

# ***LINCOLNSHIRE-RIVERWOODS***

***Fire Protection District***



## ***Standards of Cover Document***

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## Executive Summary

The Lincolnshire-Riverwoods Fire Protection District (LRFPD) protects a suburban community located in the Vernon Township on the southern border of Lake County, Illinois. The District came into existence in 1940 when it protected 25 square miles of a primarily rural area with a single fire engine and volunteer firefighters. In 1957 the Village of Lincolnshire was born followed by the Villages of; Vernon Hills in 1958, Riverwoods in 1959, and Mettawa in 1960. Today, due to annexations, the LRFPD protects 16 square miles with a population of 16,000.

As a Fire District, the LRFPD has no direct affiliation with the political entities that make up the Villages it protects. In order to overcome this disadvantage, the District strives to build and maintain positive relationships with the Village Staff and Board members for each community. In 2006, the Strategic Plan identified the need to nurture community relationships by assigning a District representative to each Village who would attend all Board Meetings and serve as a point of contact. This effort was well received and will continue for the foreseeable future.

The communities within the Fire District seem content with the Fire District model and the advantages it provides. The Fire District concept originated so the cost of fire protection could be shared over a larger population. As a result, the communities within LRFPD benefit from a larger department with more personnel, equipment, and capability than any than one of the four Villages could afford. An additional benefit is that the Fire District's size allows it to participate in automatic and mutual aid arrangements with its neighboring fire departments on a regular basis.

Currently, the LRFPD is led by Chief Fred Kruger. The agency consists of 40 career employees including the Chief, two Deputy Chiefs, three Assistant Chief/ Shift Commanders, one Battalion Chief/Training Officer, six Lieutenant/Paramedics, and 30 Firefighter/Paramedics. In addition, there are six Paid on Call, two Administrative Assistants, and three civilian Fire Inspectors. A three-shift platoon is used to provide 24 hour staffing. Each shift has one Assistant Chief, two Lieutenants, and ten Firefighters. Thanks to an agreement with Union Local 4224, each shift is supplemented by three career LRFPD Firefighter/Paramedics from a different shift. These supplemental personnel work 12 or 24-hour shifts at straight time based on the FLSA allowance for a 27-day work cycle. If the career personnel are unable to fill the slots then they are offered to Paid on Call. The end result is each shift is staffed with a maximum of 15 and a minimum of 12 personnel.

In 2009, there were 2652 requests for assistance. This figure is down from 2817 in 2008 with the variance being attributed primarily to the economy's impact on travel and work. While the overall volume dipped, the trend is still moving toward 3000 calls annually. In addition, EMS calls have consistently increased over the past six years. The District staffs two ambulances daily with a third available as part of a jump company. There are also two Engines, a Truck, and a Squad that have Advanced Life Support (ALS) capability. Multiple EMS calls are a normal occurrence and LRFPD handled six working structure fires in 2009.

The District strives to set the standard for quality of care and customer service. The members take pride in their equipment and facilities and are constantly on the lookout for innovative approaches and technology. In the past three years, the District has incorporated apparatus

computers with computerized maps, mobile data terminal capability with automatic vehicle locators, and computerized EMS report writing. Three ambulances have been replaced with new units, a third station has opened, and all Self Contained Breathing Apparatus were replaced to meet NFPA Standards. New defibrillators were purchased for all ALS vehicles, new stretchers with lift motors were added to each ambulance, and all apparatus now minimally carry carbon monoxide detectors.

This Standards of Cover document is the culmination of the efforts of a team of committed individuals. Criterion were assigned and originally written by division heads or their delegates and then were rewritten in one voice by the Accreditation Manager. Many meetings were held where best practices were discussed and key decisions were made. As a result, this document truly represents a group effort that has impacted the entire organization and caused a cultural change for the positive. Thanks to the accreditation process, the LRFD now has a clear understanding of how the Strategic Planning process, the Standard of Cover, and the Self Evaluation all work together to improve the organization.

## Introduction

### Legal Basis for Fire District

The LRFDP was originally established as the Vernon Fire Protection District in 1940. The name of the Fire District was legally changed by Ordinance No. 98-99-01 on July 1, 1998 to the Lincolnshire-Riverwoods Fire Protection District. The legal basis for the existence of the LRFDP is found in the Illinois Compiled Statutes 70 ILCS 705/1. This statute gives Illinois Fire Protection Districts the authority to acquire, establish, maintain, and operate a fire station facility with vehicles, apparatus, and equipment for the prevention and control of fire. The legality for the establishment of the Emergency Medical Services (EMS) component is also established in the Illinois Compiled Statutes under Chapter 210 known as the EMS Systems Act. This act establishes a region and system plan as well as the scope of practice for Paramedics, establishment of Trauma Centers and immunity provisions. The legal basis for Station 52 being built less than one mile outside the LRFDP Fire District boundaries is found under 70 ILCS 705/10.

### Description of the Communities Served

The Fire District protects 16 square miles containing parts of four Villages.

#### *Village of Lincolnshire*

This Village is 98% within the Fire District and contains six hotels along with a wide array of fine restaurants, multiple retail, entertainment, and office developments, the IMAX Theater, and Stevenson High School with a student/staff population of 5500. It is also home to the Lincolnshire Marriott Resort which is a 17 acre complex that consists of; a 390 room hotel, four restaurants and lounges, live theater in the round, over 40,000 square feet of meeting and banquet space, and a championship golf course. Lincolnshire also contains the Sedgebrook Retirement Community, a 92-acre complex of three to five story connected buildings and a nursing home. The Lincolnshire Corporate Center is home to the Headquarters Campus of Hewitt Associates, a myriad of other corporations, and the LRFDP Headquarters Station 51. Lincolnshire is an affluent, educated community with its own public works and police department. The Village of Lincolnshire is 100% hydranted

#### *Village of Riverwoods*

Riverwoods is 70% within the Fire District's boundaries with the other 30% falling in the neighboring Deerfield-Bannockburn Fire Protection District (DBFPD). Riverwoods has a hotel, a 240-bed nursing home, and multiple large corporate facilities including the Headquarters campus for Discover Financial. In 1995, the Village condemned property to build a satellite fire station just outside the LRFDP boundaries in DBFPD. When DBFPD was unwilling to commit to building the desired station, the Village of Riverwoods turned to LRFDP with the same request. Illinois Fire District law allows a Fire District to build a station within 1 mile of its boundaries so an agreement was made with DBFPD to co-respond and Station 52 was built. Riverwoods is a highly educated and affluent community with a love of nature and trees. As a result, many of the roads are the size of driveways and the Village is resistant to improvements due to the impact on the vegetation and wildlife. The Village is 70% hydranted and does have a small police force but relies on an outside engineer and Lake County for most public works issues.

*Village of Vernon Hills*

This Village is approximately 20% within LRFPD with the remainder protected by the Countryside Fire Protection District (CFPD). This Village is the largest population wise but much of the LRFPD protection area is designated for commercial and retail use. The area includes a large corporate center, a new town center with retail, multiple restaurants, and a seven-story condominium building. The area of Vernon Hills within LRFPD also contains various types of residential ranging from single family to single family attached and multi-story condominium complexes. All new multi family construction is sprinkled by ordinance. In addition, LRFPD protects the Vernon Hills Athletic Complex (VHAC), a 184-acre complex. The Federal Aviation Administration navigational tower for O'Hare Airport (known as the VORTEC) is also located in the VHAC. Vernon Hills is 100% hydranted and is also home to the new LRFPD Station 53.

*Village of Mettawa*

Mettawa, located in the far northeast corner of the Fire District, is 20% within LRFPD while the remaining 80% is protected by neighboring Libertyville Fire Department. Only one mile wide and three miles long, Mettawa has the distinction of being the wealthiest community of the six county Chicago metropolitan areas. Its total population of 450 live in a rural setting with estate homes on large parcels of property with long driveways and no fire hydrants in LRFPD.

*Unincorporated Areas*

These areas are sprinkled throughout the District and include the Headquarters Campus of W.W. Grainger, the Chevy Chase Country Club and Championship Golf Course, multiple restaurants, a large condominium community (Inverrary). In addition, there are two water treatment plants, a commuter and freight railway, an underground petroleum pipeline, an antique sales complex, a juvenile detention center known as the Depke Center, a Women's Residential Center, and a section of the Tri-State I-94 Toll-Way. The unincorporated areas are 80% hydranted excluding the forest preserve areas.

## Historical Facts Relating to the Development of Resources

### 1941

- ✓ The Vernon Fire Protection District (VFPD) Volunteers came into existence.

### 1972

- ✓ The first full time Chief was hired followed by six employees the next year.

### 1974

- ✓ Paramedic Program with Ambulance transport began.

### 1983

- ✓ Lake County Haz Mat Team formed.

### 1994

- ✓ Station 51 opened in the Lincolnshire Corporate Center replacing the original station.

### 1996

- ✓ Lake County Specialized Rescue Team formed.

### 1998

- ✓ Organizations name changed and referendum passed doubling tax extension basis.

### 1999

- ✓ Conversion of one Engine and one Truck to ALS status

### 2001

- ✓ Station 52 opened in the Village of Riverwoods.
- ✓ Opticom installed on all District signalized intersections

### 2003

- ✓ Dispatch moved from Lincolnshire Police Dispatch Center to RED Center Fire Dispatch

### 2006

- ✓ Heavy Rescue Squad added to fleet
- ✓ Three new ambulances purchased and placed in service
- ✓ AFG Grant obtained to replace all SCBA
- ✓ Accreditation effort initiated

### 2007

- ✓ LRFPD Paramedics move to Northwest Community Hospital EMS System
- ✓ Toughbook laptop computers installed in all emergency response vehicles
- ✓ Digitalized mapping implemented with auto population feature

### 2009

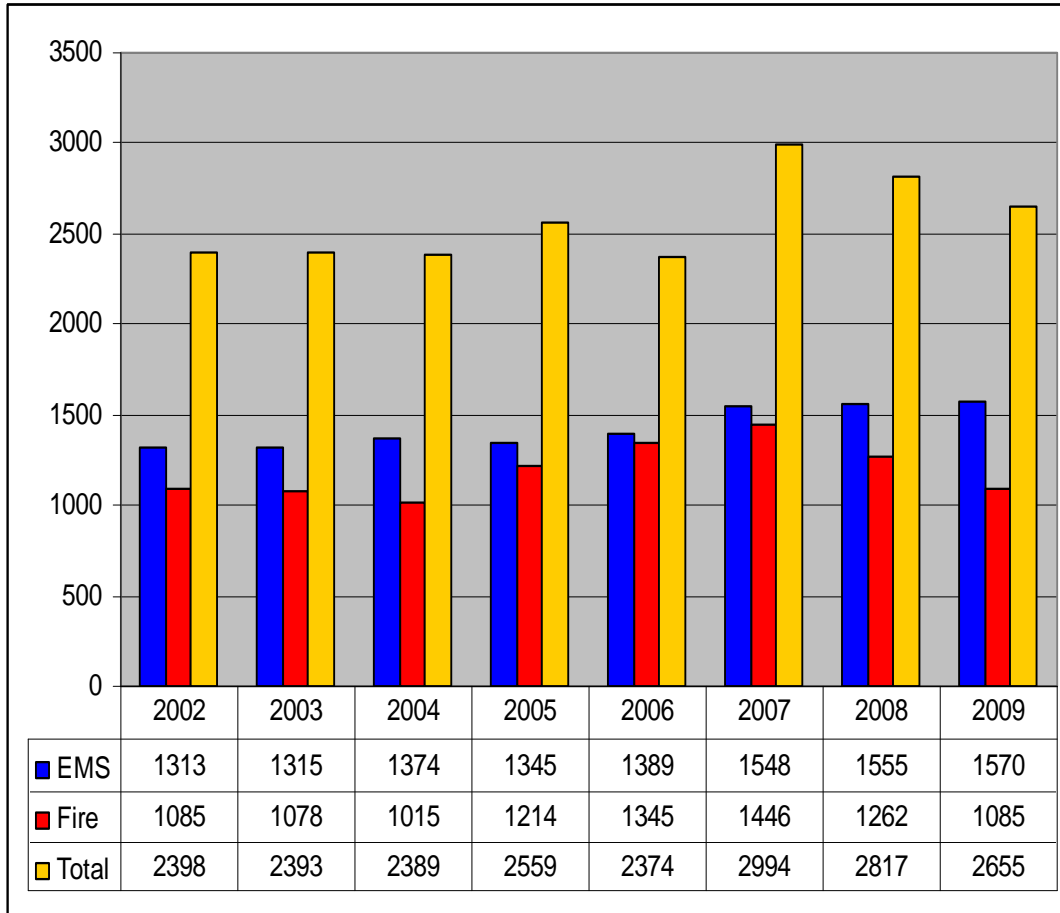
- ✓ Station 53 opened in Vernon Hills



**Call Volume History**

While the call volume dropped this past year, the District is still trending toward 3000 calls in the near future. The Sedgebrook project (2000 new senior residents when built out) along with multiple other developments (such as the Lincolnshire Commons, Riverwoods Milwaukee Avenue Development, and Vernon Hills development at Milwaukee and Rt. 45) will bring additional calls and hazards to our District. Overall, EMS calls have increased each year while fire calls have fluctuated and are currently at 2003 levels.

**Graph of Call Volume History**



**Funding Sources and Restrictions**

The primary funding source for the LRFDPD is property tax. Additional revenue is obtained through fee for service (ambulance fees, plan review fee, false alarm billing, and CPR education fee) and donations. The primary restrictions to the property tax as a funding source are the Property Tax Extension Limitation Law (PTELL) and the Tax Incremental Funding (TIF) District impacts. This does not restrict where the District’s funding may be spent but does restrict the amount of funding available.

*PTELL Impact*

The PTELL uses the prior year’s tax extension adjusted by the Consumer Price Index (CPI) or 5% of the LRFDPD tax extension, whichever is lower, plus new growth, as a limitation for the

following year's tax extension request. The CPI has been low in recent years and since it does not accurately reflect rapidly increasing costs in areas such as insurance, utilities and fuel, the District's funding is negatively impacted. In years where the CPI is high it is also reasonable to anticipate that the impact of associated inflationary costs will at times exceed the PTELL's 5% limit, once again negatively impacting District finances. Eventually this shortfall will force the LRFPD to go back to its taxpayers for increased funding in the form of a referendum.

#### *Tax Incremental Financing (TIF) District Impact*

The TIF results in increased call volume and associated cost of service without increased funding. The TIF is utilized by local villages to entice growth and fund infrastructure improvements in areas under development. This approach effectively freezes the tax extension for all other taxing bodies at whatever was being assessed when the TIF was formed. For example, if a TIF is formed in a farmland area prior to the construction of a 5 story office building, that building will continue to be taxed (for Fire District purposes) at the original farmland value for up to 23 years no matter how many calls the fully occupied building generates. The LRFPD currently has two TIF Districts in the Villages of Lincolnshire and Vernon Hills. The Lincolnshire TIF is scheduled to expire in 2012 and the Vernon Hills TIF in 2032. Both are high traffic areas with commerce and residential impact.

#### **Population**

The population of our Fire District (encompassing 98% of the Village of Lincolnshire, 70% of the Village of Riverwoods, 20% of the Village of Vernon Hills, and approximately 20% of the Village of Mettawa, along with parts of the unincorporated areas of Prairie View, Wheeling, Deerfield, and Mundelein) is approximately 16,000 people. However, on weekdays our population grows to an estimated 60,000 due to Corporate Center activity and Stevenson High School (population 5500). The Hewitt Associate buildings contain nearly the same population (5,000) as the entire Village of Lincolnshire (6000). With the addition of the Sedgebrook retirement community and other ongoing residential projects, we project a nighttime population of 23,000 with a projected daytime population nearing 80,000 people by the year 2011.

#### *Description of Population Concentration*

The Fire District has residential areas sprinkled throughout but the primary concentration is on the east side of the Des Plaines River. This area is 90% residential with homes on minimum quarter acre lots in Lincolnshire and Riverwoods up to large multi acre estates in the northern Mettawa area. The Inverarry Condo Community in the southwest corner of the District is the most heavily populated and densest area the LRFPD protects. Lincolnshire contains five story condominium style buildings along Milwaukee Avenue (west of the river) and Vernon Hills has recently constructed a five and a seven-story apartment style building also along Milwaukee Avenue.

#### *Description of Specific Characteristics*

The demographics of the Villages of Lincolnshire, Riverwoods, and Mettawa reflect a highly affluent and educated population. For example, the median family income of Lincolnshire is \$150,000 and the median home value is \$442,000. The demographics of Vernon Hills also reflect an educated community with above average income. Homes in all four communities tend to be well cared for and most commercial buildings have fire alarms and are fully sprinkled.

Institutions that have large numbers of at risk populations include the Sedgebrook Community elderly population, the Depke Center which serves as a juvenile court and jail with an attached Women's Residential Center, Brentwood North Nursing Home, and the Riverside Foundation for the mentally challenged. The socio-economic trend for the District is overall positive with most areas still being considered desirable to live and work.

#### *Development within the Service Area*

Overall development has slowed due to the economy with some projects such as Sedgebrook being placed on hold. The Vernon Hills Town Center continues to build with the recent completion of a seven-story condominium and the ongoing construction of a five-story taxpayer that will contain apartments. This Town Center is part of a TIF District meaning it is anticipated to increase service demand with no increased funding during the life of the TIF.

Existing commercial development includes Lincolnshire's City Park, the Lincolnshire Corporate Center, the Corporate Woods of Vernon Hills, W.W. Grainger Headquarters, and the Discover Financial Headquarters. The LRFPD also contains seven hotels and the Marriott Resort Complex. Recreational facilities include the Chevy Chase Country Club, the Marriott Resort Country Club, and numerous forest preserves including: Wright Woods (628 acres), Grainger Woods (257 acres), Half Day Woods (750 acres), and Ryerson Woods (500 acres).

The overall age of buildings in the area range from the late 1950's to present day. The majority of Lincolnshire's single family residential was built in the 1970s with its commercial starting in the late 1980's. Riverwoods has some older homes but most are approximately the same age or newer than that of Lincolnshire. The Thorngate Community, originally a golf course, was built out in the early 2000's. Mettawa is also in the same age range. Single-family homes in Lincolnshire, Riverwoods, and Mettawa range from a small ranch to an 8,000 square foot mansion. Meanwhile, building in the Vernon Hills area that LRFPD protects started in the late 1990's and continues today. The single-family area contains large homes and the multi family units are sprinkled. Of course, there are still older farm homes sprinkled throughout the area and an occasional barn or stable.

#### *Density and Population Growth Potential*

The density of the LRFPD is overall low. Single family homes in; Lincolnshire are typically on 1/4 acre, Riverwoods are typically on 1 plus acre, and Mettawa on 5 plus acres. Vernon Hills has some dense town home developments but there is significant open space surrounding these developments. The most dense area of the District population wise would be the unincorporated Inverarry Condominium area, a large area of two story attached town homes which would qualify as moderately dense. Other pockets of density would include the Sedgebrook Retirement Community, the new six and seven story residential buildings in Vernon Hills, and the Rivershire and Village Green 3-5 story condominium buildings in Lincolnshire. There are still significant tracts of land in the District which have not been developed but much of this is designated commercial.

The potential for growth in all four communities still exists. Mettawa is in negotiations regarding a big box Costco store, while Lincolnshire, Riverwoods, and Vernon Hills still have large acreages of undeveloped land. Current construction has slowed to negligible other than a

few retail and residential buildings in the Vernon Hills Town Center. The current population has the potential to reach 22,000 when the economy improves.

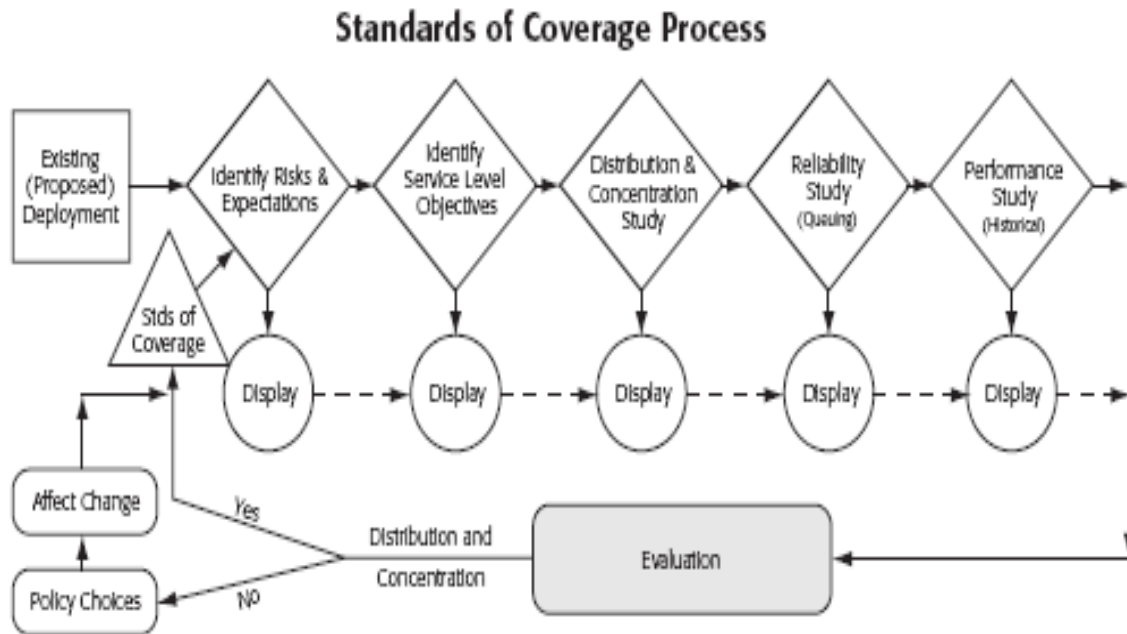
*Layout of the Area in which Services are Provided*

The Lincolnshire-Riverwoods Fire Protection District protects an area that is bordered by Lake Cook Road on the south, Route 60 on the north, the Tri-State Tollway on the east and the Metra Railroad tracks on the West. The primary east-west road arteries are Route 60, Route 22, Deerfield Road, and Lake-Cook Road. The primary north-south arteries are the Tri-State Tollway, Riverwoods Road, and Milwaukee Avenue. The Metra Railroad tracks carry both passenger and freight trains.

## Standard of Cover Development Methods

This Standards of Coverage was developed thanks to the efforts of a dedicated Accreditation Team who strived to provide accurate data for this report. The process required District wide risk analysis, a thorough review and evaluation of Fire District response data for the past three years, and an in-depth assessment of all aspects of the organization. The model for this process was taken from the Commission on Fire Accreditation International’s (CFAI) Standards of Cover, 5<sup>th</sup> edition and the Self Assessment Manual, 7<sup>th</sup> edition.

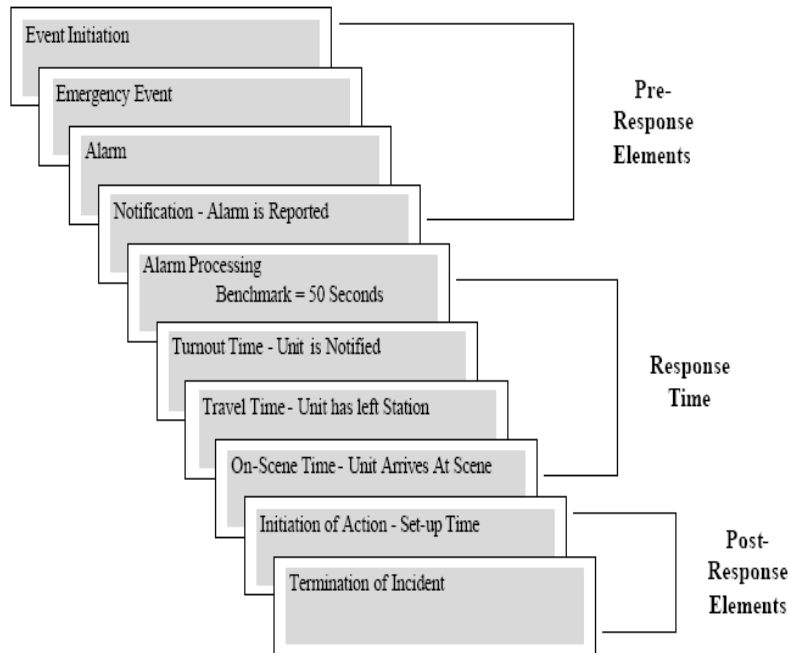
The Lincolnshire-Riverwoods Fire Protection District used the attached CFAI Standards of Coverage Process Flow Chart as a format for this document.



### Cascade of Events

The CFAI has defined and clarified response time elements as a cascade of events. This cascade starts with event initiation and continues through the various steps until the event is terminated. In reviewing the cascade of events, it becomes obvious that some aspects can be directly influence by the fire service through best practices and equipment/facility deployment while others such as event initiation can only be indirectly influenced through public education and engineering. The fire service can influence the call processing interval through its ability to define standards and compel performance by dispatch centers.

### Emergency Operations Cascade of Response Elements



### Time Points and Time Intervals - The Cascade of Events

1. **Event Initiation Point** -- the point at which factors occur that result in an activation of the emergency response system. Precipitating factors can occur seconds, minutes, hours, or even days before a point of awareness is reached. It is rarely possible to quantify this point.
2. **Emergency Event Awareness** -- the point at which a human being or technology (i.e., smoke detector) becomes aware that conditions exist requiring activation of the emergency response system.
3. **Alarm** -- the point at which awareness triggers an effort to notify the emergency response system. An example of this time point is the transmittal of a local or central alarm to a public safety answering point. Again, it is difficult to determine the time interval during which this process occurs.
4. **Notification** -- the point at which the Public Safety Answering Point (PSAP) receives an alarm. This transmittal may take the form of electronic or mechanical notification received.
5. **Alarm Processing** -- the interval between the first ring of the phone or the first alert of the alarm panel at the dispatch center, and the time the dispatcher initiates the notification of response units.
6. **Turnout time** -- the interval between the activation of station and/or company alerting devices and the time when the responding crew notifies the dispatcher by voice that the company is responding.
7. **Travel Time** -- begins at the termination of the turnout time and ends when the responding unit notifies the dispatcher that it has arrived on the scene.
8. **On-Scene Time** -- the point at which the responding unit arrives on scene.
9. **Set-up Time** -- the point at which operations to mitigate the event begins.
10. **Termination of Incident** -- the point at which units have completed the assignment and are available to respond to another request for service.

## Existing Deployment System

### Services Provided

#### *Fire Response*

The District currently operates three stations with 12 personnel per shift. Two personnel are allowed to schedule time off each shift. The labor and management teams for LRFPD have bargained and agreed to a creative and legal approach to increase staffing. By following a 27-day FLSA cycle and working 24 hour and 15 minute shifts, per FLSA rules, personnel may agree to deduct uninterrupted sleep and lunchtime along with days scheduled off from their total hours worked in each 27-day cycle. The end result is that personnel have agreed to fill three slots per shift at straight time. Thanks to this creative concept, staffing rarely falls below twelve even when two are scheduled off and full staffing is 15 personnel.

New hire personnel must meet the FF II state certification level and have a current Illinois Paramedic license. In addition to the career personnel, LRFPD provides a program for people wanting to enter the fire service. The program starts with high school Explorers, then goes to College Interns and finally results in Paid On Call status if the individual completes the program. As a Paid on Call, the individual may ride with the shift on calls and is allowed to function as a firefighter. Based on the Collective Bargaining Agreement with the Union, these Paid on Call may fill in for career personnel if the Local fails to fill in the three open slots per shift.

*Rescue* – Engine 51 and Truck 53 carry Holmatro Tools and are capable of moderate rescue. Squad 51 carries heavy-duty Holmatro spreaders and cutters which are on cord reels mounted on the front bumper. The squad also carries extensive specialized rescue equipment. Two LRFPD personnel are members of the Chicago area USAR Team.

#### *Emergency Medical Response*

The Lincolnshire-Riverwoods Fire Protection District has provided Paramedic services since 1973 and is a member of the Northwest Community EMS System which provides oversight, credentialing, and ongoing continuing Paramedic education. The organization staffs three Advanced Life Support (ALS) Ambulances with a total of 36 Paramedics. While the Illinois Department of Public Health minimum ALS Ambulance staffing is 1 EMT and 1 Paramedic, the LRFPD exceeds this by providing a minimum of 2 Paramedics per Ambulance. The department also maintains a reserve ambulance which is only utilized when one of the front line ambulances is out of service for extended periods. Paramedic equipment is also carried on; Engines 51 and 52, Truck 53, and Squad 51. In addition, Automatic External Defibrillators (AEDs) are available in most pool cars as well as at the stations. LRFPD also provides Paramedic Ambulances and bicycles to standby at special Village or nonprofit events such as the Asthma Walk held annually at Half Day Forest Preserve, the Lincolnshire Marathon, and varsity football games at both Stevenson and Vernon Hills High Schools. New-hire personnel are required to be state licensed Paramedics and are not allowed to drop this status unless promoted to the chief officer level.

#### *Hazardous Materials*

LRFPD is a member of the Lake and McHenry County Specialized Response Team (SRT) with five personnel trained to the technician A level in Hazardous Materials. Squad 51 carries absorbent diking material as well as specialized Haz Mat Tools. The Engines, Truck, and Squad all carry absorbent material. All personnel are minimally trained to the Awareness level and the

majority are trained to the Operations level. When LRFPD responds to a Haz Mat incident the Shift Commander may elect to recall off duty Haz Mat personnel, request Haz Mat technicians from neighboring fire departments to serve as advisors, or activate a mutual aid box alarm mobilizing the Lake County Haz Mat Team.

#### *Specialized Response Teams*

LRFPD is a member of the Lake and McHenry County SRT with eight personnel trained to the technician level in Dive and ten personnel trained to the technician level in specialized rescue including; Dive, High Angle, Below Grade, Trench, and Collapse Rescue Teams. Two personnel are also assigned to the State of Illinois Urban Search and Rescue (USAR) Team and Squad 51 is specifically designed to support specialized rescues in the early stages until the County Team arrives. All personnel are trained minimally to the awareness level for all disciplines of SRT. Similar to Haz Mat, when LRFPD responds to an SRT incident the Shift Commander may elect to recall off duty SRT personnel, request SRT technicians from neighboring fire departments to serve as advisors, or activate a box alarm mobilizing the Lake County SRT Team.

#### *Public Education*

The District has a Public Education Coordinator who oversees the Safety Always Matters (SAM) program for our local schools, CPR classes, and First Aid classes for the public. Engine or Ambulance Companies are provided to block parties as requested and station tours are encouraged. We also provide the Lifeline Program which encourages our citizens to record pertinent medical information in a standardized format that will be easy to find if the patient is not able to communicate, and a bi-annual Fire District News Letter (Burning Issues). An offshoot of the Public Education Division is the popular Car Seat Installation Program we initiated five years ago. A Website was also created this past year.

#### *Fire Prevention Bureau*

The Fire Prevention Bureau (FPB) is staffed by a full time Director and an Inspector who review plans and then oversees the installation and maintenance of fire protection systems and other life safety concerns for new business construction within our District. Their efforts are supplemented by a part time civilian inspector. The FPB also oversees fireworks displays and special assembly situations such as temporary tents and buildings, and they assist with fire and arson investigations

#### *Emergency Dispatch*

The District is a member of RED (Regional Emergency Dispatch) Center in Northbrook. 911 calls are required by law to initially be answered by the local Public Safety Answering Point (PSAP) who then forwards our emergency calls to RED Center. RED is the single dispatch center to coordinate any statewide MABAS response. RED Center also dispatches for 13 fire departments locally and serves as the MABAS Dispatch Center for Division 3. One thing that sets them apart from many other local dispatch centers is that RED only handles fire dispatch. They are trained in Emergency Medical Dispatch and are staffed by a minimum of two dispatchers. In 2009, the average call handling time by RED Center was 1 minute and 24 seconds while the call handling at the 90<sup>th</sup> percentile was 2 minutes. The current average processing time does not meet the NFPA 1221 performance standard and is being evaluated.



**Current Delivery System**

Station 51 is located in the Village of Lincolnshire and currently houses the Shift Commander and three personnel who jump between ALS Squad 51, ALS Engine 51, and ALS Ambulance 51 depending on the nature. This station also houses the Dive Trailer, Reserve Engine 51, Utility 51, and the pool vehicles.

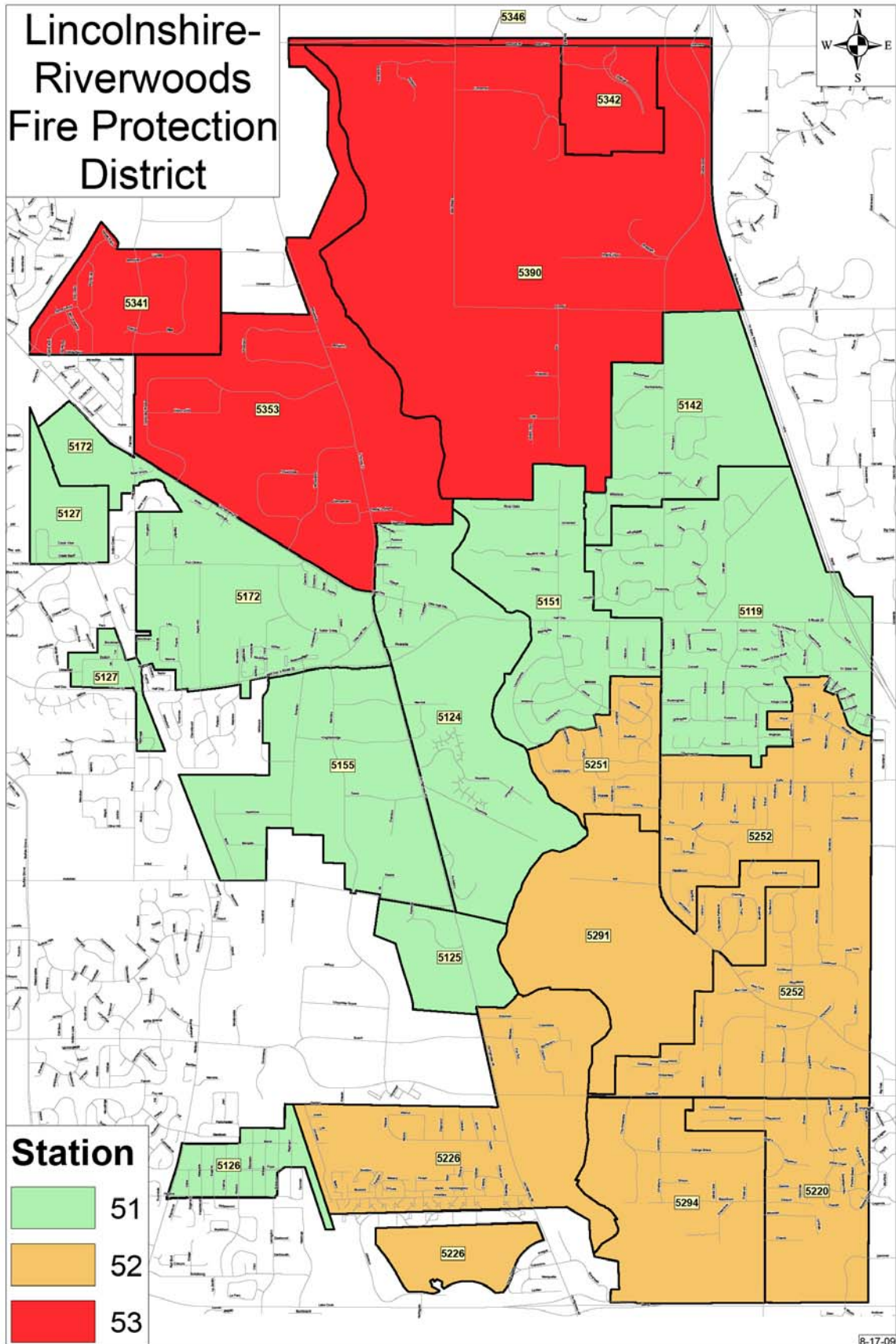
Station 52 is located in the Village of Riverwoods and currently staffs ALS Engine 52 and ALS Ambulance 52 with four to five personnel. Ambulance 52 is constantly staffed with two Firefighter/Paramedics. This station also houses Brush Truck 52 and the Reserve Ambulance.

Station 53 is located in the Village of Vernon Hills and currently staffs ALS Truck 53 and ALS Ambulance 53 with four or five personnel. Ambulance 53 is constantly staffed with two Firefighter/Paramedics. This station also houses Utility 53.

As noted previously, all personnel below Chief Officer are required to maintain Paramedic status. This means each shift has one non-Paramedic Shift Commander, two Lieutenant/Paramedics, and nine Firefighter/Paramedics.

**Deployment Matrix**

<b>Station 51</b>	<b>Pump</b>	<b>Tank</b>	<b>LDH</b>	<b>Specialty</b>	<b>ALS</b>	<b>Staffing</b>
Engine 51	1500 GPM	750 Gallons	Yes	Extrication	Yes	Jump Company
Squad 51	500 GPM	300 Gallons	No	Heavy Rescue	Yes	Jump Company
R-Engine 51	1500 GPM	1000 Gallons	Yes		No	Jump Company
Ambulance 51	N/A	N/A	N/A	N/A	Yes	Jump Company
Utility 51	N/A	N/A	N/A	Crew Cab	No	Not staffed
Dive Trailer	N/A	N/A	N/A	Dive Trailer	No	Not staffed
Bat. 51	N/A	N/A	N/A	Command	No	1 person
<b>Station 52</b>	<b>Pump</b>	<b>Tank</b>	<b>LDH</b>	<b>Specialty</b>	<b>ALS</b>	<b>Staffing</b>
Engine 52	1500 GPM	750 Gallons	Yes	Extrication	Yes	2-3 Personnel
Ambulance 52	N/A	N/A	N/A	N/A	Yes	2 Personnel
Brush 52	N/A	N/A	N/A	Brush Truck	No	Not Staffed
<b>Station 53</b>	<b>Pump</b>	<b>Tank</b>	<b>LDH</b>	<b>Specialty</b>	<b>ALS</b>	<b>Staffing</b>
Truck 53	1500 GPM	325 Gallons	Yes	Extrication	Yes	2-3 Personnel
Ambulance 53	N/A	N/A	N/A	N/A	Yes	2 Personnel
Utility 53	N/A	N/A	N/A	N/A	No	Not Staffed



## **Points of Service Delivery**

### ***Station 51 Overview***

This two-story station that was built in 1994 at 115 Schelter Road in Lincolnshire. The station is situated in the Lincolnshire Corporate Center and contains the offices for the Fire Chief, two administrative assistants, a Deputy Chief of Operations and a Deputy Chief of Administration, the three Shift Commanders, the Mechanics Office and shop, the Accreditation Office, the Training Division Office, the EMS Office, and the Fire Prevention Bureau. Station 51 has three drive through bays, a shop with two half bays, and an additional two half bays in the front of the building. The bays have a non-slip floor, radiant heat, and a Niederman Exhaust System for all diesel apparatus. There is a training room on the first floor and living quarters with dayroom, kitchen, bunkroom, locker room, and workout room on the second floor. This station has one bunkroom with a locking door, a designated woman's washroom, two men's washrooms, and two shower facilities.

### ***Station 51 Staffing Resources***

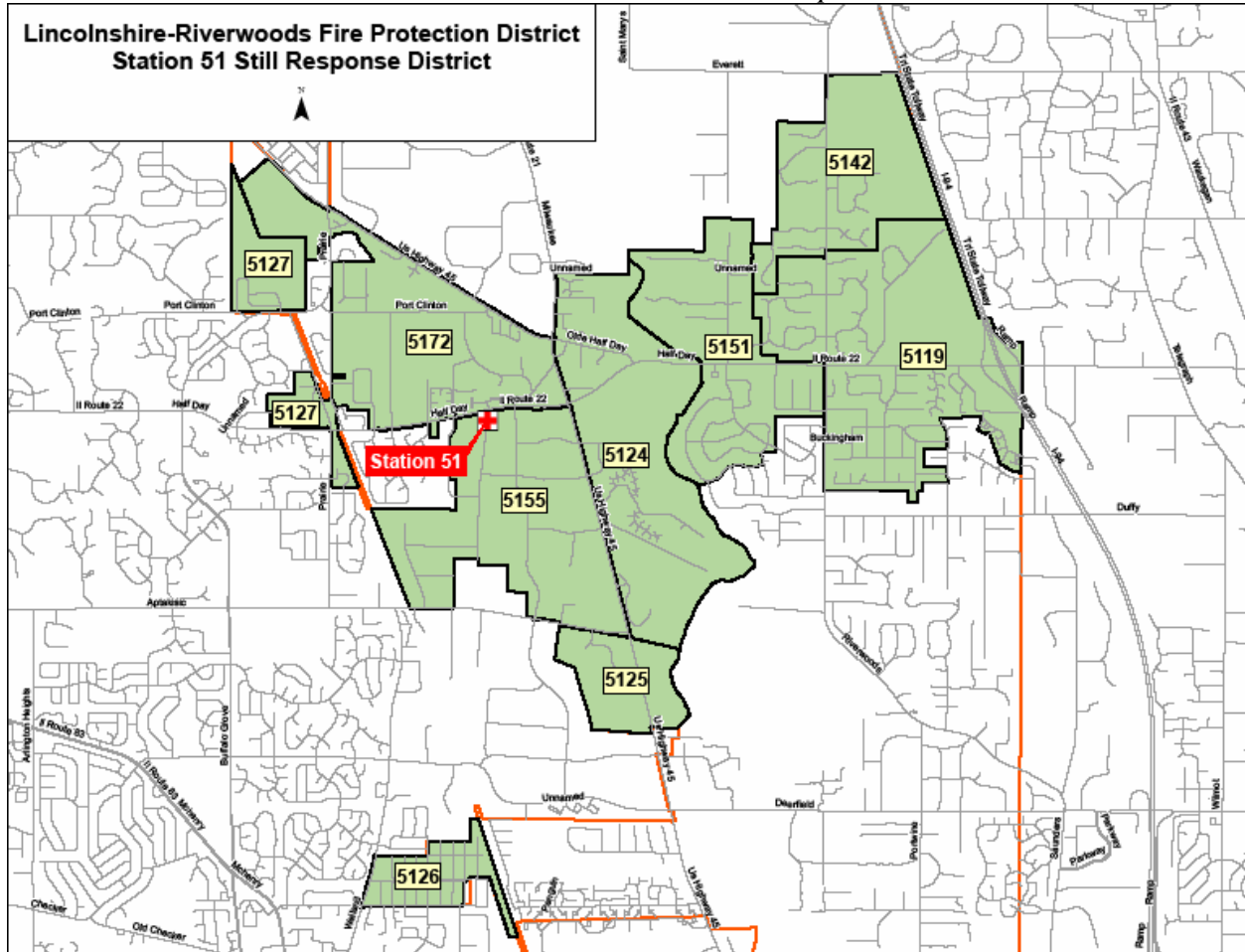
Staffing is normally one Shift Commander, one Lieutenant/Paramedic or Actor, one Engineer/Paramedic, and one Firefighter/Paramedic. The staffing can vary from a total of three to four (plus the Shift Commander) depending on unscheduled absences and Paid On Call activity. This station has increased staffing on weekdays due to the presence of a daytime Training Officer, two Deputy Chiefs, and the Chief. There are also two administrative assistants and three full time civilians in the Fire Prevention Bureau.

### ***Station 51 Resource Deployment***

Station 51 contains a gear washer and dryer, the breathing air compressor, and the main EMS storage room. It also has a full service shop with two bays containing one lift for pool vehicles and movable lifts capable of lifting the Ladder Truck. Station 51 also has a training room with a ceiling mounted projector and a hazardous materials room which is used to store household hazardous waste that is dropped off for the Solid Waste Agency of Lake County (SWALCO). This station houses the following vehicles:

- Engine 51 – 2001 Pierce Engine with 1500 GPM pump and 750 gallon tank
- Squad 51 – 2003 Pierce Heavy Rescue Squad with SRT equipment, pump, tank, foam, and scene lighting
- Reserve Engine 51 – 1992 Seagrave Engine with 1500 GPM pump and 1000 gallon tank
- Ambulance 51 – 2008 MedTec Ambulance on Ford Chassis
- Dive Trailer – Contains all Diver Equipment
- Two Paramedic Bikes
- Command Car 51 – 2005 Ford Expedition
- Spare Command Car 52 – 2005 Ford Expedition
- Utility 51 Crew Cab – 2001 Ford with plow, trailer hitch, and cap.
- Pool Vehicle – 2009 Ford Escape
- Pool Vehicle - 2009 Ford Escape
- Chief 5100 – 2007 Ford Expedition
- Deputy Chief 5101 – 2006 Ford 500
- Deputy Chief 5102 – 2006 Ford 500

### Station 51 First Due Area Map



#### *Station 52 Overview*

This single story station opened in 2001 at 855 Saunders Road in Riverwoods. The station is situated just outside the southeast border of the District and contains two and one half bays with a non-slip floor, radiant heat, and a Niederman Exhaust System for all diesel apparatus. It also has a small training room, living quarters with dayroom, kitchen, bunkroom, and a workout room. This station has two individual bunkrooms with doors as well as a four person shared bunkroom. It also has two separate locker facilities with washrooms and showers and it has two unisex bathrooms.

#### *Station 52 Staffing Resources*

Staffing is normally staffed by one Lieutenant or Actor, one Engineer/Paramedic, and two firefighter/Paramedics. The staffing can vary from four to six depending on scheduled time off and Paid On Call activity.

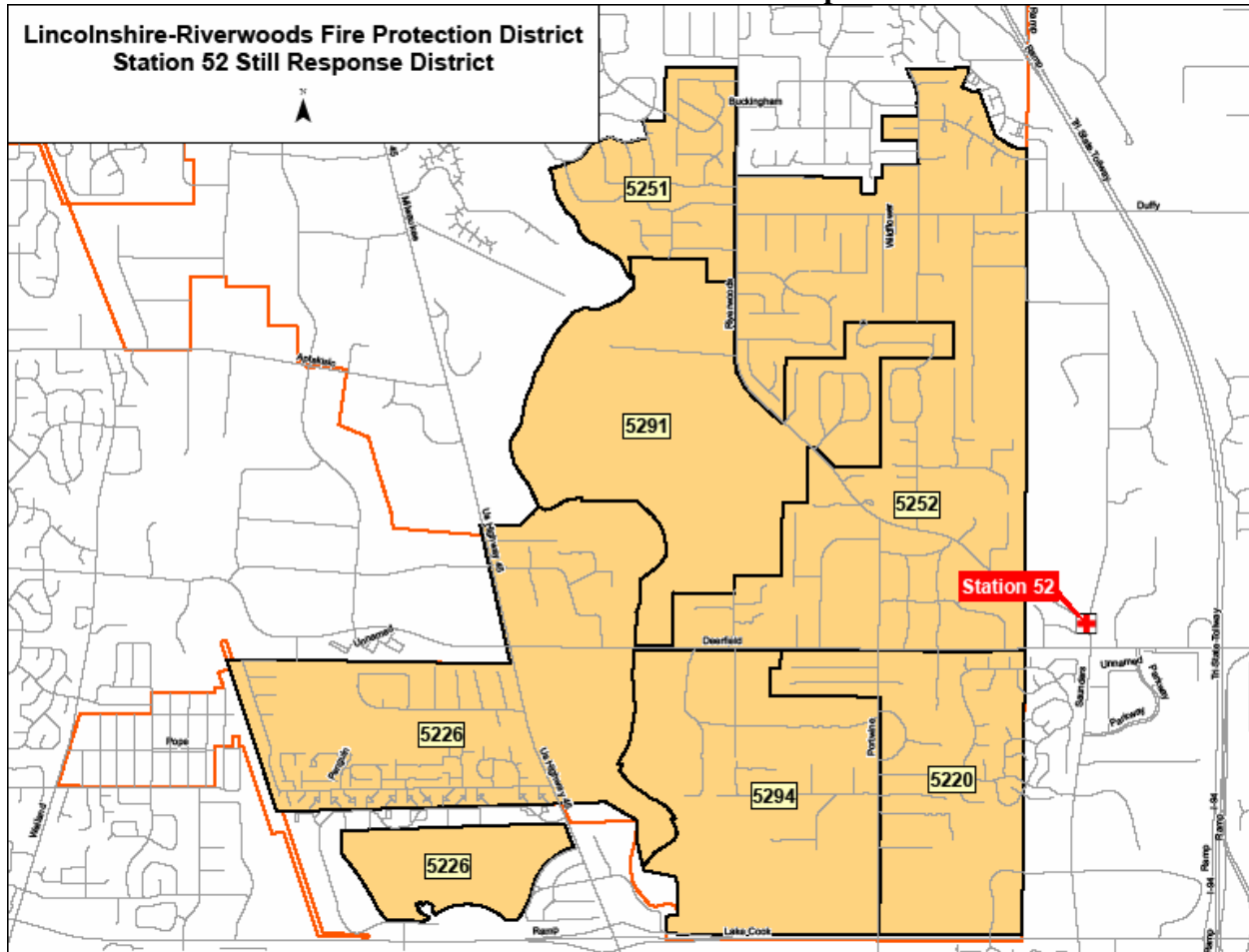
#### *Station 52 Resource Deployment*

Station 52 contains a small shop area and a small EMS storage room. It also has an adequate

training room with a ceiling mounted projector and big screen wall mounted TV. This station houses the following vehicles:

- Engine 52 – 2000 Pierce Engine with 1500 GPM pump and 750 gallon tank
- Ambulance 52 – 2008 MedTec Ambulance on Ford Chassis
- Brush Truck 52 – 1990 Ford with small pump and tank

### Station 52 First Due Area Map



### Station 53 Overview

The District's newest station opened in 2009 and is located at 671 Woodlands Parkway in Vernon Hills. This single story station is situated in a corporate center just off a main north south artery (Milwaukee Avenue). The station contains two drive through bays and a large storage room. The bays have a non-slip floor, radiant heat, and a Niederman Exhaust System for all diesel apparatus. It also has a large training room that is designed to be shared with the community, a living quarters with dayroom, kitchen, bunkroom, and a large workout room. This station has three individual bunkrooms with doors as well as a four person shared bunkroom. It also has two separate private washroom/shower facilities and it has three unisex bathrooms.

### Station 53 Staffing Resources

Staffing is normally staffed by one Lieutenant or Actor, one Engineer/Paramedic, and two

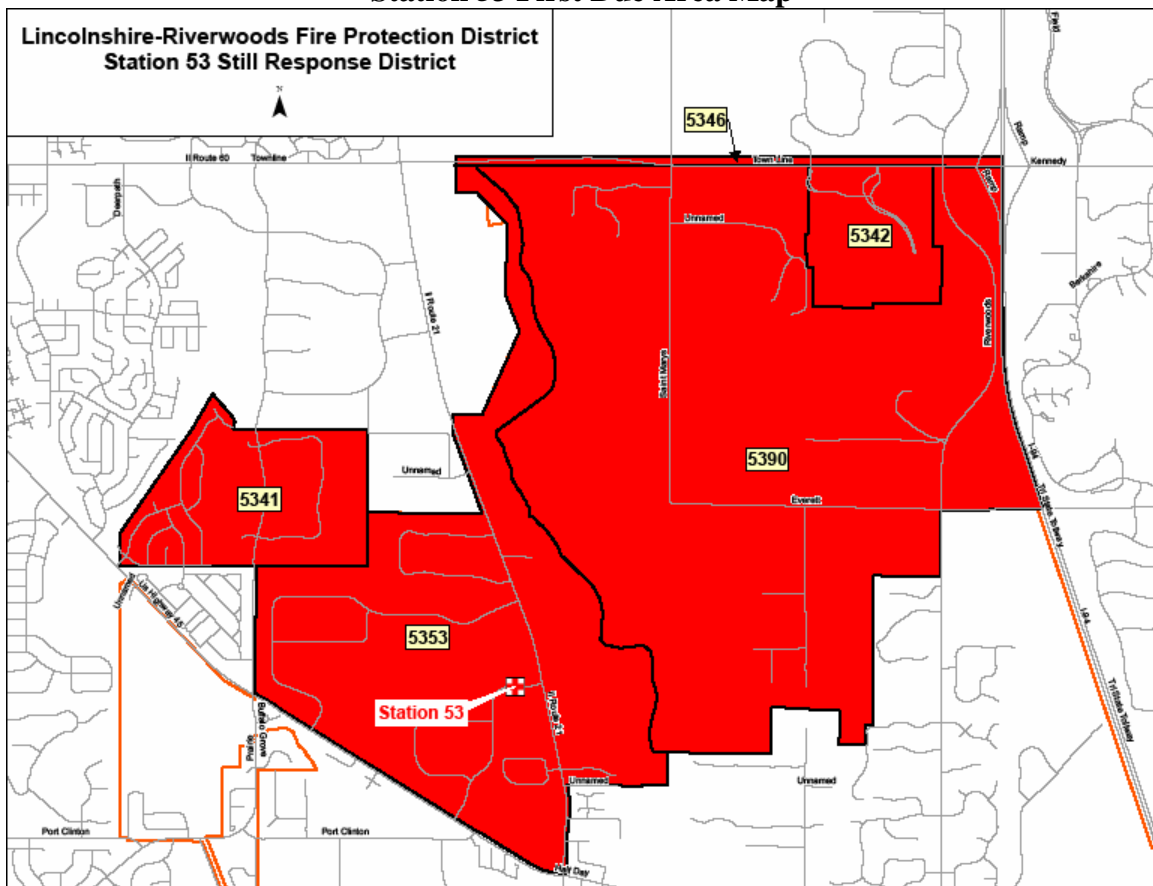
firefighter/Paramedics. The staffing can vary from four to six depending on scheduled time off and Paid On Call activity.

*Station 53 Resource Deployment*

Station 52 contains a small shop area and a small EMS storage room. It also has an adequate training room with a ceiling mounted projector and big screen wall mounted TV. This station houses the following vehicles:

- Truck 53 – 1996 Seagrave Quint with 1500 GPM pump and 350 gallon tank
- Ambulance 53 – 2008 MedTec Ambulance on Ford Chassis
- Utility 53 – 2010 Ford pickup with plow

**Station 53 First Due Area Map**



**Water Supply and Hydrants**

LRFPD has an adequate and reliable fixed and portable water supply for fire fighting. Approximately 70% of the District's area and 90 % of its population are located in areas where there is a municipal water supply system. These systems include water mains, hydrants, and reservoirs with pumping stations that produce a minimum of 1,000 gallons per minute per hydrant with a residual pressure of 20 pounds per square inch (psi). In the unhydranted areas, the District utilizes Tankers (Tenders) and rural water supply operations. On a still response, Engines 51 and 52 arrive with 1500 gallons of water (750 each) and on a suspected structure fire R-Engine 51 and Long Grove FPD Tanker 55 arrive with 4,000 gallons of additional water. On a Box Alarm, the response is upgraded to include Tankers from Countryside FPD, Prospect Heights FPD, and Barrington FPD totaling an additional 9,000 gallons of water. At the 5<sup>th</sup> Box Alarm level, 17 Tankers will become assets of LRFPD with available water ranging from 17,000 to 34,000 total gallons. Tanker shuttle operations are used when hydrants are not close enough for relay pumping.

The District utilizes four different water systems within its jurisdiction. The first system is in the Village of Lincolnshire and is supplied by Lake Michigan Water through a large diameter pipeline. The Village uses reservoirs and pumping stations to maintain adequate pressure and volume. This system is reliable and capable of providing adequate gpm for the risk identified. During periods of high demand, the three-stage pump at the main reservoir automatically activates to increase pressure. This Village has its own public works department and does most of its own repairs. Lincolnshire has the ability to use Village of Riverwoods water in an emergency.

The second system is in the Village of Riverwoods and is supplied by the neighboring Village of Northbrook using Lake Michigan Water. The Riverwoods system is unique but dependable. Directional boring was used to install the majority of the system in an effort to protect the habitat and as a result, the hydrants are not regularly spaced. Flow tests by Riverwoods indicate a minimum of 1200 gpm available on a dead end main in a residential area and a maximum of 3600 gpm available from the feeder main on Deerfield Road. This Village does not have a public works and depends on the Lake County Public Works Department for major repairs. A local service is also used to oversee regular maintenance. The Village engineer has identified an older section of the water system that should be replaced and the Village Board is taking steps to fund this effort. Riverwoods has the capability of using Lake County, Lincolnshire, or Village of Deerfield water in an emergency.

The third system which supplies the Village of Vernon Hills and the Winton Park/Inverrary area is known as the Lake County System. This system also uses reservoirs and pumps to supply adequate pressure and volume for all identified risks. Lake County was once a deep well system but today is supplied with Lake Michigan water. The Lake County System also runs down Route 60 on the Mettawa border and supplies the headquarters campus of WW Grainger. Vernon Hills has its own public works department but Lake County Public Works does most repairs on the water system. The fourth system for the Chevy Chase Country Club is supplied by the Village of Buffalo Grove. This water system is adequate for identified risk and this Village has its own public works which does most of its own repairs.



The Villages noted above have the authority and responsibility to maintain their water systems. They provide annual maintenance and repairs as needed. The LRFPD has contact numbers to report problems with any of the systems. While the District has no control over installation or maintenance of these water systems, the partnership has worked well and reported problems are corrected within a reasonable time frame.

**ISO Ratings**

The LRFPD currently has an ISO rating of 4 in hydranted areas and 8B in unhydranted areas. In September, 2004, the District was evaluated by the Insurance Service Office (ISO) and received a score of 35.88 out of a maximum of 40 for the areas that are supplied by municipal systems. The District also demonstrated its ability to maintain a rural water supply operation capable of delivering 1000 gpm for 60 minutes. In 2008, the LRFPD passed a residential sprinkler ordinance that requires all single-family homes in the unincorporated area to have a fire suppression system. The District is currently working with the local Villages to enact similar residential sprinkler ordinances.



## **Risk Assessment Summary**

### **Infrastructure Limitations**

The LRFPD protects a diverse area that has large unhydranted areas. District personnel practice water shuttles, relay pumping, and drafting so as to be proficient when the need arises. Any residence within 2000 ft. of a fire hydrant is considered hydranted because that hydrant can be reached with one hose bed of large diameter hose from our Engines 51 and 52 or Reserve Engine 51. The LRFPD also has automatic response and Mutual Aid agreements for large capacity tankers to respond to the scene of a structure fire in an unhydranted LRFPD area. The closest large capacity tanker is Long Grove Tanker 55 which carries two port-a-tanks and 3,000 gallons of water. This unit can reach all areas of LRFPD within 6-10 minutes travel time. All LRFPD fire apparatus also have water tanks. Engines 51 and 52 are each 750 gallon tanks, Reserve Engine 51 carries 1,000 gallons, Truck 53 carries 325 gallons and Squad 51 carries 300 gallons. Engines 51 and 52 also carry hard suction for drafting when possible.

### **Climate**

The climate in northern Illinois is one of four seasons. The winters typically see heavy snowfalls along with deep freezes from December until late March. The summers tend to be hot and humid. Spring often produces heavy rains and the possibility of severe thunderstorms and/or tornado activity.

### **Topography Limitations**

The LRFPD is primarily flat but it does have to deal with natural boundaries. The District is split in half by the Des Plaines River which is typically shallow except during flood stages in the spring and after heavy rains. Several populated areas along the river are subject to flooding when this occurs. The Fire District is in the shape of a T and has only four roads traversing the river from east to west (Rt. 60, Rt. 22, Deerfield Rd., and Lake Cook Rd.). Closure of any one bridge results in a significant response delay for apparatus on the other side that have to reroute. Meanwhile, the forest preserve covers hundreds of acres and can result in delayed access to EMS patients who become injured on the trails and are unsure of their location. In these instances, the LRFPD deploys 4 wheel drive vehicles on the trails and works in coordination with the Forest Ranger to locate the victim. There has only been one limited forest fire in the past 29 years but the trees are problematic due to their interference with radio and internet signals. Freezing rains in the winter also create havoc with the trees as the overly weighted branches fall onto homes, cars, and electrical transmission lines.

### **Transportation Network**

#### *Roads*

The LRFPD boundaries are the Tri State Tollway to the east, Route 60 to the north and Lake Cook Road to the south. LRFPD is part of a multi-agency agreement to protect the Tollway with the closest station approach. As a result, the LRFPD is not due as a primary responder to the Tollway but is due with the Reserve Engine (1000 gallons of water) or additional equipment when requested. The Tollway is a private entity and as such has its own Haz Mat Response Team and State Patrol. Route 60 is a heavily traveled four lane state road that allows access to the Tollway and to the Edens Expressway. Lake Cook Road is a heavily traveled six-lane road that also provides access to the Tollway and the Edens Expressway. State Route 22 runs east and

west through the center of LRFPD and is a four-lane road. Milwaukee Avenue is the primary north south artery and is also a state owned four-lane road.

#### *Rail*

The LRFPD also protects a section of the Metra Railway on its western border. This dual track is traversed by the Metra from northern Illinois to Chicago and also by significant freight traffic.

#### *Pipeline*

There is an underground petroleum pipeline that runs adjacent to the Metra Railway tracks on the east side. This pipeline is large diameter and carries multiple products separated by moving baffles.

### **Climate Impact**

The northeastern portion of Illinois where the LRFPD is located is prone to severe weather related events that affect the Midwestern United States. In order to accurately assess the District's risk of severe weather related incidents, the United States Fire Administration's Community Risk Assessment Matrix was used. The Matrix lists six separate weather related hazards which have been individually identified and rated on probability of occurrence:

#### *Severe Thunderstorm*

The District has identified the risk from thunderstorms as moderate. The hazard is most common in spring and summer months but may occur at any given time throughout the year. Severity is largely based on climates and conditions at the time of the storm. Severe thunderstorms may bring high winds, lightning, flooding rains, and occasional hail. Lightning strikes are common and may cause structure fires, loss of electricity and other utilities and may even result in death. The congruent loss of utilities may result in a delay in the transmission of fire alarms and will potentially interrupt telephone services. These occurrences may result in a delayed response to emergencies.

#### *Tornado*

The District has identified the risk of tornados as moderate. Tornados are a rare occurrence but are classified as having a high consequence. The District has a Disaster Preparedness Plan in place to help with the services that would be necessary should a tornado strike within the District's boundaries. Members of the District have also been medically trained in mass-casualty incidents and this training is repeated annually. The mass casualty plan utilizes neighboring departments as outlined in the Mutual Aid Box Alarm agreements. Local schools participate in tornado drills and have emergency response and evacuation plans in place. The Lake County Emergency Management System as well as local, county and state police departments may also be utilized in the case of a disaster or mass casualty incident involving a tornado within the District's boundaries.

#### *Flood*

The District has identified the risk of a flood as moderate. The majorities of the ponds within the District's boundaries are man made and are designed for run-off and retention only. The Des Plaines River does run through the center of the Fire District and is prone to high levels and flooding, especially during the spring rainy season. Many residents of Lincolnshire and

Riverwoods live in a flood plain and as a result are significantly impacted whenever the river reaches flood stage. It is not unusual for some side streets to close due to the flooding resulting in a need to reroute responses. However, the primary east west arteries (Route 60, Route 22, Deerfield Road, and Lake Cook Road) are not affected as they are high enough to remain open.

#### *Earthquake*

The District has identified the risk of an earthquake as low. As outlined in NFPA 13, 1999 edition, Northern Illinois is in the category 0 for seismic activity. The area of Southern Illinois has a much greater risk of an earthquake as it is located in the New Madrid Seismic Zone. The LRFPD residents could feel the effects should a major earthquake occur in southern Illinois but any impact is expected to be minimal. The District is well equipped to handle limited damage caused by an earthquake. The LRFPD is affiliated and closely involved with all Divisions of the Lake County Specialized Rescue teams, including structural collapse, high angle and confined space rescue. These three teams would be vital should an earthquake occur. The teams are highly trained and specialize in emergency response situations to specialized rescues.

#### *Winter Storm*

The District has identified the risk of a winter storm as moderate. The District is located in an area where harsh winters are common and as a result is likely to experience severe winter weather conditions that can affect firefighting efforts. Snow accumulation can slow response time to both fire and medical emergencies. Severe cold and high winds make fire suppression activities hazardous and can put firefighters at risk for injuries. The District may utilize the Public Works Department for emergency snow removal and to assist with icy conditions.

#### *Drought*

The District has identified the risk of a drought as low. The LRFPD is susceptible to drought conditions at any given time depending on climate patterns but it has an adequate and reliable water supply that can be accessed from the majority of response areas. The Village of Lincolnshire and parts of the Village of Riverwoods use Lake Michigan water. The rest of Riverwoods and the village of Mettawa are on wells. The Village of Vernon Hills uses the Lake County water system. During dry spells, the Villages typically activate a water conservation plan that is in effect for all its residents.

### Risk Hazard Assessment

A risk hazard assessment of the 20 computer aided dispatch (CAD) response grids located within LRFPD has identified 368 commercial structures and 753 inspectable occupancies within those buildings. Each building has been thoroughly evaluated using the 12 criteria found in the fifth edition of the CFAI Standards of Cover. Categories were assigned 1-5 points using individual criteria for each number. Buildings with a point total of 1-20 are rated as low hazard, 21-40 as moderate hazard and 41-60 as high hazard.

In addition to commercial occupancies, there are approximately 4700 single family residences located throughout the District. Based upon construction type, size, approximate age and accessibility, the LRFPD views a single-family residence as a moderate hazard. The Community Risk Table shown below depicts the results of the LRFPD risk assessment for commercial occupancies.

**Community Risk Tables 2007-2009**

<b>Response Risk</b>	<b>5119</b>	<b>5124</b>	<b>5125</b>	<b>5126</b>	<b>5127</b>	<b>5142</b>	<b>5151</b>	<b>5155</b>	<b>5172</b>	<b>5220</b>
<b>High Hazard</b>	0	0	0	0	0	0	0	0	0	0
<b>Moderate Hazard</b>	69	31	39	2	8	6	5	93	56	1
<b>Low Hazard</b>	4	103	10	1	1	1	0	49	4	21
<b>Total</b>	73	134	49	3	9	7	5	142	60	22
<b>Fire Responses</b>	204	293	123	30	15	50	76	526	183	116
<b>Property Loss</b>	521K	50.5K	16K	0	330.5K	100K	175.6K	251.2K	55K	750K
<b>Response Risk</b>	<b>5226</b>	<b>5251</b>	<b>5252</b>	<b>5291</b>	<b>5294</b>	<b>5341</b>	<b>5342</b>	<b>5346</b>	<b>5353</b>	<b>5390</b>
<b>High Hazard</b>	0	0	0	0	0	0	0	0	0	0
<b>Moderate Hazard</b>	90	6	0	3	2	8	1	0	13	9
<b>Low Hazard</b>	11	1	1	2	0	0	0	0	102	0
<b>Total</b>	101	7	1	5	2	8	1	0	115	9
<b>Fire Responses</b>	193	41	174	32	35	22	8	0	353	52
<b>Property Loss</b>	210K	100K	>1K	0	0	0	0	0	815.K	0

The following tables represent the building code classifications for each inspectable occupancy in the Fire District. The occupancies are broken down by response grid in which they are located.

### Commercial Occupancies by Response Grid

		5119	5124	5125	5126	5127	5142	5151	5155	5172	5220
A-1	Assembly	0	0	1	0	0	0	0	0	0	0
A-2	Assembly	0	3	5	0	0	0	0	6	2	0
A-3	Assembly	1	4	1	0	1	2	2	0	2	0
A-4	Assembly	0	0	0	0	0	0	0	0	0	0
A-5	Assembly	0	1	0	0	1	0	0	0	0	0
B	Business use	66	88	34	0	5	2	0	82	35	20
E	Educational use	1	0	0	0	0	1	0	0	3	0
F-1	Factory moderate	0	0	0	0	0	0	0	7	0	0
F-2	Factory low hazard	0	0	0	0	0	0	0	0	0	0
H-1	High Hazard	0	0	0	0	0	0	0	0	0	0
H-2	High Hazard	0	0	0	0	0	0	0	0	0	0
H-3	High Hazard	0	0	0	0	0	0	0	0	0	0
I-1	Institutional	0	0	0	0	0	0	0	0	0	0
I-2	Institutional	0	3	0	0	0	0	1	0	0	0
I-3	Institutional	0	0	0	0	0	0	0	0	0	0
I-4	Institutional	0	0	0	0	0	0	2	1	0	0
M	Mercantile	0	7	2	0	1	0	0	10	4	0
Mix	Mixed Use	0	2	1	0	0	0	0	4	1	0
R-1	Residential	2	2	1	0	0	0	0	2	0	1
R-2	Residential	0	16	0	1	0	0	0	0	2	0
R-3	Residential	0	1	0	1	0	0	0	0	0	0
R-4	Residential	0	0	0	0	0	0	0	0	0	0
S-1	Storage moderate	0	1	0	0	0	0	0	8	1	0
S-2	Storage low hazard	0	3	2	0	0	2	0	20	1	0
U	Utility/miscellaneous	3	3	2	1	1	0	0	2	9	1
	Total	73	134	49	3	9	7	5	142	60	22

		5226	5251	5252	5291	5294	5341	5342	5346	5353	5390
A-1	Assembly	1	0	0	0	0	0	0	0	0	0
A-2	Assembly	8	0	0	0	0	0	0	0	3	0
A-3	Assembly	2	3	0	2	0	0	0	0	2	1
A-4	Assembly	0	0	0	0	0	0	0	0	1	0
A-5	Assembly	0	0	0	0	0	0	0	0	0	0
B	Business use	52	1	0	1	2	3	1	0	46	0
E	Educational use	0	1	0	1	0	0	0	0	0	0
F-1	Factory moderate	0	0	0	0	0	0	0	0	7	0
F-2	Factory low hazard	0	0	0	0	0	0	0	0	8	0
H-1	High Hazard	0	0	0	0	0	0	0	0	0	0
H-2	High Hazard	0	0	0	0	0	0	0	0	0	0
H-3	High Hazard	0	0	0	0	0	0	0	0	0	0
I-1	Institutional	0	0	0	0	0	0	0	0	1	0
I-2	Institutional	1	0	0	0	0	0	0	0	0	0
I-3	Institutional	0	0	0	0	0	0	0	0	1	0
I-4	Institutional	1	1	0	0	0	0	0	0	0	0
M	Mercantile	17	0	0	0	0	0	0	0	3	0
Mix	Mixed Use	10	0	0	0	0	0	0	0	6	0
R-1	Residential	0	0	0	0	0	0	0	0	1	0
R-2	Residential	0	0	0	0	0	0	0	0	3	0
R-3	Residential	0	0	0	0	0	0	0	0	0	0
R-4	Residential	0	0	0	0	0	0	0	0	0	0
S-1	Storage moderate	3	1	0	0	0	0	0	0	10	0
S-2	Storage low hazard	0	0	0	1	0	3	0	0	21	0
U	Utility/miscellaneous	6	0	1	0	0	2	0	0	2	8
	Total	101	7	1	5	2	8	1	0	115	9

## Potential Risks

### *Emergency Medical Incidents*

The majority of all LRFPD calls are EMS related. The LRFPD staffs three ALS Ambulances, two ALS Engines, one ALS Squad, and one ALS Truck. 36 of its 40 career employees and two of its six Paid on Call are Paramedics. Since the LRFPD does not differentiate between Basic Life Support (BLS) and Advanced Life Support (ALS) responses, the risk is handled uniformly with a co-response by an ALS Ambulance and ALS fire apparatus. This response may be downgraded to the ambulance only for reports of BLS calls. In addition, personnel from the fire apparatus will go with the ambulance to the hospital whenever patient care or the situation mandates additional staff. As part of MABAS, the LRFPD has prearranged Box Cards available to request multiple additional ambulances as needed. This comes in the form of an Ambulance Box Alarm or a Disaster Box Alarm. The LRFPD Paramedics work under the direction and authority of the Northwest Community EMS System. The LRFPD has a moderate level of risk for emergency medical incidents District wide.

### *Vehicle Rescue Incidents*

The LRFPD handles vehicle accidents on a regular basis. While the vast majority are minor, damage and injury there are still occasional serious accidents requiring extrication. The LRFPD database is not accurate in this area as personnel have more often than not been using the wrong incident type codes to document these occurrences. This issue is being addressed and will result in an accurate database for this area in 2010 and beyond. Regarding vehicle rescue, the LRFPD personnel train annually on extrication and vehicle stabilization. Engine 52 and Truck 53 carry Holmatro Hydraulic Extrication Tools with a portable power unit, cribbing, and small airbags. The Heavy Rescue Squad 51 carries the Heavy Duty Holmatro Cutter and Spreader which are attached to 60 foot hydraulic hose reels on the front bumper. With this setup, the engineer can start the power source from the cab of the vehicle and the tools are ready to go upon arrival. Squad 51 also carries a full compliment of smaller extrication devices such as the hand powered rabbit tool. In addition, the Squad carries the large air bags, extensive cribbing, and has a winch which can be attached to any of the four sides of the vehicle for attaching a cable to a vehicle. Locally, LRFPD has a long history of working on difficult extrications with Ernie's Towing in Vernon Hills. Ernie's has the local State Tollway contract and is able to quickly provide specialized equipment such as semi sized airbags and a tow truck large enough to lift a train car. Lastly, as a member of MABAS the LRFPD has rapid access to additional extrication equipment with a single request. The LRFPD has a low level of risk District wide for vehicle rescue incidents. Accidents with people trapped are limited and typically only require simple extrications.

### *Hazardous Materials*

As with any jurisdiction, the LRFPD protects businesses and residences that utilize varying quantities of hazardous materials on a daily basis. The higher risk from Haz Mat within the District has been determined to be from commercial facilities and the transportation system. Within LRFPD, there are portions of a major rail system and major transportation routes used for transport of hazardous cargos.

The LRFPD also contains a special Haz Mat risk. A large diameter underground petroleum pipeline runs through the west side of the District alongside the Metra Railroad Tracks. The

dangers of a leak or rupture to this line include explosion, fire, and environmental damage. While there has never been a rupture or incident involving this pipeline in LRFPD, the quantity of product and extensive time required to stop the product has the potential to create a significant incident. The pipeline is known to carry different products which are separated by moving baffles that travel between products through the pipe. LRFPD personnel have attended pipeline safety trainings and would follow normal hazardous materials incident practices in the case of a rupture or other incident. A pipeline hotline phone number is maintained in the District Resource Information Guide which would be used to notify the agency of an incident, request a shutdown, and identify the product involved. A hot zone would be established with monitoring and people in danger would be evacuated. The police, auto aid, MABAS, and Lake and McHenry County Haz Mat would be requested to assist at the scene (if necessary). The LRFPD also has the advantage of a professional Haz Mat cleanup company being located in the neighboring community to the south. This company has expertise and equipment to perform large-scale cleanups.

LRFPD provides Illinois State Certified Hazardous Materials Technicians (Level A). In addition, most personnel are trained to the Haz Mat Operations level and all personnel have minimally received Haz Mat Awareness training. The District carries a basic level of Haz Mat Equipment including four gas monitors, Geiger counters, and a device which is able to identify unknown products. For basic Haz Mat events, LRFPD has agreements with its neighboring fire departments to share Haz Mat Technicians and equipment as needed. For more complicated events, the LRFPD will request the Lake and McHenry County Hazardous Materials Team by activating a MABAS Hazardous Materials Box Alarm. Upon arrival, the County Haz Mat Team would set up a separate command structure to identify and mitigate the event. The County Team works under the authority of the host department for all incidents. In 2009, LRFPD experienced 18 basic hazardous materials type incidents

The LRFPD has identified the hazard level within the District's boundaries as light to moderate with the pipeline being classified as special. The residential and commercial property hazard levels are a light risk while the industrial property, transportation system, and underground pipeline qualifies as a moderate risk. There are fixed facilities within the District that work with hazardous materials on a regular basis and their risk has been identified as low. LRFPD utilizes mobile computers in all emergency apparatus equipped with hazardous materials software, WISER and ERG Mobile to help with identification and mitigation options for transportation emergencies. In addition, all vehicles carry the Emergency Response Guidebook (ERG). Lastly, the Fire District serves as a residential hazardous waste collection site to help lower the risk level within the residential community.

<b>Haz Mat Responses 2009</b>	<b>18</b>
Gasoline Spill	3
Gas leak – natural gas or LPG	9
Chemical spill	3
Carbon monoxide Incident	3



*Specialized Rescues*

The LRFPD provides specialized rescue services within its boundaries. The District provides Illinois State Certified technicians for all disciplines including; high angle rescue, dive and ice rescue, trench rescue, structural collapse rescue, and confined space rescue. In addition, all personnel have minimally received SRT Awareness training. The District carries advanced rescue equipment on it’s Heavy Rescue Squad including air shores and thin form with additional plywood (trench rescue), individual rope bags with harnesses and carabineers (high angle rescue). The LRFPD Dive Trailer is brought to the scene of any dive rescue event. For basic SRT events, LRFPD has agreements with neighboring fire departments to share SRT Technicians and equipment. For more complicated events, the LRFPD will request the Lake and McHenry County SRT Team via MABAS. Upon arrival, the County SRT Team would set up a separate command structure to identify and mitigate the event under the authority of the host department. The LRFPD has a low level of risk District wide for specialized rescue incidents. LRFPD responded to 4 technical rescue calls in 2009.

<b>Technical Rescue Responses, 2009</b>	
Motor Vehicle Accident with Injuries	1
Collapse, Trench, High Angle, Confined Space	0
Removal of Victims(s) from Elevator	3
Water Rescue	0
<b>Total</b>	<b>4</b>

The LRFPD has identified the District's technical rescue hazard level as light. Major highways, wireless towers, underground vaults, pits, lakes, ponds, river, creek, and existing construction are potential sites for technical rescue. The District does not have any other man made or natural features that present an identifiable technical rescue demand.

*Natural Disaster*

The LRFPD is located in the South/ Central portion of Lake County, Illinois. It is prone to disaster related events that affect the Midwestern United States. In an effort to reduce the risk of natural disasters, local municipalities have installed early warning sirens / public address systems. Dispatch monitors the weather using an internet based weather service.

<b>Severe Weather</b>	<b>Frequency</b>
Thunderstorms	Annually
Hail Storms	Annually
Prolonged hot temperatures with high heat conditions	Annually
Freezing temperatures with severe wind chill	Annually
Heavy snow with blizzard conditions	Annually
Flooding	Rare
Tornados	Extraordinarily Rare
Drought	Extraordinarily Rare
<b>Man-made Risks</b>	<b>Frequency</b>
Hazardous materials use and transport	Extraordinarily Rare
Commercial and small airport traffic	Extraordinarily Rare
Large structures with public gatherings	Extraordinarily Rare
Railroad freight traffic	Extraordinarily Rare
Acts of aggression	Extraordinarily Rare
<b>Natural Risks</b>	<b>Frequency</b>
Pandemic	Extraordinarily Rare

### ***Weapons Of Mass Destruction***

The LRFPD is vulnerable to acts of aggression with the use of weapons of mass destruction. The District protects critical infrastructure including a commuter and freight rail line, a major petroleum and natural gas pipeline, several cellular towers, multiple water storage and distribution systems, a major phone switching station, and electrical distribution. LRFPD also protects the O'Hare Vortex (transponder for air traffic control on a primary flight pattern), and portions of the Des Plaines River and Tri State Tollway. Other potential targets include; the Sedgebrook Retirement Community, one of the largest high schools in the state, a U.S. Post Office, multiple corporate headquarters, a major credit card company headquarters, multiple corporate communication business hubs, pharmaceutical companies, and other large office and warehouse properties.

For basic Chem-Bio events, LRFPD has agreements with its neighboring fire departments to share Haz Mat and Chem Bio Technicians and equipment as needed. For more complicated events, the LRFPD will request the Lake and McHenry County Chem Bio Team by activating a MABAS Hazardous Materials Box Alarm. Upon arrival, the County Chem Bio Team would set up a separate command structure to identify and mitigate the event. The County Team works under the authority of the host department for all incidents. In 2009, LRFPD experienced two basic Chem Bio events that were determined to be accidental false alarms in each instance.

Common and typical weapons of mass destruction that may be utilized could include any or all of those listed: radioactive, biological, incendiary, chemical, explosive, and nuclear.

The LRFDPD has a low level of risk District wide for weapons of mass destruction incidents. While critical infrastructure is found with the District, it is not high profile in nature as compared to Chicago which is just 30 miles south.

### Summary of Risk Assessment

The Lincolnshire-Riverwoods Fire Protection District provides fire, rescue, hazardous materials response and emergency medical service to a population of approximately 16,000 residents within a 16 square mile suburban area located in the South/ Central portion of Lake County, Illinois. The Fire District has provided response programs that are adequate and appropriate for the identified risks based on their historic and projected frequency and severity.

Type and Frequency of Risk	
Fire	Weekly
Structure Fire	Bi-monthly
Vehicle Fire	Monthly
Rubbish Fire	Bi-monthly
Field / Grass Fire Risk	Seasonal (Spring/ Fall)
Rescue	Daily
Haz Mat	Weekly
EMS	Daily
Disaster	Extraordinarily Rare
Weapons of Mass Destruction	Extraordinarily Rare

## Community Expectations

In order to ascertain community expectations the LRFPD partners with the communities it serves. The District views the Village Boards as the representatives of the residents of each community and uses an ongoing relationship with each Board as a means to relay information, discuss issues, and make requests. The District protects four communities and has a Chief Officer assigned to attend each Board Meeting. Since the public also attends these meetings, it is not unusual for feedback to be received on an ongoing basis. Examples of feedback that provided community expectations follows:

1. In 1998, the District met with focus groups of homeowners associations and action groups to discuss the need for a referendum to decrease response times and increase manpower. During these discussions, the original benchmark goal of a travel time of six minutes evolved. The need for two additional stations was also discussed with and approved by the groups who were involved. These meetings led the LRFPD Chief Staff to better understand the emphasis the public placed on Paramedic service over fire service. While the group members were concerned about fire, they were much more concerned about Paramedics arriving quickly for a health emergency. These community focus group meetings led to a successful referendum which increased funding and directly resulted in two additional stations, the conversion of fire apparatus to advanced life support (ALS) status, and increased staffing.
2. The Village of Riverwoods had given feedback for many years that the community wanted a fire station built closer. After participating in the focus groups that led to the referendum in 1998, the Village Board went ahead and condemned property where they requested the District build a fire station. The Chief and the Village worked together to develop a concept that would provide adequate facilities for the District along with a building that would blend into the residential area where it was located. This also resulted in auto aid agreements with the Deerfield Bannockburn Fire Protection District that benefited both Riverwoods and Lincolnshire.
3. The attendance of Liaisons at Village Board Meetings has led to significant outreach efforts within the District. The Safety Always Matters (SAM) school program has received high praise from the school district and parents of children involved. The car seat installation program is also a big success and generates regular requests and words of appreciation. Another program that came about as a direct result of interaction with the community is the Lifeline Program. This program was initiated as a test program and generated immediate positive feedback from residents of all communities and the Village Board of Riverwoods. The program involves a visit to a residence by a fire or ambulance company who help the resident fill out a health history which is sealed and affixed to the refrigerator in case it is needed.
4. The LRFPD also actively participates in a local organization known as the Lake Cook Regional Critical Incident Partnership (LCRCIP). An Assistant Chief serves as the Public Sector Chair of this organization that is designed to develop public and private partnerships. The private sector membership of 65 corporations and public sector membership of 45 agencies meet quarterly for discussion of best practices, educational

components and tabletop discussions. The LRFPD Assistant Chief uses this format to reach out to corporations within the District to develop relationships and obtain feedback. This has led to multiple high level discussions to avoid or address issues that might otherwise have been missed. In addition, this forum is being used to develop a multi agency drill in June of 2010 which will be hosted by LRFPD, Grainger and the Lake County Emergency Management Agency. This drill will incorporate a new component of an audience of LCRCIP members from the business continuity and security world who will attend and be able to observe and ask questions.

5. The LRFPD has a Deputy Chief who attends the Lincolnshire Rotary Club meetings where relationships are developed and feedback is received. In the past, the District also had a presence at the Lincolnshire Chamber of Commerce but this was discontinued in 2001. The intention is to reestablish this relationship.
6. The Village of Lincolnshire hosts a quarterly meeting of business leaders with the Mayor. A Deputy Chief attends these meetings to be available to answer questions and to receive feedback.

As part of the Accreditation process, the Chief Staff have recognized the value of expanding the current efforts to obtain community feedback. While an effort was made to maintain the focus groups from the referendum period in 1998, as soon as the referendum passed the groups no longer had a common theme and stopped meeting. Consideration is currently being given to reestablishing some form of a regular focus group or possibly the use of a survey.

## **Time and On-Scene Expectations**

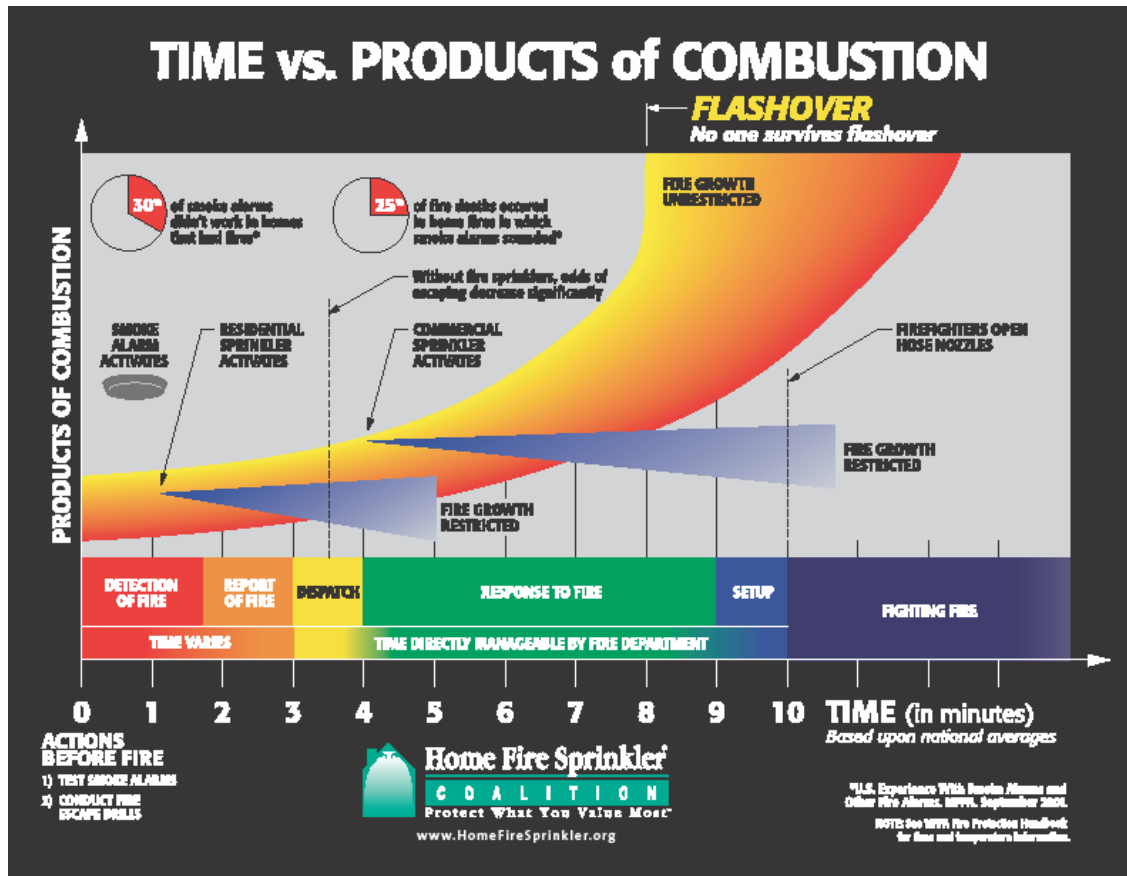
The LRFPD establishes time and on-scene performance expectations for response times and minimum effective response force standards. The District has established minimum company standards (crew performance objectives) through practice, observation, and recommended standards. Evolutions such as raising ladders, hose lays, and hydrant connections as well as trainings that involve the operation of extrication equipment have been used to develop these expectations. Evolutions are practiced annually and take into account best practices and new technology and/or equipment. The LRFPD call handling, turnout time, and travel time goals were adopted in 2010.

### **Fire Suppression Standards Response Goal Development**

The dynamics of fire growth or emergency medical calls are affected by issues such as station location, access and travel time, whether a building has fire protection systems in place, and company staffing. The key is to have stations adequately located and staffed so that resources can arrive quickly enough with sufficient apparatus and manpower to save lives and limit property damage.

A commonality to all fires is the structure and its inherent risk level, the contents involved, and how long the fire has been allowed to burn. Regardless of the type fire or what is burning, all fires follow the same progression of growth. The one phase that stands out as most significant is that of flashover. This is the point when everything in the room reaches its ignition point and the entire room becomes a ball of flame. For the public this situation is deadly and even a fully protected firefighter has only two steps to escape the inferno. This flashover situation results in tremendous heat, smoke and pressure, all serving to quickly worsen conditions within the rest of the structure. The hotter the fire becomes, the quicker the heat transfers and the fire spreads.

Flashover is a critical stage because it indicates the chance of a victim being saved drops substantially. In addition, this stage signals a significant advancement in the combustion process which will require more water and resources in order to sufficiently cool and halt the process. In plain terms, a fire that has reached flashover signals that it is too late to save anyone in the room involved and that more apparatus with more firefighters and larger hose streams will be needed to achieve extinguishment. Flashover normally occurs from eight to ten minutes after the fire begins to free burn. The key to remember is that a fire doubles its size every second it is allowed to free burn. As a result, the goal of a structure fire response is to arrive with adequate resources before the fire reaches flashover.



### EMS Response Goal Development

Much like flashover, the EMS community uses a critical time frame when discussing the point of brain death. When a person stops breathing, and/or their heart stops beating, the American Heart Association says that individual only 4-6 minutes before brain tissue begins to die. If the patient goes 10 minutes without oxygen the brain's damage is irreversible. The key to saving this patient is to provide cardiopulmonary resuscitation (CPR) and electrical defibrillation before brain damage is irreversible. A significant finding is that survival rates improve the sooner CPR and Defibrillation is applied. At two minutes, the patient has a 30% survival rate while at 10 minutes it drops to near 0. As a result, the goal for the non-breathing patient is to arrive prior to irreversible brain death.

The District recognizes the value of defibrillation and advanced life support (ALS). As a result, two Engines, 1 Truck, 1 Squad, and all 3 Ambulances are ALS and staffed by Paramedics. In addition, the LRFPD has automatic external defibrillators (AEDs) at each station and in each Chief Officer and Command car. The District also partners with the local police departments by teaching them CPR and AED use.

## Performance Objectives

### District Benchmark

The Lincolnshire-Riverwoods Fire Protection District benchmark of 5-minute travel time for all emergency responses was developed based on the Commission on Fire Accreditation International's Self Assessment Manual. While the LRFPD currently achieves the 5 minute CFAI benchmark travel time objective for a suburban fire department 86.4% of the time, the goal is to achieve 90% compliance.

### District Baseline - Fire Calls

Baseline: LRFPD will arrive in a timely basis with sufficient resources to stop the fire's growth and to contain the fire to the area involved upon arrival. Initial response resources shall be capable of initiating size up and requesting additional resources, deploying a hose line to attack the fire or initiating a single victim rescue, while providing for the safety of the responders and the general public.

- Distribution Performance Measure for Fire: The first fire apparatus (Engine, Squad, or Quint) staffed with a minimum of three personnel shall arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service. The three personnel staff may be accomplished by using personnel from two apparatus to form one company.
- Concentration Performance Measure for Fire – Low (example: car fire): The first fire apparatus and the Incident Commander will arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service.
- Concentration Performance Measure for Fire – Moderate (example: structure fire: The first fire apparatus and the Incident Commander will arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service. The second due apparatus for a total of 12 personnel on scene, shall arrive within 13 minutes travel time, for 90% of all requests for emergency service. Second due apparatus will include additional Engines/Squads and or Quint/Trucks and an Ambulance along with Chief Staff.
- Concentration Performance Measure for Fire – High: Not applicable for LRFPD.



**Emergency Fire Call Travel Times**

2009		2008		2007	
<b>210 records analyzed</b>		<b>302 records analyzed</b>		<b>320 records analyzed</b>	
<b>18 records - zero time value</b>		<b>30 records - zero time value</b>		<b>15 records - zero time value</b>	
Travel 5:15 80.7% (155)		Travel 5:15 80.9% (220)		Travel 4:45 82.0% (250)	
Travel 5:30 84.9% (163)		Travel 5:30 83.8% (228)		Travel 5:00 84.3% (257)	
Travel 5:45 86.5% (166)		Travel 5:45 87.1% (237)		Travel 5:15 86.9% (265)	
Travel 6:00 89.6% (172)		Travel 6:00 89.7% (244)		Travel 5:30 89.5% (273)	
<b>Travel 6:15 90.6% (174)</b>		<b>Travel 6:15 91.9% (250)</b>		<b>Travel 5:45 90.8% (277)</b>	
Travel 6:30 92.7% (178)		Travel 6:30 93.4% (254)		Travel 6:00 92.8% (283)	
Travel 6:45 94.3% (181)		Travel 6:45 94.1% (256)		Travel 6:15 94.4% (288)	

2009			2008			2007		
Station	Incidents	90%	Station	Incidents	90%	Station	Incidents	90%
51	148	6:15	51	241	6:00:00	51	241	6:00:00
52	50	6:00	52	61	6:30:00	52	61	6:30:00
53	12	4:45						

**District Baseline - EMS Calls**

Baseline: LRFDPD will arrive in a timely basis with sufficient resources to provide medical care that will stabilize the situation, provide adequate care and support for the victim, and reduce, reverse, or eliminate the conditions that caused the emergency while providing for safety of personnel. Timely transportation of the victim to an appropriate level of care shall be accomplished in an effective and efficient manner.

- Distribution Performance Measure for EMS The first advanced life support (ALS) unit with a minimum of two Paramedics shall arrive within 5 minutes and 30 seconds travel time, for 90% of all requests for emergency service.
- Concentration Performance Measure for EMS – /Low (Basic Life Support): Same as Distribution Performance Measure
- Concentration Performance Measure for EMS – /Moderate (Advanced Life Support): Same as Distribution Performance Measure
- Concentration Performance Measure for EMS – /High (ALS Extrication Accident): The first due response of two Engines/Squad, two Ambulances, and an Incident Commander resulting in minimally 9 personnel, shall arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service.

**Emergency EMS Call Travel Times**

2009	2008	2007
<b>1,222 records analyzed</b>	<b>1,181 records analyzed</b>	<b>1,165 records analyzed.</b>
<b>21 records - zero time value</b>	<b>9 records - zero time value</b>	<b>21 records - zero time value.</b>
Travel 4:30 79.2% (951)	Travel 4:45 79.2% (928)	Travel 4:45 82.6% (945)
Travel 4:45 83.5% (1,003)	Travel 5:00 83.2% (975)	Travel 5:00 85.3% (976)
Travel 5:00 86.3% (1,037)	Travel 5:15 85.0% (996)	Travel 5:15 87.5% (1,001)
Travel 5:15 89.1% (1,070)	Travel 5:30 87.9% (1,030)	Travel 5:30 89.9% (1,028)
<b>Travel 5:30 91.0% (1,093)</b>	<b>Travel 5:45 90.1% (1,056)</b>	<b>Travel 5:45 91.3% (1,045)</b>
Travel 5:45 92.8% (1,115)	Travel 6:00 91.6% (1,073)	Travel 6:00 94.1% (1,077)
Travel 6:00 94.4% (1,134)	Travel 6:15 93.4% (1,095)	Travel 6:15 95.5% (1,093)

2009			2008			2007		
Station	Incidents	90%	Station	Incidents	90%	Station	Incidents	90%
51	821	5:00	51	847	5:30	51	853	5:00
52	326	6:00	52	334	6:30	52	312	6:15
53	75	5:45						

**District Baseline - Hazardous Materials Calls**

Baseline: LRFDPD will arrive in a timely basis with sufficient resources to initiate command, assess the potential hazardous materials situation, and determine the need for additional resources.

- Distribution Performance Measure for Haz Mat: The first fire apparatus (Engine or Quint) staffed with a minimum of three personnel shall arrive within 6 minutes travel time, for 90% of all requests for emergency service. The three personnel staff may be accomplished by using personnel from two apparatus to form one company.
- Concentration Performance Measure for Haz Mat - Low (example: Carbon Monoxide or small fuel leak): Same as Distribution Performance Measure
- Concentration Performance Measure for Haz Mat - Moderate (example: leaking gasoline tanker/significant natural gas leak in structure): The second due apparatus for a total of 12 personnel on scene, shall arrive within 13 minutes travel time, for 90% of all requests for emergency service. Second due apparatus will include additional Engines/Squads and or Quint/Trucks and an Ambulance along with Chief Staff.
- Concentration Performance Measure for Haz Mat - High (example: leaking train car, leaking commercial size propane cylinder): The second due apparatus for a total of 12

personnel on scene, shall arrive within 13 minutes travel time, for 90% of all requests for emergency service. The Lake and McHenry County Hazardous Materials Team will be requested through the Mutual Aid Box Alarm System (MABAS) and will assemble and be prepared to mitigate the incident within 60-90 minutes.

**Emergency Haz Mat Call Travel Times**

2009	2008	2007
<b>25 records analyzed.</b>	<b>35 records analyzed.</b>	<b>30 records analyzed.</b>
<b>One record - zero time value</b>		<b>One record - zero time value.</b>
Travel 5:00 70.8% (17)	Travel 6:15 85.7% (30)	Travel 6:45 82.8% (24)
Travel 5:15 87.5% (21)	Travel 6:30 88.6% (31)	Travel 7:00 82.8% (24)
Travel 5:30 87.5% (21)	Travel 6:45 88.6% (31)	Travel 7:15 86.2% (25)
Travel 5:45 87.5% (21)	Travel 7:00 88.6% (31)	Travel 7:30 86.2% (25)
<b>Travel 06:00 91.7% (22)</b>	<b>Travel 7:15 91.4% (32)</b>	<b>Travel 7:45 93.1% (27)</b>
Travel 6:15 91.7% (22)	Travel 7:30 91.4% (32)	Travel 8:00 93.1% (27)
Travel 6:30 95.8% (23)	Travel 7:45 94.3% (33)	Travel 8:15 93.1% (27)

2009			2008			2007		
Station	Incidents	90%	Station	Incidents	90%	Station	Incidents	90%
51	9	6:30	51	23	6:15	51	18	9:00
52	15	6:00	52	12	7:45	52	12	6:00
53	1	1:15						

**District Baseline - Technical Rescue Calls**

Baseline: LRFPD will arrive in a timely basis with sufficient resources to initiate command, assess the scene to determine if a technical rescue team response is needed, and determine the need for additional resources.

- Distribution Performance Measure for Technical Rescue: The first fire apparatus (Engine or Quint) staffed with a minimum of three personnel shall arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service. The three personnel staff may be accomplished by using personnel from two apparatus to form one company.
- Concentration Performance Measure for Technical Rescue – Low (example: elevator rescue): Same as Distribution Performance Measure
- Concentration Performance Measure for Technical Rescue - Moderate (example: Extrication Accident): The first due response of two Engines/Squad, two Ambulances, and an Incident Commander resulting in minimally 9 personnel, shall arrive within 6 minutes and 15 seconds travel time, for 90% of all requests for emergency service.

- Concentration Performance Measure for Technical Rescue – High (example: Dive or complicated trench rescue): The second due apparatus for a total of 12 personnel on scene, shall arrive within 13 minutes travel time, for 90% of all requests for emergency service. The Lake and McHenry County Specialized Response Team will be requested through the Mutual Aid Box Alarm System (MABAS) and will assemble and be prepared to mitigate the incident within 60-90 minutes.

**Emergency Technical Rescue Calls Travel Times**

2009		2008		2007	
<b>4 records analyzed.</b>		<b>5 records analyzed.</b>		<b>3 records analyzed.</b>	
Travel 2:00 25.0% (1)		Travel 6:30 80.0% (4)		Travel 2:45 33.3% (1)	
Travel 2:15 25.0% (1)		Travel 6:45 80.0% (4)		Travel 3:00 33.3% (1)	
Travel 2:30 25.0% (1)		Travel 7:00 80.0% (4)		Travel 3:15 33.3% (1)	
Travel 2:45 50.0% (2)		Travel 7:15 80.0% (4)		Travel 3:30 66.7% (2)	
<b>Travel 3:00 100.0% (4)</b>		<b>Travel 7:30 100.0% (5)</b>		<b>Travel 3:45 100.0% (3)</b>	
Travel 3:15 100.0% (4)		Travel 7:45 100.0% (5)		Travel 4:00 100.0% (3)	
Travel 3:30 100.0% (4)		Travel 8:00 100.0% (5)		Travel 4:15 100.0% (3)	

2009			2008			2007		
Station	Incidents	90%	Station	Incidents	90%	Station	Incidents	90%
51	4	3:00	51	4	4:00	51	2	3:30
52	0	0:00	52	1	7:30	52	1	3:45
53	0	0:00						

**Call Handling Time Goals**

The LRFPD 2010 benchmark goal for call processing is 60 seconds which mirrors NFPA 1221 (Annex A Figure A.7.4.1) while the baseline goal is 2 minutes for 90% of all emergency requests for assistance.

- In 2007, LRFPD call handling met the 60-second benchmark 52.9% of the time and was 2:15 seconds for 91.2% of all emergency calls.
- In 2008, LRFPD call handling met the 60-second benchmark 48.4% of the time and was 2 minutes for 91.5% of all emergency calls.
- In 2009, LRFPD call handling met the 60-second benchmark 47.1% of the time and was 2 minutes for 90.9% of all emergency calls.
- RED Center dispatches for LRFPD and the two agencies are partnering to identify the reason why the call handling average exceeds 60 seconds.

2009 Call Handling	2008 Call Handling	2007 Call Handling
<b>1,440 records analyzed.</b>	<b>1,471 records analyzed.</b>	<b>1,465 records analyzed.</b>
<b>5 records - zero time value.</b>	<b>5 records - zero time value.</b>	<b>27 records - zero time value.</b>
Call Processing 1:00 47.0% (675)	Call Processing 1:00 48.4% (709)	Call Processing 1:15 69.7% (1,002)
Call Processing 1:15 70.7% (1,014)	Call Processing 1:15 71.6% (1,049)	Call Processing 1:30 78.8% (1,133)
Call Processing 1:30 82.3% (1,181)	Call Processing 1:30 82.6% (1,211)	Call Processing 1:45 84.6% (1,217)
Call Processing 1:45 87.9% (1,261)	Call Processing 1:45 87.9% (1,289)	Call Processing 2:00 89.1% (1,281)
<b>Call Processing 2:00 90.9% (1,305)</b>	<b>Call Processing 2:00 91.5% (1,342)</b>	<b>Call Processing 2:15 91.2% (1,312)</b>
Call Processing 2:15 93.9% (1,348)	Call Processing 2:15 93.5% (1,371)	Call Processing 2:30 93.8% (1,349)
Call Processing 2:30 95.1% (1,364)	Call Processing 2:30 95.4% (1,398)	Call Processing 2:45 95.3% (1,370)
<i>Average Call Processing 1:12</i>	<i>Average Call Processing 1:12</i>	<i>Average Call Processing 1:13</i>

**Turnout Time Goals**

The LRFPD 2010 benchmark goal for turnout time is 90 seconds. While NFPA 1710 (4.1.2.1) recommends a 80-second turnout time for fire calls and 60-second turnout time for EMS calls, this number is unrealistic for a variety of reasons. Sleeping personnel must first dress, move through the building and possibly down stairs, don turnouts completely and properly, take their seats and attach seatbelts, and the bay door must be fully open, before the apparatus engineer can move the unit. The current baseline for LRFPD is 1 minute 45 seconds for 90% of all emergency requests for assistance

- In 2007, LRFPD turnout time met the 90-second benchmark 79.7% of the time and was 2 minutes for 91.7% of all emergency calls.
- In 2008, LRFPD turnout time met the 90-second benchmark 83.7% of the time and was 1 minute 45 seconds for 91.4% of all emergency calls.
- In 2009, LRFPD turnout time met the 90-second benchmark 85.4% of the time and was 1 minute 45 seconds for 92.0% of all emergency calls.

2009 Turnout Time	2008 Turnout Time	2007 Turnout Time
<b>1,440 records analyzed.</b>	<b>1,471 records analyzed.</b>	<b>1,465 records analyzed.</b>
<b>116 records - zero time value</b>	<b>332 records - zero time value</b>	<b>141 records - zero time value</b>
Turnout :00:45 36.3% (481)	Turnout 00:45 34.1% (388)	Turnout 01:00 46.2% (612)
Turnout :01:00 56.9% (753)	Turnout 01:00 56.6% (645)	Turnout 01:15 65.0% (860)
Turnout 01:15 74.3% (984)	Turnout 01:15 74.0% (843)	Turnout 01:30 79.7% (1,055)
Turnout 01:30 85.4% (1,131)	Turnout 01:30 83.7% (953)	Turnout 01:45 86.6% (1,147)
<b>Turnout 01:45 92.0% (1,218)</b>	<b>Turnout 01:45 91.4% (1,041)</b>	<b>Turnout 02:00 91.7% (1,214)</b>
Turnout 02:00 95.7% (1,267)	Turnout 02:00 96.4% (1,098)	Turnout 02:15 94.9% (1,256)
Turnout 02:15 97.8% (1,295)	Turnout 02:15 98.2% (1,118)	Turnout 02:30 97.7% (1,293)

**Travel Time Results**

Travel time goals are based on the expectation that an effective response force must arrive on-scene prior to brain death and/or flashover. Efforts are continually made to reduce response times. The LRFPD currently utilizes Opticom preemption traffic control devices at all signalized intersections to enhance response effectiveness and safety.

- In 2007, LRFPD arrived in 5 minutes and 30 seconds for 90.2% of all emergency calls.
- In 2008, LRFPD arrived in 6 minutes for 91.4% of all emergency calls.
- In 2009, LRFPD arrived in 5 minutes and 30 seconds for 91.6% of all emergency calls.

2009 Travel Time	2008 Travel Time	2007 Travel Time
<b>1,440 records analyzed.</b>	<b>1,471 records analyzed.</b>	<b>1,465 records analyzed.</b>
<b>39 records - zero time value.</b>	<b>37 records - zero time value.</b>	<b>34 records - zero time value.</b>
Travel 4:30 78.7% (1,102)	Travel 5:00 82.4% (1,181)	Travel 4:30 79.9% (1,144)
Travel 4:45 82.8% (1,160)	Travel 5:15 84.2% (1,208)	Travel 4:45 82.3% (1,178)
Travel 5:00 85.6% (1,199)	Travel 5:30 87.4% (1,253)	Travel 5:00 85.1% (1,218)
Travel 5:15 88.4% (1,239)	Travel 5:45 89.7% (1,286)	Travel 5:15 87.6% (1,253)
<b>Travel 5:30 90.6% (1,269)</b>	<b>Travel 6:00 91.4% (1,310)</b>	<b>Travel 5:30 90.2% (1,291)</b>
Travel 5:45 92.4% (1,294)	Travel 6:15 93.3% (1,338)	Travel 5:45 91.8% (1,314)
Travel 6:00 94.2% (1,320)	Travel 6:30 94.4% (1,354)	Travel 6:00 94.6% (1,354)

### Critical Task Analysis

Critical tasking and effective response force are the elements of a standards of cover study that determine staffing levels and critical duties to be performed on the fireground. The following chart depicts the critical task analysis for fire developed by LRFDP.

**Critical Task Analysis for Fire**

<b>Risk Level</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
Incident Command	1	1	N/A
Engineer	1	1	N/A
Attack Crew	2	2	N/A
Backup Line		2	N/A
Search and Rescue		2	N/A
Rapid Intervention Team/Safety		2	N/A
Ventilation		2	N/A
<b>Effective Response Force</b>	<b>4</b>	<b>12</b>	N/A

### Critical Fire Tasks

These are tasks that must be conducted in a timely manner by firefighters at structure fires in order to control the fire prior to flashpoint.

#### *Fire Flow Tasks*

Fire flow tasks are accomplished with hand held hose streams or master streams (nozzles usually attached to the engine or ladder). 1 ¾ inch hose that produces up to 200 GPM are carried in crosslays preconnected to the pump on the Engines, Squad and Truck. This line is typically handled by two firefighters. The Engines and Truck also carry a hotel pack that is designed for interior standpipe firefighting. The hotel pack consists of 150' of 1 ¾ inch hose with a gated y. In addition the Engines carry Skid Loads of 150' of 1 ¾ hose preconnected to 500' of 2 ½ hose. For larger fires a 2 ½ inch hose is used as a hand line. The 2 ½ typically flows 250 GPM and is handled by two or three firefighters.

The Engines, Squad, and Truck have attack hose lines pre-connected to the pump. The selection of attack line for a given situation depends on the type of structure, the distance to the seat of the fire, and the stage of the fire. The preconnected lines are the fastest to use but are limited to fires within 200 feet of the pumper. When attack lines are needed beyond this limit, the hose bed, hotel packs, or skid load are used. A 2 ½ inch attack line will be used when the fire has passed the flashover stage and threatens an unburned portion of the structure. Master Streams are typically reserved for structures that have been declared unsafe resulting in defensive fire ground operations to protect exposures.

#### *Search and Rescue Crew*

A minimum of two firefighters are assigned to search for and rescue fire victims. A two-person crew is normally sufficient for moderate risk structures, but additional crews may be required in multi-story buildings or structures with people who are not capable of helping themselves.

*Ventilation Crew*

Two firefighters are typically utilized to open a horizontal or vertical ventilation hole when the attack crew is ready to enter the building. Vertical ventilation or ventilation of a multi-story building can require more than two firefighters. Ventilation removes superheated gasses and obscuring smoke, thereby reducing the probability of flashover and allowing attack crews to see and work closer to the seat of the fire.

*Back-up Line Crew*

An 1 ¾ inch to 2 ½ inch line that is taken in behind the attack crew to provide cover in case the fire overwhelms them, or a problem develops with the attack line. Back up lines require a minimum of two firefighters per line.

*Rapid Intervention Team*

A minimum of two firefighters equipped with personal protective equipment (PPE), SCBA and tools standby in case something goes wrong. This team also functions as Safety until sufficient personnel are on scene.

*Pump Operator/Engineer*

One firefighter assigned to deliver water, under the correct pressure, to the hose lines. The Engineer obtains a water supply, completes hose connections, monitors pressures.

*Incident Command*

An officer assigned to remain outside of the structure to coordinate the attack, evaluate results, arrange for more resources, and monitor conditions that might jeopardize safety.

**EMS Response Goals**

**Low Risk** – A low risk EMS call is defined as a basic life support request for assistance (such as minor cut or broken finger). The LRFPD is an emergency service so all EMS requests for assistance (except specific requests for non-emergency assistance) are run as an emergency response. For low risk EMS calls an advanced life support (ALS) unit will arrive within 6 minutes and 30 seconds travel time for 90% of all requests for assistance. This unit will have a minimum two Paramedic crew.

**Moderate Risk** – A moderate risk EMS call is defined as an ALS request for assistance (such as difficulty breathing, stroke, or heart attack). For a moderate risk EMS call a minimum of two Paramedic will arrive with an ALS unit within 6 minutes and 30 seconds travel time for 90% of all requests for assistance.

**High Risk** – A high-risk EMS call is defined as an extrication accident with a trapped patient (s). For a high risk EMS call a minimum of two Ambulances (two Paramedics on each Ambulance) and two extrication capable fire apparatus will respond with an Incident Commander (minimum total of 9 personnel) and will arrive within 6 minutes and 30 seconds travel time for 90% of all requests for assistance.



**Critical Task Analysis for EMS**

<b>Risk Level</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
Incident Command			1
Paramedic Team #1	2	2	2
Extrication Team #1			2
Protection Line			2
Paramedic Team #2			2
<b>Effective Response Force</b>	<b>2</b>	<b>2</b>	<b>9</b>

**Critical EMS Tasks**

These are tasks that must be conducted in a timely manner by Paramedics at EMS scenes in order to stabilize the situation, provide adequate patient care, and prevent brain death.

*Cardio-pulmonary resuscitation (CPR)*

This is initially a two-person job. LRFPD Paramedics carry the Auto Pulse automatic CPR Chest Compressor in each ambulance. Once applied, CPR becomes a one-person job to ventilate the patient.

*Defibrillation*

Using an electrical current from a defibrillator is sometimes useful to cause a heart in an abnormal rhythm to return to a normal rhythm. Defibrillation is performed by one Paramedic.

*Intravenous Access (IV)*

IVs are initiated in most ALS patients. This task is typically performed by two Paramedics but when required can be performed by one Paramedic.

*Endotracheal Intubation*

Patients with severe airway compromise are often intubated. This is typically a two Paramedic task but could be accomplished by a single Paramedic in extreme circumstances.

*Medication Administration*

Paramedics are authorized to give medications including some narcotics and controlled substances. Medication administration typically requires two Paramedics as one confirms the substance and drug date. When required, one Paramedic may administer medications.

## Distribution and Concentration Study

### Distribution

A Distribution Study involves geographically locating the fire station home for all first due units. Distribution is also another way of saying how frequently do our station locations result in acceptable travel times to emergency incidents. Station locations are planned to assure rapid deployment of sufficient LRFPD assets to minimize and terminate routine emergencies. Distribution can be evaluated by the percentage of the overall District that meet objectives for first due unit travel times.

A Distribution Study of the District, based on all emergency travel times per station indicates that all three stations have emergency response travel times that are better than the objective of 6 minutes and 30 seconds. However, when response Grids are reviewed it becomes apparent that Station 51 is exceeding the objective in Grids 5126 and 5142 while Station 53 is exceeding the travel time objective in Grids 5342, 5346, and 5390. It is expected that the opening of Station 53 will positively impact the Station 53 grids but there is insufficient data to analyze at this point. In addition, it is expected that the ability to reflect auto aid times in the Station 51 Grids will make a positive difference. Station 53 meets all travel time expectations.

The Distribution Study indicates that current station locations are adequate. First due units are arriving within the travel time objective in 15 of 20 grids and the remaining 5 grids are expected to improve.

### First Unit Arrival in Station Coverage Area

	<b>2007 - 2009 Incidents</b>	<b>90% Fractile</b>
51	3,121	5 minutes 15 seconds
52	1,167	6 minutes 15 seconds
53	89	5 minutes 45 seconds
<b>Station</b>	<b>2009 Incidents</b>	<b>90% Fractile</b>
51	964	5 minutes 15 seconds
52	388	6 minutes
53	89	5 minutes 45 seconds
<b>Station</b>	<b>2008 Incidents</b>	<b>90% Fractile</b>
51	1,073	5 minutes 30 seconds
52	398	6 minutes 15 seconds
<b>Station</b>	<b>2007 Incidents</b>	<b>90% Fractile</b>
51	1,084	5 minutes
52	381	6 minutes 15 seconds

*Structure Fire Distribution Results*

The District defines a structure fire as a working fire that commits multiple companies requiring change of quarters and the upgrade of the alarm to a Code 4 or higher. In 2007 there were six structure fires, in 2008 there were seven structure fires, and in 2009 there were six structure fires. Over this three-year period, in all but one instance, the distribution resulted in a first unit arrival within 6 minutes and 15 seconds. In the one exception, both Station 52 companies were tied up on an EMS call when a report of a fire near their station came in. In this instance, the Incident Commander arrived in 5 minutes and 31 seconds and the effective response force of 12 was on scene within 13 minutes but the first fire apparatus from Station 51 had an 8 minute and 33 second travel time.

**Concentration**

A Concentration Study requires an analysis of the arrangement of station spacing to allow an acceptable response force to be assembled at an emergency scene within 13 minutes travel time. The effective response force (ERF) is determined through a critical task analysis which dictates the minimum number of personnel and type of apparatus needed on a scene to control and/or mitigate the emergency. While distribution describes the first unit arrival, concentration describes whether equipment and staff are located so as to allow the needed units and personnel to reach the emergency scene within the objective time frames.

*Structure Fire Concentration Results*

A Concentration Study of the Fire District, based on effective response force arrival at structure fires, indicates the station locations along with automatic aid agreements have proven adequate for fires over the past three years. In 2007 there were six structure fires, in 2008 there were seven, and in 2009 there were six structure fires. Over this three-year period, in all but one instance, the concentration resulted in an effective response force of 12 arriving on scene within 13 minutes. In the one exception, the 12 person response started toward the scene and one responder was diverted by dispatch to a second possible structure fire but was not replaced (in error) by dispatch. In 2009, LRFPD arrived at working structure fires (upgraded to Code 4) within 6 minutes travel time 100% of the time.

**2007 – 2009 Structure Fire Travel Times**

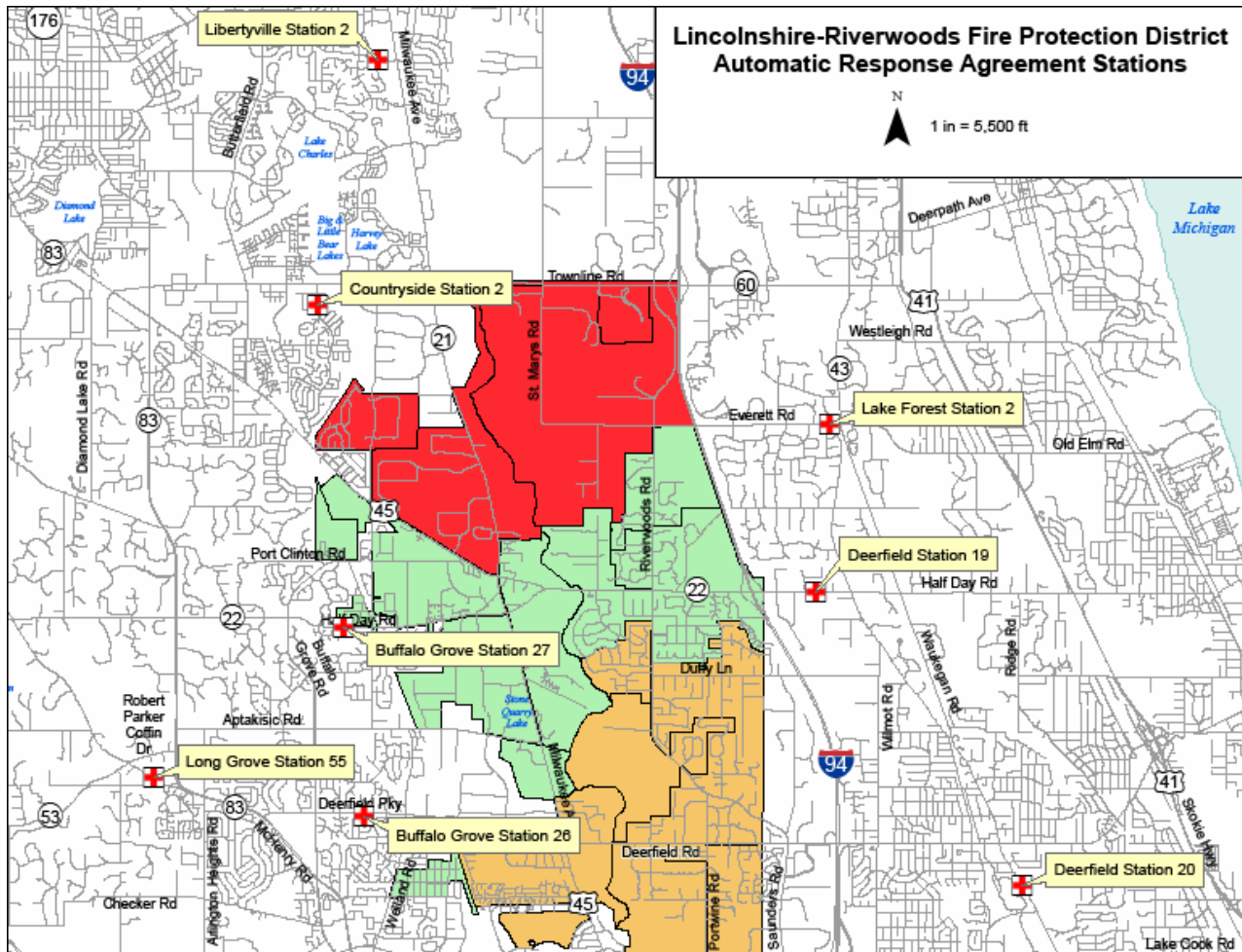
<b>2009 Structure Fires</b>	<b>2008 Structure Fires</b>	<b>2007 Structure Fires</b>
<b>6 Incident records analyzed.</b>	<b>7 Incident records analyzed.</b>	<b>6 Incident records analyzed.</b>
<b>One record - zero time value.</b>		
Travel 5:00 80.0% (4)	Travel 5:45 85.7% (6)	Travel 3:30 50.0% (3)
Travel 5:15 80.0% (4)	Travel 6:00 85.7% (6)	Travel 3:45 50.0% (3)
Travel 5:30 80.0% (4)	Travel 6:15 85.7% (6)	Travel 4:00 66.7% (4)
Travel 5:45 80.0% (4)	Travel 6:30 85.7% (6)	Travel 4:15 83.3% (5)
<b>Travel 6:00 100.0% (5)</b>	<b>Travel 6:45 100.0% (7)</b>	<b>Travel 4:30 100.0% (6)</b>
Travel 6:15 100.0% (5)	Travel 7:00 100.0% (7)	Travel 4:45 100.0% (6)
Travel 6:30 100.0% (5)	Travel 7:15 100.0% (7)	Travel 5:00 100.0% (6)

2009			2008			2007		
Station	Incidents	90%	Station	Incidents	90%	Station	Incidents	90%
51	3	3:00	51	7	6:45	51	6	4:30
52	3	6:00	52	0	0:00	52	0	0:00
53	0	0:00						

**Automatic Response Agreements**

LRFPD recognizes the value of partnering with neighboring fire departments through automatic aid. As a result, the District has auto aid agreements with all border fire departments that have stations close enough to provide rapid assistance. The map on the following page indicates the location of these auto aid stations. The agreements range from a second unit for EMS calls to an initial response for an automatic fire alarm.

**LRFPD Automatic Response Agreement Stations Map**



### ***Reliability***

LRFPD's Computer Aided Dispatch (CAD) is designed to send only one unit from each station whenever practical. As a result, the call may be in District 51 but the CAD response will indicate an ALS Engine from Station 51 and an ALS Ambulance from Station 53 are both due to the scene. In addition, the same response in Grid 5142 would result in an ALS Engine responding auto aid from Lake Forest Station 2 while an LRFPD ALS Ambulance responds from Station 51. Because the auto aid is both intentional and reciprocal, this does not indicate an inability of LRFPD to respond. Instead, it is the result of a close working relationship with neighboring departments that is intended to provide a closest station response while allowing the host department to keep apparatus in quarters for the next call. Based on the aforementioned realities, LRFPD defines response reliability as the probability that the required amount of staffing and apparatus will be available when an emergency call is received.

The Department addresses reliability with auto-aid and mutual aid agreements and a CAD that is designed to automatically cover calls for three levels of next due. In addition, when multiple calls occur, the District will initiate a local callback of off duty personnel and a mutual aid Ambulance and/or Engine will be requested to move into LRFPD Station 51 on change of quarters. The District is also fortunate to have neighboring auto aid stations within close enough proximity to be able to arrive at emergency calls within the LRFPD Standard of Coverage Objectives time frames (see map on previous page).

Responses that require more than one unit and possible resource exhaustion are considered in assessing response reliability. LRFPD practices a cold response for non-host District apparatus on fire alarms unless the host District apparatus is unavailable. As a result, the best current indication of reliability is that the apparatus running hot meet LRFPD Standard of Coverage time frame objectives while all apparatus due to the scene are accounted for. The District meets its time frame objective for 90% of all requests for emergency service and thanks to the CAD and RED Center Dispatch, any apparatus that are unavailable are replaced by an LRFPD or a Mutual Aid apparatus.

A study of 1,441 emergency calls in 2009 revealed that 399 calls occurred simultaneously which were then broken into categories of two, three and four simultaneous incidents. The first due company travel time compliance is shown below. Thanks to the LRFPD response policy of leaving one apparatus at home for the non-host District, even when four simultaneous calls occur the first due compliance remains at 66.67%.

**Simultaneous Calls Analysis**

1,441 Incident records analyzed.
<b>2 Simultaneous Incidents</b>
Incidents: 350
All Fires: 9 2.60%.
EMS Incidents: 291 83.10%.
Other Incidents: 50 14.30%.
6 minute 15 second compliance 77.71%
<b>3 Simultaneous Incidents</b>
Incidents: 43
All Fires: .00%.
EMS Incidents: 39 90.70%.
Other Incidents: 4 9.30%.
6 minute 15 second compliance 74.42%
<b>4 Simultaneous Incidents</b>
Incidents: 6
All Fires: .00%.
EMS Incidents: 4 66.70%.
Other Incidents: 2 33.30%.
6 minute 15 second compliance 66.67%

## Performance Study

### 2009 First Unit Arrival - Overall Jurisdiction By Grid

Fire Calls within 6 minutes 15 seconds			EMS Calls within 5 minutes 30 seconds		
CAD Grids	Incidents	90% Fractile	CAD Grids	Incidents	90% Fractile
5119	18	0:08:00	5119	69	0:05:45
5124	18	0:03:15	5124	289	0:04:30
5125	5	0:04:30	5125	45	0:04:30
5126	1	0:06:00	5126	18	0:06:15
5127	3	0:05:30	5127	9	0:06:00
5142	9	0:07:15	5142	13	0:05:30
5151	6	0:04:30	5151	52	0:04:45
5155	49	0:05:00	5155	115	0:03:30
5172	12	0:04:00	5172	132	0:03:45
5220	15	0:04:00	5220	42	0:06:00
5226	11	0:06:00	5226	186	0:06:15
5251	2	0:04:30	5251	20	0:05:45
5252	15	0:05:15	5252	63	0:04:45
5291	5	0:06:45	5291	14	0:06:15
5294	5	0:05:30	5294	18	0:04:45
5341	2	0:05:30	5341	11	0:06:00
5342	1	0:07:00	5342	12	0:09:15
5346	0	0:00:00	5346	7	0:07:45
5353	28	0:04:45	5353	91	0:04:15
5390	3	0:08:15	5390	14	0:07:15

#### Fire Calls

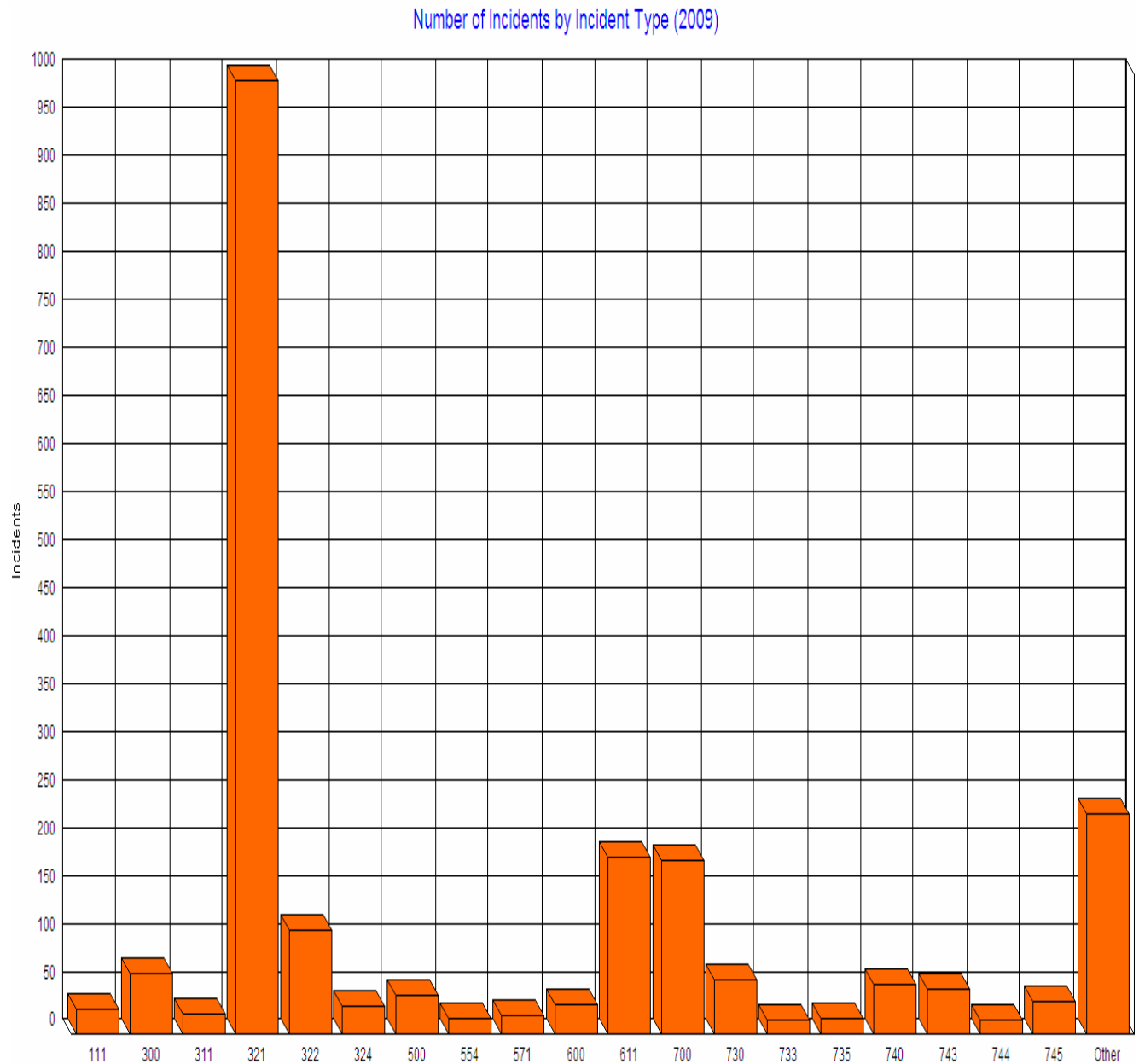
- Grid 5126 is an outlier on the far west side of the District and does not currently reflect auto aid times from a closer station.
- Grid 5142 is on the far east side of the District and does not currently reflect auto aid times from a closer station.
- Grids 5342, 5346 and 5390 are expected to fall within normal expectations in the future due to the opening of Station 53 in late 2009.
- Steps are being taken to allow LRFPD times to reflect arrival times of auto aid companies

#### EMS Calls

- Grid 5342 is the furthest northeast corner of the District and was a primary motivator for building Station 53. It is anticipated the new station will reduce this time significantly.
- All grids beginning with 53 will benefit from the opening of Station 53 in August, 2009.
- Many grids do not currently reflect auto aid times from a closer station.
- Steps are being taken to allow LRFPD times to reflect arrival times of auto aid companies.

## Call Type

As noted in this graph the number of incidents by incident type in 2009 are overwhelmingly EMS in nature. Currently, the EMS call nature is documented in a separate EMS software which is managed by Northwest Community EMS. Due to HIPAA concerns, no patient information is included in the Firehouse Report Management System (RMS) that LRFPD currently uses.

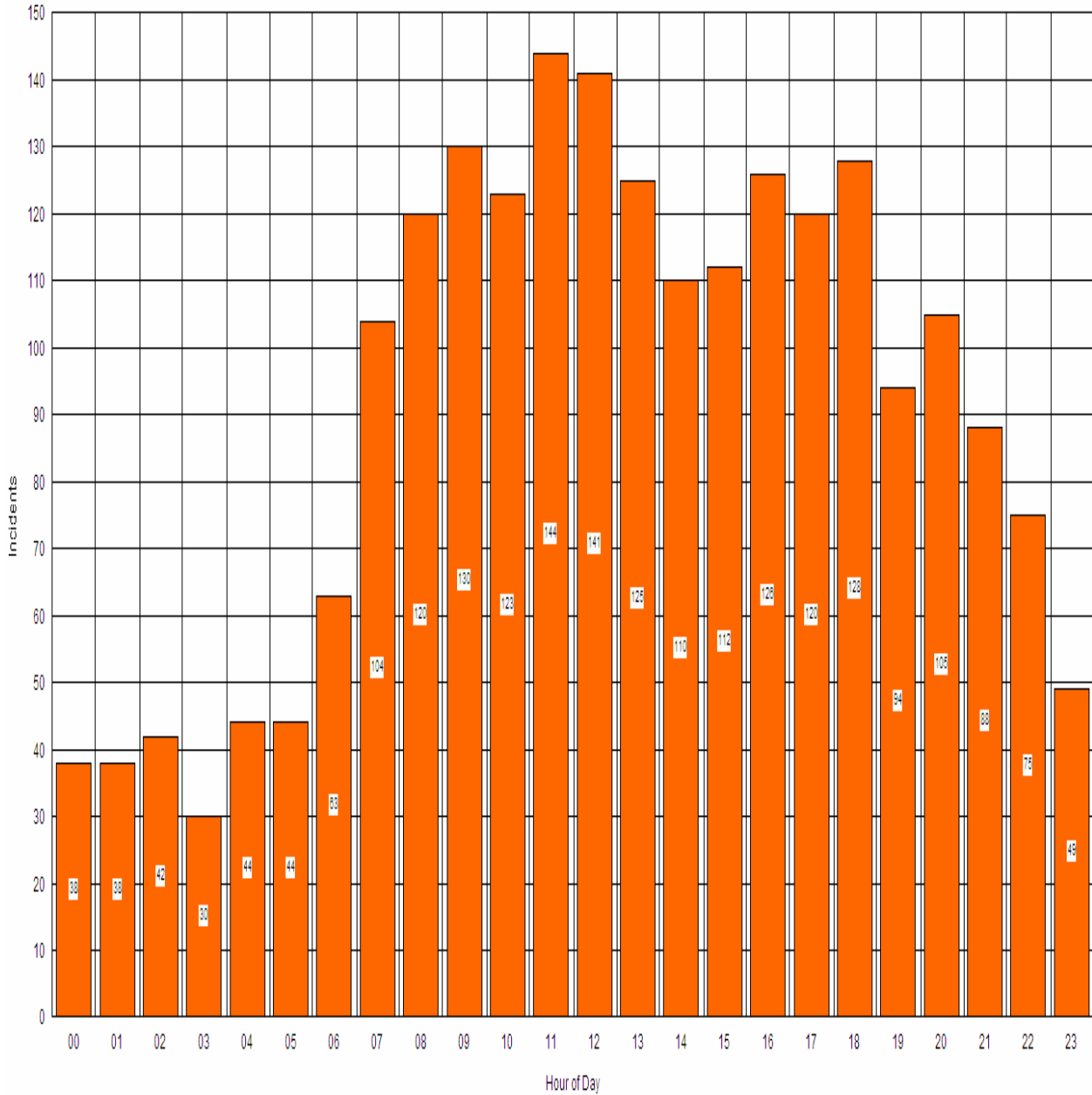


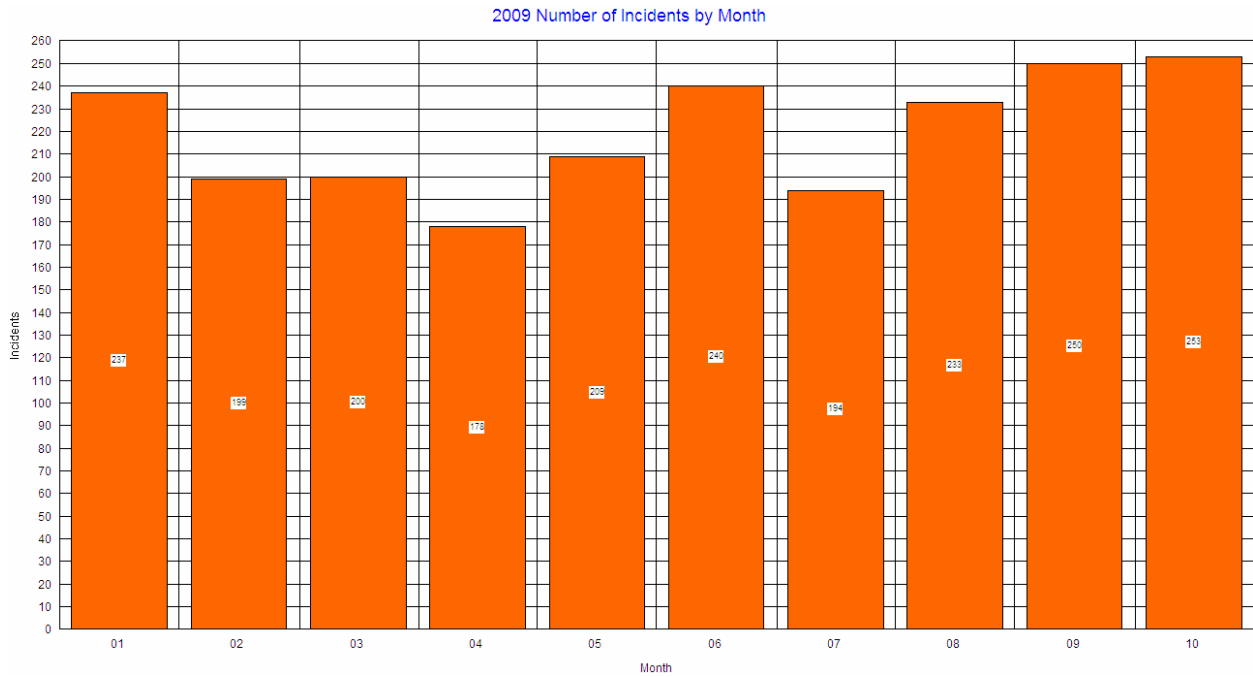
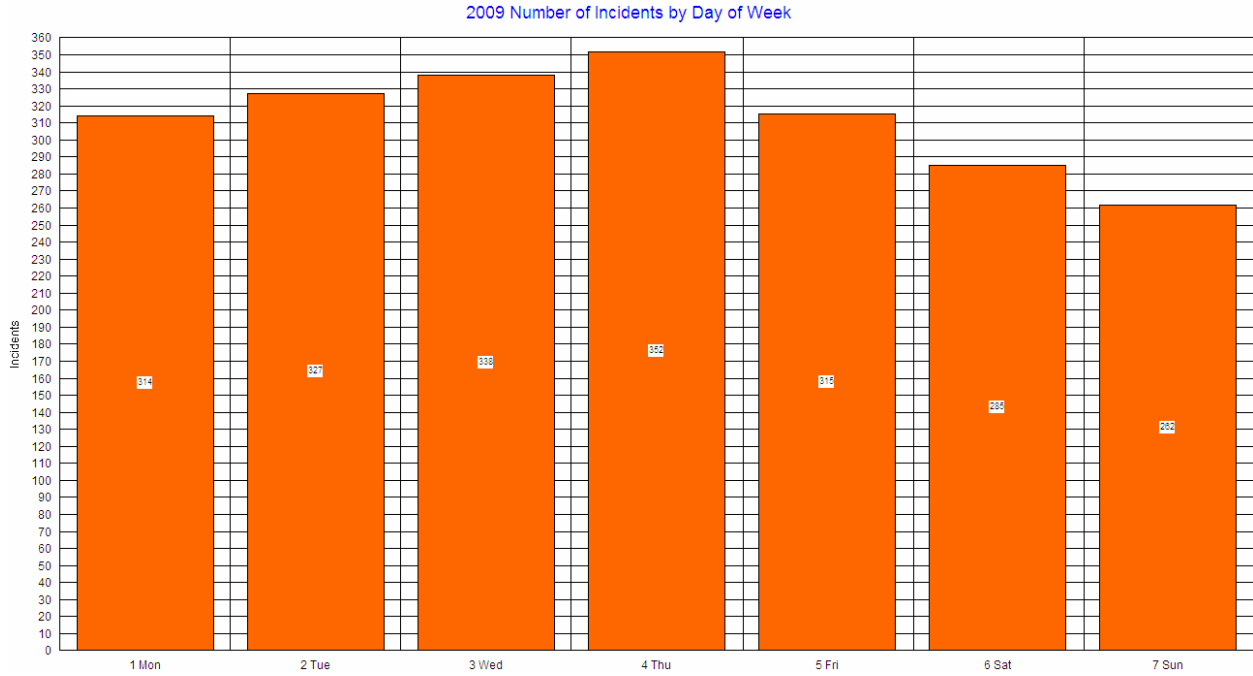


**Peak Load**

The following graphs represent the LRFPD peak load by hour, by day, and by month. Analysis reveals the peak hours are 7am – 10pm, the peak days of the week are weekdays with Thursday being the busiest, and the warmer months are slower, with one deviation in June, than the winter months.

2009 Number of Incidents by Hour of Day





***Mutual Aid***

LRFPD is a member of Division 4 of the statewide Mutual Aid Box Alarm System (MABAS). MABAS is a mutual aid system that has been in existence since the late 1960s and pre 9-11 was heavily rooted throughout northern Illinois. Since 9-11 MABAS has rapidly grown throughout the State of Illinois and southern Wisconsin with parts of Indiana, Iowa, and Missouri. Thanks to MABAS, extra alarms are systematically designed to provide a rapid response of emergency resources to a stricken community during an ongoing emergency.

MABAS, in partnership with the Illinois Emergency Management Agency has developed this system to provide mutual aid response for fire, EMS, and specialized incidents. The system defines a resource response plan to any location in the state when the Governor signs a Declaration of Disaster. Local mutual aid requests do not require a declaration of disaster. Today, MABAS includes 1000 fire departments organized into 67 Divisions comprised of 35,000 firefighters, 1500 fire stations, 2500 Engines, 469 Trucks, 1100 Ambulances, 300 Squads, and almost 800 Tanker/Tenders. MABAS also offers specialized operations teams for Haz Mat (42), Dive (26), Technical Rescue (41) and state sponsored urban search and rescue teams.

MABAS requires every participant organization to sign the same contract with 1000 plus counterpart MABAS agencies. As a MABAS agency, you agree to standards of operation, incident command, minimum equipment staffing, safety and on scene terminology. All MABAS agencies operate on a common frequency (IFERN) and are activated for response through pre-designed run cards that each agency completes. MABAS also provides mutual aid station coverage for a stricken community whose resources are committed to an incident for an extended period. MABAS alarms are commanded by the stricken community and dispatch control is handled through the appropriate MABAS Division Dispatch Center.

## Mutual Aid Box Alarm System LRFPD Box Cards

### District 51 Structure Fire Box Card

<b>DEPARTMENT NAME</b>		<b>BOX ALARM TYPE</b>			<b>EFFECTIVE DATE</b>	<b>MABAS DIVISION</b>
LINCOLNSHIRE-RIVERWOODS		STRUCTURE FIRE			5/15/2008	4
<b>BOX ALARM #</b>		<b>LOCATION OR AREA</b>			<b>AUTHORIZED SIGNATURE</b>	
51		Still District 51 (Central area LRFPD)			Fred A. Kruger	
<b>LOCAL DISPATCH AREA</b>						
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>
STILL	LINCOLNSHIRE	LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE	
CODE 4	LINCOLNSHIRE		LINCOLNSHIRE		LINCOLNSHIRE LINCOLNSHIRE	CALLBACK LR
<b>MABAS BOX ALARM</b>						
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>
BOX	COUNTRYSIDE	LAKE FOREST	LONG GROVE	LAKE ZURICH	LONGGROVE	MESS CANTEEN
	# BUFFALO GRV 27 DEERFIELD				BUFFALOGRV BAT4 COUNTRYSIDE	@MESS BUS
2ND	MUNDELEIN HIGHWOOD KNOLLWOOD	NORTHBROOK	LIBERTYVILLE	WHEELING	WHEELING LIBERTYVILLE DEERFIELD	CHIEF- SEE BOX LEVEL ENG- SEE BOX LEVEL ENG-ARLINGTON HEIGHTS MICU-PALATINE
	GLENVIEW 8 PROSPECT HEIGHTS LAKE BLUFF				GRAYSLAKE	HIGHLAND PARK
4TH	NORTH MAINE ARLINGTON HGHTS PALATINE RURAL	WAUCONDA	MOUNT PROSPECT	PALATINE	NORTHBROOK HIGHLAND PARK	COQ TBD BY STAFF AT STATION 51
5TH	NILES WINNETKA GLENCOE	BARRINGTON	WAUKEGAN	WILMETTE	PROSPECT HEIGHTS NORTH MAINE	
<b>INTERDIVISIONAL REQUEST</b>						
DIVISION 3		DIVISION 1		DIVISION 5		
<b>INFORMATION:</b>	@	=	IF OVER 85° OR LESS THAN 20°			
	#	=	UNLESS BG ENGINE 26 DUE OR ON SCENE			
	++	=	ON SPECIAL PER UNIT REQUEST OF COMMAND ONLY			
<b>CHANGE OF QUARTERS:</b>		<b>ALL COQ TO STATION 51 UNLESS DIRECTED OTHERWISE</b>				
<b>STATION 51 : 115 SCHELTER ROAD LINCOLNSHIRE, IL (1/4 MI. SOUTH OF RT. 22 WEST OF RT. 21)</b>						

District 52 Structure Fire Box Card

<b>DEPARTMENT NAME</b>		<b>BOX ALARM TYPE</b>			<b>EFFECTIVE DATE</b>	<b>MABAS DIVISION</b>	
LINCOLNSHIRE-RIVERWOODS		STRUCTURE FIRE			5/15/2008	4	
<b>BOX ALARM #</b>		<b>LOCATION OR AREA</b>			<b>AUTHORIZED SIGNATURE</b>		
52		Still District 52 (Southern part of LRFPD)			Fred A. Kruger		
<b>LOCAL DISPATCH AREA</b>							
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>
STILL	LINCOLNSHIRE	LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE		
CODE 4	LINCOLNSHIRE		LINCOLNSHIRE		LINCOLNSHIRE LINCOLNSHIRE	CALLBACK LR	E-LONG GROVE(SQUAD55) A- LAKE ZURICH
<b>MABAS BOX ALARM</b>							
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>
BOX	NORTHBROOK	DEERFIELD	LONG GROVE	LAKE ZURICH	BUFFALOGRV BAT4 LONG GROVE WHEELING	MESS CANTEEN	CHIEF- MUNDELEIN
	# BUFFALO GRV 26					@MESS BUS	ENG-MUNDELEIN
	LAKE FOREST						ENG-PROSPECT HEIGHTS MICU-WHEELING
2ND	MUNDELEIN	COUNTRYSIDE	LIBERTYVILLE	WHEELING	DEERFIELD COUNTRYSIDE PROSPECT HEIGHTS		CHIEF- SEE BOX LEVEL
	HIGHWOOD						ENG- SEE BOX LEVEL
	KNOLLWOOD						ENG-ARLINGTON HEIGHTS MICU-PALATINE
3RD	GLENVIEW 8	GRAYSLAKE	HIGHLAND PARK	NORTHFIELD	NORTHBROOK LIBERTYVILLE	++FOAM UNIT	COQ TBD BY STAFF AT STATION 51
	PROSPECT HEIGHTS					WHEELING CRASH 24	
	LAKE BLUFF					PROSP.HTS CRASH 39 QUAD 2 FOAM UNIT	
4TH	NORTH MAINE	WAUCONDA	MOUNT PROSPECT	PALATINE	LAKE FOREST HIGHLAND PARK		COQ TBD BY STAFF AT STATION 51
	ARLINGTON HGHTS						
	PALATINE RURAL						
5TH	NILES	BARRINGTON	WAUKEGAN	WILMETTE	MUNDELEIN NORTH MAINE	UC-13	COQ TBD BY STAFF AT STATION 51
	WINNETKA						
	GLENCOE						
<b>INTERDIVISIONAL REQUEST</b>							
DIVISION 3		DIVISION 1		DIVISION 5			
<b>INFORMATION:</b>	@	=	IF OVER 85° OR LESS THAN 20°				
	#	=	UNLESS BG QUINT 27 DUE OR ON SCENE				
	++	=	ON SPECIAL PER UNIT REQUEST OF COMMAND ONLY				
<b>CHANGE OF QUARTERS:</b>		<b>ALL COQ TO STATION 51 UNLESS DIRECTED OTHERWISE</b>					
<b>STATION 51 : 115 SCHELTER ROAD LINCOLNSHIRE, IL (1/4 MI. SOUTH OF RT. 22 WEST OF RT. 21)</b>							

**District 53 Structure Fire Box Card**

<b>DEPARTMENT NAME</b>		<b>BOX ALARM TYPE</b>			<b>EFFECTIVE DATE</b>	<b>MABAS DIVISION</b>		
LINCOLNSHIRE-RIVERWOODS		STRUCTURE FIRE			5/15/2008	4		
<b>BOX ALARM #</b>		<b>LOCATION OR AREA</b>			<b>AUTHORIZED SIGNATURE</b>			
53		Still District 53 (Northern part of LRFPD)			Fred A. Kruger			
<b>LOCAL DISPATCH AREA</b>								
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>	
STILL	LINCOLNSHIRE	LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE			
CODE 4	LINCOLNSHIRE		LINCOLNSHIRE		LINCOLNSHIRE LINCOLNSHIRE	CALLBACK LR	E-LONG GROVE (Squad55) A- LAKE ZURICH	
<b>MABAS BOX ALARM</b>								
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>	
BOX	DEERFIELD	COUNTRYSIDE	LONG GROVE	LAKE ZURICH	LAKE FOREST	MESS CANTEEN	CHIEF- MUNDELEIN	
	BUFFALO GRV 27				LIBERTYVILLE		ENG-MUNDELEIN	
	LAKE FOREST				COUNTRYSIDE		@MESS BUS	ENG-PROSPECT HEIGHTS MICU-WHEELING
2ND	MUNDELEIN	HIGHWOOD	LIBERTYVILLE	WHEELING	LONG GROVE		CHIEF- SEE BOX LEVEL	
	NORTHBROOK 10				DEERFIELD		ENG- SEE BOX LEVEL	
	KNOLLWOOD						ENG-ARLINGTON HEIGHTS MICU-PALATINE	
3RD	GLENVIEW 8	GRAYSLAKE	HIGHLAND PARK	NORTHFIELD	MUNDELEIN	++FOAM UNIT	COQ TBD BY STAFF AT STATION 51	
	PROSPECT HGHTS				BUFFALO GROVE			WHEELING CRASH 24
	LAKE BLUFF							PROSP.HGTS CRASH 39
4TH	NORTH MAINE	WAUCONDA	MOUNT PROSPECT	PALATINE	NORTHBROOK	QUAD 2 FOAM UNIT		
	ARLINGTON HGHTS				HIGHLAND PARK			
	PALATINE RURAL							
5TH	NILES	BARRINGTON	WAUKEGAN	WILMETTE	PROSPECT HEIGHTS	UC-13		
	WINNETKA				WHEELING			
	GLENCOE							
<b>INTERDIVISIONAL REQUEST</b>								
<b>DIVISION 3</b>		<b>DIVISION 1</b>			<b>DIVISION 5</b>			
<b>INFORMATION:</b>	@	=	IF OVER 85 <sup>0</sup> OR LESS THAN 20 <sup>0</sup>					
	++	=	ON SPECIAL REQUEST OF COMMAND ONLY					
<b>CHANGE OF QUARTERS:</b>		<b><u>ALL COQ TO STATION 51 UNLESS DIRECTED OTHERWISE</u></b>						
<b>STATION 51 : 115 SCHELTER ROAD LINCOLNSHIRE, IL (1/4 MI. SOUTH OF RT. 22 WEST OF RT. 21)</b>								

**Technical Rescue – Structural Collapse Box Card**

DEPARTMENT NAME: LINCOLNSHIRE-RIVERWOODS	BOX ALARM TYPE: <b>TECHNICAL RESCUE –STRUCTURAL COLLAPSE</b>	EFFECTIVE DATE: <b>7-10-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>COLLAPSE</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECHS/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE LONG GROVE BUFFALO GROVE	LINCOLNSHIRE COUNTRYSIDE	LINCOLNSHIRE BUFFALO GRV LONG GROVE	LINCOLNSHIRE		
CODE 4		LAKE FOREST (TOWER)	DEERFIELD 19 LAKE ZURICH LIBERTYVILLE	HIGHWOOD	LIBERTYVILLE DEERFIELD LAKE ZURICH COUNTRYSIDE LAKE FOREST	LINCOLNSHIRE BFLOGRV BAT4 COUNTRYSIDE LAKE FOREST	LRPFD CALLBACK	CHIEF-LONG GROVE MICU-WHEELING ENGINE-MUNDELEIN

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	PALATINE	COUNTRYSIDE	PROSPECT HEIGHTS	WHEELING	ALL DIVISION 4 LMCSRT TECHS	LIBERTYVILLE	LMCSRTTEAM LEADER MESS CANTEEN&BUS 6954 W/USAR 4 & LUMBER 4 ROLLOFFS	MICU- ARLINGTON HTS
2 <sup>ND</sup>		GREAT LAKES		NORTH CHICAGO	ALL DIVISION 5 LMCSRT TECHS	BUFFALO GRV	NEWPORT CRANE 1456 6958 MECAHNICS W/ 6995 QUAD 2 COMMS VEHICLE	
3 <sup>RD</sup>	GLENVIEW		WAUKEGAN		DIVISION 3	MUNDELEIN		
4 <sup>TH</sup>		WINNETKA			DIVISION 1	HIGHLAND PARK	UC-13 COMMAND	
5 <sup>TH</sup>	LAKE BLUFF		MOUNT PROSPECT			NORTHBROOK		
INTERDIVISIONAL		1 <sup>ST</sup> CHOICE 101		2 <sup>ND</sup> CHOICE TBD		3 <sup>RD</sup> CHOICE TBD		

**INFORMATION:** \* = CALLBACK STAFFING  
 @=AUTOMATIC IF OVER 85° OR LESS THAN 20°  
 ##=BY REQUEST ONLY

**CHANGE OF QUARTERS:** ALL COQ. TO STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)

**Technical Rescue – Confined Space Box Card**

DEPARTMENT NAME: <b>LINCOLNSHIRE-RIVERWOODS</b>	BOX ALARM TYPE: <b>TECHNICAL RESCUE – CONFINED SPACE</b>	EFFECTIVE DATE: <b>7-10-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>CONFINED SPACE</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECHS/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE LONG GROVE BUFFALO GROVE	LINCOLNSHIRE COUNTRYSIDE	LINCOLNSHIRE BUFFALO GRV LONG GROVE	LINCOLNSHIRE		
CODE 4		LAKE FOREST (TOWER)	DEERFIELD 19 LAKE ZURICH LIBERTYVILLE	HIGHWOOD	LIBERTYVILLE DEERFIELD LAKE ZURICH COUNTRYSIDE LAKE FOREST	LINCOLNSHIRE BFLGRV BAT4 COUNTRYSIDE LAKE FOREST	LRPFD CALLBACK	CHIEF-LONG GROVE MICU-WHEELING ENGINE-MUNDELEIN

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	PALATINE	COUNTRYSIDE	PROSPECT HEIGHTS	WHEELING	ALL DIVISION 4 LMCSRT TECHS	LIBERTYVILLE	LMCSRT TEAMLEADER MESS CANTEEN & BUS 6954 W/USAR 4 ROLLOFF	MICU-ARLINGTON HEIGHTS
2 <sup>ND</sup>		GREAT LAKES		NORTH CHICAGO	ALL DIVISION 5 LMCSRT TECHS	BUFFALO GRV	6958 MECHANICS W/6995 QUAD 2 COMMS VEHICLE	
3 <sup>RD</sup>	GLENVIEW		WAUKEGAN		DIVISION 3	MUNDELEIN		
4 <sup>TH</sup>		WINNETKA			DIVISION 1	HIGHLAND PARK	UC-13 COMMAND	
5 <sup>TH</sup>	LAKE BLUFF		MOUNT PROSPECT			NORTHBROOK		
INTERDIVISIONAL REQUEST	1 <sup>ST</sup> CHOICE <b>101</b>		2 <sup>ND</sup> CHOICE <b>TBD</b>		3 <sup>RD</sup> CHOICE <b>TBD</b>			

INFORMATION: \* = CALLBACK STAFFING  
 @=AUTOMATIC IF OVER 85° OR LESS THAN 20°  
 ##=BY REQUEST ONLY

CHANGE OF QUARTERS: ALL COQ. TO STATION 51. MAY BE REDIRECTED BY RED CENTER TO STATION 52  
STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)



**Disaster Box Card**

DEPARTMENT NAME: <b>Lincolnshire-Riverwoods</b>	BOX ALARM TYPE: <b>DISASTER</b>	EFFECTIVE DATE: <b>5-15-08</b>	MABAS DIVISION <b>4</b>
BOX ALARM #: <b>DISASTER</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TENDERS	TRUCKS	SQUADS	MICU	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA 51)
STILL	LINCOLNSHIRE LINCOLNSHIRE		LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE-SC		
CODE 4	LAKE FOREST DEERFIELD 19		BUFFALO GRVE Q27	*LINCOLNSHIRE LONG GROVE	HIGHWOOD	LINCOLNSHIRE 5100 LINCOLNSHIRE 5101	SC-BUFFALO GROVE CALL BACK LRFPD MESS CANTEEN	CHIEF-LONG GROVE MICU-WHEELING ENG-GLENVIEW ENG-NORTH MAINE

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TENDERS	TRUCKS	SQUADS	MICU	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA#5)
BOX	COUNTRYSIDE KNOLLWOOD NORTHBROOK		LIBERTYVILLE	HIGHLAND PARK	WHEELING PALATINE RURAL	LONG GROVE LIBERTYVILLE NORTHBROOK COUNTRYSIDE	@MESS BUS L&M SRT COORDINATOR	MICU- MT PROSPECT ENG-LAKE BLUFF ENG-LINCOLNSHIRE CHIEF-WHEELING
2 <sup>ND</sup>	ARLINGTON HTS NORTH CHICAGO LAKE VILLA		PROSPECT HTS WAUCONDA	MUNDELEIN GURNEE	WILMETTE NORTHFIELD PARK RIDGE	MUNDELEIN LAKE FOREST		
3 <sup>RD</sup>	GLENVIEW GLENCOE MORTON GROVE		PALATINE GRAYSLAKE	LAKE ZURICH NEWPORT	BARRINGTON ROLLING MEADOWS	HIGHWOOD KNOLLWOOD	UC-13	
4 <sup>TH</sup>	WINNETKA NORTH MAINE ROUND LAKE		GREAT LAKES ANTIOCH	WAUKEGAN SCHAUMBURG	DES PLAINES HOFFMAN ESTS FOX RVR GRV	BUFFALO GRV HIGHLAND PARK		
5 <sup>TH</sup>	NILES BEACH PARK WINTHRP HRBOR		BARRINGTON FOX LAKE	SKOKIE EVANSTON	ELK GROVE VLG ZION ITASCA	WAUKEGAN GURNEE		
INTERDIVISIONAL REQUEST	1 <sup>ST</sup> CHOICE <u>DIVISION</u> 3		2 <sup>ND</sup> CHOICE <u>DIVISION</u> 1		3 <sup>RD</sup> CHOICE <u>DIVISION</u> 5			

**INFORMATION:** \* = CALLBACK STAFFING  
 @ = AUTOMATIC IF OVER 85° OR LESS THAN 20°  
 ## = BY SPECIAL REQUEST

**CHANGE OF QUARTERS: ALL COQ. TO STATION 51. MAY BE REDIRECTED BY RED CENTER TO STATION 52**  
**STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)**

**Dive Box Card**

DEPARTMENT NAME: <b>LINCOLNSHIRE-RIVERWOODS</b>	BOX ALARM TYPE: <b>WATER RESCUE (ICE OR OPEN WATER)</b>	EFFECTIVE DATE: <b>5-15-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>DIVE</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	SQUADS	BOATS	EMS	DIVE TECHS/TEAM	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE	LINCOLNSHIRE	LONG GROVE	LINCOLNSHIRE COUNTRYSIDE	LINCOLNSHIRE LONG GROVE BUFFALO GROVE	LINCOLNSHIRE	LINCOLNSHIRE - DIVE TRAILER	
CODE 4	BUFFALO GROVE Q27 LINCOLNSHIRE	DEERFIELD	LINCOLNSHIRE	LAKE FOREST LINCOLNSHIRE	DEERFIELD COUNTRYSIDE LIBERTYVILLE LAKE ZURICH LAKE FOREST	LINCOLNSHIRE BFLOGROVE BAT4	CALLBACK COUNTRYSIDE-DIVEMASTER	CHIEF- LONG GROVE MICU-WHEELING ENGINE-MUNDELEIN

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	SQUADS	BOATS	EMS	DIVE TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	WHEELING	PROSPECT HTS		NORTHBROOK HIGHWOOD	WAUCONDA BARRINGTON NORTHBROOK		LMCSRT SIDE SCAN SONAR (6994) AREA 4 REP AREA 1 REP MESS CANTEN LMCSTR DIVE TRAILER (6993)	
2 <sup>ND</sup>	ARLINGTON HTS	MOUNT PROSPECT	DIVISION 4 BOATS (REQUEST ONLY)	HIGHLAND PARK LAKE ZURICH	DIVISION 4 DIVERS		##COUNTRYSIDE HOVER CRAFT @MESS COOLING BUS	
3 <sup>RD</sup>	GREAT LAKES	WAUKEGAN		PALATINE GLENVIEW	RED CENTER ON-DUTY DIVERS		UC-13	
4 <sup>TH</sup>	NORTH CHICAGO	BARRINGTON	DIVISION 3 BOATS (REQUEST ONLY)	GLENCOE	DIVISION 3 DIVERS			
5 <sup>TH</sup>					DIVISION 1 DIVERS		## DIVISION 4 AIR BOATS	

INFORMATION: \* = CALLBACK STAFFING  
 @ = AUTOMATIC IF OVER 85° OR LESS THAN 20°  
 ## = BY REQUEST ONLY

CHANGE OF QUARTERS: ALL COQ. TO STATION 51. MAY BE REDIRECTED BY RED CENTER TO STATION 52  
STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)

**Haz Mat Box Card**

DEPARTMENT NAME: <b>Lincolnshire-Riverwoods</b>	BOX ALARM TYPE: <b>HAZARDOUS MATERIALS</b>	EFFECTIVE DATE: <b>5-15-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>HAZMAT</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	HAZ-MAT TECHS/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE		
CODE 4	COUNTRYSIDE BUFFALO GROVE (Q27)	LINCOLNSHIRE	DEERFIELD 19 LONG GROVE	HIGHWOOD LINCOLNSHIRE	*LINCOLNSHIRE (OFF DUTY) DEERFIELD BUFFALO GRVE LONG GROVE	LINCOLNSHIRE BFLOGRV BAT4 LAKE FOREST	LRPFD CALLBACK HAZ MAT 4 (6951)	CHIEF-LONG GROVE MICU-WHEELING ENGINE-PROSPECT HEIGHTS

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	HAZ-MAT TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	LIBERTYVILLE		LAKE ZURICH	PALATINE	COUNTRYSIDE LAKE ZURICH MUNDELEIN LAKE FOREST	COUNTRYSIDE	LMCSRT TEAM LEADER MESS CANTEN SUPPORT 4 (6953) DECON 4 MESS BUS	SEE CODE 4 LEVEL
2 <sup>ND</sup>	HIGHLAND PARK	LAKE FOREST	MUNDELEIN	NORTH CHICAGO	ALL DIVISION 4 &5	LIBERTYVILLE	# CHEM BIO TEAM LDR SPILL TRAILER 6990 HAZMAT 5 6958 MECHANICSW/COMPRESSOR	COQ TO BE DETERMINED BY CALLBACK STAFFING
3 <sup>RD</sup>	GLENVIEW				DIVISION 3	MUNDELEIN	UC-13 COMMAND	
4 <sup>TH</sup>	MOUNT PROSPECT	NORTHBROOK			DIVISION 1	HIGHLAND PARK		
5 <sup>TH</sup>	ARLINGTON HIEGHTS					NORTHBROOK	++FOAM UNITS WHEELING CRASH 24 PRHGHTS. CRASH39 QUAD 2 FOAM UNIT	

INFORMATION: \* = CALLBACK STAFFING  
 @ = AUTOMATIC IF OVER 85° OR LESS THAN 20°  
 ## = BY SPECIAL REQUEST  
 ++ = BY SPECIAL PER UNIT REQUEST OF THE INCIDENT COMMANDER

CHANGE OF QUARTERS: ALL COQ. TO STATION 51. MAY BE REDIRECTED BY RED CENTER TO STATION 52  
STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)

**Life Safety (Ambulance) Box Card**

DEPARTMENT NAME			BOX ALARM TYPE			EFFECTIVE DATE	MABAS DIVISION
LINCOLNSHIRE-RIVERWOODS			LIFE SAFETY - MASS CASUALTY			5/15/2008	4
BOX ALARM #		LOCATION OR AREA			AUTHORIZED SIGNATURE		
LIFE SAFETY		ENTIRE DISTRICT			Fred A. Kruger		
<b>LOCAL DISPATCH AREA</b>							
ALARM	ENGINE	TRUCK	SQUAD	MICU	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS
STILL	LINCOLNSHIRE		LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE		
				LINCOLNSHIRE	LINCOLNSHIRE		
	LINCOLNSHIRE			LINCOLNSHIRE			
<b>MABAS BOX ALARM</b>							
ALARM	ENGINE	TRUCK	SQUAD	MICU	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS
BOX	LAKE FOREST	ARLINGTON HTS	LONG GROVE	DEERFIELD	LINCOLNSHIRE	CALLBACK	CHIEF- MUNDELEIN
				BUFFALO GROVE	DEERFIELD	MEDICAL OFFCR LINCNSHR	ENG-MUNDELEIN-SQUAD
				COUNTRYSIDIE	BUFFALOGRV BAT4		ENG-PROSPECT HEIGHTS
				LIBERTYVILLE			MICU-WHEELING
2ND	LAKE BLUFF	NORTHBROOK	MUNDELEIN	HIGHWOOD	COUNTRYSIDE	MESS CANTEEN	
				HIGHLAND PARK	LONG GROVE	# MEDICAL OFF. BFLOGRV	
				PROSPECT HGHTS	LIBERTYVILLE	@MESS BUS	ENG-ARLINGTON HEIGHTS
				LAKE ZURICH			
				WHEELING			MICU-PALATINE
3RD	BARRINGTON	GRAYSLAKE		WINNETKA			# NORTHWEST COMMUNITY HOSPITAL EMS LIAISON
				MOUNTPROSPECT	MUNDELEIN		
				PALATINE	WHEELING		
				NORTHFIELD			
				GLENVIEW			
4TH	GREAT LAKES		WAUKEGAN	WILMETTE	NORTHBROOK	UC-13	COQ TBD BY STAFF AT STATION 51
				GLENCOE	HIGHLAND PARK		
				PALATINE RURAL	LAKE FOREST		
				NORTH MAINE			
				NILES			
5TH	LINCOLNWOOD	WAUCONDA		EVANSTON	PROSPECT HGHTS		
				DES PLAINES	NORTH MAINE		
				NORTH CHICAGO			
				SKOKIE			
				MORTON GROVE			
<b>INTERDIVISIONAL REQUEST</b>							
DIVISION 3			DIVISION 1			DIVISION 5	
INFORMATION:	@	=	IF OVER 85° OR LESS THAN 20°				
	#	=	NOT TO BE REPLACED IF UNAVAILABLE				
CHANGE OF QUARTERS:	ALL COQ TO STATION 51 UNLESS DIRECTED OTHERWISE						
STATION 51 : 115 SCHELTER ROAD LINCOLNSHIRE, IL (1/4 MI. SOUTH OF RT. 22 WEST OF RT. 21)							

**Technical Rescue – High Angle Box Card**

DEPARTMENT NAME: <b>LINCOLNSHIRE-RIVERWOODS</b>	BOX ALARM TYPE: <b>TECHNICAL RESCUE -ROPE RESCUE HIGH ANGLE</b>	EFFECTIVE DATE: <b>7-10-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>ROPE RESCUE</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TECHS/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE LONG GROVE BUFFALOGRVE	LINCOLNSHIRE COUNTRYSIDE	LINCOLNSHIRE BUFFALO GRV LONG GROVE	LINCOLNSHIRE		
CODE 4		LAKE FOREST (TOWER)	DEERFIELD 19 LAKE ZURICH LIBERTYVILLE	HIGHWOOD	LIBERTYVILLE DEERFIELD LAKE ZURICH COUNTRYSIDE LAKE FOREST	LINCOLNSHIRE LIBERTYVILLE BFOGRV BAT4 COUNTRYSIDE LAKE FOREST	LRPFD CALLBACK	CHIEF-LONG GROVE MICU-WHEELING ENGINE-MUNDELEIN

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	PALATINE	COUNTRYSIDE	PROSPECT HEIGHTS	WHEELING	ALL DIVISION 4	LIBERTYVILLE	LMSRT TEAM LEADER MESS CANTEEN & BUS 6954 W/USAR 4	MICU- ARLINGTON HTS
2 <sup>ND</sup>		GREAT LAKES		NORTH CHICAGO	DIVISION 5	BUFFALO GRV	QUAD 2 COMMS	
3 <sup>RD</sup>	GLENVIEW		MOUNT PROSPECT		DIVISION 3	MUNDELEIN		
4 <sup>TH</sup>		WINNETKA			DIVISION 1	HIGHLAND PARK	UC-13 COMMAND	
5 <sup>TH</sup>	LAKE BLUFF		WAUKEGAN		DIVISION 1	NORTHBROOK		
INTERDIVISIONAL REQUEST	1 <sup>ST</sup> CHOICE 3			2 <sup>ND</sup> CHOICE 1		3 <sup>RD</sup> CHOICE 5		

**INFORMATION:** \* = CALLBACK STAFFING

@= AUTOMATIC IF OVER 85° OR LESS THAN 20° ##=BY REQUEST ONLY

**CHANGE OF QUARTERS: ALL COQ. TO STATION 51. MAY BE REDIRECTED BY RED CENTER TO STATION 52  
STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)**

**Unhydrated Structure Fire Box Card**

<b>DEPARTMENT NAME</b>				<b>BOX ALARM TYPE</b>			<b>EFFECTIVE DATE</b>	<b>MABAS DIVISION</b>
LINCOLNSHIRE-RIVERWOODS				STRUCTURE FIRE-UNHYDRATED			7/10/2008	4
<b>BOX ALARM #</b>				<b>LOCATION OR AREA</b>			<b>AUTHORIZED SIGNATURE</b>	
<b>TANKER</b>				<b>ENTIRE DISTRICT</b>			Fred A. Kruger	
<b>LOCAL DISPATCH AREA</b>								
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TENDER</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>
STILL	LINCOLNSHIRE				LINCOLNSHIRE	LINCOLNSHIRE		
	LINCOLNSHIRE							
CODE 4		LINCOLNSHIRE	BUFFALO GRV Q27 (if not available: tower 25 or Q25)	LINCOLNSHIRE		LINCOLNSHIRE	CALLBACK	ENG-MUNDELEIN
		LONG GROVE				LINCOLNSHIRE		A- LAKEZURICH
<b>MABAS BOX ALARM</b>								
<b>ALARM LEVEL</b>	<b>ENGINE</b>	<b>TENDER</b>	<b>TRUCK</b>	<b>SQUAD</b>	<b>MICU</b>	<b>CHIEFS</b>	<b>SPECIAL EQUIPMENT</b>	<b>CHANGE OF QUARTERS</b>
BOX	MUNDELEIN	COUNTYSIDE	HIGHWOOD	LIBERTYVILLE	LAKE ZURICH	PROSPECT HEIGHTS	MESS CANTEEN	CHIEF- MUNDELEIN
	LAKE FOREST	PROSPECT HTS				BUFFALOGRV BAT4		ENG-ARLINGTON HEIGHTS
	DEERFIELD	BARRINGTON				COUNTRYSIDE	@MESS BUS	ENG-KNOLLWOOD
2ND	ARLINGTON HGHTS	WAUCONDA	NORTHBROOK		WHEELING	LAKE FOREST		CHIEF- SEE BOX LEVEL
		PALATINE RURAL				DEERFIELD	ENG-LAKE BLUFF	
	KNOLLWOOD	GRAYSLAKE				WHEELING	ENG-PALATINE	
3RD	GLENVIEW 8	ROUND LAKE	LINCOLNSHIRE	HIGHLAND PARK	NORTHFIELD	MUNDELEIN	++FOAM UNIT	CHIEF- HIGHLAND PARK
	NORTH MAINE	BEACH PARK				LIBERTYVILLE	WHEELING CRASH 24	ENG-WINNETKA
	LAKE BLUFF	CARY					PROSP.HTS CRASH 39	ENG-GURNEE
4TH	PALATINE	NUNDA	MOUNT PROSPECT			NORTHBROOK		COQ TBD BY STAFF AT STATION 51
	NILES	MCHENRY				HIGHLAND PARK		
	BEACH PARK	ALGONQUIN						
5TH	WINNETKA	FOX RIVER GRV		WAUKEGAN	WILMETTE	NORTH MAINE	UC-13	
	GLENCOE	LAKE VILLA						
	GURNEE	FOX LAKE						
<b>INTERDIVISIONAL REQUEST</b>								
DIVISION 3			DIVISION 1			DIVISION 5		
<b>INFORMATION:</b>		@	=	IF OVER 85° OR LESS THAN 20°				
		++	=	ON SPECIAL PER UNIT REQUEST OF COMMAND ONLY				
<b>CHANGE OF QUARTERS: ALL COQ TO STATION 51 UNLESS DIRECTED OTHERWISE</b>								
<b>STATION 51 : 115 SCHELTER ROAD LINCOLNSHIRE, IL (1/4 MI. SOUTH OF RT. 22 WEST OF RT. 21)</b>								

**Technical Rescue – Trench Rescue Box Card**

DEPARTMENT NAME: <b>LINCOLNSHIRE-RIVERWOODS</b>	BOX ALARM TYPE: <b>TECHNICAL RESCUE –TRENCH RESCUE</b>	EFFECTIVE DATE: <b>7-10-08</b>	MABAS DIVISION: <b>4</b>
BOX ALARM #: <b>TRENCH</b>	LOCATION OR AREA: <b>ENTIRE DISTRICT</b>	AUTHORIZED SIGNATURE: <b>Fred A. Kruger</b>	

**LOCAL DISPATCH AREA:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECHS/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
STILL	LINCOLNSHIRE	LINCOLNSHIRE	LINCOLNSHIRE LONG GROVE BUFFALO GROVE	LINCOLNSHIRE COUNTRYSIDE	LINCOLNSHIRE BUFFALO GRV LONG GROVE	LINCOLNSHIRE		
CODE 4		LAKE FOREST (TOWER)	DEERFIELD 19 LAKE ZURICH LIBERTYVILLE	HIGHWOOD	LIBERTYVILLE DEERFIELD LAKE ZURICH COUNTRYSIDE LAKE FOREST	LINCOLNSHIRE BFLOGRV BAT4 COUNTRYSIDE LAKE FOREST	LRPFD CALLBACK	CHIEF-LONG GROVE MICU-WHEELING ENGINE-MUNDELEIN

**MABAS BOX ALARM:**

ALARM LEVEL	ENGINES	TRUCKS	SQUADS	EMS	TRS TECH/TEAMS	CHIEFS	SPECIAL EQUIPMENT	CHANGE OF QUARTERS (STA #)
BOX	PALATINE	COUNTRYSIDE	PROSPECT HEIGHTS	WHEELING	ALL DIVISION 4 LMCSRT TECHS	LIBERTYVILLE	LMCSRTTEAM LEADER MESS CANTEN & BUS 6955 WTRENCH 4 6954 W/ LUMBER 4 ROLLOFFS +VAC TRUCK	MICU-ARLINGTON HEIGHTS
2 <sup>ND</sup>		GREAT LAKES		NORTH CHICAGO	ALL DIVISION 5 LMCSRT TECHS	BUFFALO GRV	NEWPORT CRANE 1456 6958 MECAHNICS W/ 6995 QUAD 2 COMMS VEHICLE	
3 <sup>RD</sup>	GLENVIEW		WAUKEGAN		DIVISION 3	MUNDELEIN		
4 <sup>TH</sup>		WINNETKA			DIVISION 1	HIGHLAND PARK	UC-13 COMMAND	
5 <sup>TH</sup>	LAKE BLUFF		MOUNT PROSPECT			NORTHBROOK		
INTERDIVISIONAL		1 <sup>ST</sup> CHOICE 101		2 <sup>ND</sup> CHOICE TBD		3 <sup>RD</sup> CHOICE TBD		

**INFORMATION:** \* = CALLBACK STAFFING +NOTIFY LINCOLNSHIRE PUBLIC WORKS (PD#) 847-883-9900  
 @=AUTOMATIC IF OVER 85° OR LESS THAN 20° +NOTIFY BUFFALO GROVE PUBLIC WORKS (PD#) 847-459-2960  
 CHANGE OF QUARTERS: ALL COQ. TO STATION 51: (115 SCHELTER RD. , LINCOLNSHIRE 847-634-2512)