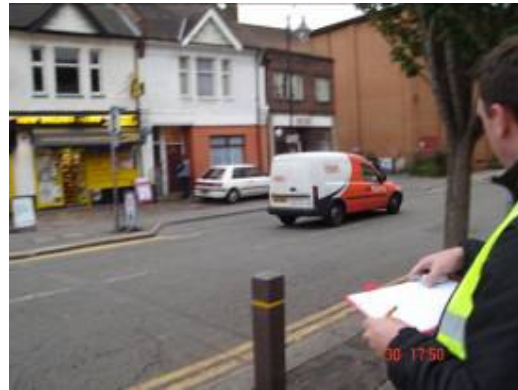


# **New Malden Commercial Vehicle Movement Study**

**Draft Final Report**



Prepared for

**Royal Borough of  
Kingston upon  
Thames**

by



**Version Draft v1.0**

**October 2008**

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upon Thames**

**by**



Author(s)	Mike Freeman & David Rushton
Quality Control	Chris Douglas
Version	Draft Final v1.0
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## EXECUTIVE SUMMARY

This project was undertaken by Transport & Travel Research Ltd (TTR) on behalf of the Royal Borough of Kingston-upon-Thames as part of their role as the co-ordinator of the South London Freight Quality Partnership.

The aim of the project was to quantify the number of commercial vehicles travelling between Burlington Road and the High Street (and vice versa) in New Malden, Royal Borough of Kingston upon Thames, via the nearby residential area to identify whether there is a commercial vehicle 'rat-run' problem in the area.

To achieve this, an observational survey of commercial vehicle movement within the residential area between the High Street and Burlington Road was undertaken on Tuesday 30<sup>th</sup> September 2008 between 0730-0900, 1100-1200, 1430-1530 and 1630-1800. Commercial vehicle operators whose vehicles were observed travelling within the study area were also contacted to gain their views on the area.

The observation survey recorded the movements of 218 commercial vehicles over a total 5 hour time period and these results have shown that:

- Only 16 vehicles (7%) were deemed to be through traffic without delivering or conducting a service in the residential area;
- 93% of commercial vehicles were deemed to be legally undertaking deliveries or servicing in the area;
- 91% of commercial vehicles operating in the area were either vans (63%) or car-derived vans (28%); and
- Most 'rat-run' vehicles observed were travelling in the direction of the High Street to Burlington road.

Operator feedback also indicated that very few commercial drivers consider the area as a through rat-run. The feedback also showed that few operators had Satellite Navigation systems and that only 4 of the 9 respondents thought that there was a daily congestion problem in the area.

The conclusion of this study is that there is not a significant commercial vehicle 'rat-run' problem in the New Malden study residential area. The study also showed that the majority of vehicles that operated within the area were commercial vans or car-derived vans (all have a maximum permissible weight of 3.5 tonnes or less) and very few heavy goods vehicles were observed.

## 1 INTRODUCTION

This project was undertaken by Transport & Travel Research Ltd (TTR) on behalf of the Royal Borough of Kingston-upon-Thames as part of their role as the co-ordinator of the South London Freight Quality Partnership.

The aim of the project was to quantify the number of commercial vehicles travelling between Burlington Road and the High Street and vice versa in New Malden, Royal Borough of Kingston upon Thames, via the nearby residential area (see Figure 1) to identify whether there is a commercial vehicle ‘rat-run’ problem in the area (i.e. vehicles using the residential area as a through route in busy periods).

This report describes the results of a commercial vehicle observational study that was undertaken in the area on Tuesday 30<sup>th</sup> September 2008.

## 2 BACKGROUND

There is a perception that commercial vehicles may be ‘rat-running’ through the residential area, particularly at peak periods, to move from Burlington Road to the High Street (and vice versa), avoiding congestion on the preferred routes.

The roads within the residential area could be deemed unsuitable for large commercial vehicles as a through route. High volumes of commercial vehicle through-traffic would have an effect on both the local environment and road safety. As a result a 7.5 tonne weight restriction has been placed on the area with the exemption of loading in the area.

There is also a perception that commercial vehicles may be routed through the residential area by satellite navigation (SatNav) units installed within vehicle cabs.

The project objectives were:

- To observe and record all commercial vehicle movements within the agreed study area during specific time periods; and
- To determine the extent of both commercial vehicle through-traffic and those vehicles actually involved in delivery/collection/servicing activity within the residential area.

### 3 METHODOLOGY

To achieve the project objectives

- An observational survey was undertaken of commercial vehicle movement within the residential area between the High Street and Burlington Road and
- Commercial vehicle operators were consulted to gain their views on travelling in the area.

#### 3.1 Study Area

Figure 1 contains a map that shows the residential area between New Malden High Street and Burlington road. The residential area can only be accessed from the following 3 junctions:

1. Beverley Road with Burlington Road;
2. Dukes Avenue with Howard Road; and
3. Kings Avenue with Howard Road.

These 3 key locations were used in the study as observation points to monitor all commercial vehicles that accessed and egressed the residential area and are shown in Figures 2-4. Figure 5 shows the dead end located at the end of park view shown in Figure 1.

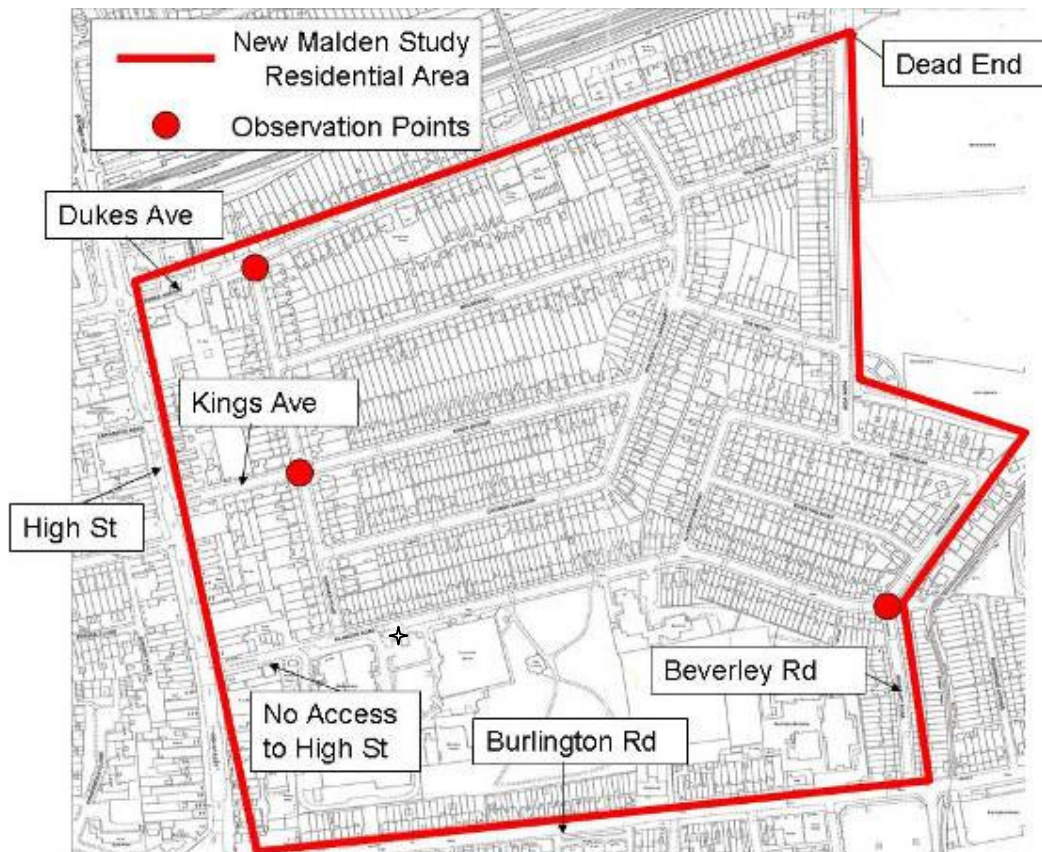


Figure 1 New Malden Study Residential Area & Observation Points



**Figure 2 Dukes Avenue study observation point**



**Figure 3 Kings Avenue study observation point**



**Figure 4 Beverley Road study observation point**



**Figure 5 Dead end at the north end of Park View**

The study residential area has a prohibition on goods vehicles exceeding 7.5 tonnes maximum permissible weight except for loading and this is signed at each of the 3 access points (see Figure 6). A notice is also located on the entrance to Blagdon Road (located off of Beverley Road) stating that this is not a through route to the High Street (see Figure 7).



**Figure 6 Weight Restriction Signage**



**Figure 7 No Through Route Notice on Blagdon Road**

## 3.2 Observational survey

### 3.2.1 Preparation

Prior to undertaking the observation activity, the TTR project team members undertook a site visit to become familiar with the study area and its key routes.

One key aspect of the study preparation was to agree the key assumptions to be used, particularly the assumption relating to whether or not a vehicle travelling through the area has merely been in transit or has been involved in delivery and servicing activity within the area.

The precise time period of 6 minutes, above which it can be assumed that delivery and servicing activity has occurred and below which it can be assumed that a

straight through-run has taken place, was suggested by TTR following a series of timed drive-throughs during the familiarisation day. This time period was agreed by the client.

For example, if a vehicle was recorded as entering the area at Dukes Avenue at 07.45am and was recorded as leaving via Beverley Road at 07.50, it may be fair to assume that a straight through-run has taken place, as it is unlikely that delivery/collection/servicing activity could have taken place within this short time frame (including parking up, off-loading goods, accessing premises, receiving a signature for receipt, returning to vehicle and departing).

If the vehicle was recorded as leaving via Beverley Road at 07.55am it could be reasonable to assume (provided heavy congestion is not observed within the study area) that the vehicle has been engaged in local delivery/collection/servicing activity.

The route provided by a Road Angel Satellite Navigation System (Sat Nav) installed in the car of a member of the project team was also tested on the observation day. The routes provided by the Sat Nav system routed the driver along Burlington Road and the High Street and did not give a route that entered or exited the study residential area. However, once inside the residential area a through route was provided.

An observation sheet and goods vehicle classification sheet were produced for the study team to record commercial vehicles entering and exiting the study observation points and to provide them with abbreviations to use to specify the type of vehicle recorded. Appendix A and B contain copies of both of these sheets respectively.

Commercial vehicles were classified as follows:

- CV – Car-Derived Van;
- V – Van (up to 3.5 tonnes maximum permissible weight);
- 2R – Two-Axle Rigid Goods Vehicle (over 3.5 TES MPW);
- 3R – Three-Axle Rigid Goods Vehicle;
- 4R – Four-Axle Rigid Goods Vehicle; and
- A – Articulated Vehicle.

A full risk assessment was also undertaken as part of the TTR Risk Assessment policy, to identify any potential risks to our observers and specify mitigation measures.

### 3.2.2 Observation Day

The observational survey was completed on Tuesday 30<sup>th</sup> September 2008. Two fieldwork staff were located at each of the 3 observation points (see figure 1) that cover all access and egress locations to the residential area from the High Street and Burlington Road.

All survey staff carried an identification card and a letter of authorisation from Kingston-upon-Thames to prove that they were authorised personnel and allowed to conduct the observations. All staff were fully briefed on the study requirements, including risk assessment and health & safety obligations.



Observations were made during the following four separate periods:

1. 0730 to 0900
2. 1100 to 1200
3. 1430 to 1530
4. 1630 to 1800

The study team recorded, where possible, the following information for each commercial vehicle entering or exiting the residential area in each observation period:

- Vehicle registration (minimum first four characters)
- Vehicle make
- Vehicle model
- Vehicle colour
- Vehicle type (CV, V, 2R, 3R, 4R or A)
- Vehicle operator (where available from vehicle livery)
- Operator contact details (where available from vehicle livery)
- Point of entry and direction of travel
- Time of entry

Digital cameras were also used to record images of vehicles, along with a digital time signature to be used on each image, to allow vehicles to be matched at point and time of entry and exit.

Council Officers ~~Kingston-upon-Thames~~ arranged for traffic count loops to be installed on Burlington Road, ~~High St~~, Dukes Avenue and Beverley Road to help to provide some validation traffic count data to indicate the number of vehicles travelling on the preferred routes during the study periods.

At the time of writing this report the traffic loop data was not available. However, these figures will be used as a benchmark to indicate the proportion of vehicles observed travelling within the residential study area compared to the total number of vehicle movements on the preferred routes.

### **3.3 Observation Data Analysis**

A classified count was produced for all commercial vehicles observed in the area during each of the study periods. The recorded commercial vehicle data from each observation site was combined so that vehicles could be matched to create movement records. This process built a profile of the movements of commercial goods vehicles within the area. Where possible, matches were confirmed by checking the digital photographs taken at the observation points.

The observed access and egress times were then used to calculate whether each vehicle had travelled through the area within the estimated 'rat-run' time (6 minutes). Origin and Destination tables for each survey period were also created to show the routes used by all commercial vehicles that were deemed to be using the area as a through route.

### **3.4 Operator Follow-up contact**

Operator details (including telephone numbers, where relevant) obtained from information recorded from observed vehicle liveries were used to carry out a subsequent series of operator follow-up telephone calls.

These calls explored the following key issues relating to the goods vehicles' presence within the residential area:

- Where was the vehicle travelling from?
- Where was the vehicle travelling to?
- Was the vehicle involved in delivery/collection/servicing activity within the residential area?
- Would the vehicle have travelled through the area as a through-route?
- If so, why?
- Does the vehicle have SatNav installed?
- Would the vehicle have been routed through the residential area by the SatNav unit?

Appendix C contains the Topic Guide that was created and used in each interview. A total of 19 operators were contacted and 9 businesses agreed to complete the survey.

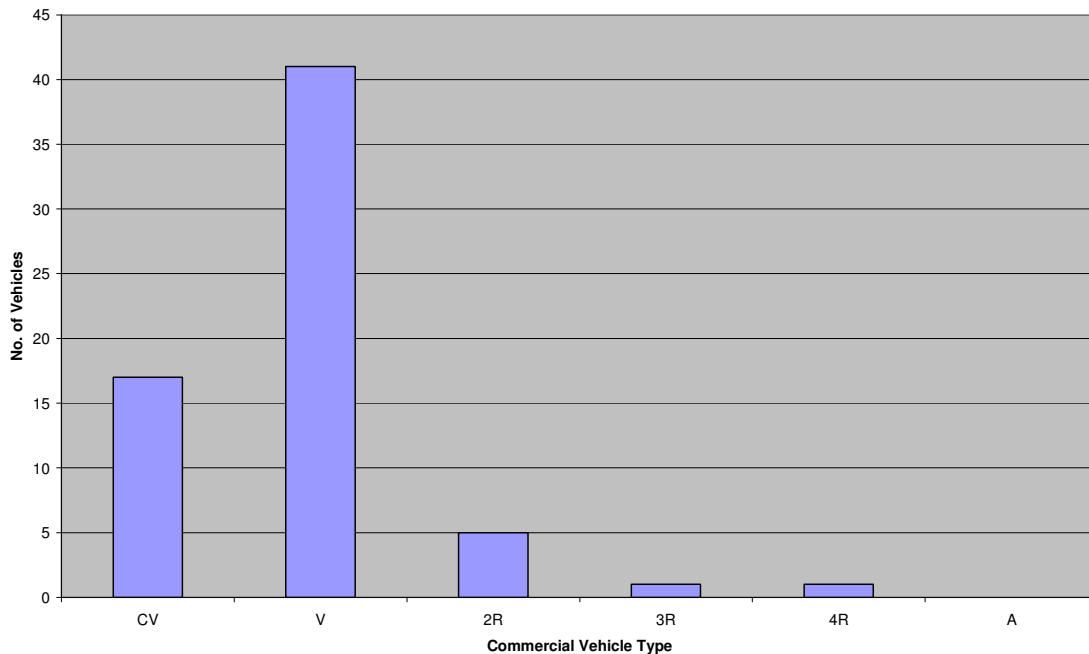
## 4 STUDY RESULTS

### 4.1 Observation Survey

The following sections describe the results observed during the study area observation day held on the 30<sup>th</sup> September 2008.

#### 4.1.1 0730-0900 survey period

A total of 65 commercial vehicles were observed during this observation period in the New Malden residential area. Figure 8 shows that the majority of commercial vehicles were either vans (V) or car-derived vans (CV), with only five 2-axle rigid, one 3-axle rigid and one 4-axle rigid goods vehicles observed in the area.



**Figure 8 Commercial Vehicles Observed between 0730 and 0900**

The vehicle movements in and out of each of the 3 study access and egress points can be found in Appendix D. Vehicle data for all locations was sorted to identify through traffic using the area as a rat-run. This process identified that only two commercial vehicles were observed to travel through the residential area in a time that was under the ‘rat-run’ threshold of 6 minutes. Both of these vehicles were vans.

Table 1 contains an Origin & Destination (O-D) matrix that shows where each suspected ‘rat-run’ vehicle started and ended their journey through the study area. The table shows that both vehicles were travelling in a southerly direction and travelled between Dukes Avenue and Beverley Road.

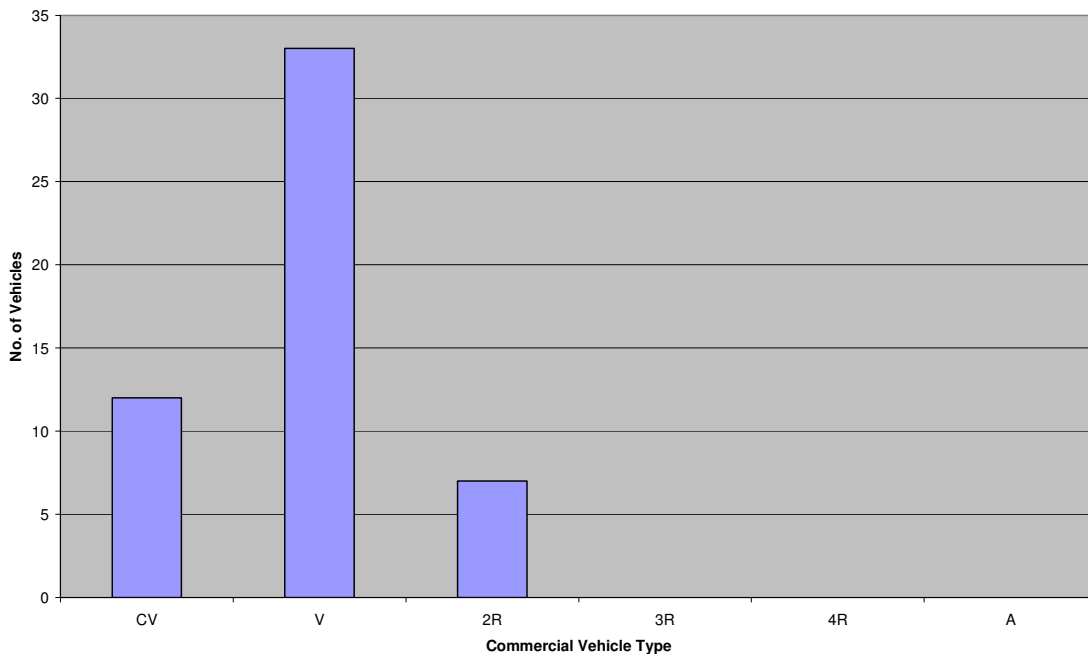
**Table 1 O-D matrix for 'rat-running' commercial vehicles between 0730 & 0900**

		Egress Point		
		Beverley Rd	Kings Ave	Dukes Ave
Access Point	Beverley Rd		0	0
	King Ave	0		
	Dukes Ave	2		

**4.1.2 1100-1200 survey period**

A total of 52 commercial vehicles were observed during this observation period in the New Malden residential area. Figure 9 shows that the majority of commercial vehicles were either vans (V) or car-derived vans (CV), with only seven 2-axle rigid goods vehicles observed in the area.

The vehicle movements in and out of each of the 3 study access and egress points for this observation period can be found in Appendix D. Vehicle data for all locations was sorted to identify through traffic using the area as a rat-run. This process identified that only two commercial vehicles were observed to travel through the residential area in a time that was under the 'rat-run' threshold on 6 minutes. One of these vehicles was a van and the other was a car derived van. Table 2 shows both vehicles were travelling in a southerly direction and travelled between Dukes Avenue and Beverley Road.



**Figure 9 Commercial Vehicles observed between 1100 and 1200**

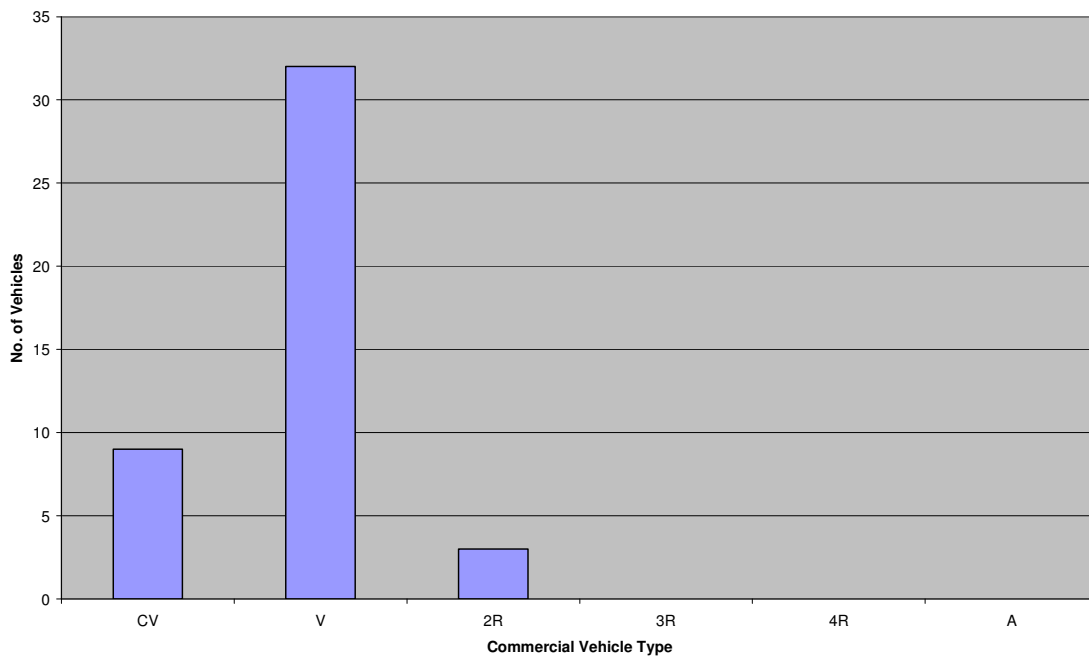
**Table 2 O-D matrix for 'rat-running' commercial vehicles between 1100 & 1200**

		Egress Point		
		Beverley Rd	Kings Ave	Dukes Ave
Access Point	Beverley Rd		0	0
	King Ave	0		
	Dukes Ave	2		

4.1.3 1430-1530 survey period

A total of 44 commercial vehicles were observed during this observation period in the New Malden residential area. Figure 10 shows that the majority of commercial vehicles were either vans (V) or car-derived vans (CV), with only three 2-axle rigid goods vehicles observed in the area.

The vehicle movements in and out of each of the 3 study access and egress points for this observation period can be found in Appendix D. Vehicle data for all locations was sorted to identify through traffic using the area as a rat-run. This process identified that only 3 commercial vehicles were observed to travel through the residential area in a time that was under the ‘rat-run’ threshold on 6 minutes. Two of these vehicles were vans and the other was a car derived van. Table 3 shows two of these vehicles were travelling in a northerly direction and travelled between Beverley Road and Dukes Avenue and the other in a southerly direction between Kings Avenue and Beverley Road.



**Figure 10 Commercial Vehicles observed between 1430 and 1530**

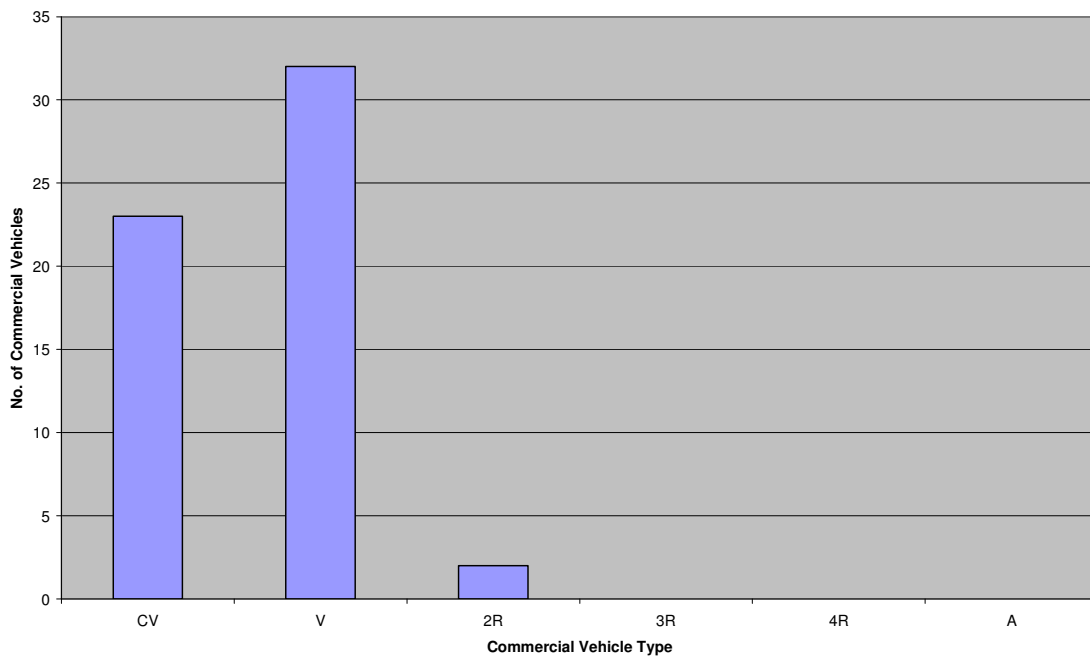
**Table 3 O-D Matrix for ‘rat-running’ commercial vehicles between 1430 & 1530**

		Egress Point		
		Beverley Rd	Kings Ave	Dukes Ave
Access Point	Beverley Rd		0	2
	King Ave	1		
	Dukes Ave	0		

4.1.4 1630-1800 survey period

A total of 57 commercial vehicles were observed during this observation period in the New Malden residential area. Figure 11 shows that the majority of commercial vehicles were either vans (V) or car-derived vans (CV), with only two 2-axle rigid goods vehicles observed in the area.

The vehicle movements in and out of each of the 3 study access and egress points for this observation period can be found in Annex A. Vehicle data for all locations was sorted to identify through traffic using the area as a rat-run. This process identified that only 9 commercial vehicles were observed to travel through the residential area in a time that was under the ‘rat-run’ threshold on 6 minutes. Seven of these vehicles were vans and the other 2 were car derived vans. Table 4 shows two of these vehicles were travelling in a northerly direction and travelled between Beverley Road and Dukes Avenue and the others were travelling in a southerly direction between Kings Avenue or Dukes Avenue and Beverley Road.



**Figure 11 Commercial Vehicles observed between 1630 and 1800**

**Table 4 O-D Matrix for ‘rat-running’ commercial vehicles between 1630 & 1800**

		Egress Point		
		Beverley Rd	Kings Ave	Dukes Ave
Access Point	Beverley Rd		0	2
	King Ave	2		
	Dukes Ave	5		

#### 4.1.5 Observation survey results summary

The observation survey recorded the movements of 218 commercial vehicles and these results have shown that:

- Only 16 vehicles (7%) were suspected to be through traffic without delivering or conducting a service in the residential area;
- 93% of commercial vehicles were deemed to be legally undertaking deliveries or servicing in the area;
- None of the suspected 'rat-run' commercial vehicles were Heavy Good Vehicles (HGVs) above 3.5 tonnes;
- 91% of commercial vehicles operating in the area were either vans (63%) or car-derived vans (28%); and
- Most 'rat-run' vehicles observed were travelling in the direction of the High Street to Burlington road.

The conclusion of the survey indicates that there is not a significant commercial vehicle 'rat-run' problem in the area and there were no observed HGVs using the area as a through route.

## **4.2 Operator Follow-up calls**

The following section summarises the responses received from telephone interviews with 9 commercial vehicle operators whose vehicles' were observed travelling in the study residential area (not necessarily using the area as a through route) during the observation day on 30<sup>th</sup> September 2008. Each interview used the topic guide that is presented in Appendix C.

### 4.2.1 Journey Details

When respondents were asked about where their respective vehicles would be travelling from, if travelling through the survey area, the majority said that journeys would have been made "from the depot" of that company in areas such as Farnborough, Chessington and New Malden itself, or simply the area within which their vehicles were stored. One company stated that their vehicles were owned by their employees and therefore kept at numerous locations and would be called to 'jobs' that were local to their area.

When establishing where the commercial vehicles in question would have been travelling to, although not always totally specific, results were divided between the areas of Kingston, New Malden and potentially anywhere due to the nature of the specific company's work. A number of respondents stated that their company would be carrying out servicing activities which meant that they could be travelling anywhere surrounding the surveyed location at any one time in order to get to and from a specific job. Deliveries made up the remaining responses in the area, with five respondents stating that this would have been the reason for travelling through the survey area. A significant number of companies that were surveyed stated that their use of this route could involve driving out to deliver these goods or services as well as returning back to 'base'.

#### 4.2.2 Through route traffic

In terms of using the surveyed route as a through route, respondents were of mixed opinion. Three respondents stated that this specific area was used as a through route with two of those stating that it was the “easiest” route to move through the area. Two respondents suggested that this would either not have been used as a through route, or may be, but only very seldom. Other respondents could not be certain, but suggested that it would be down to the individual driver to establish what they thought would be the most efficient way of getting from A to B.

Regarding the regularity of travel in the surveyed area, a total of seven of the respondents stated that did so very often, whilst others suggested that they couldn't be sure about regularity due to the nature of the work that was undertaken by the company. All respondents however, recognised that their drivers would have operated within the area.

#### 4.2.3 Surveyed Opinions on traffic congestion

Opinion was split when responses were sought to establish the regularity of congestion problems in the area. One respondent suggested that the route only became particularly congested when local school term time had begun whilst another stated that if you time your journeys right through the area, then there was very rarely a problem (This respondent used this route 'at a very early hour'). In contrast however, up to four respondents suggested that congestion was a major 'every day' or 'almost every day' problem along this route.

When congestion did occur along the route, those respondents who regularly experienced this, stated that they would always find an alternative route. One company stated that they had been in business for over twenty five years and so were 'well aware' of the alternative routes that were available to them.

#### 4.2.4 Use of Satellite Navigation Systems (Sat Nav)

Satellite navigational systems were not particularly widely used amongst respondents. More than half of the companies that were questioned did not have satellite navigational systems installed in their vehicles whilst other respondents stated that only a few, or only those commercial vehicles with driver who requested them had these systems in use. Of those that did have satellite navigation systems installed, two stated that they thought this equipment might direct them through the surveyed route. Interestingly however, neither of these respondents was noted as using the area as a through route on the day of the survey. Other respondents could not say for certain but it should be noted that one of these respondents was deemed to be using the route as a rat run. Of a large proportion of the respondents, the general impression gained was that local companies knew the area well enough to know alternative routes without the use of technology to assist them in the New Malden area.

#### 4.2.5 Additional comments

The only additional comments relating to the survey were negative in terms of travel in the New Malden area. One respondent stated that you should try to 'avoid the



area at all costs' in part jest, whilst another suggested that traffic in the area was 'appalling'.

## **5 CONCLUSION AND RECOMMENDATIONS**

The conclusion of this study is that there is not a significant commercial vehicle 'rat-run' problem within the New Malden study residential area as only 16 vehicles of the 218 vehicles observed were thought to have travelled through the area without stopping to make a delivery or conduct a service. This means that 93% of all commercial vehicles observed in the residential area were deemed to be entering and exiting the area legally to conduct a delivery or service.

The observation study also showed that the majority of vehicles that operated within the area were commercial vans or car-derived vans and very few heavy goods vehicles were observed. It should also be noted that none of the commercial vehicles deemed to be using the area as a 'rat-run' were HGVs. This observation is consistent with the 7.5 tonne environmental weight restriction (with the exemption for Loading) that is in place at each access point to the residential area.

The operator follow-up calls revealed that only 3 of the 9 businesses interviewed stated that their drivers would consider using the area as a through route. Similarly, only 3 operators stated that their vehicles contain Sat Nav systems and it is the opinion of the study team that Sat Nav would only direct a driver into the area if they had programmed in a destination within the area for a delivery or other stop during their working day. Congestion was only reported to be a daily problem by 4 of the 9 operators interviewed.

The observation team witnessed that the area is busy with car traffic particularly during peak periods. It is thought that traffic problems in the area are due to a high level of on-street parking in the area. Traffic congestion in the Beverley Road area was also observed in and around the local school run. These factors are outside of the study objectives, but it is recommended that they are further investigated.

## APPENDIX A: OBSERVATION SURVEY RECORD SHEET

OBSERVATION POINT:

OBSERVER:

SESSION:

**Type:** **CV** = Car/Van, **V** = Van, **R2** = 2-axle Rigid, **R3** = 3-axle Rigid, **R4** = 4-axle Rigid, **A** = Artic  
**Reg:** Only first 4 digits. Please mark the number zero with a line (e.g. 0̅)

Time	In/Out	Type	Reg	Livery	Colour	Telephone	Make	Photo?
0734	In	CV	RA51	Argos	Blue	0845 333444	Ford	✓

## APPENDIX B: VEHICLE CLASSIFICATION BRIEFING SHEET

ROYAL BOROUGH OF KINGSTON UPON THAMES  
NEW MALDEN GOODS VEHICLE OBSERVATION STUDY  
VEHICLE CLASSIFICATIONS  
BRIEFING SHEET

22<sup>ND</sup> SEPTEMBER 2008

### GOODS VEHICLE CLASSIFICATIONS

(With or without trailer/semi-trailer)

#### CV - CAR-DERIVED VAN



#### V - VAN (UP TO 3.5 TONNES MAXIMUM PERMISSIBLE WEIGHT)



#### 2R - TWO-AXLE RIGID GOODS VEHICLE (OVER 3.5 TONS MPW)



### 3R - THREE-AXLE RIGID GOODS VEHICLE



### 4R - FOUR-AXLE RIGID GOODS VEHICLE



### A - ARTICULATED VEHICLE



## **APPENDIX C: OPERATOR FEEDBACK TELEPHONE CALLS TOPIC GUIDE**

Hello, my name is David (Rushton) and I work for Transport & Travel Research Ltd. We are completing a study for Royal Borough of Kingston upon Thames looking at commercial vehicle use in New Malden area. As part of a survey undertaken on the 30<sup>th</sup> September, we observed one of your vehicles in the area. We would be very much interested in your views of travelling through the area and would be very grateful if you or a colleague would please spare 5 minutes to answer a few questions.

We would like to assure you that your responses will be in confidence and you or your company will not be named in our report to the client. The survey data collected on the 30<sup>th</sup> September will also be treated as confidential material and your details will not be disclosed as part of the project.

**ANSWER = No – Thank person and end call**

**ANSWER = Yes – Would now be a convenient time to answer our questions?**

**ANSWER = Yes – continue survey**

**ANSWER = No – arrange time in the next few days to call back**

### **PLEASE GIVE THE FOLLOWING INTRODUCTION**

We are particularly interested in your experiences of travelling between the High Street and Burlington Road in New Malden.

Q1: Where was the vehicle travelling from?

Q2: Where was the vehicle travelling to?

Q3: Was the vehicle involved in a delivery, collection or servicing activity within the New Malden residential area?

Q4: Would the vehicle have travelled through the area as a through-route?

**IF Yes GO TO Q4a, No GO TO Q5**

Q4a: Why do you use this route?

Q5: Do you regularly travel in/through the area?

Q6: How often would you say that you experience traffic congestion problems in the area?

Q7: When the area is congested what steps (if any) do you take to try and avoid any delay?

**ONLY ASK Q7a if they do not give diversion as a response to Q8.**

Q7a: When congested do you ever consider diverting your route?

Q8: Does your vehicle have SatNav installed? **If Yes go to Q8a, If NO Go to Q10**

Q8a: Do you use your SatNav while travelling in the New Malden area? **If No Go To Q10, If Yes Go to Q9**

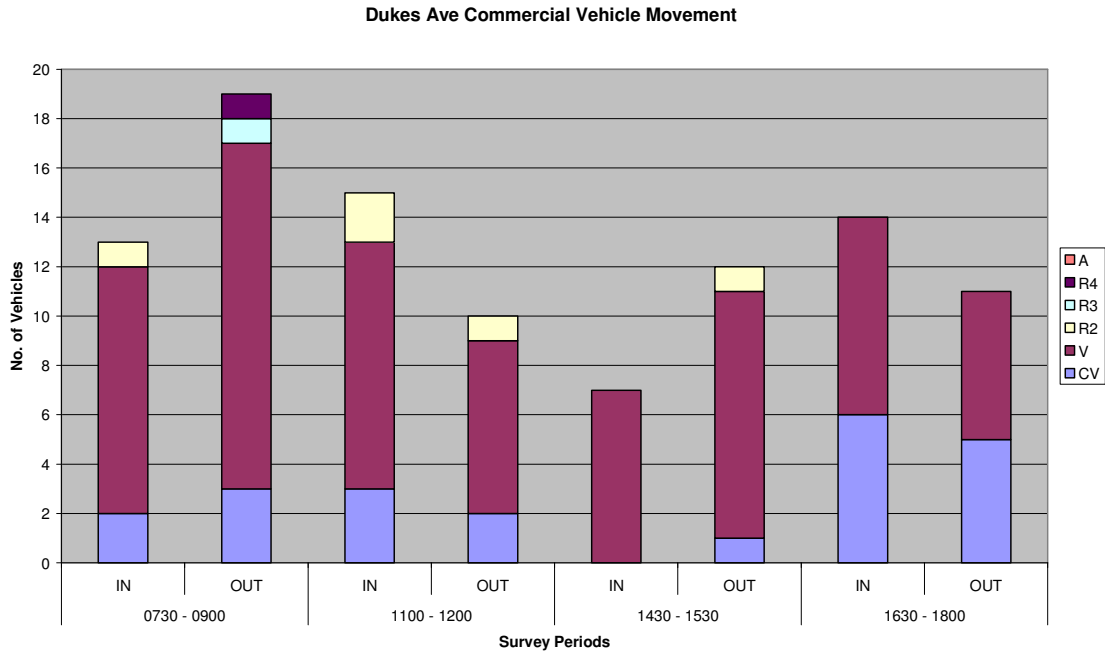
Q9: Would your vehicle have been routed through the residential area by the SatNav unit?

Q10: Do you have any other comments that you would like to make about travelling in the New Malden area?

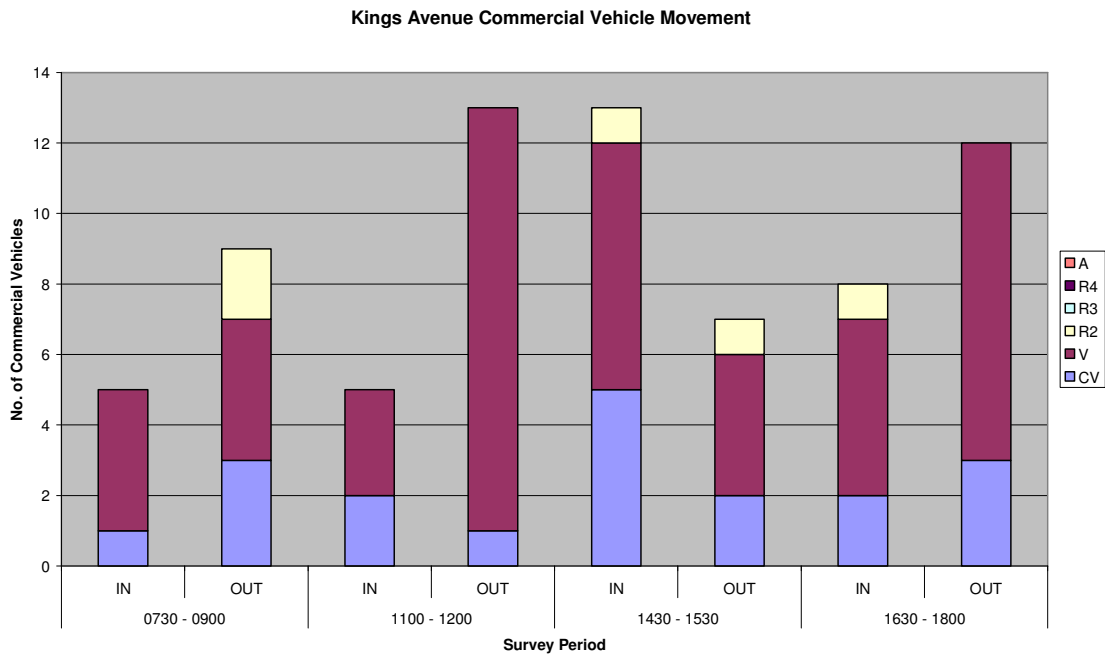
**THANK THE RESPONDENT FOR THEIR TIME & CLOSE THE INTERVIEW** If the respondent requires more information about the study, please ask them to contact me by email on [mike.freeman@ttr-ltd.com](mailto:mike.freeman@ttr-ltd.com) or by phone on 0117 907 6520.

## APPENDIX D: COMMERCIAL VEHICLE MOVEMENT IN THE NEW MALDEN RESIDENTIAL AREA

### Dukes Avenue



### Kings Avenue



## Beverley Road

Beverley Rd Commercial Vehicle Movement

