

A Review of Staffing Arrangements Bray Fire Station



Aidan Dempsey
Chief Fire Officer

Background

At a Special Meeting of Wicklow County Council on 19th May 2014 the following resolution was passed:

That the Council would revisit its present policy adopted by the members of the council in relation to the provision of a full-time service in Bray and North Wicklow and that a detailed report would be provided to the Council within six months.

Content

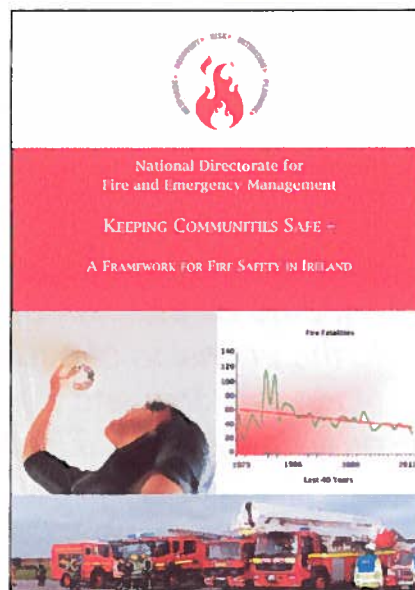
- Introduction to “Keeping Communities Safe (2013)” published by the Department of Environment.
- Present an analysis of Bray Fire Station area based on the risk assessment process outlined in “Keeping Communities Safe (2013)”.
- Provide an update on the current situation in Bray Fire Station and Wicklow County Fire Service.
- Present an analysis of possible staffing arrangements based on options contained in the draft report of 2007.
- Report on current Full Time staffing arrangements in Louth County Council Fire Service.
- Analysis of financial implications of the various options based on adopting the “Louth Full Time System”.

“Keeping Communities Safe”

The over-riding principle is that the safety of the public from fire is regarded as the paramount concern.

This document is fundamentally about assessing fire safety risks, looking at the available resources and proposing a plan for matching risks, needs and resources in Irish society to ensure that the public are safe from fire.

(page 12)

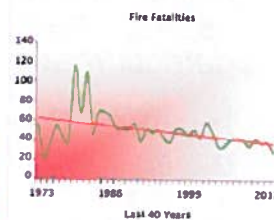


“Keeping Communities Safe”

The objective of the fire service is to reduce the risk – using an appropriate blend of the full range of available approaches – in fire prevention, fire protection and response.



(page 15)



“Keeping Communities Safe”

- *Sets down a risk-management approach to service provision and differentiates emergency responses on the basis of risk/ threat to life. (page 5)*
- *Each fire authority is required to prepare a 'Fire and Emergency Operations Plan' which sets out how it meets its statutory duties. Each fire service will undertake a review of its current services in light of the approaches and the targets of 'Keeping Communities Safe' and prepare an updated/ revised statutory Section 26 Plan. (page 11)*
- *Adoption of the Section 26 Plan is a reserved function. The new Section 26 Plan will set how the individual service will deliver on targets of this policy.*

Recommended Safety Roles

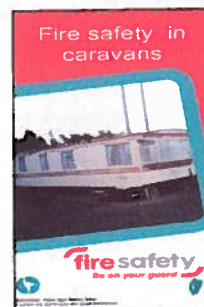
The primary roles of fire services in relation to fire safety should be

- *to reduce the number of fire incidents occurring in their functional area,*
- *to limit damage where fires do occur, by ensuring appropriate fire protection facilities (such as early detection and warning systems) are in place, and*
- *to prevent escalation to point where single or multiple fatalities are likely to occur*
- *to extinguish fires*

Page 34

Mitigation Measures

Appropriate mitigation measures and, in particular, community fire safety measures such as the smoke alarm scheme can be utilised to increase the safety of the public in their dwellings. Fire authorities can determine the priority needs in their areas and apply the available resources in the most effective configuration, ensuring an appropriate and effective balance between fire prevention, protection and response measures.
(page 19)



Community Fire Safety

The evolved Community Fire Safety initiatives should be strengthened:

- *Smoke Alarms programme - focus efforts on identified vulnerable, through working with Community and Voluntary sector*
- *Implement checks for working smoke alarms in neighbourhoods after attending fires*
- *Primary Schools Programme – to create fire safety conscious society*
- *Engagement with public on targeted fire safety messages – Fire Safety Week / queries/ fire safety information*
- *Partnerships with related sectors and community groups.*

Community Fire Safety

The single most important and appropriate means of protecting people from fire in the home is seen as the provision by householders of working smoke alarms.

Page 52



Community Fire Safety

2015 - Pilot project to identify the most vulnerable members of the public through partnerships with health, community and voluntary sectors with a view thereafter to installing smoke alarms.

Pilot project to introduce visits to domestic properties to check on working smoke alarms in what are considered to be high-risk neighbourhoods and in the aftermath of serious local fires.

2016 - Based on an analysis of pilot projects a request for budgetary funding may be made at the end of 2015.

Risk-Based Approach (RBA) Project

The fire station area was selected as the basic unit of analysis for this project. An analysis of fire station activity indicates current fire risks and shows how these relate to percentage of population covered and also travel time from station to incidents. (page 18)



Risk-Based Approach (RBA) Project

Visit to Wicklow County Fire Service on 21st November 2014 by an inspection team from the National Directorate for Fire and Emergency Management to assess outputs of RBA project.



Mr Sean Hogan - National Director
National Directorate for Fire and
Emergency Management



Mr Brian Sweeney
Former Chief Fire Officer
Strathclyde Fire and Rescue Service

Risk-Based Approach (RBA) Project

The inspection team endorsed the methodology used by Wicklow County Fire Service.

The process, the analysis and the conclusions are robust, reliable and have the agreement of the inspection team.

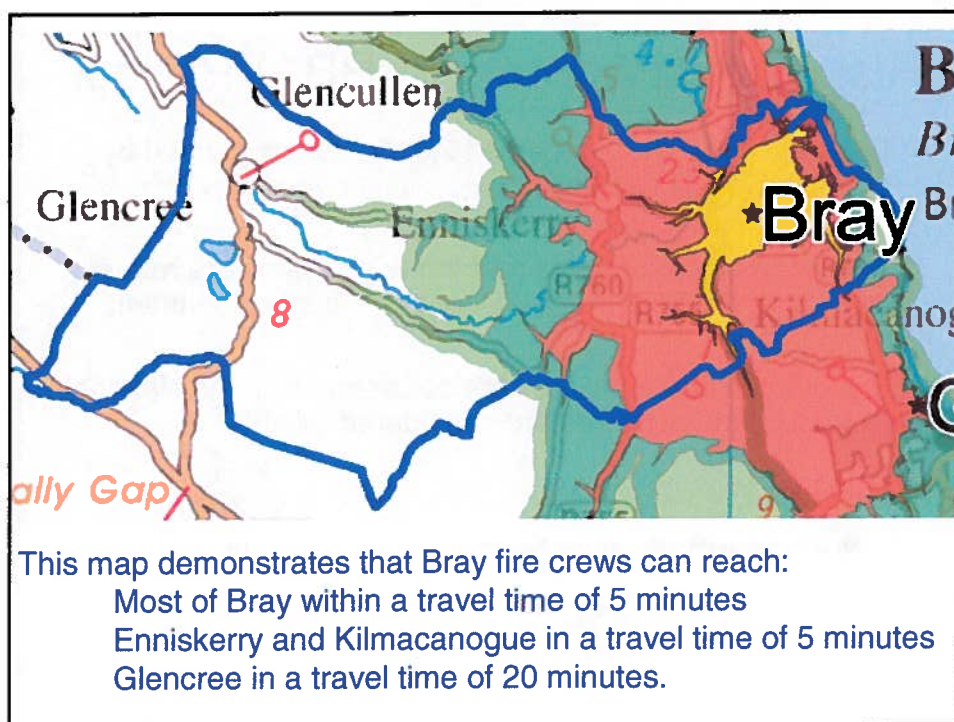
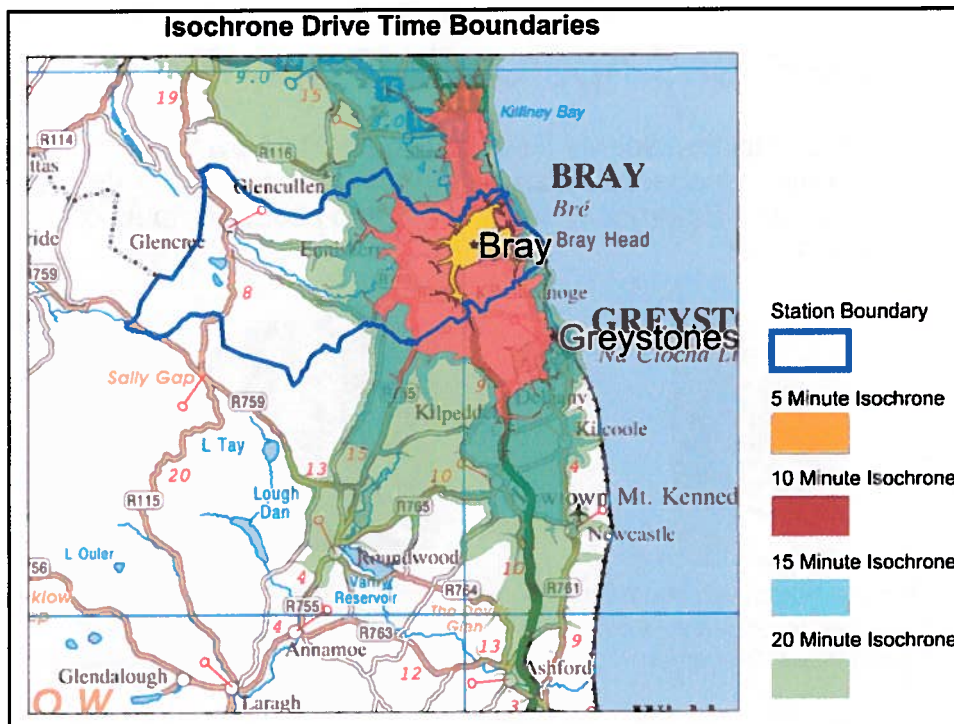
The outputs of the process are consistent with the National Guidance and are therefore considered reliable.



An Stiúrthóireacht Náisiúnta um Bainistíocht Dóiteáin agus Éigeandála
National Directorate for Fire and Emergency Management



Comhaltas, Párlamint agus Rialtas Áitiúil
Environment, Community and Local Government



Area Risk Categorisation (Station Area)

The fire risk categories range across five grades, from very high, high, medium, low to very low risk – based on the following criteria:

- Population of main urban area
- Population Density surrounding main urban area
- Total population of the Station Ground
- Number of Incidents averaged over three years
- Number of dwellings in the station ground
- Annual Dwelling Fire Rate
- Other building fire rates
- RTA activity & Special Services rates
- Extent of Individual Special Hazards

Risk Category	Population			Demand / Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons / sq km)	Total Pop in Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates / 100 k of pop	Other Building Rates / 100 k of pop	RTA / SS rate / 100k of pop	Infrastructure Institutional, Recreation, POPA, Educational, Industrial, SEVESO, Shopping / Commercial	
Very High	> 100k	> 200	> 150	> 50k	> 2500	> 250	> 100	> 250	Multiples of above on largest scale	A1
	70-100	> 200	90 - 150k	30 - 50k	1200 - 2500	200 - 250	70 - 100	200 - 250	Some of the above	A2
High	35 - 75k	> 200	70 - 100k	20 - 40k	700 - 1500	150 - 200	50 - 70	170 - 200	Small number of each of the above, on limited scale	B1
	30 - 40k		40 - 80k	15 - 30k	500 - 800	120 - 150	30 - 50	140 - 170	Some of the above on a limited scale	B2
Medium	10 - 30k		25 - 40k	10 - 15k	250 - 700	100 - 120	20 - 30	120 - 140	A number of each of the above, of medium scale	C1
	5 - 12k	50 - 250	20 - 30k	7 - 12k	120 - 300	80 - 100	15 - 25	110 - 130	A small number of above, of limited scale	C2
Low	3 - 5k	30 - 100	10 - 25k	3 - 10k	100 - 130	70 - 90	10 - 20	100 - 120	Some small scale premises in above categories	D1
	1.5 - 3k	20 - 50	6 - 12.5k	2 - 5k	50 - 120	60 - 80	5 - 15	80 - 100	A few small scale premises in above categories	D2
Very Low	< 2k	< 20	< 7.5	< 4k	< 70	50 - 70	N/A	< 80	Very few premises other than domestic	E1
	< 1k	< 20	< 5k	< 2k	< 50	< 50	N/A	< 80	Remote Rural	E2

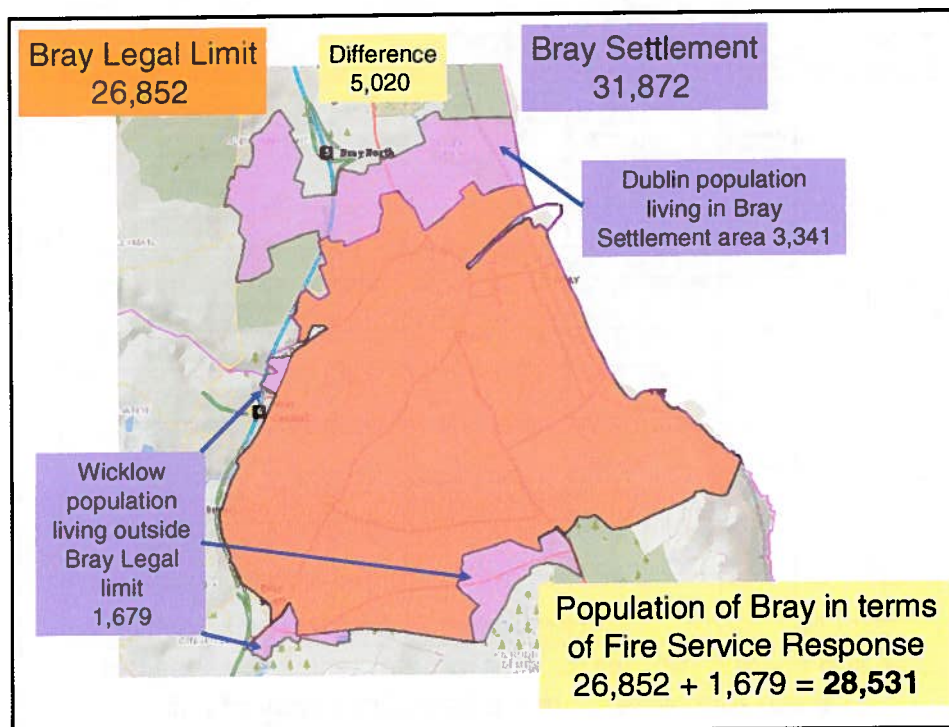
RISK CATEGORISATION TABLE

Each column represents a parameter which is assessed
Each row represents a different category of risk

Risk Category	Population			Demand/ Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons / sq km)	Total Pop in Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates/ 100 k of pop	Other Building Rates/ 100 k of pop	RTA/ 55 rate/ 100k of pop	Infrastructure Institutional, Recreation, POHA, Educational, Industrial, SEVESO, Shopping/ Commercial	
Very High	>100k	>200	>150	> 50k	> 2500	>250	>100	>250	Multiples of above on largest scale	A1
	70-100	>200	90-150k	30-50k	1200-2500	200-250	70-100	200-250	Some of the above	A2
High	35-75k	>200	70-100k	20-40k	700-1500	150-200	50-70	170-200	Small number of each of the above, on limited scale	B1
	30-40k		40-80k	15-30k	500-800	120-150	30-50	140-170	Some of the above on a limited scale	B2
Medium	10-30k		25-40k	10-15k	250-700	100-120	20-30	120-140	A number of each of the above, of medium scale	C1
	5-12k	50-250	20-30k	7-12k	120-300	80-100	15-25	110-130	A small number of above, of limited scale	C2
Low	3-5k	30-100	10-25k	3-10k	100-130	70-90	10-20	100-120	Some small scale premises in above categories	D1
	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	A few small scale premises in above categories	D2
Very Low	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Very few premises other than domestic	E1
	<1k	<20	<5k	<2k	<50	<50	N/A	<80	Remote Rural	E2

RISK CATEGORISATION TABLE

A town with more than 100,000 people has a very high risk category
A town with less than 1,000 people has a very low risk category



Risk Category	Population			Demand/ Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons/ sq km)	Total Pop In Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates/ 100 k of pop	Other Building Rates/ 100 k of pop	RTA/ SS rate/ 100k of pop		
Very High	>100k	>200	>150	> 50k	> 2500	>250	>100	>250	Infrastructure Institutional, Recreation, POPA, Educational, Industrial, SEVESO, Shopping/ Commercial	A1
	70 - 100	>200	90 - 150k	30 - 50k	1200 - 2500	200 - 250	70 - 100	200 - 250	Multiples of above on largest scale	A2
High	35 - 75k	>200	70 - 100k	20 - 40k	700 - 1500	150 - 200	50 - 70	170 - 200	Some of the above	B1
	30 - 40k		40 - 80k	15 - 30k	500 - 800	120 - 150	30 - 50	140 - 170	Small number of each of the above, on limited scale	B2
Medium	10 - 30k		25 - 40k	10 - 15k	250 - 700	100 - 120	20 - 30	120 - 140	Some of the above on a limited scale	C1
	28,531								A number of each of the above, of medium scale	C2
	5-12k	50-250	20-30k	7-12k	120-300	80-100	15-25	110-130	A small number of above, of limited scale	D1
Low	3-5k	30-100	10-25k	3-10k	100-130	70-90	10-20	100-120	Some small scale premises in above categories	D2
	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	A few small scale premises in above categories	E1
Very Low	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Very few premises other than domestic	E2

RISK CATEGORISATION TABLE

The population of Bray is relatively static – legal limit
2002 (26,244) 2006 (27,041) 2011 (26,852)

Risk Category	Population			Demand/ Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons/ sq km)	Total Pop In Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates/ 100 k of pop	Other Building Rates/ 100 k of pop	RTA/ SS rate/ 100k of pop		
Very High	>100k	>200	>150	> 50k	> 2500	>250	>100	>250	Infrastructure Institutional, Recreation, POPA, Educational, Industrial, SEVESO, Shopping/ Commercial	A1
	70 - 100	>200	90 - 150k	30 - 50k	1200 - 2500	200 - 250	70 - 100	200 - 250	Multiples of above on largest scale	A2
High	35 - 75k	>200	70 - 100k	20 - 40k	700 - 1500	150 - 200	50 - 70	170 - 200	Some of the above	B1
	30 - 40k		40 - 80k	15 - 30k	500 - 800	120 - 150	30 - 50	140 - 170	Small number of each of the above, on limited scale	B2
Medium	10 - 30k		25 - 40k	10 - 15k	250 - 700	100 - 120	20 - 30	120 - 140	Some of the above on a limited scale	C1
	28,531		33,218						A number of each of the above, of medium scale	C2
	5-12k	50-250	20-30k	7-12k	120-300	80-100	15-25	110-130	A small number of above, of limited scale	D1
Low	3-5k	30-100	10-25k	3-10k	100-130	70-90	10-20	100-120	Some small scale premises in above categories	D2
	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	A few small scale premises in above categories	E1
Very Low	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Very few premises other than domestic	E2
	<1k	<20	<5k	<2k	<50	<50	N/A	<80	Remote Rural	E2

RISK CATEGORISATION TABLE

Risk Category	Population			Demand / Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons / sq km)	Total Pop in Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates / 100 k of pop	Other Building Rates / 100 k of pop	RTA / SS rate / 100k of pop		
Very High	>100k	>200	>150	>50k	>2500	>250	>100	>250	Infrastructure Institutional, Recreation, POPA, Educational, Industrial, SEVESO, Shopping / Commercial	A1
	70-100	>200	90-150k	30-50k	1200-2500	200-250	70-100	200-250	Some of the above	A2
High	35-75k	>200	70-100k	20-40k	700-1500	150-200	50-70	170-200	Small number of each of the above, on limited scale	B1
	30-40k		40-80k	15-30k	500-800	120-150	30-50	140-170	Some of the above on a limited scale	B2
Medium	31,872								A number of each of the above, of medium scale	C1
	28,531		33,218	10-15k	250-700	100-120	20-30	120-140	A small number of above, of limited scale	C2
Low	5-12k	50-250	20-30k	7-12k	120-300	80-100	15-25	110-130	Some small scale premises in above categories	D1
	3-5k	30-100	10-25k	3-10k	100-130	70-90	10-20	100-120	A few small scale premises in above categories	D2
Very Low	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	Very few premises other than domestic	E1
	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Remote Rural	E2
	<1k	<20	<5k	<2k	<50	<50	N/A	<80		

RISK CATEGORISATION TABLE

Risk Category	Population			Demand / Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons / sq km)	Total Pop in Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates / 100 k of pop	Other Building Rates / 100 k of pop	RTA / SS rate / 100k of pop		
Very High	>100k	>200	>150	>50k	>2500	>250	>100	>250	Infrastructure Institutional, Recreation, POPA, Educational, Industrial, SEVESO, Shopping / Commercial	A1
	70-100	>200	90-150k	30-50k	1200-2500	200-250	70-100	200-250	Some of the above	A2
High	35-75k	>200	70-100k	20-40k	700-1500	150-200	50-70	170-200	Small number of each of the above, on limited scale	B1
	30-40k		40-80k	15-30k	500-800	120-150	30-50	140-170	Some of the above on a limited scale	B2
Medium	31,872								A number of each of the above, of medium scale	C1
	28,531		33,218	12,843	275	100-120	20-30	120-140	A small number of above, of limited scale	C2
Low	5-12k	50-250	20-30k	7-12k	120-300	80-100	15-25	110-130	Some small scale premises in above categories	D1
	3-5k	30-100	10-25k	3-10k	100-130	70-90	10-20	100-120	A few small scale premises in above categories	D2
Very Low	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	Very few premises other than domestic	E1
	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Remote Rural	E2
	<1k	<20	<5k	<2k	<50	<50	N/A	<80		

RISK CATEGORISATION TABLE

Bray Fire Station is alerted to less than 1 incident per day

Risk Category	Population			Demand/ Need		Incident Rates			Individual / Special Hazards	Area Risk Designation
	Pop of main Urban centre	Rural Pop density (Persons/ sq km)	Total Pop in Station Area	No of Dwellings in Station Area	Annual Level of Incidents in Station Area	Dwelling Fire Rates/ 100 k of pop	Other Building Rates/ 100 k of pop	RTA/ 55 rate/ 100k of pop		
Very High	>100k	>200	>150	>50k	>2500	>250	>100	>250	Multiples of above on largest scale	A1
	70-100	>200	90-150k	30-50k	1200-2500	200-250	70-100	200-250	Some of the above	A2
High	35-75k	>200	70-100k	20-40k	700-1500	150-200	50-70	170-200	Small number of each of the above, on limited scale	B1
	10-30k		40-80k	15-30k	500-800	120-150	30-50	140-170	Some of the above on a limited scale	B2
Medium	28,531		33,218	12,843	275	100-120	20-30	120-140	A number of each of the above, of medium scale	C1
	5-12k	50-250	20-30k	7-12k	170-300	80-100	15-25	110-130	A small number of above, of limited scale	C2
Low	5-10k	20-100	10-25k	5-10k	100-150	70-80	10-20	100-120	Some small scale premises in above categories	D1
	1.5-3k	20-50	6-12.5k	2-5k	50-120	60-80	5-15	80-100	A few small scale premises in above categories	D2
Very Low	<2k	<20	<7.5	<4k	<70	50-70	N/A	<80	Very few premises other than domestic	E1
	<1k	<20	<5k	<2k	<50	<50	N/A	<80	Remote Rural	E2

RISK CATEGORISATION TABLE

Risk Categorical Response Capability			
Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (Incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

The Risk Category indicates target travel time for the first and subsequent pumps to arrive at incidents. These targets are based on a 75% confidence at fire service level – i.e. it is expected that the targets would be achieved on average in three out of four mobilisations by the fire service.

Risk-Based Approach (RBA) Project

The information in the previous table can be summarised as follows:

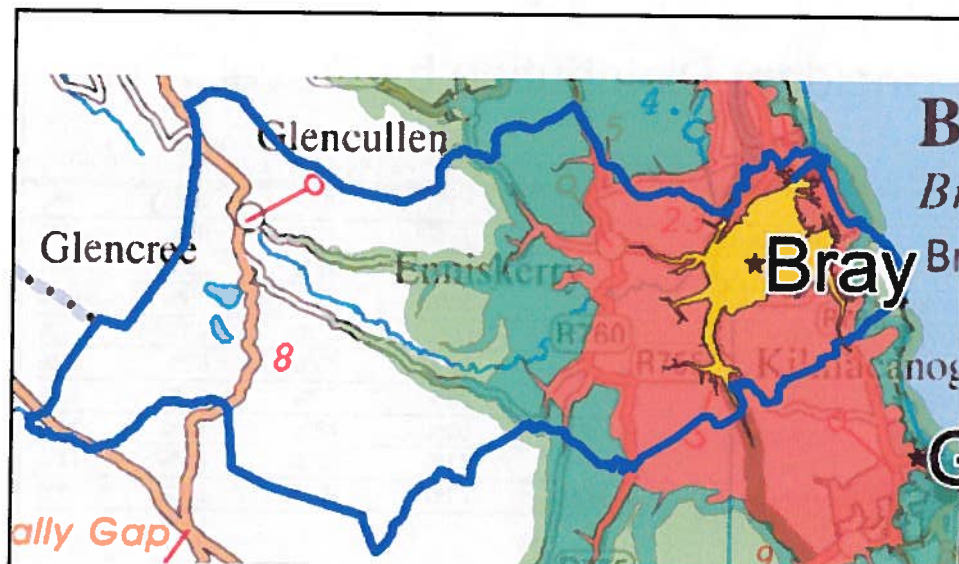
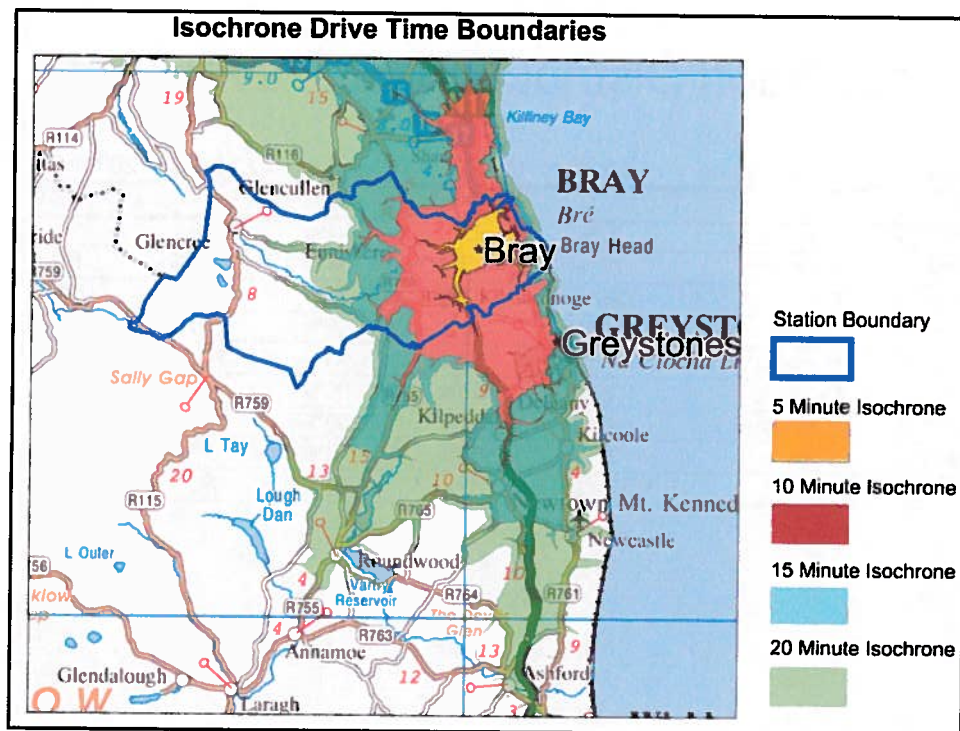
To demonstrate that the national standard for a station area has been achieved for an area which has been assessed as being in a Medium Risk Category the operational response must achieve the following –

- ***The travel time of the first fire crew to 75% of incidents must be 10 minutes or less.***
- ***The travel time of the second fire crew to 75% of incidents must be 20 minutes or less.***
- ***The travel time of the third fire crew to 75% of incidents must be 30 minutes or less.***

Current Fire Service Response - Bray

Two retained fire crews – 15 personnel.





This map demonstrates that Bray fire crews can reach Glencree in a travel time of 20 minutes.

Also note that the map indicates that the operational travel time from Bray fire station to Greystones fire station is 10 minutes.

Population Distribution by Travel Time

Station ID	StationName	<= 5 Mins	<= 10 Mins	<= 15 Mins	<= 20 Mins	> 20 Mins
WW11	Bray	57%	97%	99%	99%	1%
WW12	Greystones	37%	83%	94%	99%	1%
WW13	Wicklow	62%	82%	94%	100%	0%
WW14	Rathdrum	26%	53%	82%	95%	5%
WW15	Arklow	58%	87%	96%	100%	0%
WW16	Blessington	62%	82%	93%	100%	0%
WW17	Dunlavin	29%	57%	80%	97%	3%
WW18	Baltinglass	47%	79%	90%	95%	5%
WW19	Carnew	36%	69%	91%	97%	3%
WW21	Tinahely	22%	45%	81%	95%	5%

Incident Distribution by Travel Time

Station ID	Station Name	<= 5 mins	<=10 Mins	<=15 Mins	<=20 Mins	> 20 mins
WW11	Bray	53%	80%	90%	94%	6%
WW12	Greystones	39%	73%	92%	97%	3%
WW13	Wicklow	46%	80%	91%	96%	4%
WW14	Rathdrum	25%	55%	73%	85%	15%
WW15	Arklow	38%	68%	88%	93%	7%
WW16	Blessington	20%	56%	73%	82%	18%
WW17	Dunlavin	29%	59%	76%	87%	13%
WW18	Baltinglass	35%	59%	78%	87%	13%
WW19	Carnew	38%	71%	82%	86%	14%
WW21	Tinahely	46%	71%	98%	99%	1%

Dwelling Fire Distribution - Travel Time

Station ID	Station Name	<= 5 mins	<=10 Mins	<=15 Mins	<=20 Mins	> 20 mins
WW11	Bray	47%	84%	93%	94%	6%
WW12	Greystones	35%	75%	92%	98%	2%
WW13	Wicklow	49%	78%	88%	96%	4%
WW14	Rathdrum	21%	42%	63%	100%	0%
WW15	Arklow	53%	76%	84%	89%	11%
WW16	Blessington	26%	52%	78%	87%	13%
WW17	Dunlavin	8%	42%	67%	83%	17%
WW18	Baltinglass	22%	56%	56%	78%	22%
WW19	Carnew	40%	60%	80%	100%	0%
WW21	Tinahely	25%	50%	100%	100%	0%

Risk Categorised Response Capability

Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

The maps and statistics demonstrate that the first crew from Bray will attend more than 75% of incidents in a travel time of less than 10 minutes.

Risk Categorised Response Capability			
Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (Incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

Similarly the maps and statistics demonstrate that the second crew from Bray will attend more than 75% of incidents in a travel time of less than 10 minutes – much better than the 20 minutes.

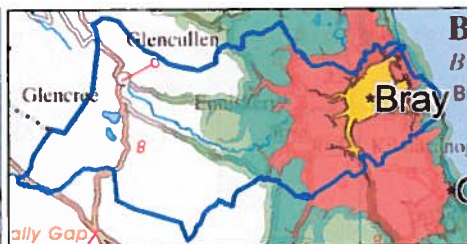
Risk Categorised Response Capability			
Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (Incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

Similarly the maps and statistics demonstrate that the second crew from Bray will attend more than 75% of incidents in a travel time of less than 10 minutes – much better than the 20 minutes.

Drive Time Boundaries



Greystones can reach Bray fire station in under 10 minutes.



We know that Bray fire station can reach 97% of the population, 80% of incidents, 84% of Dwelling fires in a travel time less than 10 minutes

From these two statements it is possible to extrapolate and say that Greystones can reach 80% of incidents in the Bray Fire Station Area in a travel time of less than 20 minutes.

Risk Categorised Response Capability

Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (Incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

Therefore the maps and statistics demonstrate that the third crew Greystones will attend more than 75% of incidents in a travel time of less than 30 minutes.

Risk Categorised Response Capability			
Risk Category	Standard Fire Appliance (Class B) Response Capability	Travel Times	Associated Crew Levels (Incl crew commanders)
Very High	1	in 8 mins	5
	2	in 10 mins	9
	3	in 15 mins	13
	4	in 20 mins	17
High	1	in 10 mins	5
	2	in 15 mins	9
	3	in 20 mins	13
Medium	1	in 10 mins	5
	2	in 20 mins	9
	3	in 30 mins	13
Low	1	in 20 mins	5
	2	in 40 mins	9
Very Low	1	in 30 mins	5
	2	in 60 mins	9

Current Fire Service Response - Bray

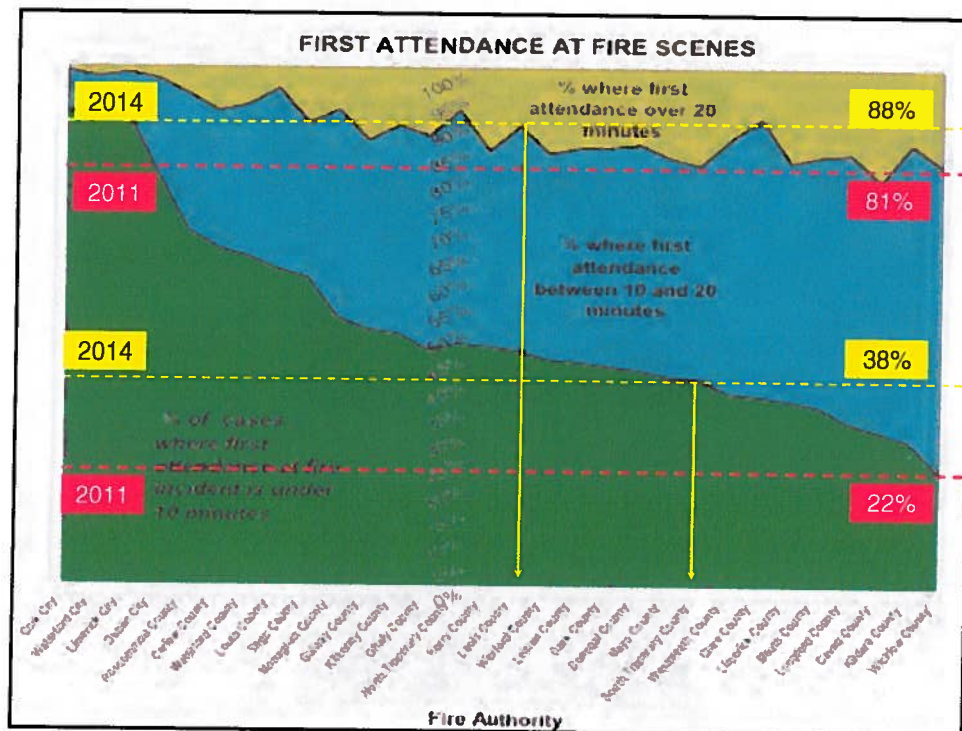
The two retained fire crews currently in Bray supported by neighbouring Fire Stations exceeds the standard of fire cover required by National Standards.



Current Situation in Bray Fire Station and County-wide

Average Turnout Time, Bray: 6 minutes 30 seconds

This represents an improvement in the last 2 years of over 2 minutes



Key Performance Indicators

Overall incident rate in Bray is down from 371 per year in the period 2008 - 2010 to 275 per year in the period 2011 – 2013

26% reduction

The Incident Rate per 100,000 of population for Bray Fire Station:

2008 to 2010	1,100	
2011 to 2013	828	25% reduction

The current rate is above the county average of 759 and below the national average of 1,283

The Dwelling Fire Rate per 100,000 of population:

2008 to 2010	114	
2011 to 2013	76	33% reduction

The current rate in Bray is below the national average of 99 and slightly above the county average of 70.

The reductions in Bray are in line with national and county trends

National Statistics



Population of Main Urban Area

Full-Time (town population)		Retained (town population)		Northern Ireland Retained	
Limerick	91,454	Navan	28,559	Carrigfergus	27,201
Galway	76,778	Bray	28,531	Coleraine	25,089
Waterford	51,519	Ennis	25,360	Antrim	20,001
Drogheda	38,578	Kilkenny	24,423	Larne	32,180
Dundalk	37,816	Tralee	23,693		
		Carlow	23,030		
		Newbridge	21,561		
		Naas	20,713		

Location	Population Of Station Area	Average incidents per year	Population Of Urban Area
Drogheda	68,760	510	38,578
Dundalk	52,024	416	37,816
Naas	52,514	425	20,713
Newbridge	51,795	400	21,561
Tralee	42,819	382	20,288
Ennis	42,793	331	24,253
Navan	42,038	430	28,559
Kilkenny	33,218	375	24,423
Bray	33,158	275	28,531

Nationally the incident rate in a station area is generally between 7 and 10 per 1,000 people in the station area.

Advantages of a Full-Time Fire Service

Turnout times decrease by approximately 5 minutes
(the time from alert being received to time mobile)

Crews available for Community Fire Safety

Crews on duty perform all maintenance of equipment

Crews available to conduct Pre Incident Planning

Crews available to carry out Hydrant checks

Incident Distribution by Travel Time

Station ID	Station Name	<= 5 mins	<=10 Mins	<=15 Mins	<=20 Mins	> 20 mins
WW11	Bray	53%	80%	90%	94%	6%
WW12	Greystones	39%	73%	92%	97%	3%
WW13	Wicklow	46%	80%	91%	96%	4%
WW14	Rathdrum	25%	55%	73%	85%	15%
WW15	Arklow	38%	68%	88%	93%	7%
WW16	Blessington	20%	56%	73%	82%	18%
WW17	Dunlavin	29%	59%	76%	87%	13%
WW18	Baltinglass	35%	59%	78%	87%	13%
WW19	Carnew	38%	71%	82%	86%	14%
WW21	Tinahely	46%	71%	98%	99%	1%

Incident Distribution by Travel Time if Full Time

Station ID	Station Name	<=	<=5 mins	<=10 mins	<=15mins	
WW11	Bray	53%	80%	90%	94%	6%
WW12	Greystones	39%	73%	92%	97%	3%
WW13	Wicklow	46%	80%	91%	96%	4%
WW14	Rathdrum	25%	55%	73%	85%	15%
WW15	Arklow	38%	68%	88%	93%	7%
WW16	Blessington	20%	56%	73%	82%	18%
WW17	Dunlavin	29%	59%	76%	87%	13%
WW18	Baltinglass	35%	59%	78%	87%	13%
WW19	Carnew	38%	71%	82%	86%	14%
WW21	Tinahely	46%	71%	98%	99%	1%

Human Behaviour in Fire Symposium 2004

A TOUR D'HORIZON OF GOVERNMENT FIRE POLICY AND THE ROLE OF FIRE RESEARCH

Clive Morris, Director
Fire and Rescue Service Directorate
Office of the Deputy Prime Minister

ABSTRACT

Government recognizes the need for evidence based policies and sees research as an important medium through which evidence can be gathered. A tour d'horizon of recent major policy changes in the duties of the Fire and Rescue Service, its objectives, and its operating arrangements, and the role of research in the development of these new policies will be of interest to both United Kingdom fire professionals and those from overseas.

Limitations on Operational Response

LEGISLATION

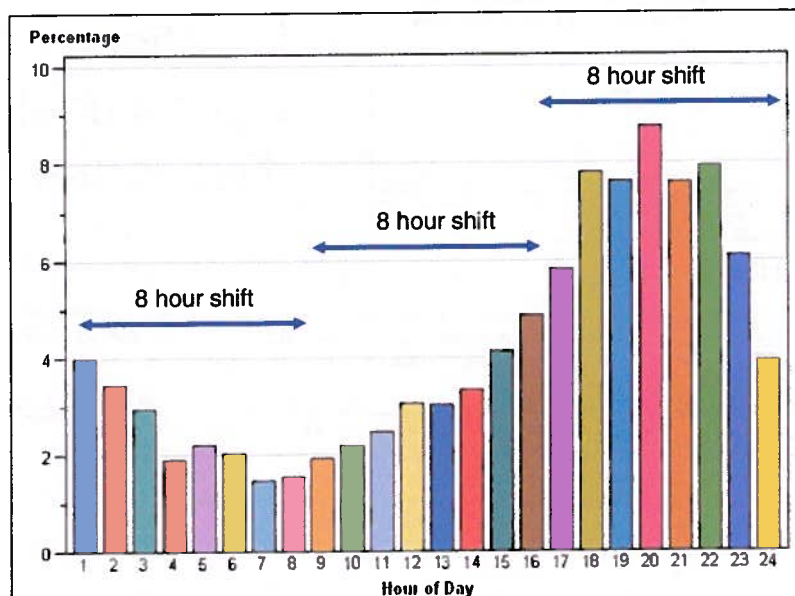
Perhaps less permanent to a scientific conference, but indicative of the Government's commitment to change, a new Fire and Rescue Service Bill will provide the new legislative framework necessary to support the Government's vision of a modern Fire and Rescue Service.

The Bill will make it a duty for each Fire and Rescue Authority to promote fire safety in its local community. Fire prevention is the best way of reducing the number of deaths and injuries from fires. No matter how good the response time of firefighters, it remains the case that roughly half those who die in fires are dead before the Fire and Rescue Service has even been called. Approximately 76% of homes now have smoke alarms and many lives are saved as a result. But we need to focus our efforts on the remaining 24% of homes that typically house those most at risk.

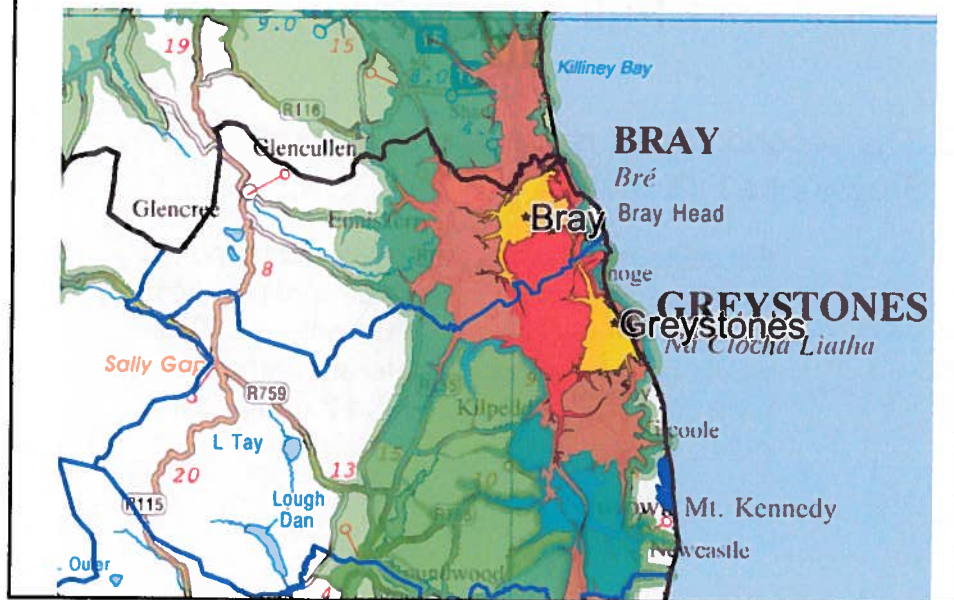
Possible Organisational Arrangements (based on draft report 2007)

- ☐ Day Manning
- ☐ Amalgamate Bray and Greystones Fire Stations with a new centrally located station
- ☐ Replace 2 Retained Crews in Bray with 1 Full Time Crew and 1 Retained Crew
- ☐ Replace 2 Retained Crews in Bray with 1 Full Time Crew
- ☐ Replace 1 Retained Crew in Bray with full-time, keep 1 retained crew in Bray and close Greystones fire station
- ☐ Replace 2 Retained Crews in Bray with 2 Full Time Crews

Day-Manning



Amalgamate Bray and Greystones



Replace 2 Retained Crews in Bray with 1 Full Time Crew and 1 Retained Crew

- ☐ Reduce to one retained crew in Bray,
reduce from 15 retained personnel to 9
 - Number of calls for the retained would reduce considerably
 - Lower call numbers usually leads to slower response times
 - For serious incidents the “weight of response” would still be determined by the time of response of the retained fire crew.

Replace 2 Retained Crews in Bray with 1 Full Time Crew

- ❑ The second crew if required would come from Greystones Fire Station

- For serious incidents the “weight of response” would be determined by the time of response of the retained fire crew from Greystones. This would be slower than the current response time for 2 crews as provided by the 2 retained fire crews in Bray.

Replace 1 Crew in Bray with full-time, keep 1 retained crew in Bray and close Greystones fire station

- ❑ Fire cover for the town of Greystones would be decreased

- Greystones currently turn out in close to 5 minutes. The ERCC estimate that it is a 10 minute drive from Bray Fire Station to Greystones Fire Station.
- For serious incidents the “weight of response” would still be determined by the time of response of a retained fire crew, Bray or Wicklow Town.

Replace 2 Retained Crews in Bray with 2 Full-time Crews

Louth Fire Service (Sept 2012 – Sept 2013)

	Drogheda			Dundalk			Other Stations	Total
	A1 (FT)	A2 (R)	B1 (R)	A1 (FT)	A2 (R)	B1 (R)	Ardee/ Carlingford/ Dunleer	
Mobilisations (first turnouts)	510	83	38	416	101	41	229	1418
Mobilisations (other turnout areas)	46	1	20	40	5	9	152	273
Total	556	84	58	456	106	50	381	1691

Drogheda attends 85% more incidents than Bray per year.
Dundalk attends 51% more incidents than Bray per year.

Louth Fire Service Sept 2012 – Sept 2013

	Drogheda			Dundalk			Other Stations	Total
	A1 (FT)	A2 (R)	B1 (R)	A1 (FT)	A2 (R)	B1 (R)	Ardee/ Carlingford/ Dunleer	
Mobilisations (first turnouts)	510	83	38	416	101	41	229	1418
Mobilisations (other turnout areas)	46	1	20	40	5	9	152	273
Total	556	84	58	456	106	50	381	1691

Back up retained crews in Dundalk and Drogheda attend between 16% and 25% of the stations calls – for Bray 70 calls.

Louth Fire Service Sept 2012 – Sept 2013

Features of System for Dundalk and Drogheda:

No. of full time staff	55	Dundalk 28, Drogheda 27 4 shifts of 5 personnel
No. of retained staff	16	Dundalk 8, Drogheda 8
Training Roster		700 – 800 person days per year
Community Fire Safety		200 hrs per station
Additional Advantages		Maintenance of equipment Pre Incident Planning Hydrant checks

Issues in Full-Time Fire Service in County Louth

- Retained Manning Levels are difficult to maintain due to reduction in income for retained personnel.
- Turn out times for retained crews has decreased.
- Manning of Special Appliances is the role of retained personnel, operational response suffers for the above reasons.
- Achieving agreed daily routines with full time staff.
- Training courses of longer than 2 days seriously disrupt the roster and can have cost implications
- Difficulty in arranging meetings with Station Officers (i.e. available one day over 4 week period)
- Reduction in use of training centres due to health and safety issues.

Possible Disadvantages of a Full-Time Fire Service

Maintaining manning levels of retained personnel – call reduction

Reduction in response times – Retained Service

Loss of personnel who do not transfer to Full Time service

Possible loss of community ethos

Significant building costs

Curtailement of current training activities in Bray Fire Station

Rough Estimate 2 Full Time Crews

Item	Amount
Fire service clothing	€65,000
Fire service equipment	€50,000
Station light and heat	€25,000
Fire service diesel / petrol	€20,000
Station repair and maintenance	€20,000
Insurance	€100,000
Full time firefighter wages	€3,529,379
Total	€3,809,379
Bray Operational Wages 2013 (15 personnel)	Saving €450,000
Bray Fire Station – if reduced to 9 personnel	Saving €200,000
Greystones Operational Wages 2013	Saving €230,000

Rough Estimate of Additional Annual Costs

Item	Amount
Day Manning – one shift	€1,250,000
Day Manning – two shifts	€2,500,000
Reducing Bray to 1 Retained Crew would save €200,00 from these figures	
Amalgamate Bray and Greystones Fire Stations with a new centrally located station	€3,120,000 two crews
Replace 2 Retained Crews in Bray with 1 Full Time Crew and 1 Retained Crew	€1,700,000
Replace 2 Retained Crews in Bray with 1 Full Time Crew	€1,450,000
Replace 2 Retained Crews in Bray with 1 Full Time Crew and 1 Retained Crew and close Greystones fire station	€1,470,000
Replace 2 Retained Crews in Bray with 2 Full Time Crews	€3,350,000 two crews

Conclusions

- ❑ The national Risk Based Analysis process indicates that current staffing arrangements in Bray exceeds the required national standard.
- ❑ A Full-time Fire Service in Bray would primarily improve response times by approximately 5 minutes per crew.
- ❑ Replacing the current 2 Retained fire crews with 2 Full Time crews represents the lowest risk and highest cost option in relation to fire service staffing for the Bray Station Area
- ❑ The number of incidents attended in the Bray Station area has decreased by approximately 25% in the last 3 – 6 years in line with national trends.
- ❑ Statistically Bray can be grouped with a number of other large Irish and international towns with Retained Fire Services.
- ❑ International research indicates that “roughly half of those who die in fires are dead before the fire service has been called.”
- ❑ National and international best practice recommends a greater focus on fire prevention measures over operational response.

Population Density

Local Authority	Population Density	Area (Sq.Km)	Population	Fire Stations	Population / Station	Sq.Km / Station
Kildare	124	1,693	210,312	6	35,052	282
Donegal	86	1,869	161,137	16	10,071	117
Meath	79	2,342	184,135	7	26,305	335
Wicklow	68	2,024	136,640	10	13,664	202
Wexford	62	2,353	145,320	5	29,064	471
Waterford	61	1,857	113,795	10	11,380	186
Tipperary	37	4,303	158,754	12	13,230	359
Clare	34	3,450	117,196	7	16,742	493
Kerry	31	4,746	145,502	10	14,550	475
Mayo	23	5,586	130,638	14	9,331	399

Wicklow is relatively densely populated

Square Kilometres per Fire Station

Local Authority	Population Density	Area (Sq.Km)	Population	Fire Stations	Population / Station	Sq.Km / Station
Clare	34	3,450	117,196	7	16,742	493
Kerry	31	4,746	145,502	10	14,550	475
Wexford	62	2,353	145,320	5	29,064	471
Mayo	23	5,586	130,638	14	9,331	399
Tipperary	37	4,303	158,754	12	13,230	359
Meath	79	2,342	184,135	7	26,305	335
Kildare	124	1,693	210,312	6	35,052	282
Wicklow	68	2,024	136,640	10	13,664	202
Waterford	61	1,857	113,795	10	11,380	186
Donegal	86	1,869	161,137	16	10,071	117

Wicklow is relatively well provided with fire stations in relation to the geographic size of the county

Wicklow Statistics

