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TRANSPORTATION OF SOUTHWEST OIL

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Just as the Southwest's oil is a key element in the operation of the Nation's economy, so transportation is a key factor in the functioning of the region's oil industry. The Southwest's oil industry is as strong as its transportation system. Transportation is one of the four integral components of the region's oil industry; the other three — production, refineries, and markets — are discussed in previous articles in this publication.

The availability of cheap, efficient, dependable transportation has been a vital factor in the growth of the region's oil industry. While Spindletop — the first major field discovered in the Southwest — probably would have stimulated oil activity in even a very remote, inaccessible area, its influence in spurring the region's oil development undoubtedly was accentuated by its location on the Gulf Coast.

Since its early days, the Southwest's oil industry has depended heavily on distant markets as outlets for its production. The region's oil has had to compete in these markets with oil from other areas and with other sources of energy. Access to water and the development of efficient transportation over land areas have enabled southwest oil to exploit distant markets.

Transportation influences oil development in a particular region in several ways. It constitutes a major factor determining which markets can be reached profitably by oil produced in a specific area. All other things being equal, a market is secured by the oil which has the lowest transportation cost to that market. At the same time, the cost of transportation to the market largely determines the wellhead price of the oil in any particular area. The lower the cost of transportation, the higher the wellhead price tends to be, and vice versa. Moreover, the higher the wellhead price, the greater is the incentive to explore and develop new oil pools in an area and the longer wells can be kept on production before they become submarginal and must be plugged.

Around 200,000,000 gallons of southwest oil flows daily in a continuous stream through a network of transportation facilities from the region's wells to refineries and thence to distribution points and the ultimate consumers, scattered over a major portion of this Nation and over some foreign countries. Practically all the principal media of transportation in this country are utilized in moving this oil—pipelines, tankers, barges, trucks, and railroads.

While information is not available which reveals precisely the relative importance of the various carriers of southwest oil, data for the Nation as a whole probably are indicative of the situation in the Southwest. The Committee for Pipeline Companies estimates that in 1954 the following proportions of crude oil and petroleum products were carried by the various forms of domestic transportation: Pipelines, 42.6 percent; water carriers, 30.6 percent; trucks, 22.0 percent; and railroads, 4.8 percent.

The Southwest's oil industry is fortunate in having access to all the major types of transportation. In so far as more than one transportation medium is available, cost considerations generally govern the type used. Nevertheless, although the various forms of transportation compete with one another, each has certain advantages and limitations which promote its use in particular situations and discourage it in others. Accordingly, each type of transportation has its place in the transportation system which carries southwest oil to the ultimate consumer.

Pipelines

Pipeline transportation was developed by the petroleum industry and has remained a unique characteristic of this industry. The transportation of crude oil by pipelines originated a few decades before there was any commercial oil production in the Southwest. The first successful pipeline was

laid in Pennsylvania in 1865, 6 years after Colonel Drake's discovery well in that State, which is generally considered the beginning of the Nation's oil industry. Since the advantages of pipeline transportation already were known by the time the Southwest's oil industry came into being, pipelines were used early in the region's oil development. Shortly after the discovery at Spindletop in 1901, pipelines were laid to transport oil from that field to refineries and water shipping facilities in the Port Arthur area 20 miles away.

Among the earlier major pipeline projects in the Southwest were the two pipelines completed in 1907 to carry oil some 400 miles to the Gulf Coast from the tremendous Glenn Pool, discovered near Tulsa less than 2 years before. Gradually, pipelines were constructed to connect the southwest producing areas with practically all the large refinery centers of the Southwest and Midwest.

Products pipelines were slower in developing, with the first long-distance pipeline for the transportation of gasoline beginning operation in New Jersey in 1930. By September 1931, however, there were four products pipelines in the Southwest: Great Lakes, running from Oklahoma north to Chicago and St. Paul; the Phillips, from the Texas Panhandle to St. Louis; and two Magnolia lines, one from Fort Worth to Dallas and the other from Luling, Texas, to San Antonio.

Pipelines are now the most important single carrier of southwest oil. All but a small fraction of oil produced by the region's wells starts on its way to the refineries via pipelines. In 1954, over 98 percent of the crude oil produced in Texas was removed from the leases by pipelines. After collection through gathering lines, the major portion of the region's crude oil is carried by trunk pipelines the entire distance to refineries in the Southwest and Midwest. Refineries in the four southwestern states of Louisiana, New Mexico, Oklahoma, and Texas obtained about 87 percent of their crude requirements in 1954 from pipelines. Although this was a higher proportion than for the refineries in other sections of the country, pipelines accounted for almost three-fourths of the crude receipts of refineries in the Nation as a whole. Pipelines also move a significant amount of the gasoline and middle distillates produced from southwest crude oil from the refineries to distribution centers. At the present time, however, the volume of refined products moved by pipelines in the Nation is less than one-fourth that of the crude oil moved through trunk lines.

A vast network of crude gathering and trunk lines now serves the Southwest, reaching every important producing area in the region. The crude trunk lines may be divided into three groups: (1) those which carry crude from the Southwest to the major refining centers in the Middle West, (2) those which carry crude from the interior producing areas of the Southwest to the gulf coast refining centers and ports, and (3) the generally smaller lines which carry crude within the region to interior refineries.

The Southwest also has developed an extensive system of products pipelines during the past 25 years. Pipelines now

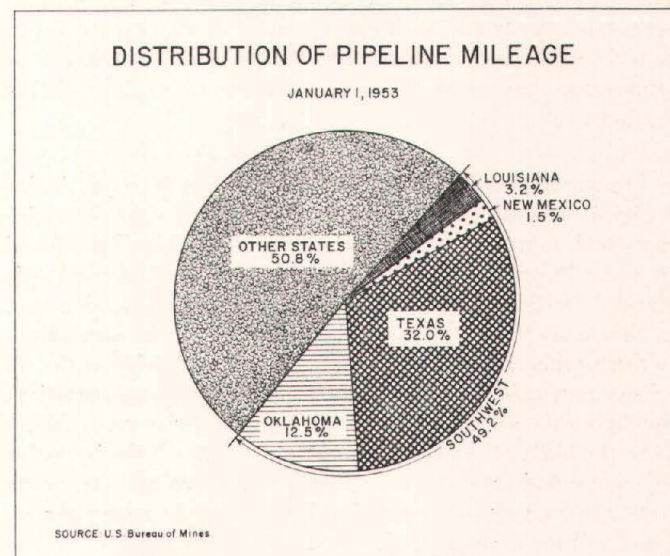
exist which transport gasoline and middle distillates from refineries in the region to the Southeast, the Middle West, and the Rocky Mountains. In addition, there are a number of products lines from gulf coast refineries to interior marketing centers in the region and from interior refineries to other interior marketing points.

The aggregate pipeline mileage in the Southwest at the beginning of 1953 amounted to 83,846, or 49 percent of the national total. Almost two-thirds of this pipeline mileage was found in Texas. Oklahoma accounted for one-fourth of the region's mileage, and the remaining 10 percent was divided between Louisiana and New Mexico. Although Arizona had no pipeline mileage in 1953, a products pipeline now is being constructed across the State.

As might be expected of the Nation's dominant producing area, most of the Southwest's pipeline mileage consists of crude gathering and trunk lines. Products lines account for 6 percent of the pipeline mileage. The Southwest's 39,582 miles of crude gathering lines as of January 1, 1953, represented 58 percent of the total in the Nation; its 39,367 miles of crude trunk lines formed 52 percent; and its 4,897 miles of products lines comprised about 18 percent.

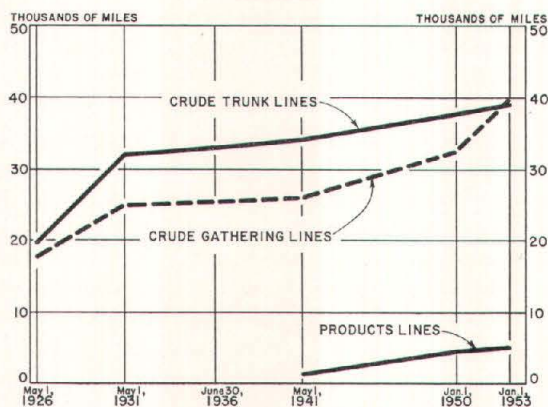
Pipeline mileage in the Southwest has shown an uninterrupted expansion, although the rate of growth during the past 25 years has been considerably lower than it was during the earlier years of the industry. In the postwar period, the fastest growth has been in products lines and the slowest, in crude trunk lines. Texas has accounted for the bulk of the increase in the southwest pipeline mileage in the postwar years, but the most rapid rate of growth has occurred in New Mexico. Pipeline mileage in Oklahoma has been declining slightly.

Pipelines vary greatly in size, depending upon the volume of oil to be moved. The capacity of a pipeline is largely determined by the diameter and the number and power of the pumps used. In general, the crude oil trunk lines have the largest diameter pipe, and gathering lines have the smallest.



PIPELINE MILEAGE, BY TYPE

SOUTHWEST



SOURCE: U. S. Bureau of Mines.

The diameter of gathering lines varies from 2 inches to more than 12 inches, with the most common size being 4 inches. Crude trunk lines range in size from less than 4 inches diameter to 26 inches, with 8-inch diameter pipe accounting for a larger proportion of the total crude trunk mileage than any other size. Products pipeline diameters vary from less than 4 inches to 18 inches, the most frequently used size being 8 inches. The average diameter of pipelines has been increasing over the years, reflecting in part the greater economy to be obtained from the larger pipe.

Unlike other forms of transportation, practically all the pipelines in the Southwest, as well as elsewhere in the Nation, are owned by the oil companies themselves. In fact, most of the pipelines are owned by the major integrated oil companies. This situation has been a natural development. Refineries of the oil companies must have an assured, continuous supply of oil, such as the pipelines can provide; and efficient, economical pipeline operation requires that a sustained volume of oil be moved through the lines. In addition, pipelines involve heavy investments, and the peculiar risks associated with these projects can be appreciated, evaluated, and influenced best by the oil companies themselves.

Because of the economies to be obtained from larger pipelines, oil companies have been encouraged in recent years to engage in joint pipeline ventures, rather than for each company to build smaller lines to meet its particular needs. Although the pipeline operations of some oil companies are delegated to a division or department of a company, usually such operations are handled by a separately organized subsidiary corporation.

Pipelines generally are subject to government regulation as common carriers. Those pipelines engaged in the interstate movement of oil have been held, in most cases, to be common carriers and subject to the authority of the Interstate Commerce Commission. The four southwestern producing states have statutes providing for the regulation of pipelines operating as common carriers in the intrastate transportation of oil.

Such regulation involves the filing of tariffs and financial statements, the establishment of just and reasonable tariffs, and other requirements. Moreover, as the result of a consent decree in a court case in 1941, pipelines in interstate commerce are limited in the payment of dividends or other valuable considerations to their parent companies to an amount not in excess of 7 percent per annum of the value placed upon the pipeline by the Interstate Commerce Commission.

The position pipelines occupy as the largest carrier of the Southwest's oil, and of the Nation's oil, is based in part on geographical considerations and in part on definite economic advantages possessed by pipeline transportation. Pipelines can carry oil more cheaply over land than any other form of transportation. In fact, if a sufficiently large, sustained volume of oil could be assured to justify a very large diameter pipeline, such a pipeline conceivably might be able to transport oil more cheaply than ocean tankers, which have been the lowest-cost form of oil transportation. Among other advantages of pipelines are their dependability and continuity of movement in all types of weather, small evaporation losses in handling the oil, and less vulnerability in time of war.

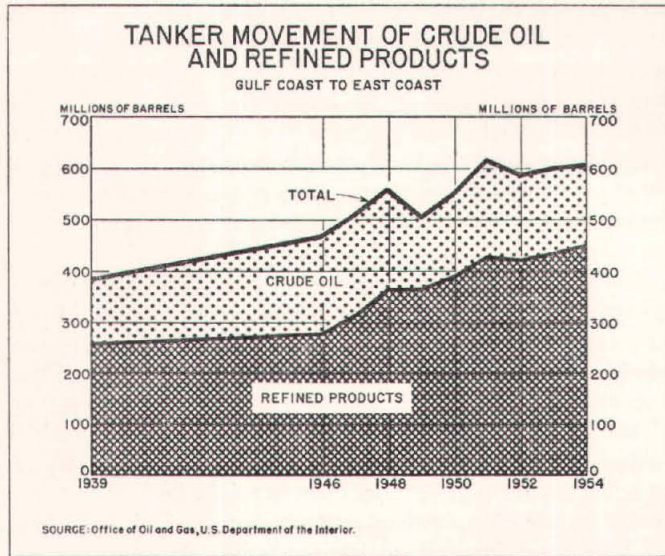
On the other hand, pipelines have specific disadvantages which prevent them from displacing other types of transportation completely in the movement of oil. Foremost among these disadvantages is their inflexibility. A pipeline is a relatively permanent installation, which cannot be moved readily to meet changes in markets or in sources of supply. Pipelines are costly to construct, involving heavy fixed investments, and their economical operation requires a sustained, near-capacity volume of oil moving through the lines. Furthermore, pipelines are not practical for the transportation of very heavy, viscous oils and greases, nor for carrying packaged oil products.

Tankers

With two of the four major producing states of the Southwest fronting on the Gulf of Mexico, the tanker has played an important part in the transportation of the region's oil. In terms of volume transported, tankers have been second only to pipelines as carriers of southwest oil.

The principal use of tankers in the transportation of southwest oil is to move crude oil from pipeline terminals and products from refineries on the Gulf Coast to the east coast markets. Southwest oil shipments to foreign markets usually go by tanker, although this traffic is becoming of diminishing importance. In addition, tankers handle some short-haul shipments of oil between gulf coast points, as well as a small irregular volume of oil going to the West Coast.

In 1954, tankers carried almost 608,000,000 barrels of oil from the Texas-Louisiana Gulf Coast to the East Coast. Gasoline comprised almost one-third of these shipments and crude oil, over one-fourth. Tanker shipments to the East Coast have leveled off since 1951, after showing a marked increase in the early postwar years. During the war period, tanker shipments to the East Coast were sharply depressed as the Gov-



ernment-owned "Big Inch" and "Little Inch" pipelines and railroads replaced many tankers needed elsewhere. The volume of oil transported from the Texas-Louisiana Gulf Coast to the East Coast last year was 57 percent greater than in the prewar year 1939.

The number of tankers employed, on the average, in moving the large volume of southwest oil to the East Coast in 1954 totaled in excess of 200, with an aggregate dead-weight tonnage of over 3,300,000. Most of these tankers were owned or controlled by oil companies; less than 20 percent of the carrying capacity of tankers in the gulf coast-east coast oil trade was in the hands of nonoil companies.

Although oil companies own or control the bulk of the tankers, few, if any, have sufficient tonnage to meet their needs at all times. Moreover, some oil companies have no tankers. Under these circumstances, oil companies enter the tanker market to charter vessels. These tankers may be chartered for a single voyage, for a number of voyages, or for a long period extending over several years. Charter rates, particularly those in the spot market, vary considerably, depending on the supply and demand situation at the time of chartering.

All the tankers in the gulf coast-east coast run are under United States registry, as required by laws governing coast-wise trade. For exports to foreign countries, ships of various registry, foreign as well as United States, may be used. Some United States flag vessels have been changed to foreign registry, and the number of tankers under foreign registry has been expanding more rapidly than that under United States registry. Among the reasons for the faster growth of foreign tanker fleets have been lower construction costs abroad, exchange considerations, and lower operating costs which can be obtained under foreign registry.

Tankers, like pipelines, have tended to become larger. In 1939 the average United States flag tanker had a dead weight of 11,600 tons and a speed of 10.7 knots. At the end of 1954,

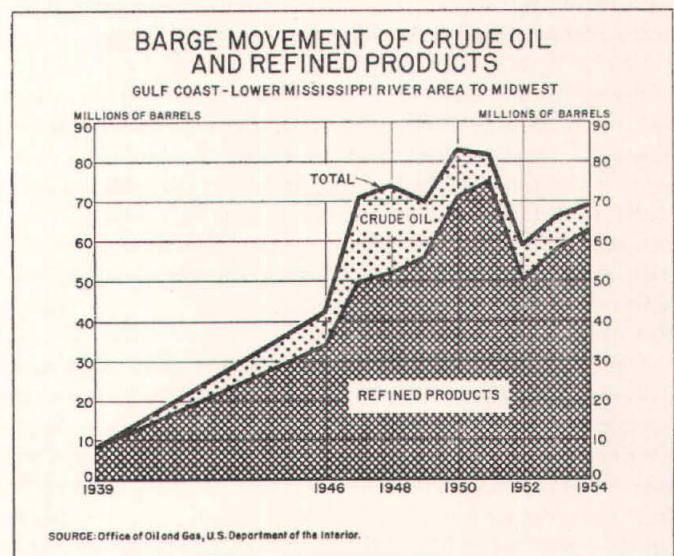
the average dead weight of United States flag tankers was 16,100 tons, with an average speed of 15.0 knots. Some of the super tankers today can carry over 225,000 barrels of oil, as compared with the 125,000 barrels of the typical war-time-constructed T-2 tankers.

Tankers have been the lowest-cost form of oil transportation and, consequently, have been in a favorable competitive position with respect to other carriers. Of course, in a major portion of the oil movement today, it is not a question of competition between tankers and other forms of transportation but, rather, of competition among the tankers themselves. Tankers generally handle the transportation of oil between areas accessible to deep water. In so far as competition exists between tankers and pipelines, the former have an advantage in a greater degree of flexibility. If the market falls off in one area, tankers can be moved to other trade routes, whereas the pipeline is committed to its existing source of supply and markets. On the other hand, labor and other operating costs are relatively higher for tankers than for pipelines; consequently, tankers are more vulnerable to the rising trend in labor costs.

Barges

Another form of water transportation available to oil shippers in the Southwest is the tank barge. The most important use of barge transportation is to move crude oil and refined products from the Gulf Coast via the Gulf Intracoastal Canal and the Mississippi River system to midwestern markets. A second market served by barges from the Gulf Coast is the South Atlantic area. In addition, there is some relatively short-haul movement of southwest oil between points on the Gulf Coast.

The total volume of crude oil and refined products barged from the Gulf Coast and the Lower Mississippi River to the Midwest in 1954 amounted to 68,800,000 barrels. While this is a substantial quantity, it is still much smaller than the volume of southwest oil moved to the Middle West by pipe-



lines. About three-fifths of the barge shipments last year were gasoline, with the remainder consisting of crude oil and a wide variety of refined products—including light and heavy fuel oil, lubricating oil, asphalt, road oil, and wax.

Barge movements up the Mississippi River increased sharply during the war and early postwar years to reach a high of 82,900,000 barrels in 1950. A substantial decline in barge shipments occurred in 1952, resulting—at least in part—from the construction of a major pipeline system to the Midwest; subsequently, barge movements have increased moderately. Last year, the volume of crude oil and refined products barged up the Mississippi was a little less than that of 1947 but was over eight times as large as in the prewar year 1939.

Barge shipments from the Gulf Coast to the South Atlantic area comprised 9,100,000 barrels in 1954, consisting mostly of gasoline and other refined products. This quantity is more than three times the prewar level, but the growth in the postwar period has been relatively small, reflecting strong competition from pipelines as well as tankers.

The number of tank barges engaged in carrying freight, mostly oil, on the Mississippi River system at the beginning of 1954 was 1,491, with a cargo capacity of 2,181,000 net tons. Although the average capacity of these barges was a little in excess of 10,000 barrels, some of the newer, streamlined barges now in use have a capacity of 20,000 to 38,000 barrels. Generally, from two to eight barges are put together in a trip to be pushed by one towboat.

A significant portion of the tank barges operating on the Mississippi River-Gulf Intracoastal Waterway is owned by oil companies, but probably the major portion is owned by nonoil companies. Tank barges are not subject to regulation by the Interstate Commerce Commission, and rates vary, as in the case of tankers, in accordance with the supply and demand situation.

Barges are in competition with pipelines in the movement of southwest oil to some midwestern markets. It appears that, on the average, pipelines today transport oil at a lower cost than barges; at least some barges have been displaced by pipelines. Nevertheless, barge transportation of oil is relatively cheap, and losses in traffic to pipelines frequently have been offset by gains in volume to areas not served by pipelines. Barges are more flexible than pipelines; their movements can be shifted within the confines of navigable water limits to meet changes in markets and in sources of supply. On the other hand, their use in some places at certain times of the year may be limited by the freezing over of rivers and waterways. Also, the depth and breadth of channels and locks of some inland waterways may prevent the use of some of the larger, more efficient barges.

Some major problems are faced by the barge transportation industry at the present time. One matter of considerable concern is the increased competition in prospect from the planned reconversion of the Little Inch pipeline from a car-

rier of natural gas to a transporter of refined petroleum products. Another is the recommendation of the Hoover Commission that users of inland waterways pay tolls.

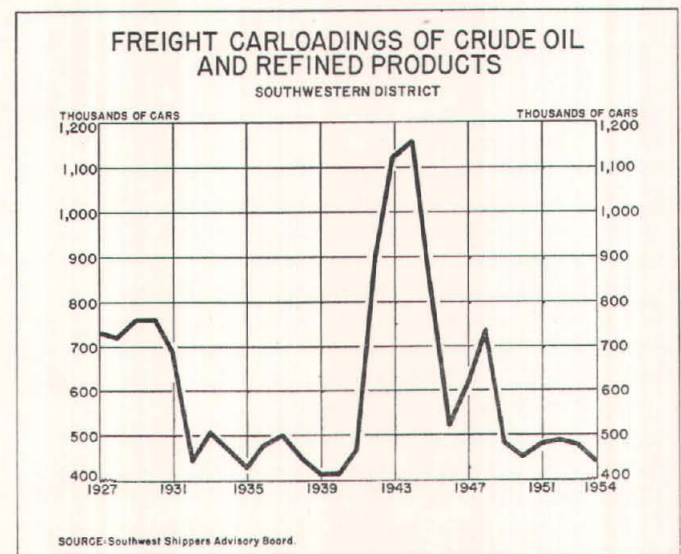
Railroads

Railroad transportation of crude oil and products has diminished in importance over the years. Pipelines, motor trucks, and, to a limited extent, water carriers have taken over much of the oil traffic formerly handled by the railroads. As is pointed out by the study *Transportation of Oil* by the Petroleum Administration for Defense in 1951, "... there are no significant geographical areas served predominantly by this transportation medium."

Today, railroads tend to handle the movement of crude oil and products when pipeline transportation may not be feasible because of quantity limitations, the instability of the movement, and the character of the products. In the development of a new producing area, railroad transportation may be used to move crude before sufficient volume is obtained to warrant pipelines. Railroads move a substantial quantity of gasoline to bulk stations from refineries and pipeline and water terminals. In addition, such products as residual fuel oil, lubricating oils and greases, waxes, and asphalt are not adapted to pipeline transportation and must be shipped by rail or other carrier.

Total freight carloadings of crude oil and refined products in the Southwestern District—which includes Texas and portions of Oklahoma, Arkansas, Louisiana, New Mexico, and Oklahoma—in 1954 amounted to 440,000. This volume was the lowest for any year in the postwar period. During the war years, rail shipments of petroleum increased greatly, as tanker transportation from the Gulf Coast to the East Coast was curtailed by the threat of submarines and the need for tankers for use in other areas.

In the Nation as a whole, more than 159,000 tank cars were in service at the beginning of 1955. The bulk of these cars



was devoted to the transportation of petroleum and petroleum products. The number of tank cars has not changed significantly during the past 30 years. While railroads own about 8,500 tank cars, these generally are used for their own requirements; and most of the oil transported by rail is carried in cars owned by tank-car companies which lease them to oil companies or in tank cars owned by the oil companies themselves.

The declining importance of railroads in the transportation of petroleum is an indication of the difficulty they have had in competing with other carriers. In this connection, a presidential advisory committee on transportation has recommended that railroads, through a relaxation of the Interstate Commerce Commission's regulatory control over railroad rate fixing, have broader power to cut freight rates in meeting competition. If legislation carrying out this recommendation is adopted, railroads may be able to compete more successfully with other types of oil transportation, but it appears doubtful whether this development would more than arrest the inroads of other carriers.

Motor Trucks

Motor truck transportation of petroleum products has become of increasing importance, showing faster growth than any other form of transportation. For many years, the tank truck was used largely for local distribution of petroleum products. Beginning in the early 1930's, tank trucks were used for longer hauls. Larger trucks, semitrailers, and trailers were developed; and with the advent of products pipelines about this time, the movement of petroleum products by tank trucks from pipeline terminals to bulk stations was initiated. During World War II, truck transportation of petroleum products received a marked stimulus as many tank cars were diverted to long-haul services. The favorable experience in the use of tank trucks for other than local distribution in the 1930's and in the war period promoted a rapid growth in their use in the postwar years.

Although motor trucks now are used for longer hauls of petroleum products, their primary function is still the short haul, with long-distance movements being handled largely by pipelines and water transportation. In local marketing—the movement of petroleum products from bulk stations to retail outlets—the truck has no competitor. Moreover, in many instances, tank trucks have displaced railroads in the transportation of petroleum products from pipeline and water terminals and refineries to bulk stations. Sometimes, tank trucks bypass the bulk station and carry products directly from terminals to service stations and large consumers. In addition, tank trucks frequently are used to move crude oil in newly developed areas from lease tanks to shipping points, and occasionally directly to refineries. Last year, about 2 percent of the crude produced in Texas started on its way to refineries in trucks.

Data on the volume of crude oil and products carried by tank trucks in the Southwest are not available; in fact, only fragmentary data exist for the Nation. The Committee for Pipeline Companies, however, has estimates on the total vol-

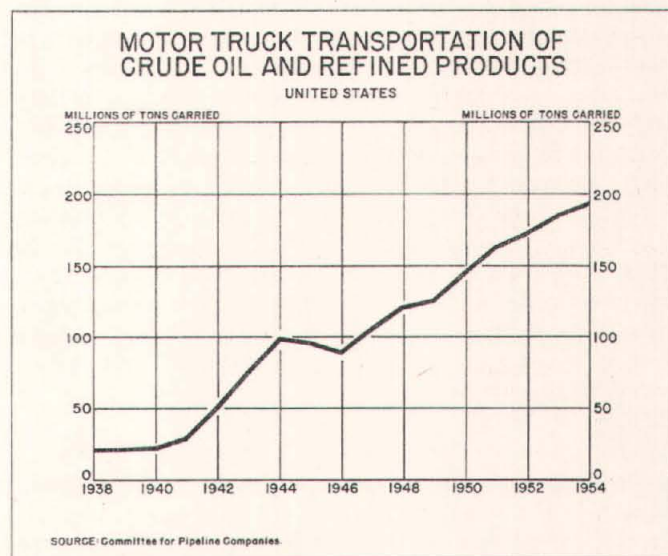
ume of crude oil and products carried by trucks for the years 1938-54. These estimates show the 1954 volume at 192,600,000 tons, which is more than double that of 1946 and is about nine times as large as in the immediate prewar years. These increases are substantially greater than the gains in the national demand for petroleum products.

At the beginning of 1951, there were 10,962 straight tank trucks and 26,783 trailer-tank units, with an aggregate capacity of 142,632,000 gallons, engaged in the transportation function in the petroleum industry, according to estimates of the Petroleum Administration for Defense. The straight tank trucks generally have a capacity of 2,000 to 3,000 gallons, while the trailer capacity averages 4,000 to 4,500 gallons. What proportion of these motor truck carriers of petroleum was located in the Southwest is not known, but it probably was between 10 and 15 percent.

Ownership of tank trucks and trailers transporting oil is widely diverse. While oil companies own a substantial number of units, the major portion apparently is owned by for-hire carriers. The National Tank Truck Carriers, Incorporated, estimates that for-hire tank truckers handle 60 to 65 percent of the total tonnage moved by tank truck, with the remaining 35 to 40 percent being moved by company-owned or private carrier trucks.

Commercial and contract motor truck carriers engaged in the interstate movement of petroleum are subject to regulation by the Interstate Commerce Commission, while those in intrastate movement generally are under state regulatory agencies. All tank trucks must conform to the size and weight limitations of the states in which they operate. Variations among the states in their limitations, together with the constant pressure for increased tax loads on trucks, constitute important problems to this type of oil transportation.

Motor truck transportation possesses a number of advantages which have promoted its rapid growth. Among its prime advantages are flexibility as to where it can go and the ability



to adapt itself to changes in sources of supply and in markets. The relatively short turnaround time of a tank truck reduces storage requirements, and the plant installations needed for loading and unloading are less costly than for other means of transportation. Moreover, tank trucks frequently enable the shipper to bypass the bulk station and deliver directly to the service station or large consumer, thus avoiding double handling of the oil.

Conclusion

The development of an efficient, dependable transportation system has been vital to the growth of the Southwest's oil industry. The cost of transportation has been important in determining the breadth of the markets for the region's oil—that is, the extent to which more distant markets can be reached economically. Also, the cost of transportation has influenced the depth of the market, in so far as its contribution in holding down the cost of petroleum products prices has promoted a larger demand for these products.

The service station price of gasoline, excluding taxes, has increased less than 7 percent during the past 30 years, while the average wellhead price of crude oil has risen about 65 percent. The relatively small increase in gasoline prices has been due in part to efficiencies achieved in transportation, although other factors, such as improvements in refining and perhaps in marketing, have been very important.

Transportation has been a dynamic force contributing to the development of the Southwest's oil industry; on the other hand, the growth of the region's oil production has been the chief factor in determining the extent of the transportation facilities serving the industry. As the region's crude production has increased, more pipelines have been built and more tankers and other carriers have been brought into service to transport southwest oil to the markets.

The magnitude and character of the transportation segment of the Southwest's oil industry during the coming years will continue to be influenced heavily by the region's oil production and the markets for its oil. If production and markets increase, transportation facilities are likely to increase.

An expansion in the transportation system, however, will not affect all parts of this system uniformly. Some types of transportation may show little change or may even decline. Developments among the various carriers of southwest oil will depend upon their efficiency in carrying oil and upon geographical considerations involved in changes in markets and changes in specific areas of production within the region.

Trends in recent years suggest that pipelines will continue to expand noticeably, with the greatest growth occurring in products pipelines and the smallest in crude trunk pipelines. It appears likely that an increasing number of distribution points will be served by products pipelines; with the growth in urban population, the opportunity for products pipelines will be enhanced. The Southwest is served fairly adequately by crude trunk lines; but increases in crude production, changes in areas of production, and expansion in markets may require additional crude lines. Some new lines, however, may merely replace lines which are withdrawn from service because of a decline in volume or other reasons. It is likely that gathering lines will continue to grow as long as southwest production continues to increase.

The future of the tanker industry serving southwest oil is heavily dependent on what happens to the east coast market. If the region's oil market on the East Coast is maintained or increased, the tanker capacity on the gulf coast-east coast run probably will show a similar pattern. Even if such a development occurs, the threat exists that, someday, tankers might lose traffic to large, low-cost pipelines which might be constructed from the Southwest to large eastern markets.

Barges face serious competition from pipelines in the movement of southwest oil to the Midwest. If the Little Inch pipeline is converted from natural gas to refined products, the barge industry is likely to experience a reduction in the volume of gasoline and other products carried. Although this loss, as has been the case in the past, may be offset at least in part by the over-all expansion in shipments to the middle west market, any substantial increase in barge shipments up the Mississippi River appears unlikely.

The railroads have been declining in importance as carriers of southwest oil, losing traffic primarily to pipelines and motor trucks. There is no reason to believe that this trend will be reversed.

Motor trucks have shown a faster rate of growth than any other oil transportation medium. In view of their flexibility, motor truck shipments probably will continue to expand markedly, although it is doubtful that their rate of growth for the past 15 years will be maintained.

The various carriers of southwest oil may show diverse trends during the coming years, but each should remain sufficiently important to provide active competition. This competition among the different types of carriers, as well as among carriers of the same type of transportation, may be expected to continue to foster efficient low-cost transportation for the movement of the region's oil.

REVIEW OF BUSINESS, AGRICULTURAL, AND FINANCIAL CONDITIONS



Department store sales in the Eleventh District increased 12 percent, or more than seasonally, from September to October and were 6 percent

higher than in October last year. At the end of October, department store stocks were 9 percent greater than a year earlier and were at an all-time high. Furniture store sales rose 8 percent from September and 9 percent from October 1954.

The 1955 cotton crop in the District states is estimated at 6,245,000 bales, or 4 percent higher than output in 1954. Production prospects for corn, rice, and peanuts increased during October, while those for grain sorghums declined. Cash receipts from farm marketings in the District states for the first 8 months of 1955 are estimated to be almost 10 percent below those in the comparable period last year.

With demand increasing seasonally and crude stocks relatively low, daily average crude oil production in the District rose moderately in November for the fourth consecutive monthly advance. Texas allowances indicate a further increase in December. District refinery crude runs rose during the first part of November, following declines in the preceding 2 months.

Nonagricultural employment in the District states during October reached 3,945,500, establishing a new record for the second consecutive month. The major stimulants occurred in trade, service, and government employment. Manufacturing employment increased moderately as countercurrents existed among the various industries.

The value of construction contract awards in the District was down sharply from both the preceding month and a year ago. Most of the year-to-year decrease occurred in residential awards.

The District's weekly reporting member banks recorded a 2.6-percent increase in their total earning assets during the 4 weeks ended November 16. Commercial, industrial, and agricultural credits showed continuing strength. The banks' holdings of Treasury bills increased substantially, while member bank borrowing declined sharply in the 4-week period.



Department stores in the Eleventh Federal Reserve District reported a more than seasonal increase in sales during October, with the dollar volume 12 percent above September and

6 percent above October 1954. Cumulative sales for the first 10 months of this year were 9 percent above those during the corresponding period of 1954. Reflecting a more than seasonal increase in sales from September to October, the adjusted index of department store sales rose in October to 138 percent of the 1947-49 average, as compared with 131 percent for both September this year and October 1954.

Generally speaking, the year-to-year increase in the October sales volume was store-wide, with sales of home furnishings rising 6 percent and sales in soft goods departments gaining 4 percent. Exceptions to the general increase were declines of approximately 15 percent in sales of television sets and 1 percent in sales of furniture and bedding. In the soft goods departments, sales of women's and misses' ready-to-wear apparel and piece goods and household textiles rose about 7 percent from a year ago, while sales of men's clothing were up 1 percent. Compared with a month earlier, sales of durable goods during October showed a gain of 22 percent, and sales of soft goods increased 18 percent.

Instalment accounts outstanding at department stores have increased steadily since March and at the end of October were the highest of record—16 percent more than on the same date in the previous year and 2 percent above September. Charge accounts outstanding rose seasonally for the third consecutive month. Collections on both instalment and charge account receivables reflected the usual September-to-

RETAIL TRADE STATISTICS

(Percentage change)

Line of trade by area	NET SALES			STOCKS ¹	
	Oct. 1955 from		10 mo. 1955 comp. with 10 mo. 1954	Oct. 1955 from	
	Oct. 1954	Sept. 1955		Oct. 1954	Sept. 1955
DEPARTMENT STORES					
Total Eleventh District.....	6	12	9	9	4
Corpus Christi.....	n.a.	n.a.	n.a.	n.a.	n.a.
Dallas.....	6	6	11	14	4
El Paso.....	7	17	9	6	5
Fort Worth.....	8	17	7	9	7
Houston.....	6	10	7	6	2
San Antonio.....	6	22	8	8	8
Shreveport, La.....	7	8	7	10	6
Waco.....	9	2	13	5	2
Other cities.....	5	8	12	7	6
FURNITURE STORES					
Total Eleventh District.....	9	8	17	6	2
Amarillo.....	31	30	—	15	9
Austin.....	13	13	15	9	2
Dallas.....	15	—	19	14	11
Houston.....	4	13	24	1	0
Lubbock.....	17	12	—	38	5
Port Arthur.....	15	32	9	—	0
San Antonio.....	5	10	11	5	—
Shreveport, La.....	3	—	15	9	4
Wichita Falls.....	15	8	—	—	—
Other cities.....	16	8	11	4	—
HOUSEHOLD APPLIANCE STORES					
Total Eleventh District.....	28	18	—	—	—
Dallas.....	24	16	—	—	—

¹ Stocks at end of month.
n.a.—Not available.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

(1947-49 = 100)

Area	UNADJUSTED			ADJUSTED ¹				
	Oct. 1955	Sept. 1955	Aug. 1955	Oct. 1954	Oct. 1955	Sept. 1955	Aug. 1955	Oct. 1954
SALES—Daily average								
Eleventh District.....	147	131	129	138	138	131	139	131
Dallas.....	140	131	123	131	130	125	139	122
Houston.....	165	149	144	156	160	147	153	152
STOCKS—End of month								
Eleventh District.....	161p	155	144	148	147p	146	145	134

¹ Adjusted for seasonal variation.
p—Preliminary.

October rise, with collection ratios showing little change from other recent months.

Inventories at department stores in this District, which usually reach a seasonal peak during late October or November, rose 4 percent during October. At the end of the month, they were 9 percent greater than at the end of October 1954 and were at an all-time high for department stores in this District. Although the rise in inventories from the summer months followed the normal seasonal pattern, the ratio of stocks on hand to current sales indicated a slightly larger build-up than during the same period a year earlier. Stocks on hand at the end of October were 3.14 times sales during the month, compared with 2.99 on the same date in 1954. Merchandise on order at the end of October was 3 percent below September but was 19 percent higher than a year ago.

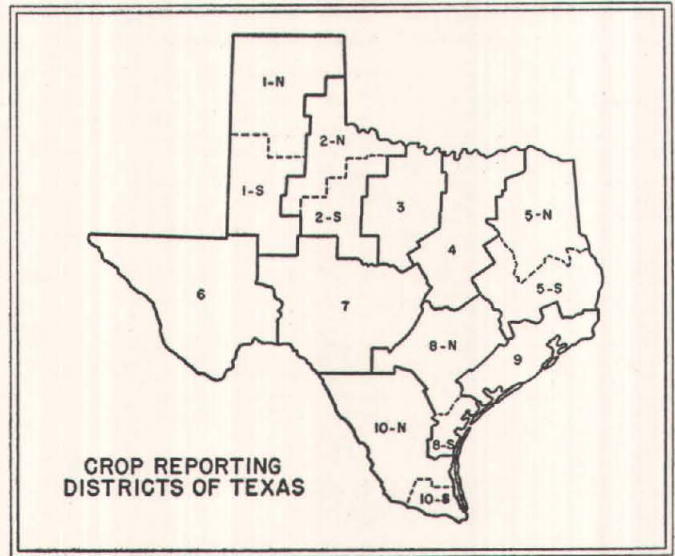
Furniture store sales in the District during October, reflecting a less than seasonal increase, were 8 percent above those of the previous month and were 9 percent larger than those in October last year. Accounts receivable increased 1 percent during October and at the end of the month were 20 percent larger than on the same date last year. The retail value of end-of-month inventories was 6 percent above that on the corresponding date last year.

New car registrations in four large Texas cities—Dallas, Fort Worth, Houston, and San Antonio—amounted to more than 132,000 during the first 10 months of 1955, compared with approximately 90,000 in the corresponding period of 1954. Sales of new cars in the four cities during October were down 15 percent from September but were up 42 percent from a year earlier.



During the first part of November, a cold front moving into the northwestern part of the District set off snow flurries as far south as the south-central counties of Texas and

brought rain in southern and southeastern counties of Texas and southern Louisiana. Most areas from the Low Rolling Plains of Texas eastward received little or no moisture. Rainfall in the southern Plateau area and southern and coastal counties of Texas, which measured 1 to 2 inches, materially improved winter range and pasture prospects. Low temperatures have brought the growing season to a close in most of the northern part of the District.



In the northwestern part of the District, grain sorghum harvesting is virtually complete, and cotton pulling has been delayed only slightly by cold weather. The development of the wheat crop is at a standstill in most of the Plains area as a result of insufficient moisture. Field work is active in most commercial vegetable areas of south Texas. Additional acres have been planted following the rains, and harvesting of mature vegetables is under way.

In the Nation the cotton crop is forecast, as of November 1, at 14,843,000 bales, or 915,000 bales higher than the month-earlier estimate and 8 percent larger than production in 1954, according to the United States Department of Agriculture. The indicated per acre yield is placed at a record 431 pounds, which is 90 pounds more than the previous record set last year and is 152 pounds larger than the 10-year (1944-53) average.

The production of cotton in the District states in 1955 is estimated at 6,245,000 bales, or 6 percent higher than on October 1 and 4 percent above production in 1954. The pros-

COTTON PRODUCTION

Texas Crop Reporting Districts

(In thousands of bales—500 lb. gross wt.)

Crop reporting district	1955 Indicated November 1	1954	1953	1955 as percent of 1954
1-N.....	440	512	548	86
1-S.....	1,230	1,098	835	112
2-N.....	240	221	143	109
2-S.....	255	180	285	142
3.....	25	20	39	125
4.....	630	448	1,101	141
4-N.....	145	75	136	193
5-S.....	95	74	119	128
6.....	270	261	253	103
7.....	30	25	39	120
8-N.....	160	142	215	113
8-S.....	70	218	76	32
9.....	235	192	238	122
10-N.....	38	67	32	57
10-S.....	387	407	258	95
State.....	4,250	3,940	4,317	108

SOURCE: United States Department of Agriculture.

CROP PRODUCTION
Texas and Five Southwestern States
(In thousands of bushels)

Crop	TEXAS			FIVE SOUTHWESTERN STATES ¹		
	Estimated Nov. 1, 1955	1954	Average 1944-53	Estimated Nov. 1, 1955	1954	Average 1944-53
Cotton ²	4,250	3,940	3,388	6,245	6,032	5,067
Corn.....	50,196	33,184	47,111	78,824	52,047	84,584
Wheat.....	14,212	30,894	55,404	44,744	102,895	138,465
Oats.....	34,615	41,354	28,167	57,324	65,737	47,500
Barley.....	2,208	3,135	2,481	17,776	21,966	9,964
Rice ³	14,520	16,120	10,918	27,570	31,116	21,886
Sorghum grain.....	138,424	117,386	77,502	163,277	130,950	93,103
Flaxseed.....	78	578	879	186	676	1,300
Hay ⁴	1,810	1,389	1,570	5,391	4,476	4,807
Peanuts ⁵	237,250	108,185	272,522	350,750	153,325	390,998
Irish potatoes.....	2,772	2,033	3,479	5,621	4,815	7,580
Sweet potatoes..	2,990	1,350	3,664	13,122	10,374	13,379

¹ Arizona, Louisiana, New Mexico, Oklahoma, and Texas.

² In thousands of bales.

³ In thousands of bags containing 100 pounds each.

⁴ In thousands of tons.

⁵ In thousands of pounds.

SOURCE: United States Department of Agriculture.

pective output exceeded the month-earlier forecast in each of the District states.

In Texas the prospective cotton crop this year is placed at 4,250,000 bales, or 6 percent above the October estimate and 8 percent above last year's production. The indicated yield per acre, at 307 pounds, exceeds the 1954 yield by 62 pounds and is 119 pounds above the 10-year average. Almost four-fifths of the increase in prospective production from the previous month occurred in the High Plains area, with the remainder being scattered among the east Texas, Trans-Pecos, and southern Low Rolling Plains counties. The only area in which prospects are less promising than on October 1 is the northern Low Rolling Plains, where frosts stopped development of some late cotton.

Production prospects for corn, rice, and peanuts in the District states increased slightly during October, while those for grain sorghums declined, according to the Department of Agriculture. The corn crop is estimated, as of November 1, at 78,824,000 bushels, or 1 percent above a month earlier and 51 percent larger than production in 1954. The rice crop, at 27,570,000 bags, is 4 percent above the October 1 indications and 11 percent below last year's output. Peanut production is placed at 350,750,000 pounds, or 3 percent above a month earlier and 129 percent above output in 1954.

Grain sorghum production in the District states, which is estimated at 163,277,000 bushels, declined 1 percent from the October 1 forecast but is still a fourth larger than last year's output. All the decline from the month-earlier estimate was the result of smaller crop expectations in New Mexico.

LIVESTOCK RECEIPTS

(Number)

Class	FORT WORTH MARKET			SAN ANTONIO MARKET		
	October 1955	October 1954	September 1955	October 1955	October 1954	September 1955
Cattle.....	72,407	73,746	68,832	39,036	27,886	26,263
Calves.....	22,346	28,604	21,417	28,517	31,789	18,227
Hogs.....	60,022	41,088	41,840	3,826	2,052	3,873
Sheep.....	58,903	58,776	58,993	124,845	118,251	12,670

¹ Includes goats.

FARM COMMODITY PRICES

Top Prices Paid in Local Southwest Markets

Commodity and market	Unit	Week ended		Comparable week last month	Comparable week last year
		Nov. 18, 1955	Nov. 18, 1954		
COTTON, Middling 15/16-inch, Dallas....	lb.	\$.3405	\$.3255	\$.3345	
WHEAT, No. 1 hard, Fort Worth.....	bu.	2.39¼	2.42	2.72	
OATS, No. 2 white, Fort Worth.....	bu.	.88	.86½	1.05¼	
CORN, No. 2 yellow, Fort Worth.....	bu.	1.52	1.53	1.86½	
SORGHUMS, No. 2 yellow, Fort Worth....	cwt.	2.12	2.04	2.62	
HOGS, Choice, Fort Worth.....	cwt.	13.25	15.75	19.75	
SLAUGHTER STEERS, Choice, Fort Worth...	cwt.	21.00	23.00	25.00	
SLAUGHTER CALVES, Choice, Fort Worth...	cwt.	19.00	20.00	19.00	
STOCKER STEERS, Choice, Fort Worth....	cwt.	19.00	21.00	20.00	
SLAUGHTER LAMBS, Choice, Fort Worth....	cwt.	17.25	19.50	18.50	
BROILERS, south Texas.....	lb.	.24	.25	.21	

The condition of ranges in the District states on November 1 declined from the preceding month but was better than at the same time last year. Range and pasture feed is short in south-central and southwestern Texas counties, and supplemental feeding is increasing. Although November rains benefited areas in southern Texas and parts of Louisiana, moisture is needed throughout most of the District to develop small grain pastures, winter weeds, and grasses. Range livestock in most of the District states on November 1 generally were in better condition than a year earlier. In Oklahoma, Texas, and New Mexico, marketings of cattle and calves during October were smaller than in the same month last year.

The index of prices received by Texas farmers on October 15, at 253 percent of the 1910-14 average, was 1 point below a month earlier and 11 points lower than in October a year ago. Higher prices for most livestock products, except hogs and chickens, failed to offset lower prices for cotton, peanuts, and sweet potatoes.

Cash receipts from farm marketings in the Nation for the January-August period this year are estimated at \$16,670,013,000, or almost 4 percent below the comparable period in 1954. Receipts from crops showed virtually no change from the year-earlier level, but those from livestock were 6 percent lower than in the same months in 1954.

In the District states, cash receipts from farm marketings for the first 8 months of 1955 are placed at \$1,566,177,000, which is almost 10 percent below those in the comparable period last year. Receipts from crops were 15 percent lower than a year earlier; those from livestock were 5 percent less.

CASH RECEIPTS FROM FARM MARKETINGS

Five Southwestern States

(In thousands of dollars)

Area	July		August		January—August	
	1955	1954	1955	1954	1955	1954
Arizona....	\$ 15,186	\$ 16,280	\$ 7,995	\$ 10,421	\$ 173,401	\$ 188,595
Louisiana...	11,819	12,469	22,928	28,583	138,797	155,447
New Mexico...	5,584	5,401	6,147	4,668	73,226	74,261
Oklahoma...	33,784	50,790	45,780	70,205	263,256	335,074
Texas.....	106,630	124,165	172,381	184,537	917,497	979,799
Total.....	\$173,003	\$209,105	\$255,231	\$298,414	\$1,566,177	\$1,733,176

SOURCE: United States Department of Agriculture



Gross loans and discounts of weekly reporting member banks in the District rose \$61,045,000 during the 4 weeks terminated November 16; in the comparable period of 1954, they increased \$135,375,000. Last year's change reflected not only the heavy purchases of Commodity Credit Corporation securities but also the resurgent demand for loanable funds characteristic of the recovery period. This year, the volume of loans has been increasing regularly since mid-March; consequently, the seasonal peak may not be as sharp as in previous years. The enlargement in member bank loans also has characterized the national banking scene and is attributable to the increased demand for credit which has been a significant element in the pattern of economic expansion in 1955.

Commercial, industrial, and agricultural loans—increasing \$68,766,000—exhibited the greatest strength in the loan categories between October 19 and November 16. However, this increase was substantially below the \$125,142,000 expansion in such loans in the corresponding period of

CONDITION STATISTICS OF WEEKLY REPORTING
MEMBER BANKS IN LEADING CITIES

Eleventh Federal Reserve District

(In thousands of dollars)

Item	Nov. 16, 1955	Nov. 17, 1954	Oct. 19, 1955
ASSETS			
Commercial, industrial, and agricultural loans...	\$1,582,281	\$1,407,902	\$1,513,515
Loans to brokers and dealers in securities.....	15,979	10,037	16,590
Other loans for purchasing or carrying securities.	116,660	100,368	118,763
Real-estate loans.....	209,648	161,229	205,166
Loans to banks.....	3,559	6,234	13,035
All other loans.....	528,526	411,118	528,539
Gross loans.....	2,456,653	2,096,888	2,395,608
Less reserves and unallocated charge-offs..	25,137	18,092	25,226
Net loans.....	2,431,516	2,078,796	2,370,382
U. S. Treasury bills.....	60,332	144,904	39,318
U. S. Treasury certificates of indebtedness.....	64,192	130,881	74,143
U. S. Treasury notes.....	255,750	271,145	258,271
U. S. Government bonds (inc. gtd. obligations)...	828,723	890,428	834,909
Other securities.....	246,505	230,074	248,547
Total investments.....	1,455,502	1,667,432	1,455,188
Cash items in process of collection.....	435,018	347,169	379,441
Balances with banks in the United States.....	455,687	542,600	425,810
Balances with banks in foreign countries.....	1,761	1,519	1,771
Currency and coin.....	46,037	45,137	47,853
Reserves with Federal Reserve Bank.....	571,931	639,641	596,255
Other assets.....	142,332	116,100	139,886
TOTAL ASSETS.....	5,539,784	5,438,394	5,416,586
LIABILITIES AND CAPITAL			
Demand deposits			
Individuals, partnerships, and corporations....	2,841,069	2,755,610	2,837,590
United States Government.....	105,137	199,674	131,640
States and political subdivisions.....	202,938	184,894	180,170
Banks in the United States.....	939,086	1,045,713	861,131
Banks in foreign countries.....	18,753	14,215	18,011
Certified and officers' checks, etc.....	104,339	77,650	66,041
Total demand deposits.....	4,211,322	4,277,756	4,094,583
Time deposits			
Individuals, partnerships, and corporations....	701,972	615,856	698,465
United States Government.....	11,874	13,369	11,874
Postal savings.....	452	451	452
States and political subdivisions.....	132,703	106,199	118,431
Banks in the U. S. and foreign countries.....	2,025	1,278	2,025
Total time deposits.....	849,026	737,153	831,247
Total deposits.....	5,060,348	5,014,909	4,925,830
Bills payable, rediscounts, etc.....	5,500	2,600	40,200
All other liabilities.....	66,674	64,201	61,910
Total capital accounts.....	407,262	356,684	388,646
TOTAL LIABILITIES AND CAPITAL.....	5,539,784	5,438,394	5,416,586

CONDITION STATISTICS OF ALL MEMBER BANKS

Eleventh Federal Reserve District

(In millions of dollars)

Item	Oct. 26, 1955	Oct. 27, 1954	Sept. 28, 1955
ASSETS			
Loans and discounts.....	\$3,782	\$3,160	\$3,711
United States Government obligations.....	2,373	2,695	2,337
Other securities.....	572	512	575
Reserves with Federal Reserve Bank.....	968	994	945
Cash in vault ^e	142	146	159
Balances with banks in the United States.....	950	1,138	959
Balances with banks in foreign countries ^e	2	2	2
Cash items in process of collection.....	402	315	357
Other assets ^e	195	166	186
TOTAL ASSETS^e.....	9,386	9,128	9,231
LIABILITIES AND CAPITAL			
Demand deposits of banks.....	1,001	1,142	981
Other demand deposits.....	6,315	6,151	6,186
Time deposits.....	1,267	1,129	1,292
Total deposits.....	8,583	8,422	8,459
Borrowings ^e	34	10	34
Other liabilities ^e	74	72	71
Total capital accounts ^e	695	624	667
TOTAL LIABILITIES AND CAPITAL^e.....	9,386	9,128	9,231

e—Estimated.

1954. Real-estate credit rose \$4,482,000, whereas in the comparable weeks of last year, the volume of real-estate credit rose \$5,868,000. Loans for financing security transactions declined, while consumer credit remained virtually unchanged.

The District's weekly reporting member banks also recorded a month-to-month increase, although a small one, in their aggregate investment accounts. They added \$21,014,000 to their portfolio of Treasury bills, which represents a 53-percent increase from October 19 and brings the total to approximately the level of 2 months ago. A year earlier, the bill account was valued at \$144,904,000; on November 16, it stood at \$60,332,000, with bills (and other United States Governments) being sold to provide for the increase in loans.

In the District, the remaining investment accounts declined during the 4-week period. The largest reduction occurred in Treasury certificates; in October, a sizable increase was reported as a consequence of the banks' participation in Treasury financing. Contrasted with November 17, 1954, all of the investment accounts except non-Federal Government securities had decreased as of November 16 this year.

While total earning assets of District weekly reporting banks grew by about \$140,000,000 from the corresponding date last year, the change in their composition has been perhaps equally noteworthy. To the extent that banks have relied upon Treasury securities—particularly those with short maturities—as their basic secondary reserve, the shift from these assets represents a decline in bank liquidity.

Total deposits increased \$134,518,000 during the 4 weeks, with the principal addition occurring in demand deposits. In this classification, bank drafts, interbank balances, and local government accounts experienced the largest gains. United States Government balances were the only declining item. Personal and business demand deposits grew by \$3,479,000, reflecting a modest 12-percent rise. Time deposits also

expanded. Borrowed funds declined from \$40,200,000 to \$5,500,000 during the period, an illustration of the flexibility of discount transactions initiated by member banks in maintaining their reserve balances.

Gross demand deposits at District member banks in October increased \$109,229,000 from September and \$44,892,000 from October 1954. Gross demand deposits at reserve city banks were \$1,389,000 below their total a year ago, but they rose \$72,563,000 from September. As compared with the preceding month and October last year, gross demand deposits at country banks increased during October, the respective amounts being \$36,666,000 and \$46,281,000. Time deposits at all District member banks contracted by \$10,340,000 from September but grew by \$151,375,000 compared with October 1954.

Debits to deposit accounts at reporting member banks in 24 District cities showed a 3-percent gain over September and a 12-percent growth over October 1954. Dallas led the cities recording monthly increases with a 7-percent rise, while Tyler and Wichita Falls had the largest month-to-month declines of 4 percent. On an annual basis, the velocity of turnover of deposit accounts rose to 19.2 in October from 18.8 in September and 18.1 in October 1954.

The changes in the District figures of aggregate demand deposits and deposit turnover fit the national pattern. During the current period of economic expansion, the turnover of deposit accounts has shown a pronounced upward tendency,

BANK DEBITS, END-OF-MONTH DEPOSITS AND ANNUAL RATE OF TURNOVER OF DEPOSITS

(Amounts in thousands of dollars)

Area	DEBITS ¹			DEPOSITS ²			
	October 1955	Percentage change from		October 31, 1955	Annual rate of turnover		
		Oct. 1954	Sept. 1955		Oct. 1955	Oct. 1954	Sept. 1955
ARIZONA							
Tucson.....	\$ 138,594	26	5	\$ 95,577	17.4	15.6	16.7
LOUISIANA							
Monroe.....	62,510	21	5	47,253	16.2	14.5	16.4
Shreveport.....	242,945	14	1	189,016	15.5	14.6	15.6
NEW MEXICO							
Roswell.....	28,283	0	6	27,453	12.7	12.1	12.2
TEXAS							
Abilene.....	68,464	11	2	59,662	13.9	13.7	13.7
Amarillo.....	161,538	18	2	109,748	17.9	15.6	17.6
Austin.....	139,009	18	0	114,480	14.3	12.7	14.3
Beaumont.....	124,537	8	0	102,754	14.9	14.4	15.4
Corpus Christi.....	164,816	12	5	109,517	18.2	14.4	17.4
Corsicana.....	17,119	35	-2	21,771	9.4	7.3	9.5
Dallas.....	2,087,681	14	7	1,003,995	24.8	23.5	23.6
El Paso.....	226,790	9	2	129,010	21.0	20.4	20.5
Fort Worth.....	598,225	12	1	364,501	19.9	18.7	19.9
Galveston.....	78,468	2	-3	72,642	13.2	13.7	13.7
Houston.....	2,004,574	12	2	1,215,533	19.9	18.8	19.7
Laredo.....	20,579	23	5	19,425	12.7	11.0	12.2
Lubbock.....	130,672	-3	3	90,708	17.6	19.4	16.8
Port Arthur.....	53,880	15	0	45,458	14.2	14.5	14.0
San Angelo.....	44,195	6	-1	45,598	11.6	10.8	11.6
San Antonio.....	452,995	9	-3	349,181	15.6	15.6	16.2
Texarkana ³	19,575	9	5	17,637	13.3	12.4	12.6
Tyler.....	69,405	14	-4	56,195	14.8	13.0	15.4
Waco.....	91,538	1	4	70,854	15.8	16.3	15.7
Wichita Falls.....	93,983	13	-4	105,005	10.8	10.1	11.3
Total—24 cities.....	\$7,120,379	12	3	\$4,462,973	19.2	18.1	18.8

¹ Debits to demand deposit accounts of individuals, partnerships, and corporations and of states and political subdivisions.

² Demand deposit accounts of individuals, partnerships, and corporations and of states and political subdivisions.

³ These figures include only one bank in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including two banks located in the Eighth District, amounted to \$40,874,000 for the month of October 1955.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Date	COMBINED TOTAL		RESERVE CITY BANKS		COUNTRY BANKS	
	Gross demand	Time	Gross demand	Time	Gross demand	Time
Oct. 1953.....	\$6,719,484	\$ 925,358	\$3,263,306	\$508,529	\$3,456,178	\$416,829
Oct. 1954.....	7,259,916	1,109,374	3,591,134	622,569	3,668,782	486,805
June 1955.....	7,190,550	1,223,862	3,518,648	704,471	3,671,902	519,391
July 1955.....	7,218,169	1,273,423	3,545,239	753,896	3,672,930	519,527
Aug. 1955.....	7,144,992	1,276,939	3,480,158	755,284	3,664,834	521,655
Sept. 1955.....	7,195,579	1,271,089	3,517,182	748,666	3,678,397	522,423
Oct. 1955.....	7,304,808	1,260,749	3,589,745	736,233	3,715,063	524,516

whereas demand deposits have increased more moderately. The increase in gross demand deposits registered during October probably signifies merely the beginning of the seasonal expansion in the demand for credit which customarily occurs during the last quarter of the year.

Between October 19 and November 16, total earning assets of the Federal Reserve Bank of Dallas declined \$33,533,000 to a level of \$969,523,000. The combined impact of the relatively small increase in the bank's Government securities account—\$553,000—and the repayment of other discounts—\$627,000—had a contractive influence of \$74,000. Member banks, by reducing their borrowings from the Federal Reserve Bank of Dallas by \$33,459,000, accounted for virtually all of the decline. Notwithstanding the reduced volume of member bank discounts during the period, borrowing from the Federal Reserve, in this District as well as throughout the country as a whole, has been used to replenish reserve balances more frequently this year than it was in 1954.

District member bank reserve balances in the 4-week period ended November 16 declined \$6,328,000 to \$985,298,000. Treasury operations, the largest single factor affecting reserve balances, supplied \$129,476,000. Other Federal Reserve deposits and accounts added \$1,209,000 to the outstanding total of Reserve bank credit. During the period, member banks lost reserves as a result of a net outflow of funds to other districts amounting to \$98,058,000. Local Federal Reserve credit declined \$36,867,000, attributable largely to the reduction in the amount of member bank discounts. Of the total decline in member bank reserve balances, \$2,088,000 came as the result of the increasing seasonal use of currency by the public.

Between November 17 and 22, the 12 Federal Reserve banks raised their discount rates from 2¼ percent to 2½ percent. This represents the fourth such increase this year. Central banks throughout the world have been placing heav-

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	Nov. 16, 1955	Nov. 17, 1954	Oct. 19, 1955
Total gold certificate reserves.....	\$781,301	\$ 842,763	\$ 729,022
Discounts for member banks.....	7,696	2,859	41,155
Other discounts and advances.....	0	8,695	627
U. S. Government securities.....	961,827	967,747	961,274
Total earning assets.....	969,523	979,301	1,003,056
Member bank reserve deposits.....	985,298	1,042,772	991,626
Federal Reserve notes in actual circulation.....	721,964	743,860	718,014

CHANGES IN FACTORS AFFECTING MEMBER BANK RESERVE BALANCES

Eleventh Federal Reserve District

(In thousands of dollars)

	CHANGE ¹	
	4 weeks ended Nov. 16, 1955	Dec. 29, 1954— Nov. 16, 1955
FACTORS		
Federal Reserve credit—local.....	—\$ 36,867	—\$ 11,272
Interdistrict commercial and financial transactions...	— 98,058	— 474,355
Treasury operations.....	+ 129,476	+ 438,949
Currency transactions.....	— 2,088	+ 14,065
Other deposits at Federal Reserve Bank.....	+ 140	— 426
Other Federal Reserve accounts.....	+ 1,069	+ 11,826
	—\$ 6,328	—\$ 21,213
RESERVE BALANCES		
October 19, 1955.....	\$991,626	
November 16, 1955.....	\$985,298	

¹ Sign of change indicates effect on reserve balances.

ier reliance on discount rate changes to help moderate the widely prevalent boom conditions. The impact of these changes has been felt, in some cases rapidly and in others more indirectly, throughout the money and capital markets.



Crude oil production in the Eleventh District in November rose moderately to mark the fourth consecutive monthly advance. Production during the first part of the

month averaged 3,215,000 barrels per day, which is 59,000 barrels higher than in October and 190,000 barrels higher than in November a year ago. In the Nation, production during the first part of November followed the same pattern as that in the District, averaging 6,797,000 barrels per day—or 65,000 barrels more than in the preceding month and 451,000 barrels more than in November 1954.

Daily crude oil allowables announced by the Texas Railroad Commission indicate that production in the District will continue to rise in December. Texas daily allowables for this month were set at 3,323,312 barrels, which is 61,146 barrels above the mid-November level. These allowables are based on 17 state-wide producing days. The total number of producing days in Texas for the year 1955 amounts to 194 (a monthly average of 16.2 days), which is the same as in 1954 and thus halts the declining trend prevailing during the preceding 3 years.

CRUDE OIL: DAILY AVERAGE PRODUCTION

(In thousands of barrels)

Area	October 1955 ¹	October 1954 ²	September 1955 ¹	Change from	
				October 1954	September 1955
ELEVENTH DISTRICT.....	3,155.8	2,892.1	3,088.5	263.7	67.3
Texas.....	2,815.0	2,578.8	2,745.7	236.2	69.3
Gulf Coast.....	583.9	546.1	572.6	37.8	11.3
West Texas.....	1,101.4	1,004.4	1,073.9	97.0	27.5
East Texas (proper)....	212.9	203.0	206.9	9.9	6.0
Panhandle.....	90.2	83.4	90.1	6.8	.1
Rest of State.....	826.6	741.9	802.2	84.7	24.4
Southeastern New Mexico.	225.0	205.4	227.1	19.6	-2.1
Northern Louisiana.....	115.8	107.9	115.7	7.9	.1
OUTSIDE ELEVENTH DISTRICT.	3,575.6	3,243.3	3,578.9	332.3	-3.3
UNITED STATES.....	6,731.4	6,135.4	6,667.4	596.0	64.0

SOURCES: ¹ Estimated from American Petroleum Institute weekly reports. ² United States Bureau of Mines.

Imports have continued to show substantial gains over year-earlier levels. During the 5 weeks ended November 11, total imports averaged 1,143,000 barrels per day, which is slightly less than in the preceding 5 weeks but is 123,000 barrels higher than in the same period last year. This year-to-year increase was due entirely to a rise in crude imports, since imports of refined products—primarily residual fuel oil—were down noticeably.

Refinery crude runs in both the District and the Nation turned up during the first part of November to reverse the downward trend evident in the preceding few months. During October, crude runs to refinery stills in the District averaged 2,150,000 barrels per day, which is 33,000 barrels less than in September but 110,000 barrels higher than in October a year ago. The Nation's refinery crude runs in October averaged 7,393,000 barrels per day, or down 91,000 barrels from September but 559,000 barrels above a year earlier. The winter period of heaviest heating oil consumption is close at hand, and although stocks of light heating oil are at comfortable levels, some increase in refinery runs during the next few months is to be expected if normal weather conditions prevail.

Demand for petroleum products in the Nation has continued strong. During the 5 weeks ended November 11, the demand for major refined products at refineries and bulk terminals was 5 percent higher than a year earlier. Gasoline demand was up 7 percent; residual fuel oil, up 6 percent; and distillate fuel oil, up 4 percent. The demand for kerosene was down 11 percent.

The declining trend in the Nation's crude stocks which began in June was halted in October. Crude stocks on November 12 totaled 257,800,000 barrels, which is 3,000,000 barrels higher than the level at the end of September but 9,200,000 barrels lower than a year earlier. The recent increase was due entirely to a rise in crude stocks in this District. Refined products stocks, led by light heating oils, continued to rise in October to reach an apparent seasonal peak in early November. On November 11, stocks of major refined products were 2 percent higher than a year earlier, with gasoline up 3 percent and distillate fuel oil up 11 percent but kerosene and residual fuel oil down 3 percent and 18 percent, respectively.



During October, total nonagricultural employment in the five states lying wholly or partly within the District established an all-time record for the second consecutive month. October employment, at 3,945,500, reflected a seasonal increase of 5,000 from September and was 113,000 more than in October 1954. As in the preceding month, autumn job gains were sharpest in the retail trades. Additional hirings also occurred in government employment and personal services. Construction employment declined as a result of a decrease in building activity.

Manufacturing employment during October increased to 734,200. Gains occurred in transportation equipment manu-

NONAGRICULTURAL EMPLOYMENT
Five Southwestern States¹

Type of employment	Number of persons			Percent change Oct. 1955 from	
	October 1955e	October 1954r	September 1955	Oct. 1954	Sept. 1955
Total nonagricultural					
wage and salary workers..	3,945,500	3,832,500	3,940,500	2.9	.1
Manufacturing.....	734,200	709,400	731,400	3.5	.4
Nonmanufacturing.....	3,211,300	3,123,100	3,209,100	2.8	.1
Mining.....	243,400	232,700	246,300	4.6	-1.2
Construction.....	275,300	268,400	280,500	2.6	-1.9
Transportation and public utilities.....	396,600	391,300	398,300	1.4	-4
Trade.....	1,013,200	982,100	1,008,900	3.2	4.3
Finance.....	163,200	155,800	163,500	4.7	-2
Service.....	458,400	447,800	458,600	2.4	0
Government.....	661,200	645,000	653,000	2.5	1.3

¹ Arizona, Louisiana, New Mexico, Oklahoma, and Texas.

e—Estimated.

r—Revised.

SOURCES: State employment agencies.
Federal Reserve Bank of Dallas.

facturing as the number of jobs increased in automobile plants, aircraft factories, and shipyards. Countercurrents existed in food processing during the month; seasonal cut-backs in summer food manufacturing were offset largely by an upturn in vegetable and citrus canning in the Lower Rio Grande Valley. Gains in cotton oil mills in the northern and western portions of the District more than offset seasonal losses which occurred in other chemical industries as the fertilizer production season passed its peak.

Unemployment during October experienced a moderate decline to reach its seasonal low point. In Texas, the only District state for which data are available, unemployment for the month totaled 98,300, the lowest level since April 1953.

Construction contracts awarded during October were down sharply from both the preceding month and October 1954. The value of contracts awarded in the District during October totaled \$123,602,000, which is 17 percent below September and 15 percent less than a year earlier. Residential awards were down 6 percent from September and 42 percent from a year ago; all other awards declined 22 percent from the previous month but were 20 percent above October 1954.

Unlike the Nation, where residential construction has shown the sharpest year-to-year gains, the bulk of the growth in District construction contract awards in 1955 has occurred in nonresidential activity. During the January-October period, total awards in the District exceeded those of a year ago by 23 percent. While residential awards were up only 10 percent, all other awards were up 35 percent.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(In thousands of dollars)

Area and type	October 1955	October 1954	September 1955	January—October	
				1955	1954
ELEVENTH DISTRICT..	\$ 123,602	\$ 145,229	\$ 148,962	\$ 1,455,783	\$ 1,185,149
Residential.....	47,768	82,231	51,188	627,924	570,860
All other.....	75,834	62,998	97,774	827,859	614,289
UNITED STATES ¹	1,862,692	1,965,339	2,034,895	20,046,736	16,442,580
Residential.....	782,791	851,824	733,382	8,767,341	7,048,023
All other.....	1,079,901	1,113,515	1,301,513	11,279,395	9,394,557

¹ 37 states east of the Rocky Mountains.
SOURCE: F. W. Dodge Corporation.

In the Nation during October, the value of construction contract awards was 8 percent less than in the preceding month and 5 percent below a year earlier. Residential awards were up 7 percent from September although down 8 percent from October 1954. Compared with the first 10 months of 1954, total awards in the Nation rose 22 percent during the same period in 1955; residential awards, 24 percent; and all other awards, 20 percent.

Cement production at Texas mills during August totaled 2,243,000 barrels, the highest monthly production figure of record. During the first 8 months of 1955, cement production in Texas totaled 15,847,000 barrels, or 13 percent above the total for the comparable period in 1954. Shipments of cement from Texas mills for the 8 months totaled 15,864,000 barrels, or 10 percent above shipments in the same period of 1954. The record levels of production and shipments of cement have come in response to record construction activity, and shortages have developed in various parts of the District from time to time. In the Nation, production and shipments of cement likewise have increased to record levels; further increases are indicated as cement producers are moving ahead with substantial expansion programs, which probably will ease the recent tightness in cement supplies.

In the Nation, cement capacity increased from approximately 240,000,000 barrels in 1945 to about 300,000,000 barrels in 1954. Expansion programs provide for the addition of 30,000,000 barrels in 1956 and 35,000,000 barrels in 1957. In the District, planned or recently completed expansion of cement capacity amounts to almost 10,000,000 barrels per year, over three-fourths of which should be completed by the end of 1956. Most of the expansion has occurred in the Dallas-Fort Worth and Houston areas; however, additional capacity also has been added at Rilito, Arizona, and is planned at Longhorn, Texas. Cement generally is produced near its markets because of high storage and transportation costs. Since cement plants usually serve markets within a 200-mile radius, producers tend to base expansion programs on probable long-term demands for cement in the area.

BUILDING PERMITS

Area	10 months 1955							
	October 1955		Percentage change in valuation from		Number	Valuation	Percentage change in valuation from 10 months 1954	
	Number	Valuation	Oct. 1954	Sept. 1955				
LOUISIANA								
Shreveport.....	477	\$ 2,399,566	-26	21	4,786	\$ 31,660,957	33	
TEXAS								
Abilene.....	154	1,779,278	-25	24	1,638	17,099,728	37	
Amarillo.....	228	1,080,356	-24	-38	2,551	18,928,923	20	
Austin.....	279	4,753,062	-45	63	3,106	36,460,198	-4	
Beaumont.....	304	524,596	-53	-50	3,153	7,772,434	-2	
Corpus Christi..	390	1,587,686	-39	-6	4,331	26,194,169	-9	
Dallas.....	2,144	13,677,489	12	-3	23,108	152,434,273	22	
El Paso.....	418	2,842,883	-34	11	4,421	29,854,472	22	
Fort Worth.....	841	6,182,764	4	52	7,898	51,152,387	30	
Galveston.....	110	263,880	-74	-52	1,065	4,414,030	-35	
Houston.....	881	10,113,767	-50	12	10,672	123,246,808	-12	
Lubbock.....	273	2,499,099	6	33	2,923	24,970,934	10	
Port Arthur.....	198	634,418	61	7	1,604	4,717,275	46	
San Antonio.....	1,535	4,360,325	18	-5	17,535	49,754,951	13	
Waco.....	270	1,109,885	-36	6	3,007	13,216,410	1	
Wichita Falls..	150	1,022,261	-42	-38	1,434	11,508,682	29	
Total—16 cities..	8,652	\$54,831,315	-25	8	93,232	\$603,386,631	9	