to be more limited for these operators because of the point-to-point and geographically restricted nature of their operations, which would tend to limit the length of flight assignments.

The FAA has quantified the economic value of all major accidents involving the part 121 fleet and part 135 fleet over the 1985–1994 period that were attributable to pilot error. Based on this value and the proportion of incidents with similar causal factors where pilots were affected by fatigue, the FAA estimated that if proposed rule were 100% effective at eliminating fatigue as a factor in accidents, it could prevent accidents involving part 121 scheduled operations valued at $242 million and part 121 supplemental operations at $35 million over a 15-year period. The same methodology yielded an estimate of $77 million for the potential effectiveness of the proposal in preventing part 135 accidents. It is important to note that it is unlikely that this proposal would be 100% effective, in part because it addresses duty and rest times, but does not require pilots to rest. The FAA is unable to develop an estimate of effectiveness of this proposal in reducing fatigue-related incidents, but welcomes data and methodologies that may assist such an effort.

The table below compares the costs, potential benefits, and cost savings sections. The FAA therefore concludes that the proposed rule would be cost beneficial for the part 121 scheduled operators, sector of the air transportation industry, would probably be cost beneficial for the entire part 121 sector of the air transportation industry, and could be cost beneficial for the scheduled part 135 operators as well, provided the unquantifiable compliance costs for the commuters do not exceed about $127.5 million (discounted) over a 15-year period.

The FAA does not have sufficient information at this time to evaluate the cost effectiveness of this proposal for air taxi operators. A more definitive overall conclusion would not be appropriate in view of the lack of data pertaining to how the affected air carriers would modify their operations in order to comply with the proposed rule and also to take advantage of the opportunities to increase pilot productivity. The FAA has decided to issue this proposed rule with the expectation that additional data that can clarify these issues will be forthcoming.

FIFTEEN YEAR DISCOUNTED COSTS/COST SAVINGS

	Part 121 scheduled	Part 121 supplemental	Total part 121	Part 135 scheduled	Air taxi
Compliance costs	$458,627,143	$383,403,020	$842,030,163	$56,750,685	Unknown.
Reserve requirements	458,627,143	224,331,554	682,958,697	56,750,685	Unknown.
Other requirements	0	159,071,466	159,071,466	0	Unknown.
Potential safety benefits	241,806,628	34,922,912	276,729,539	76,802,495	Unknown.
Net costs of reserve and other requirements	216,820,515	348,480,108	565,300,623	(20,051,810)	Unknown.
Cost savings	1,658,078,896	215,723,343	1,873,802,239	107,431,330	Unknown.
Increased flight times	1,504,206,226	215,723,343	1,719,929,569	107,431,330	Unknown.
Other cost savings	153,872,670	0	153,872,670	0	Unknown.
Net combined cost savings of proposal	1,441,258,380	(132,756,765)	1,308,501,615	127,483,140	Unknown.

This rulemaking should be considered complimentary to the Commuter Rule and the Air Carrier Training Program final rule. One of the goals of these three rulemaking actions is to prevent the 67 accidents that represent the accident-rate gap between part 135 commuter operators and part 121 operators. The FAA estimates that over the next 15 years, closing this gap would prevent 67 accidents at a present value benefit of $350 million.

In terms of the accident rate gap, the benefits of this NPRM are a part of this total benefit. However, it is not possible to allocate that benefit among the three rulemaking actions because it difficult to determine which rulemaking action would prevent a given accident. For example, individual accidents may be prevented by any one or a combination of several factors such as:

- Preventing the occurrence of a problem with an airplane in the first place (Commuter rule);
- Providing more or better crew training to properly respond to the problem after it occurs (Air Carrier Training Program rule);
- Providing a dispatcher to help identify a problem before it becomes a potential accident (Commuter rule);
- And ensuring pilots are not overworked and tired (Pilot Rest and Duty NPRM).

The Commuter Rule only addresses a portion of the necessary requirements to close the accident-rate gap. If the $51 million present value in net cost savings of this rule ($107 million in cost savings minus $56 million in costs) is combined with the cost of the Commuter Rule, $75 million, and the cost of Pilot Training, $34 million, the total cost, $58 million (−$51+$75+$34), is still less than the estimated $350 million benefit of eliminating the accident-rate gap. These rules combined need only be 17 percent effective to be cost-beneficial. The $77 million in potential safety benefits of this proposed rule is a subset of the aforementioned $350 million.

Analysis of Alternatives

As explained above, the FAA is required to consider alternatives to the proposed rule; the two alternatives will be discussed in this section. As indicated earlier in this preamble, if this proposal on reserve time assignments is not issued as a final rule, the FAA intends to ensure that the current rule, as interpreted, is being correctly implemented. The FAA has estimated that doing so could cost part 121 operators in excess of $2.5 billion and part 135 operators in excess of $450 million discounted over the next 10 years. At the same time, the resulting potential safety benefits would be no more than those estimated for this proposal.

Alternative Number One

This alternative would be to maintain the status quo. This option would not impose any costs on operators because it would not require that they change their pilot scheduling practices. It could impose costs on society, however, by increasing the risk of a preventable fatigue-related accident. The accumulation of a substantial body of scientific evidence documenting the harmful effects of fatigue on pilot performance have increased the need to amend these rules. In addition, given the scientific data available and the NTSB recommendations resulting from an accident at Guantanamo Bay in August 1993, this option is not feasible.

Alternative Number Two

This alternative was the original proposal considered by the FAA. After surveying industry, the FAA determined