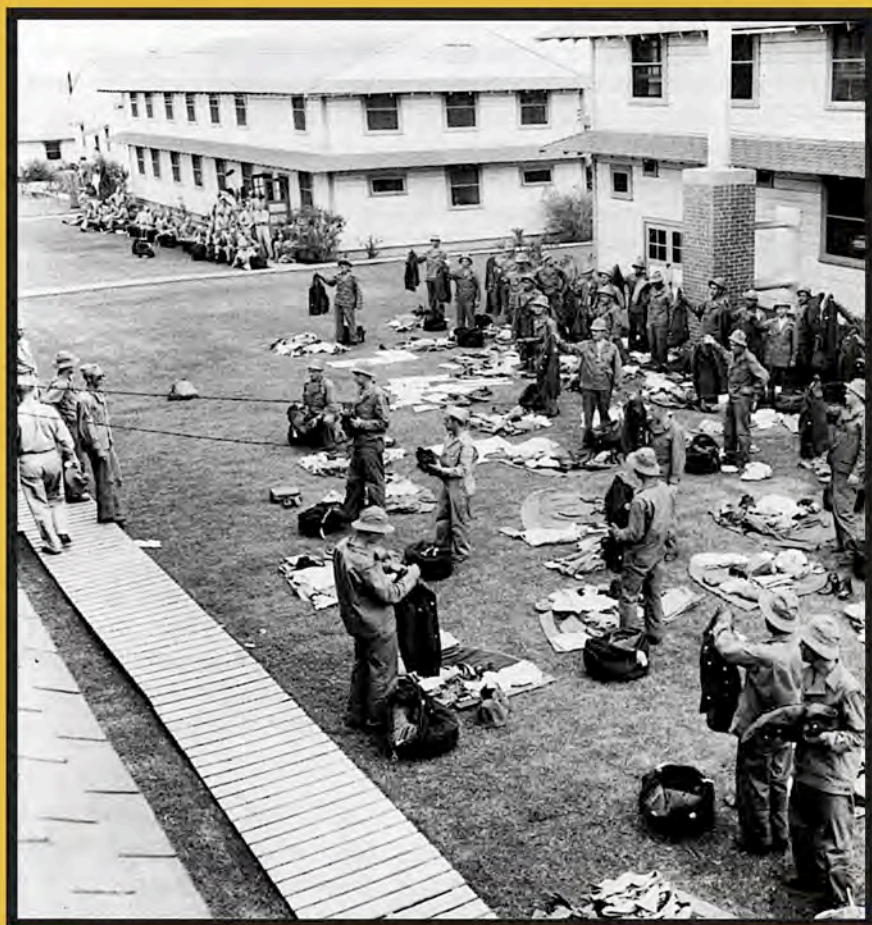


# MOBILIZATION



The U.S. Army in World War II  
The 50th Anniversary

# Introduction

World War II was the largest and most violent armed conflict in the history of mankind. However, the half century that now separates us from that conflict has exacted its toll on our collective knowledge. While World War II continues to absorb the interest of military scholars and historians, as well as its veterans, a generation of Americans has grown to maturity largely unaware of the political, social, and military implications of a war that, more than any other, united us as a people with a common purpose.

Highly relevant today, World War II has much to teach us, not only about the profession of arms, but also about military preparedness, global strategy, and combined operations in the coalition war against fascism. During the next several years, the U.S. Army will participate in the nation's 50th anniversary commemoration of World War II. The commemoration will include the publication of various materials to help educate Americans about that war. The works produced will provide great opportunities to learn about and renew pride in an Army that fought so magnificently in what has been called "the mighty endeavor."

World War II was waged on land, on sea, and in the air over several diverse theaters of operation for approximately six years. The following essay on the wartime mobilization effort supplements a series of studies on the Army's campaigns of that war.

This brochure was prepared in the U.S. Army Center of Military History by Frank N. Schubert. I hope this absorbing account of that period will enhance your appreciation of American achievements during World War II.

GORDON R. SULLIVAN  
General, United States Army  
Chief of Staff

# Mobilization in World War II

The modern process of preparing armies for war originated in the middle of the nineteenth century. The recruitment of volunteers to fill the ranks no longer sufficed. Governments turned to conscription, created huge forces, and harnessed their national economies to conduct war. The word *mobilization* was first used in the 1850s to describe the preparation of the army of Prussia for deployment. The American Civil War marked the appearance in the United States of the draft and mass armies, along with the organization of productive resources to sustain them. The volunteer tradition of the minutemen was on its way to becoming little more than a sacred memory, and the logistical simplicity of the American Revolution was gradually falling by the wayside. The era of mobilization—the reallocation of a nation's resources for the assembly, preparation, and equipping of forces for war—had arrived.

The very size of the forces assembled during the Civil War, with millions of men under arms at one time or another, bespoke a new era. Moreover, the principle of a national military obligation was successfully asserted by both sides, and the Confederacy sought to organize its economy to prosecute the war. In the years that followed, as the United States became an industrial power with interests beyond its borders, this growing stature and the wartime experience in Cuba, the Philippines, and along the Mexican border compelled Congress and military leaders to think more about mobilization issues. In 1903 the Army acquired a General Staff, whose mission included planning for mobilization and defense. Thereafter, signs of a broader conception of the Army's role appeared in revised field service regulations and in training exercises involving ever-larger troop organizations.

## *World War I*

The United States went to war on the side of the Allies in April 1917 without stockpiles of equipment or plans for creating them. Worse, the Army had no clear idea of the character and magnitude of its wartime needs and no detailed specifications for production of many kinds of equipment. Had such plans existed, they would have been of little use anyway because so little was known about the nation's industrial capacity, including the location and productivity of various industries. What lay ahead was improvisation in the face

of unforeseen crises to compensate for inadequate planning and preparation.

At least the main manpower issue was soon solved. In May 1917 President Woodrow Wilson approved a draft law. The Selective Service System that was born in the World War was based on universal susceptibility and selective service. Although a national system, it was locally administered and based essentially on consensus rather than coercion. The system became the basis for raising wartime armies for the next five decades.

Producing equipment, supplies, and facilities turned out to be a far greater challenge than manpower. The Army had no experience with big business. The independent, decentralized bureaus at the heart of the supply system, left over from Indian-fighting days, often seemed more adept at defending their individual prerogatives than supplying a large army. As the Army and the Navy competed with each other for products, raw materials, and plant capacity, bureaus forced up prices, increased production costs, and generated excess profits. The bureaus also caused acute congestion of transportation facilities, almost paralyzing the war effort.

In response to these difficulties, President Wilson established the War Industries Board in July 1917. This board, eventually under Bernard M. Baruch, coordinated purchasing by agencies of the Army and Navy and fixed production priorities. Other agencies tended to act in concert with the board's allocation decisions. The Fuel Administration, for example, looked to the board for mining machinery and the priorities on which it shipped coal. The armed services also depended on the board, submitting their needs for scarce items to determine allocations and transportation priorities.

The centralized determination of priorities under the board facilitated logistical consolidation within the War Department, with Maj. Gen. George W. Goethals of Panama Canal fame in charge. The process forced the Army to settle its own questions of priority before dealing with the board. After the bureaus resolved their internal priorities, they sent their requests to the Army priorities officer in Goethals' Purchase, Traffic, and Storage Division. There, conflicts among bureaus were resolved before requests went to the War Industries Board. Though success was a long time coming and the effort was always hindered by a lack of data regarding requirements and resources, the board, under Baruch, went a long way toward achieving the central control needed to manage the wartime economy.

The industrial performance of the nation in support of mobilization was remarkable. At the war's end, the United States had an army

of over 3.5 million and huge equipment surpluses. There was no longer any question about the nation's ability to marshal the resources for war. As logistics historian James Huston noted, the United States "had revealed the greatest war-making capacity that the world had ever seen."

Still unclear was the nation's willingness to learn the war's lessons about preparedness. It was plain that the materiel side of mobilization was the most costly, complex, and time consuming. The war, Assistant Secretary of War Benedict Crowell said, had "upset the previous opinion that adequate military preparedness is largely a question of trained manpower."

### *The Interwar Years*

The next two decades saw the first serious peacetime efforts to deal with shortcomings on the materiel side, but a full awareness of the challenge came only gradually. The National Defense Act of 4 June 1920 charged the assistant secretary of war with planning for industrial mobilization and responsibility for the War Department's procurement. The act represented a first step toward recognizing that modern warfare, with its demands for huge mechanized ground forces armed with sophisticated weapons and the ability to move over large fronts, demanded that the entire national economy be harnessed.

Recognizing the scope of this relationship between the economy and the capacity to make war, Baruch suggested in the 1920s that mobilization be placed on a broader footing. He proposed planning for procurement of industrial materials in wartime through joint committees of industrialists and military officers. But his suggestions were never acted upon. At the time, America had retreated into isolationism, and the prospect of having to engage in another large conflict seemed remote. So, recognition that mobilization required government control of the economy did not lead immediately to the establishment of a central mobilization planning agency.

With the assistant secretary in charge, actual planning for identification of the Army's needs was done in the War Plans Division of the General Staff. Two major innovations marked the early years of Army staff planning. One was the establishment of the joint Army and Navy Munitions Board in June 1922. This board, made up of the assistant secretaries of the two services, brought the Navy, a potential competitor for wartime resources, into the planning process. By 1929, the board adopted a joint strategy, and, two years later, the board expanded to include a permanent executive committee. The other innovation was

the creation of the Army Industrial College, the first institution of its kind. The one-year curriculum gave officers the chance to study mobilization from a wide variety of perspectives. Faculty and students contributed to the preparation of the industrial mobilization plans that emerged in the 1930s. The establishment of the board and college showed vision and an understanding that mobilization transcended the Army.

In 1923 the General Staff produced its first peacetime plan for the assembly of an army. The plan called for six field armies with a strength rising from 400,000 on the day of mobilization—known as M-day—to 1.3 million in four months and increasing every month thereafter. It acknowledged that the availability of supplies and equipment determined the rate at which troops could be absorbed. However, the plan neglected the critical issue of the resources needed to create the supplies on which mobilization depended. It assumed that production would adjust to strategic plans, expanding when necessary and contracting when not. It also left unresolved the question of whether different plans were needed for different contingencies.

This initial plan incorporated the outmoded World War I concept of M-day as the basis for planning. In the summer of 1914 the European armies, one after the other, had mobilized on specific M-days, triggering complex and apparently irreversible processes that followed rigid timetables. These mobilizations generated similar responses from adversary armies and made hostilities almost inevitable. But M-day as a concept and tool for planning was more convenient than helpful. It made no allowances for gradual changes in preparedness or a measured transition to a mobilized state. Instead, it posited an overnight complete conversion. In the interwar period, the M-day fixation kept American planners from visualizing any situation that required implementation of mobilization measures before the official outbreak of war.

The plan's first thorough revision in 1925 failed to correct this shortcoming. In fact, the 1928 plan represented a step backward, giving supply a secondary position and putting the emphasis back on manpower. Materiel, only recently considered the pacing factor, was assumed to take care of itself. Men would simply be equipped, supplied, and trained as they entered service.

While these plans for the assembly of forces for war were being developed, separate plans for wartime procurement were under way in the War Department. The assistant secretary's office relied on the supply services for detailed planning on wartime procurement, a task that was clearly understood to be part of the military mission. Procurement

planning for mobilization involved assessing the types of supplies and equipment needed to meet given emergencies and calculating quantities needed at specific intervals. Each supply branch had its own procurement planning section as early as May 1921. In the 1920s the needs of the War Department represented the bulk of requirements for a war production program. The supporting mobilization plans for raw materials, labor, power, fuel, and transport, as well as the associated development of economic controls, were seen as derivative functions.

By 1930, procurement planning had gone far enough that War Department attention could turn to a system for presidential control and direction of industry in an emergency. Moreover, with the Army finally using up its World War I surplus stocks, new procurement was becoming critical. Depression-era retrenchment, most severe in 1933–34, still held back purchasing. However, an upward trend in appropriations followed, and procurement planning expanded. It included surveys and the allocation of manufacturing plants among the procuring services, along with production studies and even occasional “educational” orders—small actual orders that gave manufacturers experience with military specifications and standards and other aspects of providing needed supplies to the Army. This process added realism to the program.

Industrial mobilization planning, as understood by the end of the 1920s, concerned all activities necessary to ensure the success and minimize the burdens of wartime procurement. The series of industrial mobilization plans that started in 1930 and culminated in 1939 finally came to grips with the old assumption that supplies would simply be available when needed. The plans also went beyond the role of the Army and examined how the nation should organize the control of industry in war. Implicit was the expectation that management of the economy and, particularly, control of industry in wartime were presidential functions that would be exercised through temporary agencies run and largely staffed by civilians. This assumption reflected a realistic understanding of the American political system and the transcendent character of industrial mobilization. The issue was bigger than any one service or department.

The plans showed familiarity with the tools for wartime economic control, from preference lists and priorities for facilities and commodities, to control of foreign trade, and, as a last resort, to the establishment of government corporations, price controls, and seizures. The editions of 1930, 1933, 1936, and 1939 amounted to administrative blueprints for wartime civilian control and direction of the nation’s resources.

Each version centered on national agencies that would control production. Early editions included four superagencies, managing war industries, selective service, public relations, and labor. By 1936, the War Industries Administration, which was understood from the start to be the largest and most important wartime agency, had been renamed the War Resources Administration. Its responsibilities were to include control of war finance, trade, labor, and price control organizations, with only the selective service and public relations still autonomous. The superagency, which would have powers beyond those of the War Industries Board, also would be responsible for acquiring and controlling strategic and critical materials. The plan's greatest flaw lay in its failure to consider effective control over the allocation of basic materials, such as steel, copper, and aluminum.

In the development of these plans the Army-Navy Munitions Board showed its usefulness. With the Navy an increasingly active participant but the office of the assistant secretary of war still the driving force, the board sponsored the industrial mobilization plans of the 1930s. In so doing, it actually became a transitional agency, until the establishment of the projected civilian superagency at the outset of war. As such, the board drew up lists of critical materials, studied raw material needs, and eventually obtained modest appropriations for importing and stockpiling critical materials. The board also made industrial surveys and apportioned productive capacity of firms and industries whose products were sought by both services. By mid-1939, President Franklin D. Roosevelt recognized the board's importance by placing it in the executive office of the president. Thereafter, Roosevelt had direct control of the board, which in turn enjoyed unanticipated prestige and visibility.

By 1939, the industrial mobilization plans broke free of the M-day concept. That year's plan stipulated that the War Resources Administration should be established as early as practicable when an emergency was envisioned. No longer would economic mobilization for war be tied to the actual outbreak of hostilities. The policy change tacitly recognized the increasingly hostile international environment and the long lead-times necessary to produce the increasingly sophisticated tools of war.

### *The Protective Mobilization Plans*

While the industrial mobilization plans dealt with broad national aspects of planning, the Army staff prepared a series of protective mobilization plans that began to appear in the mid-1930s. Each con-





*Army and Navy Munitions Board, with Executive Committee, 27 June 1941. Left to right: Brig. Gen. Charles Hines, USA; Brig. Gen. H. K. Rutherford, USA; Robert P. Patterson, Under Secretary of War; James Forrestal, Under Secretary of the Navy; Capt. E. D. Almy, USN; Capt. A. B. Anderson, USN. Back row: Maj. G. K. Heiss, USA, Assistant Executive Secretary; Col. H. S. Aurand, USA; Comdr. V. H. Wheeler, USN; and Comdr. L. B. Scott, USN (Ret.). (National Archives)*

centrated directly on the Army's role in a possible conflict. They addressed the size and composition of an initial defensive force and its support. Although starting with more sophisticated assumptions that took into account industrial resources and capabilities, these plans were essentially descendants of the plans and procurement studies of the 1920s.

The protective mobilization plans bridged two gaps. They sought to mesh production schedules and the early needs of the Army to bring together the rates of troop and materiel mobilization. In addition, they provided for a small and well-equipped emergency force, called the initial protective force, to provide security during general mobilization. Basically, this force of 400,000 consisted of the then available Regular Army and National Guard.

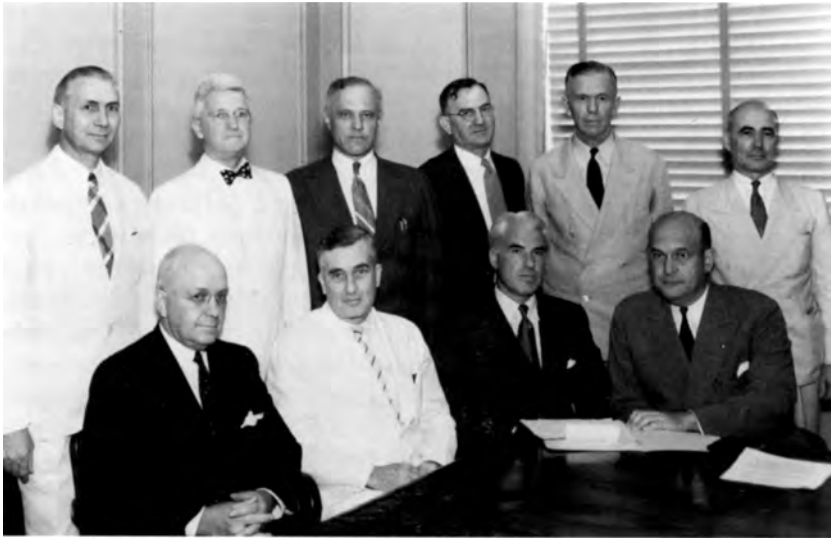
Overall, the 1939 version was sound enough to become the permanent basis for mobilization. The plan provided for training, incor-

porating the location, size, and schedule for establishing training centers; outlined detailed unit and individual training programs; and provided for the production of manuals and associated training material. It established a point of departure, a system for mobilization of the men and equipment already available. Like the industrial plan of the same year, the protective plan stepped back from the M-day assumption and began to see mobilization as a process that should begin well before the United States became involved in a war. The plan neglected the important area of construction of adequate troop housing and other facilities, but otherwise it was a succinct, coherent proposal based on realistic assumptions.

Political variables that mobilization planners could not control and may not have understood were still significant. The soundest plan was useless if the country was not prepared to accept it. Although Japan, Italy, and Germany actively pursued policies of imperial expansion in 1939–40, domestic realities in the United States included a public largely alienated from participation in world affairs. The twenty years since the end of the Great War had seen the breakdown of an international system based on the League of Nations and arms limitation agreements. The resultant American disillusionment with international affairs expressed itself in strong isolationist and pacifist sentiments.

Although President Roosevelt neither shared nor pandered to this viewpoint, he understood the strength of the isolationist position. With one eye on his upcoming reelection bid in 1940, he acted carefully. Some of his New Deal supporters, notably labor leaders, feared that a preparedness drive centered on a powerful War Resources Administration would undermine much recent social legislation. So, rather than begin a massive central rearmament effort, he launched a limited preparedness campaign at the start of 1939, with his emphasis on increasing the striking power of the Army Air Corps. The Army, in turn, used the opportunity of the air buildup and the \$575 million appropriation for a more balanced expansion. Momentum picked up after the German invasion of Poland in September and the outbreak of a general European war. Proclaiming a limited national emergency, Roosevelt authorized an increase to 227,000 for the Regular Army and to 235,000 for the National Guard.

Despite abandonment of the industrial mobilization plan, the start of mobilization could be discerned by the end of 1939. The president was moving in a way unforeseen by the planners of the 1930s, with no superagency atop a network of coordinating and integrating machinery. Roosevelt did agree on an alternate structure, accepting Assistant Secretary of War Louis Johnson's proposal to set up a War



*The War Resources Board. Back row: Comdr. A. B. Anderson, Naval Liaison Officer; Admiral Harold R. Stark; Dr. Karl Compton, President, Massachusetts Institute of Technology; John L. Pratt, Director, General Motors Corp.; General George C. Marshall, Chief of Staff, USA; and Col. H. K. Rutherford. Front row: Dr. Harold G. Moulton, President, the Brookings Institution; Charles Edison, Assistant Secretary of the Navy; Edward R. Stettinius, Chairman of the Board, U.S. Steel Corp. (Chairman); and Louis Johnson, Assistant Secretary of War. (DA photograph)*

Resources Board to advise the Munitions Board on economic mobilization policies, survey materials and facilities, plan for price controls, and study special issues, such as the production of synthetic rubber. The board was six weeks old when a hostile public reaction, based on the lack of labor or farm representatives, convinced the president to abandon it.

The U.S. mobilization pace picked up in the wake of German military successes in the spring of 1940. This phase, usually called the defense period, represented a transitional stage similar to the one envisioned by the abandoned industrial mobilization plan. In May 1940 Roosevelt called for 50,000 new aircraft and a supplemental defense appropriation. He also set up an Office of Emergency Management in his executive office to coordinate the effort, and he revived the

Advisory Commission of National Defense to assess problems of mobilizing resources and to prepare comprehensive plans for various stages of mobilization. But the commission itself did not last the year, and its successor, the Office of Production Management, was also soon abolished. The political climate was still not receptive to a full-scale industrial mobilization.

Although full-scale mobilization remained politically impossible, the government started the financial transition from parsimony to abundance. Appropriations came faster than the Army could absorb them, over \$8 billion in 1940 and \$26 billion in 1941, dwarfing the half billion dollars that had been allotted for expansion early in 1939. By the time of Pearl Harbor, Congress had spent more for Army procurement than it had for the Army and the Navy during all of World War I.

While the industrial mobilization plan indirectly influenced rearmament, the protective mobilization plan had a more direct impact. The latter plan prevented some of the foundering that had taken place in April 1917 by providing the basis for the Army's initial expansion. The Army still saw its role as protecting the United States and the Western Hemisphere from hostile European forces rather than participating in global coalition warfare, an assumption that limited and impeded planning. But the protective mobilization plan at least gave the Army a starting point in preparing for a hemispheric defense mission.

The gradual and somewhat experimental path of mobilizing the economy during 1940 went contrary to public expectations. M-day continued to exist in the popular mind, and few understood that mobilization was, in fact, already under way. Mobilization was essentially an evolving situation, in which the United States was not formally at war and was reacting to the spread of conflict by moving from one set of expansion goals to another.

Although the president had taken control of mobilization, the Army still had a central role in shaping it. The Army was the single most important claimant on productive resources and manpower, so its needs largely determined the nature and extent of the process. Both industrial mobilization and procurement started with the formulation of requirements by the Army. Once the Army knew the kinds and quantities of materiel it needed, facilities, materials, manpower, energy, and other resources could be brought to bear on production. Beyond the need for an authoritative Army shopping list lay a web of relationships between troop mobilization, which depended on the available supplies, equipment, and facilities; materiel requirements;

and the availability of industrial capacity and raw materials that limited the scale and pace of mobilization. In 1940 and early 1941, with the Army still assuming that it would be charged mainly with hemispheric defense and not enough known about the capacity of industry, meaningful decisions were beyond the ability of the War Department and the General Staff.

### *The Munitions Program*

The munitions program of June 1940, the clearest practical manifestation of the defense period, represented an effort to estimate and cope with the anticipated expansion of the force. Its goals included the procurement by October 1941 of all items needed to equip and maintain an army of 1.2 million, including the Air Corps, and creation of production facilities to support an army of over four million. Directed by the Army and Navy Munitions Board, this program set up a priorities system, apportioned industrial capacity between the services, cleared foreign contracts for munitions production in the United States, and compiled military needs for strategic raw materials. Procurement districts, arsenals, depots, and other establishments were activated and expanded. The \$6 billion that was allotted was only half of the War Department's request, but it was almost as much as the nation had spent on the department between 1922 and 1940 and a major turning point in the rehabilitation of the Army.

In terms of the production of the materiel needed for any expansion of the Army, the start of the munitions program constituted M-day. However, the concept was not invoked at the time. Passage of selective service legislation awaited the return of Congress in the autumn. In fact, the first peacetime draft in the nation's history became law in September, one month after the president federalized the National Guard. There was little point in announcing an M-day for materiel and then waiting three months to announce another for manpower. Those who thought about the sequence, though, knew that if the two aspects of mobilization had to be separate, materiel should come first. Even though the sequence was correct, the needs of the force of 1.5 million that was assembled by June 1941 were largely unmet. As had so often happened in the past, troops were being mobilized before equipment was available.

Although the idea of a central agency to manage mobilization never really took hold before the United States declared war, a network of agencies, activities, and controls was emerging to manage war production. Some were necessary because of the technical and



*Under Secretary  
Robert P. Patterson.*  
(National Archives)

engineering difficulties inherent in the mass production of novel and complex military items. Others were needed to allocate and manage resources, the scarcity of which complicated and frustrated production. The concept of civilian control also remained.

While the government floundered in its search for effective centralized control that accommodated political realities, the War Department itself did somewhat better. Henry L. Stimson had taken over the department at the start of the defense period and brought Robert P. Patterson with him. In December 1940 Congress had agreed to Stimson's request for transferring to the War Department authority over certain service aspects of industrial mobilization and procurement and allowing him to appoint Patterson undersecretary to supervise these tasks. Previously an assistant secretary had responded to the congressional mandate in section 5a of the National Defense Act of 1920. Now, as the Army's chief mobilization and procurement planner, Patterson operated directly under the secretary, unifying management of the department. The Army, whose interwar planning had assumed strong civil control of mobilization, had been unprepared for the lack of centralization. Patterson thus filled what amounted to an administrative vacuum in this effort. He proved to be an excellent choice.

## *Construction*

Patterson concentrated on creating the productive facilities that were essential to increasing output as well as on procurement itself. In the summer of 1941 he brought Michael J. Madigan, a canny millionaire construction engineer, to his office as special assistant to deal with construction. Mobilization severely strained extant facilities for housing, training, and supplying the troops. Just as important were construction and expansion in conjunction with industry of factories to produce supplies and equipment for the expanding Army. Madigan and Patterson agreed that this system was too slow and complex. Construction for production and for troops had been divided between the Corps of Engineers and the Quartermaster Corps after the engineers took over Air Corps construction from the overburdened quartermasters late in 1940. Early in December 1941 Stimson agreed to their proposal to make the Corps of Engineers responsible for all military construction. Then they took their nine-page memorandum to the president, who jotted "OK FDR" in the margin. And so, a multibillion dollar mobilization issue was settled, and construction, a pacing factor for both production and troops, was in the hands of the engineers.

There was more to this problem than finding a capable construction agent. Troop construction ultimately mushroomed into a \$7.5 billion program, but the lack of industrial facilities constituted a greater barrier to mobilization during the defense period. The Depression had created much idle but largely obsolete industrial capacity. With demand low, there had been no incentives to modernize. The government had to encourage industrial expansion before its armed forces were engaged. "To have delayed the construction of such facilities until the United States was actually involved in battle," R. Elberton Smith observed in his book on industrial mobilization, "might have lost the war before it began."

The Roosevelt administration thus encouraged private expansion of facilities for war production, first through accelerated depreciation, then by government financing. Private construction companies did most of the actual building, while other private contractors then received management fees to operate the plants. The majority of factories producing ordnance were built this way.

Lend-lease, a program started in September 1941 to provide materiel for those nations already at war with the Axis, also helped stimulate production. From the beginning, the Allies expected that the primary contribution of the United States would be its industrial capacity. The imperatives of this support program required careful

balancing of the manpower needs of industry and the military. The Soviet Union, reeling under the German invasion of June 1941, was especially desperate. A calculated risk, lend-lease ultimately delayed mobilization by reducing, for example, the number of aircraft available to the U.S. Army Air Corps; the program slowed training. Later foreign munitions aid also became a problem to other Army elements. In the short run, however, lend-lease helped generate the demand that activated assembly lines. The policy of encouraging recipients to use standard American military equipment helped assure that factories produced the right items and enabled planners to divert these supplies to American use when needed.

### *The Victory Program*

In 1941 the munitions program of the defense phase evolved into the “victory program.” At first, increases in the force for the protective mobilization plan and the procurement of the equipment to meet this expansion were made piecemeal. But the desperate need for a coherent plan became plain as the Army went through eight separate expenditure programs between August 1940 and June 1942. Each expansion required the supply services to prepare tentative lists of their needs. Their accumulated statements were reviewed, revised, and presented to Congress as the basis for a budget request. After Congress appropriated the money, the Army staff officer responsible for logistics, known as the G-4, approved each expenditure program, usually with minor modification. A total of nearly \$34 billion was spent in this way.

From early in 1941, Maj. Gen. James H. Burns of the Office of the Assistant Secretary of War advocated studies that would determine total demands of the war on American productivity. At the president’s direction, the War Plans Division of the General Staff undertook this effort for the Army, working with the Navy staff, using appropriate assumptions of probable friends and enemies and conceivable theaters of operations. The resultant plan, developed mainly by Maj. Albert C. Wedemeyer, rested on a calculation of the number of troops who would be available and the strategic assumption that the major effort would be in Europe, with 1 July 1943 set as the date at which maximum strength would be reached. On this basis, the Army G-4 determined the materiel needs of the service, including weapons, vehicles, uniforms, and thousands of other articles needed to equip and maintain the force.

The production requirements of the plan, merged with the Navy’s needs, became known as the victory program. This name indicated a





*President Roosevelt, left, looks on as Secretary of War Stimson draws the first capsules in the National Lottery for selective service registrants in October 1940. (DA photograph)*

definitive shift from the focus on hemispheric defense to defeating a potential enemy. The defense phase was over, and the munitions program was obsolete. The cost of the new program was staggering, as much as \$150 billion, and only the attack on Pearl Harbor made it palatable.

In December 1941 the United States formally declared war in Asia against Japan and in Europe against Germany and Italy. By that time, the Army had benefited enormously from peacetime mobilization. It had one-third more people than called for by the protective mobilization plan eight months after a declaration of war. Still, a massive effort was needed to meet the production goals announced by the president in January 1942, including 60,000 airplanes in 1942 and 125,000 more in 1943 and 120,000 tanks in the same period.

Meanwhile, the Army was expanding. Passage of the Selective Service and Training Act in September 1940 showed that the United States was ready to match its mobilization materiel with manpower, even in an election year. The Army reached its intended strength of 1.5 million midway through 1941 and had thirty-four divisions and a

host of supporting units in training by autumn. Lags in cantonment construction forced the War Department to slow enlistments and delayed the federalization of the National Guard. Just after Pearl Harbor, Congress amended the draft law, lengthening the term of service from one year to the duration plus six months and extending registration to all males between 18 and 65, with those between 20 and 45 eligible for the draft. All the while, final goals for recruitment became interim goals. By the end of 1942, the Army's strength was at 5.4 million, including 700,000 black Americans, most of whom served in segregated support units.

### *Wartime Management*

Nineteen forty-two was the year of industrial mobilization and the greatest expansion of productive facilities. The War Production Board was established to take control of this process. Creation of a political consensus in support of war was no longer an issue after Pearl Harbor, and the new office had the authority to enforce its policies through granting priorities and allocating resources. The board reflected, in many ways, the industrial mobilization plan's concept of a War Resources Administration. It had tremendous powers to include providing general direction of the procurement and production program, determining the policies of federal departments and agencies with influence on war production and procurement, and administering the granting of priorities and allocating vital materials and production facilities. At the same time, Patterson's office centralized Army mobilization efforts in the War Department, with William Knudsen of General Motors commissioned a lieutenant general and assigned to the office of the undersecretary as director of production. At last, with the United States officially at war, it began to develop the kind of organization that had worked in World War I and had been recommended in the industrial mobilization plan.

From this time on, the Army and Navy Munitions Board declined in importance, and a new organization emerged within the Army to manage procurement. A command called Services of Supply was set up in March 1942 under Lt. Gen. Brehon B. Somervell. For the rest of the year, industrial mobilization to meet the Army's needs was his principal concern. General George C. Marshall, the chief of staff, looked to Somervell as his adviser on supply, and Somervell provided the link between the mobilization and production functions of Patterson's office and the G-4 requirements and supply distribution responsibilities. One of the most adept empire builders in the modern history of the Army, Somervell



*Left, General Knudsen (National Archives); right, General Somervell. (DA photograph)*

merged the staffs of the undersecretary's office and the G-4 into one operating agency, the Directorate of Procurement and Distribution, and attached it to his office. His organization was renamed Army Service Forces in March 1943.

Somervell controlled a vast logistical system. His authority ranged over six technical services, eight administrative services, nine corps areas, six ports of embarkation, and nine general depots. Formerly, all of these components of the Army supply system had reported directly to the chief of staff. Together, under Army Service Forces, this network bought, stored, and distributed the Army's equipment and supplies. The program involved over 600,000 prime contractors and an untold number of subcontractors and had a price tag of over \$68 billion.

The Army Supply Program provided the blueprint for this huge procurement effort. First published in April 1942, the plan was reissued periodically during the war. Each edition contained revised long-range estimates of military needs for all items of supply, honed by teams that studied and updated replacement factors in light of operational experience. The supply program lists were translated into terms of raw materials, skilled labor, and productive capacity. With this plan in hand, the War Production Board adjusted the allocation of priorities to balance strategic plans with resources and manage possible shortages.



*The Pentagon under construction. (DA photograph)*

In Army Service Forces, the Corps of Engineers played an important part in the mobilization process. One of the six technical services under Somervell's command, the corps had a construction program of unprecedented size and scope. So much of mobilization—production of small arms ammunition and the myriad other items in the Army Supply Program, assembly of vehicles and airplanes, and training and housing for the millions of soldiers who were filling the ranks—hinged on engineer construction that it was a pacing factor for the entire effort. The program included factories, camps, and other facilities for troops; the Manhattan District's atomic bomb project; construction of the Pentagon; and even a few major civil works projects that were continued through the war. The bill came to over \$15 billion. Real estate costs and maintenance added another \$3 billion.

At the very top of this effort was the War Production Board. It, too, could claim major accomplishments. Under Chairman Donald Nelson, the board inherited from the Army and Navy Munitions Board a system of voluntary priority classifications. Nelson instituted a Production Requirements Plan, through which his board bypassed the

armed services and allocated materials directly to producers. In November 1942 this plan was superseded by the Controlled Materials Plan, modeled on the British experience and adopted at the urging of Ferdinand Eberstadt, chairman of the Army and Navy Munitions Board. This plan rationed the three most important industrial materials—steel, copper, and aluminum. Quarterly allocations based on productive capacity assured recipients of obtaining the allotted materials on schedule. The plan did not bring strong central control to the entire war economy, but it did bring order to production while avoiding over-regulation. It recognized that production, like mobilization as a whole, had pacing factors and put the management emphasis there.

Despite the success of the Critical Materials Plan, President Roosevelt changed the management of mobilization in May 1943. The new Office of War Mobilization under James F. Byrnes had broader authority, extending to manpower as well as to all functions formerly carried out by Nelson. So Byrnes brought together management of the two main categories of mobilization. Because of his broad powers, Byrnes became known as the “assistant president.”

The merger at the top of manpower and materiel mobilization was important. By 1943, the Army staff knew that the manpower barrel had a bottom. The pool of reserve manpower represented by millions of unemployed workers had been absorbed, labor was becoming scarce, and Roosevelt set a ceiling of 8.2 million on the strength of the armed forces. Mobilization was essentially over, having evolved from its gradual beginnings in 1940, speeding up in 1941, expanding dramatically in 1942, and reaching its peak in production in 1943. For the rest of the way, it was essential for General Marshall and his staff to balance strategy and manpower with sustained high production.

Manpower shortages did cause problems late in the war. By 1944, the scarcity was felt nationwide. The Army curtailed some specialized training programs to provide troops where they were most urgently needed and expanded the use of limited service personnel and women for noncombat duty. Despite the problems, the number of soldiers in the Army did not actually peak until May 1945, the month during which the war against Germany ended. By then, the Army’s strength was over 8 million.

By mid-1945, production had long ago reached its zenith. Already in 1944 the War Department had looked at demobilization. War still raged in Europe and the Pacific, with the United States bringing to bear an expanding economy while the British neared exhaustion. American planners grasped the need to look beyond the expansion to the aftermath. The Army Industrial College, which had closed just

after Pearl Harbor, was back in business, trying to meet the demand for training in contract termination and settlement procedures. After the war, it continued to study the nation's experience with economic mobilization.

### *The Achievement*

Despite all of the problems associated with mobilization during World War II, the achievement was remarkable. Exploiting the happy conjunction of circumstances offered by idle resources, the protection provided by its insular position, and the heroic resistance of its Allies, the United States developed, produced, and delivered a flood of equipment and supplies for its own and Allied troops. The country showed a preeminent capability for what R. Elberton Smith characterized as “technological warfare on a global scale” and furnished the Allies with decisive economic and industrial power. This accomplishment, nowhere clearer than in the amazingly successful Manhattan Project, was planned and carried out in a way that accomplished wartime objectives with minimum hardship and dislocation. Sometimes execution of this effort was messy, with overlapping agencies and construction and supply lagging behind recruitment, but the World War II experience in the development and use of American industrial capacity may well be remembered as the classic case of economic mobilization, running the gamut from planning, through the buildup, to full-scale war production, and, finally, demobilization.

## Further Readings

All areas of mobilization for World War II are well covered in official publications of the Army. On issues related to military manpower, see Marvin A. Kreidberg and Merton G. Henry, *History of Military Mobilization in the United States Army, 1775–1945* (1955). Civilian labor is covered in *The Army and Industrial Manpower*, by Byron Fairchild and Jonathan Grossman (1959). R. Elberton Smith, *The Army and Economic Mobilization* (1959), covers resource allocation, contracting, and procurement, while Lenore Fine and Jesse A. Remington, *Construction in the United States* (1972), deal with building of troop facilities and industrial capacity. *Buying Aircraft: Materiel Procurement for the Army Air Forces* (1964), by I. B. Holley, Jr., provides separate treatment of purchasing and production for the air arm.

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Cover: *GIs hold up items of clothing, 1942.* (DA photograph)

