

## 6 Investment

6.1. We are required under the terms of reference to consider the methods used by the companies for determining the nature, amount and timing of capital expenditure, especially those relating to the replacement of vehicles, and the extent (if any) to which decisions thereon have increased efficiency or reduced costs. This chapter looks at the level of investment, the choice of bus type and size, the choice of chassis, the choice of bodywork, the choice of the future main buses for the fleets and the choice of the type of minibus, the decision on when to replace a bus, the decision on how many buses to buy and finally the investment in buildings.

### Level of investment

6.2. Investment in buses, plant and other items over the last five years is shown in Table 6.1. The purchase of buses accounted for 86 per cent of expenditure over these five years. Buildings accounted for a further 7 per cent of expenditure.

TABLE 6.1 **Ulsterbus and Citybus: capital expenditure**

*Current prices, £'000*

	<i>Financial year ended March</i>					<i>Total</i>
	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	
Buildings	577	408	107	97	626	1,815
Buses and other vehicles	3,210	3,136	3,641	3,738	7,464	21,189
Plant and machinery	158	361	306	278	596	1,699
Total	3,945	3,905	4,054	4,113	8,686	24,709

*Source:* Ulsterbus and Citybus.

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*Note:* The bus purchases are before the 50 per cent capital grant.

6.3. The companies' forecast of capital expenditure over the next four years is shown in Table 6.2. On the basis of these figures investment in buses and buildings will stay in roughly the same proportions. Although building investment is projected to decline, no provision has been made for buildings that are currently only in their planning stage.

TABLE 6.2 **Ulsterbus and Citybus: forecast capital expenditure, 1986 Corporate Plan**

*£'000*

	<i>Financial year ended March</i>				<i>Total</i>
	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>	
Buildings	1,050	550	50	0	1,650
Buses	5,125	5,125	4,145	4,145	18,540
Flexibus (private hire)	180	180	180	0	540
Total	6,355	5,855	4,375	4,145	20,730

*Source:* Ulsterbus and Citybus.

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*Note:* The bus purchases are before the 50 per cent capital grant.

6.4. There were only three investments over the period 1983/84 to 1987/88 with a total cost of more than £150,000: a new depot at Dungannon (£1 million), a new bus station at Londonderry (£648,000) and the Wayfarer ticketing system (£311,000). All of these projects were in Ulsterbus.

### *Bus investment*

6.5. The vehicles in service on 1 October 1988 are shown in Table 6.3. Ulsterbus had 963 vehicles in service at this time. These were mainly Leyland Tigers and Leopards and Bristol RELL buses. Citybus had 305 buses in service at this time. These were almost all Bristol RELL buses. Walter Alexander & Co (Belfast) Ltd (Alexander) has carried out most of the bodywork for Ulsterbus (851 buses out of 963) and nearly all the Citybus work since Citybus was joined with Ulsterbus (in total 261 out of 305 buses). Except for the minibuses many of the other types of buses and bodywork came into the fleets through the purchase of new models for trials, through the purchase of second-hand vehicles or from taking over the Sureline bus company's fleet.

TABLE 6.3 **Vehicles in service with Ulsterbus and Citybus on 1 October 1988**

<i>Ulsterbus</i>		<i>Citybus</i>	
Coaches	44	Coaches	2
Double-deck buses	29	Double-deck buses	6
Single-deck buses	869	Single-deck buses	297
Minibuses	21	Total	305
Total	<u>963</u>		
<i>Of which:</i>		<i>Of which:</i>	
Leyland Leopards	317	Bristol RELL	279
Bristol RELL	184		
Leyland Tigers	362		
Bedford	40		
Mercedes 609D (minibuses)	17		
Leyland Atlantean (double-deck)	29		
Others	14		

*Source:* MMC based on data from Ulsterbus and Citybus.

6.6. The average age of the total Ulsterbus fleet in October 1988 was 7.2 years and of the total Citybus fleet 9.2 years. The companies' planned average bus life is 13 to 14 years and an average age of some 6½ to 7 years might have been expected. However, the companies have extended the life of older buses and bought second-hand buses to cover for the buses that have been destroyed, and this has increased the average age.

6.7. The projected purchases of buses and average fleet ages (single-deck and minibuses) over the next three years are shown in Table 6.4. Actual purchases will vary depending on the circumstances at the time. The bus-purchasing plans are projected to lead to some decline in the average age of the fleets, but this does not allow for any buses that may be destroyed over this period.

TABLE 6.4 New bus purchases and the average age of the fleets

	<i>Actual</i>		<i>Projected</i>	
	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>
<i>New bus purchases</i>				
Single-deck buses:				
Ulsterbus	69	105	30	30
Citybus	18	42	25	25
Minibuses	22	40	60	60
<i>Average age of fleets in years</i>				
Single-deck buses:				
Ulsterbus	7.37	7.11	6.33	6.73
Citybus	9.18	8.85	7.56	7.34
Minibuses	0.69	0.90	1.20	1.51

*Source:* Ulsterbus and Citybus.

6.8. Recent Ulsterbus purchases have been mainly Leyland Tigers; Leyland Leopards and Bristol RELL buses are no longer produced. Citybus has had a lull in its purchasing following relatively high purchases between 1975 and 1981. At present it is buying Leyland Tigers. Typically, single-deck bus chassis are costing around £30,000 to £35,000, and the bodywork is costing around £25,000 to £30,000.

### *Grants for buses*

6.9. Ulsterbus and Citybus obtain a 50 per cent grant for new buses (see paragraphs 4.10 and 4.11). This form of grant has been phased out on the mainland. However, Ulsterbus and Citybus receive no route subsidies. The grant is viewed as a general network subsidy by the companies and by the DOE (NI). By its nature the grant provides an incentive for the companies to run more services. However, the companies have not taken account of the grant in the past in assessing whether services are profitable or not.

6.10. Linking the subsidy to the number of buses bought could encourage the companies to run a bus-intensive operation. The companies told us, however, that the grant did not change their purchasing decisions. In fact the DOE (NI) has been encouraging the companies to retire their buses later, contrary to the economic incentive implicit in the grant.

6.11. Ulsterbus and Citybus are also compensated for the loss of buses through civil disorder (see paragraphs 4.12 and 4.13).

6.12. Ulsterbus and Citybus, in line with bus companies in Great Britain, receive a rebate for the duty they pay on fuel used for their stage carriage services. However, they do not receive the rural bus grant payable in Great Britain.

### **Choice of buses to be bought**

6.13. There are a number of distinct, although interconnected, choices to be taken in deciding on the buses to be bought: choice of bus type and size, choice of chassis, choice of bodywork, the decision on when to replace a bus, and the decision on how many to buy. The discussion below covers these in turn.

### **Choice of bus type and size**

6.14. Ulsterbus and Citybus mainly buy single-deck buses. In Ulsterbus these are mainly fully seated with between 49 and 53 seats. In Citybus about three-quarters of the fleet are 'standee' buses with fewer seats, but with a greater total capacity to help cater for peak demand (see Chapter 10).

6.15. The companies told us that they considered the single-deck bus preferable to the double-deck bus. Double-deck buses cost at least 50 per cent more to buy and run, and could only carry about six to ten more people in total, depending on the layout. It was also more difficult to control vandalism on the upper deck and the stairs were difficult and dangerous to climb. The companies also expressed concern about the extra cost of replacing double-deck buses if they were destroyed.

### **Choice of chassis**

6.16. The choice of chassis for the companies depends on balancing various considerations. The most important of these are the general layout of the chassis, including disposition of the main units, the cost of the chassis and spares, the benefits of standardising the fleet, the costs and benefits of a single or dual source, the appropriateness of the chassis for the companies' service needs, the reliability of the manufacturer and the technical back-up they provide, and the expected life and maintenance costs of the chassis.

### *Standardisation*

6.17. It is an Ulsterbus and Citybus policy to standardise the fleet to reduce the number of spares needed and to streamline maintenance. Because the depots are a considerable distance apart in Ulsterbus it is of benefit if spares can be kept close to the bus and work carried out locally. Buses come into the central workshop for planned maintenance three times in their life (it is hoped to reduce this to two).

6.18. Ulsterbus and Citybus work closely together when deciding on which bus to buy, to ensure the highest practicable standardisation. In the past they have bought buses from Leyland. Over the last five years the main bus bought has been the Leyland Tiger which replaced the previous Leopard model. Previously for city-type services in both companies the Bristol RELL had been bought. No direct replacement for this model has yet been selected.

6.19. No financial evaluation has been undertaken of the benefits of standardisation. But the companies are very aware of the extra costs of introducing new models, for example the need for more spares.

6.20. The companies have carried their policy of standardisation over to second-hand purchases. As far as possible the second-hand buses that are bought are compatible with those in the fleet already.

### *Choice of the future fleet bus for Ulsterbus and Citybus*

6.21. Up to now Ulsterbus and Citybus have bought their chassis from Leyland, with either Leyland or Gardner engines. Ulsterbus has not favoured foreign manufacturers in the past but it has kept an eye on such manufacturers. It seriously considered Volvo a few years ago and is presently considering purchasing buses from a foreign manufacturer.

6.22. The companies are currently in the middle of deciding on where to place their next orders for buses. Ulsterbus and Citybus are looking for two types of buses, a mid-engined bus for non-city services and a rear-engined or mid-engined type for urban use. For rural work Ulsterbus prefers a mid-engined vehicle; this can have a boot at the back which is more convenient for parcel traffic than a side boot on a rear-engined vehicle, particularly on narrow country roads. In fact Ulsterbus gave a number of reasons why it prefers the mid-engined vehicle:

- (a) the weight is evenly distributed between the axles and hence the brake wear is balanced between the axles;
- (b) it is a kinder environment for the engines;

- (c) the engine is nearer to the driver which results in less transmission wear;
- (d) the same layout can be used for both luxury or express coach and stage carriage services; Ulsterbus has had standardised chassis for all these uses in the past; and
- (e) it offers the maximum potential for standardisation of the fleet.

6.23. In urban and high-density areas the low platform access on to a bus is preferred by the companies. This is more convenient for people to board and alight and helps ensure a quick and convenient service. Rear-engined buses are designed so that at the front the platform is close to the pavement allowing low access. An alternative to this is to have a mid-engined vehicle that has a kneeling suspension at the front allowing the front of the bus to be lowered at the stop. Leyland has developed a bus for the companies by fitting kneeling suspension to the 'Tiger' and the prototype is being tested by the companies.

6.24. The companies obtained quotes from a number of major suppliers for both the mid- engined and urban bus. In the case of the mid-engined bus Leyland was still seen as the best option for their current needs. For the urban bus they are still considering an alternative supplier. Although the use of another supplier would involve the additional cost of carrying new types of spares and of redesigning the bodywork, the companies believe it could have benefits in the longer term. The companies may have more security with two suppliers and they may be in a better bargaining position.

6.25. No financial appraisal has been undertaken comparing the total estimated whole-life cost of the options considered, taking into account the need to carry spares. The companies do not use financial appraisal techniques such as discounted cash flow in this area. They consider that they have only limited usefulness.

### *Minibus investment*

6.26. The companies' current minibus fleet has around 40 vehicles (mainly on private hire work through their Flexibus subsidiary). The companies have recently put in an order for 40 minibuses, with the final choice being a Mercedes chassis with bodywork by Robert Wright. Before making the choice the companies had obtained experience from running various types of minibuses in their fleet over the last three to four years. Also the companies' engineers had had close contacts with bus companies on the mainland and were able to benefit from their experience with running minibuses.

6.27. The companies had the choice of four vehicles, two cheaper and two more expensive. They decided to go for one of the more expensive vehicles because this gave them a larger vehicle with a greater life expectation.

6.28. No formal investment appraisal was undertaken of the options (eg involving a financial assessment of the options under various assumptions about vehicle life). The companies told us that intensive consideration had been given in an informal way. Importance is placed by the companies on the reliability of vehicles, particularly as they are based over a wide geographic area.

6.29. No account has yet been taken of the effect of minibus purchases on the future fleet and maintenance requirements. The companies wish first to take stock of the operational viability of the 40 minibuses on order.

### **Choice of bodywork**

6.30. The companies have bought nearly all their bus bodies from Alexander. They see this as giving them advantages both from the ability to standardise all the bus bodies and from the proximity of a local supplier. The same arguments for standardisation of chassis apply to the bodywork. The companies have standardised on such things as window size to keep down the cost of replacing broken windows. The companies are also able to monitor closely the quality of the work.

6.31. The companies told us they considered that Alexander was among the best body-builders in the United Kingdom and that the price obtained was competitive. They had rarely sought quotes from other body-builders but they said that other suppliers realised there was little or no opportunity to break into the Northern Ireland market and it would therefore be difficult to obtain realistic quotes from them. Instead the companies had monitored prices paid by other people through personal contacts.

6.32. The companies have in the past erred on the side of simplicity in design of the bodywork. They said that quality, in terms of life expectancy, had not been sacrificed. Modifications to the bodywork were currently being considered (see Chapter 11).

### **Decision on when to replace a bus**

6.33. For planning purposes the companies assume that buses will have a life of 13 to 14 years. They explained that this was the norm for a bus life on the mainland before deregulation. In practice a bus may be retired before or after this date depending on its condition. Also the companies have extended the life of some buses to cover for those that have been destroyed. At present buses are being withdrawn at an average age of between 15 and 16 years, and some have been kept going until they are up to 20 years old.

6.34. We asked the companies to assess what the maintenance costs would be of extending the average target life of a bus, or what the savings would be from reducing it, in order to assess whether the bus life they aim for is reasonable. The companies did not provide this information. They suggested that, to assess their policy, it would be more appropriate to compare their total costs of running a fleet with that of other bus companies.

6.35. The companies do not at present collect information on the whole-life cost of their buses. The decision on when to replace is based on the detailed knowledge of the engineers, although no formal criteria are used. The companies told us they did not consider that whole-life costing would be helpful, although they accepted the need to put their records on a computer to permit analysis of the costs. Their argument was essentially that the decision on when to retire a bus needed to be taken on an individual basis, bus by bus, and that it was not possible to predict the life of a bus, particularly given changes in technology. They also said that owing to the destruction of buses in civil disorder they had not often had the luxury of deciding when to retire a bus, and the use of whole-life costing would be rather academic. The companies said that they would not retire a bus before the end of its useful life.

6.36. The companies commissioned a consultant to report on whether their practices were in line with the bus industry in general. This report suggested that the age when buses are retired by the companies was in line with that in similar companies in Great Britain, and that 'it would be unwise to intentionally keep buses for longer'.

6.37. The companies use the 13- to 14-year life target in order to design an optimal maintenance plan for a bus. They believe that it matters less whether the target life is finally 13, 14 or 15 years than that maintenance expenditure is phased down towards the end of the life. Their aim is to minimise maintenance expenditure when the benefits will be limited. Modifications to buses are carried out early in their life, once experience has been gained from running them, in order to reduce maintenance costs later on.

6.38. No financial analysis has been undertaken to assess whether the companies' maintenance policies are optimal, or to judge whether the modifications undertaken early in the life of the bus are justified. However, the companies are now putting together information to enable them to evaluate their policies.

### **Decision on how many buses to buy**

6.39. In estimating the number of buses needed for the fleets it has been assumed that peak demand will not change significantly. It is expected that the increase in the number of schoolchildren with Education and Library Board passes will compensate for any decline in the number of other peak passengers. The fleets have remained almost static over the last ten years and are expected to increase only a little over the next five years with the introduction of minibuses. The companies said they did not believe that any likely future changes in demand would have very significant effects for the fleet requirement and they did not consider it necessary to undertake demand projections. The fleet requirement includes engineering spares and a reserve fleet (see paragraphs 7.35 and 8.33).

6.40. The bus-purchase plans are affected by buses being destroyed. The buses destroyed are replaced at first by other buses in the fleet, normally older buses from the reserve fleet. This increases the average age of the fleet and thus increases the number of new buses that need to be bought if the average age of the fleet is to be maintained. No specific allowance is made in the plans for the losses. This was considered in the past but it was felt that the number of losses was too uncertain for this to be useful. Instead the companies adjust their plans as the impact of the losses feeds through. For example, in 1987 the Board approved an additional 30 buses because the average age of the fleet was seen to be getting too high. The number of buses destroyed has varied considerably (see paragraph 4.12).

6.41. It is the aim of the companies to have an even purchasing policy as far as possible. This spreads the workload for the introduction of new buses, and evens out the workload for the body-builder. As each bus is introduced into a depot, another bus may be moved from that depot to another to help keep each depot's fleet balanced.

6.42. Bus chassis are bought in batches from Leyland and are sent to Alexander for the bodywork. The companies aim to have around 20 chassis in stock (excluding work in progress) at Alexander's factory to ensure a continuous flow of work through the factory. No financial assessment of the costs and benefits of this policy has been undertaken. The companies can claim their 50 per cent bus grant against the cost of the chassis when they are bought, less 10 per cent which is kept back by the DOE (NI) until an audit is undertaken.

6.43. The purchase of buses for Citybus has not been as even as would be desired recently because a large number of new vehicles were bought between 1975 and 1981 and it was not necessary to purchase any more for a few years.

### **Investment in buildings**

6.44. The two latest major building projects to be completed are Londonderry bus station and Dungannon bus station and depot. The planned buildings programme is shown in Table 6.5. Currently work is being undertaken at Great Victoria Street bus station and Monkstown depot. The Great Victoria Street bus station is being replaced by a multi-purpose development comprising bus station, multi-storey car park and possibly a rail link. This is a joint development with the NITHC. The Oxford Street station is considered to be out of date and ill-designed and is planned to be replaced. The Belfast Council also wants to redevelop the Oxford Street site into a civic building. The companies are presently looking for another site. New bus station buildings at Omagh and Newtownards are in the pipeline and work should start on these within the next year. Plans for new bus stations at Armagh and Newry have been delayed because of problems in obtaining land. Major refurbishments are being undertaken to improve facilities, particularly indoor waiting facilities.

TABLE 6.5 Building programme-major works, 1989 to 1993

	£'000					
	1989	1990	1991	1992	1993	Development
<i>New developments</i>						
Monkstown depot	1,400					New depot
Gt Victoria Street station	750					Replacement station
Oxford Street station		1,500	150			Replacement station
Newtownards station	200	50				Replacement station
Magherafelt depot	300	300				Replacement engineering facilities
Bangor station		200	250			Replacement station
Omagh station	200	250				Replacement station
Newry station	50	100				New building
Armagh station		150	200			Replacement station
<i>Major refurbishment</i>						
Enniskillen depot	75	50				Improvement
Head Office	300					Refurbishment
Newry station	75	25				Refurbishment to improve passenger facilities
Larne station			50	40		Provide indoor waiting facilities
Coleraine station				50	40	Provide indoor waiting facilities
Ballymena station		20				Provide indoor waiting facilities
Ballyclare station					60	Provide indoor waiting facilities
Downpatrick station				25	75	Provide indoor waiting facilities
Cookstown sub-depot	15	10				Refurbishment
Lisburn depot			25	25		Refurbishment
Ballynahinch sub-depot	25	25				Refurbishment
Planned maintenance	<u>250</u>	<u>250</u>	<u>150</u>	<u>150</u>	<u>250</u>	
Total	3,640	2,930	825	290	425	

Source: Ulsterbus and Citybus.

6.45. The majority of Ulsterbus and Citybus premises are owned by the NITHC and leased to Ulsterbus and Citybus, although the companies now pay no rent to the NITHC. Ulsterbus and Citybus own no freehold property themselves. However, the companies are financing all the rebuilding programme of their stations and depots. In the past, following the completion of a building, ownership had been 'transferred' to the NITHC to extinguish an unsecured loan made in 1967.

6.46. The need for new buildings is agreed between Area Managers and the Managing Director and subject to Board approval.

6.47. The companies inherited many of their buildings, very few of which were considered adequate, and there is an ongoing programme of replacement. Many of the garages were built in the 1930s and are now in poor condition. Typically one depot or bus station has been rebuilt each year but it is intended to speed up the programme over the next few years to two or three each year. Priority in the building programme depends on how busy the bus stations are, the design and age of existing buildings, and on whether demand has outgrown the capacity. Priority is given to the safety of the public. For example, in the case of Newtownards the station is too small and its design means that the public walk across the yard and between buses to reach the one they want, and buses have to park outside the station. Ulsterbus has acquired land around the existing site and will enlarge the bus station to cope with the demand.

6.48. Apart from the obvious need to replace those old buildings needed for essential maintenance on buses, investment in buildings is to a large extent discretionary and should bring a return. A station will have operational advantages, and the provision of dry and warm waiting facilities, somewhere to buy food and drink, toilets and telephones (if provided) will help attract more passengers. Also where a station is in a town centre money can be made from leasing parts of the buildings and, for example, from advertising hoardings.

6.49. The companies do not normally undertake investment appraisal of their building programme. Although they have recently built new stations with carefully considered designs with

the purpose of 'enhancing their image', they do not consider that a new bus station will have a noticeable effect on passenger demand, at least in the short term. They also consider that a new station provides benefits that cannot easily be assessed, such as its amenity value and the reduction in congestion from not having buses boarded off the main streets.

6.50. The companies have chosen to go for 'basic' buildings using 'standard' materials appropriate to the nature of the buildings. Buildings have been designed to deal with current levels of demand. The companies said there was no evidence to indicate that public transport usage was likely to increase.

6.51. The level of investment in buildings has depended on the other demands on the companies' funds. The 1986 five-year plan stated, 'Buses have always come first, buildings second. The years when profits were high building activity was increased, and when profits were low activity was curtailed'.

6.52. The order in which the buildings are built has to a certain extent 'chosen itself'. Planning difficulties and the availability of land can hold up some buildings whilst opportunity allows others to go ahead. For example, the rebuilding of the station at Newtownards became possible when land on either side of the current site became available.

## **CONCLUSIONS AND RECOMMENDATIONS**

6.53. We were asked in the terms of reference to consider the companies' methods for determining the nature, amount and timing of capital expenditure, especially those relating to the replacement of vehicles, and the extent (if any) to which decisions thereon have increased efficiency or reduced costs. The main areas we considered were the choice of chassis and bodywork and the decision on when to retire a bus. The efficient use of buses is considered separately in Chapter 8. We believe that the companies' policy of standardisation has reduced costs. But this does not preclude the companies from going to two main suppliers, one for each of the main chassis types they need, and we think the companies are right in looking at a second supplier. Our main concern is the lack of quantification of data supporting both the companies' choice of bus and their maintenance and retirement policies. We have no reason to believe that past decisions have been wrong but we feel that the companies need to assess more fully the financial implications of each choice in the future and to develop better information to assess their maintenance and retirement policies. Our specific findings are given below.

### **Financial appraisal of investment**

6.54. Ulsterbus and Citybus carry out very little financial appraisal of investment, and in the past have not used such techniques as discounted cash flow or net present value to help evaluate their investment choices. Investment decisions have been based on personal knowledge and experience with little quantification of the costs and benefits of various alternatives. Although it is not possible to quantify everything and personal knowledge and experience are very important, we believe there is a danger that the lack of quantification and of formal appraisal techniques could lead to the inefficient use of resources and poor investment choices. The companies have carried out some evaluation of new bus routes.

6.55. One area of particular concern is the choice of the type of chassis to buy. This involves the balancing of the initial capital cost of a bus, the expected cost of spares and maintenance, any necessary redesign of the bodywork by Alexander, any extra cost of carrying spares, and the differences in the expected lives of buses. All these factors can be quantified to varying degrees of accuracy, and the use of discounted cash flow techniques would allow the companies to balance the various advantages and disadvantages together. Other factors would clearly bear on the decision and the companies rightly put a high value on the future reliability of the supplying companies involved, on the advantages and disadvantages of having two sources, on the appropriateness of the design for use in the conditions obtaining in Northern Ireland, and on the implications for passenger comfort

and passenger facilities. But the use of financial appraisal techniques would allow these factors to be weighed against the financial costs and savings.

6.56. In making these points we recognise that the level of detail and sophistication of investment appraisal necessary will vary with the size and importance of the project concerned. We therefore recommend that the companies should:

- (a) carry out investment appraisals for decisions on chassis type, engine type, bodywork, and other major technical considerations, and for projects over £150,000 using the Treasury guidelines<sup>1</sup> as a guide to the methodology to be employed. The investment appraisals should be consistent with the financial framework within which the companies are working. The appraisals should include a financial assessment of the full cost to the companies of each alternative, including where appropriate any additional costs of carrying spare parts for buses, additional bodywork for buses, any bus modifications, and the implications for maintenance. The current choice of chassis, engine and bodywork should be reviewed periodically, at least every five years;
- (b) use systematic appraisal techniques in assessing the profitability of new services both before and after they are run; and
- (c) carry out post-completion audits on all appraisals.

### **Vehicle costing**

6.57. The companies do not undertake the whole-life costing of buses. We consider that this information is essential in planning bus life, in deciding when to replace an individual bus, in choosing between alternative buses, and in appraising the maintenance programme. Present worth techniques, for example, enable one to compare the weighted average annual costs of a bus retired at different dates, thereby indicating the point at which replacement becomes economic. We accept that whole-life costings are difficult to arrive at. But in choosing between different types of buses for the fleet we believe that whole-life costs are crucial and the companies should attempt to calculate them. A knowledge of whole-life costs is also important in the planning and evaluation of the best maintenance practice and updating profile for the buses. Moreover the companies' policy of updating buses early in their life to avoid costs later on needs to be evaluated. We accept that the use of whole-life costing in deciding when to replace a bus has been made more difficult for the companies by the destruction of buses in civil disorder. We therefore recommend that the companies should:

- (a) develop their information systems to allow them to estimate the whole-life costs of their buses on present policies and on a range of alternative lives;
- (b) review their planning assumptions for bus life in the light of this information;
- (c) review their policy on when to retire a bus in the light of the information on whole-life costs;
- (d) use whole-life costing in helping to assess which buses to buy for their fleet;
- (e) use whole-life costing as a contribution to identifying the best maintenance practice; and
- (f) carry out a financial appraisal of their policy of updating their buses early in their life to save costs later on.

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<sup>1</sup> Investment Appraisal in the Public Sector: A Technical Guide for Government Departments, HM Treasury, 1984.

## **Bodywork**

6.58. The companies' nearly exclusive use of Alexander for their buses needs to be evaluated more formally to ensure that this policy provides value for money. The companies hold a stock of chassis at Alexander to help ensure continuity of production. This policy ties up capital and its costs and benefits should be assessed. We therefore recommend that:

- (a) the costs and benefits of using Alexander should continue to be appraised and reviewed but on a more formal basis than at present; and
- (b) the policy of holding the current levels of stocks at Alexander should be assessed comparing the capital cost with the probable cost of disruption, and alternatives considered.

## **Bus grant**

6.59. The companies have not in the past taken account of the 50 per cent grant they receive for buses in deciding whether to put on a new route or service or take off an existing one. The grant they receive is intended to act as a network subsidy. We have been told by the DOE (NI) that by its nature it should encourage the companies to put on new services where the demand exists. We therefore recommend that the companies should take account of the grant in assessing whether services are profitable or not, and that they should take it into account when they are deciding whether to put on a new route or service or take off an existing one.

## **Building programme**

6.60. The companies do not undertake formal appraisal of their building programme. They have argued, for example, that it is not possible to assess the benefits of improving an existing bus station or building a new one. Although we accept that many of the benefits are difficult to assess we consider that there should be more consideration of alternatives, for example in deciding what passenger facilities should be provided. We therefore recommend that the companies should undertake investment appraisal of their building plans.