

governed . . . by such of the laws, rules and regulations of the Postal Service of the United States as are not inapplicable to the conditions existing in the Canal Zone.”<sup>73</sup> The customs bureau is likewise independent of the United States Customs Service. In addition to its duties respecting merchandise, it directs the activities against opium and liquor smuggling. A Shipping Commissioner handles questions regarding seamen in the Canal Zone.

#### PERSONNEL DIVISION

The Personnel Division, dealing with the problems of hiring, advancing, releasing, and disciplining Canal and Railroad employees, is naturally one of the most indispensable agencies in the Canal Zone Government. It does the initial work in the adjustment of grievances, and is the liaison between the workers and the Government.

Canal employees are distinguished as “silver” and “gold,” a terminology begun during construction days when skilled employees, most of whom were American citizens, were paid in gold, whereas laborers were paid in silver. Although the old reason for distinction is gone, the term remains as a convenient differentiation between classes of labor. “Silver” employees are for the most part natives of the tropics—Panamanian, Jamaican, Puerto Rican, West Indian, and others. Their wages are generally established at levels equal to or slightly above those prevailing for native labor in the Caribbean area. The wages are varied slightly with changes in the prices of staple products necessary to the maintenance and perhaps slight improvement of the accustomed standard of living for such people. Nevertheless the basic hourly rate is twenty cents per hour, and the maximum pay with few exceptions is eighty dollars monthly.<sup>74</sup>

It is obvious that “silver” employees are not paid enough

<sup>73</sup> Title 2, Sec. 271.

<sup>74</sup> *Annual Report*, 1938, p. 74, Exec. Order of Feb. 2, 1914, *Ex. O.*, p. 158. Order of March 1, 1920, *Ex. O.*, p. 266.

to enable them to accumulate reserve funds. Furthermore, the birth rate among them is so high that there has been a disturbing problem of unemployment in normal times.<sup>75</sup> Many of those who came from other countries in the Caribbean area did so at the request of the United States Government. Consequently the Government has felt a certain responsibility for the welfare of both superannuated "silver" employees and members of the families of native employees who have been unable to get employment. For many years The Panama Canal was disbarred from providing any sort of relief because neither former employees nor families were citizens of the United States.<sup>76</sup> Canal authorities have now obtained Congressional authorization for two courses of action. One plan<sup>77</sup> provides cash relief for employees disabled by age or disease for further useful work who do not come within the provisions of the Canal Zone Retirement and Disability Act because they are not citizens of the United States, providing they have served the Canal or Railroad for ten years or longer.<sup>78</sup> The program is administered by the Disability Relief Board which is headed by the Comptroller and includes the Executive Secretary, the Chief Health Officer, and the Chief Personnel Officer.<sup>79</sup> The second attempted solution makes provision for repatriation of unemployed aliens who have served either organization for three years.<sup>80</sup> An earlier idea of leasing small sections of Canal Zone land to such individuals along with furnishing supplies

<sup>75</sup> *Annual Report*, 1938, p. 77.

<sup>76</sup> There was some confusion concerning the status of individuals born of alien parents in the Canal Zone until the matter was defined in 50 Stat. 558, wherein it is provided that any person born in the Canal Zone whose father or mother was an American citizen is a citizen of the United States; and any person born in the Republic of Panama one of whose parents was a citizen of the United States employed by the Government of the United States or by the Panama Railroad Company is also a United States citizen.

<sup>77</sup> 50 Stat. 478.

<sup>78</sup> The Panama Canal funds for cash-relief are drawn from the annual appropriations; Company funds constitute a continuation of a program dating from 1928. *Annual Report*, 1938, p. 76; *ibid.*, 1940, p. 74.

<sup>79</sup> Exec. Order, March 12, 1938. 35 C.F.R. 3-7.

<sup>80</sup> 48 Stat. 669. The Act set aside \$150,000 for such purpose to be available until expended.

for a small dwelling was relinquished as working at cross purposes with the program for sanitation and public health.

“Gold” employees have been generously paid, as far as Government service pay goes. Custom was made law in the Panama Canal Act of 1912 when it was provided that salaries should be set by the President or someone delegated by him at a rate not exceeding twenty-five per cent above similar work for the Government in the United States.<sup>81</sup> When there are no strictly comparable Government jobs in the United States, the Canal has as a general rule based wages on union rates. The upper limits of remuneration are clearly set by law, and the Canal administration has shown little disposition to set wages much lower than that standard. That the same standard should be applied to union rates is patent. Such major changes as there have been in wage rates have come as a result of alterations in the States. Minor adjustments in wages and in other matters are cared for through the Wage and Grievance Board.

There is an active organized labor group in the Canal Zone known as the Panama Metal Trades Council. The Council is an association of national and international unions, predominantly affiliated with the American Federation of Labor. Not all Canal Zone unions belong to the Council, since a few are disbarred from connection with the A. F. of L. By far the greater number of organized employees, however, are members of unions affiliated with the Metal Trades Council. The Council takes an active part in the handling of individual complaints in the Zone and has concerned itself also with the course of legislation in Washington. A union representative often expresses the views and desires of local residents at Congressional Hearings and engages in informal lobbying. Outstanding planks in the union platform are shorter hours and the replacement of “silver” employees in artisan groups with men who are American citizens. It merits saying that the leadership of the Council has been cooperative and understanding of the prob-

<sup>81</sup> Sec. 4, 37 Stat. 560.

lems facing the Canal and Railroad. Consequently, there has been a comparative freedom from labor troubles in the Canal Zone.

The Personnel Division of the Executive Department administers the Retirement and Disability Act for "gold" employees.<sup>82</sup> This Act applies to Isthmian employees of the Railroad Company as well as to employees of The Panama Canal. For the development of the necessary fund, five per cent is automatically deducted from each salary. In general, the retirement age is sixty-two, and an annuity is provided if the employee has served the organization for a minimum of fifteen years. Disability retirement, on the other hand, may be received after five years of service. Compensation for injuries to Canal and Railroad employees is dealt with under the provisions of the Federal Employees Compensation Act,<sup>83</sup> but the Act is administered by the Governor of the Panama Canal rather than by the United States Employment Compensation Commission.

#### PANAMA CANAL CLUBHOUSES

A bureau known as the Panama Canal Clubhouses is responsible for the running of the clubhouses, restaurants, and theaters which are situated in each town. Through these instrumentalities the Canal has sought to provide social life and good food for its employees. Many complaints can always be heard about the amenities of life in the Canal Zone as they revolve around these institutions. Since no private theaters, restaurants, or clubs are allowed inside the Zone, objections are naturally focused upon the facilities provided by the Canal, and, therefore, are more audible. The restaurants have come down from

<sup>82</sup> The basic law is 46 Stat. 1471 as amended. The system differs slightly from that provided in the General Civil Service Retirement Act, and takes the place of that Act for Government employees on the Isthmus. It is administered under the direction of the United States Civil Service Commission. Exec. Order No. 6670, Apr. 7, 1940. *Ex. O.*, Supp. No. 27, p. 461. 2 *Canal Zone Code*, 91-107. *Ibid.*, Supp. No. 1, Secs. 94, 101, 103.

<sup>83</sup> 39 Stat. 742 as amended. 2 *Canal Zone Code*, 121-123.

construction days. Serving as they must large numbers of people, dining conditions and service have tended to leave something to be desired, although a determined effort is being made by the Executive Secretary to improve these conditions and to make social life more attractive.

#### DIVISION OF PUBLIC SCHOOLS

Public Schools are provided for the children of all "gold" employees of the Canal. Separate public schools are also maintained for the children of "silver" employees who reside in the Canal Zone. For many years the school system has extended only so far as the high school. In 1933 a junior college was opened which offers work of a caliber enabling students to transfer to United States colleges and universities. It also specializes in technical or vocational training for those who desire to work with the Canal or Railroad. With the increased activity in the Canal Zone due to the new building program, such training has already proven valuable. Both in the physical plant, in the grade of instruction, and in the morale developed among the young people, the Panama Canal school system stands high in comparison with local and private education in the States.

#### POLICE AND FIRE DIVISION

The Police and Fire Division is charged with work similar to that of ordinary municipal departments. Nevertheless the proper performance of its duties takes on a peculiar importance in the Canal Zone. Peace and order are essential to efficient operation of the Canal, just as fire control is necessary to maintain its safety. Each force cooperates with the services in Panama. This entails delicate relationships, as the influx of motorized traffic and the rapid building of cheap buildings have increased accident and fire hazards on both sides of the Canal Zone border.

## ADMINISTRATION OF JUSTICE IN THE CANAL ZONE

The Executive Department was responsible for the administration of Canal Zone Courts at one time. It still is, in part. The magistrates' courts which are situated in each town operate under the direction of the Executive Department. The United States District Court, however, is now under the jurisdiction of the Department of Justice.<sup>84</sup> Both the local courts and the United States District Court administer the laws of the Canal Zone as set forth in the *Canal Zone Code*, the *Code of Federal Regulations* in so far as applicable to the Canal Zone, and Executive Orders. In certain instances, the District Court administers admiralty law and the laws of the United States.

The magistrates' courts have jurisdiction over all civil actions involving less than five hundred dollars and criminal actions in which the punishment does not exceed one hundred dollars or a month's imprisonment. These courts deal with all actions involving the "forcible entry and detainer of real estate."<sup>85</sup> They also hold preliminary hearings in criminal cases.<sup>86</sup> As provided in the Panama Canal Act, the magistrates, constables, and notaries public are appointed by the Governor.<sup>87</sup>

The District Court takes criminal and civil actions which exceed the jurisdiction of the magistrates' courts as well as all cases in equity, probate, divorce and annulment of marriage proceedings, appeals from the magistrates' courts, actions involving laws of the United States which apply to the Canal Zone, and any other matters which may arise under the *Canal Zone Code*.<sup>88</sup> Although in cases originating in the Canal or the Canal Zone the Court operates within the framework of the *Canal Zone Code*, in cases in admiralty and criminal offenses

<sup>84</sup> Exec. Order of Nov. 3, 1933, based on Exec. Order No. 6166 of June 10, 1933. *Ex. O.*, p. 459. Repromulgated by Exec. Order No. 7676, July 26, 1939. *Fed. Reg.*, Vol. II, p. 15179; 35 C.F.R., Sec. 13.6.

<sup>85</sup> 7 *Canal Zone Code*, 2.

<sup>87</sup> Sec. 7. 37 Stat. 560.

<sup>86</sup> *Ibid.*, Sec. 3.

<sup>88</sup> *Canal Zone Code*, 23.

committed on the high seas, it exercises the same jurisdiction as other United States District Courts. In admiralty cases, practice and procedure are consonant with that employed in other United States courts of the same type, but when the Court is considering a criminal case which has arisen on the high seas, the practice and procedure is that of the Canal Zone though the laws that are applied are those of the continental United States.<sup>89</sup>

The organization of business and the status of the District Court and its personnel did not change when supervision passed from the Canal Zone Government to the Department of Justice.<sup>90</sup> The District Judge, the Marshal, and the District Attorney are appointed by the President with the advice and consent of the Senate.<sup>91</sup> The District Attorney's office combines the functions of conducting legal proceedings for the Government and, when requested to do so, furnishing legal advice to the Governor. The Marshal is responsible for the disbursal of all funds required for the maintenance and operation of the Court. The Panama Canal now has no connection with the Court other than furnishing it offices, library, supplies, and travel facilities.

#### THE MAINTENANCE OF HEALTH AND SANITATION

The Health Department enforces a program of sanitation and public health within the Canal Zone and the cities of Panama and Colón.<sup>92</sup> Through constant watchfulness on land, the Department has worked miracles in improving health conditions on the Isthmus. The strict quarantine administration for ships transiting the Canal has made the Panama Canal one of the

<sup>89</sup> *Ibid.*, Secs. 25, 26.

<sup>90</sup> 37 *Opinions of the Attorney General* 321.

<sup>91</sup> Panama Canal Act, Sec. 8. 37 Stat. 560.

<sup>92</sup> Provision was made for activities in those cities of the Republic of Panama by the Convention of 1903 (33 Stat. 2234) and in agreements thereunder. Decree No. 66 of the President of Panama of Dec. 6, 1904. Taft Agreement, *Ex. O.*, p. 29.

great barriers to the spread of contagious diseases and epidemics. Only Suez and Singapore compare with it in this mission performed on behalf of civilization.<sup>93</sup>

The Department has three divisions, one dealing with quarantine, one with sanitation, and the third with hospitals and dispensaries, all under the supervision of the Chief Health Officer of The Panama Canal. The Chief of the quarantine section is an officer from the United States Public Health Service. Reductions in time-distance between world ports are of necessity accompanied by increasing sanitary precautions to prevent the spread of dangerous diseases. The quarantine officers inspect vessels, crews, passengers, and cargo. They may hold and fumigate vessels, and detain or deport persons and animals. In fact, the division of quarantine is authorized to

adopt such measures in regard to vessels, crews, passengers and cargoes as may be necessary to protect the Canal Zone and the cities of Colón and Panama . . . from quarantinable diseases of man and animals; to grant pratique; to certify bills of health; to carry out, at the request of the interest controlling a vessel, any sanitary measures necessary to put the vessel in such condition that it may leave port with a clean bill of health; and to perform such other duties as may be assigned to it by the proper authority.<sup>94</sup>

Among its more lately acquired duties is that of inspecting and granting pratique to aircraft flying the airways to and from South America. One may say that this has become a very important function. Because of the speed with which the airplane travels, as compared with the merchant vessel, time is not allowed for the full incubation of some of the most dangerous diseases in persons who may have come from places in Central or South America where these are endemic or epi-

<sup>93</sup> Regulations were made by the President or someone authorized by him, in accordance with the statutory provision stating that "Until otherwise provided by Congress, the President is authorized to make rules and regulations in matters of sanitation, health and quarantine for the Canal Zone or to modify or change existing rules and regulations and those hereafter made from time to time." 39 Stat. 527; 47 Stat. 818.

<sup>94</sup> 35 C.F.R. 24-38; *Ex. O.*, 392-393.



demic. This is notably true in the case of yellow fever. Persons coming into the Canal Zone from regions infested with yellow fever, or other tropical diseases, may be, and frequently are, required to report each day during the incubation or communication period to the Canal health authorities for examination. Experience has shown that the airplane itself may even be a carrier of disease. Malarial or yellow fever mosquitoes may fly into the cabin of a plane at one of its stopping places and be carried thence to the Canal Zone or to the United States. Likewise, the surface of the plane may pick up dust-borne disease spores that are constantly in the air and carry these from one region to another. To counteract the dangers inherent in such rapid travel between non-healthful and healthful areas planes must be thoroughly fumigated, and their exteriors treated for spores or other disease-laden particles clinging to them.

The authority of the Health Department is enhanced by its ability to exact penalties for violation of regulations. The punishments for infringing quarantine regulations are more severe than those provided for sanitary or health regulations, the maximum fine for the former being five hundred dollars as compared to a maximum of twenty-five dollars for the latter. The upper limits for alternative imprisonment in jail are three months and one month respectively.<sup>95</sup>

In Chapter III reference was made to the regulations which have been adopted from time to time, regarding the entry of excluded and undesirable classes of persons. The enforcement of these laws and regulations is another of the functions of the quarantine division and its officers.

Since the outset of American activities on the Isthmus, the application and rigorous enforcement of strict sanitary regulations in the Canal Zone and in Panama and Colón has raised the health standard in those areas above that of adjacent lands. The incidence of yellow fever and smallpox has practically

<sup>95</sup> 39 Stat. 527; 47 Stat. 818.

been abolished. Although malaria is still fairly prevalent, the rate for 1939, 10.4 cases per thousand, was the lowest in the Canal's history.<sup>96</sup> Reduction in tropical diseases, particularly those carried by mosquitoes and flies, is due quite as much to the work of the sanitary division of the Health Department as to the efforts of the quarantine division. Daily collection and disposal of garbage, drainage and filling of swamps, dusting or oiling stagnant water, are some of the ways used for controlling disease-bearing insects.

The hospitals and dispensaries division completes the sanitary organization. Large hospitals are established at Ancón and Colón together with clinics. They are supplemented by dispensaries at a number of the Canal towns. The great influx of laborers and of military personnel in 1939-40 pressed the hospital facilities to their limit, with the result that a building program was started for the erection of several new hospitals in the Zone. The hospital for the insane at Corozal and the leper colony at Polo Seco provide care for cases committed to them. The schools in cooperation with the Health Department offer lectures on health and sanitation, and opportunity for examination of students. A rather high percentage of the division's work has been charitable, particularly among the "silver" workmen and their families. Undertakings such as mass smallpox vaccination require medical service whether or not remuneration is forthcoming. In addition to its efforts for maintenance of a health standard, the division cooperates with the Army Medical Research Board in studying tropical diseases and their remedies.

It has sometimes been derogatorily charged that Americans judge the culture of a country by its plumbing. Be that as it may, the presence of sanitary living conditions is essential in the tropical heat and alternate wet and dry seasons of the Canal Zone to the welfare of Americans accustomed to tem-

<sup>96</sup> *Annual Report*, 1939, p. 88. The average rate for the past ten years is 17.2. There have been no employee deaths attributable to malaria for six years.

perate climes. The sanitary achievements of the United States on the Isthmus during the construction period are famous. The unremitting watchfulness of the Health Department in the present-day Canal organization is equally to be lauded.

#### THE PANAMA RAILROAD COMPANY

The Spooner Act, which empowered the President to acquire the lands necessary for the construction of an Isthmian Canal, also instructed him to purchase the Panama Railroad Company,<sup>97</sup> the largest percentage of the shares of which were then owned by the New Panama Canal Company.

The status of this company is interesting. In 1848 William H. Aspinwall, Henry Chauncey, and John L. Stephens negotiated an agreement with the Government of New Granada for an exclusive concession to build a railroad across the Isthmus of Panama.<sup>98</sup> With this concession in hand these promoters organized and obtained a charter from the State of New York in 1849 for the Panama Railroad Company. The present-day Company, though now owned by the United States Government, still operates under this charter. A contract with the Government of New Granada in 1850 gave the Company an exclusive right of way across the Isthmus,<sup>99</sup> which proved to be valuable to the Company in establishing its monopoly of transportation, and which may be said to have been desirable to the United States in view of its guarantee of neutrality and integrity of

<sup>97</sup> 32 Stat. 481.

<sup>98</sup> A contract had been signed in 1847 with Mateo Klein for a French company to build a railroad, but this was cancelled and transferred to the American group by a decree of June 12, 1849. Du Val, *Cadiz to Cathay*, p. 37.

The Aspinwall contract was to run for forty-nine years, at the end of which time the property was to revert to New Granada. All lands adjoining the railroad line were to be the property of the Company, as well as two hundred and fifty thousand acres of public land. The Company was to establish two free ports. It was to determine itself what rates should be charged for transit, subject to the stipulation that the Government of New Granada was to receive three per cent of all the dividends paid by the Company. Other provisions gave New Granada an option on purchasing the Company's rights, but these were never exercised. *Manual of Information, op. cit.*, p. 181.

<sup>99</sup> For contract see S. Doc. No. 264, 57th Cong., 1st sess., p. 203.

the Isthmus by the Treaty of 1846.<sup>100</sup> Having a monopoly, the Company charged what the traffic would bear, and public tolerance seems by today's standards of tariff almost unbelievable. For the forty-seven mile haul, passengers were charged twenty-five dollars first class; first class freight brought fifty cents per cubic foot; mail was carried for twenty-two cents a pound. A new contract was made with what by then had become the Government of Colombia in 1867. This contract continued to form the basis of the relationships between the Company and Colombia until 1903, and with the Republic of Panama after its declaration of independence.<sup>101</sup> The terms of this agreement varied a good deal from the original concession. The arrangement was to last for ninety-nine years from 1867, and the Company was to pay Colombia one million dollars at once as consideration for its rights, plus a yearly annuity of two hundred and fifty thousand dollars throughout the ninety-nine years. The possibility of a canal was foreseen, and, while the Company was accorded the right to prevent construction alongside its own right of way and to charge an indemnity to any concessionaire to whom construction rights might be given near the railway, yet it was not given a legal monopoly of all means of communication across the Isthmus. It is little wonder that when the terms of this contract became known in New York the price of the stock of the Company dropped from over two hundred dollars a share to nearly eighty,<sup>120</sup> notwithstanding that the Company was making fabulous profits.

When Colombia granted a canal concession to the French Lieutenant Lucien Napoleon Bonaparte Wyse on March 20, 1878, it demanded that the holder enter into "some amicable" arrangement with the Panama Railroad Company along whose route in the Chagres and Rio Grande Valleys he proposed to build the canal.<sup>103</sup> It was decided by De Lesseps and his

<sup>100</sup> Miller, *Treaties*, Vol. V, p. 115.

<sup>101</sup> This contract will be found in S. Doc. No. 264, *cit. supra*.

<sup>102</sup> *Manual of Information, op. cit.*, p. 183.

<sup>103</sup> Du Val, *op. cit.*, p. 105.

Panama Canal Company to purchase control of the Railroad Company to insure the route wanted, to enable the Canal Company to use the facilities of the railway, and to avoid paying an indemnity to the Colombian Government.<sup>104</sup> The purchase of sixty-eight-seventieths of the Railroad stock was negotiated in 1881 at a price (two hundred and fifty dollars per share) which brought the sellers a fortune, considering either market or par value. Although control passed out of American hands thereby, several Americans who had retained possession of their stock succeeded by injunction proceedings in New York State in getting themselves placed on the Board of Directors,<sup>105</sup> and the railroad operations were continued largely by Americans. Furthermore, the Company retained its identity as a corporation in New York State.

In the Canal Convention of 1903, the Republic of Panama granted the United States a monopoly of communications across the Isthmus, as well as all rights which Panama had or might acquire in the property of the Railroad Company due to the transfer of sovereignty from Colombia. The Convention also authorized the New Panama Canal Company to sell the railroad to the United States, which it did as part of its forty million dollar transaction with the United States Government. In return for these and the other rights granted to it by the Convention, the United States agreed to pay Panama ten million dollars, plus two hundred and fifty thousand dollars a year. The latter part of this transaction is notable, for it is the same amount which the Railroad Company had agreed in its 1867 contract to pay each year to Colombia. In view of the fact that the United States took over an existing railroad on the one hand, and only a body of rights, some property, and an incom-

<sup>104</sup> Miner, *The Fight for the Panama Route*, p. 23n.

<sup>105</sup> Dimock, *op. cit.*, p. 27. In addition to the \$17,133,500 paid for the stock, De Lesseps paid the directors of the company a cash bonus of \$1,102,000, and bought \$7,000,000 of the company's bonds. As Bishop says, this was an expensive introduction "to the mysteries and possibilities of a Wall Street railway 'deal.'" Joseph B. Bishop, *The Panama Gateway* (New York, 1913), p. 80.

pleted ditch on the other hand so far as the canal was concerned, two hundred and fifty thousand dollars per year really represented an annuity only for the railroad. At any rate, thus the United States Government purchased the stock of a company holding a charter as a private corporation in the State of New York, engaged in railroading in the Isthmus of Panama.

Being a creature of law of the State of New York, the Panama Railroad Company has such rights and capacities as were given to it by charter, together with amendments to the same, and which are authorized by the laws of the State of New York. It is subject to such limitations of law as may be constitutionally imposed by that state. At the same time, the Company has the rights and powers in the Isthmus of Panama which were granted to it through the concessionary contracts of the local sovereign, as modified by the Convention of 1903. Finally, being wholly-owned by the United States Government, the policies, organization, and activities of the Company are determinable by that body, in so far as their determination lies within the constitutional powers thereof, and in so far as such action does not involve an infringement of the rights of New York and the Republic of Panama within the jurisdictions of those states.

Test was made of the respective rights and powers of the State of New York and of the United States with regard to the Company in the case of *State of New York v. Graves and Others*.<sup>106</sup> In its opinion, the United States Supreme Court held that the Company was acquired and is being utilized by the United States by virtue of its "undoubted" power "to use a corporation as a means to carry into effect the substantive powers granted by the Constitution." It added its conclusion that the Company was acquired in connection with the construction and operation of the Panama Canal, that it was engaged in a governmental function, and that "the railroad and ships after the completion of the Canal continued to be used

<sup>106</sup> 57 Sup. Ct. Rep. 269 (1937).

chiefly as adjuncts to its management and operation." It required no argument, according to the Court, to demonstrate that "all auxiliaries designed and used to aid" the Canal partook of the nature of and were themselves cooperating "regulators" of national and foreign commerce. Hence it was ruled that the State of New York might not subject the salary of an employee of the Company, even resident in New York, to taxation.

Notwithstanding the language employed in this decision, the Panama Railroad Company is not a branch of the Federal Government and as such immune from suit. The Company may be sued in its corporate capacity. It differs in this respect from The Panama Canal. Moreover, the Company's acts, funds, property, and liabilities are not directly those of the United States or of The Panama Canal. It does, however, pay an annual dividend to the Treasury. The employees of the Company are not Government employees, although by acts of Congress they do enjoy certain benefits relating to compensation, retirement, and employers' liability on a par with Panama Canal employees who are in the employment of the United States.

The policies of the Panama Railroad Company are formulated by a Board of Directors, which acts in accord with an instruction of the President of the United States "that the policy of the road be completely harmonized with the policy of the Government making it an adjunct to the construction of the Canal."<sup>107</sup> The first Board of Directors after 1903 was composed of the members of the Isthmian Canal Commission. Appointments are made by the Secretary of War as sole stockholder of record on recommendations from the Governor of the Canal who is also President of the Railroad Company. Members of the board are selected because of their present or past connection with the Canal. They serve without compensation, and each is sold one share of stock in the corporation

<sup>107</sup> Letter of the President to the Secretary of War, May 9, 1904. *Ex. O.*, p. 20.

under agreement to transfer this to their official successors. As a general rule the Board of Directors comprises the Secretary of War, the present Governor of the Canal, past Governors, the Engineer of Maintenance, the General Purchasing Officer, and other persons connected in one way or another with the Canal.

The Panama Railroad Company is a separate agency from The Panama Canal, but the activities of the two both within and without the Isthmus are highly complicated. Some men have duties under both organizations. On the Isthmus, certain facilities owned by the Railroad are operated by the Canal. For instance, the hotels, commissaries, and dairy farm, are owned by the Railroad but managed by the Supply Department of the Canal. A curious and complex situation results. The head of the Commissary Division is paid by the Railroad, but reports to the Supply Department. Part of the purchasing for the commissaries is done by the Company offices in New York on order from the Chief Quartermaster of the Canal, while the remainder of the buying is done by the general purchasing officer in Washington who serves both the Canal and the Railroad. Railroad Company receiving, disbursing, and accounting functions on the Isthmus and in Washington are consolidated with those of the Canal, and the Railroad pays a pro rata share of the overhead.<sup>108</sup> The telephone system is likewise owned by the Railroad, but operated by the electrical engineers of the Canal. Renting of land and buildings, however, works contrarily—that is, it is managed by the Railroad, which makes a charge to the Canal for services rendered.

The head of Company activities on the Isthmus which are under Company management is the General Manager. He is responsible to the Second Vice-President, who is also the Engineer of Maintenance of the Canal. The General Manager has charge of the operation of the Railroad proper, of the

<sup>108</sup> Sec. 4. 38 Stat. 659.



wharves and piers at the harbor terminals, the coaling plants, and baggage transfer.

Dock and harbor facilities are administered by the Receiving and Forwarding Agency, which is responsible to the General Manager. An offshoot of the duties of the Agency is the practice of allowing goods to be consigned to the "Canal Zone for order." Thus merchandise may be shipped to Balboa or Cristóbal and held for orders until direction is obtained from the consignor for its disposal in whole or in part.<sup>109</sup>

The general corporate and overhead activities of the Railroad Company and the direction of its enterprises outside the Canal Zone are conducted from New York, under the supervision of the First Vice-President of the Company, who is appointed by and responsible to the Board of Directors. The Panama Steamship Line is run from his office; the books are kept there; purchasing is coordinated there. Within the Canal Zone itself, however, he has little voice in or control over the conduct of Company affairs.

Although Canal and Railroad Company executives and administrators are separately and differently appointed, many perform work for or in the interests of both organizations, for after all the Panama Railroad Company is organized to function as an integrated part of the Canal program. Any further unification of the Canal and the Railroad would not probably alter the existing procedures, which, when seen in operation appear at once to be more efficient than when followed on paper. From the commencement of its responsibility for the Panama Canal, the United States has found the land and maritime services of the Panama Railroad Company indispensable and profitable. It is not too much to say that without the

<sup>109</sup> In an Exchange of Notes accompanying the General Treaty of Friendship and Cooperation of 1936, the United States advised Panama that it had no desire to conduct such a business any longer than until such a time as satisfactory bonded warehouses became available at reasonable rates within the jurisdiction of Panama. *Treaty Series* No. 945, p. 34.

Panama Railroad Company and its steamship and railroad services, the Panama Canal could not be operated as efficiently as has been its record, nor could life be sustained on the Isthmus on a standard compatible with the national interests. Moreover, the railway line across the Isthmus is a valuable asset to its defense.

#### THE WASHINGTON OFFICE

The remaining administrative division of The Panama Canal to be noted is the Washington Office. This consists of a purchasing department, an administrative department, an accounting bureau, and an inspection force, all headed up in the person of a Chief of Office. Inspectors are located at various points in the United States, and maintain a preliminary system of testing materials and supplies that are to be or have been purchased. The skilled labor for the Canal Zone is recruited through Washington, and a great deal of the purchasing of construction materials and equipment is done through the medium of this office on order from the Isthmus. The Chief of Office may represent the Governor at his request in executive and administrative necessities, and at Congressional Hearings. The Washington Office has multiple duties and is connected with at least three of the major departments. It, like the Panama Railroad Company, is hard to classify. It can scarcely be designated as a separate administrative unit; neither can its functions be contained within any one of the Canal organization departments. It is the representative of The Panama Canal in the continental United States for purposes of executing the policies of the Canal and procuring its material needs, as distinct from the Secretary of War whose office is the connecting link with other Departments of the Federal Government and Congress and the immediate superior of the Governor in matters of government and administration.

## CONCLUSION

The administration of civil affairs in the Panama Canal Zone is in one sense confusing: Governmental functions are performed by the same organization that maintains and operates the Canal; interrelationships between the Panama Railroad Company and The Panama Canal form a tangle that is not easily sorted out; it is difficult to fit the Washington Office into an administrative pattern. Yet in another sense the organization of the activities of the United States in the Canal Zone is beautifully clear. There is never any question concerning the source of authority. Problems arising within the Panama Canal Zone go directly to the Governor of the Canal and thence progress to the Secretary of War and from his offices to the President of the United States. Questions arising within the Panama Railroad Company go to the President of the Company (who is also Governor of the Canal) and from him to the Board of Directors of the Railroad.

The Governorship of the Panama Canal is one of the most exacting positions in the United States Government. It requires proficiency and tact in the management of the world's greatest lock canal; business acumen in the operation of a railroad and a steamship line; engineering skill in the maintenance and expansion of a vast engineering project; broad-mindedness and yet firmness in governing a congested community existing under trying circumstances; wisdom in dealing with other departments of government and with the Government of Panama. The office calls for a leader who is at once a governor in the true sense of the word, as well as a business executive, government administrator, engineer, policy-maker, and diplomat. It is a deserved tribute to the American way of life that throughout the years since 1914 the Governors and their ranking assistants have in a remarkable way maintained a continuous sequence of high standards in all of these respects.

The duties of administration associated with the Panama Canal are legion. In no place within the jurisdiction of the United States other than in the District of Columbia are governmental and administrative activities more highly concentrated and multifarious. This must inevitably continue to be true so long as there are focussed in the Canal Zone interests so vital to the safety and welfare of the nation.

CHAPTER VI  
THE ECONOMIC SIGNIFICANCE OF  
THE PANAMA CANAL

THE existence of an interoceanic waterway at Panama is now so taken for granted as a part of the geography of the world that it is as difficult to imagine modern interchange of goods and ideas without the Canal as it is to think of the sudden disappearance of steamships or cables. Since the Panama Canal is but one of many factors contributing to the network of transportation and communication, it is not easy to single out items in the economic life of the twentieth century which are resultants of the operation of the Canal. That causation is not monistic does not diminish the importance of various factors; it simply makes it difficult to isolate particular constituents of the whole. The Canal has a great economic importance to the United States and to foreign countries, yet its significance cannot be entirely established by way of facts and figures concerning the amount of shipping or the tonnage of cargo passing through the Canal.

In evaluating the economic importance of the Panama Canal attention fastens first upon the savings to shipping in distance, time, and cost through employment of the Canal. These are matters of concern to the owners and operators of vessels, as well as to shippers, for unless it can be demonstrated that there are economies in going via the Canal, or that there are cargoes to be had along the way, vessels may well prefer a deep sea route involving no payment of tolls and no passage through the jurisdiction of a foreign state.

## MARITIME ADVANTAGES OF THE CANAL ROUTE

The Panama Canal introduced marked reductions in the distances to be traversed between many ports on established water routes. Had the *Flying Cloud*, the clipper ship which set the record for the New York-San Francisco sailing around the Horn, travelled by way of the Canal her distance would have been some 7,000 miles shorter. The distance from Liverpool to San Francisco was cut from 13,502 miles to 7,836 miles. Not all routes were so greatly affected. Thus, the distance from Liverpool to Sydney, Australia became 12,385 miles as against 12,235 via Suez. Such equalization meant, however, an alternate route for peace or war, and the possibility of developing a new intermediate commerce. The greatest shrinkage of distances brought about by the opening of the Panama Canal involved the navigation of vessels from points in the Atlantic roughly north of 15° south latitude to points on the Pacific coast of the Americas *north* of the same latitude, and vice versa.

Distances on some of the more important steamship runs may be illustrated by the following tables:

Table 1. Distances in Nautical Miles from certain Atlantic and Gulf Coast Ports to Ports on the West Coast of North, Central and South America

<i>From</i>	<i>Via</i>	<i>To</i>					
		<i>Port Townshend</i>	<i>San Fran- cisco</i>	<i>Acapulco</i>	<i>Honolulu</i>	<i>Val- paraiso</i>	
New York	Panama	6,032	5,262	3,443	6,702	3,363	4,633
	Magellan	13,905	13,135	11,524	13,312	9,613	8,380
Norfolk	Panama	5,837	5,067	3,248	6,507	3,168	4,438
	Magellan	13,857	13,087	11,476	13,264	9,565	8,332
New Orleans	Panama	5,453	4,683	2,864	6,123	2,784	4,054
	Magellan	14,321	13,551	11,940	13,728	10,029	8,796

## THE PANAMA CANAL

Table 2. Distances in Nautical Miles from European Ports to Ports on the West Coast of North, Central and South America

From	Via	To					
		Port Townshend	San Fran- cisco	Acapulco	Honolulu	Callao	Val- paraiso
Liverpool	Panama	8,606	7,836	6,017	9,276	5,937	7,207
	Magellan	14,272	13,502	11,891	13,679	9,980	8,747
Hamburg	Panama	9,125	8,355	6,536	9,795	6,456	7,726
	Magellan	14,653	13,883	12,272	14,060	10,361	9,128
Gibraltar	Panama	8,391	7,621	5,802	9,061	5,722	6,992
	Magellan	13,341	12,571	10,960	12,748	9,049	7,816

Table 3. Distances in Nautical Miles from American and European Ports to Pacific and Far Eastern Ports <sup>1</sup>

From	Via	To				
		Yokohama	Shanghai	Hongkong	Sydney	Wellington
New York	Panama	9,798	10,649	11,691	9,811	8,851
	Suez (or)	13,566	12,525	11,673	(Cape of Good Hope) 13,743	14,441
Norfolk	Panama	9,603	10,454	11,496	9,616	8,656
	Suez (or)	13,719	12,678	11,826	(Cape of Good Hope) 13,802	14,500
New Orleans	Panama	9,219	10,070	11,112	9,232	8,272
	Suez (or)	14,924	13,883	13,031	(Cape of Good Hope) 14,676	15,374
Liverpool	Panama	12,372	.....	13,957	12,385	11,425
	Suez	11,678	.....	9,785	12,235	12,089

<sup>1</sup> Emory R. Johnson, *Panama Canal Traffic and Tolls* (Washington, 1912), pp. 6-13.

Distances reduced are translatable into time saved. The days which may be saved on certain routes, over the longer routes prevailing before the Canal was opened, and, of course, still available at most times, mount up impressively. Between New York and San Francisco, a 10 knot freighter saved over a month's time, while a vessel headed for the same port at

the same average speed from Gibraltar saved almost three weeks. Faster ships saved fewer days, but the proportionate reduction of time occupied by the journey was the same. These time-distance savings explain why the Canal has been used so extensively for traffic between the coasts of the Americas, between European and west coast American ports, and between the Atlantic coast and the Far East as far as a line drawn southward from Hongkong.

Table 4. Number of Days Saved (over shortest 1913 Water Route) for Vessels of Different Speeds Between Given Ports via the Panama Canal Route <sup>2</sup>

	TO									FROM								
	New York for vessels of			New Orleans for vessels of			Liverpool for vessels of			Hamburg for vessels of								
	10 Knots	14 Knots	16 Knots	10 Knots	14 Knots	16 Knots	10 Knots	14 Knots	16 Knots	10 Knots	14 Knots	16 Knots						
San Francisco.	32.3	22.9	20.0	36.4	25.9	22.6	23.1	16.3	14.2	22.5	15.9	13.9						
Acapulco.....	33.2	23.5	20.5	37.3	26.5	23.1	23.9	17.0	14.8	23.4	16.6	14.4						
Honolulu.....	27.0	19.1	16.7	31.2	22.1	19.3	17.8	12.6	10.9	17.2	12.2	10.6						
Valparaiso....	15.1	10.6	9.2	19.2	13.6	11.8	5.9	4.1	3.5	5.3	3.5	3.1						
Yokohama....	15.2	10.7	9.3	23.3	16.5	14.4	Suez route would be used on these runs because of shorter mileage.											
Sydney.....	15.8	11.2	9.7	22.2	15.7	13.0												

<sup>2</sup> *Ibid.*, pp. 16-17.

Time and distance saved are economic gain. Both are convertible into reduced cost per voyage, depending for each vessel on individual characteristics of mechanical efficiency, fuel consumption, wage and freight rates, and contract arrangements. Variations in vessels, and even in the same vessel on different voyages, and from year to year depending on economic conditions, make it impossible to draw up any chart showing with accuracy the full economic benefit derivable to any vessel from use of the shorter routes made possible by the existence of the Canal.



Many factors enter into determination of a vessel's course: engagement on a regular run; destination of cargo; cargo or passengers available or likely to be picked up at intermediate or end points of voyage; orders from owners or charterers; location of fuel, supply, and repair facilities (and the respective advantages or otherwise of similar facilities on alternative routes); insurance charges; risk and safety in time of war or emergency; governmental orders. In considering whether to proceed via the Panama Canal two other factors must be taken into account: tolls, and ease of conformity to rules and regulations applicable to vessels seeking transit.

#### USE OF THE CANAL BY WORLD'S SHIPPING

The tallies of vessels transiting the Canal year by year demonstrate that navigation by this route has been found expedient, if not economically advantageous, for many.

Table 5. Ships Using the Canal <sup>3</sup>

<i>Year</i>	<i>Number of Transits</i>	<i>Year</i>	<i>Number of Transits</i>	<i>Year</i>	<i>Number of Transits</i>
1915.....	1,075	1924.....	5,230	1933.....	4,494
1916.....	758	1925.....	4,673	1934.....	5,234
1917.....	1,803	1926.....	5,197	1935.....	5,180
1918.....	2,069	1927.....	5,475	1936.....	5,382
1919.....	2,024	1928.....	6,456	1937.....	5,387
1920.....	2,478	1929.....	6,413	1938.....	5,524
1921.....	2,892	1930.....	6,185	1939.....	5,903
1922.....	2,736	1931.....	5,529	1940.....	5,370
1923.....	3,967	1932.....	4,506		
				TOTAL.....	109,787

Although American and British vessels passing through the Canal have been consistently more numerous than vessels flying any other flag, as might be expected, use of the Canal has been by no means confined to the vessels of the two English-speaking nations.

<sup>3</sup> *Annual Reports of the Governor of the Panama Canal.*

Table 6. Nationality of Vessels Using the Canal<sup>4</sup>

Year	United States	British	Norwegian	German	Netherlands	Japanese	Danish
1915	470	465	42	...	7	6	23
1916	238	358	45	...	15	24	18
1917	464	780	150	6	74	72	43
1918	628	699	296	...	49	53	100
1919	786	602	128	...	19	87	79
1920	1,129	753	106	17	29	118	9
1921	1,210	972	140	19	50	136	60
1922	1,095	935	113	37	66	189	53
1923	1,994	1,065	147	90	109	163	65
1924	2,947	1,265	136	150	102	171	65
1925	2,326	1,211	192	163	102	172	42
1926	2,432	1,423	306	163	93	131	63
1927	2,685	1,351	265	212	105	165	46
1928	2,753	1,842	313	316	137	188	69
1929	2,700	1,783	340	402	149	155	101
1930	2,885	1,536	371	377	141	163	91
1931	2,417	1,390	363	369	125	193	120
1932	1,917	1,054	311	338	117	179	105
1933	1,686	1,039	407	325	80	217	113
1934	2,269	1,208	450	301	91	258	135
1935	2,143	1,170	515	341	114	255	125
1936	2,045	1,304	556	310	139	271	156
1937	1,670	1,385	674	332	221	282	189
1938	1,780	1,281	667	357	285	300	223
1939	1,788	1,502	704	361	312	261	200
1940	1,997	1,073	557	55	340	272	174

United States and British foreign trades have benefited by the existence of the Panama Canal, but so has the commerce of their competitors. If the Canal opened or seemed to expand the markets and trade of one group of nations, it is clear that it has also aided others, and even increased their ability to sell more cheaply in British and American markets and in markets sought by them. This may be viewed as being economically advantageous to the best interests of all in the long run. At the same time it may come to be politically undesirable when some competitors in trade turn out to be enemies plotting world con-

<sup>4</sup> *Ibid.* The German vessels shown transiting in 1917 were vessels seized at the Canal by the United States. They were sent through the Canal under American officers but were recorded as German, since at the time of transit legal title had not been taken by the United States.

quest or totalitarian destruction. Reduction of the barriers to trade is desirable, but on the premise that trade is for mutual advancement and not a step toward the extermination of peaceful, independent nations.

#### FACILITIES AT THE CANAL

The facilities offered at the Panama Canal are such as to be an inducement to vessels to use the Canal route. Ships may procure all kinds of stores and supplies from the Commissaries at rates comparable to those obtaining in the United States. The extensive dockyards and machine shops at Balboa and Cristóbal are equipped and supplied at all times to handle virtually every kind of marine repair job as quickly and as competently as in the largest ports of the world. The Mechanical Division of The Panama Canal is prepared to make repairs and adjustments to the most delicate ship mechanisms, or to repair or manufacture plates, beams, propeller shafts, boilers or turbines. The large dry dock at Balboa can take care of any vessel that can pass through the locks of the Canal. An even larger one is to be constructed in connection with the building of the third set of locks so that eventually the Canal will be able to dry dock any vessel up to approximately twelve hundred feet long, or larger than the present-day *Normandie*. Fuel oil is inexpensive and readily procurable. Elaborate coal-planting plants are ready to fuel those vessels still dependent upon coal as a means of generating motive power.

#### THE COST OF TRANSITING THE CANAL

How much does it cost a vessel to transit the Panama Canal? Under what circumstances is it economically advantageous for a vessel to proceed via the Canal, tolls and other costs considered?

In figuring what it costs to send a vessel through the Panama Canal, and whether it is worth while to do so, a shipper must reckon with several items. There are, of course, the toll charges

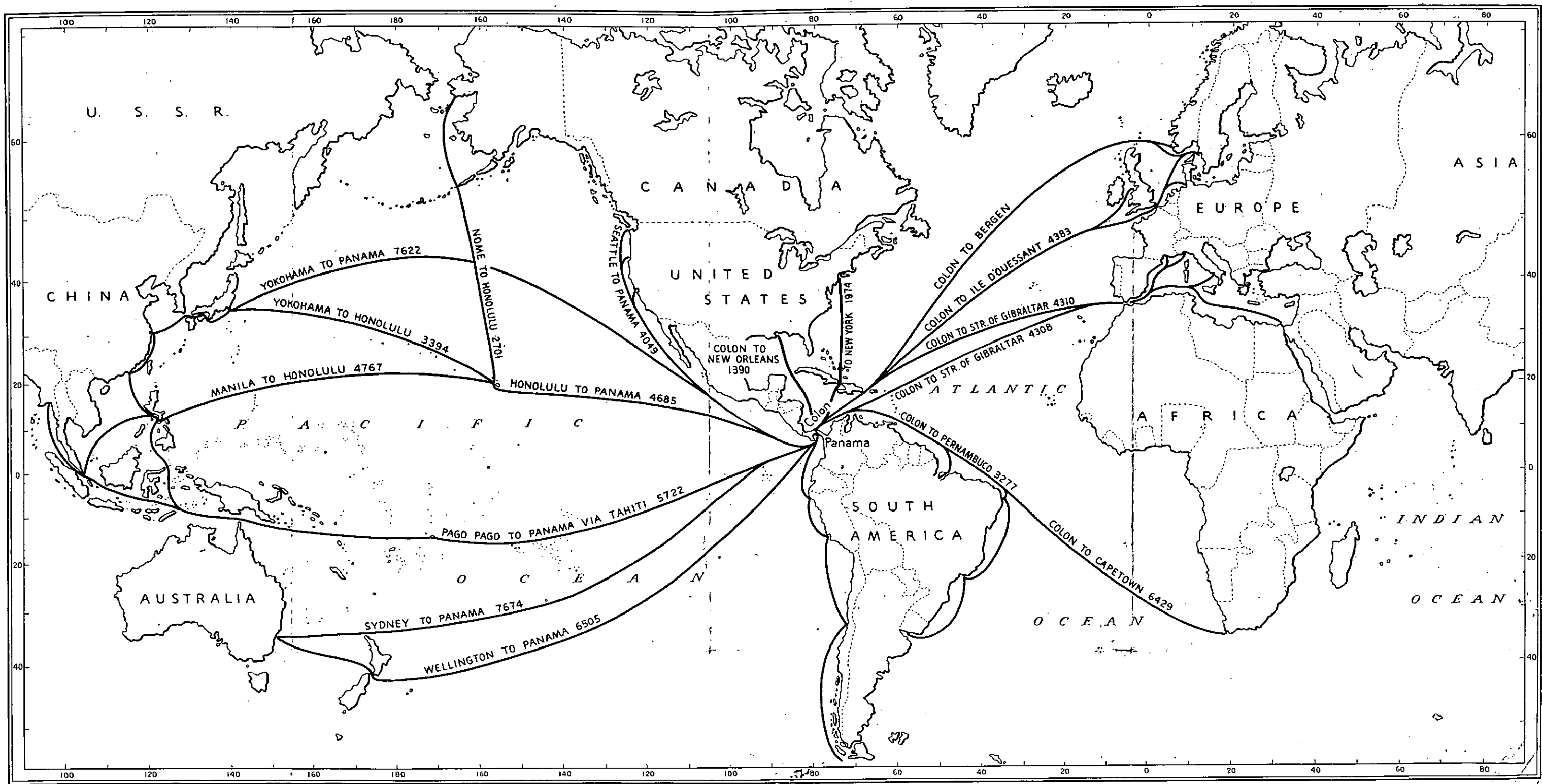
at the Canal. Additionally, the cost of operating a vessel per day per net ton of cargo and per passenger carried as against revenues earned and additional cargo and passengers available en route must be taken into account. Where a vessel is on charter the cost of charter hire must be considered. In times of scarcity of shipping, or of lack of an abundance of pay loads, charter hire may become an item of some proportion in the total cost of sending a vessel to its destination via the Panama Canal. In general, the cost of operating a ship per net ton per day varies so much with conditions, such as the type of the vessel, its size and class, the efficiency of its motive power, the trade route being plied, the length and terms of charter, as well as supply and demand, that it is almost impossible to estimate with accuracy what the cost of transiting the Canal may be.

Taking toll charges as a definite, readily figurable item, it must be said that the cost of transiting the Canal varies with the structure of the ship, and depending on whether it is laden or in ballast. If a vessel is laden, tolls will be charged at the rate of ninety cents per net vessel ton as measured and certified under the Panama Canal Measurement Rules. This means, as explained in Chapter III, that a vessel is charged on the basis of its earning capacity space rather than on the weight of cargo which it carries on the voyage it happens to be on at any given transit. This is determined by calculating the gross tonnage of the vessel (under decks, plus permanently covered and closed-in spaces above the upper deck), and subtracting deductions allowed by law for crew and officers' accommodations, service rooms for officers and crew, spaces used in working the vessel, store rooms, public rooms for passengers, and spaces for propelling power. Vessels proceeding in ballast pay tolls at the lower rate of seventy-two cents per net vessel ton as measured and certified under the Panama Canal Measurement Rules.

The Panama Canal authorities have figured that under

normal conditions, if the cost of operating a vessel be taken at twenty cents per Panama Canal net ton a day (and this of course varies with different vessels and the conditions of their operation), the cost of tolls on laden vessels is equivalent to four and one-half days' operation at sea. On such an assumption, other things being equal, if a vessel saves over four and one-half days in her voyage by using the Canal instead of some other route, it is profitable to proceed via the Canal. On the same basis, a vessel in ballast might profit by using the Canal if it saves over three and three-fifths days in reaching its destination by employment of that route. These estimates are based solely on the operating costs of the vessel, and do not take into account the commercial advantages of the time saved. Translated into distance, a ten knot vessel traveling 240 nautical miles a day will gain by using the Canal when laden if by so doing it shortens the journey by 1,080 miles, and when in ballast if it shortens the journey by 864 miles. Similarly, a twelve knot vessel would gain if the journey were shortened by 1,296 miles when laden, or 1,037 when in ballast.

Tolls are not levied on the nature of the cargo carried or on the amount carried, but rather upon the earning capacity of vessels. Consequently, if it be asked what it costs per ton of cargo for sending a vessel through the Canal, it must be replied that the cost varies with the nature of the vessel and the quantity of cargo carried in relation to the total earning capacity space of the vessel. It has been estimated that the lowest cost of tolls per ton of cargo to date has been 17.05 cents per ton on a cargo of iron ore. The rules of measurement and the rates of toll in force at any given time have much to do with determining the cost. On the basis of the rules and rates in force since March 1, 1938, it has been estimated that the average cost of all cargo for the fiscal year ending June 30, 1940, was approximately sixty-six cents per ton. Taking a group of vessels carrying such bulk cargoes as mineral oils, nitrates, lumber, molasses, sugar, and asphalt, the average cost of tolls per ton



of cargo carried by such vessels amounted to a lower figure of about forty-one cents per ton.

#### ANALYSIS OF CARGO MOVEMENTS THROUGH THE CANAL

An examination of the records of the Panama Canal will reveal that vessels pass through here en route to and from a legion number of ports of the world. The cargo carried through the Canal is as diverse in nature as that which will be found entering and leaving the largest of ports. It is a veritable sample and cross section of the vast catalogue of raw materials and manufactured goods which are the concomitant of twentieth-century world economy. Through here pass the means of the more abundant life. Through here also go the sinews of war and the instruments of war.

Many trade routes have been established via the Panama Canal since 1914 on which vessels ply on regular schedule in times of peace. Few of these can be said to have been entirely new routes in the sense of opening a traffic between given points of origin and destination. Rather, they represent a rerouting of older lanes of shipping to take advantage of the shorter distance made possible by the Canal, and a marked increase in the volume of traffic between certain places. There are seven predominant trade routes running through the Canal. The number of vessels moving back and forth on these routes and the quantity of cargo carried on them far exceed that of other routes making use of the Canal. In order of the volume of merchandise carried through the Canal these routes are the United States intercoastal run, Europe and the West coast of the United States and Canada, the United States and South America (principally the west coast of South America), the United States and the Far East (including the Netherlands Indies and Malaysia), Europe and the west coast of South America, Europe and Australasia, the United States and Australasia.

Table 7. Total Tonnage of Cargo Carried Through Panama Trade Routes <sup>5</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1915.....	2,125,735	2,844,057
1916.....	1,434,236	1,705,810
1917.....	3,076,843	4,152,412
1918.....	2,639,466	4,922,667
1919.....	2,705,091	4,172,558
1920.....	4,092,516	5,281,983
1921.....	5,892,078	5,707,136
1922.....	5,496,000	5,389,000
1923.....	7,086,259	12,481,616
1924.....	7,860,100	19,134,610
1925.....	7,398,397	16,560,439
1926.....	8,037,097	18,000,351
1927.....	8,583,327	19,164,888
1928.....	8,310,134	21,320,575
1929.....	9,882,520	20,780,486
1930.....	9,475,725	20,554,507
1931.....	6,680,429	18,402,371
1932.....	5,635,358	14,172,640
1933.....	4,507,070	13,654,095
1934.....	6,162,649	18,541,360
1935.....	7,529,721	17,779,806
1936.....	8,249,899	18,256,044
1937.....	9,895,632	18,212,743
1938.....	9,688,560	17,697,364
1939.....	9,011,267	18,855,360
1940.....	9,819,600	17,479,416

<sup>5</sup> Compiled from *Annual Reports of Governor of the Panama Canal*.



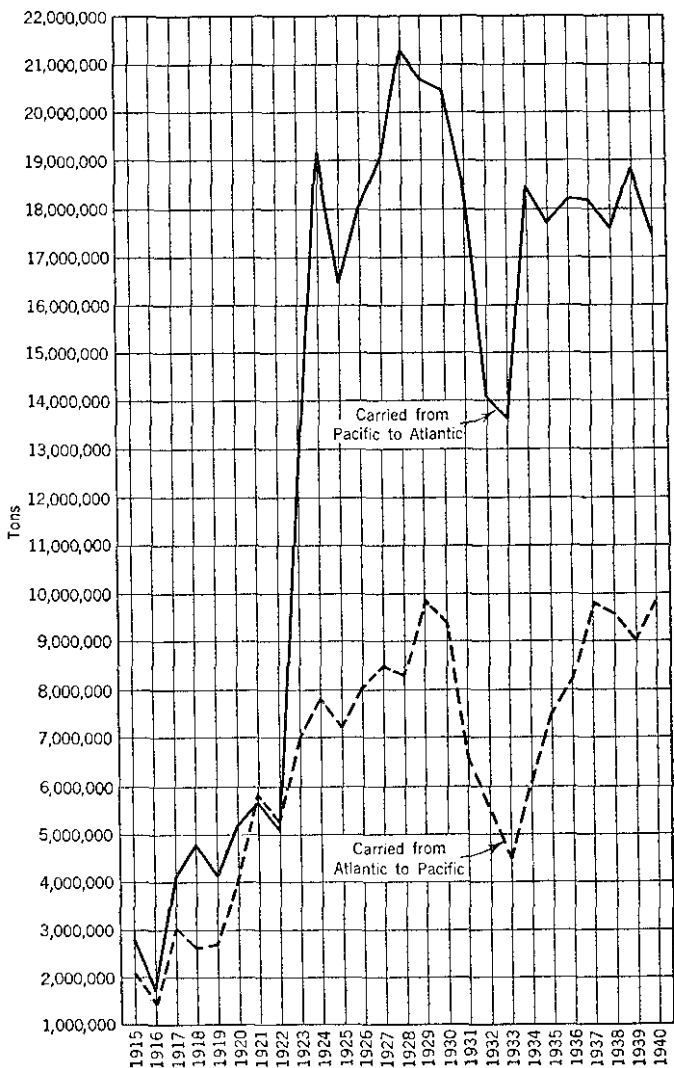


Plate 1

Graph of Total Tons of Cargo Carried Through the Panama Canal on All Trade Routes, By Years

Table 8. Tons of Cargo Carried Through Panama Canal in United States Intercoastal Trade <sup>6</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	1,288,075	1,274,452
1923.....	2,608,307	5,460,246
1924.....	2,719,240	10,808,138
1925.....	2,213,603	7,282,656
1926.....	2,435,748	7,633,856
1927.....	2,638,786	7,921,719
1928.....	2,401,872	7,665,520
1929.....	3,022,960	7,096,068
1930.....	3,161,530	7,328,534
1931.....	2,379,751	6,425,624
1932.....	1,917,052	4,705,932
1933.....	1,595,087	4,831,521
1934.....	2,074,709	6,850,261
1935.....	2,162,641	5,800,769
1936.....	2,578,508	5,140,567
1937.....	2,575,075	3,965,082
1938.....	2,341,847	4,052,728
1939.....	2,391,523	4,493,203
1940.....	2,795,708	4,918,629

<sup>6</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

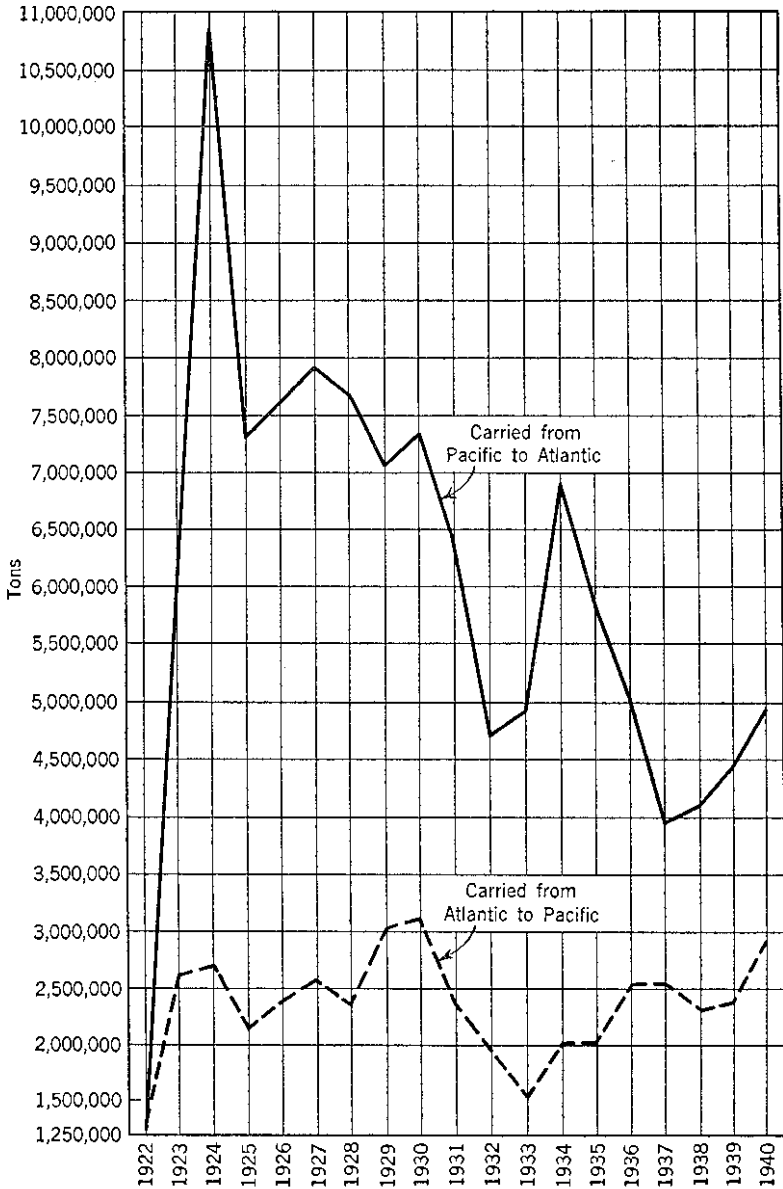


Plate 2

Graph of Tons of Cargo Carried Through Panama Canal in United States Intercoastal Trade, By Years.

Table 9. Tons of Cargo Carried Through Panama Canal on Route Between Europe, and West Coast of the United States and Canada <sup>7</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	336,249	1,722,455
1923.....	606,031	1,905,760
1924.....	670,271	2,442,765
1925.....	696,553	2,566,833
1926.....	701,986	3,013,325
1927.....	758,243	3,722,957
1928.....	725,304	5,113,788
1929.....	797,856	5,172,286
1930.....	838,226	4,710,214
1931.....	549,948	4,631,157
1932.....	404,086	3,943,880
1933.....	320,539	4,488,981
1934.....	405,519	3,541,779
1935.....	457,067	3,723,295
1936.....	709,845	4,166,055
1937.....	641,045	3,902,877
1938.....	548,467	3,688,353
1939.....	416,190	4,889,324
1940.....	236,776	3,105,918

<sup>7</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

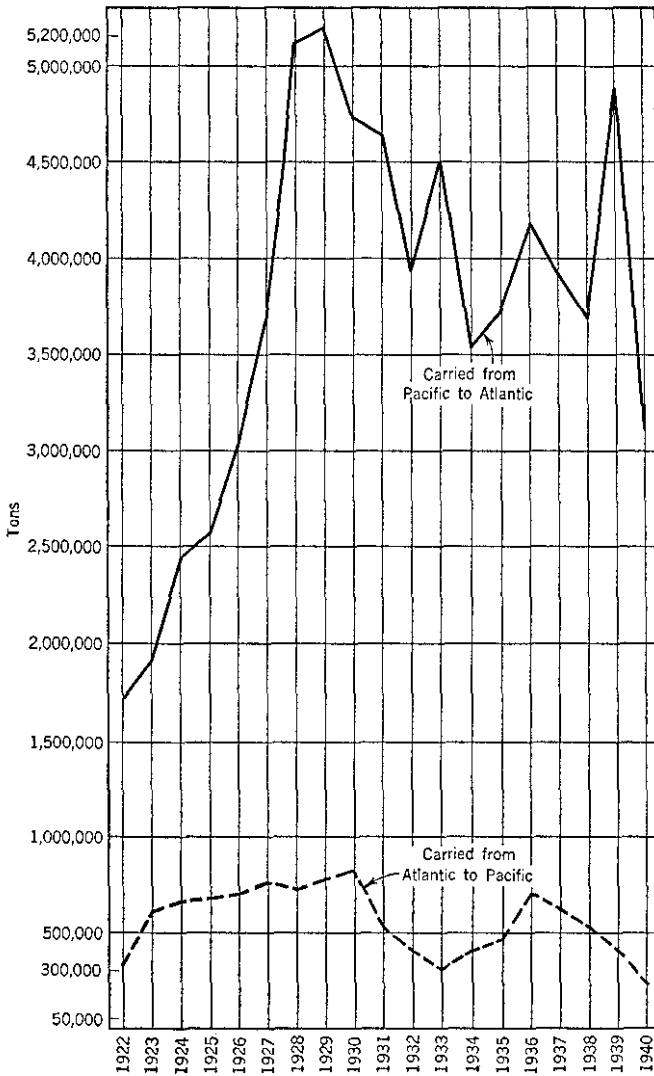


Plate 3

Graph of Tons of Cargo Carried Through Panama Canal on Route Between Europe and West Coast of the United States and Canada, By Years.

Table 10. Tons of Cargo Carried Through Panama Canal on Route Between the United States and South America <sup>8</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	244,514	548,609
1923.....	275,313	1,779,210
1924.....	373,348	2,329,281
1925.....	377,864	2,661,756
1926.....	423,730	2,816,346
1927.....	412,835	2,518,611
1928.....	377,968	2,840,510
1929.....	439,645	2,998,766
1930.....	378,101	3,144,475
1931.....	257,363	2,105,298
1932.....	116,238	1,001,749
1933.....	44,474	294,076
1934.....	108,447	1,633,499
1935.....	142,870	1,380,790
1936.....	199,199	1,909,185
1937.....	208,218	2,359,431
1938.....	262,207	2,389,649
1939.....	192,732	2,447,257
1940.....	501,511	2,757,412

<sup>8</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

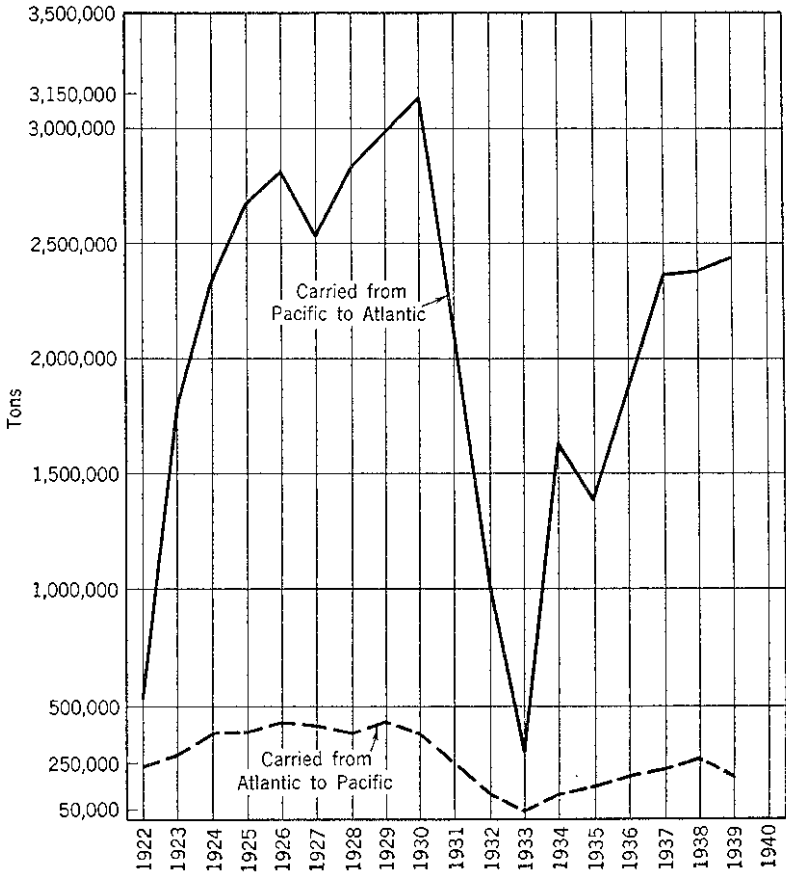


Plate 4

Graph of Tons of Cargo Carried Through Panama Canal on Route Between the United States and South America, By Years.

Table 11. Tons of Cargo Carried Through Panama Canal on Route  
Between the United States and the Far East <sup>o</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	1,728,172	303,315
1923.....	1,466,013	443,272
1924.....	1,504,275	294,003
1925.....	1,234,608	266,269
1926.....	1,421,214	333,834
1927.....	1,576,151	407,313
1928.....	1,562,112	504,163
1929.....	1,927,216	649,102
1930.....	2,072,511	818,184
1931.....	1,360,772	862,053
1932.....	1,714,725	851,124
1933.....	1,323,003	1,077,734
1934.....	1,822,955	1,535,733
1935.....	2,532,280	1,067,426
1936.....	1,872,357 *	585,961 *
1937.....	3,265,672 *	662,047 *
1938.....	3,092,992 *	433,544 *
1939.....	2,593,808 *	280,593 *
1940.....	2,888,160 *	585,304 *

<sup>o</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.  
(\* Excluding the Philippine Islands.)



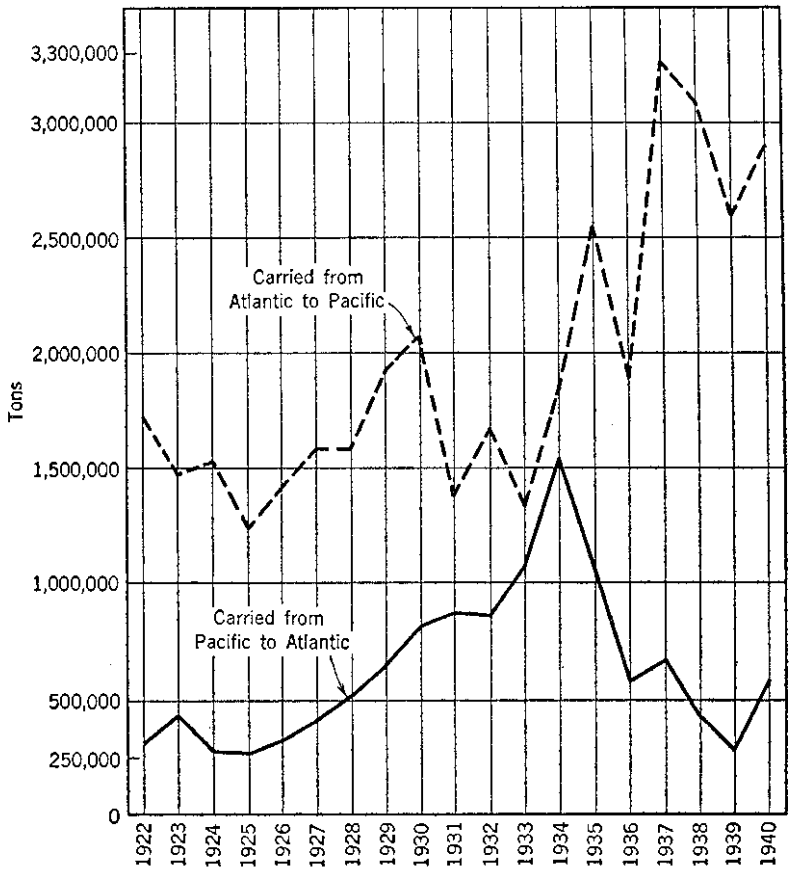


Plate 5

Graph of Tons of Cargo Carried Through Panama Canal on Route Between the United States and the Far East, By Years.

Table 12. Tons of Cargo Carried Through Panama Canal on Route Between Europe and South America <sup>10</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	283,804	663,127
1923.....	486,952	1,263,034
1924.....	627,356	1,378,501
1925.....	776,388	1,708,626
1926.....	783,007	1,612,733
1927.....	623,030	1,326,573
1928.....	787,214	2,118,251
1929.....	873,369	2,423,728
1930.....	881,666	1,934,744
1931.....	503,566	1,804,191
1932.....	206,908	1,532,204
1933.....	164,695	1,368,234
1934.....	212,213	2,433,350
1935.....	304,212	2,640,962
1936.....	395,917	2,330,136
1937.....	460,777	2,661,698
1938.....	453,298	2,520,600
1939.....	415,697	2,481,541
1940.....	259,700	1,474,874

<sup>10</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

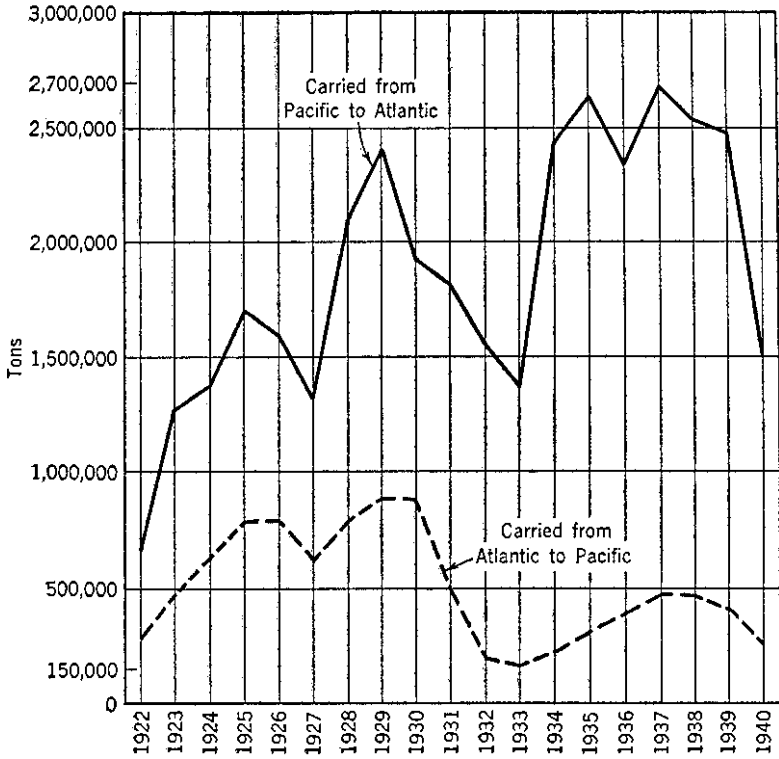


Plate 6

Graph of Tons of Cargo Carried Through Panama Canal on Route Between Europe and South America, By Years.

Table 13. Tons of Cargo Carried Through Panama Canal on Route Between Europe and Australasia <sup>11</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	359,895	381,538
1923.....	415,861	306,404
1924.....	509,477	304,370
1925.....	518,406	420,356
1926.....	543,825	556,871
1927.....	539,792	493,425
1928.....	595,985	554,678
1929.....	609,190	583,738
1930.....	604,265	594,930
1931.....	441,470	671,843
1932.....	286,740	422,227
1933.....	235,075	295,896
1934.....	252,680	600,931
1935.....	320,280	615,144
1936.....	419,824	636,997
1937.....	473,333	670,192
1938.....	545,553	705,917
1939.....	542,770	759,794
1940.....	268,143	864,701

<sup>11</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

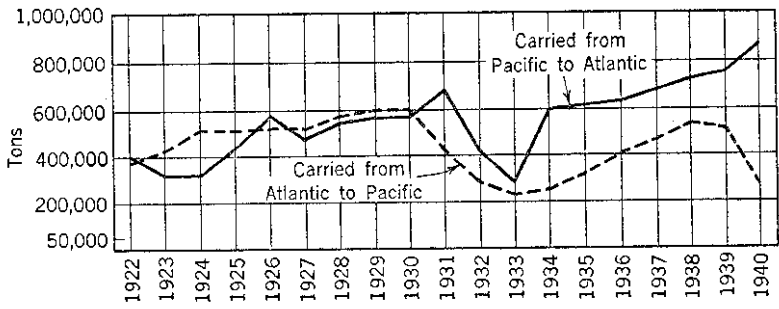


Plate 7

Graph of Tons of Cargo Carried Through Panama Canal on Route Between Europe and Australasia, By Years.

Table 14. Tons of Cargo Carried Through Panama Canal on Route Between the United States and Australasia <sup>12</sup>

<i>Year</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>
1922.....	288,090	45,957
1923.....	462,057	72,534
1924.....	587,481	47,777
1925.....	663,619	28,195
1926.....	727,406	33,087
1927.....	795,161	33,758
1928.....	580,883	57,927
1929.....	569,119	97,291
1930.....	422,539	238,803
1931.....	202,311	166,648
1932.....	187,393	81,501
1933.....	164,215	18,552
1934.....	211,018	81,303
1935.....	277,477	152,567
1936.....	356,117	155,875
1937.....	316,004	236,259
1938.....	471,299	157,048
1939.....	374,544	86,999
1940.....	487,986	135,639

<sup>12</sup> Compiled from *Annual Reports of the Governor of the Panama Canal*.

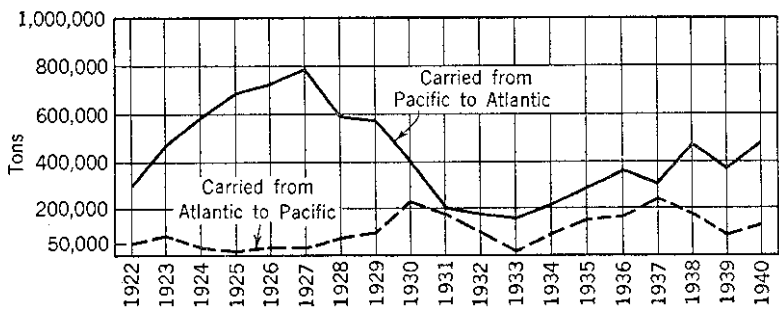


Plate 8

Graph of Tons of Cargo Carried Through Panama Canal on Route Between United States and Australasia, By Years.

The statistics compiled by the Canal authorities on the amount of goods moving on these and other routes throw light on the characteristics of modern international trade. They show the prevailing directions which a large amount of this trade takes from year to year and from decade to decade. They reflect the phases of the recurrent business cycles. And they show the fluctuations which occur due to variations in supply, demand, purchasing power, the requirements of national economies, and political crises.

The chief characteristic of the cargo movement through the Panama Canal is the predominance of the Pacific to Atlantic carriage over that of the Atlantic to the Pacific. As the accompanying charts portray, this has been consistently the case since 1923. The discrepancy has not only maintained itself, except in the depression years 1930-33 when the Pacific to Atlantic trade dropped off to a greater extent than did the Atlantic to Pacific trade, but has tended to grow. When the figures are complete for the years of the second World War they are likely to show an even more marked divergence of the two trades. The trend which is shown for the total tonnage of goods passing through the Canal is naturally reflected in the relative quantities of goods carried through the Canal in the two directions on the main trade routes. Save for the United States-Far East, and United States-Australasia routes, the greater weight of goods has consistently tended to move from west to east on all of the most heavily freighted routes. The Europe-Australasia trade fluctuated considerably up to 1930, but since then has followed the same course as most other carriages.

Various reasons may perhaps be adduced to explain the difference between the eastbound and westbound tonnage carried through the Canal. Probably the main factor is that a large part of the trade bound toward the Atlantic is composed of bulky raw materials that pack tightly and add up quickly in weight and volume, whereas ships bound toward ports in the Pacific carry a larger percentage of their cargo in the form of



manufactured or semi-finished goods which consume cubic space without filling it solid full. In the trade moving to the Atlantic crude oil and petroleum products held first place from 1923 to 1938. In the latter year they gave way to lumber which has consistently been in second place. The drop-off in oil may have been due in part to the large sales being made to the Japanese, much of which moved off the west coast of the United States. It may also be explainable by the opening of oil fields more accessible to the Atlantic, and the increased usage of oil pipe lines to Atlantic ports. Wheat, ores, and nitrates have competed for third, fourth, and fifth places on the roster of eastbound trade, while the amount of canned goods going from California to the east coast by water has increased so progressively, even during depression years, it may move into the list of top five commodities.

In the westbound trade manufactured goods of iron and steel, together with mineral oils have ranked first. Other products carried in large quantities, but varying a good deal from year to year, have been coal, cotton, sulphur, phosphates, cement, tinplate, paper and paper products.<sup>13</sup> From 1931 to 1941

<sup>13</sup> A table listing the principal commodities carried through the Canal over a period of years, including a trade depression year and a war year, illustrates the comparative nature of the two trades.

<i>Commodity</i>	<i>Fiscal year ended June 30</i>			
	<i>1940</i> <i>Long tons</i>	<i>1939</i> <i>Long tons</i>	<i>1938</i> <i>Long tons</i>	<i>1937</i> <i>Long tons</i>
Manufactures of iron and steel.	1,837,593	1,495,497	1,859,087	1,770,293
Mineral oils .....	1,294,886	1,032,671	907,440	794,702
Scrap metal .....	968,045	1,200,368	999,151	1,666,030
Paper and paper products.....	394,021	402,264	422,766	431,672
Sulphur .....	353,452	234,879	297,283	253,294
Coal and coke.....	330,542	147,273	137,404	124,467
Metals, various .....	316,627	400,285	646,679	379,200
Cotton, raw .....	277,978	250,272	142,121	298,300
Tinplate .....	243,784	194,186	237,997	272,772
Phosphates .....	220,647	202,981	328,079	310,015
Machinery .....	205,210	158,835	167,698	155,206
Chemicals (unclassified) .....	140,411	127,858	108,861	119,437
Canned goods (food products)..	139,169	132,228	133,111	136,885
Ammonium compounds .....	103,435	51,062	70,924	60,141

## ATLANTIC TO PACIFIC

Fiscal year ended June 30

Commodity	1940	1939	1938	1937
	Long tons	Long tons	Long tons	Long tons
Ores, various .....	100,830	45,620	103,902	120,233
Wood pulp .....	96,150	59,834	113,180	105,775
Cement .....	93,286	160,271	153,558	183,978
Automobiles .....	92,781	152,131	207,878	185,983
Textiles .....	87,212	98,325	94,625	99,337
Coffee .....	76,550	73,314	67,641	44,529
Salt .....	71,899	54,751	45,967	45,121
Liquors and wines.....	71,432	74,093	64,981	58,826
Railroad material .....	70,637	82,235	77,588	21,986
Tobacco .....	69,044	64,441	52,489	69,407
Automobile accessories .....	65,512	80,693	91,769	86,289
Lumber and mill products.....	63,492	58,157	42,025	46,700
Asphalt and tar .....	60,970	71,931	151,527	147,193
Nitrate .....	49,345	54,181	68,702	68,078
Soda and sodium compounds....	48,528	39,694	61,948	50,888
Glass and glassware.....	47,797	60,005	59,734	62,225
Asbestos .....	46,496	35,395	45,659	34,443
Rosin .....	44,606	41,303	35,304	57,793
Creosote .....	43,672	26,399	30,657	34,880
Electrical apparatus .....	43,105	39,207	25,762	16,469
Paints and varnishes.....	37,000	36,057	32,480	38,594
Drugs and medicines.....	31,355	29,114	24,431	16,507
Groceries (unclassified) .....	31,279	24,794	22,434	9,826
Floor coverings .....	30,844	27,237	21,997	17,172
Corn .....	30,597	3,049	43,630	40,977
Soap and products .....	29,957	28,630	22,683	17,075
Agricultural implements .....	27,970	43,276	59,838	47,456
Oilseeds .....	25,985	45,676	17,917	18,831
Potash .....	25,950	27,859	40,288	27,290
Fertilizers .....	25,367	20,633	30,296	23,628
Oilseed cake and meal.....	24,427	27,504	9,739	1,750
Clays .....	22,588	21,461	20,913	24,929
Rubber, manufactured .....	21,784	16,642	15,694	12,798
Sand .....	21,776	25,788	56,973	52,160
Extract, quebracho .....	20,910	20,652	12,357	9,129
Slate .....	20,746	20,616	10,875	10,610
Rubber, scrap .....	20,328	11,837	2,583	2,835
Flour .....	20,232	23,445	9,271	12,991
Oils, vegetable .....	19,366	32,002	29,341	26,116
Sugar .....	19,188	36,832	56,941	74,185
Slag .....	9,230	26,769	62,546	50,299
All others .....	1,133,577	1,058,275	1,031,836	1,047,926
<b>TOTAL</b> .....	<b>9,819,600</b>	<b>9,011,267</b>	<b>9,688,560</b>	<b>9,895,632</b>

PACIFIC TO ATLANTIC

Fiscal year ended June 30

Commodity	1940	1939	1938	1937
	Long tons	Long tons	Long tons	Long tons
Lumber .....	3,669,482	3,191,093	2,850,953	2,748,917
Ores .....	2,165,646	1,991,690	2,126,657	1,851,254
Mineral oils .....	2,014,237	2,777,201	2,874,809	3,571,626
Sugar .....	1,455,683	1,329,276	1,486,516	1,358,948
Nitrate .....	1,361,422	1,444,148	1,401,003	1,328,482
Canned goods (food products)..	1,248,059	1,232,636	991,436	1,092,356
Metals, various .....	706,001	674,314	608,170	653,250
Wheat .....	611,961	1,539,474	705,500	1,218,581
Cold storage (food products)....	444,291	335,874	334,659	304,332
Fruit, dried .....	275,637	337,769	291,444	233,937
Wood pulp .....	275,350	235,768	313,969	140,612
Oils, vegetable .....	211,457	174,944	170,686	197,000
Rubber, raw .....	185,819	24,934	62,505	70,536
Flour .....	176,126	153,642	233,810	259,389
Coffee .....	166,881	185,341	174,778	177,209
Wool .....	158,148	138,622	123,297	159,586
Fruit, fresh .....	135,143	419,109	347,527	216,770
Beans, edible, dry.....	130,021	165,185	175,917	134,239
Paper and paper products.....	127,415	120,723	137,578	122,894
Barley .....	117,625	259,612	237,137	166,578
Copra .....	111,438	156,657	163,521	155,413
Cotton, raw .....	98,020	106,211	127,473	114,087
Rice .....	93,579	31,127	57,109	44,906
Phosphates .....	92,259	87,715	44,933	39,280
Asphalt and tar .....	87,538	61,861	107,187	65,058
Potash .....	75,777	48,287	33,731	32,041
Borax .....	64,241	74,239	89,831	96,619
Molasses and sirups.....	61,577	101,750	47,377	127,381
Oilseed cake and meal.....	60,669	62,925	63,798	76,253
Skins and hides .....	53,961	58,760	56,346	72,761
Oats .....	49,990	102,650	71,576	100,629
Soya beans .....	43,200	236,090	52,934	107,612
Textiles .....	43,084	30,986	51,009	75,652
Hemp, manufactured .....	40,118	24,293	18,490	26,176
Bananas .....	36,624	45,557	53,319	38,501
Tallow .....	36,573	30,864	26,831	32,050
Coconuts and products.....	29,543	27,064	22,747	14,933
Porcelain ware .....	26,409	25,324	45,934	51,608
Chemicals (unclassified) .....	25,286	18,542	33,704	30,153
Fish meal .....	24,669	32,473	35,866	37,901
Wines .....	24,387	29,879	28,718	28,571
Fish oil .....	19,414	34,433	18,707	20,218
Guano .....	4,700	27,830	....	32,230
All others .....	639,056	668,479	707,872	786,194
TOTAL .....	17,479,416	18,855,360	17,697,364	18,212,743

the tonnage of scrap metal en route to Japan through the Canal rose meteorically. In 1931 the tonnage of scrap metal carried from Atlantic to Pacific through the Canal amounted to 46,904 long tons. In 1935 1,186,061 tons were carried through the Canal. In 1939 the figure amounted to 1,200,368 tons. In the years between 1934 and 1940 inclusive the aggregate shipments of scrap metal moving to the Pacific ranked second in the list of all commodities, save in the years 1934 and 1936 when they dropped into third place behind shipments of mineral oils.<sup>14</sup>

The preponderance of cargo tonnage moving westward rather than eastward in the United States-Australasian and United States-Far Eastern trade may be explained by several things. The primary commodity passing from Australia to the eastern United States is wool. While this bulks large, and shipments are extensive, the tonnage of wool per cubic foot of carrying space of a vessel does not equal that of the manufactured and other goods sent for many years in the return trade. The Far Eastern trade is affected in somewhat the same way. Silk, hemp, jute, and numerous other commodities imported into the eastern United States from the Far East take up as much cargo space as the oil, cotton, scrap iron, automobiles and sewing machines, for example, going in the opposite direction, but the tonnage will not be as great. On the other hand, when shipments of rubber, tin, and tungsten ore direct to the eastern United States increase, the Atlantic-ward tonnage in the Far Eastern trade is bound to rise. Until 1940, however, when the United States commenced stock-piling these articles they did not begin to compensate for the large shipments of heavy cargoes to Japan for her war industry. An added explanation of the preponderance of Atlantic to Pacific commerce on the United States-Far Eastern route may lie in the fact that many American vessels which go to the Far East by way of the Panama Canal return to the United States via Suez or the Cape of Good Hope.

<sup>14</sup> *Annual Reports, 1930-40.*

Cargo movements through the Panama Canal reflect various aspects of political economy. Not the least of these is the influence of political policies upon the foreign trade of nations whose commerce passes through the Canal. Alterations in the commodities being imported by nations, or in the quantities of given commodities being imported by them, usually have significance attached to them. Similarly, the amounts and nature of goods being exported by nations throw light not only on the ability of producers to compete in world markets but also upon the ulterior policies of nations. Increased shipments of materials useful in war to any country over a period of time reveal, for example, the influence of the political situation of the country upon its foreign trade.

Looking back over the trade which has passed through the Panama Canal during the years from 1930 to 1940, it cannot be gainsaid that the Canal has benefited foreign Powers preparing for totalitarian war and conquest. It has been an accessory to the furtherance of aggression irreconcilable with the national interests of the United States, destructive of the organization of world peace. By making it possible for some nations to build up large foreign trades in markets where without the Canal such would be considerably more difficult, and by facilitating the procurement and carriage of war resources in return as a result of exchange earned by their export trade, the Canal has in a way contributed to situations enabling aggressors to exclude American interests from large areas and to deny neutrals their rights to freedom of the seas. The logic of such facts, the extraordinary character, as Secretary of State Hull put it in testifying before the Congress of the United States in behalf of passage of the Lease-Lend Act of 1941, of a world situation in which the forces of some Governments "are not restrained by considerations of law or principles of morality, which have no fixed limits for their programs of conquest," must impel speculation as to whether the United States should, for the sake of its own national interests as well as of world peace and order,

seek ways and means of employing the Canal more extensively or more exclusively as an instrument of national defense in future times of peace when others may be preparing wars of aggression. Grotius once remarked that all things are uncertain when law is departed from. But there may be times when "the most scrupulous observance by peaceful countries of legal concepts provides . . . no security whatever."

War is bound to affect the trade passing through the Canal, in amount, in the direction and kinds of goods carried. This was seen in the first World War in heavier traffic eastbound, and in the large shipments of nitrates from the west coast of South America. As the war continued foreign shipping tended to decrease and American shipping to grow in proportion. In the second World War much the same effects are to be observed. Up to 1940 there was a noticeable increase in eastbound over westbound traffic. After the summer of 1940 a decline in European shipping using the Canal was recorded as war action destroyed shipping, and as plans materialized for ship conservation through the substitution of American for Allied vessels in the Pacific to Atlantic haul, and through increased use of trans-continental railroad handling to cut down the turn-around of the ocean carriers. These fluctuations the Canal must endure. It cannot make traffic where shipping is lacking. It cannot offer safety to vessels upon the high seas, although its existence may provide naval vessels and aircraft patrols with bases from which to operate against raiders in the shipping lanes. It cannot produce cargoes in foreign ports for the vessels which transit it. It can only provide a quick, protected, and relatively inexpensive deep water highway between the oceans for shipping bound hence. In time of war its mercantile advantages play a less influential role in determining the courses of vessels than in time of peace. Government orders and strategical factors control movements to a large extent during war, and over these the Canal as a commercial institution can exert little influence.

## THE CANAL AND UNITED STATES FOREIGN TRADE

The quarter century since the Panama Canal was opened to navigation has witnessed a tremendous growth in the foreign commerce of the United States. This increase has been present on all of the foreign trade routes of the United States which pass through the Panama Canal. It cannot be maintained that the Canal was solely responsible for this expansion in trade. Wars in various parts of the world have created demands for American-made goods, both during the course of hostilities and in the reconstruction afterward. American mass-production methods have reached their fruition since 1914. American inventiveness has produced a variety of goods and devices which have found ready markets abroad. The shifting of wealth and the center of credit from Europe to America has brought in its train a greater purchasing power in the United States.

In all of the growth of United States foreign trade the Panama Canal has not been without some influence, however. By reducing the length of many hauls to and from the United States, and hence presumably freight costs, the Canal has acted as a promotional agent. It has made all-water shipment from ports on the Atlantic to ports on the Pacific Ocean feasible, eliminating expensive transcontinental rail transportation across the United States.<sup>15</sup> By helping to enlarge markets through increasing their accessibility, the Panama Canal has had the effect of stimulating the construction of new shipping which in turn has sought additional trade throughout the world. By cutting down the distance, time, and cost of many carriages, the Canal has perhaps tended to encourage merchants taking greater risks on transporting new or additional quantities of articles to and from foreign markets.

<sup>15</sup> The President of the American-Hawaiian Steamship Company has estimated that shipment via the Canal saves approximately ten dollars a ton. R. H. Lapham, "World Wide Changes in Trade due to the Panama Canal," *Current History*, July, 1929, pp. 648-652.

Should an interoceanic waterway across the American continents cease to operate, it is possible that the sum total of American foreign trade would not in the long run undergo a serious drop, so insistent have the people of the world become on interchange of goods, so mutually dependent are they upon each other's products. It is certain, however, that the closing of the Canal would cause a major dislocation of trade, would necessitate a radical readjustment of merchant shipping if it were to be carried on on its contemporary scale. It is also apparent that the longer hauls would mean increased costs. These would tend to drive out of business those marginal trades that depend upon low marketing cost and low price.

#### THE CANAL AND UNITED STATES INTERCOASTAL TRADE

In point of volume of goods carried through the Canal, the intercoastal trade of the United States has benefited more than any other trade by the existence of the Panama Canal. Intercoastal trade by water was by no means non-existent before the opening of the Canal. There were three main routes for such commerce: (1) the all-water route around South America for sailing vessels, or through the Straits of Magellan for steamers; (2) the Panama Route, involving transfer by rail across the Isthmus; and (3) the Tehuantepec route, also demanding the unloading of cargo onto freight cars for carriage across Mexico and reloading upon another vessel on the opposite coast. Both routes requiring overland rail transfer were expensive due to freight-handling costs, demurrage, and railroad rates. Both were unsatisfactory because of the lack of synchronization of steamship schedules in the Atlantic and in the Pacific, with consequential delays.

The volume of intercoastal trade by water in pre-Canal days was not negligible, but it was small compared with the amounts of cargo which have been moved back and forth between the coasts since the Canal was opened to navigation. The figures



for three six-year periods—1906–11, 1915–20, and 1934–39—illustrate the tonnage growth.<sup>16</sup>

The marked increase in trade shown immediately upon the opening of the Panama Canal, and then the equally notable reduction in 1916 and 1917 when the Panama Canal was closed on account of slides, shows something of the true measure of what the Panama Canal has meant to the east coast and west coast of the United States.

Intercoastal trade underwent a boom in the years following the opening of the Panama Canal as the war industries located in the eastern United States, the Allied countries in Europe, and later the United States Government itself, demanded large supplies of lumber, ore, petroleum, and other west coast products. After the close of the war in Europe the California oil industry expanded rapidly. Very large quantities of oil were shipped through the Canal from 1921–24, resulting in an increase of intercoastal traffic out of proportion to all other traffic through the Canal. The peak of 10,808,138 tons of cargo carried on the run from the Pacific to the Atlantic in the year ending June 30, 1924, amounted to forty per cent of the entire cargo passing through the Canal on all trade routes. It set an all-time high on the records of the Canal not approximated since. After 1924 the eastbound carriage dropped off more or less consistently. Oil shipments were curtailed as new oil fields nearer the east coast markets were opened up in Texas, Mexico, Venezuela, and Colombia. In recent years the eastbound trade has tended more nearly to balance that going westward. But it has never been as steady a trade, notwithstanding the fact that

<sup>16</sup> Figures for pre-Canal period from Johnson, *op. cit.*, pp. 50–51. Figures from 1915 from *Annual Reports of the Governor of the Panama Canal*.

1906.....	469,027	1915.....	<b>1,846,658</b>	1934.....	8,924,968
1907.....	427,682	1916.....	444,388	1935.....	7,963,410
1908.....	371,538	1917.....	115,469	1936.....	7,719,075
1909.....	434,205	1918.....	1,085,392	1937.....	6,540,157
1910.....	537,649	1919.....	1,310,745	1938.....	6,394,575
1911.....	808,135	1920.....	2,562,527	1939.....	6,884,726

many of the commodities moving eastward are raw materials and consumers goods.

Barring the discovery of some new mineral deposits in the far western United States, or an exceptional industrial development on the west coast the supplies or products of which are particularly adapted to water transportation, it does not seem likely that there will be another spurt in the intercoastal trade matching that of 1921-24. A war in the Pacific might well bring about, however, a rise in the average of westbound tonnage. This much is clear in any event, the eastern and western United States have a greater stake in the maintenance of the Panama Canal than any other sections of the country—one might almost say than all the rest of the world.

#### EFFECT OF SHORT WATER ROUTE ON TRANSCONTINENTAL RAILROAD RATES IN THE UNITED STATES

The few million tons of freight carried through the Canal from coast to coast of the United States are a small proportion of the 1,300,000,000 tons ordinarily carried across the continent by railroad.<sup>17</sup> Nevertheless, the growth of water traffic operating in competition with land hauls has effected railroad rates. Congress ordained long ago that competition must be maintained between rail and water carriers. The Panama Canal Act of 1912 contained a provision preserving such rivalry by making it "unlawful for any railroad company . . . to have any interest whatever . . . in any common carrier by water, operated through the Canal or elsewhere with which said railroad . . . does or may compete for traffic. . . ." <sup>18</sup>

<sup>17</sup> H. C. Kidd, *Regulation of Intercoastal Commerce* (Bureau of Business Research Monograph, Pittsburgh, 1932), p. 24.

<sup>18</sup> Sec. 5, par. 9. 37 Stat. 560. "Inclusion of this section may be traced to a Pacific Coast lobby which desired assurance that the Southern Pacific would be unable to operate through the Canal the vessels of the Pacific Mail which it controlled." Henry, *The Panama Canal and the Intercoastal Trade* (Philadelphia, 1929), pp. 51-52. The Pacific Mail Steamship Company, owned by the Southern Pacific Railroad, had a preferential contract with the Panama Railroad Company before the Canal was built, but was forced to give it up.

In 1915 it was estimated that the Canal would have relatively little effect upon the total volume of railroad traffic, since only 20-22 per cent of such traffic went from coast to coast, and by far the greater proportion of that trade was in products not subject to water competition, i.e., the fresh fruits of the West which require speedy delivery and refrigeration.<sup>19</sup> It may be that the Canal actually influenced but a small percentage of the total traffic. However, the railroads were loath to lose any of their business and at the same time eager to take advantage of the opportunity to apply for relief under the "long and short haul" clause of the Fourth Section of the Interstate Commerce Act. The railroads had long practiced discrimination in rates between coast-to-coast hauls and carriage between two interior points or between the interior and the coast. By the Interstate Commerce Act of 1887 it was prohibited to charge less for carrying freight a longer than for a shorter distance,<sup>20</sup> and by the Mann-Elkins Act of 1910<sup>21</sup> Congress provided that the charge for a long haul should not exceed that for a combination of short hauls over the same distance. The Interstate Commerce Commission was given authority to grant relief from strict application of these restrictions.

Although water competition was taken into account in rate decisions prior to the opening of the Panama Canal, it had been only a part of the railroads' arguments for Fourth Section relief.<sup>22</sup> Immediately after the opening of the Canal to navigation, the railroads applied for permission to charge lower rates for the carriage of certain commodities to Pacific Coast terminals than to intermediate points or for commodities not subject to water competition.<sup>23</sup> The Commission at first granted

<sup>19</sup> Bakenhus, Knapp and Johnson, *The Panama Canal* (New York, 1915); Part VI, "The Commercial Importance of the Canal."

<sup>20</sup> 24 Stat. 379.

<sup>21</sup> 36 Stat. 539.

<sup>22</sup> 21 Interstate Commerce Commission Reports [hereafter cited as I.C.C.] 329.

<sup>23</sup> 32 I.C.C. 611.

relief. In 1916 and 1917, however, this was rescinded. The decision in 1916,<sup>24</sup> that water competition did not justify a reduction of rates was influenced by the diminution of traffic due to the closure of the Panama Canal from September, 1915, to April, 1916, because of slides. In 1917, after the Canal had resumed operation, the railroad rate applications were reopened.<sup>25</sup> The case arose during the period when American vessels were largely engaged in wartime trade with Europe, so that the volume of intercoastal shipping was not large. The report of the Commission in its decision to deny relief to the applicants shows unmistakably the influence of the trade that would normally transit the Canal upon transcontinental railroad rates.

We can see now no justification for the continued maintenance of lower rates on any of these commodities from the Pacific ports to the Atlantic seaboard than are applied from, to, or between intermediate points [on account of existing water competition]. When the water competition again becomes sufficiently controlling in the judgment of the carriers to necessitate the reduction of the rates to the coast cities to a lower level than can be reasonably applied to intermediate points, the carriers may bring the matter to our attention for such relief as the circumstances may justify.

In short, the added water competition brought about by the opening of the Panama Canal was responsible for reductions in railroad rates in 1915, and the reduction of such competition was equally responsible for the higher rate that obtained in 1917.

The Commission has been reluctant to grant relief since 1920. In the Transportation Act of that year Congress put a limitation upon the powers of the Commission in providing that "no rate involving water competition . . . [should be] lower than necessary to meet existing competition nor so low as to threaten the extinction of legitimate competition by water carriers."<sup>26</sup> Thus the Commission was forced to consider the

<sup>24</sup> 40 I.C.C. 35.

<sup>25</sup> 46 I.C.C. 236.

<sup>26</sup> 41 Stat. 456.

relation of the net rail revenue under a relief application to the losses which would be suffered by the water carriers, as well as the simple effect of the proposed change of rates on the railroad's finances.<sup>27</sup> The result of this added responsibility is demonstrable in the Transcontinental Cases of 1922. The railroads presented evidence of the losses they were incurring on specific items due to water competition,<sup>28</sup> and asked that they be allowed to reduce rates on such articles to 80 cents per ton from the Middle West, as compared to the charge of 76.5 cents per ton quoted on the same material by the rail-water route from Pittsburgh. The application was refused, however, for two reasons. In the first place, the Commission felt that relief would give "undue or unreasonable preference or prejudice to persons or localities" by altering the "natural" conditions involved in competition between industries in two areas for markets in a third section. In other words, the situation sought to be alleviated was one of market rather than of water competition. Furthermore, conscious of the responsibility placed upon it by the Transportation Act, the Commissioners looked beyond the figures presented to it by the railroads and concluded that:

The record shows that the total tonnage, both eastbound and westbound, of all the water lines is but a very small fraction of that of the transcontinental carriers operating west of Chicago. It is evident, therefore, that the diversion of any substantial tonnage from the water lines would have but an inappreciable effect on the net revenues of the rail carriers. On the other hand it might very seriously impair the ability of the water lines to maintain their present standard of service.<sup>29</sup>

<sup>27</sup> In interpreting this provision the Supreme Court has said, "The admonition does not mean that the carriers by rail shall be required to maintain a rate that is too high for fear that through the charge they may cut into the profits of carriers by water. The most that it can mean . . . is that where carriers by land and water are both within the range of the regulation of the Commission . . . there shall be impartial recognition and promotion of the interests of all." *Mississippi Valley Barge Line Co. v. U. S.*, 292 U. S. 282, 288.

<sup>28</sup> 107 I.C.C. 421. The movement of iron and steel articles to the west coast during the months June, July, and August of the years 1921, 1922, and 1923 may be given as an example.

<sup>29</sup> *Ibid.*, p. 439.

Rates were lowered in 1931 and 1932, and again one reason given for reduction was water competition. In December, 1936, freight charges were increased as a result of the intercoastal water carriers increasing their rates.<sup>30</sup> Nevertheless a few months later the Commission denied an application for Fourth Section relief. It reported that "a threatened reduction in rates by the water lines is not alone a sufficient reason for denying relief where the proposed rates appear to be lawful, and carriers have a right to initiate rates within the zone of reasonableness that will enable them to obtain or retain traffic over their own lines."<sup>31</sup>

The desiderata of the competition between the steamship lines and the transcontinental carriers would seem to be that too small a proportion of total railroad traffic was touched by the water competition created by the Panama Canal to lead the Interstate Commerce Commission to sanction marked changes in railroad rates generally. But such a decision was reached only after the Commission was charged with considering the welfare of the water carriers as well as of the railroads. It seems possible that had the railroads not been limited by government regulation of rates the water competition brought on by the opening of the Panama Canal would have resulted in decidedly lower railway charges.

#### THE PANAMA CANAL AND THE NATIONAL ECONOMY

The part played by the Panama Canal in reducing the distance, time, and cost of a sizable amount of water-borne commerce, in opening up new markets and changing directions of trade, and in exerting some effect upon transcontinental railroad rates within the United States, does not tell the whole story of the economic importance of the Panama Canal. The Canal represents an investment by the United States Govern-

<sup>30</sup> 227 I.C.C. 346, 434.

<sup>31</sup> 229 I.C.C. 171, 174. Similar ideas are expressed in 210 I.C.C. 314; 226 I.C.C. 315, 326; 211 I.C.C. 535; 218 I.C.C. 637.

ment. The questions may properly be asked: What has the Panama Canal cost the United States? What return has it brought to the Government?

#### COST OF THE CANAL AS A COMMERCIAL ENTERPRISE

Queries regarding the cost of the Canal would have been unanswerable before 1922, and a satisfactory answer is elusive today. The capital invested by the United States in the Canal *as a commercial enterprise* was computed in 1922, and has been adjusted and published annually in the Reports of the Governor since that date. In 1940 the total capital investment of the United States in the Canal was computed as \$559,635,638.06.<sup>32</sup> This amount includes the costs of construction, interest thereon from 1904 to 1920,<sup>33</sup> payment to Panama to 1920,<sup>34</sup> the sum given the New Panama Canal Company of France for the acquisition of its property and rights (\$40,000,000), and an item labelled "defense capital expenditure" referring to outlays for the construction of stronger or more numerous structures and equipment than commercial usage alone would dictate.<sup>35</sup> It does not include "the cost of fortifications or maintenance of the military establishments on the Isthmus," as such expenditures are covered by appropria-

<sup>32</sup> *Annual Report*, 1940, pp. 117, 125. Depreciation of \$26,409,677.61 was charged in 1940 against the total capital investment.

<sup>33</sup> The net appropriations by Congress for capital investment from 1904 to 1940 have been \$430,644,375.06. The interest figured thereon has been \$128,991,063.00. Since 1920 interest has not been charged, but the Canal administration has endeavored to return 3 per cent annually, and interest charges have been computed for each year. *Ibid.*, p. 102. Thus, for 1940 the computed interest at 3 per cent was figured at \$15,243,237.66. The total computed interest from 1921 to 1940 has been figured as \$301,662,042.90 whereas the *net revenues* for the same period total \$271,237,715.62, leaving a paper deficit of \$30,424,327.28. *Ibid.*, p. 123.

<sup>34</sup> Article 14 of the Convention of Nov. 18, 1903, provided for a cash payment of \$10,000,000 and a yearly payment of \$250,000. Article VII of the 1936 Treaty provided that beginning with 1934, the annual payments should equal 430,000 balboas.

<sup>35</sup> *Infra*, pp. 305-306. This was figured in 1931 as \$113,127,337.75. *Annual Report*, 1931, p. 119.

tions for the Army and Navy.<sup>36</sup> Although criticisms have been levelled at minor items of Canal accounting,<sup>37</sup> particularly on the ground that the system is not entirely clear, the above-mentioned appraisal of the United States' investment in the Canal as a *commercial enterprise* may be accepted for present purposes.

In addition to the capital investment in the Canal, the cost of operation and maintenance since it was opened to navigation has amounted to \$201,755,978. Sanitation has cost \$19,310,892; civil government, \$25,085,780; payments to Panama since 1920, \$6,260,000; and there have been miscellaneous expenditures of \$1,497,652.42. These various items total \$253,910,302.42.<sup>38</sup> Adding this sum to the capital investment in the Canal as calculated in 1940, plus the \$25,000,000 paid to Colombia during President Harding's administration, the cost of the Canal to the American people as a commercial enterprise may be figured as amounting to \$813,545,940.48 up to June 30, 1940.

#### RETURNS ON THE COMMERCIAL INVESTMENT

Having determined the cost of the Canal as a commercial venture, it may next be asked what economic return the Canal has brought on the investment. By far the largest item in such an account is tolls for vessels transiting the Canal. Tolls collected during the fiscal year of 1940 amounted to \$21,177,243.04, out of total Canal revenues of \$22,329,609.85 for that year. Since 1925 toll receipts have ranged between a high of \$27,123,534.33 in 1929 and a low of \$19,621,158.61 in 1933, although in each of the five years preceding 1940 receipts were above the twenty-four million dollar mark. All told, Canal tolls have brought into the United States Treasury

<sup>36</sup> *Ibid.*, 1931, p. 130.

<sup>37</sup> H. G. Miller, *The Isthmian Highway* (New York, 1929), Chap. V; H. G. Miller, Letter to the *New York Times*, Mar. 18, 1939; Dimock, *op. cit.*, pp. 150-155.

<sup>38</sup> *Annual Report*, 1940, p. 124.



\$474,341,998.20 from the time the Canal was opened to navigation in 1914 to June 30, 1940. Total revenues of the Panama Canal, including civil revenues and business profits, during the same period of time amounted to \$497,076,221.33.<sup>39</sup> Comparing this with the total cost as figured above, it will be observed that in the comparatively short period of twenty-six years of operation the Canal has managed to earn back well over fifty per cent of not only the total capital investment but also of the cost of operation and maintenance and of other expenditures related to the enterprise. This has been the case notwithstanding the fact that during the period since 1914 the Canal was closed to navigation for a time on account of the slides, the first World War intervened with its attendant destruction of shipping and dislocation of foreign trade, and that there was a world-wide economic depression.

Inasmuch as the capital investment includes the payment to the New Panama Canal Company in 1904, which entailed the transfer of ownership of the Panama Railroad Company to the United States, it is only proper that to arrive at a fair balance between the cost and return of the Canal undertaking the net profit derived by the United States Government from the Panama Railroad Company should be added to the total revenues of the Panama Canal. This is fitting because of the fact that the Railroad Company is held and operated as an adjunct of the Canal. By arrangement between the United States Government and the Board of Directors of the Panama Railroad Company, the latter pays a dividend of \$700,000 annually to the United States Treasury. The remainder of its revenues and profits the Company keeps under its own control, for investment and expenditure when and as voted by the Board of Directors. Computing the dividends for the thirty-six years

<sup>39</sup> *Annual Report*, 1940, p. 123. Charging against the total revenues from 1914-40 the net appropriation expenses, after deducting Canal earnings repaid to appropriations, a total amount of \$225,838,505.71, the Canal Administration reckons the net revenues accruing to the United States from the Canal for the period 1914-40 inclusive as amounting to \$27,237,715.62. *Ibid.*

from 1904-40, the United States has received from this source an additional \$25,200,000.00. This means that as against the expenditure out of national funds of \$813,545,940.48 from 1904-40, the United States Government has received back in revenues during that same period of time a sum total of \$522,276,221.33. This is an eminent achievement. Given a Canal uninjured by belligerent activities, a normal redevelopment of ocean-borne commerce after the termination of the contemporary warfare, and the non-recurrence of world-wide conflict for another twenty years thereafter, the expectancy would appear warranted that by 1960 the capital invested in the Panama Canal as a commercial enterprise, as it stands today, will have been recovered in full, and the annual revenues will be producing a clear profit. Such a proposition excludes the monies now being laid out for the construction of the third set of locks, and any large capital expenditures which may have to be made before 1960 for the rebuilding of any of the present locks, for excavation necessitated by any new disastrous slides, and for any other increments or replacements connected with the Canal.

The Government in Washington has not charged The Panama Canal interest on the money which has been appropriated and expended for the Canal. No payments have been made by the Canal on the principal with earmarked Canal appropriations. Most of the bonds issued during the construction of the Canal have been retired from the general funds of the United States Treasury, whence Canal revenues are sent.<sup>40</sup> Notwithstanding this The Panama Canal has for many years endeavored to conduct its operations in such a manner as to earn three per cent on its capital. The financial statement submitted each year in the *Annual Report of the Governor of the Panama Canal* contains a capital interest item of three per cent which

<sup>40</sup> Hearings on *Additional Interoceanic Canal Facilities*, Committee on Merchant Marine and Fisheries, House of Representatives, 66th Cong., 1st sess., 1921, p. 122.

is tallied against net revenues. Revenues exceeding the capital interest figure are regarded as surplus.<sup>41</sup>

The capital investment in the Canal as set forth in the *Annual Report of the Governor of the Panama Canal* contains a sum of \$113,000,000 in round numbers labelled "defense capital expenditures."<sup>42</sup> Listed under this heading are amounts spent in the construction of the Canal over and above what would have been strictly necessary for commercial purposes. Items range from coaling stations, oil pumps, to armor plate for the spillway gates.<sup>43</sup> The list includes measures which make

<sup>41</sup> The following table of Net appropriation expenses, Net revenues, Capital interest, and Computed surplus is taken from the *Annual Report*, 1940, p. 123.

<i>Fiscal year</i>	<i>Net appropriation expenses</i>	<i>Net revenues</i>	<i>Capital interest</i>	<i>Computed surplus, or deficit (D)</i>
1921	\$9,578,300.14	\$2,461,816.56	\$14,674,964.74	\$12,213,148.18 D
1922	8,469,017.63	3,239,833.85	15,253,780.02	12,013,946.17 D
1923	8,240,777.56	10,591,709.00	15,202,430.18	4,610,721.18 D
1924	8,923,905.39	16,659,572.62	15,150,900.33	1,508,672.29
1925	8,666,693.44	13,681,841.57	15,099,730.49	1,417,888.92 D
1926	8,543,468.47	15,442,978.35	15,085,580.64	357,397.71
1927	9,547,715.02	15,937,630.60	15,068,580.79	869,049.81
1928	9,501,200.82	18,411,564.29	15,035,029.29	3,376,535.00
1929	10,187,150.71	17,917,625.27	15,013,374.55	2,904,250.72
1930	9,893,920.93	18,293,423.44	14,987,527.89	3,305,895.55
1931	10,693,353.53	14,859,991.38	14,986,578.04	126,586.66 D
1932	10,239,211.84	11,351,896.32	14,943,807.66	3,591,911.34 D
1933	9,555,672.02	11,511,209.37	14,907,732.16	3,396,522.79 D
1934	7,931,383.77	17,597,103.18	15,039,203.81	2,557,899.37
1935	9,481,429.57	14,960,722.62	15,124,193.39	163,470.77 D
1936	9,675,067.13	14,871,839.77	15,159,597.04	287,757.27 D
1937	10,289,624.05	13,873,945.37	15,205,397.30	1,331,451.93 D
1938	9,575,624.32	14,554,515.86	15,229,992.24	675,476.38 D
1939	10,145,272.18	14,342,343.67	15,250,404.68	908,061.01 D
1940	10,041,950.30	12,287,659.55	15,243,237.66	2,955,578.11 D

<sup>42</sup> This item was added on the books in 1924, and adjusted in 1925 and 1926. *Annual Report*, 1924, p. 68; *ibid.*, 1925, p. 70; *ibid.*, 1926, p. 85. The amount remained fixed but was still shown as an item until 1931. In recent years the sum has not been separated on the General Balance Sheet from "Canal general property." In 1939 there appears an item denominated "Canal defense property." This may indicate new expenditures to decrease the danger of demolition by attack which are represented as additions to the physical plant of the Canal rather than to the military establishment as such. *Ibid.*, 1939, p. 100.

<sup>43</sup> An itemized account may be found in *ibid.*, 1925, p. 82.

the Canal itself less vulnerable to attack and those Canal Zone enterprises which contribute to the self-sufficiency of the area. These are called "defense capital expenditures." But, according to the Governor, "neither the capital nor operating expenses of the Panama Canal include the cost of the military establishments on the Isthmus," nor their maintenance.<sup>44</sup>

#### EXPENDITURES FOR THE DEFENSE OF THE CANAL

Estimation of the sums the United States has allotted to the defense of the Canal has been excluded from the calculation of the capital investment. It has not been considered fair to commercial traffic, particularly to the ships of foreign nations, to make them carry any part of the financial burden of defending the Canal. This is a task which rests wholly with the United States. Tolls and charges for other services have been fixed with the idea of paying moderate returns on the Canal as a commercial enterprise. Quite apart from treaty provisions, the Canal was not constructed for commercial purposes alone. As was emphasized in Chapter I, the determining motive in undertaking the construction of the Canal was the part it would play in the national defense by making it possible for the American Fleet to move rapidly from the Atlantic to the Pacific, or vice versa.

Although it is quite right to separate the commercial functions of the Canal from the defensive aspect in determining the charges for Canal service, the sums spent on defense should be included in any attempt to evaluate the place of the Canal in the national economy. It is easy to suspect that the Government has spent more for defense in the Canal Zone than published statistics indicate, but it is difficult to prove it or to present any clear picture of the cost of fortification and defense of the Panama Canal and the Canal Zone. Strategy naturally dictates a certain secrecy. According to Treasury Department figures, expenditures for defense from 1911 to 1938 amounted

<sup>44</sup> *Ibid.*, 1938, pp. 136-137.

to \$45,334,171.08.<sup>45</sup> That amount includes expenditures made from specific appropriations for the fortification of the Canal. It does not reveal what funds may have been made available from general appropriations, not otherwise specified, for national defense and security. The inadequacy of the sum is evidenced by the statement of Brigadier-General George V. Strong, the Assistant Chief of Staff, War Plans Division, of the War Department during a Congressional Hearing in March, 1939, to the effect that "we have already spent in the defense of the Panama Canal over and above any matter of operation and maintenance, so far, \$110,000,000."<sup>46</sup> Operating expenses, including the upkeep of the existing fortifications and the pay of the soldiers who man the defenses, he estimated to be about \$19,000,000 yearly.<sup>47</sup> This latter figure may be assumed to have been variable, growing from year to year since 1911 as the extent of the fortifications and defense facilities have increased, and fluctuating as national policy has dictated from time to time the supplementation or decrease of personnel and equipment stationed in the Zone.

Another portion of Canal expenditures has to be added before any sort of estimate can be made of the amount the United States Government has invested in the Panama Canal and its surroundings. That is the recent authorization of a third set of locks. The new locks have been justified essentially as a defense measure. For the construction of these new locks and their separate approach channels, Congress has authorized an expenditure of \$277,000,000. The appropriations for this purpose, as well as for the construction of special protective works for the present lock system, will not be charged to the capital assets of the Canal, toward which the commercial earn-

<sup>45</sup> *Annual Report of the Secretary of the Treasury*, 1938 (Washington, 1939), p. 455. The first appropriation for fortifications at the Canal was made in 1911. 36 Stat. 1449.

<sup>46</sup> Hearings before the Committee on Merchant Marine and Fisheries, *Additional Interoceanic Canal Facilities*, H. Rep. 76th Cong., 1st sess., March 14, 15, 16, 1939, p. 65.

<sup>47</sup> *Ibid.*

ings are directed. They will be carried as a part of the defense budget. If and when the new locks begin to be used by commerce, a part of their cost may be added to the capital structure of the Canal.

Combining General Strong's estimate quoted above with 1940 and 1941 appropriations for defenses in the Canal area,<sup>48</sup> it would appear that an investment of approximately one hundred and fifty eight million dollars has been made by the War Department in the Canal Zone region for its defense, exclusive of the expenditures for operation and maintenance of the defense works and for military personnel, up to June, 1941.

Naval establishments near the Canal include both a submarine and air base at Coco Solo, a naval base at Balboa, as well as numerous radio stations in the Canal Zone. Their cost up to and including 1939 has been estimated as approximately \$53,000,000.<sup>49</sup> Adding the figures for the military and naval establishments at the Canal Zone to the total reckoned above on page 302 as representing the investment in the Canal as a commercial enterprise, the cost of the Canal to the people of the United States rises to the grand sum of roughly over one billion forty million dollars. This is not all, nor is it complete. General Strong's figures for the military investment for the defense of the Canal admittedly do not include operating expenses and pay for the soldiers. Investments for naval facilities likewise do not include operating expenses or pay. Finally, the gross cost of the Canal should not overlook the cost of the Navy and Army as a whole. Without the existence of these services, special services and units would have to have been recruited, constructed, trained, and provided for Canal protection.

The Panama Canal is under the supervision of the Secretary

<sup>48</sup> H. R. 8668, Pub. No. 653, 76th Cong., 3d sess.; H. R. 9209, Pub. No. 611, 76th Cong., 3d sess.; H. R. 8438, Pub. No. 588, 76th Cong., 3d sess. This does not cover appropriations voted after June, 1941.

<sup>49</sup> "Total Expenditures by Title and Yards," *Annual Report of the Paymaster General of the Navy*. The exact sum from 1916 to 1939 exclusive of the amount spent in 1924 is \$52,199,620.10. Figures for 1924 were not available.

of War. Locally it is protected by the Army of the United States, by means of coastal fortifications and defenses, the Army air force, and troops stationed on the Isthmus. The primary defense is elsewhere, however, on the seas and in the bases stretching far from the Canal terminals. The United States Navy, with its ships scattered widely upon the high seas, protects the Panama Canal as truly and as directly as does the Army. Part of the naval defense may be measured in the naval yards and bases in the Canal Zone, from which vessels and naval aircraft may operate and be directed. Part of the defense can be measured only in ships cruising the seas. And a part can be calculated upon the naval bases located all the way from Newfoundland to Pearl Harbor and Unalaska. United States naval bases wherever they are situated are a part of the defense of the Panama Canal, as well as of the continental United States. The naval defense of America is unitary. One cannot apportion percentages of expenditures for the United States Navy to different parts of the United States and its possessions. The Navy exists to defend the whole; no fixed part of the fleet is charged solely with the protection of the Canal, as distinct from the rest of the naval task or from the rest of the fleet. Figures can be set down for what has been spent for naval establishments of one sort or another within the Canal Zone, but these figures are far from representing the full cost of the defense of the Panama Canal. That cost can be reckoned only as an undefinable part of the cost of the United States Navy as a whole. Hence, one cannot compute on paper, with exactitude, the gross cost of the Panama Canal to the people of the United States.

#### THE NET RESULT

For all of its outlay the United States has received a monetary return. It is not large as governmental statistics go these days, but the Canal is not an end in itself. It is a means by which the trade, security, prestige, and power of the United

States may be enhanced. It is an important link in both national and hemispherical defense. It would not be possible to enumerate with finality the military and naval cost of defending and protecting the Canal as an isolated object or possession. In dollars and cents the cost may have been tremendous. The return has not been entirely in such terms, but also in the political realm of increased independence, security, and freedom to trade and live as national inclinations may determine. These things cannot be measured in gold or cash. Moreover, there is a certain prestige in controlling one of the two great canals of the world.



## CONCLUSION

THE Panama Canal, in peace and in war, has amply justified the beliefs of those who for decades before its construction maintained that such a canal was indispensable to commerce and to defense. It has promoted the movement of goods between nations generally, while particularly benefitting the peoples of the American Hemisphere in their trade with one another and with various parts of the world. Through augmenting the mobility of the armed forces, it has increased the security of the United States, as well as of those regions whose independence and integrity it has regarded as vital to its own. To the extent that the Canal has enabled industries in the United States to expand, the merchant fleet to operate more efficiently and widely, and the naval forces to move readily from ocean to ocean as circumstances require, it has at the same time made it possible for the nation to more effectively realize the fulfillment of its national policies.

A canal so vital to the national interests naturally deserves protection in its own behalf. As indicated in the previous Chapter, the Government of the United States has devoted much attention and the expenditure of considerable funds to this over the years. The concentration of troops and military equipment, the extensive fortifications and anti-aircraft measures, the naval facilities and forces located at the Isthmus, stand as warning to all that the United States intends to protect the waterway and the adjacent Zone from harm by others, and that it means to see to it that vessels resorting to the Canal for transit shall comply with the laws and regulations in force.

The enforcement of the laws, together with the immediate safeguarding of the Canal structures, lies within the province of the Canal authorities, as pointed out in the preceding Chap-

ters. Defense, however, remains with other agencies, namely, the Army and the Navy. While their presence at the Isthmus has been and always will be essential to the operation and protection of the Canal undertaking in the largest sense, the nature of their activities and the manner of their defense of the Isthmian region fall outside a discussion of the operation and maintenance of the Canal as such. The Panama Canal and the armed forces exist side by side. They are closely related. Yet they are kept distinct at all times, save when after the proclamation of a national emergency the President may order the Commanding General of the Army stationed at the Canal Zone to assume full control of the Canal and of all activities within the Zone.

As the Canal is related to the security of the nation and of the hemisphere, so it is itself dependent in part for its own security, upon the screen of defense arrangements which have been worked out during recent years in the lands and islands concentric upon this focal point. In matters of defense there is an interdependence of all. As the Canal promotes the security of other places, so it in turn must be secured from without, as well as from within, in a world in which military craft are capable of operating over radii of thousands of miles and at speeds running into hundreds of miles per hour.

If manifest destiny impelled the United States to acquire and to fortify an interoceanic canal across the Isthmus of Panama, the basic elements of that destiny require that the United States retain "in perpetuity" the use of that waterway, as the treaties provide. For the Canal is necessary not alone to the commerce and naval forces of the nation and of its friends, but also for the Zone which surrounds it, and which functions as a stepping stone for the newer craft of the air, which in turn unite and protect the lands of the American Hemisphere.

The negotiators of the treaties which gave the United States its rights for unilateral construction, operation, maintenance, sanitation, and protection of the Panama Canal, laid a broad,

a sound foundation. The basic rights and powers which were obtained by the United States in 1901 and in 1903 have proven in practice to be generally adequate for the satisfactory handling of the problems of administration and operation of the Panama Canal in war and in peace. The Canal builders constructed a waterway which has stood the exacting tests of nature and of human usage. Their estimate of the demands which would be placed upon the waterway has proven a wise one. Only today are the characteristics of vessels becoming such that larger locks are necessary. A third set of locks, with their separate approach channels, has become necessary, however, not only for the reason that vessels are now being constructed whose dimensions would make lockage difficult or impossible with the existing chambers, but for the assurance of uninterrupted communication at all times which another, removed lock system will provide.

President Theodore Roosevelt, speaking after the events of 1903, emphasized the responsibility which lay upon the United States to end the delays which had been impeding the construction of an inter-oceanic canal. He pointed to the duty which then rested with the United States to open an artery across the continent for the commerce of the world. The manner in which the Panama Canal has been administered in the years since its opening in August, 1914, expediting the movement of a sizable percentage of the world's shipping, demonstrates that the United States has not been remiss in extending to others a share of the benefits which it has secured to itself. Although an extensive body of rules and regulations has been amassed for the control of traffic and the governance of all matters connected with the Canal and Canal Zone, the statistics on the numbers of vessels of various nationalities passing through the Canal year after year, together with the smooth, expeditious way in which many transits are effected day by day, indicates that an acceptable mean has been found between guarding the safety of the Canal and the ready passage of vessels of in-

numerable sorts. The combination of the numbers of vessels passing through the Canal, and the receipts coming to the United States Treasury from tolls, shows that the waterway is profitable to user and owner alike. Moreover, the comparatively small number of litigations against The Panama Canal, and international disputes which have arisen over it, attest the fair and judicious character of the administration by the Canal authorities. The record is indeed one of which the United States may be justly proud. The enterprise deservedly ranks as one of the major achievements of the United States.

The Treaty of Friendship and Cooperation with the Republic of Panama, proclaimed on July 27, 1939, and undertaken according to the principles of the Good Neighbor advocated by President Franklin D. Roosevelt, was a signal step in the promotion of the mutual interests of the two nations most directly concerned with the Panama Canal. For its advancement of friendly cooperation in the realization of these interests, the Treaty may well stand as another milestone in the construction, operation, maintenance, and protection of the Panama Canal. Thanks to the policy manifested through this act, the defense of that which is itself so intimately a part of the defense of the American Hemisphere and of democracy has come to be a cause of concern and, happily, of cooperation too, of the American Republics as a whole.

A century ago the Great Liberator, Simon Bolívar, looked forward to the time when the Americas would find a common meeting ground at the Isthmus of Panama. Today, the Canal which united the waters of two oceans by cleaving the lands of the continent has become a means of fulfilling that hope. The Panama Canal in peace and war has opened one of the doors to the unity of the American nations.

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