

**Second Biannual Certification of EMS Response Time Performance
Mayor's Task Force on Emergency Medical Services, Recommendation 4 (a)**

On September 27, 2007, the Task Force on Emergency Medical Services issued its *Report and Recommendations*. Among these recommendations was:

4 (a): *The Mayor shall establish a goal of providing ALS response times according to the National Fire Protection Association Standard 1710, 100% of the time, as well as a goal of providing transport responses within 13 minutes, 100% of the time. The Department shall conduct quality improvement review of those calls where the goal is not achieved. No later than March 20, 2008, and every six months thereafter, the Mayor shall certify that the District of Columbia has met this goal, or announce what steps are being taken to achieve this goal.*

National Fire Protection Association (NFPA) 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, 2004 edition, states:

4.1.2.1 *The fire department shall establish the following time objectives: Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department.*

4.1.2.2 *The fire department shall establish a performance objective of not less than 90 percent for the achievement of each response time¹ objective specified in 4.1.2.1.*

For Fiscal Year 2008 (October 2007—September 2008)²:

- The percent of critical medical calls with first Advanced Life Support (ALS) (any unit) arriving within eight minutes (480 seconds) or less, measured according to the NFPA 1710 standard (en route-to-scene), was 94.3%.
- The percent of critical medical calls with first transport unit arrival within 13 minutes (780 seconds) or less, measured dispatch-to-scene, was 95.8%.

For FY 2008 (October 2007 through September 2008), the Department delivered first Advanced Life Support (ALS) to 56,359 out of 63,053 critical medical within 8:00 minutes or less, dispatch-to-scene, achieving performance of 89.4% against the 90% performance target, with 6,694 calls out of the target zone.

¹ NFPA 1710 defines response time as: “*The travel time that begins when units are en route to the emergency incident and ends when units arrive at the scene*” (in DC Fire & EMS, this interval is referred to as “en route-to-scene”). This is a less stringent definition than that used by the DC Fire & EMS, which calculates its response time statistics from dispatch-to-scene when measuring the performance of Fire & EMS units, and from call-to-scene when measuring system response time from the patient’s perspective.

² Note: this second biannual certification of response time performance covers a seven month time period in order to encompass the year-end data from Fiscal Year 2008 (October 2007—September 2008).

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FY 2008 monthly statistics, calls in and out of desired response time target range:

FY 2008 MONTH BY MONTH	oct '07	oct '07	oct '07	nov '07	nov '07	nov '07	dec '07	dec '07	dec '07
Critical Medical Calls: Dispatch-to-Scene	IN	OUT	ALL	IN	OUT	ALL	IN	OUT	ALL
FIRST ALS ≤ 8:00 MIN	4543	442	4985	4162	580	4742	4385	422	4807
FIRST TRANSPORT ≤ 12:00 MIN	4797	209	5006	4445	309	4754	4573	199	4772
FIRST EMT ≤ 6:30 MIN	4788	376	5164	4440	463	4903	4563	358	4921

FY 2008 MONTH BY MONTH	jan '08	jan '08	jan '08	feb '08	feb '08	feb '08	mar '08	mar '08	mar '08
Critical Medical Calls: Dispatch-to-Scene	IN	OUT	ALL	IN	OUT	ALL	IN	OUT	ALL
FIRST ALS ≤ 8:00 MIN	4521	522	5043	4497	590	5087	4497	568	5065
FIRST TRANSPORT ≤ 12:00 MIN	4797	239	5036	4801	260	5061	4777	297	5074
FIRST EMT ≤ 6:30 MIN	4707	463	5170	4730	479	5209	4721	503	5224

FY 2008 MONTH BY MONTH	apr '08	apr '08	apr '08	may '08	may '08	may '08	jun '08	jun '08	jun '08
Critical Medical Calls: Dispatch-to-Scene	IN	OUT	ALL	IN	OUT	ALL	IN	OUT	ALL
FIRST ALS ≤ 8:00 MIN	4884	537	5421	5144	594	5738	4922	728	5650
FIRST TRANSPORT ≤ 12:00 MIN	5134	289	5423	5345	369	5714	5205	412	5617
FIRST EMT ≤ 6:30 MIN	5173	409	5582	5485	456	5941	5267	633	5900

FY 2008 MONTH BY MONTH	jul '08	jul '08	jul '08	aug '08	aug '08	aug '08	sep '08	sep '08	sep '08
Critical Medical Calls: Dispatch-to-Scene	IN	OUT	ALL	IN	OUT	ALL	IN	OUT	ALL
FIRST ALS ≤ 8:00 MIN	5113	648	5761	4590	503	5093	4790	487	5277
FIRST TRANSPORT ≤ 12:00 MIN	5441	334	5775	4929	211	5140	5056	289	5345
FIRST EMT ≤ 6:30 MIN	5525	485	6010	4889	417	5306	5044	476	5520

For Fiscal Year 2008, DC Fire & EMS internal performance target for transport unit arrival was changed from 13 minutes or less, 90% of the time, to the more rigorous 12 minutes or less, 90% of the time, since the agency was significantly exceeding the 12 minute target goal during Fiscal Year 2007. For Fiscal Year 2008 year-end, DC Fire & EMS exceeded this target by delivering a transport unit to critical medical calls within 12 minutes or less, measured dispatch-to-scene, 94.6% of the time. The agency is within one half of one percent of meeting its performance goal for ALS arrival within eight minutes or less, measured dispatch-to-scene, doing so 89.4% of the time, and meeting or exceeding the performance target during five out of the past twelve months.

The D.C. Fire & EMS Department has set a national benchmark for transparent and comprehensive reporting of EMS response time. Any interested stakeholder can visit the Department's website and find statistics showing detailed response time statistics for arrival of first EMT, first paramedic, and first transport unit. These statistics are reported using two primary methods: measured call-to-scene, and measured dispatch-to-scene. Call-to-scene response time reporting includes the dispatch interval and most closely mirrors response time from the patient's perspective. Dispatch-to-scene measures the component of response time that D.C. Fire & EMS is accountable for, and allows stakeholders to analyze the Department's performance independent of call-processing time at the Office of Unified Communications.

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Discussion of the NFPA Standard and 100% Performance Targets:

Recommendation 4 a) of the Task Force Report cites the NFPA 1710³ definition of response time. NFPA 1710 defines response time as: *“The travel time that begins when units are en route to the emergency incident and ends when units arrive at the scene.”* In DC Fire & EMS terminology, this interval is referred to as “en route-to-scene”. This is a less stringent definition than that used by the DC Fire & EMS, which calculates its response time statistics from dispatch-to-scene when measuring the performance of Fire & EMS units, and from call-to-scene when measuring system response time from the patient’s perspective. Because the NFPA method of calculating response time is less useful and less stringent than that normally used by D.C. Fire & EMS, the Department is currently only reporting the NFPA statistic on an ad-hoc and/or bi-annual basis.

The reference to a 100% performance goal in recommendation 4 a) of the task Force Report has caused some confusion. It was unclear whether this meant that the performance target should be set at 100%. The Department is not aware of any EMS agency in the world that currently utilizes a 100% performance target. Industry best practices, as well as the NFPA standard itself, mandate the use of fractile performance measurement at a 90% target. A review of national standards indicates that the District’s current use of fractile performance calculation with a 90% performance target is the national standard and best practice in response time performance measurement and reporting. A basic principle of public sector performance management is that performance targets must be Specific, Measureable, Attainable, Relevant and Timely. 100% performance is not physically achievable by any agency at any level of funding, and thus does not satisfy the rationality or validity requirements for operational process performance targets. This in no way diminishes the Department’s desire to achieve the highest possible level of performance on all of its operational process measures, always striving for perfection.

In discussion with Task Force stakeholders, an alternative interpretation of the 100% performance goal has been offered, which is that the intent of the recommendation was to direct the Department to examine calls where performance lies outside of the desired range (>13:00 mins) and utilize this information to improve performance. This interpretation is consistent with the Department’s current practice, whereby response time outliers are examined utilizing a variety of tools with a goal towards continual performance improvement.

Strategies for Performance Improvement:

The D.C. Fire & EMS Department continues to examine response time performance outliers utilizing Geographic Information Systems (GIS) and utilizes these findings to improve performance. The Department has identified several specific neighborhoods where it is not achieving the desired level of response time reliability. Root cause analysis has determined that the underlying factor influencing longer response times in these neighborhoods is prolonged travel time due to fire/EMS stations that are not optimally located. These findings have led to

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Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where this service is provided by the fire department.

4.1.2.2 *The fire department shall establish a performance objective of not less than 90 percent for the achievement of each response time³ objective specified in 4.1.2.1.*

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Capital Budget proposals to relocate Engine Company 22, 5760 Georgia Ave., NW, further north, to the campus of Walter Reed Army Medical Center; and to relocate Engine Company 26, 1340 Rhode Island Avenue, NE, further east along the Rhode Island Ave. corridor.

The Department will continue to strive to improve all aspects of EMS response time performance. The Department's ALS response time performance directly relates to the number of Paramedic Engine Companies (PECs) it maintains in service. The Department has mounted a major recruitment campaign for paramedic/firefighters with a goal of attracting a minimum of 100 new ALS providers to the agency over the next 12 months. As the number of ALS providers grows, additional engine companies will be upgraded to PEC status, and the Department will be able to get closer to achieving the 100% goal.

With respect to the Task Force recommendation that the Department conduct quality improvement review of those calls where the goal is not achieved, DC Fire & EMS currently tracks response time outliers through several means, including retrospective exception reporting, and monitoring by the agency officers stationed at the Office of Unified Communications. Calls with response times that fall outside of acceptable parameters are examined in detail through a variety of tools, including the use of satellites to track vehicle travel routes and speed. The findings are then referred to the appropriate office for operational review and/or quality assurance/quality improvement.

DC Fire & EMS is committed to transparent reporting of its EMS response time performance and posts a monthly performance report on its website at <http://fems.dc.gov>. The year-end performance report: for Fiscal Year 2008 (October 2007---February 2008) follows:

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**EMS Response Time Performance: Fiscal Year 2008 Year-end Report
(September 2008)**

Number of EMS Incidents:

	Current Month (September 2008)	Prior month (August 2008)	FY 2008 Year-end Total	FY 2007 Year-end Total	One Year Ago (September 2007)
Total Medical Incidents	11,251	11,137	126,523	121,415	10,713
Critical Medical Dispatches	5,824	5,635	64,099	62,295	5,141
Non-Critical Medical Dispatches	5,427	5,502	62,424	59,120	5,572

Advanced Life Support (ALS) Response Time Performance:

Percent of Critical Medical Dispatches Receiving First Advanced Life Support (ALS) Arrival Within 8:00 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent \leq 8:00	FY 2008 Year-to-Date (cumulative)	Monthly Average ALS Response Time (minutes: seconds)	FY 2008 Year-to-date Average ALS Response Time
October 2007	91.0%	91.0%	4:52	4:52
November 2007	87.7%	89.4%	5:16	5:04
December 2007	91.2%	90.0%	4:58	5:02
January 2008	89.7%	89.9%	5:06	5:03
February 2008	88.3%	89.6%	5:14	5:05
March 2008	88.7%	89.4%	5:11	5:06
April 2008	90.0%	89.5%	5:02	5:06
May 2008	89.5%	89.5%	5:03	5:05
June 2008	87.1%	89.2%	5:20	5:07
July 2008	88.7%	89.2%	5:06	5:07
August 2008	90.0%	89.2%	5:03	5:06
September 2008	90.9%	89.4%	5:00	5:06

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Transport Unit Response Time Performance:

Percent of Critical Medical Dispatches Receiving First Transport Unit Arrival Within 12:00 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 12:00	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	95.7%	6:02
November 2007	93.4%	6:23
December 2007	95.8%	6:01
January 2008	95.3%	6:17
February 2008	94.9%	6:23
March 2008	94.1%	6:29
April 2008	94.6%	6:13
May 2008	93.5%	6:26
June 2008	92.7%	6:41
July 2008	94.1%	6:16
August 2008	95.9%	5:49
September 2008	94.6%	6:04

Percent of Non-Critical Medical Dispatches Receiving First Transport Unit Arrival Within 12:00 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 12:00	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	95.5%	6:15
November 2007	93.6%	6:24
December 2007	94.8%	6:21
January 2008	94.3%	6:26
February 2008	93.1%	6:45
March 2008	93.4%	6:35
April 2008	94.5%	6:19
May 2008	93.2%	6:41
June 2008	92.1%	6:49
July 2008	94.6%	6:13
August 2008	95.9%	5:52
September 2008	94.1%	6:10

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Percent of All Medical Dispatches Receiving First Transport Unit Arrival Within 12:00 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 12:00	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	95.6%	6:08
November 2007	93.5%	6:24
December 2007	95.3%	6:11
January 2008	94.8%	6:21
February 2008	94.0%	6:30
March 2008	93.8%	6:32
April 2008	94.6%	6:16
May 2008	93.4%	6:33
June 2008	92.4%	6:45
July 2008	94.3%	6:15
August 2008	95.9%	5:51
September 2008	94.4%	6:07

First-Arriving EMT Performance (First-arriving resource, staffed by EMT with automatic defibrillator minimum):

Percent of Critical Medical Dispatches Receiving First EMT Arrival Within 6:30 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 6:30	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	92.6%	4:05
November 2007	90.3%	4:21
December 2007	92.5%	4:11
January 2008	90.9%	4:19
February 2008	90.6%	4:23
March 2008	90.1%	4:21
April 2008	92.6%	4:07
May 2008	92.1%	4:08
June 2008	89.3%	4:22
July 2008	91.2%	4:08
August 2008	92.0%	4:05
September 2008	91.2%	4:11

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First-Arriving EMT Performance, continued: (First-arriving resource, staffed by EMT with automatic defibrillator minimum):

Percent of Non-Critical Medical Dispatches Receiving First EMT Arrival Within 6:30 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 6:30	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	78.8%	4:59
November 2007	77.3%	5:12
December 2007	77.6%	5:11
January 2008	75.7%	5:15
February 2008	72.8%	5:27
March 2008	76.7%	5:13
April 2008	78.7%	4:58
May 2008	77.4%	5:03
June 2008	75.7%	5:14
July 2008	79.3%	4:56
August 2008	81.1%	4:49
September 2008	78.8%	5:02

Percent of All Medical Dispatches Receiving First EMT Arrival Within 6:30 Minutes or Less, Dispatch-to-Scene, FY 2008

Month	Percent ≤ 6:30	Monthly Average Transport Unit Response Time (minutes: seconds)
October 2007	85.8%	4:32
November 2007	84.1%	4:46
December 2007	85.4%	4:40
January 2008	83.9%	4:45
February 2008	82.4%	4:52
March 2008	83.9%	4:45
April 2008	86.2%	4:30
May 2008	85.2%	4:34
June 2008	82.9%	4:46
July 2008	85.6%	4:31
August 2008	86.7%	4:27
September 2008	85.3%	4:35

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Call-to-Scene Performance: (Response time from the patient’s perspective, measured from receipt of 911 call at the Office of Unified Communications to arrival on the scene by Fire/EMS.)

EMS Response Time, Call-to-Scene Performance by Interval, Critical Medical Dispatches, September 2008

Average Response Time (minutes:seconds)			
	Call-to-Dispatch*	Dispatch-to-Scene* *	Call-to-Scene* * *
First EMT	2:28	4:11	6:39
First Paramedic	2:35	5:00	7:35
First Transport Unit	2:34	6:01	8:35

*Note: The Call-to-Dispatch interval is controlled by the Office of Unified Communications (OUC). This is the time it takes to process a 911 call. This interval begins with receipt of a 911 call at the Unified Communications Center (UCC) and ends with the beginning of dispatch of FEMS resources.

** The Dispatch-to-Scene interval is the component of response time that begins with the dispatch of FEMS resources by the OUC, and ends with the arrival of FEMS on the scene.