

Guidance Material

BTEC Advanced Award in Controlling Bus Services in London

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Background and Introduction

Introduction

This guidance is intended for companies approved as centres for training and assessing candidates on the BTEC Advanced Award in controlling bus services in London. It describes how the qualification is structured, explains the assessment procedure and gives detailed guidance on delivery.

Background

The BTEC Advanced award in controlling bus services in London has been designed to meet the training needs of service controllers employed by bus companies in London. It has been designed after consultation with a number of bus companies, training providers and trade unions. The qualification aims to provide candidates with the knowledge, understanding and skills required to effectively and efficiently control bus services whilst meeting their required legal and contractual obligations as well as customer expectations. This qualification has been commissioned by London Bus Services Limited, who believe that it can play a significant part in improving the reliability and quality of bus services in London.

The qualification covers all aspects of the service controller job role including technical aspects, operations and working with people skills.

The advantages of the BTEC qualification are:

- It can be offered to new and experienced staff. It offers a comprehensive training programme for new service controllers and the chance for existing service controllers to update and improve their skills.
- It allows a wide range of assessment methods and is not limited to assessment in the workplace.

How the qualification fits into the National Qualifications Framework

The qualification has been designed at level 3. The table on the next page shows the National Qualifications Framework to demonstrate how a level 3 BTEC qualification fits with the framework. The advanced level qualification is highlighted in the table.

The National Qualifications Framework (NQF)

NVQs	Vocational Qualifications	BTEC Qualifications	Academic Qualifications
NVQ Level 5		Professional Development Diploma BTEC Advanced Professional Award/Certificate/Diploma	Postgraduate and Professional
NVQ Level 4		Higher National Certificate Diploma Professional Development Certificate BTEC Professional Award/Certificate/Diploma	First Degrees
NVQ Level 3	Vocational A Levels	National Certificate/Diploma Professional Development Award BTEC Advanced Award/Certificate/Diploma BTEC Advanced award in Controlling bus services in London	GCE A Level
NVQ Level 2	Intermediate GNVQ	First Certificate/Diploma BTEC Intermediate Award/Certificate/Diploma	GCSE
NVQ Level 1	Foundation GNVQ	BTEC Foundation Award/Certificate/Diploma	National Curriculum
Entry Level		BTEC Introductory Award/Certificate/Diploma	

Note: The designation of a BTEC qualification as an Award, Certificate or Diploma depends on the number of guided learning hours the programme is expected to involve.

The Structure of the Qualification

The qualification is made up of five units of ten guided learning hours, at level three. Guided learning hours give an indication of the time the candidate may spend acquiring the knowledge for the unit. The five units are an introductory unit explaining the contribution to a quality service, two units covering technical aspects of the role, and two units covering skills related to working with people, part of which includes training in disability equality.

Units are:

Introductory

1. Contributing to quality of bus services

Technical units

2. Service control
3. Managing work operations

'Working with People' units

4. Managing work relationships
5. Introduction to supervisory skills

Guidance on structure

The qualification is written in terms of learning outcomes, assessment requirements and underlying content.

- **Learning outcomes:** Learning outcomes summarise what candidates need to do to achieve each unit.
- **Assessment requirements:** Each learning outcome is translated into more detailed assessment requirements indicating what candidates need to demonstrate as their assessment for the unit.
- **Contents:** The content section of the specification details the underlying knowledge that candidates need in order to meet the assessment requirements.
- **Guidance:** At the end of each unit there is a guidance section giving advice on assessment, delivery and available resources.

Progression

Candidates achieving this qualification may like to complete the BTEC Advanced Diploma in Supervisory Management. The qualification is made up of 4 mandatory units and 2 optional units and gives successful candidates a general qualification in supervisory management. Some of the assessments for the Service Control qualification may give candidates exemption from assessment criteria for the Supervisory Management qualification. There are links between the two qualifications as follows.

Advanced Diploma in Supervisory Management	Advanced Award in Controlling Bus Services
Unit 1: Supervisory Skills (especially outcome 2)	Unit 5: Introduction to Supervisory Skills
Unit 5: Customer Service (especially outcomes 2,3 and 4)	Unit 4: Managing work relationships
Unit 7: Supervising Quality (especially outcomes 1,3 and 4)	Unit 1: Contributing to quality of bus services Unit 2: Service Control

Full specifications for this qualification are available from Edexcel.

General Guidance on delivery

Delivery of training

For new service controllers the delivery is likely to be split, with part of the qualification being delivered at the start of their employment and part after they have a little experience of the role. Service controllers who are moving from a driving role will probably be able to complete the whole programme prior to starting in the role as they will have a basic understanding of the demands of the job. Whilst the units are written as separate topic areas, the programme need not be delivered in this way. Units or parts of units may be delivered and assessed together if it is felt to be appropriate (see suggested delivery model below).

Delivering the qualification to experienced service controllers

New service controllers should complete all units, though it is envisaged that existing controllers wishing to complete the qualification may be able to complete assessments for the units without undergoing further training. It will be the assessor's responsibility to decide which areas might be achieved in this way and which might require further training.

Disability Equality

All candidates will be required to attend the prescribed TfL Disability Equality session as part of their training for the qualification. This training will give them knowledge that will be tested across various units. In addition, a specific outcome is identified as part of Unit 4. Your account manager or the Training Projects Manager at London Buses will advise on the structure of the Disability Equality Train the Trainer programme offered by TfL for operators' and training providers' training staff (see also Appendix A).

AVL and service control training

All service controllers must be proficient in the use of Automatic Vehicle Location (AVL). London Buses has developed a Train the Trainer programme for operators' and training providers' staff in order to deliver this aspect of the BTEC. Service Controllers should be categorised into 'regular' and 'non-regular' AVL users as this will determine what level of AVL training is required. Further details of the AVL training programme and the process for becoming a TfL accredited AVL Trainer are given in Appendix B.

Legal, contractual and procedural issues

Any training delivered for the qualification will need to include any contractual and procedural obligations that service controllers are required to follow. These may be industry requirements, TfL requirements or specific company requirements. Trainers should ensure they are aware of all such requirements when designing appropriate training sessions.

Further information on links to legal, contractual and procedural issues and indications of possible resources are given in the Delivery Guidance Manual.

Terminology

Throughout the document, certain terminology is used to describe certain functions or roles, e.g. Service Controller. It is acknowledged that operators may use different terminology for the various roles described.

Suggested delivery model

It is suggested that the introductory unit and the technical units should be delivered prior to the controller working in the role. This will give them some of the skills and knowledge required to begin work. However, assessment for the technical units may be better left until candidates have had the opportunity to practice some of the skills and apply the knowledge they have learned.

The remaining units could be delivered once candidates have some on-the-job experience and are more aware of the 'people' problems and issues that can occur.

Recording evidence

For each assessment requirement, evidence of achievement must be clearly recorded. Each candidate should have a record of assessments that have been achieved. Tracking documentation is provided to assist in this. Candidates should keep a file or portfolio of evidence from assessments. Evidence might be copies of written assessments or tests; copies of documents prepared; or assessor feedback sheets showing how the candidate was assessed and detailing how they performed in relation to the assessment requirements.

Unit Specifications

Unit 1: Contributing to quality of bus services

Unit value: 1

Unit level: Advanced

Description of unit

This unit provides an introduction to the road passenger transport industry and to the service controller role. It emphasises the service controller's role in helping the company to achieve quality standards expected by customers and contractual arrangements.

Summary of outcomes

To achieve this unit a candidate must:

1. Describe the **bus industry and company structure**
2. Explain the **different roles within the bus industry**
3. Explain the importance of **meeting expectations** to achieve quality

Content

1. Industry and company structure

Industry: Structure and aims of the bus industry in London; Role of TfL; Mayor's Transport Strategy; effects of Mayor's Transport Strategy on bus companies; awareness of competition (other modes of transport including cycling, walking and the main TfL Road Network); problems facing industry; topical issues (e.g. environmental issues, congestion charging and resulting expansion of services); public image and quality issues.

Company: General aims of a bus company operating in London; structure and aims of learner's own organisation; how TfL strategy translates into company policy; competition; responses to industry problems and issues; quality issues.

2. Different roles within the bus industry

Roles within the industry: roles and responsibilities in industry and within learner's own organisation; organisation chart for learner's own organisation; roles that directly impinge on that of service controller (in particular CentreComm and Network Operations).

Role of the service controller: role and responsibilities; reporting responsibilities; supervisory responsibilities; responsibilities in relation to controlling the bus services, vehicles and company image (e.g. etching/graffiti), health and safety issues, customer care, legislation, company procedures and regulations.

3. Meeting expectations

Expectations: awareness of expectations of supervisors, managers, company, industry (including service standards), customers, legal, regulatory contractual, and procedural; legal to include PCV legislation/regulations, licensing regulations.

Meeting expectations: importance of meeting all expectations; implications of failing to meet expectations (legal and contractual penalties; falling customer base; loss of confidence of colleagues and managers in the individual); importance of raising issues with managers where identified.

Outcomes and assessment requirements

Outcomes	Assessment requirements
	To achieve each outcome a candidate must demonstrate the ability to:
1. Describe the bus industry and company structure	a) Describe the structure and aims of the bus industry in London b) Describe the structure and aims of a bus company operating in London
2. Explain the different roles within the bus industry	a) Identify the different roles within the industry b) Explain the role of the bus service controller
3. Explain the importance of meeting expectations to achieve quality	a) Identify and describe the expectations which need to be met b) Explain why it is important to meet expectations

Guidance

Generating evidence

Evidence can be gathered by means of written or oral questioning, or demonstration of knowledge and/or skills in a simulated or real work situation.

Links

The unit provides a context for the remaining units and an introduction to some topics that will be explored further in those units. The content relating to managing expectations will be particularly relevant in later units exploring work relationships and supervisory skills.

Resources

Legislation, contracts, procedures and guidance documents should be used as appropriate to deliver the unit. Further details of these are included in the delivery guidance manual which also gives detailed guidance for the delivery of each unit and resources available. A TfL Powerpoint presentation (updated periodically) is available to assist in delivering this unit. To obtain a copy, please contact the Training Projects Manager at London Buses on 020 7918 4641.

Delivery

This unit should be the first unit that is delivered as it provides an introductory framework for other topics covered by the qualification. All topics should be explored in a way that makes them relevant to the service controller role.

Unit 2: Service control

Unit value: 1

Unit level: Advanced

Description of unit

This unit provides an introduction to the technical knowledge and skills required to control bus services in London. It covers the principles of service control and practical methods of controlling services effectively. It is not designed as an extensive training in service control as this comes with experience in the role. However, resources from London Buses are available to assist further with training in service control (see Guidance for this unit).

Summary of outcomes

To achieve this unit a candidate must:

1. Explain the **principles of service control**
2. Demonstrate the use of **information and systems** to control services
3. Assess the implications of **Drivers' Hours Regulations** for the management of services

Content

1. Principles of service control

Aims of service control: regulating services to achieve target headway for high frequency services and running to timetable for low frequency services; anticipating problems; identifying problems; resolving problems; problems to include both immediate and longer term issues.

Contractual obligations and customer expectations: service standards; contractual obligations and possible penalties; expectations of customers re: regularity of services.

Responsibilities: service controller, route control manager, operations manager, London Buses, drivers, AVL operators, roadside inspectors – specific responsibilities in relation to service control including the need to report traffic problems effectively to London Buses.

2. Information and systems

Information and systems: information re: condition/position of vehicles, timing of services etc; routes; re-routing; position of stops; vehicle types and capacity; allocating drivers to routes etc; systems to include manual, computerised, communications systems (radio and mobile phone); using planned route control strategy; using correct schedules; benefits of computerised tracking systems, communication with drivers.

Use of tracking systems and route control strategy: methods of control appropriate to learners own work role; using tracking systems to achieve effective control (use of AVL systems, manual systems as back-up and to confirm/add to AVL information). route control strategy; communication with drivers (giving instructions, using radio and telephones etc.)

Corrective actions: problems; range of corrective actions; reporting problems and actions taken; analysis of data for longer term solutions; making recommendations to management.

3. Drivers' Hours Regulations

Drivers' Hours Regulations: details of regulations and their application; reasons for legislation.

Complying with the regulations: implications of non-compliance; legal penalties; contractual issues.

Implications for controlling the bus services: implications for planning and changing drivers' shifts; implications for changing routes and services.

Outcomes and assessment requirements

Outcomes	Assessment requirements
	To achieve each outcome a candidate must demonstrate the ability to:
1. Explain the principles of service control	a) Identify the aims of service control b) Identify contractual obligations for the company and customer expectations in relation to service control c) Explain the responsibilities of different roles in service control
2. Demonstrate the use of information and systems to control services	a) Describe information and systems used to control bus services b) Demonstrate the use of tracking systems and design route control strategies. c) Explain corrective actions that can be taken to remedy problems with service
3. Assess the implications of Drivers' Hours Regulations for the management of services	a) Explain the Drivers' Hours Regulations b) Explain the importance of complying with the regulations c) Identify the implications of the Regulations for controlling the bus services

Guidance

Generating evidence

Evidence can be gathered by means of written or oral questioning, or demonstration of knowledge and/or skills in a simulated or real work situation. Candidates should be able to show that they operate control systems appropriate for their own workplace. This could be assessed using simulated workplace situations or case studies. As part of the assessment for this unit, candidates should design a route control strategy for a real route.

Links

The unit is linked to other units of the qualification.

Resources

Legislation, contracts, procedures and guidance documents should be used as appropriate to deliver the unit. Further details of these are included in the delivery guidance manual which also gives detailed guidance for the delivery of each unit and resources available. The manual also includes a pro-forma route control strategy document. Operators may obtain a suite of software entitled CASCAID which can also assist in delivering this unit. Please contact the Training Projects Manager on 020 7918 4641.

See also Appendix B – Procedure for Staff becoming accredited AVL Trainers.

Delivery

All service controllers should be fully trained in the use of AVL systems as the primary control tool, but will need knowledge of manual control methods as a back up. They should also understand how manual methods could be used to confirm and add to the information from AVL systems. Learners should be aware of the possibility of using AVL data for analysis purposes and to plan for future (MARQUIS system – journey time reports etc.).

A Route Control Strategy will involve identifying routes, where buses can be curtailed, managing disruptions etc., responsibilities, key passenger objectives, pattern of service, crucial duties, control issues, trouble spots and contact telephone numbers. A pro-forma route control strategy document will be provided.

The unit is intended for controllers to demonstrate practical skills for control of services. The use of case studies presenting common control problems will be useful in the delivery of this unit to enable candidates to gain practical skills.

Unit 3: Managing work operations

Unit value: 1

Unit level: Advanced

Description of unit

This unit provides knowledge and skills required for the service controller to manage workplace operations. It covers the management of health and safety, response to accidents and incidents and fitness of vehicles.

Summary of outcomes

To achieve this unit a candidate must:

1. Explain how **health and safety, and security** can be effectively managed in the workplace
2. Explain appropriate **responses to accidents and incidents**
3. Assess the **fitness of vehicles** for service

Content

1. Health, safety and security

Responsibilities: controller's responsibility for health, safety and security; health, safety and security procedures in the workplace, application of relevant legislation and regulations (Health and safety at work; COSHH; RIDDOR; Fire regulations as applicable)

Health, safety and security risks: assessing risks; fire; trips, slips and falls; bomb threats; movement of vehicles; vehicle evacuation procedure; chemicals; risks to security of buildings, vehicles or people; any other risks; actions to minimise or eliminate risks.

2. Responses to accidents and incidents

Company procedures: controller's responsibilities; procedures on being advised of accident or incident, at scene of accident, following accident; reporting to third parties. (accidents and incidents to include traffic accidents, injury or illness of passengers where this affects the service, criminal incidents affecting the service or company personnel); actions or admissions that might increase the liability of the company.

Information: Giving and collecting information; using appropriate sources of information; information required; collecting information (e.g. asking questions and note taking); Transport Operational Command Unit (TOCU) and incident follow up.

Reports: using required forms/format; level of detail; language; relevant content.

3. Fitness of vehicles

Controller's responsibilities: controller's responsibilities and company procedures.

Vehicle checks and condition reports: vehicle checks; timing of checks; place of checks; making reports on vehicle condition; implications of vehicle defects; action taken on finding defects.

Working with engineers: role of engineers; relationship of controllers to engineers; importance of working with engineers to ensure efficiency and effective operation of service.

Outcomes and assessment requirements

Outcomes	Assessment requirements
	To achieve each outcome a candidate must demonstrate the ability to:
1. Explain how health, safety and security can be effectively managed in the workplace	a) Identify responsibilities in relation to health and safety in the workplace b) Describe the health, safety and security risks that may arise in the workplace and ways of minimising or eliminating risks
2. Explain appropriate responses to accidents and incidents	a) Identify company procedures in relation to accidents and incidents b) Demonstrate how to evacuate a vehicle c) Gather information about accidents and incidents d) Explain the importance of the role of TOCU and need for learner and drivers to report incidents in an accurate and timely way e) Prepare reports of accidents and incidents
3. Assess the fitness of vehicles for service	a) Identify controller's responsibilities in relation to vehicles b) Carry out appropriate vehicle checks and provide condition reports c) Explain the importance of working with engineers

Guidance

Generating evidence

Evidence can be gathered by means of written or oral questioning, or demonstration of knowledge and/or skills in a simulated or real work situation. Candidates could be asked to carry out a risk assessment exercise in their own workplace as part of the evidence for this unit.

Links

The unit is linked to other units of the qualification.

Resources

Legislation, contracts, procedures and guidance documents should be used as appropriate to deliver the unit. Further details of these are included in the delivery guidance manual which also gives detailed guidance for the delivery of each unit and resources available.

Delivery

Candidates will be expected to give a practical demonstration of how to evacuate a vehicle, for example because of fire.

Training will need to be related to specific procedures in relation to service controller responsibilities within the bus company for which they work. It is likely that responsibilities and procedures in relation to health and safety, and crime and accident response will vary from company to company. Candidates should be given practice at completing accident/incident reports in their required company format. Candidates may find it useful to carry out a risk assessment exercise in their own workplace.

Candidates will be expected to explain the importance of the Transport Operational Command Unit (TOCU) with respect to incident reporting and intelligence gathering. It will also be important for candidates to understand their role in ensuring drivers are also aware of the role of TOCU and the need for accurate and timely reports. For further information please contact the Training Projects Manager on 020 7918 4641.

Unit 4: Managing work relationships

Unit value: 1

Unit level: Advanced

Description of unit

This unit looks at relationships in the workplace and the skills required to develop and maintain them. It covers relationships with customers, colleagues, subordinates and managers. The unit specifically includes disability equality training in order to make candidates aware of issues concerning people with disabilities.

Summary of outcomes

To achieve this unit a candidate must:

1. Analyse the relationship with **customers**
2. Explain how **work relationships** can be developed and maintained
3. Demonstrate effective **communication skills**

Content

1. Customers

Customers and customer groups: identifying customers; external and internal customers; range of different customers to include different age groups, ethnic groups and those with disabilities.

Customer service skills: personal presentation and attitude; contract service standards; changing perceptions as well as reality; responding to customer feelings; adapting communication; balancing needs of customer and organisation; meeting needs of customers with disabilities, learning or language difficulties; ensuring equality of treatment as far as possible; maintaining public image.

Customer complaints: company procedure; good practice; importance of knowing company procedure in order to provide good customer service; being polite to customer; being helpful; informing customer of complaints procedure; carrying out any roles specified by company procedure.

2. Work relationships

Work relationships: relationships with drivers, subordinates, managers and colleagues; external relationships with other businesses or visitors to company including London Buses' Network Operations staff.

Benefits of good relationships: helps efficiency and effectiveness; makes work more enjoyable and easier; importance of working together with drivers to achieve control objectives; importance of good working relationships with drivers; consultative v autocratic management styles.

Techniques for developing and maintaining work relationships: clarifying and confirming responsibilities; exchanging information; being co-operative; being assertive; managing upwards; working towards common goals; resolving conflicts.

3. Communication skills

Importance: objectives of communication (giving and receiving information; giving instructions; resolving problems)

Own communication skills: purposes and parties to communication; strengths and weaknesses of own communication skills; identifying areas for improvement.

Communicate effectively: communicate effectively; speaking and listening skills; facial expressions and body language; adapting communication to suit other party; checking understanding; summarising; questioning techniques to obtain information; language levels; tone; overcoming difficulties in communication.

Outcomes and assessment requirements

Outcomes	Assessment requirements
	To achieve each outcome a candidate must demonstrate the ability to:
1. Analyse the relationship with customers	a) Identify different customers and customer groups b) Demonstrate effective customer service skills c) Resolve customer complaints d) Identify 3 different types of disability or impairment customers might have and explain how the needs of these customers can be met
2. Explain how work relationships can be developed and maintained	a) Identify different work relationships b) Analyse the benefits of good relationships c) Demonstrate techniques for developing and maintaining work relationships
3. Demonstrate effective communication skills	a) Explain the importance of good communication skills b) Analyse own communication skills c) Communicate effectively in work situations

Guidance

Generating evidence

Evidence can be gathered by means of written or oral questioning, or demonstration of knowledge and/or skills in a simulated or real work situation. The use of role play would be particularly useful in generating the evidence for this unit.

Links

The unit links with the other units of this qualification. It particularly links with the managing expectations outcome in unit 1.

Resources

Legislation, contracts, procedures and guidance documents should be used as appropriate to deliver the unit. Further details of these are included in the delivery guidance manual which also gives detailed guidance for the delivery of each unit and resources available.

The disability equality training will provide some of the knowledge required for this unit. The delivery guidance manual gives more detail on delivery of the unit and resources available. Guidance on the procedure to train company trainers to become a TfL approved Disability Equality Trainer can be obtained from the Training Projects Manager, London Buses (see also Appendix A).

2 videos/DVDs are available for delivery of this unit; TALK – video by the Disability Rights Commission, “We can do that” – video/DVD by GoSkills. All videos can be obtained from the Training Projects Manager, London Buses. In addition, a series of trainers’ notes and materials specially prepared to assist with the Disability Equality training is also available from the Training Projects Manager. London Buses is currently producing its own leaflet and DVD which will also assist in delivering this unit. This will be available by mid-summer 2005 and can be obtained from the Training Projects Manager, London Buses.

The Department for Transport has produced a booklet entitled “Changes to the conduct of drivers, inspectors, conductors and passengers regulations – A guide for bus and coach staff”. This booklet explains the amendments which came into effect in October 2002. Trainers are strongly recommended to obtain copies of this booklet, sufficient for distribution to all service controllers on a personal issue basis. The product code reference is T/INF/874 and they are available free of charge by contacting the DfT’s publishers on 020 7944 6100.

Delivery

The use of case studies and role plays will be particularly useful in allowing candidates to practice practical skills for handling customers, working with other employees, conflict resolution and communication. The disability awareness training is also particularly relevant to this unit.

Unit 5: Introduction to supervisory skills

Unit value: 1

Unit level: Advanced

Description of unit

This unit provides an introduction to supervisory skills. It covers basic leadership and management skills together with knowledge of disciplinary procedures and work planning techniques.

Summary of outcomes

To achieve this unit a candidate must:

1. Describe the **role of the supervisor**
2. Demonstrate appropriate **management skills**
3. Explain **staff disciplinary procedures**

Content

1. Role of the supervisor

Responsibilities of the supervisor: supervisor as manager, mentor, counsellor; responsibilities to staff, colleagues and company; equal opportunities issues; staff grievances; confidentiality of staff information.

Own responsibilities: own responsibilities in supervisory role.

2. Management skills

Staff problems and development needs: identify staff problems and possible solutions; recognising weaknesses in staff performance; development of staff to improve performance; identify limits of own responsibility in relation to staff problems and development; know when to involve higher management/third parties (e.g. professional counsellors); giving appropriate feedback; motivating staff.

Work planning: work objectives; importance of planning workloads; prioritising tasks; communicating; planning relevant to others.

3. Staff disciplinary procedures

Disciplinary offences: disciplinary offences; occasions when it is appropriate to take disciplinary action.

Staff disciplinary procedures: own responsibilities in relation to disciplinary procedures; legislation relating to staff disciplinary action; company procedures involvement of unions; recording information about disciplinary actions.

Outcomes and assessment requirements

Outcomes	Assessment requirements
	To achieve each outcome a candidate must demonstrate the ability to:
1. Describe the role of the supervisor	a) Describe the responsibilities of the supervisor b) Identify own responsibilities as supervisor
2. Demonstrate appropriate management skills	a) Identify responses to staff problems and development needs b) Explain work planning techniques
3. Explain staff disciplinary procedures	a) Identify occasions where it is appropriate to take disciplinary action b) Explain staff disciplinary procedures

Guidance

Generating evidence

Evidence can be gathered by means of written or oral questioning, or demonstration of knowledge and/or skills in a simulated or real work situation. The use of role play would be particularly useful in generating the evidence for this unit.

Links

The unit links with the other units of this qualification. It particularly links with the managing expectations outcome in unit 1.

Resources

Legislation, contracts, procedures and guidance documents should be used as appropriate to deliver the unit as training should reflect the specific company role of service controllers and their responsibilities. Further details of these are included in the delivery guidance manual which also gives detailed guidance for the delivery of each unit and resources available.

Delivery

The use of case studies and role plays will be particularly useful in allowing candidates to practise practical skills for supervisory management.

The assessment process

Introduction

The BTEC Advanced Award in Controlling Bus Services in London is designed so that assessment can be carried out by a variety of methods. Suitable methods will be suggested later in this section. Whatever method is used, candidates will need to be able to show that they have successfully met each of the assessment requirements set out for each unit. The easiest way for candidates, trainers and assessors to monitor progress is for a portfolio of evidence to be maintained for each candidate showing how each assessment requirement has been met. The remainder of this section talks about the types of evidence that might be suitable, how candidates can be assessed and how assessments can be recorded.

Methods of assessment

The method of assessment is generally open and it is up to trainers/assessors to decide the most appropriate method of assessment for individual candidates and specific assessment requirements. There are some exceptions where practical assessments are appropriate and these are noted below. Note though that all controllers are required to have their AVL training delivered and assessed by a TfL approved trainer/assessor (see Appendix B). This trainer/assessor can be someone within the company whom TfL has approved as competent for the purpose. (Contact Technical Services Group, Customer Relationship Manager on 020 7918 3889 or the Training Projects Manager on 020 7918 4641 for details).

Methods used to assess candidates may include:

- Assessment questions set to demonstrate candidate's level of knowledge and understanding requiring written or oral answers
- Group discussions identifying specific issues (assessment should be structured so that each candidate contributes to demonstrate their knowledge and understanding)
- Practical demonstration of skills
- Preparation and presentation of work related documents such as standard reports
- Written or oral responses to case studies
- Role plays or simulations
- Written examinations or tests either paper or computer based
- Evidence from real work activities – either products such as documents prepared or observation by assessor

The above list is not exhaustive but offers suggestions. It is felt that evidence from real work activities is unlikely to provide a large proportion of the candidate evidence but may be used to achieve remaining assessment criteria for candidates who are nearing completion of the qualification.

The following units, or parts of units, do cover practical skills and a practical assessment is, therefore, required.

Unit 2 Service control

2. Demonstrate the use of information and systems to control services	c) Describe information and systems used to control bus services d) Demonstrate the use of tracking systems and design route control strategies e) Explain corrective actions that can be taken to remedy problems with service
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For this outcome, candidates would demonstrate sufficient knowledge and skills to meet the assessment requirements by correctly demonstrating the use of available information, and systems to control bus services. All candidates are required to demonstrate the use of radio and telephone equipment, AVL systems and to design a route control strategy for a real route. (See delivery guidance for further details)

Unit 3 Managing work operations

2. Explain appropriate responses to accidents and incidents	f) Identify company procedures in relation to accidents and incidents g) Demonstrate how to evacuate a vehicle h) Gather information about accidents and incidents i) Explain the importance of the role of TOCU and the need for learner and drivers to report incidents in an accurate and timely way j) Prepare reports of accidents and incidents
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This outcome could be assessed by the use of a role play or simulation exercise where candidates were required to demonstrate appropriate actions in the event of an accident and follow reporting procedures.

3. Assess the fitness of vehicles for service	b) Carry out appropriate vehicle checks and provide condition reports
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Candidates could be asked to carry out required checks and complete appropriate documentation.

Unit 4 Managing work relationships

3. Demonstrate effective communication skills	c) Communicate effectively in work situations
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Role play and simulations would probably be the most appropriate way to provide evidence that candidates have the appropriate communication skills to meet these assessment requirements. Candidates are required to give a practical demonstration of radio communication (see unit 2).

Assessing candidates

All candidates should be given sufficient opportunities to achieve the assessment requirements. For some candidates - especially those at a disadvantage because of language difficulties or disabilities such as dyslexia - the assessor may need to make special provision for assessment. For example, candidates might be proficient in spoken English but be unable to read/write sufficiently to complete a written assessment. If it is felt written work is required, someone might be provided to read the questions and/or write down the candidate's answers. Alternatively, assessment might be achieved in discussion with the candidate. The assessor should, however, bear in mind the essential skills for the job role. For example, it would be difficult to see how a candidate could be effective in their job role if they were not able to speak any English and required a translator. In these situations, candidates might require further help with basic skills before completing this programme.

There are a number of stages involved in assessing candidates and we will consider each of them. The stages are:

- Planning assessments
- Judging candidate performance
- Documenting the evidence
- Feedback to candidates
- Review of candidate portfolio

Planning assessments

Assessments should be planned carefully and outcomes/assessment requirements to be covered should be clearly identified. It is advisable to vary the methods used for each unit.

Wherever possible assessments should be designed to cover a number of assessment requirements and the number of assessments should be kept to a minimum. Assessments can be planned to cover outcomes and assessment requirements from different units where this is appropriate.

Where, during an assessment activity, candidates clearly demonstrate skills, knowledge or understanding sufficient to meet an assessment requirement not specifically covered by the assessment, they can be recorded as having achieved this requirement if the assessor sees this as appropriate. (For example, communication skills might be judged throughout other assessments as appropriate).

Note that there is no requirement to set up separate assessment activities. Assessment can be carried out during classroom training activities if this is felt to be effective, for example, in unit 1 where candidates are describing the structure and aims of the industry. If this were done as a research exercise (see suggested activity) and candidates successfully researched and reported their findings, this could be recorded as the assessment activity. If this method of assessment is used, trainers/ assessors must be satisfied that each candidate (particularly where they are working in groups) has shown sufficient knowledge to meet the requirement.

Candidates should be made aware of the requirements of the assessment and the expectations of the assessor. Each task and the method of achieving each task should be clearly explained to candidates. Whilst it is recognised that candidates may achieve assessment requirements during exercises that are not part of a formal assessment, they should not be routinely assessed in situations where they are not aware that assessment is taking place.

Judging candidate performance

Assessors need to make a judgement about the candidate's performance in assessment activities. Assessors must satisfy themselves that the candidate's work is:

- all their own work – there should be sufficient controls in place to minimise the risk that candidates submit work that is not their own
- of an appropriate standard to show that the candidate meets the assessment requirements
- sufficient to cover all aspects of the assessment requirements

Candidates who do not meet all the assessment requirements covered by an assessment activity should be given further opportunities to meet them, unless it is felt that the candidate is unable to meet the requirements of the qualification.

Documenting the evidence

Candidate portfolios should demonstrate that each assessment requirement has been met. The nature of documentary evidence to be included in a candidate's portfolio will depend on the method of assessment used but may include:

- copies of written answers to questions or assessor feedback on candidates written or oral answers
- assessor record/feedback of candidates contributions to group discussions
- assessor record/feedback of candidates practical demonstration of skills
- copies of work related documents such as reports
- copies of written responses to case studies or assessor feedback on candidates written or oral responses
- assessor record/feedback on candidate's performance in role plays or simulations
- audio or video tape evidence of candidate performance in response to questioning, case studies, discussions or role plays

- assessor confirmed results of written or computer based tests
- assessor record/feedback on observation of real work activities

It is in the interests of both assessor and candidate that assessment activities and candidate performance is properly documented.

Completed portfolios should be properly indexed and cross-referenced and show that the candidate has met all assessment requirements. Summary grids are provided at the end of these materials that can be used as an index to the candidate portfolio and a record of candidate progress.

A pro-forma assessor record/feedback sheet for the recording of candidate performance in observed activities is included at the end of the materials.

Feedback to candidates

Candidates should be given constructive feedback on every assessment activity. Feedback should clearly identify where candidates have met assessment requirements and where they are yet to be achieved. Where assessment requirements have not been met, the reasons should be clearly explained to candidates and a plan for further development and/or further assessment opportunities discussed.

Review of candidate evidence

Candidate portfolios should be reviewed at appropriate intervals to check on progress. This is particularly important towards the end of the programme to ensure candidates can demonstrate the achievement of all assessment requirements.

Assessor qualifications

There are no specific qualification or experience requirements for assessing BTEC qualifications but assessors will be expected to demonstrate appropriate qualifications and/or experience in the areas they are assessing and in assessment techniques.

Assessors for this qualification should have extensive knowledge of the bus industry and of the skills required by drivers and conductors and some experience or training in assessing. Assessors of AVL and radio skills should be approved by TfL. (Contact the Technical Services Group Customer Relationship Manager on 020 7918 3889 or the Training Projects Manager, London Buses on 020 7918 4641 for further information on becoming a TfL approved AVL Trainer – see also Appendix B).

Units A1 or D32/D33 required by NVQ assessors would demonstrate suitability of assessors but are not essential.

Internal Verification

Edexcel require that centres make adequate arrangements for internal verification of assessments. Internal verification involves checking the assessment decisions that have been made to ensure that they are:

- sufficient i.e. the candidate has produced enough evidence at the right level; and
- valid i.e. the evidence is the candidate's own work and is appropriate for the criteria being met.

Internal verifiers should also ensure that assessment decisions made by different assessors are of the same standard; and assessment decisions made by an assessor over time remain at the same standard. This is to ensure that every candidate is given the same consideration in assessing their achievement of the requirements.

Internal verification can be achieved by the appointed person checking a sample of assessment decisions taken across the range of candidates and covering each assessor. An appropriate sample might be between 10 and 20% of candidate assessments, dependent on the number of candidates.

Any issues arising from internal verification should be discussed with the assessor, though assessment decisions should not be changed where the results have already be discussed with the candidate.

The internal verifier can be anyone familiar with the programme and assessment requirements and methods. As an alternative, some centres may find it easier for assessors to check a sample of one another's work, and meet to discuss any issues.

Detailed Unit Delivery Guidance

Note re: Role plays and case studies

Throughout the material we refer to the use of role play and case studies. Our definitions of these are as follows:

Role play

Role play describes where candidates are given a situation and asked to play a part in acting out the scenario. For example, candidates could be asked to role play an exchange between controller and driver. One would be the controller and one the driver. Role plays can take place in front of the group or separately but it is useful to have at least one observer.

Trainers and assessors may involve themselves in the role play:

- to show candidates an example of how a situation might be resolved, e.g. playing a controller to show how to deal with a difficult supervisory issue with a driver
- to allow candidates to practice skills or to assess skills, e.g. playing a driver to allow candidates to practice skills in resolving issues or to assess their skills

Candidates will need verbal or written briefing explaining the role they are to play and what is expected of them.

Role plays will normally be followed by discussion and/or feedback to bring out the main points/identify weaknesses in skills etc.

Case Study

Candidates are given a scenario and have to respond by identifying issues, or saying what they would do in the situation. For example, candidates could be given a description of an exchange between a controller and driver and asked to identify good and bad points about the exchange; or given a description of a situation and asked how they would respond.

Case studies can be written or on video or audio tape. They can be detailed, covering a range of different skills and knowledge, or relatively simple, covering a single situation, e.g. 'What would you do if a driver turned up for duty and appeared to have been drinking?'.

Candidates can be asked to respond to case studies:

- by discussing in a group situation
- by responding to written or oral questioning

Note re: Delivery

Delivery advice and suggestions are set out in sections to reflect the content sections set out in the qualification. There is no requirement to deliver the knowledge and skills in this way but candidates do need to be able to link the different sections of knowledge and see the relevance to their work. Where there are obvious links between sections these are indicated. It is important that trainers find the right balance for their candidates between developing an holistic view of the content and developing candidates' understanding in each specific area.

Suggested activities included can generally be used as training activities and/or assessment opportunities.

Unit 1: Contributing to quality of bus services

1. Industry and Company Structure

Delivery Plan

Candidates will need input in the following area:

- Industry
- Company

Industry

Candidates should appreciate the role of Transport for London as an executive arm of the Greater London Authority covering most of the transport services in London including bus services. They should understand that Transport for London reports to the Mayor and that his agenda will directly affect the way they work.

London Buses manages bus services in London. It plans routes, specifies service levels and monitors service quality. It is also responsible for bus stations and stops and other support services. The bus services are operated by private operators, which work under contract to London Buses. Candidates should appreciate that the specific company for which they work is under contract to London Buses and is required to work with London Buses and Transport for London to ensure the service standards set are adequately met. The place and importance of customers within the industry structure should also be explored. Specific expectations are explored further in this unit under outcome 3 so the work here can be extended to include this.

Candidates should also be aware of any important current issues affecting the industry. These might include safety or environmental issues for example. Issues relating to quality of service provision and public image of the industry should be highlighted.

Activity suggestions

1. If access to Internet is available, candidates could be asked to look at the Transport for London web site (www.tfl.gov.uk). The site has various information about Transport for London and links to the separate transport authorities such as London Buses. Candidates should be able to find out industry structure, the agenda set by the Mayor for London transport, and major issues affecting the industry. A research type exercise, where candidates (either alone or in small groups) are asked to find out specific information, could provide an assessment opportunity as well as a learning tool.
2. A similar exercise to the above could be carried out using various leaflets, company reports and other publications which are available about Transport for London. (Many of these are downloadable from the web site for trainers with access, otherwise contact Transport for London). A Powerpoint presentation, available from the Training Projects Manager, London Buses, can assist in the delivery of this unit.

Both these activities could be used to lead in to an exercise on identifying expectations under outcome 3 of this unit.

Company

The company structure will obviously differ between companies and trainers will need to ensure they have information about the specific company. Information might include company reports, organisation charts and information such as service standards which explain the relationship between the company and London Buses/Transport for London and highlight quality issues. Again this will help to underpin outcome 3 of this unit where candidates are identifying expectations that need to be met. Knowledge of the industry and the company can be extended to cover roles within the industry.

Activity suggestions

1. If candidates are familiar with the company structure and reporting lines they might be asked to draw a simple organisation chart (individually or as a group). This could be extended to cover job roles for the next outcome.
2. Candidates could be asked to identify issues which impact on the quality of the service offered. This could be combined with outcome 3 on meeting expectations.

2. Different roles within the bus industry

Delivery Plan

Candidates will need input in the following areas:

- Roles within the industry
- Role of the service controller

Roles within the industry

This should include roles within the industry and the specific company and show how the role of service controller fits into the overall structure. Candidates should understand the basic purpose of each job role. Useful resources may include job descriptions and organisation charts. A TfL Powerpoint presentation (updated periodically) is available to assist in delivering this unit. To obtain a copy, please contact the Training Projects Manager at London Buses on 020 7918 4641.

Activity suggestions

1. Identifying different roles within the industry and own company (extension of activity in previous section). Setting out main responsibilities and discussions around these. At this stage, having looked at the industry and company structure, candidates should have a reasonable idea of the main roles and this knowledge could be used as a starting point for discussion.

Role of the service controller

In respect of their own job role, candidates should explore how the agenda of the Mayor, Transport for London and their own company affects how they operate. Again this can be linked to outcome 3 of this unit which is about meeting expectations. Responsibilities identified should include control of bus services, health and safety issues, customer care, legislation, company procedures and regulations.

Activity suggestions

1. Looking at Job Descriptions or writing a formal job description where these are not available. Job descriptions should set out main roles and responsibilities, reporting lines, day to day duties etc.

3. Meeting expectations

Delivery Plan

Candidates will need input in the following area:

- Expectations
- Meeting expectations

Expectations

From the knowledge already covered in this unit, candidates should be able to see where the expectations that they are required to meet originate. They should consider expectations of supervisors, managers, company, industry (including service standards), customers, regulatory, contractual and procedural. Trainers will need access to service standards, contractual obligations of companies and staff, and relevant legislation such as PCV legislation/regulations and licensing regulations.

Activity suggestions

1. Identifying - either individually or in groups - who has expectations and what these are. (Could give each group or individual a separate area to explore, e.g. company expectations, customer expectations etc.)
2. Examination of staff handbooks/rule books where available and discussion of reasons behind the rules.

Meeting expectations

Candidates need to appreciate the importance of meeting expectations and the implications of failing to meet expectations (legal and contractual penalties, falling customer base, loss of confidence of colleagues and managers in the individual). Candidates need to understand how and when to raise issues relating to failing to meet expectations with the appropriate people.

Activity suggestions

1. Role plays/ case studies where expectations of one or more parties are not met and feelings about this of the parties involved. Also wider implications of this. For example, customer expectations not met in terms of punctuality, presentation of vehicle, attitude of driver. Customer will be dissatisfied with the service and this may lead to general downturn in customer confidence. But also implications in terms of not meeting service standards.
2. Candidates given a variety of short scenarios where expectations not met and asked to identify implications and appropriate responses.

Resources

1. Transport for London (TfL) web site - www.tfl.gov.uk
 2. Published information from Transport for London (Much of the information available on the web site is also available in paper format such as reports on different issues, agenda of Mayor etc.)
 3. Company reports from specific bus companies
 4. Organisation charts from bus companies
 5. Job descriptions
 6. Relevant detail of contracts between bus companies and TfL - mainly service standards but also any other issues affecting driver role.
 7. PowerPoint presentation (contact the Training Projects Manager on 020 7918 4641).
 8. Relevant legislation
 9. Staff handbooks, rule books and guidance where these are available
- (For any resources produced by London Buses or TfL contact your account manager or the Training Projects Manager, London Buses on 020 7918 4641)

Unit 2: Service control

1. Principles of service control

Delivery Plan

Candidates will need input in the following area:

- Aims of service control
- Contractual obligations and customer expectations
- Responsibilities

Note: A service control document provided by Transport for London - London Buses provides much of the knowledge for this unit (see Appendix C). All service controllers will need to have a knowledge of AVL systems and Transport for London have also produced a guide for this which is available from the Technical Services Group Customer Relationship Manager on 020 7918 3889. Note that trainers/assessors for outcomes relating to the operation of AVL and radio equipment should be TfL approved (Contact the Technical Services Group Customer Relationship Manager on 020 7918 3889 or the Training Projects Manager, London Buses on 020 7918 4641 for details).

Aims of service control

Candidates need to understand the overall aims of service control and the problems that can occur when control is not achieved. They should have an awareness of the wider implications of problems with control (this can be linked back to failure to meet expectations) as well as the immediate problems which need to be resolved relating to their own control role. They should also have an appreciation of the importance of identifying longer term issues. For example, if the same problems occur regularly on a particular route, how this might be addressed and who it might be reported to.

Activity suggestions

1. Discussion about why the service control role is important.
2. Develop some scenarios using CASCAID software (available from the Training Projects Manager, London Buses on 020 7918 4641).

Contractual obligations and customer expectations

This section could be linked with Outcome 3 of Unit 1 relating to meeting expectations. Here, candidates should focus on how contractual obligations and customer expectations translate into responsibilities of the service control role. For example, customers expect regular bus services which links back to the aims of the service controller's role. This helps to emphasise the wider importance of the service controller's role.

Activity suggestions

1. Identifying contractual obligations and customer expectations (link to Unit 1, outcome 3) and explaining how they link to aims of service control.

Responsibilities

Candidates need to explore in further detail the service controller responsibilities identified in Unit 1, Outcome 2. They need to look at what these mean in terms of actual work activities.

Activity suggestions

1. Take list of responsibilities (looked at in Unit 1, Outcome 2) and identify work activities that achieve these.

2. Information and systems

Delivery Plan

Candidates will need input in the following area:

- Information and systems
- Use of tracking systems and route control strategy
- Corrective actions

Information and systems

Candidates need to be aware of the information and systems available to them to help control services effectively. Manual, computerised and communications systems should be covered. All controllers are required to have knowledge of AVL systems. The benefits of computerised tracking systems should be emphasised. This section provides the background for the actual use of systems in the next section.

Activity suggestions

1. Identifying systems and information available to help in the role.

Use of tracking systems and route control strategy

For this assessment requirement, candidates are required to demonstrate the appropriate use of tracking and communications systems and design a route control strategy. During training they will need practice at using computerised and manual tracking systems and communications equipment. They also need to be aware of the implications of not using the equipment correctly. Note that there are links to Unit 4 which covers communication skills. This unit covers physical operation of radio equipment. It is envisaged, however, that training/assessment for the two areas is likely to be carried out in the same training/assessment session.

London buses have an AVL and Communication Systems radio training guide available. Contact the Communications Training Assistant on 020 7918 3529.

Note that it is an assessment requirement that all candidates prepare a route control strategy for an actual route. A suggested format is included in the Service Control Document at the end of these materials (Appendix C).

Activity suggestions

1. Demonstration of use of radio equipment (could be combined with communications skills for Unit 4)
2. Demonstration of AVL equipment
3. Explanation/demonstration of manual control systems
4. Preparation of route control strategy

Demonstrations can be carried out in simulated or real work situations.

Corrective actions

Candidates need to identify practical solutions to the problems that arise. They should be able to identify a range of corrective actions in response to a specific scenario and identify the most appropriate action to take.

Candidates need to be able to interpret longer term data to identify ongoing problems and recommend solutions to management. Longer term data is available from AVL systems and candidates should be aware of what is available and how to obtain it.

Activity suggestions

1. Demonstration of service control strategies and systems (as above)
2. Given longer term data and asked to interpret it, identify problems and suggest solutions.

3. Drivers' Hours Regulations

Delivery Plan

Candidates will need input in the following area:

- Drivers' Hours Regulations
- Complying with the regulations
- Implications for controlling the bus services

Candidates need to understand the Drivers' Hours Regulations from the service control viewpoint. Their understanding should allow them to allocate drivers appropriately to routes.

Drivers' Hours Regulations

Candidates should be aware of the regulations and the rules to be applied when planning drivers' hours. They should also have an awareness of why the regulations exist, e.g. safety reasons.

Activity suggestions

1. Look at the regulations and identify those relevant to their own job role.
2. Suggest reasons why the legislation might have been introduced

Complying with the regulations

Candidates need to be aware of the importance of complying with the regulations and of what might happen in the event of non-compliance.

Activity suggestions

1. Given scenarios where regulations have not been complied with and asked to identify the possible implications and penalties arising from these.

Implications for controlling the bus services

This section asks drivers to apply what they have learned to their work activities. This will probably be taught/assessed as part of their demonstration of service control activities under outcome 2. Candidates should be able to show they have considered the implications of drivers hours in planning for service control.

Activity suggestions

1. Given scenarios where drivers are reaching allowed driving hours and asked to suggest what might be done. (Examples might include scenarios where they need an additional driver, or a driver is reaching limit during a shift etc.)

Resources

1. Service Control Document (see Appendix C)
2. AVL training guide from London Buses (Contact the Communications Training Assistant on 020 7918 3529)
3. Radio Training Guide from London Buses (Contact the Communications Training Assistant on 020 7918 3529)
4. Drivers' Hours Regulations and Legislation
5. CASCAID (computer software – contact the Training Projects Manager, London Buses on 020 7918 4641).

Unit 3: Managing work operations

1. Health, safety and security

Delivery Plan

Candidates will need input in the following area:

- Responsibilities
- Health, safety and security risks

Responsibilities

Candidates need to understand their responsibility for health and safety as employees of the bus company. They should appreciate, in general terms, the legal responsibilities of the company and its employees for health and safety as well as their contractual and moral responsibilities. This will include:

- a basic understanding of the company's responsibility to employees, passengers and the public at large
- a fuller understanding of their own legal and contractual responsibilities
- a willingness to co-operate with management, to act in a responsible manner, not to interfere with safety equipment, to report accidents or defects, to co-operate with safety representatives to improve safety, to co-operate with managers, supervisors, auditors during random safety checks
- an awareness that they also have a moral responsibility to operate in a manner which does not pose risks
- their responsibilities for ensuring drivers comply with health and safety requirements as far as possible.

Candidates should be aware of the requirements of the main Health and Safety legislation (Health and Safety at Work Act, European Legislation, COSHH, RIDDOR, Fire regulations) in so far as it relates to their own responsibilities in the workplace.

Activity suggestions

1. 'Whose responsibility?' questions - giving a short scenario where there are risks to health and safety and asking whose responsibility it is to prevent/deal with/report the risks. Generally, the answer will be that everyone has some sort of responsibility. This could be combined with the next section on identifying risks.

Risks

Candidates should be aware of and able to describe the main risks that may occur in the garage or on the vehicle in operation and how these can be avoided or minimised. Coverage here should include:

- risks from moving vehicles in the garage or on the road - awareness of vehicles in garages, sounding horn when manoeuvring, being aware of pedestrians at all times, following speed limits in garages etc.
- risks around garage of tripping, falling, moving vehicles etc. - care when moving around garage on foot, especially where there are moving vehicles or people working
- knowing who appointed first aiders are and how to contact them
- fire risks and safety - no smoking in non smoking areas or around vehicles and fuel, risks from defective electrical equipment, overloaded sockets, fuel spillage etc; fire alarm operation, fire procedures, operation of fire extinguishers (in garages and on buses), checking of fire extinguishers, procedure for evacuating a vehicle
- knowledge of health and safety signs indicating stop or prohibited, warning/danger, location of safety equipment or escape routes
- risks in relation to use of office equipment such as VDUs
- security risks to buildings, vehicles, equipment, personal possessions (risk of theft, criminal damage etc.)

Activity suggestions

1. Mini risk assessment carried out in garage or by means of a case study which describes different hazards in the garage, or video if available. Candidates could be asked to identify as many hazards as possible and asked how they would respond to these.
2. Candidates should give a practical demonstration of how to evacuate a vehicle.

2. Responses to accidents and incidents

Note that this area includes responses to a range of incidents including crime incidents and passengers injured or taken ill on the vehicle as well as road accidents.

Delivery Plan

Candidates will need input in the following area:

- Company procedures
- Information
- Reports

Company procedures

Procedures in response to road accidents may vary from company to company but will probably involve:

- supporting the driver and other personnel involved in the accident
- advising driver of procedures to be followed
- possibly attending the accident scene which will involve:
 - noting details of accident (see next section on information and reporting)
 - co-operating with police and emergency services
- reporting procedures following the incident
- limiting company liability

Procedures on occurrence of other incidents such as crime incidents (damage to vehicle or other passengers, threats or violence towards driver/conductor) or injury or illness to passengers (e.g. falling on the bus, suffering a heart attack) may not be as easy to identify. They will differ depending on the type and seriousness of the incident.

Controllers should be aware of a range of strategies which will allow them to advise drivers on how to deal with different situations.

Activity suggestions

1. 'What if' scenarios or role plays of accidents/incidents to which candidates are required to respond.

Information

Candidates will need to be aware of information that will need to be collected at the time of an accident or incident. For road accidents this may include:

- details of accident (speed of vehicles, position of vehicles, road conditions, what happened)
- names and addresses of witnesses
- the numbers of any police officers
- particulars of other vehicles involved (registration numbers, make and colour, name and address of owner, name and address of driver, insurer's details)
- where animals are involved - note name and address of owner, type and colour of animal

For other incidents:

- description of incident
- names and addresses of those involved where possible
- numbers of any police officers attending
- details of any injuries/illness
- attendance of emergency services

Activity suggestions

1. Candidates given an accident or incident scenario and asked to identify the information that needs to be collected.

Reports

There will usually be reporting procedures for any accidents/incidents occurring on the vehicles of which candidates will need to be aware. Reports should be in the required format, with relevant language, level of detail and content. Specific company reporting procedures should be referred to. If the company allows reports to be made orally in cases where the candidate has writing or language problems (e.g. dyslexia, English not first language) then this should also be allowed in the assessment process.

Activity suggestions

1. Completing accident/incident reports

Note: A comprehensive exercise could be designed encompassing all of the above from occurrence of the accident through to completing the report.

3. Fitness of vehicles

Delivery Plan

Candidates will need input in the following area:

- Controller's responsibilities
- Vehicle checks and condition reports
- Working with engineers

Controller's responsibilities

Candidates will need to be aware of the controllers' responsibilities in relation to fitness of vehicles. These may differ between companies and reference will need to be made to specific responsibilities within the candidate's workplace. Responsibilities may range from having an overall interest in the fitness of vehicles from a control viewpoint, i.e. are there enough roadworthy vehicles to meet the needs of the schedule; to ensuring that drivers carry out relevant checks; to carrying out detailed vehicle checks themselves; to carrying out checks in specific circumstances such as following an accident.

Candidates should also be aware of any company procedures relating to fitness of vehicles.

Activity suggestions

1. Candidates should be asked to identify their own responsibilities in relation to vehicles and any related company procedures.

Vehicle checks and condition reports

Controllers should show awareness of checks that need to be carried out on vehicles, the timing and place of checks. These will vary depending on company procedures. They will also need to understand the implications of any defects and the appropriate action that needs to be taken. Implications will include whether the vehicle needs to be taken out of service immediately or following the completion of the journey. Actions will include informing engineers and obtaining information as to when vehicles can be back in service. Note that there is information relating to detailed vehicle checks carried out by drivers in the guidance document for the drivers' qualification. It is important for controllers to be conversant with this information if they are to supervise drivers effectively.

Candidates should understand company procedures in relation to completing vehicle condition reports and the importance and uses of these.

Activity suggestions

1. Demonstration of required checks
2. Responses to scenarios where defects are discovered
3. Completion of Vehicle Condition Reports

Working with engineers

Candidates should understand the role of engineers and how this relates to their own job role. They should appreciate the importance of keeping a good working relationship with engineers to ensure the efficiency and effective operation of the service. Reporting lines of engineers and controllers will differ between companies which may have implications for their working relationship. For example, engineers may have a different reporting line and controllers may deal with supervisory level engineering staff rather than the engineers themselves. (The importance of good working relationships may be linked with Unit 4 outcomes 2 which covers work relationships and techniques for developing them.)

Activity suggestions

1. Identify how engineering issues are addressed within company policies and procedures
2. 'What if?' scenarios, giving incidents where vehicles are not fit for service, to which candidates can identify the appropriate response.

Resources

- 1 Health and safety legislation
- 2 Company health and safety policies
- 3 Contractual health and safety responsibilities between the operator and Transport for London
- 4 Company procedures re accidents and fitness of vehicles
- 5 Sample Accident, Incident and Vehicle Condition Reports

Unit 4: Managing work relationships

1. Customers

Delivery Plan

Candidates will need input in the following area:

- Customers and customer groups
- Customer service skills
- Customer complaints

Customers and customer groups

Candidates will need to identify internal and external customers and customer groups relevant to their role. This should specifically include different age groups, ethnic groups and those with disabilities. This may be linked to Outcome 3 of Unit 1 which covers managing expectations.

Note this unit includes a specific outcome based on the needs of customers with disabilities. All candidates must attend the prescribed TfL Disability Equality training programme for achievement of this award. This is delivered by operators' and training providers' own trainers. For more information on becoming a TfL approved Disability Equality Trainer, please see Appendix A or contact the Training Projects Manager, London Buses on 020 7918 4641.

Activity suggestions

1. Candidates asked (either individually or in groups) to identify as many different customers as they can. Followed by discussion on internal/external customer and identification of any groups that have been omitted.

Customer service skills

Candidates should be made aware of the importance of treating internal customers with the same respect as external customers and the impact this can have on the service to external customers. They should also appreciate their indirect relationship to passengers, i.e. by properly controlling bus services they are keeping customers happy. They should also appreciate that it is important to appropriately balance customer and company needs.

The issues of equality need to be considered in this section. Candidates need to appreciate the importance of ensuring equal provision of services to different customer groups as far as possible.

Activity suggestions

1. Role plays involving responding to customer feelings, adapting communications, balancing the needs of customers with those of the company etc.

Customer complaints

Candidates will need to be aware of the complaints procedures and their own responsibilities in relation to these. Responsibilities will vary from company to company. They should know how to deal with a customer who makes a complaint directly to them, whatever their role in the actual complaints procedure (e.g. being polite, giving appropriate information, putting in touch with the right person etc.).

Activity suggestions

1. Role plays where customers make a complaint
2. Case studies where a customer has complained. Candidates set out company procedures in relation to the complaint.

2. Work relationships

Delivery Plan

Candidates will need input in the following area:

- Work relationships
- Benefits of good relationships
- Techniques for maintaining and developing relationships

Work relationships

Candidates are required to identify the main working relationships relevant to their job role. These may differ from company to company but are likely to include: drivers, subordinates, engineers, managers, colleagues, and any external relationships with business visitors to company (e.g. trades people delivering or receiving orders for goods).

Activity suggestions

1. Individual or group exercise to identify who they work with on a day-to-day basis.

Benefits of good relationships

Candidates should understand the benefits of good relationships for efficiency and effectiveness of operations and also to make their own job roles easier and more enjoyable. They should particularly appreciate the importance of building good relationships with those people they deal with on a day-to-day basis in their job role. This includes working closely with drivers and engineers to achieve control objectives.

Candidates should understand the effects of different management styles, i.e. consultative v autocratic management and when different styles may be appropriate. For example, consultative style may lead to better work relationships but autocratic style may be required in situations such as emergencies or staff disciplinary situations.

Activity suggestions

1. Identify benefits of good working relationships (individually or in groups)
2. Case studies or role plays using different management styles followed by discussion about the impact these might have on working relationships. (This could be combined with the next section relating to techniques for developing and maintaining work relationships.)

Techniques for maintaining and developing relationships

Candidates need to be able to demonstrate relationship-building skills. They should understand the importance of clarifying and confirming the responsibilities of different work roles to avoid confusion, how to exchange relevant information, the importance of being co-operative, the use of assertiveness skills, skills to 'manage upwards', the importance of working towards common goals and how to resolve conflicts.

It will be useful for candidates to practice using different management styles and techniques and consider the effects these have on the people around them and their working relationships.

Activity suggestions

1. A series of case study or role play scenarios covering: situation where responsibilities are not clear which has led to something not being done; situations where assertiveness skills might be used; situation where candidate needs management co-operation; situations where different management styles are appropriate; situations where staff are not working to common goals (e.g. controller trying to achieve regular service, driver trying to get home early); situations where they need to resolve conflict between themselves and someone else or between two others (e.g. two drivers).

3. Communication skills

Delivery Plan

Candidates will need input in the following area:

- Importance
- Own communication skills
- Communicate effectively

Importance

Candidates should appreciate why it is important to communicate effectively with others and the implications of failed communication.

Activity suggestions

1. Given a situation where communication has failed and asked to identify implications (e.g. controller leaves a message for engineers about a vehicle, engineer does not get message)

Own communication skills

Candidates should identify the strengths and weaknesses of their own communication skills and highlight areas which they need to improve. The analysis should include face-to-face, written and telephone/radio skills. This could be combined with the practice of communication skills in the next section.

Activity suggestions

1. What am I good at?/What could I improve exercise structured around face-to-face, written and telephone/radio skills? (May want to carry out this exercise after some communication practice; see next section.)

Communicate effectively

Candidates need to demonstrate that they can communicate effectively in work situations. The demonstration of skills should include: face-to-face, written and telephone/radio skills. They should know how to obtain relevant information by use of questioning, the effects of facial expression and body language, how to adapt communication to suit recipient and the importance of checking understanding.

Assessments for other units may already have allowed candidates to demonstrate their effectiveness in some areas. For example, accident, incident and vehicle condition reports covered in Unit 3 might show effectiveness in written communication. In relation to radio communication, candidates should have knowledge of the phonetic alphabet and radio etiquette. A brief guide to these is attached.

Activity suggestions

1. Demonstration of radio communication skills (may be combined with unit 2 Service Control re: operation of radio equipment)
2. Demonstration of written communication skills (may be combined with reporting requirements in Unit 3 Managing work operations)
3. Demonstration of questioning techniques (may be covered in conjunction with obtaining information for accident/incident reports).
4. Giving effective instructions/ confirming understanding - set up an exercise where one person gives another instructions for a simple task. Complete the exercise (a) where the person carrying out the task is not allowed to ask questions and (b) where they are. This nicely demonstrates the importance of clarifying information. Tasks should be relatively simple (the point is to highlight communication problems) such as giving instructions to a person who is blindfolded to find their way to a specific object or point; or describing a

- simple diagram and asking others to reproduce it from the verbal description.
5. Overcoming barriers to communication - role plays where one party has some difficulty, e.g. hard of hearing, language problems etc. Candidates to find ways to overcome the problems.

Resources

1. Equal opportunities policies for company and TfL
2. Company complaints procedures
3. Organisation structures in order to identify main work relationships

2 videos/DVDs are available for delivery of this unit: TALK – video by the Disability Rights Commission, “We can do that” – video/DVD by GoSkills. All videos can be obtained from the Training Projects Manager, London Buses. In addition, a series of trainers’ notes and materials specially prepared to assist with the Disability Equality training is also available from the Training Projects Manager.

The Department for Transport has produced a booklet entitled “Changes to the conduct of drivers, inspectors, conductors and passengers regulations – A guide for bus and coach staff”. This booklet explains the amendments which came into effect in October 2002. Trainers are strongly recommended to obtain copies of this booklet, sufficient for distribution to all service controllers on a personal issue basis. The product code reference is T/INF/874 and they are available free of charge by contacting the DfT’s publishers on 020 7944 6100.

Phonetic Alphabet and common radio usage terms

Phonetic Alphabet

- | | |
|----------------|-----------------|
| • A Alpha | • N November |
| • B Bravo | • O Oscar |
| • C Charlie | • P Papa |
| • D Delta | • Q Quebec |
| • E Echo | • R Romeo |
| • F Foxtrot | • S Sierra |
| • G Golf | • T Tango |
| • H Hotel | • U Uniform |
| • I India | • V Victor |
| • J Juliet | • W Whisky |
| • K Kilo | • X X-ray |
| • L Lima | • Y Yankee |
| • M Mike | • Z Zulu |

Standard terms/abbreviations

Term/abbreviation	Meaning
Go ahead	Proceed with message
Acknowledge	Confirm message understood
Affirmative	Yes or permission granted
Negative	No or permission not granted
Say again	Repeat message
Roger	I have received all of your transmission
Wilco	Message understood and will be complied with
Over	Transmission ended and reply expected
Out	Transmission ended, no reply expected
Stand by	Temporary pause in transmission; wait
ETA	Estimated time of arrival
ETD	Estimated time of departure
RTA	Road traffic accident

Unit 5: Introduction to supervisory skills

1. Role of the supervisor

Delivery Plan

Candidates will need input in the following area:

- Responsibilities of the supervisor
- Own responsibilities

Responsibilities of the supervisor

Candidates need to identify the different roles that supervisory positions encompass. These may include the roles of: manager, mentor, and counsellor. They should understand who they have responsibilities to (staff, colleagues and the company) and issues relating to equal opportunities, staff grievances and confidentiality of staff information.

Activity suggestions

1. Given different situations that a supervisor might find themselves in and asked to identify their role and responsibility in that situation.
2. Explaining why they think equal opportunity is important. Or respond to scenario where equal opportunities has not been applied and identify implications.
3. Explaining why they think confidentiality of staff information is important. Or respond to situation where staff information has not been kept confidential and identify implications.

Own responsibilities

This section simply relates the knowledge above specifically to the candidate's own role. They should be able to identify their own supervisory responsibilities within their company. This will differ between companies. For example, some operators give controllers responsibility for disciplinary measures for drivers, others do not.

Activity suggestions

1. Identify own supervisory responsibilities within the company.

2. Management skills

Delivery Plan

Candidates will need input in the following area:

- Staff problems and development needs
- Work planning

Staff problems and development needs

Candidates need to demonstrate practical management techniques in relation to their own supervisory role. Responsibilities of controllers will differ between companies but candidates should be able to identify the sorts of staff problems that might occur, when they have the authority to deal with the problem, and when they need to pass on the responsibility to others.

Candidates should be aware of techniques they can use in day-to-day dealings with staff (particularly drivers) that will help them recognise problems, develop staff, give appropriate feedback and motivate staff.

Activity suggestions

1. Case studies/role plays where staff problems arise and candidates need to respond to them.
2. Case studies where response was not appropriate and, for example, driver is irritated by feedback given, or demotivated by something the controller has done. Candidates to identify a better course of action, i.e. 'What should have happened?'. (May be combined with communication skills in Unit 4.)

Work planning

Candidates need to be able to manage their own workloads in order to effectively meet work objectives. They should understand the importance of planning and prioritising work and communicating information re: workloads to others as appropriate.

Activity suggestions

1. Candidates given a list of work tasks within their responsibility and asked to prioritise them. Exercise can be extended by introducing new factors to change the priorities. For example, tasks might include: sorting out a route where there are problems, advising engineers of a problem with a vehicle, resolving a drivers' hours problem, dealing with a staff problem. Priorities may change when there is a road traffic accident involving a bus on one of their routes.

3. Staff disciplinary procedures

Delivery Plan

Candidates will need input in the following area:

- Disciplinary offences
- Staff disciplinary procedures

Disciplinary offences

Candidates need to be aware of disciplinary offences and occasions when it is appropriate to take disciplinary action.

Activity suggestions

1. Identify disciplinary procedures from driver handbooks or other appropriate company procedure documents.

Staff disciplinary procedures

Candidates need to understand their own role in relation to disciplinary procedures and to explain what the procedures entail. Responsibilities will differ between companies but all controllers should have a responsibility to record and report incidents where disciplinary action might be appropriate.

Activity suggestions

1. 'What if?' scenarios exploring what action they would take in different circumstances where it came to their attention that a disciplinary matter had arisen.
2. Describe the company disciplinary procedures.

Resources

1. Job descriptions and Organisation charts to identify supervisory responsibilities (refer back to Unit 1 work on roles and responsibilities).
2. Disciplinary procedures set down by company

Links between units

The delivery guidance given above suggests a number of links between different outcomes and units. The grids that follow summarise those links in order to assist with the design of delivery or assessment.

References are as follows: Unit number: outcome number: assessment requirement reference

For example: Reference 4.1.(a) refers to Unit 4, outcome 1, assessment requirement a).

Where no assessment requirement reference is given, the reference is to all assessment requirements under that outcome.

For example: Reference 1.1 refers to Unit 1, outcome 1 (covering assessment requirements a and b)

Unit 1: Contributing to the quality of bus services

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Links
1. Describe the bus industry and company structure	a) Describe the structure and aims of the bus industry in London	1.3
	b) Describe the structure and aims of a bus company operating in London	1.3; 2.1(a), (c); 4.2(a)
2. Explain the different roles within the bus industry	a) Identify the different roles within the industry	4.2(a)
	b) Explain the role of the bus service controller	2.1(a), (c); 4.1(a),(b); 5.1(b)
3. Explain the importance of meeting expectations to achieve quality	a) Identify and describe the expectations which need to be met	1.1; 4.1(a),(b);
	b) Explain why it is important to meet expectations	1.1; 4.1(a);

Unit 2: Service control

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Links
1. Explain the principles of service control	a) Identify the aims of service control	1.2(b)
	b) Identify contractual obligations for the company and customer expectations in relation to service control	1.1(b)
	c) Explain the responsibilities of different roles in service control	1.2(b)
2. Demonstrate the use of information and systems to control services	a) Describe information and systems used to control bus services	
	b) Demonstrate the use of tracking systems and design route control strategies.	4.3(c)
	c) Explain corrective actions that can be taken to remedy problems with service	
3. Assess the implications of Drivers' Hours Regulations for the management of services	a) Explain the Drivers' Hours Regulations	
	b) Explain the importance of complying with the regulations	
	c) Identify the implications of the Regulations for controlling the bus services	

Unit 3: Managing work operations

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Links
1. Explain how health, safety and security can be effectively managed in the workplace	a) Identify responsibilities in relation to health and safety in the workplace	
	b) Describe the health, safety and security risks that may arise in the workplace and ways of minimising or eliminating risks	
2. Explain appropriate responses to accidents and incidents	a) Identify company procedures in relation to accidents and incidents	
	b) Demonstrate how to evacuate a vehicle	
	c) Gather information about accidents and incidents	4.3(c)
	d) Explain the importance of the role of TOCU and the need for learner and drivers to report incidents in an accurate and timely way	
	e) Prepare reports of accidents and incidents	4.3(c)
Assess the fitness of vehicles for service	a) Identify controller's responsibilities in relation to vehicles	
	b) Carry out appropriate vehicle checks and provide condition reports	
	c) Explain the importance of working with engineers	4.2(c)

Unit 4: Managing work relationships

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Links
1. Analyse the relationship with customers	a) Identify different customers and customer groups	1.3(a), (b)
	b) Demonstrate effective customer service skills	1.3(a)
	c) Resolve customer complaints	
	d) Identify 3 types of disability or impairment customers might have and explain how the needs of these customers can be met	
2. Explain how work relationships can be developed and maintained	a) Identify different work relationships	1.1(b); 1.2
	b) Analyse the benefits of good relationships	
	c) Demonstrate techniques for developing and maintaining work relationships	3.3(c)
3. Demonstrate effective communication skills	a) Explain the importance of good communication skills	
	b) Analyse own communication skills	
	c) Communicate effectively in work situations	2.2(b), (c); 5.2(a)

Unit 5: Introduction to supervisory skills

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Links
1. Describe the role of the supervisor	a) Describe the responsibilities of the supervisor	
	b) Identify own responsibilities as supervisor	1.2(b)
2. Demonstrate appropriate management skills	a) Identify responses to staff problems and development needs	4.3(c)
	b) Explain work planning techniques	
3. Explain staff disciplinary procedures	a) Identify occasions where it is appropriate to take disciplinary action	
	b) Explain staff disciplinary procedures	

Recording Documentation

BTEC Advanced Award in Controlling Bus Services in London

Unit 1: Contributing to quality of bus services

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Portfolio reference	Date Achieved	Initials	
				Trainee	Assessor
1. Describe the bus industry and company structure	a) Describe the structure and aims of the bus industry in London				
	b) Describe the structure and aims of a bus company operating in London				
2. Explain the different roles within the bus industry	a) Identify the different roles within the industry				
	b) Explain the role of the bus service controller				
3. Explain the importance of meeting expectations to achieve quality	a) Identify and describe the expectations which need to be met				
	b) Explain why it is important to meet expectations				

Unit Completed: Date:.....

Signed by candidate.....

Signed by Assessor.....

Unit 2: Service control

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Portfolio reference	Date Achieved	Initials	
				Trainee	Assessor
1. Explain the principles of service control	a) Identify the aims of service control				
	b) Identify contractual obligations for the company and customer expectations in relation to service control				
	c) Explain the responsibilities of different roles in service control				
2. Demonstrate the use of information and systems to control services	a) Describe information and systems used to control bus services				
	b) Demonstrate the use of tracking systems and design route control strategies.				
	c) Explain corrective actions that can be taken to remedy problems with service				
3. Assess the implications of Drivers' Hours Regulations for the management of services	a) Explain the Drivers' Hours Regulations				
	b) Explain the importance of complying with the regulations				
	c) Identify the implications of the Regulations for controlling the bus services				

Unit Completed: Date:.....

Signed by candidate.....

Signed by Assessor.....

Unit 3: Managing work operations

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Portfolio reference	Date Achieved	Initials	
				Trainee	Assessor
1. Explain how health, safety and security can be effectively managed in the workplace	a) Identify responsibilities in relation to health and safety in the workplace				
	b) Describe the health, safety and security risks that may arise in the workplace and ways of minimising or eliminating risks				
2. Explain appropriate responses to accidents and incidents	a) Identify company procedures in relation to accidents and incidents				
	b) Demonstrate how to evacuate a vehicle				
	c) Gather information about accidents and incidents				
	d) Explain the importance of the role of TOCU and the need for learner and drivers to report incidents in an accurate and timely way				
	e) Prepare reports of accidents and incidents				
3. Assess the fitness of vehicles for service	a) Identify controller's responsibilities in relation to vehicles				
	b) Carry out appropriate vehicle checks and provide condition reports				
	c) Explain the importance of working with engineers				

Unit Completed: **Date:**.....

Signed by candidate.....

Signed by Assessor.....

Unit 4: Managing work relationships

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Portfolio reference	Date Achieved	Initials	
				Trainee	Assessor
1. Analyse the relationship with customers	d) Identify different customers and customer groups				
	e) Demonstrate effective customer service skills				
	f) Resolve customer complaints				
	g) Identify 3 types of disability or impairment customers might have and explain how the needs of these customers can be met				
2. Explain how work relationships can be developed and maintained	a) Identify different work relationships				
	b) Analyse the benefits of good relationships				
	c) Demonstrate techniques for developing and maintaining work relationships				
3. Demonstrate effective communication skills	a) Explain the importance of good communication skills				
	b) Analyse own communication skills				
	c) Communicate effectively in work situations				

Unit Completed: **Date:**.....

Signed by candidate.....

Signed by Assessor.....

Unit 5: Introduction to supervisory skills

Outcomes	Assessment requirements To achieve each outcome a candidate must demonstrate the ability to:	Portfolio reference	Date Achieved	Initials	
				Trainee	Assessor
1. Describe the role of the supervisor	a) Describe the responsibilities of the supervisor				
	b) Identify own responsibilities as supervisor				
2. Demonstrate appropriate management skills	a) Identify responses to staff problems and development needs				
	b) Explain work planning techniques				
3. Explain staff disciplinary procedures	a) Identify occasions where it is appropriate to take disciplinary action				
	b) Explain staff disciplinary procedures				

Unit Completed: Date:.....

Signed by candidate.....

Signed by Assessor.....

Record of observed assessment

Outcomes/Assessment requirements to be covered:

Outline of task/work activity:

Feedback to candidate (including further development required):

Outcomes/Assessment requirements achieved:

Signature of candidate.....

Signature of assessor.....

Date.....

APPENDIX A

Procedure for becoming a Transport for London approved Disability Equality Trainer

1. To ensure a consistent approach and minimum quality standard of training in the area of disability equality, TfL has developed an accreditation procedure for delivering this part of Unit 5 of the BTEC Intermediate Award in Delivering a Bus Service in London and Unit 4 of the Advanced Award for Controlling Bus Services in London.
2. A Train the Trainer programme which comprises a two day non-residential course written and delivered by a specialist training consortium under contract to TfL (which includes a 30 minute written assessment) has been developed.
3. Operators and/or training providers who wish to deliver one or both of the two BTEC awards must use TfL approved Disability Equality trainers. Upon successful completion of the trainer assessment at the end of the two day train the trainer course, trainers will be notified, in writing, of their approved trainer status. A certificate will be issued and this normally lasts up to 2 years but may be withdrawn at the discretion of TfL or its appointed agents.
4. Before having a certificate extended (or renewed following its withdrawal), trainers will be expected to attend a Trainer Support Day. This will take the form of a one-day non-residential course. At the end of the course, trainers will be required to sit a 30 minute written assessment, which they must pass in order to have their certificate renewed.
5. Trainers can expect to receive a 'quality assurance' visit during the life of their approved trainer status. This is to ensure that the minimum standard is being maintained. It is also a good opportunity for trainers to discuss any areas of concern they may have with experienced personnel.
6. To book places on the Disability Equality Train the Trainer course, please contact the Training Projects Manager at London Buses on 020 7918 4641.

APPENDIX B

Procedure for becoming a TfL Approved AVL Trainer

1. To ensure a consistent standard in the delivery of training to service controllers for Unit 2 of the BTEC Advanced Award for Controlling Bus Services in London, London Buses has developed an accreditation scheme for AVL trainers. This is achieved through a train the trainer programme which includes a trainer assessment, which must be passed in order to become a TfL approved AVL Trainer.
2. Service Controllers need to be categorised into 'regular' and non-regular' AVL users. This will determine how much training is required in their use of AVL. A regular user is one who operates an AVL workstation 5 or more hours in any one week or 20 or more hours in any four weekly period, whichever is the less.
3. The Train the Trainer course offered by TfL lasts approximately half a day. To find out more information about the course and to book places, please contact the Communications Training Assistant on 020 7918 3529.

Improving Bus Service Quality

Strategies for the Control of Bus Services using AVL

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IMPROVING BUS SERVICE QUALITY

STRATEGIES FOR THE CONTROL OF BUS SERVICES

OVERVIEW

INTRODUCTION

1. The aim of London Buses and the bus operators is to deliver the best possible service to passengers. All operators must have plans and strategies in place to achieve this, and this document and accompanying Appendices have been produced to aid development of strategies for the control of bus services. These will also be used in connection with the new BTEC Advanced Award “Controlling Bus Services in London”. It is intended that all new and existing service controllers will have achieved this by July 2004.
2. This overview sets out some of the basic guidelines that should be followed in developing control strategies and training control staff. The Appendices review the key issues in more detail.

BUS SERVICE MONITORING

3. The methods used by London Buses for bus service monitoring are outlined in Appendix C1, which also gives an overview of the Bus Quality of Service Indicators which monitor bus service from the passengers’ point of view.

CRITERIA FOR RELIABLE SERVICES

4. The main criteria that need to be met to produce a reliable service are:-
 - Sufficient resources to operate a service – the schedule must have enough running time and recovery time, sufficient staff and buses must be available, and driver changeovers should be carefully arranged. Schedules must be altered to deal with known disruption.
 - Adequate bus priorities and traffic management and signal arrangements should be in place to minimise day-to-day variability in bus running times (these are the responsibility of TfL Street Management, and London Buses is continuing to press for their delivery, through the LBI and other initiatives).
 - Effective use of technology (AVL) and communication (e.g. radio/telephone).

- The appropriate level of management and control of bus routes to ensure that buses leave depots and terminals on time, and that adjustments (eg. curtailments) are made to the service only where these are in the best interests of passengers.
- Those responsible for service control (eg Route/Service Delivery Manager, AVL and Service Controllers) must be fully trained.
- Prompt action must be taken when reliability falls below agreed standards.
- Appropriate agreements should be in place with the drivers' union or representatives which allow flexibility if the service is severely disrupted.

ROUTE CONTROL STRATEGY

5. With the above key criteria in place, curtailments should not be necessary, and the best possible service will be provided for passengers. However, plans and strategies are needed for occasions where services are affected by a problem leading to irregularity and unreliability, although intervention should be minimal and the most important consideration is then to ensure that action taken reflects the best interest of the passengers. There are some simple rules which will apply to all routes eg not turning successive buses. Other procedures will be route specific and based on passenger needs.
6. To identify and set these out there needs to be a '**Route Control Strategy**' for each route.
7. In addition, each route should have an identified **Route/Service Delivery Manager**, who has the responsibility for the overall route management, including the regular review and updating of the Route Control Strategy document.
8. The Route/Service Delivery Manager and Service Controllers assigned to the route should jointly determine route specific procedures following a review of the passenger needs of the route. These should be incorporated in the Route Control Strategy (see Appendix C2 which suggests the aspects that might be included), which must be agreed with the London Buses Account Manager. **It is vital that these procedures are agreed, communicated, understood and applied consistently by all Service Controllers.**

LOCATION OF SERVICE CONTROLLERS

9. It is essential that there is a full overview of the actual operation over a complete route, and thus the key for effective service control is full utilisation of AVL.
10. The AVL Control Room must be adequately staffed so there can be an immediate reaction if a problem occurs. Sufficient controllers must be on

duty to effectively manage all the routes involved. Controllers need to be able to concentrate on route control, and should not normally be involved in other functions (eg staff allocation, or public relations issues such as dealing with complaints/lost property). Full use must be made of Band III radio and other methods of communication.

11. There are also important benefits of “on the road” supervision, together with regular and effective communication with drivers and conductors. The Service Controllers must also communicate between each other, via a central point, which is likely to be either the AVL Control Room or the Route/Service Delivery Manager when on duty.
12. It is also crucial that all Service Controllers, including cover/relief staff, are aware of, and consistently apply the control strategy for the route. It is essential that at all times that a route is operating, one clearly identified individual has lead responsibility for the route. Control can be exercised using at least one, but often a combination, of the following methods:
 - Service control using Automatic Vehicle Location (AVL) and Band III radio. This is **ESSENTIAL**;
 - Static supervision and service control at garage/relief points;
 - Mobile service controller, where the Service Controller may have overall responsibility for the operation of the route when on duty. This function may be undertaken by the Route/Service Delivery Manager.
 - Static supervision and service control at terminal points;

CONTROL AND REGULATION OF BUS SERVICES

13. As explained above, if a service is running well, with a schedule that meets current road traffic conditions, then service control adjustments should not be necessary. Plans and strategies to deal with occasions where services are affected by irregularity and unreliability will be set out in the Route Control Strategy.
14. Implementation of these plans and strategies, and thus effective service control, can only be delivered if the Service Controllers are properly trained and fully understand what actions are appropriate if a service becomes disrupted. All new and existing service controllers must have achieved the BTEC Advanced Award “Controlling Bus Services in London” by July 2004.
15. Appendices C3 and C4 review a number of strategies for service control and the core technical skills required to execute these, with the aim of clarifying the objectives of service control and how they might be achieved, by enabling managers and service controllers to:

- Identify objectives, according to the type of service and the nature of the irregularity occurring;
- Identify the range of strategies available to deal with the problem;
- Select the most suitable course of action;
- Implement the required action

WHAT TO DO IF A ROUTE IS FREQUENTLY UNRELIABLE

16. If a route is sufficiently staffed and has a good level of service supervision, but is frequently unreliable, it is probable that the schedule needs to be revised. A review of the route's operation should be undertaken to establish the reasons, using AVL-based data (MARQUIS) where available. The Route/Service Delivery Manager, Service Controllers and other staff will be able to identify particular troublespots, etc. Once solutions have been identified, proposals to improve the service should be submitted to London Buses as soon as possible. The London Buses Account Manager can offer support in carrying out this review.

APPENDIX C1

IMPROVING BUS SERVICE QUALITY

STRATEGIES FOR THE CONTROL OF BUS SERVICES

BUS SERVICE MONITORING

This Appendix outlines the methods used by London Buses for bus service monitoring, and gives an overview of the Bus Quality of Service Indicators, which monitor bus service from the passengers' point of view.

BUS SERVICE MONITORING

- A1 Bus services are monitored in a number of ways, so that actions can be identified and taken to ensure that passengers are provided with the best possible service. The key methods of monitoring are:-
- Mileage operated, with records kept by operators of any mileage which is not operated, together with the reasons. If mileage is not operated due to circumstances within the control of the bus operator, for example no staff available, staff reporting late for duty, and mechanical problems, this is classified as “deductible” lost mileage and the operator receives a lower contract payment. If lost mileage is outside of the operator’s control, for example due to severe traffic congestion, then this is normally classified as “non-deductible”. The operator must minimise the effects of such delays. Each route has a Minimum Operated Mileage Standard.
 - Quality of Service Indicators (QSIs), where regular surveys are carried out of the actual service provided to passengers, to measure the reliability of the service. The latest bus contracts - Quality Incentive Contracts – include incentives (and deductions) related to reliability targets based on QSIs. These contracts are designed to ensure that the best possible service is provided for passengers. An overview of QSIs is below.
 - Customer Satisfaction and Mystery Traveller Surveys, where the former are surveys carried out at bus stops seeking passengers’ views of the journey they have just made. The latter are objective audits carried out by trained surveyors making carefully planned journeys throughout the network and recording their observations on a wide range of service attributes, eg cleanliness of the bus.

QUALITY OF SERVICE INDICATORS (QSIs)

- A2 Bus Quality of Service Indicators (QSI) monitoring started in 1977 and the scale of the monitoring has increased continually as reliability has taken on much more importance.
- A3 The public can be expected to regard a bus service as being reliable if there is a high probability that the buses depart at or close to the advertised time or at the published regular intervals. Operators are expected to use their best endeavours to achieve these requirements and should ensure that drivers are made aware of the locations of timing points, departure times including the first and last buses, and service intervals contained in the published information for the services.
- A4 The QSI Surveys are a programme of regular checks using plain-clothes observers (generally retired staff) standing by the roadside.

Observations will normally be made at or close to locations shown on the advertised timetable. Recordings are made on hand-held terminals and are downloaded into a computer programme used to analyse the service from a passenger's point of view.

- A5 The observers record the actual departure times of the buses, normally as they leave from the designated stops. An observer is issued with detailed instructions pertaining to each survey location and regular checks are undertaken to ensure the accuracy of the data collected is maintained.
- A6 Observations of all London Buses services are currently carried out at approximately 300 sites throughout London. Each site is generally surveyed sixteen times every twelve weeks.
- A7 For the purposes of assessing QSI performance, bus routes are defined as either High Frequency Routes or Low Frequency Routes.

High Frequency Routes

- A8 High Frequency Routes are those with generally a weekday daytime frequency of 12 minutes or more, where an outline of the frequency is published rather than specific times (eg "about every 6 minutes"). The QSI emphasis is on regularity. High Frequency Routes account for around 85% of scheduled mileage. Passengers are assumed to be largely unaware of scheduled departure times and arrive at stops randomly. The emphasis is on the provision of a regular service and the minimisation of long gaps, rather than on punctuality. All buses passing an observation point are counted even if they are travelling short of their scheduled destination.
- A9 *To improve QSIs for high frequency routes operators must give priority to the elimination of long gaps, and also bunching, even if this makes the schedule adherence of individual buses worse.*

Low Frequency Services

- A10 Low Frequency Routes (also referred to as "timetabled" services) are those with services every 15 minutes or less during the daytime on weekdays, where the actual scheduled times are displayed at stops. The QSI emphasis is on punctuality; i.e. did a bus arrive at the time advertised at that stop, or was it late, early or did it fail to arrive at all, or was it turning short of the scheduled destination?
- A11 A bus will be regarded as "on time" if it departs from an advertised timing point running to the scheduled destination for that journey not more than two and a half minutes early or not more than five minutes late. Whilst an operator is expected to observe the timetable it is recognised that split second timekeeping is not possible and so these margins either side of the advertised time are allowed.

A12 Punctuality is divided into four categories:

- Buses running between 2.5 minutes early and 5.0 minutes late are regarded as on-time (this is the QSI measure used to assess performance of low frequency routes);
- Buses running between 2.5 and 8.0 minutes before the advertised time are regarded as early;
- Buses departing more than 5.0 and up to 15.0 minutes after are regarded as late;
- Buses running more than 8.0 minutes early or 15.0 minutes late, together with those missing altogether, not linked, or running to a destination short of that advertised, are categorised as non-arrivals/not linked.

A13 Assessment of punctuality in published QSIs is based entirely on observed and advertised times – no account is taken of the vehicle identification (the running number, for example) in the analysis. However, vehicle identifications are usually recorded to assist operators with route management. To help clarify how punctuality statistics are obtained, a number of examples are provided in a more comprehensive document about QSIs.

A14 Normally the best QSI results for low frequency routes will be obtained by ensuring buses run as close as possible to the scheduled time. However, if a route is seriously disrupted and all buses are running (for example) 13-15 minutes late on a 20 minute service, the results from the QSI perspective would be improved if all buses were to run 20 minutes late, since each bus would be regarded as the next departure running “on-time” by the majority of passengers.

A15 It should be noted that some high frequency routes run at low frequencies at particular times of the day, eg late evenings. At these times, to achieve good QSI results, scheduled headways should be maintained between buses.

APPENDIX C2

IMPROVING BUS SERVICE QUALITY

STRATEGIES FOR THE CONTROL OF BUS SERVICES

ROUTE CONTROL STRATEGY

This Appendix is an example of what a Route Control Strategy document might look like, and sets out the aspects that should be included. Operators may already have a format, or may devise their own format for these. The Strategy for each route should be agreed with the London Buses Account Manager.

ROUTE CONTROL STRATEGY

The document should be “owned” by a named individual.

The key features of the route should be outlined.

OVERVIEW

*This section should give an overview of the key aspects of service control.
For example:*

- High or low frequency service
- Ensuring buses depart the garage punctually
- Effective management of driver changeovers
- Ensuring regular departures from terminals, and making effective use of recovery time

If these are followed, curtailments should be minimised, and the role of Service Controller as easy as possible.

Curtailments should only be made with passengers’ interests in mind. Buses should only be turned short in exceptional circumstances, to recover from significant delays or to fill a long gap. Successive buses should not be curtailed.

Service Controllers must communicate between each other, via either the AVL Controller or the Route/Service Delivery Manager when on duty.

CURRENT SCHEDULES

This section should detail the schedules in use.

VEHICLE TYPE

The vehicle type(s) authorised for the route should be stated.

QUALITY OF SERVICE INFORMATION.

The QSI standard should be stated.

PATTERN OF SERVICE

The pattern of service by day of week and time of day should be stated (e.g. Scheduled headways (minutes)).

ROUTE RECORD

The Route Record which details the roads over which the route operates, together with terminal and standing points and any specific restrictions (eg on stand space), should be attached as an Appendix.

CONTROL OF THE SERVICE

This section should set out the service control arrangements, including the location and responsibilities of the Service Controllers.

TELEPHONE NUMBERS

All relevant telephone numbers should be listed, including those external to the company.

CREW RELIEF ARRANGEMENTS

This section should detail the crew relief arrangements.

If reliefs do not take place at the garage, the travelling time from garage to relief point should be stated, together with how staff travel there (eg other bus routes, ferry vehicles, via the Underground).

FIRST AND LAST BUSES

This section should detail first and last bus times, and any particular requirements needed to maintain these.

CRUCIAL DUTIES

This section should detail any duties that must be operated to meet specific needs, and also those which have the least effect on the service if a staffing difficulty arises.

ROUTEING INFORMATION AND PARALLEL ROUTES

This section should detail the major points served, interchanges (LUL, TOC, DLR), major tourist attractions, key retail areas/shopping streets, and leisure venues. It should also detail any major parallel routes, together with their operator and how to contact their controllers.

MAJOR TRAFFIC TROUBLE SPOTS AND EVENTS THAT DISRUPT THE SERVICE

This section should detail areas and other events where problems may occur. Plans that have been determined to be put in action by Service Controllers when such disruption occurs should be set out, including any special schedules available, for example for use during school holiday periods when running times are shorter.

The route specific procedures for use in the event of severe disruption should reflect the passenger needs of the route, e.g. peak flows.

CURTAILMENT POINTS

This section should list the available curtailments points, for use in the event of disruptions, together with an indication of the time savings (by time of day where appropriate). Any stand restrictions should be highlighted.

ROUTE PERFORMANCE REVIEWS

This section should set out the internal procedures for continuously reviewing how the route is performing.

This section should also summarise the dates when reviews were last undertaken, and the key changes made as a result.

APPENDIX C3

IMPROVING BUS SERVICE QUALITY

STRATEGIES FOR THE CONTROL OF BUS SERVICES

CONTROL TECHNIQUES FOR HIGH FREQUENCY SERVICES

This Appendix reviews strategies for the control and regulation of High Frequency services.

CONTROL TECHNIQUES FOR HIGH FREQUENCY SERVICES

- C1 As already highlighted (see Overview), it is essential that certain criteria are in place to operate a service, including:
- a schedule that accurately meets current road traffic conditions and contains enough recovery time;
 - the availability of sufficient staff and buses;
 - careful management of garage/terminal departures and driver change-overs.
- C2 By prioritising the above, remedial interventions should be kept to a minimum, and the best possible service will be provided for passengers. Plans and strategies to deal with occasions where services are affected by irregularity and unreliability will be set out in the Route Control Strategy (see Appendix B).
- C3 Customers using High Frequency services should not expect on average to wait more than the average scheduled wait which is equivalent to half the scheduled interval between buses, e.g. scheduled interval between buses 12 minutes, = average scheduled wait = 6 minutes.
- C4 In regulating a high frequency service the controller will be aware that with bus cancellations or late running the scheduled headways cannot be maintained over the whole route. Any irregularity will consist of uneven headways and/or gaps over the whole of the route.
- C5 In these circumstances, the controller's objectives should be to eliminate gaps in service (course adjustment) and the creation of even headways (fine tuning). Methods of achieving these objectives are described in the following paragraphs.

Methods for Reducing or Eliminating Gaps

- C6 There are basically two causes of gaps; when buses are not running to scheduled time normally caused by traffic delays, or cancellations when staff or buses are not available. If a gap is caused through a cancellation the controller should have prior knowledge of the situation (garage staff should inform service controllers as soon as possible).
- C7 *Gaps Caused by Traffic Delays, Breakdowns, Accidents, etc* - These types of gaps are mostly unpredictable in time and duration although in some cases they may have been aggravated by previously known cancellations.

- C8 The AVL service controller in liaison with any other controllers for the route must decide on the most effective action to be taken. The actual action taken must, of course, be communicated to all colleagues controlling the route.
- C9 The following is a list of alternative actions that can be considered, the controller will need to decide which is the most appropriate and practical for the situation he/she needs to resolve:
- Is there a bus and a crew available from the garage on a scheduled run out that can be redeployed to break the gap?
 - Is there a bus and a crew that may be returning from a meal relief that could also be redeployed to break the gap?
 - Can a bus be turned into the return gap (usually one that is running late) making sure that the crew are given precise departure instructions to close the gap?
 - Can a bus be held at the terminus where the gap will eventually occur? This could mean holding a bus, whether late or not, temporarily running it out of its scheduled position.
- C10 *Gaps Occurring as a Result of Staff or Bus Cancellation* - Where it appears impossible to redeploy a bus to cover a gap the alternative must be to reduce the gap by retarding the departure of the bus in front of the cancelled bus and advancing the time of the bus behind the cancelled bus.
- C11 If any of the above involves a crew/driver working beyond their scheduled relief or finish time, drivers' hours regulations must be taken into account, and in the case of late finishes of duty it may also require the voluntary agreement of the crew.

Regulating Headways

- C12 The previous paragraph described methods to deal with gaps in service but a more frequent need for service adjustment concerns the provision of even headways between buses.
- C13 It is first necessary to destroy the assumption that unauthorised early running is acceptable because it prevents late reliefs occurring. There is ample evidence available from QSI data to show that irregular headways caused by early running creates a bigger increase in the average waiting time for passengers, by creating uneven headways, than does the effect of late reliefs if they are properly controlled by the Service Controllers.
- C14 It is equally important to emphasise that the curtailment of a bus, whether late or not, solely for the purpose of avoiding a late relief, is a bad practice. A decision on the need for such a curtailment should be based on the passenger requirements, whether they can be protected from any inconvenience caused, and the traffic conditions at the time.

C15 Headway adjustment can mainly be carried out in two ways at terminals:

- By advancing buses (see Example 1 below) or;
- By retarding buses (Example 2).

C16 It is emphasised that when using control measures to offset irregular running due to traffic delays, such as retarding buses, curtailing buses to close gaps etc, all lost mileage should be recorded as 'traffic' or 'other non-deductible'.

Regulating Headways on Short Routes

C17 Most London Buses High Frequency routes have at least one point on the route where it is possible to curtail buses for service adjustments but there are some short routes (which may or may not have curtailment points) where a different approach can be adopted to deal with gaps and to maintain regular headways.

C18 It is important to establish that if buses are running late on this type of service a 'stepping back' of departure times of buses can be an effective way of eliminating gaps and eventually restoring the scheduled operation. This can be illustrated by reference to Example 3 in the Annex.

C19 An alternative method of adjustment which can be used when a delay, perhaps caused by an isolated incident, has affected the operation of only one or two buses is shown in Example 4.

SERVICE CONTROL TECHNIQUES HIGH FREQUENCY SERVICE EXAMPLES

Regulating Headways

Example 1 - Advancing Buses - In circumstances where due to a bus not operating a wide headway will occur:

No.	Sched. Dep.		Option 1	Option 2	Option 3	Option 4
1.	0800	0800	0800	0800	0800	0800
2.	0810	Staff Cut				
3.	0820	0815*	0813*	0813*	0812*	
4.	0830	0830	0826*	0825*	0824*	
5.	0840	0840	0840	0837*	0836*	
6.	0850	0850	0850	0850	0848*	
7.	0900	0900	0900	0900	0900	

The previous table illustrates several options for smoothing headways when a known gap will occur. A similar effect can be obtained by retarding buses but there is no point in creating late running unnecessarily if buses can be advanced. It has been assumed that the above buses were available to depart at the stated times.

There is of course an additional consideration to be made if any of the buses were scheduled for a relief en-route and a decision will need to be made as to whether:

1. The bus should be advanced.
2. The relief crew could be made available a little earlier.
3. The bus destination should be changed to show the relief point.
4. Passengers will be subjected to a delay at the relief point.

The importance of maintaining a 'through' journey would need to be considered before making a decision.

Example 2 - Retarding buses - In circumstances when the service is late and irregular and the arrival times of the buses are unknown. It is not possible to be specific regarding the precise action, which needs to be taken to regulate headways in all cases of irregularity, but there are three guidelines to be observed.

1. Never let two or more buses depart together.
2. Never let buses depart with headways shorter than those scheduled unless, at least, one other bus is available.
3. Do not delay a bus that is available to depart for the sake of maintaining 'scheduled' or 'arrival order'.

No.	Sched. Arr.	Sched. Dep.	Sched. Arr.	Actual Dep.	Option A. Dep.	Option B.
1	0655	0700	0655	0700	0700	
2.	0700	0705	0710	0712 7 late	Hold to dep 0724	
3.	0705	0710	0710	0714 4 late	0712 2 late	
4.	0710	0715	0711	0716 1 late	0717 2 late	
5	0715	0720	0724	0726 6 late	Hold to dep 0733	
6	0720	0725	0724	0728 3 late	0728 3 late	

Option A is based on creating minimum delays to buses by adopting short headways (12, 2, 2, 10, 2) and allows buses to depart in scheduled order with no curtailments. This method of departures is advantageous when it is known that there are no further delays en-route and the minimal late running can normally be recovered.

Option B demonstrates all three points above i.e. not letting buses depart together, not releasing buses with headways shorter than scheduled without the following bus being available and not despatching buses in scheduled order regardless of the effect on headways. It does however delay two buses by a further 12 and 7 minutes resulting in curtailments but the advantage is better departure headways (12, 5, 7, 4, 5). This should be weighted against the effect of buses 2 and 5 not arriving at the distant terminal if they are curtailed short. This method is perhaps the best to adopt when the controller is aware of continued traffic delays en-route with little likelihood of the service recovering in the short term.

To demonstrate how Option B could have been applied in a real-time situation we can recreate the information progressively available to the controller:

0700 Bus 1 departs on time.

0710 Three buses arrive within one minute. Obviously a bus is needed to be despatched quickly. Buses 3 or 4 are the most suitable as they are both almost on time, whereas bus 2 is already 10 minutes late and can be temporarily held.

0717 There are no further arrivals but with 2 buses available 4 can be despatched 2 minutes late but with a scheduled headway.

0722 No further arrivals and although there is now a 5 minute headway since the departure of 4 it is decided to hold 2 a little longer to break down what might otherwise be a gap occurring.

0724 Two buses arrive and therefore 2 can be despatched with a curtailment to fill the original gap between 1 and 2. 6 can take 4 minutes stand time and depart at 0728 and 5 is held to depart at 0733 (with a curtailment) subject to the arrival time of further buses.

Regulating Headways on Short Routes

Example 3 - 'Stepping back'

No.	Sched. Arr.	Sched. Dep.	Sched. Actual Arr	Option A Dep.	Option A Actual Arr.	Option B Dep.
1	0655	0700	0655	0700	0655	0700
2	0705	0710	0725	0730	0725	0730
3	0715	0720	0732	0737	0732	0740
4	0725	0730	0737	0742	0737	0750
1	0735	0740	0737	0742	0737	0800
2	0745	0750	0805	0810	0805	0810
3	0755	0800	0812	0817	0805	0820
4	0805	0810	0817	0822	0815	0830

The assumption has been made that bus 2 was delayed 20 minutes on its first journey creating a 30 minute gap (0700-0730), following buses were decreasingly less late.

In Option A, where no action is taken, the gap between bus 1 and bus 2 has almost repeated itself on the next journey i.e. 0742-0810 (28 minutes). You will see that the service in between has headways less than those scheduled. (7, 5, 0, 7, 5).

In Option B buses are 'stepped back'. After the departure of bus 2 at 0730 (following the 30 minute gap) the departure times of the other buses must equally be 20 minutes later than scheduled i.e. bus 3 at 0740, bus 4 at 0750. Bus 2 without further delays would be available to depart at 0810, thereby eliminating the continuation of the gap. If any bus was subsequently more than 20 minutes late then all buses should be retarded on their next journey by an identical amount to ensure the original gap would not repeat itself.

Crew relief times may inhibit the complete application of this arrangement but the principle remains the same i.e. headways have to be widened to counteract the late running.

Eventually buses could be considered as running early on their subsequent trips and progressively they could be brought back to scheduled operation if the delays ceased.

Each bus would then have lost one round journey.

Example 4 - Stepping back where a temporary delay has affected only one or two buses

An alternative method of adjustment can be used when a delay, perhaps caused by an isolated incident, has affected the operation of only one or two buses.

No.	Sched. Arr.	Sched. Dep.	Sched. Actual Arr		Option A	Dep.
1	0655	0700	0655	on time	0700	on time
2	0705	0710	0725	20 late		0730 20 late
3	0715	0720	0725	10 late		Held*
4	0725	0730	0726	1 late	0732	on time
1	0735	0740	0735	on time	0740	on time
2	0745	0750	0805	20 late		Held*
3	0755	0800	(0725)		0755	5 early, 1 journey lost.
4	0805	0810	0807	2 late	0810	on time
1	0815	0820	0815	on time	0820	on time
2	0825	0830	(0805)		0830	on time, 1 journey lost
3	0835	0840	0830	5 early		0840 on time
4	0845	0850	0845	on time	0850	on time

Consideration can be given to holding bus 2 or 3 (or both) to enable them to depart on their scheduled time next journey, whilst allowing bus 4 to depart as soon as possible. Only one bus is held on each of the departure cycles to avoid excessive loads for bus 4 to cope with. Remember to take account of any stand space restrictions.

The above method is suitable when delays are no longer being experienced on the route. It involves the loss of one round journey for two buses.

APPENDIX C4

IMPROVING BUS SERVICE QUALITY

STRATEGIES FOR THE CONTROL OF BUS SERVICES

CONTROL TECHNIQUES FOR LOW FREQUENCY SERVICES

This Appendix reviews strategies for the control and regulation of Low Frequency services.

CONTROL TECHNIQUES FOR LOW FREQUENCY SERVICES

- D1 The task of the service controller on low frequency routes, where the published timetable gives the departure times of buses, is to achieve the operation of the **maximum number of published journeys at their scheduled times, and to the scheduled destination. Buses running earlier than published times should never be permitted or authorised (unless they have been advanced to run at the scheduled time of a previous, cancelled, journey).**
- D2 It follows that drivers should be prohibited from running early in anticipation of traffic delays even if this subsequently causes late running. Any inconvenience caused to passengers by late running is more acceptable than that caused by early running. If this is a regular occurrence, then the schedule should be reviewed determine if it needs to be adjusted.
- D3 The scope for adjustment of a late running bus is obviously limited, as inevitably with wide scheduled intervals between buses, the bus will often be on its own.
- D4 A bus running late on a timetabled service should only be curtailed if another bus, going to the same destination, is in the immediate vicinity and if the stand recovery time is insufficient to offset the late running. QSI's results will be affected by curtailments.
- D5 Passengers transferred should be given a clear explanation of the purpose in curtailing the bus, e.g. to enable it to operate the next journey on time for other intending passengers.

Example 5 shows how a staff cut might be dealt with.

Example 5 - Low Frequency Service Staff Cut

No	Sched. Dep.	Actual Dep.
1	1200	1200 Bus departed on time
2	1215	Bus on stand
3	1230	Staff cut
4	1245	Running on time

Bus 1 departed on time at 1200, the time is now 1210. Bus 2 should depart on time at 1215. Bus 4 should depart on time at 1245 however the driver should be advised that the 1230 is missing to enable him to pass this information to his customers en-route. The driver should also be reminded to run to the published times.

The best opportunity for adjusting a timetabled service is where the crew change-overs take place at the end of the route. If the bus is running late on the relief journey and the relieving crew is available, providing the engineers can supply a serviceable bus of the kind suitable for the route, a second bus can be placed in service. This will enable the new crew to start the journey at the scheduled/ published time.

Running a bus 'empty and non-stop' to a specific point on the route to recover time lost is another way of adjusting the service.