New York City Independent Budget Office Chart Book

February 2016

Analysis of Fire Department Response Data, 2013

Summary

- About 18 percent of unit responses by firefighters in 2013 involved actual fires, with another 20 percent in response to medical emergencies. The greatest share of firefighter responses (54 percent) were associated with non-fire/non-medical emergencies such as utility emergencies, reports of suspicious odors, and motor vehicle accidents.
- Firefighters staff 198 engine companies and 143 ladder companies that operate out of 204 firehouses across the city. Engine and ladder companies typically work in tandem when dispatched to fires. In contrast, firefighters dispatched to medical emergencies are almost always those assigned to engine companies.
- There is a good deal of variation in engine and ladder company activity levels across the city. For example, each company among the busiest 10 percent of engine companies responded to over 4,600 incidents in 2013, or an average of 13 or more per day. In contrast, each company among the 10 percent of engine companies that were the least busy responded to fewer than 1,700 incidents, or an average of fewer than 5 per day.
- Similarly, each of the ladder companies among the 10 percent that were the most busy responded to over 3,500 incidents in 2013, or an average of at least 10 per day. Those among the bottom 10 percent in terms of number of incidents responded to fewer than 1,400 incidents, or an average of fewer than 4 per day.
- The most rapid FDNY response in 2013 to structural fires was found within several Brooklyn community districts. In contrast, districts in eastern Queens, the northeast Bronx, and the middle and southern sections of Staten Island had relatively slow response times. FDNY response time is influenced by a number of factors including the distance responding units must travel, traffic congestion, and historical decisions on where to site firehouses.
- The number of engine and ladder companies located within an area reflects several factors, including geographic size of the district as well as distance from other firehouses. For example, community districts on Staten Island and in the Rockaways are home to more companies than most other districts in the city. This is due in part to the fact that other fire companies would need to travel significant distances in order to lend emergency support in these areas.

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Introduction

The annual budget of the New York City Fire Department (FDNY) is currently about $2.0 billion, an amount greater than that for all but a handful of other city agencies. After factoring in still other significant costs attributable to FDNY operations (such as pension and fringe benefit costs) the city spends about $3.4 billion annually on funding for the fire department.

During former Mayor Bloomberg's last term, the administration regularly proposed cutting FDNY's annual operating budget by eliminating a total of 20 engine and/or ladder companies stationed in firehouses across the city. Each year, however, the City Council restored funding during budget negotiations forestalling the reductions. Unlike his predecessor, Mayor de Blasio has thus far not proposed any reduction in FDNY engine and ladder company service levels. Although the Bloomberg Administration released only a preliminary list of companies that could be closed, the FDNY reported that the proposal was based on an internal analysis of company activity and response times. To better understand the variation in these measures across the city, IBO has obtained and analyzed 2013 fire company response data from FDNY.

This IBO analysis includes the following:

- An overview of the types of incidents to which firefighters are called upon to respond as well as the relative frequency with which they do so.
- A display of the 204 firehouse locations across the city out of which engine and ladder companies are deployed.
- Statistics describing the relative frequency with which firefighters assigned to specific engine and ladder companies across the city respond to various types of emergencies.
- Response time statistics for structural fires at the community district level as opposed to the broader borough-wide statistics routinely released by the FDNY.

Background

The New York City Fire Department deploys 357 firefighting units, consisting of 198 engine companies, 143 ladder companies, and an assortment of other more specialized units.

Engine companies operate vehicles equipped with water pumps and hoses and are responsible for getting water on a fire. Ladder company vehicles are equipped with ladders and equipment to force entry into buildings for the purpose of ventilating fires and, if necessary, performing search and rescue duties.

The majority of firehouses across the city are home to both an engine and ladder company although others house only an engine or a ladder company. Engine and ladder companies typically work in tandem when dispatched to fires though are frequently dispatched individually to other types of emergencies.

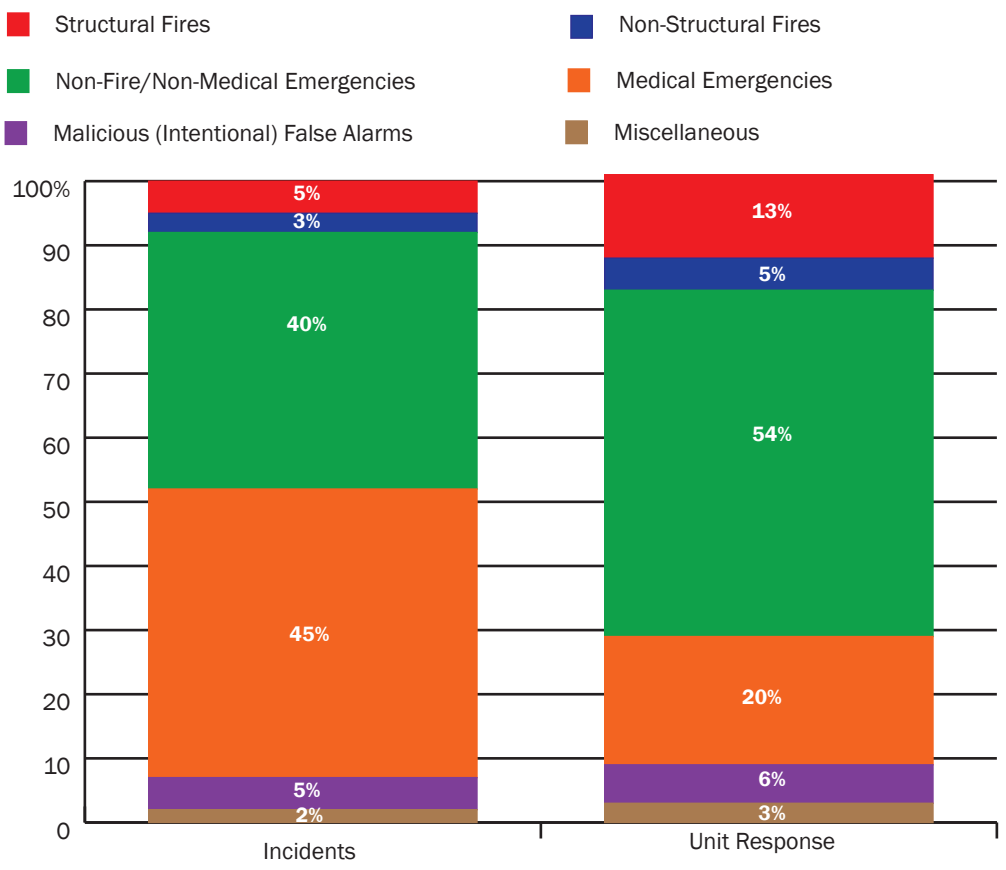
In 2013, firefighters responded to over 488,000 distinct incidents, including fires and medical emergencies, as well as a great many incidents involving neither a fire nor a medical emergency.[1,2]

Multiple firefighting units, including supervisory units, typically respond to most incidents. There were nearly 1.2 million unit responses in 2013, or on average 2.4 unit responses per incident.[3]

[1]All references to years refer to calendar years unless otherwise indicated.
[2]FDNY personnel also perform other duties such as building and fire safety inspections that are not reported in the response data.
[3]This analysis focuses only on responses by firefighters and therefore excludes responses to medical emergencies by FDNY emergency medical personnel onboard ambulances.

Breakdown of Incidents Versus Unit Responses in 2013

488,507 Incidents Versus 1,166,868 Responses



SOURCE: New York City Fire Department

NOTE: Incidents coded by the fire department as "Miscellaneous" referred in some instances to administrative and training assigments and in other cases were not further defined.

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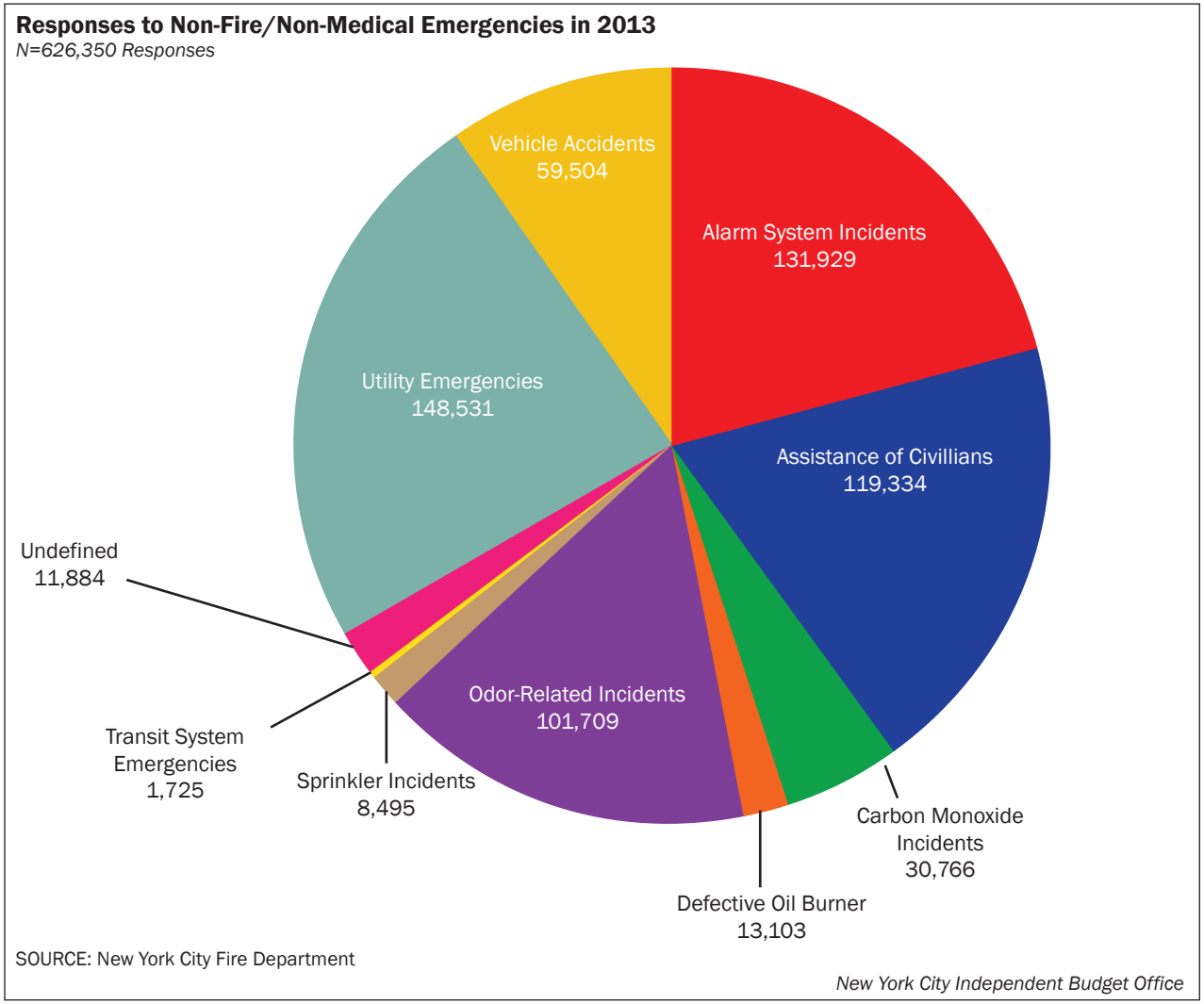
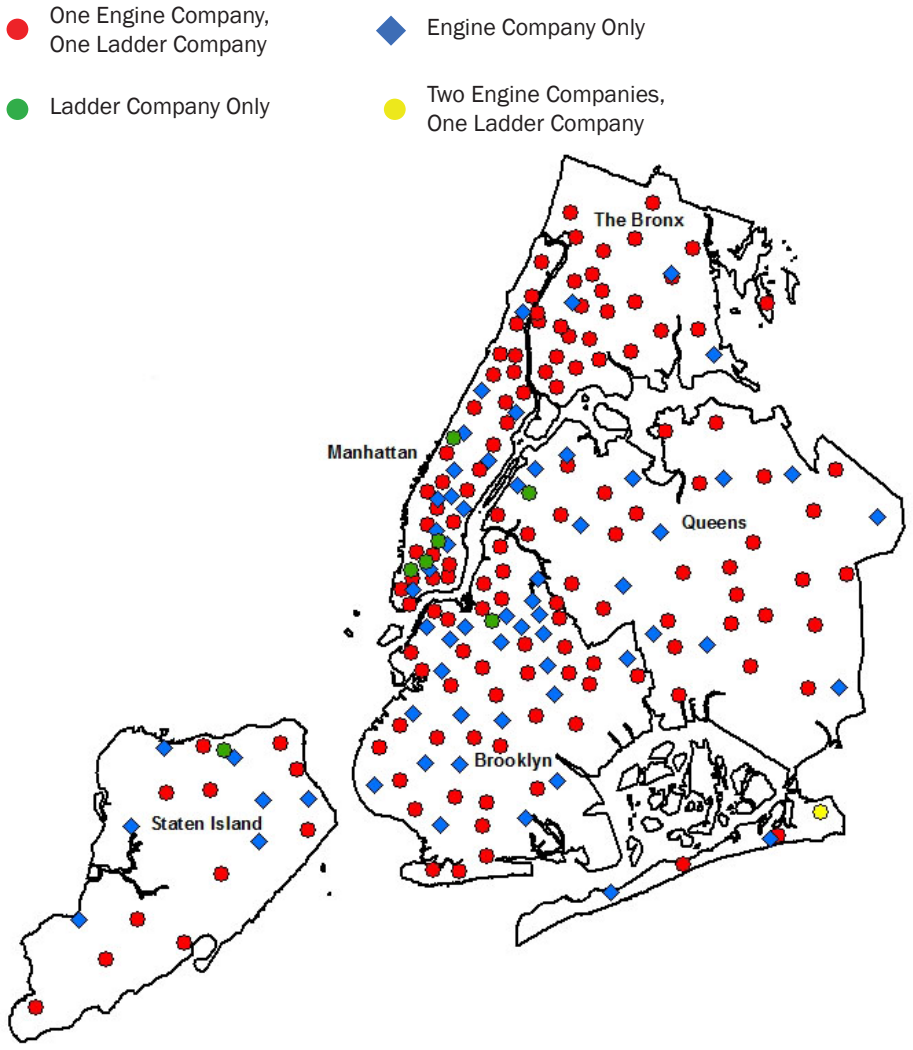
- Fires comprised about 8 percent of distinct incidents responded to in 2013 but accounted for 18 percent of all unit responses. On average about 5 units respond to each fire.
- Medical emergencies where firefighters responded comprised about 45 percent of incidents but only about 20 percent of unit responses. Typically only one fire company (usually an engine company) is dispatched to such incidents.
- About 40 percent of incidents (and 54 percent of unit responses) were associated with emergencies other than fires or medical events. As indicated on the following page, these include utility emergencies, incidents involving suspicious odors, motor vehicle accidents, carbon monoxide incidents, etc. On average about three units respond to each such incident.



- Over 626,000 (54 percent) of all unit responses in 2013 were associated with non-fire/non-medical emergencies.
- Responses to incidents recorded by FDNY as utility emergencies comprised the largest single subset of such emergencies.
- Responses to alarm system incidents numbered just under 132,000. These incidents, which primarily involve unintentional activation or else a defective alarm, differ from intentionally set or malicious false alarms which are not counted among non-fire/non-medical emergencies.
- Civilian assistance drew about 119,000 unit responses. Examples of these emergencies include elevator emergencies, lock-in/lock-out calls, searches, cable/telephone wires down, tree branch removal or cutting.
- There were over 101,000 incidents of reported odors (other than smoke) that prompted dispatch of firefighters.
- FDNY units responded to 59,504 vehicle accidents in 2013.
- Responses associated with reports of carbon monoxide numbered nearly 31,000.

Firehouse Locations, 2013

FDNY's 198 Engine Companies and 143 Ladder Companies Operate Out of 204 Firehouses Across the City



SOURCE: New York City Fire Department

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Variation in Engine and Ladder Company Response Levels

Number of Responses by Engine and Ladder Companies, 2013						
	Engine Companies (N = 198)			Ladder Companies (N= 143)		
Type of Incident	**Minimum**	**Maximum**	**Median**	**Minimum**	**Maximum**	**Median**
Fires	23	973	493	23	871	469
Non-Fire/Non-Medical Emergencies	125	2,248	1,259	118	3,600	1,621
Medical Emergencies	124	2,433	1,081	8	161	37
All Incident Types	**348**	**5,849**	**3,111**	**216**	**4,646**	**2,383**

SOURCE: New York City Fire Department
NOTE: Includes responses to both structural and nonstructural fires.

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- Engine and ladder companies responded to a similar median number of fires in 2013, which is to be expected as engine and ladder companies typically work in tandem when dispatched to fires.
- Ladder companies have a higher median number of responses to non-fire/non-medical emergencies than do engine companies in part because ladder company vehicles are outfitted with more specialized equipment than are engines.
- In contrast, firefighters dispatched to medical emergencies are almost always those assigned to engine companies. The majority of firefighters are trained in both cardiopulmonary resuscitation and defibrillation as well as other basic emergency medical procedures.

Most Active Engine and Ladder Companies 2013, Responses to Fires							
Engine Company	Borough and Neighborhood	Responses	Percentage of Median for All Engine Companies	Ladder Company	Borough and Neighborhood	Responses	Percentage of Median for All Ladder Companies
E048	Bronx (Bedford Park -Fordham North)	973	198%	L147	Brooklyn (Flatbush)	871	186%
E075	Bronx (Fordham South)	965	196%	L157	Brooklyn (Flatbush)	838	179%
E058	Manhattan (East Harlem)	900	183%	L123	Brooklyn (Crown Heights)	800	171%
E050	Bronx (Morrisania-Melrose)	894	182%	L103	Brooklyn (East New York)	789	168%
E283	Brooklyn (Brownsville)	883	179%	L120	Brooklyn (Brownsville)	778	166%
E042	Bronx (Mount Hope)	876	178%	L026	Manhattan (East Harlem)	775	165%
E046	Bronx (Claremont-Bathgate)	866	176%	L111	Brooklyn (Stuyvesant Heights)	763	163%
E062	Bronx (Williamsbridge-Olinville)	849	172%	L051	Bronx (Pelham Parkway)	719	153%
E082	Bronx (Morrisania-Melrose)	846	172%	L174	Brooklyn (Rugby-Remsen Village)	717	153%
E045	Bronx (East Tremont)	843	171%	L102	Brooklyn (Bedford)	699	149%
E059	Manhattan (Central Harlem North-Polo Grounds)	841	171%	L044	Bronx (East Concourse-Concourse Village)	684	146%
E037	Manhattan (Morningside Heights)	840	171%	L033	Bronx (Fordham South)	684	146%
E069	Manhattan (Central Harlem North-Polo Grounds)	834	169%	L032	Bronx (Williamsbridge-Olinville)	682	145%
E092	Bronx (East Concourse-Concourse Village)	827	168%	L113	Brooklyn (Prospect Lefferts Gardens-Wingate)	681	145%
E290	Brooklyn (East New York)	824	167%	L040	Manhattan (Morningside Heights)	673	143%
E071	Bronx (Melrose South-Mott Haven North)	824	167%	L043	Manhattan (East Harlem)	672	143%
E079	Bronx (Bedford Park-Fordham North)	803	163%	L132	Brooklyn (Prospect Heights)	669	143%
E080	Manhattan (Hamilton Heights)	795	161%	L056	Bronx (Bedford Park - Fordham North)	666	142%
E231	Brooklyn (Brownsville)	794	161%	L138	Queens (North Corona)	660	141%
E038	Bronx (Pelham Parkway)	782	159%	L170	Brooklyn (Canarsie)	653	139%

SOURCE: New York City Fire Department
NOTE: Includes responses to both structural and non-structural fires. The median number of engine company responses to fires in 2013 was 493 while the median number of ladder company responses was 469.

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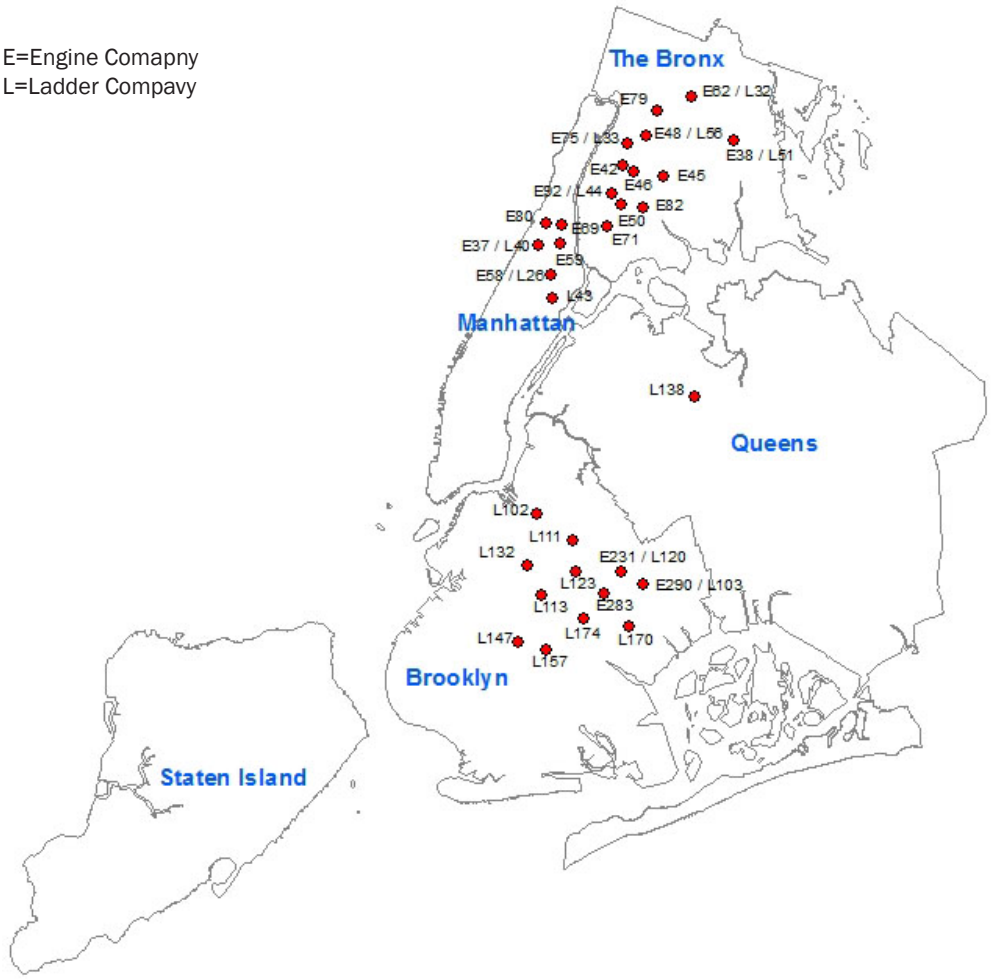
- As shown in the table above (and in the map on the following page) engine and ladder companies operating out of firehouses in central to eastern Brooklyn as well as in central to northern sections of the Bronx and upper Manhattan were the most active in 2013 in terms of responses to fires.
- Of the 20 engine companies with the highest number of responses to fires, over half were located in the Bronx. The most active engine companies in this regard, Engine 48 and Engine 75 in the Bronx, responded to 973 and 965 fires in 2013, respectively, or on average about 2.6 per day.
- Of the 20 ladder companies with the highest number of responses to fires, 11 were located in Brooklyn and five in the Bronx. The most active ladder company in this regard, Ladder 147 in the Flatbush section of Brooklyn, responded to 871 fires in 2013, or on average about 2.4 per day.

Most Active Engine and Ladder Companies

Responses to Fires in 2013

E=Engine Comapny
L=Ladder Compavy



SOURCE: New York City Fire Department

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Most Active Engine and Ladder Companies 2013 Non-Fire/Non-Medical Incidents							
Engine Company	Borough and Neighborhood	Responses	Responses as Percentage of Median for All Engine Companies	Ladder Company	Borough and Neighborhood	Responses	Responses as Percentage of Median for All Ladder Companies
E038	Bronx (Pelham Parkway)	2,248	179%	L043	Manhattan (East Harlem)	3,600	222%
E062	Bronx (Williamsbridge-Olinville)	2,214	176%	L026	Manhattan (East Harlem)	3,244	200%
E059	Manhattan (Central Harlem North-Polo Grounds)	2,151	171%	L004	Manhattan (Midtown)	3,093	191%
E290	Brooklyn (East New York)	2,145	170%	L024	Manhattan (Midtown)	3,050	188%
E058	Manhattan (East Harlem)	2,127	169%	L002	Manhattan (Turtle Bay-East Midtown)	2,987	184%
E008	Manhattan (Turtle Bay-East Midtown)	2,119	168%	L103	Brooklyn (East New York)	2,777	171%
E283	Brooklyn (Brownsville)	2,090	166%	L028	Manhattan (Central Harlem North-Polo Grounds)	2,738	169%
E054	Manhattan (Midtown)	2,078	165%	L123	Brooklyn (Crown Heights)	2,720	168%
E065	Manhattan (Midtown)	2,066	164%	L032	Bronx (Williamsbridge-Olinville)	2,690	166%
E037	Manhattan (Morningside Heights)	2,057	163%	L014	Manhattan (East Harlem)	2,688	166%
E069	Manhattan (Central Harlem North-Polo Grounds)	2,023	161%	L047	Bronx (Westchester-Unionport)	2,671	165%
E053	Manhattan (East Harlem)	2,014	160%	L110	Brooklyn (DUMBO-Vinegar Hill-Downtown Brooklyn-Boerum Hill)	2,655	164%
E039	Manhattan (Upper East Side-Carnegie Hill)	2,013	160%	L051	Bronx (Pelham Parkway)	2,647	163%
E001	Manhattan (Midtown)	2,008	160%	L040	Manhattan (Morningside Heights)	2,633	162%
E022	Manhattan (Upper East Side-Carnegie Hill)	2,004	159%	L016	Manhattan (Upper East Side-Carnegie Hill)	2,567	158%
E023	Manhattan (Midtown)	1,998	159%	L120	Brooklyn (Brownsville)	2,555	158%
E091	Manhattan (East Harlem)	1,989	158%	L013	Manhattan (Upper East Side-Carnegie Hill)	2,534	156%
E044	Manhattan (Lenox Hill-Roosevelt Island)	1,966	156%	L030	Manhattan (Central Harlem North-Polo Grounds)	2,530	156%
E003	Manhattan (Hudson Yards-Chelsea-Flatiron-Union Square)	1,960	156%	L012	Manhattan (Hudson Yards-Chelsea-Flatiron-Union Square)	2,526	156%
E080	Manhattan (Hamilton Heights)	1,932	154%	L022	Manhattan (Upper West Side)	2,520	155%

SOURCE: New York City Fire Department

NOTE: Includes responses to non-fire/non-medical emergencies. The median number of engine company responses in 2013 was 1,259 while the median number of ladder company responses was 1,621.

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Most Active Engine and Ladder Companies
Responses to Non-Fire/Non-Medical Emergencies in 2013

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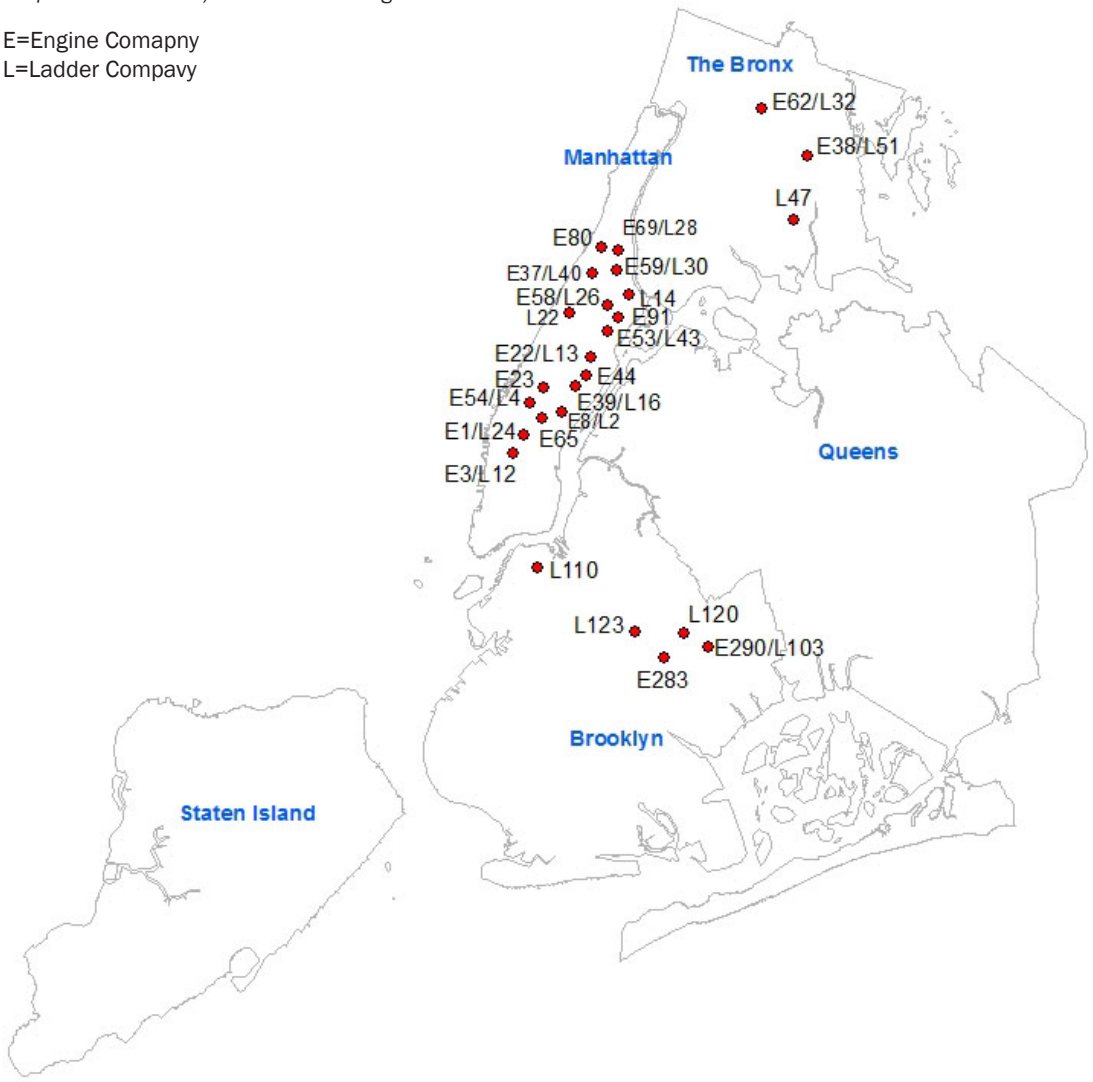

SOURCE: New York City Fire Department

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- As shown in the table on the previous page (and in the map on the left) engine and ladder companies operating out of firehouses in midtown and upper Manhattan were among the most active in 2013 in terms of responses to non-fire/non-medical incidents. Of the 20 most active engine companies in this regard, 16 operated out of Manhattan firehouses, as did 13 of the 20 most active ladder companies. A number of other companies in central Brooklyn and the Bronx were also among the most active in terms of responses to non-fire/non-medical incidents.
- The most active engine company, Engine 38 in the Pelham Parkway section of the Bronx, responded to 2,248 non-fire/non-medical incidents in 2013, an average of over 6 per day. The most active ladder company, Ladder 43 in East Harlem, averaged nearly 10 non-fire/non-medical responses per day.

Least Active Engine and Ladder Companies 2013 All Incident Types

Engine Company	Borough and Neighborhood	Responses	Percentage of Median for All Engine Companies	Ladder Company	Borough and Neighborhood	Responses	Percentage of Median for All Ladder Companies
E070	Bronx (City Island)	348	11%	L053	Bronx (City Island)	216	9%
E329	Queens (Breezy Point-Belle Harbor-Rockaway Park-Broad Channel)	617	20%	L076	Staten Island (Charleston-Richmond Valley-Tottenville)	625	26%
E151	Staten Island (Charleston-Richmond Valley-Tottenville)	961	31%	L106	Brooklyn (Greenpoint)	907	38%
E168	Staten Island (Rossville-Woodrow)	1,062	34%	L130	Queens (College Point)	954	40%
E206	Brooklyn (East Williamsburg)	1,119	36%	L082	Staten Island (Great Kills)	991	42%
E268	Queens (Breezy Point-Belle Harbor-Rockaway Park-Broad Channel)	1,255	40%	L080	Staten Island (Port Richmond)	1,106	46%
E297	Queens (College Point)	1,354	44%	L135	Queens (Glendale)	1,229	52%
E158	Staten Island (Mariner's Harbor-Arlington-Port Ivory-Graniteville)	1,384	44%	L008	Manhattan (Soho-Tribeca-Little Italy)	1,268	53%
E202	Brooklyn (Carroll Gardens-Columbia Street-Red Hook)	1,436	46%	L079	Staten Island (West New Brighton-New Brighton-St. George)	1,268	53%
E164	Staten Island (Rossville-Woodrow)	1,505	48%	L084	Staten Island (Rossville-Woodrow)	1,271	53%
E152	Staten Island (Stapleton-Rosebank)	1,511	49%	L137	Queens (Breezy Point-Belle Harbor-Rockaway Park-Broad Channel)	1,303	55%
E154	Staten Island (New Springville-Bloomfield-Travis)	1,534	49%	L140	Queens (Ridgewood)	1,313	55%
E161	Staten Island (Grasmere-Arrochar-Ft. Wadsworth)	1,543	50%	L010	Manhattan (Battery Park City-Lower Manhattan)	1,345	56%
E205	Brooklyn (Brooklyn Heights-Cobble Hill)	1,607	52%	L015	Manhattan (Battery Park City-Lower Manhattan)	1,358	57%
E328	Queens (Far Rockaway-Bayswater)	1,607	52%	L078	Staten Island (West New Brighton-New Brighton-St. George)	1,359	57%
E072	Bronx (Schuylerville-Throgs Neck-Edgewater Park)	1,623	52%	L052	Bronx (North Riverdale-Fieldston-Riverdale)	1,414	59%
E313	Queens (Douglas Manor-Douglaston-Little Neck)	1,636	53%	L087	Staten Island (Annadale-Huguenot-Prince's Bay-Eltingville)	1,438	60%
E157	Staten Island (Port Richmond)	1,679	54%	L173	Queens (Lindenwood-Howard Beach)	1,443	61%
E266	Queens (Hammels-Arverne-Edgemere)	1,685	54%	L083	Staten Island (Westerleigh)	1,466	62%
E286	Queens (Glendale)	1,687	54%	L128	Queens (Hunters Point-Sunnyside-West Maspeth)	1,469	62%

SOURCE: New York City Fire Department

NOTE: Includes responses to all incident types (fires, non-fire/non-medical emergencies, medical emergencies, false alarms, and miscellaneous incidents). The median number of engine company responses in 2013 was 3,111 while the median number of ladder company responses was 2,383.

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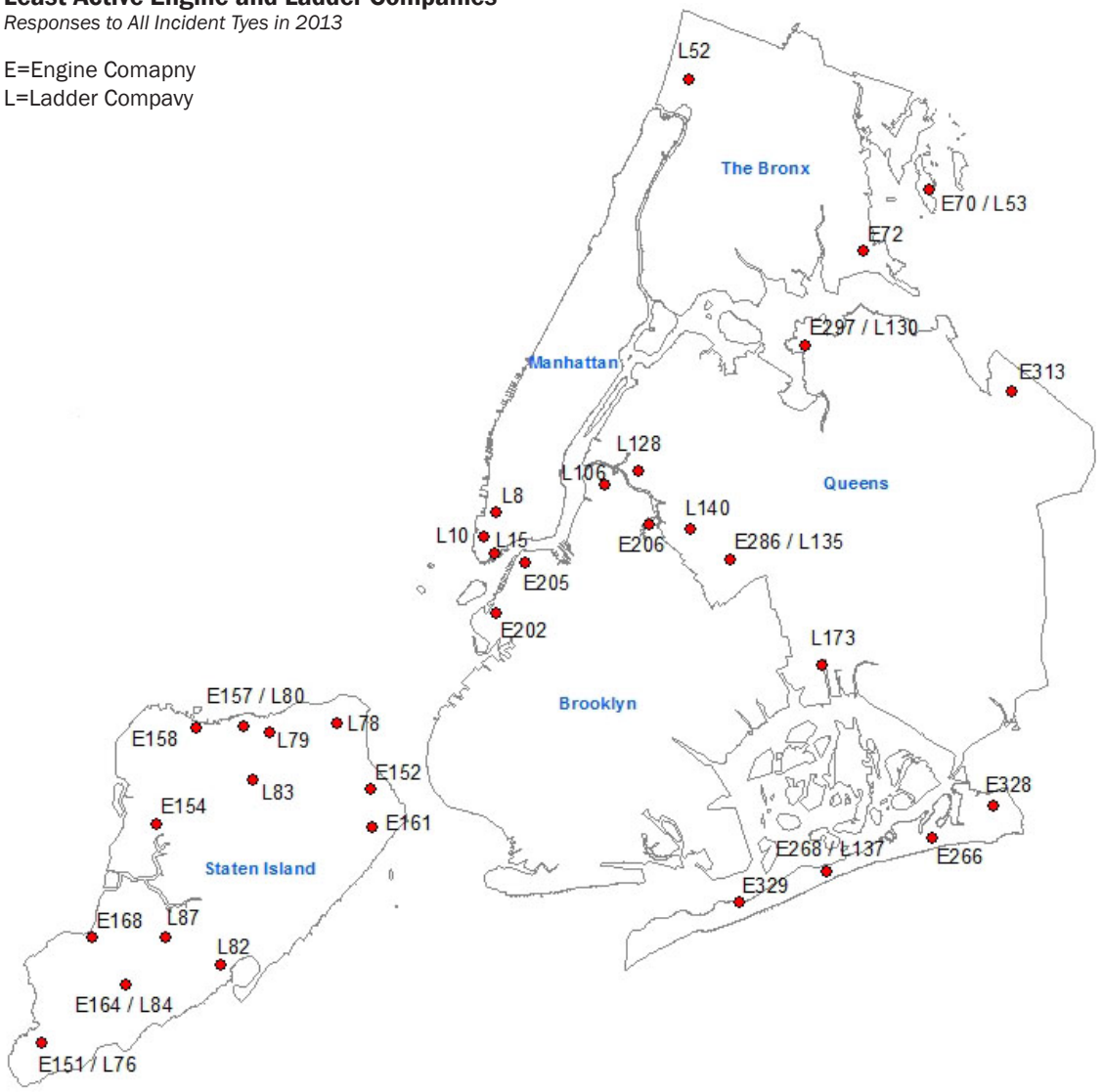
Least Active Engine and Ladder Companies
Responses to All Incident Tyes in 2013

E=Engine Comapny
L=Ladder Compavy



SOURCE: New York City Fire Department

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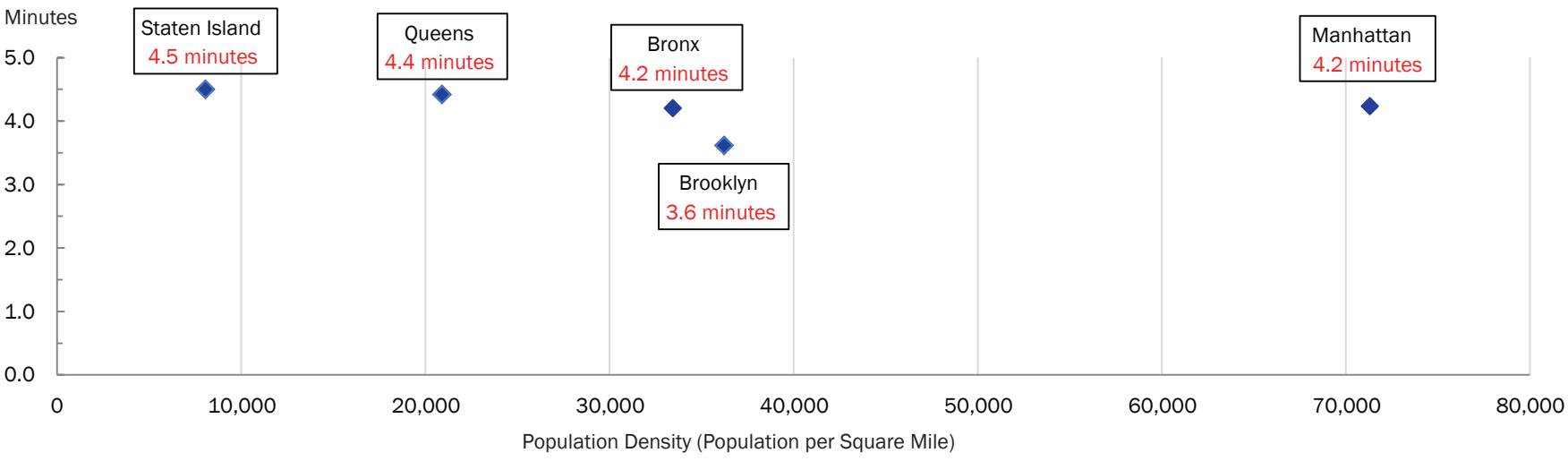
- In some parts of the city that are isolated by water, highways, and other obstructions, the FDNY has placed fire companies so as to minimize response times, even if the number of incidents those units respond to is low.
- As shown in the table on the previous page (and in the map on the left) Staten Island is home to many of the least active engine and ladder companies in terms of responses to all types of incidents.
- Many other relatively less active companies were based in firehouses in lower Manhattan, along the Rockaway Peninsula in Queens, as well as in other sections of northeastern Queens, and City Island.

Response Time: Structural Fires

Fire Department Average Response Time Versus Population Density
Structural Fires, 2013



SOURCES: New York City Fire Department, Department of City Planning

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The fire department reports the average response time to structural fires for each borough. (Prior to 2013 it reported both target and actual response times.) The swiftness of FDNY responses to emergencies is influenced by a number of factors including the number and locations of firehouses. Firehouse locations are determined in part by population density. Areas with greater density generally have additional firehouses and units to ensure reasonable response times.

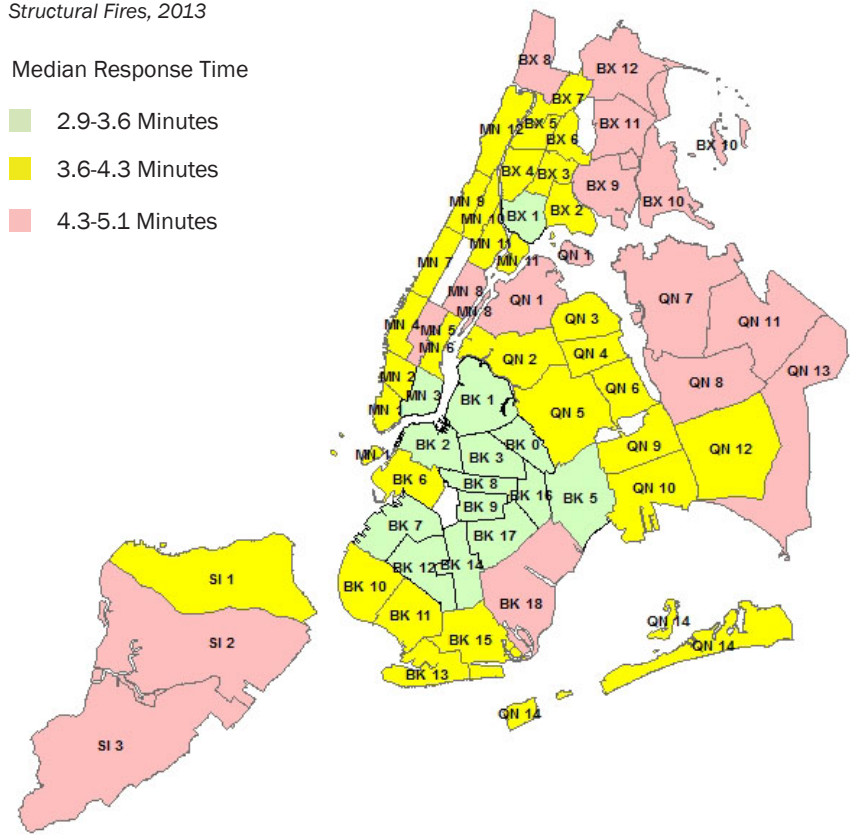
Staten Island and Queens, the boroughs with the lowest population densities, had the slowest average response times but the difference was not large when compared with the Bronx and Manhattan, despite differences in density.

But in a city as old as New York, historical decisions on siting firehouses also plays a role in determining response times. Brooklyn with similar density to the Bronx, had the most rapid average response to structural fires in 2013 among the boroughs. This is due in part to a legacy of firehouse locations, some of which predate the incorporation of Brooklyn into New York City.

Note: The FDNY response time statistics discussed here refer only to the length of time from when a call is passed to an FDNY dispatcher (from a police department 911 call taker) until arrival of the first FDNY unit on the scene. Since 2014, FDNY also reports on the time during which police department 911 call takers are gathering information from callers prior to handing off of the call to FDNY dispatchers.

Fire Department Response Time by Community District

Structural Fires, 2013



SOURCE: New York City Fire Department

NOTE: This map shows the median response time for the first company arriving to structural fires within each community district. The first arriving company may or may not have been deployed from a firehouse within the disttrict in which the fire occured.

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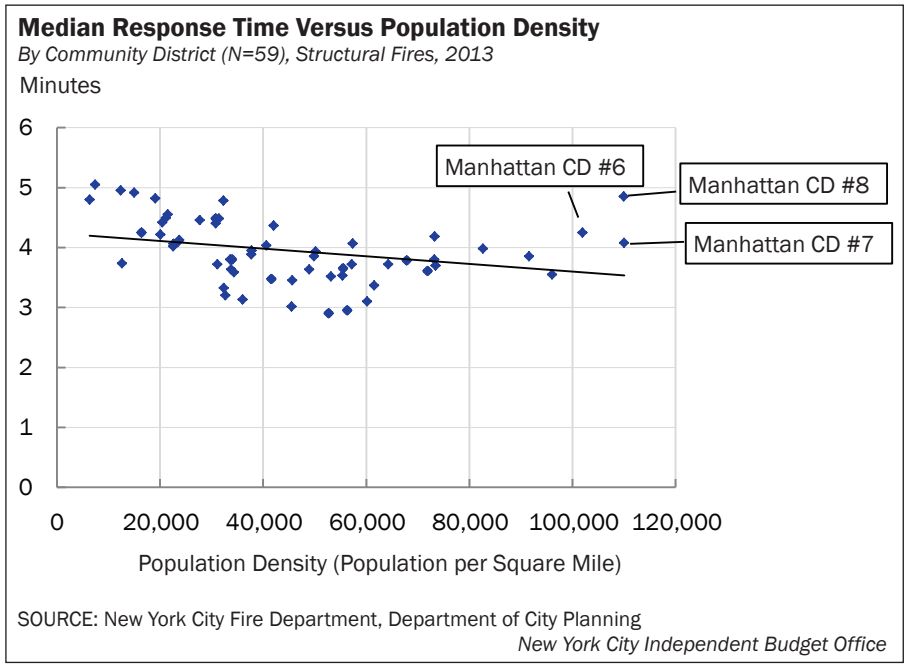
While the FDNY reports response time statistics only at the boroughwide level, we used incident-level data for 2013 to analyze response times in each of the city's 59 community planning districts. The fastest median response times to structural fires occurred almost exclusively within Brooklyn community districts. Of the 10 community districts with the fastest median response times, 9 were in Brooklyn. In contrast, districts in eastern Queens, the northeast Bronx, and the middle and southern sections of Staten Island had some of the slowest median response times.

The table on the following page shows that the shortest median response time (2.9 minutes) was in Brooklyn's Community District 3, which includes the neighborhoods of Bedford-Stuyvesant, Stuyvesant Heights, and Ocean Hill. At the other end of the spectrum, the slowest median response time (5.1 minutes) was in Staten Island's Community District 3, which is the southern-most section of the borough. Of the 10 community districts with the least rapid median response times, 5 were in either Queens or on Staten Island.

Ten Community Districts With Most Rapid FDNY Response Structural Fires, 2013		
Borough – CD #	**Neighborhoods**	**Median Response Time (minutes)**
Brooklyn - CD 3	Bedford-Stuyvesant, Stuyvesant Heights, and Ocean Hill	2.9
Brooklyn - CD 4	Bushwick	3.0
Brooklyn - CD 16	Brownsville and Ocean Hill	3.0
Brooklyn - CD 8	Crown Heights, Prospect Heights, and Weeksville	3.1
Brooklyn - CD 1	Flushing Avenue, Williamsburg, Greenpoint, Northside, and Southside	3.1
Brooklyn - CD 5	East New York, Cypress Hills, Highland Park, New Lots, City Line, Starrett City, and Ridgewood	3.2
Brooklyn - CD 7	Sunset Park and Windsor Terrace	3.3
Brooklyn - CD 9	Crown Heights, Prospect Lefferts Gardens, and Wingate	3.4
Brooklyn - CD 17	East Flatbush, Remsen Village, Farragut, Rugby, Erasmus, and Ditmas Village	3.5
Bronx - CD 1	Mott Haven, Port Morris, and Melrose	3.5
SOURCES: New York City Fire Department, Mayor's Community Affairs Unit		*New York City Independent Budget Office*

Ten Community Districts With Least Rapid FDNY Response Structural Fires, 2013		
Borough – CD #	**Neighborhoods**	**Median Response Time (minutes)**
Bronx - CD 11	Allerton, Bronx Park East, Eastchester Gardens, Indian Village, Morris Park, Olinville, Parkside, Pelham Gardens, Pelham Parkway, Van Nest, and Westchester Heights	4.5
Queens - CD 7	Flushing, Bay Terrace, College Point, Whitestone, Malba, Beechhurst, Queensboro Hill, and Willets Point	4.5
Brooklyn - CD 18	Canarsie, Bergen Beach, Mill Basin, Flatlands, Marine Park, Georgetown, and Mill Island	4.6
Manhattan - CD 5	Midtown	4.8
Staten Island - CD 2	Arrochar, Bloomfield, Bulls Heads, Chelsea, Dongan Hills, Egbertville, Emerson Hill, Grant City, Grasmere, High Rock, Lighthouse Hill, Midland Beach, New Dorp, New Springville, Oakwood, Ocean Breeze, Old Town, Richmondtown, South Beach, Todt Hill, and Travis	4.8
Bronx - CD 10	Co-op City, City Island, Spencer Estates, Throggs Neck, Country Club, Zerega, Westchester Square, Pelham Bay, Eastchester Bay, Schuylerville, Edgewater, Locust Point, and Silver Beach	4.8
Manhattan - CD 8	Upper East Side, Lenox Hill, Yorkville, and Roosevelt Island	4.9
Queens - CD 13	Queens Village, Glen Oaks, New Hyde Park, Bellerose, Cambria Heights, Laurelton, Rosedale, Floral Park, and Brookville	4.9
Queens - CD 11	Bayside, Douglaston, Little Neck, Auburndale, East Flushing, Oakland Gardens, and Hollis Hills	5.0
Staten Island - CD 3	Annadale, Arden Heights, Bay Terrace, Charleston, Eltingville, Great Kills, Greenridge, Huguenot, Pleasant Plains, Prince's Bay, Richmondtown, Richmond Valley, Rossville, Tottenville, and Woodrow	5.1
SOURCES: New York City Fire Department, Mayor's Community Affairs Unit		*New York City Independent Budget Office*

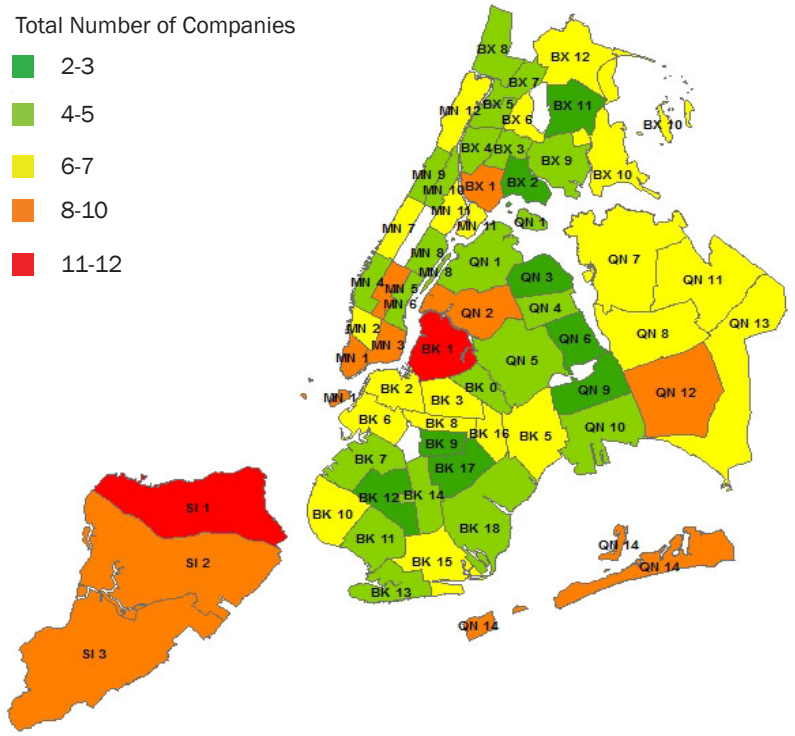


At the community district level there was a weak inverse relationship in 2013 between population density and median response time to structural fires. Response times tend to be lower as density increases. (The trend line shows the results of a simple statistical model relating response time and density; the downward slope indicates the inverse relationship.)

Notably, however, the median response time exceeded 4 minutes in the only 3 community districts (all in Manhattan) with population densities greater than 100,000 residents per square mile. The slower response times in the districts with the greatest density: Community District 6 (Stuyvesant Town, Murray Hill, etc.), Community District 7 (Upper West Side) and Community District 8 (Upper East Side), show that other factors also play a role in determining response times.

Location of FDNY Engine and Ladder Companies by Community District

Wide Variation in Number of Fire Department Engine and Ladder Companies in Each Community District



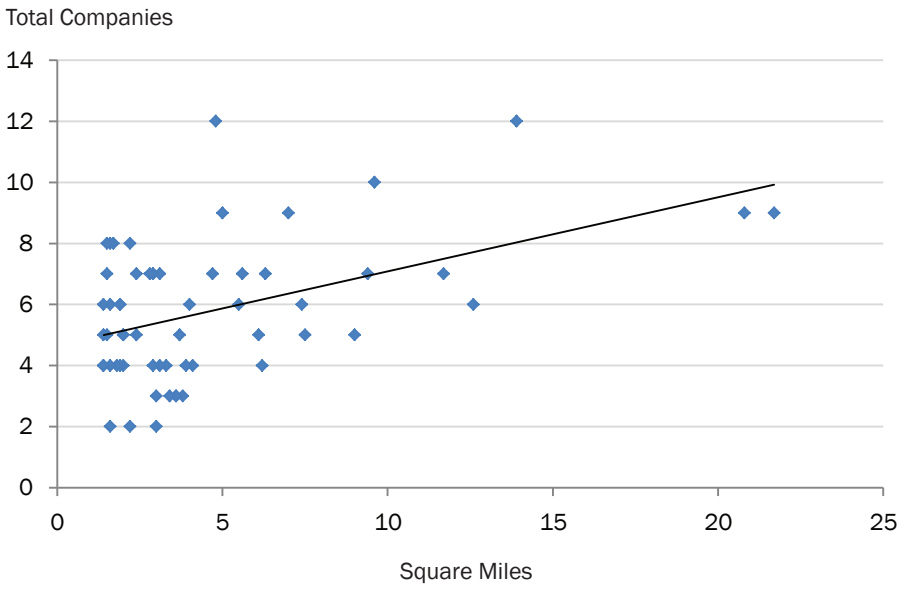
SOURCES: New York City Fire Department; Mayor's Office of Management and Budget, District Resource Statement

New York City Independent Budget Office

The map shown shows the total number of FDNY companies (engine and/or ladder) deployed from firehouses within each community district. Relatively compact districts with greater density such as those in midtown and northern Manhattan have relatively few companies. Districts in northern Brooklyn, despite having low to moderate population densities have relatively high numbers of fire companies.

Community districts on Staten Island and the Rockaways (Queens) are home to an above average number of fire companies in part because of the long distances fire companies from other community districts would need to travel in order to lend support in response to emergencies within those districts.

Fire Department Engine and Ladder Comapnies Versus Community District Area
N=59 Community Districts



SOURCES: New York City Fire Department; Department of City Planning
New York City Independent Budget Office

The geographic size of a community district (or other geographic area) is another factor accounting for the number of engine and ladder companies based in the district. In general, as geographic size increases there is a corresponding increase in the number of fire companies located in the district. This is not surprising given that response times depend in large part on how far engine and ladder companies need to travel before arriving on scene at emergencies.

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