

1979

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Recommended Citation

Truver, Scott C. (1979) "The 1978 Carrier Controversy: Why Not the Kennedy?," *Naval War College Review*: Vol. 32 : No. 2 , Article 7.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol32/iss2/7>

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The future program for carrier-based naval aviation has been seen to require a choice between a follow-on Nimitz CVN and a midi-CVV. There is an option better than and no more expensive than the CVV.

THE 1978 CARRIER CONTROVERSY: WHY NOT THE KENNEDY?

by

Scott C. Truver

Epitomized by President Carter's veto of the FY 1979 Defense Authorization Bill and the subsequent failure of the House of Representatives to override that veto, a serious controversy has continued to engulf the Navy, the Department of Defense, Congress, and White House advisors over the future program for carrier-based naval aviation. The veto focused national attention on the disputed need for spending a total of \$2.4 billion (in FY 1979 dollars) for a fourth *Nimitz*-class nuclear-powered carrier that the Navy and Congress believed to be in America's national security interests. However, rather than buy a follow-on *Nimitz*, President Carter promised to include in his FY 1980 request a \$1.6 billion, 62,000-ton, conventionally propelled carrier, the "midi" CVV.

Because the veto has resulted in a 1-year extension of the carrier controversy, it would be beneficial to consider all feasible conventionally

propelled aircraft carrier alternatives available to ensure the decision that is reached on the next carrier is based on a complete review of all relevant information. Such a review necessarily should consider the costs and capabilities of an updated *John F. Kennedy* (CV-67)-design large-deck carrier. Indeed, even a cursory examination will show that a modernized *Kennedy*—the Navy's most recent conventionally propelled carrier, commissioned in 1968—is to be preferred over the CVV on a mission-effectiveness and cost-effectiveness basis. Even more important from a domestic political perspective, the *Kennedy* alternative is an elegant compromise that President Carter can use to bridge the chasm separating congressional and administration proponents of nuclear-powered large aircraft carriers and those who favor small, less costly, conventionally propelled air-capable platforms. And a follow-on *Kennedy* large-deck CV can be the "transition ship" Navy

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Secretary Graham Claytor has argued is needed if the Navy is to pursue meaningful programs for VSTOL (Vertical/Short Take-Off and Landing) aircraft expected in the 1990s. However, before turning to a comparison of *Kennedy* and the CVV, it may be worthwhile to consider briefly some of the assumptions that underlay the veto, particularly as they pertain to the future program of Navy air.

The Risks of Conventional Wisdom. The veto of the fourth *Nimitz* CVN can be seen as based on "conventional wisdom" about the Navy.¹ This conventional wisdom, that naval forces in general are becoming increasingly obsolete, in turn is founded on two assumptions: (1) the expected technological developments in threat levels and capabilities will greatly increase surface combatants' vulnerabilities; and (2) that a reliance upon quantitative policy analysis to reach decisions about future force level requirements that are tied to specific scenarios will provide all the necessary guidance for decisionmakers.

The first assumption, the imperatives of future technology, states that because of projected improvements in antiship missiles launched from surface combatants, aircraft, and submarines, and the difficulty of defending against these missiles, surface ships in the near future will be less likely to survive in combat at sea. An extension of this first assumption points to the expansion of force worldwide and the consequences for any navy structured around surface ships. Referring to the widespread sale of modern weapons to many Third World countries, Paul Cohen in an insightful *Foreign Affairs* article warned of the erosion of surface naval power that could result from small power coastal states' possession of the military wherewithal to challenge even the major naval states.² Thus, surface combatants of the future, if they are going to remain useful tools of diplomacy and

coercion, can be employed only in ocean areas of low to moderate threat levels. One result of these two considerations that was evident in President Carter's action is a growing reluctance to place "all the eggs in one basket," that is, to devote increasingly greater national resources to a single, offensive naval platform, the large-deck aircraft carrier. Rather, proponents of a "new Navy" argue that it would be much better to develop smaller, air-capable platforms that cost much less on a per-ship basis, and thereby disperse airpower throughout the fleet, making it more difficult to destroy in a coordinated attack the Navy's major offensive and defensive assets.

But this belief in the increasing vulnerability of large aircraft carriers ignores the conclusions of a number of recent civilian, DoD, and Navy analyses that point out the greatly enhanced self-defensive capabilities of modern surface warships, particularly the multi-purpose aircraft carriers. Furthermore, it should be borne in mind that self-defense features are driven by the same technological imperatives that have resulted in increased threat levels. One such study, the congressionally-mandated Assessment of Sea Based Air Platforms Project of February 1978, clearly showed that large aircraft carriers that have incorporated into their design modern armor and passive protection features as well as modern active self-defense measures are more likely, not less, to survive in the high threat environments of the 1980s and beyond. This, plus the advantages of more propulsion shafts and catapults, larger aviation fuel and ordinance loads, and greater combat endurance will increase the effectiveness of large aircraft carriers *vis-à-vis* small air-capable ships in the years ahead.

More, the future development of VSTOL aircraft, aside from the advantage of making tactical airpower available to a greater number of surface

ships, is likely to improve the combat capabilities of all types of aircraft carriers. The addition of VSTOL aircraft to a large carrier's air wing would make it possible for that ship to carry out its missions even after suffering damage to its propulsion plant, catapults, arresting wires, or deck area. And, given the introduction into the fleet of new defensive technologies—e.g., the *Aegis* integrated air defense system, the *Vulcan-Phalanx* Close-In-Weapon-System, and long-range anti-air missiles—and new tactics for their use, the large-deck carriers will become even more capable of achieving mission objectives in regions of the greatest potential threat.

Another aspect of the veto—an over-reliance on quantitative policymaking—was evident also in the decision announced by the Secretary of Defense early in 1978 to shift the Navy's basic function from worldwide selective sea control to the defense of the Atlantic sealanes in the context of a NATO/Warsaw Pact conflict. This decision, the cancellation of an aircraft carrier perceived as "too much ship" for expected future roles, and the design of the CVV carrier alternative, apparently were reached on the basis of a "method of decision making that relies heavily, in the military field, on designing forces to cope with very specific scenarios, utilizing complex computer models dependent on numerous detailed assumptions."³ In certain applications the use of quantitative analysis and the "systems" perspective can lead to balanced force structures within budget constraints established *a priori*. However, this approach to designing a Navy for the future may rely too heavily upon highly detailed scenarios and, thereby, ultimately may be unrealistic.

The ships being designed and constructed in the late 1970s and early 1980s will be operating well into the next century, at a time when the assumptions and expectations under which those ships were designed simply

may no longer be valid. Rather than design a ship for a specific set of missions to be carried out within expected scenarios, a more realistic approach would be to arrive at a ship design that is capable of carrying out a wide range of missions. These ships, therefore, must be highly flexible in terms of, first, being able to accept the expected technological changes in weapons and sensors to be carried on board, and, second, being able to be used for a number of different roles. In the post-World War II period, U.S. naval forces, and particularly the highly flexible large aircraft carriers, have been able to accommodate necessary technological alterations and have been used in a wide variety of contingencies, from the demonstration of peacetime political presence to the launch of tactical airstrikes in war. Because of the global nature of future U.S. economic, political, and military interests, the naval forces being constructed today must be both versatile and flexible, capable of quickly and effectively responding to widely separated and multilevel threats to American interests.

In retrospect, then, the conventional wisdom about the Navy fails to recognize that multipurpose large-deck aircraft carriers have been, and will remain, one of the most effective tools to deter conflict and manage international crises. In a larger perspective, rejection of the follow-on *Nimitz* in favor of the CVV may result in less combat capabilities and naval flexibility in the late 1980s and the next century.

The International System and the Uses of Naval Airpower. A 1976 Brookings Institution study, *The Use of the Armed Forces as a Political Instrument*,⁴ reported that of the 215 incidents in which the United States employed its armed forces for political purposes—not for actual combat as in Korea or Vietnam—between 1946 and 1975, naval units participated in

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177 incidents (82 percent); alone in 100 incidents (47 percent). And, although the Navy participation sometimes varied, the Brookings study found that since the mid-1950s the trend has been toward a greater Navy participation: on the average, the Navy had been involved in over 90 percent of all incidents over that 20-year period. Because of the inherent characteristics of easy mobility, operational and tactical flexibility, and capabilities for a graduated effect upon the target nation, surface combatants can be used more subtly to support U.S. foreign policy objectives and therefore have been relied upon more often in the postwar period than have land-based forces.⁵

More significant for the present discussion, the Brookings study reported that when U.S. naval forces were relied upon, carrier-based airpower was turned to most frequently. U.S. aircraft carriers took part in 60 percent of the incidents involving naval forces and slightly more than half of all the incidents studied. Furthermore, aircraft carriers tended to be used more often in political contexts characterized by international violence and also in those incidents in which the Soviet Union or the People's Republic of China was involved. Aircraft carriers, in addition to being the most powerful weapons in America's naval general-purpose arsenal, have been a singularly important diplomatic tool used to communicate intense American interest in the outcome of a crisis.

However, the Brookings study underscored one important point: naval forces, principally because of their operational flexibility and mobility, at times failed to achieve the stated policy objective. Because navies do not necessarily depend upon foreign shore basing and can easily be withdrawn, the insertion into a crisis of purely naval assets in many of the 215 incidents did not signify to the target countries as great a degree of U.S. commitment and resolve

as did the insertion of ground troops or land-based airpower. Simply because ground forces or land-based air forces are less easily withdrawn once in country, and because significant base support must accompany their insertion for anything other than very short durations, the introduction of elements of the Army, Air Force, or Marines into a crisis tended to signify a major U.S. commitment and willingness to take larger political and military risks. This decision, in turn, produced a greater effect on the leadership of the target country and, more often than naval forces alone, produced the desired outcome as defined by U.S. objectives.⁶

Nevertheless, if, because of the global dimensions of the potential Soviet and Third World threats facing the United States and the highly varied nature of those threats, Washington must rely upon naval forces simply because they are easier to move about and can respond quickly and at a high level of operational readiness, then the United States must be equipped to insert into a crisis the most capable naval assets available: large-deck aircraft carriers and their escort combatants. There are two reasons for this conclusion.

First, the potential threats the United States is likely to face over the next quarter-century, even at the lowest level of violence, are increasing rapidly in offensive capabilities. In order to have any lasting effect on the outcome of a crisis or naval confrontation, the naval assets the United States employs must possess clearly visible, extensive combat capabilities, both offensive and defensive. Yet, as Third World countries shed their "small power complexes" and their self-perceptions and proclivities to challenge America and the West are emboldened by the acquisition of modern antiship weapons, the symbolic act of "showing the flag" by U.S. warships may be of less effect. Although a single U.S. warship or task force without a carrier deployed could still serve a

symbolic function in the early hours of a crisis (i.e., as a portent of an additional military response by the United States if the target country does not comply with U.S. desires, rather than as the agent for that response), Third World countries may choose to challenge that ship or task force on the assumption that the United States will not become more extensively involved, especially with ground forces. This perception may have been strengthened by America's immediate post-Vietnam war unwillingness to become mired in similar military conflicts. However, if the United States will continue to rely upon naval forces for crisis management roles, these ships must be able to protect themselves from all likely military challenges. And, if so required, these ships must be able to mount an adequate military response to those threats. As currently configured, the large-deck carrier task group possesses significant combat capabilities that make it appropriate for crisis management.

Second, because the inherently psychological nature of the target country's leadership perception of U.S. resolve and commitment has been shown to be dependent upon the type of forces the United States employs, if naval forces are used the ships must be "capital" assets. That is, if a major U.S. commitment and a strong willingness to intervene are to be demonstrated, then major warships must be employed, particularly in crises as opposed to normal peacetime "presence" operations. In such a highly subjective and psychological perception process, carrier task groups will clearly signify strong U.S. resolve and high interest in the favorable resolution of the crisis. This is so because these task groups are structured around the Navy's most capable and costly—in terms of national resources, men, and weapons devoted to a single platform—ships. By committing an aircraft carrier to a high-risk situation, in effect putting all of its eggs in one

basket, the United States will unambiguously communicate its perception of the gravity of the crisis and its high interest in an advantageous outcome. Of course, the routine maintenance of "low mix" combatants or even auxiliary vessels in world regions important to America but where serious threats to peace are absent remains a normal peacetime operation.

For these two reasons, one military and the other inherently psychopolitical, the aircraft carrier will continue to be the most appropriate instrument for the management of crises. Furthermore, if carriers are to be the central component of a U.S. naval response to threats against America's global interests, the carrier employed should be the most capable ship the country can buy consistent with existing domestic political and fiscal constraints.

Policy Options for FY 1980. The Navy and the Department of Defense have determined that a 12 active carrier force level is marginally adequate to meet normal peacetime operations. When *Carl Vinson* (CVN-70) is delivered in late 1981, the Navy will have four nuclear-propelled carriers, eight oil-fired carriers of the postwar *Forrestal/Kitty Hawk* classes, and two World War II carriers, a total of 14 ships. However, *Coral Sea* (CV-43), which entered the fleet in 1947, has no air wing assigned and is not considered routinely deployable. Furthermore, beginning in FY 1981, the *Forrestal/Kitty Hawk* carriers built during the 1950s and 1960s will be undergoing an extensive, 28-month Service Life Extension Program (SLEP) that aims to modernize these ships and extend their useful lives from 30 to 45 years. This program plus the nondeployable status of *Coral Sea* will effectively reduce the active carrier force to 12 ships during each SLEP period. (Figure 1 shows projected carrier force levels through the mid-1990s.) Between 1980 and 1990, the Navy will retire or place

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	Actual 1978-1980	1981-1985	Projected 1986-1995
Active:	8 <i>Forrestals</i> 1 <i>Enterprise</i> 2 <i>Nimitzs</i> 1 <i>Midway</i>	7 <i>Forrestals</i> 1 <i>Enterprise</i> 3 <i>Nimitzs</i> 1 <i>Midway</i> ²	7 <i>Forrestals</i> 1 <i>Enterprise</i> 3 <i>Nimitzs</i> 1 <i>Kennedy</i> follow-on
Contingency Reserve:	1 <i>Coral Sea</i>	1 <i>Coral Sea</i> ³	1 <i>Midway</i>
SLEP Overhaul:		1 <i>Forrestal</i>	1 <i>Forrestal</i>
New Construction:	1 <i>Nimitz</i> ¹	1 <i>Kennedy</i> ⁴	

¹ CVN-70, *Carl Vinson*.

² *Midway* will be available for limited active duty to compensate for SLEP overhauls. Will probably be retired in 1990.

³ *Coral Sea* will not be deployed on active duty but will be kept in "contingency reserve" status. Will probably be retired in 1985.

⁴ CV-71, follow-on *Kennedy*, if funded in FY 1980.

Fig. 1—U.S. Aircraft Carrier Force Levels

in a "contingency reserve" status the remaining World War II carriers, *Coral Sea* and *Midway* (CV-41), although both ships, already over 30 years old in 1979, at times could be required to remain on active status to maintain 12 active decks until the carrier funded in FY 1980 enters the fleet sometime after 1986.

A massive carrier construction program is unwarranted to remedy the expected shortage of active decks in the near future. Rather, based upon the objective need to maintain 12 active carriers in the fleet, most Navy and civilian authorities—including President Carter—agree that only one more carrier must be built in the 1980-1986 period. That being the case, the United States should procure the most capable ship available at a reasonable cost. The Assessment of Sea Based Air Platforms analyses carried out by the Navy showed unequivocally that the *Nimitz*-class nuclear-propelled carrier is the most capable and survivable ship compared to all alternative designs. The

Nimitz carriers—as well as the nuclear-powered *Enterprise* (CVN-65) and, to a slightly lesser extent, the eight conventionally propelled *Forrestal/Kitty Hawk* carriers in the fleet in 1978—can deal with a much higher level of threat from hostile aircraft, cruise missiles, submarines, and surface ships than the Administration-favored CVV.

However, because of the fourth *Nimitz* carrier's very high cost of approximately \$2.4 billion, President Carter was unwilling to buy one more of these highly capable, nuclear-propelled ships, and instead chose to request the "midsized" CVV in FY 1980. The CVV, an "on-paper" ship design estimated to cost at least \$1.6 billion in FY 1980, simply cannot carry out the same warfare tasks as the CVNs and the large-deck CVs. These existing ships are designed for ocean strike, ocean area control, theater strike, and tactical interdiction ashore roles, and will be able with a large margin of certainty to defeat most of the threats presented by

the Soviet Union and Third World countries in the years ahead.

If the next carrier must be oil-fired, in an effort to hold down costs, the CVV may not be the most attractive alternative available to the Navy and the United States. Rather than buy a design that was predicated upon a political compromise of capability for lower cost—a compromise in 1978 based upon a comparison of the CVN and the CVV—the Navy should investigate comparisons of cost and capability between an updated *John F. Kennedy* (CV-67) design and the CVV. (Figure 2 shows the principal characteristics of these two ships.) The characteristics of *Kennedy* result in certain operational advantages over the CVV. *Kennedy* has four cata-

pults and four aircraft elevators, compared to two each for the CVV, and therefore would permit a greater operational tempo than that possible by the CVV. Furthermore, *Kennedy* carries twice the aviation ordnance and over twice the aviation fuel as the CVV. And *Kennedy's* air wing of 85-90 aircraft is about one-third greater and more capable than that of the CVV. (Figure 3 lists some of these advantages, in the form of ratios, with data for the CVV taken as unity.)

Kennedy's larger size and more capable aircraft handling features provide additional advantages over the CVV:

- Better seakeeping ability that permits flight operations to be conducted in higher sea states

	CVV	<i>Kennedy</i>
Length overall (feet)	912	1,051
Beam, maximum (feet)	256	252
Full load displacement (tons)	62,400	80,200
Maximum number of aircraft	50-64	85-90
Aircraft elevators	2	4
Aircraft catapults	2	4
Accommodations (ship and air wing)	4,100	5,500
Propulsion plant	oil-steam	oil-steam
Shaft horsepower	140,000	280,000
Propeller shafts	2	4

Fig. 2—Principal Characteristics

	CVV*	<i>Kennedy</i>
Aviation ordnance	1	2.0
Aviation fuel	1	2.2
Number of aircraft	1	1.4
Aircraft catapults	1	2
Aircraft elevators	1	2
Propulsion power	1	2
Propeller shafts	1	2
Maximum speed	1	1.1
Endurance, ship's stores (days)	1	1.5
Endurance, nautical miles	1	1.5

*Data for CVV taken as unity

Fig. 3—CVV, *Kennedy* Comparison

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- More propulsion shafts, catapults, elevators, and arresting wires providing additional operational safety and survivability in combat

- Greater number of aircraft catapults minimizing launch times and raising task group reaction time and speed of advance

- More space available for stowage of fuel for escorts, thus increasing battle group independence

Kennedy is an improved *Kitty Hawk*-class carrier, a class itself an improvement over the earlier *Forrestals*, the first carriers built in the United States after World War II. A follow-on *Kennedy* design carrier therefore would benefit from the operating experience of eight earlier, similar ships, the first of which, *Forrestal* (CV-59), was commissioned in 1955. Lessons learned from the operation of *Enterprise* and *Nimitz*-class carriers, approximately similar to *Kennedy* in size and aircraft handling capabilities, also would be incorporated into an updated *Kennedy* design, as would the most modern electronics/sensors and active/passive shipboard defensive features. As configured in 1978, *Kennedy* is a mature, highly successful, modern aircraft carrier design, proven by many years of operational experience, several of which were in combat in Vietnam. The CVV, on the other hand, is an entirely new ship design that has not yet progressed to the detailed engineering design stage.

The cost of an updated *Kennedy* has been estimated by the Navy at approximately \$1.7 billion in FY 1980 dollars, compared to about \$1.6 billion for the CVV. The costs of operating *Kennedy's* larger air wing and of the additional fuel required for its more powerful engineering plant would raise the life cycle costs above those of the CVV. However, life cycle costs, driven principally by the size of the embarked air wing, could be reduced by operating a smaller air group of CVV size, to be augmented by Marine or Naval Reserve aircraft when

the situation so requires. This inherent feature of the larger *Kennedy* design provides for greater operational flexibility than that available in the smaller CVV. Additionally, the costs of building and operating a CVV are likely to be higher than anticipated because it is a new ship design with new requirements for logistics support, repair and maintenance facilities, and personnel training. A follow-on *Kennedy* would be identical in most essential aspects to eight other carriers already in the fleet and would fit smoothly into the existing support and training structures.

Some Recommendations. In light of the probable international political, economic, and military conditions in which the United States will act to protect its interests over the next 30 to 40 years, and the high utility of general-purpose naval forces to preserve those interests, the United States should procure the most capable and flexible aircraft carriers possible consistent with domestic political and fiscal constraints. The country cannot afford an unlimited shipbuilding program that would aim for an all nuclear-propelled carrier force. But neither can the United States afford the false economy and apparent shortsightedness of procuring warships of limited capabilities and usefulness simply because of their lower costs. Taking into account these issues, the stated objective of maintaining a 12-carrier force into the 21st century, and the relative costs and capabilities of the alternative platforms under examination in 1978-1979, two specific recommendations can be offered.

First, the Navy should undertake an extensive review of the available design and cost data for the CVV or a *Kennedy* follow-on to be begun in FY 1980. If the estimates available in 1978 are supported by additional scrutiny, the *Kennedy* design should be used for the CV-71. Aside from the apparent cost and operational advantages of a

Kennedy follow-on relative to the CVV, a Kennedy design CV-71 would serve well in quieting the dispute that has embittered pronuclear/large-deck and prosmall carrier factions in the Navy, Congress, and the Administration.

And second, the Navy should proceed carefully with design studies for the other air-capable platform alternatives under discussion in 1978 and 1979. The VSTOL Support Ship (VSS) concept, the air-capable *Spruance*-class destroyer (DD-963 H), and other smaller, specialized air-capable ship designs appear attractive for the limited warfare tasks for which these ships are intended—convoy escort and antisubmarine warfare operations—but only if the future development of VSTOL aircraft is successful. If required before the next generation of VSTOL aircraft is available (expected sometime in the late 1990s), these ships can be configured to

operate with existing VSTOL aircraft (AV-8B/B-Plus Harrier) or helicopters to provide the necessary open ocean ASW and anti-air protection for convoys or small task forces, and to relieve the CVN/CV force of the requirement to assist in this assignment.

BIOGRAPHIC SUMMARY



Scott Truver has undergraduate and graduate degrees in political science and received his Ph.D. degree in Marine Affairs from the University of Delaware. He is now Technical Staff Assistant for Marine

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NOTES

1. James Woolsey, "Planning a Navy: The Risks of Conventional Wisdom," *International Security*, Summer 1978, pp. 17-29.
2. Paul Cohen, "The Erosion of Surface Naval Power," *Foreign Affairs*, January 1971, pp. 330-341.
3. Woolsey, p. 21.
4. Barry M. Blechman and Stephen S. Kaplan, *The Use of the Armed Forces as a Political Instrument* (Washington: Brookings Institution, December 1976), especially chap. IV.
5. Edward N. Luttwak's *The Political Uses of Sea Power* (Baltimore: Johns Hopkins University Press, 1974) provides a comprehensive analysis of the uses of navies in situations short of war.
6. James A. Nathan and James K. Oliver discuss the past and future uses of naval force and the possible future international constraints on the exercise of seapower in "The Evolution of International Order and the Future of the American Naval Presence Mission," *Naval War College Review*, Fall 1977, pp. 37-59.

