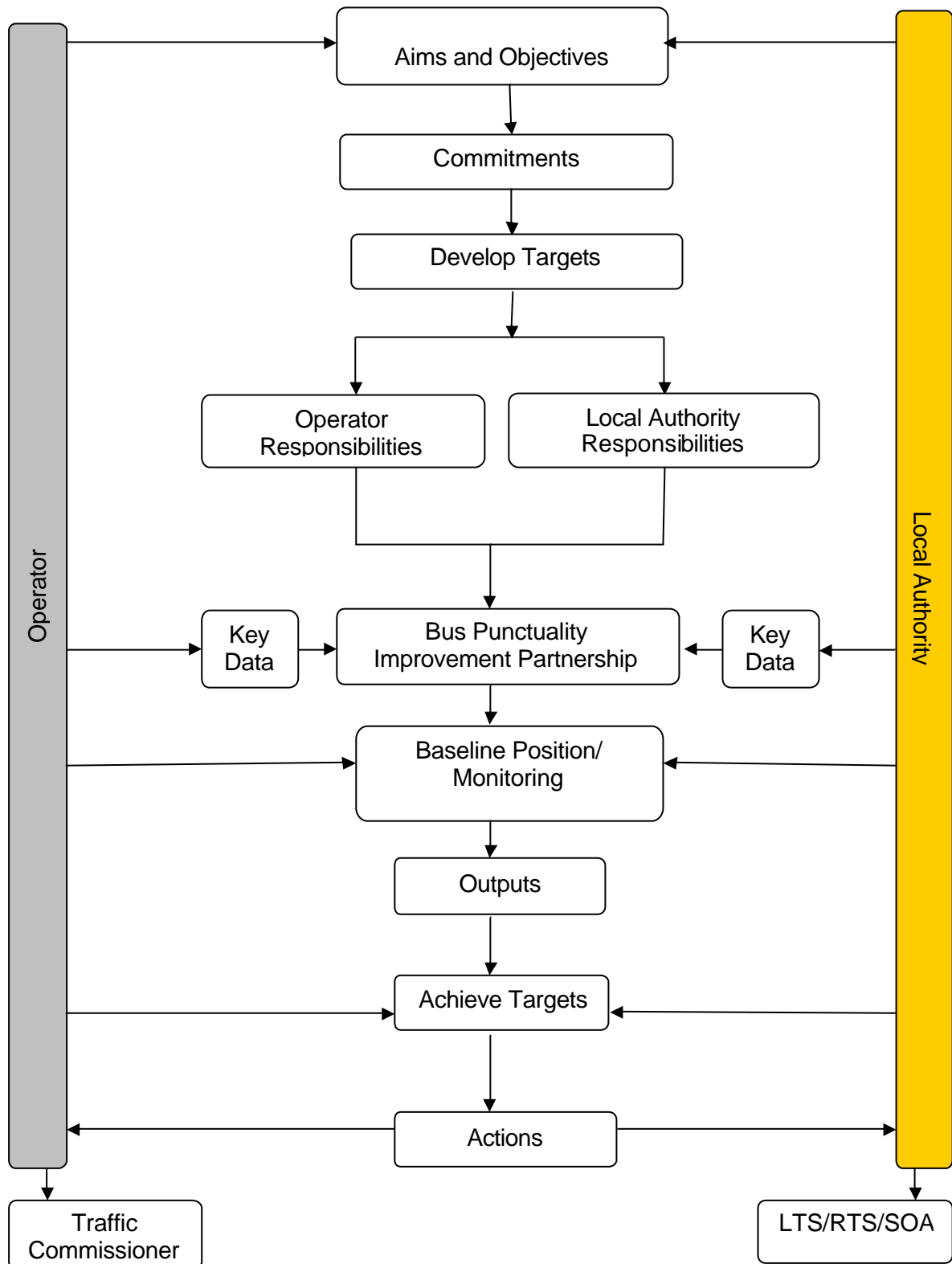
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Appendix A Outline of Excess Waiting Time

1 INTRODUCTION

- 1.1 The recently published Bus Punctuality Statistics for 2007 has highlighted the situation regarding punctuality across the UK, with the results showing that Scotland had the poorest levels of bus punctuality with only 73% of buses estimated as being on time, though this was better than the 2005 figure of 66%.
- 1.2 The creation of Bus Punctuality Improvement Partnerships (BPIP) between local authorities and bus operators was one of the recommendations arising out of the DfT's Bus Partnership Forum (Performance Monitoring Task and Finish Group).
- 1.3 The Bus Partnership Forum brings together senior representatives from the bus industry, central and local government to foster effective partnership working between the key stakeholders. The Forum's work programme is overseen by a Steering Group which in turn has established 'Task & Finish' groups to look at possible solutions to the problems that prevent buses from achieving their potential for growth.
- 1.4 The Performance Monitoring group advocate that BPIPs are to encourage co-operative working between partners to identify the root causes of punctuality and reliability problems, and identify appropriate solutions.
- 1.5 This approach acknowledges that operators have some control over reliability of their services, for example in appropriate timetabling and scheduling; however there are other aspects of punctuality and reliability that are the responsibility of local authorities, such as management of road works.
- 1.6 Several pilot projects were funded by DfT to gain a greater understanding of punctuality issues, to enable realistic standards to be developed for measuring service performance and to provide guidance on a consistent method of measuring punctuality. The guidance has not been adopted in Scotland, however recommendations made in the National Transport Strategy's Bus Action Plan include the development of a toolkit to assist local authorities in establishing BPIPs.
- 1.7 In terms of the BPIP the definition of punctuality and reliability are that punctuality is the adherence to timetables while reliability is the extent to which scheduled services fail to operate for reasons both within and outside an operator's control.
- 1.8 The Dundee and Angus BPIP will be one of the first within Scotland and it will be used to form the basis of Scottish-specific guidelines for local authorities and bus operators on establishing BPIPs. BPIP guidance will be part of a wider package of measures for raising standards in the bus industry, and an evidence base of best practice must be created to demonstrate robustness and credibility to the guidance.
- 1.9 A schematic representation of the processes involved in establishing a BPIP is shown in Figure 1.1.

Figure 1.1 Steps to developing a BPIP



Context

- 1.10 Dundee is the fourth largest city in Scotland, with a total population of 142,000. It is estimated that two-thirds of Dundee's residents travel into the city centre at least once a week, and the city also serves as a regional centre for employment, leisure services and education, and is the principal travel demand generator for more than 325,000 people from surrounding areas. Of the twenty highest commuter movements in the Tayside and Central Regional Transport Partnership (TACTRAN) area, twelve of these start or finish in Dundee.
- 1.11 One of the principal origins of travel into Dundee is from the neighbouring local authority area of Angus – which includes the main settlements of Arbroath, Carnoustie, Forfar and Montrose. From August 2007 significant enhancements were made to the Tayway corridor operating from Arbroath to Dundee through the introduction of revised timetables, dedicated low floor vehicles and improved bus stop infrastructure and information.
- 1.12 Car ownership within Dundee is below the national average with 30,500 (46%) of households having no access to a car. Public transport in Dundee is therefore very important with almost all bus services in the area passing through central Dundee and 70% of passengers either boarding or alighting in the city centre. A further 10% of all passenger journeys are made to and from Ninewells Hospital. As an indicator of the level of bus usage, over 15 million passengers are carried each year on National Express Dundee services alone.
- 1.13 The city is currently experiencing considerable redevelopment and regeneration, most notably through transformation of the central waterfront area through the vision of the Dundee Waterfront Masterplan 2001 – 2031. The new waterfront development will reclaim the river frontage for the city and extend the city centre down to the waterside. Part of this scheme will involve the creation of a new street pattern with hard and soft landscaping with improved provision of facilities for walking, cycling and public transport.
- 1.14 The Waterfront development programme has had considerable negative effect on punctuality of bus services due to associated road works. Compounding this is a significant number of other major and minor road works within Dundee that are having an impact on bus service performance. Many of these road works have long term timescales, therefore there is the potential for bus services to be affected for a significant period within the overall duration of the BPIP agreement. It should also be noted that many of these "works" are initiated through utility providers and as such are not directly under the control of the roads authority.

Commitment to partnership working

- 1.15 Successful partnership working between local bus operators and both Dundee City Council and Angus Council has delivered significant enhancements to both Dundee and Angus's transport systems in recent years.
- 1.16 In Dundee, substantial funding from the former Scottish Executive saw the creation of two flagship initiatives; Bringing Confidence into Public Transport (BCPT) and SmartBus.
- 1.17 These national award winning initiatives provided improved bus stop infrastructure, real time electronic information displays, automatic vehicle location technology, audio information for the visually impaired, CCTV coverage across the entire fleet, and increased numbers of low floor vehicles. No significant physical bus priority measures, such as bus lanes, were required as part of BCPT or SmartBus, with the emphasis being on in-vehicle technology and vehicle triggered bus priority improvements introduced as a result of the transponders fitted to vehicles.

- 1.18 The signing of the Dundee Public Transport Partnership Concordat in 2004 set out the commitments of the partners to provide ongoing investment in improvements to the transport system. The commitments contained within the Concordat are detailed below:

Dundee City Council

- Roads improvements which benefit bus passengers;
- Improved enforcement of bus lanes through decriminalised parking and camera enforcement;
- Improved stops and shelters;
- Real time information both at bus stops and through other systems;
- Automatic Vehicle Location equipment that will aid service control;
- Improved pedestrian access;
- Enhanced on-street security; and
- A proactive attitude to new ideas and concepts.

Bus Operators

- Revisions of the network to accommodate emerging developments and changes in land use;
- A review of operating hours to match changes in travel patterns;
- A review of the existing service network with a view to enhancing service provision and reducing passenger wait times;
- A reduction of the average fleet age;
- Increased provision of easy access vehicles;
- Focussed branding and marketing;
- Improved driver training in customer care;
- The maintenance of on-board security systems; and
- A proactive attitude to new ideas and concepts.

- 1.19 The Concordat articulated the already established good working relationships between the bus operators and Dundee City Council. The partnership approach to problem solving and indeed problem resolution has been well tested as the Concordat has matured. Dundee has enjoyed a relatively stable commercial and subsidised bus network in comparison to many other operating areas and it is accepted that this situation has come about as a direct result of the Concordat. Recognising and respecting each others priorities and commitments has been, and is the key stone to delivering a financially sustainable bus network.

- 1.20 In Angus, funding from the former Scottish Executive and more recently Scottish Government funding has seen the introduction of:

- Real time information on the Arbroath to Dundee corridor within Angus;
- Bus traffic light priority at all signalised junctions; and
- Improved bus infrastructure including bus boarders at key locations.

- 1.21 From the bus operator side there has been investment in new accessible vehicles.

- 1.22 These developments are in line with the objectives in Angus Council's Local Transport Strategy and Public Transport Policy Statement, demonstrating that Angus Council is committed to pursuing partnerships with bus operators to provide high quality services to passengers which are an attractive alternative to the car. Furthermore they contribute to the Council's Single Outcome Agreement of providing high quality customer services, which are continually improving, efficient and responsive to people's needs.

Dundee Statutory Quality Partnership

- 1.23 Building upon the commitments outlined in the Concordat, Dundee City Council and National Express Dundee signed an agreement in 2005 to develop a Statutory Quality Partnership (SQP). This demonstrates the ongoing commitment to investing in Dundee's public transport network.
- 1.24 The Transport (Scotland) Act 2001 enables statutory quality partnership schemes to be established between local authorities and bus operators. A local authority may create an SQP either alone or jointly with two or more authorities, covering the whole or any part of their area, or combined area, if the scheme either:
- Improves the quality of local services and facilities provided in the scheme area in such a way as to bring material benefits to persons using those services and facilities; or
 - Reduces or limits traffic congestion, noise or air pollution.
- 1.25 The scheme places legal obligations on both the local transport authority and the bus operators – the former to provide the relevant facilities (such as bus priority measures, improved bus stop infrastructure), and the latter to operate their services to the prescribed standards (such as new vehicles and improved driver standards).
- 1.26 The SQP for Dundee is currently being drafted and will include within it a Bus Passenger Information Strategy (BPIS) and this Bus Punctuality Improvement Partnership (BPIP).
- 1.27 The partners will ensure that the emerging national and regional BPIS, along with any existing strategies in the operating area will inform the developing and subsequently maturing BPIP and Statutory Quality Partnership .

Dundee and Angus Bus Punctuality Improvement Partnership

Scope of the Dundee and Angus project

- 1.28 The Dundee and Angus BPIP was initially to be piloted on one specific corridor in Dundee using National Express Dundee Service 14, funded through Bus Route Development Grant (BRDG) monies and operated under the XCity Direct branding. The scope of the original agreement has expanded to include three other services, one of which is National Express Dundee Service 22, a commercial service operating every 10 minutes or more frequently.
- 1.29 The other two services are operated by Stagecoach Strathclyde – the BRDG-funded Service 13 which provides a half hourly service operating between Ethiebeaton Park and Invergowrie, and the commercial Service 73/73A operating between Arbroath and Ninewells Hospital which, on the section of route between Monifieth and Ninewells Hospital, operates every 10 minutes or more frequently.
- 1.30 The expansion of the project followed confirmation by Stagecoach Strathclyde of their wish to become involved in the project, and as these services operate as cross boundary services into the Angus area, Angus Council advised of their intention to become involved in the project.

- 1.31 Angus Council and Stagecoach Strathtay had already been in discussions over the development of a BPIP for the Tayway (Arbroath – Monifieth – Dundee) corridor to improve service punctuality and reliability. This would complement and enhance existing joint working to improve this corridor through Council-funded infrastructure improvements including real time information, solar lighting, bus boarders and timetable information at all stops and Stagecoach-funded programme to provide route specific quality vehicles dedicated to the route and implement service enhancements.
- 1.32 The Dundee BPIP will also aid in the development of a voluntary Quality Partnership between Angus Council and Stagecoach Strathtay, an aspiration by both parties to formally record joint commitments to driving up quality initially on the Tayway corridor. Ultimately, the ambition of both parties is for the voluntary Quality Partnership to evolve, where appropriate, into a Statutory Quality Partnership.

2 PARTNERSHIP AIMS AND OBJECTIVES

Aims, Objectives and Commitments of the Dundee and Angus BPIP

- 2.1 The Dundee and Angus BPIP comprises a number of overarching aims, objectives and commitments that will guide the development of the agreement, and which are supported by targets and actions for improvement.

Aim of the Partnership

- 2.2 The principal aim of the Dundee and Angus BPIP is to:

“achieve a continuous improvement in punctuality and reliability of the four bus services identified within the BPIP”.

- 2.3 This aim will evolve to achieve an improvement across all bus services within Dundee and will include other cross boundary services that operate into Angus area. This will also see additional aims being realised in terms of promoting increased use of public transport and achieving improvements in overall quality and security of bus travel.
- 2.4 It is also intended that this partnership model will provide a good practice template for further BPIPs in the TACTRAN area, as well as throughout Scotland by being used as the basis for guidance to be issued by the Scottish Government.
- 2.5 It is anticipated that noticeable improvements will be achieved within the first six months of operation of the BPIP. A public relations strategy should be considered to convey this information into the public realm.

Objectives of the Partnership

- 2.6 The objectives of the Dundee and Angus BPIP are:

- To increase bus patronage on BPIP services;
- To improve the overall reliability of bus services;
- To increase, where possible, the average speed of bus journeys, and particularly in relation to other forms of motorised traffic;
- To increase frequencies of bus services;
- To reinvest any cost savings as a direct result of the BPIP back into improving the local bus network; and
- To reduce vehicle emissions (resulting from more consistent speeds and reduced delay).

- 2.7 Please note that the order of the objectives is not intended to imply any prioritisation between them.

- 2.8 As part of the BPIP, the bus operators will, subject to a viable business case, seek to review the existing local bus network, and make enhancements where appropriate. Where revisions to the network are proposed as a result of new developments, the local authorities could consider the allocation of additional investment to BRDG-funded schemes to facilitate service enhancements.

Commitments of the Partners

- 2.9 Under the terms of the BPIP, the partners agree to adopt a co-operative approach to achieving the above objectives through:
- A data sharing agreement regarding the use, storage and reporting of commercially sensitive information;
 - Agreement on the method of data collection and analysis, including minimum sampling rate to be achieved;
 - Agreement on setting of performance targets and methodology to be used for measuring compliance;
 - Working in partnership to meet targets for improvement and agreement on actions required by respective partners to achieve improvement.

Partner Priorities

- 2.10 The BPIP will build on the existing culture of proactive joint working between the aforementioned partners, by providing a formal structure on which to deliver improvements to bus services in Dundee and Angus.
- 2.11 It is recognised that each of the partners has different reasons for being involved in the BPIP, depending on their respective roles and responsibilities. For Dundee City Council and Angus Council, the BPIP will have direct linkages with strategic objectives identified within their Single Outcome Agreements, and local and regional transport strategies.
- 2.12 TACTRAN, the Regional Transport Partnership for Angus Council, Dundee City Council, Perth & Kinross Council and Stirling Council, has produced a statutory Regional Transport Strategy (RTS) setting out a vision, objectives and a core strategy for transport for the TACTRAN area. The forming of this BPIP and the proposals contained within are consistent with the core strategy and will assist in achieving the RTS vision and objectives.
- 2.13 For National Express Dundee and Stagecoach Strathgairn, the BPIP will assist in complying with statutory undertakings given to the Traffic Commissioner, as well as to achieve increased bus usage and contribute to a growth in the bus industry.
- 2.14 The objectives and responsibilities of other local authority departments and external stakeholders will have direct linkages to the BPIP. Therefore close liaison will be required to promote partnership working and to achieve buy-in from all those who could potentially have influence in the project.
- 2.15 Engagement with local authority chief officers and elected members is essential, as their decision making powers will influence policies and priorities for action. Linking proposed BPIP activities, such as bus priority measures and/or real time information provision, into local authority and where appropriate, Regional Transport Partnerships budget setting cycles will ensure that the BPIP is given importance at the highest level which could help to secure sufficient funding to implement desired actions.

Terms

- 2.16 This Bus Punctuality Improvement Partnership (BPIP) sets out the terms of a partnership agreement between Dundee City Council, Angus Council, National Express Dundee and Stagecoach Strathtay.
- 2.17 The agreement represents a joint commitment to achieving continuous improvement in the punctuality and reliability of Services 13, 14, 22 and 73 for an agreed period of five years from 01 January 2009 to 31 December 2014, extending thereafter through joint consensus.
- 2.18 This agreement may be amended at any time by mutual consent between the partners and may be extended to other services, operators and organisations by mutual consent of the above mentioned partners.
- 2.19 The partners will jointly communicate with the Scottish Traffic Commissioner in writing to confirm the details of this partnership and the standards and targets that are to be applied to measure performance.
- 2.20 This agreement can be terminated by any party by giving three months notice in writing, along with confirmation to the Traffic Commissioner.

3 TARGETS AND STANDARDS

Traffic Commissioner Requirements

- 3.1 It is the responsibility of bus operators to operate their registered services in accordance with published timetables. The Traffic Commissioners' Practice Direction No. 4 outlines the standards by which operators are expected to adhere to, as described in paragraphs 3.4 to 3.7.
- 3.2 For clarification, punctuality and reliability are calculated as follows:
- Punctuality: the percentage figure is calculated as the number of journeys operated between 60 seconds early and 5 minutes late, divided by the number of journeys scheduled.
 - Reliability: the percentage figure is calculated as the number of miles not operated, divided by the total number of miles that were planned to be operated.
- 3.3 It should be noted that the 'window of tolerance' of 1 minute early to 5 minutes late, when measured manually on street by VOSA Bus Compliance Officers, is recorded as 60 seconds early to 5 minutes 59 seconds late.

Starting point of the journey

- 3.4 For timetabled services, 95% of buses should depart within the bracket "up to 1 minute early to 5 minutes late" at the start of their route.
- 3.5 For frequent services – whereby service interval is 10 minutes or less (according to the PSV (Registration of Local Services) (Scotland) Regulations 2001), it is expected that on at least 95% of occasions:
- Six or more buses will depart within any period of 60 minutes; and
 - The interval between consecutive buses will not exceed 15 minutes.

Subsequent timing points

- 3.6 For frequent services, measurement will be based upon Transport for London's concept of Excess Waiting Time (EWT). This is the difference between the average waiting time expected from the timetable, and what is actually experienced by passengers. EWT should not exceed 1.25 minutes. An outline of EWT, including a worked example, is shown in Appendix A.
- 3.7 For timetabled services, the absolute minimum standard which an operator will be expected to attain is that 70% of buses will depart at timing points along the route within the bracket "up to 1 minute early to 5 minutes late".
- 3.8 Whilst accepting that a general benchmark of this nature may not always be achievable, it is one that operators should strive to achieve.

Measures to record performance

- 3.9 The Dundee and Angus BPIP will use the measures listed in Table 3.1 and Table 3.2 to record punctuality and reliability. For some of the measures, there is no statutory TC standard but information will still be recorded as this will help clarify if a year on year improvement is being made.

- 3.10 Through analysis of historical performance reports, the Dundee and Angus BPIP will examine the baseline situation with regards to punctuality and reliability. As expected, operators should be aiming to achieve TC standards set out in Table 3.1 and Table 3.2 and the baseline situation will identify if this is currently being met. If they are not being achieved, additional interim targets will need to be set to work towards achieving these required standards.

Table 3.1 Measurement of punctuality

Measure		TC Standard	BPIP Target
1	The percentage of buses starting their route on time.	95%	95%
2	The percentage of buses departing on time from intermediate timing points (non frequent services).	70 – 90%	95%
3	The percentage of buses departing on time from anywhere on the route (a composite of Measures 1 & 2) (non frequent services)	90% for average of Measures 1 & 2 (non-frequent services)	95% for average of Measures 1 & 2 (non-frequent services)
4	The average Excess Waiting Time for frequent services (6 or more buses per hour).	1.25 minutes	1.25 minutes
5	Analysis of buses operating 6-10 minutes late.	No TC standard	6-10 minutes late – 5%

Table 3.2 Measurement of reliability

Measure		TC Standard	BPIP Target
6	The actual percentage of journeys not operated (usually expressed as % lost mileage) over the services within the BPIP	0.5%	0.5%

- 3.11 For Measures 2 and 3, the partners have agreed to set the BPIP targets higher than the statutory standards required by the Traffic Commissioner. Whilst this will be challenging, the partners believe that the targets are not unachievable and demonstrates their commitment to raising the level of performance to a very high standard.

Exclusions

- 3.12 There are certain factors affecting reliability that are seen to be outwith the bus operators' control. These factors will include extreme weather, vandalism, security alerts and emergency road closures. Where planned road works lead to services being diverted, these are unlikely to cause lost mileage, but where emergency road closures mean the curtailment of services these will be included.
- 3.13 As a result, punctuality and reliability statistics will be excluded for the whole day from the BPIP on the routes concerned, where the following situations occur:
- Where extreme weather curtails 50% of the scheduled journeys;
 - Where vandalism or security alerts curtail 75% of the scheduled journeys because vehicles are taken out of service;

- Where delays as a result of vandalism, security alerts or emergency road works cause 75% of the scheduled journeys to fail to operate; and
 - Where 80% of the scheduled journeys are delayed by the equivalent of over 6 minutes as a result of planned temporary closures for works permitted under the Road Traffic Regulation Act 1984 and the Scottish Traffic Commissioner has been informed of potential delays.
- 3.14 Where planned road works are scheduled to last more than six weeks, services will require to be re-registered for the duration of the works. ACIS and Dundee and Angus Councils will be required to react accordingly to ensure that appropriate public transport information is provided in advance of service revisions.
- 3.15 Where it has been found that any other exceptional circumstances out with the control of the partners have occurred in addition to the above, data will be excluded from analysis only on the agreement of all the partners.

Setting Improvement Targets

- 3.16 There should be year on year improvements from the baseline position, with the overall target to be achieved within five years from the commencement of the BPIP.
- 3.17 The baseline position for each service has been set from four months data only (January – April 2008). The baseline percentages have been used to set the improvement targets, shown in the tables below, and which have been agreed by the partners.
- 3.18 Further analysis of performance data will be undertaken to clarify that the baseline figures in the tables are appropriate. For Service 73, where tracking capability is less than for the other services, additional manual surveying will be required to generate sufficiently suitable data.
- 3.19 As the partners have set 95% compliance as the target for Year 5, this will require, particularly for Measures 2 and 3, an accelerated step in improvement from the current baseline to the performance required by end of Year 1. Despite starting from different baseline positions, the partners have agreed that progress from Year 1 onwards should be the same for both operators.
- 3.20 It is recognised that punctuality worsens along the route as well as between different routes, therefore the BPIP includes separate improvement targets for the start and for intermediate timing points along it.

Punctuality Improvement Targets

Table 3.3 Improvement Targets (Measure 1): Percentage of buses departing on time from the start of the route

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
13	86	88	90	92	94	95
14	81	88	90	92	94	95
22	81	88	90	92	94	95
73	86	88	90	92	94	95

- 3.21 Measure 1 is used to analyse punctuality for both frequent and non frequent services.

Table 3.4 Improvement Targets (Measure 2): Percentage of buses departing on time from intermediate timing points (Non Frequent Services)

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
13	79	84	89	91	93	95
14	74	84	89	91	93	95
22	74	84	89	91	93	95
73	79	84	89	91	93	95

Table 3.5 Improvement Targets (Measure 3): Percentage of buses departing on time from anywhere on route (Non Frequent Services)

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
13	83	87	89	91	93	95
14	80	87	89	91	93	95

Table 3.6 Improvement Targets (Measure 4): The average Excess Waiting Time (minutes) at intermediate timing points (Frequent Services)

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
22	Unknown	Collect data	Identify baseline	Target to be developed following baseline Year 2		1.25
73	Unknown	Collect data	Identify baseline	Target to be developed following baseline Year 2		1.25

3.22 Depending on which timing points are used to measure punctuality for Service 73, this will influence the method used for analysis. This is because the service is not high frequency over its entire route, but only on the section of route between Ninewells and Monifieth.

3.23 The particular time of day or day of the week will also influence the method of analysis to be used, for example in the evenings and at weekends (particularly Sundays) frequency of each of the four services is different compared to their weekday timetables.

Table 3.7 Improvement Targets (Measure 5): Percentage of buses operating 6-10 minutes later anywhere on the route (Non Frequent Services)

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
13	11	8	7	6	6	5
14	9	8	7	6	6	5
22	9	8	7	6	6	5
73	11	8	7	6	6	5

Reliability improvement targets

Table 3.8 Improvement Targets (Measure 6) Mileage lost as a % of scheduled mileage

Service No.	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5
13/73	0.5	0.5	0.5	0.5	0.5	0.5
14/22	0.5	0.5	0.5	0.5	0.5	0.5

4 MONITORING METHODOLOGY

- 4.1 Monitoring on each of the four services will require a combination of methods as the frequency of each of the services differs, even between times of the day and week for the same service.

Table 4.1 Bus services included in the BPIP

Service	Route description	Weekday frequency	Saturday frequency	Sunday frequency	Monitoring method
Stagecoach Strathtay Service 13	Monifieth, Ethiebeaton Park – Dundee City Centre – Ninewells Hospital - Invergowrie	30 mins	30 mins	No service	Non frequent service
National Express Dundee Service 14	Dobbies Garden Centre – Kingsway Retail Park – Technology Park – Ninewells Hospital	30 mins	30 mins	Hourly	Non frequent service
National Express Dundee Service 22/22C	Downfield – Dundee City Centre – Blackness Road – Ninewells Hospital	7 – 8 mins	10 mins	15 mins	Excess Waiting Time used Mon to Sat daytime, Non frequent service evening and Sun
Stagecoach Strathtay Service 73/73A	Arbroath – Carnoustie – Monifieth – Dundee City Centre – Ninewells Hospital	10 mins	10 mins	Hourly	Excess Waiting Time used Mon to Sat daytime between Ninewells Hospital and Monifieth, non-frequent service between Monifieth and Arbroath daytime Non frequent service evening and Sun

- 4.2 Services with a frequency of five buses or less per hour (non frequent services) are monitored by comparing actual departure time with scheduled departure time, measured as % compliance with the six minute window.
- 4.3 Frequent services (six or more buses per hour) are monitored by observing the headways between buses, using Excess Waiting Time. There is no difference in the survey technique required compared with non-frequent services – in both cases only actual departure times are recorded but the difference lies in the subsequent analysis. An outline of Excess Waiting Time is shown in Appendix A.

Key data to be recorded

- 4.4 The data that will be used when compiling records of performance will include the following key components:
- Date and time of day;
 - Location (Terminal point / mid point / last timing point before destination);
 - Observed traffic or other conditions on the road network impacting on timekeeping and reliability;

- Weather and road surface conditions if adversely affecting reliability (e.g. snow and ice);
- Route number(s) and direction of travel;
- Scheduled times of departure;
- Actual times of departure;
- Scheduled service intervals (for frequent services);
- Actual service intervals (for frequent services);
- Passenger loadings;
- Dwell times at bus stops;
- Vehicle identification on manual surveys to allow operators to check/verify operational information; and
- Scheduled and actual destination display information for all journeys on manual surveys.

Electronic monitoring

- 4.5 The principal methodology for monitoring punctuality and reliability for the Dundee and Angus BPIP will be undertaken electronically and based on Real Time Passenger Information (RTPI) provided by the supplier in Dundee and Angus – ACIS.
- 4.6 RTPI data can effectively record performance for all journeys on a daily basis and will reduce the level of observational surveying required.
- 4.7 The ACIS system measures departure time from bus stops, apart from at the last stop where arrival time is recorded. Arrival time will not be used in the measurement of punctuality but is solely for the purposes of calculating overall journey time. Journey time will be recorded to assist in the calculation of average journey speeds.
- 4.8 The system is able to provide an estimation of dwell time at a bus stop, for example where a bus arrives early but then time taken to load passengers can result in late departure. Dwell times have already been measured from ACIS by Dundee City Council for all bus services operating through the city centre and used in the new City of Dundee Paramics model.
- 4.9 As mentioned above, performance of frequent services will be analysed by Excess Waiting Time (EWT). It is essential that the ACIS system is able to calculate EWT and ACIS has been asked to clarify whether this functionality exists within the system.
- 4.10 According to the ACIS system, if a vehicle operates 25% or less of a scheduled journey, then it is not reported. For example, when a journey is curtailed for operational reasons or exceptional circumstances but it is not registered to do so it will be removed from any analysis (if 25% of the journey or more was lost).
- 4.11 However, 'black spots' in tracking capability could result in buses not being tracked but which do in fact operate. ACIS conducted an exercise in May 2008 to plot 'snail trails' for the 4 services involved in the BPIP to identify the extent of any black spots in coverage within Dundee.
- 4.12 The results demonstrated that coverage within Dundee is generally very good for the four services in question, however there can be some problems with tracking in the Ninewells Hospital area. In addition, no problems with tracking have been identified in the Angus area. Therefore for the purposes of the BPIP, there are no major concerns with tracking capability.

- 4.13 There will be occasions when operators will provide additional vehicles to maintain service levels in the event of problems such as heavy congestion. When this does happen, the actions should be credited, as the operators are ensuring that quality of service is maintained for the passenger in terms of punctuality and reliability. The partners will undertake to clarify this issue, referred to as 'exception reporting', with ACIS.

Minimum sampling rate

- 4.14 ACIS data will be collected from all service operating days within a monthly period. Days where less than 75% of journeys are tracked will be discounted.

Report formats

- 4.15 A set of reports have been agreed between the partners of National Express Dundee and Stagecoach Strathguy to analyse performance data. ACIS will provide a training session to ensure that staff are able to interrogate the system and produce the appropriate report outputs. The date, venue and relevant staff members required to attend a training session will be agreed between the partners, and Dundee City Council will fund the cost of the session.
- 4.16 The reports agreed by the partners for the BPIP are as follows:
- **Journey Tracked Analysis:** bar graph showing the scheduled and actual amount of journeys each service operates on any given day, with the percentage of journeys matched given on the line graph. This report will be produced on a weekly basis.
 - **Scheduled Deviation Reports:** line graphs show the average deviation of a particular service from the timetable on all journeys registered on that particular day. Can be broken down by service for both inbound and outbound journeys from Monday to Friday. This report will be produced on a weekly basis. For Dundee and Angus purposes, there will be two report types:
 - Weekday Comparison Report by Service – Inbound/Outbound – all stops
 - Weekday Comparison Report by Service – Inbound/Outbound – via timing points
 - **Monthly Compliance Report:** line graph showing percentage on time, early and late per month – at origin, intermediate and all timing points. Can be broken down by individual service.
 - **Board Level Report:** high level report that shows performance on an annual basis.

Time synchronisation

- 4.17 It is essential that all equipment used to record time is synchronised to the same time source, as even a small difference in time will seriously undermine the success of the BPIP.
- 4.18 Three separate systems are currently in operation and to ensure that time is synchronised these have been checked by ACIS for accuracy and in terms of the BPIP.
- 4.19 The Atomic Clock is the UK's time source broadcast from Cumbria but until recently was located in Rugby. The Rugby clock broadcasts a long-wave radio signal broadcast at 60kHz which receives its time signal from Caesium Atomic Clocks, accurate to one second in one million years. The whole of the United Kingdom and much of north-west Europe is within the range of the Rugby clock's signal which provides the time source for electronic share trading, clocks at most railway stations and the BT speaking clock

- 4.20 The ACIS system BusNet Live is synchronised from central servers which take their time from its Communications Controller locally installed at Dundee City Council offices at Tayside House. The clock on the Communications Controller is accurate to the second with the BT Speaking Clock.
- 4.21 National Express Dundee will ensure that their depot reader is accurate to the second to the Speaking Clock and synchronising software will be installed on the PC to ensure all Electronic Ticket Machines (ETMs) are synchronised with the correct time. A programme of nightly synchronisation of Wayfarer modules will be implemented until new ETMs are delivered; the date of which is estimated to be early Spring 2009. Drivers should use the ETM clock as their time source.
- 4.22 Stagecoach ETMs receive time synchronisation from the network at each individual depot. The Stagecoach network is synchronised from central servers in Stockport. These central servers synchronise with SNTP (Simple Network Time Protocol) servers and have proved to be accurate according to the Speaking Clock. Drivers should use the ETM clock as their time source.
- 4.23 Time sources on all three systems should be checked on a daily basis to ensure that accuracy remains.
- 4.24 Implementing this common standard and protocols will ensure that all parties are working to the exact same time, which is the UK standard. All bus operating staff will be informed that the ETM verified time is the common standard and no variations or use of 'personal' time from any other source is acceptable.
- 4.25 Although operators will work to ensure that driver modules are synchronised regularly according to official time sources, both operators have highlighted that ETMs can experience significant drift when being used in service during the day. The production of accurate performance data is therefore an issue, and is not one that can be resolved by nightly time synchronisation alone. Once operators have fully migrated onto the new ETMs as part of the National Concession Scheme, it is assumed that this will no longer be a problem.
- 4.26 However, until this happens, ETM drift will be included as a risk to the BPIP. It would be beneficial for ACIS and the operators to work together to conduct regular and random checks of ETMs when in service to determine the level of drift and resolve accordingly.

Manual monitoring

- 4.27 A programme of manual monitoring will be undertaken for the BPIP. This will take the form of on-street checks at pre-assigned timing points along each of the four corridors. Manual monitoring is required to check and verify electronic data to confirm its robustness and to supplement gaps in data for areas where there is limited or no RTPI coverage.
- 4.28 Manual monitoring will need to link in to information on traffic conditions from UTC and RTPI data to highlight where problems are occurring, as on-street surveys will be unable to determine any of this information. The manual monitoring programme will be required to include:
- Approximately 2,000 observations of buses on the four designated routes.
 - Observations at the start and finish of the route as well as intermediate stops, one of which should be within Dundee City Centre (and one on Strathmartine Road/Cleington Road for Services 14 and 22).

- Measurement of arrival time at the final destination to assess overall journey times and average speed of journey. As the Traffic Commissioner does not consider these timings they are not recorded for punctuality purposes.
 - A continuous observation period of 2.5 hours. Monitoring should focus on the peak period and observations should be made from 0800 to 1030 and a further period of observation at a different site on the same day from 1500 to 1730.
 - Two sets of full week observations throughout the year.
 - Observations should be made in both directions of travel, unless flows are particularly heavy, when only one direction should be observed.
 - Monitoring in subsequent years to be undertaken at the same sites, and same times of day, week and month to provide an unbiased assessment of change in punctuality standards.
 - Observations conducted discreetly so as not to influence driver behaviour by the presence of the monitors.
- 4.29 The time pieces used by surveyors for manual monitoring will be accurate according to the speaking clock. This will be achieved through the issue of radio controlled atomic watches and by survey staff checking times with the speaking clock before the start of any monitoring exercise. This is in accordance with the standards and procedures currently used by the Bus Compliance Officers from the Vehicle and Operator Services Agency (VOSA).
- 4.30 The first manual monitoring exercise will be undertaken before the commencement date of the BPIP, i.e. before 01 January 2009 with a full week (Monday to Sunday) set of observations recorded across the four services. The primary aim of this exercise is to provide further evidence of performance to determine the baseline position.
- 4.31 Two further manual monitoring exercises will be conducted between January 2009 and December 2009, with two exercises each year thereafter until December 2014.

Monitoring of BPIP Objectives

- 4.32 The BPIP objectives detailed in Chapter 2 are SMART (Specific, Measurable, Achievable, Realistic and Time based) therefore monitoring is required to identify if success against objectives can be made.
- 4.33 For each of the objectives, a target should be developed by which to measure progress, and a strategy developed for how to monitor progress against the objective. Table 4.2 on the next page lists each objective, along with a proposed target and suggested methodology for monitoring.
- 4.34 Unless otherwise stated, all targets are set over the five year period of the BPIP.

Table 4.2 Monitoring of BPIP objectives

BPIP Objective	Indicator	Baseline	Target	How indicator will be measured
To increase bus patronage on BPIP services	Increase in passenger numbers over the duration of the BPIP	Baseline to be confirmed at end of Year 1 and presented as an index of 100.	Increase by at least 10% across all BPIP services over the 5 year period.	Electronic Ticket Machine data
To improve the overall reliability of bus services	Annual increase in % of buses operating within 'window of tolerance' and reduction in lost mileage	See Tables 3.3 to 3.8	See Tables 3.3 to 3.8	ACIS electronic data and manual surveying
To increase, where possible, the average speed of bus journeys, and particularly in relation to other forms of motorised traffic	1) Increase in average bus journey speed	Current timetable	+5%	ACIS electronic data and changes to registered details
	2) Reduction in dwell times at bus stops	12% (national figure 2008)	Decrease by 2% points over the 5 year period (10% by 2014) (Will be subject to change due to localised targets for modal shift. Larger boarding numbers increase dwell time/transaction time at stops. This will also feed into areas of improvements such as off bus payment systems/smartcards)	ACIS electronic data
To increase frequencies of	Service frequency to be enhanced through shorter	See Table 4.1	One BPIP service	Bus service registrations

bus services	journey times and associated increased vehicle availability		or corridor per year	
To reinvest any cost savings as a direct result of the BPIP back into improving the local bus network	<p>1) Reduction in operating costs of the four services within the BPIP.</p> <p>2) Service and/or vehicle enhancements directly resulting from reduced operating costs</p>	<p>Operators' costs 2008/09 financial year</p> <p>As above</p>	<p>One BPIP service or corridor per year</p> <p>Additional/service enhancements on the network</p>	<p>Agreement of, and noting by, Partnership</p> <p>As above</p>
To reduce vehicle emissions (resulting from more consistent speeds and reduced delay)	Improved air quality	<p>Dundee: baseline air quality data to be confirmed by Dundee City Council.</p> <p>Angus: baseline air quality data to be confirmed by Angus Council.</p>	An overall improvement of 5% on average journey time will have a directly proportional reduction in vehicle emissions	ACIS data and national data on vehicle emissions and average speeds

5 MANAGEMENT REPORTING

Operational Group

- 5.1 The BPIP will be managed by the four main partners, National Express Dundee, Stagecoach Strathtay, Dundee City Council and Angus Council, known as the Operational Group. The partners will be required to establish regular meetings to identify causes of punctuality and reliability problems and discuss measures to overcome these. A regular programme of meetings should be agreed with the partners at the start of the BPIP.
- 5.2 The recommended process for reporting issues is outlined below.
- At least ten days before, National Express Dundee and Stagecoach Strathtay will produce performance reports (based on the agreed report formats) for each of the four services;
 - At least ten days before, operators should provide a statement explaining operating conditions over the period since the previous meeting including driver and vehicle availability;
 - At least ten days before, Dundee City Council and Angus Council should provide details of any highway issues that may affect operational reliability for the forthcoming quarter;
 - Following on from each meeting, where necessary operators will formally write to the local authorities with suggestions for addressing congestion-causing delays.
 - The local authorities should investigate, within a month, the causes for delays and any suggestions made by the operator, and provide a formal response; within a further month, defining how and when the delays can be addressed.
- 5.3 Analysis of ACIS data and Dundee's Urban Traffic Control (UTC) system will highlight areas along the routes where problems exist. On-street surveying may also provide a snapshot of problems on particular day and time.
- 5.4 Bus company drivers and other staff will be encouraged to regularly report any areas of concern and comments should be collated. Any complaints or comments on timekeeping issues that have been received from bus passengers should also be considered.
- 5.5 Appropriate before and after monitoring will be required to take place to gauge whether corrective action has been successful.
- 5.6 It will be the responsibility of the Operational Group to collate and publish the outputs of the performance monitoring.

Working Group

- 5.7 Liaison with several other parties will be able to influence the outcomes of the BPIP and therefore should be invited to join a Working Group to tackle issues outwith the control of the four main partners.
- 5.8 It is anticipated that the Working Group will comprise of the following members, in addition to Operational Group:
- **Network Management:** managing road works, planned events, temporary diversions/restrictions etc;
 - **Traffic Management:** traffic signal and bus priority measures;

- **Parking:** enforcement of non-moving traffic offences that impact on bus movements;
- **Development Planning:** any major development issues that may impact on the road network, e.g. Dundee Waterfront;
- **TACTRAN:** the Regional Transport Partnership for the area has produced a statutory Regional Transport Strategy (RTS) setting out a vision, objectives and a core strategy for transport in the area. This BPIP will assist Angus and Dundee City Councils to perform their transport functions consistently with the RTS and will also assist in determining suitable actions that can be included in the TACTRAN Delivery Plan to help achieve the RTS vision and objectives.
- **Transport Scotland & BEAR Scotland:** due to their management of the trunk road network in the north east of Scotland on behalf of Transport Scotland. There are three trunk roads sections running through Dundee, therefore any issues regarding road markings, road signs, carriageway repairs and improvement, co-ordination of road works etc on the trunk roads that bus services operate along will require liaison with BEAR. This also applies to the A92 (Arbroath to Dundee section) as BEAR are the maintenance arm of the operating company for this section of road which has been constructed and operated under PPP with Angus and Dundee City Councils.
- **Tayside Police:** enforcement of moving traffic offences that impact on bus movements and management of traffic flows during events, incidents etc.

5.9 It is recommended that the Working Group also meets regularly, as soon as possible after an Operational Group meeting. This way, any issues regarding road works, traffic offences or bus priority issues can be raised and hopefully addressed timeously. The Operational Group can request the attendance of any member of the Working Group to attend the Operational Group meetings where it is agreed there will be benefit in doing so.

Other Stakeholders

- 5.10 The Traffic Commissioner is a principal stakeholder, who will be informed of the partnership outcomes in the form of an annual report using the ACIS Board Level Report template; a high level report showing performance by operator and service over a full year period.
- 5.11 Road works are a major influencing factor in the punctuality and reliability of bus services. The Scottish Road Works Commissioner (Imposition of Penalties) Regulations 2007 came into force on 1st October 2007, enabling roads authorities to be fined for failing to co-ordinate works, or on statutory undertakers who fail in their duty to co-operate. The SRWC (John Gooday) will be informed of outcomes from the BPIP.
- 5.12 The lessons learned during the establishment of the Dundee and Angus BPIP will be used by the Scottish Government to produce the first Scottish specific guidelines on BPIPs for local authorities and bus operators, as part of tangible outcomes required by the Bus Action Plan. The Bus Action Plan Forum will be kept updated on progress and outcomes.
- 5.13 The Confederation of Passenger Transport (CPT) as the voice of the bus and coach industry, will receive information from Stagecoach Strathclyde and National Express Dundee as member operators. CPT's role will be to disseminate any relevant information to interested bus operators and to provide input in terms of developing national guidelines.

6 ACTIONS

- 6.1 This section outlines actions that the BPIP partners may be required to undertake to achieve performance targets identified in Chapter 3. An Action Plan is a key component of the BPIP and will require differing levels of responsibility from each of the partners. The plan should link to the short, medium and long term actions suggested in Table 6.1 and Table 6.2.
- 6.2 A Delivery Plan should be established within the first three months of the BPIP commencing, and should be reviewed at regular intervals thereafter (at time of Operational Group meetings) as it will be subject to amendment due to different situations or issues that arise.
- 6.3 From the local authority perspective, actions that require use of capital and/or revenue funding should be finalised to co-ordinate with the budget setting process. This also applies to any actions that are deemed suitable for the RTS Delivery Plan.
- 6.4 At the end of each financial year, the authorities should also undertake to report on the funding commitments that have been made as part of the BPIP for the next financial year including those in the TACTRAN Delivery Plan and any related external funding. A schedule should also be produced detailing any BPIP-related enhancements that have been implemented during each financial year.

Under-performance

- 6.5 The partners have agreed that action against the bus operators for under-performance in punctuality (normally though reporting to the Traffic Commissioner) is not appropriate for this partnership agreement. The BPIP is intended to encourage positive joint working and the local authorities and bus operators already have good working relationships.
- 6.6 If this agreement were to become too prescriptive, this may erode these relationships and jeopardise the outcome of the BPIP, as operators may not wish to commit to something for fear of penalties being imposed.

Timescales

- 6.7 For clarification, the timescales referred to in the tables below are defined as:
- Short term: up to 1 year
 - Medium term: 2 to 3 years
 - Long term: 4 to 5 years

Table 6.1 National Express Dundee and Stagecoach Strathtay actions

Action	Timescale
Review of network	
Review existing timetables on the services in the pilot, including end-to-end and point-to-point running times. Priority given to not automatically lengthening running times or reducing frequencies if punctuality is found to be below standard.	Short term
Identify where punctuality can be improved at the start of the route through rescheduling, crew change arrangements etc and also at points elsewhere along the route (i.e. where early running is observed).	Short term
Seek to reduce journey times as a result of improvements in traffic conditions, bus priority provision and boarding times.	Medium – Long term
Identify where delays, due to congestion, road works etc occur along the route, in conjunction with Dundee City Council and Angus Council.	Short term
Vehicles	
Continued investment in low floor vehicles to ease boarding and alighting times.	Ongoing
Continued investment in maintenance facilities and methods to improve vehicle reliability, therefore availability.	Ongoing
Continued investment to equip buses with tracking capabilities.	Ongoing
Ticketing	
Increased use of multi-journey, multi-operator and off-bus ticket purchase using smartcard technology, online booking and by using simplified fares structures.	Medium
Training	
Maintain sufficient levels of suitably trained and available staff to deliver required services and to cope with disruptions.	Ongoing
Ensure drivers report delays and operational difficulties due to congestion, road works or difficulties accessing bus stops	Short term
Ensure driver discipline in adherence to timetables and improve training and control with respect to docking at bus stops.	Short term

Table 6.2 Dundee City Council and Angus Council actions

Action	Timescale
Review of network	
Review traffic conditions at hot spots along the route, in conjunction with operators, and identify measures to overcome them. Existing bus priority measures to be monitored for effectiveness in reducing delays to buses at junctions.	Short term
Infrastructure	
Identify and work towards introducing temporary and permanent traffic management measures such as bus lanes where benefits are identified to deliver the objectives of the BPIP	Medium term
Implement bus stop clearway markings at 100% of bus stops on routes. Public awareness campaign regarding not causing obstruction at bus stops.	Medium term
Identify bus stops along route where level access using raised kerbs is required and where bus stop layout needs improved and work towards undertaking the necessary enhancements.	Short term
Provision and maintenance of the appropriate infrastructure improvements at bus stops.	Short term
Identify where trunk road improvements would be appropriate and advise Transport Scotland.	Short term
Traffic regulation and order offences	
Identify areas where non-moving (parking/loading) traffic offences exist at bus stops. Regular offences should be reported to parking colleagues to ensure that enforcement is a priority, particularly at peak times.	Short term
Identify routes where moving traffic offences exist and liaise with Tayside Police for enforcement.	Short term
Information	
Design a methodology to plan for and minimise disruptive effects of road works, in conjunction with network management colleagues/BEAR Scotland. Inform public of significant delays that may occur.	Short term
Ensure ongoing maintenance of, and where appropriate, the development of RTPI systems	Medium – Long term

7 DATA SHARING AND PUBLICATION

- 7.1 For National Express Dundee and Stagecoach Strathtay, the Dundee BPIP will present, an insight into each others commercial operations through the sharing of data on performance and service quality; information which operators would normally wish to protect from being in the public domain, to prevent any potential competitive advantage by rival bus operators, or over concerns that sharing data with local authorities may lead to penalties by the Traffic Commissioner.
- 7.2 A data sharing agreement, therefore, is essential to safeguard the bus companies' commercially sensitive data and to clarify exactly how the results of punctuality monitoring will be presented, analysed and reported.
- 7.3 Separate data sharing agreements will be required to be signed between the operators and the local authorities, and with each other, as follows:
- Agreement between Stagecoach Strathtay and National Express Dundee;
 - Agreement between Stagecoach Strathtay and Dundee City Council and between Stagecoach Strathtay and Angus Council;
 - Agreement between National Express Dundee and Dundee City Council and between National Express Dundee and Angus Council.

Information to be provided to the Traffic Commissioner

- 7.4 The Scottish Traffic Commissioner has been informed of the Dundee BPIP project and a request has been made to determine whether she will accept punctuality and reliability information in electronic format.
- 7.5 The partners have already agreed to supply the Traffic Commissioner with an annual report using the ACIS Board Level Report template; a high level report showing performance by operator over a full year period.
- 7.6 Information to be provided to the Public
- 7.7 The information to be made available within the public domain requires to be agreed by the partners. This will be, as a minimum in the form of an annual high level report showing performance by operator over a full year period.
- 7.8 Any data sharing agreement should also be set within the context of Dundee City and Angus Councils responsibilities under the Freedom of Information (Scotland) Act 2002. The Act allows for certain types of information to be exempt from public disclosure, and there are two sections within the Act that would protect specific information produced for the BPIP to be exempt from publication:

Section 33 'Commercial interests and the economy'

"(1) Information is exempt information if—

(a) it constitutes a trade secret; or

(b) its disclosure under this Act would, or would be likely to, prejudice substantially the commercial interests of any person (including, without prejudice to that generality, a Scottish public authority)".

Section 36 'Confidentiality'

"(1) Information in respect of which a claim to confidentiality of communications could be maintained in legal proceedings is exempt information.

(2) Information is exempt information if—

(a) it was obtained by a Scottish public authority from another person (including another such authority); and

(b) its disclosure by the authority so obtaining it to the public (otherwise than under this Act) would constitute a breach of confidence actionable by that person or any other person".

Compliance with the Competition Act 1998

- 7.9 The Competition Act prohibits agreements which are intended to or have the effect of, "preventing, restricting or distorting competition in the UK". The Act also covers situations where there is no actual agreement, but where the actions of trade associations or companies acting together has the same effect.
- 7.10 The Act also prohibits the abuse of a dominant position in the UK or part of the UK. Such actions include, "limiting production, markets or technical development to the detriment of the consumer".
- 7.11 In accordance with the requirements of the Act, Stagecoach Strathtay and National Express Dundee will provide the minimum, relevant amount of commercial data necessary for the BPIP to function effectively.

8 OTHER CONSIDERATIONS

Risk Assessment

- 8.1 The main barriers to successful implementation of the BPIP are highlighted in Table 8.1. The most significant threat is that the BPIP is unsuccessful and there will be no improvement, or even a decline, in punctuality and reliability of services.
- 8.2 This has obvious implications for operators' meeting statutory performance standards, but it could also dissuade bus operators from providing further investment into services and could also result in a decline in bus patronage, as the bus fails to be seen as an attractive alternative to car travel.
- 8.3 This in turn brings associated problems with increased car usage, hence more congestion affecting punctuality of bus services by reducing operating speeds and increasing operating costs, which could result in fares increases, further deterring people from using the bus.
- 8.4 Engagement with individuals and groups out with the core BPIP partners is essential to achieving buy-in and influencing priorities for public transport at a more strategic level.

Table 8.1 Risks that may prevent a successful BPIP

Description of Risk	Level of Risk
Lack of engagement with chief officers and elected members who can influence council priorities.	High
Lack of engagement by other council departments that can assist with network/traffic/parking problems.	High
ACIS unable to deliver technical outputs required for BPIP reporting.	High
Level of drift experienced by Electronic Ticket Machines and failure for delivery and installation of new ETMs according to agreed timescales.	High
Budgetary constraints preventing implementation of preferred infrastructure improvements.	High
Ongoing increases in bus operating costs.	High
Lack of enforcement of parking and loading offences at bus stops.	High
Lack of involvement with the development planning process.	High
Lack of engagement with external stakeholders.	Medium
Ongoing development-related traffic problems that will affect bus punctuality in the longer term.	Medium

Equality Impact Assessment

- 8.5 This BPIP will be subject to Equality Impact Assessment (EQIA) screening procedures required by Dundee City Council and Angus Council as part of the committee reporting process. Although the focus of the BPIP is on punctuality and reliability, it will undoubtedly have positive equality impacts as improvements made due to targeted actions will benefit Angus and Dundee residents who are reliant on public transport.

- 8.6 For example, continued investment in boarding facilities at bus stops will create improvements to accessibility, and enforcement of non-moving offences at bus stops will enable buses to pull in closer to the kerb and enable easier boarding.
- 8.7 Investment in accessible vehicles, as well as lowering boarding and alighting times, will also benefit elderly and disabled passengers and parents with buggies, by enabling them to use public transport more easily, contributing to social inclusion aims.
- 8.8 Attractive, reliable bus services will in turn encourage more passengers and busier buses increases personal safety through increased activity and natural surveillance.
- 8.9 By improving service reliability, the bus will be seen as a realistic alternative to the car, and users will gain increased confidence that they can use public transport to access essential services and opportunities.

Legal implications

- 8.10 Although the BPIP is not legally binding, where Traffic Commissioners statutory standards are not achieved then credit will be given to operators who, prior to any Public Inquiry, have implemented a BPIP to enable them to meet the Commissioners standards.
- 8.11 In addition, BPIPs can form an important part in the development of a Statutory Quality Partnership (SQP).
- 8.12 Unlike BPIPs, SQPs contain legal obligations on both the local transport authority and the bus operators; the former to provide the relevant facilities (such as bus priority measures, improved bus stop infrastructure), and the latter to operate their services to the prescribed standards (such as new vehicles and improved driver standards).

9 INTERIM ACTION PLAN

- 9.1 This Plan details the interim actions that need to be undertaken to enable the commencement of the BPIP with effect from 01 January 2009. Individual workstreams will be required to take particular issues forward, in conjunction with other external stakeholders.
- 9.2 Please note that these actions are separate to those identified in Chapter 6, which are the high level actions required to be undertaken by the partners during the lifetime of the BPIP. These actions will be translated into a Delivery Plan which will identify specific responsibilities of each partner. The Delivery Plan will be produced within the first three months of the BPIP commencing and reviewed regularly thereafter to determine whether progress is being made.

Table 9.1 BPIP Action Plan

Action	Lead Responsibility	Date action required by
National Express Dundee to install time synchronisation software	NExD	End September 2008
Signed Data Sharing Agreement required between all partners	OG	End October 2008
Freedom of Information (Scotland) Act 2002 responsibilities in relation to publication of BPIP information to be checked by Legal teams	DCC/AC	End October 2008
Arrange ACIS training session	DCC	End October 2008
Establish how 'exception reporting' can be undertaken using ACIS system	DCC/AC	End October 2008
Establish how EWT can be calculated using ACIS system	DCC/AC	End October 2008
Official signing of BPIP document	OG	Mid December 2008
Undertake manual monitoring exercise to clarify baseline position (one full week of observations required)	OG	End December 2008
Produce plan for future manual monitoring exercises	OG	End January 2009
Produce Delivery Plan (to be reviewed at regular intervals)	OG	End March 2009
Undertake first manual monitoring exercise	OG	End June 2009
First review of Delivery Plan	OG	End June 2009
Undertake second manual monitoring exercise	OG	End December 2009
Collect data to identify baseline situation for Excess Waiting Time on Frequent Services	OG	End December 2009

aKey to table:			
AC	Angus Council	NExD	National Express Dundee
DCC	Dundee City Council	OG	Operational Group

10 AGREEMENT

- 10.1 This agreement will operate for a period of five years from 01 January 2009 to 31 December 2014.
- 10.2 This agreement has been read, understood and signed by duly authorised representatives of the partners involved in its delivery.

For Dundee City Council

Convener

Chief Officer

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

For Angus Council

Convener

Chief Officer

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

For National Express Dundee

For Stagecoach Strathtay

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Outline of Excess Waiting Time

Outline of Excess Waiting Time

Principles

- 1 Services that are registered as frequent (i.e. service interval of every ten minutes or more frequently) will be assessed by a measure used by Transport for London called Excess Waiting Time.
- 2 This is the difference between the average waiting time actually experienced by passengers and the waiting time one would expect from the timetable. If buses are expected to operate every ten minutes, then statistically the average waiting time is half this gap or headway, i.e. 5 minutes. If the buses run exactly to schedule then the average waiting time experienced by passengers will be 5 minutes and there will be no excess waiting time. If buses do not run at even 10 minute intervals, there will be excess waiting time.
- 3 The target is for a maximum of 1.25 minutes of Excess Waiting Time. This means that, for a service registered as every 10 minutes the average wait experienced by passengers should be no longer than 6.25 minutes.

How is bus operator performance calculated?

- 4 It is necessary to make a sufficient number of observations and then calculate a weighted average, so as to penalise longer gaps (or headways).

aWhy use a weighted average?

- 5 If, say, the middle one of three buses is 5 minute late, there will be a gap of 15 minutes between the first and second buses, but one of only 5 minutes between the second and third buses. The average gap is therefore still ten minutes, i.e. $(15+5)$ divided by 2.
- 6 However, on the assumption that passengers arrive randomly at the stop, three times as many passengers will be affected by the long gap than the short gap and this has to be reflected in the calculations. For instance, if passengers were arriving at the rate of one per minute, then there would be 15 passengers affected by the long wait and only 5 passengers benefiting from the short wait.

How do I calculate the weighted average?

- 7 An example of calculating the weighted average is shown in the table below showing a ten minute frequency service. The departure times, and thus the gaps between buses over a period of time, are recorded over 3 hours continuously, although for very frequent services this monitoring time could be reduced.
- 8 If two buses arrive at the same time then the gap/headway for one of them will be 0 minutes. The information then needs to be entered into a spreadsheet to calculate the average waiting time (see below). Once this has been calculated, the result needs to be compared to the scheduled waiting time in order to estimate the excess waiting time.

Calculation of Excess Waiting Time

Bus departures (a)	Headway in minutes (b)	Average wait time per bus (c)	Weighted average wait time
--------------------	------------------------	-------------------------------	----------------------------

			((b)*(c)) (d)
0802			
0811	9	4.5	40.5
0819	8	4	32.0
0830	11	5.5	60.5
0850	20	10	200.0
0900	10	5	50.0
0913	13	6.5	84.5
0918	5	2.5	12.5
0930	12	6	72.0
0941	11	5.5	60.5
0950	9	4.5	40.5
1000	10	5	50.0
1020	20	10	200.0
1020	0	0	0.0
1030	10	5	50.0
1038	8	4	32.0
1050	12	6	72.0
1058	8	4	32.0
Total (sum of square of headways/2)			1,089
Time between first and last observed bus			176
Average Waiting Time (AWT) in minutes			6.19
Number of scheduled buses per hour			6
Scheduled Waiting Time (SWT) in minutes			5.00
EWT = AWT – SWT (6.19 – 5)			1.19

Source: DfT

- 9 The total waiting time during the period monitored, i.e. the total of column (d), is 1,089 minutes. This was for a period of 2 hours 56 minutes or 176 minutes. Thus the average waiting time for the period is 6.19 minutes (1,089 divided by 176). The scheduled waiting time was 5 minutes and so the Excess Waiting Time is 1.19 minutes (6.19 minus 5).
- 10 Note that the timekeeping of the bus route was generally excellent for this period, apart from a "no-show" at 0840 and the fact that two buses arrived at the same time of 1020. These two lapses were sufficient for the overall performance to be below the target during this time.
- 11 The formula for measuring the average waiting time is summarised as the "sum of the headways squared divided by twice the sum of the headways". If the average wait time for a bus is expressed as half the headway, then the sum of the final column is the sum of the headways squared divided by two. After dividing this total by the sum of the headways, the same value is obtained as in the TfL formula.