CHAPTER 4

Not the Whole Truth: The Advisory Reports on the Supersonic Transport

One of the ways in which administration officials often mislead the public about the basis for their decisions is by releasing primarily (or exclusively) the information and analyses which support the administration position. The information so provided may be accurate, but it often is also totally misleading as to the true balance of costs and benefits. The long debate over the SST development project provides a number of examples of the selective release of information. Comprehensive advisory reports on the project's benefits and disadvantages were suppressed while the media were supplied with other reports which gave a misleading impression that certain objections which had been raised to the SST were not so serious after all.

The Comprehensive Reviews

In our discussion of the SST program in Chapter 2, we noted that immediately after taking office, President Nixon commissioned two high-level, comprehensive reviews of the SST program. One review committee was made up of senior officials from the relevant government departments and agencies, along with a representative of NASA, a member of the Council of Economic Advisors, and the President's science advisor. This committee reported to the President through the Secretary of Transportation, whose Department had primary responsibility for the project. Its charge was to consider whether continued federal funding of the SST development program was in the national interest.
The other comprehensive review which President Nixon commissioned was conducted by a panel of independent technical experts. This panel, which reported to the President through his science advisor, was chaired by Richard Garwin, an IBM physicist and a member of the President's Science Advisory Committee.

As we mentioned in Chapter 2, the panel reports of the interdepartmental SST Review Committee rejected the basic arguments which had been used to justify the SST project. Furthermore, the panel considering the environmental impact of the SST concluded that the sonic boom would be intolerable if the plane were allowed to fly supersonically over populated areas and that SST airport noise would be a very serious problem.

The report of Garwin's panel was, if possible, potentially even more damaging to the project. In addition to the concerns raised by the interdepartmental review, Garwin's panel examined the extent to which the terms of the SST development contract with Boeing had been met. These terms had required Boeing to submit, by January 15, 1969, "a completely integrated design, fully substantiated by physical tests and detailed engineering analyses, . . . for a safe and economically profitable production version of the SST." Garwin's panel observed, however, that there are substantial grounds to believe that the Government could terminate the contract "for default." These grounds are of three types:

1. The fixed-sweep prototype, as proposed, will have take-off and landing runs some 50% longer, take-off and landing speeds very substantially higher, and other characteristics deficient with respect to the prototype required under the contract.

2. . . . The design is not fully substantiated as required by the contract.

3. It may be judged that the contractor has not demonstrated that the production airplane which follows from the prototype will be a "safe, economical . . ." commercial supersonic transport.

These points were followed by a series of technical criticisms. The panel pointed out several aspects of the SST program of high risk—among them the noise specifications. . . . More important and more fundamental is the fact that the estimated design payload constitutes only 7% of the aircraft gross weight, as contrasted with a realized 12-30% for a subsonic commercial transport of longer range. Our accuracy of design of structure, and our ability to calculate fuel consumption and adequate fuel reserves is not such as to assure that the payload will exceed 2%, which would have disastrous effects on the economics of the aircraft.

The panel also found that, even if technical problems were overcome, the market might amount to only half of the Federal Aviation Agency's "conservative" estimate of 500 airplanes—a market too low to allow the government to recoup its investment in the development of the SST. Furthermore, Garwin's panel found it unlikely, because of the economic risks involved, that Boeing could obtain the several billion dollars of nongovernment financing required by the contract for the production phase of the program. The panel report observed dryly: "Both the government and the private sector can do much better with their money in other programs."4

After this devastating critique, the panel's primary recommendation for "termination of the development contracts and the withdrawal of Government support from the SST prototype program" should have come as no surprise.

The interdepartmental SST Review Committee report and the Garwin Report are apparently the only comprehensive studies of the SST that President Nixon commissioned. Yet despite the strong negative recommendations of both of these reports, Nixon gave his go-ahead to the SST program in September 1969. As far as the public knew, this decision was based upon the results of the reviews which he had commissioned.

The SST Review Committee Report Becomes Public

The report of the interdepartmental SST Review Committee became public at the end of October 1969, as a result of the efforts of Representative Reuss of Wisconsin. He described how he obtained the documents as follows:

"I had great difficulty. I first got wind that there was such a report about a month ago, and I thought that the taxpayers of this country had a right to look at it. So I wrote the Administration, "May I, sir, have a copy of this report?" And I got back a letter from the Department of Transportation saying, "This is privileged. You can't see it. You're just a Congressman."

Well, I took this up with our Freedom of Information subcommittee and they pointed out that this squarely violates an agreement that the President made, which is that only the President can claim privilege, not the Department of Transportation, or anybody else. And with that, their house of cards collapsed and I got the report. And now I see why they didn't want to give it to me, because it completely contradicts everything they said and renders this one of the worst fiascos in our sorry history of waste."

Representative Reuss in fact got much more than the review committee's panel reports. In addition, he received copies of a draft summary report, together with letters from members of the review committee to the chairman protesting this summary. These documents suggest not only that Congress and the public were misled about the technical basis of agency decisions, but also that an effort was made to mislead the President about the Committee's conclusions.

Because of the insights this episode provides into the ways in which government "channels" sometimes work, we will discuss it at some length here. Following the completion of the panel reports, the chairman of the Committee, Undersecretary of Transportation James Beggs, wrote a summary report and
circulated it to the other members of the committee, requesting their comments within twenty-four hours. Both the biased nature of Beggs's summary and the haste he required for responses provoked a storm of protest from Committee members.

The treatment of the concerns raised by the panel reporting on the environmental impact of the SST may give an indication of the reasons for their consternation. Beggs summarized their conclusions as follows:

"The SST has the potential for further deteriorating the environment in the environs of the airport and within the area encompassed by the sonic boom path (on the ground) when the aircraft is flown supersonically. However this potential was not considered to be a deterrent to the SST program; instead, when and if it did move forward, this potential should be considered in detail and resolved as early as possible.

... Increased water vapor released into the atmosphere from combustion of aircraft fuel could be a problem in terms of local climate and changes in atmospheric circulation and must be further examined.

The foregoing environmental factors are potentially serious and therefore should not be overlooked and underestimated. They are largely known, and can be carefully examined, and a decision made to avoid them."

Contrary to this statement, most of the panel had found the consequences for the environment to be a "deterrent to the SST program." Moreover, Beggs's statement in his draft summary that a decision could be made to avoid the environmental problems flew in the face of the environmental panel's report. For example, as Lee DuBridge, science advisor to the President, pointed out to Beggs, there was no practical way to avoid the sonic-boom problem. He also stated that he was doubtful that engines could be designed which would be sufficiently light and powerful to be adequate for the SST and also sufficiently quiet to avoid the airport noise problem.

Hendrik Houthakker, member of the Council of Economic Advisors and chairman of the ad hoc SST Review Committee's Economics Panel, expressed what appeared to be a virtually unanimous criticism of Beggs's summary:

"It does not adequately reflect the views of the working panels and the members of the Committee. It contains primarily the most favorable material, interspersed with editorial comments, and thus distorts the implications and tenor of the reports."

It appears from reading the letters of protest that Beggs was also violating an explicit commitment which he had made that the committee as a whole would present its views to Secretary of Transportation John Volpe. Several of the members of the committee referred to a letter in which Beggs stated that after these working panel reports have been received, reviewed, and accepted by the Committee, we will collectively make our views known to Secretary Volpe, who in turn will make his recommendation to the President."

All we know concerning the results of the protests is that a meeting between the full committee and Secretary Volpe was arranged a few days later. We do not know how the committee's views were ultimately presented to the President. This question apparently also bothered the chairman of the committee's environmental panel, Assistant Surgeon General Charles C. Johnson, Jr., who requested in a letter to Beggs that the collective recommendations to be submitted to President Nixon be provided to the members of the committee and the panels. This would afford the participants an opportunity to learn how their views have been interpreted and whether their efforts have indeed been useful.

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**The Release of the Garwin Report**

Garwin was asked to testify before the House Appropriations Committee in April 1970—-a year after the completion of the Garwin Report. This request was followed by invitations to testify before a number of other Congressional Committees.

Garwin's testimony was quite damaging to the administration's case for the SST—particularly his revelations of the magnitude of the airport noise problem and the extent to which the design that the Nixon administration had accepted fell short of the original contract specifications. It should be understood, however, that Garwin continued to respect the rules of confidentiality of the executive branch. He refused to tell Congress anything about his panel's report or even the membership of the panel. He was only willing to give what he carefully identified as his own personal opinions, documented by reference to public documents. In an interview, Garwin explained his view of the advisor's responsibilities as follows:

"I'm not a full-time member of the administration and I feel like a lawyer who has many clients. The fact that he deals with one doesn't prevent him from dealing with another so long as he doesn't use the information he obtains from the first in dealing with the second. Since there are so few people familiar with these programs, it is important for me to give to Congress, as well as the administration, the benefit of my experience."

Meanwhile Representative Reuss had asked the President's science advisor to release the Garwin Report—citing once again the Freedom of Information Act, as he had in the case of his request for the SST Review Committee report. This time his request was refused, however. The situation was somewhat different in that the Garwin Report had been commissioned by the Executive Office of the President, while the SST Review Committee report had been officially commissioned by the Secretary of Transportation. As a consequence, the Nixon administration apparently felt that a stronger argument could be made that the Garwin Report fell under the protection of executive privilege.

After Representative Reuss asked for the Garwin Report and had been
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refused a second time, a suit was filed calling for its release under the Freedom of Information Act. On a governmental motion, the suit was dismissed in District Court on the grounds that the Garwin Report was indeed protected by executive privilege. This decision was unanimously reversed on appeal, however, and the case was remanded to District Court for trial on its merits. These preliminary skirmishes had consumed more than a year, however, and events had outrun the slow judicial process. By the summer of 1971, the fate of the SST program had been decided by Congress without the benefit of access to the Garwin Report. Thus, further suppression of the report could serve the administration no very important purpose. Loss of the case by the government, on the other hand, would set a precedent adverse to the administration—by putting teeth into the Freedom of Information Act. Thus, on August 17, 1971, Edward David, Jr., the new Presidential science advisor, released the report. In his covering letter he blandly told the plaintiffs:

Our compliance with your request will moot any further litigation. . . . Our action in this regard has been prompted by continued public interest and certain impressions which have arisen depicting the government as attempting to conceal hitherto undisclosed factual data on the SST program. To dispel any further misconceptions that might result from continued litigation, we are releasing the report at this time.

In connection with its release, I would like to place the report in proper perspective so that there can be no misunderstanding about its role in the formulation of the Administration's position on the SST program. The report was one part of a full consideration of the program in early 1969. Other reviews recommended continuation of the program in contrast to one recommendation of this report.16

When your authors wrote Dr. David requesting a list and/or copies of the positive reports which he mentioned in this letter, we received no reply.

Thus ends our tale of how the Nixon administration tried to keep from the public the unfavorable results of its comprehensive reviews of the SST program. We now turn to a consideration of two reports relating to the SST program which were voluntarily released.

The NAS-NRC Report on Sonic Boom Effects

The National Academy of Sciences’ National Research Council (NAS-NRC) received in 1964 a contract by the Federal Aviation Administration to set up a committee to monitor the federal government’s sonic-boom research program. In 1968 the NAS-NRC Committee on SST-Sonic Boom issued a series of reports on the subject. One of these reports—that dealing with the effects of sonic booms on buildings—is the focus of our concern here.

The conclusion of this report stated that “the probability of material damage being caused by sonic booms generated by aircraft operating supersonically in a safe, normal manner is very small.”17 The New York Times headlined the resulting story: “Sonic Boom Damage Called ‘Very Small’; Wider Study Urged.”18

In fact, the committee’s conclusion should be read to mean that the probability of a single boom damaging any particular building was small—not that the total damage would be slight. It is clear that a fleet of several hundred SSTs flying continuously over the United States would cause a trillion ($10^{12}$) such individual events per year. Simple calculations based on extensive government test results lead to the estimate that, although damages would average only a fraction of a cent per event, total damages would be on the order of a billion dollars each year.19 This was obviously the point of interest to the public, yet the NAS-NRC Committee did not make it, and the public was misled by articles such as the Times story referred to above.

This case has a particularly interesting sequel because a serious effort was made by an independent scientist to set the record straight.20 William Shurcliff, the physicist who founded and directed the Citizens League Against the Sonic Boom, had made public estimates of the considerable sonic-boom damage from a fleet of SSTs flying supersonically over land. He consequently became quite concerned that the conclusion of the NAS-NRC report, carrying with it the prestige of the National Academy of Sciences, would be seen as discrediting the SST opponents. Shurcliff therefore joined with John Edsall, a member of the Academy, in requesting from NAS-NRC a public statement clarifying or correcting the report. This proved surprisingly difficult to obtain.

The two scientists began by writing and then telephoning the chairman of the NAS-NRC SST-Sonic Boom Committee, John Dunning, then Dean of the Columbia University School of Engineering. When neither these efforts nor letters to other committee members resulted in any action, Shurcliff and Edsall reluctantly decided to take the matter up with the governing board of the NAS. Finally—still having obtained no public clarification—Edsall circulated a petition among the entire membership of the Academy.

This move finally galvanized the governing board to action: the board issued a circular to the membership conceding that the meaning of the offending sentence (quoted above) could be construed as Shurcliff had construed it while asserting that Shurcliff’s was the “only technical criticism” of the report that had been received. They apparently ignored the fact that many major newspapers and even NAS’s own News Report (March 1968, p. 6) had made the same misinterpretation that had concerned Shurcliff.

Despite the governing board’s attempt to mollify the critics, 189 out of approximately 500 NAS members signed Edsall’s petitions requesting a public clarification. Other members wrote Shurcliff and Edsall privately, expressing their support. One member, himself a government official, sent the following comment based on his familiarity with the origin of the NAS-NRC SST-Sonic Boom Committee:

I was a member of the Governing Board of the National Research Council of
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The National Academy of Sciences when the request from the Government for the Academy to make this sonic-boom study was first considered. The whole affair was presented and handled in an atmosphere of secrecy and intrigue. So much was this the case that during the discussion I stated that it did not appear to me that the Academy's advice was being sought on what damage was likely to be produced by the booms from a supersonic transport, or whether such a transport should be built—that decision was apparently already a fait accompli—rather, the Academy was being asked to do a "whitewash job" on a publicly unpleasant undertaking.

All information on this subject which has come to me subsequently is consistent with that original judgement. My compliments are accordingly tendered to you gentlemen for courageously taking a position in defense of the public interest with regard to the question which the Academy should have taken, but didn't.

Although this member saw the SST-sonic-boom study as a deliberate "whitewash job," the true explanation for the deceptive way in which the SST-Sonic Boom Committee's report was written may be less blatant—more insidious. The problem may have originated in the cordial relations which usually exist between advisory committee staff and members and the agency whom they advise. These relations sometimes become so close that we may find the committee's staff ghost-writing the agency's requests for studies, on the one hand, and on the other hand agency officials participating informally in the selection of advisory committee members and in the final drafting of committee reports. It should come as no surprise that in such a system a premium is put on making reports inoffensive to the contracting agency and that the reports consequently are sometimes totally misleading.

In the end, the NAS News Report printed its own weak "clarification" of its 1968 news story on the SST-Sonic Boom Committee report, stating in part that experience has shown that some property damage can be anticipated when such planes fly over populated areas. No truly public clarification was ever issued. Nevertheless, considerable good may in the end have resulted from the vigorous efforts of Shurcliff and Edsall, for the fuss over the SST-Sonic Boom Committee's misleading report was a major inspiration to the NAS leadership in establishing a new and much more substantial review procedure for NAS-NRC reports.

The SST Community Noise Advisory Committee Report

In the summer of 1970, after Congressional testimony by Richard Garwin, Laurence Moss, and others had made clear the problem of the tremendous noise that SST engines would make at takeoff, the Department of Transportation set up an SST Community Noise Advisory Committee to consider the problem.

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Meanwhile, the anti-SST forces continued to use the airport-noise problem effectively as an argument against the SST program. In the early spring of 1971, as the final Congressional votes became imminent and it appeared that the development program might be canceled, Boeing suddenly announced that a number of modifications had been made in the SST design which reduced the airport noise to acceptable levels. Simultaneously, William Magruder, Director of the SST Development Program within the Department of Transportation, released to the media a statement from the chairman of the SST Community Noise Advisory Committee:

We conclude that the level of technology demonstrated by Boeing and General Electric [the contractor for the SST engine] is sufficient to achieve the noise level objectives we recommended [i.e., the same as for four-engine, intercontinental subsonic transport aircraft].

The advisory committee was not asked and did not report what the impact of these changes would be on the SST economics. An indication of the magnitude of this impact became available when Christopher Lydon of the New York Times learned that the principal design change was the addition of noise suppressors weighing about 50,000 pounds—a weight nearly equal to the entire payload of the previous design. Another indication of the economic nonviability of the new design came a few months later when, after further SST appropriations had been voted down by Congress, Boeing gave its terms for restarting the development program. Included in its new cost estimate was $350 million for the development of an entirely new and quieter SST engine.

With this example we conclude our presentation of case histories of how administration officials carried out their responsibilities in passing on to concerned Congressmen and citizens the technical analyses of the SST program which they had received. This sorry record is an important piece of evidence we offer to support our argument that Congress and the public need their own science advisors.

NOTES

1. The panel reports, Undersecretary of Transportation James Beggs's summary, and the letters by members of the committee protesting the contents of this summary were entered into the Congressional Record 115 (1969): 32599-32613 by Representative Yates of Illinois.
3. Ibid., p. 32126.
4. Ibid., p. 32126.
5. Ibid., p. 32128.
6. Ibid., p. 32129. Contrast these statements in the Garwin Report with the following comment by Presidential science advisor Lee DuBridge, in a letter to Rep. Henry Reuss.
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dated April 3, 1970: “It would be unfortunate to leave the impression that the [Garwin report] was 'highly critical' of the SST program.” [Reprinted in Congressional Record 117 (1971): 32125.] DuBridge’s letter stated further that the Garwin Report was prepared at President Nixon’s request and would not be released; the quoted statement was evidently intended to deceive Reuss as to the report’s actual conclusions.


9. Ibid., p. 32606.

10. Ibid., p. 32608.

11. Ibid., p. 32610.

12. Ibid., p. 32607.


15. The suit was filed by the American Civil Liberties Union on behalf of Gary A. Soucie, executive director of the Friends of the Earth, and W. Lloyd Tupling, Washington representative of the Sierra Club. Peter L. Koff of Boston was the volunteer attorney.

16. Letter from Edward E. David, Jr., President Nixon’s science advisor, to Peter L. Koff, August 17, 1971.


18. New York Times, March 5, 1968. (This story was run in early editions but removed from the final edition of this date for space reasons. We received a copy of the article from the New York Times morgue.)

19. Results of government tests over a number of cities with military jets compiled by William Shurcliff in his SST/Sonic Boom Handbook (New York: Ballantine, 1970) give an average of about $600 damage awards per million "man-booms"—even for sonic booms considerably less intense than those which would accompany the proposed SST. If we then assume that each of 400 SSTs flies 10,000 miles a day at supersonic speeds, creating a 50-mile-wide boom path populated with the average density in the forty-eight contiguous states of about 60 people per square mile, we obtain a rough estimate of 5 trillion man-booms per year and $3 billion annual damage. This calculation is obviously very approximate. We should also note that the National Bureau of Standards used the same damage awards figures compiled by Shurcliff, but used the population of the relevant metropolitan areas—instead of cities—over which the boom tests were conducted, and thus obtained an estimate of $222 damage per million man-booms. [U.S., Environmental Protection Agency, Report no. NTID 300.12, The Effects of Sonic Booms and Similar Implosive Noise on Structures (Washington, D.C.: Environmental Protection Agency, December 31, 1971).] The conclusion remains unassailable that if SSTs were flown over the United States, the damage to structures from sonic booms would be very costly. And the legal costs could dwarf the actual damage costs—see W. F. Baxter, “The SST: from Watts to Harlem in Two Hours,” Stanford Law Review, November 1968, pp. 1-57.

20. The following discussion is based on information in Dr. Shurcliff’s files.


24. Reported, for example, by Christopher Lydon in the New York Times, March 1, 1971, p. 15. We obtained a copy of the report itself from Dr. Leo L. Beranek, chairman of the SST Community Noise Advisory Committee. It was dated February 5, 1971, and was in the form of a one-page memorandum addressed to William Magruder.
