

## Re: Space Access Update #112 9/19/05

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- *From:* "Jeff Findley" <[jeff.findley@xxxxxxxxxxxxxx](mailto:jeff.findley@xxxxxxxxxxxxxx)>
  - *Date:* Thu, 27 Oct 2005 09:43:34 -0400
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"Tom Cuddihy" <[tom.cuddihy@xxxxxxxxxx](mailto:tom.cuddihy@xxxxxxxxxx)> wrote in message  
[news:1130389214.909289.311920@xx](mailto:news:1130389214.909289.311920@xx)  
> Before Shuttle The Conventional Wisdom was that if we built a national  
> reusable 'space shuttle,' the cost of access to orbit would go down.

<snip>

- > Infrastructure is something that costs more as it ages, and costs more  
> to build the longer you wait to upgrade it.  
>  
> I.e. the more fluid and responsive your infrastructure is, and the more  
> often you upgrade it, the cheaper its use gets. With that in mind, the  
> very long timelines a high level reusable vehicle would require to  
> design, build, and fly makes the infrastructure worse off in the  
> meantime.  
> On the other hand, the quicker you you can start launching, upgrading,  
> and starting designing again, the better off your infrastructure will  
> be. That argues for quick and dirty methods to orbit, like ELVs.  
> Design, build, fly, upgrade, design, build, fly...much quicker to  
> upgrade with a throwaway system like that.  
>  
> This is one of the reasons CEV is NOT stipulated to require  
> reusability.  
>  
> They still fly 80s computers on the Shuttles, right? Not to mention the  
> thing was designed in the early 70s. If it takes you 10 years to design  
> and declare working your reusable vehicle, by the time your first  
> commerical satellite was delivered to orbit, the entire infrastructure  
> might be obsolete.

You're missing a key point. Flight rate. If the hardware would have supported it, and if there really were enough payloads to fly, the shuttle's per flight costs could have been much cheaper than it is because yo