

**HERTFORDSHIRE COUNTY COUNCIL
ENVIRONMENT
SCRUTINY COMMITTEE**

TUESDAY 21 OCTOBER 2003 at 10.00 AM

Agenda Item No:

1d

**HERTFORDSHIRE HIGHWAYS STRATEGIC ALLIANCE –
REVIEW OF AMEY LAFARGE GENERAL WORKS SERVICE**

Report of the Director of Environment

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1. Purpose of report

This report is one of a suite reviewing the Hertfordshire Highways Strategic Alliance. It deals with the general works service; that is to say those works that are routine, reactive or cyclic in nature and are generally ongoing throughout the year or a particular season.

The section of the report dealing with street lighting and, in particular, the performance of EDF (formerly 24/Seven) presented as a separate report, forms the update report requested by Members at the last meeting of the Committee as well as contributing to the general review of the service.

2. Summary

The report looks at the general works service provided by Hertfordshire Highways with particular reference to the following areas:

- Street lighting
- Winter Service
- Reactive maintenance
- Grass cutting
- Road markings

3. Conclusion

The Committee is invited to consider the report as a basis for the scrutiny of this subject and to make any recommendations to the Council, Cabinet or Chief Officers.

4. BACKGROUND

Introduction

This report deals specifically with the following topic areas:

- Street lighting
- Winter Service
- Reactive maintenance
- Grass cutting
- Road markings

The above topic areas are by no means an exhaustive list of the work of Hertfordshire Highways but have been chosen because there have been notable changes to the service or they have generated significant Member or public interest over the last year.

5. STREET LIGHTING

Background

- 5.1 Hertfordshire Highways maintains 136,000 lighting units on the County's roads including street lights, illuminated bollards, signs, Belisha beacons etc. The target is to keep 98% of units in lighting at any given time, excluding those out due to faults beyond the control of the Alliance such as electricity supply problems.

Much of this service is managed directly by the Works Team who carry out the following regime of inspections:

- night time inspections every 10 days to check for unlit units
- annual visual inspection of conditions of lamp units, (column structure and electrical integrity)
- bulk clean and change of lamps on a three year cycle
- full electrical safety test on a 6 year cycle
- sample non-destructive testing of column structural integrity on an ongoing basis.

- 5.3 The Service Management Team carries out regular checks on random samples of the network to check compliance with the specification.

- 5.4 During the first six months of the new arrangements, a number of problems were experienced with the street lighting service. Although overall performance levels did not fall much below the 98% target, some individual lights or groups of lights were out of operation for periods of weeks or months, leading to adverse comments from members of the public. In part this was due to a number of initial problems with the service that are examined below. In addition, many of the longer-duration problems resulted from difficulties experienced with 24Seven (now EDF), who maintain the electricity supply network. This is dealt with in more detail in a separate report elsewhere on this agenda.

Initial Problems and Solutions

- 5.5 Prior to 1st October 2002, the majority of public reports of street lighting faults were still dealt with by local HCC offices or district council agents. This made the precise number of calls that would come through the Customer Service Centre to Hertfordshire Highways from the 1st October difficult to estimate. Initial estimates turned out to be low and, consequently, the works team did not have sufficient resources to deal with the actual level of public reports at the start of the contract. This problem was exaggerated by the timing of the changes as the new arrangements started just as the clocks went back meaning darker evenings and a higher public awareness of faulty street lights.
- 5.6 Additional resources have been brought in and now a new fleet of dedicated Hertfordshire Highways branded street lighting vehicles is in place. With the clocks due to go back on 26th October this year, the works team are geared up for the anticipated increase in public awareness of street lighting. Additional scouting is underway to identify faults more swiftly and extra crews are on hand to fix them.

Initially the works team's street lighting service was centralised at a single depot making co-ordination with the local offices more difficult and meaning that local knowledge could not be tapped to assist with problems such as public reports where the location information was unclear. The service is now being delivered locally with a dedicated street lighting supervisor in each area office. The scouting teams are also being used to help clarify customer reports where necessary.

Current and Future Developments

- 5.7 A complete and updated inventory of the street lighting stock was completed in August this year which details the type of column and equipment in each installation. The works team is also installing global positioning (GPS) equipment on each street lighting vehicle in the new fleet. These developments will help the maintenance teams deal with faults more efficiently in the future.

Current Performance

- 5.8 It is estimated that over 25,000 street lighting faults will have been reported in the first year of the new operation; a number of graphs showing street lighting performance are included at Appendix I These illustrate some of the early problems and the subsequent improvements.

6. WINTER SERVICE

- 6.1 Previously termed 'Winter Maintenance', the particular network management requirements during winter are not 'maintenance' in the traditional sense but specialist operational services. The term 'Winter Service' has therefore now been adopted in line with the Code of Practice for Maintenance Management.
- 6.2 Hertfordshire County Council has moved from its previous 'Winter Maintenance Plan' to the new 'Winter Service Operational Plan' at the same time as the formation of Hertfordshire Highways which changes the operation and procurement of the winter service.
- 6.3 Currently, case law shows that highway authorities do not have a statutory 'duty to salt'. This has been an assumed duty. However it is likely that before the 2003/2004 winter season this duty will be introduced as new legislation. As Hertfordshire Highways have carried out the assumed duty generally up to and above the standards set out in the Code of Practice for Maintenance Management, it is unlikely the new legislation will require change to our operations, however, greater emphasis is now placed on salting of busy significant footways.
- 6.4 Operations and Procurement

The Hertfordshire Highways alliance has changed completely the way the winter service is procured in Hertfordshire. Previously only the physical action of salting was undertaken by the contractor. The salt and the gritter bodies were owned by HCC, road weather forecasting was contracted by HCC, the routes lorries had to drive were determined by HCC, and during periods of snow HCC had to employ the additional resources such as farmers to undertake snow clearing operations. This led to an inefficient and disjointed service.

The entire service is now provided through the highways works contract, with the exception of making the daily decision of whether to salt or not.

This has given much greater operational control over the service, consistent and more efficient levels of service countywide, which in turn enable best value.

6.5 Winter Service 2002/2003

The start of the 2002/2003 winter season coincided with the start of the Hertfordshire Highways alliance.

The winter season started mild, but January and February saw cold spells and some heavy snow falls. With the remainder of the season being changeable, the season overall was relatively average apart from the heavy snow at the end of January.

There were 40 salting outings during the 2002/2003 winter season. The average annual number of salting outings is 40.7 (taken over a 12 year period).

On two occasions salting was undertaken on the secondary salting routes and footways, with farmers/additional contractors assisting with snow clearing operations during the snow fall in January.

The 2002/2003 winter season was the first winter since salt bins were reinstated across the county. Great use was made of these salt bins for self help by local residents.

Winter service operations were carried out in accordance with the Winter Service Operational Plan. It was a successful season with 100% of normal salting outings being completed within the prescribed treatment time.¹

- 6.6 Despite some bad publicity, the traffic problems associated with the heavy snow at the end of January were beyond the control of Hertfordshire Highways. Winter service operations were carried out in accordance with the Plan, but were hampered by traffic congestion caused by diverted traffic from the motorway and trunk roads network. This aspect was subject to scrutiny by Members on 18th March 2003.

1,136 requests for services through the HERMIS Fault Reporting System were dealt with during the 2002/2003 winter season;

Fault/Service Request	Number
Ice or snow on carriageway	764
Ice or snow on the footway	82
Salt bin damaged/stolen/empty	127
Salt bin information	32
Information on salting routes	131

6.7 Financial Items

The final out turn for spend on winter service in 2002/2003 was £1.8m. This included some end of old contract plant adjustments, and some mobilisation costs associated with the formation of Hertfordshire Highways. Almost £0.5m was spent on the snow days at the end of January

7. REACTIVE MAINTENANCE

Background

- 7.1 Although much of Hertfordshire Highways work is pre-planned one of the core services is the response to emergencies and defects found on the highway. Highway inspections are undertaken with the primary purpose of identifying such defects but members of the public also notify many highway faults.
- 7.2 Since the formation of Hertfordshire Highways on October 1 2002 the Highways Service has become far more accessible to the public through improved advertising of both the Hertfordshire Highways Fault Line and the Fault Reporting Web Page. Advertising has been through posters, plastic pick-up cards, local press, community journals, school menus and livery on all Hertfordshire Highways vehicles.

¹ Salting outings during January snow not included as 'normal outings'

- 7.3 The success of the increased accessibility combined with the termination on October 1 2002 of all District Agency arrangements for highway maintenance resulted in an unprecedented increase in customer service requests, which could not have been foreseen. The dramatic increase is clearly shown in Appendix I, Reactive Maintenance Graph 1.

In total **62,517** customer service requests were received in the first eleven months of operating as Hertfordshire Highways. In the same period the year before only **27,319** were received, an increase of **130%**. Furthermore, a similar comparison of requests received over the first four months of Hertfordshire Highways show a **three-fold** increase.

- 7.4 Prior to 1st October 2002 ten HCC area offices plus the district agents managed customer service requests. Service levels differed and there was a considerable amount of inconsistency across the county.

Since 1st October 2002 all customer service requests have been directed through HERMIS, with all urgent highway faults directed straight to the Works Team.

This has brought a degree of consistency in service delivery, however, during the first five months the large numbers involved resulted in the service being stretched to its limits and at times beyond.

This led to a re-organisation by the Works Team of its operational resource levels to reflect the significant amount of data collected over the period and the lessons learnt.

Emergency Response Service

- 7.5 In October Hertfordshire Highways set itself up with four dedicated primary response teams ready to assist at all types of incident, day or night, across the county. In addition to the primary response teams there are four secondary response teams who attend emergencies when primary response teams are fully occupied.

These teams provide vital support to the emergency services in the event of an incident on the county's roads and also attend to emergency highway faults within 1 or 2 hours depending on the type of problem.

- 7.6 An emergency fault is one which could cause immediate danger to the public such as exposed wiring. Other faults such as diesel spillage, flooded roads, vandal damage and flood/storm debris are also attended by the primary response teams.

On average Hertfordshire Highways receives about 200 emergency calls each month, but this can increase by up to 30 per cent during periods of bad or extreme weather.

The analysis of contractual performance with respect to emergency response times during the initial five month period led to the recognition that there was insufficient resources to deliver the service and the primary response teams were subsequently increased from four to eight.

The effect on performance indicators was immediate and based on operational experience in future the number of primary response teams will vary during the year to reflect the volume of customer service requests received. This will vary from a maximum of eight during the winter months to a minimum of four during the summer.

7.7 The Category 1 Service

Many customer service requests identify defects on the highway that are classified as Category 1 Defects. These are defects that do not require an emergency response but do require prompt attention because they represent an immediate or imminent hazard to the public.

These types of defect include potholes and pavement trip hazards and should be responded to within 24 hours.

As with the Emergency Response Service, the data collected during the first five month period was analysed and the service realigned to achieve a satisfactory performance. This led to teams being set up in 21 geographical areas, which has been subsequently reduced to 16 when service requests dropped.

7.8 Operational Performance

Difficulties experienced during the early months of Hertfordshire Highways affected performance levels. These difficulties were a combination of a number of factors such as:

1. Implementation of TUPE and the build up and recruitment of the Works Team labour force
2. Establishment of a robust supply chain for specialist activities
3. Delay in setting up satellite area offices
4. Unexpected level of customer service requests
5. Delay in fully establishing operational and management tools within HERMIS to service the new business.

7.9 All these issues served to frustrate operational performance. However, all the above issues have now been dealt with and the service realigned to reflect experience to date.

Basic mechanisms for managing, monitoring and delivering the core service of reactive maintenance are now in place and performance levels with respect to the achievement of response times have improved and are clearly shown in Appendix I, Reactive Maintenance Graph 2.

Response times for Emergency and Category 1 Defects are currently both at 85%. Performance is monitored and refinements made to the service in order to meet satisfactory service target level of at least 93%.

7.10 Financial Implications

The accessibility of the service to its stakeholders and the resulting increase in the number of customer service requests has added significantly to the costs of the reactive maintenance service. Predicted outturn costs for the current financial year is £3.2million. This needs to be offset by efficiency savings elsewhere in the overall Alliance operations.

Any extended periods of extreme weather conditions will place further pressure on budget provision for this service.

8. GRASS CUTTING

Background

8.1 Hertfordshire's roads include nearly 15 million square metres of grass verge. Approximately 3 million square metres are managed directly by Hertfordshire Highways and are cut by the Works Team. The rest of the highway grass is managed by various District and Borough Councils, on behalf of Hertfordshire. Nine of the ten Districts have some involvement in highway grass cutting although the degree of involvement varies from District to District. The details of these arrangements were looked at in more detail in a report to the Scrutiny Committee on 21st January 2003 and are not reproduced here. Many of the arrangements with Districts and Boroughs are still interim and are under negotiation; consequently they may change in the future although there have been no significant definitive changes since the 21st January report.

8.2 Grass Cutting During 2003

Although the various District Council-managed grass cutting operations have continued much as before this year, there have been significant changes where the service is provided directly by Hertfordshire County Council.

The most significant change for the future of the service is the introduction of the performance specification, which replaces the old frequency specification. Under the new regime, the Works Team cut the grass more frequently during periods of high growth (usually when there is high rainfall mixed with sunny periods) and less frequently when growth is lower during prolonged dry spells. This leads to a better and more consistent service without the need for abortive or wasted extra cuts.

However, the change in arrangements has also brought a degree of disruption, which has seen service levels suffer in some parts of the county. Where the Works Team have taken over from the previous HCC contractor or a District Council, it has not always been possible to provide precise records of the location and extent of the grass to be cut. Knowledge held by operatives who used to carry out the works was no longer available and, as a consequence, some areas were missed from the initial cuts.

The Works Team and Service Management Team have been working together to identify any missing areas and add them to the records with the aim of having complete and accurate records from the start of the 2004 grass cutting season. Needless to say, any additional areas requiring cutting have been added to the schedules for cutting at the first opportunity.

8.3 De-Trunked Roads

A number of non-core routes including parts of the A41, A414 and A 405 were de-trunked in May 2003 with HCC taking over responsibility for their maintenance from the Highways Agency. This has posed a number of additional challenges with regard to grass cutting.

The majority of the length of these routes is high-speed dual carriageway and therefore requires special traffic management arrangements. Grass cutting can only be carried out during off-peak hours and only relatively short sections can be made available at a time.

As these roads were passed to Hertfordshire Highways after the start of the season, the Works Team had not been able to gear up in advance for this work which requires specialist equipment. Consequently grass cutting on these roads lagged behind the rest of the programme.

9. ROAD MARKINGS

9.1 Background

Highway road markings are used, much like signs, to warn or inform drivers and to denote certain regulations. As such, while some markings are advisory, many are statutory.

- Advisory markings include: most *white* lines such as centre lines, give-way lines, 'SLOW' markings, route directions marked on the road
- Statutory markings include: some *white* lines such as 'stop' lines at traffic signals and residents parking bays; most *yellow* lines such as single & double yellow lines, bus stop clearways, loading restriction kerb 'blips' etc

Although the statutory markings are clearly important legally, many of the advisory markings also have safety implications.

9.2 Application and Durability

Highway road markings are traditionally thermoplastic which is more durable than traditional paints although there are some new high performance paint-type products on the market that are being investigated for possible future use. Thermoplastic is heated to melting point and sets hard when it cools on the road surface. The road surface needs to be reasonable clean and dry in order to obtain proper adhesion so road marking works are best carried out during the summer months and periods of adverse weather can seriously affect a programme. The same restrictions would also apply to the use of paint and the heat in the thermoplastic means that it can tolerate being laid on damp roads.

The durability of thermoplastic road markings depends very much on the amount of traffic using the road and, in particular, how often that particular section of marking is driven over. Markings in high-stress locations where vehicles typically brake or accelerate will wear out especially quickly.

A line that is not frequently overrun by vehicles, such as a yellow line by the side of a quiet road, will last for many years. A line that is overrun frequently, such as a stop line on a busy road, can become significantly worn in less than a year. Although it can vary greatly, the typical life for thermoplastic marking is between two and five years.

9.3 Renewal Strategies

Traditionally, road markings in Hertfordshire have been replaced by one of three methods:

- Scheme based: When the road in question is resurfaced, or sometimes when it is subject to other major works, all road markings will necessarily be replaced.
- Scheduled: A list of worn or faded sections of markings, usually in the same area, is drawn up and these are renewed in the same visit or series of visits. This is the most efficient method inasmuch as only the worn markings are replaced but scheduling the markings individually can be very time-consuming.
- Ad-hoc: Individual markings are renewed when they are worn out. This is inefficient in terms of costs and time and would only usually be used when the marking in question was critical to the safe operation of the highway.

Road markings have traditionally been underfunded and, often, poor areas have remained unattended for protracted periods. Therefore this year, to address the overall poor state of road markings countywide, Members assigned an additional £500,000 to road marking improvements. A number of different options for the use of this money were explored including trials of new products and processes. However, in order to make the most of this funding during the available good weather, it was decided to stay with existing materials but try a new method of delivery.

Following trials in Hertford and Hitchin, an area-based approach was adopted throughout the county. Rather than specifying individual markings in a particular location, the road marking team were given lists of roads and specific types of markings that required attention. They were then able to move into a particular area in force, renewing all the specified markings to create maximum effect.

The roads and markings specified varied from area to area and were selected by the local service management teams based on local knowledge but were required to follow a consistent countywide strategy concentrating on statutory markings on main roads in urban areas.

The more targeted 'schedule' approach has been continued in parallel to maintain road markings not covered by the area-based approach within existing budgets.

Although this approach is not quite as targeted as the 'schedule' approach, it requires a lot less preparation. It also creates a consistent approach on the roads treated with all lines of a certain type renewed, rather than selected sections. The partnering approach of the Hertfordshire Highways organisation makes this approach viable with more responsibility placed on the works team in line with the ethos that the best-placed partner undertakes the operation.

9.4 Future Development

As part of the Asset Management approach to highway maintenance, it is an aim to move towards an output specification for road markings in collaboration with the Works Team. Under such an arrangement, the Works Team would maintain all road markings to set standards for a regular fee, renewing or replacing them as necessary rather than when instructed to do so by the Service Management Team.

9.5 Financial Implications

At the time of writing this work is still ongoing, although it is intended to be substantially complete by the end of October. The programme should allow the delivery of the full £500,000 of area-based improvements this year; continuing this approach in future years would be dependent of the available funding..

The financial implications of an output specification for road markings are not yet quantified. It is possible that a substantial initial investment would be required to bring the markings up to an appropriate standard for the Works Team to maintain although this year's improvement works will have made a significant contribution to that process.

10. CONCLUSION

The Committee is invited to consider the report as a basis for the scrutiny of this subject and to make any recommendations to the Council, Cabinet or Chief Officers.

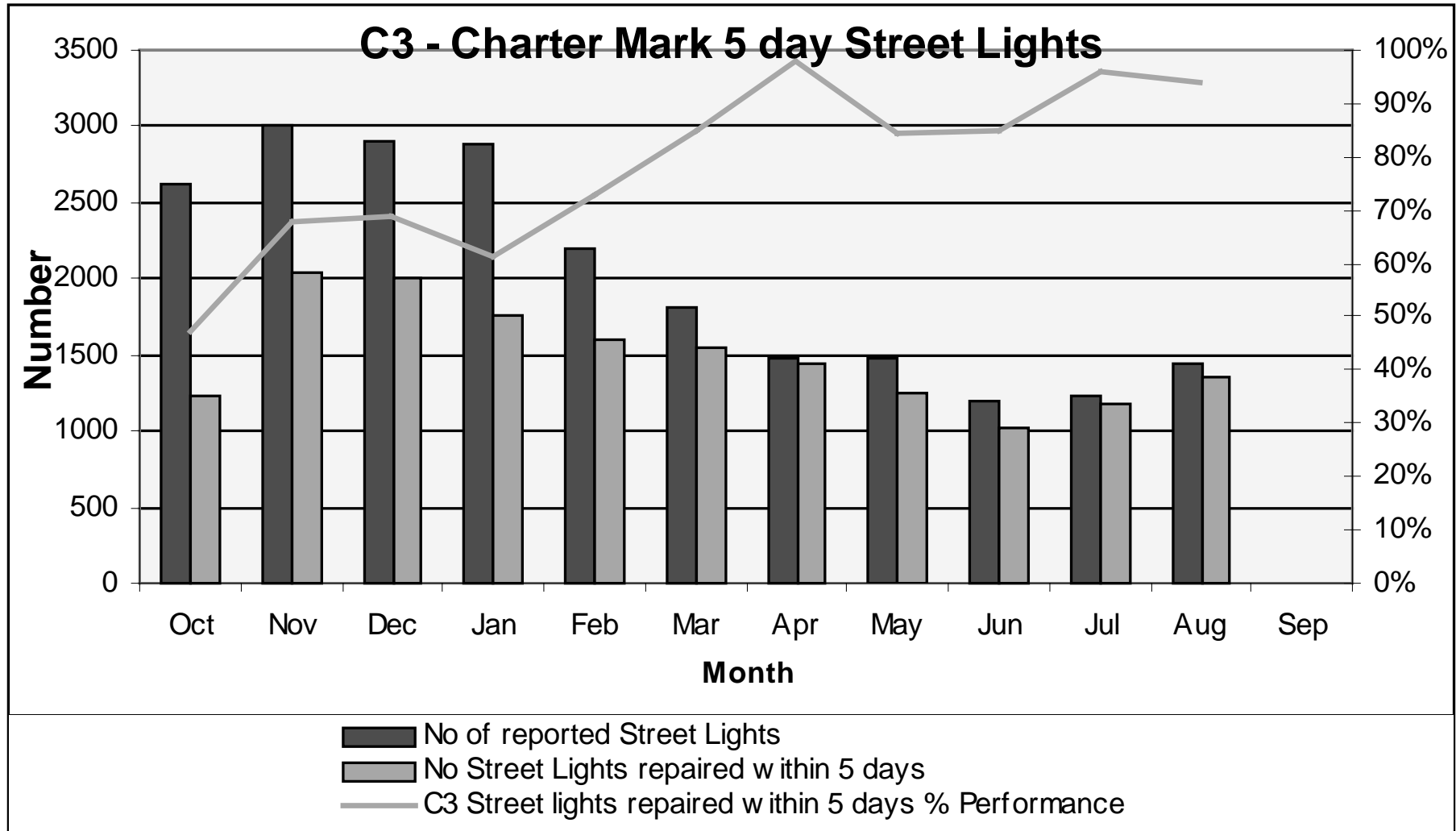
Background material referred to by the author while compiling this report:

Hertfordshire's Highway Asset Management Plan 2001-2004
Hertfordshire County Council Highway Works Contract
Hertfordshire's Winter Service Operational Plan

Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

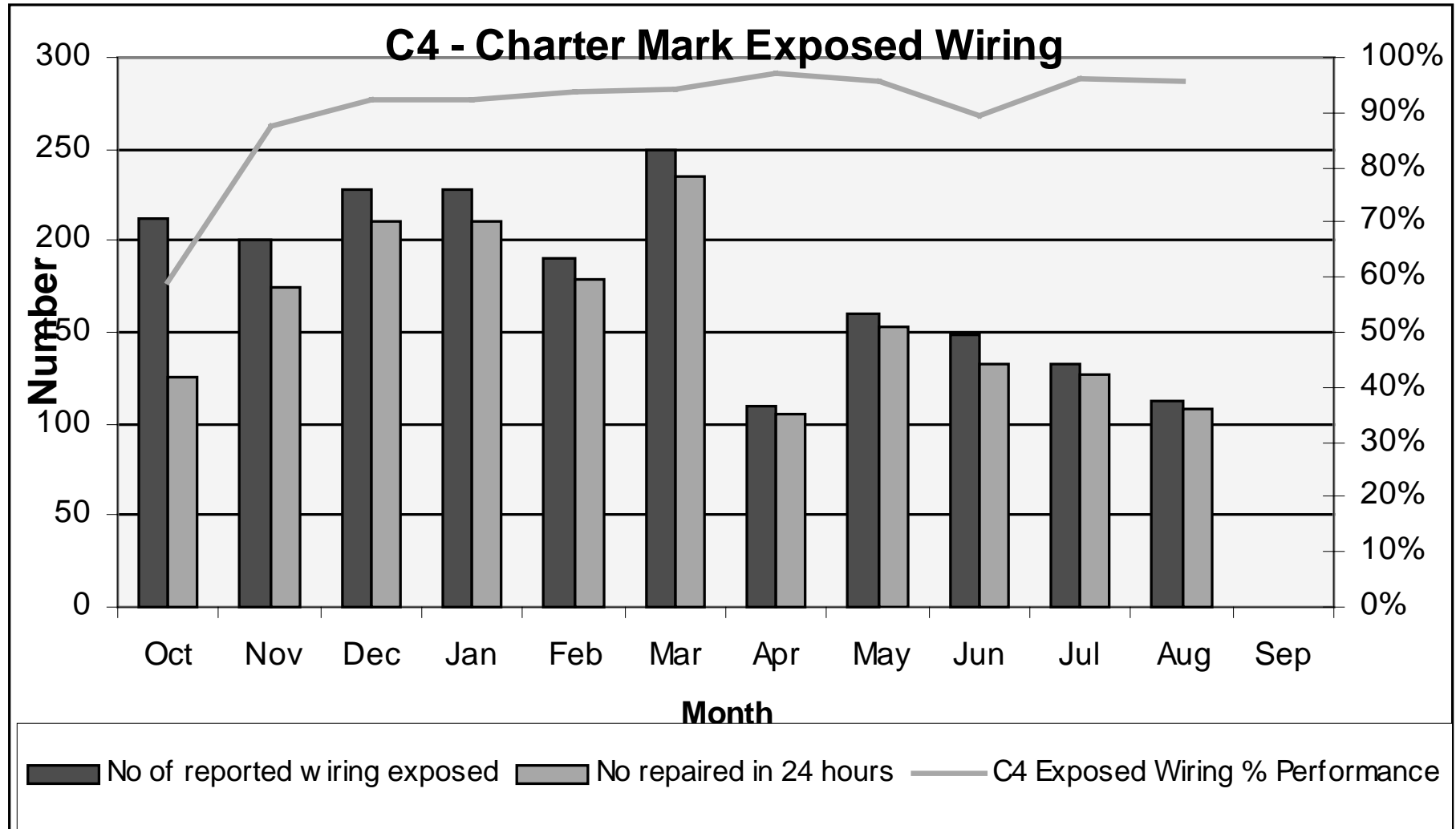
Street Lighting Graph 1 of 4



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

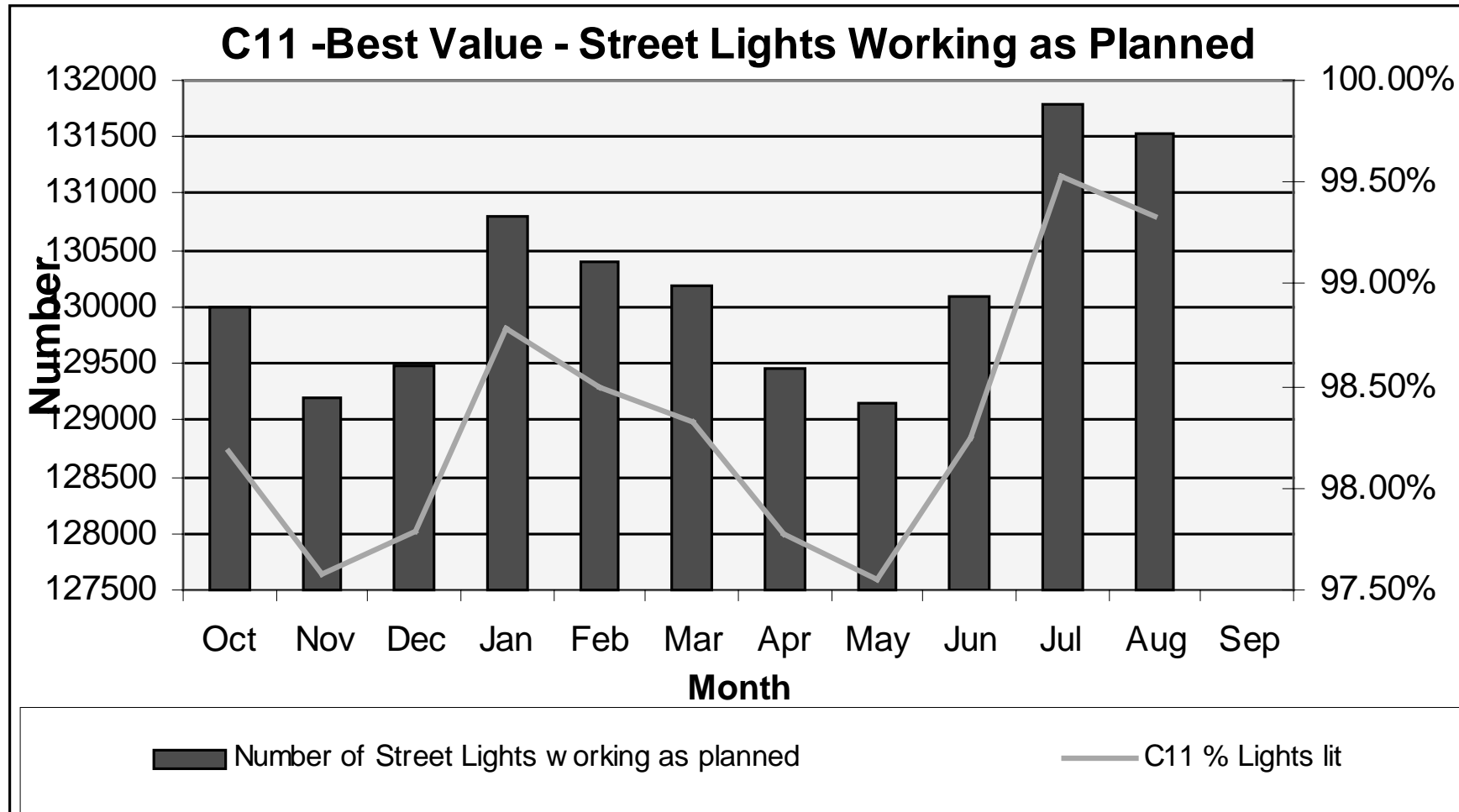
Street Lighting Graph 2 of 4



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

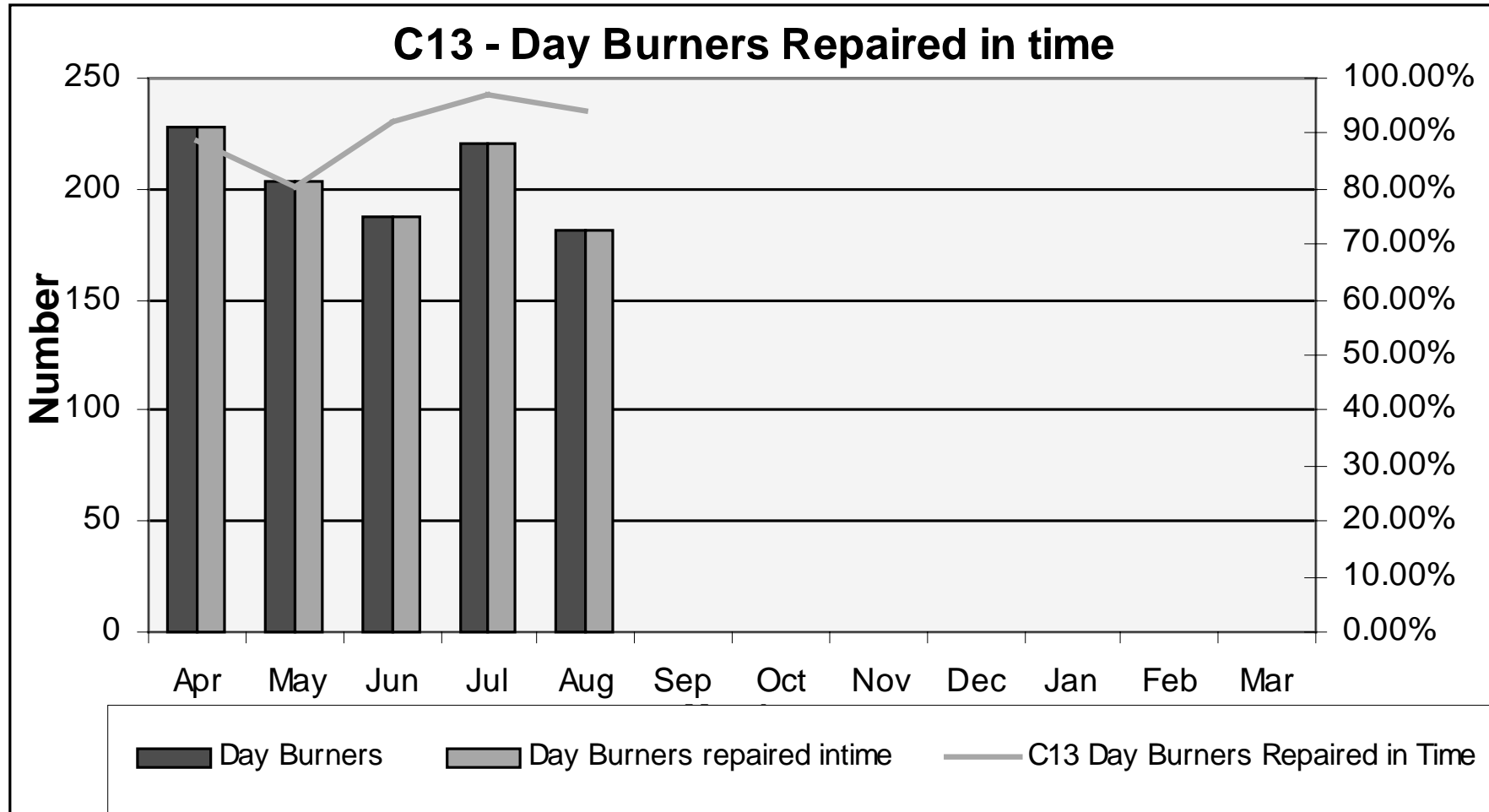
Street Lighting Graph 3 of 4



Performance Indicator Graphs

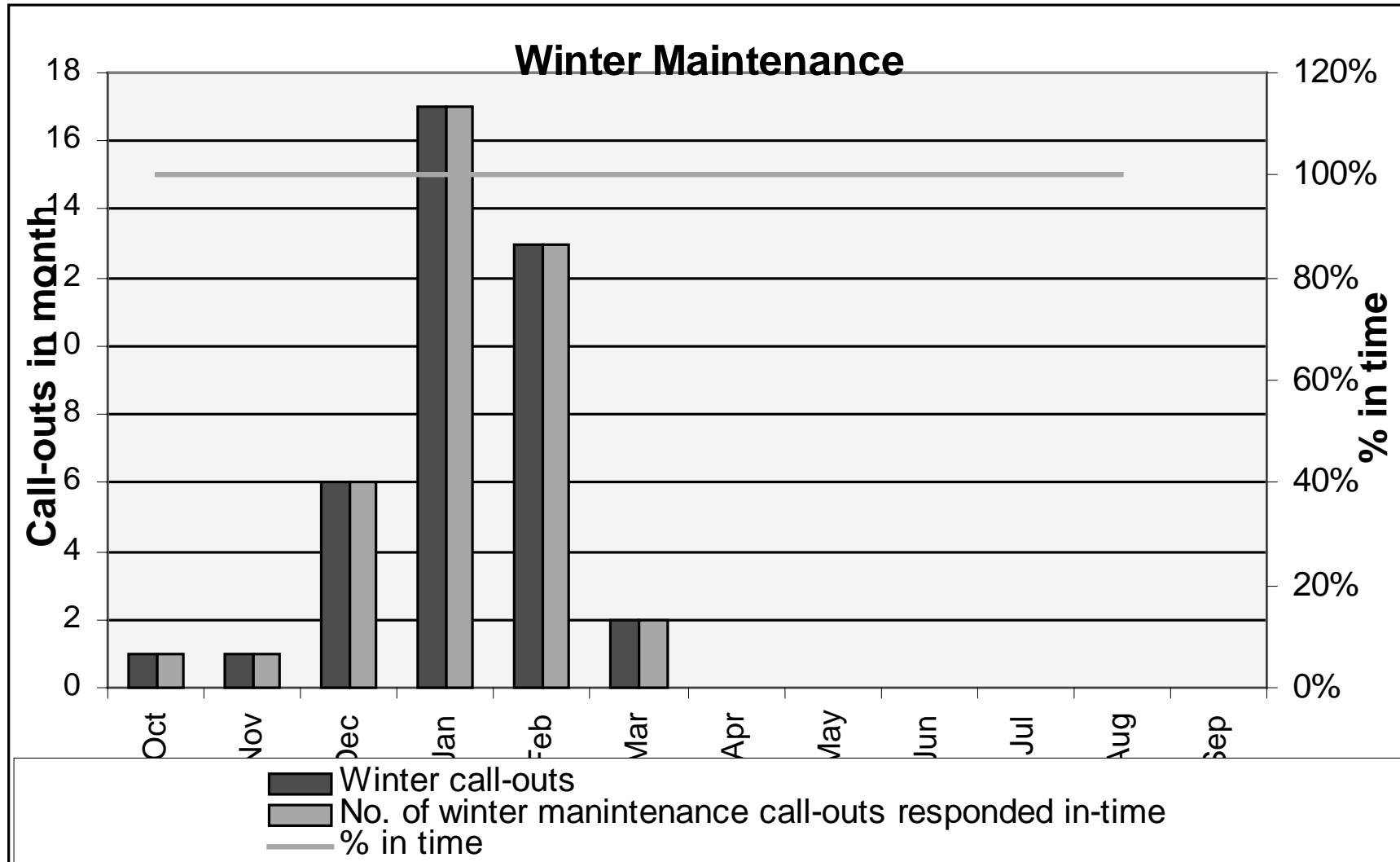
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Street Lighting Graph 4 of 4



Performance Indicator Graphs

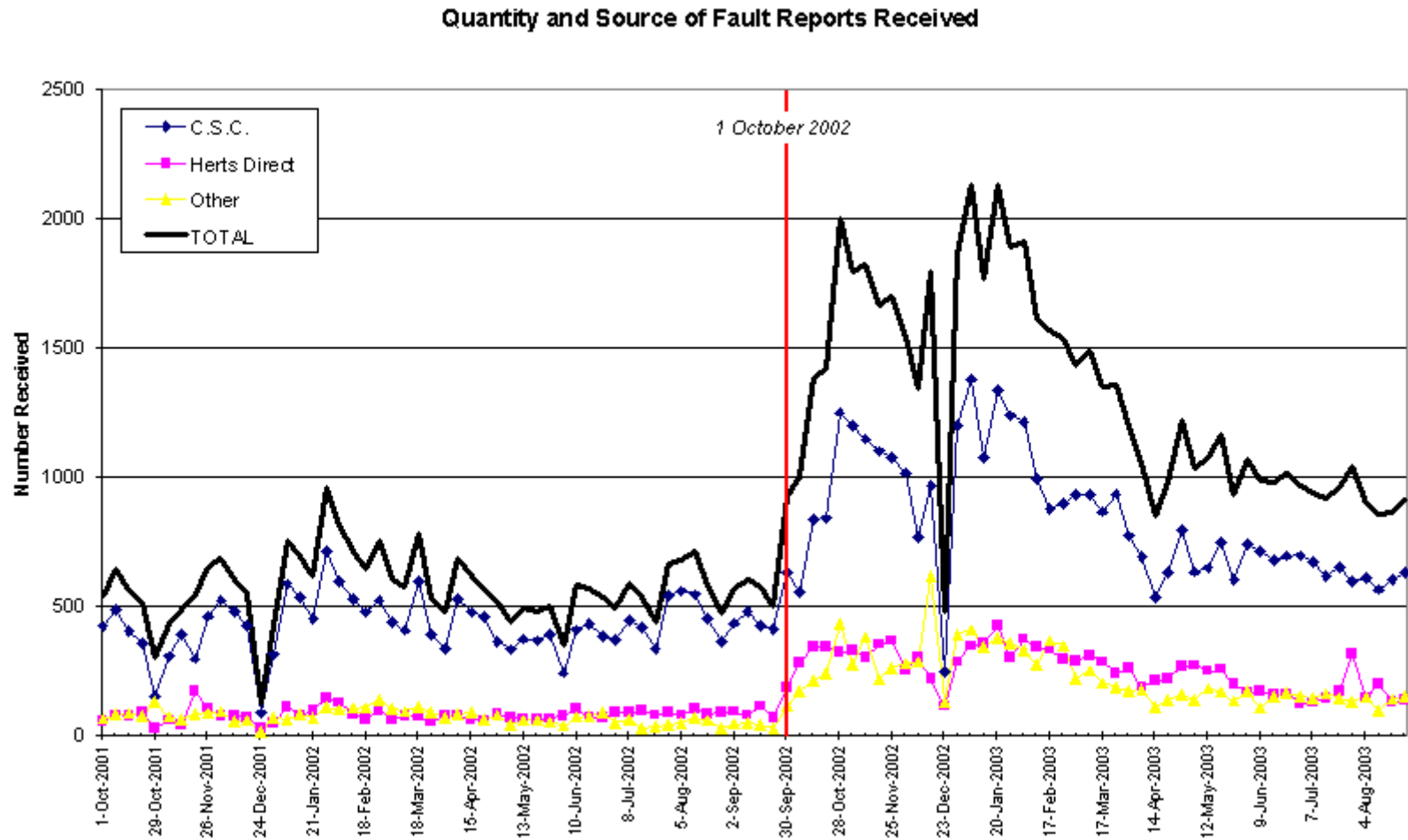
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Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

Reactive Maintenance Graph 1 of 6

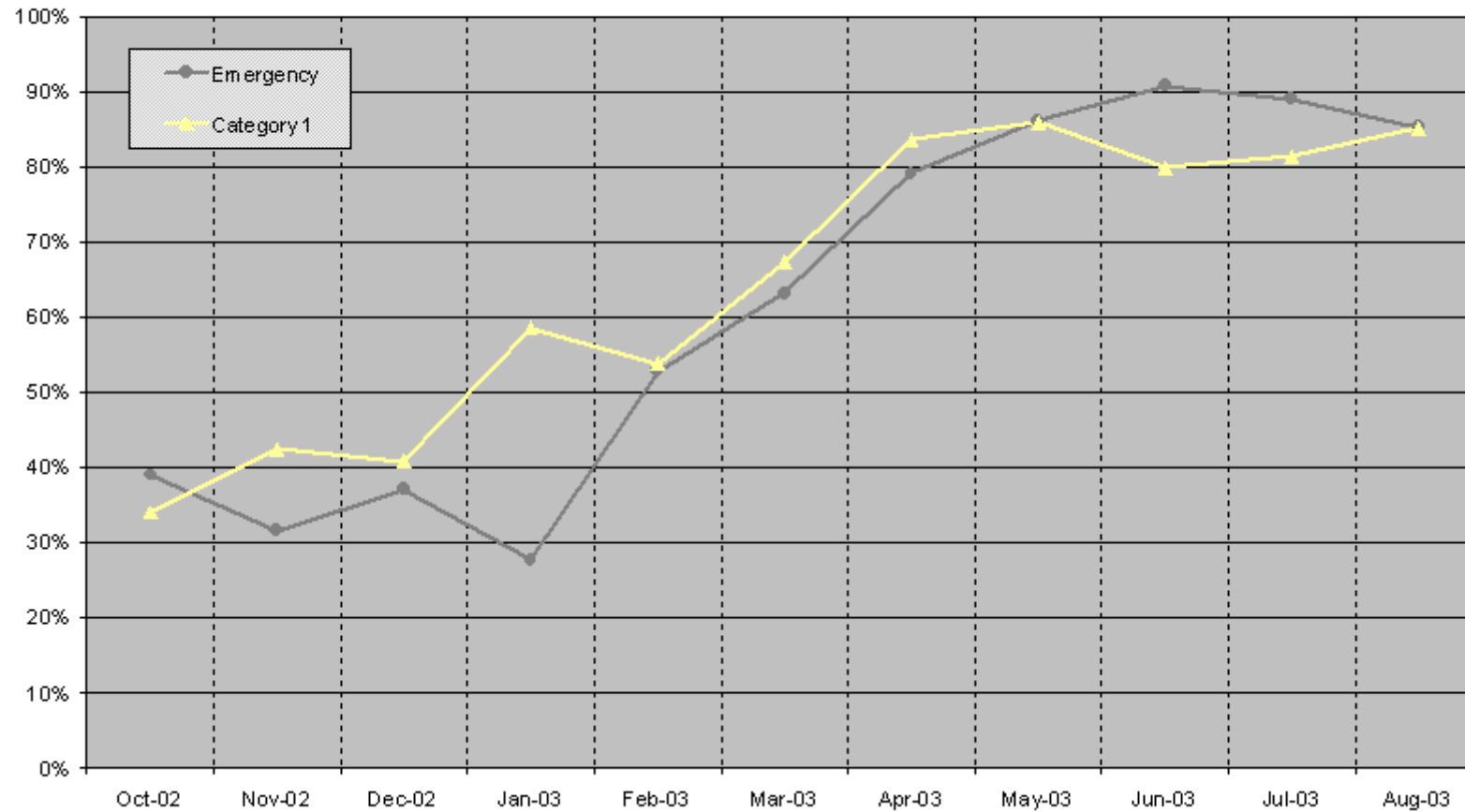


Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

Reactive Maintenance Graph 2 of 6

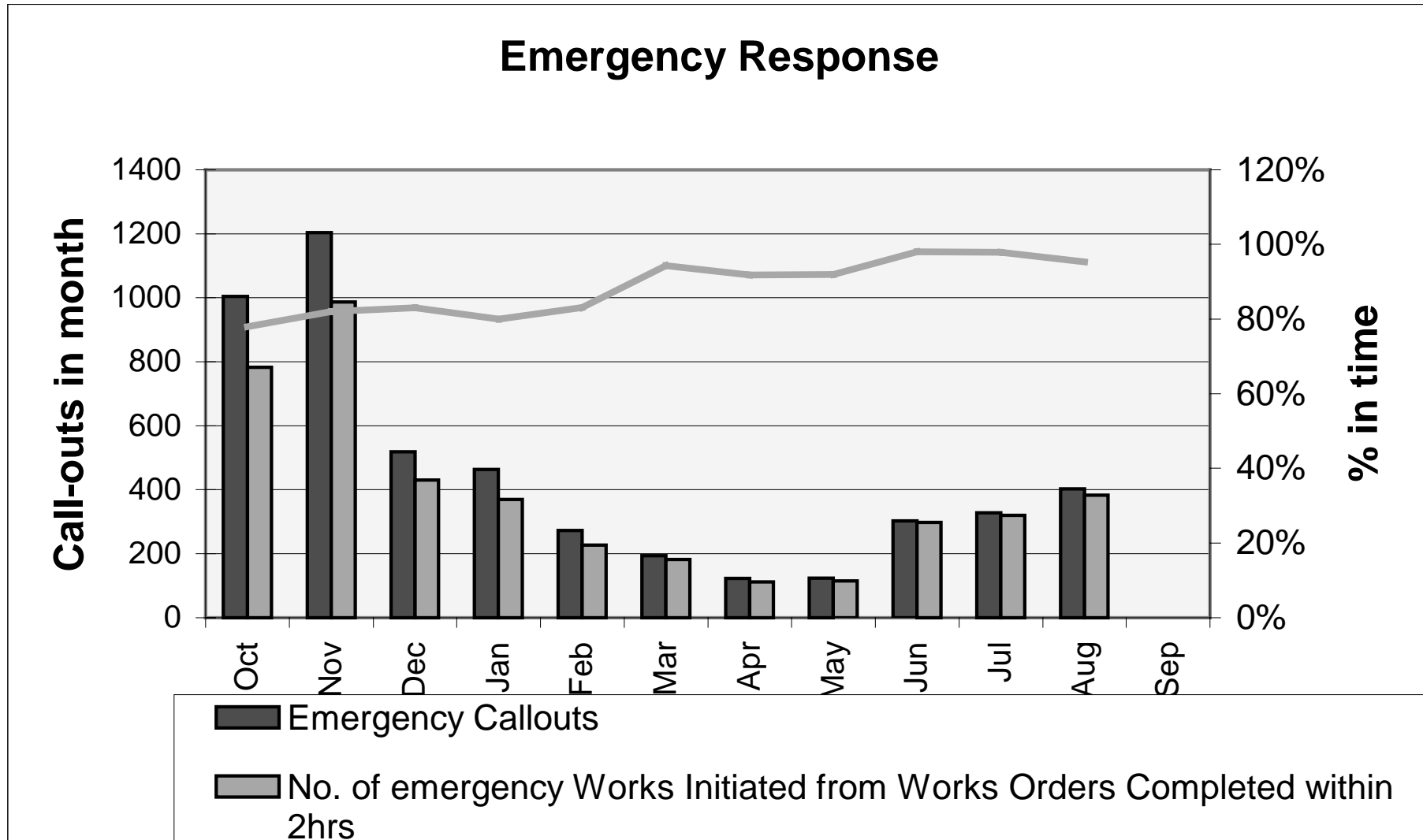
Customer Service Requests - Responded in Time



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

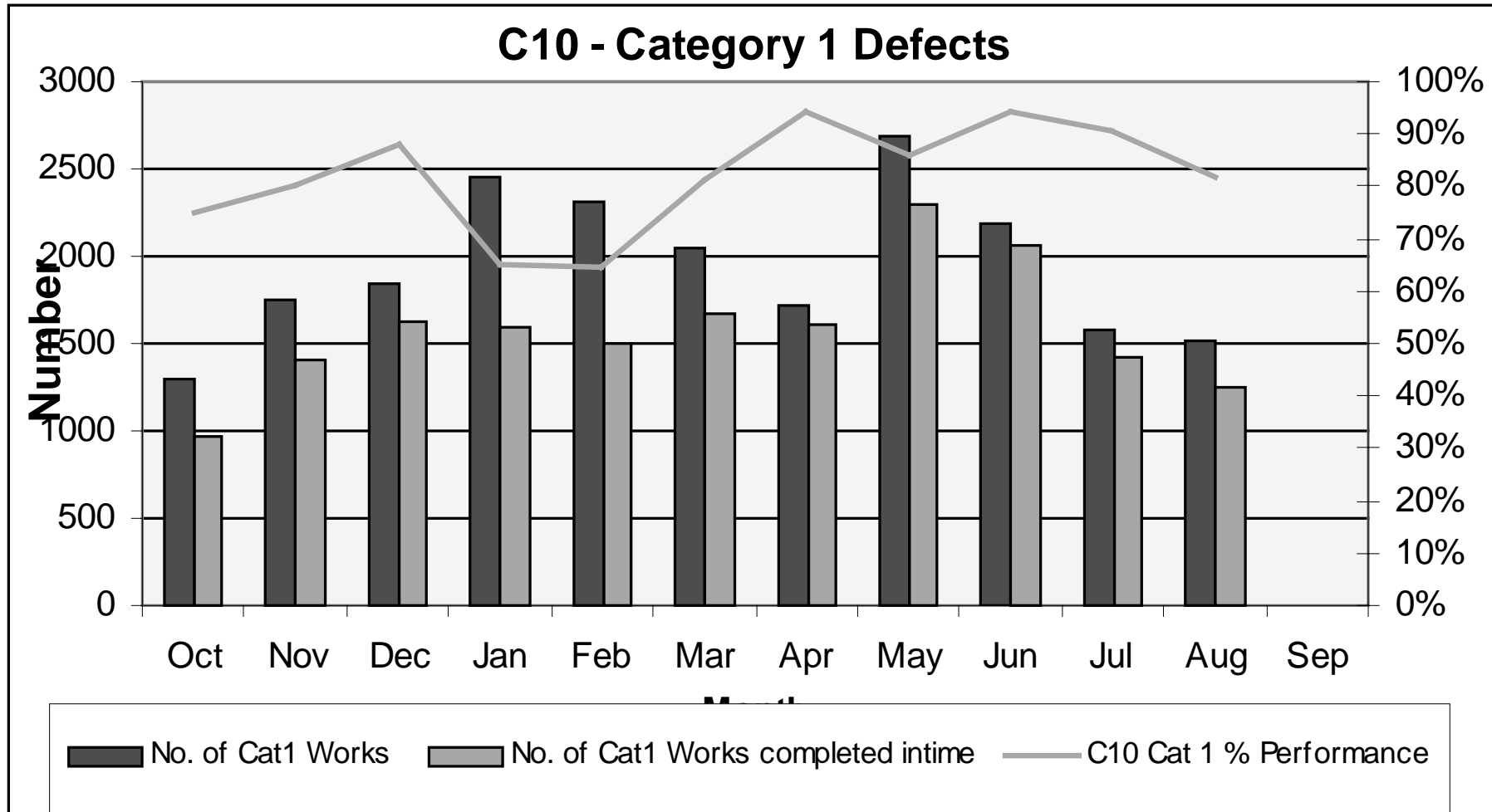
Reactive Maintenance Graph 3 of 6



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

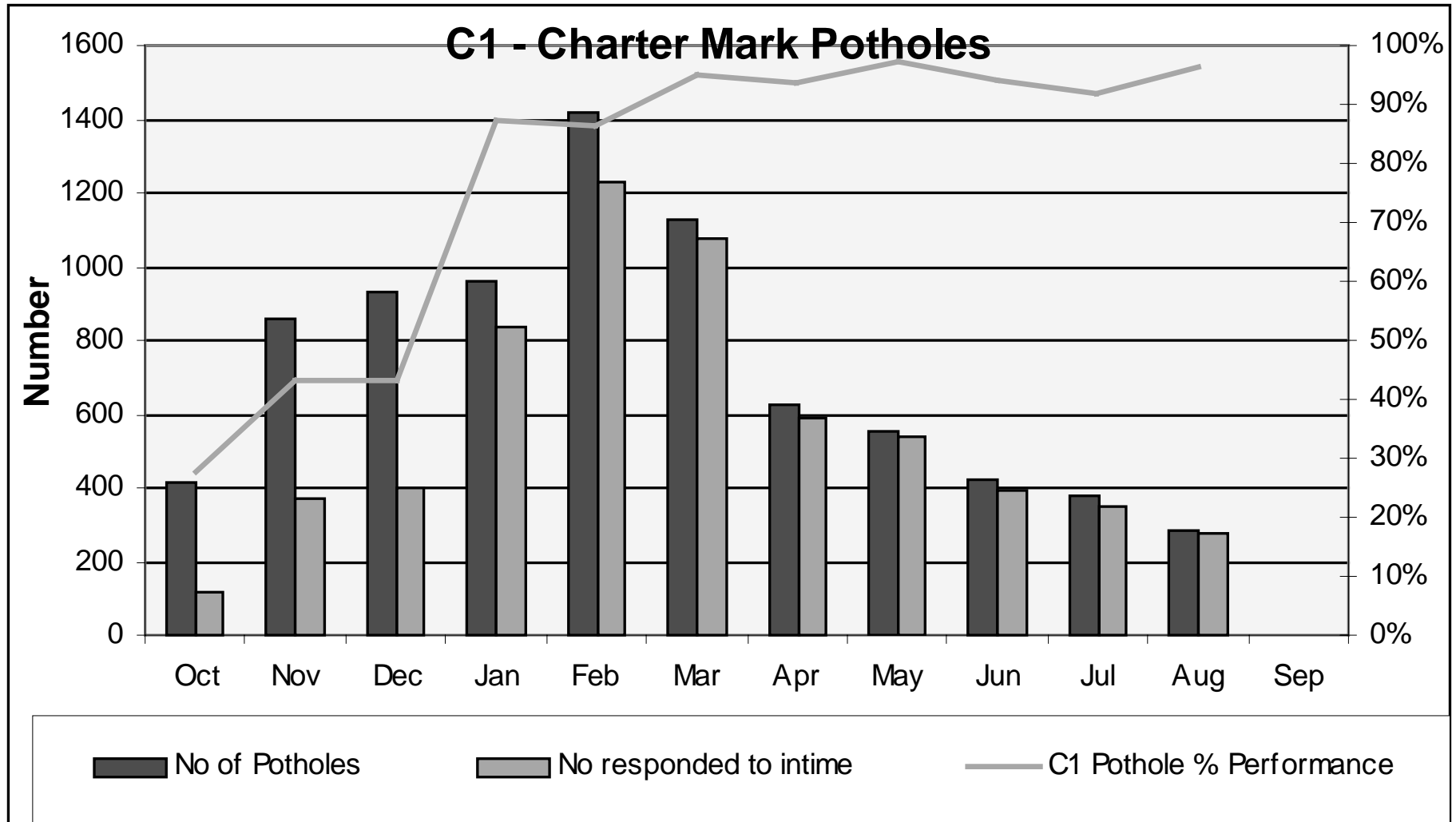
Reactive Maintenance Graph 4 of 6



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

Reactive Maintenance Graph 5 of 6



Performance Indicator Graphs

(Note: The information used to compile these graphs is drawn from the common HERMIS database)

Reactive Maintenance Graph 6 of 6

