

Does Raleigh Need More Aerial Trucks?

04/28/06 161 W, 1 D - + 57 - 52

Does the Raleigh Fire Department need more aerial trucks? If yes-- or duh, yes-- then why? Recommendations or requirements from ISO, NFPA, etc.? Some type of mathematical coverage computation??

Here's an ISO-style map of the current coverage created by Yours Truly that's almost to scale: [Click to View](#)

And by way of comparison, here are some numbers from around the state (except where I couldn't figure out how to split the quints-as-engines in places like Wilmington and High Point): .

Charlotte

609,185 people
38 engines / 14 aerials
one aerial per 43,513 persons
one aerial per 2.71 engines

Raleigh

325,213 people
27 engines / 7 aerials
one aerial per 46,459 persons
one aerial per 3.86 engines

Greensboro

233,148 people
20 engines / 7 aerials
one aerial per 33,306 persons
one aerial per 2.86 engines

Durham

204,767 people
14 engines / 4 aerials
one aerial per 51,191 people
one aerial per 3.50 engines

Fayetteville

130,850 people
14 engines / 5 aerials
one aerial per 26,170 people
one aerial per 2.80 engines

Cary

110,028 people
7 engines / 3 aerials
One aerial per 36,676 people
One aerial per 2.33 engines

Raleigh needs several new truck companies. The map shows that there are huge coverage gaps for having a truck in a timely manner. When

T22 had the old snorkel, it would take them atleast 10 minutes to get to the Wakefield area covered by E25. When you have several large SFD's and Apartment homes, having a truck company there quickly can make a huge difference in the outcome of the fire, especially life safety issues. I'm sure this applies to the other areas of Raleigh that have truck coverage gaps. I would say atleast three additional truck companies would be needed. As Jon said, reserve apparatus could be in question also. Having a couple of new reserve truck companies would be nice, but then every plder truck co. in the city would come up with a reason for needing a reserve. Maybe with the new Chief some of these issues can be addressed.

Rides A Truck - 04/28/06 - 03:03

I know I personally don't like them... but if cost is a huge issue... what about city service trucks? they could also double as Heavy Rescues... If you counted them you can add 2 "Truck" companies to Cary, granted they don't have pumps, hose or an elevated device, but they have ground ladders, ventilation equipment, TIC's, and other "trucky" stuff like the wet/dry vacs. Cary's new Truck 7 will be similar to the current design, but rumor has it it will also hold some extrication equipment (but not full blown?) on it as I-540 will be coming through its district and it's already a haul for Rescue 4 to get out there.

CFP 7021 - 04/28/06 - 03:34

I agree with my counter-part, Raleigh does need atleast 2 more truck companies today!! Raleigh is a spread out city, and growing every year. I think the reason for the shortfall now is because there never has ever really been a focus on truck ops in the city, until now. I'm not a big fan of the dual purpose companies, as far as how Engine 23 used to be a 75' stick. Maybe purchase a few smaller ladders like the 75' stick, but let them be truck companies, not a combo. If you look at the map of truck coverage, half of 20's district is lost to the county. To me, having the trucks on the edge of the city isn't that beneficial. Since Jon C. touched on rescue companies, I'll give my 2 cents worth on those. It's time for a change with these!! Now that all of the trucks have a full compliment of extrication equipment, get 2 TRUE HEAVY RESCUES with a full crew (Capt, Driver and atleast 2 firefighters) and let them operate as a true rescue company. Split the city in half, and let the trucks run extrications like they are currently doing. Hopefully with new administration in place, this might happen. Get rid of the ambulances and step up to the big time. We're a big city, it's time we start acting like one.

Rides A Truck Too - 04/29/06 - 05:13

It's always been preached to me that the "engine to truck ratio" should be 1 ladder to every 3 engines. Agree?

Guest - 04/29/06 - 05:15

The 3:1 ratio sounds about right, but, when your Engine companies are already to far spread out, keeping that 3:1 ratio increases the amount of area the Truck has to cover, which is why there are now large gaps of coverage.

Rides A Truck - 04/29/06 - 22:26

Agreed, the thing that hurts us is that Raleigh is so spread out. To operate as a true truck company would, now looking at everything, I'd have to say that 4 more would be great.

Rides A Truck Too - 04/30/06 - 17:42

Find a major city in the South that is not "spread out". The use of ratios to determine how many of what type of apparatus sounds cool, but has no basis whatsoever. What you need to do is determine what is going to be your response time standard for such equipment and then work backwards to see how many a jurisdiction would need to be able to provide at least a basic level of coverage. If you want to station a ladder so that nowhere in your jurisdiction is more than 8 minutes from a ladder station, that makes good sense. Same philosophy is true for other special units (rescues, etc.) Using this will compensate for the "spread out" situation appropriately. The key to such is getting the elected officials to commit to supporting the pursuit of such standards within their jurisdiction. By using such a methodology, you can better plan for future apparatus expansions based on projected growth.

[jaolson] ([Email](#)) - 05/04/06 - 06:50

So doing some rough analysis, Raleigh has an aerial for every 16.4 square miles. In comparison, Charlotte has 1 for every 20.04 sq miles, Greensboro at 1 per 33.14 sq miles, Fayetteville at 1 per 11.76 square miles, and Wake County (combined all depts) have 1 per 46.22 square miles. While there are some details with street networks, etc. that would either enhance or detract from the response times, you can see just how "spread out" aerials are in the reporting jurisdictions.

[jaolson] ([Email](#)) - 05/04/06 - 07:06

Using numbers from <http://demog.state.nc.us/demog/gran0004...>, and including both dedicated truck companies and quints-as-engines, here are some more numbers:

City, Size, Aerials, S/A

CHARLOTTE, 268.931, 14, 19.21

RALEIGH, 128.484, 7, 18.35

GREENSBORO, 114.625, 7, 16.38

DURHAM, 101.634, 5, 20.33

FAYETTEVILLE, 63.257, 5, 12.65

CARY, 48.521, 3, 16.17

WILMINGTON, 49.117, 4, 12.28

HIGH POINT, 52.278, 4, 13.07

ASHEVILLE, 42.945, 5, 8.59

GASTONIA, 48.493, 3, 16.16

GREENVILLE, 29.426, 5, 5.89

Legeros - 05/04/06 - 10:02

Jaolson..

To have a speciality company (rescue, Haz-Mat, etc.) stationed somewhere where no part of their district is more than 8 minutes away from the station seems a bit impractical. Honestly, that would mean that 'most' stations would need to house a speciality company. Since it seems to be becoming a norm to compare Raleigh's figures to Charlotte, look at what Charlotte does and what has been working for them. They have 2 TRUE Rescue Companies (Capt., Driver, 3 Firefighters) and 3 Haz-Mat Units (2 of which are out of the same station (13)). The Rescue Co. split the city and one takes the West side, North, and Downtown and the other takes the East side, and South side. Ok, with that in mind, do you think those units can get to all parts of their 'district' in eight minutes? No. But, the system works and generally the Rescue is cancelled. Not saying that any one system is perfect, but I do agree that Raleigh should do away with all the "Rescue Co." and consider placing 2 "Heavy Rescue Co." in service and have them split the city.

As for the ladders, some companies certainly need to be moved to different stations in order to maximize their coverage and minimize the amount of overlapping districts. It does not seem to wise to keep a company in a location where about half of it's district is in the county and the other half is overlapped by another company.

Guest - 05/04/06 - 16:40

There are, I believe, a couple infrastructure issues that restrict the placement of truck companies at present. Station 12 isn't large enough to adequately accomodate a second four-person company, I've been told, thus the housing of the "southeast truck" at Station 26. The moving of the "southwest truck" from Station 8 to Station 20 was likely necessitated when the 1986 Seagrave ladder (Truck 8/20) was replaced by the 1999 ALF tower. The truck is either too big, or too heavy, or both for the station. As for the "northwest truck" at Station 23, there aren't any easy answers on that one. That side of the city is just way out there.

Legeros - 05/04/06 - 16:57

Before Truck 8 moved to 20, a thought was brought up to place the truck company in Western Wake's firehouse on District Drive. To me, that would have been a better move. It just seems like Truck 20 is in a "hole". What do you think?

guest - 05/04/06 - 22:23

too much stuff would have to be done to accomidate it, as in remodeling the station to add living quarters and other room, as that station is cramped as it is. And some grading work would have to be done the front ramp, as it is there is one truck that can't be in the left bay due to the driveway angle. Location wise it would be great though, could 14 hold a ladder? maybe with the rescue going to 8? or is 14 too small to fit a ladder? It would also keep a resuce accessible to the beltline and I-40

CFP 7021 - 05/04/06 - 22:43

"To have a speciality company (rescue, Haz-Mat, etc.) stationed somewhere where no part of their district is more than 8 minutes away from the station seems a bit impractical." Remember that 8 minutes is only a number out of the air with no statistical basis that I am aware of. However the deployment of resources, from building fire stations to establishing posting points for EMS units, is best done using a response time standard to drive where they should be based. The response standard, while some may be dictated by nebulous entities (like ISO), they must be adopted locally as benchmarks to work towards. Entities would best to review their historical response data to see where certain "speciality" events take place to better drive how these units are deployed. "It would also keep a rescue accessible to the beltline and I-40" – this concept is already in place to some extent. CAD data can be used to identify locations where certain types of incidents are prone to occur. If you can identify 5 locations in your jurisdiction where multiple hazmat, rescue, etc. events have historically occurred, would it not make sense to deploy your 5 specialty resources near those neighborhoods?

For too many years the Fire Service has used the "5 Mile District" to base deployment decisions for first due engines. Unfortunately, this is best applied in rural America where 5 miles equates pretty much to 5 minutes (or so). We all know that in the more densely populated areas, 5 miles may equate to 15 minutes or more. In the day of Computer Aided Dispatch systems that generate tangible data, response time needs to become the standard and not how far you live from the firehouse.

[jaolson] ([Email](#)) - 05/05/06 - 17:54

The only problem with that is our current CAD is still having problems in certain areas of the city with "closest station dispatch". The other day, Engines 12, 26, and 10 dispatched to a house fire on Sierra Dr., off Lake Wheeler while 20 and 2 were in the house. I'm with you most of the way Jon, but we still have to work out some bugs with the CAD.

jsilver ([Email](#)) - 05/05/06 - 22:05

Name: (real name
preferred)
E-mail: (optional)
Web Site: (optional)

Remember personal info?

Yes

No

Comment:

/ [Textile](#)

Comment moderation is enabled on this site. This means that your comment will not be visible on this site until it has been approved by an editor.

To prevent spam we require you to answer this silly question

What are the FIRST TWO LETTERS of the word 'fire'?

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Notify: Yes, send me email when someone replies.

Hide email: Yes, hide my email address.

Small print: All html tags except and <i> will be removed from your comment. You can make links by just typing the url or mail-address.