

Scanned  
from  
best available copy

IQP/MQP SCANNING PROJECT



George C. Gordon Library  
WORCESTER POLYTECHNIC INSTITUTE

00E042I

Hansen, P. (HU)  
PHH-E002  
Type: IQP  
Date: 7/00

44

00E042I

Project Number: PHH-E002-30099 - 44

## **Willow Lane Industrial Estate – Green Transport Plans**

An Interactive Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

---

Jeffrey M. Cleary

---

Rohit Goyal

---

Jason Reposa

Date: June 30, 2000

Submitted To:

1. London
2. Transport
3. Green

---

Nick Greenwood, Project Liaison

---

Professor Peter H. Hansen, Advisor

## **Acknowledgements**

We would like to extend our thanks to our liaison Nick Greenwood for all the help that he has given us over the course of the project. We would also like to thank everyone in Transport Planning as well as those from the London Borough of Merton who have helped to make this project a success. Our thanks to Professor Peter Hansen for advising this project.

## **Abstract**

This project was developed for the Environmental Services Department of the London Borough of Merton, England. The purpose of this project is to promote Green Transport Plans to employers in the Willow Lane Industrial Estates. Data was gathered on existing travel patterns and travel habits of employees through observation and survey techniques. This project focuses on reducing the use of private cars and concentrating on alternative, greener modes of transport in the Willow Lane Industrial Estate.

## **Authorship Page**

### **Chapter 1 – Introduction**

**Author:** *Jeff*

**Editor(s):** *Jason and Rohit*

### **Chapter 2 – Literature Review**

**Author:** *Jeff, Jason and Rohit*

**Editor(s):** *Jeff, Jason and Rohit*

### **Chapter 3 – Methodology**

**Author:** *Jeff, Jason and Rohit*

**Editor(s):** *Jeff, Jason and Rohit*

### **Chapter 4 – Results**

**Author:** *Rohit*

**Editor(s):** *Jeff and Jason*

### **Chapter 5 – Analysis of Results**

**Author:** *Jason*

**Editor(s):** *Jeff and Rohit*

### **Chapter 6 – Conclusions and Recommendations**

**Author:** *Jeff*

**Editor(s):** *Jason and Rohit*

## **Executive Summary**

The goal of this project was to assess the current Green Transport situation in the Willow Lane Industrial Estate. This project was developed for the Environmental Services Department of the London Borough of Merton, England. The purpose of this project is to promote Green Transport Plans to employers in the Willow Lane Industrial Estates. Data was gathered on existing travel patterns of the commuters of the Willow Lane Industrial Estate through observation and survey techniques. We used the data that we gathered to provide recommendations for implementing a Green Transport Plan. In this section we also discuss what the employers and London Borough of Merton can do to implement a Green Transport Plan.

The London Borough of Merton Transport Planning Section is looking to improve travel conditions in the Willow Lane Industrial Estate. This is to be done through the implementation of Company Green Transport Plans. These are sets of measures that employers can take to reduce reliance on the private car, while at the same time encouraging the use of public transportation to the work site. Transport Planning would like to assess the current conditions of employers on the Willow Lane Industrial Estate to see what can be done to encourage them to implement Green Transport Plans.

One objective of the project is to assess employer awareness of Green Transport Plans in the Willow Lane Industrial Estate. In addition, employee travel patterns were evaluated. Another objective of the project is to provide information of Green Transport Plans to the employers on the Willow Lane Industrial Estate, and to assess which employers of the Estate are willing to implement a Green Transport Plan. Along with assessing the commuter travel patterns, we needed to ask the employees and employers

what they thought about the implementation of the Wandle Way tramstop. The Wandle Way tramstop is a proposed tramstop on the Croydon Tramlink System. This tramstop will provide public transport access to the Willow Lane Industrial Estate. Our survey evaluates commuter's potential use of this tramstop.

In our research, we studied the travel patterns of employers, employees, and visitors in order to come to conclusions about how to reduce the use of the private car. We conducted surveys with employees and visitors along with personal over the phone interviews with employers. The surveys provided us with data to come up with conclusive evidence to support our analysis. In our analysis we discuss concerns that commuters have with the current transport infrastructure to the Willow Lane Industrial Estate. The results also show the modal transport split for commuters to the Estate. The main problem we encountered among the commuters to the Estate was the fact that the commuters were not aware of Green Transport. Another major problem we found was the communication between the employers and the Merton Council. The employers felt the Local Government (Merton Council) should be responsible for providing measures toward Green Transport within the Willow Lane Industrial Estate. However, the Local Government (Merton Council) wanted to know what the employers were willing to do to reach Greener modes of transport in the Estate.

Recommendations were made based on the results of the data analysis. In the Conclusions and Recommendation section of the report we covered short-term solutions such as, flex time, secure cycle parking facilities, and informing employees of Green Transport Plans. There are some medium term solutions that we also explain in the recommendations section of the report. The medium term solutions are funding employee

travel passes, and company car-pooling. The recommendations reflect what employers can do to implement Green Transport Plans and measures that the London Borough of Merton can take to aid in Green Transport acceptance.



### List of Illustrations and Tables

Fig. 1 – Employer Awareness of Green Transport	30,61,92
Fig. 2 – Employer Interest in Green Transport Information	31
Fig. 3 – Wandle Way Results	32
Fig. 4 – Secure Cycle Parking	33,86
Fig. 5 – Employer Awareness of GTP Awareness	34,59
Fig. 6 – Where have Employers heard about Green Transport Plans	35,60
Fig. 7- Who is Responsible for implementing Green Transport Plans	36,63
Fig. 8 – Employers can organise their companies so	37
Fig. 9 – Would employees benefit from a Wandle Way Stop	38
Fig. 10 – Gender Distribution	38,75
Fig. 11 - Do commuters use their cars for business purposes?	39
Fig. 12 – Do commuters own or have use of a company car?	40
Fig. 13 – Where do commuters normally park?	41
Fig. 14 – Would commuters be willing to participate in a car pool?	41
Fig. 15 - Wandle Way: Need vs. Use	42,56
Fig. 16 – Wandle Way vs. Mitcham Junction	43,57
Fig. 17 – Do commuters work full time?	43
Fig. 18 – Are commuters using Flexi time?	44
Fig. 19 – How many cars in private car users households?	45
Fig. 20 – Distances travelled by commuters to the Willow Lane Industrial Estate	45
Fig. 21 – Time taken by commuters to travel to the Willow Lane Industrial Estate	46
Fig. 22 – Why do commuters prefer using their private cars?	47
Fig. 23 – What might encourage private car users to use greener means of transport?	48,73

Fig. 24 – Distribution of Commuters Ages	49
Fig. 25 – Percentage of Modes Split	50,69
Fig. 26 – Percentages of Modes Spilt Male Gender Only	51,69
Fig. 27 - Percentages of Modes Spilt Female Gender Only	52,69
Fig. 28 - Frequent Modes of Travel, Male vs. Female	52
Fig. 29 – Modes of Transport Frequently used by commuters	53,70
Fig. 30 – Modes of Transport available to commuters	54,71
Fig. 31 – Modes of Transport that commuters feel needs improvement	55,78,95
Fig. 32 – Arrival time and length of stay	55
Fig. 33 – Willingness to Participate in a Car Pool	89
Table 1 – Percentages of Modes Split	87

# Table of Contents

Chapter 1: Introduction	1
Chapter 2: Literature Review	4
2.1 Green Transport	4
2.1.1 Goals of Green Transport	4
2.2 Changing Behaviours	7
2.3 Applying Technological Solutions	10
2.4 Green Urban Planning to Reduce Distances	12
2.5 Considering the Effects of Green Transport Programs	13
Chapter 3: Methodology	16
3.1 General Background Research of Green Transport Plans	16
3.2 Gathering Data	18
3.3 Contact with the Employers at Willow Lane	20
3.4 Surveying Employers	21
3.5 Surveying Employees and Visitors	23
3.6 Focus Groups	25
3.7 Croydon Tramlink	26
Chapter 4: Results	27
4.1 General Background Information of Green Transport Plans and Willow Lane	27
4.2 Employer Survey Results	29
4.3 Employee and Visitor Survey Results	39
4.4 Results of Tramlink Questions	56
Chapter 5: Analysis	58
5.1 Analysis of Employer Attitudes of Green Transport	58
5.2 Employee Travel Patterns	67
5.3 Accessibility of Public Transport	76
5.4 Wandle Way and the Croydon Tramlink	79
Chapter 6: Recommendations and Conclusions	83
6.1 Recommendations for Employer Involvement	83
6.2 Recommendations to Transport Planning	91
6.3 Conclusions	98
Appendices	
Appendix A – Letter to Employers	A-101
Appendix B – Thank You Letter	B-103
Appendix C – Information Letter	C-104
Appendix D – Employer Survey	D-105
Appendix E – Employee Survey	E-107
Appendix F – Visitor Survey	F-110
Appendix G – Company Transport Plans	G-113
Appendix H – Database Report	H-129
Appendix I – Chart of Employers	I-136

Appendix J – Maps of Willow Lane Industrial Estate

J-146

Bibliography

154

## **Chapter 1: Introduction**

The London Borough of Merton suffers from transport problems that have increased concern about the environmental consequences of travel. The use of the private car has increased congestion, noise, and pollution, impacting the general public and the environment. The Merton Council has begun investigating these concerns with the hope of persuading employers and employees to develop Green Transport Plans. Commuter travel to and from the Willow Lane Industrial Estate is our particular area of concern.

The primary objective of this project is to examine the feasibility of a Green Transport Plan in the Willow Lane Industrial Estate that will improve the general welfare of the community of Merton. The plan involves employers located in the Willow Lane Industrial Estate. Our central goal is to study existing employee travel patterns and see if employers will participate in a Green Transport Plan that will alleviate some common transport problems. Green Transport Plans focus on providing alternative, greener modes of travel. If implemented, a Green Transport Plan should reduce pollution, congestion, and noise and improve the living conditions around the Industrial Estate and in the Borough.

The Council of Merton has already begun to create a Green Transport Plan. The Council has implemented road safety plans along with alternative methods of transport such as the Croyden Tramlink to provide greener alternatives of transport to areas deficient in public transport. In addition to these plans, the Council of Merton has also recognized the need for employer involvement in Green Transport. The Transport Planning Section would like to assess employer awareness and interest in Green Transport Plans as well as identify employee travel patterns. Our project informs

employers of Green Transport Plans as well as assesses their awareness of Green Transport Plans.

Our project includes a literature review that discusses research on Green Transport and possible ways of implementing it in the Borough of Merton. The literature review describes the implications of Green Transport for employers, employees and the Borough. We review three ways to reduce the usage of the private automobile, changing behaviors, applying technological solutions and Green urban planning to reduce distances traveled. Two case studies examine how Green Transport Plans are affected by the willingness of the public to adopt them. Literature discussing the opportunities provided by technology to minimize use of private automobiles is included. A review of Green Transport policies and urban planning suggests that long term policies may be the most effective way to minimize the use of private automobiles.

We have examined employer interest in Green Transport Plans in the Willow Lane Industrial Estate. Concentrating on assessing the behavior and attitudes of employers toward implementing Green Transport Plans. In addition we have identified employee and visitor travel patterns in the estate, through surveys unique to each group. The interest in a Wandle Way stop on the Croyden Tramlink was also assessed to see what the affect it would have. Our project used a combination of observation and survey techniques.

The results of the survey were analyzed in order to provide recommendations. These recommendations include steps that employers can take to implement Green Transport Plans. They also include efforts on the part of The London Borough of Merton

to aid employers in their steps to create a Green Transport Plan. The recommendations have been categorized to distinguish short-term solutions from long-term solutions.

The Interactive Qualifying Project (IQP) presents students with the opportunity to report on a topic examining how science or technology interacts with societal structures and values. The objective of the IQP is to enable WPI graduates to understand, as citizens and as professionals, how their careers will affect the larger society of which they are a part. The Merton Green Transport Project fulfills the objective of the IQP by allowing the team to assess the Green Transport problem, a growing concern that demonstrates the social implications of technology. Working with the people of Merton in a professional environment, while at the same time studying a problem that is relatively new and significant, provides us with the opportunity to produce a quality IQP.

## **Chapter 2: Literature Review**

The information presented in this chapter provides a background of Green Transport as well as three approaches to reducing the use of the private automobile. The argument presented discusses changing behaviors, applying technological solutions and green urban planning to make jobs and shopping more accessible. The review will explore the capacity of each of these ways to reduce private car usage.

### **2.1 Green Transport**

Throughout the past century the ability to travel longer distances has become increasingly easier. Today most people commute long or short distances to work. The growing number of commuters has created congestion in many small cities and towns. Despite the many different modes of transport available, commuter preference for private cars has made it necessary to develop Green Transport Plans to address traffic congestion. In the Borough of Merton, cars alone consume 28% of the total energy used there (Merton Online, 2000). It is apparent that there are traffic problems in the Borough. These include traffic congestion, noise pollution, accidents, and air pollution. To better understand the transport issues facing Merton, the following section reviews the issues and goals of Green Transport.

#### **2.1.1 Goals of Green Transport**

A Green Transport Plan is a set of measures tailored to suit the individual circumstances of different locations, but with the common aim of reducing the impacts of travel to work and transport activity during work (DETR 1997). In order to explain why



the Borough of Merton has decided to create a Green Transport Plan, four specific goals of Green Transport will be discussed. These goals are to prevent pollution, reduce noise, calm traffic and provide safer transport. Currently, private cars produce more pollution than any other method of transport. In fact, private cars produce their own weight in carbon dioxide in a year (Merton Online, 2000). To get a rough idea of the number of cars involved, the population of Merton is 168,000 people and in 1991 66 percent of households were estimated to possess at least one vehicle (Merton Interim Transport Plan and Road Safety, 2000).

Noise reduction is another aim of a Green Transport Plan. Much of the Borough is densely settled and the increase in use of motorized vehicles can cause considerable noise pollution. A Green Transport Plan can cut down on the noise pollution by providing alternative “quieter” methods of transport, such as the Merton Tramlink currently under construction.

In addition to noise reduction, another goal of a Green Transport Plan is to calm traffic. Traffic calming is a set of physical measures that reduce the negative effects of motor vehicle use by altering driver behavior and improving conditions for non-motorized street users (Lockwood, 1997). The objectives of traffic calming include increasing safety, and the perception of safety, for non-motorized users of the street, and increasing access for all modes of transport. Traffic calming measures can be implemented to reduce high volumes of traffic. There are a number of traffic calming measures. Four of the most popular measures are vertical deflections, horizontal shifts, roadway narrowings, and closures (Institute of Transportation Engineers, 2000). Vertical deflections, horizontal shifts and roadway narrowings are typically comprised of speed

bumps, rotaries, and roadway dividers. These are intended to reduce speed and enhance the street environment for non-motorists. Closures are measures such as median barriers and are used primarily for reducing or rerouting traffic. The primary goals of these methods are to change traffic patterns to better route traffic and create a safer environment for pedestrians.

Green Transport plans are also developed to promote safer transport. In a highly populated urban area such as Merton, there are often a number of different modes of transport using roads at the same time. Traffic can be hazardous where buses share the roads with a large number of private car drivers, as well as pedestrians and cyclists. Transport safety can be evaluated by a road safety audit according to the U.S. Federal Highway Administration. A Road Safety Audit (RSA) is the formal examination of an existing or future road or traffic project by an independent team of trained specialists. Its main objective is to address the safe operation of a roadway and to ensure a high level of safety for all road users (U.S. Federal Highway Administration, 2000).

Private cars generate most of the emissions caused by motor vehicles. According to Newman and Kenworthy (1999) there are three general approaches to reducing automobile dependence. These are technological improvements, economic instruments, and planning mechanisms. Technological improvements consist of efforts by automobile manufacturers to improve the efficiency of cars. Economic instruments are measures taken to insure that people pay the public costs of car ownership. These can be charges such as tolls and excise taxes. Finally planning mechanisms are steps taken by transport planning professionals to create transport plans that encourage less reliance on private cars.

Besides discouraging people from using automobiles, it is also necessary to encourage alternative modes of transport. This enhances the willingness of the public to use alternative transports if they are beneficial to the commuter. This is a perfect opportunity to involve employers in the efforts to implement a Green Transport Plan.

Green Transport Plans also try to reduce the need to travel. Evaluating the characteristics of urban travel is useful to gain understanding of the need to travel. According to Meyer and Miller (1984) there are five characteristics of urban travel: trip purpose, temporal distribution of trip making, spatial distribution of urban travel, selection of the mode used and cost of making the trip. Examination of these characteristics provides Green Transport Plan developers with the information necessary to change frequency of travel.

## **2.2 Changing Behaviors**

Changing behaviors of the employees who commute with their privately owned cars is a challenge for the Borough of Merton. Changing commuter practices may be accomplished more quickly than applying technology or urban planning solutions that take longer to implement. Environmental concerns have greatly increased in the past as the population of Great Britain has moved to suburban settings. This move to suburbia has encouraged the workers of these British companies to commute to work using private cars. Therefore, changing commuters' behaviors must involve either coercion or persuasion.

The company car, a common benefit of many companies in Britain, has a great effect on commuters preference for using an automobile instead of public transport. The

company car has an adverse affect on Green Transport. This is one major incentive that can greatly influence the behavior of a commuter, and it may be difficult to persuade them otherwise.

Two case studies involve changes in commuter practices as a result of environmental concerns in England and in the United States of America. One commuter plan was developed by The Boots Company in Nottingham, UK, the location of their headquarters. The company has developed and used a commuter plan that allows employees to get to work safely and on time, while limiting private car use. The plan focuses on five transport media-- walking, cycling, buses, trains, and car sharing. The Boots Company has also made it a point to distribute alternative travel information on a regular basis. It even holds an annual "Travel to Work Fair," to "raise staff awareness of the various transport alternatives available" (Boots-PLC, 1999). The strategy of persuasion encourages use of a free shuttle bus, increased private bus services, a "free taxi home service where a return journey is not available," and offers a five pound gift voucher to frequent car poolers (Boots-PLC, 1999).

This commuter plan has resulted in a seven and a half percent decrease in single passenger commutes (Boots-PLC, 1999). The number of company owned buses provided has grown from 57 to 63, but it is not clear at present how this has effected the number of staff using company owned buses. One significant impact is the level of interest shown in the Boots initiative by other organizations from the public and private sector. Boots has demonstrated that a private company can play a leading role in measures to encourage sustainable transport. The Boots case provides an example of persuasion as an approach to changing commuter behavior.

Coercive methods are harder to implement in the United Kingdom according to Boots executives. The United Kingdom presently has a “taxation system which does not allow for incentives for sustainable modes of travel to be given tax free,” (Boots-PLC, 1999). This means that if companies give free transport to their workers, the company pays more in taxes. This poses a barrier for smaller companies attempting to implement their own commuter plans, since they may lack the funding of a large organisation (Boots-PLC, 1999).

Another example of efforts to change commuter behavior is provided by Tri-Met (Tri-Met, 2000). Based in the state of Oregon, USA, this public agency has commuter plans that any business can implement. They offer kits and software to introduce employers to environmentally sensitive ways of commuting. They also have a section where a business that has no experience with transport planning can receive instructions on getting environmentally friendly transport (Tri-Met, 2000).

The Tri-Met Organisation has different alternatives to implementing Green Transport. This firm uses Employee Transport Coordinators (liaisons) to help motivate companies to use Tri-Met services. The liaisons can act as a “company's in-house resource for developing and managing a transport program” (Tri-Met, 2000). Companies come to this agency when they believe in the benefits of Green Transport. Some of the benefits for business that Tri-Met has recorded are:

- Reducing demand for employee parking spaces
  - Creating affordable employee benefits
  - Improving employee productivity, attendance and on-time arrival
  - Reaching a wider labor pool and retaining employees
  - Taking advantage of state and federal tax breaks
  - Tackling congestion and environmental concerns as a community leader.
- (Adapted from “What is an Employee Transportation Program?” Tri-Met, 2000.)

With all these benefits, businesses are gladly funding some of these Green Transport projects. On their web site, [www.trimet.org](http://www.trimet.org), Tri-Met lists hundreds of companies that have used their services. One program they implemented is Employee Commute Options (ECO) developed by the Oregon Department of Environmental Quality (DEQ). Tri-Met plans to reduce the number of “commuter auto trips taken to a work sites” by ten percent, with the help of the ECO (Tri-Met, 2000). If companies are successful in complying with the terms stated in the ECO guidelines, they will become ECO certified by the state of Oregon and accrue tax credits.

These case studies are examples of what well-conceived commuter plans may achieve when a company allocates enough resources to their development. The future effects of the Boots-PLC commuter plan and the Tri-Met ECO are not known, but their accomplishments to date demonstrate that employers can, given the resources, help achieve “greener” transport. An approach to Green Transport that this review explores is the application of technology. An important consideration here is what type of technology can and cannot be implemented by the Borough of Merton.

### **2.3 Applying Technological Solutions**

Applying new technologies can support Green Transport in Merton. Merton is developing a Tramlink that will run through the Borough. This new technology will increase the availability of public transport into Merton. “The Council's Movement Strategy seeks to promote the existing public transport network focusing on new, efficient and sustainable modes of public transport.” (Merton Plaza: Living: Transport: Tramlink: Home Page, 2000) This technology is made possible by the development of the

Croydon Tramlink. The Croydon Tramlink is the main tramlink that will join several Boroughs' of London together, including Merton. "It is estimated that it will facilitate improved public transport access to approximately 100,000 square metres of undeveloped industrial, commercial and retail floor space, contributing to the creation of approximately 500 new jobs." (Merton Plaza: Living: Transport: Tramlink: Home Page, 2000)

Another technology that has the potential to help solve the pollution problems of Merton is the emergence of low emissions vehicles. Zero emission cars will in effect have no pollutants in their emissions. However, they are beyond the capacity of one borough to implement and it may be many years before they are widely in use anywhere. Furthermore, although they may solve pollution problems, zero-emissions vehicles still occupy space on the road and in car parks. Again zero-emission vehicles do not address some problems that private cars cause, namely congestion.

Applications of technology are traffic engineering measures such as traffic calming. As described earlier, traffic calming measures improve conditions for non-motorized street users. These can be very beneficial, but are not always easily implemented. An area must be able to accept the physical changes of these calming measures. For instance it is not feasible to implement speed bumps on a heavily trafficked road, regardless of the number of pedestrians that share this space. Traffic calming does not reduce the traffic on the road, rather its goal is to slow traffic.

Applying technological solutions is a longer-term way of supporting Green Transport Plans. Often technology needs to be developed and accepted and this can be

time consuming and costly, although it may be possible to take advantage of technology that has already been developed at reduced costs. A still longer-term solution is reducing the distances that the residents of Merton must travel. The most likely implementation of a technology that could be employed in Green Transport in Merton is the Tramlink. The Merton Tramlink is already planned for opening and the technology is substantial. Therefore, any Green Transport Plan should support its full utilization.

#### **2.4 Green Urban Planning to Reduce Distances**

Green urban planning to reduce distances is probably the most effective way of dealing with traffic issues but at the same time it can be most difficult and time consuming to implement. It also has the most affect on the urban environment and involves understanding the reasons for local travel and for the mode of transport chosen. Cervero argues that it is an issue of accessibility versus automobility (Cervero, 1999). Accessibility refers to creation of places that reduce the need to travel or to shorten distances. Automobility is about the physical mobility of residents. One issue is therefore whether a commuter uses the private car for ease of accessibility or to just be mobile.

In order to reduce travel distances for commuters, we must look at existing travel patterns. Current patterns indicate that trips are increasing in length and encompass several origins and destinations. To reduce distances, planners need to focus on accessibility rather than mobility. Focusing on accessibility recognizes that cities are about movement. Increasing accessibility to key areas provides people with an alternative to the private automobile, decreasing dependency on it. Transport affects the physical environment in five key ways: locations, intensities, compositions, values of land use and



urban activities (Ibid). It is in these areas where attention needs to be paid when carrying out urban planning.

Vasconcellos discusses the impact of economic modernization. This entails profound changes in the technology of production, with major impacts on land use, urban structure and travel patterns (1997). Vasconcellos also states that the main objective is the analysis of household time and space budgets, to identify constraints on the equitable appropriation of space. The myth of roads as a means for collective consumption has to be challenged by submitting investments to equity evaluations, and by redefining the use of streets (1997). In other words, cars are commonly a statement of middle class status more than a necessity of urban transport. As a result, locations must be selected for the accessibility of residents, rather than for those who have the ability to get there in an automobile.

Green urban planning would also encompass urban infrastructure, particularly infrastructure that can be changed to accommodate travel patterns of non-automobile travelers. Typically, green urban planning can be very costly. This approach can be very effective when carried out properly. Proper evaluation of transport infrastructure, along with the allocation of funds, can provide excellent measures for introducing greener transport and reducing the use of the private car.

## **2.5 Considering the Effects of Green Transport Programs**

Green Transport Plans will broadly affect the interests of several different groups. The groups that are most likely to be concerned about the implementation of a Green Transport Plan are employers, commuters, the Council of Merton, and the residents of the

Borough of Merton. The needs of each of the parties must be taken into account during the planning process.

An important step in implementing a Green Transport Plan is getting local employers involved. A large part of regional traffic consists of employees traveling to and from work. An integral part of getting employers involved may be to encourage them to set up an employee transport program. An employee transport program is a business tool that gives employees choices for getting to work (Tri-Met, 2000). The Tri-County Metropolitan Transportation District of Oregon (Tri-Met) for example has instituted an employee transport program to get employers more involved in transport issues.

Commuters are the group most directly affected by the implementation of a Green Transport Plan. Many commuters have become accustomed to one mode of transport, typically the private car. This is a difficult practice to change. In order for a Green Transport Plan to work successfully it needs to cater to the needs of commuters. Alternative forms of transport must appeal more to the commuter than the form they are using.

The Environmental Services of the Council of Merton bears most of the burden and responsibility for implementing a Green Transport Plan. The Council is responsible for developing ways to get commuters and employers involved in adopting a Green Transport Plan. It has developed ten major objectives for Green Transport (Merton Interim Transport Plan and Road Safety, 2000):

- To improve accessibility to the public transport infrastructure and to a range of facilities and services in Merton.
- To reduce the reliance on the private car.
- To improve road safety.
- To improve facilities for pedestrians and to increase the proportion of travel by foot.

- To increase the attractiveness, safety and use of pedal cycles.
- To improve environmental conditions.
- To improve air quality.
- To increase the sense of security in the public spaces within the borough.
- To raise awareness of the consequences (especially on health and the environment) of current transport trends in Merton and of the alternatives to car-based travel.
- To control on-street parking where it has the most adverse effect on residents parking needs.

These are the general guidelines that the Council of Merton is following as it develops a Green Transport Plan.

The effects on the residents of the Borough of Merton must also be considered. Part of the plan may include physical changes to the Borough, such as the building of a Tramlink. Consideration must be given to how a large investment in transport infrastructure will change the Borough. This could disturb residents' usual pattern of living. Also, issues such as pedestrian volume cannot be overlooked.

Changing behaviors offers quick solutions when looking to implement a Green Transport Plan. This is the most likely short-term choice because it usually does not require a large financial investment or a long implementation time. Applying technological solutions and implementing green urban planning are complementary longer term programs.

## **Chapter 3: Methodology**

This chapter discusses the techniques we employed to gather data for our project. General background research was done to insure that we have the necessary knowledge about Green Transport in Merton. Employer interest in Green Transport was assessed as a survey of travel patterns among employees, employers, and visitors. The data gathered from the latter assessments was then analysed to identify components of a Green Transport Plan for the Willow Lane Industrial Estate.

### **3.1 General Background Research of Green Transport Plans**

To address the problem of Green Transport it was necessary for us to do some background research on Merton, the Willow Lane Estate, and plans for the area. Much of the information we needed was obtained from existing documents. This research aided our understanding of Green Transport in Merton, and provided the necessary data to develop recommendations for the implementation of a Green Transport Plan.

Our group conducted this general background research during the first week of our project. This research consisted of evaluating Borough plans, understanding the Borough laws, and looking at maps. We then conducted further research specific to the Willow Lane Industrial Estate that consisted of a visual familiarisation with the industrial Estate, and looking at the traffic patterns of the commuters. We analysed the data, which provided us with a better understanding of the past, present, and future of Merton's involvement in Green Transport Planning.

Maps played a large role in our familiarisation of the Borough. Maps of the Borough of Merton were obtained from the sponsor before we arrived in London. These

were helpful in acquainting the team with the layout of Merton, the Willow Lane Industrial Estate, and the size of the Borough. In our first week we made a trip to the Willow Lane Industrial Estate. Detailed maps of the layout of the Estate were acquired from the Transport Planning Section. These maps laid out each building on the Estate and it's location on the Estate. The maps also included a list of each company that occupied the buildings on the maps, along with the address of the company (See Appendix J). These were necessary in locating companies with whom we had made appointments. We have also obtained a map outlining the cycle routes in the Borough. This map allowed us to make observations on the current cycle routes in and around the Estate. These maps along with the results of employee surveys allowed for recommendations on cycle routes to be made. During the first week on site we received more detailed maps with current construction points and pedestrian routes as well as proposed infrastructure changes. These maps are helpful in visualising the city and understanding where proposed transport changes will be made, such as the Wandle Way Tramstop.

When we arrived in Merton we evaluated the Borough land use plans. The Council of Merton provided us with a Unitary Development Plan and an Interim Transport Plan. We assessed these plans and found that they included the goals and objectives for future environmental plans of Merton. We needed to know about major changes that the Council of Merton is currently making, and future plans that will affect local traffic. This information was necessary for us to know so that we were prepared when we met with employers or spoke with them over the phone. We needed to be well versed in the plans and policies of the Borough in order to answer employer questions

intelligibly. In addition we obtained general information about the Council of Merton, in order to understand which parties are responsible for specific areas of policy within the Borough. We then better understood how the government deals with traffic matters, as we had assumed that this would be different than in the United States.

Traffic laws in the Borough are different from those in the United States. We needed to obtain a general understanding of the traffic regulation laws and policies of the Borough. We particularly liked to know how these laws affect people who drive private cars, pedestrians and employers. We also evaluated Merton's traffic policies for green methods like ticketing car pool lanes, speed humps and easily accessible and rapid exchanging buses. This helped us to understand what might effect the mode of transportation chosen by a commuter. Feedback from employees regarding traffic policies in the Estate will be important for evaluating Green Transport in order to make recommendations in this area.

Information regarding employee traffic patterns was also researched. Our goal here is to obtain information about modes of transport currently used by the employees of the Willow Lane Industrial Estate. These studies also include periods of heavy traffic, number of cars travelling in and out of the Willow Lane Estate and total number of employees commuting. These statistics will be measured through the employee and visitor surveys.

### **3.2 Gathering Data**

Employers, employees and visitors are three main groups we need to survey to assess the feasibility of Green Transport Plans in the Willow Lane Industrial Estates.

These groups hold important information that will be essential to understand their willingness to accept Green Transport. The problem is how to extract the information from each party in the least intrusive way, as well as to inform them about Green Transport Plans. A solution is to ask well-researched questions of the respective groups. Surveys were distributed among employers, employees and visitors in Willow Lane and interviews were conducted over the telephone to determine the modes of transport to and from Willow Lane.

To gather this data, we needed to ask exhaustive questions such as: What modes of transport do you use most frequently for commuting to and from work? What modes of transport are available to you? What modes of transport do you feel need improvement in Merton? Do you own or have use of a company car? Do you think that the Wandle Way tramstop is needed? What is your home postal code? Are you on flexi time? We chose these questions because we felt that this was the best way to gather information about employee travel patterns. We designed a survey that consisted of general questions that the Transportation Planning Section wanted us to ask. Then we decided that one survey was not going to be sufficient so, we developed 3 different surveys. Each survey was geared toward employers, employees and visitors, and is described in later sections of this chapter.

Initially, before any contact can be done, it was essential that we determine the most important points of Green Transport Plans. We read through The London Borough of Merton's Recommendations to Employers Document, the Department of the Environment, Transport, and the Regions Travel Plans Document, and the Transport 2000 Changing Journeys to Work Document. From these documents we highlighted the

most important aspects of Green Transport so that we could promote Green Transport to employers of the Willow Lane Industrial Estate.

### **3.3 Contact with the Employers at Willow Lane**

The Transport Planning Section has compiled an extensive database of employers in the Willow Lane Industrial Estate. This database contains the addresses and contact information of all employers in the Willow Lane Industrial Estate. The information contained in the database was used to draft personalised mailings to each employer in the Estate. The database provides us with the telephone and fax number of each of the employers listed. The complete database can be viewed in appendix H.

The study focuses on the larger businesses, which comprises the bulk of the commuters. Of the 147 businesses in the Industrial Estate, approximately 68 of these businesses have ten or more employees and 79 have fewer than 10. We have used the database to sort the companies by different characteristics. Since we were dealing with a large number of contacts the database was also used to track employers whom we have already spoken with or surveyed.

Discussions with our liaison led to the decision to make initial contact with the employers through a letter (See appendix A). This letter described who we are, the nature of our project and our intentions over the course of the project. In addition this letter offered employers a brief explanation of the main points of Green Transport Plans and their benefits. These points and benefits were adapted from the information we researched in the published articles on Green Transport Plans. Contact through this letter was a formal and informative way of beginning to get employers involved in the



study. The letter was sent to all of the 133 businesses in the Willow Lane Industrial Estate database. It is expected that several businesses will not respond to the letter, so we must take advantage of the information that will be obtained from the businesses that are willing to participate. Once responses are received from the initial mailing, surveys and interviews of employers and employees can begin.

After sending out a personalised mailing with a request to participate in our survey we followed up with a telephone call to those companies who did not respond to the mailing. We felt that many employers would find the letter of little importance to take time to make a response. To encourage more participation we made telephone calls to many employers. The telephone calls were made to the contacts listed in the database. The telephone calls allowed us to provide more information to employers as well as answer any outstanding questions they may have on Green Transport Plans. In addition they provided a second chance to explain the significance of our Green Transport study.

### **3.4 Surveying Employers**

We have chosen to focus our study on employers since a large part of the burden of implementing Green Transport will be on the employers. Employers need to accept Green Transport before their employees do, and they will also be the main contact with the Borough of Merton. In addition, we targeted the largest employers since they are more likely to have the resources to implement a Green Transport Plan and provide enough data for the study. When developing the employer survey we wanted to know what employers knew about Green Transport and to what extent they were willing to participate in Green Transport. This developed into questions such as: How

knowledgeable are you about Green Transport? Who do you think is responsible for implementing Green Transport? Would you be willing to implement a Green Transport Plan? In addition, we asked questions regarding the popularity of aspects of Green Transport among employers. The employer survey can be viewed in its entirety in appendix D. In surveying employers, we tried to find out how they got to work and where they were coming from because we wanted to know if they could use public transport if they were not using it already. We also asked the employers what means of transport were available to them to evaluate the availability of public transport to the Estate. Some other questions that we asked in the survey dealt with company car issues and the Wandle Way tramstop. We wanted to know if they had a company car because that may decrease their willingness to use public transport. Asking employers if they were interested in the Wandle Way tramstop helped to evaluate whether this would be a worthwhile solution to follow through.

Many employers were not available to meet with us to participate in our survey. We anticipated a small number of employer surveys being filled out. To compensate for this we created a simple, easy to answer phone survey. We called all the employers on the list that we had not spoken with to ask them to participate in our phone survey. This resulted in a number of additional employer surveys creating more statistically accurate results.

The data obtained from interviews and surveys will give us a better understanding of what employers and commuters need from a Green Transport plan. Quantitative analysis will be used to evaluate the surveys in order to thoroughly assess the data. The interviews will provide in depth answers from the employers. Once

compiled this will tell us the most popular choices for greener transport to the Willow Lane Industrial Estate. Analysis of this data will also provide insight as to what can be done to encourage Green Transport.

The interviews will tell the group more about the employers of the Willow Lane Industrial Estate and their willingness to implement a Green Transport plan. We will know what employers see is the important aspect of Green Transport. This will allow us to assess the benefits that employers can achieve from a Green Transport plan.

Each employer that we met with was sent a thank you letter (See Appendix B) and a Green Transport Information Pack (See Appendix G). Employers expressing interest in the Information Pack whom we surveyed over the phone were sent a letter (See Appendix C) with the requested information.

### **3.5 Surveying Employees and Visitors**

We conducted a survey of employees who travel to and from the Willow Lane Industrial Estate. Within that target group we contacted as many subjects as possible focusing on the larger firms because they are most likely to implement a Green Transport Plan or have more interest in a Green Transport Plan. The more employees an employer has makes it easier to contact a larger number of the Willow Lane Industrial Estate workers. By contacting the companies that have a plethora of employees we can make more people in the Estate aware of Green Transport Plans. It was important that numerous employees were surveyed to clearly understand what commuting to the Estate was like as well as to assess the need for alternative forms of transport in the area.

Surveying employees allowed us to realise how difficult or easy it is to commute to and from the Willow Lane Industrial Estate.

Since the Willow Lane Estate is an industrial site, it is not uncommon for visitors to be on and off the premises. These visitors often include lorries making daily deliveries to the numerous companies on site as well as any other outside visitors we observed at the site. Surveying these visitors is important so that recommendations can accurately reflect the traffic in and out of the Estate. Changes in public transportation will have to account for the additional traffic visitors generate to the Willow Lane Industrial Estate. The surveys for visitors were distributed on site. The goal of the employee survey was to gather data about employee travel patterns. We wanted to find out their reasons for the mode of travel and what may encourage them to change to a greener form of transportation. We also wanted to use origin and destination questions to find out where the employees are coming from. This resulted in survey questions such as: Which modes of transport do you use most frequently for commuting to and from work? Which modes of transport do you feel need improvement? Why do you use a private car to get to work? Do you have a company car? What is the distance you must commute to work? What might encourage you to switch to public transport, cycling or walking? The employee survey can be viewed in its entirety in appendix E.

During the development of the employee survey we recognised the need to develop a questionnaire for visitors. Ideally the employee survey would encompass all commuters as a commuter survey. We soon found that more exact useful data could be gathered by creating a more specific employee survey as well as a visitor survey. The visitor survey was created to see the extent of additional regular visitors to the Estate

and the travel patterns that they chose. This resulted in survey questions such as: How often do you travel to the Willow Lane Industrial Estate? What modes of travel do you use to travel to the Industrial Estate? The visitor survey can be seen in appendix F.

Analysis of the availability of public transport to the Willow Lane Industrial Estate can provide answers to why commuters do not choose greener modes of transport. Together with the above data gathered an assessment could be made as to what can be recommended to take advantage of Green Transport Plans. Results of the survey of employees and visitors of the Willow Lane Estates will show the most common modes of transport, thus providing a basis for what forms of transport need more attention.

### **3.6 Focus Groups**

We considered using focus groups. A focus group of about 10 to 15 people led by a moderator would have been very informative. We had planned on including employers and employees to discuss their concerns with the Borough's Green Transport issues. The idea was to hear each argument, and maintain an unstructured, but beneficial, discussion about Green Transport. After examining the Industrial Estate and the employer database we have found that this method would be too difficult due to time constraints on employers and employees, and on us in our project. We have considered the possibility of holding a focus group with one or two of the larger employers.

### **3.7 Croydon Tramlink**

Technology can potentially provide solutions to some of the environmental and transport problems of Merton. We have assessed current and coming technology that may help facilitate Green Transport in the Willow Lane Industrial Estate.

The Croydon Tramlink is a major project that is currently being tested. Once the Tramlink is fully operational and open to the public it may help to relieve many transport problems in the area. There is currently an outstanding bid to build a Tramlink stop at the northernmost point of the Willow Lane Industrial Estate. This proposed stop, called Wandle Way, will provide easier access to the Willow Lane Industrial Estate for commuters. We plan to assess the potential of the Wandle Way stop and the Tramlink itself. Our employee survey asked commuters of Willow Lane whether they would use the Wandle Way Tramstop if it were built. In addition, we evaluated the current stops closest to the Willow Lane Industrial Estate to see if they were sufficient or convenient enough to provide public transport to the site. We did this by adding a question to the questionnaire dealing with other tramstops near the Estate. The question was: Would you be willing to use the Croydon Tramlink System, if the Wandle Way tramstop was not in place?

## **Chapter 4: Results**

This chapter discusses the actual outcome of the procedures outlined in the methodology. General background information provides ideas that are necessary in understanding Green Transport Plans in Merton. Gathering data and contacting employers helped in our acquisition of results. Three different surveys were used in gathering data; they were employer surveys, employee surveys, and visitor surveys. The information retrieved from the surveys will be analyzed in the following chapter.

### **4.1 General Background Information of Green Transport Plans and Willow Lane**

The Willow Lane Industrial Estate is part of the Borough of Merton. It is located southeast of the last tube stop on the Northern Line. To get to Willow Lane from Morden Station one has to use a series of buses with a combination of walking. The two buses that you can take to get to the Willow Lane Industrial Estate are the 118 and 127. The bus rides together are about 10-20 minutes depending on the time the 118 drops you off and when the 127 arrives. Once you get off the 127 you end up at Willow Lane, which is part of the Willow Lane Industrial Estate, from this point you have to walk about 5-10 minutes to get into the Estate. When walking into the Estate you have to watch out for cars and lorries because they drive very fast down Willow Lane into the Estate. Since, the bridge is narrow; they often come very close to hitting pedestrians and cyclists.

When arriving into the Estate trash is very noticeable. Old cars and lorries are abandoned at the Estate because they do not work anymore. The cars are then used as trash bins because the windows of the cars are usually smashed in and the cars tend to be filled with garbage. The cars being left on the Estate are not just a health hazard but

dangerous for lorries and cars entering the Estate through the its northern most point (Willow Lane).

Once in the Estate cars are parked everywhere and anywhere. The car parks tend to be filled and the streets are filled, making the roadways quite narrow for visitors and those who work in the Estate. The cars are sometimes parked half on the footways because there is not enough room on the road for them to park. Sometimes cars are parked too close to an intersection and other cars trying to pull out cannot see oncoming traffic because of the parked cars.

The observations made when visiting the Willow Lane Industrial Estate proved most interesting. On our first attempt at going to the estate, the buses proved confusing and we walked most of the way getting lost no more than twice. When we arrived on the estate, fairly exhausted, we were forced to walk in the middle of the road alongside tall overhanging vegetation. This trail led to a narrow bridge, which had fortunately had a small sidewalk. But regrettably most vehicles, with the understanding that the trail was a one-way alley, go really fast over the bridge. On our second attempt we used two buses, with a bit of a walk in between. But when we got the bridge again, a lorry almost hit one of our team members. Throughout our project, similar incidents occurred when repeating the same journey.

The problems of transport do not end at the dangerous trail and bridge. The bussing system we used to go the estate from the Merton Civic Centre was dreadful. The buses come so few in between that on one occasion we challenged a team member to walk from the second bus pickup to the north entrance for the estate, instead of using the bus like the other team members. Astonishingly, we found that the team member, who



walked to the entrance, had arrived sooner than the ones who waited for the bus. We can only come to the conclusion that buses arrive too infrequently between stops, which puts an unnecessary time constraint on commuters.

We eventually found the other entrance to the estate, at the south-eastern most point. An important note to make is that we found only one bus that went anywhere near the estate, and its stop was at the north entrance. However, there was a cycle path, and a number of sidewalks. The only other means of transport was the Croydon Tramlink, but the closest tramstop was Mitcham Junction.

Maps of the Willow Lane Industrial Estate exist within the Estate at a few intersections. These maps show where businesses are located and where you are in relation to a business that you are looking for. The maps on the Estate are useful to some degree because the maps do not seem to have every business located on them.

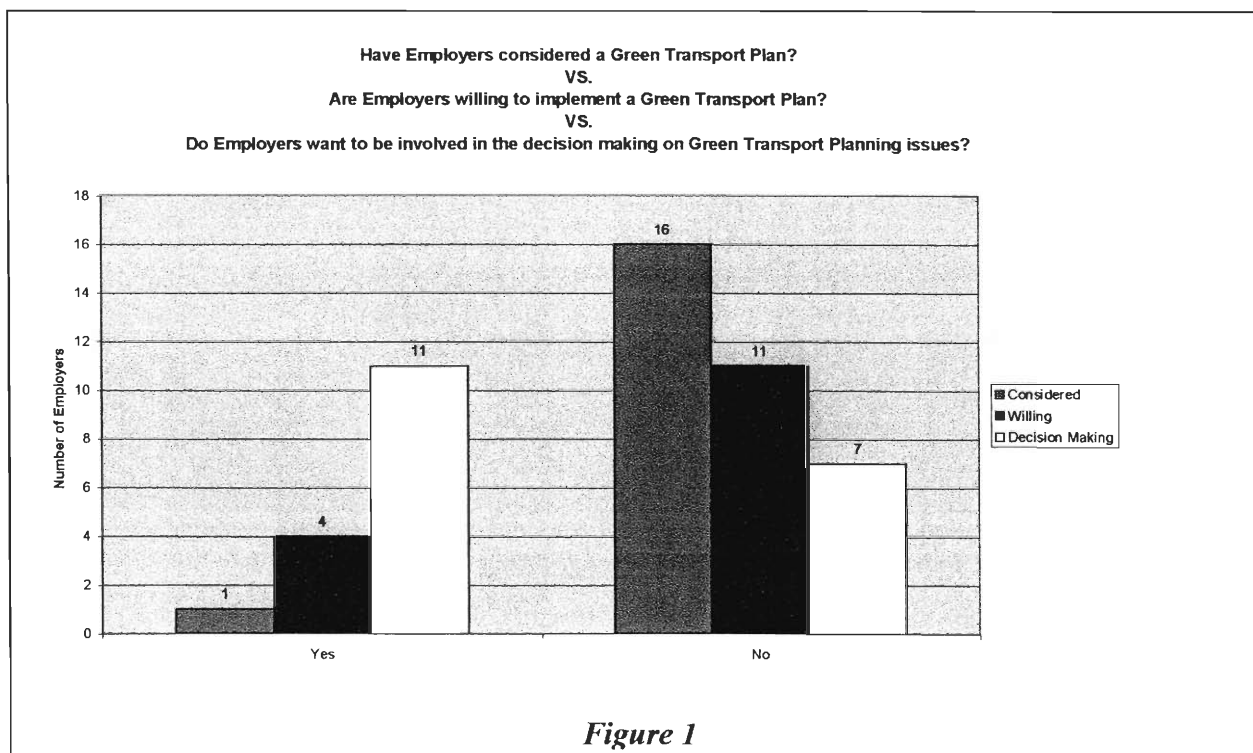
## **4.2 Employer Survey Results**

The Council of Merton would like to know what the employers and their employees know about Green Transport. To find out what the employers, employees, and visitors knew about Green Transport we conducted a series of surveys in the Willow Lane Industrial Estate. We gathered data by interviewing companies that were willing to meet with us and had them fill out surveys (employers, employees, and visitors).

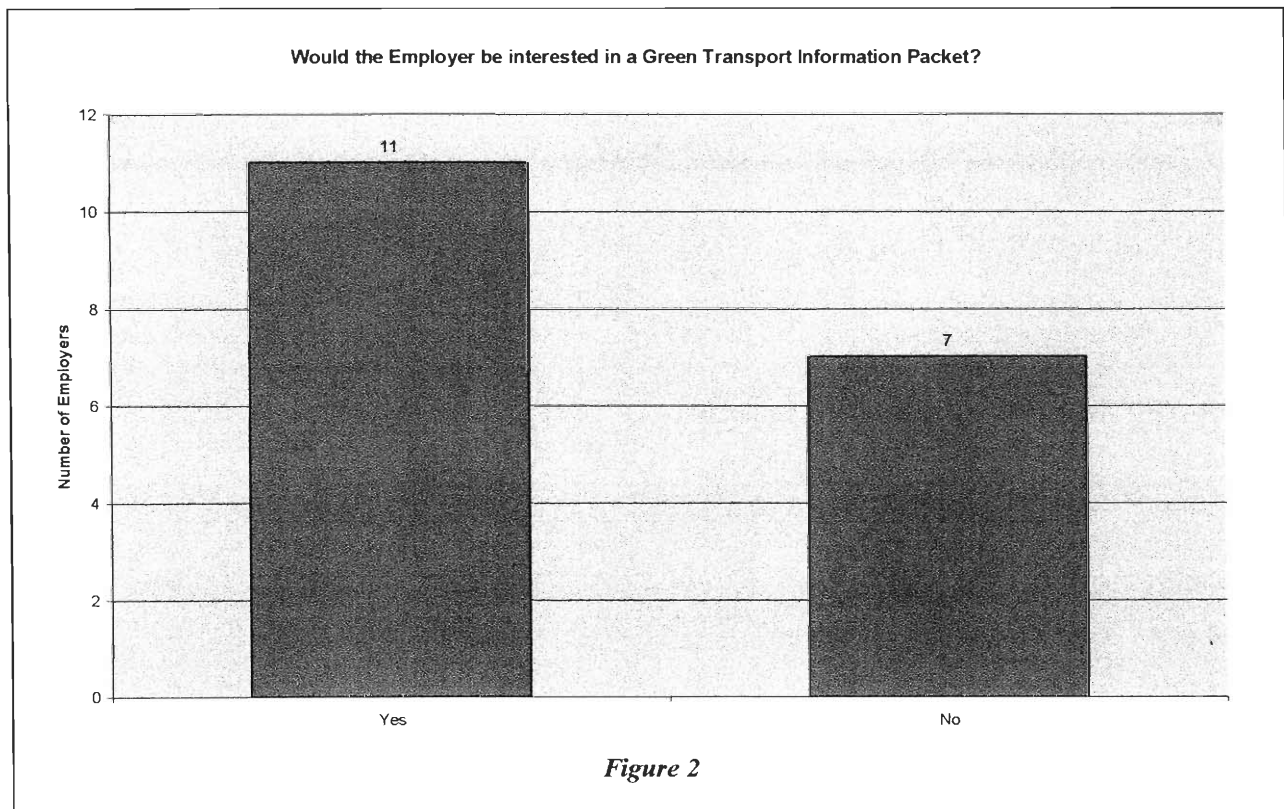
Most of the employers had set up some time in the morning to meet with our team. We had brought surveys with us for the employers to fill out and along with some surveys for their employees. All the employers that we met with had no problem with us handing out surveys to their employees. Some of the employers were willing to fill out

surveys as an employee also. Most of the employers could only afford about 20-30 minutes of their time in talking with our team. Some employers were willing to meet in their offices, some in a conference room, and some in the main lobby area. We tried to make the best of the time that we had with the employers. This was a main reason as to why we revised our surveys about 5 or 6 times before allowing the employers to see them. The surveys had to be as close to perfect as we could get them. (See Appendix for Surveys) The employers that we met with were interested in Green Transport and were willing to allow for some exploration towards Green Transport. One employer stopped at the showering facilities question on the survey and told our team that if his employees deemed it necessary to have one then he would look into it. We also completed employer surveys over the phone. After we collected all the surveys, we then entered the data from each survey into a spreadsheet and made some graphs.

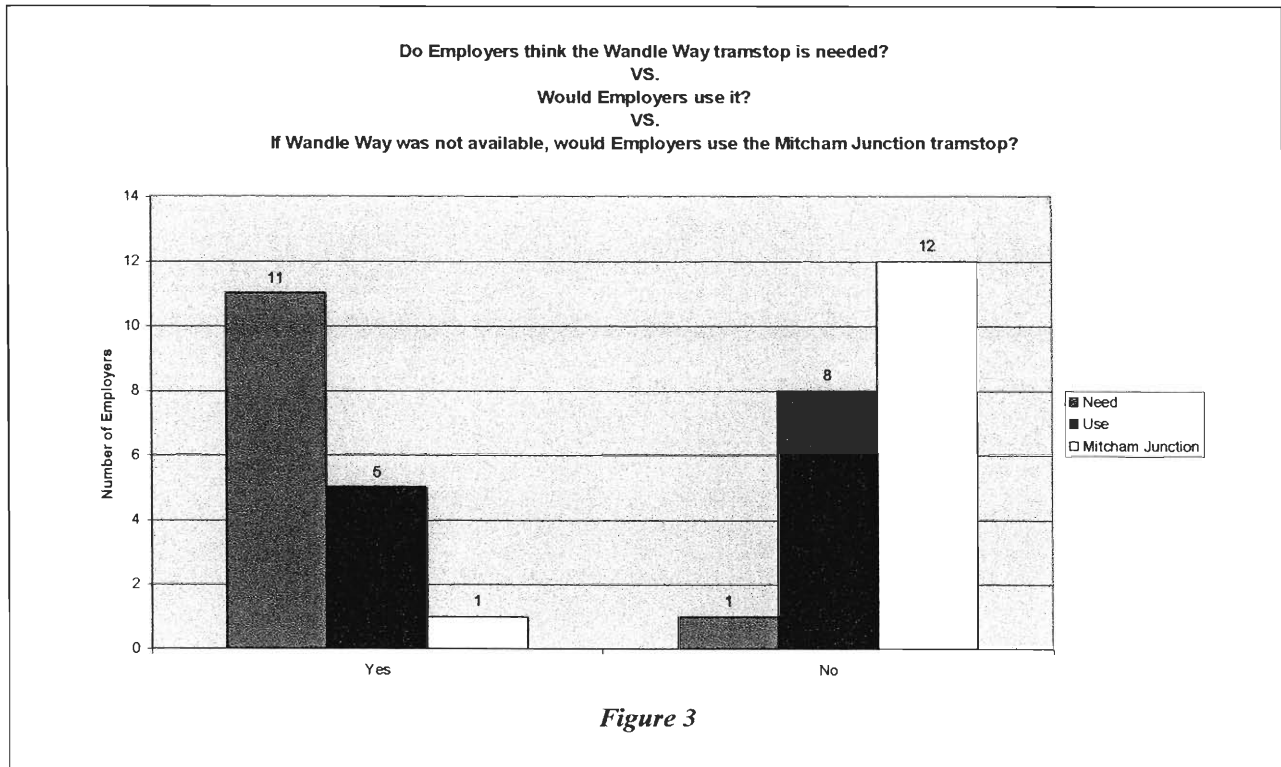
The first employer bar graph below shows the number of employers who have considered Green Transport, the number willing to implement a Green Transport Plan, and the number that are willing to make decisions on Green Transport Planning issues.



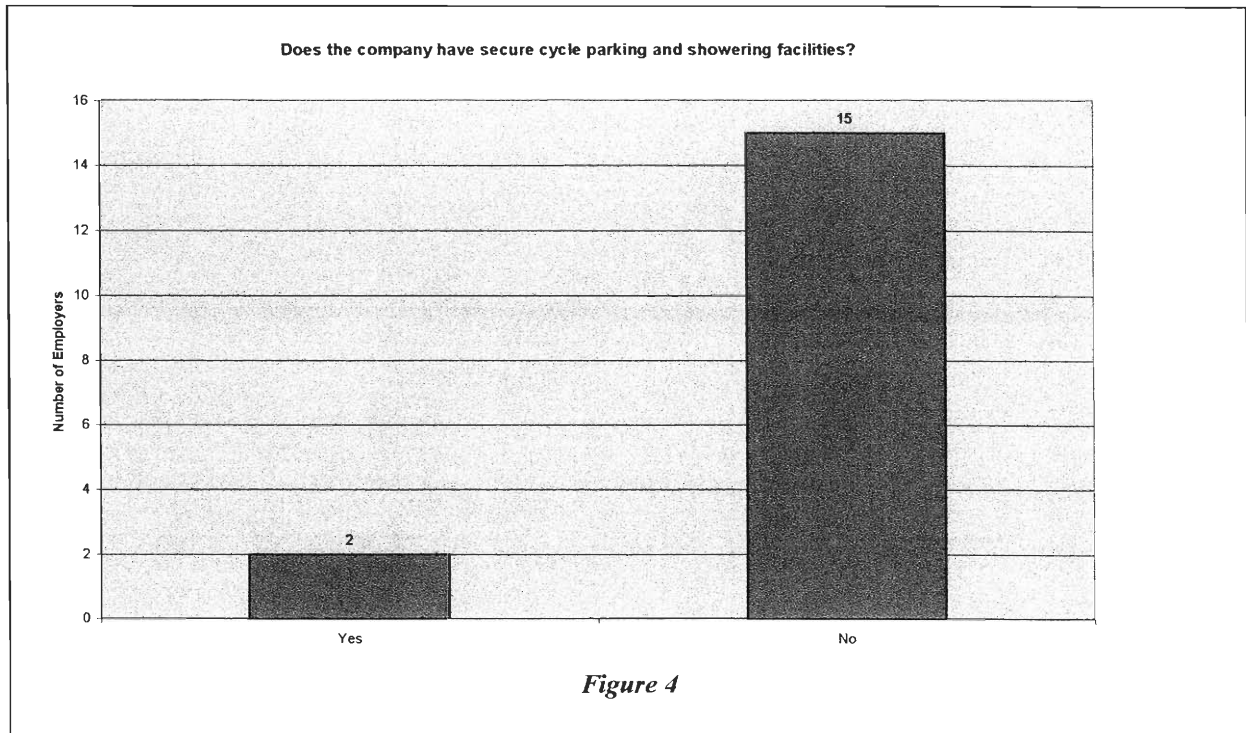
The next graph indicates how many employers would be interested in a Green Transport Plan. Sixty-one percent of employers are interested in receiving information about Green Transport and 39% of the employers are not willing to receive information about Green Transport.



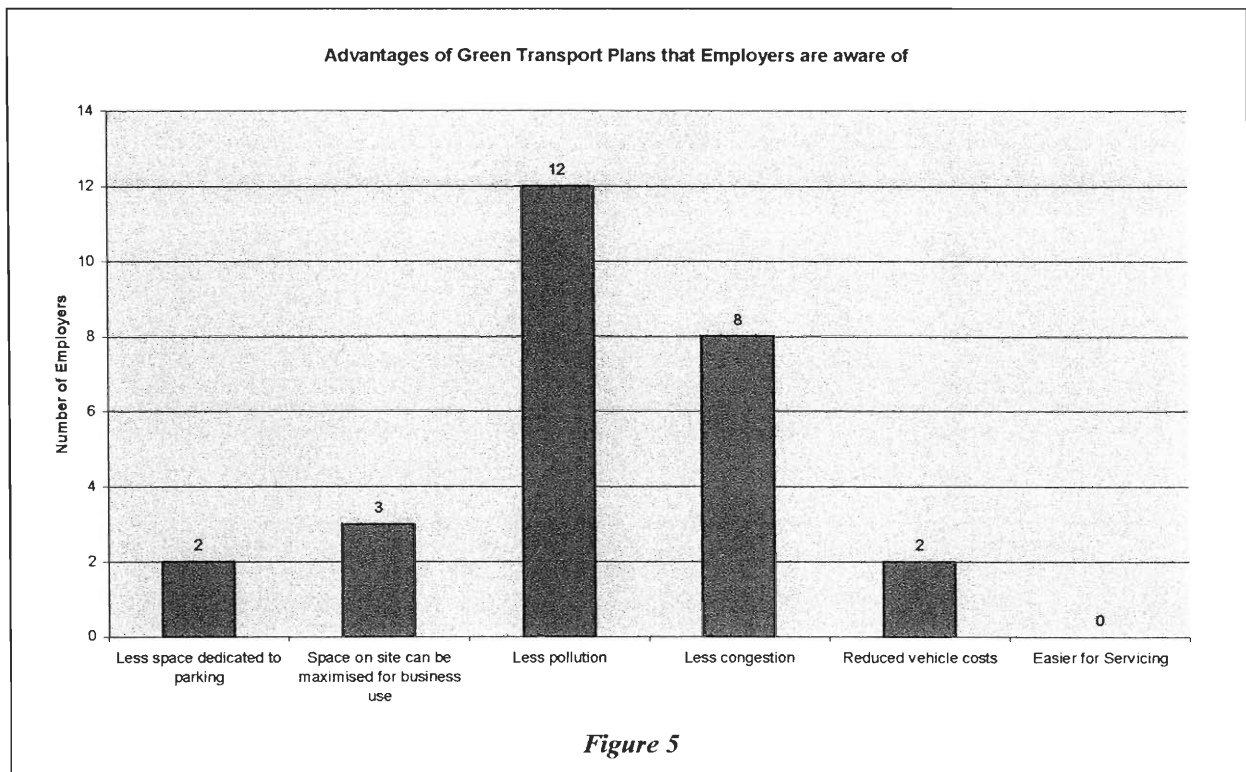
This graph displays the results of three questions regarding the use of the Tramlink at Wandle Way or Mitcham Junction.



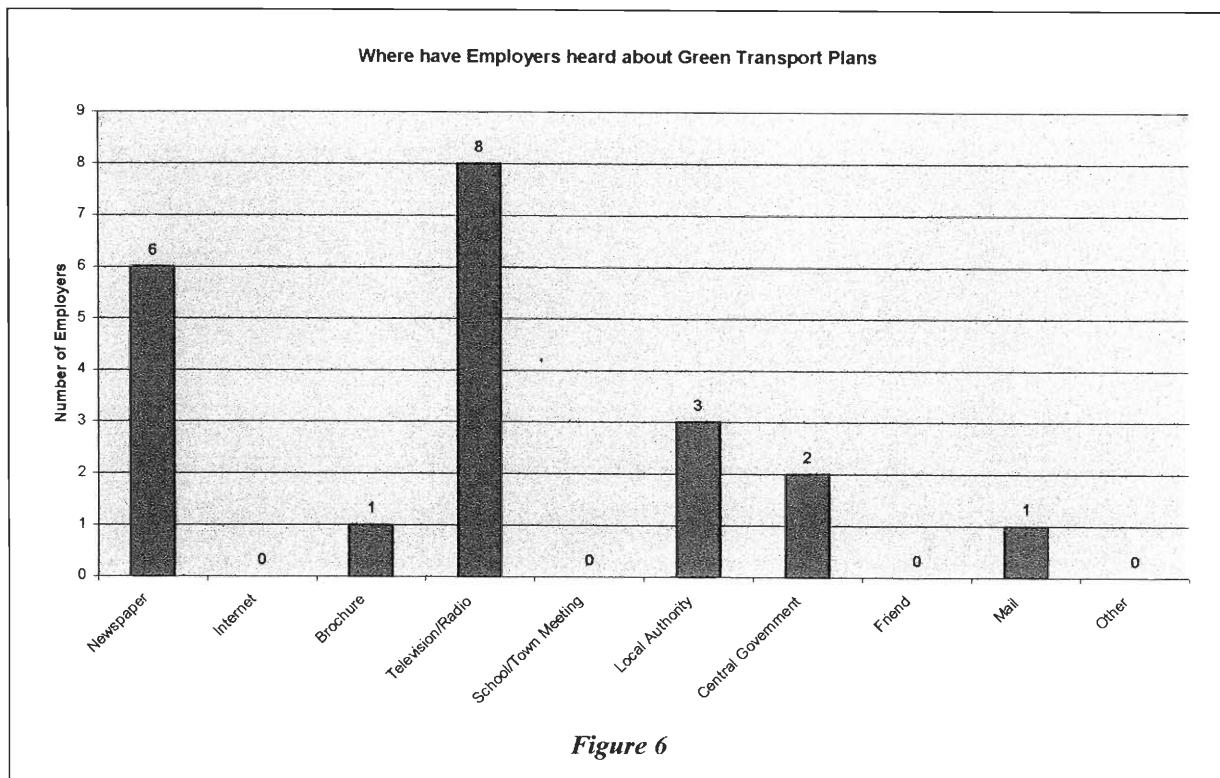
This bar graph shows if the employers supply secure cycle parking and showering facilities for their employees. The graph shows that 12% have facilities and 88% do not.



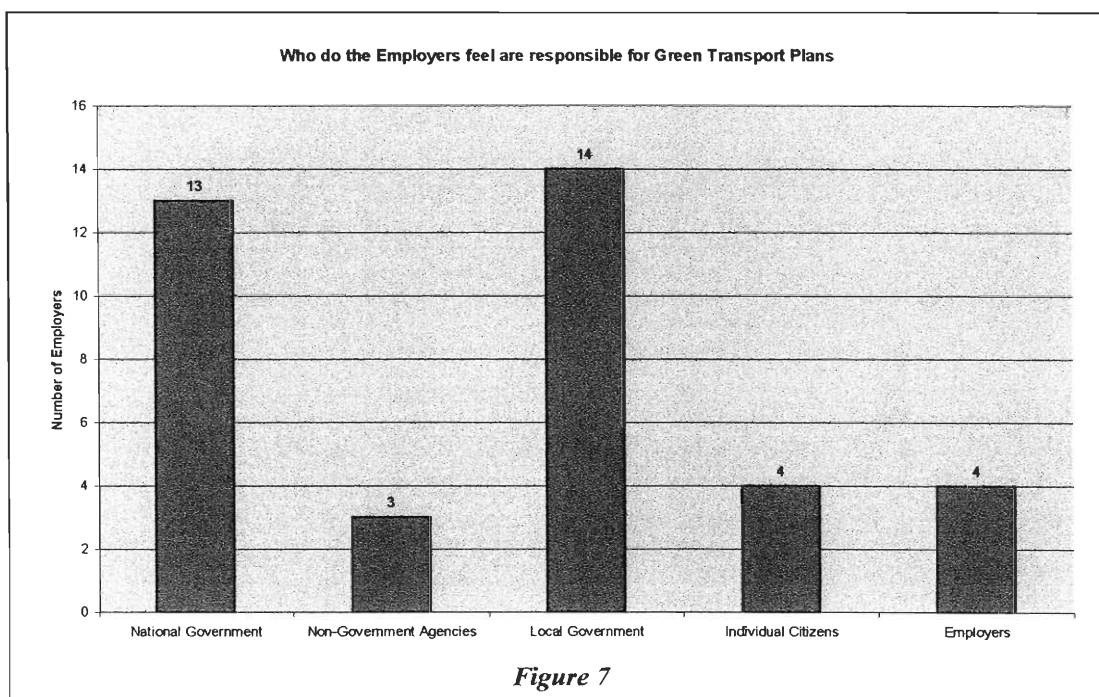
The following graph indicates which advantages of Green Transport employers are aware of. The advantages are (from left to right) Less Space Dedicated to Parking (7%), Space on Site can be Maximised for Business Use (12%), Less Pollution (44%), Less Congestion (30%), Reduced Vehicle Costs (7%), and Easier for Servicing (0%).



The next chart explains where employers have heard about Green Transport Plans. The employers have heard of Green Transport Plans from the following: (from left to right) Newspaper (29%), Internet (0%), Brochure (5%), Television/Radio (38%), School/Town meeting (0%), Local Authority (14%), Central Government (9%), Friend (0%), Mail (5%), and Other (0%).

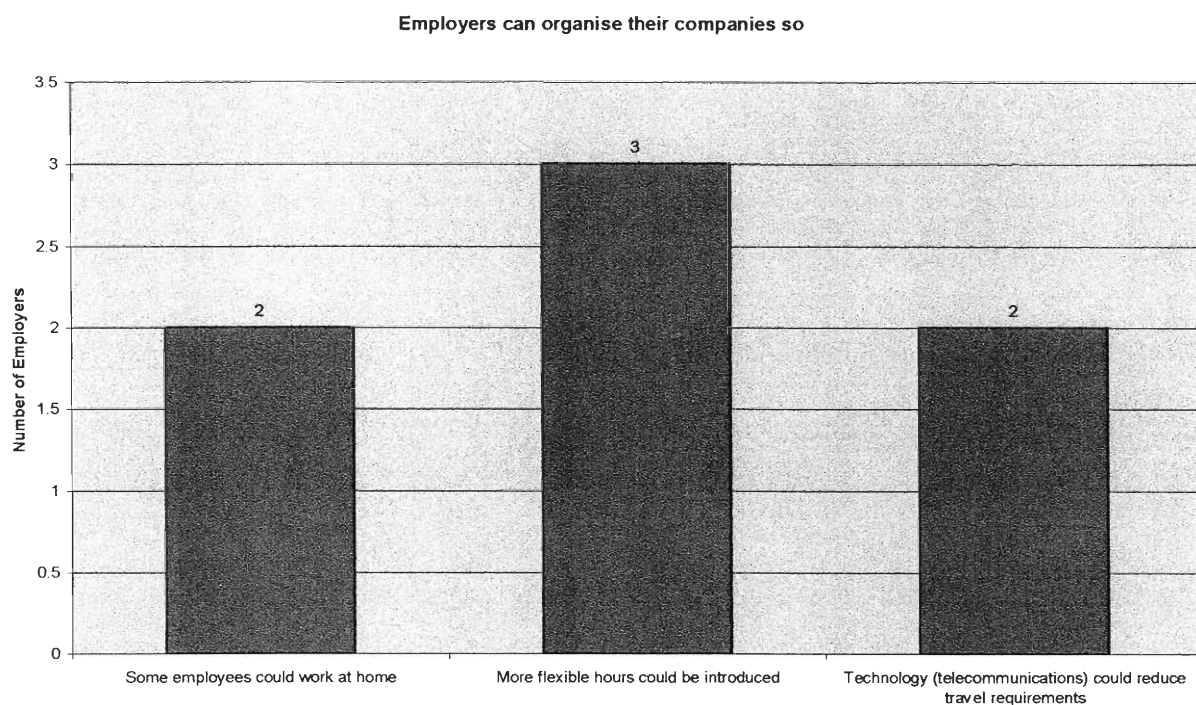


The following graph provides the employers answers to the question who is responsible for Green Transport Plans. The employers feel that the (from left to right) National Government (34%), Non-Government Agencies (8%), Local Government (36%), Individual Citizens (11%), and Employers (11%) are responsible for Green Transport plans.



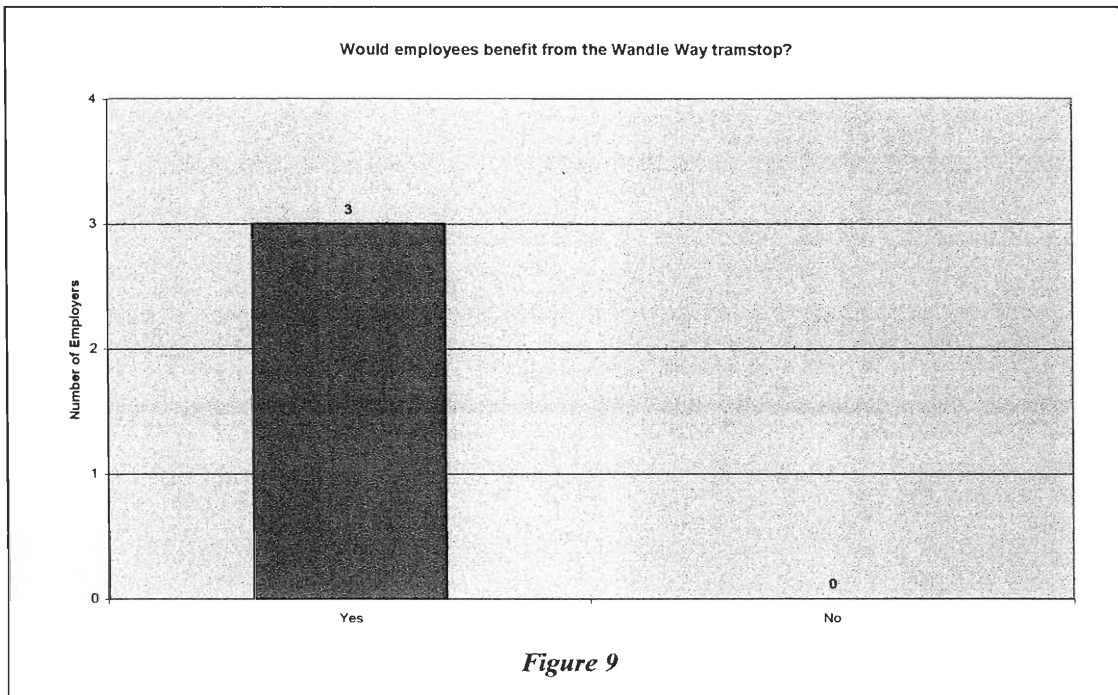


The following graph shows what employers can do for their employees to help participate in a Green Transport Plan. The graph shows three ways that employers can change the work site policies in order to accommodate employees reaching Greener Transport. Employers can organise their companies so (from left to right) some employees could work at home (29%), more flexible hours can be introduced (42%), and technology (telecommunications) could reduce travel requirements (29%).

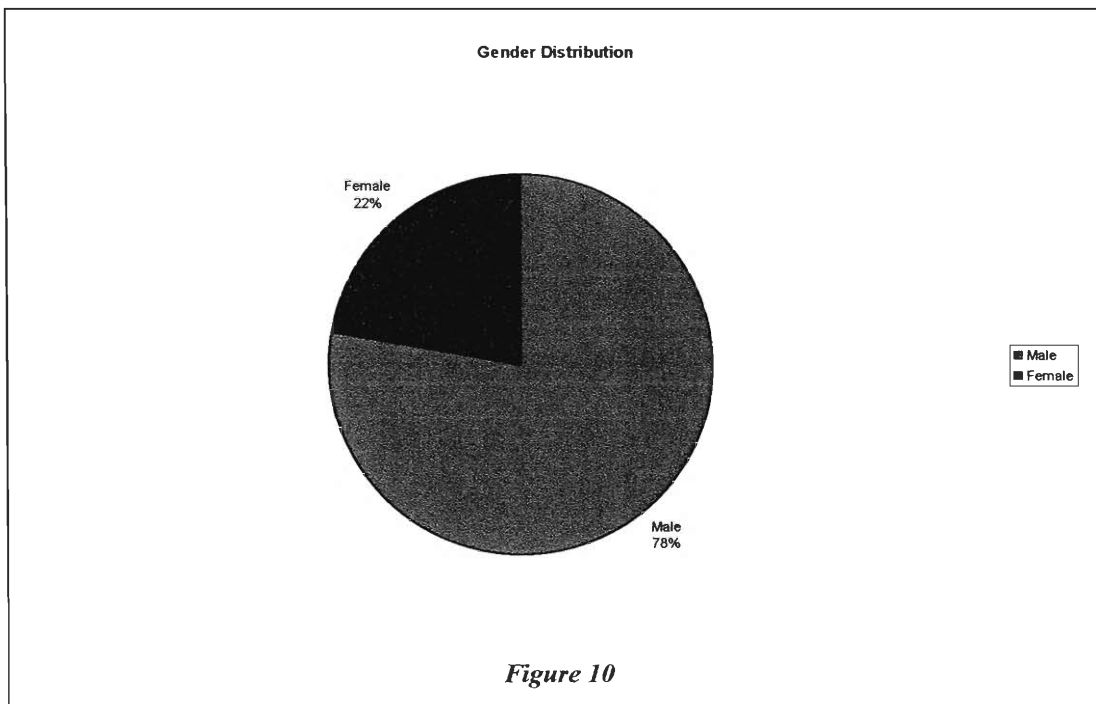


**Figure 8**

The following graph shows if employees would benefit from the Wandle Way tramstop.



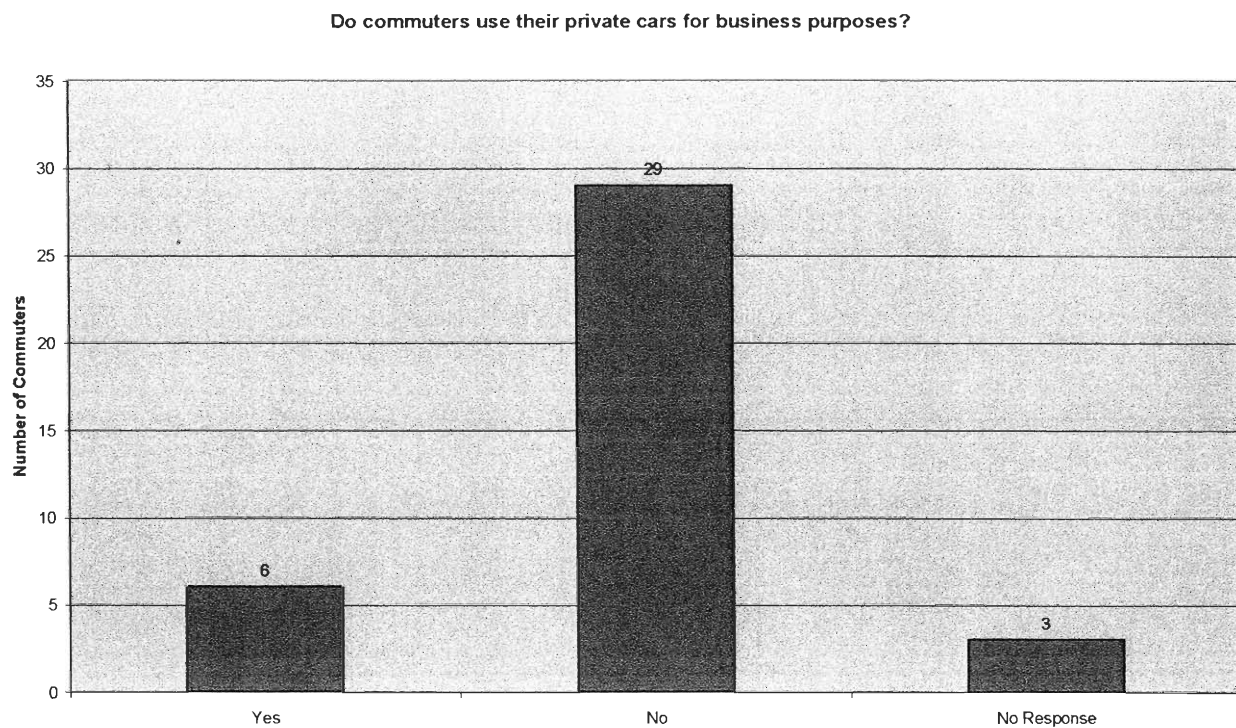
The following employer pie chart indicates the gender distribution of the employers who responded to our survey as to how many women (4) and men (14).



### 4.3 Employee and Visitor Survey Results

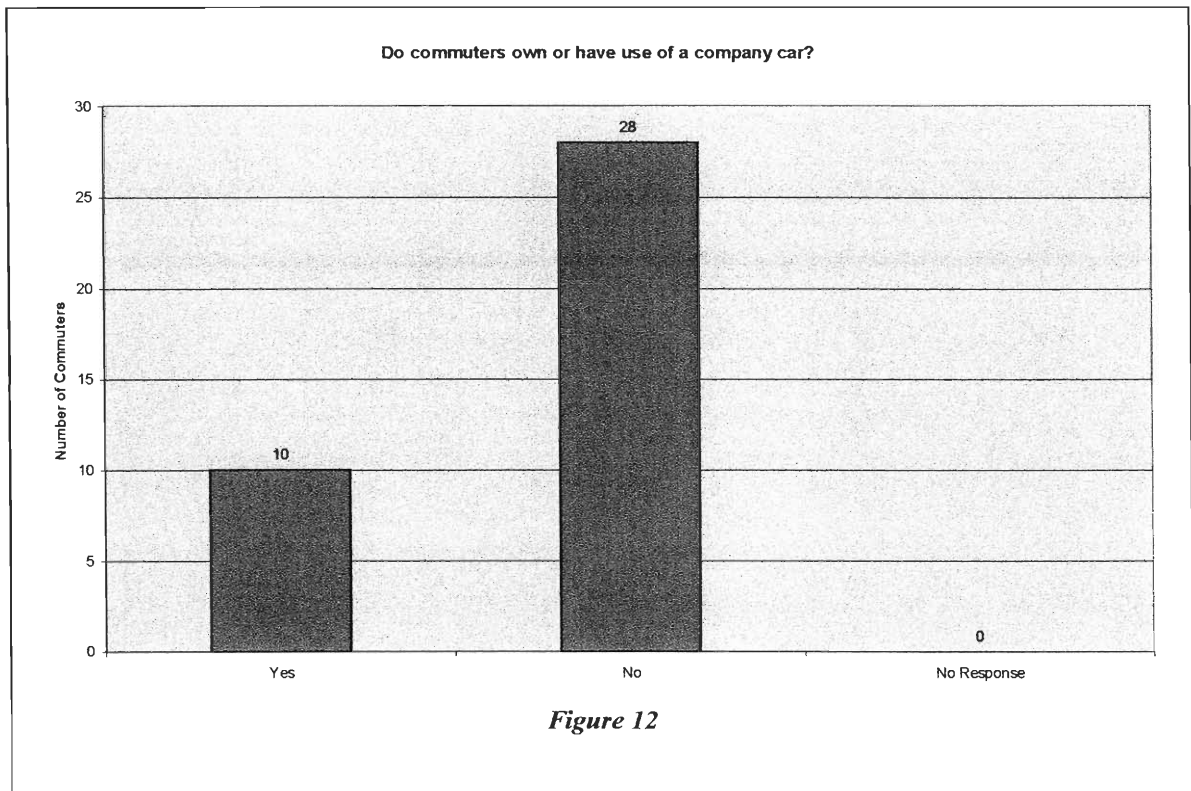
We surveyed 47 employees and visitors in order to gather a plethora of information. We also devised some charts describing the travel patterns of employees and visitors. The employees and visitors surveyed were the ones at the businesses that we interviewed. The employees were willing to fill out our survey and actually ask us questions about Green Transport. Some of the employees asked us questions and told us how they felt about the Croydon Tramlink. Of those surveyed, 88% work full time.

One particular graph below explains how many commuters use their private cars for business purposes. There are 16% of commuters who use their private cars for business use and 76% of commuters that do not. Eight percent of the employees/visitors surveyed did not respond to the questions.

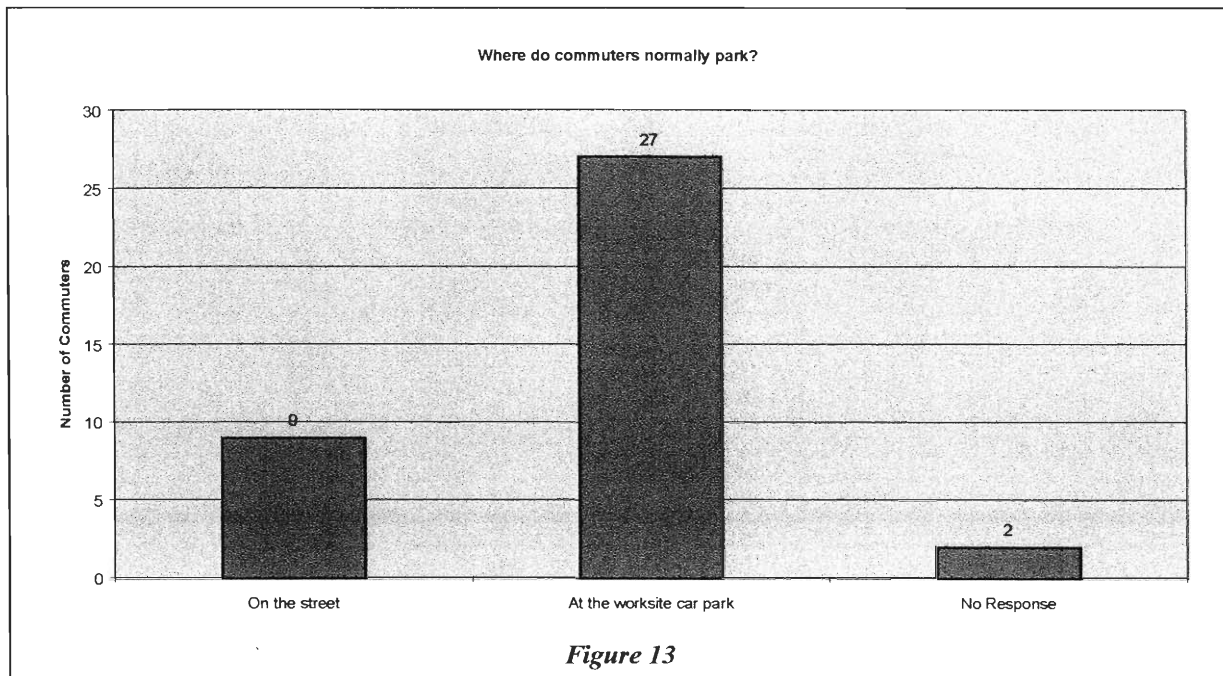


*Figure 11*

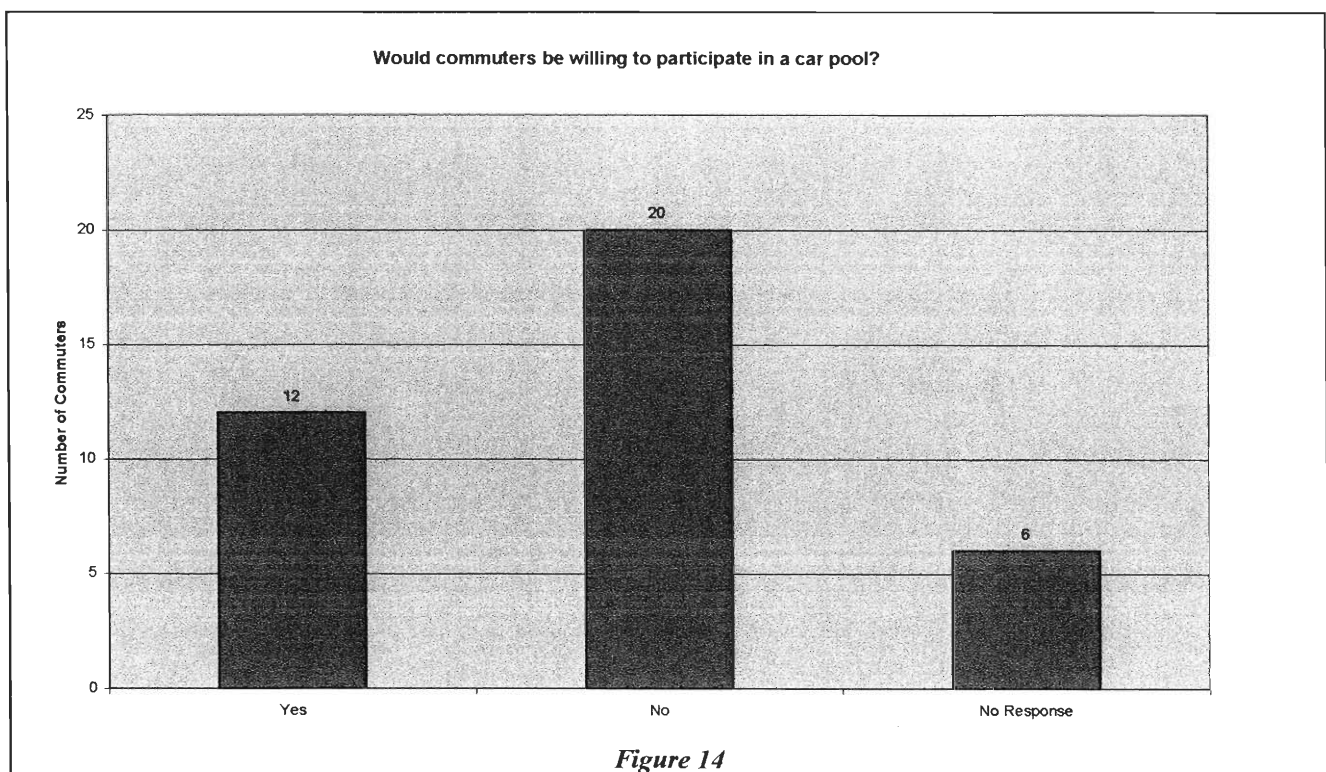
Do commuters own or have use of a company car? Ten of the 38 people did have use of a company car or owned one, that is about 26%. Seventy-three percent of the people did not own or use a company car.



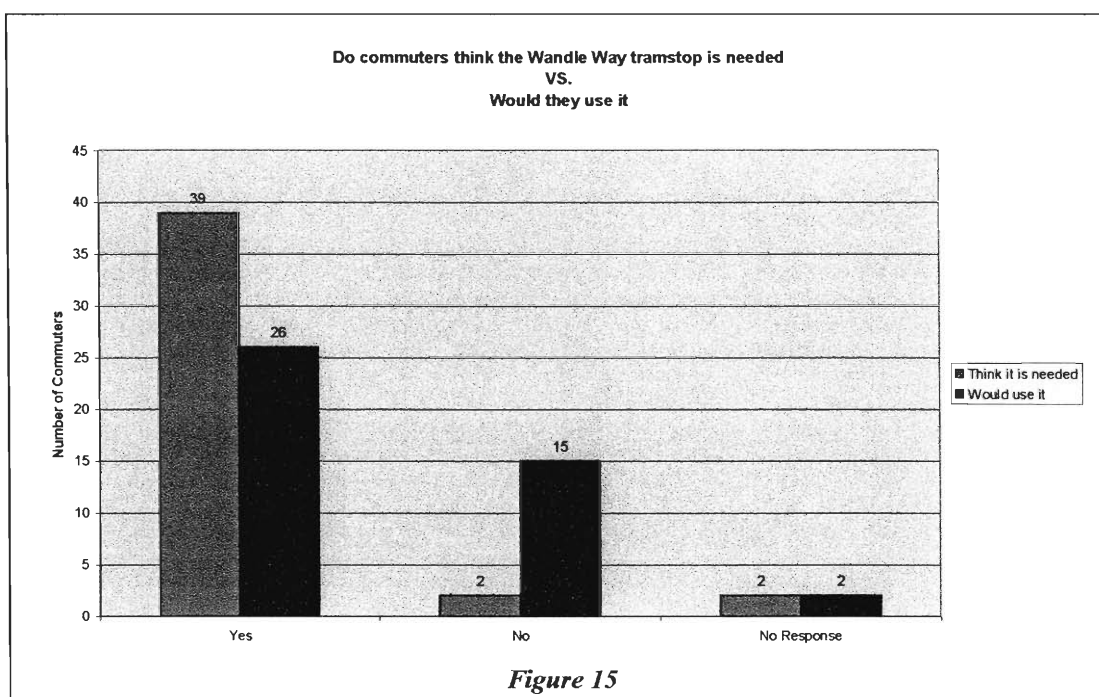
The next graph asked where commuters parked their cars once they got to work. The commuters usually parked at the company car park (71%) or on the street (24%), and some commuters did not have a response for where they parked (5%).



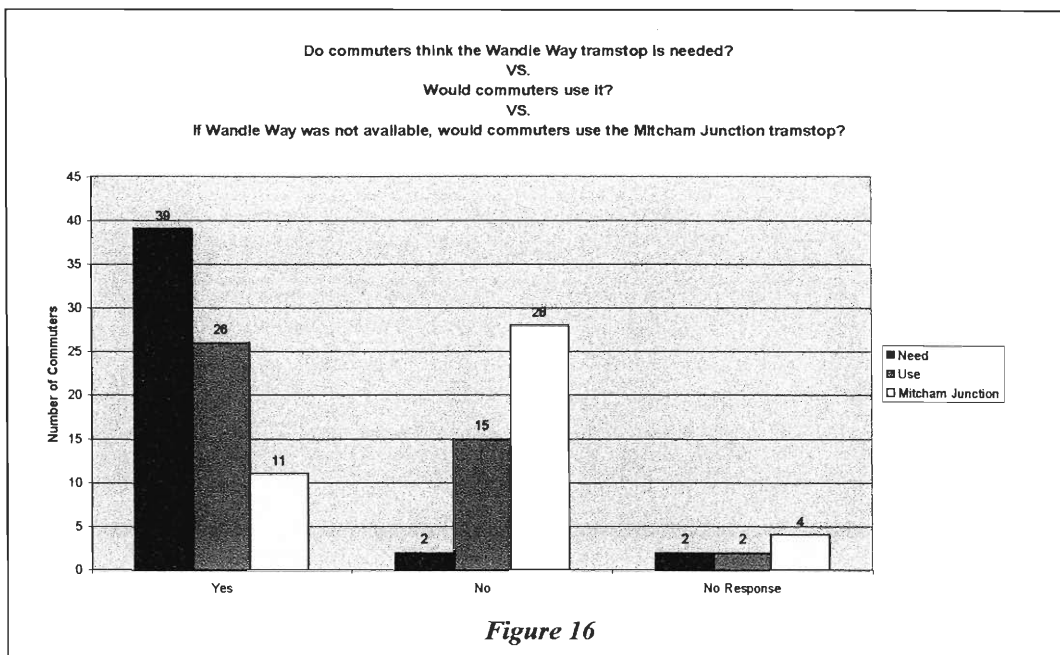
Would commuters be willing to participate in a car pool? There are 32% of employees and visitors that are willing to participate in a car pool and 53% that are not willing to participate in a car pool. Fifteen percent of the people that we surveyed were not willing to give us an answer of yes or no.



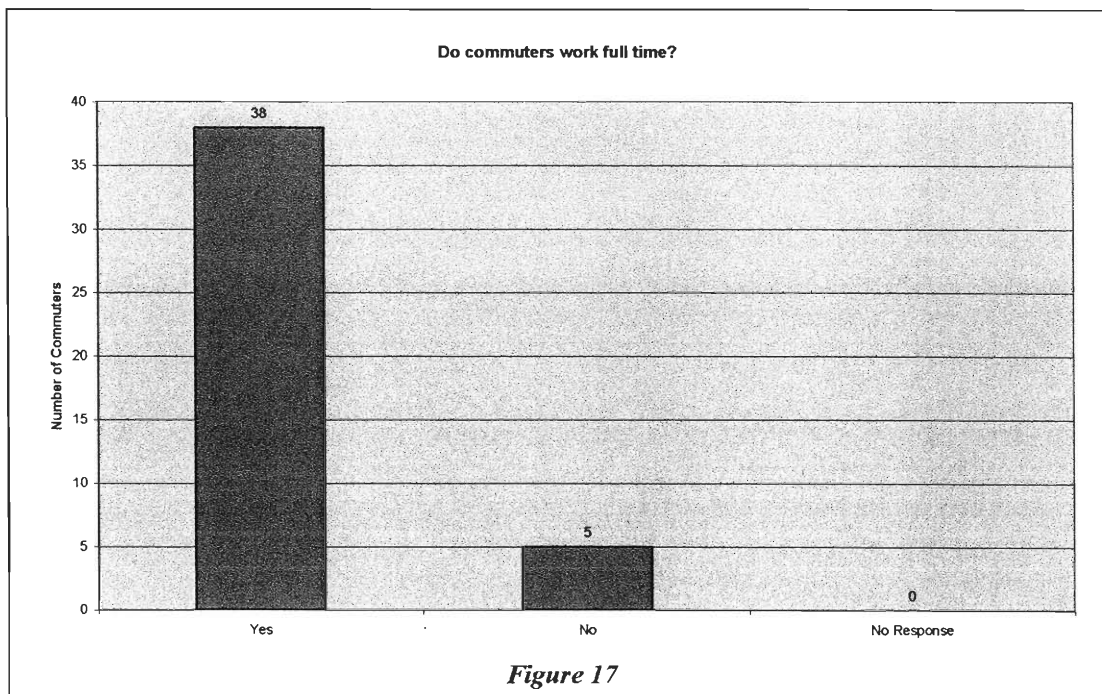
The following graph compares answers to two questions: do commuters think the Wandle Way tramstop is needed to would they use it. The results are as follows: (91%) think that is need, (60%) of the people would use it, (4%) people think it is not needed, (35%) of the people would not use it if it was built, and (10%) people did not have a response.



The next graph adds to the previous graph the results of a question regarding the Mitcham Junction on the Croydon Tramlink. The graph analyses if commuters think the Wandle Way tramstop is needed? Vs. would commuters use it? Vs. and if the Wandle Way stop was not available would commuters use the Mitcham Junction tramstop? Eleven people would use the Mitcham Junction tramstop if the Wandle Way stop were not built. Twenty-eight of the commuters said that they would not use the Mitcham Junction tramstop and 4 people did not have a response.

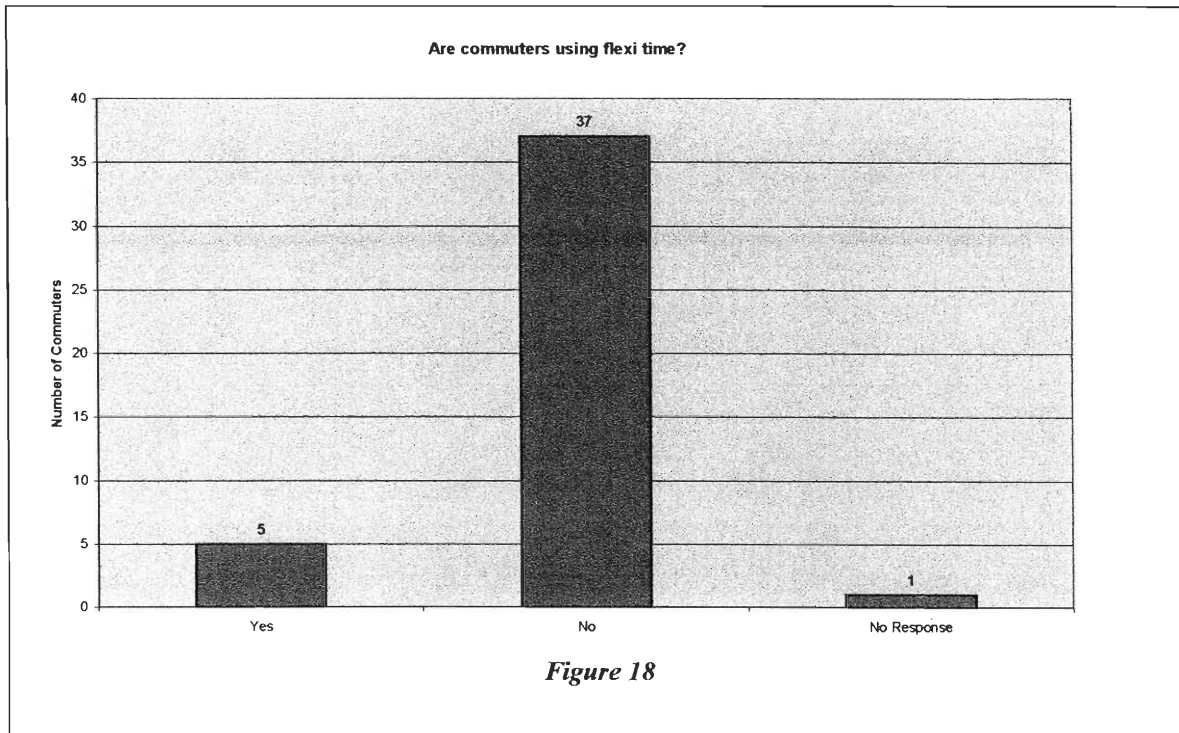


This graph shows how many employees/visitors work full time (88%) and how many employees/visitors do not work full time (12%).



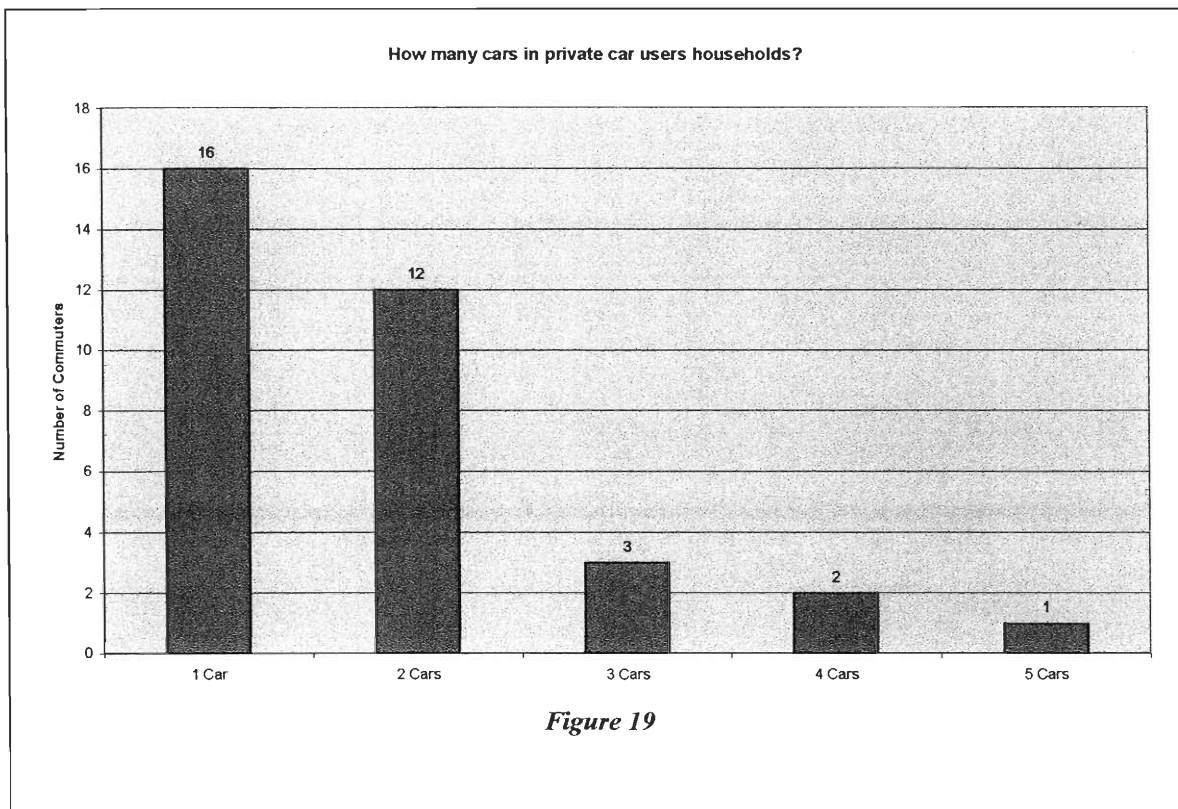


Another graph (Figure 18) shows that only about 12% of the people are allowed to work on flexi time and that 86% of the people are not allowed to work on flexi time. Two percent did not respond to the question.

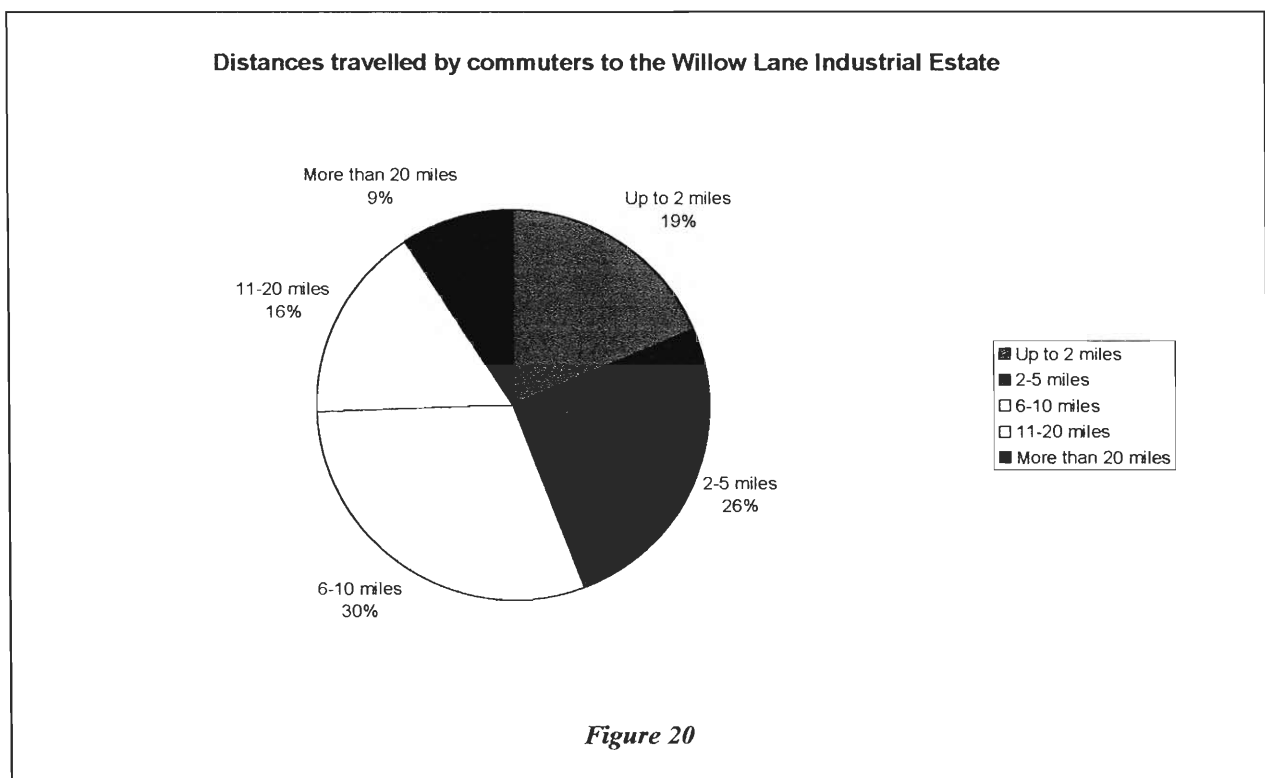


The graph of the number cars employees have in their homes (Figure 18) shows that 47% of the people have one car, and that 35% people have 2 cars. The graph also shows that 12% of the people own more than two cars.

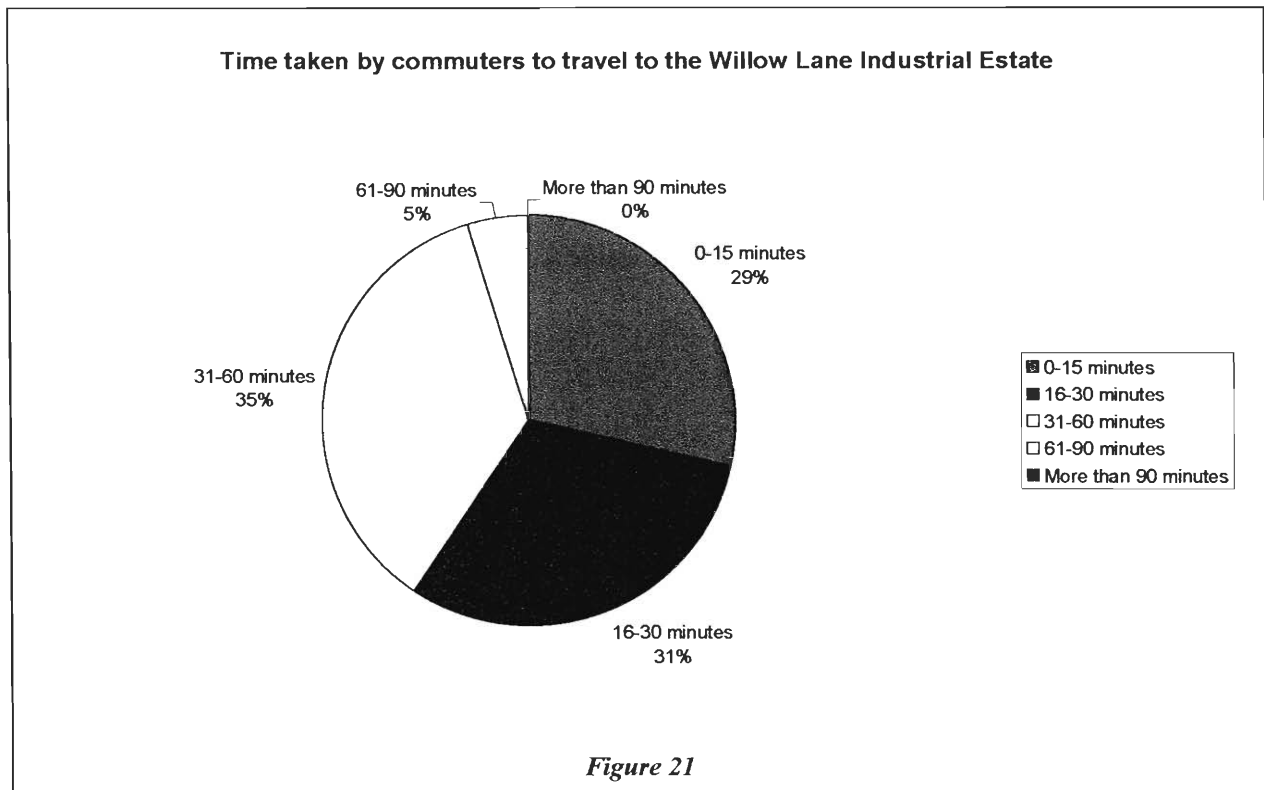




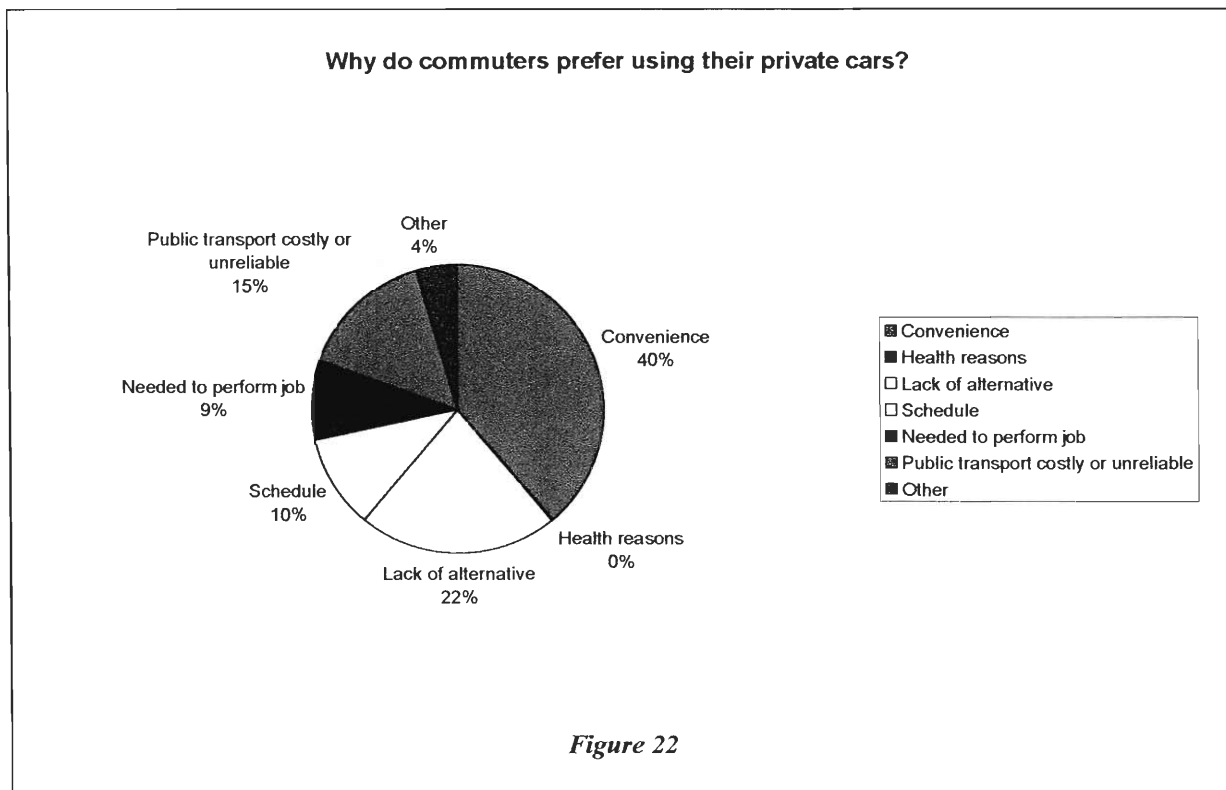
The next graph (Pie Chart I) shows the distances that commuters travel to the Willow Lane Industrial Estate. Up to 2 miles: (19%), 2-5 miles: (26%), 6-10 miles: (30%), 11-20 miles (16%), more than 20 miles (9%).



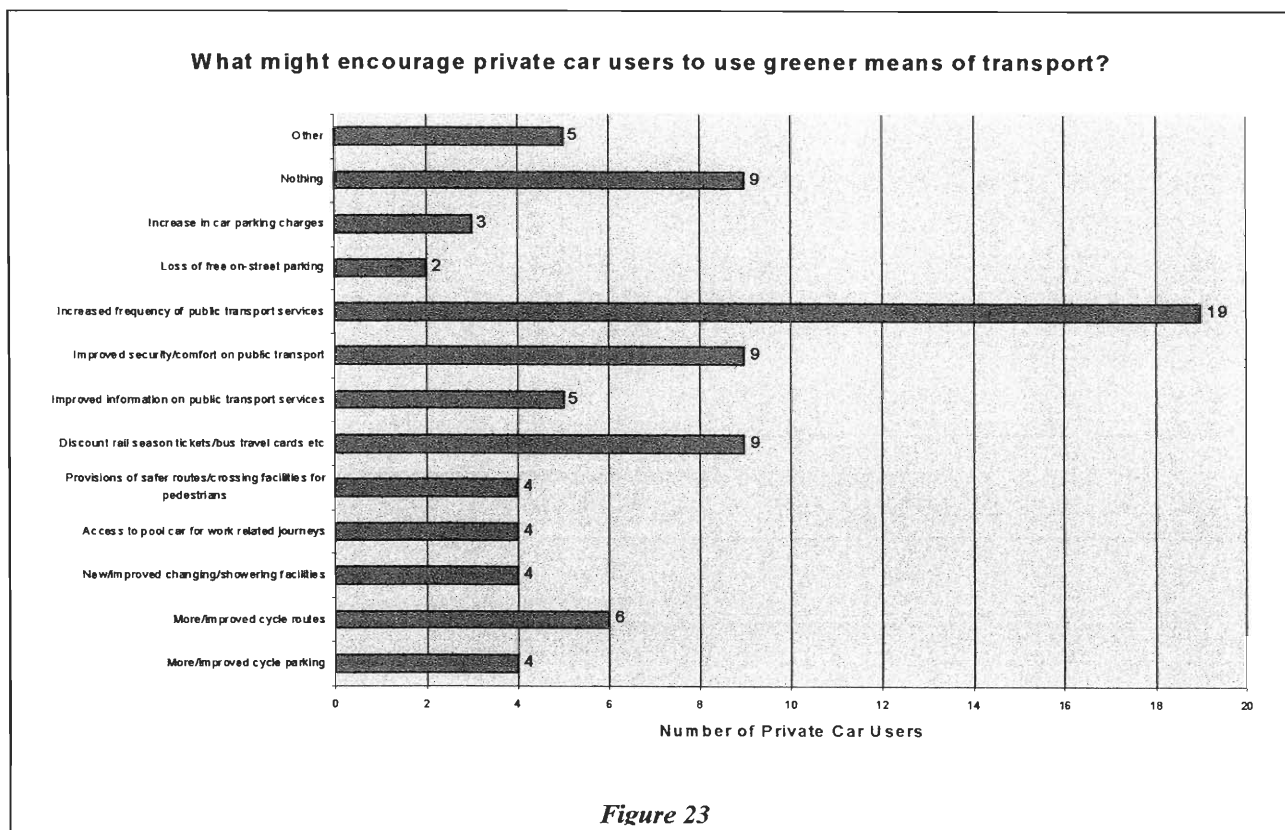
This graph indicates the time it takes commuters to travel to the Willow Lane Industrial Estate. More than 90 minutes: (0%), 0-15 minutes: 29%, 16-30 minutes: (31%), 31-60 minutes: (35%), 61-90 minutes: (5%).



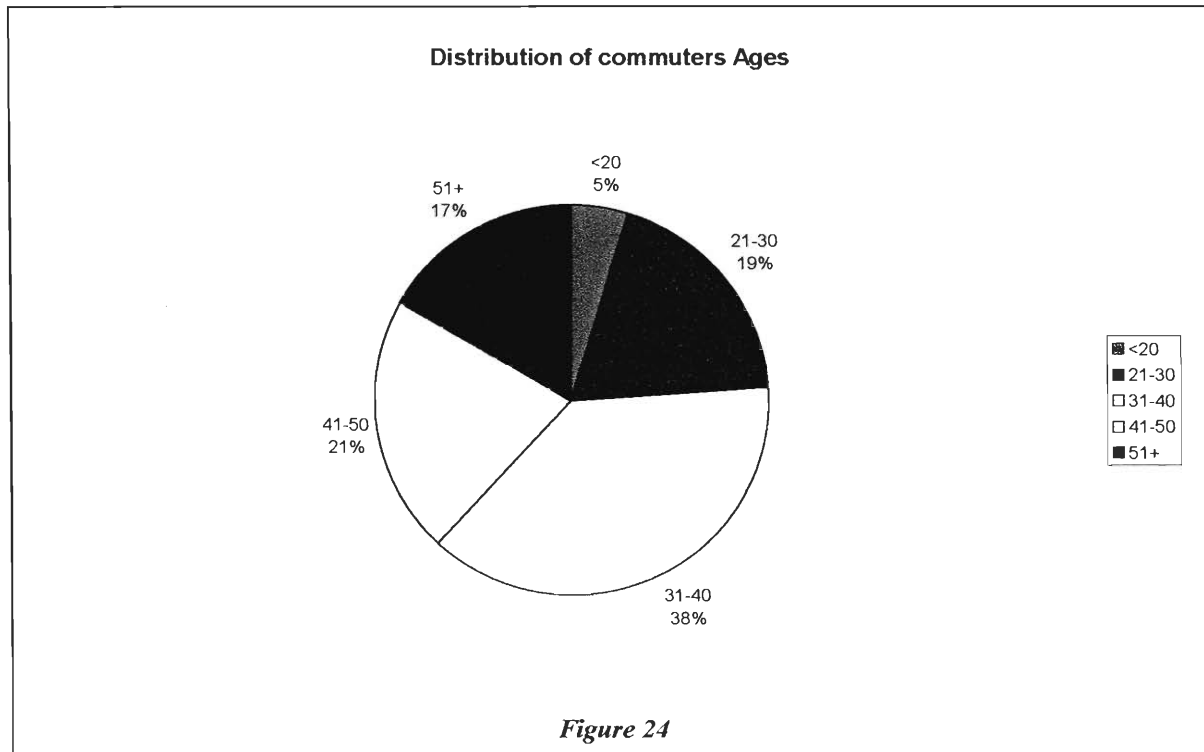
The following graph (Figure 22) explains why commuters prefer to use their private cars rather than public transport. Convenience: (40%), Health Reasons: (0%), Lack of Alternative: (22%), Schedule: (10%), Needed to Perform Job (9%), Public transport costly or unreliable: (15%), Other (4%).



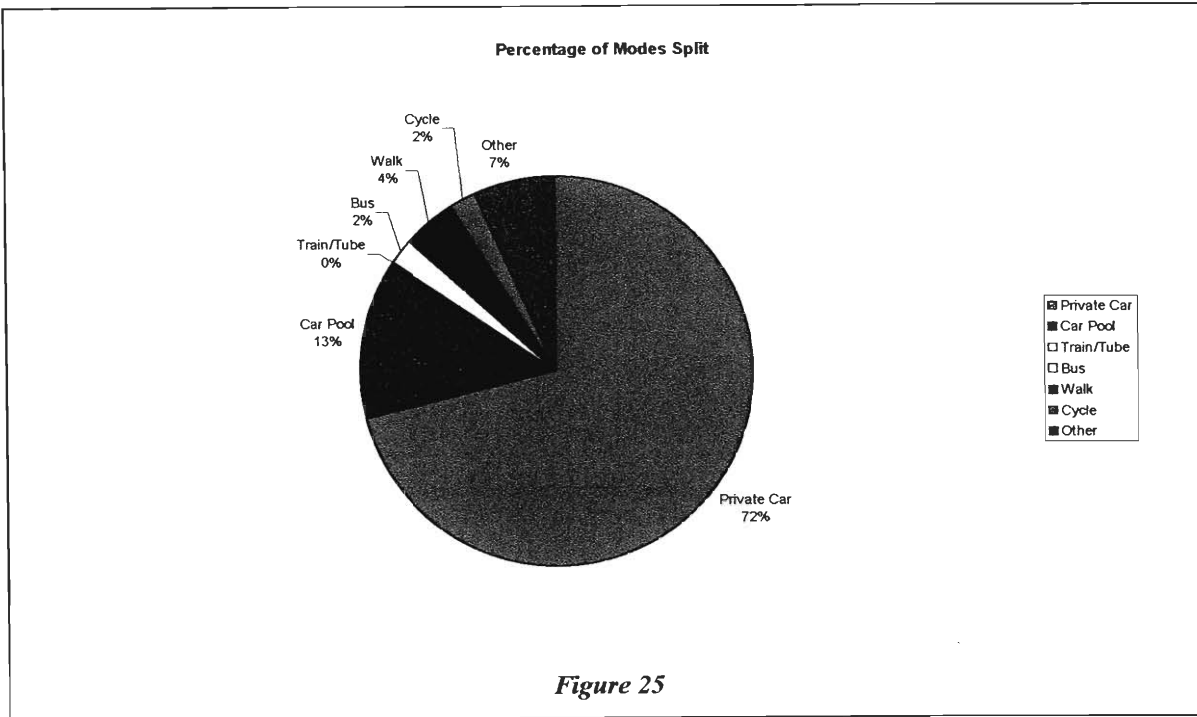
This graph explains what might encourage private car users to use greener means of transport. More/Improved cycle parking: (5%), More/Improved cycle routes: (7%), New/Improved changing/showering facilities: (5%), Access to pool car for work related journeys: (5%), Provisions of safer routes/crossing facilities for pedestrians: (5%), Discount rail season ticket/bus travel cards etc.: (11%), Improved information on public transport services: (6%), Improved security/comfort on public transport: (11%), Increased frequency of public transport services: (22%), Loss of free on-street parking: (2%), Increase in car parking charges: (4%), Nothing: (11%), Other: (6%).



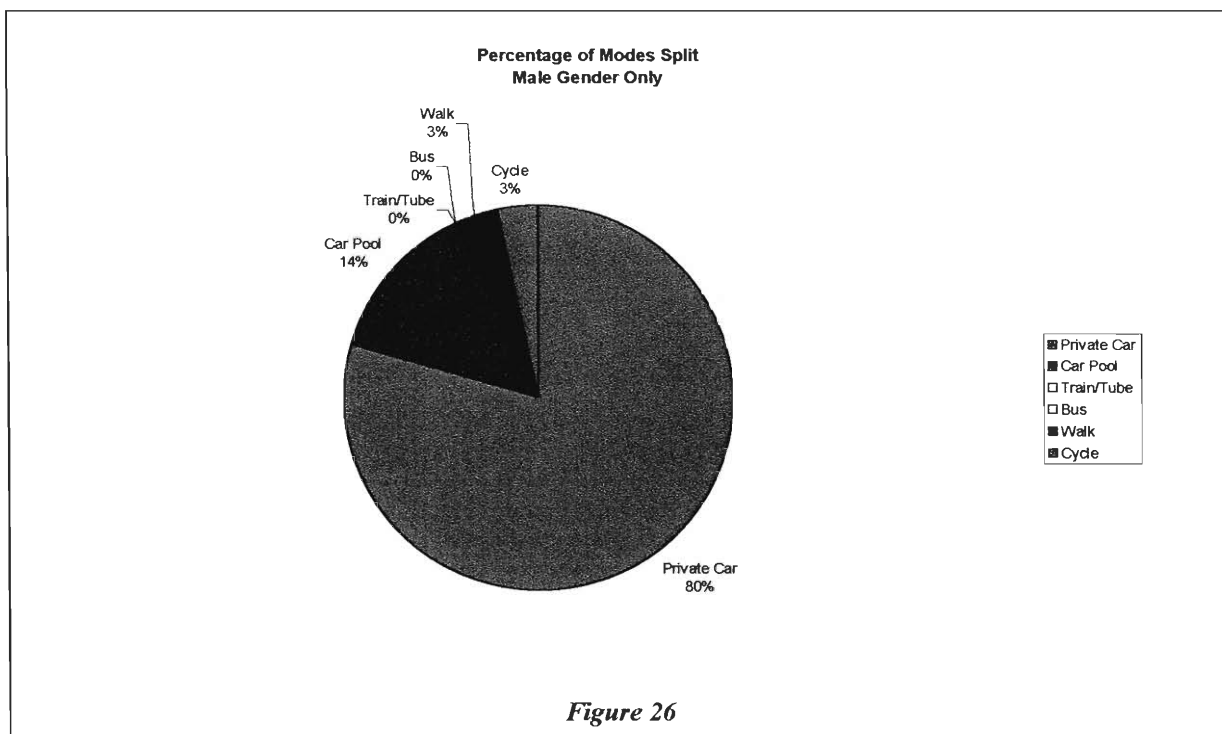
This graph (Figure 24) shows the age distribution of the employees/visitors. The age distribution is as follows: less than 20 (5%), 21-30 (19%), 31-40 (38%), 41-50 (21%), greater than 51 (17%).

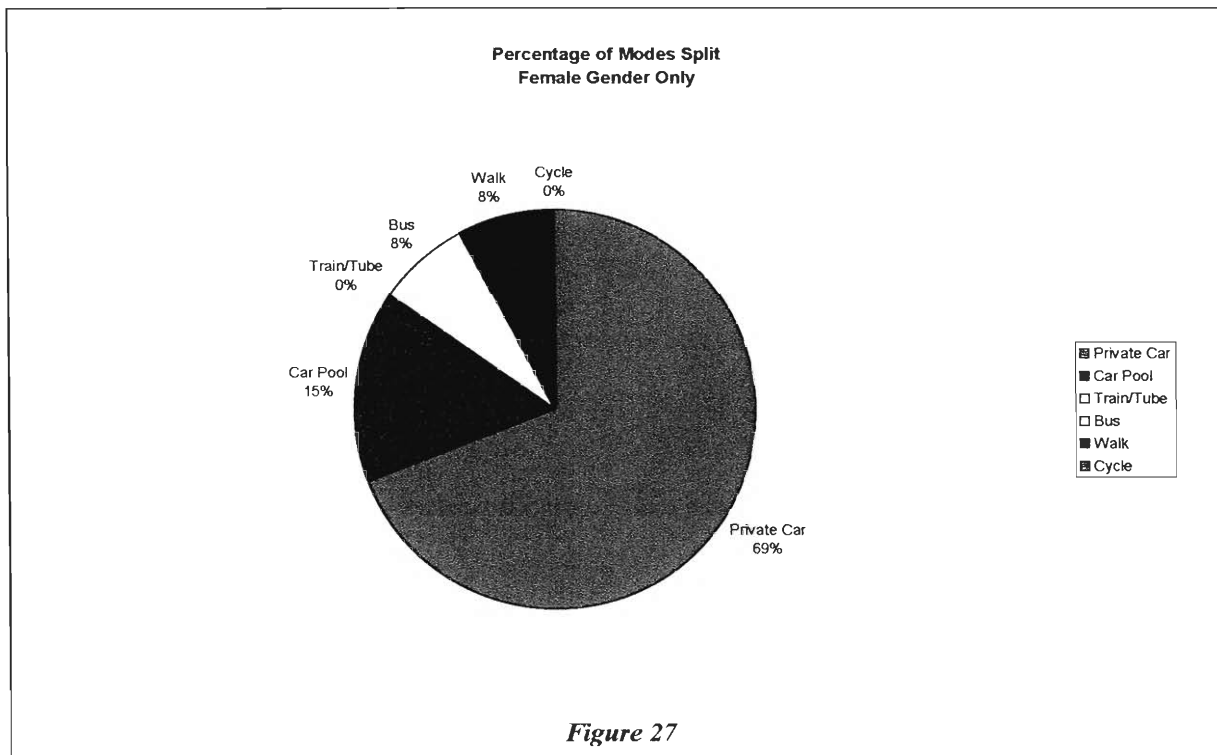


The percentage of the modes split chart (Figure 25) shows that 72% of the people use their private car when commuting to work and 13% of the people car pool. Some other forms of Green Transport are walking, cycling, and riding the bus. According to the chart (Pie Chart VI) 4% walk, 2% cycle and 2% ride the bus to and from the Willow Lane Industrial Estate. Nobody rides the tube to the Willow Lane Industrial Estate and about 7% of the people surveyed have some other form of transportation.

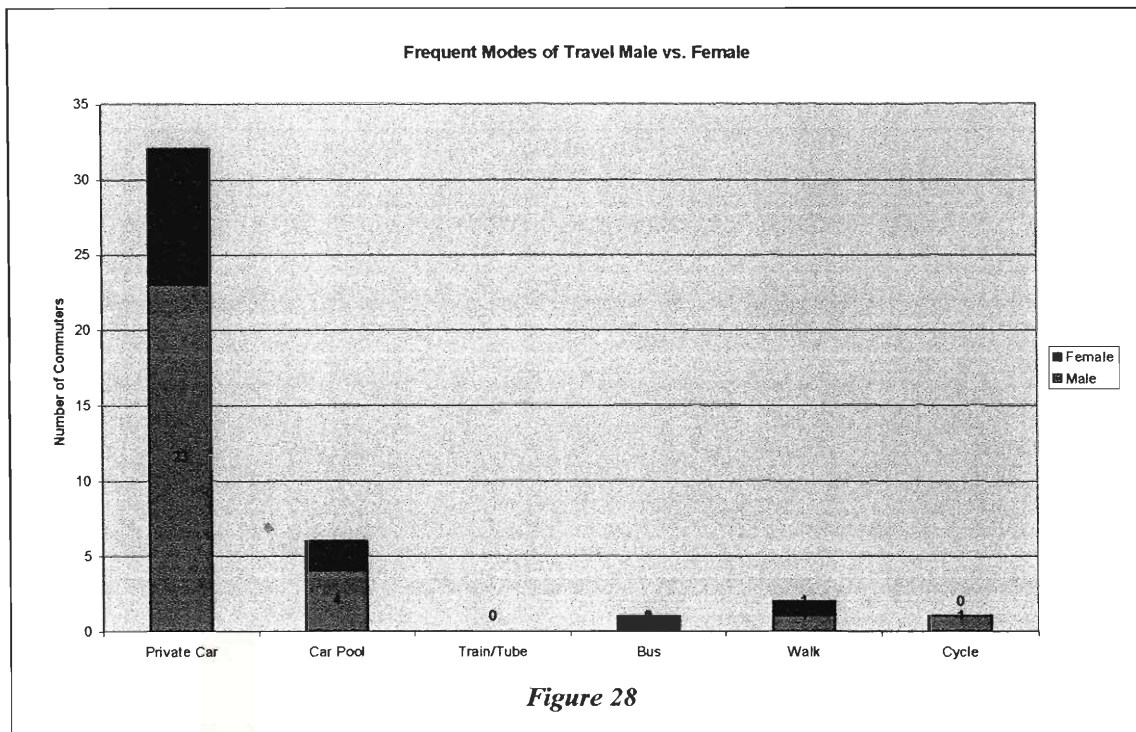


Two of the charts (Figures 26, 27) split up the data collected by gender. The charts explain that 80% of the male population surveyed use private cars and 69% of female population. Male and female trends differ according to the charts even when dealing with car-pooling, train/tube, bus, walking, or cycling. About 14% of the male population that we surveyed use the car pool system and 15% applies for the women that we surveyed. The charts explain these in more detail along with the results and analysis chapter. Three percent of the men cycle and another 3% walk. The women have an even split between walking and using the bus, which are about 8% each.



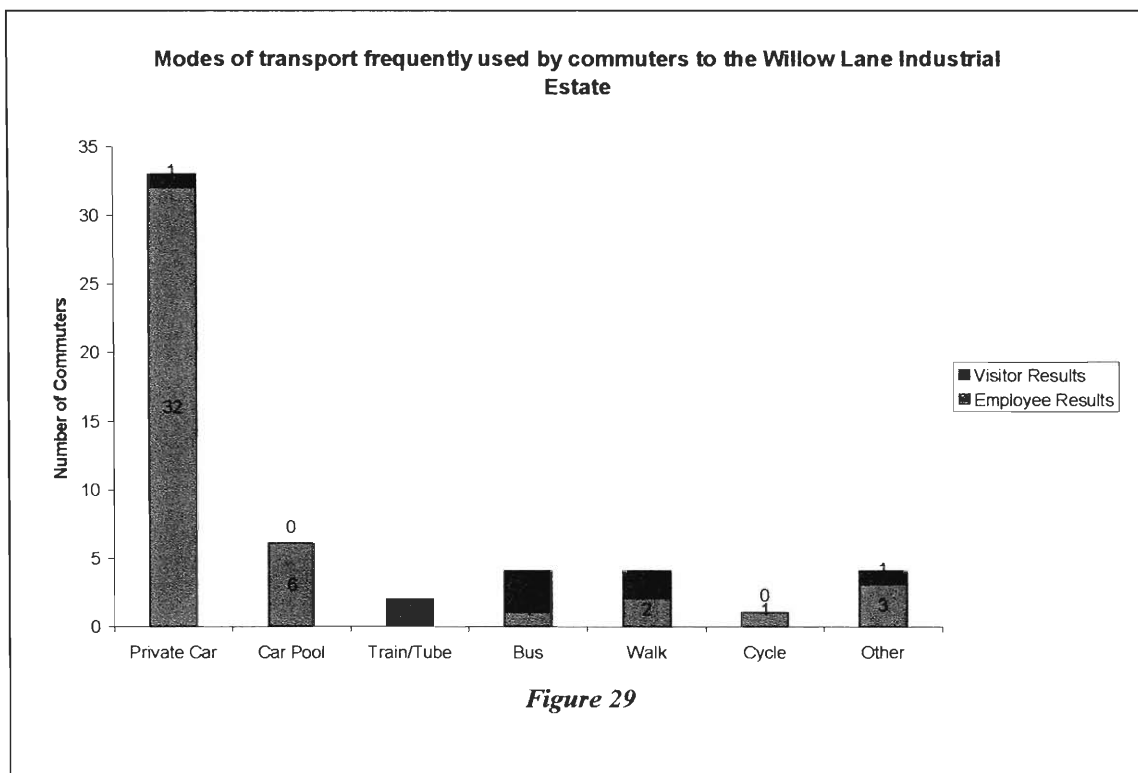


The next graph (Stacked Bar Graph I) entails the modes of travel by discussing male modes of travel versus female modes of travel. Males: (From left to right) Private Car (23), Car Pool (4), Train/Tube (0), Bus (0), Walk (0), Cycle (1). Female: (From left to right) Private Car (9), Car Pool (2), Train/Tube (0), Bus (1), Walk (1), Cycle (0).

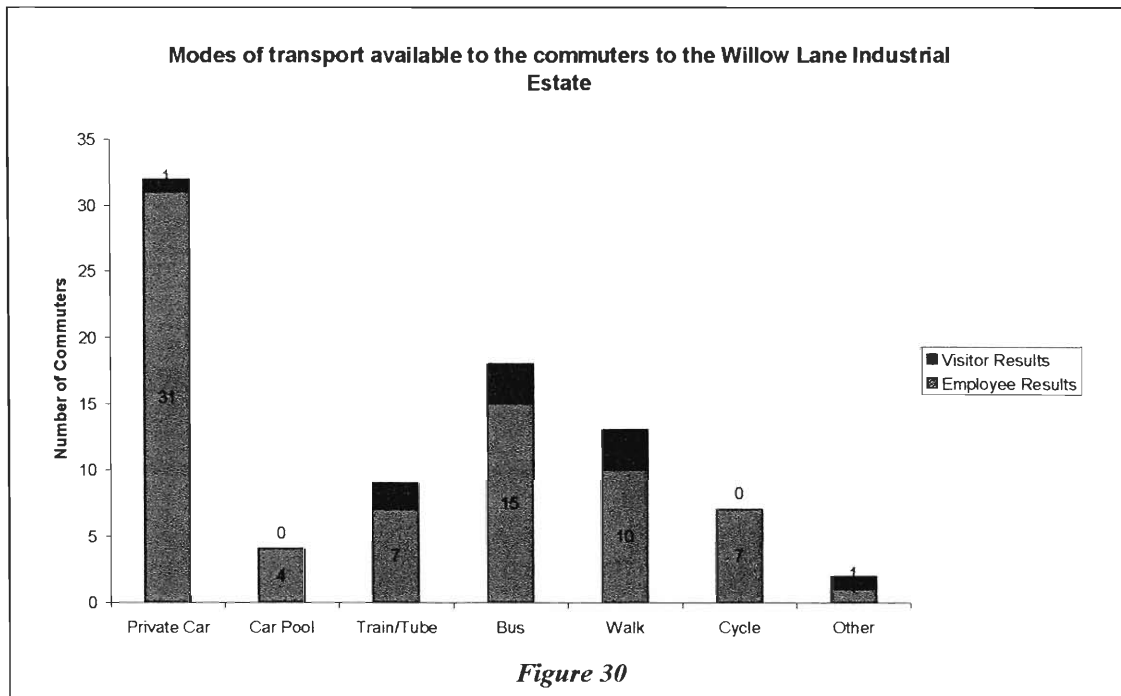




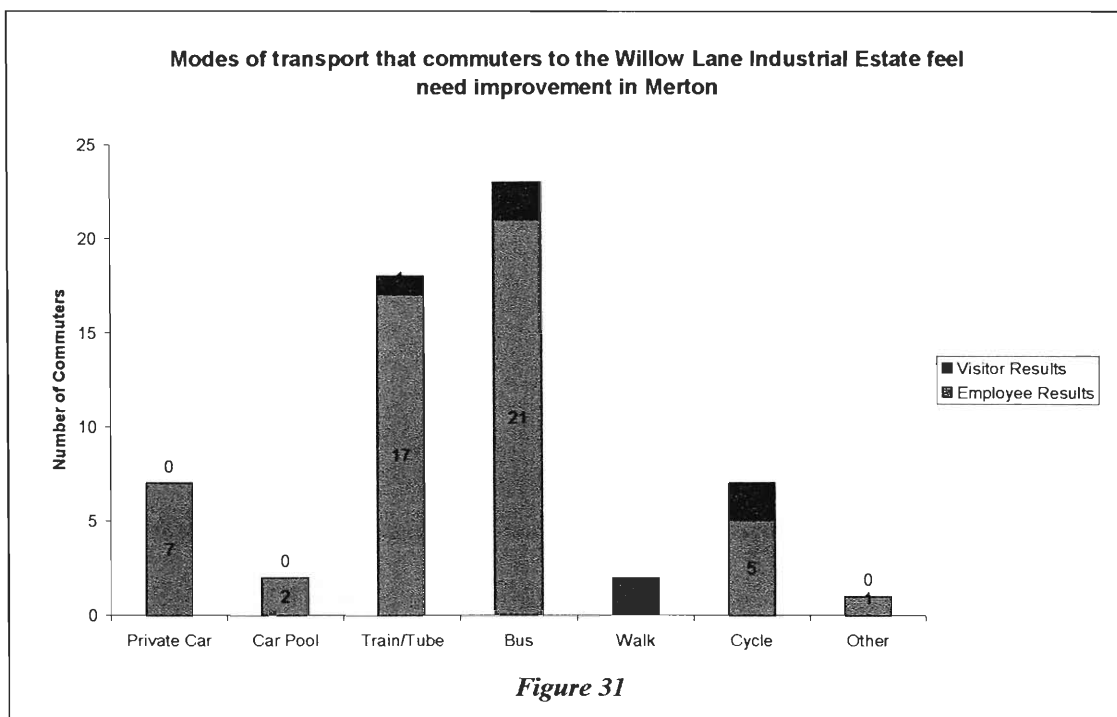
A mode of transport frequently used by commuters to the Willow Lane Industrial Estate is explained in the following graph (Stacked Bar Graph II). Visitors: (From left to right) Private Car (1), Car Pool (0), Train/Tube (2), Bus (3), Walk (2), Cycle (0), Other (1). Employee: (From left to right) Private Car (32), Car Pool (6), Train/Tube (0), Bus (1), Walk (2), Cycle (1), Other (3).



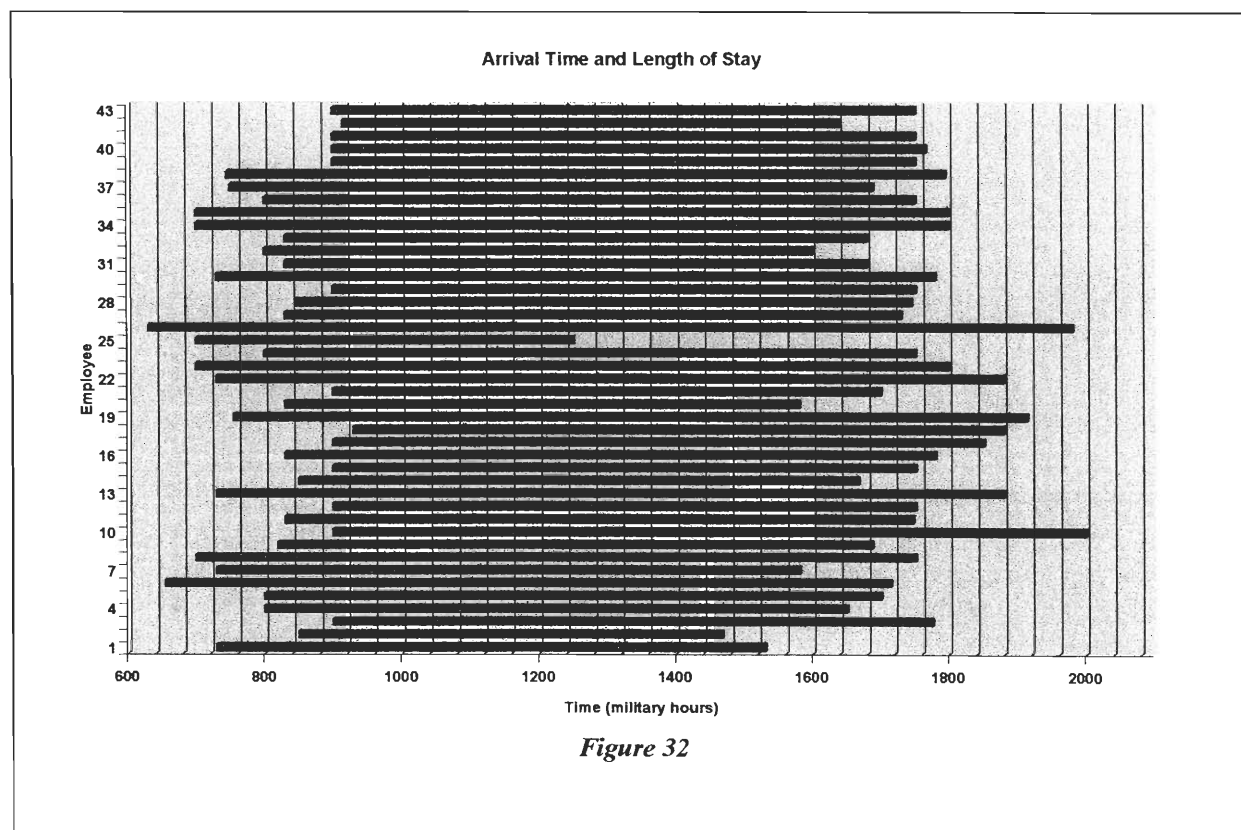
Modes of transport available to the commuters to the Willow Lane Industrial Estate are as follows in the next graph (Figure 30). Visitor: (From left to right) Private Car (1), Car Pool (0), Train/Tube (2), Bus (3), Walk (3), Cycle (0), Other (1). Employee: (From left to right) Private Car (31), Car Pool (4), Train/Tube (7), Bus (15), Walk (10), Cycle (7), Other (1).



Modes of transport that commuters to the Willow Lane Industrial Estate feel need improvement in Merton are as follows in the last graph (Figure 31). Visitor: (From left to right) Private Car (0), Car Pool (0), Train/Tube (1), Bus (2), Walk (2), Cycle (2), Other (0). Employee: (From left to right) Private Car (7), Car Pool (2), Train/Tube (17), Bus (21), Walk (0), Cycle (5), Other (1).

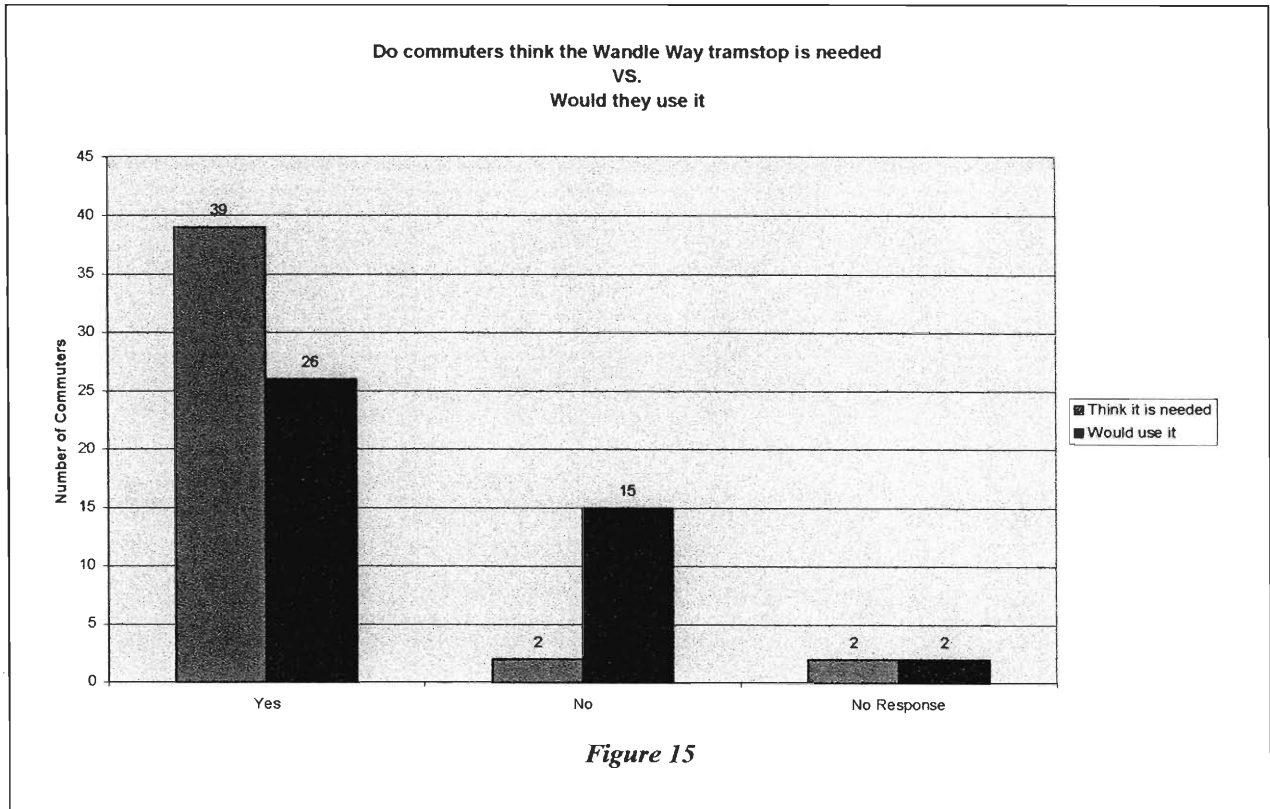


Displayed below in the following graph is the time that employees arrive and depart from work.

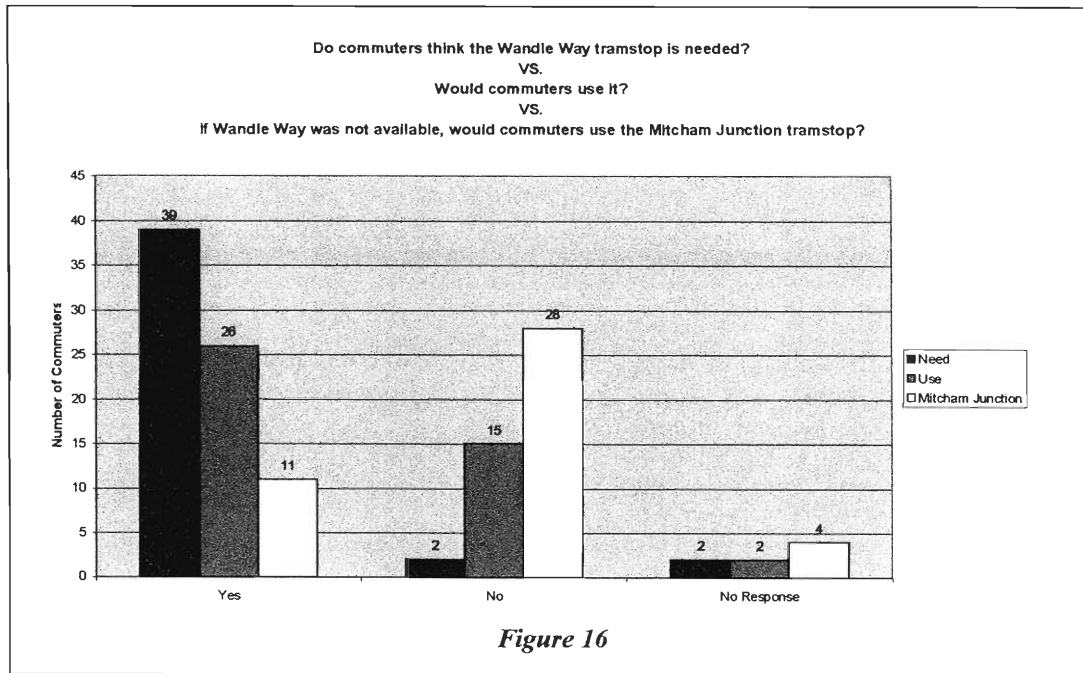


#### **4.4 Results of Tramlink Questions**

We asked questions about the Wandle Way Tramstop to see if people thought it was necessary and if people were going to use it. The graph labeled **Figure 14** shows that 39 people think that the stop is needed and that 26 people think they might use it.



Two people think that the Wandle Way Tramstop is not needed and that 15 people would not use the stop if it were built. The **Figure 15** shows that 11 would use the Croydon Tramlink if only the Mitcham Junction station was available.



There were some 6 people who would not respond to these sets of questions concerning the Tramlink. The number of people who want the tram stop at Wandle Way is much larger than the amount of people that are willing to use it.

## **Chapter 5: Analysis of Results**

We first analyse the employers' attitudes and then the employees transport habits. We then analyse more specific accessibility issues that were observed while at the estate, as well as the proposed Wandle Way tramstop. The final few sections describe limitations we became aware of along with summary of our analyses.

### **5.1 Analysis of Employer Attitudes of Green Transport**

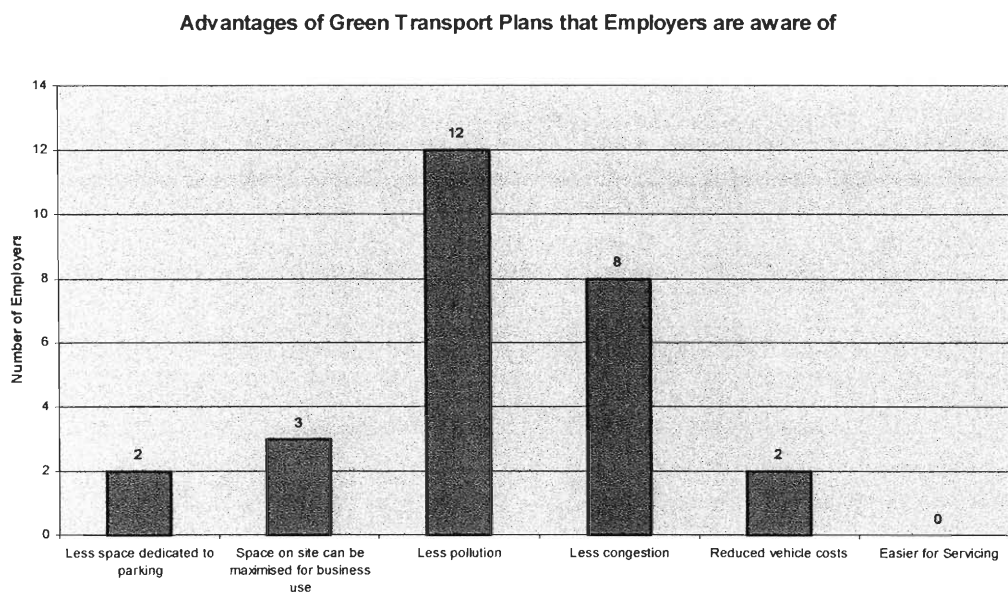
We have determined several main objectives for analysing employer attitudes. One intention of this analysis is to assess the employers' level of awareness on the subject of Green Transport. We gauge these awareness levels by establishing the employers' knowledge of the benefits and responsibilities of greener transport methods. Other objectives of this analysis will be to gauge the willingness of the employers to participate in Green Transport Planning.

#### **Employer Awareness**

In our survey, we gave employers the opportunity to rate their own levels of awareness of Green Transport. In our results, we found that employers thought of themselves as having little knowledge of Green Transport. The awareness levels were measured by choosing the number best describing their awareness levels on a scale from one to five, one being no awareness, and five being fully aware. In the results chapter, we gathered employers's level of awareness and found that the average awareness level, on a scale of one to five, was 1.88. In addition, when speaking to the employers who ranked themselves three on a scale of five, they felt they could explain Green Transport and show that they have an understanding of what it means. But, as demonstrated in the

results, they ranked themselves as below average. We can compare this self-rated awareness to an estimated awareness, which we will produce next.

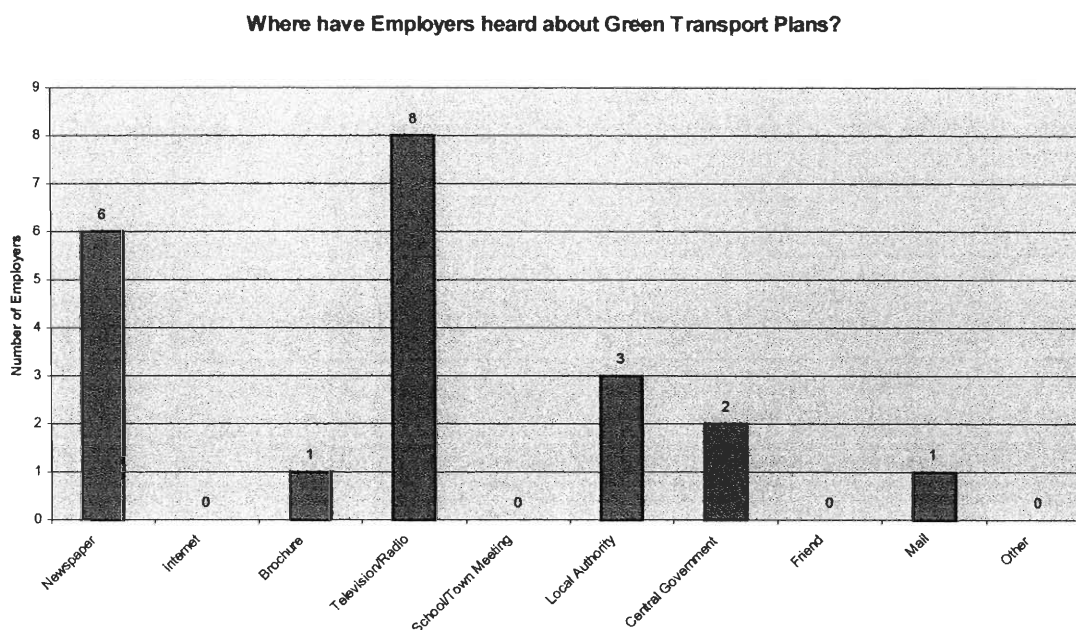
*Figure 5*



We now will analyse the results of employers' awareness of specific advantages. (See Figure 5) Employers were aware of the environmental benefits, but few were aware of the direct benefits to companies. Yet the benefits of Green Transport to companies are most important advantages that we want the employers to understand. If employers knew they could help their essential car users by having their other employees use public transport, they may be willing to consider implementing a Green Transport Plan. Our overall feelings on this analysis were that employers are capable of discussing Green Transport but are unaware of the benefits.

Figure 6 shows that a lot of employers have heard about Green Transport through the television, radio, and newspaper. These findings suggest a possible reason why the employers are relatively unaware of Green Transport. There are not enough ways to introduce Green Transport to people besides television and the newspaper. However this graph should encourage the Merton Council by suggesting possible opportunities for advertisement in local media, if they feel this will raise awareness in the estate. The Merton Council should perhaps post flyers and send out information packs in the mail. Our team did send out some information packs in the mail to the employers that were interested in receiving them.

*Figure 6*

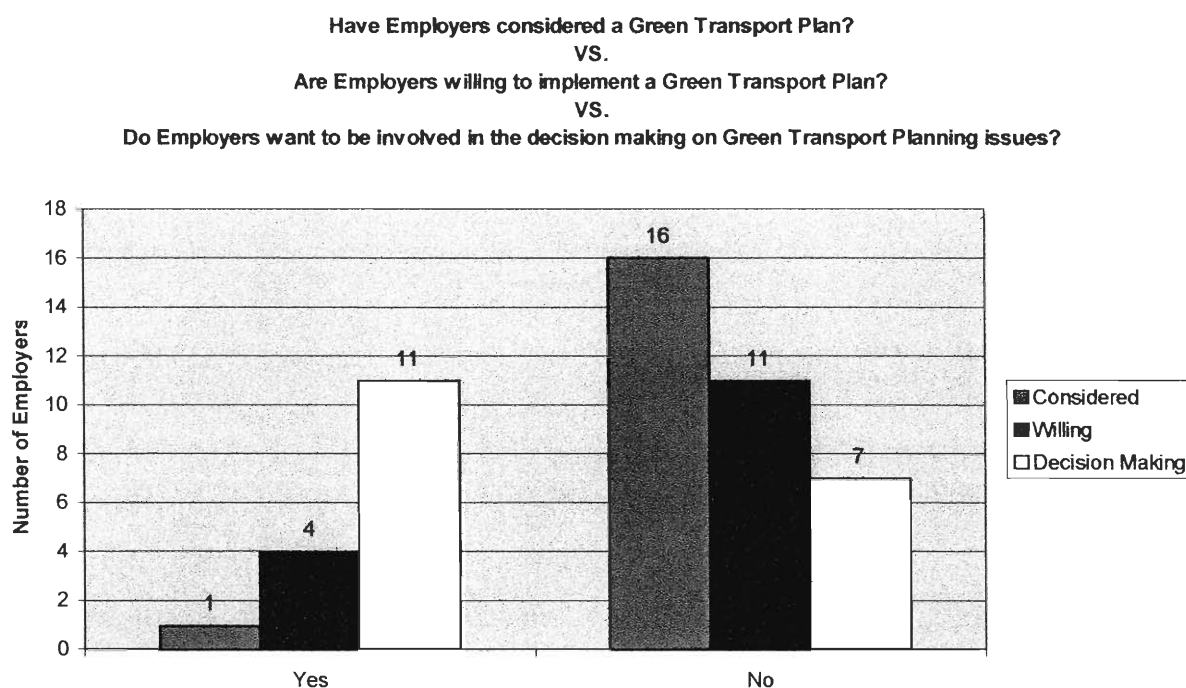




## Employer Willingness

We start this analysis by looking at Figure 1, which asked about employers' willingness. This will aid us in understanding if employers are willing to participate in a Green Transport program.

Figure 1

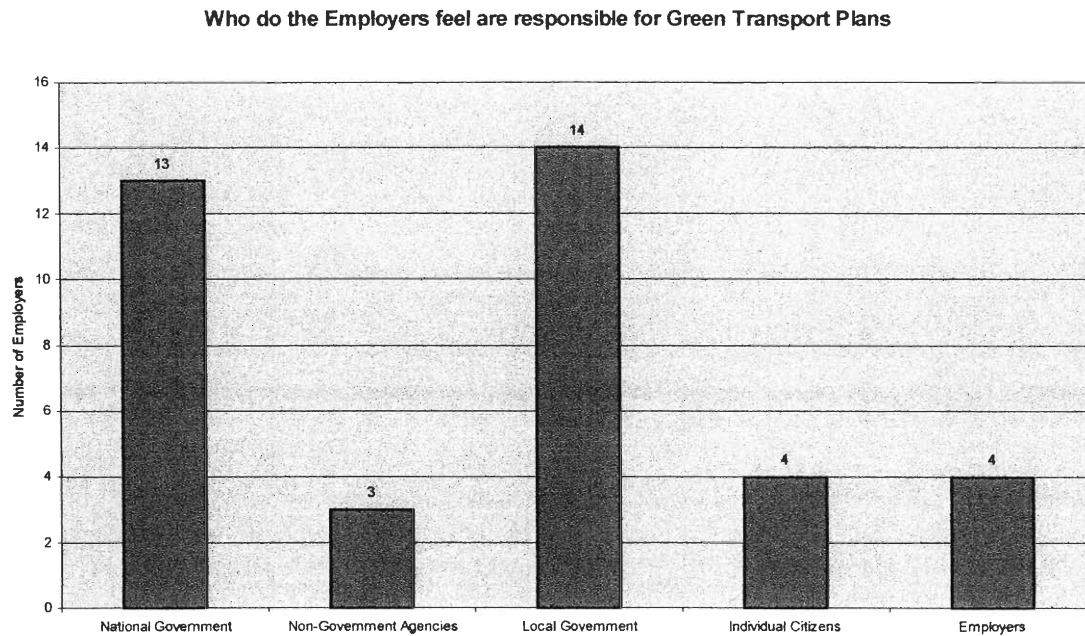


To summarise, few employers have considered a Green Transport Plan, more are willing to implement, and an even greater number want to be involved in making decisions regarding the restructuring of the estate. Two times the employers are willing to make decision about transport within the Estate when compared to their willingness to implement a Green Transport Plan. But more importantly, if employers become more aware of the benefits, more will consider implementing a Green Transport Plan.

Although the majority answered “No,” to the first two questions (have considered or are willing to implement a Green Transport Plan), we noticed, when interviewing them, that most employers did not want to say “No” or “Yes” and were unclear what the implications were if they said they were willing.

Another way to form a conception of awareness is to identify the parties who employers feel are responsible for implementing a Green Transport Plan. In Figure 7, we notice that the employers’ feel the government is responsible, which supports our one of our conclusions that employers want the government to supply employers with the resources for implementing a Green Transport Plan. The majority of the employers do not consider themselves responsible. We see this as a problem. Through raised awareness, employers must eventually realise that Green Transport Planning can only be developed correctly by themselves in conjunction with the Merton Council.

Figure 7



Another factor in deciding if employers are willing to help are concern with traffic pollution, and traffic congestion. To make this correlation we must assume that if employers are overwhelmingly concerned with pollution, or congestion, then they will be more willing to make more sacrifices to become greener. We found in our results that they ranked, on a scale of five, congestion as a major problem, at 4.2, and pollution as an average problem, at 3.2. We can use this knowledge to change the focus of future studies to reflect a more “congestion solving” selling point.

The majority of the employers wanted to know more about Green Transport Planning. We have sent them an information packet, which is something an employer can read at their leisure. Comparing this result with the findings on the willingness of the employers’ question, we notice the employers who may not want to implement a Green Transport Plan may be waiting for the local authority to make the first move. The

employers feel that the local authority is responsible for Transport problems. The employers may be willing to adjust their view if they have an open discussion with the Merton Council. The Council has views that the employers should play a larger role in Green Transport Plans.

At this point we run into a problem when analysing the results of this question. We felt previously that giving employers another option, namely “Maybe,” would have allowed them to avoid answering the question. As it stands now, we have established that employers’ have little or no awareness to what a Green Transport Plan is, so we have to conclude that future surveys should include the “Maybe, if I was more informed” option for similar questions. This of course is only applicable if you are assuming that employers have no prior knowledge of Green Transport Planning.

### **Company Green Transport Plans**

We next want to establish the extent to which companies have adopted green policies and how much help they require in becoming greener.

The employers allow many benefits to their employees. Some benefits, such as company cars and large car parks, are in opposition to Green Transport, while other more practical benefits, such as flexi-time and work-at-home programs, facilitate it. One simple measure used to determine how green companies are, is portrayed in Figure 4. This graph shows that the majority of companies are lacking cycle parking and showering facilities. Without these conveniences companies limit the accessibility of alternative methods of Green Transport.

Car parks also have a role in Green Transport Planning. By analysing Figure 13 we see that the majority of employees park their private cars in the company car parks,

the majority being three times greater than the minority. One of the advantages of Green Transport Planning is that the result of reducing the size of company car parks is lower congestion for essential car users and the regaining of vital land resources. We see from Figure 13 that employers can possibly limit the amount of parking to essential car users, which would allow the companies to benefit accordingly. But, we feel that employers who lack knowledge on Green Transport would less likely do this.

### **Summary**

A major concern that we developed from analysing the Employers reaction to the Green Transport Plans was that fact that many of them did not know enough about it. Knowing that few employers are willing to implement a Green Transport Plan and how little they know about the benefits leads us to believe that employer awareness is a primary problem that needs to be addressed.

Few employers are aware of the major benefits of Green Transport Planning. This lack of awareness can cause problems with Green Transport Planning in the Willow Lane Industrial Estate, since the employers want to cooperate, but without the knowledge of Green Transport Planning they cannot make well-informed decisions. If awareness was raised, a better analysis could be made, since the employers would have known exactly what position they held on Green Transport Planning issues. Raising employers' awareness levels will be one of the main goals in selling them on Green Transport.

Employers use company cars to show their appreciation for their employees, however they impede Green Transport Planning. As we have shown, usage of company cars for commuting can be reduced or avoided all together. There are other ways to give

benefits to employees, such as flexi-time, work-at-home, or free or reduced cost public transport passes, which will allow a wider range of options to the private car and financial benefits to the employers.

## **5.2 Employee Travel Patterns**

The employee surveys that have been compiled are used to analyse the commuters of the Willow Lane Industrial Estate. This analysis includes our overall goal of finding the travel patterns that are associated with employees via explanations on general transport usage, and private car users. A discussion of employee travel patterns is needed before developing a conception of transport usage.

A Green Transport Plan can include benefits such as a more flexible schedule. Employers can use more flexible scheduling to reduce private car use, while allowing employees “greener” commuting alternatives. Unfortunately, Figure 18 reveals that few employees are in a flexi-time program. Figure 22 shows us that ten percent of the employees feel that they need to use their cars because of their schedule. When comparing these two graphs we can see how well a flexible schedule program would work for the employers of the Willow Lane Industrial Estate.

Figure 32 shows that the majority of employees arrive and leave at the same time, about 9:00 am and 5:00 pm. Introducing a flexible work schedule program would be helpful. Staggering employees arrival and departure times throughout the day, would alleviate congestion problems.

The private car users who have notable transport differences had a higher average rating on their concern with congestion, but made the trip to work a lot faster than most of their co-workers. This led us to believe that employees perceive there is a congestion problem for the estate. But the congestion may occur within or going out of the estate, but not going into. When looking further in to the matter, we find that the estate has two entrances and only one exit.

## Transport Usage

From the results of our survey we have been able to determine the percentage splits of the modes of transport used to travel to the Industrial Estate. These percentage splits give us a good estimate as to the most popular modes of transport to the estate.

One goal of a Green Transport Plan is to lower the percentage of private car users, and allow commuters to have public transport options. By analysing Figure 25 we can determine which modes of transport need to be considered to facilitate Green Transport Planning. This graph shows that the overwhelming majority of employees at the Willow Lane Industrial Estate use the private car to travel to work. However, this graph highlights an important goal of Green Transport Planning. In a Green Transport Plan employers must persuade their employees to use car pool systems and public transport. When comparing transport methods used between women and men we get interesting results. It seems that males use private cars more frequently than women. Women walk and use buses more frequently than men. But these results may be the result of a small sample size. Analysis of the results suggests that one woman and one man walks to work. The one woman makes up eight percent of the total female sample, while the man makes up three percent.



Figure 25

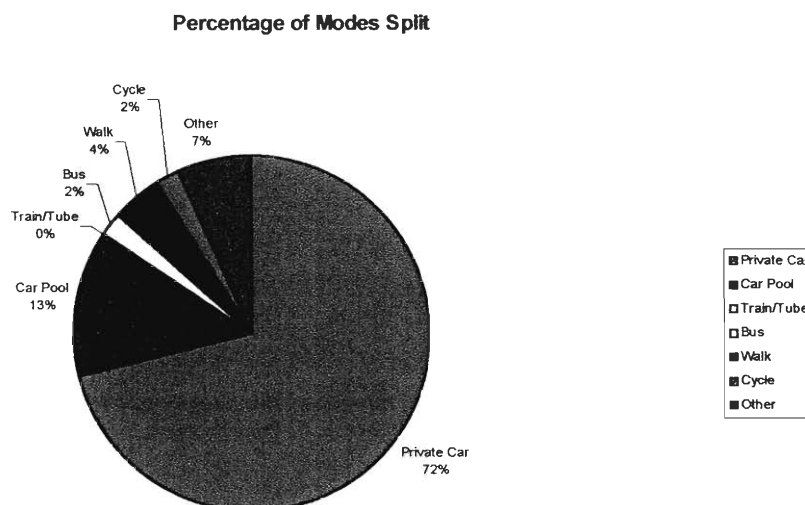


Figure 26

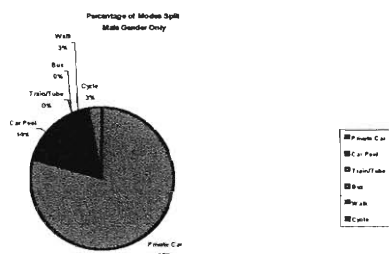
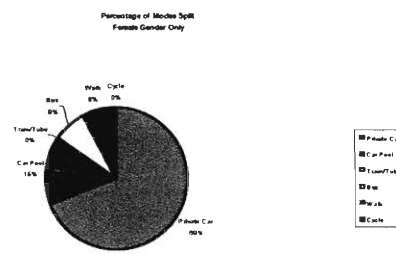


Figure 27



The next question we must answer is how available different modes of transport are. Clearly, we can determine that private car use is the most available mode of transport to the estate, at thirty-two commuters. (See Figure 30) The bus is the second most available mode of transport, at eighteen, which is nearly half. The rest of the modes of transport decrease linearly. This suggests that availability is a major issue with commuters to the Willow Lane Industrial Estate. One important note to make is that

twenty-two percent of the employees surveyed, who use private cars, said they use their car because there is a lack of alternatives.

When we compare Figure 30 with Figure 29, we find that commuters are not using the modes of transport that are available to them. An essential goal of Green Transport is to get commuters to take train/tube, bus, walking, and cycling in the same proportion, as they are available. When comparing this result with Figure 31, we find reasons why this occurring. As we will see in the next chapter, this comparison suggests a direction for company Green Transport Plans.

*Figure 29*

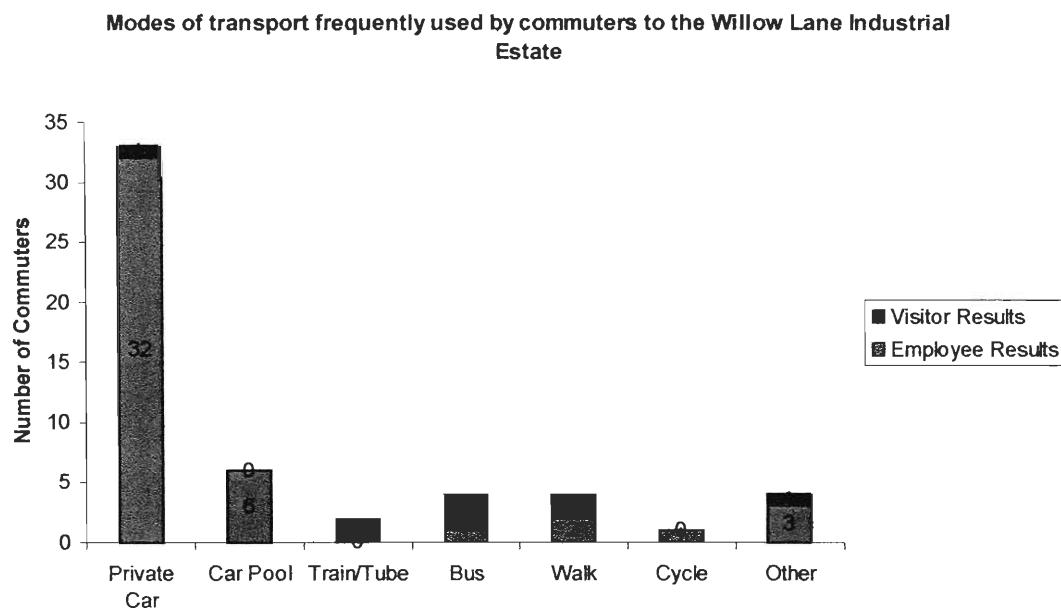
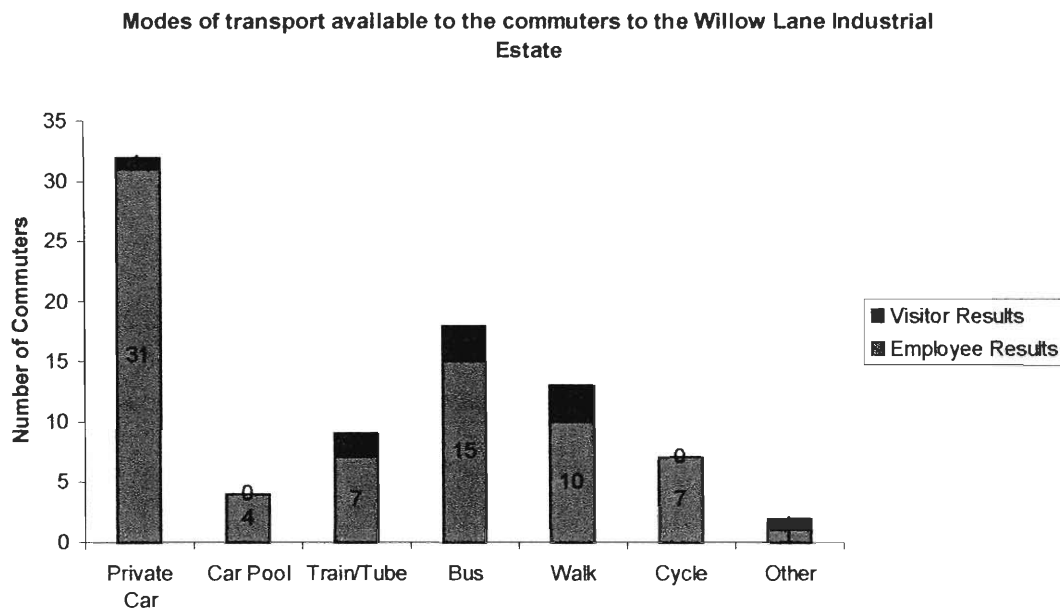


Figure 30



Another major problem that we foresee is the accessibility of public transport to commuters. This conclusion is made by the fact that the majority of the sample population had access to at least one form of public transport, but only eight percent of them used it. This discussion is continued in the next major heading, Accessibility of Public Transport.

## **Private Car Users**

Our next analysis will deal directly with employee private car usage. We first will try to estimate the behaviours of private car users, and then we need to determine if private car users are willing to use “greener” methods of transport.

The main focus of this part of this analysis is to understand why commuters use their private cars. When looking at Figure 22 we gain a little knowledge on the issue. The graph demonstrates how numerous people use their private cars for convenience, and a lack of alternatives. These are two groups who can benefit the most from a Green Transport Plan. They can be persuaded without much effort on the Merton Councils behalf, and when combined these two groups make up the majority of commuters. Another group that can be persuaded is the group who answered public transport was costly or unreliable. We feel this group can be persuaded, because this is within the government’s control.

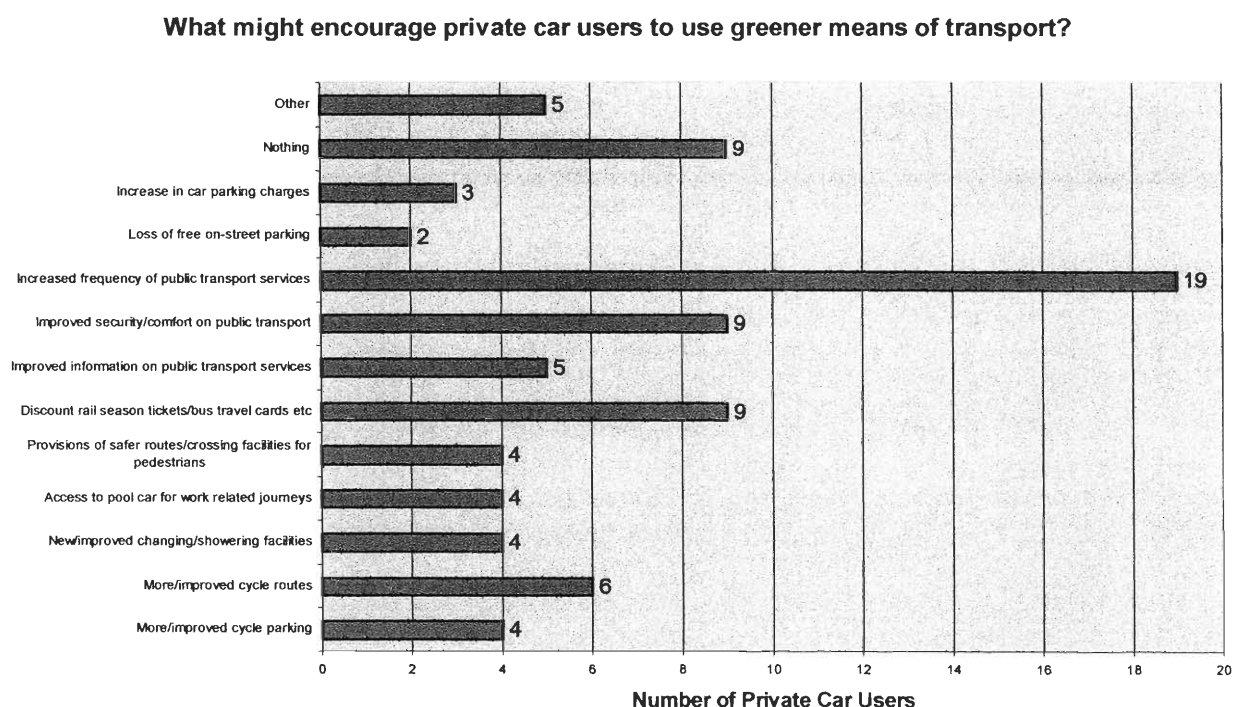
After analysing commuter surveys, one open-ended question revealed that commuters feel there is a huge congestion problem, when leaving the estate at peak times. For those commuters who use their private cars to commute, it had been noted that they must wait an additional thirty minutes to leave the estate. In addition private car users have shown a strong concern for traffic congestion, at four on a scale of five.

We next want to analyse if private car users are willing to change to “greener” methods of transport. We can get to this conclusion by first looking at Figure 23. This graph asks the direct question: what might encourage private car users to use greener means of transport. This question listed many possible answers. One note to make is that

this survey question was borrowed from the Merton Transport Planning Section.

However, the results in Figure 23 are taken from our survey.

*Figure 23*



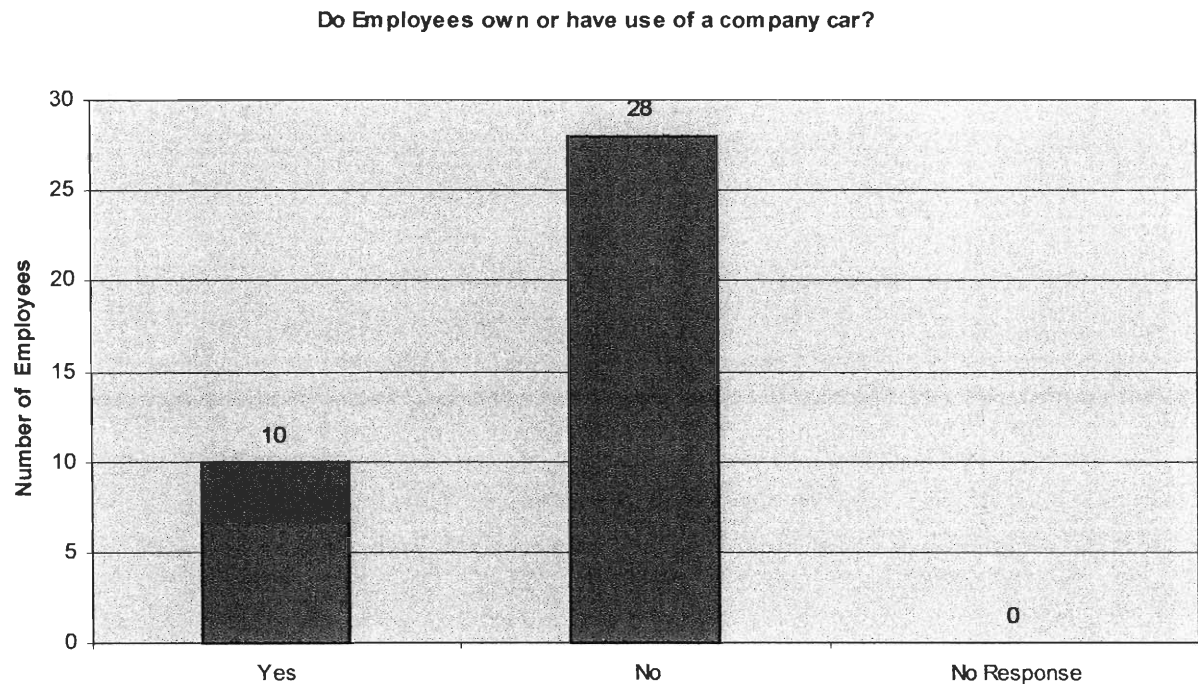
This graph shows that private car users can be encouraged to use “greener” methods of transport. The next step for the Merton Council would be to estimate the more feasible changes that can be made. We will make suggestions in our next chapter, Conclusion and Recommendations.

A car pool system is another measure that can be adopted in Green Transport Planning. Figure 14 shows if employees are willing to use a car pool system to commute to work. We found that sixty percent pf the respondents said that they are capable of

using car sharing. This leads us to believe that these employees are willing to change their commuting habits.

We next want to discuss if company cars are necessary in the Willow Lane Industrial Estate. Our initial investigation reveals that the average number of cars that companies own is five. Figure 11 illustrates that sixteen percent of commuters need their cars for business purposes, but half of those commuters have a company car while the other half use their own private car. Figure 10 shows that ten employees own or have use of a company car, which is about a quarter of our sample population. So if one-fourth of the surveyed population uses a company car, how many of these employees responded that they feel a private car is necessary to perform their job? We find that out of the forty-three commuters surveyed, only three employees or seven percent need their company car to perform their jobs. This leaves many company car users not using the cars for company purposes. If these trends continue over the entire Willow Lane Industrial Estate workforce, of over three thousand, then hundreds of employees own company cars and do not need them to perform their jobs.

Figure 10



We can conclude from this analysis that company cars can be used more effectively by businesses and there are many employees who are willing to use car-sharing systems.

### Summary

After analysing the employee behaviours, we can conclude that public transport is perceived as inefficient, unreliable, and infrequent. Another possibility to get employees using “greener” commuting methods is to introduce more flexible schedules. We also found that the majority of the commuters can be persuaded into using “greener” modes of transport. The Merton Transport Planning Section should try to minimize the private car use. But as we will soon see major improvements to public transport have to be made first.

### **5.3 Accessibility of Public Transport**

This analysis is vital in that public transport has a substantial role in Green Transport Planning. This analysis includes observations on the lack of transport methods to the site, survey results on the availability of different methods of transport, and improvements suggested by the employees.

#### **Observed Transport Concerns**

The observations we made during our visit to the Willow Lane Industrial Estate caught our attention. When arriving to the Estate, we found the buses confusing and the walking cumbersome. Based on our experiences we feel many people would be deterred from using these forms of transport. Walking into the Estate past the high vegetation and the graffiti made the walk unpleasant. The commuters are not going to walk or use the bus if they feel uncomfortable doing it. Then the roadway led to a narrow bridge, which had a small sidewalk. The sidewalk was not very safe because if someone were to step off the small and narrow sidewalk the speeding lorries that were trying to get into the Estate would probably hit them. The lorries are not the only concern for pedestrians that chose to walk across the bridge. The private cars that commuters use also drive very fast down the narrow winding road (Willow Lane) into the Estate. The reduction of the number of private cars being used would make the roads safer for the pedestrian. The narrow roads not only affect the commuters that walk, they also affect the commuters that cycle. Cyclists on a narrow road could lose their balance very easily if cars and lorries are driving by them very fast. When considering walking and cycling, the narrow roads



and speed limitations of vehicles have to be considered before a proper Green Transport Plan will work.

Based on our observations the bus system was infrequent and a burden. We once waited a half-hour for the bus, only to put down outside the estate. The problems of transport to the Estate with the bus system only add aggravation to the journey. Commuters are not going to be willing to use the bus system if the buses do not run frequently enough, and are not put down closer to the companies they work for.

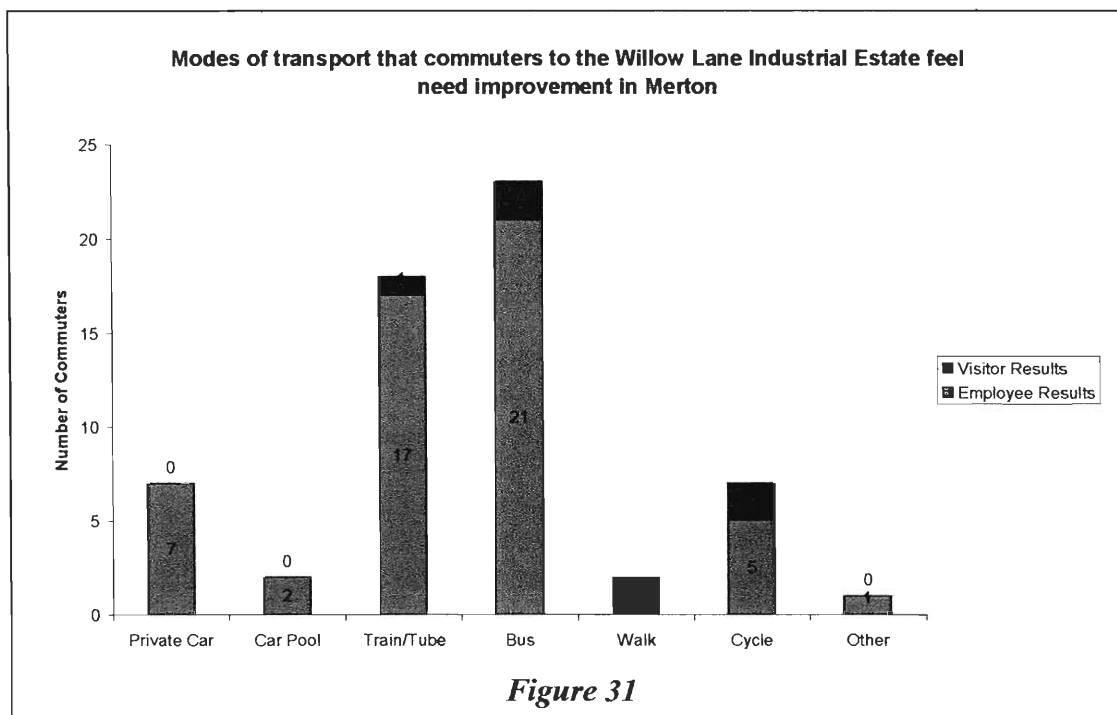
The only other means of transport to the Estate was the Croydon Tramlink, but the closest tramstop to the Estate was the Mitcham Junction. Only brave and daring souls would use the Mitcham Junction tramstop at night according to the employers and employees at the Willow Lane Industrial Estate. We also found an entrance at the southeastern point of the Estate, which had two-way traffic. This entrance/exit seemed very useful for those would consider walking and cycling because of the footways.

The private cars parked on the street in the Willow Lane Industrial causes problems for pedestrians and cyclists. Parking on the side of the road blocks pedestrians from using the footways to their potential. Vehicles were parked halfway on the footways, which was the main concern the pedestrians had. If the private cars were not parked on the footways then there would more likely be more people who would use the footways. Bicycle paths do not seem to exist in the Estate. When there are no bicycle paths commuters are not going to be willing to ride the cycles to work. Cyclists would be in danger of getting hit by cars and lorries if they were to ride their cycles to work. The roads within the Estate are narrow because of all the cars parked on the street and when

other cars and lorries drive by, hardly any room would be left for someone who would like to cycle.

### Employees Suggested Improvements

The following graph shows how commuters feel about the transport in the Willow Lane Industrial Estate.



The commuters feel that the Bus System needs the most improvement to the Willow Lane Industrial Estate. The train/tube was the second most important improvement the commuters felt needed attention. A large number of commuters feel that the Bus/Train/Tube Systems are in need of improvement. If these forms of transportation were improved, then the commuters would be more susceptible in using them. The commuters want to see some improvements to the infrastructure of the public transport system before they can totally rely on it.

## **Summary**

To summarise, the public transport methods into the estate are inadequate. There are footways, for walkers, on the south entrance, but the north entrance can be deadly. The buses are infrequent, and do not offer commuters any real benefits, outside of not walking.

Overall we feel that improvements to public transport, should be a top priority in a Green Transport Plan for the Willow Lane Industrial Estate. The travelling style that commuters have to the Willow Lane Industrial Estate cannot become greener if there are no feasible alternatives to their private cars.

### **5.4 Wandle Way and the Croydon Tramlink**

What did the employers and the commuters feel about the Wandle Way tramstop? Interviews with the employers showed some positive attitude toward the tramstop because the employers felt that it would benefit their employees. The commuters also supported adding the Wandle Way tramstop. The employers and commuters did not feel content with the Mitcham Junction tramstop.

#### **Employer Survey Results**

Would the employees benefit from the Wandle Way tramstop? Employers main concern about Green Transport was how it affected their employees. We found that some employees' felt using alternative methods to private cars was an inconvenience. If the employees were in any form of discomfort in trying to use greener means of transport then the employers would not ask their employees to pursue it. Three of the employers believe that their employees would benefit from the Wandle Way tramstop. The

employer graph (Figure 9) shows that a few employees will benefit from the addition of the stop. The employers feel that the current tramstop at Mitcham Junction is in need of serious review. Employees have concerns about it that they have relayed to their employers, and to us. For example, their employees did not feel safe using the Mitcham Junction tramstop. The employers also claimed that the Croydon Tramlink System did not run anywhere close to their homes, which makes the tram very hard to use.

### **Commuter Survey Results**

Would the commuters use the Wandle Way tramstop? According to Figure 15, twenty-six of the forty-three commuters surveyed would be willing to use the Wandle Way tramstop. Fifteen of the commuters are not willing to use the tramstop even if the tramstop were built. Four of the commuters felt no need to respond to the questions about the Wandle Way tramstop questions on the survey. These results show that the majority of those who think the Wandle Way tramstop is needed, would use it. When projecting this result we find that it would increase the amount of people who use the Croydon Tramlink by over fifteen hundred.

The commuters informed us that the tramstop would be beneficial for the women that have to walk long distances at night and during the winter. They also said the lighting and location made the Mitcham Junction tramstop unsafe.

### **Summary**

The employers, employees, and the visitors feel that the Wandle Way tramstop is needed but the majority are not willing to use the tramstop. The commuters want the stop because they know that some of their colleagues would benefit from the stop being built.

The Mitcham Junction tramstop needs some review in terms of the safety and convenience of the footways from the Willow Lane Industrial Estate. The commuters feel that the stop is too far and unsafe for women at night. The employers explained that they would not expect their employees to use the tramstop because of safety concerns.

The main concern the about the Croydon Tramlink System was the fact that it was not easily accessible to the commuters. The commuters could not find a stop that was nearby that would allow them access to the Tramlink. Most of the commuters seemed willing to use the Tramlink if there was a tramstop within walking distance of their homes.

### **Limitations**

The sample population size is a limitation that we encountered during our research. Many of the employers did not want to meet with us, which in turn caused a smaller sampling size. If we had a chance to interview more employers, then our sample size would have been larger and our results would have become more accurate. If more employers had met with us, we would have surveyed more employees and possibly more visitors.

There were many unavoidable limitations that were put on the data due to the time frame we were faced with. Our initial research was limited to what we conceptualised the project from the United States. We developed our procedures without having fully digested the problem in the Willow Lane Industrial Estate. Once we arrived in Merton we were able to conceptualise the project as more resources were made available and we had the ability to see the Willow Lane Industrial Estate.

Contact with employers was limited to their availability and their willingness to participate in our survey. Due to time restraints the survey was condensed to ask crucial questions in order to achieve the most responses. The data was dependent on employer and employee interest in the survey.

Overall, the majority of employers surveyed were unaware, although willing to participate in Green Transport Planning. Having spoken to them, we feel strongly that they would be willing to implement a Green Transport Plan if they were aware of the substantial benefits and impending implications.

Employees who use private cars are willing to use public transport if it became more frequent, efficient, and safer. Public transport to the estate includes several modes of travel, such as bus, cycle, and walk. Specific concerns with public transport are that there are no cycle routes into the estate, buses is infrequent, inefficient, and require walking, which is dangerous due to vehicles travelling at excessive speeds down narrow access roads.

Company car sharing systems are also feasible given the amount of interest. Green Transport within the estate can also benefit by having employers' implement flexi-time or work-at-home programs.

The Croydon Tramlink can possibly increase its amount of riders' if the Wandle Way tramstop is implemented. And all commuters will benefit from increasing the cleanliness of the Willow Lane Industrial Estate.

## **Chapter 6: Conclusions and Recommendations**

The goal of this project is to assess employer interest in Green Transport Plans as well as evaluate employee travel patterns into the Willow Lane Industrial Estate. This chapter will discuss the conclusions and recommendations that were drawn from the analysis of the results in the previous chapter.

Recommendations are broken down into two categories, recommendations for Green Transport Improvements on the part of employers of the Willow Lane Estate and on the part of The London Borough of Merton. These recommendations are based on the results of the surveys that were done. Each section of the recommendations are broken down into three types of recommendations. They are short term, medium term, and long-term solutions. This was done to recognise clearly the feasibility of the solutions.

The most important recommendation that needs to be considered for Green Transport Plans to be successful is raising employer awareness of Green Transport Plans and educating them on the subject. This must be the first step taken before any other recommendations can be implemented.

### **6.1 Recommendations for Employer Involvement**

The following recommendations illustrate what employers can do to implement Green Transport Plans within their company.

#### **Short Term Solutions**

With the proper background knowledge, employers can begin to implement short-term solutions. Two of these solutions include informing employees of Green Transport Plans and Flexi-time. The short-term solution with the highest priority is to

inform employees of Green Transport. Short-term solutions that employers can use to begin to implement Green Transport Plans are:

#### Inform Employees of Green Transport Plans

From the analysis of the employer surveys, we have found that many employers know little about what a Green Transport Plan is or what is even involved in Green Transport. Also the employee surveys revealed that 72 percent of employees use their vehicles to get to the Willow Lane Industrial Estate. Employees also know little about the alternatives that a Green Transport Plan can provide. The first task towards Green Transport that employers can undertake is to inform their employees. Once employers begin to work with Transport Planning and become educated about the various alternatives provided by a Green Transport Plan, they can inform their employees about alternatives to the car that are available.

In addition to informing employees about Green Transport, employers are also in the position to encourage their employees to participate in Green Transport. Employers can provide employees with public transportation schedules, cycle route maps and general information about the Green Transport Plan they are implementing.

#### Flexi-Time

In our survey results, 88 percent of employees are not using flexi-time. This is a short-term solution that may be easily implemented for many employers. In response to our questions, some employers felt that their businesses were set up so that employees could work from home. More importantly flexi-time may be something that employers can implement by changing the times that employees commute to work. A number of employees often stay late or come in early to beat the



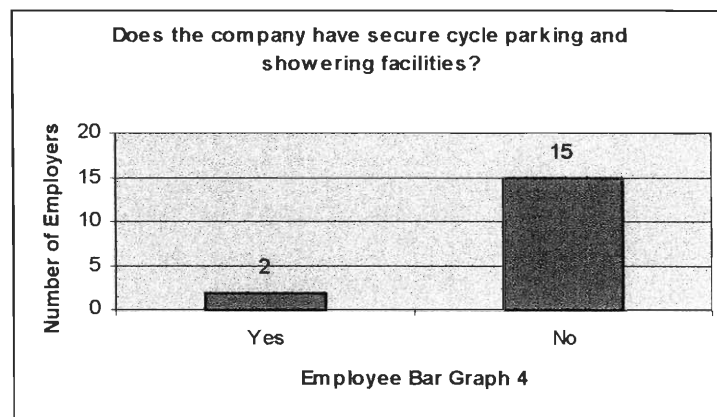
traffic. If employers were to organise employee travel times with their work times, they may be able to offer alternate commuting schedules to their employees that adhere to their work schedule making it more convenient for employees as well as employers.

Employers may want to use Information Technology and E-Commerce in taking steps towards Green Transport. Employers can offer their employees the option of working out of their homes. If an employer were to organise a network in the office with Internet capabilities then an employee could have the choice of logging on from a remote location. The employer has many different options when setting up a network. One possibility would be to setup a client/server system where a server would be located at the work site and the client computers would be used in the home locations by the employees. Then the employees could logon to the network remotely and conduct the same type of work as if they were at the work site. The employers may even take IT a step further and install video conferencing hardware and software. With video conferencing employers would have the ability to communicate with their employees face to face. Sometimes communication face to face is the only way of getting some ideas across.

This would not only benefit the employees by working out of their homes but it would actually benefit the employers. The employees would not have to waste time commuting back and forth to the work site, which in turn would reduce the amount of space a company needs to operate. Companies can maximise the space available by reducing the number of employees that arrive to the work site. The lorries would benefit from this because they would have more room to operate causing less congestion within the Estate and providing Greener Transport. The number of company cars that are used by employees would reduce significantly.

### Create Secure Onsite Cycle Parks

The percentages of modes split figure shows that the two percent of commuters cycle to work. This is very low considering cycling is become a much more frequently used mode of travel. The following chart depicts employer responses to the question regarding cycle parking facilities.



**Figure 4**

Many employers in the estate do not provide secure cycle parking facilities. We can see the relationship between the percentages of commuters who cycle to the available facilities. Employers can provide cycle facilities to employees and encourage cycling to the Willow Lane Industrial Estate. Currently only 2 employers surveyed provide these facilities so not much has been done. Employers should consider making cycle facilities a part of their Green Transport Plan to encourage use of this mode of transport. Employers have a few options available when added secure cycle parking. Employers with a large number of employees might have the option of providing their employees with a secure fenced cycle parking facility. Often these facilities have card key access and hold a large number of cycles. Smaller companies could install cycle stands which employees can lock their cycles to. An additional option would be to install secure cycle boxes. These cycle boxes are large enough to enclose one cycle securely and could be installed for a minimal cost.

A larger scale approach to secure cycle parking is to implement an estate wide secure cycle parking facility. This approach would require the participation of several companies on the estate. It would help to get more employers involved in Green Transport, and this may not be as easy to implement the options mentioned earlier.

### **Medium Term Solutions**

Once employers have begun to implement short-term solutions they can begin to consider some more lengthy and active solutions to implementing Green Transport Plans in their company. Medium term solutions which employers can implement in their companies include:

#### Funding Employee Travel Passes

The results of our survey showed that public transportation to the Willow Lane Industrial Estate was low. As you may recall from previous chapters the Percentage Mode Split was as follows:

<b>Mode of Transportation</b>	<b>Percentage Utilised</b>
Private Car	72%
Car Pool	13%
Train/Tube	0%
Bus	2%
Walk	4%
Cycle	2%
Other	7%

*Table 1*

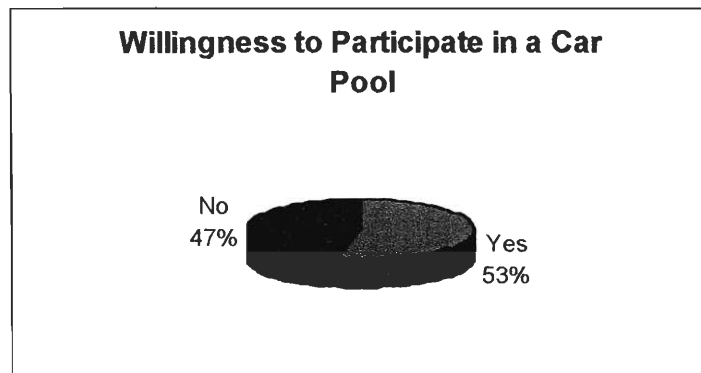
Between car pools and the private car, automobile transportation comprises 85 percent of the travel to the estate. Only 15 percent of commuters surveyed use public transportation to get to the estate. When asked why they chose to use their private car 15 percent of the people responded that public transport was too costly. (See Figure 22) One solution to encouraging public transport is that employers could subsidise employee travel passes. This would dramatically reduce the cost of public transport for employees, creating a benefit that employers can offer their employees. Another possibility for this recommendation would be that employers subsidise a percentage of the travel pass, if it were not feasible for an employer to cover its full cost. This is the more likely scenario considering the small size of many of the companies on the estate.

Funding travel passes would give the employer the opportunity to encourage a Green Transport Plan. Employees would be more likely to take public transport since it would become more affordable than operating their vehicle to the workplace. The employer would ultimately benefit by offering more attractive benefits to its employees and reaching a wider labour pool that may only have public transport available. Tax incentives associated with travel passes also may need to be implemented for employers to subsidise employee travel in this way.

#### Car Pooling within Companies

Car-pooling comprises thirteen percent of commuter travel to the estate. Car-pooling can reduce the number of cars that employees need to travel to the workplace. Often employees do not know of the availability of car-pooling with other employees within the company. Employers have the opportunity to organise car-pooling among their employees. This recommendation provides an easy opportunity to create "greener"

travel among the company. Employers can make employees aware of the ability to car-pool to work, by introducing a simple car sharing system. This system can give employees the opportunity to express their availability to participate in a car-pooling program. The employee willingness to participate in a car pool is presented in the following chart:



*Figure 33*

The above graph represents an almost even split of interest in car-pooling, with the majority answering yes. Although there is a good percentage that answer no to this question setting up a car-pooling program would represent a small cost to the employer.

These solutions provide more effort on the part of the employer. Some of these solutions may result in employers funding the transport. Funding employee passes was a common employer transit incentive the Tri-Met Organisation illustrated in the literature review.

### **Long Term Solutions**

These solutions may take employers longer to implement and may call for employers providing more funding, which may need to be budgeted for.

### Create Inter-Company Employee Car Pooling Systems

This recommendation is an extension of employee car-pooling systems within companies. This solution solves the problem of not enough people being able to car-pool within small companies to make car-pooling worthwhile. Car-pooling between companies would result in more shared journeys among commuters. In order for car-pooling between companies to work, it would need full co-operation between these companies as well as the London Borough of Merton. Ideally employees of companies would participate in car-pooling with each other. This is why it would be necessary for employers to work together to organise their employees into car pools resulting in a more long-term approach to car-pooling.

### Fund a Shuttle Bus System

Funding an employee shuttle bus system is recommended due to the employees' dissatisfaction with travel to and from the Tramlink Station. This shuttle bus would transport employees to the Mitcham Junction Tramlink stop. Many employees expressed concern with this particular Tramlink stop. The walk from the Willow Lane Industrial Estate to the Mitcham Junction Tramlink stop is approximately one kilometre. Employees are concerned with the safety issue that arises when walking to this station at night. This discourages many employees from using this station. A shuttle bus to this station would provide a safe way of taking advantage of the public transportation that is currently available to the employees.

The shuttle bus might not be limited to just the Willow Lane Industrial Estate. The shuttle could provide services to neighbouring estates and local town centres. Encompassing several areas would provide more reason to implement a shuttle bus service.

Implementing a shuttle bus system to the Mitcham Junction stop is a long-term solution due to the associated cost. Many employers would not be willing to provide such a costly service with the minimal numbers of employees that use the Tramlink system. This solution is one that employers may want to consider when Green Transport Plans are more widely adopted throughout the estate, as employers can then budget for such a solution to green transport problems.

## **6.2 Recommendations to Transport Planning**

These recommendations are provided based on efforts that the London Borough of Merton can make to help employers implement a Green Transport Plan. All of these potential solutions came out of the surveys as to what employees and employers felt the local government could do to improve Green Transport in the Willow Lane Industrial Estate. They are also based on our observations while surveying on the site.

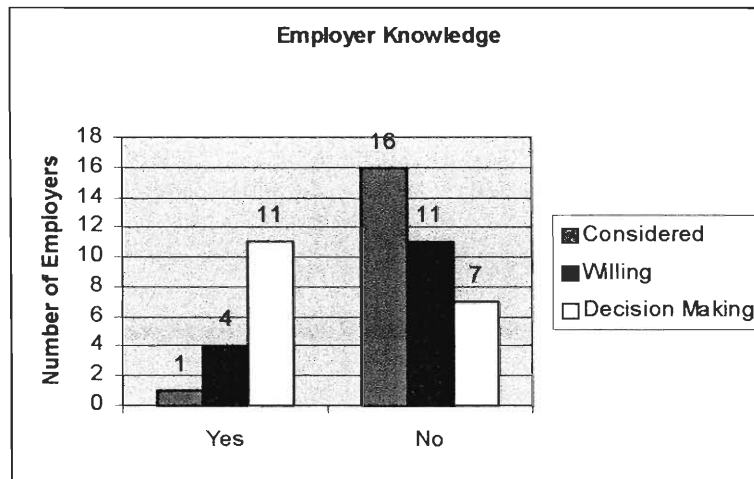
### **Short Term Solutions**

There are a number of short-term solutions that can be recommended to the London Borough of Merton Transport Planning Section. These short-term solutions are most likely the first steps to persuading employers to develop green transport plans. These steps can be implemented easily with little associated cost. Some of the more easier short-term solutions include:

#### **Awareness**

The first step, and most important, for the London Borough of Merton to take to influence Green Transport Plans in the Willow Lane Industrial Estate and more

generally is to increase awareness of Green Transport Plans among employers. Our survey revealed that the level of knowledge among employers is very low.



*Figure 1*

The above chart illustrates how many employers have or have not considered a Green Transport Plan, are or are not willing to implement a Green Transport Plan, and would be interested in decision making steps for Green Transport Plans. Many employers have not considered implementing a Green Transport Plan. This is most likely the result of their lack of awareness of the potential of Green Transport Plans. In addition, employers are also not very willing to participate in a Green Transport Plan. Increasing employer awareness will help them see the benefits provided by Green Transport Plans. Of the employers that were surveyed they were rated to gauge the level of awareness. This can be seen in appendix I.

### Cleanliness

Cleanliness of the estate was frequently an issue among those people surveyed in the Estate was. From our observations the estate seemed extremely dirty. There was a significant amount of unwanted dumping on the estate. This unwanted dumping discourages employees from walking in and around the estate, and it may create



environmental concerns for the estate. Actions could be taken to clean up the estate and discourage dumping. If the estate becomes cleaner commuters may be more willing to walk in and out of the estate.

### Cycle Routes

As discussed in the employer recommendations, cycling to the Willow Lane Industrial Estate is not a very popular option for commuting to work. This area is where the employers and the London Borough of Merton can work together to provide a viable solution to Green Transport in Willow Lane.

The London Borough of Merton has the opportunity to increase cycle routes to the Willow Lane Industrial Estate. Currently the Borough has been developing the cycle network around the Borough of Merton. An extension of the cycle network could include routes in and around the estate. These routes may encourage commuters to cycle to work instead of using the private car.

### Speed Issues

An issue that was of great concern to many commuters was the speed at which vehicles travel into the estate. A number of lorries making deliveries to the estate travel at unsafe speeds down the one-way road entering the estate. This makes pedestrian travel into the estate extremely dangerous. There are no sidewalks for pedestrians to travel into the estate from the north, causing them to share the road with the vehicles.

The Borough of Merton could take action to reduce speed in the estate. Options such as posted speed limits, speed humps, and enforcing speed limits may be available to make pedestrian travel to the estate safer.

### Car Parking

Parking of cars on the Willow Lane Industrial Estate is very congested. Many private car owners find themselves parking on the street, lining the length of the street. This creates traffic and visibility issues for vehicles at intersections.

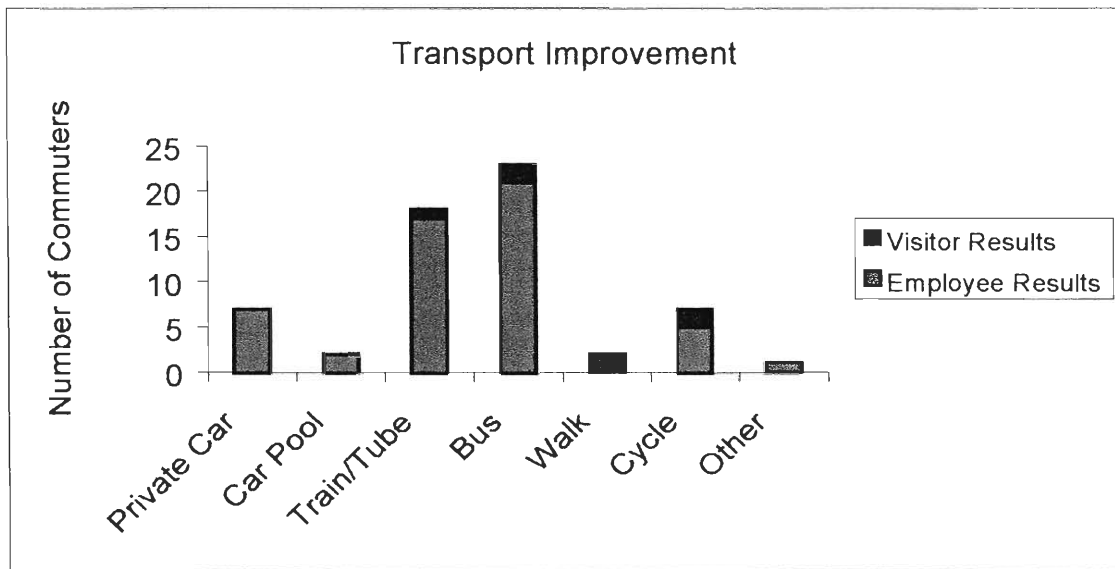
Solutions to the car parking issues are to limit areas on the street where cars are able to park. At present, cars can park right up to each intersection, blocking traffic and visibility of crossing traffic for drivers. This is particularly a problem on the northern side of Willow Lane where cars enter and exit the business centres. If limitations were put on parking near intersections, visibility would be enhanced for other drivers. This may also limit drivers from driving to work. If parking availability is minimised this may discourage commuters from driving. These particular areas where car parking causes problems can be cut down by placing white bar markings or white hatch markings on the street to deter drivers from parking in these areas. Buildouts to the sidewalks also may be a possibility to prevent parking in these specific intersections.

### **Medium Term Solutions**

Medium term solutions offer more defined ways of implementing Green Transport. Often these solutions take more planning on the part of the Borough to offer alternatives to the private car. The following are some medium term solutions that can be implemented by the Borough:

#### Buses

According to the chart below the mode of transport which commuters to the Willow Lane Industrial Estate felt needed the most improvement was the bus.



*Figure 31*

The chart above suggests that twenty-two commuters feel the bus is the form of transportation that needs the most improvement. Some major improvements to the bus infrastructure that can benefit the Willow Lane Employees include more frequent buses and more routes through the estate. Currently there is one bus that can deliver passengers to the Willow Lane Industrial Estate. The frequency of this bus is not adequate for commuters to take advantage of the line. Bus travel to the estate is also very limited, there are no buses that travel through the estate and the nearest stop is a decent walk from any company on the estate.

Increasing the availability of buses during peak hours, and the possibility of a bus running through the estate, may increase the likelihood that commuters will choose to take the bus to work. Commuters also seemed to be concerned with improvement in the safety of bus stops in the area. Bus stops are not well lit at night and pose a safety issue to anyone deciding to use the bus. In order for the current bus system to be considered usable, pedestrian roadway in and out of the estate must be made safer and more convenient. Pedestrians are less likely to use the bus stop if the walk to the stop is hazardous.

## **Long Term Solutions**

Long term solutions require the most planning for the Borough to implement. The feasibility of many of these solutions is unclear but they are alternatives that may be considered. Many of these solutions would be very costly and time consuming to the Borough making them a low priority. With proper planning and budgeting these solutions can be worthwhile solutions in the long run. These solutions include:

### Access

There is a problem with access roads in the Willow Lane Industrial Estate. The roads leading into and out of the Estate are low in number. There are not enough roadways during peak hours of usage for lorries and some cars that deem it necessary to enter or leave. One way to fix this problem is to provide better access roads in and out of the Estate. Another way to fix this problem would be to build wider roadways for two-way traffic.

Pedestrian access to the estate is poor, deterring pedestrians from walking into the estate. Sidewalks within the Estate do not exist along every street. Pedestrian routes on the north side of Willow Lane are non-existent. Currently there is one pedestrian access road in this area of estate, with very poor lighting. This creates a safety issue at night. To enhance pedestrian access on the Willow Lane Industrial Estate, an audit of pedestrian lighting on the estate could be done. This audit would allow Transport Planning to find areas that may need improvement.

Junction improvements to the estate will also help with access. Improvements to junctions in the estate such as traffic lights or roadway signs could resolve some of the current traffic congestion issues in the estate. These junction improvements would

help to control the flow of traffic potentially making travel in and out of the estate more feasible.

### Tramstops

The Mitcham Junction tramstop on the Croydon Tramlink System needs review. The employers and employees of the Willow Lane Industrial Estate desire added safety measures. The safety at the stop is lacking according to the employers, employees, and visitors surveyed. The main concern about the Mitcham Junction tramstop is its lighting and location. The employers, employees, and visitors say that it is not possible to walk to the tramstop at night due to safety reasons.

Another reason for a stop within the Estate is for the people who cannot walk far to the tramstop during the winter months or the late at night. One response to the unwillingness to use the Mitcham Junction stop is to introduce the proposed Wandle Way tramstop. The Wandle Way tramstop could be designed with added safety in mind. The stop can include such things as adequate lighting and a CCTV camera to introduce forms of safety for commuters. If the commuters feel safe while using public transport then they would more likely to use it. The Wandle Way stop could also improve commuting patterns during peaks hours of commuting. The Wandle Way project is a large one, and would require significant investment to be implemented. To justify the building of this tramstop the number of commuters who would use it must make up for the time delay of adding a new stop on the line. The analysis of our results showed that 95 percent of commuters felt that the Wandle Way stop was needed. However, only 63 percent said they would use it. The Wandle Way stop is a project that may need further study to assess its cost and.

Not all of these recommendations encourage the opportunity for commuters to change their mode of transport from the private car to public transport. Some of these suggestions come from environmental concerns that commuters addressed in our surveys.

### **6.3 Conclusions**

For Green Transport to be implemented and work properly, there has to be an effort on the parts of the employers and the London Borough of Merton. Neither of these parties can rely solely on the efforts of the other to implement Green Transport Plans. The impression that we received from surveying employers and the information available from the London Borough of Merton was that each side felt the responsibility rested primarily with the other party. Employers recommendations were focused around what the Borough could do to improve transport to the Willow Lane Estate. The Borough was concerned with what employers were willing to do for Green Transport. Our recommendations evaluated both parties' involvement in Green Transport.

Employers can begin to build a partnership with the Transport Planning section of the London Borough of Merton. A developed partnership can result in pooled resources that allow both sides to take a stronger approach to implementing Green Transport. This is similar to what the Tri-Met Organisation has done in the United States. They have offered help to employers in the area with employer transport programs, essentially guiding them through the process. The partnerships they have developed have allowed for companies to develop strong Green Transport Plans that meet many of the same needs envisioned by the London Borough of Merton.

**What Have We Learned from the IQP**

This IQP has given us the opportunity to become very knowledgeable about Green Transport Plans. From the very beginning, while composing our Literature Review, we were able to become very familiar with the various aspects of transport planning and Green Transport. During this IQP, we have also had the opportunity to relay the information we have learned about Green Transport to employers and employees through the surveys we administered. This allowed us to become better at interacting with professionals on a day to day basis while at the same time fulfilling the social aspect of the IQP.

**Future Studies**

This IQP was a starting point for implementing Green Transport Plan in the Willow Lane Industrial Estate. From the recommendations that we have made more can be done to try to implement these plans. We have learned from the study that employers generally know little about Green Transport Plans. The next step is to inform employers about Green Transport. We have already begun to do this by providing Green Transport Information Packs. Before any steps to implement some form of Green Transport Plans, employers need to be educated about what is a Green Transport Plan. This is one aspect of the project we were unable to complete in the seven-week period. Our study presented employers with the important points of Green Transport Plans as well as provided information to approximately twelve employers that were interested.

In the time available we were only able to survey a small percentage of the 133 businesses on the Willow Lane Industrial Estate. Perhaps this study could

continue to survey the rest of the estate. This would aid in getting the entire estate involved in Green Transport.

If any of the above recommendations can in fact be put into effect, a follow up study could be done to evaluate the success of these recommendations, and to see what further aspects of Green Transport could be implemented elsewhere as a result of the success of a future Willow Lane Industrial Green Transport Plan.



**TRANSPORT PLANNING**

«First\_Name» «Surname»

«Position»

«Company\_Name»

«Address\_1»

«Post\_Town» «Postcode»

Date: May 2000

**To Employers on Willow Lane Industrial Estate****Dear «Contact\_Title» «Surname»:**

We are keen to assess employer awareness and interest in Green Transport Plans and to identify employee travel patterns to the Willow Lane Industrial Estate. We are seeking your cooperation in a study of Green Transport Plans which we believe will benefit business in your area.

We are students at Worcester Polytechnic Institute in America working in conjunction with the London Borough of Merton Transport Planning Section, the Business and Environmental Partnerships Unit and the Merton Chamber of Commerce.

What is a Green Transport Plan?

A Green Transport Plan is a package of measures adopted by a company or other organisation to manage the travel needs of their employees. Employers have found they can reduce the impact of their operations on the environment, reduce costs and increase productivity by encouraging their employees to use alternatives to the car such as public transport, cycling and walking. Green Transport can involve setting up partnerships with other authorities, for example, with the public transport operators.

Benefits of Green Transport Plans

Employers are likely to reap many financial rewards from a Green Transport Plan. These could include for example reduced costs associated with company cars, car park provision and business mileage costs. Employers can also maximize their operations by using land for business purposes rather than car parking. Implementing Green Transport could make work sites less congested and more accessible. This enables deliveries and essential car users to move more freely.

Employees have been found to experience higher levels of satisfaction and productivity from the implementation of Green Transport Plans as published by the Department of the Environment, Transport, and the Regions. Staff arrive on time and with less stress.

These plans introduce employees to greener means of transport, such as cycling, walking, and public transport. Access to public transport is improved offering more choices to employees. This benefits employees by allowing them save money through relaxed commuting environments.

Implementing Green Transport Plans also improves conditions in Merton and the surrounding area. Green Transport improves environmental conditions such as air quality. Reduced dependence on private cars would lead to fewer traffic jams and better traffic conditions throughout the Borough, for easier commuting, servicing, and business travel.

#### Our Request

We would like the opportunity to speak briefly with you about green transport and to your employees about their travel patterns. We will be conducting surveys during the period 21 May to 9 June. The results of our study will help to provide evidence of improvements in planning to the transport in Merton. The overall results for your company will be treated in the strictest confidence and can be made available to you free of charge.

To establish your interest in participating in this survey we will contact you between the dates mentioned. If in the meantime you would like to receive a Green Transport Information Pack we can be contacted by telephone at 020 85453063. We look forward to speaking with you and thank you in anticipation for your cooperation.

Yours Sincerely,

Jeff Cleary, Jason Reposa, Rohit Goyal

International and Global Studies Division  
Worcester Polytechnic Institute

**TRANSPORT PLANNING**

«First\_Name» «Surname»  
«Position»  
«Company\_Name»  
«Address\_1»  
«Post\_Town» «Postcode»

London Borough of Merton  
Merton Civic Centre  
London Road  
Morden, Surrey SM4 5DX  
DX 41650 Morden  
*Direct Line: 020 85453063*

6 June, 2000

**Dear «Contact\_Title» «Surname»:**

We would like to thank you for taking the time to meet with us. You and your employees were very accommodating in filling out our surveys. Enclosed is an Information Packet on Green Transport Plans. If you have any questions regarding our study or Green Transport Plans please do not hesitate to call us.

Yours Sincerely,

Jeff Cleary, Jason Reposa, Rohit Goyal

International and Global Studies Division  
Worcester Polytechnic Institute

**TRANSPORT PLANNING**

«First\_Name» «Surname»  
«Position»  
«Company\_Name»  
«Address\_1»  
«Address\_2»  
«Post\_Town» «Postcode»

London Borough of Merton  
Merton Civic Centre  
London Road  
Morden, Surrey SM4 5DX  
DX 41650 Morden  
*Direct Line: 020 85453063*

8 June, 2000

**Dear «Contact\_Title» «Surname»:**

Thank you for expressing interest in Green Transport Plans. Enclosed is the Information Pack you have requested. If you have any questions regarding our study or Green Transport Plans please do not hesitate to call us at 020 85453063.

Yours Sincerely,

Jeff Cleary, Jason Reposa, Rohit Goyal

International and Global Studies Division  
Worcester Polytechnic Institute

## Willow Lane Industrial Estate Employer Transport Survey

**CONFIDENTIAL****Introduction**

We are students at of Worcester Polytechnic Institute in America working with the London Borough of Merton Transport Planning Section. Part of our study includes assessing employer awareness and interest in Green Transport in the Borough. We would appreciate you taking time to complete the survey. We ensure that all answers are confidential and will be used for purposes of our research only.

**1. Company details**

1a. What is the name of the Company being interviewed? \_\_\_\_\_

**2. Green Transport**

2a. How knowledgeable are you about Green Transport Plans?

1                      2                      3                      4                      5  
Do not know                      Very  
Anything                      Knowledgeable

2b. What advantages of implementing a Green Transport Plan are you aware of?

- |  |  |
|--|--|
| <input type="checkbox"/> Less space dedicated to parking | <input type="checkbox"/> Space on site can be maximised for business use |
| <input type="checkbox"/> Less pollution                  | <input type="checkbox"/> Less congestion                                 |
| <input type="checkbox"/> Reduced vehicle costs           | <input type="checkbox"/> Easier for Servicing                            |

2c. If you have heard of Green Transport Plans, where did you hear about it?

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Newspaper          | <input type="checkbox"/> Internet            | <input type="checkbox"/> Brochure        |
| <input type="checkbox"/> Television/Radio   | <input type="checkbox"/> School/Town Meeting | <input type="checkbox"/> Local Authority |
| <input type="checkbox"/> Central Government | <input type="checkbox"/> Friend              | <input type="checkbox"/> Mail            |
| <input type="checkbox"/> Other _____        |  |  |

2d. Who do you feel is responsible for implementing Green Transport Plans?

- |  |  |
|--|--|
| <input type="checkbox"/> National Government | <input type="checkbox"/> Non-Government Agencies |
| <input type="checkbox"/> Local Government    | <input type="checkbox"/> Individual Citizens     |
| <input type="checkbox"/> Employers           |  |

2e. Have you as an employer considered a Green Transport Plan?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

2f. Would you be willing to implement a Green Transport Plan?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

2g. Would you like to be involved in making suggestions about restructuring public transport services, cycle lanes, and footways in and around the Willow Lane Industrial Estate?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

2h. How many visitors do you have per day and what businesses do they come from?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2i. What are the peak hours for visitors to arrive at the site? \_\_\_\_\_

**3. Private Car Travel Measures**

3a. Would you be willing to participate in a car pool system?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

3b. Does your company operate many company vehicles?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

3c. How many company cars are in your business? \_\_\_\_\_

## 4. Future Travel

4a. Does the company have secure cycle parking facilities and showering facilities?

- ☐ Yes ☐ No

4b. How concerned are you with traffic pollution?

0 1 2 3 4 5  
Not at all Very concerned

4c. Could your business be organised such that?

- ☐ Some employees could work at home ☐ More flexible hours could be introduced  
☐ Technology (telecommunications) could reduce travel requirements

4d. How concerned are you with traffic congestion?

0 1 2 3 4 5  
Not at all Very concerned

The Croydon Tramlink System is a network of trains that run by the Willow Lane Industrial Estate. Currently, there are tramstops on the Croydon Tramlink that are within walking distance of the Industrial Estate. However, the Wandle Way tramstop is a proposed tramstop on the Croydon Tramlink that would be located at the northern most point within the Willow Lane Industrial Estate.

4e. Do you think the Wandle Way tramstop is needed?

- ☐ Yes ☐ No

4f. Would you be willing to use the Wandle Way tramstop, if it was built?

- ☐ Yes ☐ No

Why or why not?

---

---

---

4g. Would you be willing to use the Croydon Tramlink System, if the Wandle Way tramstop was not in place?

- ☐ Yes ☐ No

## 5. Personal Details

5a. Are you Male or Female?

- ☐ Male ☐ Female

5b. What is your home postal code? \_\_\_\_\_

5c. What is your age?

- ☐ <20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51+

## 6. General

6a. Do you have any additional comments about access arrangements to this site or transport in the area?

---

---

---

6b. Would you like to receive an information packet about Green Transport?

- ☐ Yes ☐ No

*Thank you for completing this survey. Again we assure you that all your answers are confidential.*

## Willow Lane Industrial Estate Employee Transport Survey

**CONFIDENTIAL****Introduction**

We are students of Worcester Polytechnic Institute in America working with the London Borough of Merton Transport Planning Section conducting a study on Green Transport in Willow Lane Industrial Estate. Part of our study includes surveying the existing travel needs and methods of transport of employees to the estate. We would appreciate you taking time to complete the survey. We ensure that all answers are confidential and will be used for purposes of our research only.

**1. Work Patterns**

- 1a. What time do you arrive at work? \_\_\_\_\_
- 1b. What time do you leave work? \_\_\_\_\_
- 1c. What distance must you travel to commute to work? (one-way, by all means of transport)
- ☐ Up to 2 miles   ☐ 2-5 miles   ☐ 6-10 miles   ☐ 11-20 miles   ☐ More than 20 miles
- 1d. How long does it usually take to commute to work? (from leaving home)
- ☐ 0-15 minutes   ☐ 16-30 minutes   ☐ 31-60 minutes   ☐ 61-90 minutes   ☐ More than 90 minutes
- 1e. What is your work site address and postal code?

---



---



---



---

**2. Travel Patterns**

- 2a. Which modes of transport do you use most frequently for commuting to and from work? (Check all that apply)
- ☐ Private Car   ☐ Car Pool   ☐ Train/Tube   ☐ Bus   ☐ Walk   ☐ Cycle
- ☐ Other \_\_\_\_\_
- 2b. What modes of transport are available to you?
- ☐ Private Car   ☐ Car Pool   ☐ Train/Tube   ☐ Bus   ☐ Walk   ☐ Cycle
- ☐ Other \_\_\_\_\_
- 2c. What modes of transport do you feel need improvement in Merton?
- ☐ Private Car   ☐ Car Pool   ☐ Train/Tube   ☐ Bus   ☐ Walk   ☐ Cycle
- ☐ Other \_\_\_\_\_
- 2d. What improvements would you suggest for these modes of transport?  
(e.g. cleanliness, availability, dependability, and convenience)

---



---



---

- 2e. If you use a private car to commute to work, why do you choose this method?
- ☐ Convenience   ☐ Health reasons   ☐ Lack of alternative   ☐ Schedule
- ☐ Needed to perform job   ☐ Public transport costly or unreliable
- ☐ Other \_\_\_\_\_

If you use a private car to commute to work please answer question 3; otherwise skip to question 4.

**3. Private Car Travel Measures**

- 3a. How many cars are in your household? \_\_\_\_\_
- 3b. Do you frequently use your car during office hours for business purposes?
- ☐ Yes   ☐ No

## Appendix E –Employee Survey

E-108

3c. Do you own or have use of a company car?

- ☐ Yes ☐ No

3d. Where do you normally park?

- ☐ On the street ☐ At the worksite car park

3e. Would you be willing to participate in a car pool?

- ☐ Yes ☐ No

3f. What might encourage you to change to public transport, cycling or walking?

- |   |  |
|---|--|
| <input type="checkbox"/> More/improved cycle parking                                    | <input type="checkbox"/> More/improved cycle routes                        |
| <input type="checkbox"/> New/improved changing/showering facilities                     | <input type="checkbox"/> Access to pool car for work related journeys      |
| <input type="checkbox"/> Provisions of safer routes/crossing facilities for pedestrians | <input type="checkbox"/> Discount rail season tickets/bus travel cards etc |
| <input type="checkbox"/> Improved information on public transport services              | <input type="checkbox"/> Improved security/comfort on public transport     |
| <input type="checkbox"/> Increased frequency of public transport services               | <input type="checkbox"/> Loss of free on-street parking                    |
| <input type="checkbox"/> Increase in car parking charges                                | <input type="checkbox"/> Nothing   |

☐ Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 4. Future Travel

4a. How concerned are you with traffic pollution?

1            2            3            4            5  
Not at all                      Very concerned

4b. How concerned are you with traffic congestion?

1            2            3            4            5  
Not at all                      Very concerned

The Croydon Tramlink System is a network of trains that run by the Willow Lane Industrial Estate. Currently, there are tramstops on the Croydon Tramlink that are within walking distance of the Industrial Estate. However, the Wandle Way tramstop is a proposed tramstop on the Croydon Tramlink that would be located at the northern most point within the Willow Lane Industrial Estate.

4c. Do you think the Wandle Way tramstop is needed?

- ☐ Yes ☐ No

4d. Would you be willing to use the Wandle Way tramstop, if it was built?

- ☐ Yes ☐ No

Why or why not?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4e. Would you be willing to use the Croydon Tramlink System, if the Wandle Way tramstop was not in place?

- ☐ Yes ☐ No

### 5. Personal details

5a. What is your home postal code? \_\_\_\_\_

5b. Are you Male or Female?

- ☐ Male ☐ Female

5c. What is your age in years?

- ☐ <20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51+

5d. Do you work full time?

- ☐ Yes ☐ No

5e. How many hours per week do you work? \_\_\_\_\_

5f. Are you on flexi time? (if unsure tick No)

- ☐ Yes ☐ No

5g. Do you have any additional comments about access arrangements to this site or transport in the area generally?

\_\_\_\_\_  
\_\_\_\_\_



*Thank you for completing this survey. Again we assure you that all your answers are confidential.*

# Appendix F – Visitor Survey

## Willow Lane Industrial Estate Visitor Transport Survey

F-110

CONFIDENTIAL

### Introduction

We are students of Worcester Polytechnic Institute in America working with the London Borough of Merton Transport Planning Section conducting a study on Green Transport in Willow Lane Industrial Estate. Part of our study includes surveying the existing travel needs and methods of transport of visitors to the estate. We would appreciate you taking time to complete the survey. We ensure that all answers are confidential and will be used for purposes of our research only.

#### 1. Work Patterns

- 1a. What was your arrival time at the Willow Lane Industrial Estate? \_\_\_\_\_
- 1b. What time do you plan to depart from the estate? \_\_\_\_\_
- 1c. How often do you do you travel to the estate?
- |                                       |   |                                      |  |
|---------------------------------------|---|--------------------------------------|--|
| <input type="checkbox"/> Once a day   | <input type="checkbox"/> Several a week | <input type="checkbox"/> Once a week | <input type="checkbox"/> Several a month             |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Several a year | <input type="checkbox"/> Once a year | <input type="checkbox"/> Less often than once a year |
- 1d. What distance did you travel to the estate? (one-way, by all means of transport)
- |  |                                    |                                     |                                      |   |
|--|------------------------------------|-------------------------------------|--------------------------------------|---|
| <input type="checkbox"/> Up to 2 miles | <input type="checkbox"/> 2-5 miles | <input type="checkbox"/> 6-10 miles | <input type="checkbox"/> 11-20 miles | <input type="checkbox"/> More than 20 miles |
|--|------------------------------------|-------------------------------------|--------------------------------------|---|
- 1e. How long did the trip to the estate take? (from leaving your previous destination)
- |                                       |  |  |  |   |
|---------------------------------------|--|--|--|---|
| <input type="checkbox"/> 0-15 minutes | <input type="checkbox"/> 16-30 minutes | <input type="checkbox"/> 31-60 minutes | <input type="checkbox"/> 61-90 minutes | <input type="checkbox"/> More than 90 minutes |
|---------------------------------------|--|--|--|---|
- 1f. What is the postal code of your journey start point? \_\_\_\_\_
- 1g. What is your work site address and postal code (if different from above)?

---

---

---

---

#### 2. Travel Patterns

- 2a. Which modes of transport do you use most frequently for commuting to and from the Willow Lane Industrial Estate? (Check all that apply)
- |                                      |                                   |                                     |                              |                               |                                |
|--------------------------------------|-----------------------------------|-------------------------------------|------------------------------|-------------------------------|--------------------------------|
| <input type="checkbox"/> Private Car | <input type="checkbox"/> Car Pool | <input type="checkbox"/> Train/Tube | <input type="checkbox"/> Bus | <input type="checkbox"/> Walk | <input type="checkbox"/> Cycle |
| <input type="checkbox"/> Other _____ |                                   |                                     |                              |                               |                                |
- 2b. What modes of transport are available to you?
- |                                      |                                   |                                     |                              |                               |                                |
|--------------------------------------|-----------------------------------|-------------------------------------|------------------------------|-------------------------------|--------------------------------|
| <input type="checkbox"/> Private Car | <input type="checkbox"/> Car Pool | <input type="checkbox"/> Train/Tube | <input type="checkbox"/> Bus | <input type="checkbox"/> Walk | <input type="checkbox"/> Cycle |
| <input type="checkbox"/> Other _____ |                                   |                                     |                              |                               |                                |
- 2c. What modes of transport do you feel need improvement in the London Borough of Merton?
- |                                      |                                   |                                     |                              |                               |                                |
|--------------------------------------|-----------------------------------|-------------------------------------|------------------------------|-------------------------------|--------------------------------|
| <input type="checkbox"/> Private Car | <input type="checkbox"/> Car Pool | <input type="checkbox"/> Train/Tube | <input type="checkbox"/> Bus | <input type="checkbox"/> Walk | <input type="checkbox"/> Cycle |
| <input type="checkbox"/> Other _____ |                                   |                                     |                              |                               |                                |
- 2d. What improvements would you suggest for these modes of transport?  
(e.g. cleanliness, availability, dependability, and convenience)
- 
- 
- 
- 2e. If you use a private car to travel to the estate, why do you choose this method?
- |  |  |  |                                   |
|--|--|--|-----------------------------------|
| <input type="checkbox"/> Convenience           | <input type="checkbox"/> Health reasons                        | <input type="checkbox"/> Lack of alternative | <input type="checkbox"/> Schedule |
| <input type="checkbox"/> Needed to perform job | <input type="checkbox"/> Public transport costly or unreliable |  |                                   |
| <input type="checkbox"/> Other _____           |  |  |                                   |

If you use a private car to commute to this work site please answer question 3; otherwise skip to question 4.

#### 3. Private Car Travel Measures

- 3a. How many (approximately) company cars/vehicles does your company have? \_\_\_\_\_

## Appendix F – Visitor Survey

F-111

3b. Do you frequently use your car during office hours for business purposes?

☐ Yes ☐ No

3c. Did you use a company car to get to the Willow Lane Industrial Estate?

☐ Yes ☐ No

3d. Where did you park?

☐ On the street ☐ At the worksite car park

3e. Would you be willing to participate in a car pool?

☐ Yes ☐ No

3f. What might encourage you to change to public transport, cycling or walking?

- |   |  |
|---|--|
| <input type="checkbox"/> More/improved cycle parking                                    | <input type="checkbox"/> More/improved cycle routes                        |
| <input type="checkbox"/> New/improved changing/showering facilities                     | <input type="checkbox"/> Access to pool car for work related journeys      |
| <input type="checkbox"/> Provisions of safer routes/crossing facilities for pedestrians | <input type="checkbox"/> Discount rail season tickets/bus travel cards etc |
| <input type="checkbox"/> Improved information on public transport services              | <input type="checkbox"/> Improved security/comfort on public transport     |
| <input type="checkbox"/> Increased frequency of public transport services               | <input type="checkbox"/> Loss of free on-street parking                    |
| <input type="checkbox"/> Increase in car parking charges                                | <input type="checkbox"/> Nothing   |

☐ Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 4. Future Travel

4a. How concerned are you with traffic pollution?

1      2      3      4      5  
Not at all      Very concerned

4b. How concerned are you with traffic congestion?

1      2      3      4      5  
Not at all      Very concerned

The Croydon Tramlink System is a network of trains that run by the Willow Lane Industrial Estate. Currently, there are tramstops on the Croydon Tramlink that are within walking distance of the Industrial Estate. However, the Wandle Way tramstop is a proposed tramstop on the Croydon Tramlink that would be located at the northern most point within the Willow Lane Industrial Estate.

4c. Do you think the Wandle Way tramstop is needed?

☐ Yes ☐ No

4d. Would you be willing to use the Wandle Way tramstop, if it was built?

☐ Yes ☐ No

Why or why not?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4e. Would you be willing to use the Croydon Tramlink System, if the Wandle Way tramstop was not in place?

☐ Yes ☐ No

### 5. Personal details

5a. Are you Male or Female?

☐ Male ☐ Female

5b. What is your age in years?

☐ <20 ☐ 21-30 ☐ 31-40 ☐ 41-50 ☐ 51+

5c. Do you work full time?

☐ Yes ☐ No

5d. How many hours per week do you work? \_\_\_\_\_

5e. Are you on flexi time? (if unsure tick No)

☐ Yes ☐ No

5f. Do you have any additional comments about access arrangements to this site or transport in the area generally?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Thank you for completing this survey. Again we assure you that all your answers are confidential.*

**London Borough of Merton**  
*Working in Partnership with Local Businesses*

# **Company Transport Plans**

***Recommendations to Local Employers***

**1999/2000**

**Why have you been sent this document?**

Company Transport Plans demonstrate how individual organisations can review their transport practice to the benefit of the company, its employees and the area in which they operate. The adoption of these Plans is being encouraged by central Government.

**What does it set out?**

It sets out exactly what individual organisations can do to manage the travel needs of their employees and what the benefits are, including the financial ones. Examples of good practice have been included and advice on who can help achieve the aims.

**What is the Council doing?**

The London Borough of Merton wishes to lead by example. Some of the measures currently being progressed or already introduced by this local authority are detailed below:

- 1) **Cycling** - Merton Council has provided secure cycle parking facilities immediately adjacent to their main offices and pool bicycles have been purchased and made available to staff wishing to use them for business purposes. New changing and showering facilities have been installed for staff use. To serve the needs of all cyclists travelling through Merton a comprehensive Network of Cycle Routes is being progressed along with secure cycle parking facilities at key destinations such as in the town centres and at railway stations.
- 2) **Public Transport** - The London Borough of Merton has, for some time, offered special loans for the purchase of season tickets giving encouragement to employees to commute to work by public transport. Additionally, a borough-wide bus priority network is being progressed with the objective of freeing bus operations from the impact of traffic congestion and improving journey times.
- 3) **Use of Cars** - The Council has reviewed the allocation of car allowances and withdrawn the lease cars provided to many staff in favour of encouraging the use of public transport, cycling and walking. Additionally, staff parking at the main Civic Centre offices is being reassessed and spaces are being allocated primarily to those officers who need to use their cars on a regular basis in order to go about their duties.
- 4) **Company Vehicles** - The London Borough of Merton has acquired a number of gas powered vehicles ranging from light vans to refuse vehicles which have been included in the Council's fleet of vehicles and a gas refueling station has been installed at the Council's Depot. Once the running costs have been established, then the Council will be able to advise other organisations regarding their choice of vehicles. The Council is also currently looking at other sites in Merton to make a gas refueling station publically available.

**How can the Council help further?**

The Council is looking to work in partnership with the local community and to provide guidance to individual companies and organisations wherever possible. The following officers may be contacted during office hours for informal advice:

- |                   |                              |                    |
|-------------------|------------------------------|--------------------|
| 1) Nick Greenwood | - Transport Planning Section | tel. 020 8545 3058 |
| 2) Pete Thomas    | - Transport Planning Section | tel. 020 8545 3192 |

## CONTENTS

### 1) Introduction

- Background
- What is a Green Travel/Company Transport Plan?
- Who will Benefit?

### 2) Council Policy

- Government Policy
- Local Agenda 21
- Transport Policy in Merton

### 3) Implementing a Company Transport Plan

- Implementing a Company Transport Plan
- Targets
- Study of Staff Travel

### 4) Staff Parking

- Management of Company Parking
- Council Policy and Parking Standards
- What is the Council Doing?

### 5) Use of Cars for Work

- Car Sharing
- Pool Vehicles
- Vehicle and Fuel Choice
- Driver Training and Vehicle Maintenance
- Car Allowances
- What is the Council Doing?

### 6) Cycling

- Loans/Allowances for Cyclists
- Secure Parking
- How Much Parking should I provide?
- Changing Facilities
- Pool Bikes
- Safety
- What is the Council Doing?

### 7) Public Transport

- Use of Public Transport
- Season Ticket Loans and Travelcards
- Information
- Park and Ride Schemes
- What is the Council Doing?

**8) Alternative Approaches**

- Working from Home
- Flexible Working Hours
- New Employees/Assistance with Relocation

**9) Targets**

- Targets for Transport in Merton
- Targets for Merton's Company Transport Plan



## 1) Introduction

### Background

There is increasing concern about the environmental consequences of the demands for travel. The Government and Local Authorities are recognising the need to reduce the reliance on the private car, encourage alternative modes of travel and generally reduce the need to travel.

The London Borough of Merton is particularly keen to progress these ideas and bring about real improvements in the borough. The Council already has a number of proposals which attempt to ensure that these changes are brought about including a new Light Rail system linking Wimbledon to Croydon, a comprehensive borough-wide Network of Cycle Routes and measures to give priority to buses, calm traffic and make conditions for pedestrians safer.

Company Transport Plans, whose production has been recommended by the Government, are designed to help individual organisations manage their own transport needs with the above objectives in mind. They will hopefully give that vital, final encouragement to individuals to take note of the impact that transport is having on the environment and do something about it. They also form an important element of the Council's Transport Policies and Strategy.

### What is a Company Transport Plan?

A Company Transport Plan is a package of measures adopted by a Company or other organisation to manage the travel needs of their employees. Employers can reduce the impact of their operations on the environment by encouraging their employees to use an alternative to the private car such as public transport, cycling and walking.

A Company Transport Plan will ideally include targets and actions to reduce car use specific to the needs of the individual employer and its employees. This can involve the setting up of partnerships and agreements with other authorities, for example, with the public transport operators.

### Who will Benefit?

There are a range of benefits to be gained from adopting a Company Transport Plan both for the individual organisation and for Merton Borough as a whole. For each company significant financial savings could be made and a reduction in the amount of space required for car parking may release land for other uses. The encouragement of cycling and walking can help improve the health and alertness of employees, reduce stress and improve motivation.

For Merton, there is the prospect of cleaner air, fewer traffic jams and fewer parking problems. The general health of the local people may be improved over a period of time as they breathe cleaner air and suffer fewer accidents.

## 2) Council and Government Policy

### Government Policy

Government transport and planning policy is giving increasing recognition to sustainability objectives, in particular following on from the Earth Summit of 1992. A range of policy documents and statements have recently been produced including the Government's Strategy for Sustainable Development and a Transport Strategy for London. Investment is now strongly reflecting these new priorities.

### Local Agenda 21

Merton Council has been developing its own Local Agenda 21 Plan in partnership with the local community. Merton is concerned with preserving the environment and ensuring that we develop ways of living that meet our present needs but don't compromise the ability of future generations to meet theirs.

The Council has therefore developed a number of indicators to assess the present state of the community, whether it is sustainable and whether things are getting better or worse. One of the indicators being developed and measured is the proportion of journey to work trips made by car in Merton. Targets are currently being set for a reduction in the number of these trips.

### Transport Policy in Merton

Merton Council believes that public transport offers the best way to move the majority of people around the Borough, particularly for journeys to work. The Council has carried out a review of its movement policies with the objective of achieving an improved transport system for the Borough. Transport Strategies are being pursued which:

- \* enhance accessibility to jobs and other key activities
- \* increase public transport provision
- \* improve road safety
- \* enhance facilities for pedestrians and cyclists
- \* control and direct freight movement to appropriate routes
- \* promote revisions to basic parking provisions
- \* regulate traffic growth and emphasise alternative transport modes
- \* reduce the impact of traffic by traffic management and calming
- \* support economic regeneration and account for the needs of local businesses
- \* be based on preserving the environment.

Overall, the Council's policies and strategies are giving greater support to public transport and non-motorised modes of travel such as cycling and walking. The Council is progressing schemes which address local difficulties and enhance the environment.

### **3) Implementing a Company Transport Plan**

#### **Implementing a Company Transport Plan**

Company Transport Plans will take time to implement, possibly several years, depending on the size and nature of the company. They may have to be modified and further developed as the needs of the company and its employees change over a period of time.

The concepts of the Plan should be fully explained to all employees who are likely to be affected and a reasonable amount of time allowed for the changes to be made. It will be important to explain the overall aims and objectives, particularly the benefits, and gain the support of the staff at an early stage otherwise the Plan may be viewed by some as an erosion of the current conditions of work.

It is good practice to appoint a specific member of staff with responsibility for progressing and monitoring the Plan over a period of time. The active involvement of senior staff taking a leading role will promote greater enthusiasm amongst the workforce. The Plan should ideally be incorporated into the corporate aims and objectives of the company.

#### **Targets**

Employers are encouraged to set individual targets or a range of targets in relation to the transport requirements of their staff, for example, to cut car commuting journeys by a certain percentage over a specified period of time.

The most positive approach to adopt may be to set specific targets for increasing the use of public transport and non-motorised forms of travel. For example, the London Borough of Merton have set a general target of ensuring that cycle use accounts for 10% of all journeys in Merton by the year 2005. The implementation of the Council's Company Transport Plan will hopefully encourage 10% of its employees to travel to the workplace by bicycle.

#### **Study of Staff Travel**

The existing methods of travel by staff and the general transport needs of the company will require assessment before targets can be accurately set or a Plan can be implemented.

Ideally a database should be set up containing basic information about journeys to the workplace and work-related trips. This should include details of start points for all journeys to work, what modes of transport are utilised and overall journey length and time. Employees should be asked why they use a particular form of transport and if they use a car what might persuade them to travel by public transport or a non-motorised mode of travel. For example, would secure cycle parking at the workplace encourage them to cycle to work or would they travel by public transport on a regular basis if they were offered a discount rail season ticket or travelcard.

A sample survey form to determine staff travel patterns is attached at the back of this document. Companies may find this a useful basis for devising their own questionnaires.

**4) Staff Parking****Management of Company Parking**

The efficient management of parking spaces for both cars and cycles is one of the most effective ways of controlling the number of motorised journeys to and from the workplace and encouraging alternative means of travel which have less environmental impact.

There should be a representative from each company who is responsible for the management and allocation of company parking spaces. This person will have some control and say over who uses the spaces and be aware of the costs associated with maintaining them.

Spaces should be allocated to those who genuinely need to use their car in order to go about their day to day duties. This may include, for example, employees who need to carry bulky equipment from one location to another on a regular basis or people who have to make journeys to remote locations or those which are inaccessible by public transport. Priority should also be given to people with disabilities as the car may be their only form of transport.

The costs associated with the upkeep of the parking spaces should be allocated to individual Sections or Departments. By doing this, senior officers and managers will be able to make clearer decisions about whether the spaces are really needed or if the money should be invested in a different way.

It is, of course, also important to ensure that only authorised users can gain access to these spaces. Automatic systems, such as barriers, which are activated by a card or similar device are usually the most effective because only the card holder will be able to gain access. Manual systems are more likely to be open to abuse.

**Council Policy and Parking Standards**

In accordance with latest Government Guidance, the Council's parking policies and standards in Merton seek to limit car use and encourage alternative modes of travel. Parking standards for businesses are now related to the quality of public transport and the extent of on-street parking controls. The Council actively encourages developments in areas well served by public transport.

The Council is also preparing and implementing schemes throughout the borough to control on-street parking, particularly where commuter parking impacts upon resident's parking needs and road safety.

**What is the Council Doing?**

Merton Council has recently reviewed the allocation of car parking spaces at their Civic Centre offices in Morden. Spaces will be allocated primarily to officers in receipt of an essential car user allowance who need to use their cars on a regular basis in order to go about their duties.

### **Car Sharing**

Car sharing is a way of using a car more efficiently. This is particularly true in the case of journeys to work since a large proportion of these trips are made with just one car occupant.

There is scope for employees living near to each other to share cars for journeys to work. The best way to progress this type of initiative is to set up a database of employees who wish to be included in the scheme and to divide them into groups according to the place from which they commute. This database will require regular updating.

Companies may want to consider giving incentives to their employees to car share, particularly where the individuals only need their car occasionally to go about their duties and where the individuals would otherwise bring their own cars to work every day.

### **Pool Vehicles**

Some companies may find it useful to have a pool of company vehicles. This is particularly appropriate where a number of members of the workforce need access to a car from time to time in order to go about their daily duties. There may be a need to make available a selection of different types of vehicles as appropriate.

The advantages of such a scheme are that it should remove the need to pay a large proportion of the workforce car subsidies and there will be little need to provide individuals with company cars. It will also mean that employees will not be required to bring their own cars to the workplace each day and they will therefore be free to utilise an alternative mode of transport to reach the workplace.

### **Vehicle and Fuel Choice**

The most environmentally friendly vehicles and fuel types should be chosen wherever possible. Choose the smallest vehicle and engine that is capable of performing the required tasks.

If the vehicle has a petrol engine, use unleaded petrol. All petrol engines built after 1991 can use unleaded fuel without adjustment. Older cars may require some adjustment but this is relatively simple and usually done free of charge. From 1993 all new petrol engined cars are fitted with a catalytic converter reducing harmful emissions by up to 90%.

Diesel engined vehicles emit fewer greenhouse gases and for some time diesel has been considered to be one of the most environmentally friendly fuels. However, petrol engined cars fitted with three way catalytic converters offer air quality benefits over diesel by emitting fewer nitrogen oxides and very little particulate matter.

### **Driver Training and Vehicle Maintenance**

Wherever possible training should be given to drivers, particularly in the case of individuals driving fleet vehicles on a regular basis and covering large mileages. Training is offered by some local authorities or if this facility is not available, training can

be arranged through another appropriate organisation, for example, the South of London Group of the Institute of Advanced Motorists. This Group organises very effective assessment runs on a regular basis from centres at Banstead, Mitcham, New Malden and Richmond using the individual's own car. The Advanced Motorists can be contacted on the following telephone number: 0181 777 9333. Benefits to be gained are numerous. Improved driving skills and enjoyment will lead to fewer accidents and reduced insurance premiums. Lower running costs will result from reduced fuel consumption and less wear and tear to vehicles.

Regular vehicle maintenance is an important factor in reducing pollution and will also ensure that running costs and breakdowns are kept to a minimum. Make sure that your vehicles are serviced in accordance with the manufacturer's recommendations and that weekly checks are carried out as appropriate.

### Car Subsidies

Some employees are offered assistance with the running costs associated with their vehicles. These may take the form of an allowance per business mile travelled, a lump sum payment towards the purchase of a vehicle or a low interest rate loan. Leased or company cars are also offered to some employees to carry out their duties or simply as a perk.

All of these encourage the greater use of the car and should only be offered when the availability of a vehicle is essential for the work to be carried out. Employees should consider encouraging the use of alternative modes of transport, for example, offering loans for the purchase of a bicycle or travel card.

Where employees are covering large distances in their cars, employers are encouraged to provide fuel cards and set targets for fuel consumption. Any savings made could be split between the company and the employee. Where appropriate, the public could be asked to report good/considerate driving to the company.

### What is the Council Doing?

The Council has a fleet of 204 vehicles which are based at a number of their Depots throughout the borough. These are primarily diesel powered vehicles which currently have the lowest running costs.

In December 1996 the Council installed a gas refueling station at their Garth Road Depot and has been acquiring a number of gas powered vehicles ranging from light vans to refuse vehicles. Once the running costs have been established, then the Council will be in a position to advise other companies regarding their choice of vehicles. The Council is also looking at a number of other suitable sites in Merton to make a gas refueling station publically available.

Gas powered vehicles are currently more expensive to run than the equivalent diesel powered vehicles and have similar running costs to their petrol equivalents. However, it is likely that the costs associated with gas powered vehicles will decrease relative to other vehicle types as more are produced and competition increases. Additionally, the price of the gas fuel is likely to suffer less from future tax increases which will probably affect petrol and diesel more severely.

## 6) Cycling

### Loans/Allowances for Cyclists

As stated in Section 5 of this Plan, many employees are offered assistance with the running costs of their cars. To encourage the greater use of the bicycle, employers could consider offering similar financial support to those staff who travel on a bike.

Cycle allowances should be offered for business journeys and to encourage employees to change from using their cars to cycling, the rate paid should be similar to that for car users. Loans for the purchase of cycles should ideally be offered to all employees at a low interest rate through an approved finance company.

### Secure Parking

The fear of having their bicycle stolen is a major deterrent to the cyclist. Secure cycle parking facilities at the workplace is therefore a key element in a strategy aimed at promoting further cycle use. Its absence is a definite deterrent.

Cycle parking facilities should be located as close as possible to the main building (or destination) and be easily and conveniently accessible. They should offer security against theft, be lit at night and support the cycle without damaging it. A compound with a cover is a secure option suitable for longer term parking and will provide some weather protection. If security staff or closed circuit television cameras patrol the building grounds then make sure that the cycles are in their view.

There are a large number of types of cycle parking facilities available on the market, all offering different types of design, security features and cost. The Council recommends the use of the Sheffield (toastrack) type of parking stand as the most appropriate type of rack suitable for most situations. Further details may be obtained by contacting the Environmental Services Department of the Council.

There are also several types of cycle parking facilities incorporating their own locking system, for which a key or token may be required. Whilst these offer extremely high security, they do require some degree of administration in their running and are not as readily available to all cyclists as more conventional facilities. They should really only be used in areas of high vulnerability or where the administrative problems can be easily overcome.

### How Much Cycle Parking should I provide?

The Council can advise on the appropriate number of cycle parking places that should be provided in conjunction with each individual type of development. This usually relates either to the total floor area of the development or the total number of staff and visitors to the site. However, as a general rule, 1 space per 10 members of staff or occupants is the recommended provision for most developments.

### Changing Facilities

The availability of showers or at least a place to change will be much appreciated by the cyclist, particularly those who have travelled a longer distance. They should be in a convenient, central location.

## Pool Bikes

Pool bikes can be purchased and made available to staff wishing to carry out their duties by bike instead of using their car. The provision of at least one ladies and one mens bicycle with adjustable seat and handlebars should enable their use by most staff.

It is best to appoint an individual responsible for carrying out repairs, arranging insurance, keeping a tool kit and ensuring that the bikes are kept secure and in working order etc.

## Safety

Where employers are encouraging their staff to use a bicycle, they should also be in a position to advise them on safety issues. The Highway Code provides detailed information relating to safety equipment and clothing which is summarised below:

When purchasing a new cycle it is important to choose one that is the correct size and which is comfortable to ride. Lights and reflectors should be kept clean and in good working order while tyres, brakes, gears, chain and saddle should all be properly adjusted and work correctly. Wear a cycle helmet which conforms to recognised safety standards and choose appropriate clothing which is bright in colour and will not get tangled in the chain or wheels.

Remember, cyclists must obey traffic signs and traffic light signals and cycling on the pavement is not permitted.

## What is the Council Doing?

The Council has provided secure cycle parking facilities within the grounds of its main Civic Centre offices in Morden town centre. The spaces are enclosed in a compound which can only be accessed by staff who have been issued with the appropriate permit card. This facility is immediately adjacent to the main building which is patrolled by security staff and is also overlooked by closed circuit television cameras which are monitored by the Council.

The Council's Environmental Services Department have purchased two pool bicycles which are made available to staff wishing to use them for business purposes. Additionally, showering facilities have been installed within the main Council building.

To serve the needs of all cyclists travelling through Merton and to encourage the greater use of the bicycle, a comprehensive borough-wide Network of Cycle Routes is currently being progressed in Merton along with secure cycle parking facilities at key destinations such as in the town centres and at railway stations. It is the common aim of all the 33 London Local Authorities to implement a London-wide cycle network.

In conjunction with many of the planning applications received for major new development in the borough, the Council attempts to link these sites into the main Borough Cycle Network through the extension of existing routes and the provision of new crossing facilities. The Council would welcome the opportunity to work with existing companies or other organisations in the progression of this type of initiative, finances permitting.



## Use of Public Transport

Merton Council is of the opinion that public transport offers the best way to move the majority of people around the Borough, particularly for journeys to and from the workplace. This is especially true in an urban environment such as that found in Merton where the area is generally well served by a variety of different forms of public transport.

The rail network has been developed to serve an expanding commuter demand orientated radially towards central London. The main line from Waterloo crosses the borough from Earlsfield to New Malden and there are four branches, to Tooting and Streatham, to Mitcham and West Croydon, to St. Helier and Sutton and to Motspur Park and Epsom. The London Underground Northern Line service runs through Tooting to Morden and the District Line through Putney to Wimbledon.

Accessibility to the network is generally good with few residential neighbourhoods being more than 1 kilometer (0.6 miles) from a rail station. The services to central London are frequent, particularly from Wimbledon, and the conversion of the Wimbledon - West Croydon route to light rail will increase service frequencies to the south.

Orbital and local journeys to work are best catered for by the bus services in Merton. These services are constantly being improved and updated and the Council is currently in the process of introducing a number of bus priority measures to improve bus reliability and frequency. Measures typically include the introduction of bus lanes, priority at signal junctions and control of on-street parking.

## Season Ticket Loans and Travelcards

Some employers offer loans for the purchase of season tickets on a monthly or annual basis. This encourages staff to commute to the workplace by public transport on a regular basis. Once again it should be possible to automatically deduct the cost from the employees monthly pay. If a low interest rate can be negotiated through a known financing organisation then this will give even greater encouragement to staff.

Travelcards are often found to be particularly useful since they allow travel at any time of the day and enable a variety of modes of transport to be utilised including bus, rail and underground services. They can offer substantial discounts to the regular user and could be further subsidised by the employer.

It may be possible for employers to negotiate discounts with the bus or rail companies, for example if the bulk purchase of tickets is proposed.

## Information

It is good practice for employers to make available information to their staff on public transport services in the surrounding areas. This information will be found useful both for journeys to work and for work related journeys during office hours.

Computerised systems are now available which are able to give information on the quickest routes and services and anticipated journey time between any selected start point and destination.

Many of the public transport operators provide free information to the public about their services. These are available from local bus/rail stations and are often in the form of a plan or map detailing routes and giving guidance on service frequencies and fares. They are likely to be willing to provide this type of information direct to individual employers/organisations who request it.

### **Park and Ride Schemes**

Park and ride schemes are aimed at encouraging employees to leave their cars at a selected car park(s) and to travel from that site by a reliable, dedicated bus service to the workplace. It is important to ensure that any selected car park is as safe and secure as possible.

Park and ride may, of course, also take place from any rail station, preferably as close as possible to the employees home (journey start point). Relatively cheap, long term parking is often readily available adjacent to rail or tube stations allowing employees to commute by train.

### **What is the Council Doing?**

The London Borough of Merton and a number of other local authorities have for some time offered loans for the purchase of season tickets. This is giving encouragement to staff to commute to work by public transport.

The Council is fully involved with the light rail scheme proposed between Wimbledon and West Croydon, including the promotion of extensions to serve other parts of Merton, most notably Mitcham and Colliers Wood. The Council is also pursuing an active role in discussions relating to wider public transport issues for this sector of London.

Merton recognises the importance of giving priority to buses and is currently progressing a borough-wide Bus Priority Network. The objective is to improve road safety and free bus operations from the impact of traffic congestion to achieve improved reliability and a reduction in journey times across the network. This initiative is being progressed on a London-wide basis and has been developed in liaison with the Government Office for London and the Traffic Director for London.

In association with a number of other local authorities in this sector of London and some of the key public transport operators, the Council is also actively encouraging improved strategic orbital transport on both bus and rail corridors.

### **Working from Home**

It may be possible to allow some employees to work from home either on occasional days or on a more regular basis depending on the nature of the work being carried out.

Benefits include a reduction in the number of car trips during the peak periods and a reduction in the parking requirements at the work place. There are a number of other potential savings to the company, for example, reduced overheads through the need for less office space and equipment.

It will probably be necessary to allow the employee to communicate with his/her workplace on a regular basis and this can be achieved by fax, E-mail or simply by telephone.

### **Flexible Working Hours**

There are advantages to be gained from operating flexible working hours. Employees are less likely to be delayed in peak hour traffic congestion and they can tailor their arrival and departure times to coincide with timetabled local bus, rail or underground services.

It is recommended that working hours are not made too flexible otherwise employees may choose to arrive or depart at times when there are reduced frequencies of public transport services which in turn is more likely to encourage them to use their cars.

The Council operates a flexi-time system for its staff which is considered to be an example of good practice. Core work hours are 10am - 12pm and 2pm - 4pm encouraging employees to arrive at the workplace between 8am and 10am and to depart between 4pm and 6pm when bus and train services are at their most frequent.

### **New Employees/Assistance with Relocation**

New employees should ideally receive information at an early stage from the employer detailing public transport services, availability of cycle parking etc in the area. Again, it is likely that the public transport operators will be more than happy to supply this information direct and free of charge.

Employers could offer financial incentives to employees if they choose to live in the borough or within a relatively short distance of the workplace (say 5 miles). Zones could be identified and benefits payed on a reducing scale with increased distance from the workplace.

**9) Targets****Targets for Transport in Merton**

Targets are increasingly being recognised as vital tools in securing sustainable development and achieving a more sustainable transport strategy. The need to consider setting targets locally also arises from work on Merton's Local Agenda 21 Plan. As a national pilot authority developing new sustainability indicators, Merton Council has, in partnership with the Local Community, selected some 27 local indicators of sustainability. These will form a key part of Merton's Local Agenda 21 Plan and will be used to measure changes in the quality of life and environmental carrying capacity locally.

Employers are encouraged to set individual targets or a range of targets in relation to the transport requirements of their staff, for example, to reduce the number of car commuting journeys to the workplace by a certain percentage. The most positive approach to adopt may be to set specific targets for increasing the use of public transport and non-motorised forms of travel.

**Targets for inclusion in Merton Council's Company Transport Plan:****a) Reducing the number of commuter trips to the workplace made by car**

Ensure that the proportion of staff commuter journeys made by car to the Council's main Civic Centre offices in Morden is reduced from \_\_\_% to \_\_\_% following Plan implementation.

**b) Improvements for Cyclists**

Attempt to ensure that cycle use accounts for 10% of all journeys to the Council's Civic Centre Offices.

**c) Company Vehicles**

Purchase a number of gas powered vehicles for inclusion in the Council's fleet of vehicles. When running costs have been established advice can be given to other companies concerning their choice of vehicles.

**d) Driver Training**

Offer driver training (possibly through the South London Group of Advanced Motorists) to all staff who may need to use a vehicle in carrying out their duties. Finances permitting, offer training to any other members of staff wishing to improve their driving techniques.

**e) Parking**

Undertake a full review of the basic parking provision at the Council's main offices having regard to the Council's new parking standards.

# Willow Lane Industrial Estate Businesses

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
A Larkin (Concrete) Ltd	Mitcham	Mr	Richard	Larkin	Managing Director	12.5	Pre-Cast Concrete Products
A P Rosner & Co Ltd	Mitcham	Mrs	Linda	Grieve	Office Administrator	42	Shirt & Blouse Manufacturers
Abbey Fabrications	Mitcham	Mr	David	Jones	Proprietor	4	Steel Fabrication
Abbey Surgical Ltd	Mitcham	Mr	K	Berry	Managing Director	16	Repair & Supply Surgical Equipment
Abbi Fab Services	Mitcham	Mr	N J	Gammons	Proprietor	4	Sign Makers
Abox Mitcham Ltd	Mitcham	Mr	J E	WEBBER	DIRECTOR	2	Wooden Boxes Mfrs Retail & WholeSal
Abs Litho Ltd	Mitcham	Mr	M J	Burton	Director	16	Commercial Colour Printers
Adpax Company (Battersea)	Mitcham	MRS	S L	NEAL	Company Secretary	46	Packaging
Alecto Ltd	Mitcham	Mr	Mike	Anstee	Director	2	Metals
Alex Popper Ltd	Mitcham	Mrs	Rosemary	Hawkins	Company Secretary	37	Manufacturers Of Plain & Printed Carto
Alexandra Demolition Ltd	Mitcham	Mr	Frank	Clarke	Plant Manager	5	Demolition & Plant Hire
Alpha Pneumatic Supplies Ltd	Mitcham	Mr	George	Stamatiou	Director	3	Air Compressors
Arnold & Self	Mitcham	Mr	A	SELF	SOLE TRADER	10	Removals & Storage-Domestic
ARR Incorporated (Uk) Ltd	Mitcham	MRS	AMANDA	PIKE	General Manager/Secretar	31	Aviation Maintenance
Ask Packaging Ltd	Mitcham	Mr	Allan	Parish	Manager	6	Carton Packing
Associated Motor Services	Mitcham	Mr	N	Gower	Proprietor	1.5	Mechanical Services
B Riggs Machine Tools Ltd	Mitcham	Mr	B	Riggs	Managing Director	4.5	Tool Manufacturers & Engraving Machi
B V L Scaffolding Co	Mitcham	Mr	A	Hunt	Partner	2	Scaffolding Erectors

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
Bbm Electronics Group Ltd	Mitcham	MR	D A	BINKS	Director	42.5	Manufacturers Of Radio Microphones
Better Presentation Group	Mitcham	Mrs	F M R	Kennard	Partner	5.5	Mfrs Of Business PRESENTATION Pr
Boc Gases	Mitcham	Mr	KEVIN	COYLE	MANAGER	3	Gas Suppliers & Welding Equipment
Boxall Industrial Ltd	Mitcham	Mrs	Janet	Hamilton	Director	8	Precision Engineers
Brownley Engineering	Mitcham	Mr	D J	Brown	Proprietor	1	Manufacturers Of Aircraft Galley Equip
C & C Products	Mitcham	Mr	C	Crowhurst	Proprietor	1	Bathroom Equipment Manufacturers
Carshalton Scaffolding	Mitcham	Mr	John	Engall	Director	16	Scaffolding Erectors
Charcuterie Ltd	Mitcham	MR	PAUL	COLLINS	Company Secretary	76.5	Manufacturers Of Pate
Chartway Engineers	Mitcham	Mrs	S	Smith	Director	3	Civil Engineers
Chelsea Carpets	Mitcham	Ms	E	YORK	ACCOUNTANT	8	Carpet WholeSalers
Colt Staplers	Mitcham	Mr	John	Baker	Managing Director	30	Staplers/Tackers/Staples-Package & Su
Concrete Repairs Ltd	Mitcham	Mr	Tony	Rimoldi	Managing Director	25	Civil Engineering Contracts
CRN Components	Mitcham	Mr	Mr	Nixon	Director	2	WireWorkers & Wire Weavers
Croydon Scaffolding & Cradl	Mitcham	Mr	G	Sidwell	Proprieter	16	Scaffold Erection
Cs Colour Proofing	Mitcham	Mr	S	Butler	Partner	2	Printing
Cummins Engineering Ltd	Mitcham	Mr	P J	Cummins	Managing Director	4	General Engineering
Dakota Drawing Office Servic	Mitcham	MR	MICHAEL	POTTER	DIRECTOR	18	Reprographics
Dappa M R P Flooring	Micham	Mr	Martin	Patey	Partner	13	Flooring Services
Darrens Dies	Mitcham	Mr	Darren	Bryan	Proprietor	1	Print Finishers
Deadman Waste Paper	Mitcham	Mr	ANTHONY	DEADMAN	PROPRIETOR	2	Waste Paper & Confidential Shredding
Dicker & Dunster Ltd	Mitcham	Mr	David	Dunster	Joint Managing Director	10	Litho Graphic Printers - Commercial on

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
Display Developments	Mitcham	Mr	TONY	STONEMAN	MANAGER	2	PLASTIC Sheet Sales
Djg Exhibition Freight Servic	Mitcham	Mr	Dave	Gardner	Managing Director	15	Freight Forwarding
Dorling Print Ltd	Mitcham	Mr	Eric	Johnston	Managing Director	43	Commercial Printing
Elmore Plant Services Ltd	Mitcham	Mr	John	Cooper	Depot Manager	80	Contractors, Plant Hire
Es Haverson & Son	Mitcham	Mr	BRIAN	HAVERSON	Proprietor	10	Sell & Buy Pallets
Esteban Engineering	Mitcham	Mr	J	Penalver	Proprietor	15	METAL WORKS
Farmiloe & Farmiloe (Wbs) L	Mitcham	Mr	B R	Deacon	Distribution Manager	25	Bathroom Distribution
Fas Limited	Mitcham	Mr	M K	Tomlinson	Director	30	Litho Graphic Printing
Fast Track Repairs Ltd	Mitcham	Mr	Mr.	Francis	Managing Director	18	Accident Repair Centre
Fida Engineering Ltd	Mitcham	Mrs	B	Fish	Company Secretary	4	General Engineering Fabrication
Focal Signs Ltd	Mitcham	Mr	J	Pharaoh	Office Sales Manager	53	Sign Manufacturer & Supplier
Forceadmit Services Ltd	Mitcham	Mr.	M	Tomlison	Managing Director	12	Lithographic Plate Makers
Forestdale Business Services	Mitcham	Mr	J W	Baker	Managing Director	30	WholeSaler Of Cleaning /Packaging Ma
Foundation & Building Suppl	Mitcham	Mr	J C	WALLACE	MANAGING DIRECTO	3	Building Material Suppliers
George Killoughery Ltd	Mitcham	Mr	J	Hammond	Office Manager	20	Concrete Products
Global Windows	Mitcham	MR	DAVID	WILLIAMS	DIRECTOR	11	Double Glazing Installers
Grays (Book Binders) Ltd	Mitcham	Mr	Barrie	Upton	Managing Director	12	Books Manufacturers
Gregory Demolition Ltd	Mitcham	Mr	Dean	Gregory	Managing Director	8	Mend demolition Machinery
H C Linney & Son	Mitcham	Mr	W J	Lifford	Partner	9	Manufacturers
Harverson Pallet Supplies	Mitcham	Mr	BRIAN	HARVESON	PROPRIETOR	9.5	PALLET & CASE Makers
Heritage Reclaimed Brick Co	Mitcham	Mr	Michael	Dobbs	Director	6	Reclaiming Bricks

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
Hss Hire Service Group Plc	Mitcham	Mr	P C	Jones	Group Company Secretary	170	Hire Equipment
Humphries Video Services Lt	Mitcham	Mr	David	Brown	General Manager for Sale	37.5	Video Duplicator
Hydraulic Solutions Ltd	Mitcham	Mr	D	COWPE	DIRECTOR	4.5	Hydraulic Pipes
Industrial Gas Springs Ltd	Mitcham	Mr	A J	Atkins	Company Secretary	60	SPRING Manufacturers & Suppliers
J & R Engineering	Mitcham	Mr	Richard	Hart	Partner	6	General Engineers
Jack Allen (Sales & Service L	Mitcham	Mr	Trevor	Gardner	General Manager	30.5	HGV/Refuse Vehicle Repairs
JR Engineering	Mitcham	Mr	John	Lovegrove	Managing Director	6	Precision Engineers
Jura Spray Ltd	Mitcham	Mr	David	Field	Proprietor	13	Powder Coating
K & K Corporation	Mitcham	Mr	Tom	Kenny	Director	4	Food Production
Karen Plastics	Mitcham	Mr	B	Robinson	Director	5.5	PLASTIC Products
Laserscript Drd Communicati	Mitcham	Mr	DAVID	MCCARTHY	DIRECTOR	3	Type Setting Design
Le Maitre Ltd	Mitcham	Mr	Colin	Lane	Managing Director	30	THEATRICAL Supplies - PYROTHEC
Lenister Construction Ltd	Mitcham	Mr	Peter	Charsley	Commercial Director	51.5	Building Contractor
Les Delices De Simply Desert	Mitcham	Mr	P	SMITH	DIRECTOR	6	Dessert Importers
M Carriers Ltd	Mitcham	Mr	Brian	Merrett	Managing Director	25	Road Haulage Services
M J H Transport	Mitcham	Mrs	J	Huggett	Proprietors	7	Road Haulage Services
Macaskill Engineering Ltd	Mitcham	Mr	Ronald	McAskill	Managing Director	7.5	PipeWork Fabrication
Martek Contracts Ltd	Mitcham	Mr	Derek	Galloway	Managing Director	52	Shopfitters
Masterlith Ltd	Mitcham	Mr	K	Bowyer	Managing Director	20	Printing Plates
Masters Of South London (2)	Mitcham	MR	D	MORGAN	Managing Director	137	VAUXHALL Main Dealer
Masters Of South London (3)	Mitcham	MR	D	MORGAN	Managing Director	137	VAUXHALL Main Dealer



Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
Merton Timber Ltd	Mitcham	Mr	Mike	Evans	Office Sales	80	Timber & Building Merchants
Morss Ltd	Mitcham	Mr	Keith	Murrell	Operations Manager	7	3rd Party Public WareHouse
Mullarch Ltd	Mitcham	Mr	Arnold	Green	Manager	3	Export Agents
Nostalgia Bus Ltd	Mitcham	Ms	ANNE	JESSON	OFFICE MANAGERESS	10	Supply Coach & Bus Hire
Office Furniture Gallery	Mitcham	Mr	A D	Labrum	Proprietor	1	Secondhand Office Furniture
Olc Ltd	Mitcham	Mr	Kevin	Haults	Branch Manager	8	Electrical WholeSalers
Options Fitted Furniture	Mitcham	Mr	Adrian	White	Director	27.5	Fitted Furniture
Options Marble Ltd	Mitcham	Ms	Julie	Parnell	Company Secretary	14	Processing Decorative Stone
Our Price Windows Ltd	Mitcham	Mr	C	Bassant	Branch Manager	10	Double Glazing Manufacturers
P.H.S. Ltd	Mitcham	Mr	Peter	Slade	Managing Director	6	Market Research & Analysis
Pegasus Colourprint Ltd	Mitcham	Mr	Bob	Harvey	Director	26	Printers
Pickfords Removals Ltd	Mitcham	Mr	Alan	Newnham	Branch Manager	30	Removal & Storage Service
Pirelli Construction Co Ltd	Mitcham	Mr	G	Nicholson	Area Manager	45	Cable Installation
Plasro Plastics	Mitcham	Mr	Philip	Fermer	Senior Buyer	200	Toolmaker & Precision Injection Mould
Prospect Contract Furnishing	Mitcham	MR	MICHAEL	SPANSWICK	CHAIRMAN	26	Flooring, Interior
R & D Graphics	Mitcham	MR	RICHARD	HOMEWOOD	SALES DIRECTOR	30	Reprographic
R & L Deacon Engineering Lt	Mitcham	Mr	M	DEAN	MANAGER	5	Fixings & Fastenings
Radio Visor Ltd	Mitcham	MR	B J	BRUMPTON	MANAGING DIRECTO	18	Security Equipment Manufacturers
Redwood Security Services Lt	Mitcham	Mr.	Mr.	Deeble	Director	15	Security Services & Equipment
Reichold Uk Ltd	Mitcham	MR	TREVOR	STEVENS	Financial Controller	62.5	Chemical Mfrs & Suppliers
Ringway Ltd	Mitcham	Mr	R V	Rawson	Director	205	Road Surfacing Company

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
Santiki Ltd	Mitcham	Mr	M	Adams	Director	6	Sell Computer Systems
Savage Print Finishers Ltd	Mitcham	Mr	William	Savage	Director	13.5	Print Finishers
Savoy Group Services	Mitcham	Mr	Arthur	Beaven	Manager	5	Storage, Bed Mfrs
Schneider Freeway Ltd	Mitcham	Mr	Peter	Mallory	The Manager	52.5	Stationery Manufacturers & WholeSaler
Sebon Ltd	Mitcham	Mr	David	Cole	General Manager	200	Specialty Bakery Manufacturers
Securicor Omega Office Servi	Mitcham	MR	ROBERT	NASH	FINANCE MANAGER	17.5	Secure Storage
Shelley Engineering	Mitcham	MS	RHONDA	SHELLY	MANAGING DIRECTO	33	Sheet Metal Workers
Shuttlesound Ltd	Mitcham	Mr	Mark	Burgin	Managing Director	25	Professional Audio
Silk Screen Advertsing	Mitcham	Mr	A	Sullivan	PARTNER	4	Screen PROC Printing
Silver Knitting Machines	Mitcham	Mr	K	Foy	Director	6.5	Knitting Machines(Domestic) Manufact
Sjb Recovery	Mitcham	Mr	S	Byfield	The Manager	18	24 Hr Breakdown Recovery
Sports & Leisure Print Ltd	Mitcham	Mr	J	Monks	Manager	1	Printers & Lithographers
St. James Litho Ltd	Mitcham	Mr	Ray	Tidman	Manager	18.5	Printers & Lithographers
Standard Scaffolding Co.Ltd	Mitcham	Mr	R J	DEDMAN	MANAGING DIRECTO	8	Scaffold Contractors
Sterile Theatre Services Plc	Mitcham	Mr	D	Crawford	Manager	8	Laundry- Hotel Linen Service
Stp Autos (Mitcham)	Mitcham	Mr	B	Sudra	Partner	2	General Car Repairs
Surrey Laminators Ltd	Mitcham	Mr	R	Lowe	Director	7	Laminators & Print Finishers
Surrey Roofers	Mitcham	Mr	Tony	Wallace	Managing Director	10	
Surrey Scanning Ltd	Mitcham	Mr	A	Adams	Manager	7	Colour SEPARATION Scanning
T M B Ltd	Mitcham	Mr	Trevor	Bradford	Managing Director	20	Advertising- Outdoor
Technojet Ltd	Mitcham	Mr	A	Reed	Director	5	Bathroom Retailer & Whirlpool Distrib

Company Name	Post Town	Contact Title	First Name	Surname	Position	Employees	Main Product
The Parkside Group Ltd	Mitcham	Mr	Guy	Beckingham	Technical Director	31.5	Aluminium System Company
Tingey & Co (Engineers) Ltd	Mitcham	Mr	Les	Withers	Managing Director	12	Engineers
Town & Country Flooring Ltd	Mitcham	Mr	David	Wingrove	Area	12.5	Flooring
VMP	Mitcham	Miss	Nicky	Gee	The Manager	11.5	Metal Finishing, Anodising & Electropol
White Arrow Express	Mitcham	Mr		O'Leary	Depot Manager	163.5	Distribution Services
Willow Motor Works	Mitcham	Mrs	Maureen	Dyer	Joint Proprietor	11	Body Repairs
Willow Stove Enamellers	Mitcham	Mr	Bill	Pink	Owner	3.5	Stove Enamellers
Willowood	Mitcham	Mr	Dave	Jenkins	Proprietor	2	Cabinet Makers
Xpert Circuit Assemblies Ltd	Mitcham	Mr	G A	WILLARD	MANAGING DIRECTO	4.5	Print Circuit Assembly
Zepla	Mitcham	Mr	D	Gilders	Partner	10	Clothing Mfrs & WholeSalers

Company Name	Jack Allen Sales and Services	The Parkside Group Ltd.	Boxall Industrial Ltd.	Santiki Ltd.
Willing to implement Green Transport	Yes	Yes	Yes	Yes
Willing to make suggestions about public transport services	Yes	Yes	Yes	Yes
Willing to receive information packet about Green Transport	Yes	Yes	Yes	Yes
How knowledgeable on a scale of 1 to 5 (with 1 being, do not know anything)	3	3	3	2

Company Name	Morss Ltd.	Concrete Repairs Ltd.	PSH Ltd.	Gray (Book Bindings) Ltd.
Willing to implement Green Transport	No	Maybe	Don't know	Maybe
Willing to make suggestions about public transport services	Yes	Yes	Yes	Yes
Willing to receive information packet about Green Transport	Yes	Yes	No	Yes
How knowledgeable on a scale of 1 to 5 (with 1 being, do not know anything)	3	1	1	1

Company Name	SJB Recovery	Ask Packaging Ltd.	Savage Print Finishers Ltd.	Olc. Ltd.
Willing to implement Green Transport	No	No	No	No
Willing to make suggestions about public transport services	Yes	Yes	Yes	No
Willing to receive information packet about Green Transport	Yes	Yes	No	Yes
How knowledgeable on a scale of 1 to 5 (with 1 being, do not know anything)	2	2	2	1

Company Name	Options Fitted Furniture	Radio Visor Ltd.	Shelley Engineering	Les Delices De Simply Desserts
Willing to implement Green Transport	No	No	No	No
Willing to make suggestions about public transport services	No	No	No	No
Willing to receive information packet about Green Transport	Yes	No	No	No
How knowledgeable on a scale of 1 to 5 (with 1 being, do not know anything)	3	2	1	1

Company Name	Zepla	Willow Motor Works
Willing to implement Green Transport	No	No
Willing to make suggestions about public transport services	No	No
Willing to receive information packet about Green Transport	No	No
How knowledgeable on a scale of 1 to 5 (with 1 being, do not know anything)	2	1

## Employers Contacted

<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
Shelley Engineeri	MS	RHONDA	SHELLY	23 Willow Lane		Mitcham	CR4 4TU	0181 685 0302
The Parkside Gro	Mr	Guy	Beckingham	Unit 5, Willow Lan	17 Willow Lane	Mitcham	CR4 4YD	0181 685 9685
Jack Allen (Sales	Mr	Trevor	Gardner	The Service Centr	48 - 50 Willow Lan	Mitcham	CR4 4NA	0181 240 3400
Options Fitted Fur	Mr	Adrian	White	Unit 37	Grace Business C	Mitcham	CR4 4TU	0181 685 1525
Concrete Repairs	Mr	Tony	Rimoldi	Cathite House	23A Willow Lane	Mitcham	CR4 4TQ	0181 288 4848
Sjb Recovery	Mr	S	Byfield	Units H & I	Eagle Trading Est	Mitcham	CR4 4UY	0181 640 4777
Radio Visor Ltd	MR	B J	BRUMPTON	Unit 1, Willow Lan	Wandle Way	Mitcham	CR4 4NB	0181 640 3266
Savage Print Finis	Mr	William	Savage	34 Willow Lane		Mitcham	CR4 4NA	0181 640 9142
Grays (Book Bind	Mr	Barrie	Upton	Unit 5 Capital Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 640 1449
Willow Motor Wor	Mrs	Maureen	Dyer	Wandle Way	off Willow Lane	Mitcham	CR4 4NB	0181 685 9515
Zepla	Mr	D	Gilders	7 Bunting Close		Mitcham	CR4 4ND	0181 648 1333
Boxall Industrial Lt	Mrs	Janet	Hamilton	Unit 50, Grace Bu	23 Willow Lane	Mitcham	CR4 4TQ	0181 648 8468
Olc Ltd	Mr	Kevin	Haults	Unit 10	Willow Business C	Mitcham	CR4 4NX	0181 640 6631
Morss Ltd	Mr	Keith	Murrell	1-11 Willow Lane		Mitcham	CR4 4NA	0181 288 1055
P.H.S. Ltd	Mr	Peter	Slade	Connaught Busine	Willow Lane	Mitcham	CR4 4NA	0181 640 8022
Les Delices De Si	Mr	P	SMITH	Unit E Eagle Tradi	29 Willow Lane	Mitcham	CR4 4NA	0181 640 4844
Ask Packaging Ltd	Mr	Allan	Parish	23 Wates Way		Mitcham	CR4 4HR	0181 685 1818
Santiki Ltd	Mr	M	Adams	Unit A4	The Connaught B	Mitcham	CR4 4NA	0181 685 0550

30 June 2000

Page 1 of 1

## *Employers Not Willing to Meet*

<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
A P Rosner & Co	Mrs	Linda	Grieve	Unit 3	24 Wandle Way	Mitcham	CR4 4NB	0181 648 5225
Abbey Surgical Lt	Mr	K	Berry	31 Wates Way		Mitcham	CR4 4HR	0181 640 2971
Alex Popper Ltd	Mrs	Rosemary	Hawkins	Bunting Close		Mitcham	CR4 4ND	0181 640 1118
ARR Incorporated	MRS	AMANDA	PIKE	35 Willow Lane		Mitcham	CR4 4UQ	0181 640 2225
Carshalton Scaffol	Mr	John	Engall	10 Wandle Way	Willow Lane Tradi	Mitcham	CR4 4NB	0181 687 1551
Colt Staplers	Mr	John	Baker	Unit 3	Wandle Way	Mitcham	CR4 4NB	0181 646 7075
Deadman Waste	Mr	ANTHONY	DEADMAN	Wandle Way	Willow Lane	Mitcham	CR4 4NB	0181 288 1515
Djg Exhibition Frei	Mr	Dave	Gardner	Unit 34, Grace Bu	23 Willow Lane	Mitcham	CR4 4TQ	0181 646 4200
Elmore Plant Serv	Mr	John	Cooper	Ellis Road		Mitcham	CR4 4HR	0181 648 7070
Esteban Engineeri	Mr	J	Penalver	33 Wates Way	Willow Lane Indus	Mitcham	CR4 4HR	0181 640 9000
Fas Limited	Mr	M K	Tomlinson	Dorling House	44 Wates Way	Mitcham	CR4 4HR	0181 648 8567
Fast Track Repair	Mr	Mr.	Francis	8 Wandle Way		Mitcham	CR4 4NB	0181 241 7700
Forestdale Busine	Mr	J W	Baker	Unit 3	Wandle Way	Mitcham	CR4 4NB	0181 640 3340
George Killougher	Mr	J	Hammond	41 Willow Lane		Mitcham	CR4 4UT	0181 648 3717
Global Windows	MR	DAVID	WILLIAMS	Unit 2b Willow Lan	Willow Lane Indus	Mitcham	CR4 4NA	0181 648 1013
Gregory Demolitio	Mr	Dean	Gregory	Unit 6	Willow Lane	Mitcham	CR4 4NA	0181 640 7227
Heritage Reclaime	Mr	Michael	Dobbs	24 Willow Lane		Mitcham	CR4 4NA	0181 687 1907
Le Maitre Ltd	Mr	Colin	Lane	6 Forval Close	Wandle Way	Mitcham	CR4 4NE	0181 646 2222

30 June 2000

Page 1 of 2



<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
Les Delices De Si	Mr	P	SMITH	Unit E Eagle Tradi	29 Willow Lane	Mitcham	CR4 4NA	0181 640 4844
Masterlith Ltd	Mr	K	Bowyer	Willow Business C	17 Willow Lane	Mitcham	CR4 4NX	0181 646 1585
Masters Of South	MR	D	MORGAN	Unit 1c Willow Lan	2/4 Willow Lane	Mitcham	CR4 4NA	0181 685 9990
Masters Of South	MR	D	MORGAN	Unit 5, Willow Lan	2/4 Willow Lane	Mitcham	CR4 4NA	0181 685 9990
Pickfords Remova	Mr	Alan	Newnham	Willow Lane Ind E	3-9 Willow Lane	Mitcham	CR4 4TD	0181 540 6576 /
Plasro Plastics	Mr	Philip	Fermer	47 Wates Way		Mitcham	CR4 4HR	0181 685 0500
R & D Graphics	MR	RICHARD	HOMEWOOD	Unit 3, Willow Bus	17 Willow Lane	Mitcham	CR4 4NX	0181 648 9286
Redwood Security	Mr	Mr.	Deeble	10 Bunting Close		Mitcham	CR4 4ND	0181 288 8393
Sebon Ltd	Mr	David	Cole	15 Ellis Road		Mitcham	CR4 4HX	0181 646 5220
Securicor Omega	MR	ROBERT	NASH	Unit 17, Willow Bu	17 Willow Lane	Mitcham	CR4 4NA	0181 687 0458
Silver Knitting Ma	Mr	K	Foy	Unit 1	10 Wandle Way	Mitcham	CR4 4TE	0181 646 2244
St. James Litho Lt	Mr	Ray	Tidman	21 Wates Way		Mitcham	CR4 4HR	0181 640 9438
Standard Scaffoldi	Mr	R J	DEDMAN	Unit 3, Abbey Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 648 9212
Sterile Theatre Se	Mr	D	Crawford	29 Wates Way		Mitcham	CR4 4HR	0181 687 0100
T M B Ltd	Mr	Trevor	Bradford	41A-43B Willow L	MITCHAM	Mitcham	CR4 4NA	0181 646 3700
Tingey & Co (Engi	Mr	Les	Withers	36 Wates Way		Mitcham	CR4 4HR	0181 640 0553
White Arrow Expr	Mr		O'Leary	Ellis Road	Willow Lane Indus	Mitcham	CR4 4HX	0181 685 1032

## *Employers With No Answer*

<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
A P Rosner & Co	Mrs	Linda	Grieve	Unit 3	24 Wandle Way	Mitcham	CR4 4NB	0181 648 5225
Abbey Fabrication	Mr	David	Jones	Unit 4B, Abbey In	24 Willow Lane	Mitcham	CR4 4NA	0181 640 7877
Abbi Fab Services	Mr	N J	Gammons	Unit 27	Willow Lane Indus	Mitcham	CR4 4NA	0181 687 0547
Abox Mitcham Ltd	Mr	J E	WEBBER	39 Willow Lane		Mitcham	CR4 4NA	0181 687 0018
Abs Litho Ltd	Mr	M J	Burton	42 Wates Way		Mitcham	CR4 4TA	0181 685 0440
Alecto Ltd	Mr	Mike	Anstee	Unit 5, Eagle Trad	29 Willow Lane	Mitcham	CR4 4NA	0181 241 2545
Alexandra Demolit	Mr	Frank	Clarke	Unit 13	Abbey Industrial E	Mitcham	CR4 4NA	0181 646 7396
Alpha Pneumatic	Mr	George	Stamatiou	Unit B3, Connaug	22 Willow Lane	Mitcham	CR4 4NA	0181 687 0411
Associated Motor	Mr	N	Gower	Unit 4A, Willow La	1 Wandle Way	Mitcham	CR4 4NB	0181 640 5050
B Riggs Machine	Mr	B	Riggs	5 Forval Close		Mitcham	CR4 4NE	0181 687 0467
B V L Scaffolding	Mr	A	Hunt	Unit 6	Willow Lane	Mitcham	CR4 4NA	0181 640 5500
Bbm Electronics G	MR	D A	BINKS	28/30 Wates Way		Mitcham	CR4 4HR	0181 640 1225
Better Presentatio	Mrs	F M R	Kennard	34 Wates Way		Mitcham	CR4 4HR	0181 646 7324
Boc Gases	Mr	KEVIN	COYLE	2 Willow Lane		Mitcham	CR4 4NA	0181 646 5883
Brownley Enginee	Mr	D J	Brown	4 Osier Way	4 Osier way	Mitcham	CR4 4NF	0181 640 1617
C & C Products	Mr	C	Crowhurst	55 Willow Lane		Mitcham	CR4 4NA	0181 685 9895
Charcuterie Ltd	MR	PAUL	COLLINS	Charcuterie Hous	Wandle Way	Mitcham	CR4 4NB	0181 646 0475
Chartway Enginee	Mrs	S	Smith	39 Willow Lane		Mitcham	CR4 4NA	0181 646 2045

30 June 2000

Page 1 of 4

<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
Chelsea Carpets	Ms	E	YORK	Unit 2 Capital Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 241 1954
CRN Components	Mr	Mr	Nixon	Wandle Trading E	Goat Road	Mitcham	CR4 4HW	0181 646 2371
Croydon Scaffoldi	Mr	G	Sidwell	1 Willow Lane		Mitcham	CR4 4NA	0181 640 4959
Cs Colour Proofin	Mr	S	Butler	Unit 1A	The Connaught B	Mitcham	CR4 4HR	0181 640 9921
Cummins Enginee	Mr	P J	Cummins	46 Willow Lane		Mitcham	CR4 4NA	0181 640 0499
Dakota Drawing O	MR	MICHAEL	POTTER	Units 3-4 Willow L	24 Willow Lane	Mitcham	CR4 4NA	0181 640 9527
Dappa M R P Floo	Mr	Martin	Patey	Unit 3	Eagle Trading Est	Micham	CR4 4UY	0181 646 4232
Darrens Dies	Mr	Darren	Bryan	34 Willow Lane		Mitcham	CR4 4NA	0181 640 4449
Deadman Waste	Mr	ANTHONY	DEADMAN	Wandle Way	Willow Lane	Mitcham	CR4 4NB	0181 288 1515
Dicker & Dunster	Mr	David	Dunster	8 Bunting Close		Mitcham	CR4 4ND	0181 646 0733
Display Developm	Mr	TONY	STONEMAN	Unit G Eagle Tradi	29 Willow Lane	Mitcham	CR4 4UY	0181 640 9415
Dorling Print Ltd	Mr	Eric	Johnston	44 Wates Way		Mitcham	CR4 4HR	0181 685 9399
Es Haverson & So	Mr	BRIAN	HAVERSON	Unit 3 Abbey Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 648 5553
Farmiloe & Farmil	Mr	B R	Deacon	28 Willow Lane		Mitcham	CR4 4NA	0181 685 9444
Fast Track Repair	Mr	Mr.	Francis	8 Wandle Way		Mitcham	CR4 4NB	0181 241 7700
Fida Engineering	Mrs	B	Fish	2B Willow Lane		Mitcham	CR4 4NA	0181 640 7173
Focal Signs Ltd	Mr	J	Pharaoh	12 Wandle Way		Mitcham	CR4 4NB	0181 640 6821
Forceadmit Servic	Mr.	M	Tomlison	44 Wates Way		Mitcham	CR4 4HR	0181 685 9191
Foundation & Buil	Mr	J C	WALLACE	11 Willow Lane		Mitcham	CR4 4NA	0181 288 0201
Hss Hire Service	Mr	P C	Jones	25 Willow Lane		Mitcham	CR4 4TS	0181 685 9900

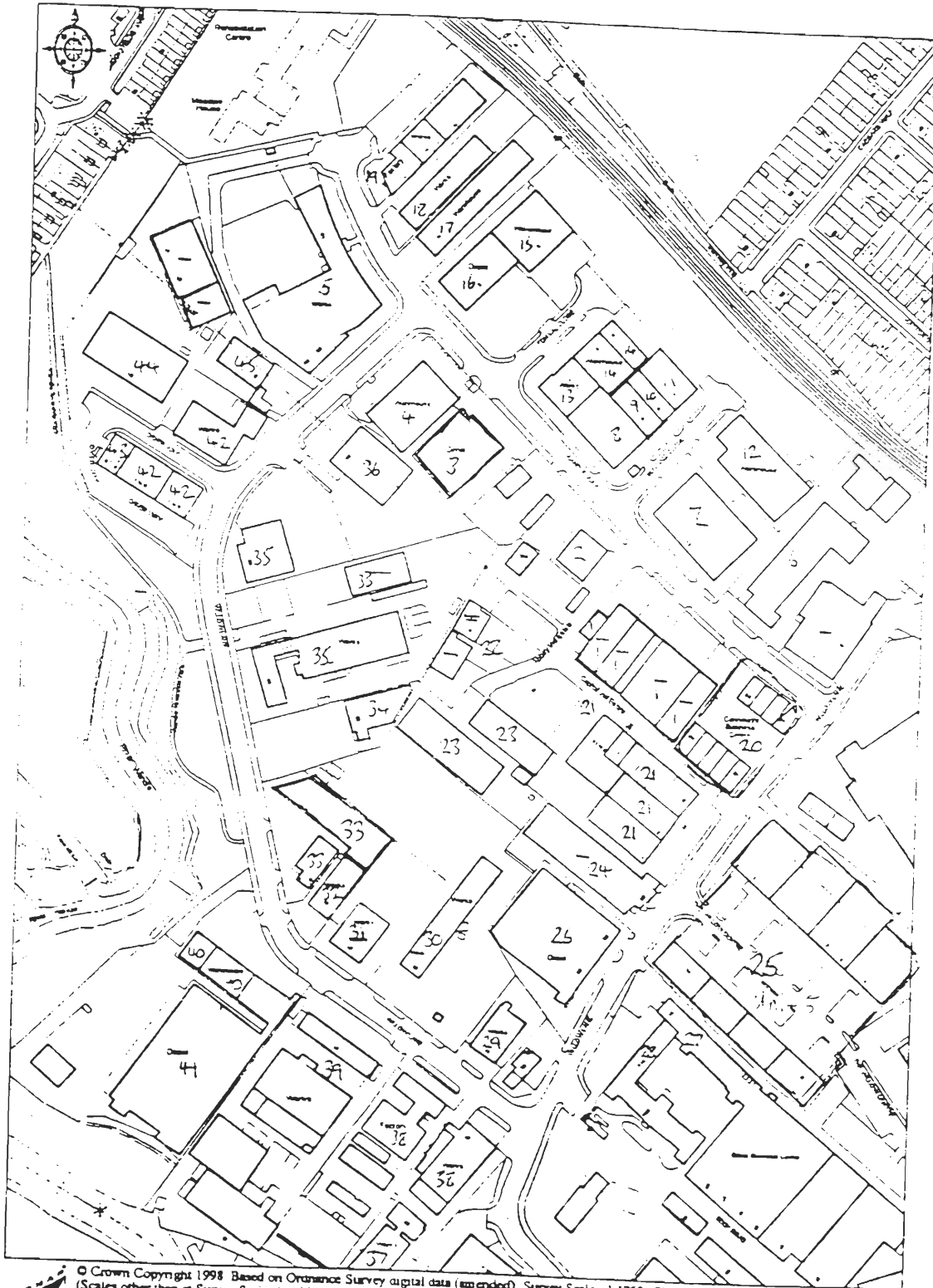
<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
Humphries Video	Mr	David	Brown	Unit 2	Willow Business C	Mitcham	CR4 4NX	0181 648 6111
Hydraulic Solution	Mr	D	COWPE	Unit B1 Connaugh	Adjacent To 24 Wi	Mitcham	CR4 4NA	0181 640 6565
Industrial Gas Spri	Mr	A J	Atkins	22 Wates Way		Mitcham	CR4 4HR	0181 646.6596
J & R Engineering	Mr	Richard	Hart	Unit 40	29 Willow Lane	Mitcham	CR4 4NA	0181 640 9028
JR Engineering	Mr	John	Lovegrove	UNIT 40	Willow Lane Indus	Mitcham	CR4 4NA	0181 640 9028
Jura Spray Ltd	Mr	David	Field	Goat Road	Mitcham Junction	Mitcham	CR4 4HW	0181 640 1775
K & K Corporation	Mr	Tom	Kenny	Unit F	Eagle Trading Est	Mitcham	CR4 4UY	0181 687 1111
Karen Plastics	Mr	B	Robinson	Wandle Trading E	Unit 1	Mitcham	CR4 4HW	0181 646 2020
Laserscript Drd C	Mr	DAVID	MCCARTHY	Connect House	21a Willow Lane	Mitcham	CR4 4NA	0181 288 4350
Lenister Construct	Mr	Peter	Charsley	The Clock House	21 Willow Lane	Mitcham	CR4 4NA	0181 646 2252
M Carriers Ltd	Mr	Brian	Merrett	Unit 38	Eagle Trading Est	Mitcham	CR4 4UY	0181 646 1546
M J H Transport	Mrs	J	Huggett	11 Willow Lane		Mitcham	CR4 4NA	0181 648 1366
Macaskill Enginee	Mr	Ronald	McAskill	2 Forval Close		Mitcham	CR4 4NE	0181 640 7211
Martek Contracts	Mr	Derek	Galloway	37 Willow Lane	Willow Lane Indus	Mitcham	CR4 4NA	0181 640 6405
Merton Timber Ltd	Mr	Mike	Evans	28-30 Goat Road		Mitcham	CR4 4HU	0181 687 0055
Mullarch Ltd	Mr	Arnold	Green	10 Wandle Way		Mitcham	CR4 4NB	0181 646 1110
Nostalgia Bus Ltd	Ms	ANNE	JESSON	Unit 2, Abbey Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 640 6668
Office Furniture G	Mr	A D	Labrum	Unit 15	29 Willow Lane	Mitcham	CR4 4UY	0181 640 6888
Options Marble Lt	Ms	Julie	Parnell	Unit 37a	Grace Business C	Mitcham	CR4 4TU	0181 640 3560
Pegasus Colourpri	Mr	Bob	Harvey	10 Osier Way	Willow Lane	Mitcham	CR4 4NF	0181 640 1201

<i>Company Na</i>	<i>Contact Title</i>	<i>First Name</i>	<i>Surname</i>	<i>Address 1</i>	<i>Address 2</i>	<i>Post Town</i>	<i>Postcode</i>	<i>Tel</i>
Pirelli Constructio	Mr	G	Nicholson	4 Forval Close	Wandle Way	Mitcham	CR4 4NE	0181 648 6660
Prospect Contract	MR	MICHAEL	SPANSWICK	37-39 Wates Way		Mitcham	CR4 4HR	0181 648 6699
R & L Deacon Eng	Mr	M	DEAN	Wandle Trading E	Goat Rd	Mitcham	CR4 4HW	0181 648 8880
Ringway Ltd	Mr	R V	Rawson	52 Willow Lane		Mitcham	CR4 4NA	0181 640 6222
Savoy Group Serv	Mr	Arthur	Beaven	Unit 1	The Willow Centre	Mitcham	CR4 4NX	0181 648 7701
Schneider Freewa	Mr	Peter	Mallory	Riverside House	Willow Lane	Mitcham	CR4 4NA	0181 687 8000
Silk Screen Advert	Mr	A	Sullivan	Willow Lane Indus	34 Wates Way	Mitcham	CR4 4HR	0181 646 5709
Sports & Leisure	Mr	J	Monks	Unit 3	17 Willow Lane	Mitcham	CR4 4NX	0181 640 9712
Standard Scaffoldi	Mr	R J	DEDMAN	Unit 3, Abbey Indu	24 Willow Lane	Mitcham	CR4 4NA	0181 648 9212
Sterile Theatre Se	Mr	D	Crawford	29 Wates Way		Mitcham	CR4 4HR	0181 687 0100
Stp Autos (Mitcha	Mr	B	Sudra	Unit 7, Abey Indus	24 Willow Lane	Mitcham	CR4 4NA	0181 648 6007
Surrey Laminators	Mr	R	Iowe	Unit 11, The Willo	17 Willow Lane	Mitcham	CR4 4NA	0181 646 7710
Surrey Roofers	Mr	Tony	Wallace	Willow Lane Indus	11 Osier Way	Mitcham	CR4 4NF	0181 640 9820
Surrey Scanning L	Mr	A	Adams	Unit 3	Willow Business C	Mitcham	CR4 4NX	0181 640 3064
Technojet Ltd	Mr	A	Reed	Connaught Busine	22 Willow Lane	Mitcham	CR4 4NA	0181 640 7676
Town & Country FI	Mr	David	Wingrove	Unit 6	24 Willow Lane	Mitcham	CR4 4NA	0181 685 0554
VMP	Miss	Nicky	Gee	Units B, C & D, Ea	29 Willow Lane	Mitcham	CR4 4UY	0181 640 5616
Willow Stove Ena	Mr	Bill	Pink	Unit 11	29 Willow Lane	Mitcham	CR4 4UY	0181 646 7169
Willowood	Mr	Dave	Jenkins	1 - 11 Willow Lane		Mitcham	CR4 4NA	0181 241 2396
Xpert Circuit Asse	Mr	G A	WILLARD	Unit 2, 24 Wandle		Mitcham	CR4 4NB	0181 687 1926

30 June 2000

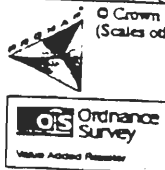
# Appendix J – Willow Lane Industrial Estate Maps Willow Lane Industrial Estate Map 1

J-146



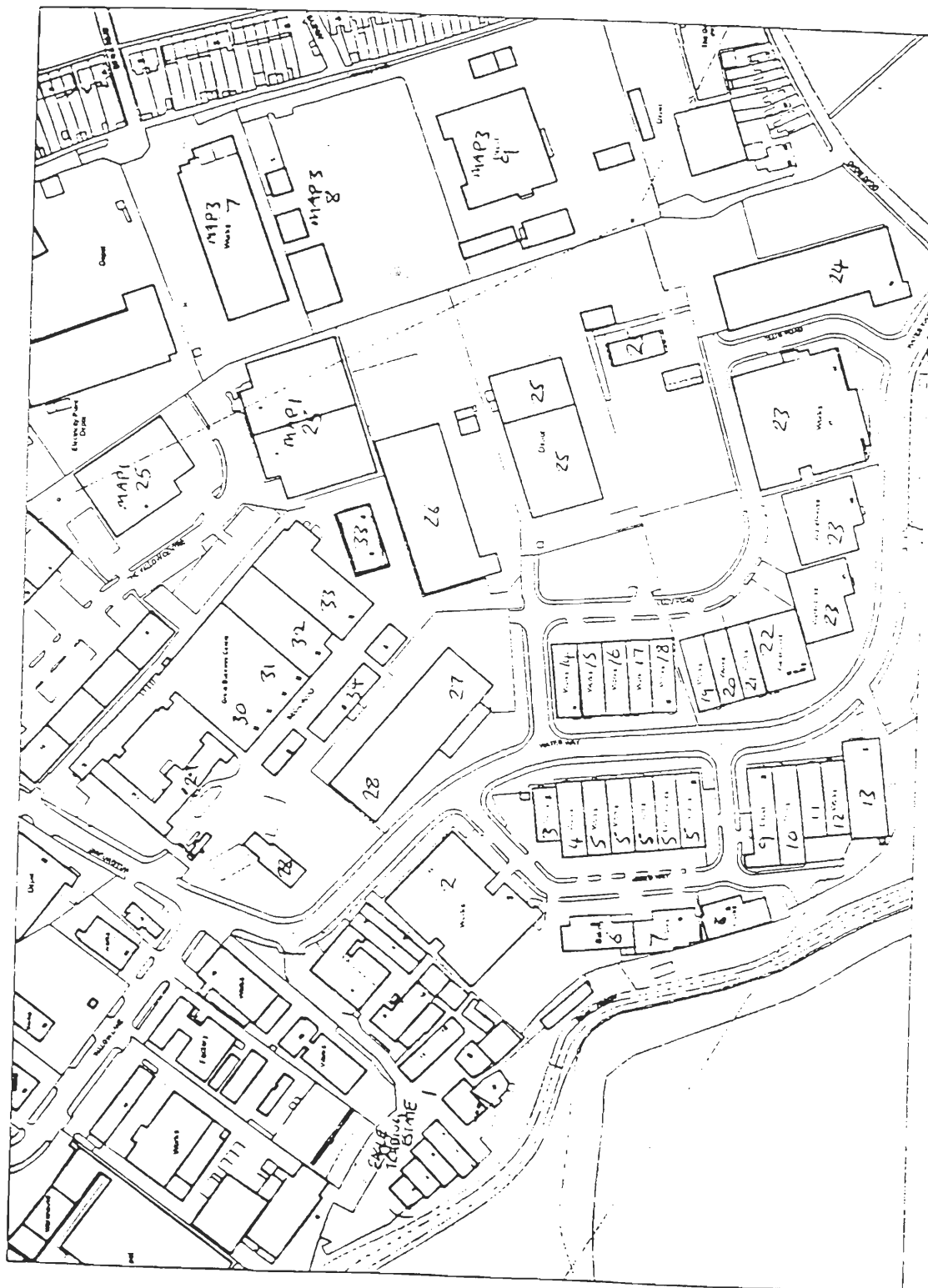
© Crown Copyright 1998 Based on Ordnance Survey digital data (amended) Survey Scale - 1:1250 Plotted Scale - 1:3018  
 (Scales other than at Survey Scale should not be used for accurate measurement)

This plan is published for the convenience of identification only and although believed to be correct is not guaranteed and it does not form any part of any contract.



# Willow Lane Industrial Estate

## Map 2



# Appendix J - Willow Lane Industrial Estate Maps

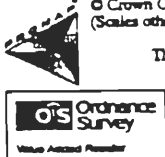
## Map 3

J-148



© Crown Copyright 1998. Based on Ordnance Survey digital data (amended). Survey Scale - 1:1250. Plotted Scale - 1:2266.  
(Scales other than at Survey Scale should not be used for accurate measurement)

This plan is published for the convenience of identification only and although believed to be correct is not guaranteed and it does not form any part of any contract.





## WILLOW LANE INDUSTRIAL ESTATE

No.	Company Name	Address	Sq. M.	Sq. Ft.	Method	Comment
<b>Map 1</b>						
<u>Wandle Way</u>						
11	Associated Motor Services	Unit 1a, 1 Wandle Way				2 storey offices with warehouse
11A1	Vega	1 Wandle Way				2 storey offices with warehouse
11	Willow Motor Services	1 Wandle Way				2 storey offices with warehouse
11A1	Allseatt	1 Wandle Way				2 storey offices with warehouse
1	Total for 1 Wandle Way		3 336	32 300 p		
11	Deadman Waste Paper	Wandle Way	557	6 000 t		Yard
11	Fast Track Repairs Ltd	8 Wandle Way	1 171	12 600 t		2 storey offices with warehouse
11	Charcuterie Ltd	Charcuterie House, Wandle Way	1 093	11 760 p		2 storey offices with warehouse
11	Carshalton Staffolding	10 Wandle Way		p		Portacabin
11	Arnold & Self	10 Wandle Way		s		Occupies 112 m <sup>2</sup>
11	Mullarch Ltd	10 Wandle Way		t		small office
11	B & C Clay Chemical Ltd	10 Wandle Way		t		
11	Silver Knitting Machines	Unit 1, 10 Wandle Way		t		office
11	Total for 10 Wandle Way		3 508	27 000 p		
11A1	Vaushall		1 393	15 015 p		2 storey offices and garages
11	Focal Signs Ltd	17 Wandle Way	1 183	13 960 p		2 storey offices with warehouse
<u>Bunting Close</u>						
11A1	Aqualreat	Stanley House	332	3 570 p		2 storey offices with warehouse
11	Zepla	7 Bunting Close	158	1 935 p		2 storey offices with warehouse
11	Dicker & Dunster Ltd	8 Bunting Close	251	2 730 s		2 storey offices with warehouse
11A1	Silveroak	Bunting Close	868	9 315 p		2 storey offices with warehouse
11	Alex Popper	11 Bunting Close	1 219	13 140 p		2 storey offices with warehouse
<u>Forval Close</u>						
11A1	Masekill Engineering Ltd	2 Forval Close	975	10 500 p		2 storey offices with warehouse
11	Le Maître Ltd	6 Forval Close	732	7 975 p		2 storey offices with warehouse
11	Pirelli Construction	1 Forval Close	975	10 500 t		2 storey offices with warehouse
11A1	Parcel Force	Forval Close	780	8 400 p		2 storey offices with warehouse
11A1	Aston Star Ltd Brookside Ltd	Unit 3 Wandle Way	929	10 090 p		Total for unit 3 1 storey warehouse
11A1	Aston Star Ltd Forestdale Ltd	Unit 3 Wandle Way				
11A1	Aston Star Ltd Colt Staples	Unit 3 Wandle Way				
11A1	Malden Plating	Unit 5 Wandle Way	650	7 000 p		
11A1	Radio Visor Ltd	Unit 1, 21 Wandle Way	929	10 090 p		Total for 24, sometimes called No 1 1 storey warehouse
11A1	A P Rosner & Co Ltd	Unit 3, 21 Wandle Way		t		
20	<u>Connaught Business Centre, 22 Willow Lane</u>					
	Single storey warehouse/workshop units					
	Total units A1-A5		650	7 000 p		
	Total units B1-B4		465	5 000 p		
11	- CS Colour Proofing	Unit A1				
11	- Technojet Ltd	Unit A3				Occupies 116m <sup>2</sup>
11	- Santiki Ltd	Unit A4				Occupies 172 m <sup>2</sup>
11	- P H S Ltd					Occupies 186 m <sup>2</sup>
11	- Pirtek/Hydraulic Solutions Ltd	Unit B1				Occupies 140 m <sup>2</sup>

check

check  
Pirtek

No.	Company Name	Address	Sq. M.	Sq. Ft.	Method	Comment
1	Alpha Pneumatic Supplies	Unit B3				
1	Capital Industrial Estate, 24 Willow Lane					
1	Our Price Windows	Unit 1, 24 Willow Lane	585	6,300 p		1 storey
1	Chelsea Carpets	Unit 2, 24 Willow Lane	539	5,800 p		1 storey
1	Nikola Reprographic Group	Unit 3, 24 Willow Lane	575	6,200 p		1 storey
1	Abbey Fabrications	Unit 4, 24 Willow Lane	418	4,500 p		1 storey
1	Grays (Book Binders) Ltd	Unit 5, 24 Willow Lane	529	5,700 p		1 storey
1	Jones & Country Flooring	Unit 6, 24 Willow Lane	630	7,000 p		1 storey
1	STP Autos (Mitcham)	Unit 7, 24 Willow Lane	439	4,700 p		For sale
1	Retreaders Requirements	Unit 8, 24 Willow Lane	604	6,500 p		1 storey
1	Abbey I/E by Capital I/E					
1	Gregory Demolition Ltd	Units totalling	165	1,800 p		
2	Robore Cuts	24 Willow Lane	1,673	18,000 p		1 storey
2	Available	Windsor House, 26 Willow Lane	1,496	16,100 a		Built 1950s, refurbished 1997. Single storey warehouse with 1st
2	The Willow Centre, 15-19 Willow Lane					
	11 unit warehouse development completed in 1982 by Mowlem					
1	Savoy Group Services	Unit 1	974	10,450 a		
1	Humphries Video Services Ltd	Unit 2	1,115	12,000 a		
1	R & D Graphics	Unit 3	1,115	12,000 a		Unit 3 is shared between three occupiers
1	Masterlith Surrey Scanning Ltd	Unit 3		a		
1	Sports & Leisure Print Ltd	Unit 3		a		
1	Shuttlesound	Unit 4	975	10,500 a		
1	The Parkside Group	Unit 5	2,276	24,500 f		
1	Parcel Force	Unit 6	1,997	21,500 a		
1	Securicor - Secure Store	Unit 7	1,997	21,500 a		
1	Racal	Unit 8	513	5,520 a		
1	Plumb Center	Unit 9	502	5,400 a		
1	M.C. Ltd	Unit 10	502	5,400 a		
1	Surrey Laminators Ltd	Unit 11	511	5,500 a		
2	Farnloe & Farnloe	28 Willow Lane	2,390	25,725 p		2 storey office and warehouse
2	Leinster	24 Willow Lane	1,394	15,000 p		3 storey office
2	Laserscript DRD Communications	Connect House, 24a Willow Lane	1,394	15,000 p		3 storey office
2	Savage Print Finishers	34 Willow Lane	139	1,630 p		2 storey office and warehouse
3	A Larkin Concrete Ltd	38 Willow Lane	897	9,660 p		2 storey office and warehouse
3	No name	42 Willow Lane	478	5,145 p		2 storey office and warehouse
3	Cummins Engineering Ltd	46 Willow Lane	390	4,200 s		2 storey office and warehouse
3	Jack Allen (Sales & Service London) Ltd	48-50 Willow Lane	1,658	17,850 p		2 storey office and warehouse
3	Ringway Ltd	52 Willow Lane	483	5,200 p		2 storey office and warehouse
3	Reichold UK Ltd (formerly Jotun Polymer Ltd)	54 Willow Lane	1,542	16,600 p		Large plant with works and offices
3	Alfred MacAlpine Plant Hire	Willow Lane	929	10,000 p		Warehouse and portakabin offices
3	AAR Incorporated (UK) Ltd	35 Willow Lane	702	7,560 p		AAR Incorporated occupy 186 m2. 2 storey office and warehouse
3	Artrek	37-39 Willow Lane	1,579	17,000 p		1 storey office and warehouse
3	Chartway Engineers	39 Willow Lane	1,301	14,000 p		For No 39 in total. 1 storey office and warehouse
3	Abex Mitcham Ltd	39 Willow Lane				1 storey office and warehouse
3	George Killoughery Ltd	41 Willow Lane	4,088	44,000 p		1 storey office and warehouse

No.	Company Name	Address	Sq. M.	Sq. Ft.	Method	Comment
110A	FMB Ltd	Willow Lane	557	6,000	p	1 storey office and warehouse
111A	Schneider	Willow Lane	3,716	40,000	p	1 storey office and warehouse
112A	Oster Way					
121A	Adpax Conipany	1 Oster Way	780	8,400	p	2 storey offices with warehouse
131A	Brownley Engineering	1 Oster Way	109	1,100	p	
141A	Pegasus Colour Print	10 Oster Way	1,143	12,300	p	1 storey offices with warehouses
151A	Charcuterie	51 Willow Lane	323	3,500	p	1 storey office and warehouse
<b>Map 2</b>						
1	<b>Total Eagle Trading Estate, 29 Willow Lane</b>		4,645	50,000		Total for Eagle Trading Estate
11A	Dappa MRP Flooring	Unit 3, Eagle Trading Estate			t	
12A	Alecto Ltd	Unit 5, Eagle Trading Estate			s	Occupys 93 m2
13A	Abbi Fah Services	Unit 14, Eagle Trading Estate			t	Occupys 260 m2
14A	Office Furniture Gallery	Unit 15, Eagle Trading Estate			t	Occupys 130 m2
15A	JR Engineering	Unit 10, Eagle Trading Estate			t	Occupys 186 m2
16A	V.M.P.	Unit B, C & D Eagle Trading Estate				
17A	Les Delices De Simply Deserts	Unit E, Eagle Trading Estate			s	Occupys 232 m2
18A	K & K Corporation	Unit F, Eagle Trading Estate			s	Occupys 353 m2
19A	Display Developments	Unit G, Eagle Trading Estate			s	Occupys 186 m2
20A	JR Recovery	Units H & I, Eagle Trading Estate			p	
21A	Southern Marble & Granite	Unit J, Eagle Trading Estate			p	
22A	<b>Wates Way</b>		0			
23A	New speculative scheme by Mucklow	14-16 Wates Way	2,508	27,000	t	3 units of 836 m2, 6 in eaves, 10.8m office
24A	<b>Wates Way Industrial Estate, 18-44 Wates Way</b>		0			2 storey offices with warehouse at back
25A	Jewel Printers	18 Wates Way	454	4,889	a	2 storey offices with warehouse at back
26A	Charcuterie	20 Wates Way	581	6,250	a	2 storey offices with warehouse at back
27A	Industrial Gas Springs Ltd	22, 24, 26 Wates Way	1,714	18,772	a, s	2 storey offices with warehouse at back
28A		28 Wates Way	584	6,284	a	2 storey offices with warehouse at back
29A		30 Wates Way	587	6,318	a	2 storey offices with warehouse at back
30A	Available	32 Wates Way	168	1,836	a	2 storey offices with warehouse at back
31A	Available	32a Wates Way	580	6,215	a	1 storey offices with warehouses
32A	Better Presentation Group	34 Wates Way	505	5,411	a	2 storey offices with warehouse at back
33A	Silk Green Advertising	34 Wates Way				Share with Better Presentation
34A	Tingey & Co (Engineers) Ltd	36 Wates Way	712	7,683	a	2 storey offices with warehouse at back
35A	Hard Labour Plc	38 Wates Way	738	7,943	a	2 storey offices with warehouse at back
36A	LTK Group	40 Wates Way	588	6,326	a	2 storey offices with warehouse at back
37A	ABS Litho Ltd	42 Wates Way	581	6,290	a	2 storey offices with warehouse at back
38A	Dorling Print Ltd	44 Wates Way	1,119	12,018	a	2 storey offices with warehouse at back
39A	Force Admit Services Ltd	44 Wates Way			t	2 storey offices with warehouse at back
40A	<b>Wates Way (odds)</b>					All 2 storey offices with warehouse at back
41A	St James Litho Ltd	21 Wates Way	536	5,775	p	
42A	GW Store Cartons	23 Wates Way	536	5,775	p	
43A	Fastrack	25 Wates Way	536	5,775	p	
44A	Available	27 Wates Way	533	5,733	p	
45A	Available	29 Wates Way	536	5,775	p	

[illegible]

No.	Company Name	Address	Sq. M.	Sq. Ft.	Method	Comment
11	H C Linney & Son	Thursley Gardens, Goat Road	0.2 ha	0.5 acres	S	
12	CRN Components	Wandle T.I. Goat Road		139	1,500 S	
13	Karen Plastics	Unit 1, Wandle T.I.		557	6,000 L	
14	R & L Deacon Engineering Ltd	Wandle T.I. Goat Road		158	1,700 L	
Total for Willow Lane Industrial Estate			133.98*	1,442,266		

## Bibliography

Boots PLC Commuter Plan, Nottingham, UK, 1999.

<http://www.eltis.org/en/index.htm>

Cairns, Sally. "Rethinking transport and Economy." *Town & Country Planning* 69.1 (2000): 6, 7.

Cervero, Robert. "Integration of Urban Transport and Urban Planning," University of California Berkeley, 1999.

Department of the Environment, Transport, and the Regions. (1997, August).

*Guide to Green Transport Plans: Advice for governing departments.*

<http://www.environment.detr.gov.uk/greening/fleet/gcont.htm>

Department of the Environment, Transport, and the Regions. (1999, March).

*Developing an Effective Travel Plan*

Environment. 29 Mar. 2000

[http://www.merton-online.co.uk/mo/plaza/environment/green\\_guide/transport.asp.bak](http://www.merton-online.co.uk/mo/plaza/environment/green_guide/transport.asp.bak)

Environmental Services, London Borough of Merton. "Interim Transport Plan and Road Safety," 2000.

Hall, Peter. "The Dumills - Londoners 2000." *Town & Country Planning* 69.1 (2000): 44, 45, 46.

Institute of Transportation Engineers, 2000.

<http://www.ite.org/traffic/tcdevices.htm>.

Lockwood, Ian. *ITE Traffic Calming Definition*. ITE Journal, July 1997, pg. 22

London First. *Changing Journeys to Work* (2000).

Merton Online –Transport

<http://www.merton-online.co.uk/mo/plaza/environment/transport.asp>

Merton Plaza: Living: Transport: Tramlink: Home Page. 26 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/transport/tramlink/index.asp>

Merton Plaza: Living: Transport: Tramlink: Page 2. 28 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/transport/tramlink/page2.asp>

Merton Plaza: Living: Transport: Tramlink: Page 3b. 28 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/transport/tramlink/page3b.asp>

Merton Plaza: Living: Transport: Tramlink: Page 4. 20 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/transport/tramlink/page4.asp>

Merton Plaza, Wimbledon: Living: Environment: Transport. 29 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/environment/transport.asp>

Merton Plaza, Wimbledon: Living: Transport: Home Page. 28 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/living/transport/index.asp>

Meyer, Michael D, and Eric J Miller. Urban Transportation Planning. New York: McGraw-Hill, 1984. pg. 21.

Newman, Peter, and Jeffrey Kenworthy. Sustainability and Cities Overcoming Automobile Dependence. Washington D.C.: Island Press, 1999. pg. 143.

Taylor, Jeremy, and Richard Evans. Debate. 28 Mar. 2000

<http://www.merton-online.co.uk/mo/plaza/transport/cycling/index.asp>

Tri-County Metropolitan Transportation District of Oregon, 2000.

<http://www.tri-met.org/employees.htm>.

U.S. Federal Highway Administration, 2000

<http://207.142.124.43/rsa/>

Vasconcellos, Eduardo. "The Urban Transportation Crisis in Developing Countries: Alternative Policies for an Equitable Space." World Transport Policy & Practice, 1997.