Best Value Review on Road Traffic Collision Provision (RTC Provision)

Nottinghamshire and City of Nottingham Fire Authority

Final Report

including Options and Baseline Review

Executive Summary

Nottinghamshire Fire and Rescue Service proposed, in the Integrated Risk Management Plan (1) that a review of the current provision for responding to Road Traffic Collisions would take place. A review team, drawn from across the service, was formed with the remit to conduct the review in line with the Guidance For Best Value Reviews. This was done, thus ensuring that each of the "5 Cs" (challenge, compare, consult, competition and collaboration) were duly considered.

The first meeting of the review team took place on Monday 18th July 2005 and this final report submitted on Monday 14th November 2005.

The review group considered the existing provision and financial cost of resources and the geographic and numeric level of incident activity. An overview of the response provision made available by other Brigades was obtained along with information that supported the decision to provide such resources.

A number of options relating to the possible future provision of resources for responding to road traffic collisions were considered, along with the financial, training and practical implications.

Finally, recommendations have been made.

Contents

1. Background

1.1 The Fire and Rescue Services Act 2004, part 2, "Functions Of Fire and Rescue Authorities", item 8 (1) states; "A Fire and Rescue Authority must make provision for the purpose of –

(a) rescuing people in the event of road traffic accidents in its area
(b) protecting people from serious harm, to the extent that it considers it reasonable to do so, in the event of road traffic accidents[1] in its area".

Item 8 (2) a-e requires the Fire Authority to secure the provision of personnel, services, equipment and training as well as providing for dealing with calls for help.

1.2 The responsibility for key policy decisions relating to the provision of resources lies locally with the Combined Fire Authority. Due regard, however, must be given by any direction made by the Secretary of State under item 9, 1-3 of the Fire Services Act 2004.

1.3 Every year, something in the region of 800 Road Traffic Collisions occur within the geographical boundaries of Nottinghamshire. Nottinghamshire Fire and Rescue Service provides a response capability aimed at saving life, reducing suffering, protecting the environment and restoring normality.

1.4 Nottinghamshire Fire and Rescue has a number of aims and objectives that fall broadly into 3 main categories. They are; Prevention.." to educate and empower our communities", Protection.." to ensure that premises are safe for our communities" and Intervention.." responding to calls for assistance". The integrated Risk management Plan (1), section 3.2 confirmed the intention to investigate our current provision for responding to Road Traffic Collisions. This Best Value review is aimed at providing the public of Nottingham and those that travel within its boundaries, the best possible response provision.

1.5 Legislatively, Fire Authorities must now make provision for the purpose of …"rescuing people in the event of road traffic accidents in its area", and, " protecting people from serious harm, to the extent that it considers it reasonable to do so, in the event of road traffic accidents in its area". These requirements came into force as part of the Fire and Rescue Services Act 2004. Prior to the enactment of this act there was no legislative requirement for Fire Authorities to make provision for rescuing people involved in road traffic collisions. A number of indicators are currently provided to the ODPM on a voluntary basis. It would be prudent to consider that given the legislative requirement to make provision for attendance at Road Traffic Accidents[1] that forms part of the Fire and Rescue Services Act 2004 there is a possibility that such statistics will form a required indicator rather than a voluntary one at some time in the future.

1.6 Some joint training takes place alongside ambulance staff and paramedics as part of the Road Traffic Collision training provided by the Service Development Centre. Additionally, the Trauma Retrieval Team based at the Queens Medical Centre and the Accident Investigation Unit from Loughborough University have both attended training days provided by staff from Nottinghamshire Fire and Rescue Service aimed at improving incident ground safety practices at Road traffic Collisions.

[1] Road Traffic Accidents are now referred to as Road Traffic Collisions

2. Best Value Review Team and Four C's

2.1 Best Value Review Team

2.1.1 The aim of Best Value Review on RTC Provision was to evaluate the response to Road Traffic Collision, in light of the statutory duty contained within the Fire and Rescue Services Bill and as identified in IRMP(1) section 3.2.

2.1.2 The Objectives of the Best Value Review on RTC Provision was to undertake the review under the principles of Best Value by:

- **Challenging** why, who and by whom RTC provision is being provided.
- **Comparing** the performance of RTC provision with other Fire and Rescue Services.
- **Consulting** with local stakeholders to ascertain their experience of RTC provision and their aspirations for the future.
- Using fair and open **Competition** wherever necessary as a means of securing more efficient and effective RTC provision.
- Assess how **Collaboration** may improve RTC provision.
- Present a range of alternative options for the future provision of the service.

2.1.3 The scope of the Best Value Review on RTC Provision was to review:

- Equipment carried on all appliances for initial, immediate and heavy responses.
- Standard Pre Determined Attendances (PDAs)
- Training requirements
- Road Safety Education (involvement in partnerships)

2.1.4 The Best Value Team was formed from personnel taken from various departments within Nottinghamshire Fire and Rescue Service and Representative Bodies. The Team members are listed below.

Best Value Review Chair	Andy Beale
Best Value Officer	Paul Riley
Project Co-ordinator	Andy Bettison
Operational Advisors	Seth Armstrong
	Grant Smith (SDC)
	Tim Hage
	Shaun Allen
	Rick Berry
	Martin Hibbert
Transport	Graham Bosworth
FBU Rep	Steve Ainley
FOA Rep	Keith Jones
Information Services	Phil O`Hare
Control	Nigel towers

Councillor John Hempsall (CFA Member)
Councillor John Cottee (CFA Member)

Additional Information provided by Jay Curson (RTC Initiatives)

2.2 Challenge

2.2.1 The methodology of challenge was the consideration of the statutory duty placed upon NFRS under the Fire Services Act 2004. The way in which NFRS provides its RTC provision was challenged. In particular, consideration was given as to whether the RTC provision was able to maximise the survivability of persons trapped in an RTC.

2.2.2 The challenge findings were that the best way to increase the survivability of persons trapped in the majority of RTCs was to provide the best equipment and suitably trained personnel on the first appliance in attendance. The most appropriate RTC equipment to be carried on first response appliances is medium rescue equipment. Ultra-Heavy Rescue Equipment is required for RTCs involving larger vehicles. At present, Rescue Tenders carry medium / heavy equipment.

2.3 Compare

2.3.1 The methodology employed was the identification of findings from other Fire and Rescue Services RTC Provision Reviews and the identification of our region's RTC provision.

2.3.2 The findings under comparison were that Fire and Rescue Services that had undertaken RTC provision reviews had upgraded their appliances with medium rescue equipment and upgraded their Rescue Tenders with heavy rescue equipment.

2.4 Consult

2.4.1 The consultation methodology was to consult with stakeholders to ascertain views around RTC Provision and resulting options. This was achieved through the creation of a review team that included operatives from the 4 Rescue Tender stations as well members from the representative bodies. A Staff Briefing Note outlining aims, objectives and scope of the review was distributed early in the review process to all staff.

2.4.2 The consultation findings were that the need for updated equipment was a necessity and that all first line appliances needed medium rescue equipment in order to provide the best service. Concerns were raised over training implications and the reduction of Rescue Tenders resulting in the loss of skilled personnel at RTC incidents.

2.5 Competition

Nottinghamshire Fire and Rescue Service provide an immediate response to RTCs with appropriate equipment and skilled personnel in attendance. With the exception of other brigades, there are no other providers of the specific service under review.

2.6 Collaboration

Nottinghamshire Fire and Rescue Service currently attend over-the-border incidents and vice versa. The region's RTC provision has been assessed as to the location of Rescue Tenders / Ultra Heavy Rescue Vehicles and how this could best serve Nottinghamshire. Collaboration with our neighbouring Fire and Rescue Services will continue with regards to over-the-border incidents but in order to provide Nottinghamshire with the best RTC provision in terms of attendance times, Rescue Tenders / Ultra Heavy Rescue Vehicles must be located within Nottinghamshire.

3. Baseline Review

3.1 Current Service

3.1.1 Current working practices relating to the provision of 4 specialist Rescue Tenders involves the allocation of 16 Crew Manager posts and 32 Firefighter posts across the 4 RT stations. There are also 36 appliances, crewed on both a wholetime and a part time basis. These are crewed by an agreed wholetime establishment of 456 (riders) and approximately 345 part time (retained) personnel. There are a total of 4 Rescue Tenders within the Brigade. Each requires an appropriate allocation of appliance room space. They are currently located at Dunkirk, Ashfield, Newark and Retford fire stations where they have a dedicated bay within the appliance room.

3.1.2 All staff at RT stations are programmed to receive training specific to the equipment carried on the Rescue Tenders. Moreton In The Marsh Training College provides specialised training for RTC instructors and by SDC for personnel from the Brigade. Continuity training takes place at station level on a regular basis. The expertise of the Rescue Tender operatives is widely acknowledged. All operational personnel receive basic and continuity training in relation to road traffic accident procedures. Each Station has a number of RTC instructors with the responsibility for continuity training at station level.

3.1.3 The following figures detail the specific wages cost of providing personnel to crew the 4 Rescue Tenders that currently form part of the Brigades response to Road Traffic Collisions. These figures are on an annual basis:

16 CMs (Assuming Competent Rate) = 16 X 28320 = £45,1680
32 FFs _____"_____ = 16 X 25850 = £827200
£1280320

3.1.4 Although there appears to be no specific protocol document relating to working practices there is a general acceptance that the equipment that is located on the Rescue Tenders and not duplicated on the Water Ladders is of a specialist nature and should only be operated by personnel trained as Rescue Tender Operatives.

3.1.5 The Transport Department is responsible for the fleet provision for the Brigade and at the time of this review both the fleet provision and part of the rescue equipment provided, (the Holmatro), is under review pending new contracts. The Transport Department is currently in the process of researching the replacement of 8 pumping appliances. As part of the process, it will be necessary to consider the stowage of equipment and, as such, the actual equipment to be carried. This being the case, it has been essential to include representation by the transport dept on the best value working party. The whole fleet of appliances is replaced on a rolling programme basis.

3.1.6 On receipt of a call to a RTC where individuals are possibly trapped, control will mobilise an attendance based on the following.

- Firstly, the response areas for the 4 RTs are defined on a map that is displayed on the wall of control. In the absence of any other influencing factor, the RT that serves the area where the incident has occurred will be mobilised. Influencing factors might be where an RT is geographically further from the scene than one of its counter parts or is on a delayed turnout.

The remainder of the initial response to a RTC, persons trapped, is variable according to the following;

- The standard norm is to mobilise 2 water tender ladders.

- Where both of the nearest Water Tender Ladders are crewed by retained personnel, an additional appliance, crewed by wholetime personnel, is mobilised.

- In the case of a mobilisation of the Rescue Tender from either Retford or Newark, Retford or Newark pump are used as a backup pump. If they are unavailable, then Retained Pumps at Retford or Newark can be used as a support pump within their own areas unless they form part of the PDA. This is not the case for Dunkirk or Ashfield stations. This anomaly in mobilising practices will be addressed as part of this Best Value review.

3.1.7 The following are statistics regarding attendances to Road Traffic Collisions across Nottinghamshire averaging one-year attendance spread over the last five years.

- Each year, Nottinghamshire Fire and Rescue Service attend 800 RTC's.

- 49% of all RTC's have a Rescue Tenders booked in attendance.

- 29% of all RTC's involve an extrication of at least one casualty.

- 26% of all RTC's involve an extrication of at least one casualty and a Rescue Tender booked in attendance. Note that it is not possible to ascertain if the Rescue Tender had been used for extrication purposes.

- 9% of all RTC's involve a lorry or heavy vehicle. Of these, 70% are attended by a Rescue Tender.

Maps relating to 5 years activity for each of the above are located in the **Appendix One**

3.1.8 The Rapid Intervention Kit that is currently carried on appliances is due for replacement. The service contract relating to this equipment is also due for renewal. The existing contract has been extended for a six month period in order to facilitate the outcomes of this review.

3.2 Current Performance

3.2.1 A Best Value Review of Special Services was undertaken by a project team from within Nottinghamshire Fire and Rescue Service, the completed report being produced in March of 2001. The Government "Pathfinder Document" was produced in January of 2000 and detailed proposed minimum response options to a variety of scenarios, which included Road Traffic Accidents. The Fire Brigades Union has produced a series of Critical Attendance Standards (CAST) as part of their Integrated Risk Management Planning document.

3.2.2 Nottinghamshire Fire and Rescue Service is signed up to Local Public Service Agreement Target 5 which is a national target to reduce deaths and injuries on the roads in Nottinghamshire (excluding Nottingham) to 599 by December 2005. Nottinghamshire Road Safety Team is the owner and service area for this target. Current performance for Road Safety Teams is measured through ten KSI (killed or seriously injured) Best Value Performance Indictors. These indicators can be examined to extract the actual numbers of KSI relating specifically to private or commercial vehicle involvement, cyclists and pedestrians etc. One such provider of statistics is the East Midlands Public Health Observatory which can be located on the internet via www.empho.org.uk, or the Cross-Service Road Safety Plan 2003-2010 www.nottinghamshire.gov.uk/roadsafetyplan.pdf

3.2.3 At present there are no specific performance indictors for Nottinghamshire Fire and Rescue Service in terms of road traffic collisions. In order to provide information on performance and future planning, more specific information is required on attendances, equipment and resources used. A suite of local performance indicators on road traffic collision attendance is proposed.

3.2.4 Whilst it has been possible to obtain and present statistics relating to the number of RTCs that have been mobilised to and whether the Rescue Tender booked in attendance, it is difficult to identify which equipment has been used and the level of involvement of the Rescue Tender crews. Anecdotal evidence may be of use but is not readily quantifiable.

3.2.5 One primary area of concern is the current position whereby there is confusion over the qualification to ride in charge of a rescue tender. This has led to a number of occasions where a Rescue Tender has been unavailable for a part or whole shift. This has occurred mainly where there has been a shortage of substantive Crew Managers or where the RT station has been awaiting the arrival of an attached member of personnel.

3.2.6 There is no National guidance on standards in respect of Road Traffic Collisions although it would be prudent to consider that response times may well form part of future performance indicators. Currently, the 4 Rescue Tenders are geographically located in order to achieve a response time of approximately 20 minutes (Best Value Review Of Special Services, 2001). This time is considered appropriate in relation to the “golden hour” principle which details the need to extricate a casualty as soon as possible in order to maximise their chance of survival or recovery. Within the Brigade, the only benchmark currently taken relates to the availability of the Rescue Tenders.

3.2.7 Any service provided by Nottinghamshire Fire and Rescue Service is subject to customer complaint or compliment through a formalised process. Letters of thanks have been received for the service provided on occasion although these are not specific to the provision of Rescue Tenders across the Brigade. Proposals are contained within the Integrated Risk Management Plans, comment on which has been sought through consultation.

3.3 Comparative Information

3.4.1 A comprehensive comparison has been made which details the relative provision of resources for responding to Road Traffic Collisions used by a number of Brigades across the Region and the United Kingdom. The full comparison is available in **Appendix Two**. It should be noted that 4 of the 5 Brigades considered have moved, during the last 5 years, towards the provision of some form of upgraded Rescue Pump combined with a specialist heavy rescue capability.

3.4.2 The only direct comparison in performance that could theoretically be made, would be with other Brigades nationally and, possibly, internationally. Indirect comparison could be made, using attendance times and levels, with the other emergency services although it is not considered to have an appropriate level of relevance.

3.4.3. With the exception of other brigades, there are no other providers of the specific service that is under review. It is unlikely that any other provider will be identified that could be considered a direct competitor in terms of the Brigades response to Road Traffic Collisions where persons are trapped, especially given that a response by Brigades is now a statutory obligation. Other providers may be identified as possible future competition in areas such as making safe and environmental protection but these do not fall within the remit of this report.

4. Service Implications

4.1 Training Implications

4.1.1 The introduction of new/upgraded rescue equipment onto appliances would bring with it the need for training. The view of Service Development Centre is that:

- Wholetime personnel on those stations that currently have a Rescue Tender would require half a day input.

- Wholetime personnel on those stations that do not currently have a Rescue Tender would require two days input.

- Part-time/Retained personnel would require two days input.

4.1.2 The cost of providing training is variable, depending on the method of providing the input. SDC has yet to evaluate the actual need, but it is believed that a course of 2 days maximum would be required. SDC suggests that in the first instance it would be preferable for all initial training to be delivered directly by the staff from SDC, rather than through a cascade via the Crash Rescue Instructors. This is due to the fact that there are not currently sufficient CRIs to ensure coverage across the whole Brigade. Continuity training would subsequently be provided by the CRIs. The estimated cost of providing training is detailed in **Appendix Three.**

4.1.3 It should be noted that the Rapid Intervention Kit currently carried on appliances is due for replacement and that health and Safety requirements dictate that any replacement programmed is likely to incur training costs similar to those above.

4.2 Equipment implications

4.2.1 The figures detailed in **Appendix Four** and summarized in 4.2.2 relate to the latest generation of medium heavy cutting equipment produced by Holmatro. Recent experience at the World Extrication competition showed that Holmatro equipment was capable of cutting the new generation of vehicle body materials. The figures quoted relate to the provision of one set of the equipment deemed by the review group as the most appropriate for provision as medium heavy equipment for pump/rescue appliances. The cost of one full set (as detailed in the appendix) is estimated to be £13353

4.2.2 The relative cost of purchasing or leasing new fleet or converting the current fleet is detailed in the briefing note provided by the Transport Manger **(Appendix Seven)**. Also shown is the potential cost incurred if the current leases relating to the provision of the existing Rescue tenders were cancelled.

4.3. Personnel Implications

4.3.2 The current personnel cost for staffing Rescue Tenders and the comparative personnel cost for a differing provision of Ultra Heavy Rescue Units is detailed in **Appendix Five** and summarized below.

- Four Heavy Rescue Vehicles (Current establishment - 4 RTs) £866,720
- Three Heavy Rescue Vehicles £650,040 (annual resources released £216,680)
- Two Heavy Rescue Vehicles £433,360 (annual resources released £433,360)
- One Heavy Rescue Vehicle £216680 (annual resources released £648,960)

5. Options

5.1 All Options are to include:

- Community safety, accident reduction and RTC training.
- An improvement in recording procedures to enable more accurate data for future planning.
- An awareness on the impact of decisions made in the Best Value Review on Special Service Calls

Option	Estimate of consequential cost/value of resources	Expected Outcome On RTC Provision
1. Upgrade all Pumps and upgrade RTs to Ultra Heavy Rescue Vehicles	£203K to £487K for upgrade plus 80K to train all personnel	Consider. Medium Rescue Pumps at first attendance increases survivability of persons trapped.
2. Upgrade all RT's and leave pumps as they are	See aside	Not Recommended because of the importance of Medium Rescue Pumps at first attendance increasing survivability of persons trapped in RTC's.
3. Upgrade all Appliances and remove RT's	Savings of £86,000 on personnel but see aside	Not Recommended because of the need for heavy rescue vehicles to attend RTC's involving heavy duty vehicles/larger incidents.
4. Replacement of RTs with specific ultra Heavy rescue provision and upgrade all appliances	See separate evaluation (below)of the various options	**See below**
5. Upgrade certain appliances targeting specific geographical areas using data and retain RT's	£203K to £487K for upgrade and variable training cost up to £80k maximum	Consider. Medium rescue Pumps may, however, be delayed in attending some calls…thus negating the value associated with rapid attendance.
6. Increase number of RT's and all else remains	Variable. Increase in cost of personnel and vehicle provision	Not recommended. Not considered a Best Value option.
7. Specialist response teams and vehicles	Variable. Further information required.	Will be considered as part of the project headed by AM Beale.
8. Keep status quo, increase RTC training		Not Recommended because of the importance of Medium Rescue Pumps at first attendance increasing survivability of persons trapped in RTC's.

4.1 Provide 3 Ultra Heavy Rescue Vehicles and upgrade appliances to medium rescue equipment	
4.1(a) Upgrade Whole Time pumping appliances only	Not recommended. Medium Rescue Pumps are required as first attendance increasing survivability of persons trapped.
4.1(b) Upgrade all stand alone pumping appliances and first pumps at 2 pump stations	Not recommended. Medium Rescue Pumps are required as first attendance increasing survivability of persons trapped.
4.1(c) Upgrade all pumping appliances	Medium Rescue Pumps at first attendance increases survivability of persons trapped.

Option 4.2 Provide 2 Ultra Heavy Rescue Vehicles and upgrade appliances to medium rescue equipment	
4.2(a) Upgrade Whole Time pumping appliances	Not recommended. Medium Rescue Pumps are required as first attendance increasing survivability of persons trapped.
4.2(b) Upgrade all stand alone pumping appliances and first pumps at 2 pump stations	Not recommended. Medium Rescue Pumps are required as first attendance increasing survivability of persons trapped.
4.2(c) Upgrade all pumping appliances	Medium Rescue Pumps at first attendance increases survivability of persons trapped.

Option 4.3 Provide 1 Ultra Heavy Rescue Vehicles and upgrade appliances to medium rescue equipment	
4.3(a) Upgrade Whole Time pumping appliances	Not recommended. One vehicle cannot cover the whole of Nottinghamshire and ensure adequate attendance at incidents where required.
4.3(b) Upgrade all stand alone pumping appliances and first pumps at 2 pump stations	Not recommended. One vehicle cannot cover the whole of Nottinghamshire and ensure adequate attendance at incidents where required.
4.3(c) Upgrade all pumping appliances	Not recommended. One vehicle cannot cover the whole of Nottinghamshire and ensure adequate attendance at incidents where required.

The cost for each of the above will be the cost of creating the Ultra Heavy Rescue Vehicles combined with the relevant upgrade cost for the Medium Rescue Equipment. In addition, there will be the training cost associated with each option. Consideration should also be given to the value of the resources released with each option. The projected cost for each of the options above can, in part, be calculated using the figures provided. A basic calculation relative to each option is shown in **Appendix Six.**

6. Recommendations

The Best Value Review Team on RTC Provision recommends the following;

1. That option 4.1(c) (create 3 x Ultra Heavy Rescue vehicles and upgrade all appliances) be considered the preferred option.

2. That option 4.2(c) (create 2 x Ultra Heavy Rescue vehicles and upgrade all appliances) be considered the minimum provision.

3. That consideration be given to re-deploying any resources released into community safety work targeted on reducing Road Traffic Accident related injuries and deaths.

4. That a working party be created to consider;

    a. The exact nature of the equipment to be carried on Rescue Pumps and Ultra Heavy Rescue vehicles

    b. The creation of a suite of Local Performance Indicators and specific RTC data recording that suitably reflects the use and performance of appliances and equipment at RTCs

    c. The qualification to ride RTs/UHRVs

    d. Why we have a disparity of mobilisation of the “sister” pumps alongside the RTs currently in use and any need for such in the future.

7. Appendix One – Maps of 5 years RTC activity

Maps
There are 5 maps to view.

Map 1

Shows the number and distribution of all RTC mobilisations across the county for a full 5 year period. Each of the dots represents the total number attended in that general area. Where a dot is empty, it represents a single attendance. Multiple attendance in the general area are indicated by a number within the dot. Yellow dots represents the areas with the higher level of activity; i.e. those areas with 25 or more incidents.
The total number of incidents attended across the 5 year period 1/4/2000 to 31/3/2005 is **3999**.

They are broken down as follows;

2000/01	752
2001/02	788
2002/03	882
2003/04	806
2004/05	771

The average across the 5 years is therefore 800 attendances per year.

Map 2

Shows the number and distribution of RTC mobilisations across the county at which the Rescue Tenders booked in attendance. The same principle has been applied regarding the number of incidents in a specific general area. In this example, the dots used have been colour coded to reflect the 4 separate Rescue Tenders.
The total number of incidents where rescue tenders have booked in attendance across the same 5 year period is **1973** (0r 49.33% of all RTC attendance's).

They are broken down as follows

2000/01	395
2001/02	403
2002/03	426
2003/04	373
2004/05	376

The average across the 5 years is therefore 394 per year.

Map 3

Shows the number and distribution of all RTC attendances where an extrication (or multiple extrications) took place. Each of the dots represents the total number attended in that general area. Where a dot is empty, it represents a single attendance. A number within the dot indicates multiple attendances in the general area. Yellow dots represent the areas with the higher level of activity. In this case, those areas with 5 or more incidents. The total number of incidents that have involved extrication(s) across the 5 year period are **1120** (or 28% of all RTC attendance's).
They are broken down as follows

2000/01	233
2001/02	221
2002/03	237
2003/04	212
2004/05	217

The average across the 5 years is therefore 224 per year.

Map 4

Shows the number and distribution of all RTC attendance's where an extrication (or multiple extrications) took place **and** where the Rescue tender had booked in attendance. The same principle has been applied regarding the number of incidents in a specific general area. In this example, the dots used have been colour coded to reflect the 4 separate Rescue Tenders. The total number of incidents that have occurred where the Rescue Tender has been in attendance and extrication(s) have taken place is **1062** (or 26.55% of all RTC attendances).

They are broken down as follows

2000/01	220
2001/02	211
2002/03	232
2003/04	198
2004/05	201

The average across the 5 years is therefore 212 per year.

Map 5

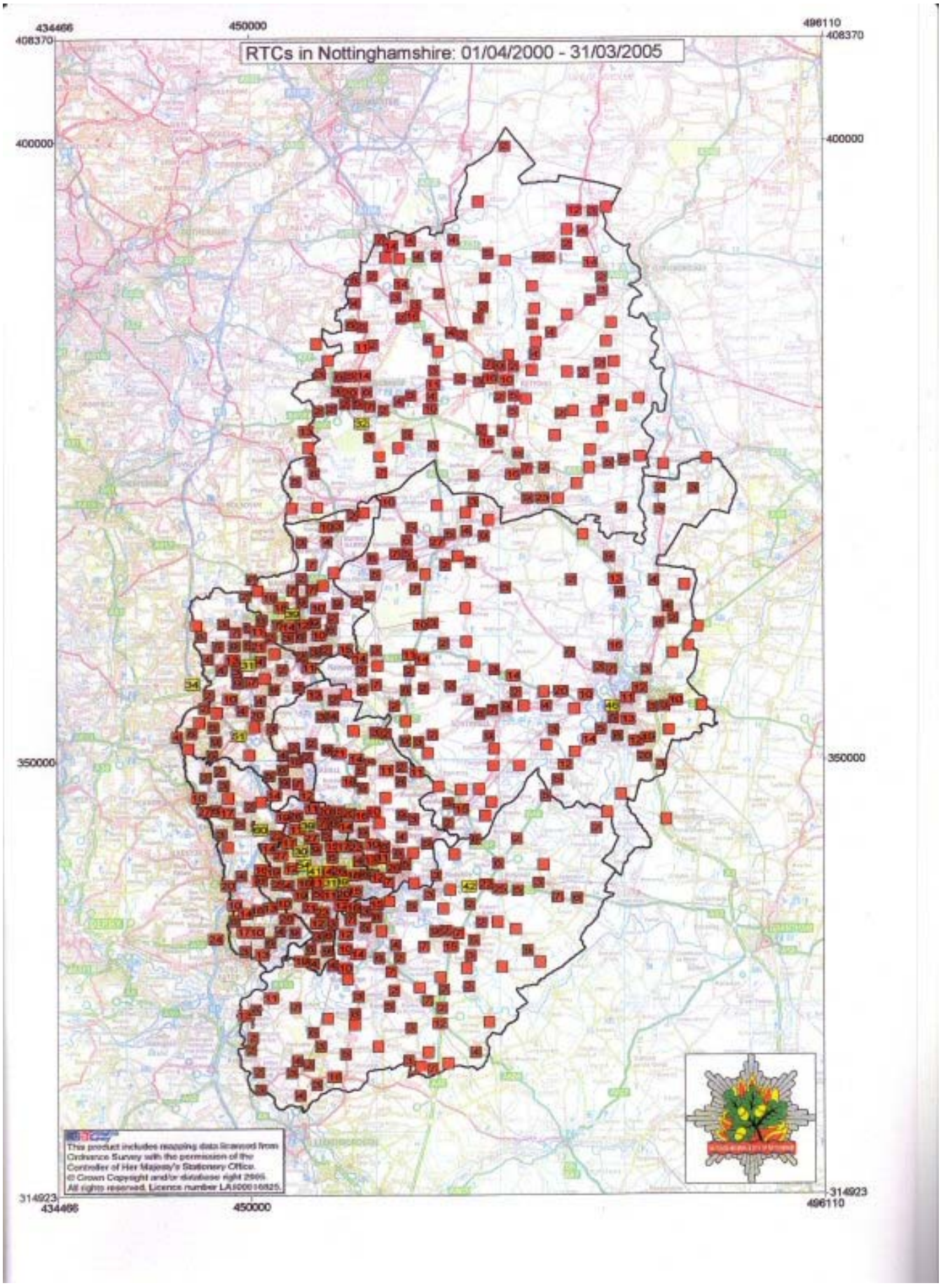
Shows the number and distribution of all RTC attendance's which involved lorries or larger goods vehicles and which the rescue tender attended. The total number across the 5 year period is 277**.** They are broken down as follows

2000/01	54
2001/02	57
2002/03	67
2003/04	50
2004/05	49

The average across the five years is therefore 55.4 calls per year.

Further Considerations

It has been shown that the average number of RTCs attended across the county is 212 per year. Aggregated across the 4 Rescue Tenders, this equates to 53 calls involving extrication(s) per annum or slightly under I per week.


RTCs in Nottinghamshire: 01/04/2000 - 31/03/2005
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400000
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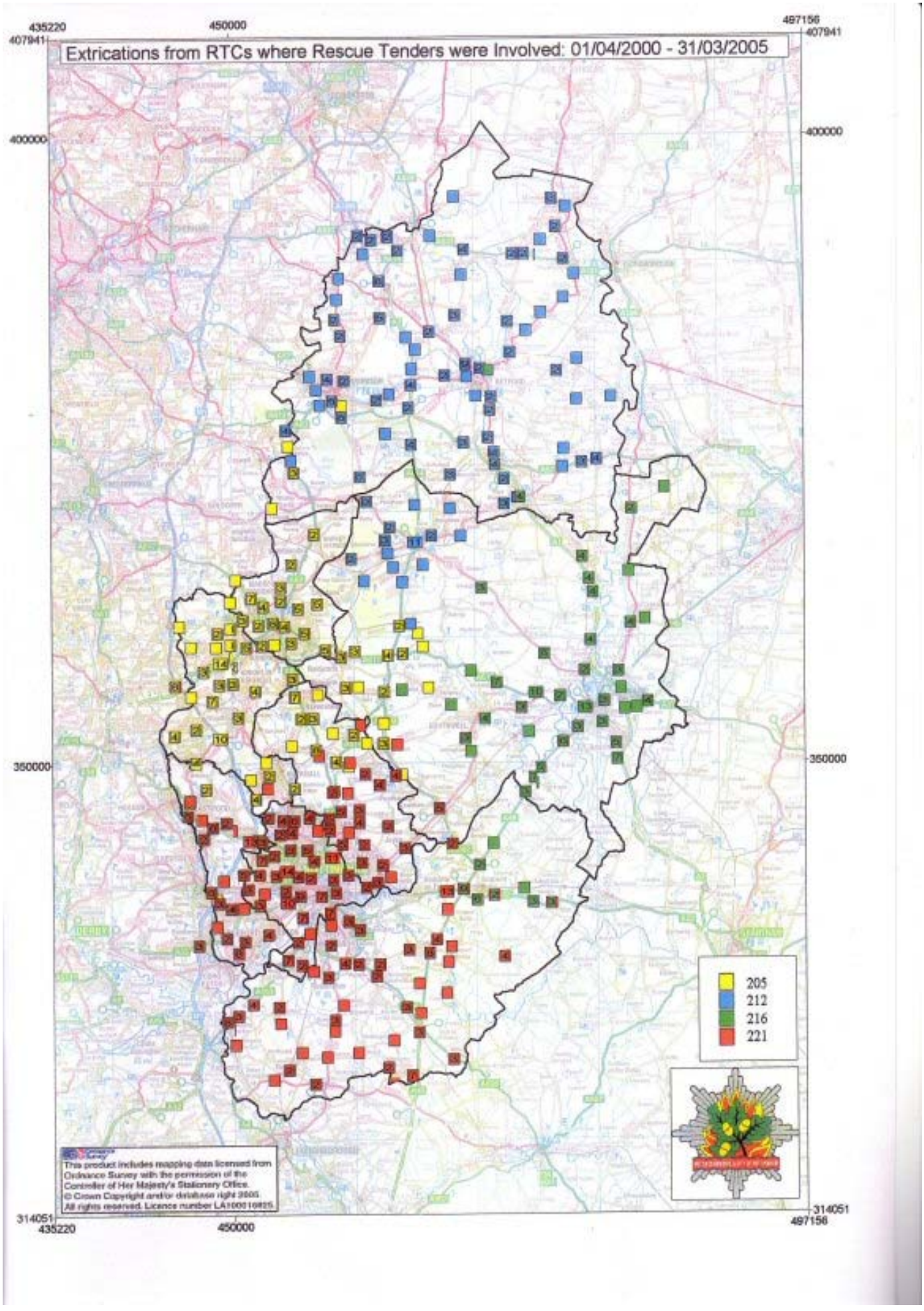
Extrications from RTCs where Rescue Tenders were Involved: 01/04/2000 - 31/03/2005
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450000
497156
407941
400000
350000
314051
205
212
216
221
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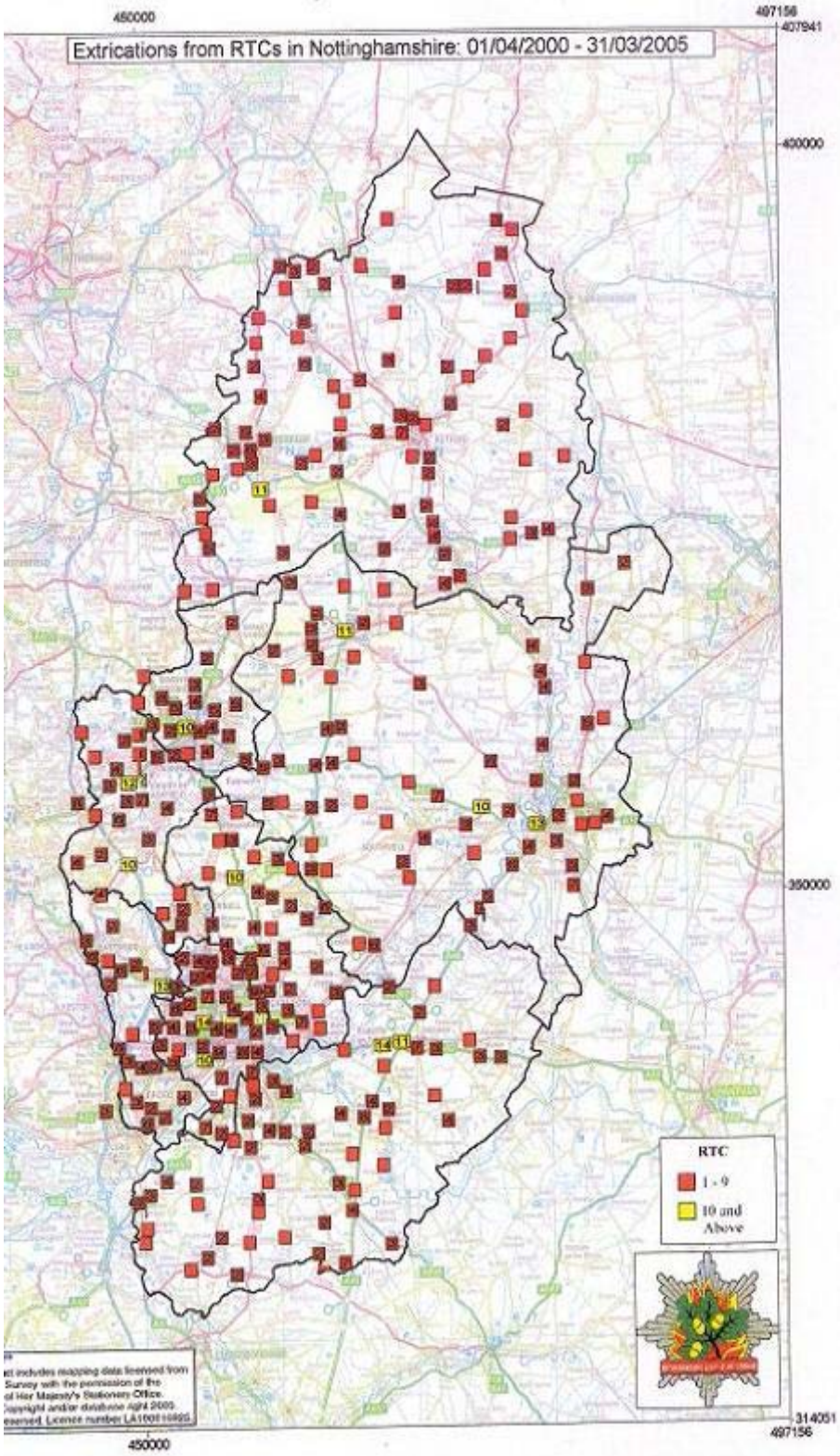
Extrications from RTCs in Nottinghamshire: 01/04/2000 - 31/03/2005
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350000
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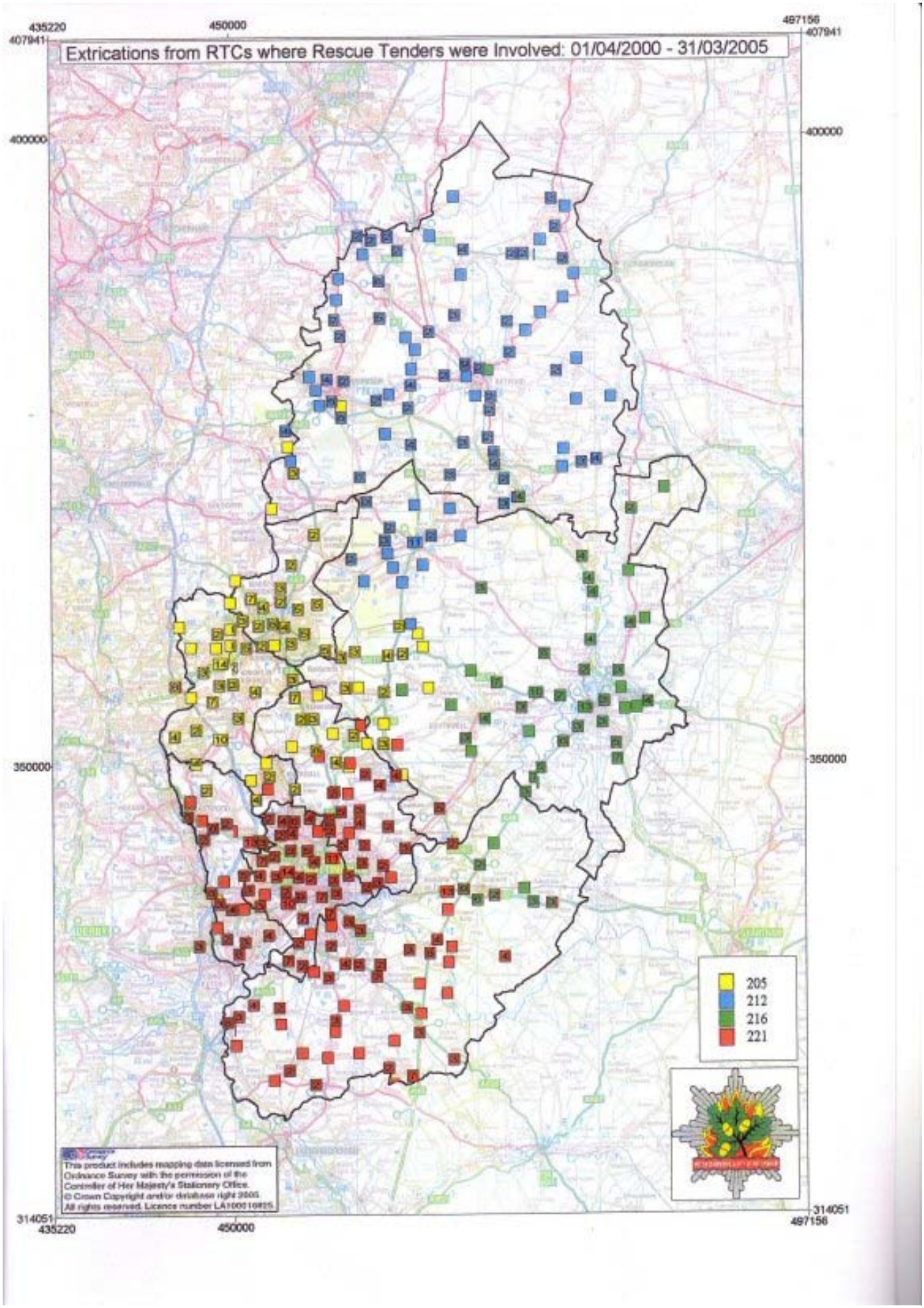
450000
RTC
1 - 9
10 and Above


Extrications from RTCs where Rescue Tenders were Involved: 01/04/2000 - 31/03/2005
435220
450000
497156
407941
400000
350000
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205
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216
221
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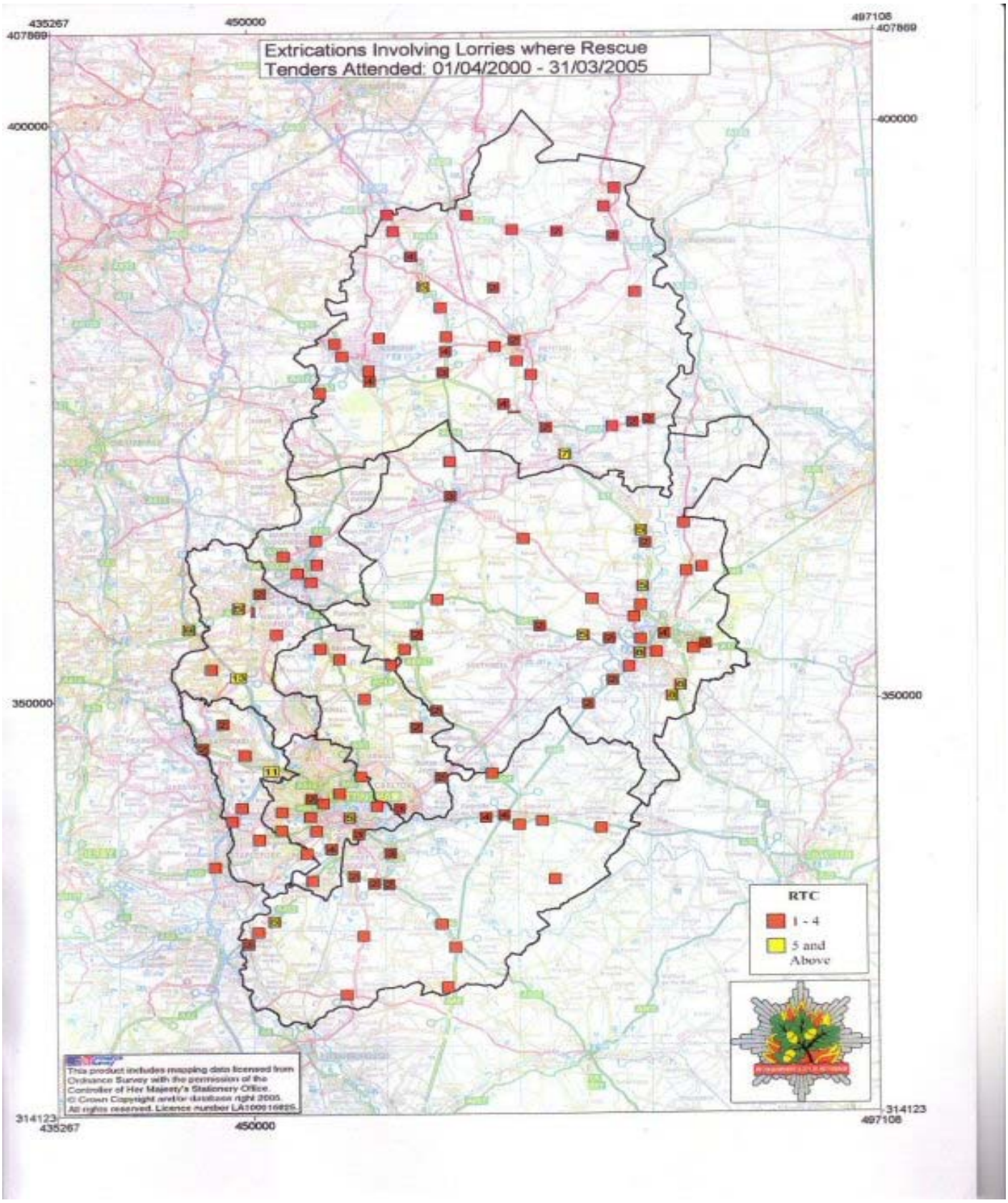
Extrications Involving Lorries where Rescue Tenders Attended: 01/04/2000 - 31/03/2005
435267
450000
497108
407869
400000
350000
314123
RTC
1 - 4
5 and Above
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8. Appendix Two - Service Comparisons

Nottinghamshire Fire and Rescue Service	
Provision Prior to RTC Review	All 1st line appliances (WT & RT) carry Holmatro Combi Tool 2000, Single Acting Ram, 1 Point Intensifier. All second appliances carry epco 4 x Rescue Tenders; Holmatro 3000, 340 cutters, 230 cutters, 3 Rams, 2 spreaders, wedge spreaders, pedal cutter
Review Date	Ongoing BV review, Completion by Nov 3rd
Current Provision	As above

Lincolnshire Fire and Rescue Service	
Provision Prior to RTC Review	All Wholetime stations had 1 appliance that carried low level Rapid Intervention Gear in the form of a small “Dale-Combi” tool.
Review Date	Completed 1998/9. “Rollout” over a 5 year period
Current Provision	Every W/T and Et station has 1 Water Rescue Tender carrying Weber Hydraulic Spreader Dedicated, Hydraulic Rams x 2, Hydraulic Cutters x 1, Holmatro High Pressure Air Bags x 3. 2 x Rescue Support Units with, Lucas Cutters LS330, Lucas Spreader LSP 40EN, Lucas Rams LTR35820 x 2, Low Pressure air bags x 2.

Derbyshire Fire and Rescue Service	
Provision Prior to RTC Review	Not available
Review Date	Completed October 2005.
Current Provision	Each 1st Line W/T Appliance carries, Holmatro Spreaders SP3240, Holmatro Cutters CU 3020, Holmatro Ram TR3350, Holmatro 11T High pressure air bags x 2. **NB 2nd appliances have no rescue equipment.** All retained appliances carry, Zoom Combi Tool 190, Zoom Ram PU30, 1 port intensifier. 3 x ET/Rt. with, full 2000 series kit (Holmatro), holmatro spreader 2007AU, Holmatro Ram, Holmatro Parrot Cutter, 2 x low pressure air bags, 3 x high pressure air bags, 8 port compressor.

Leicestershire Fire and Rescue Service	
Provision Prior to RTC Review	32 x WRLs with RIK basic 3 x RTs with medium grade rescue gear
Review Date	Completed for implementation in 2004/5
Current Provision	11 x Pump Rescue Ladders with dedicated cutters, spreaders, ram, high and low pressure air bags, pedal cutter, mini (hydraulic) combi-tool. 21 x WrLs with basic RIK 1 x Heavy Rescue Unit with a full range of specialist ultra heavy dedicated tools for cutting, spreading, lifting etc.

South Yorkshire Fire and Rescue Service	
Provision Prior to RTC Review	The position aside is as it has been for the last 6 years. A partial review is ongoing that may include the provision of a multi-purpose pump/ariel/rescue vehicle.
Review Date	Non specified
Current Provision	All W/T and Ret Appliances carry,Zumro Rams x 3, Zumro resq Combi tool, NT ResQ Mini Cutter, NT Res Q 240 Cutter, " port Hydraulic Intensifier, 6 x Lifting Units…(**NB Not on Ret Appliances**, Appliance mounted winch. 1 Heavy rescue appliance..as per WRTs plus Zumro 32B spreader/puller, 2 x 132T lifting units, 40T jack, Styl Saw, Acro Props

Strathclyde Fire and Rescue Service	
Provision Prior to RTC Review	Limited number of First line appliances with light rescue capability only. 6 x transit van (style) "Rescue Units" .
Review Date	Decision made after review 2 years ago..process ongoing.
Current Provision	All first line appliances up-graded to medium rescue eqpt Creation of 2 specialist heavy rescue units.

South Wales Fire and Rescue Service	
Provision Prior to RTC Review	First Line Appliances with light rescue capability only. 6 x RTs….detail not known
Review Date	Approx 4 years ago.
Current Provision	3 First line appliances up-graded to medium rescue eqpt. 4 RTs 2 x specialist heavy rescue units

9. Appendix Three - Training costs

- **Wholetime personnel on RT stations….(training provided on a peripatetic basis)**

4 (stations) x 4 (watches) = 16 x ½ day sessions plus 2 x ½ day "mop up" = 18 x ½ day sessions x 2 trainers = 36 x ½ day sessions total.
This equates to 18 trainer days equivalent.

- **Wholetime personnel on non-RT stations…(training provided on a peripatetic basis)**

8 (stations) x 4 (watches) = 32 x 2 day sessions plus 4 x 2 day "mop up" sessions = (32 + 4 x 2) 72 day sessions x 2 trainers = 144.
This equates to 144 trainer days.

- **Part-time/Retained personnel**

Given the difficulties associated with training for Part-time/Retained personnel the following formula is considered the most appropriate method of gaining an overview of the training cost.

21 Part-time/Retained units x 2 days (peripatetic) plus 4 "mop up" sessions (at SDC) = 52 day sessions x 2 trainers = 104 day sessions.
This equates to 104 trainer days.

In addition, there is per person cost associated with retained training courses.

The average payment to Part-time/Retained personnel for attendance on a 2 day course, taking a lower quartile figure to account for the relative proportion of ranks is approx £185 (exclusive of the National insurance "on-cost").

There are (at the time of preparing the report) 350 Part-time/Retained staff. The requirement will be for 70% to be trained. As such, the cost of training attendance payments equates to approx 350 x 70% = 245 x £185 = £45325.

There would be a number of costs associated with travelling although these would be relatively minimal due to the peripatetic nature of most of the training..

- **Trainer Days**

The above formulae show that an estimated total number of trainer days allocated to the project would be 266, exclusive of preparation time. An average cost for this would be ;

CM hourly pay = £12.93
WM hourly pay = £13.64 assuming both are competent
Total……..£26.57

The average per trainer is therefore £26.57 divided by 2 = £13.28

The number of trainer days required is 266 and the total trainer cost, exclusive of associated expenses such as travelling etc, is therefore 266 x 9 (hours per day) = 2394 hours x £13.28 = £31792. This figure is then enhanced by the 10% trainers allowance

making the total cost £31792 + £3179 = £34971. This figure is exclusive of preparation time.

The above figures represent a cost evaluation based on the allocation of resources directly to the project. They do not necessarily account for the fact that the work involved may already be part of the programmed work of the Service Development Centre.

It is important to note that the Rapid Intervention Kit that is currently carried on appliances is due for replacement. Health and safety requirements dictate that any replacement programme is likely to incur training costs similar to those above since the latest available equipment is different to that currently carried.

10. Appendix Four – Equipment Costs

Cost of upgrading a single appliance with latest generation medium/heavy rescue equipment:

	£
Dedicated Medium Cutter……	2801
Dedicate Medium/Heavy spreader……..	4361
Hydraulic Ram, 16 Tonne……	1837
Intensifier……	3000
10m twin length, dual core hose…….	420
	£12,419

Air Bag Set;	£
Regulator……..	146
Twin Controller…….	336
Airbag, 10 tonne……..	588
Air Hose, 5metres…….	46
	£1116

Total cost is £13,353 cost per pump/rescue unit.

Cost of upgrading Pumping Appliance(s) to new medium rescue equipment:

- Wholetime Appliances only is **£203, 025** (15 X £13,535)

- All stand alone appliances and first appliances at 2 appliances stations is **£338,275** (25 X £13,535)

- **All appliances is £487,260 (36 X £13,535)**

The equipment quoted for is the latest generation of medium rescue equipment.

11. Appendix Five – Personnel Costs

- **Four Heavy Rescue Vehicles (Current establishment of four Rescue Tenders)**

16 CMs (Assuming Competent Rate) = 16 X 28320 = £453,120
32 FFs " = 32 X 25850 = £827200
£1280320

- **Three Heavy Rescue Vehicles**

12 CMs =12 x 28320 = £339,840
24 FFs =24 x 25850 = £620400
£960240
Annual value of resources that could be released £320080

- **Two Heavy Rescue Vehicles**

8 CMs = 8 X 28320 = 226560
16 FFs =16 X 25850 = 413600
£640160

Annual value of resources that could be released £640160

- **One Heavy Rescue Vehicle**

4 CMs = 4 X 28320 = 113280
8 FFs = 8 x 25850= 206800
£320080

Annual value of resources that could be released £960240

12. Appendix Six - Cost Implications of Option 4 Variants

It should be noted that each option will incur the relevant cost of providing the equipment to be carried on the Ultra Heavy Rescue Vehicle(s). This cost cannot be accurately calculated at present and it will be recommended that a working party be created to identify the exact nature of the kit to be carried.

- Option 4.1.a (create 3 x Ultra Heavy Rescue vehicles and upgrade all Whole-time appliances only).

Approx cost of UHR Vehicle x 3 = £465,000
Approx cost of kit for above x 3 = see above
Approx cost of upgrade = £203,025
Approx total set up cost = £668,025

Annual value of re-deployable resources is £216,680

- Option 4.1.b (create 3 x Ultra heavy Rescue vehicles and upgrade all stand alone pumps and first pump at 2 pump stations)

Approx cost of UHR Vehicle x 3 = £465,000
Approx cost of kit for above x 3 = see above
Approx cost of upgrade = £338,275
Approx total set up cost = £803,275

Annual value of re-deployable resources is £216,680

- **Option 4.1.c (create 3 x Ultra Heavy Rescue vehicles and upgrade all appliances)**

Approx cost of UHR Vehicle x 3 = £465,000
Approx cost of kit for above x 3 = see above
Approx cost of upgrade = £487,260
Approx total set up cost £952,260

Annual value of re-deployable resources is £216,680

- Option 4.2.a (create 2 x Ultra Heavy Rescue vehicles and upgrade all Whole-time appliances only)

Approx cost of UHR Vehicle x 2 = £310,000
Approx cost of kit for above x 2 = see above
Approx cost of upgrade = £203,025
Approx total set up cost £513,025

Annual value of re-deployable resources is £433360

- Option 4.2.b (create 2 x Ultra Heavy Rescue vehicles and upgrade all stand alone pumps and first pump at 2 pump stations)

Approx cost of UHR Vehicle x 2 = £310,000
Approx cost of kit for above x 2 = see above
Approx cost of upgrade = £338,275
Approx total set up cost £648,275

Annual value of re-deployable resources is £433360

- **Option 4.2.c (create 2 x Ultra Heavy Rescue vehicles and upgrade all appliances)**

Approx cost of UHR Vehicle x 2 = £310,000
Approx cost of kit for above x2 = see above
Approx cost of upgrade = £487,260
Approx total set up cost £797,260

Annual value of re-deployable resources is £433360

- Option 4.3.a (create 1 x Ultra Heavy Rescue vehicle and upgrade all Whole-tome appliances only)

Approx cost of UHR Vehicle x 1 = £155,000
Approx cost of kit for above x 1 = see above
Approx cost of upgrade = £203,025
Approx total set up cost £358,025

Annual value of re-deployable resources is £648,960

- Option 4.3.b (create 1 x Ultra Heavy Rescue vehicles and upgrade all stand alone pumps and first pump at 2 pump stations)

Approx cost of UHR Vehicle x 1 = £155,000
Approx cost of kit for above x 1 = see above
Approx cost of upgrade = £338,275
Approx total set up cost £493,275

Annual value of re-deployable resources is £648960

- Option 4.3.c (create 1 x Ultra Heavy Rescue vehicles and upgrade all appliances)

Approx cost of UHR Vehicle x 1 = £155,000
Approx cost of kit for above x1 = see above
Approx cost of upgrade = £487,260
Approx total set up cost £642,260

Annual value of re-deployable resources is £648,960

13. Appendix Seven - Briefing Note provided by the Transport Manager

At the RTC Best Value review meeting (3 October 2005) a number of possible options on how to provide RTC capability were put forward with the intention of determining the most appropriate method.

One of the options included provision of 'Heavy Rescue Units' (HRU). The method by which to provide this resource would need to be determined, as would the exact number of units and more importantly what vehicle and equipment specification constitutes a Heavy Rescue Unit.

Although option 4 detailed in the minutes of the October RTC Best Value review meeting made reference to HRUs a reduction from 4 RTs to 2 HRUs is not stated within that option but was discussed at the meeting.

The existing RTs at Dunkirk, Newark & Retford are not due to end their lease periods until February 2009. The RT at Ashfield is scheduled in for replacement within the Transport Capital programme 2006/07 and is owned now not leased.

There are a number of options and/or factors to take in to consideration if we were to move to HRUs but without an actual number it is difficult to establish a firm resource proposal as thought must also be given to a dedicated reserve HRU and replacement resource for what is currently the SDC RT.

Possible options may include as follows:

1. Conversion of the existing Dennis Sabre RTs to HRUs or 2 HRUs and role conversion of the third e.g. EPU or reserve HRU. Existing Ashfield RT to be modified to become a limited HRU or stopgap EPU replacement.

2. Conversion of 1 or 2 existing Dennis Sabre RTs to an HRU and provision of a new purposely designed HRU from the planned Capital replacement programme. Role conversion of the third Sabre RT, or for use as a reserve HRU and re-allocation/modification of the existing Ashfield RT to SDC to replace their existing RT.

3. As detailed in 2 above but with the provision of 1 or 2 smaller dedicated RTC vehicles at those stations not allocated an HRU that were previously RT stations.

Acquisition and Leasing Costs

The cost of the Services' existing Dennis Sabre RT appliances was 141k per vehicle back in 1998/99 and each has an annual lease charge of £17200 per annum. To purchase a replacement vehicle of similar type in HRU format is likely to cost approximately 155k in today's market.

Should it be determined that all the current Dennis Sabre RTs are not required it is recommended that role conversion is considered as termination charges to end a lease early are expensive and in this case the cost would be £89869.45 per vehicle.

The 'Holmatro' equipment on the RTs was purchased and leased before the Sabre RTs came in to Service and so the vehicle and Holmatro leases do not run concurrently. The Holmatro lease has been extended pending the outcome of the Best Value review.

The cost to purchase the RT Holmatro back in 1995 was 97k and has an annual leasing cost of 13k.

Role conversion cost

To convert an existing Dennis Sabre RT to another role is estimated to be in the region of 15-20k at most. This would depend on how much labour is involved and how much new stowage equipment has be bought in from the bodywork supplier.

Provision of a new purpose built Heavy Rescue Unit

The cost to procure a new Heavy Rescue Unit based on the Leicestershire unit would be in the region of that detailed below:

Chassis	60k
Body	70k
Total	**130k**

Additional option costs:

Rescue Master winch	20K (this option is fitted to the Leicestershire vehicle)
Hiab crane	25-30K

NB Figures used for cost analysis are 155k which allows for unit purchase allowance for wither winch or Hiab crane.