THE NATURE OF FREIGHT
Tyne and Wear
Final Report
Dec 2004
TYNE AND WEAR

THE NATURE OF FREIGHT

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1 INTRODUCTION
1. Introduction

1.1. INTRODUCTION
As a prerequisite to developing a realistic and deliverable freight strategy for the Tyne and Wear LTP 2 FaberMaunsell were commissioned to deliver a report detailing an understanding of the nature of freight transport in the area. In addition to this report aims to raise an awareness of the problems that freight transport causes and also the issues that the industry faces. Key to authority decision-making is knowing how the freight industry supports the economic activity of the area and how and when to positively prioritize freight and assist the industry to be more efficient.

1.2. BACKGROUND
The Freight team at FaberMaunsell has a wealth of understanding and knowledge concerning operational matters, impacts and policy relating to freight transport. This report provides a snapshot of the nature of freight movements in a selection of locations across Tyne and Wear and this should help support a reasoned and justified plan of action contributing to the LTP objectives. It is recognised from the outset that this piece of work should contribute to a better understanding of how freight transport operates in Tyne and Wear. Creating a better transport system is vital if the quality of life in the area is to be improved. Good transport networks enable people and goods to move around conveniently and efficiently, creating a more socially inclusive society and encouraging business to thrive. The transport system must be closely integrated with the patterns of existing and proposed development in the region. It is known there is a considerable amount of regeneration in the area. It also needs to help improve the environment by promoting greater use of more sustainable means of travel and more efficient ways of doing the moving the goods. The quality of connections to locations and markets outside the area is essential to the regeneration of the region. So the efficient use and operation of the region’s infrastructure including the ports, the railways and the main roads A1, A19 and A69 is vital. The region has a Regional Transport Strategy and is soon to publish its Regional Freight Strategy and what is clear is how important freight is to the region’s economy.

1.3. REPORT STRUCTURE
The structure of the report starts with Section 2 that discusses the methodology used to study the nature of freight in the area. This includes a discussion of specialised vehicle counts, lorry driver interviews and an operator survey as well as physical observation of the practical working of the industry. In Section 3 the information collected is portrayed in three ways, a review of the vehicles in use and for what purpose, an examination of the industry types and business that the vehicles are serving and a reflection on the behaviour of the industry. In Section 4 the 26 specialised vehicle counts are featured in detail with specific findings from each site and these are sorted into five groups by Local Authority. Section 5 contains the results from the lorry driver questionnaire that were conducted at ten different locations across the area.

The following Section 6 covers the operator views that were gained by observing telephone numbers of hauliers as their vehicles travelled through the area. The final Section 7 features the key themes that have emerged from the various different sources and our interpretation and recommendations.
2 METHODOLOGY
2. Methodology

2.1. INTRODUCTION
This section describes the methodology used in the surveys. It is split into three main parts as follows: -

• Specialised Vehicle Counts
• Operator consultation
• Driver Interviews

2.2. SPECIALISED VEHICLE COUNTS
Specialised vehicle counts were undertaken at 26 sites throughout Tyne and Wear. These were grouped by local authority area as follows: -

• North Tyneside – 5 sites
• Newcastle – 5 sites
• Gateshead – 6 sites
• Sunderland – 5 sites
• South Tyneside – 5 sites

The following table shows each site and reference number.

<table>
<thead>
<tr>
<th>Site Reference</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>NT1</td>
<td>A1058</td>
</tr>
<tr>
<td>NT2</td>
<td>Sandy Lane</td>
</tr>
<tr>
<td>NT3</td>
<td>Cobalt/Silverlink</td>
</tr>
<tr>
<td>NT4</td>
<td>N. Sea Ferries</td>
</tr>
<tr>
<td>NT5</td>
<td>A19 Tyne Tunnel</td>
</tr>
<tr>
<td>N1</td>
<td>No Car Lane, Percy St</td>
</tr>
<tr>
<td>N2</td>
<td>Central Mway, Manors Overbridge</td>
</tr>
<tr>
<td>N3</td>
<td>John Dobson Street</td>
</tr>
<tr>
<td>N4</td>
<td>A1 Seaton Burn</td>
</tr>
<tr>
<td>N5</td>
<td>Airport</td>
</tr>
<tr>
<td>G1</td>
<td>Felling By Pass, Gateshead</td>
</tr>
<tr>
<td>G2</td>
<td>Low Fell, Durham Road</td>
</tr>
<tr>
<td>G3</td>
<td>Askew Road</td>
</tr>
<tr>
<td>G4</td>
<td>Team Valley South</td>
</tr>
<tr>
<td>G5</td>
<td>Team Valley North</td>
</tr>
<tr>
<td>G6</td>
<td>Metro Centre</td>
</tr>
<tr>
<td>S1</td>
<td>Bridges Centre</td>
</tr>
<tr>
<td>S2</td>
<td>Port of Sunderland</td>
</tr>
<tr>
<td>S3</td>
<td>A1231 Nissan</td>
</tr>
<tr>
<td>S4</td>
<td>A690 No Car Lane</td>
</tr>
<tr>
<td>S5</td>
<td>A1231 Wessington Way</td>
</tr>
<tr>
<td>ST1</td>
<td>Port of Tyne</td>
</tr>
<tr>
<td>ST2</td>
<td>South Shields Mile End Road</td>
</tr>
<tr>
<td>ST3</td>
<td>Sunderland Road</td>
</tr>
<tr>
<td>ST4</td>
<td>A19 Jarrow</td>
</tr>
<tr>
<td>ST5</td>
<td>South Shields Westoe Road</td>
</tr>
</tbody>
</table>

Counts were programmed for a three-hour period when a representative sample of freight transport would be using the route. Normally, this was during the morning peak period between 0700 and 1000. For each freight vehicle, information was recorded as follows: -

• Vehicle age from registration letter/number;
• Direction of travel;
• Vehicle type;
• Vehicle size; and
• Industry type derived from body type/vehicle markings.

This information initially allows us to form a detailed impression of the patterns of freight movement at each site and across the study area. In addition to the statistical analysis, survey staff were also instructed to take notes of observations at each site. This provides a valuable insight into the true nature of the road and traffic to add depth to the raw statistical analysis.

The specialised vehicle counts are analysed, on an area wide basis, in Section 3 and in detail, on a site-by-site basis, in Section 4.

2.3. DRIVER INTERVIEWS
Driver interviews were undertaken at 10 sites throughout Tyne and Wear, 2 in each local authority area. A variety of site types were surveyed, covering truck stops, town centre delivery points, industrial estates, Newcastle airport and seaports.

The interviews were conducted using a questionnaire form designed to focus discussions yet leaving the interview “open” to maximise the information gained.

Examples of the type of information gained were: -

• Vehicle and company details;
• Lorry park usage patterns;
• Driver destination/route information;
• Truck facilities;
• Opinions on parking facilities, signing etc.
• Percentage of empty running

The driver interviews are summarised as part of the area wide analysis in Section 3 and analysed and covered in more detail in Section 5.

One of the problems obtaining interviews with lorry drivers is that not infrequently they are very rushed with great pressure for deliveries still to do. They are also cautious of someone approaching them, as regrettably there are instances of theft from lorries whilst the driver is distracted.

Our interviewers are responsive to these factors and in several cases actually conducted the interviews whilst the driver continued to unload the goods. There was only one location when it proved impossible to conduct any interviews and that was at Houghton Le Spring and that was because there was such a small area available for drivers to stop to make their deliveries that they felt under pressure as other drivers were waiting. Nevertheless a sizeable number of drivers have been interviewed and their comments are featured in Section 5.

2.4. OPERATOR CONSULTATION
During each specialised vehicle count company names and contact details were logged where
possible to allow operators to be consulted by means of a telephone interview.

These interviews were designed to be open ended to allow the most information to be gained during each call but typical information gained was as follows:

- Business type and extent of operation;
- Fleet size and nature;
- Supply chain details;
- Engine standards and vehicle replacement policy;
- Routeing and scheduling methodology;
- Communications; and
- Problems and constraints in area.

The operator consultations are summarised as part of the area wide analysis in Section 3 and separately analysed on a site-by-site basis in Section 6. It can be difficult to engage Fleet Operators in discussion particularly as transport offices are usually very hectic, through repeated approaches and a sensitive attitude the project team managed to talk to a good number of transport professionals and this provides the basis for a meaningful analysis.

2.5. RECOMMENDATIONS

Following the collection of all the data, it was then analysed in detail and brought together into key themes for interpretation and development into possible recommendations. These recommendations provide scope for further discussion and action.

Many of these themes are topical subjects of national debate including congestion, lorry routing and the driver shortage. Other themes emerging are more local in interest including specific urban access, "no car" lanes, lack of lorry parking and driver facilities and road signing.
3 AREA WIDE ANALYSIS

![Image of trucks and roadways]
3. Area Wide Analysis

3.1. INTRODUCTION
This section of the report provides an analysis of freight issues across the entire Tyne and Wear region drawing from all elements of the data collection exercise. It includes a basic summary of the data collection, and analysis of what freight traffic there is on the roads, who operates this freight traffic and how it behaves.

3.2. BASIC SUMMARY
The basic details of the data collection are as follows:

- The Specialised Vehicle Counts were made at 26 sites – 7760 vehicles were recorded;
- The rate of vehicles recorded at the Specialised Vehicle Count sites ranged from 6 per hour (20 Vehicles over the count period) to 250 per hour (760 vehicles over the count period);
- Operator Communication – 58 interviews were made; and
- Driver Surveys - 90 interviews were made at 10 locations across Tyne and Wear.

Industry feedback from operators and drivers generally revealed that:

- The majority of respondents were open and helpful;
- People in the industry busy but willing to cooperate again; and
- The freight industry is looking for improvement and action.

3.3. FREIGHT VEHICLES
This section analyses the nature of freight traffic across Tyne and Wear. It includes a discussion of the types of vehicles seen in Tyne and Wear on both an area wide and road type basis together with a discussion of vehicle ages and engine types.

3.3.1. AREA WIDE VEHICLE DISTRIBUTION
The chart below shows the distribution of vehicle proportions observed at every count site across Tyne and Wear. It can be seen that 18 tonne mgw vehicles, often used for shorter regional or sub regional runs, were the most frequently observed, representing about a third of vehicles seen. Over a quarter of the vehicles were 40/44 tonners, more characteristic of national and international freight movements.

The sites in each Local Authority area were chosen to provide a fair reflection of general freight movements in each area and the data also shows that this general vehicle profile is exhibited in each of these separate areas. The profiles at each count site are shown at figure 3.1.

3.3.2. VEHICLE DISTRIBUTION ON DIFFERENT ROAD TYPES
Whilst the general vehicle distribution is uniform throughout Tyne and Wear, there are quite different profiles exhibited across different road types within the region. This section discusses the derivation of these profiles. These would have a role in predicting the likely make-up of freight traffic in other locations with which to compare actual results.

The first part of this process was to allocate each site to a particular road type. This was done by initially considering the situation of the road in the wider road network. Following this the vehicle type profile of each site was considered in order to remove any anomalous sites from the calculation.

The following road classifications were used:

- Urban – typically town or city centre sites.
- Inter-urban – higher capacity and volume roads but not part of the wider strategic road network.
- Arterial – arterial routes into town or city centres.
- Trunk – the wider strategic or trunk road network.

Although it can be seen that a small number of sites have not been assigned a classification because they did not fit the general pattern seen across the rest of Tyne and Wear, the vast majority of roads did match expected traffic patterns.

**URBAN ROUTES**
Sites N1, N3, S1, ST2 and ST5 have been included in this calculation. The average vehicle profile for these sites is provided below.

The typical vehicle profile for urban roads is characterised by the large proportion of smaller freight vehicles, with over 60% of vehicles 7 and 18 tonnes. This lighter traffic is associated with deliveries to smaller scale businesses within town and city centres, such as restaurants and non-food retail outlets. It is also likely that operators...
purposely use smaller freight vehicles for city centre based trips due to the difficulties in working with large vehicles in town and city centre areas.

**INTER URBAN ROUTES**

Sites G1, G3, N2, NT1 and NT2 have been included in this road classification. The average vehicle profile is provided below.

It can be seen that the vehicle profile for inter-urban routes is somewhat flatter than for the urban routes reflecting the wider “market” served by these routes. Inter Urban routes would typically be used by lighter vehicles heading for town and city centres and heavier vehicles accessing the trunk road network and destinations such as industrial estates and retail parks.

Inter Urban routes are also generally suitable for all sizes of vehicle. 18 tonners are still the most common size of freight vehicle observed on these route, accounting for around one-third of all vehicles seen with the remaining vehicle types generally evenly represented.

**ARTERIAL ROUTES**

Two sites were located on typical arterial routes – G2 on the A167 in Low Fell and site S4, the A690 no car lane. The vehicle profile is provided below.

The profile is very similar to the profile for urban roads, only with slightly more 40/44 tonners and slightly fewer 18 tonners. This makes sense, with arterial routes likely to service a wider market that urban routes. In general however, the freight character of arterial routes is very similar to urban routes.

**TRUNK ROADS**

Sites G6, N4, NT5, S5 and ST4 were included in the Trunk Road classification. The average vehicle profile for these sites is provided below.

Whilst 18-ton vehicles are again frequent, it can also be seen that 40/44-ton vehicles are very prominent in this distribution. This is a logical outcome, since 40/44-ton vehicles are generally involved in national and international journeys on the Trunk Road network.

**SEAPORTS**

Three of the sites surveyed were adjacent to ports or ferry terminals, sites NT4 (North Sea Ferry terminal), S2 (Port of Sunderland) and ST1 (Port of Tyne). Whilst not fitting in the four general road classification types it is interesting to note from the profile below that the vehicle distribution for Seaports is very similar to the Trunk Road distribution, with the number of heavier vehicles prominent. This confirms that seaports in Tyne and Wear are generally catering for strategic traffic and emphasises the importance of appropriate access routes for seaports generally.

**3.3.3. VANS**

There was a record number of vans registered in 2003 with over 300,000 new vehicles in UK. The trend of home deliveries and internet shopping, the fact that deliveries can be made by non-HGV licensed staff, extra competition in parcel deliveries and the change from heavy industry to scientific lightweight production has driven the demand for vans.

In general, traffic volumes were too high to include all details of small vans in the full vehicle counts, with normally a simple count of van volumes being made. At sites where this count was made 4290 vans were observed with 4908 larger freight vehicles recorded. Therefore vans made up a considerable proportion (47%) of total freight volumes. On a site by site basis, this figure varied from 22% to 77%.

During the specialised vehicle surveys registration plate and industry information was collected for over 1500 vans. This section presents a brief analysis of this information.
VEHICLE AGES

The average age for vans is 4.2 years. This compares with an overall Tyne and Wear average for “heavy” freight of 4.7 years. The vehicle age distribution shown below shows that there is a high proportion of “Euro 3” engines which accounts for this low average age.

It is possible that the less prohibitive costs of vehicle replacement or less effective maintenance programs mean that vans tend to be replaced more frequently than heavier freight.

INDUSTRY TYPES

The chart below shows the industry profile for vans. It can be seen that the general distribution and building industries make up the majority of vans traffic, accounting for nearly 70% of all vans recorded. The retail and parcels industries are the most prominent of the remainder.

Small vans are a cost effective and flexible vehicle ideally suited to smaller building and distribution operations, of which there are many in the Tyne and Wear area. They also have a useful application for town and city centre deliveries. This explains the shape of the industry distribution.

CONCLUSIONS

• Van traffic makes up a large proportion of freight traffic in Tyne and Wear.
• Vans are generally newer vehicles than heavier freight, possibly due to the less prohibitive costs of replacement or less comprehensive maintenance programs.
• They are generally linked to the general distribution or building industries.

3.3.4. VEHICLE AGES

From the outputs of the Specialised Vehicle Counts it is also possible to gain a picture of freight vehicle ages and profiles throughout Tyne and Wear. The table below shows the average vehicle age for freight vehicles across the whole of Tyne and Wear and in each Local Authority Area.

<table>
<thead>
<tr>
<th>Authority Area</th>
<th>Average Vehicle Age (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYNE AND WEAR</td>
<td>4.7</td>
</tr>
<tr>
<td>North Tyneside</td>
<td>4.8</td>
</tr>
<tr>
<td>Newcastle</td>
<td>4.7</td>
</tr>
<tr>
<td>Gateshead</td>
<td>4.8</td>
</tr>
<tr>
<td>Sunderland</td>
<td>4.5</td>
</tr>
<tr>
<td>South Tyneside</td>
<td>4.6</td>
</tr>
</tbody>
</table>

The area wide average vehicle age is 4.7 years (within the “Euro 2” engine legislation period) and it can be seen that this remains broadly consistent for each Local Authority area. The location with the oldest fleet of lorries observed was A184 Felling Bypass with an average of 5.3 years and the youngest fleet was at South Shields where the average was just 3.8 years. These figures exclude the vans. Part of this difference in average is not coincidence and can be explained by the type of traffic and the fact that on average the retail businesses tend to renew their fleets more often than many other industry sectors.

The chart below gives a breakdown of engine legislation types across Tyne and Wear. It can be seen that 35% of vehicles seen were from the latest “Euro 3” legislation period (2001 onwards).

In support of this, the following table shows the proportion of Euro 3 vehicles in each Local Authority area. It can be seen that this proportion varies between 32% and 39% suggesting that the apparent excellent progress made in maintaining the freight vehicle stock area wide is repeated in each separate Authority area.

<table>
<thead>
<tr>
<th>Authority Area</th>
<th>Proportion of Euro 3 Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYNE AND WEAR</td>
<td>35%</td>
</tr>
<tr>
<td>Gateshead</td>
<td>33%</td>
</tr>
<tr>
<td>Sunderland</td>
<td>39%</td>
</tr>
<tr>
<td>Newcastle</td>
<td>32%</td>
</tr>
<tr>
<td>North Tyneside</td>
<td>33%</td>
</tr>
<tr>
<td>South Tyneside</td>
<td>37%</td>
</tr>
</tbody>
</table>

3.3.5. OTHER AREA-WIDE TRENDS

Figure 3.1 gives an illustration of the vehicle profiles at each site. This is an effective way of demonstrating how freight flow levels and distributions vary on a site-by-site basis. The main points that can be drawn from this figure are as follows: -
• Freight flows are greatest on the strategic road network. Sites such as the Tyne Tunnel, A1 and A19 show far greater flows than other sites.

• Freight flows in the centre of towns and cities are relatively small. This is the case for all town and city centre sites visited.

• Other sites have a varying total freight flow. This can be due to a number of reasons. For example the Team Valley industrial estate is a considerable size and shows high freight flows at both ends. It is interesting to note the difference in vehicle profiles between both ends of the site – this is thought to be due to differing land uses at each end of the estate.

• Site G6 (Metrocentre) exhibits a typically Trunk Road profile, yet the route doesn’t strictly form a part of the trunk road network. This suggests that the route is being used to avoid hold-ups or congestion elsewhere.

• It appears that the A167 route through Low Fell and Gateshead is used as an inappropriate “Rat-Run” by freight traffic to avoid the busier alternative A1 route. It can be seen from the profiles of sites G2 (Low Fell) and N2 (Manors Overbridge) that the distribution of freight vehicles is broadly similar, being relatively evenly balanced between all vehicle types. This suggests that the same type of traffic is using both of these routes.

• The three Seaports in the area, sites NT5, ST1 and S2 all exhibit similar vehicle profiles, being similar to Trunk Roads. However, the volumes of vehicles varies, with the ST1 (Port of Tyne) site experiencing far more freight traffic than the other two. The nature of each of the ports is explained in more detail in section 3.4.5.

3.3.6. CONCLUSIONS

• Goods vehicles are typically an appropriate size for the classification of road used.

• Area wide 18 ton and 40/44 ton vehicles are the most frequently observed vehicles. This vehicle type distribution is repeated across the area.

• There are distinct vehicle profiles for each road type.

• Vehicles are generally relatively new with this pattern repeated across the entire area.

3.4. FREIGHT OPERATORS

This section explores the nature of freight operators within Tyne and Wear. This includes a discussion of operator locations, fleet sizes and industries.

3.4.1. OPERATOR BASE LOCATION

Figure 3.2 provides a graphical illustration of the base location of operators interviewed. It can be seen that nearly half the operators consulted were Tyne and Wear based with a further quarter based elsewhere in the Northeast. The remaining quarter of operators were based elsewhere. This gives a clear insight into the extent of operations of many companies operating in Tyne and Wear, showing that many operators are local to the area. This has implications for issues such as routing and planning, knowledge of likely road conditions, short cuts, rat-runs and road signing.

3.4.2. DISTANCE FROM BASE LOCATION

The table below provides the average distance from base for each of the Driver Interview sites. It can be seen that the average distance from base to interview site was 107 miles across the region.

<table>
<thead>
<tr>
<th>Site No</th>
<th>Site name</th>
<th>Description</th>
<th>Average distance from base to point of driver’s interview (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD1</td>
<td>Birtley Truckstop</td>
<td>Truckstop of the A194(M)</td>
<td>165.1</td>
</tr>
<tr>
<td>GD2</td>
<td>Metro Centre</td>
<td>Out of town shopping centre</td>
<td>84.6</td>
</tr>
<tr>
<td>SD1</td>
<td>Sunderland Bridges Centre</td>
<td>Urban shopping centre</td>
<td>107.5</td>
</tr>
<tr>
<td>SD2</td>
<td>Houghton Le Spring</td>
<td>High Street</td>
<td>Not Available</td>
</tr>
<tr>
<td>STD1</td>
<td>Port of Tyne</td>
<td>North east coast sea port</td>
<td>25.3**</td>
</tr>
<tr>
<td>STD2</td>
<td>South Shields Centre</td>
<td>Town centre shopping centre</td>
<td>49</td>
</tr>
<tr>
<td>ND1</td>
<td>Eldon Square</td>
<td>Shopping centre in Newcastle</td>
<td>71</td>
</tr>
<tr>
<td>ND2</td>
<td>Newcastle Airport</td>
<td>Airport</td>
<td>67.8</td>
</tr>
<tr>
<td>NTD1</td>
<td>North Sea Ferries</td>
<td>Road to ferry terminal</td>
<td>260.4</td>
</tr>
<tr>
<td>NTD2</td>
<td>Silverlink</td>
<td>Industrial estate</td>
<td>135.4*</td>
</tr>
<tr>
<td>Y1</td>
<td>York Centre</td>
<td>Urban shopping centre</td>
<td>50</td>
</tr>
<tr>
<td>Y2</td>
<td>York Lorry Park</td>
<td>Outer ring road lorry park</td>
<td>150</td>
</tr>
</tbody>
</table>

* Silverlink excludes an Italian driver that would distort the figure
** Port of Tyne is low because it includes drivers based at the port

In order to provide some comparison of drivers interviewed in the Tyne and Wear region with another area where similar interviews have taken place; the average distance from York city centre and the York lorry park at the side of the strategic road network have been included.
The figures of average distances travelled from base to point suggest that drivers stopping at lorry parks and truck stops in and around the strategic road networks are likely to be travelling longer distances are more likely to, whilst drivers travelling stop in town centres are likely to have travelled shorter distances.

These findings can be supported with consideration to the type of operations lorry drivers undertake. Drivers making small local deliveries are more likely to travel smaller distances and are more likely to be making deliveries in and around town centres, hence the reason why the surveys conducted at sites such as South Shields and York centre gave low average distances travelled. Long distance drivers, making larger and less frequent stops are less likely to be willing to stray off the strategic road network for a break, especially as they might encounter congestion or other problems seen in many towns and cities.

3.4.3. FLEET SIZES

The chart below shows the fleet sizes of the operators interviewed and the proportion of vehicle controlled by operators of each size.

It can be seen that half the operators interviewed were medium sized (between 10 and 50 vehicles) with a further third small (less than the 10 vehicles). However, it is notable that while large and very large operators make up only 15% of the companies interviewed they are responsible for half of the vehicles recorded in the fleets contacted. This analysis graphically illustrates the importance of large firms on the freight industry.

3.4.4. AREA WIDE INDUSTRY DISTRIBUTION

The chart below shows the distribution of industry types throughout Tyne and Wear. Again, the area wide pattern is broadly repeated in each of the Local Authority areas. The chart shows that the general haulage and building industries were the most frequently observed with the remaining industry types distributed fairly equally.

The distribution of industry types has been analysed for each of the road type classifications as defined in Section 3.3.1. This is summarised below.

**URBAN ROADS**

Urban roads are characterised by the high proportion vehicles from the food and drink industry. The retail and parcels industries, which would operate a number of the smaller vehicles typically found, are also frequent. Since several industries are evident it is likely that operators from all industries purposely use smaller freight vehicles for city centre based trips.

**INTER URBAN**

The industry profile given below shows that the general distribution industry is responsible for the majority of freight traffic on inter urban routes with the level of building related traffic reflecting the current high level of development in Tyne and Wear and the importance of this industry to the regions economy. The variety of industry types observed is also a function of the typically higher traffic flows observed on these routes.

**ARTERIAL ROUTES**

The industry profile for arterial road below shows a great variety of industry types. It differs from the equivalent urban profile in that in that the building industry is the most frequent industry as opposed to the food/drink industry. This is reflective of the fact that there would be fewer cafes/restaurants etc. in arterial areas than in the urban areas.
and flat bed vehicles are all typical of the types of vehicles such as aggregate tippers, cranes, hiabs and wear associated with the building industry (23%). There is an considerable amount of building work BUILDING AND CONSTRUCTION the end of this section. Teesport. The specific port business is discussed at through the Port of Tyne or travels through this container business in the area either goes out by container on special skeletal trailers. Much of goods internationally both by articulated trailer and section. Within this sector is the movement of reasons for that are discussed in the manufacturing this PLCs ask hauliers to put some trailers in a brand image that run contracts on behalf of many of the same mould as Eddie Stobart with a strong featured highly particularly on the strategic network. This category of general haulage and distribution featured highly particularly on the strategic network and inter urban roads. There are several hauliers in the same mould as Eddie Stobart with a strong brand image that run contracts on behalf of many large public limited companies [PLCs]. Some of these PLCs ask hauliers to put some trailers in a specific livery but many businesses are content to use trailers running in the livery of the haulage concern. This often means the PLC business can remain virtually anonymous on the road and the reasons for that are discussed in the manufacturing section. Within this sector is the movement of goods internationally both by articulated trailer and by container on special skeletal trailers. Much of this container business in the area either goes out through the Port of Tyne or travels through Teesport. The specific port business is discussed at the end of this section.

BUILDING AND CONSTRUCTION

There is an considerable amount of building work ongoing around in the Tyne and Wear area, reflected in the level of traffic across Tyne and Wear associated with the building industry (23%). Vehicles such as aggregate tippers, cranes, hiabs and flat bed vehicles are all typical of the types of vehicle commonly used by the building industry. The volume of Tipper vehicles particularly was very high across the entire area, with no one area having a noticeably higher or lower number of building vehicles. It is likely that with regeneration and redevelopment in the region continuing space over the next few years that building vehicles will continue to have an impact on the regions’ road network.

FOOD AND DRINK

11% of vehicles observed were associated with the Food/Drink industry. In general these vehicles were observed in and around town and city centres. There were high proportions of these vehicles in at the central Newcastle and Sunderland sites with volumes of vehicles related to the industry reaching as high as 40% in central Newcastle. Food and drink vehicles generally comprise of lighter vehicles in town and city centres with 7 ton and 18 ton vehicles being typical.

Waste, Utilities And Emergency Vehicles

In this category all the movements of council vehicles, waste companies, telecoms, water, gas and electricity companies and emergency tenders were included. It was interesting in certain urban situations this category represented over 15 percent of traffic. Although many of the aforementioned companies use large numbers of small vans there is clearly a sizeable number of larger vehicles. The flows of this type of traffic vary considerably and a traffic count near a council depot or a refuse site would show a high level of localised traffic. Overall 10% of all observed lorries were in this category.

AUTOMOTIVE AND FUEL INDUSTRY

The automotive and fuel industry is responsible for 7% of the observed vehicles in Tyne and Wear. In particular the industry has an impact on the following areas: -

- In Sunderland the Port of Sunderland, Wessington Way and the A1231 all have large proportions of vehicles associated with this industry. This emphasises the nature of industries around the Sunderland area with the Nissan works and the Port all contributing to this.
- In South Tyneside, the roads near the Port of Tyne are well used by the automotive industry, with Nissan storing vehicles close by.
- There are also car depots is North Tyneside, at Royal Keys where there a number of car transporters evident. The Cobalt/Silverlink industrial estate also houses car dealers.
- Although observed fuel tankers may be supplying the manufacturing industry we have included them in this section as a large number are actually supplying transport companies and petrol station forecourts.

NON-FOOD RETAIL

Just below 10% of vehicles seen across Tyne and Wear were associated with non-food retail. These vehicles were found to be in greater numbers around the town and city centres providing a good insight into the nature of businesses in and around the centres. Industrial estates/retail parks such as Team Valley were also found to have significant

TRUNK ROADS

The industry profile for trunk roads is very similar to that for inter urban routes, with the general distribution and building industries again the most prominent. The variety of industries seen is caused by the multi-purpose nature of the routes. The fact that there is so much traffic associated with the building industry is reflective of the need for raw materials and equipment to be brought into the area from other parts of the country.
numbers of these vehicles, depending on the
nature of businesses in the estates. Arterial routes
such as the A167 in Low Fell and the A690 into
Sunderland are also well used by vehicles from the
non-food retail industry as they access city centres.

PARCELS

The parcels industry makes up 7% of the observed
traffic area wide. The industry makes a particular
impact on Gateshead where the Team Valley
estate houses a number of companies involved in
the this business. A number of parcels vehicles
were also observed in central Newcastle making
deliveries to businesses. There is a great deal of
competition in the parcel market. Companies such
as DHL (which is owned by the German postal
service) are emerging as a powerful competitor to
the Royal Mail.

MANUFACTURING

Although the industry profiles suggest that
manufacturing related traffic is relatively small (4%)
this does not necessarily give an indication of the
situation. Firstly manufacturing that is related to
automotive, food and drink, building and
construction and fuel supply are shown in other
categories. Secondly the general haulage market is
frequently the source of transport for raw materials,
parts, part-finished goods and finished products.
Also the parcel sector provides a key role in the
supply chain for light-weight supplies of parts and
machine components. It is very difficult to identify
these flows of product from a roadside analysis. In
addition many manufacturers that do not deal
directly with the general public do not choose to
advertise the movement of their products by road,
either because they feel there would be no benefit
from advertising on the side of the lorry or they
positively take the decisions to leave the lorry in an
unmarked livery, usually a white box, because the
contents are particularly valuable e.g. whiskey and
cigarettes and do not wish to draw attention to their
movement for fear of potential theft. Similarly many
manufacturers do not identify themselves as being
in the transport market and choose to use third
party logistics providers to supply the transport and
warehousing functions.

SEAPORTS

There are 3 ports in the region each one with a
slightly different purpose. North Shields is a Ferry
port for private cars to Norway and Holland, and
accompanied and un-accompanied trailers. South
Shields deals with cargo and containers ships, whilst
Sunderland is for cargo ships only.

Port of Tyne – North Shields

There are usually an influx with foreign vehicles
when the Fjord Line ferry arrives at 15.30 twice a
week and departs the next day at 17.00, with an
extra container ship once per week. DFDS
Seaways arrives at 09.00 and departs at 17.30
daily.
The North Shields Port of Tyne is mainly for the
Ferry traffic. This was quite light on the day of the
survey. There were three main types of vehicles
seen: -

Port of Tyne – South Shields

Port of Tyne South Shields is multi-functional,
where the product is shipped in and stored in
Warehousing in the Port.

• Mainly Port of Tyne hauliers tranship this to
other areas but there are some privately owned
warehouses.
• There is a Stone crusher and recycling plant on
the dock.
• There is a timber yard on the site.
• There is steel warehousing for raw materials.
• Scrap metal is sent abroad for recycling.
• Tetley have a Tea Warehouse on the site, the
raw tea is transhipped to Eaglescliffe.
• Paper and pulp shipped into the port.
• Grain is exported when in season.

Port of Sunderland

The Port of Sunderland ships products in and out
and is multi functional. The main characteristics of
the port are as follows: -

• Cement depot, where lorries are bringing in
Aggregate and cement. The Cement Mixers are
Tanks that have 3 compartments. The bulkhead
tank for water, Next for aggregate and the last
for Cement. The mix is controlled by computer
and then mixed by an auger at the distribution
site.
• Steel recycling and storage, steel coils for
Nissan.
• Fuel Storage Tanks, where fuel tankers are in
and out of the port all day distributing from the
port to service stations.

3.5. OPERATOR BEHAVIOUR

This section considers the behaviour of freight
operators in terms of fleet management and
maintenance, routeing and scheduling and the
methods used for communication.

3.5.1. FREIGHT MANAGEMENT

The chart below shows the frequency of various
vehicle replacement polices. It can be seen that
approximately 38% of companies state that they
replace their vehicles when necessary or have no
policy. Conversely, over 40% of companies replace
their vehicles within 8 years. It would be beneficial
to the industry to increase the number of
companies with a clear vehicle replacement policy
It can be seen from the chart below that 45% companies maintain vehicles on a contract basis (considerably higher than the number of firms who run contract hire vehicles) with 22% maintaining vehicles in house.

These two charts show that the contracting of vehicles and maintenance services is common amongst operators. Indeed, it is often the case that replacement vehicles would be maintained by the supplier, be they contract or purchased outright vehicles.

**3.5.2. ROUTEING AND SCHEDULING**

The chart below shows that automatic routing and scheduling systems have still to make an impact in Tyne and Wear. About 1 in 5 companies use this technology, with manual planning still the dominant method.

The fleet sizes of operators using automatic routing and scheduling methods have been analysed and this data is from the operator survey. This is shown in the table below.

<table>
<thead>
<tr>
<th>Firm Size</th>
<th>Automatic</th>
<th>Combined</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>11%</td>
<td>5%</td>
<td>84%</td>
</tr>
<tr>
<td>Medium</td>
<td>14%</td>
<td>3%</td>
<td>83%</td>
</tr>
<tr>
<td>Large</td>
<td>43%</td>
<td>0%</td>
<td>57%</td>
</tr>
<tr>
<td>Overall</td>
<td>16%</td>
<td>4%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Overall this shows that the majority 80% of operators consulted are still using manual routing and scheduling techniques. However, take-up of automatic software is greatest amongst larger companies. There is scope to increase the proportion of firms using automatic techniques to improve the efficiency of routing and scheduling.

It was interesting that in the survey of drivers the percentage that receive information from a computer routing and scheduling system was 24% and this is very similar to the 20% of operators using the systems.

**3.5.3. COMMUNICATIONS**

There are a number of methods of communication used amongst the operators consulted. The chart below shows base-cab communication methods used. It was found that most operators use some form of open network to allow communication between base, driver and customers (mobile phones, or fixed cab-phones), although some restrict the drivers to a range of pre-set numbers to avoid possible abuse of the telephone. A variety of other methods were used, including two-way radios, drivers owning their own mobiles and in just one case an in-cab computer. This demonstrates the currently low take up of computer communication technology although this may change in the future.

Related to this is the relaying of live traffic information shown in the chart below. In general it can be seen that companies would receive information from drivers out on the road before relaying information on as required.

**3.5.4. INDUSTRIAL ESTATE DWELL TIMES**

During the surveys made at either end of the Team Valley industrial estates an analysis has been made of the length of time vehicles spent on the estate. This analysis is summarised below:
Commercial vehicles passing through both survey points
Commercial vehicles passing both the northern and southern points of the Team Valley specialised traffic counts amounted to 14. Of these 14, only 3 passed through in a small enough time to suggest that they made no stops within the Team Valley. 5 of the vehicles took between 25 minutes and 40 minutes, while the remaining 6 took over an hour to pass through the two survey points.

Commercial vehicles passing through the northern survey point twice
Only 1 of the 5 commercial vehicles that were recorded coming into and out of the Team Valley from the north spent more than 10 minutes in the area. The other 4 vehicles were recorded entering and exiting the area in the same survey sheet and therefore the time these vehicles spent in the area could have ranged from a couple of minutes to 10 minutes.

Commercial vehicles passing through the southern point twice
The through times for vehicles entering and exiting the Team Valley via the southern survey point range from under 10 minutes to 2 hours 21 minutes, 73% of the through times are under and hour. Of the vehicle spending less than hour in the area, 75% enter and exit it within 30 minutes.

Conclusions
It can be seen that there is considerable variance in dwell times on the estate. Many vehicles are clearly passing through the estate without stopping whereas others spend longer on the estate to drop off or pick up loads. It is notable that at the northern end of the estate most of the vehicles spent less than 10 minutes on the estate suggesting that they may be stopping for food.

3.5.5. CONCLUSIONS
- Around half of operators have some form of vehicles replacement policy. Many companies seem to be acquiring and maintaining vehicles on a contract basis.
- Manual routing and scheduling systems still predominate. Take-up of automatic systems appears to be greater amongst larger firms.
- Mobile phones are the dominant form of communication.
- Dwelling times on the Team Valley estate were variable, depending on the nature of the visit.

3.6. FURTHER ISSUES
This section includes comments on a number of other issues relating to freight transport around Tyne and Wear.

3.6.1. ISSUES ARISING FROM DRIVER AND OPERATOR CONSULTATION
This section introduces some more specific issues that have arisen from the operator and driver consultations (summarised in sections 5 and 6). Many of these comments are taken directly from operators and drivers themselves or from the experiences of survey staff. These locations are shown in figure 3.3.

General Urban Issues
- Difficulties with bus drivers in urban areas thinking they have priority over everything else.
- Taxis park anywhere to rest, drop and pick up. Not much consideration for anyone else.
- Town and city centres should be pedestrianised to allow freight to deliver more easily within certain time windows.

Specific Issues in Urban Areas
- The Eldon Square delivery point at Fenwicks is a poor, with only 1 bay to serve both customer collections by car and freight deliveries.
- Buses at Eldon Sq using loading bays to park up alongside John Lewis delivery point.
- Cars parking under Eldon square at the South side cause congestion problems opposite COOP.
- The Newcastle No-Car lanes signs would benefit from wider publicity as to their use.
- Sunderland town centre has many narrow streets and many tight corners with only small loading bays. (William Jameson public house).
- Sunderland would benefit from improved mapping for each section of the town.
- Congestion at both bridges over Wear.
- The access into King St area, South Shields is restricted to 10.00 am, but this does not give a lot of time for deliveries when shops do not open until 09.00am.

Access to other sites
- The access to the Metro Centre delivery points are not positioned correctly for certain shops and some not easily accessible on either level. This means there can be delays waiting for access.
- South Shields Denmark Centre is difficult to enter and deliver to sometimes because of parked cars.
- Roundabout adjacent to Asda, South Shields causes turning problems, need to look at traffic flows here.
- Nowhere to park up whilst waiting to deliver at this Asda, South Shields except on main road.

Issues on the Wider Road Network
- Foreign vehicles travel free in this country; resentment is felt by some British lorry drivers.
- When there is congestion on the A1 at the Metro centre the drivers detour through Whickham to get to Team valley and beyond.
- When leaving the Airport freight village the view to the left is restricted by overgrown foliage and some lorries have to drive out on the other lane to make the manoeuvre. (We have contacted the Airport Management about this).
- The lights at Kingston park roundabout, A696/A1 are switched off too early and the traffic is still heavy at 19.00 which stops the freight transport getting out to the A1.
- Prince Consort road at the traffic lights to Askew Road, Gateshead A184, where the bus lane terminates its difficult to turn left; the cars
nip into the left lane where it opens up into two lanes but wagons are too long to use this.
• Any new road works are not signed soon enough to allow for re-routing.
• Congestion at Felling by pass did not appear until 09.30am.
• The new junction at the Gateshead side of the Tyne Bridge reduces the flow of traffic.

Suggestions for Improvement to the Wider Road Network

• Western by pass should have less grade separated junctions.
• A 40 mph sign holds up the traffic by Team Valley.
• Traffic lights required at the entrance to the Port of Tyne South Shields on a sensor for port traffic and priority for Mainstream traffic.
• More driver rest facilities needed North of Tyne.
• Freight priority lane needed on south side of Tyne tunnel because at the moment because the lorries are disadvantaged as they need to be in left hand lane for checking.
• One operator wanted traffic lights at Sandy Lane A1056 to allow his vehicles to get on to the carriageway from the depot.
4 ANALYSIS AND INTERPRETATION OF SPECIALISED COUNTS
4. Analysis and Interpretation of Specialised Counts

4.1. INTRODUCTION

This section provides a detailed description of the results collected during the surveys, together with a detailed analysis and interpretation. The sites for each separate local authority will each be considered in a separate section of the report. For each specialised count site, the following report structure will be used:

- **Description of site**
  Including comments on the road type and situation, operation, traffic flow and other information.

- **Observations made during the count**
  The key observations made by surveying staff during the count.

- **Key statistical points arising from survey**
  Summary of the statistical analysis below.

Following this a more detailed analysis of the surveys will be given:

- **Analysis of vehicle ages**
  The registration numbers for each vehicle have been analysed and grouped according to the years in which European engine legislation was applied. For the pre-legislation period (pre 1992) this is registration letters A-J, for Euro 1 specifications (1992-1996) letters K-N, for Euro 2 specifications (1996-2001) letters P-Y and for Euro 3 specifications (2001 onwards) letters 51-04.

- **Analysis of vehicle types**
  The various vehicle types observed have been aggregated according to vehicle size; 7 tonners, 18 tonners, 26 tonners, 32 tonners and 40/44 tonners.

- **Analysis of industries associated with vehicles**
  The various industries observed have been grouped into 8 main categories as follows:
  - General distribution/containers;
  - Building;
  - Food/drink/agriculture/market;
  - Retail;
  - Automotive/vehicles/fuel;
  - Waste/utility/emergency;
  - Parcels; and
  - Manufacturing.

- **Operator Views**
  Main points arising from consultation with operators seen passing the survey point.

- **Overall Conclusions**
  The chapter is split into the following sections:

  - Section 4.2 – North Tyneside
  - Section 4.3 – Newcastle
  - Section 4.4 – Gateshead
  - Section 4.5 – Sunderland
  - Section 4.6 – South Tyneside
4.2. NORTH TYNESIDE

Five specialised vehicle counts were carried out in North Tyneside. The numbers of vehicles surveyed are shown in the table below.

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Observed Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT1 - A1058</td>
<td>210</td>
</tr>
<tr>
<td>NT2 - Sandy Lane</td>
<td>382</td>
</tr>
<tr>
<td>NT3 - Silver Fox Way</td>
<td>53</td>
</tr>
<tr>
<td>NT4 - North Sea Ferries</td>
<td>116</td>
</tr>
<tr>
<td>NT5 - Tyne Tunnel</td>
<td>585</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1346</strong></td>
</tr>
</tbody>
</table>

A brief description of each site follows:

- **NT1 – A1058** – Dual carriageway route connecting the city of Newcastle with the towns in North Tyneside (Tynemouth, Whitley Bay), the Tyne Tunnel and Port of Tyne.
- **NT2 – Sandy Lane** – The A1058 to the north of Newcastle linking the A1 with the A189 and A19.
- **NT3 – Silver Fox Way** – Industrial Estate on the northwestern side of North Shields.
- **NT4 – North Sea Ferries** – On the approach road to the North Sea Ferries terminal in North Shields.
- **NT5 – Tyne Tunnel** – Traffic entering the Tyne Tunnel from the North.

The location of each of these sites is shown in the map below. More detailed location maps of each survey point are provided in each section summary.

The average age for freight vehicles in North Tyneside is 4.8 years. The vehicle age distribution is shown below and is very similar to the overall Tyne and Wear profile with 86% of vehicles Euro 2 or Euro 3 compliant.

The vehicle type profile for North Tyneside is provided below. The profile fits the shape of the area-wide profile closely, with high proportions of 18 ton and 40/44 ton vehicles. This makes sense since the North Tyneside sites represent a good cross section of the sites across the whole of Tyne and Wear, including a trunk road, seaport, industrial estate and inter urban road.

The industry profile for North Tyneside also broadly follows the overall Tyne and Wear profile, although the proportion of vehicles involved with general distribution is slightly higher than the Tyne and Wear average.

![North Tyneside Map](image_url)
A detailed analysis of each site now follows.
4.2.1. SITE NT1 – A1058

Description of Site
The count site is on the A1058 dual carriageway route, running between North Shields and feeding into the Tyne Tunnel. Junctions in the count vicinity are grade separated. A number of industrial estates are served by the route. The national speed limit applies.

The survey took place on two separate days, 19th April 1430-1505 and 23rd April 0725-0930, with the eastbound carriageway restricted to one lane due to road works on the 19th. 212 vehicles were surveyed at a rate of 80 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>110</td>
</tr>
<tr>
<td>West</td>
<td>102</td>
</tr>
<tr>
<td>Total</td>
<td>212</td>
</tr>
</tbody>
</table>

Observations Made During Count

- It was noted that there were a number of construction personnel travelling in vehicles. Coupled with the observation of some 30 vehicles associated with the building industry this demonstrates the level of construction and building work taking place in the area.
- A number of waste vehicles were noted, possible associated with the waste disposal plant at Howdon.
- On the survey day when the road works were in place on the eastbound carriageway there were relatively few larger freight vehicles travelling eastbound compared with the other survey day, suggesting that larger vehicles may have been re-routing to avoid the delays.
- It was noted that the majority of vehicles surveyed were obviously local in origin or destination.

Key Points of Statistical Analysis

- The average vehicle age is approximately 4.4 years. Euro 2 and Euro 3 specification engines are the most common at this location.
- There is a good variety of vehicle types with 18 tonners being the most frequent.
- There were a variety of industry types using the route.
- There were also a number of vehicles clearly associated with the construction industry and the nearby waste disposal unit at Howdon.
- Post survey consultations highlighted the A1 northbound and the A69 at Denton Burn as congestion hotspots.

Vehicle Ages
The average vehicle age was approximately 4.4 years. It can be seen that Euro 2 and Euro 3 specification engines dominate the pie chart with an approximately even split between the two. The proportion of Euro 3 engines is high in comparison with other sites in North Tyneside.

![Vehicle Ages Chart](image)

Vehicle Types
The chart below shows the distribution of vehicle sizes for site NT1. It can be seen that there is a good variety of vehicle types at this location, with lighter vehicles generally being better represented than heavier vehicles. 18 tonne vehicles are the most common at around 40% of observed vehicles.

![Vehicle Types Chart](image)
Industry Types
The chart below shows the distribution for this site. It can be seen that for this site there is a broad variety of industries represented with distribution, building and food/drink being the most frequent.

Site Summary
The count site is on the A1058 dual carriageway route, running between North Shields and feeding into the Tyne Tunnel. Junctions in the count vicinity are grade separated. A number of industrial estates are served by the route.

- Observation of some 30 vehicles associated with the building industry this demonstrates the level of construction and building work taking place in the area.
- A number of waste vehicles were noted, possible associated with the waste disposal plant at Howdon.
- On the survey day when the road works were in place on the eastbound carriageway there were relatively few larger freight vehicles travelling eastbound compared with the other survey day, suggesting that larger vehicles may have been re-routing to avoid the delays.
- It was noted that the majority of vehicles surveyed were obviously local in origin or destination.
- 18 ton vehicles are the most common at around 40% of observed.
4.2.2. SITE NT2 – SANDY LANE

Description of Site
The site is a single carriageway road, broadly east-west, with two junctions close by for the Ministry MOT test centre and a small industrial estate. The count took place in the AM peak period, when traffic flows were heavy, but generally remained moving. The road is derestricted and the national speed limit applies.

The count took place across two survey periods – 20th April 1200-1310 and 21st April 0740-0940. 382 vehicles were surveyed throughout the count period, at a rate of 127 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>206</td>
</tr>
<tr>
<td>West</td>
<td>176</td>
</tr>
<tr>
<td>Total</td>
<td>382</td>
</tr>
</tbody>
</table>

Observations Made During Count
- It was noted whilst surveying the site that right turning vehicles frequently caused a breakdown in traffic flow.
- The significant number of aggregate tipper vehicles suggests that there may be some building work going on in the area.
- There were a large number of trailing vehicles, which may be following the test route for the nearby MOT/HGV driving test centre.
- There were a number of vans using the route, in the main parcel carriers and associated with the building industry.
- It was apparent that the majority of the traffic was local. It is suggested also that a lot of traffic uses the route to access the A1 at Gosforth.
- Murray Hogg Transport has a distribution centre close by and several vehicles were observed to be visiting the centre. These movements are likely to be associated with the construction of an extension to the centre.

Key Points of Statistical Analysis
- Average vehicle age is 5.1 years with most vehicle engines being Euro 2 compliant.
- 18-ton vehicles are the most common but it is notable that 25% of vehicles were 40/44 tonners.
- There were a wide variety of industry groups represented with a large number in food/drink agriculture compared with other sites.
- Congestion on the A1 was highlighted as causing a problem for freight operators, one company claiming this adds up to 60 hours overtime per day.

Vehicle Ages
It can be seen from the chart below that well over half the surveyed vehicles were to Euro 2 engine specifications. In addition, 26% were to Euro 3 standards. The average vehicle age is approximately 5.1 years.

Vehicle Types
It can be seen from the chart below that there is a good variety of vehicle types. 18 tone vehicles are the most common but it is noticeable that around 25% of the observed vehicles were 40/44 tonners.
Industry Types
The chart below shows that general distribution was the most common industry type observed here. However, in comparison with the other sites in North Tyneside there were a relatively small number of vehicles in the building trade and more than normal in food/drink/agriculture.

Site Summary
The site is a single carriageway road, broadly east-west, with two junctions close by for the Ministry MOT test centre and a small industrial estate.

• 18-ton vehicles are the most common but it is notable that 25% of vehicles were 40/44 tonners.
• Congestion on the A1 was highlighted as causing a problem for freight operators, one company claiming this adds up to 60 hours overtime per day.
• more than normal in food/drink/agriculture.
• a lot of traffic uses the route to access the A1 at Gosforth.
• the test route for the nearby MOT/HGV driving test centre
• Routeing is generally done manually, with drivers given the freedom to make decisions on the road depending on conditions.
4.2.3. SITE NT3 – SILVER FOX WAY

Description of Site
The count site is located at the T junction between New York Way (running north-south) and Silver Fox Way (running east-west). Both roads are single carriageway. Three small to medium sized industrial sites are served by these roads, generally light industry and warehousing with some office space.

The survey was made on the 27th April from 0730-1030. The location is shown below.

53 vehicles were observed at this location at a rate of 18 per hour. The table below gives a breakdown of their directions.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>W-S</td>
<td>3</td>
</tr>
<tr>
<td>S-E</td>
<td>12</td>
</tr>
<tr>
<td>S-W</td>
<td>14</td>
</tr>
<tr>
<td>E-S</td>
<td>22</td>
</tr>
<tr>
<td>W-E</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
</tr>
</tbody>
</table>

Observations Made During Count

- Traffic is generally smaller in size. It is possible that the route is being used as a short cut to/from the A191 avoid the A19 roundabout.
- Most freight appeared to be supplying industrial estates and offices.
- The majority of traffic used New York Way with lower flows along Silver Fox Way.
- There were more vans than lorries on this route.
- Most of the construction traffic appeared to be third party haulage, supplying the light industry and office blocks.

Key Points of Statistical Analysis

- There were relatively few freight vehicles observed at this location. This makes it less likely that any firm patterns or conclusions can be drawn from the survey.
- The average vehicle age is 5.1 years with no pre Euro legislation vehicles observed.
- There was no particular pattern of industry types.
- The Tyne Tunnel was highlighted as causing delays to some businesses.

Vehicle Ages
The average age of surveyed vehicles is approximately 5.1 years. The chart below shows that the vast majority of vehicles are to Euro 2 specifications with no vehicles from the pre Euro legislation period observed.

Vehicle Types
From the chart below it can be seen that 18-ton vehicles were the most common at this location accounting for about half the observed vehicles. There were relatively few larger vehicles at this location.

Industry Types
The chart below shows that general distribution was the most common industry type represented. In general there is no particular pattern of industry types although it is notable that there were no retail industry vehicles seen and there were a relatively high proportion of parcel carrying vehicles.
Site Summary
The count site is located at the T junction between single carriageway. Three small to medium sized industrial sites are served by these roads, generally light industry and warehousing.

- Traffic is generally smaller in size.
- It is possible that the route is being used as a short cut to/from the A191 avoid the A19 roundabout.
- Most freight appeared to be supplying industrial estates and offices.
- There was a high proportion of parcel carrying vehicles.
- 18-ton vehicles were the most common at this location accounting for about half the observed vehicles.
- None of the companies had a formal vehicle replacement policy with vehicles replaced “as and when”.
- Drivers generally have the freedom to make route choice decisions based on experience and local knowledge.
- Mobile phones are used to inform drivers of any routeing issues that may arise.

Delays at the Tyne Tunnel were highlighted as an issue for one company.
4.2.4. SITE NT4 – NORTH SEA FERRIES

Description of Site
The count site is a dual carriageway route linking the North Sea Ferry terminals with the A187 and on to the A19, A1058 and Tyne Tunnel. The road was flowing freely at the time of the survey and a 40mph speed limit applies.

The count took place on the 28th April from 1240-1600. 116 vehicles were observed at this location At a rate of 35 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>48</td>
</tr>
<tr>
<td>South</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
</tr>
</tbody>
</table>

Observations Made During Count
- The majority of vehicles entering the terminal appeared to be boarding ferries but some was associated with servicing the terminal and approximately 30% was thought to be associated with construction works at the nearby Royal Quays shopping centre.
- There were more lorries than vans at this survey site.
- There were a number of foreign vehicle observed, several of which had been distributing flowers.
- More vehicles were observed heading south since at the time of the survey a ferry was scheduled to leave for Europe.

Key Points of Statistical Analysis
- The average vehicle age was 4.6 years with most vehicles meeting Euro 2 engine specifications.
- Vehicle sizes were generally larger than normal, as would be expected at a port site.
- General industrial use and building made up most of the vehicles.
- Congestion on the A1 and A19 was flagged up as a problem for one company during the follow-up.

Vehicle Ages
There was an average vehicle age of approximately 4.6 years. It can also be seen from the chart below that 70% of vehicles correspond to “Euro 2” engine specifications with pre Euro vehicles seen.

Vehicle Types
From the chart below it can be seen that around 75% of vehicles were either 32 tonners or 40/44 tonners. This is consistent with the larger vehicles and larger loads one would expect to be using a ferry service.

Industry Types
The chart below shows that apart from general industrial use, vehicles associated with the building industry made up about 30% of the observed vehicles. These were likely to be associated with the nearby building works to the south of the Royal Quays shopping centre.
Site Summary

The count site is a dual carriageway route linking the North Sea Ferry terminals with the A187 and on to the A19, A1058 and Tyne Tunnel.

- More vehicles were observed heading south since at the time of the survey a ferry was scheduled to leave for Europe, 116 vehicles were observed at this location, 48 heading north and 68 heading south.
- The majority of vehicles entering the terminal appeared to be boarding ferries but some was associated with servicing the terminal.
- Approximately 30% was thought to be associated with construction works at the nearby Royal Quays shopping centre.
- There were a number of foreign vehicle observed, several of which had been distributing flowers.
- 75% of vehicles were either 32 tonners or 40/44 tonners. This is consistent with the larger vehicles and larger loads one would expect to be using a ferry service.
- Congestion on the A1 and A19 was flagged up as a problem for one company.
4.2.5. SITE NT5 – TYNE TUNNEL

Description of Site
The count site was at the entrance/exit of the toll booths at the Tyne Tunnel. Freight is allocated to a no-car lane from East Howdon and the A19 in order that they can be checked for hazardous substances the tunnel. A 30 mph speed limit applies.

The count took place on the 30th April with 585 vehicles observed.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>307</td>
</tr>
<tr>
<td>South</td>
<td>278</td>
</tr>
<tr>
<td>Total</td>
<td>585</td>
</tr>
</tbody>
</table>

Observations Made During Count

- Traffic flow broke down at times during the survey due to the high volumes of traffic passing through the tunnel.
- It was noticeable that there were a number of car transporters (associated with the VW depot at Coble Dene), scrap metal and Hiab vehicles passing through the tunnel. There were also a considerable number of construction and waste vehicles.
- A high proportion of vans were observed. Due to the volumes these were not recorded in the survey. There was a mix of uses for these vehicles.
- Commercial vehicles wait in the lanes designated for their use and experience relatively short delays.
- It was noted that traffic flow increased when a North Sea Ferry arrived, which led to a number of foreign vehicles heading south through.

Key Points of Statistical Analysis

- The average vehicle age is 4.7 years with the majority of the vehicles to Euro 2 or Euro 3 specifications.
- The high traffic flows led to a wide variety of vehicle types and industry types being observed.
- This is consistent with the key strategic role of the Tyne Tunnel in the Tyne and Wear road network.
- The follow-up surveys showed that congestion on the A1 and Tyne Tunnel could cause problems for some companies.

Vehicle Ages
Table 3.1 shows that the approximate average age of vehicle is 4.7 years with the majority of vehicles corresponding to Euro 2 and Euro 3 engines specifications. It is notable that there are a relatively high proportion of Euro 3 compliant engines at this location.

Vehicle Types
The following chart shows that a wide variety of vehicle types were observed as would be expected given the high traffic flows. 18 tonners and 40/44 tonners made up the majority of vehicle types observed. The high number of heavier vehicles is consistent with the importance of the Tyne Tunnel and A19 for longer distance strategic traffic.

Industry Types
Given the large flows at this location, it is not surprising that a wide variety of industries were observed. General distribution was again the most common with building and food/drink also observed in considerable numbers.
Site Summary
The count site was at the entrance/exit of the tollbooths at the Tyne Tunnel.
- Freight is allocated to a no-car lane from East Howdon and the A19 in order that they can be checked for hazardous substances through the tunnel.
- High volumes of traffic passing through the tunnel including scrap metal and Hiab vehicles.
- There were a number of car transporters (associated with the VW depot at Coble Dene).
- It was noted that traffic flow increased when a North Sea Ferry arrived, which led to a number of foreign vehicles heading south through the tunnel.
- Two of the companies in the chemical industry stated that the driver would normally follow the provided route except in the event of severe problems.
- Congestion is an issue with the A1 in the region of the Metrocentre and the Angel of the North highlighted, as was Tyne Tunnel itself.
- The high number of heavier vehicles is consistent with the importance of the Tyne Tunnel and A19 for longer distance strategic traffic.
4.3. NEWCASTLE UPON TYNE

The Newcastle element of the work consisted of 5 specialised vehicle count sites. The table below shows the numbers of vehicles observed at each site.

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Observed Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1 – Percy Street – no car lane</td>
<td>67</td>
</tr>
<tr>
<td>N2 – Central Motorway – Manors overbridge</td>
<td>409</td>
</tr>
<tr>
<td>N3 – John Dobson Street</td>
<td>65</td>
</tr>
<tr>
<td>N4 – A1 Seaton Burn</td>
<td>593</td>
</tr>
<tr>
<td>N5 - Airport</td>
<td>224</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1358</strong></td>
</tr>
</tbody>
</table>

A brief description of each site follows:

- **N1 – Percy Street – No car lane** – Near the bus station, central Newcastle.
- **N2 – Central Motorway – Manors overbridge** – Survey conducted from the Manors overbridge. Traffic travelling in all directions at the adjacent junction was surveyed.
- **N3 – John Dobson Street** – John Dobson Street, central Newcastle.
- **N4 – A1 Seaton Burn** – On the A1 adjacent to Seaton Burn, south of the junction with the A19. All through traffic and traffic entering/leaving the A19 was surveyed.
- **N5 – Airport** – On the south side of the A696 roundabout at the entrance to Newcastle international airport.

The average vehicle age for the Newcastle area is 4.7 years. The vehicle age profile, shown below, is very similar to the overall Tyne and Wear profile with 86% of vehicles Euro2 or Euro3 compliant.

The vehicle profile for Newcastle generally follows the typical Tyne and Wear profile although it is apparent that there is slightly more variety in the types of vehicles seen with there being slightly fewer 18 ton and 40/44 ton vehicles than normal. This is likely to be a function of the variety of sites included in the Newcastle authority area, with an airport, trunk road and city centre sites all included.
The industry profile for Newcastle is again broadly consistent with the overall Tyne and Wear profile, although a slightly lower proportion of general distribution vehicle were seen. This may be due to the specialised nature of businesses in the city centre and airport.

A detailed analysis of each site now follows.
4.3.1. SITE N1 – PERCY STREET NO CAR LANE

Description of Site
The count was undertaken at the Percy Street no-car lane. Percy Street links to St Mary’s Place and the Great North Road to the east and Gallowgate to the west. The entrances to the bus station and the Eldon Square concourse are close by. This is the main route through the Haymarket area of Newcastle and has two lanes in each direction with one lane in each direction being a no-car lane.

The count took place on the 5th May from 0720-1020. 67 freight vehicles were observed at rate of 22 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>31</td>
</tr>
<tr>
<td>East</td>
<td>30</td>
</tr>
<tr>
<td>Into Eldon Square</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
</tr>
</tbody>
</table>

Observations Made During Count
- Traffic levels were high yet remained free flowing throughout the survey. Lorries and vans generally didn’t use the no-car lane, particularly eastbound traffic heading for the Great North Road. Cars were observed to be using the no-car lane to overtake other traffic then cutting sharply into the all vehicles lane.
- Generally, freight vehicles were lighter vehicles, and appeared to be making deliveries for local shops and businesses. A number of waste vehicles and vehicles carrying food were apparent.
- It appeared that vans were passing in both directions and servicing the area of Newcastle adjacent to the survey site.

- Buses waiting to turn into the bus station would frequently cause an obstruction causing traffic to back up.
- It was apparent that the majority of traffic was local and carrying out deliveries to the area rather than passing through.

Key Points of Statistical Analysis
- The average vehicle age was 4.2 years with 40% of vehicles complying with Euro 3 engine legislation.
- Most of vehicles observed were 18 tonners with very few large vehicles.
- The most frequent industry type observed was food and drink.
- Both of the above findings are consistent with what would be expected for a city centre site.
- The telephone follow-up surveys highlighted that a number of companies may have specific time windows to carry out drops/pickups and there is evidence that some have to start early to avoid city centre congestion and provide the necessary reliability of service. Servicing Old Gallowgate bus station was highlighted as a difficulty by one company.

Vehicle Ages
The average vehicle age at this location is quite low at approximately 4.2 years. The chart below backs this finding up showing a high proportion of Euro 3 specification vehicles (40%). Only 3% of vehicles were from the pre legislation period.

Vehicle Types
The chart below shows the distribution of vehicle types for each of the count sites in Newcastle. It can be seen that Percy Street sees a larger than normal proportion of 18 ton vehicles with very few larger vehicles. This backs up the initial impression that most of the vehicles were making deliveries to local shops and visitors, with there being relatively few vehicles involved in higher load, longer distance movements. This pattern is what would be expected for a city centre site.
Industry Types
The chart below shows the distribution of industry types for all the sites in Newcastle. The distribution for the Percy Street site is characterised by the large proportion of vehicles involved with the food/drink industry. As for the vehicles types this is logical given the city centre location of the site.

Site Summary
The count was undertaken at the Percy Street no-car lane. The entrances to the bus station and the Eldon Square concourse are close by. This is the main route through the Haymarket area of Newcastle and has two lanes in each direction with one lane in each direction being a no-car lane.

- Most of vehicles observed were 18 tonners.
- The most frequent industry type observed was food and drink.
- A number of companies may have specific time windows to carry out drops/pickups and there is evidence that some have to start early to avoid city centre congestion and provide the necessary reliability of service.

- Servicing Old Gallowgate bus station was highlighted as a difficulty by one company. The only place to park is at the roadside, which is considered to be very hazardous.
- Buses waiting to turn into the bus station would frequently cause an obstruction causing traffic to back up.
- It was apparent that the majority of traffic was local and carrying out deliveries to the area rather than passing through.
- Lorries and vans generally didn’t use the no-car lane, particularly eastbound.
- Cars were observed to be using the no-car lane to overtake other traffic. Another company stated that Newcastle was less problematic than other cities in terms of access.
- Specific time windows to adhere to for drops and pickups (for example between 0700 and 0900) are common for city centre deliveries.
- One company noted that city centre congestion meant that they had to start very early in order to meet their clients.
4.3.2. SITE N2 – MANORS OVERBRIDGE

Description of Site
The count was undertaken at the A167 Central Motorway over bridge roundabout with New Bridge Street to the East. The A167 is a key link through the city centre linking the A1 in the across the Tyne Bridge to Gateshead and the south. The route also links up with the A1058 Coast Road and by a number of grade separated junctions serves the central Newcastle area. The A167 provides a key route for vehicles wishing to travel south from the eastern side of Newcastle.

As can be seen on the picture above, roadworks were underway at the time of the survey with lane reductions in force on the southbound exit and entry to the motorway. Both of these sliproads were reduced to one lane. Throughout the survey period northbound traffic was flowing freely but southbound traffic was congested from 0730 to 0900 causing further congestion on New Bridge Street.

The count took place on the 10th May from 0715-1015. 409 freight vehicles were observed at a rate of 136 per hour. There were a number of movements at this site with only the main movements shown below.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>126</td>
</tr>
<tr>
<td>South</td>
<td>75</td>
</tr>
<tr>
<td>North-East</td>
<td>72</td>
</tr>
<tr>
<td>West-North</td>
<td>38</td>
</tr>
<tr>
<td>West-South</td>
<td>38</td>
</tr>
<tr>
<td>East-South</td>
<td>17</td>
</tr>
<tr>
<td>Other movements</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>409</td>
</tr>
</tbody>
</table>

Observations Made During Count
- A considerable number of construction and waste vehicle were noted, highlighting the level of building work going on in the area.
- A number of car transporters were also noted.
- The flow of freight vehicles was very high meaning that vans and buses were not included in the survey.
- Most freight vehicles were marked, but a number of white vans were unmarked vehicles.
- It was apparent that most traffic was local, but some was certainly long distance traffic.

Key Points of Statistical Analysis
- The average vehicle age was relatively high at 5.2 years with a relatively high proportion of Euro 1 and pre Euro vehicles.
- Over 30% of the vehicles surveyed were larger 32 or 40/44 tonners, highlighting the strategic nature of the route.
- There was a wide range of industry types observed with the large numbers of vehicles associated with the building industry illustrating the current levels of development in the area.
- The telephone follow-up surveys......

Vehicle Ages
The average vehicle age was relatively high at approximately 5.2 years. The chart below supports this, showing a relatively high proportion of older vehicles (18% pre Euro and Euro 1) and only 25% Euro 3.

Vehicle Types
It can be seen from the chart below that over 30% of freight vehicles were 32 or 40/44 tonners. Compared with sites N1 and N3 (both city centre sites) there was a lower proportion of smaller vehicles. This is consistent with the more strategic nature of the A167, making it more widely used by longer distance, larger loaded vehicles.
Industry Types
The following chart shows the distribution of industry types observed. The distribution for this site is characterised by the high number of vehicles linked to the building industry, backing up the initial observations made. Apart from this there is a wide range of industries observed, further reflecting the level of traffic on the road and the wide range of traffic carried on it.

Site Summary
The count was undertaken at the A167 Central Motorway over bridge roundabout with New Bridge Street to the East. The A167 is a key link through the city centre linking the A1 in the across the Tyne Bridge to Gateshead and the south.
- The A167 provides a key route for vehicles wishing to travel south from the eastern side of Newcastle.
- Large numbers of vehicles associated with the building industry illustrating the current levels of development in the area.
- Over 30% of the vehicles surveyed were larger 32 or 40/44 tonners, highlighting the strategic nature of the route.

- Both of these sliproads were reduced to one lane.
- A number of car transporters were also noted. A number of waste vehicle were noted.
4.3.3. SITE N3 – JOHN DOBSON STREET

Description of Site
The count was undertaken on John Dobson Street. The street is a dual carriageway in the centre of Newcastle leading to St Mary’s Place to the North and to the A169 and Moseley Street to the South. The speed limit is 30mph.

The count took place on the 4th May from 0730 to 1030. A relatively low flow of 65 freight vehicles were observed during this period, at a rate of 22 per hour.

Direction | Vehicles
-----------|---------
North      | 28      
South-East | 12      
South      | 11      
West-North | 7       
North-East | 3       
East       | 2       
West-South | 1       
West-East  | 1       
Total      | 65      

Observations Made During Counts
- It was observed that on the approach to the St Mary’s Place lights a number of vehicles turned right from the left hand lane, cutting off some other traffic.
- Traffic flow was variable, with traffic sometimes coming to a standstill in the middle of the junction with St Mary’s Place when the traffic lights changed to red. It was noted that a number of vehicles were passing through the lights at Northumberland Road when they were on red.
- A number of vehicles were waste collection and lighter parcel and food vehicles.

Key Points of Statistical Analysis
- Average vehicle age is approximately 4.7 years with 64% of vehicles surveyed meeting Euro 2 engine standards.
- A large proportion of vehicles were 18 tonners, with very few larger years, highlighting the city centre nature of the road.
- There were a high proportion of vehicles related to the food/drink, retail and parcel industries.
- The telephone follow-up surveys showed that vehicles were generally replaced at least every five years and are maintained on a contract basis. Congestion on the Tyne Bridge and A1 presented companied with problems and some difficulty with carrying out deliveries on one-way streets in central Newcastle was experienced.

Vehicle Ages
The average vehicle age is approximately 4.7 years. The chart below shows that 64% of vehicles are of Euro 2 engine specifications with 25% Euro 3. The proportion of Euro 3 engines is low compared with other sites.

Vehicle Types
The chart below immediately shows that there an abnormally high proportion of 18 ton freight vehicles were observed at this site (approximately 60% of all those observed). There were relatively few larger vehicles. These findings are consistent with the role of John Dobson street, which is similar to that of Dite N1 (Percy Street), acting as an access to city centre shops and businesses. It is likely that the majority of vehicles are involved with servicing these businesses in some way.

Industry Types
From the chart below it can be seen that virtually all vehicles were positive identified to a particular industry, rather than the “General” category. This may reflect the specific nature of freight vehicles, using John Dobson Street for local access rather than passing through. In particular the proportions of vehicles linked to the food/drink,
retail and parcels industries should be noted – these vehicles would clearly be serving city centre shops and businesses.

• The other company used an online HHC computer system where instructions and information appear on a computer screen.
• Where base to cab communication exists it would be used to communicate information on traffic congestion etc. Where no communication exists, the onus is on the drivers to divert and carry out drops on time.
• The Tyne Bridge and A1 at the Angel were highlighted as particular trouble spots for congestion.
• One company pointed out that deliveries in the one-way streets in Newcastle and by the Theatre Royal could be difficult.

Site Summary

The count was undertaken on John Dobson Street. The street is a dual carriageway in the centre of Newcastle leading to St Mary’s Place to the North and to the A169 and Moseley Street to the South.

- Some difficulty with carrying out deliveries on one-way streets in central Newcastle was experienced.
- There was a high proportion of 18 ton freight vehicles were observed at this site (approximately 60% of all those observed).
- A number of vehicles were passing through the lights at Northumberland Road when they were on red.
- It was observed that on the approach to the St Mary’s Place lights a number of vehicles turned right from the left hand lane, cutting off some other traffic.
- Virtually all vehicles were positive identified to a particular industry, rather than the “General” category, the proportions of vehicles linked to the food/drink, retail and parcels industries should be noted – these vehicles would clearly be serving city centre shops and businesses.
- A number of vehicles were waste collection and parcels.
- Three of these companies said that vehicles would normally be replaced every 3-5 years.
- Two of the companies used some form of automatic planning system (Roadrunner/Dipsware)
- Two of the companies used telephones to communicate between base and cab. One company had no formal communication method, although drivers may have their own mobile phones.
4.3.4. SITE N4 – A1 SEATON BURN

Description of Site
The count was undertaken on the A1 dual carriageway to the north of Newcastle. This is an important strategic route linking the North-East of England with Scotland. In the Newcastle area the route passes close to a number of industrial estates (for example at Killingworth and Washington). Throughout the survey traffic was free flowing with no restrictions. The national speed limit applies.

The count took place on the 17th May from 1045-1245 with both carriageways observed simultaneously. Freight vehicle flows were very high with 593 vehicles surveyed, at a rate of 297 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>222</td>
</tr>
<tr>
<td>South</td>
<td>215</td>
</tr>
<tr>
<td>North (A19)</td>
<td>85</td>
</tr>
<tr>
<td>South (A19)</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>593</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- There was no congestion on the route at this point throughout the survey with traffic flowing freely and swiftly throughout the survey.
- A considerable number of caravans and steel lined bodies (carrying scrap, grain and coal) were noted.
- A large proportion of heavier freight vehicles were noted with few 7.5 tonne lorries.
- There were a significant number of agricultural animal boxes and livestock transporters.
- It was apparent that much of the freight vehicles were local to the Northumberland and Tyne and Wear area, although from vehicle markings it was apparent that some vehicles were from further afield – locations such as southern Scotland and Yorkshire.

Key Points of Statistical Analysis
- Average vehicle age was 4.5 years with a relatively high proportion of Euro 3 compliant vehicles.
- There was an extremely high proportion of larger vehicle types, consistent with the strategic role of the A1.
- There was a wide variety of industry types represented with the largest group being general haulage/containers.

Vehicle Ages
The average vehicle age was 4.5 years. The chart below shows that in comparison with other sites a particularly large proportion of vehicles (38%) comply with Euro 3 engine legislation, reducing the average age of vehicles.

Vehicle Types
From the chart below it can be seen that a very large proportion of vehicles are larger vehicles (over 50% 32 or 40/44 tonners). This is logical given the strategic nature of the A1. It would be likely that many vehicles using the route would be engaged in heavier load, longer distance haulage.

Industry Types
The following chart shows that a large proportion of vehicles (approximately 35%) were linked to the general haulage/containers industry. Again, this fits with the A1’s role as a long distance, strategic route. Overall, there were a wide variety of industries represented, which would be expected given the high traffic flows.
Site Summary
The count was undertaken on the A1 dual carriageway to the north of Newcastle. This is an important strategic route linking the North-East of England with Scotland. In the Newcastle area the route passes close to a number of industrial estates.

- Approximately 25% of vehicles in each direction either entered from or exited to the A19, which intersects with the A1 just to the north of the count site.
- There was a wide variety of industry types represented with the largest group being general haulage/containers.
- A very large proportion of vehicles are larger vehicles (over 50% 32 or 40/44 tonners) with few 7.5 tonne lorries. This is logical given the strategic nature of the A1. It would be likely that many vehicles using the route would be engaged in heavier load, longer distance haulage.
- A considerable number of caravans and steel lined bodies (carrying scrap, grain and coal) were noted.
- A large proportion of heavier freight vehicles were noted.
- There were a significant number of agricultural animal boxes and livestock transporters.
- It was apparent that much of the freight vehicles were local to the Northumberland and Tyne and Wear area, although from vehicle markings it was apparent that some vehicles were from further afield – locations such as southern Scotland and Yorkshire.
4.3.5. SITE N5 – NEWCASTLE AIRPORT

Description of Site
This count site is located on the southern side of the A696 roundabout at the entrance to Newcastle Airport. As well as providing access to the airport, the A696 is an important link between Newcastle and central southern Scotland and ultimately Edinburgh and Glasgow. The airport roundabout also provides access to a landfill site to the west. The route was free of any restrictions throughout the survey and the national speed limit applies.

The count took place from 0700-1000 on the 6th May. 224 vehicles were surveyed at a rate of 75 vehicles per hour.

### Direction Vehicles

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>87</td>
</tr>
<tr>
<td>South</td>
<td>95</td>
</tr>
<tr>
<td>North-Airport</td>
<td>12</td>
</tr>
<tr>
<td>Airport-North</td>
<td>7</td>
</tr>
<tr>
<td>South-Airport</td>
<td>4</td>
</tr>
<tr>
<td>Airport-South</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
</tr>
</tbody>
</table>

### Observations Made During Counts

- Visibility to the exit arms of the roundabouts is restricted by vegetation on some approaches, but most traffic appeared to be negotiating the roundabout without difficulty.
- A number of lorries were observed to be visiting the landfill site close by.
- The route to the freight park in the airport was signposted from the roundabout.
- At one point a number of foreign vehicles were observed in a short space of time. It is possible that these all originated from the North Sea Ferries terminal.
- A number of vehicles from Scotland were observed.
- Vehicles using the landfill site have their wheels hosed down on exit to avoid leaving dirt on the main road.

### Key Points Of Statistical Analysis

- Average vehicle age was 4.5 years with a high proportion of Euro 2 vehicles but relatively few older vehicles.
- There was a high proportion of larger vehicles, mainly made up of 32 tonners. There were relatively few 40/44 tonners.
- The most frequent industry type was the building industry, with these vehicles generally associated with the adjacent landfill site.
- The telephone follow-up surveys showed that vehicle replacement policies were variable and companies experienced congestion problems in a number of the usual hotspots on the A1 and crossing the Tyne.

### Vehicle Ages

The average vehicle age was found to be approximately 4.5 years. The chart below shows the distribution of vehicle ages. It can be seen that in comparison with other sites there is a relatively high proportion of Euro 2 vehicles but a low proportion of older Euro 1 and pre legislation vehicles.

### Vehicle Types

The chart below shows that there was a high proportion of larger vehicles at this site with over 50% of vehicles 32 tonners or larger. However it is noticeable that there are relatively few 40/44 tonners. One possible explanation for this is that, although the A696 is an important route for strategic traffic and likely to attract larger vehicles it’s route is somewhat more difficult than the A1 (with a number of hills and only single carriageway for much of it’s length) perhaps making it a less suitable route for 40/44 tonne vehicles.
Industry Types
Figure 3.4 shows the industry types of vehicles. The high number of vehicles associated with the building industry is immediately noticeable, these vehicles being associated with the adjacent landfill site.

Site Summary
This count site is located on the southern side of the A696 roundabout at the entrance to Newcastle Airport. As well as providing access to the airport, the A696 is an important link between Newcastle and central southern Scotland and ultimately Edinburgh and Glasgow.

- The airport roundabout also provides access to a landfill site to the west and a number of lorries were observed to be visiting this landfill site close by.
- Around 40 vehicles were observed either entering or leaving the airport.
- There was an even directional split between vehicles travelling north and south and entering and leaving the airport.
- There was a high proportion of larger vehicles, mainly made up of 32 tonners. Many of these were belonging to a haulier called Holystone who appeared to be moving a sizeable quantity of soil and stone to a local site in the area.
- There were relatively few 40/44 tonners and one possible explanation for this is that, although the A696 is an important route for strategic traffic and likely to attract larger vehicles its route is somewhat more difficult than the A1 (with a number of hills and only single carriageway for much of it’s length) perhaps making it a less suitable route for 40/44 tonne vehicles. Another reason is that 8 wheelers (32 tonners) are more suited to landfill traffic.
- Vehicles using the landfill site have their wheels hosed down on exit to avoid leaving dirt on the main road.
- A number of vehicles from Scotland were observed.
- Visibility to the exit arms of the roundabouts is restricted by vegetation on some approaches.
- The route to the freight park in the airport was signposted from the roundabout.
- At one point a number of foreign vehicles were observed in a short space of time. It is possible that these all originated from the North Sea Ferries terminal.
- Three of the four companies said that they would use base to driver communication for dispensing live traffic information with the other saying that drivers would rely on radio broadcasts.
- None of the companies highlighted any issues with congestion in the vicinity of the airport.
- The Tyne Bridge, A1 near the Metro Centre and Angel and the Tyne Tunnel were again highlighted as congestion points.
- One company stated that since they arrive early and leave late missing the bulk of traffic they have no serious issues.
4.4. GATESHEAD

The Gateshead element of the work consisted of 6 specialised vehicle count sites. The table below shows the numbers of vehicles observed at each site.

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Observed Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1 – Gateshead Stadium</td>
<td>394</td>
</tr>
<tr>
<td>G2 – Low Fell</td>
<td>157</td>
</tr>
<tr>
<td>G3 – Askew Road</td>
<td>278</td>
</tr>
<tr>
<td>G4 – Team Valley South</td>
<td>481</td>
</tr>
<tr>
<td>G5 – Team Valley North</td>
<td>431</td>
</tr>
<tr>
<td>G6 – Metrocentre</td>
<td>611</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2352</strong></td>
</tr>
</tbody>
</table>

A brief description of each site follows:

- **G1 – Gateshead Stadium** – On the A84 Felling bypass, adjacent to the junction of Old Fold Road and Neilson Road.
- **G2 – Low Fell** – On the A167 Durham Road. To the north of Low Fell centre.
- **G3 – Askew Road** – On the A184 Askew Road, a dual carriageway route connecting Team Valley and Tyne Bridge.
- **G4 – Team Valley South** – At the southern entrance/exit of the Team Valley industrial estate. The count was undertaken at the roundabout underneath the A1.
- **G5 – Team Valley North** – At the northern entrance/exit of the Team Valley estate.
- **G6 – Metrocentre** – On the Metrocentre arm of the roundabout forming the junction between the A694 and the A695.

The average vehicle age for Gateshead is 4.8 years. The age profile, shown below, is similar to the overall Tyne and Wear profile, with 85% of vehicles Euro 2 or Euro 3 compliant.

![Vehicle Age Profile](image)

Whilst the vehicle profile is again broadly consistent with the overall Tyne and Wear profile, it is noticeable that the proportion of lighter vehicles (7 tonners and particularly 18 tonners) is greater than usual, at the expense of heavier 32 ton and 40/44 ton vehicles. The distribution of traffic at the two Team Valley Industrial estates is partly responsible for this trend.

![Traffic Distribution](image)

The Gateshead industry profile is almost identical to the profile for Tyne and Wear, the main difference being the number of vehicles associated with the parcels industry. This is attributable to the nature of businesses in the...
Team Valley estate where large proportions of parcels vehicles were recorded.

A detailed analysis of each site now follows.
4.4.1. SITE G1 – GATESHEAD STADIUM

Description of Site
This site is located on the A184 Felling by Pass 30 metres west of the traffic lights at junction of Old Fold Road and Neilson Road. The route is a dual carriageway running east-west from the A167 to Heworth roundabout, the A19, Washington and Sunderland. This is a busy road taking a good mix of vehicles. Traffic was flowing freely throughout the survey and a 40mph speed limit applies.

The survey took place on the 13th May from 0700-1000 with 394 vehicles observed at a rate of 131 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>199</td>
</tr>
<tr>
<td>E</td>
<td>144</td>
</tr>
<tr>
<td>W-N</td>
<td>33</td>
</tr>
<tr>
<td>Other movements</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>394</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- To avoid the congestion for the remainder of the felling by pass into Gateshead, vehicles were turning right into Neilson road and actually mounting the central reservation to get passed the stationary traffic. This is pictured below.
- Traffic flow tended to break up from 0900 to 0945. Some vehicles were swapping lanes to try to get a forward of the queue. At other times the flow was un-congested and free of any restrictions.
- There were numerous 8 wheel tippers around the area some turning right and left at the traffic lights from the A184 and back onto the A184 to both the east and west.
- Large numbers of vans passed the survey point.
- Vehicles were seen to be using local diversion routes when the main route was congested.
- Numerous vehicles were unmarked, particularly the smaller vans, but more of the large freight had identification.
- The majority of the traffic was local in origin and destination.

Key Points Of Statistical Analysis
- Average vehicle age was 5.3 years with most vehicles being Euro 2 compliant.
- There was a wide variety of vehicle types.
- Vehicles associated with the general distribution and building industries made up the majority of freight traffic.

Vehicle Ages
From the chart below, it can be seen that the majority of vehicles at this location Euro 2 (53%) although there were 17% older than this. 30% were equipped with Euro 3 compliant engines. The average vehicle age was approximately 5.3 years.
Vehicle Types
The chart below shows that there was a good variety of vehicle types at this location, with the proportions relatively even compared with other sites. However, over a third of vehicles were 18 tonners, with the next most frequent category being 40/44 tonners. This variety of vehicles observed reflects the strategic nature of the route surveyed.

Industry Types
The chart below shows that general distribution is the most frequent industry category represented (around 40%), with building also common. The high traffic flow means that a wide variety of industries is represented, although the high proportion of vehicles associated with the building industry is indicative of the levels of construction and development going on in the area at present.

Site Summary
The site is located on the A184 Felling bypass which is an important inter urban route connecting Sunderland and South Tyneside with the Tyne Bridge.
- There was a slightly greater flow of vehicles travelling west than east during the course of the survey.
- Some vehicles were observed mounting the central reservation in order to turn right onto the nearby Neilson Road, which appeared to be used as a diversion route to avoid heavy traffic during the survey period.
- The average vehicle age was relatively high at 5.3 years with the majority of vehicle being Euro 2 compliant.
- There was a fairly even split of vehicles types on the route, reflecting its importance on a Tyne and Wear scale. The road is a critical link for traffic moving between the opposite banks of the Tyne.
- Accordingly there is a good variety of industry types at this location.
4.4.2. SITE G2 – LOW FELL

Description of Site
This site is located on the A167 Durham Road, to the north of Low Fell Centre. The road is a single carriageway, free of any restrictions during the counting period. The route is a busy town centre route, with a lot of through traffic between Newcastle and the A1. The route serves the town centre and a number of schools in the vicinity. A 30mph speed limit applies.

The count took place on the 12th May from 0700-1000. 157 vehicles were observed at a rate of 52 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>87</td>
</tr>
<tr>
<td>South</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>157</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- Traffic flow was generally good, but there were periods when the flow was very slow travelling north. Traffic was often held up by vehicles turning across the flow.
- A significant amount of 6 axle vehicles passed through the survey point. There were also some steel lorries which were possibly bound for the Felling by pass where there are a number of steel manufacturers.
- The amount of heavy vehicles observed suggests that the route is used as an alternative to the A1.
- The majority of vans and some of the box lorries were unmarked. A significant amount of lorries did not display telephone numbers.
- Most of the traffic was local in origin and destination.
- Traffic was very slow for 20 minutes North bound from 07.40 to 08.00.

Key Points Of Statistical Analysis
- Average vehicle age was 4.9 years with 85% of vehicles either Euro 2 or Euro 3 compliant.
- There was a wide variety of vehicle types seen, with 18 and 7 tonners the most common.
- A third of the vehicle observed were associated with the building industry with general distribution and parcels also common.

Vehicle Ages
The chart below shows the distribution of vehicles ages. The average age of vehicles was approximately 4.9 years with 85% either Euro 2 or Euro 3. Just 2% were pre Euro legislation vehicles.

Vehicle Types
It can be seen from the chart below that approximately a third of the vehicles seen were 18 tonners with 7 tonners and 40/44 tonners being the next most frequent. In general, there is a wide variety of vehicles types at this location.
Industry Types
The building industry provides the most vehicles at this location, with approximately a third of all vehicles. General distribution and parcels account for the majority of the remaining vehicles.

Industry Types: G2

Site Summary
The site is located on the A167, Durham Road, which is an important route linking the A1 south towards Durham with Newcastle and Gateshead. The route is often used an alternative route to the A1 when the A1 is congested. The route is typically sub urban/urban in character and it appears inappropriate for heavier freight traffic.
- Freight traffic was generally evenly split between the north and south.
- The number of heavier vehicles seen suggests that the route is used as an alternative to the A1.
- Average vehicle age was 4.9 years. 85% of vehicle were Euro 2 or 3 compliant.
- There was a fairly even split of vehicle sizes at this location, reflecting the mixed local and strategic nature of traffic.
- The building industry contributed the most vehicles, with the general distribution and parcels industry also well represented.
- It appears that the A167 is used by a number of heavier freight vehicles avoiding the A1 which could be considered to be inappropriate for the standard of road.
4.4.3. SITE G3 – ASKEW ROAD

Description of Site
This site is located on the A184 Askew Road which is a dual carriageway route connecting Team roundabout and the Tyne Bridge. The A1 is to the west of the count site with the A167 to the east and Low Fell, Prince Consort road and Team valley to the south. The carriageway was free of any restrictions in both directions at the time of the survey. A 40mph speed limit applies.

The count took place on the 11th May from 0700-1000. 278 vehicles were observed at a rate of 93 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>150</td>
</tr>
<tr>
<td>East</td>
<td>128</td>
</tr>
<tr>
<td>Total</td>
<td>278</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- Traffic was periodically congested travelling to the east but was not held up for a significant length of time.
- There was a number of unmarked vehicles that appeared to be connected with the building industry.
- One vehicle appeared to have lost its way as it travelled west then returned to the east after turning at Teams roundabout.
- Quite a number of vehicles were unmarked and some of those that did not have telephone numbers.
- The majority of vehicles were local in origin and destination. Tippers were observed going to and from an adjacent tip site and a construction site.

Key Points Of Statistical Analysis
- Average vehicle age is 5.1 years with 55% Euro 2 vehicles.
- There was a wide variety of vehicle types seen with 30% 18 tonners.
- General distribution and building were clearly the most common industry types seen reflecting the high level of construction going on in the area.

Vehicle Ages
The average vehicle age was 5.1 years with the majority of vehicles being Euro 2 compliant (55%). Only 2% were from the pre Euro legislation period.

Vehicle Types
The chart below shows that there was a wide variety of vehicle types at this type. 18 tonners were the most common (30%) but all vehicle sizes were well represented reflecting the urban location of the route.
**Industry Types**

The distribution of industry types is immediately characterised by the large number of vehicles connected with the building and general distribution industries, with approximately two-thirds of the surveyed vehicles made up of these categories. This reflects the levels of construction going on in the Newcastle and Gateshead areas.

![Industry Type: G3](image)

**Site Summary**

The count was made on Askew Road which is an important dual carriageway route linking the A1 and Team Roundabout with the Tyne Bridge. It provides an important link between the centres of Newcastle and Gateshead and the strategic road network.

- Traffic was generally evenly split between west and east.
- Average vehicle age was 5.1 years. However only 2% were from the pre-euro legislation period.
- The vehicle type distribution was relatively even across all types reflecting the role of the road as a link between areas within Tyne and Wear and as a link to the strategic road network.
- However, the building and general distribution industries dominated the industry distribution, making up nearly 70% of all vehicles seen between them.
4.4.4. SITE G4 – TEAM VALLEY SOUTH

Description of Site
This site was the northern entrance/exit of the Team Valley industrial estate, with the count undertaken at the roundabout underneath the A1. Only traffic entering/leaving the site was counted to allow a direct comparison with a count at the northern end of the site going on at the same time (see site G5).

The estate road is a dual carriageway both sides leading off a wide roundabout. There are no lane markings on the roundabout and just stop lines. The traffic enters the estate quite fast especially from the North and overtaking manoeuvres are done on and just off the roundabout. The road surface appears to be in good condition.

The area has street lighting and is assumed to be 30mph although this is not certain.

The count took place on the 18th May from 0845-1145. 481 vehicles were observed at a rate of 160 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Into estate</td>
<td>229</td>
</tr>
<tr>
<td>Out of estate</td>
<td>252</td>
</tr>
<tr>
<td>Total</td>
<td>481</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- The majority of traffic leaving the estate queues in the left lane up to the roundabout. This particular left lane queue backed up beyond the first feeder road at certain intervals of the study period. This had the effect of causing turning traffic to wait until the junction was clear.
- The overall traffic flow was appeared fairly steady through the survey period. There was a broadly similar flow of Heavy Goods Vehicles in and out of the estate running at about 80 lorries an hour each way with a slight peak entering the estate between 8am and 10am and this manifested itself with a corresponding peak of lorries leaving between 10am and 12 noon. One of the reasons for this is the opening times of many of the industrial units from 8am and another reason was the cyclical nature of some of the trades for example bread and parcel vans that left early with local deliveries and many were returning to their yards for additional work.
- There was occasional U turns at the A1 roundabout as lorries were either needing to access another part of the estate for several drops or indeed the driver was lost. In fact there were 7 HGVs seen and further smaller vans making this manoeuvre. There were two clear instances of drivers being lost and driving round several times trying to find someone to ask.
- There was a high proportion of parcel vehicles connected to the postal operations of Royal Mail and there were various TNT, DHL, Lynx and Parceline operations as well. There was a significant amount of traffic serving the retail park that includes Poundstretcher. Many of these retail delivery vehicles were seen coming in and leaving the estate a number of minutes later.
- There was a number of steel lorries delivering to the area, as pictured below.
- Many of the vehicles were heading for a local destination on the Team Valley Estate.
- There were vehicles from quite a large spread of origins including Lanarkshire, Powys, Milton Keynes, Grimsby, Cheshire. There were three foreign vehicles from France, Belgium and Holland.
- There was a vehicle accident observed on the roundabout where two vehicles were travelling from the north came off the A1 and were in two lanes under the bridge. The car on the inside lane was assumed to be coming on to the estate and a van attempted to overtake the car going on to the Team Valley road. However the car decided to stay on the roundabout and the collision occurred.
Key Points Of Statistical Analysis

- Average vehicle age is lower than normal at 4.5 years with a high proportion of Euro 3 compliant vehicles.
- Smaller and larger vehicles (7 tonners and 40/44 tonners) were the most common vehicle types.
- A wide variety of industry types were represented highlighting the size and varied nature of the Team Valley estate.

Vehicle Ages
The average vehicle age is relatively low at 4.5 years and it can be seen from the chart below that the proportion of Euro 3 vehicles is high at 36%. The proportion of pre Euro and Euro 1 vehicles is similar to other sites in Gateshead.

Industry Types
General distribution accounts for over a third of the industry types observed. Apart from this there was a wide variety of industry types seen with parcels and non-food retail particularly prominent. Again, this emphasises the varying nature of operations on the Team Valley estate.

Site Summary
The count was made at the southern entry point to the Team Valley Industrial Estate. Only traffic entering and leaving the estate was counted.
- There was an even split of vehicle entering and leaving the industrial estate.
- The number of vehicles associated with the parcels and retail industry was noticed during the count.
- Vehicles were observed arriving from a variety of widespread destinations.
- An accident between a car and van on the roundabout at the end of the estate road.
- The average age of vehicles was lower than normal at 4.5 years.
- The vehicle profile was not typical, with larger proportions of light (7 ton) and heavier (40/44 ton) vehicles noted.
- General distribution was the dominant industry type along with parcels and non-food retail. This gives an insight into the nature of businesses on the estate.
4.4.5. SITE G5 – TEAM VALLEY NORTH

Description of Site
This count was carried out at the Northern entrance/exit to the Team Valley estate and is the counterpart to site G4. However, unlike the count at the southern end this count included all vehicles rather than just those entering/leaving the estate.

The main estate road is a dual carriageway running north/south linking the A1 with Lobley Hill and Low Fell. The route runs up the centre of Team Valley and supplies mixed industries on the trading estate and a retail park at the southern end. A 40mph speed limit applies at this end of the estate.

The count took place on the 18th May from 0845-1145. 431 vehicles were seen at a rate of 144 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>186</td>
</tr>
<tr>
<td>North</td>
<td>156</td>
</tr>
<tr>
<td>East-West</td>
<td>82</td>
</tr>
<tr>
<td>Other movements</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>431</strong></td>
</tr>
</tbody>
</table>

Observations Made During Counts
- There were a number of vans seen servicing the industrial estate.
- Overall the movement of vehicles north and south was fairly equal.
- A high number of refrigerated vehicles were in evidence, also a significant number of vehicles in the parcel and packaging and insulation industry.
- Some of the vans were not identified, but the majority of freight had some form of identification.
- Most of the traffic was local with a few of the larger vehicles from further afield.

Key Points Of Statistical Analysis
- Average vehicle age was approximately 4.7 years with the overall vehicle age distribution similar to the Team Valley South site.
- Over 60% of the vehicles seen were 18 tonners, dominating the distribution of vehicle types.
- Vehicles associated with the general distribution and parcels industry together made up about two-thirds of all vehicles.

Vehicle Ages
The average vehicle age was approximately 4.7 years with half the vehicles Euro 2 compliant. The distribution of vehicle ages was very similar to that for the Team Valley South site.

Vehicle Types
The distribution of vehicle types is characterised by the large proportion of 18 ton vehicles (over 60%). Nearly 20% were large 40/44 tonners. The distribution of vehicles is very different from the distribution at the southern end suggesting a different pattern of land uses at this end of the estate.
Industry Types
The distribution of vehicle types isn’t dissimilar to the Team Valley South site, characterised by a large proportion of general distribution vehicles (over 40%) and parcels vehicles (20%). Vehicles associated with the building industry were also fairly common at over 15%.

Site Summary
This count took place at the northern end of the Team Valley estate road, although unlike the southern, it included all traffic observable from the survey point.

- There was a relatively even split of vehicle entering and leaving the estate, although early in the survey it appeared that many vehicles were travelling north to avoid likely congestion in the A1.
- A large number of refrigerated vehicles were noted. There were also considerable volumes of vehicles linked to the parcels and insulation industry noticed during the survey.
- The average vehicle age was 4.7 years with the age profile of vehicles similar to the Team Valley South site.
- Over 60% of the vehicles recorded were 18 tonners. The vehicle type distribution is different to that at the southern end of the estate suggesting a different pattern of land use at the northern end.
- However, the pattern of industries is similar to the southern end with large proportions of vehicles associated with the general distribution and parcels industry.
- The main difference in the pattern of traffic between the two Team Valley sites is in the vehicle distribution, the northern site mainly made up of 18 ton vehicles with the southern site more varied. This may be a function of different land uses at each end of the estate.
4.4.6. SITE G6 – METROCENTRE

Description of Site
This count took place on the Metrocentre arm of the roundabout forming the junction between the A694 and the A695. This the main dual carriageway from Blaydon and Scotswood bridge to the Metro Centre and the A1. Traffic is fast flowing traffic, negotiating the roundabouts at a relatively high speed. There were no restrictions on the road during the survey period and all exit roads were visible from the survey point. This route is derestricted with the national speed limit applying.

The count took place on the 19th May from 0700-1000. 611 vehicles were observed during the count at a rate of 204 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateshead-Scotswood</td>
<td>282</td>
</tr>
<tr>
<td>Scotswood-Gateshead</td>
<td>244</td>
</tr>
<tr>
<td>Scotswood-Metrocentre</td>
<td>39</td>
</tr>
<tr>
<td>Metrocentre-Scotswood</td>
<td>22</td>
</tr>
<tr>
<td>Metrocentre-Gateshead</td>
<td>10</td>
</tr>
<tr>
<td>Gateshead-Metrocentre</td>
<td>9</td>
</tr>
<tr>
<td>Other movements</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>611</strong></td>
</tr>
</tbody>
</table>

Observations Made During Counts

- Of the freight vehicles only a small proportion (circa 11%) went toward the Metrocentre from the roundabout.
- The A1 was not congested at the time of the survey. Given that there was a high number of freight vehicles observed this suggests that this route is a preferred route to the A1 for freight traffic.
- Steel lorries were a small proportion of traffic but there were a number of flat bed vehicles coming back from Scotswood Bridge area empty. There were a significant number of waste vehicles and tippers.
- Most vehicles businesses were identifiable.
- The nature of industries suggests that the majority of traffic was local. There were also a few vehicles from Northumberland, Scotland and Yorkshire.
- The numbers of freight vehicles seen in each hour was broadly equal, with an increase towards the end of the survey period.
  - 1st hour - 192
  - 2nd hour - 192
  - 3rd hour - 236

Key Points Of Statistical Analysis

- Average vehicle age was 4.8 years with the proportions of Euro 2 and Euro 3 vehicles high.
- 18 and 40/44 ton vehicles were the most common vehicle types.
- There was a wide variety of industry types represented with the general distribution and building industries accounting for over half the observed vehicles.

Vehicle Ages
The average vehicle age was approximately 4.8 years. Euro 2 (50%) and Euro 3 (34%) made up the majority of the vehicles observed.

Vehicle Types
The distribution of vehicle types is characterised by the higher proportions of 18 ton and 40/44 ton vehicles seen. However, the high level of traffic flow leads to a reasonable proportion of all vehicle types being observed.
Industry Types
Again, the high level of traffic flow is reflected in the distribution of industry types with several industries well represented. In particular there were good proportions of vehicles associated with the general distribution, building (both over 25%) and the waste/utility and parcels industries.

Site Summary
The count took place on the Metrocentre arm of the roundabout forming the junction between the A694 and the A695. This the main dual carriageway from Blaydon and Scotswood bridge to the Metro Centre and the A1.

- The dominant flow was between Gateshead and Scotswood with a broadly even split of freight vehicle in each direction. Relatively few vehicles were accessing the Metrocentre from this roundabout.
- The average vehicle age was 4.8 years.
- The vehicle profile was similar to what would normally be expected for a trunk road with high proportions of 18 ton and 40/44 ton vehicles. The high traffic flow on this link leads to a wide variety of vehicle types using the road.
- There was a wide variety of industry types observed, reflecting the high traffic flow. In particular the general distribution, building, utility/waste/emergency and parcels industries were well represented.

In general the make-up of traffic at this location is what would normally be expected at a trunk road site.
4.5. SUNDERLAND

The Sunderland element of the work consisted of 5 specialised vehicle count sites. The table below shows the numbers of vehicles observed at each site.

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Observed Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 – Bridges Centre</td>
<td>275</td>
</tr>
<tr>
<td>S2 – Port of Sunderland</td>
<td>81</td>
</tr>
<tr>
<td>S3 – A1231 – Nissan</td>
<td>393</td>
</tr>
<tr>
<td>S4 – A690 No Car Lane</td>
<td>147</td>
</tr>
<tr>
<td>S5 – A1231 Wessington Way</td>
<td>395</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1291</strong></td>
</tr>
</tbody>
</table>

A brief description of each site follows:
- **S1 – Bridges Centre** – On the A1218 on the Livingston Road arm of the key roundabout to the north of the city centre, with links to the Wearmouth bridge. Port and city centre.
- **S2 – Port of Sunderland** – On the B1293 at the entrance to the Port of Sunderland.
- **S3 – A1231 – Nissan** – On the A1231 to the west of the Nissan Way roundabout.
- **S4 – A690 No Car Lane** – On the A690 towards the edge of Sunderland, adjacent to Thorney Close primary school.
- **S5 – A1231 Wessington Way** – On the west side of the roundabout forming the junction with the A1231 and Castletown Way/Timberbeach Road.

The average age for vehicle in Sunderland was relatively low at 4.5 years. The age profile below shows that 86% of vehicles were Euro 2 or Euro 3 compliant. The lower average age is a result of a higher than normal proportion of Euro 3 compliant vehicles.

The Sunderland vehicle profile is again similar to the overall Tyne and Wear profile, although the proportion of 18-ton vehicles is notable. This is because only one of the five sites in Sunderland (the Port of Sunderland site) has a low proportion of 18-ton vehicles.
A detailed analysis of each site now follows.
4.5.1. SITE S1 – BRIDGES CENTRE

Description of Site
This site is located on the A1218 at the Livingston Road end of the roundabout with links south to Crowtree Road and the city centre and east to West Wear Street, Wearmouth bridge and the port. Traffic came from three arms of the roundabout and was flowing quickly negotiating the roundabout. There were road works on the exit of the roundabout toward West Wear Rd and this reduced the traffic to one lane. A 30mph speed limit applies.

This survey took place on the 27th May from 0700-1000. 275 vehicles were surveyed at a rate of 92 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West-East</td>
<td>73</td>
</tr>
<tr>
<td>East-West</td>
<td>51</td>
</tr>
<tr>
<td>South-West</td>
<td>50</td>
</tr>
<tr>
<td>South-East</td>
<td>34</td>
</tr>
<tr>
<td>West-South</td>
<td>34</td>
</tr>
<tr>
<td>East-South</td>
<td>29</td>
</tr>
<tr>
<td>U-turns</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>275</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- A significant number of Waste vehicles were in evidence associated with the nearby Rocktop Waste management depot.
- The traffic flowed quickly and there was only limited congestion. The road works did not affect the flow of traffic in any way. The only congestion was caused at the sequence of traffic lights at the Bridges centre.
- The majority of freight traffic was travelling in an east west direction.
- A large proportion of vehicles were 4 wheel vehicles suggesting that they were servicing the town centre, with only around 20% Articulated lorries.
- Most of the traffic was local in origin but a small number from outside the area (particularly Martley) and 6 Foreign vehicles.
- One foreign vehicle stopped on the roundabout to ask directions to Joplings of John St.

Key Points Of Statistical Analysis
- Average vehicle age is 4.6 years with a high proportion of Euro 2 and Euro 3 vehicles.
- The most common vehicle types are 18 and 40/44 tonners, likely to be predominantly serving the city centre and port respectively.
- A wide variety of industry types were observed, reflecting the mix of land uses in the vicinity of the site.

Vehicle Ages
The average vehicle age was relatively low at 4.6 years. This is borne out in the distribution of vehicle ages with 38% of vehicles Euro 3 compliant and just 11% pre Euro or Euro 1.
Industry Types
There was a wide variety of industry types seen at this location, with building, food and drink and waste/utility being the most common. This is explained by the "mixed" nature of land uses around the site with the city centre, port and other industries being served.

Site Summary
The count site is located in central Sunderland adjacent to the bridges centre. Freight traffic arriving at the A1218 Livingston Road roundabout was recorded.
- Freight traffic arrived from all directions at the roundabout. The dominant movement however was between the west and east in both directions.
- There were roadworks on one arm of the roundabout but this did not impede traffic flow.
- A lot of the freight traffic appeared to be of the type that would service the city centre.
- Average vehicle age was 4.6 years.
- 18 ton vehicles were the most frequent vehicle types observed, in a profile typical of town and city centres.
- There is a variety of land uses in the vicinity of the site, including typical city centre uses, the Port of Sunderland and industrial areas.

• This leads to a good spread of industry types being observed. The building, food/drink and waste industries were particularly common.
4.5.2. SITE S2 – PORT OF SUNDERLAND

Description of Site
This count was undertaken on the B1293 at the entrance to the Port of Sunderland. This is a single carriageway from Wearmouth Bridge to the port then curving right to South and freight port. It is a relatively quiet road with residential property to the south side and the river to the north. Traffic was free flowing throughout the survey with what traffic entered the port returning the same way. A 30mph speed limit applies.

The count took place on the 28th May from 0700-1000. 81 vehicles were surveyed at a rate of 27 vehicles per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port-South</td>
<td>12</td>
</tr>
<tr>
<td>South-Port</td>
<td>7</td>
</tr>
<tr>
<td>Port-West</td>
<td>28</td>
</tr>
<tr>
<td>West-Port</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- Traffic flow was relatively low and irregular throughout the survey. On speaking to the Gatehouse to the port it was found that traffic flow builds up from 0600 and continues throughout the day.
- It was evident that traffic flow was generally heavy vehicles.
- The traffic was all of local origin bound for the port.
- The vehicle businesses were generally identifiable.
- The vehicles entering the harbour also exited at this point. Some that came from the west left to the south. One rubbish lorry was seen collecting bins in the nearby residential properties.
- The port has a concrete mixing site, a chemical and fuel tank. The majority of vehicles were shunting backwards and forwards, whether it be sand, lime, concrete or fuel. A substantial number of vehicles carrying steel shavings accessed the port and some coming in for steel coils to take to Nissan.

Key Points Of Statistical Analysis
- Average vehicle age was approximately 4.9 years with Euro 2 being the most common engine type.
- There is a clear tendency towards larger vehicle types at this site with over half the vehicles being 40/44 tonners.
- The manufacturing, automotive and building industries made up the majority of the industry types observed.

Vehicle Ages
Average vehicle age was approximately 4.9 years. As ever, Euro 2 compliant vehicles made up the majority of those seen with 55%. A third were Euro 3 compliant.

Vehicle Types
The vehicle distribution is immediately characterised by the high proportion of heavier vehicles observed with over 50% being 40/44 tonners. These vehicles would clearly be using the nearby port.
Industry Types
The most frequent industry type seen was manufacturing (many vehicles related to the steel industry were observed heading for the port) with over a third of the observed vehicles being associated with this industry. The building and vehicle/automotive industries were also well represented.

Site Summary
This count was undertaken on the B1293 at the entrance to the Port of Sunderland. The B1293 links the port with Wearmouth Bridge.
- Most traffic visiting the port arrived and departed to/from the west along the B1293.
- The main impression during the survey was that traffic flow was generally heavier vehicles.
- Much of the freight traffic was associated with industry on the port site – for example steel, concrete and chemicals.
- The average vehicle age was 4.9 years.
- The vehicle type profile is dominated by 40/44 ton vehicles, which are associated with heavy industry taking place on the port site.
- Many vehicle associated with the steel industry were observed heading for the port resulting in a high proportion of vehicles associated with the manufacturing industry. Building and automotive industry vehicles were also prominent at this survey point.
- The make-up of freight traffic suggests that the Port site is equally important as a site for industry.
4.5.3. SITE S3 – A1231 NISSAN

Description of Site
This count was undertaken to the west of the grade separated sliproad at Nissan Way roundabout on the A1231. The A1231 is a dual carriageway linking the A19 in the east and A182 in the west. In the vicinity of the count site it serves a number of industrial estates and retail parks. Traffic was free of restrictions and flowed freely throughout the duration of the survey. The national speed limit applies.

The count took place on the 24th May from 0700-1000. Each carriageway was surveyed separately for half this time. 393 vehicles were surveyed at a rate of 131 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>206</td>
</tr>
<tr>
<td>East</td>
<td>115</td>
</tr>
<tr>
<td>East-Slip</td>
<td>20</td>
</tr>
<tr>
<td>Slip-West</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>393</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- Traffic was unrestricted at all times of the survey and moved rapidly throughout. The majority of freight leaving the A1231 travelled south into the industrial estate with the minority turning north toward Nissan.
- A significant number of car transporters were in evidence coming from Nissan. There were a large number of parcel carriers (R-Tek) who may have a depot on the south estate.
- Articulated lorries made up around 40% of all freight. There were also a number of concrete mixers of all 4 and 6 wheel types.
- A large number of Vehicle passed without identification these, generally box and refrigerated box vehicles.
- Most of the traffic was local but there were a number of vehicles from Selby, South Wales, Warwickshire and Carlisle.

Key Points Of Statistical Analysis
- Average vehicle age was low at 4.3 years. The vehicle age profile was consistent with other areas.
- The vehicle types were dominated by higher number s of 18 and 40/44 ton vehicles.
- There was a good mix of industry types.

Vehicle Ages
The average vehicle age was relatively low at 4.3 years. There was corresponding high proportion of Euro 3 compliant vehicles. The proportion of pre Euro and Euro vehicles was typical for most sites at 12%.

Vehicle Types
The vehicle type distribution is characterised by the number of 18 ton and 40/44 ton vehicles. These vehicles would be likely to be servicing the surrounding business and retail parks. There are a wide variety of business operations on these parks leading to use of both smaller and larger vehicles for servicing and delivery.
Industry Types
A wide variety of industry types were observed during the count reflecting the high traffic volume and variety of businesses in the vicinity of the count site. General distribution was the most common industry type observed.

Site Summary
This count was undertaken to the west of the grade separated sliproad at Nissan Way roundabout on the A1231, which links the A19 in the east with the A182 in the west.

- Approximately twice as much traffic was heading west as was heading east.
- There were a significant number of car transporters evident, generally associated with the nearby Nissan plant. These have a considerable impact on the roads in this area.
- Much of the traffic appeared to be local at this site.
- Average vehicle age was 4.3 years.
- The vehicle type profile was characterised by high proportions of 18 ton and 40/44 ton vehicles in common with similar sites across the region.
- There was a wide mix of industry types, illustrating the wide range of land uses in the surrounding area.
4.5.4. SITE S4 – A690 (PRE NO CAR LANE)

Description of Site
This count site is located on the A690, 30 metres east of the roundabout for North Moor Road, in front of Thorney Close Primary School. This route is a dual carriageway leading eastwards to a no-car lane and west from a no-car lane. To the east is Sunderland Centre and to the west is the A19. A 30mph speed limit applies.

The count took place on the 26th May from 0700-1000. 147 vehicles were observed at a rate of 49 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>72</td>
</tr>
<tr>
<td>East</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- Traffic was in the main free from any major congestion. There is a cyclists lane at the side of the road east bound yet the sign states that cyclists can use the no-car lane.
- The no-car lane appeared to be working efficiently with public transport flowing without any restrictions. Three cyclists used this lane and this looked dangerous as buses passes them, particularly when the car lane is busy.
- Freight flows were not particularly high. Waiting occurred at 0740 and lasted until 0810 with traffic moving slowly. All other times the traffic was moving freely. Any congestion was only on the east bound traffic towards the city centre, with west bound traffic flowing freely.
- Freight traffic appeared to be generally lighter in nature, serving the city centre rather than any industrial estates.
- Some vehicles that went in toward the city centre returned in the opposite direction.

When the route was congested it was evident that some of the traffic turned right at the roundabout and went down North Moor Road. Cars used the no-car lane to beat the traffic.

- The majority of vehicles were of local origin, but some were from Bradford, and Lancashire with the destination being the city centre.
- Some cars were using the no-car lane to avoid congestion. 7 seat Taxis were also using the lane.

Key Points Of Statistical Analysis
- Average vehicle age was 4.7 years with a high proportion of Euro 3 compliant vehicles.
- 18 tonners were the most common vehicle type (40%).
- There was a wide variety of industry types seen, consistent with the role of the route as it serves the entire city centre.

Vehicle Ages
The average vehicle age was 4.7 years. The proportion of pre-Euro and Euro 1 compliant vehicles was slightly higher than normal at 16% but there was also a relatively high proportion of Euro 3 vehicles (39%).

Vehicle Types
18 ton vehicles made up 40% of the observed vehicles with each of the other categories between 10% and 20%. This is logical, with these lighter vehicles likely to be servicing the city centre.
Industry Types
There was a good variety of industries at this location with building the most common at 25%. There were also a number of vehicles associated with the general distribution, food/drink, waste/utility and non-food retail seen. This is an arterial route serving the city centre and the mix of industries is consistent with this.

Site Summary
This is an interesting site, being on the A690 arterial route into Sunderland and adjacent to a no-car lane. The route links the centre of Sunderland to the A19.
- Traffic flow was evenly balanced between the directions.
- The no-car lane was observed to be working well with buses able to pass along it without restrictions.
- Freight flows were generally low, with much of the traffic appearing to be lighter in nature servicing the city centre.
- Average vehicle age was 4.7 years.
- 18 ton vehicles made up the majority of the freight vehicles, the profile being more typical of an urban site.

There was a wide variety of industries present. The building, general distribution and food/drink industries were the most common making up over half the freight traffic.
4.5.5. SITE S5 – A1231 WESSINGTON WAY

**Description of Site**

This site is located on the A1231 on the west side of roundabout that forms the junction with the A1231 and Castletown Way/Timber Beach road. The route is a busy dual carriageway running east/west connecting Sunderland with the A19.

There are a total of 4 roundabouts on the link with 2 serving the retail park and Castletown. The Stadium of Light football ground is also off the A1231 to the east. The route was free of any restrictions during the survey and traffic flowed quickly without any hold ups. The national speed limit applies.

The count took place on the 25th May from 0700-1000. 395 vehicles were observed at a rate of 132 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>146</td>
</tr>
<tr>
<td>West</td>
<td>142</td>
</tr>
<tr>
<td>South-West</td>
<td>38</td>
</tr>
<tr>
<td>East-North</td>
<td>29</td>
</tr>
<tr>
<td>West-North</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>395</strong></td>
</tr>
</tbody>
</table>

**Key Points Of Statistical Analysis**

- The average vehicle age was 4.6 years with 39% of the vehicles Euro 3 compliant.
- 18 tonners were the most frequent vehicle type, making up 40% of the total.
- There were a wide variety of industries seen, reflecting the fact that the route serves the city centre and industrial areas.
- A tractor was observed using this road turning down toward the retail park. Ferguson’s Transport have a depot on this roundabout and there was a considerable flow of traffic into this.

**Vehicle Ages**

The average vehicle age was relatively low at 4.6 years. 39% of the observed vehicles were Euro 3 compliant with 46% Euro 2. 15% were pre Euro or Euro 1.

**Vehicle Types**

The vehicle distribution is characterised by the large number of 18 ton vehicles observed, which confirms the initial on-site observations. It is likely that these would generally be servicing Sunderland city centre. There were also a number of 40/44 tonners observed, likely to be associated with the surrounding industrial estates.
Industry Types
A wide variety of industry types were observed. General distribution was the most frequent industry category with the building, waste/utility and non-food retail industries also well represented. This is logical given the routes role in servicing the city centre and industrial estates.

Site Summary
This site is located on the A1231 on the west side of the roundabout that forms the junction with the A1231 and Castletown Way/Timber Beach road. The route links the centre of Sunderland and the port area with the A19 and the strategic road network.

- There is an even directional split between freight traffic travelling to the east and west.
- On site, it was noticeable that there was a large proportion of 18-ton vehicles which appeared to be servicing the city centre.
- The majority of traffic was local servicing the city centre, port of Sunderland and the retail park.
- The average vehicle age is 4.6 years.
- The initial site observations are confirmed by the vehicle type distribution which shows that 18 ton vehicles are the most common freight vehicles at this location.
- Again, a wide variety of industry types was evident. This is in part a function of the relatively high freight traffic flows along the route.
- The general distribution, building, waste/utility and non-food retail industries are the best represented of the industry types at this survey point.
4.6. SOUTH TYNESIDE

The South Tyneside element of the work consisted of 5 specialised vehicle count sites. The table below shows the numbers of vehicles observed at each site.

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Observed Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST1 – Port of Tyne</td>
<td>472</td>
</tr>
<tr>
<td>ST2 – South Shields Centre 1</td>
<td>20</td>
</tr>
<tr>
<td>ST3 – A1018 Sunderland Road</td>
<td>85</td>
</tr>
<tr>
<td>ST4 – A19 Tyne Tunnel</td>
<td>760</td>
</tr>
<tr>
<td>ST5 – South Shields Centre 2</td>
<td>74</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1411</strong></td>
</tr>
</tbody>
</table>

A brief description of each site follows:
- **ST1 – Port of Tyne** – On the A194, west of the entrance to the Port of Tyne.
- **ST2 – South Shields Centre 1** – On Mile End Road, close to the centre of South Shields.
- **ST3 – A1018 Sunderland Road** – On the A1018 between the junction with the B1299 to Whitburn and the A184 roundabout leading to Sunderland.
- **ST4 – A19 Tyne Tunnel** – On the A19 to the south of the Tyne Tunnel.
- **ST5 – South Shields Centre 2** – At the junction between Crossgate and Westoe Road in central South Shields.

The average age for freight vehicles in South Tyneside is 4.6 years. The age profile below shows that 86% of vehicles were Euro 2 or Euro 3 compliant.

The South Tyneside vehicle profile follows the general pattern for Tyne and Wear although there is a greater proportion of heavier (32 ton and 40/44 ton) vehicles than normal. This is mainly due to the distorting impact of high numbers of heavier vehicles seen at the Tyne Tunnel and Port of Tyne sites with relatively low flows at other sites in the area.

The industry profile for South Tyneside is identical to the overall profile for the whole of Tyne and Wear.
a detailed analysis of each site now follows.
4.6.1. SITE ST1 – PORT OF TYNE

Description of Site
This site is located on the A194, 100 metres west of entrance to Port of Tyne. This is a dual carriageway running east to Port of Tyne and South Shields, and west to the Tyne Tunnel and the A19. The count was undertaken from the eastbound carriageway.

The route is a busy dual carriageway supplying the Port of Tyne and docks to the North East and South Shields centre to the South East. To the west are the A19, Tyne tunnel and Bede industrial estate and the A1. Throughout the survey period the route was free from any restrictions with traffic moving freely. The carriageways had a separate cycle lane. Most of the heavy freight traffic was turning into the port. A 40mph speed limit applies.

The count was undertaken on the 1st June from 0700-1000. 472 vehicles were observed at a rate of 157 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>256</td>
</tr>
<tr>
<td>East</td>
<td>216</td>
</tr>
<tr>
<td>Total</td>
<td>472</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- In general traffic flow was un-congested and free flowing. The only minor hold-ups were when vehicles were trying to exit the port onto the roundabout to travel west.
- The majority of the vehicles were 6 axle articulated lorries. Numerous lorries were linked with the construction industry and were travelling a shuttle service to a site appearing to be very near the survey point, this suggests that there is a lot of building work being carried out in the vicinity.
- Of the total commercial traffic over half were large vans many connected with the building industry.
- The majority of traffic went onto the port entrance returning the same route.
- Most of the traffic was of local origin with some carrying steel andaggregate.
- The port is wide spread and has privately owned 3rd party warehousing for products such as electrical goods. There is also a steel collection point for disposal abroad.

Key Points Of Statistical Analysis
- Average vehicle age was 4.6 years.
- The vehicle profile was characterised by high proportions of 18 ton and 40/44 ton vehicles.
- There was a wide variety of industry types observed due to the variation of land uses around the survey point.

Vehicle Ages
The average vehicle age is approximately 4.6 years due to a relatively high proportion of Euro 3 vehicles (40%).

Vehicle Types
The distribution of vehicle types is characterised by the high proportions of 18 tonners (30%) and 40/44 tonners (nearly 40%). It is likely that the majority of the heavier vehicles would be connected with operation at the Port of Tyne. It is possible that the lighter vehicles were linked to the centre of South Shield or involved in general industry throughout the area.
Industry Types
General distribution is the most frequently occurring industry type with approximately a third of all vehicles. Apart from this, the high traffic flow and variety of land uses in the area has led to a variety of industries being observed at this location.

Site Summary
The count was undertaken on the A194, just west of the entrance to the Port of Tyne. This dual carriageway section connects the Port of Tyne and South Shields to the A19 and Tyne Tunnel.

- A slightly greater proportion of vehicles were travelling west than east.
- A large number of vehicles appeared to be linked to the construction industry, suggesting that building work is going on in the vicinity.
- Most of the traffic came from or went to the main port entrance.
- The port is spread over a wide area and has privately owned 3rd party warehousing for products such as electrical goods. There is also a steel collection point for disposal abroad.
- Average vehicle age is 4.6 years.

Aside from general distribution, building was the most frequent industry type observed.
4.6.2. SITE ST2 – SOUTH SHIELDS CENTRE

Description of Site
This site is located on Mile End Road, close to the centre of South Shields. This is a single carriageway in a residential area running from the river road in the north and town centre in the south. Mile End Road is not the main road for traffic into the town centre. A 30mph speed limit applies.

The count took place on the 2nd June from 0700-1000. Just 20 freight vehicles were seen, at a rate of 7 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>3</td>
</tr>
<tr>
<td>South</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- There was a very light volume of traffic which suggests that this is not a main route for traffic into the centre.
- In general freight vehicles were of the lighter variety except for 2 articulated boxed fridge 6 axle lorries which supplied the supermarket around the corner, and 2 curtain side 6 axle which also supplied the supermarket.
- All the vehicles passing this point were local and were supplying the north side of the town. All returned the way they came in.
- All the freight vehicles were marked but the majority of vans were unmarked.
- A small road sweeper and a manual worker picking up litter were cleaning the area. These were part of the “Blitz It” squad.
- After completing the survey, the other area’s of South Shields were viewed and it was found that there were significantly more freight traffic entering the town from the west and south through Fowler Street. A Site G5 has therefore been surveyed.

Key Points Of Statistical Analysis
- Average vehicle age was 5.0 years, with no pre Euro legislation vehicles being observed.
- 18 tonners represented 40% of the observed vehicles.
- The most common industry type represented was the food/drink industry at 50% of the observed vehicles.

Vehicle Ages
The average vehicle age is 5.0 years. None of the surveyed vehicles were from the pre Euro legislation period. 85% were either Euro 2 or Euro 3 vehicles.

Vehicle Types
18 tonners were the most frequently observed vehicles type, and are typical of the type of vehicles that would serve a town centre such as South Shields. 25% of vehicles were 40/44 tonners which were observed to negotiate the route without difficulty.

Industry Types
The low number of freight vehicles observed has led to relatively few industry types being seen. The food/drink industry made up 50% of those vehicles observed.
Site Summary
The count was taken on Mile End Road, close to the centre of South Shields. The road connects River Road in the North to the Town Centre.
- Only 20 vehicles were observed during the 3 hour count. Of these, more than half were 7 or 18 Tonners, while a quarter were large vehicles.
- This route was identified as a route not used for freight traffic into South Shields; the only large vehicles using the route were serving the nearby supermarket.
- A further site, site ST5 has been surveyed.
4.6.3. SITE ST3 – A1018 SUNDERLAND ROAD

Description of Site
This site is located on the A1018 between the B1299 to Whitburn and the A184 roundabout to Sunderland. It is a single carriageway route running south to the roundabout at A184 and north to South Shields Centre. There is a cycle lane in each direction. The route was clear of any restrictions throughout the survey. A 40mph speed limit applies.

The count took place on the 3rd June from 0700-1000. 85 vehicles were observed at a rate of 28 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>54</td>
</tr>
<tr>
<td>South</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- There were numerous tipper and waste vehicles in evidence suggesting that a landfill or waste site is nearby.
- Traffic flowed freely without any congestion.
- The freight was generally 6 wheel and 4 wheel light vehicles. The majority of vehicles were connected with the waste industry, with some of these being tippers and the rest skip vehicles.
- This route appeared to be a link for light traffic from north of Sunderland to South Shields. Waste and aggregate vehicles were observed to be moving back and forward along the route.
- The majority of vehicles were marked with only a small number of box vans were unmarked.
- The traffic using this route was generally of local origin and destination (either Sunderland or South Shields).
- The cycle lane was used by 4 cyclists toward Sunderland during the survey period.

Key Points Of Statistical Analysis
- Average vehicle age was approximately 5.2 years with a higher than normal proportion of pre Euro and Euro 1 vehicles.
- 50% of the observed vehicles were 18 tonners.
- The building, food/drink and waste/utility industries made up the majority of industry types.

Vehicle Ages
Average vehicle age was relatively high at approximately 5.2 years. This is borne out by the lower than normal proportion of Euro 3 vehicles (33%) and higher than normal proportion of pre Euro and Euro 1 vehicles.

Vehicle Types
18 tonners make up the majority of vehicle types at this site, representing 50% of observed vehicles. There was a fairly even split for the remaining vehicles.
Industry Types
The building, food/drink and waste/utility industries made up the majority of the industry types seen, representing about 75% of the total.

Site Summary
The count was undertaken on the A1018, to the north of South Shields centre. The section of road connects the B1299 and the A184.

- There were numerous tipper and waste vehicles in evidence suggesting that a landfill or waste site is nearby.
- This route appeared to be a link for light traffic from north of Sunderland to South Shields. Waste and aggregate vehicles were observed to be moving back and forward along the route.
- Much of the traffic appeared to be local in origin and destination.
- The average vehicle age was 5.2 years.
- Almost half of all vehicles were 18 tonners. In spite of the more "inter-urban" nature of the route the vehicle type profile was similar to urban sites in Tyne and Wear.
- A large proportion of the vehicles at the site appeared to be connected with local waste disposal industry.
- The construction trade and food and drink were the other common industry types observed.
4.6.4. SITE ST4 – A19 TYNE TUNNEL

Description of Site
This site is located on the A19 south of the Tyne Tunnel at the entrance to the roundabout. The count was conducted on the central reservation to check vehicle coming north and going towards South Shields to the east.

The route is a dual carriageway leaving the tunnel on the A19 leading up to a roundabout to either continue south on the A19 or to exit to the A185 to South Shields and Jarrow. The route was free from any restrictions on the exit and entrance to the tunnel. Traffic was joining the A19 roundabout from the A185 Jarrow and South Shields with the traffic flow from these junctions was controlled by traffic lights. A 30mph speed limit applies at the survey point.

The count took place on the 4th June from 0645-1000. 760 vehicles were observed at a rate of 234 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>360</td>
</tr>
<tr>
<td>South</td>
<td>329</td>
</tr>
<tr>
<td>North-East</td>
<td>66</td>
</tr>
<tr>
<td>Other movements</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>760</td>
</tr>
</tbody>
</table>

ATC data was available for this site. Across an average 12-hour period for this site it was found that HGV’s would make up about 16% of the traffic flow. The expected movements on the mainline would be a 2-way total of 335 HGV vehicles per hour. This survey recorded an average number of HGV vehicles of 211 an hour. This is a lower figure than the ATC average but given the high traffic flows and the possibility of missing vehicles whilst recording others it represents a good sample of freight vehicles at this site.

Observations Made During Counts

- Freight vehicles and vans were separated from the main flow through a slip road to carry out checks. Two freight vehicles and one car and caravan tried to go straight through but were stopped and thoroughly checked. Fuel tankers were stood on standby until they could be escorted through the tunnel.
- The traffic was moving freely throughout the survey with only minor congestion. The A19 to the south of the roundabout was continuously congested.
- There were 9 foreign vehicles passing through the tunnel.
- The traffic was predominantly heavy in nature.
- The direction of travel was a fairly even split between north and south.
- A number of car transporters went to the east from the A19 (south) and from the tunnel. Tippers and waste vehicles were observed travelling from all directions.
- There were a significant number of container vehicles and tipper/waste vehicles at this survey point. One vehicle went passed that contained sawdust.
- The majority of vehicles were marked both on the unit and side of container.
- The majority of the vehicles were of local origin. Some heavy vehicles were from further afield.
- Overall traffic flows were very high. However, the count took place during the half term holidays so it would be expected that these would be higher in normal circumstances.

Key Points Of Statistical Analysis

- Average vehicle age was 4.6 years with the vehicle age profile typical for other sites in Tyne and Wear.
- 40/44 tonners were the most frequently observed vehicle type with 18 tonners also prominent.
- There was a wide variety of industry types observed with general distribution the most prominent.

Vehicle Ages
The average vehicle age was relatively low at approximately 4.6 years. The proportions of Euro2 and Euro 3 vehicles were very typical for other sites throughout Tyne and Wear.

Vehicle Types
The vehicle type distribution is characterised by the high proportion of 40/44 tonners (40%), which is as would be expected on a strategic route such as the Tyne Tunnel. There were also a good proportion of 18 tonners (25%).

![MAP Image]

![Graph Image]
**Industry Types**
The general distribution industry makes up around a third of the observed vehicles with the building industry accounting for over a quarter. There is a relatively even spread of the remaining industries, reflecting the high traffic flow and the importance of the Tyne Tunnel in the regional road network.

**Site Summary**
The count was undertaken on the A19 at the roundabout south of the Tyne Tunnel. The Roundabout connects the North-South A19 with the A185 to South Shields/Jarrow.

- The direction of travel was a fairly even split between north and south.
- During the survey it was apparent that a lot of freight traffic was heavier in nature.
- Overall traffic flows were very high. However, the count took place during the half term holidays so it would be expected that these would be higher in normal circumstances.
- The average vehicle age was 4.6 years.
- The vehicle type profile was typical for a strategic road with high proportions of 18 ton and 40/44 ton vehicles present.
- A large proportion of vehicles were larger 32 or 40/44 Tonner vehicles, which comprised approximately 65% of all HGV traffic.

The building and general distribution industries made up approximately 60% of observed vehicles; the remaining vehicles were evenly distributed across other industry types, reflecting the high traffic flows and the importance of the Tyne Tunnel link for carrying freight around the Tyne and Wear region.
4.6.5. SITE ST5 – SOUTH SHIELDS CENTRE 2

Description of Site
This count was undertaken at the traffic lights on the corner of Crossgate and Westoe Road, in front of the Town Hall steps in central South Shields. Westoe Road runs north/south and at the point of the survey there is an offset junction with Crossgate to the west and Beach Road to the East. The stretch of road from Crossgate to Beach road has a central reservation.

During the survey there was a heavy flow of traffic from all junctions. There were no restrictions except for the traffic lights. At the point of the survey there are bus lanes on Westoe Road in both directions. A 30mph speed limit applies.

The count took place on the 7th June from 0700-1000. 74 vehicles were observed at the rate of 25 per hour.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>East-West</td>
<td>19</td>
</tr>
<tr>
<td>West-East</td>
<td>18</td>
</tr>
<tr>
<td>South-East</td>
<td>11</td>
</tr>
<tr>
<td>East-South</td>
<td>11</td>
</tr>
<tr>
<td>West-South</td>
<td>6</td>
</tr>
<tr>
<td>South-West</td>
<td>4</td>
</tr>
<tr>
<td>Other movements</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
</tr>
</tbody>
</table>

Observations Made During Counts
- The volume of traffic was heavy but the flow was unrestricted. There was never any congestion in the 3 hours of the survey, but on a couple of occasions traffic was left stationary in the middle of the lights turning right from Westoe Road to Crossgate when the lights changed.
- The nature of freight traffic was light, reflecting the town centre area being served.
- A significant amount of milk delivery vehicles were in evidence suggesting that there is a dairy nearby.
- A van was observed proceeding south from the town centre down the bus lane and through the traffic lights.
- It appeared that most of the traffic entering the town centre came back through the one-way system and out to the direction they came from. A number of vehicles turned into Garden lane from Crossgate and came back out through Beach Road. It was noted that Asda lorries only passed this point on exiting the town centre, suggesting that they came in from Mile End Road to the supermarket.
- The Majority of vehicles were marked. However some of the white lorry and older curtain side vehicles were unmarked.
- The majority of traffic was local in origin and the main destination was the town centre.
- The bus only lane was very successful and was only once abused and appeared to be working very well with the redirection of traffic off Fowler Street travelling south.

Key Points Of Statistical Analysis
- The average vehicle age was very low at 3.8 years with a high proportion of Euro 3 compliant vehicles.
- Most of the freight traffic flow was made up of lighter 7 and 18 ton vehicles.
- The food/drink industry made up the majority of the observed freight traffic.

Vehicle Ages
The average vehicle age is very low at 3.8 years, mainly due to an exceptionally high proportion of Euro 3 compliant vehicles at 54%. Also, there were very few pre Euro and Euro 1 vehicles at this location.
**Vehicle Types**
The distribution of vehicle types is strongly skewed towards lighter vehicles with high proportions of 7 ton (35%) and 18 ton (40%) vehicles. This is consistent with the town centre location of the survey and the observations made on site.

![Vehicle Distribution - ST5](image)

**Industry Types**
The food/drink industry is responsible for the majority of the vehicles observed at this site (nearly 40%) with a relatively even split amongst the remaining industries. Again, this is consistent with the businesses likely to be located within the town centre and with the observations made on site.

![Industry Type: ST5](image)

**Site Summary**
The count was undertaken in central South Shields, on the corner of Crossgate and Westoe Road.

- The site is on a complicated junction with freight traffic moving in all directions. However, the dominant movement is east-west/west-east.
- In general, freight traffic was lighter in nature, reflecting the urban nature of the site.
- The average age of freight traffic is very low at this location - 3.8 years. Correspondingly the proportion of Euro 3 compliant vehicles is very high at 54%.

The vehicle profile is fairly typical of an urban site being weighted towards lighter vehicles. More than three-quarters of all vehicles were 7 or 18 tonnes.

A high proportion of vehicles were associated with the food and drink industry. There were no vehicles observed relating to the automotive/fuel industry. This is consistent with the types of businesses operating in the centre of South Shields.
5 DRIVER SURVEYS
5. Driver Surveys

5.1. INTRODUCTION
As part of the study a driver’s questionnaire was designed to collect a wide range of data through personal interviews with delivery drivers at ten different locations. These sites were chosen in conjunction with the client to try and cover a range of different venues including shopping centres, transport terminals and a truckstop.

5.2. ANALYSIS OF DISTANCE TRAVELLED FROM BASE TO POINT OF INTERVIEW
In order to provide some comparison of drivers interviewed in the Tyne and Wear region with another area where similar interviews have taken place, the average distance from York city centre and the York lorry park at the side of the strategic road network have been included (Table 5.1).

Table 5.1 Average base to point of interview distances of sites surveyed

<table>
<thead>
<tr>
<th>Site No</th>
<th>Site name</th>
<th>Description</th>
<th>Average distance from base to point of driver’s interview (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>York Centre</td>
<td>Urban shopping centre</td>
<td>50</td>
</tr>
<tr>
<td>Y2</td>
<td>York Lorry Park</td>
<td>Outer ring road lorry park</td>
<td>150</td>
</tr>
<tr>
<td>GD1</td>
<td>Birtley Truckstop</td>
<td>Truckstop of the A194(M)</td>
<td>165.1</td>
</tr>
<tr>
<td>GD2</td>
<td>Metro Centre</td>
<td>Out of town shopping centre</td>
<td>84.6</td>
</tr>
<tr>
<td>SD1</td>
<td>Sunderland Bridges Centre</td>
<td>Urban shopping centre</td>
<td>107.5</td>
</tr>
<tr>
<td>SD2</td>
<td>Houghton Le Spring</td>
<td>High Street</td>
<td>Not Available</td>
</tr>
<tr>
<td>STD1</td>
<td>Port of Tyne</td>
<td>North east coast sea port</td>
<td>25.3</td>
</tr>
<tr>
<td>STD2</td>
<td>South Shields Centre</td>
<td>Town centre shopping centre</td>
<td>49</td>
</tr>
<tr>
<td>ND1</td>
<td>Eldon Square</td>
<td>Shopping centre in Newcastle</td>
<td>71</td>
</tr>
<tr>
<td>ND2</td>
<td>Newcastle Airport</td>
<td>Airport</td>
<td>67.8</td>
</tr>
<tr>
<td>NTD1</td>
<td>North Sea Ferries</td>
<td>Road to ferry terminal</td>
<td>260.4</td>
</tr>
<tr>
<td>NTD2</td>
<td>Silverlink</td>
<td>Industrial estate</td>
<td>135.4*</td>
</tr>
</tbody>
</table>

The Silverlink excludes an Italian driver that would throw the figure and the Port of Tyne includes site based drivers.

The figures of average distances travelled from base to point suggest that drivers travelling longer distance are more likely to stop at lorry parks and truck stops in and around the strategic road networks, whilst drivers travelling smaller distances will stop in town centres.

These findings can be supported when consideration of the type of operations lorry drivers undertake. Drivers making small local deliveries are more likely to travel smaller distances and are more likely to be making deliveries in and around town centres, hence the reason why the surveys conducted at sites such as South Shields and York Centre gave low average distances travelled. Long distance drivers, making larger and less frequent stops are less likely to be willing to stray off the strategic road network for a break, especially if they would encounter the congestion seen in many towns and cities.

The largest average base to point distance is 260.4 miles, recorded at the North Sea Ferries site. The site is the main link road between the North Sea Ferries terminal and the A187 (which goes onto feed the A19, A1058 and the Tyne Tunnel). The reason for the large distance can be put down to the number of drivers surveyed that had bases in either the Netherlands or Germany.

There are two figures that stand out, the average distance travelled by lorry drivers at the Sunderland and Port of Tyne sites seem not to match the trend. The Bridges centre located in Sunderland features Debenhams and other large stores that are only present at sizeable out of town shopping complexes or in the shopping precinct of large cities. Thus drivers for such firms will travel further between delivery points.

The low average distance travelled by drivers at the Port of Tyne survey could be attributed to the neighbouring ports of Seaham and Sunderland, both with large storage capacities. Port of Tyne has a low average distance figure because several of the drivers interviewed were actually based in the dock complex and hence were local. The authority

FABER MAUNSELL
itself has a vehicle fleet that delivers to a wide range of destinations but also shunt goods between local warehouses in the area.

The Silverlink distance, as mentioned previously, has been adjusted. The base to point distance of the driver based in Torino, Italy (being 976 miles) has been left out of the final average distance calculations because it led to the Silverlink figure being distorted. The average distance with the figure left in was 224.1 miles, without the distance was 135.4 miles.

5.3. ANALYSIS OF LORRY DRIVER QUESTIONNAIRES BY SITE

5.3.1. SUNDERLAND

All the drivers surveyed at the Sunderland Bridges centre site drove 5 axle artics for retail companies, with the majority being food retail. This can be explained due to the site being in the centre of Sunderland and being a shopping centre. One would expect that only lorries with a delivery in the town centre would venture into the area.

The majority of the drivers were not local, according to the distance from base to point. Only 3 of the 11 drivers surveyed had a base to point distance of less than 40 miles. The remaining drivers had travelled over 100 miles from their base position, with 1 travelling 232 miles from Bedford.

Drivers opinions on priorities for transport investment includes:

- ‘Increase car awareness about freight.’
- ‘Lorry lanes in town centres.’
- ‘Put freight onto railways.’
- ‘Better loading areas in town centre.’

All bar one of the drivers identified that inappropriate parking was most evident in town centres, particularly in areas designated for deliveries/collections.

Out of the 11 surveyed, 64% spent of half their time partially loaded, whilst only 3 drivers had fully loaded vehicles for over half of the time.

5.3.2. BIRTLEY TRUCKSTOP

The distribution of companies represented by the drivers questioned at the lorry park was far broader than that witnessed at Sunderland Bridges centre location. 5 of the 11 drivers drove retail related lorries while 3 drove third party lorries. In terms of vehicle type represented, over half (6 of the 11) were 4 wheelers.

The nature and position of this truck stop has led to high distance from base to point of the drivers. Not a single driver had travelled under 100 miles from their base to Birtley, 1 driver had travelled 306 miles from Romford to Birtley.

Drivers opinions on priorities for transport investment include:

- ‘No car lanes in town centre’ (several gave this response).
- ‘Take out slip roads, especially around the Team Valley Area.’
- ‘Improve Tyne tunnel, upgrade A1 to motorway standard throughout the route.’

All but 3 of the drivers stated that the problem areas in the region were at the Tyne Tunnel, Metro Centre and Team Valley, with Angel and the Tyne Tunnel also mentioned.

5.3.3. PORT OF TYNE

There was a large amount of variation in companies represented by the drivers questioned. Once again retail was the dominant type with five. There were only 2 types of lorry represented, 6 axle artics and 5 axle artics.

The base to point distance of the drivers questioned was low especially in comparison with other sites, only 1 driver had a distance of over 50 miles, while 4 of the drivers had a minimal distance to travel as they were based in and around the Port of Tyne area.

Drivers’ opinions on priorities for transport include:

- ‘Better facilities and security at truck stops’ (the view of a few drivers)
- ‘Increase funds for training.’
- ‘Taxes for roads should be spent on roads.’
- ‘Foreign drivers should pay a toll for using the roads, similar to what British drivers have to do abroad.’

5.3.4. SOUTH SHIELDS CENTRE

As the case in Sunderland, retail firms were the dominant company type of the drivers surveyed, all bar 1 of the 8 drivers surveyed worked for a retail firm, either food or non food. The majority of the lorries were 4 wheeler or 7.5-ton vehicles (6 out of the 10).

The distance travelled from base to point was low, with only 3 of the 8 drivers having travelled over 100 miles from their base to the centre of South Shields. The remaining 5 drivers all had travelled around 10 miles from base to point.

Drivers’ opinions on priorities for transport include:

- ‘More truck stop facilities.’
- ‘More no car lanes, train more drivers from the dole queues.’
- ‘Better access into town centres & better loading points.’
- ‘HGVs should be able to use all lanes.’
5.3.5. SILVERLINK

Of the 12 lorry drivers questioned, 9 drove HGVs for firms involved in the manufacturing industry. This high proportion of manufacturing vehicles, in relation to other sites, is probably due to the nature of Silverlink. Being an industrial estate, one could expect a higher proportion of manufacturing goods vehicles than at a city centre site. All the drivers questioned drove articulated lorries, either 6 axle or 5 axle artics.

The most outstanding figure of the base to point of the drivers surveyed, is the distance between the Silverlink industrial estate and Torino, Italy, the distance being 976 miles. Only 2 of the remaining 11 drivers had travelled less than 100 miles from their base to the Silverlink industrial estate. The distance travelled by the Italian driver has been left out of the final average base to point distance both for the Silverlink industrial estate and for the average of all the sites. This was due to the distortion the figure gave the average distance, this shall be further explained in the comparison of average base to point distances.

Half the drivers identified the Tyne Tunnel as one of the worst areas in their journeys on the day of the survey. Areas of congestion also mentioned included M62 Leeds, A1 Western By-pass, Birmingham and the Coast Road to Newcastle.

Drivers' opinions on priorities for transport include:
• ‘HGV drivers are undervalued, more should be spent on the image of lorry drivers.’
• ‘More by-passes around busy town centres.’
• ‘Priority lanes on the A1 Western By-pass and no car lanes into city centres.’
• ‘Freight should be put on trains with the coming of 12 hour breaks.’

5.3.6. NEWCASTLE AIRPORT

Half the drivers questioned at Newcastle Airport worked for companies involved in airfreight; this is not surprising since the nature of the site. All the drivers questioned drove 5 axle articulated lorries.

The split between long base to point distances and short base to point distances was fairly even, 3 long distance, 5 short distance. 4 of the drivers were based at Newcastle Airport itself, while the other remaining short distance driver was based in Newcastle city centres. Of the drivers with long base to point distances, 2 were based at Heathrow airport and 1 in Glasgow.

All bar 1 of the drivers questioned found the A1 Western Bypass one of the most congested areas on the day of the survey. 5 drivers identified exiting the freight village near Newcastle Airport as being problematic. The main problem with exiting the village was turning left, because trees obscured the turning and HGVs had to cross into other lanes to be able to turn left.

Drivers' opinions on priorities for transport include:
• ‘Widen A1 by-pass, and lessen the amount of slip roads.’
• ‘Cheaper parking at MSAs and truck stops.’
• ‘Put freight on trains.’

5.3.7. ELDON SQUARE

All bar 2 of the drivers questioned drove lorries for food or non-food retail companies. This could be expected due to the nature of the site, a shopping centre. There was a 2 to 1 split in rigid versus articulated lorries, the predominant classification being 7.5-ton lorries with 4.

The base to point distances of the drivers surveyed had a broad, evenly distributed range. 4 of the 12 drivers had travelled a distance of less than 10 miles while 4 drivers had travelled a distance of over 100 miles. The average distance of 71 miles sits comfortably in the middle of the various sites average distances.

The major problem highlighted by nearly all the drivers questioned was access to Eldon Square, where inappropriate parking by other HGVs and cars, either on the road or in the delivery area itself.

Drivers' opinions on priorities for transport include:
• ‘Let wagons run on red diesel.’
• ‘Make all town centres no car zones.’
• ‘Improve signs on roads in town centres by placing them on the kerbside rather than on buildings.’
• ‘Make bus lanes no car lanes instead.’
• ‘Improve loading bay access.’

5.3.8. METRO CENTRE

As the case in Eldon Square the main company type represented were food and non-food retail. In fact 8 of the 9 drivers worked for retail firms whilst the remaining driver’s company type was unknown. 7 of the 9 drivers surveyed drove 6 wheeler rigid type lorries, while there was also a 4-axle and a 6-axle articulated lorry represented.

The majority of the base to point distances were over 75 miles. Only 3 of the drivers had short distances, being less than 35 miles.

The majority of drivers questioned identified to A1 Western Bypass as one of the worst areas of congestion, while one highlighted the problems at the Tyne Bridge in Newcastle.
Drivers’ opinions on priorities for transport include:
- ‘Make A1 dual carriageway, make cities no car zones and improve public transport.’
- ‘Put large freight onto the rail network.’
- ‘Upgrade the current network, make motorway service areas cheaper.’
- ‘Upgrade road network, improve A1 Western Bypass.’

5.3.9. HOUGHTON-LE-SPRING

A very narrow single lane high street with limited loading space meant that drivers were pushed for time and had quick turn-rounds, subsequently no drivers were willing to be surveyed. The large amount of lorry traffic can be attributed to 2 big stores in the town, Kwiksave and the COOP.

5.3.10. NORTH SEA FERRIES

There was no dominant company type of the drivers questioned at the North Sea Ferries site, though there was a noticeable majority in 5 and 6 axle artics.

Half of the 10 drivers surveyed were based either in the Netherlands or Germany, and only one driver had a base to point distance of below 100 miles.

5.4. OTHER ISSUES

5.4.1. REGULAR ROUTES

It is a very interesting finding that over three quarters of all the drivers interviewed said they were on regular runs that happened at least weekly. This is useful because it means that most lorry drivers know where they are going and hence have roads they regularly use and do not need the benefit of road signing except if there is temporary interruption to certain routes. There is a difference however in how this route regularity is made up. For example all the drivers at Newcastle Airport had regular runs and this is not surprising because most shuttle either between airports taking goods to the larger freight hubs like Heathrow and Glasgow Airports or have regular collections from businesses that use airfreight regularly. Similarly the drivers delivering to many shopping centres are on regular runs, for example all the drivers at South Shields and 89% of the drivers at the Metro Centre were frequent visitors. The opposite is true at the Port of Tyne where few of the drivers identified regular runs and this is put down to the fact that drivers deliver a wide range of goods to a wide array of destinations depending on the type of traffic arriving at the port. Also at least a third of drivers interviewed at Birtley Lorry park are infrequent visitors to the region and would benefit from more information and signing. Another interesting fact is that four out of five drivers using North Sea Ferries are regulars and this is mainly because the hauliers involved in international transport have additional special licences, drivers that are independent and do not mind driving abroad and have a regular client base.

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<td>Grand Total</td>
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5.4.2. DRIVER ROUTE PLANNING

Drivers were asked how they plan their routes and there were some interesting findings. The most common group of factors used (33%) was a combination of previous knowledge, a map and information from the company. About xx% of drivers receive some routing help from computer routing and scheduling systems and this may be used in conjunction with more traditional methods. Over 50% used a traditional map in conjunction with other methods showing how this is still a tried and tested method of route planning. The majority arrange their routes in the light of previous knowledge and this is not really surprising when this is compared to the information on route regularly mentioned above.
5.4.3. ROAD SIGNING

This is good news for the region that the lorry drivers have given a positive 93% good or very good response to the quality of road signing in Tyne and Wear. Probably one of the issues in this area is the signing to driver’s rest facilities and to the ports where it is even more important than usual to have agreed routes that are well signed because the users of these facilities are less likely to be familiar with the area. As drivers to industrial estates appear to come from further afield it is important that these are well signed both on the strategic road network and within the actual estates listing companies trading there. A point mentioned by at least two drivers was that of road sign obscurity either through foliage growth or signs being twisted round or covered in graffiti.

5.4.4. INAPPROPRIATE PARKING

This is a serious matter with 50 of the 69 (72%) drivers who responded said there were problems and the biggest issue appears to lay with car drivers parking illegally in inappropriate places near delivery points. This problem of drivers blocking delivery points seems to be worse than the issue of cars blocking urban access roads that the drivers actually need to use. The issue is not limited to Tyne and Wear but it is clear that it needs addressing, as a delivery lorry that is waiting to find somewhere to park safely costs time and money. In addition the vehicle may cause another obstruction to further traffic whilst having to wait and as a consequence causes localised congestion. In many authorities enforcement of illegal parking has been decriminalised and the powers to improve the situation now do not rest with the Police.

5.4.5. DRIVER SHORTAGE

The issue of lorry driver shortages has been talked about for a number of years with more people retiring and leaving the industry than are being trained and entering the industry. Clearly it is possible to get a different response on the matter by asking freight operators on the one hand and drivers on the other. Drivers tend to only concern themselves with the issue when there are shortages in their company. It is interesting that overall 46% of drivers reported a driver shortage. There is a difference between sites on this issue and there appears to be less of a problem according to drivers at South Shields, Newcastle Airport and Silverlink but more of a problem at Tyne Port. There are a number of possible reasons for this including the fact that many drivers of lorries on 7.5 tonners often supplying food and parcels do not have to be in possession of an HGV licence.
Is there a driver shortage?

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5.4.6. URBAN ACCESS

The issue of urban access and having problems delivering to the local town centres produced a 50% split with half the drivers reporting problems and half not. However this figures hides the fact that the drivers delivering to the ports, airport and industrial estates generally never need to do town centre deliveries. Particularly significant is the fact that drivers delivering to Sunderland and South Shields appear to have significant problems and 91% and 88% of the interviewees reported problems at these two sites respectively.

Do you have problems delivering to town centres?

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<td>Grand Total</td>
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5.4.7. NO CAR LANES

Although there were a number of drivers that had not experienced “no car lanes” mainly because they might not have been into the Newcastle City centre area of those that had 87% thought they were a good idea and of a positive benefit. This is a resounding endorsement of the policy that has been adopted locally.

Do no car lanes have a positive benefit to you?

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5.4.8. FREIGHT EFFICIENCY

One of the regular issues that is laid at the door of the freight industry is really how efficient are the transport operations. One of the measures of this is the amount of empty running that takes place. Although certain types of traffic involve a full load from one place to another a large proportion consists of multi-drop loads where the lorry payload diminishes after each drop, typically these are parcel, food outlet and small consignments of general cargo. As can be seen from the chart 39% of vehicles are running fully laden for more than 50% of the time and a further 26% for between 41% and half the time. What is interesting is that 15% of the drivers said they ran fully laden for less than 10% of their distance, the implication of this is that there is potentially a significant amount of “fresh air” being carried around the region’s road network. Whether this space can be utilised is a complex issue as many companies do not carry goods belonging to any other organisation. However there may be an opportunity for operators to work together and consolidate loads, although there are barriers to jump including operator licensing, service levels, liability and insurance matters to consider. But it is certainly a matter that is worthy of consideration, especially if by combining two part loads together it could save one lorry movement. This would have wider consequences on energy usage, air quality and congestion.

What percentage of your time do you spend fully loaded?

[Diagram showing percentage of time spent fully loaded]
6 OPERATOR CONSULTATION
6. Operator Consultation

6.1. INTRODUCTION
This chapter provides a summary of the follow-up consultation made with operators observed during the specialised vehicle counts. It includes an analysis of the overall messages that can be taken from the survey as well as a more detailed look at specific issues highlighted throughout Tyne and Wear.

6.2. OVERALL IMPRESSIONS
This section gives a flavour of the overall impressions gained from the operator’s surveys.

- Out of the companies contacted there were only 2 who refused to answer a survey. Another company contacted could not answer, as it was an owner-driver company.
- There were various methods of planning vehicles including manual scheduling, automatic computer routing and scheduling systems for planning the loads and one operator who has set up his own planning system on the PC. A significant number expect the driver to adhere to the planned route as some have customer requested time windows, others have access time restrictions for example in pedestrianised shopping centres. However the majority of companies let their drivers plan the route themselves as long as they relay back any encountered problems.
- All the vehicles had some form of communication in the cab. The majority had mobile phones, a few had a 2-way radios and another had a tracking system where they could pass information on-line. These were mainly open network to allow the driver to contact the customer, for example to inform them of any delays or even to inform them of the time they will be arriving. One company was investigating a tracker system to install in their vehicles.
- Of the operators contacted it was found that a number of National companies had depots in the region and the fleet sizes ranged from 1 at a local depot to 126. The companies had a few issues with traffic congestion, one company stating that the A1 Western By Pass could cost them 60 hours a day overtime, which equates to up to £75,000 annually, depending on the sites they are working and the time of day returning to depot.
- One company stated that the North East is not as bad as some other areas of the country, particularly the South East.
- A significant number of operators all had the same issues, which were at peak times: -  
  - A1 Western By Pass from the Washington services to Blaydon Bridge.
  - Tyne Tunnel North and South (worst being the South side travelling North).
  - Tyne bridge.
  - Felling By pass.
  - Accessing Sunderland along the A690, and from the North over the bridges.

6.3. DETAILED OVERALL ANALYSIS
Overall, 58 successful follow-up consultations took place. These were to operators sighted throughout the Tyne and Wear region. 40% of these operators were involved in general haulage, with 16% in the building industry and 15% in the food and drink industry. The following section provides an all round summary on the operators consulted.

6.3.1. BASE LOCATIONS
The chart below shows the base location of the companies surveyed. It can be seen that nearly 50% of the operators were based in Tyne and Wear with a further 25% from the remainder of the North East of England. This gives a clear insight into the extent of operations of many companies operating in Tyne and Wear, showing that many operators are local to the area. This has implications for issues such as routing and planning, knowledge of likely road conditions, short cuts, rat-runs and road signing.

6.3.2. FLEET SIZES
The chart below shows the distribution of fleet sizes of the operators consulted. The blue bars
shows the proportion of companies of each size shown. The purple bars show the proportion of total vehicles operated by each size of firm. It can be seen that whilst small firms account for over 30% of operators they are responsible for less than 10% of vehicles. Conversely, large and very large firms represent just 15% of firms yet are responsible for about 50% of freight vehicles on the road. This analysis graphically illustrates the importance of large firms on the freight industry.

6.3.3. VEHICLE REPLACEMENT POLICIES

The chart below shows the frequency of various vehicle replacement policies. It can be seen that approximately 38% of companies state that they replace their vehicles when necessary or have no policy. Conversely, over 40% of companies replace their vehicles within 8 years. It would be beneficial to the industry to increase the number of companies with a clear vehicle replacement policy.

It is notable that 15% of companies run their vehicles an altogether different way, using contract hire vehicles.

6.3.4. MAINTENANCE OF VEHICLES

Closely related to vehicle replacement policies is the maintenance of vehicles. It is clearly important to the industry as a whole and individual operators that vehicles are maintained properly. It can be seen from the chart below that 45% companies maintain vehicles on a contract basis (considerably higher than the number of firms who run contract hire vehicles) with 22% maintaining vehicles in house.

As the fleet gets renewed within a company it was found that the responsibility for maintenance would transfers from in-house to contract. Some operators prefer to lease hire vehicles whereas others prefer to purchase but in both cases the supplier of the vehicle carries out the maintenance. This means that any maintenance carried out by the operators is only general day-to-day problems i.e. Bulbs, starting problems.

6.3.5. ROUTE/SCHEDULE PLANNING

The chart below shows the main methods of routeing and scheduling used by companies. It can be seen that the overwhelming majority of companies are still using manual routeing and scheduling (just under 80%) with very few using automatic scheduling. It would be beneficial for the industry as a whole to increase the use of automatic routeing and scheduling systems in order to improve efficiency within the base centres and manage loads and vehicles more effectively.

One of the findings that is interesting is that around half of the large fleet operators do not have an automatic scheduling system. This is a surprise as our understanding is that the majority of companies had invested in some sort of computer system. On closer examination one of the reasons for this is the industry sector that these fleets are in, typically aggregate and waste. Here the operator might allocate ten lorries to a flow of stone or landfill and instruct the drivers to run on these local routes all day. With this type of traffic there is perhaps little need to have a scheduling system.

6.3.6. COMMUNICATIONS

There are a number of methods of communication used amongst the operators consulted. The chart below shows base-cab communication methods used. It was found that most operators use some form of open network to allow communication between base, driver and customers (mobile phones, or fixed cab-phones), although some restrict the drivers to a range of pre-set numbers to avoid possible abuse of the telephone. A variety of other methods were used, including two-way radios, drivers owning their own mobiles and in just one case an in-cab computer. This demonstrates the currently low take up of computer.
communication technology although this is likely to change in the future.

Related to this is the relaying of live traffic information shown in the chart below. In general it can be seen that companies would receive information from drivers out on the road before relaying information on as required.
7 KEY THEMES AND RECOMMENDATIONS
7. Key Themes and Recommendations

7.1. INTRODUCTION
This study has effectively understood the broad nature of freight across Tyne and Wear, providing a whole series of insights into the nature of freight businesses, the nature of freight traffic and the behaviour and attitudes of drivers of commercial vehicles and their managers. However understanding is only the first important step within the process of taking forward appropriate actions that will actually change the way freight operates making it more sustainable and efficient.

This section sets out to capture the key findings and shapes them into a series of themes aligned with the issues important to the development of a Freight Strategy within LTP2. The recommendations then set out how these themes may offer a course of action consistent with the aspirations of the Tyne and Wear authorities.

In conducting this and other freight strategy related research there are also a number of issues that have not been directly explored in the core of this research but in our experience might also have something to offer in the context of a rounded freight strategy development. These are described separately.

7.2. KEY THEMES

7.2.1. Strategic Congestion Points
The majority of Operators and drivers thought that access around the Tyne and Wear region was fairly good, apart from frequently mentioned points on the main trunk roads at certain times of the day: -

- A1 Metro centre;
- A1 Team valley;
- A1 The Angel;
- Tyne Tunnel; and
- Tyne Bridge.

At peak times congestion can cause logistical difficulties for companies, adding up to 45 minutes to planned journey times on occasions. In terms of the financial cost of congestion, one company stating that congestion on the A1 costs the 100 truck business up to £75,000 per annum. The principle congestion points are under the control of the Highways Agency and not Tyne and Wear Local authorities, they are also well known and documented within other research and the practical experience of all road users using the strategic network. In this sense congestion is not specific to freight. However there is, in reality a more limited opportunity for freight to change mode than for many other road users (principally car drivers). The issue of priority for goods vehicles on the strategic road network considered by the Highways Agency in other regions. The recent announcement on High Occupancy Vehicle Lanes on the HA network does potentially present an opportunity to consider the role of single occupancy goods vehicles.

Recommendation – Continue to liaise with the Highways Agency regarding the ongoing consideration of infrastructure improvement and traffic management on the HA network in and adjoining Tyne and Wear.

7.2.2. Local Congestion Points
Congestion points on the road network under the control of the Tyne and Wear authorities are clearly a more realistic target for remedial action. The specific location referred to by respondents within the study were:

- Gateshead – Felling By-Pass where the traffic can be held up for as much as 45 minutes;
- Newcastle – congestion can be a problem at several points entering the city, but flow is managed effectively within the city centre;
- South Tyneside – the entry to the Tyne Tunnel and Testo Roundabout; and
- Sunderland – the two bridges crossing the Wear are congestion points.

None of these locations are surprising and to an extent are as applicable to car traffic in equal measure to goods vehicles. The important point is that the goods vehicles that are travelling in the urban centres are generally consistent with the vehicle types used for urban deliveries. From this we can conclude that they have no option but to travel the route in order to fulfil a legitimate business need. The timing of deliveries and other access arrangements are dealt with separately. There does seem to be a case for further consideration of priority measures for goods vehicles may be justified within the context of wider transport priorities, especially when combined with priority for buses. It is difficult to pinpoint precise measures however some small scale priority improvements can make a marked difference for the goods vehicles using a particular route.

Recommendation – review road layout and junction design at the key identified congestion locations and examine the possibility for small scale road layout improvement prioritising freight.

7.2.3. Lorry Routeing
The information collected throughout the study generally showed an appropriate use of the road network by goods vehicles with expected profiles of goods vehicles on the particular types of road. However there were notable exceptions. Durham Road as it travels through Low Fell demonstrated a similar vehicle profile as the A167(M) in the Centre of Newcastle indicating that despite the A1 Western Bypass it is being used for more strategic purposes than intended.

This example shows that despite goods vehicles generally preferring to travel on the most senior level of the road hierarchy there are occasions...
where less than desirable routing takes place. Any overall routing strategy would have to integrate and co-ordinate the requirements of all authorities in Tyne and Wear and might have the aims of:

- Guiding goods vehicles onto the most suitable routes;
- Linking to a review of goods vehicle related signage;
- Consider the impact on congestion (particularly away from the strategic road network); and
- Direct goods vehicle away from identified unsuitable routes.

**Recommendation** – In order to assist in prioritising routing across Tyne and Wear a database should be drawn together of road traffic orders restricting or prioritising goods vehicles

**Recommendation** - In order to better manage the movement of goods vehicle around Tyne and Wear, particularly those unfamiliar with the area, a lorry routing strategy should be considered and agreed

**Recommendation** – Further investigate, though specialised goods vehicle counts, the origin and destination of goods vehicles on Durham Road with a view to recommending steps to be taken to maximise rerouting of vehicles considered unsuitable.

### 7.2.4. Priority for Goods Vehicles “No car lanes”

Positive support was received from freight drivers and companies for the concept of no car lanes. Tyne and Wear already lead the UK in the pioneering form of priority lane. Although is true to say that in some instances where they have been implemented over short stretches the following issues have been observed or reported;

- Use by unauthorised cars;
- Confusion caused to car drivers;
- Design leading to conflict at entry and exit points; and
- Accident risk through extra lane swapping.

**Recommendation** – If A690 No Car Lane introduced then specialised goods vehicle count to be conducted to compare with ‘before’ and ‘after’ count.

**Recommendation** – operation review, specialised vehicle counts and observations to be taken at all current No Car Lanes in order that design improvements can be identified.

### 7.2.5. Road Signs and Traveller Information

There are a significant number of drivers from outside the region and an increasing number of foreign lorries operating in Tyne and Wear. This minority section of freight traffic is no the less important, reflecting the need for good information and good signage. Whilst most respondents thought signage was generally good in Tyne and Wear some did report signage obscured by vegetation. There are also very few information boards allowing visiting drivers to accurately understand the routing to particular destinations within, for instance an industrial estate.

A considerable amount of traffic in any city is either looking for somewhere to park, has turned down an incorrect street or is lost. When this is a lorry it can have a significant effect on the build up of traffic in surrounding roads. An invaluable part of a route strategy is the ability to provide drivers with information and maps suggesting a preferred route.

The concept of “wayfinding” is to provide good detailed information to a correctly targeted audience. So to provide a metal sign listing all the companies on an industrial estate, right on a busy entrance without anywhere to stop a lorry, is neither safe nor helpful when trying to keep traffic flowing smoothly. Therefore information can be provided on the most suitable way to get to their destination. It is feasible a touch screen computer installation similar to those currently available for passenger journeys could be made available to the driver showing the route.

**Recommendation** – conduct a ‘drive around’ signage review for strategic freight destinations examining sign quality, maintenance, accuracy and completeness.

**Recommendation** – Review information boards at industrial estate entrances where sufficient space is available for goods vehicle to park safely and recommend additions or changes.

**Recommendation** – consider the installation of electronic touch screen routing finding technology at strategic locations on the boundaries of Tyne and Wear. These might offer print outs of simple route directions.

### 7.2.6. Highway design and maintenance

The size of lorries, weight and manoeuvring characteristics all have a bearing on highway design and maintenance. Fully laden vehicles turning at junctions do have an impact on the road surface and the pavement edge. Knowledge of the type of vehicles likely to be using a stretch of carriageway can help highway engineers specify and design the road to the required standard.

**Recommendation** - Details of the nature of freight traffic from this report should therefore be disseminated for consideration by Highway Engineering departments to consider any impacts on planned road maintenance improvements.

### 7.2.7. Urban Town Centre Delivery Problems

The problems encountered by good vehicles entering urban centres for the purposes of delivery or collection are relatively consistent. One such centre, Sunderland, demonstrated these problems. The centre can be congested for long periods of time at the North side of the Queen Alexander and Wearmouth Bridges. Once negotiated the traffic flow congestion eases. The information collected during the driver survey in Sunderland included;
7.2.8. Increasing use of vans and home shopping deliveries

One aspect of the specialised goods vehicle counts that was noted as a side issue was the higher than expected proportion of vans. There are several reasons for the recent record levels of van sales, these include;

- Ability to use non-HGV licensed drivers;
- Growth in direct delivery of bulky goods;
- Growth in home internet shopping;
- Increased competition in deliveries to achieve ever increasing.

The study to date could not explore the impacts on efficiency of this trend. On the one hand home deliveries might reduce shopping trips, on the other hand smaller average consignment sizes carried by vans may mean a greater overall impact on the road network.

Recommendation – Further investigations to be carried out into the nature of van traffic to ascertain the net impact on traffic conditions, the economy and the environment. The outcome of these investigations should highlight any practical steps, if any, to promote the sustainability of van use.

7.2.9. Driver facilities

The availability of good facilities for drivers is important in any region and is an issue that has been widely neglected across the UK. This is one of the reasons that lorry drivers are leaving the industry and are reluctant to take “nights out” in their cabs. After a 12 to 15 hour day doing an often hot, dirty job most drivers want to have a shower, a good meal and a decent place to rest. One of the reasons that lorry drivers are leaving the industry is the lack of alternative lorry parks elsewhere in the sub region.

Recommendation – Investigate what impact lack of driver facilities in Tyne and Wear may have on availability of haulage services, the extent of unauthorised parking by HGVs unable or unwilling to park in lorry parks and the potential for supply of further facilities. This work may be carried out in partnership with the Highways Agency.

7.2.10. Driver Shortages

The driver surveys revealed that, as anticipated, there is an identifiable and acknowledged shortage of goods vehicle drivers. One driver himself was an agency employee and was on his first day with the company. There are some general policy implications to this trend, such as the likely lower standard of driving standards and the increased likelihood of a driver unfamiliar with both his route and vehicle. This means that any public sector intervention to ease driver shortages in the freight industry should result in higher overall driving standards and improvements in road safety.

Recommendation – review public sector support of driving training programmes in Tyne and Wear and consider co-ordination between authorities and other public agencies and industry in order to deliver trained HGV drivers.
7.2.11. Foreign Vehicles

Although the number of foreign vehicles identified in the study was small there is undoubtedly a growing number using the region’s roads. In fact nationally for every four lorries bringing goods into the UK, three are now foreign registered, this has changed from 50/50 split in 1998. The key findings of the study were;

- Some sites which had a significant number of foreign vehicles were sites ST4 (on the A19 at Jarrow where 16 foreign vehicles were seen) and S1 (the Bridges Centre in central Sunderland where there were 7).
- These travel to destination, including Northern England, Scotland and Ireland.
- Some have machinery parts for the oilrigs and others included fresh flowers
- A foreign driver interviewed from Torino, Italy, came into the country at Ramsgate
- The vehicles coming to the UK have double size fuel tanks onboard, so they can travel in the UK and back to base without filling up.
- They do not have to pay any road charges and want to park free of charge at night reflecting the parking culture abroad.
- We found no evidence of foreign language traffic, travel, direction or facilities advice in Tyne and Wear.

Recommendation - In partnership with the Port of Tyne authorities investigate the siting of permanent foreign language information boards with freight related routinge and facility information. Multilingual leaflets could also be made available for incoming foreign drivers.

7.2.12. Consolidation Centres

Consolidation or transhipment centres have long been the aspiration of freight transport policy makers but have received little or no support from industry. Examples in the UK and in Europe have to date included a degree of compulsion. Industry maintained extra cost, time delay, stock traceability and damage were reason enough not to pursue the idea. There are a number of freight operations that operate forms of consolidation that effectively deliver greater efficiency combined with using smaller vehicles – even bicycles – in urban areas.

Christian Salvesen operates a system of “swap-body” technology to help them trunk tyres efficiently around the motorway network with maximum weight articulated vehicles, the loaded containers then being transferred to three small urban friendly rigid vehicles for the final delivery of the tyres into the region.

A leading logistics company operates a system of transhipment, transferring goods from articulated vehicles to smaller 18tonne rigid lorries for regional deliveries including York. The product type, garments, requires transporting on hanging rails within specialist vehicles, which means they would not be suitable for general transhipment;

Loadbikes, operate heavy-duty tricycles in York for the collection and delivery of letters, newspapers and parcels (up to 250kg) to allow deliveries in foot-street areas where there is a complete ban on motorised traffic for the majority of standard office hours. One tricycle can remove 15,000 van journeys per annum.

However new pressures and a changing retail environment have for the first time brought about a new and positive view about traditional consolidation centres. Meadowhall shopping centre has teamed with global supply chain leader Exel to offer retailers the first voluntary, open access, consolidation and transhipment facility called THE ARC offering a range of services. A public sector supported venture is also being initiated in Bristol.

Retail tenants choose to use the facilities of the consolidation centre on a commercial basis. The facility, comprising of loading/unloading facilities and warehousing, is served by a 7.5tonne MGW goods vehicle taking product between locations. The fundamental difference between this form of transhipment and more traditional models is the clear focus on service provision instead of simply an imposition of an additional supply chain link adding time, cost and increased security and stock damage risks.

The attributes include:
- Virtual back of store warehouse allowing sales floor maximisation;
- Reduction in manual jobs undertaken by retail staff – concentration on selling;
- Higher stock availability and control;
- Cleaner presentation of goods into store;
- Skilled warehousing staff reducing product damage; and
- Mechanical handling equipment allowing easy stripping down into roll cage deliveries.

The Policy benefits include a potential reduction in total goods vehicle journeys and an increase in delivery time flexibility minimising total mileage and allowing goods vehicle deliveries at off peak times. The concept may also be able to be applied by taking advantage of current off site warehousing infrastructure. Many large retailers based in urban areas already operate transhipment warehouses dedicated to their own operation. Where they are based in shopping centres with common delivery reception facilities it might be possible for such stores to offer other retailers a consolidation and delivery service.

This would offer the opportunity to view a current cost centre as a profit generator.

Recommendation - Authorities may have a practical role to play in promoting consolidation. They may own or operate shopping centres or employ city centre managers who could fulfil a co-ordinating role. In any event authorities should disseminate information about the best practice already taking place in the region.

7.2.13. Partners in Freight

Over time the concept and subsequently the delivery from Freight Quality Partnerships has been, at best, patchy around the UK. Tyne and Wear’s own FQP did not develop in the way originally anticipated, not achieving the wide industry participation envisaged. It is likely that with a better understanding of the issues ways
and means can be found of obtaining future support. In the experience of the project team partnerships are more likely to succeed if they are;
• Supported through genuine commitment ACROSS and authority;
• Issue specific and engage partners affected by that issue
• Are in a format that suits the partners involved, which in many case may not need a series of formal round table meetings.

In the case of Tyne and Wear the positive avenue is to identify partners through the consultation process described in the Way Forward Section.

Recommendation – To actively seek partnership with the freight industry and other interested partners in the delivery of the specific action agreed by the plan partners for LTP 2

7.2.14. Air Quality

Road transport is a major source of local air pollution, particularly in our towns and cities. Air quality and transport policy measures have already led to significant improvements in local air quality and will continue to lead to further improvements. Although there are no declared air quality management areas in the North East however there is every reason to strive for ever better air quality standards.

One of the reasons for analysing the age profile of commercial vehicles is to allow a better understanding of when operators replace their fleet and which industry sectors choose to continue to run older vehicles. A local knowledge of vehicle sizes and ages operating on any specific can help significantly improve the modelling of air quality done by many Local Authorities.

The area wide average vehicle age for the vehicles counted within the survey was 4.7 years. This can be considered to be surprisingly young contradicting popular perceptions of goods vehicles being generally old and polluting. It may be that during an air quality modelling exercise

7.3. THE WAY FORWARD

In addition to the above recommendations there are some practical steps that can be taken to publicise the findings of this survey and to generate interest in partnerships.

7.3.1. Consultative Seminar
The recommendations outlined provide a practical path of action arising from the information gathered and analysed through the study process. A crucial part of this process will be the active ownership and participation of a range of other interested parties. This could include other representatives in authorities themselves, other govt agencies, regional government, and of course players form the freight industry. An innovative and attractive marketing strategy could ensure high attendance levels.

Recommendation – Hold a half-day seminar designed to raise awareness of the Nature of Freight findings and to obtain ownership of the recommendations following an initial appraisal by the LTP partners.

7.3.2. Press Releases
The innovative nature of the study makes it ideal to be the focus of a series of press releases for the local papers and professional journals including Local Transport Today, Motor Transport, Commercial Motor and International Freighting Weekly. Headlines might relate to;
• Young Average Age of Goods Vehicles
• Lorry Parking
• Lorries generally stick to the right roads

Recommendation – Issues a series of related press releases over a period of one month to raise the profile of the issues and findings.

7.3.3. Understand the perceptions of the Impact of Freight better
This study marks a significant leap forward in understanding the operation of road freight in Tyne and Wear which should underpin the development of an active and influential freight strategy for LTP2. However the study did not set out to capture the negative aspects of road freight, residents views, authority views and records of complaints etc. In order to set this next jigsaw piece in place this information could be drawn together and interpreted against the background of the information provided to date.

7.3.4. Developing Trend Information
Annual monitoring exercise would be desirable in order to identify trends over time and measure success of actions taken. Information arising from further counts could act as an early economic monitor linking the intensity and type of freight movement to economic vibrancy. Further counts might be beneficial to further explore issues, such as inappropriate routing, to add quickly to the knowledge in specific locations.

Recommendation – Undertake annual specialised goods vehicle counts in order to understand trends
Recommendation – undertake further specialised goods vehicle counts to support the delivery of the main recommendations.