May 20, 2025

LOS ANGELES FIRE DEPARTMENT

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INTERIM FIRE CHIEF

May 5, 2025

BOARD OF FIRE COMMISSIONERS
FILE NO. 25-028

TO: Board of Fire Commissioners

FROM: RV Ronnie R. Villanueva, Interim Fire Chief

SUBJECT: LAFD FLEET METRICS

FINAL ACTION:					
	_____ Approved		_____ Approved w/Corrections		_____ Withdrawn
	_____ Denied		_____ Received & Filed		_____ Other

SUMMARY
The Los Angeles Fire Department (LAFD) Board of Fire Commissioners requested an update on metrics used by the Maintenance Section that gauge how long LAFD vehicles are in service, the fleet maintenance workload, mechanic staffing levels, and whether or not the Department's fleet maintenance targets are being met. This report presents the information requested and provides a status update on the condition and operational readiness of the LAFD fleet.

RECOMMENDATION
That the Board:
Receive and file.

DISCUSSION
Fleet metrics measure fleet resources and fleet-related activities. One set metrics used is vehicle age, mileage, and condition. Our standard vehicle ageing is 10 years in front line service and then 5 years in reserve status. This is a total of 15 years of service, after which mileage or condition will prioritize its place in the salvage process. A summary of this replace cycle is shown in the *Fleet Condition Scores* table below. Another key metric used by the Maintenance Section is the *Fleet Availability Index* (Page 6) which is a score based on the total number of days vehicles are in service and available divided by the total number of days vehicles are in the fleet. Together, these metrics provide an "at-a glance" appraisal of the LAFD fleet and fleet maintenance operations.

As of today, the overall condition score of the LAFD fleet indicates an average of 55% of LAFD Aerials and Triples are due for replacement based on age, mileage, and/or condition and an average of 9% of LAFD Ambulances and Light Vehicles are due for replacement based on age, mileage, and/or condition.

The chart below shows the current condition scores for LAFD vehicles with replacement thresholds that are now at or exceed their threshold limits based on age, mileage, and/or condition. The full list is formatted in Microsoft Excel and can be sorted and manipulated as needed thereby allowing fleet managers to identify and prioritize vehicles for replacement fleet-wide or by apparatus type.

Fleet Condition Scores (as of 04/09/2025)				
Vehicle Type	Number in Fleet	Due for Replacement	Not Due for Replacement	Percentage due for replacement
Ambulance	291	0	292	0%
Triples	210	127	83	60%
Aerials	60	29	31	48%
Light Vehicles	733	127	606	17%

Exhibit A (Attached Page 6) shows the average *Fleet Availability Index* from July 1, 2024 to April 8, 2025. The data shows that the Department must have sufficient reserve vehicles of every type to compensate for deficits in fleet availability due to routine maintenance. Best in class highway fleets strive for 95% fleet availability. However, LAFD's fleet availability ranges between 78% and 81% for Triples, Aerial Ladder Trucks (Aerials), and Rescue Ambulances (RA) which is understandable given the complexity, rigorous use, and high condition standards common with fire department vehicles.

Contributing elements of the *Apparatus Asset Assessment* and the *Fleet Availability Index* are the following sub metrics which are discussed in more detail below:

Vehicles Down

Vehicles Down measures the number of vehicles out of service for mechanical repair at any given time and is expressed as a percentage of vehicles in the fleet or in a sub group of the fleet. Vehicles that are out of service contribute to lower fleet assessment scores and, conversely, lower fleet assessment scores portend increased vehicle break downs resulting in more days out of service. Likewise, the number of vehicles down also affects the fleet availability index. *Vehicles Down* is influenced by the number of vehicles in the fleet and the vocation, age, condition, and utilization of these vehicles including accidents and driver wear and tear.

Vehicles Down communicates operational readiness of the LAFD fleet and is monitored daily by Fleet Maintenance Supervisors and the Supply and Maintenance Division

Commanders in the format of the Daily Progress Report. The Supply and Maintenance Division's target for the *Vehicles Down* metric is no more than 50% of the number of reserve apparatus, by type.

The information in the tables below contains data showing average *Vehicles Down* data for Fiscal Year (FY) 2024-25 and comparison data for 3 years prior. Current *Vehicles Down* data indicates greater reliance on reserve apparatus which, anecdotally, is attributed to a growing fleet, an aging fleet, and more complex vehicles.

Daily Progress Report – Vehicle Down Summary				
Vehicle Type	3 Year Average Out of Service Reserves	FY 2024 - 2025	3 Year average number of Reserves	FY 24 – 25 Average Number of Reserves
Ambulance	80%	80%	58	55
Triple	80%	81%	38	39
Aerial	80%	78%	11	14

Vehicles Out of Service by Bureau as of April, 08, 2025		
Bureau	Number of Vehicles Out of Service	Average Days Out of Service
Operations Central Bureau	18	175
Operations South Bureau	32	132
Operations Valley Bureau	43	162
Operations West Bureau	19	218
Other Bureaus	37	249

Workload and Staffing

The first indicator of workload is the dynamic number of pending work requests and the second indicator or workload is the estimated labor hours required to perform these repairs.

Currently, for calendar year 2025, there are 12,601 work requests in queue for all vehicles. The Maintenance Section does not have a target number for how many work requests are appropriate. However, the maintenance section constantly strives to address all mission critical and safety critical repair requests immediately to minimize vehicles down and maximize apparatus availability.

The chart below shows work requests for the LAFD fleet for calendar years 2024 and 2025:

Work Request Statistics				
Period	Total Number of Work Requests	Priority No. 1 Work Request	Completed Work Requests	Completion Rate to date
2024	32317	1230	31331	96%
2025	12601	4282	7864	62%

The fleet maintenance workload and the requisite labor is expressed in Mechanical Repair Units (MRU's), where (1) MRU represents the number of labor hours (performed by a Journey Level Mechanic) that are required to accomplish the totality of maintenance and repairs on a base fleet vehicle for one year. At LAFD, (1) MRU equates to 14 labor hours which is the current average number of labor hours needed to maintain (1) LAFD sedan for one year. Total annual labor hours for the entire fleet or a portion of the fleet are determined and then divided by 14 hours, which gives the required number of MRU's to maintain those vehicles. In similar fashion, the total number of available employee hours is also divided by 14 hours which produces a score of MRU's of available labor.

The MRU's needed for a group of vehicles and the MRU's of labor by the available workforce are then examined and compared to determine workload and required staffing. MRU's are an effective way to quantify workload and required labor for different types of vehicles across a varied fleet. Exhibit B (Attached Page 7) displays the required MRU's for all LAFD vehicles and the available MRU's from LAFD's current fleet maintenance workforce. Additional data for this metric will be available after the full implementation of the City's new fleet information management system.

FISCAL IMPACT
There is no fiscal impact associated with this report.

CONCLUSION
The Fire Department fleet is unique in that its purpose is to be ready when it is needed regardless of whether or not it is actually used. Other fleets can measure their operational readiness against how much the vehicle is actually used. For LAFD, "use" is not just responding to incidents, but also being ready to respond if and when a vehicle is needed. All LAFD emergency apparatus, whether in frontline service or in reserve status, are expected to be ready and available whenever they are needed. The mission of the Maintenance Section is to provide a safe, reliable, and fully functional fleet of fire apparatus in support of LAFD's public safety mission to preserve life and property.

Board report prepared by Guy Patenaude, Equipment Superintendent, Supply and Maintenance Division.

Attachments: Exhibit A, Exhibit B

EXHIBIT A

Fleet Availability Index (Partial FY 24-25)				
Vehicle Type	Total Days in Fleet	Total Days Out of Service	Total Days Available	Average Availability
Ambulance	60529	11964	48565	80.23%
Triple	55273	10290	44983	81.38%
Aerial	16017	3395	12622	78.80%
Combined	131819	25649	106170	80.54%

EXHIBIT B

Labor Requirements		Labor Available	
Vehicle Type	Yearly MRU Requirements	Journey Level Mechanics/Techs	Positions Filled
Aerial Ladder Trucks	1150	Senior Mechanics	2
Fire Engines (Triples)	2120	Heavy Duty Equipment Mechanic	26
Ambulances	1274	Equipment Mechanics	20
Sedans	175	Auto Body Builders	5
SUV's	350		
Pick-up Trucks	156		
Vans	25		
Airport Crash Rigs	550		
Fire Boats	425	Total Staffed Positions	53
Patient Gurneys	175		
Heavy Special Vehicles	360		
Breathing Air Compressors	75	Additional Overtime equivalent	8
Earth Moving Equipment	125		
Trailers	28	Total Available	61
Generators	15		
Forklifts	22	Yearly MRU's Produced per Journey Level Position	100
Total LAFD Fleet MRU Required	7025	Total Annual MRU's	6100
Workload/Staffing Summary : Workload = 7025 MRU's - Staffing = 6100 potential MRU's			