Fire Station Location Study

*Presentation to the County Board*
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*Jim Schwartz, Chief*
Fire Station Location Study

- Fire Stations are located as part of a system that strives to deliver a uniform level of service for all addresses with adjustments for risk and service demand.

- Original study undertaken in 1999 by Gordon Routley to determine optimum location of fire stations

- That study was reviewed by Tri-Data as part of a larger Fire Department Management study in 2000

- Updated study conducted in 2012 due to changes in, population, service demand and planning and development
Fire and EMS Response Activity

- Fiscal Year 2013
  - 27,295 Incidents
  - 55,616 Unit Responses
  - ~ 60% EMS
  - ~ 30% Fire or Hazmat
  - ~ 10% Public Service
Response Time

• Goal of 4 minutes
  - National Standard – NFPA 1710 (National Fire Protection Association)
  - 4 minute for Fire and Basic Life Support EMS (90% of incidents)
  - 8 minutes for Advanced Life Support (Paramedic)
  - Measured from time of dispatch to time of arrival

• Response activity is driven almost entirely by population

• Vertical Response Time
  - The time it takes responders to reach actual location of an incident after arriving at the street address
TriData Study 2012

Census 2010 Population Density with Identified Growth & Development Areas
Response Times are Critical

Directly Related to Life Safety

- In cases of cardiac arrest the initiation of CPR within 4-6 minutes is essential or irreversible brain damage occurs
- 4 out of 5 cardiac deaths occur at home
Response Times are Critical

Directly related to reductions in property damage
TriData Study 2012

GIS Mapping of EMS Incident Density, 2009-2011
TriData Study 2012

GIS Mapping of Fire Incident Density, 2009-2011

[Map of Arlington, VA showing fire incident density]

**Arlington, VA**
- City Limits
- Planning Areas
- Arlington Fire Station
- Mutual Aid Fire Station

**Fire Incidents, 2009-2011**
- Less than 50 fires per sq mi
- 50 - 100 fires per sq mi
- 101 - 150 fires per sq mi
- 151 - 200 fires per sq mi
- Greater than 200 fires per sq mi
Fire Station Location Study 1999/2000

• Results
  ➢ Overall, coverage is “generally good”
  ➢ Four minute response time goal met 80% of the time
  ➢ Significant overlap of station coverage in central Arlington
  ➢ Response parameters not achieved in north Arlington
Recommendations Cont’d

• Move Station 4 (Clarendon) to West end of Columbia Pike
  ➢ Addresses response time gap in Glencarlyn neighborhood
  ➢ That area is primarily served by Fairfax but demand in Fairfax can present challenges
  ➢ Rosslyn-Ballston Corridor could be served by Station 2 (Ballston) and by moving Station 10 (Rosslyn) to Courthouse, also recommended
Fire Station Location Study 1999/2000

Recommendations

• Move Station 7 (Fairlington) closer to Crystal City

  ➢ Currently in low demand area

  ➢ Current area covered by three other fire stations within 4 minute goal

  ➢ Greater need in Pentagon City/Crystal City where activity is highest and second due response time is longest
Fire Station Location Study 1999/2000

Recommendations

• Move either station 3 or 8 further north

  ➢ Response times in Gulf Branch, Bellevue Forest, Rivercrest, Old Glebe, and Chain Bridge often exceed 8 minutes

  ➢ Given availability of County land, recommended Old Dominion and 26th Street N.

  ➢ New Station 3 opened in 2011
Updated TriData Study 2012

Undertaken to Analyze

• Changes to response, population and development since 1999/2000 study

• Emergency medical and fire services demand

• Fire station locations ability to manage community needs
Updated TriData Study 2012

Recommendations Cont’d

• Keep Station 10 in Rosslyn

➢ Necessary to achieve response goals that include significant vertical response time

• Keep Station 4 in Clarendon
Updated TriData Study 2012

Recommendations Cont’d

Build a new station at Columbia Pike and Washington Blvd.

- Second due coverage for most of Pentagon City and Crystal City are well over the 5 minute time.
- The workload for Station 5 is already high and will increase with the Crystal City redevelopment
Updated TriData Study 2012

Recommendations Cont’d

• Build a New Station at Four Mile Run and Columbia Pike

• Move Station 9 (Walter Reed) to 395 and Glebe Road
Updated TriData Study 2012

Recommendations Cont’d

• Move Station 8 (Highview) further North
  ➢ Response times in Gulf Branch, Bellevue Forest, Rivercrest, Old Glebe, and Chain Bridge often exceed 8 minutes
  ➢ Given availability of County land, recommended Old Dominion and 26th Street N.
Response Time Gaps

Current Fire Station Locations

Response times in Glencarlyn often exceed 6 minutes.

Response times in Gulf Branch, Bellevue Forest, Rivercrest, Old Glebe, and Chain Bridge often exceed 8 minutes.
TriData Study 2012

Four and Six Minute Travel Time Analysis with Mutual Aid Availability
Fire Station 8 Response Area

Station 8 at the Intersection of Old Dominion and 26th St. N
Relocation of Office of Emergency Management & Emergency Operations Center

- 13 OEM staff work normal county business hours, exclusive of emergencies

- 9/11 After Action Report Recommendation EM-001… “EOC should be of sufficient size and design to concurrently support the various activities of emergency management”

- EOC activated an average 2-3 times annually; generally for less than 24 hours; used for training & exercises 1-2 times per week during regular hours

- Court Square West deconstruction in FY 2017 requires relocation of OEM & EOC
Proposed Relocation of FS #8 from Lee Hwy/Culpepper to Old Dominion/26th St N

- Increases 4 min. response time area for N. Arlington (Lee Hwy service area remains under 4 min.)

- Effective use of County-owned property
Proposed CIP includes community input on site development

- January – December, 2015 for community process
- Proposed salt tank replacement, DES snow crew support
- Relocation of Fire Station # 8
- Potential OEM relocation from Court House area