



LOS ANGELES FIRE DEPARTMENT

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FIRE CHIEF

October 1, 2018

BOARD OF FIRE COMMISSIONERS
FILE NO. 18-109

TO: Board of Fire Commissioners

FROM:  Ralph M. Terrazas, Fire Chief

SUBJECT: FAST RESPONSE VEHICLES AND ADVANCED PROVIDER
RESPONSE UNITS UPDATE

FINAL ACTION:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Corrections	<input type="checkbox"/> Withdrawn
	<input type="checkbox"/> Denied	<input type="checkbox"/> Received & Filed	<input type="checkbox"/> Other

SUMMARY

The Los Angeles Fire Department (LAFD) implemented Fast Response Vehicles (FRVs) and Advanced Provider Response Units (APRUs) as new, innovative emergency medical services (EMS) resources. These resources have been shown to improve the timeliness and quality of patient care, while simultaneously improving operational efficiency by increasing the availability of other LAFD resources.

RECOMMENDATION

That the Board:
Receive and file.

DISCUSSION

Fast Response Unit

The LAFD's first FAST RESPONSE VEHICLE (FRV) was placed into service on September 21, 2015. It was initially funded through the Mayor's Innovation Fund as a six-month pilot project. The goals of the FRV were to decrease response times, provide more rapid treatment for patients with time-critical medical emergencies, and perform on-scene triage and thus cancel fire companies and paramedic ambulances when appropriate. The FRVs are modified brush patrol vehicles. These are multi-purpose rigs which carry a full complement of basic and advanced life support equipment and medications, and also carry water and hoses for fire suppression.

The primary purpose of the FRV is to ensure a rapid response to incidents requiring immediate intervention and to provide immediate triage of patients. The FRV accomplishes these goals by providing a rapid ALS response and by its ability to

replace and release other resources, making them available for other EMS and fire incidents. The LAFD currently operates FR9 in the downtown area and FR91 in Sylmar.

Fast Response Vehicle (FRV) Goals

1. Reduce EMS Response Times
 - Metric: Operational Response Times
 - Threshold: 30 seconds decrease in ORT
2. Increase Availability of Fire Resources and RAs
 - Metric: Number of Incidents/Hour
 - Threshold: 0.5 Incidents/Hour
 -

Analysis of Fast Response Vehicles (FR9 and FR91)

Productivity Summary

Date Range: 1/1/18 - 6/30/18

		All Dates/Times				
Resource		Disp Inc	Shifts Worked	Inc/Shift	Hours/Shift	Inc/Hr
Station 9	FR9	769	110	6.99	9	0.78
	E9	2835	181	15.66	24	0.65
	E209	2804	181	15.49	24	0.65
	T9	1800	181	9.94	24	0.41
	Ra9	2545	181	14.06	24	0.59
	Ra209	2367	181	13.08	24	0.54
	Ra809	3248	181	17.94	24	0.75
Station 91	FR91	362	76	4.76	9	0.53
	E91	2341	181	12.93	24	0.54
	Ra91	1749	181	9.66	24	0.40
	Ra891	116	33	3.52	24	0.15

Fire Station 9 is the busiest first-in district in the City. The productivity data shown above indicate that FR9 responded to 0.78 incidents/hour, compared to 0.68 incidents/hour for Engine 9. Given that Engine 9 is the busiest fire company in the United States, this data becomes even more compelling to underscore the productivity of FR9. Given the exceedingly high call load in FS 9, an emergency resource may not be available for the next incident.

The data below indicates response times for emergency EMS incidents in FS 9, also comparing Immediate Dispatches vs. Non-Immediate Dispatches (Immediate Dispatches are those calls that are categorized as being the most time-critical, such as choking with complete airway obstruction, cardiac arrest, ineffective breathing, or active seizures.)

Response Time Summary

Date Range: 1/1/17 - 6/30/18

	Resource	Operational Response Times (Dispatch to On-Scene)		
		All EMS	Immed Disp	Non-Immed Disp
Station 9	FR9	03:11	03:01	03:12
	E9	03:59	03:52	03:59
	E209	03:54	03:43	03:55
	T9	04:05	03:57	04:06
	Ra9	04:23	04:10	04:24
	Ra209	04:34	04:13	04:36
	Ra809	05:00	04:43	05:00
Station 91	FR91	05:19	05:25	05:19
	E91	05:59	05:51	05:59
	Ra91	06:13	05:55	06:15
	Ra891	06:41	06:57	06:40

FR 9 is an Advanced Life Support (ALS) resource. This response time data indicates that the mean response times for FR 9 was 1:09 minutes and 1:12 minutes faster than RA 9 and RA 209 respectively, which is a **28.4% faster response time for Immediate Dispatches**.

For Non-Immediate Dispatches, FR 9 was 1:12 minutes and 1:24 minutes faster than RA 9 and RA 209 respectively, which is a **30.4% faster response**.

FS 91 is the largest first-in district in the LAFD. For Immediate Dispatches, FR 91 was 30 sec (8.5%) faster than RA 91, and 56 seconds (15%) faster than RA 91 for Non-Immediate Dispatches.

FR 91 responds to 0.53 incidents/hour, compared to 0.40 incidents/hour for RA 91.

These data indicate that FR 9 and FR 91 have met all their goals. They have significantly reduced response times for both Immediate and Non-Immediate Response times, and they exceed 0.5 incidents/hour. This productivity allows other emergency resources to be available for other emergency incidents.

Advanced Provider Response Unit (APRU)

The primary purpose of the APRU is to respond to patients with low acuity medical complaints and patients who could benefit from mental health and social services outreach. The APRU's ability to provide Advanced Provider care and transport to alternative destinations provides improved quality of care to the patients and increases the availability of other LAFD resources for urgent incidents. The APRU resources have the ability to treat patients without transporting them to a hospital emergency department (ED), or to transport the patients to alternative destinations such as the Exodus Mental Health Urgent Care Centers or the David Murphy Sobering Center (Sobering Center).

The first APRU was placed into service in January 2016. The APRU was deployed in Battalion 13, which encompasses the South Los Angeles area. This battalion was selected since it is a chronically underserved population and it also accounts for the highest percentage of the LAFD's EMS call load.

LAFD has one permanent APRU (FS15, South Los Angeles) and three new additional APRUs that have been funded for one year through EMS Bureau-initiated public-private partnerships: AP7 (sponsored by Providence), AP58 (sponsored by Cedars Sinai), and AP82 (sponsored by Kaiser Permanente).

APRU Goals:

Goal # 1: Safely Treat and Release Patients on Scene

- Metric: # of patients treated & released on scene
- Threshold: 50% of patients treated by APRU released on scene
- Metric: # 911 recontacts within 7 days of a treat & release by an APRU
- Threshold: 0 re-contacts who require ambulance transport to an ED within 7 days

Goal # 2: Increase Availability of Fire Resources and RAs

- Metric: Number of Incidents with emergency resources dispatched to which an APRU responds
- Threshold: ≥ 1 emergency resource is released on scene

Goal # 3: Medically clear mental health patients and transport to an alternative facility

- Metric: Alternative Facility Transports
- Threshold: No patient transported to a mental health facility requires 911 re-routing to an ED

Goal # 4: Provide a safe, positive patient experience

- Metric: Telephonic patient follow-up after a treat & release by an APRU
- Threshold: Mean patient satisfaction scores ≥ 9 on a 1-10 scale

Results:

Goal # 1: Safely Treat and Release Patients on Scene

Aggregate APRU Metrics (7/23/18 – 9/22/18)

of days in service = 35

patients treated = 347

patients treated & released on scene = 239 (69%)

Examples of treatments provided on scene include: point of care blood testing and interpretation, clinical guideline application, wound care, simple laceration repairs, epistaxis (nosebleed) treatment, Foley catheter placement.

of patients who re-contacted 911 within 7 days of being treated & released by APRU = 0

Goal # 2: Increase Availability of Fire Resources and RAs

Average # of non-APRU resources dispatched to patient who were treated by an APRU = 1.35

Average time non-APRU resources were attached to an incident with an APRU on scene = 17:30 (compared to an average of 46 min/incident with no APRU involved)

Average time saved by non-APRU resources due to APRU involvement = 28:05/incident

Total # of hours of service made available by APRUs for non-APRU resources = 173 hours (excluding additional hours at the hospital for wall time and/or patient hand-off)

Goal # 3: Medically clear mental health patients and transport to an alternative facility

of patients medically cleared on scene and transported to a Mental Health Urgent Care Facility = 29

of patients transported to a MHUCC who required secondary emergency transport to an ED = 0

Goal # 4: Provide a safe, positive patient experience

100% of LAFD APRU-attended patients with phone numbers are contacted for phone follow-up within 7 days using a standardized survey.

patients treated by APRU = 347

of APRU patients able to be telephonically contacted for follow-up within 7 days of evaluation and treatment = 94 (27% response rate)
with a 27% response rate. On a scale of 1-10, Advanced Providers received the following client satisfaction scores:

Satisfaction with...	Avg score
...Amount of time client had to wait for APRU to arrive:	9.08
...Amount of time APs spend with client on scene:	9.42
...Ability to communicate, listen to needs and explain:	9.77
...Ability to attend to client needs:	9.54
...Courtesy and respect shown to client:	9.38
...Way the APs worked together as a team:	9.58
...Overall rating of APRU help provided on scene:	9.58

APRUs	AP 7	AP 15	AP 58	AP 82
	YTD	YTD	YTD	YTD
# of Shifts	27	61	35	34
# Inc dispatched	113	358	224	193
# of Inc On Scene	91	308	176	159
# of Pt Contacts w/ePCR	42	152	78	75
# Treated/Transp to ED	3	4	4	0
# Treat/No Transports	27	97	49	66
# Trans to Alternate Fac	0	19	9	3

AP7, AP58, and AP82 went into service on 7/23/18

AP 15 went into service on 5/10/18

CONCLUSION

FRVs and APRUs are new, innovative resources which have given the LAFD the ability to provide faster and more appropriate care to patients by providing a better level of service based upon the needs of the patients, while simultaneously increasing the availability of other LAFD resources. The FRVs and APRUs are exceeding all their goals. The addition of these resources has resulted in a more service-oriented and efficient EMS delivery system.

Board Report prepared by Marc Eckstein, MD, MPH, EMS Bureau.