

Figure 4. USAF Tactical Aircraft Percentages

Therefore, a reasonable projection for future procurements should be, at most, in this range. Figure 5 shows an internal Lockheed Martin projection of what effect these percentages would have on USAF fighter force structure through 2020 based on an assumed total DoD budget of \$250B in constant dollars. Note that at the \$4.7B procurement level, the planned procurement of new fighters allows the force to be maintained at current levels until about 2015. By 2020 the force structure would approach a 15 wing level of capability. At a \$2.7B level, USAF starts to fall below the 20 fighter wing requirement by 2010 and below 15 wings shortly thereafter. Under a \$0.8B procurement level, the force structure starts a precipitous drop in 2010 and is halved before 2020.

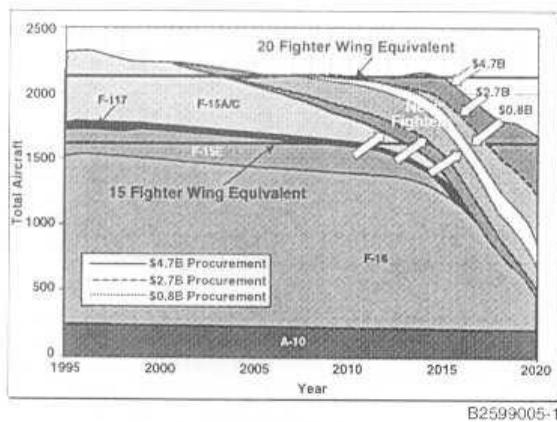


Figure 5. LMTAS Assessment - Constrained Budget Impact

2.2 Potential Shortfall

As a result of the force structure projections discussed above, there has been healthy debate within defense circles about how deal with fighter force structure issues. One option proposed is to keep fighters in the force longer. Opponents of this option (Ref 2) argue that the average age of a USAF fighter would double to nearly 20 years by 2005. At this average age, a fighter would not be retired until it has been in service for nearly 40 years. Others believe that development of a capable new cost constrained Joint Strike Fighter (JSF) will allow USAF to maintain capability for the foreseeable future. However, there is a short term, but politically expedient, option

which may be employed regardless of the outcome of the internal debate - declare that no opponent can match current U.S. capability and let fighter force structures continue to drop. Although this option has the most significant long term implications, in the short term it is politically easy to implement given the subjective nature of threat projection in today's environment. And if this option is selected as a political expedient, it will take a political crisis to reverse it. In this author's option, this crisis will occur when we find ourselves in a situation where our forces are stretched so thin that we can no longer meet minimum commitments. At that point the politicians will demand quick remedial action and we will have to be ready to respond. Based on Figure 5, this crisis could occur as early as 2005 and almost certainly will occur by 2015.

2.3 UCAV Option

As will be discussed later, the UCAV system concept has inherent features that could make it a low- cost option to help meet the projected force structure shortfall requirements. However, when the shortfall occurs, there will be no time to evaluate such options unless actions are initiated now. UCAV and other promising system concepts are unproven and will remain so until programs are put into place to establish feasibility, reduce technical risk and demonstrate overall system capability. Given the possibility of a decision required by 2005, we must move out quickly to explore these options, establish their technical and operational feasibility, and pursue risk reduction. Otherwise, they will not be viable future options.

3. UAV STUDIES

In recent years a number of studies have examined the need and required capabilities for UAVs of all types including UCAV (Refs 3-11). Many of these studies have been published and widely distributed. Others have had much more limited distribution. Despite the variety of the perspectives reflected in the studies, a generally consistent view of unmanned vehicles and systems emerges (Figure 6).

	URAV	UCAV
• Mission	Recce (Primary)	Strike (Primary)
• Speed (Subsonic)	Low-Moderate	Moderate-High
• Maneuverability	Low	Med-Very High
• Altitude	Low/Medium/High	Low-Med/Med-High
• Observables	Moderate-Very Low	Low-Very Low
• Payload	500 - 2000 lb	500 - 4000 lb
• Sensors	Multi-Spectral	Min-Maximum
• Bandwidth	High	Low-Medium
• Endurance	Days - Weeks	Hours - Days

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Figure 6. Prevailing Theme - Two System Types