

1968

Rail, Bus, and Other Carriers in the Tampa Bay Region

Tampa Bay Regional Planning Council

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rail, bus and other carriers study

TAMPA BAY REGIONAL PLANNING COUNCIL



TAMPA BAY REGIONAL PLANNING COUNCIL

1969

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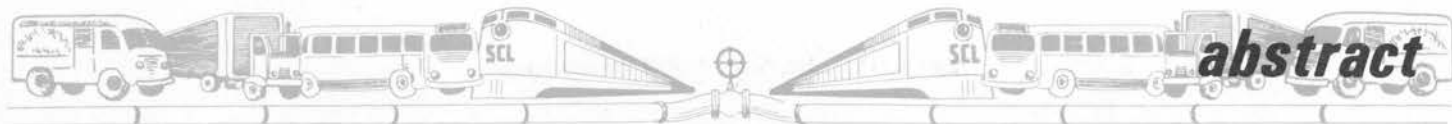
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TITLE: Rail, Bus and Other Carriers in the Tampa Bay Region

AUTHOR: Tampa Bay Regional Planning Council

SUBJECT: Survey of rail, bus, truck and pipeline transportation facilities.
Analysis of effects these transportation components have on other transportation and land use elements.
Determine the potential for future development and suggest possible systems to be examined in more refined future planning studies.

DATE: November 1, 1968

LOCAL PLANNING AGENCIES: Tampa Bay Regional Planning Council
Hillsborough County Planning Commission
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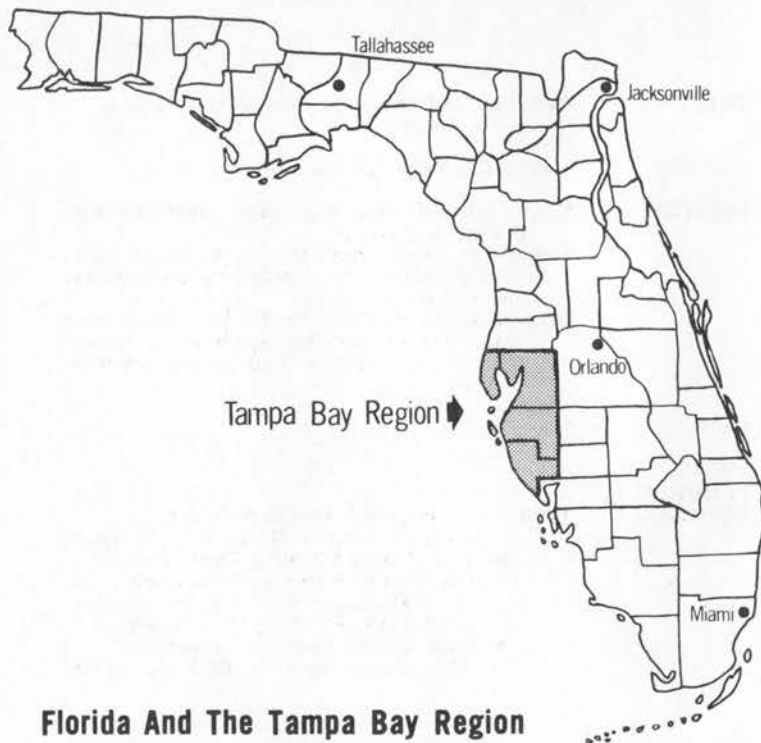
ABSTRACT: This study provides for a general survey and analysis of the Tampa Bay Region's rail, bus, truck and pipeline transportation facilities to determine the present and potential roles these components have in the over-all transportation system and as physical and economic determinants of regional development.

The area's terminals and yards were inventoried and analyzed to determine the adequacy of existing facilities and operations. The general potential for future expansion and growth of rail, bus, truck and pipeline transportation in the Region was studied. Local plans for expansion of facilities and service were reviewed and analyzed.

Analysis of existing facilities revealed rail and truck transportation modes as an important part of the Region's economy. The majority of motor freight tonnage is terminated freight, emphasizing the Region's role as a market center. Rail and Pipeline facilities are an integral part of port operations. However, certain railroad operations are in conflict with urban development in many areas of the Region.

Other findings of the study indicate that existing bus transit in the Region provides little opportunity for intraregional movement. Service areas are limited to the most densely populated areas, and service is not competitive with automobile travel in terms of speed or convenience.

The study concludes that the best advantages of rail, bus, truck and pipeline systems must be evaluated together with other transportation modes to determine the most efficient combination in providing a total regional transportation system.



Florida And The Tampa Bay Region

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

SUMMARY REPORT NUMBER TEN

rail, bus and other carriers

TAMPA BAY REGIONAL PLANNING COUNCIL

NOVEMBER, 1968

THE PREPARATION OF THIS REPORT WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

The following report is one of a series of eleven summary reports covering regional planning studies undertaken by the Council as part of our efforts to prepare a Preliminary Regional Development Plan. From the outset, our Council members and staff recognized the urgent need to develop within a relatively short time a sound and workable set of plans to guide regional decision making. Because of rapid growth and urbanization of our area and the increasing complexity of attendant problems, we had decided to prepare a preliminary or "sketch" plan during this year. This approach was greatly facilitated by making extensive use of existing data and study materials developed by the region's many local planning agencies.

As general statements of regional development policies, the sketch plan will enable the Council to deal

with the more obvious and pressing issues facing the social, economic, and environmental well-being of our area. The sketch plan and its component plan elements will be progressively refined through more detailed studies. During the interim, the sketch plan will be discussed among local officials and citizens. As the Council's program advances and as the Region's goals come into clearer focus, alternate plans will be developed and tested. Through this procedure, the Council will be able to achieve a Comprehensive Regional Plan by 1972.

This report is a summary of one phase of our research and planning work. The reader who seeks additional, more technical information may wish to visit the Council's offices, where supporting documentation is available for inspection.

A large, stylized handwritten signature in black ink, reading "Bill Chertan". The signature is written in a cursive, flowing style with a long horizontal line extending from the end.



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The Tampa Bay Region serves as the transportation center of Florida's West Coast. Major transportation arterials from all over the state converge in the Region to make it the hub of transportation for the West Central Coast of Florida. The development of the Region into the populous urban area it is today is in part, a result of these transportation facilities.

The economic importance of transportation facilities in a rapidly growing urban region is unchallenged. Therefore, it is imperative that a close examination of past performance be undertaken in order that future potential can be assessed and planned for.

The purpose of this report is to examine ground transportation modes as individual components and as interrelating systems of an overall regional transportation system. This report represents the Council's efforts to survey and analyze important aspects of the Region's Rail, Bus and Other Ground Carriers. This study element is part of a Comprehensive Transportation Study program which also includes a Major Highway Study, a Ports and Waterways Study and an Airport Systems Plan. This re-

port serves as a starting point from which further in-depth studies of these transportation components will be conducted.

The objectives of this report are to:

- 1) generally survey and analyze all rail, bus, truck and pipeline transportation modes operating in the Region to determine the present and anticipated effect these components have on other transportation and land use elements;
- 2) suggest possible future ground transportation systems to be examined in more refined future planning studies.

The Tampa Bay Regional Planning Council would like to thank all of those persons who offered their cooperation by contributing information vital to this report. Without the cooperation of the following persons and agencies this report would not have been possible:

Seaboard Coast Line Railroad
Cities Transit, Inc.
Florida Trucking Association
Motor Freight Terminal Managers
Florida Gas Transmission Company



The findings presented below were derived from the information contained in the body of this report.

- The Tampa Bay Region is served by only one railroad line, with regional yards located in Tampa.
- Bulk freight, primarily phosphate, is the railroad's greatest single commodity in tonnage. These phosphate shipments are an integral part of port operations.
- Direct route passenger service by rail to northern cities is available only from St. Petersburg.
- Bus transit in the Region provides little opportunity for intraregional movement. Service areas are limited to the most densely populated areas, and service is not competitive with automobile travel in terms of speed or convenience.
- Motor freight service is offered by 40 trucking firms in the Region.
- Most of the Region's motor freight terminals are located in the eastern part of the City of Tampa.

- The majority of motor freight tonnage is terminated freight; emphasizing the Region's role as a market center.
- Almost 50% of the Region's motor freight terminals have plans for expansion or relocation.
- Five gas distribution system companies buy natural gas from the pipeline in the Tampa Bay Region.
- Eight industrial users of natural gas from the pipeline system in the Region rank among the largest consumers of gas in the State of Florida.
- Oil pipelines play a significant role in the port's petroleum operations.

Careful consideration of the above findings led to the following conclusions:

- Rail facilities in conflict with expanding urban development should be evaluated for possible alternative alignments.
- Duplicate rail phosphate loading facilities in conflict with urban development in Tampa should be removed.

- Rail facilities in marginal use as a result of the railroad merger should be evaluated for other possible uses.
- Regional bus transit should be considered as a means of alleviating present and future traffic congestion.
- Future transportation planning studies must evaluate the best advantages of all modes together to determine the most efficient combinations in providing a total regional transportation system.
- Mass transit including water, rail and bus systems should be studied to determine the combination offering a balanced intermodal transportation system with a maximum of service to all residents of the Tampa Bay Region.



Rail transportation has contributed greatly to the past development of the Tampa Bay Region. Although the railroad is no longer the major carrier of passengers it once was, it is still the most economical means for over-land hauling of large amounts of freight in the Region.

HISTORICAL DEVELOPMENT

The most significant factor in the development of the Tampa Bay Region during the era of 1880 - 1890, was the railroad. H. B. Plant, the railroad industrialist, built the first rail line into the Region. His South Florida Railroad, which became part of the Atlantic Coast Line in 1902, reached Tampa in 1884, and extended to Port Tampa the next year. In 1889, a second railway reached Tampa and St. Petersburg. This railway, called the Florida Railway & Navigation Company, was later to become part of the Seaboard Air Line. With these links to other points in Florida and the nation, the Bay's development was assured and rapid. Tourism developed; and in 1891, Plant opened the Tampa Bay Hotel as one of the popular luxury hotels of the World. Truck farming and the citrus industry began to develop as a direct result of the assured linkage with northern markets. The Tampa & Gulf

Coast Railroad began operating in Pinellas County shortly thereafter and still exists today as part of the Seaboard Coast Line system.

In 1876, J. S. Williams bought 1,700 acres of land on Tampa Bay, and was persuaded by Peter Demens to extend the Orange Belt Railroad from Sanford, Florida through Tarpon Springs to St. Petersburg. The line was completed in 1888. Demens extended his line on a mile-long pier in hopes of developing a deep water seaport in St. Petersburg. H. B. Plant quickly bought out Demens' Orange Belt Railroad, and effectively stopped competitive shipping with the City of Tampa by not rebuilding the St. Petersburg pier when it was damaged by a hurricane. But tourists continued to use Plant's newly acquired St. Petersburg line and determined the destiny of Pinellas County as a recreational and tourist resort area.

In 1902, the Seaboard Air Line Railroad extended railroad lines from Tampa through Manatee County, terminating at the City of Sarasota. Shortly thereafter the line was extended south to Venice. Venice still is today the southernmost terminus of the railroad in the Tampa Bay Region.

Through a process of mergers, two major lines, the Atlantic Coast Line and the Seaboard Air Line Railroads,

emerged from the numerous railroads built in the 1880 era. They served the Region jointly until July of 1967, when a final merger formed the Seaboard Coast Line Railroad as the single rail line serving the Tampa Bay Region.

THE RAILROAD IN THE REGION TODAY

The merger of the Atlantic Coast Line and the Seaboard Air Line Railroads into the Seaboard Coast Line Railroad produced the eighth largest railroad in the nation, with 9,600 miles of trackage. The merger took nearly nine years of planning, resulting in faster and more efficient service for both freight and passengers. The Seaboard Coast Line is the largest rail system operating in Florida. It has more than 62,000 units of freight equipment in its fleet, including over 1,000 diesel locomotives. The line serves Florida's west coast, extends to Jacksonville where it further extends northward along the eastern seaboard to Richmond, Virginia. In a westerly direction, it serves Atlanta, Georgia, Birmingham and Montgomery, Alabama. All routes connect with other railroad lines to provide service to points North, West and East in the nation.

Railroad Transportation Pattern

In the Tampa Bay Region, the Seaboard Coast Line maintains approximately 158 miles of mainline trackage and 190 miles of freight service trackage. Rail lines radiate in four directions from the main freight terminals of the Region located in Tampa. (See Map 3.1). The Uceta and Yoeman classification and marshaling yards are located adjacent to one another north of Adamo Drive in the eastern part of the city.

Lines running west from the yards branch near 31st Street. South and southwesterly lines go to the Port of Tampa and through the central business district to Port Tampa storage yard, MacDill Field and the Rattlesnake port area. Northwesterly lines extend toward Brooksville and branch west around Tampa Bay to connect with the main north-south line through Pinellas County at Clearwater. The main line through Pinellas County enters the county from the north, near the Pinellas-Hillsborough County line, extends westerly to Tarpon Springs and then south along Alternate U.S. 19 through Clearwater where it cuts diagonally across the county to the St. Petersburg passenger depot and classification yards near 22nd Avenue North. The line continues from here to the central business district of St. Petersburg.

Spur lines serve western Hillsborough and Pinellas County. In Hillsborough County a spur extends north from the airport through Citrus Park-Fern Lake area to Elfers. In Pinellas County, the former main line Seaboard Air Line trackage serves as a spur for freight service from Clearwater south through Gulfport to the St. Petersburg central business district.

Lines extending east from the Tampa yards branch north through Dade City, east through Plant City, and south through Manatee and Sarasota Counties, to terminate at Venice. The mainline south parallels U.S. 41 through Manatee County to Palmetto, where a spur from Plant City and the phosphate fields of eastern Hillsborough County joins it. The two lines cross the Manatee River and extend south through Bradenton to Sarasota. A single line extends from Sarasota south to the Venice terminus of the Region's rail system. A minor switching yard is located in Sarasota, but does not perform the function of train make-up or dispatch as do the Uceta, Yoeman, and St. Petersburg yards. This yard serves only turn around, same day trips.

Railroad Traffic Flow

A total of eight passenger trains move in and out of the Region daily. (See Map 3.1). Six of these movements

begin or terminate in St. Petersburg. These trains provide direct routes to New York and Chicago. Passengers wishing direct service to New York, Chicago or intermediate points from the Bay area must board the trains made up in St. Petersburg. Previous to this recent arrangement, direct service was provided to points north from Sarasota and Tampa. Now Seaboard provides coordination bus/train schedule service from Tampa and Sarasota to the St. Petersburg depot. Consolidation of direct service in Pinellas County is logical and still provides adequate service to other bay area locations. The Tampa yards are freed of passenger train make-up and can provide better freight service.

Intraregional freight traffic generates 10 to 12 train movements into and out of Tampa and St. Petersburg daily. Incoming trains are broken down at the Uceta and Yoeman yards for make-up into daily train service to Manatee and Sarasota Counties to the South and Pinellas County to the West.

Major Products Carried

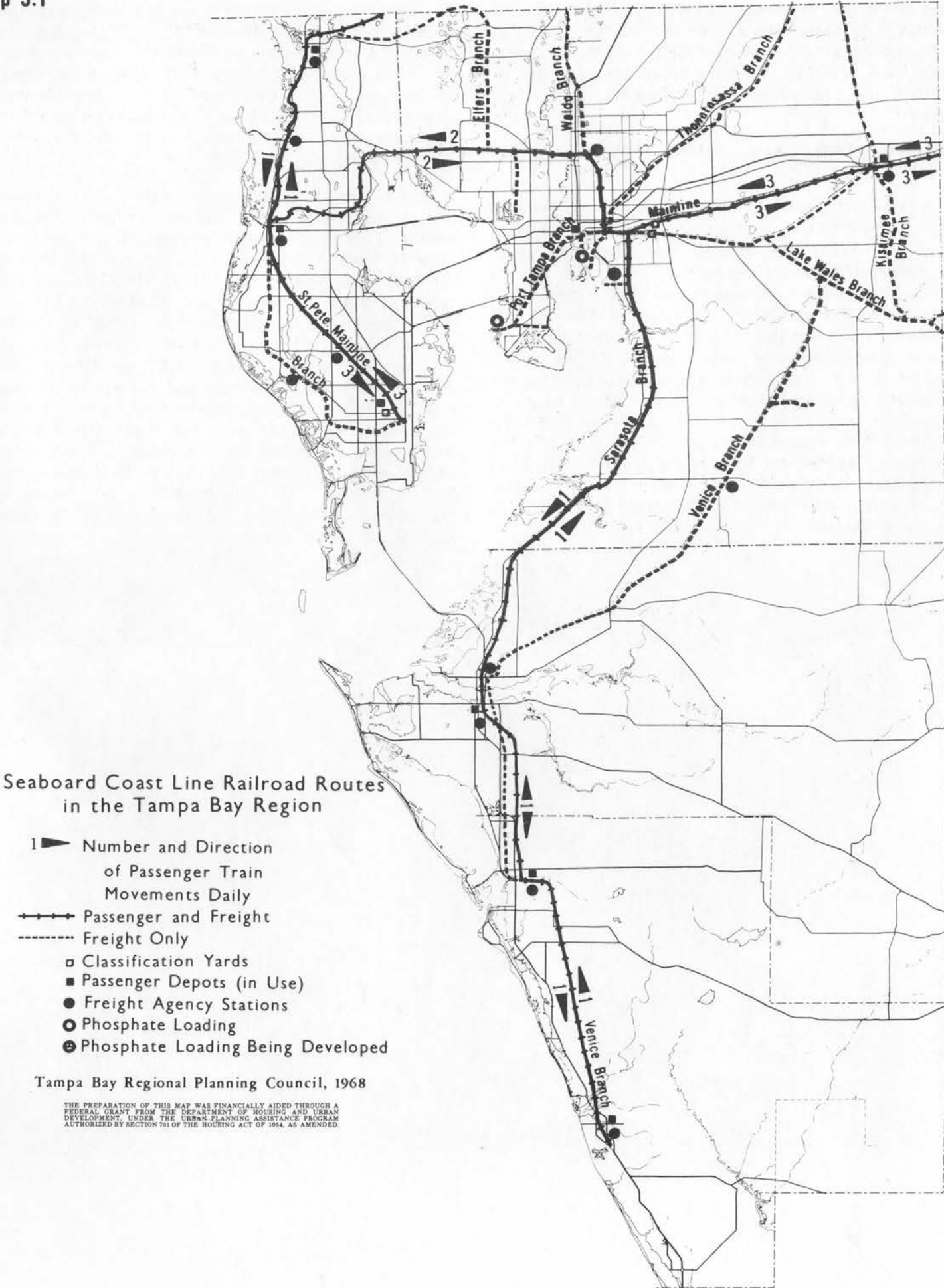
The phosphate industry depends, to a great extent, upon the Seaboard Railroad to transport phosphate ore and products from the mines and plants in Hillsborough and Polk counties to the ship loading facilities at Port Tampa

and on Seddon Island. A new phosphate loading facility is under development on the railroad's bay fill property adjacent to Port Sutton. When completed, the shiploading operation at East Bay will be one of the most modern and efficient phosphate handling facilities in the world. The Seddon Island facility and the Port Tampa facility will possibly be abandoned at that time.

The phosphate hauled by the railroad in the Tampa Bay Region represents the largest single commodity handled, both in value and weight. Food stuffs or related products make up the second largest category of freight. Commodities in this classification are primarily citrus and vegetable products outbound from the Region for northern markets. Although most of the food stuffs shipped by rail are packaged products of the citrus industry, the railroad does a limited amount of bulk cargo cartage. Juice concentrate in 50 gal. drums and "chill juice" in specially equipped refrigerated tank cars are examples of bulk food cargo.

Major freight loading operations occur in Tampa and St. Petersburg. Freight operations are also conducted at Tarpon Springs, Dunedin, Clearwater, Pinellas Park and Bay Pines in Pinellas County; Sulphur Springs, Plant City, and Wimauma in Hillsborough County; Palmetto

Map 3.1



and Bradenton in Manatee County; and Sarasota and Venice in Sarasota County. Less than carload (LCL) service is not provided at all of these terminals. Additional spur lines, owned by the Seaboard as well as private industrial track, serve select industrial locations in the Region.

INTERRELATION WITH OTHER TRANSPORTATION MODES

The Seaboard Coast Line serves the major port areas of Tampa Bay with spur lines interlacing port operations at the Port of Tampa, the Alafia River Channel, Port Tampa and Rattlesnake in Hillsborough County. The services to port facilities are a necessary and integral part of the total transportation system in the Region. The rail/port operations serve as the major points of interchange between land-carried and waterborne commerce in the region. If bulk cargo, primarily phosphate, is to sustain profitable operations, economic interchange of freight is necessary. The railroad's plan for new terminal loading facilities at the Port of Tampa are a necessary part of the increasing demand for the efficient interrelationship of transportation modes. The future potential of port operations is dependent upon the interchange of these transportation modes.

The significance of this need was felt strongly by the developers at Port Manatee when ICC rulings prohibited Seaboard from extending service to the Piney Point development in Manatee County. Port Manatee has plans underway presently to construct its own rail facilities and switch yard and connect them to the Seaboard main line to provide the needed land / water interrelationship necessary for operation.

Since the mid 50's trucking has become an important part of rail freight hauling. The interrelation of the two industries utilizes the best advantages of both the flexibility of truck routes in urban areas and the greater speed of trains between these areas. The number of rail cars loaded with highway trailers increased by 385 per cent in the ten year period from 1957 to 1967 for class I railroads. Seaboard is no exception in expanding its use of "Piggyback" hauling. The Seaboard line maintains its own fleet of trucks for pickup and delivery in the Bay area. Because most of the private trucking terminals in the Region are located near the Uceta and Yoeman freight and classification yards in Tampa, efficient interchange of freight between the two modes of transportation is possible. The interrelation of the modes is facilitated by the proximity of operations and the compatibility of the land uses.

Conflicts

The railroad operates on fixed right-of-ways and has been an integral part of the environment of the Tampa Bay Region from the beginning of urban development. Many of the conflicts which arise today are the result of changes in technology and encroaching, but not compatible, urban expansion. Without considerable economic justification for realignment of railroad routes, the existing pattern of the Region's rail and related industrial facilities must be considered immovable and part of any future planning development. Nevertheless, select areas of the Region present critical problems to the orderly growth and development of the urban areas.

Conflicts with highway movement are evident in many parts of the Region. At-grade crossings of rail lines impede the flow of local and through vehicular traffic, particularly in the Port and East Tampa areas. The same can be said to occur, but to a lesser degree, in all of the urban areas of the region. This problem will intensify with increased vehicular and rail movements in the future. Phosphate shipment to the port areas, with the slow moving and switching of cars to the loading terminals, has created vehicular traffic congestion in the Tampa central business district and along U.S. Highways 301 and 41.

The once efficient system of locating train facilities in the downtown commercial area has given way to the present day demands for automobile and pedestrian circulation patterns. But the cities of Clearwater, Tampa, Plant City, and Sarasota still suffer the disadvantages of this obsolete concept of rail activities being conducted in the incompatible surroundings of central business district activity.

Tampa's problems have received much consideration and planning activity to develop possible solutions. The way seems clear presently to remove the Seaboard tracks from the downtown streets and realign them with the proposed South Crosstown Expressway. While the conflict of rail and central business district activities is not as acute in the other cities mentioned, the removal of tracks from these areas should be considered now while alternative alignments are relatively easy to accomplish. Failure to consider possible rail-grade separation or realignment now could result in future retardation of CBD expansion as the population of the Region grows.

The merger of Seaboard Air Line and Atlantic Coast Line Railroads will make it possible to eliminate numerous duplicate facilities which are no longer being used or are in marginal usage as a result of the merger. Consideration should be given to the possibilities of redevelop-

oping these areas for a more functional use. Possibilities include using the right-of-ways of little used freight trackage for construction of an expressway or as part of a future Bay Area rapid transit system. Unused passenger stations could be converted to civic centers or other public use.

PAST TRENDS AND FUTURE POSSIBILITIES

The development of railroads in the Tampa Bay Region opened the way to economic prosperity by providing linkage to the North. Historically the railroad service in the Region has been interregional rather than intraregional. Past trends have shown the growth of the railroad to be primarily the result of freight hauls of northern market products into the Region and of a smaller, but significant, hauling of goods from the Region to the North. This trend is expected to continue in the future.

Nationwide railroad passenger service has been declining steadily since the late 40's. This trend appears likely to continue, with the possible exception being the development of high speed trains traveling the population corridors emerging in the nation. Demonstration projects underway in the Northeast corridor of the United States may point to the feasibility of developing such a system in Florida. As the population in Florida continues to con-

centrate along the East Coast and in the Tampa Bay Region, a continuous urban corridor will emerge as a broad belt of population across the center of the state. Consideration should be given to further study of the linkage of the East and West Coasts of Florida with high speed trains.

While interregional patronage of the nation's railroads continues a steady decline, commuter train operations have held at a relatively constant level recently. Although the Bay Area's network of highways is able to handle present day traffic volumes without great delays, consideration should be given to the future transportation demands which may only be met with high speed rapid transit service linking the urban areas of the Region.

Several transit systems have been proposed specifically for medium density urban areas such as the Tampa Bay Region. Few proposals have moved beyond the demonstration stage, however. Possible types of rail or guideway systems which might be feasible for the Region include:

- commuter rail trains operating between the major cities of the Region;
- monorail system for central business districts;

- dual-mode rail/bus systems combining the high speed of fixed rail travel with the flexibility of local innercity service;
- rubber wheeled bus-trains operating on guideways;
- pallet systems whereby automobiles are driven onto rail pallet cars for transfer across town or across the bay.

A variation of the pallet system has been under study by the Department of Transportation and the Seaboard

Coast Line Railroad as a possibility for the interregional transporting of cars and drivers on specially built bi-level railroad cars from Alexandria, Virginia to Jacksonville, or vice versa.

Mass Transit, rail and otherwise, assumes an important place in the Tampa Bay Regional Planning Council's Comprehensive Planning Program. Detailed analysis and testing of transit systems for the bay area will be conducted over the next four years.



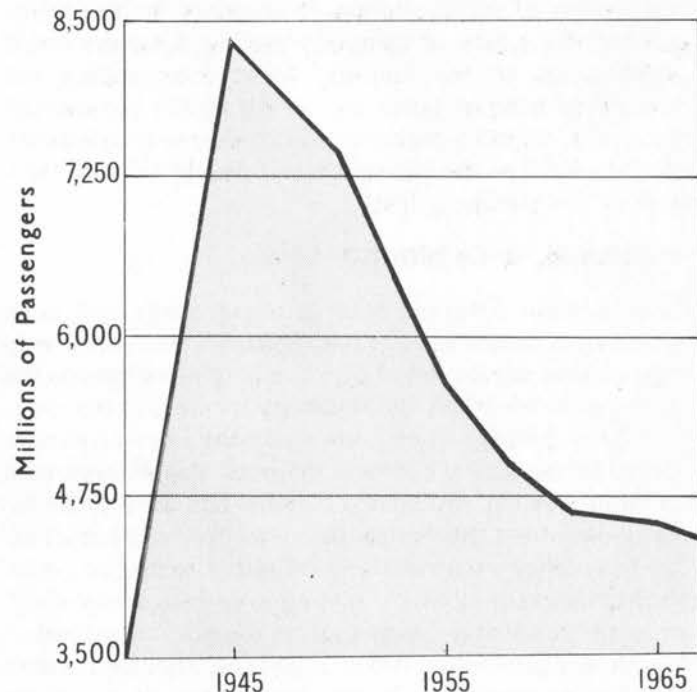


The motor bus has proven to be a convenient and low cost means of transportation. It accounts for the transport of thousands of people traveling between major urban areas of the country. Most communities not reached by train or plane are served by the commercial motor bus. Within a region or an urban area motor buses can provide for the movement of people to and from work or on shopping trips.

HISTORICAL BACKGROUND

Despite these virtues, motor bus patronage has been declining in recent years. (See Figure 4.1) The answer to this paradox can be found by examining more closely the relationship of urban development to mass transportation. Traditionally, cities grew along the lines of easiest access to the central business districts. People depended on the trolley car and later the motor bus for transportation to and from the central business district's activities. The bus, following a relatively inflexible route, controlled the expansion of cities by limiting growth to areas which were within walking distance of its routes. The advent of the private automobile has changed the traditional forms of urban development. Urban development is no longer

**Figure 4.1 Revenue Passengers Carried
on Bus Transit Lines
in the United States 1940-1967**



Source: 1968 Transit Fact Book

confined to the established routes of mass transit. Development has spread to areas inaccessible to the transit rider.

As jobs and homes continue to move outward from the central city, travel patterns become increasingly dispersed. The Tampa Bay Region's urban areas fit well into this picture of development where dependence on the automobile has become a necessary part of intraregional transportation.

Bus transit serves best where the demand for travel in any one corridor is great enough to require frequent service. The greater the demand, the better an area can be served. The reverse is also true. As urban development spreads, dependence on the automobile increases; demand for bus transit decreases. The result is a decline in bus service.

BUS TRANSIT IN THE REGION TODAY

Bus service in the Tampa Bay Region today reflects the increased independence of the automobile owner. Service between and within the communities of the Region is fragmented and all together lacking in less densely populated areas. Buses serve primarily in areas of population density greater than 3.00 people/acre and provide little

opportunity for intraregional movement. (See Map 4.1 and 4.2)

Municipal Transit Systems

Municipal service, as covered in this section, deals with bus transit systems operating facilities within and between urban areas of the Tampa Bay Region only. One state and two national motor bus companies provide service between cities in the Region, but are primarily oriented toward long distance interregional and interstate operations. These companies will be covered in a following section.

Pinellas County Transit Systems. Pinellas County has the largest geographic area with a population density above three persons per acre in the Region. (See Map 4.2) The county is served by four municipal transit systems. Three of the systems, St. Petersburg Municipal Transit System, Pinellas Park Transit System, and Gulf Beach Transit System operate on lines originating from the CBD of St. Petersburg. The fourth system, Clearwater Municipal Transit System originates service from the Clearwater CBD.

- St. Petersburg Municipal Transit System is city owned and operates routes within St. Petersburg

and surrounding areas including Gulfport, South Pasadena and Bay Pines. No service is provided to other major urban areas of the county or region. The system operates a fleet of 70 buses, of which 40 are air-conditioned. However, the remainder of the systems coaches are more than 10 years old and without air-conditioning. The City of St. Petersburg has initiated a 10 year transit improvement program and has been awarded three urban mass transit grants to assist in modernizing its fleet. A recent fare increase to 25 cents has caused a further decline in the system's 10 year history of decreasing patronage.

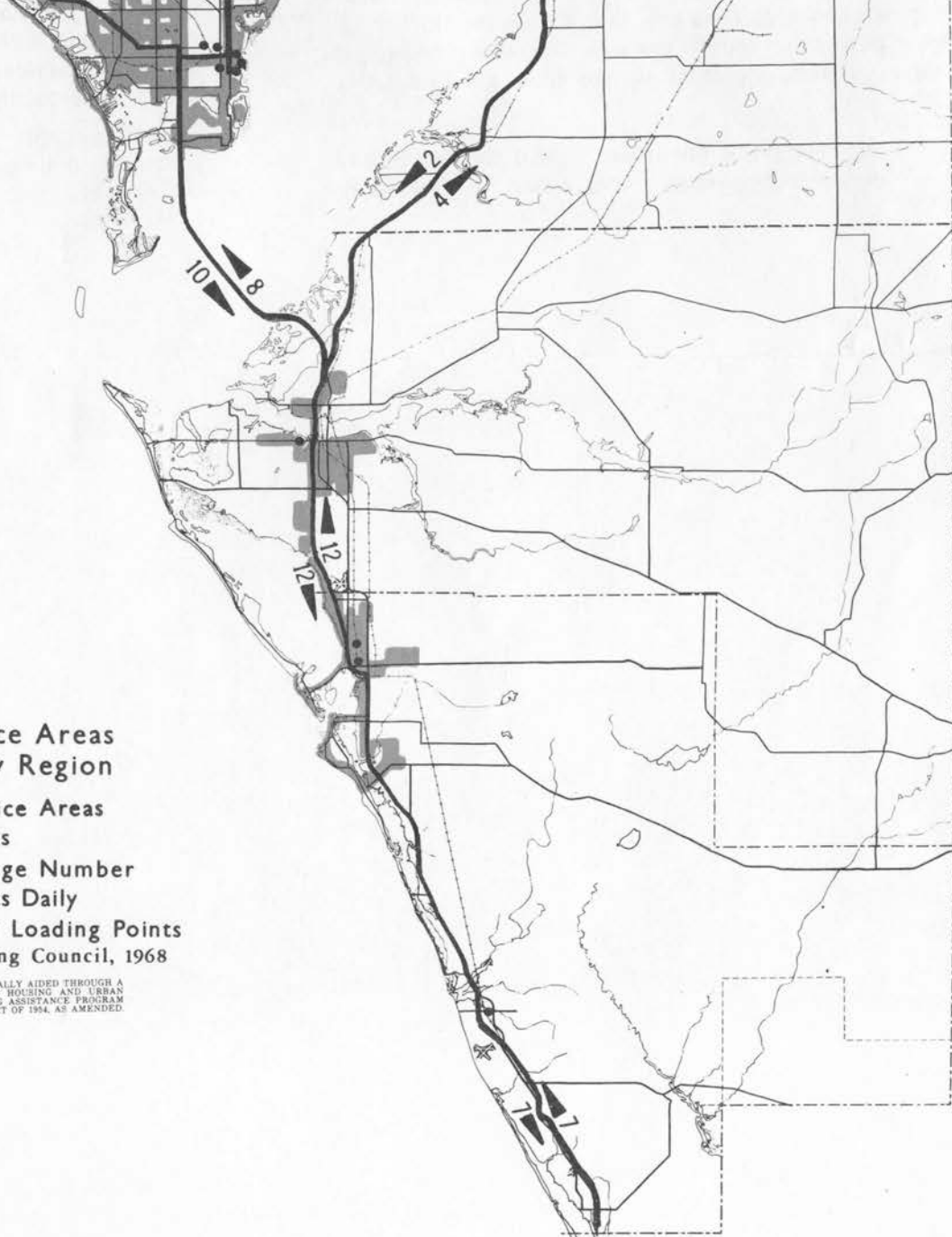
- Pinellas Park Transit System and Gulf Beach Transit System are privately owned franchised systems operated from a single terminal in St. Petersburg. They operate routes within the City of St. Petersburg and surrounding areas, including Bay Pines, Pinellas Park, Treasure Island, St. Petersburg Beach, Madeira Beach, and Redington Beach. No service is provided to other major urban areas of the county or region.

The two systems operate a fleet of 13 buses, of which only 3 are air-conditioned. The remainder of the systems' coaches are more than 10 years old

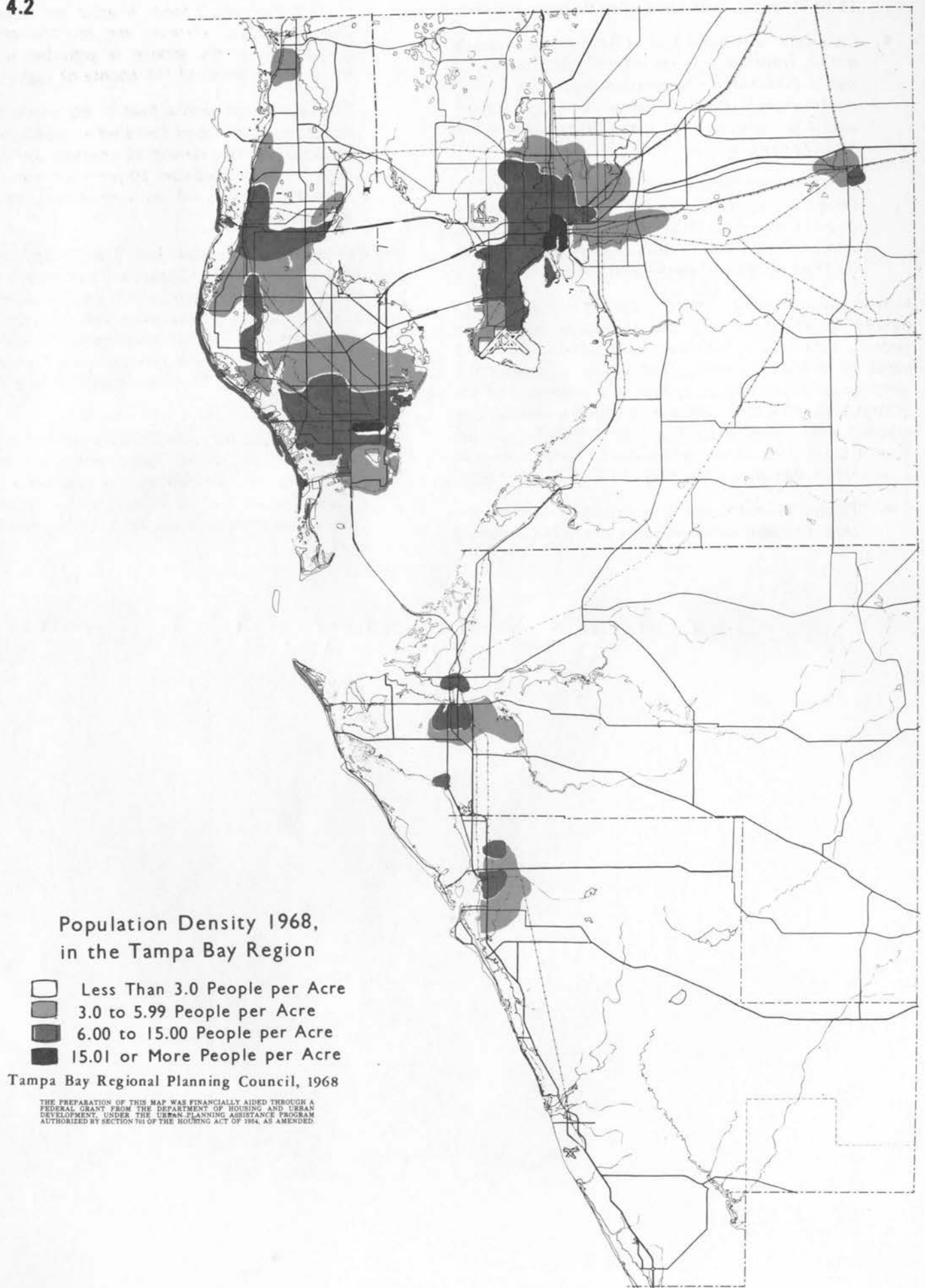
Bus Transit Service Areas in the Tampa Bay Region

- Municipal Bus Service Areas
 - Regional Bus Routes
 - ▶ Direction and Average Number
of Bus Movements Daily
 - Terminals or Major Loading Points
- Tampa Bay Regional Planning Council, 1968

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A
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Map 4.2



and are without air-conditioning. Fares range from 15 to 35 cents, depending upon distance traveled.

- Clearwater Municipal Transit System is a privately owned franchise system which operates routes within Clearwater and surrounding areas, including Clearwater Beach, Dunedin, and Largo. No service is provided to other major urban areas of the county or region.

A fleet of 14 coaches, none of which are air-conditioned, is operated by the system. All of the coaches are more than 10 years old. Bus fares range from 25 cents within city limits to 40 cents for trips between Dunedin and Largo.

Hillsborough County Transit System. Hillsborough County is served by only one municipal bus transit system, although the county population is nearly the same as in Pinellas, where four systems operate. The need for only one transit system is a reflection of the greater concentration of population within a smaller geographic area. (See Map 4.2). Nevertheless, Tampa Transit Lines does serve most areas of the county with a population density greater than 3.00 people per acre.

- Tampa Transit Lines is a privately owned franchised system which provides bus service to most

areas within the city and to surrounding areas, including Progress Village, MacDill Air Base, Port Tampa, Temple Terrace, and the University of South Florida. No service is provided to other major urban areas of the county or region.

The system operates a fleet of 88 buses; the 20 newest vehicles, manufactured in 1960, are air-conditioned. The remaining coaches are not air-conditioned and are over 10 years old. Fares range from 25 cents to 40 cents depending upon the distance traveled.

Manatee and Sarasota Counties Transit System. Bus operations in Manatee and Sarasota Counties are similar to Pinellas and Hillsborough in that service is provided primarily to the areas of population density greater than 3.00 people per acre. The two counties are served jointly by one municipal bus transit system, Cities Transit, Inc., which operates from a terminal located in the City of Sarasota.

- Cities Transit, Inc. is a privately owned franchised system which provides routes within and between the Sarasota, Bradenton and Palmetto areas. Cities Transit, Inc., is the only system, other than the interstate and intrastate motor bus carriers, to

provide service in more than one county. However, the service which it does provide links only the major urban areas of Manatee and Sarasota Counties. No service is provided to Pinellas or Hillsborough Counties.

The line operates a fleet of 22 coaches, of which 5 are air-conditioned. The remainder of the system's coaches are not air-conditioned and are more than 9 years old. Fares range from 25 cents to 40 cents depending on the distance traveled.

Regional Motor Bus Systems. The three regional motor bus lines operating in the Tampa Bay area serve the important function of not only providing bus transit from the Region to other urban areas of the state and nation, but also they are the only carriers to provide for the movement of people between all the major urban areas within the Region. If it can be said that the Tampa Bay Region provides any regionwide mass transit service at all, it must be concluded that it is provided primarily by the interstate and intrastate carriers operating in the area.

- Tamiami Trailways is part of the National Trailways Bus System. As an interstate motor bus carrier, Trailways operates routes to most urban

centers in the nation. Within the Tampa Bay Region, all four counties are served by Trailways. Major loading points or terminals are located in Tampa, St. Petersburg, Bradenton, Sarasota and Venice. Bus service between these points is provided on a regular daily schedule. The average number of scheduled trips between these points is 14. The Tampa, St. Petersburg route offers the greatest number of trips daily. (Daily trip movements of all interregional bus lines are summarized by route on Map 4.1)

- Greyhound Bus System, an interstate motor bus carrier, also provides routes to most urban centers in the nation. However, in the Tampa Bay Region, only Pinellas and Hillsborough Counties are served. Major loading points or terminals are located in Plant City, Tampa, and St. Petersburg. Daily bus trips between Tampa and St. Petersburg average 42 scheduled runs. Between Tampa and Plant City, 23 daily scheduled arrivals and departures occur.
- Gulf Coast Motor Lines, an intrastate motor bus carrier provides service to the west central Florida area. Although Greyhound and Trailway's buses connect the major urban areas of all four counties

in the Region, their service is limited primarily to direct service between the central business districts of Tampa, St. Petersburg, Bradenton and Sarasota. Gulf Coast is the only carrier to provide linking service to northern Pinellas County communities.

Airport Limousines. While airport limousines cannot be considered to serve strictly the same purpose as bus transit systems, they are discussed here because of their functional similarity to the interregional bus systems operating in the Bay area. Their service is, however, more specialized than the bus transit systems. While routes followed are more flexible than those of bus transit systems, service is limited to the specific function of providing transportation from Tampa International Airport and Sarasota-Bradenton Airport to surrounding urban areas in the Region.

Limousines are the preferred type of transit used by the intercounty public transit passenger traveling to and from the airport. The cost of intercounty transit by limousine is considerably less than by taxi or rental car. And in the absence of direct bus service to the airports, limousines provide the only means of public ground transit at a reasonable cost. Two limousine services provide transportation in the Region.

- Suncoast Limousine Service operates a fleet of 55 cars each with a passenger capacity of 7. The service area includes the entire bay area from Venice at the South to Tarpon Springs at the North. Fares are based upon the distance of travel. The greatest fare is \$13.00 from Tampa International Airport to Venice. Suncoast Limousine Service meets all incoming flights at Tampa International Airport but provides service only on call at the Sarasota-Bradenton Airport.
- Sarasota-Bradenton Limousine Service operates a fleet of 5 limousines, each with a passenger capacity of 7. The primary service area extends from Venice to Palmetto. Fares are based upon the distance of travel. The greatest fare is \$8.00 from Sarasota-Bradenton Airport to Venice. Limousines meet all incoming flights at Sarasota-Bradenton Airport. Flights arriving at Tampa will be met only upon advanced notice.

GENERAL CHARACTERISTICS OF BUS TRANSIT

The information presented thus far on fleet size and areas of service of the transit systems operating in the Region gives only an overview of the actual quality of

service provided. But in general, bus transit service in the Tampa Bay Region can be summarized by the following statements:

- A general decline in patronage as a result of increasing operating cost and limited service area;
- Equipment which is old and fails to meet minimum standards of comfort desired by transit patrons;
- Service areas limited to the most densely populated areas with little opportunity for movement between urban areas in the Region;
- Service which is not competitive with automobile travel in terms of speed or convenience;
- Lack in frequency of service with little or no service in all but peak hours;
- Lack of public control in franchises which permit transit systems to change or discontinue routes solely on an economic basis;
- Patronage of the transit system is limited primarily to low income workers, retirees and persons too young to drive;

- Transit systems are used primarily for work trips by those unable to own cars.

As part of the Council's Comprehensive Five Year Planning Program, detailed analysis of bus transit will provide much needed data to more adequately assess these problems and future opportunities for improvement of the Region's bus transit systems.

TRENDS AND FUTURE DEVELOPMENT

The limitations in service of bus transit operations in the Tampa Bay Region have thus far been partially resolved by the increased use of automobiles. But as the population density of the entire Bay Area increases it is unlikely that the ability to build new roads will be sufficient to meet the increasing demands of automobile traffic. Unless people are willing to pave all available land in the Region to accommodate automobile traffic, consideration should be given now to the need for providing a regional system of mass transit.

Regional mass transit should be considered not only as the most feasible means for the alleviation of future traffic congestion, but also as the only means of transportation available to low income workers and retirees who are unable to afford automobiles.

System Possibilities

In the preceeding chapter on rail transit, several possibilities for a regional rail transit system were discussed. The importance of providing adequate transportation in the Tampa Bay Region in the future can not be solved through the use of any one mode of travel. Just as the automobile should serve a specific function in a balanced network of transportation, rail and bus service must also be employed if intermodal balance is to be achieved.

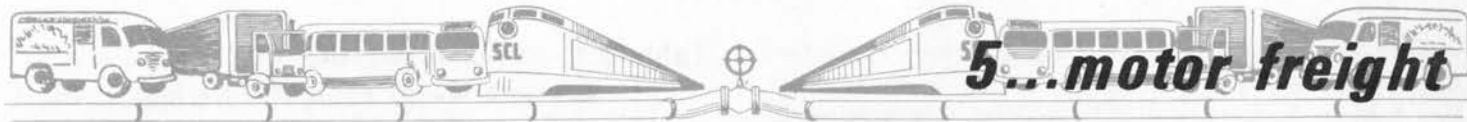
Several bus transit systems have been proposed which could possibly alleviate the problems faced by the Region's congested highway transportation pattern and change the trend of bus transit from one of declining patronage and revenues to one of increased use and service to all the people of the Region.

Possible bus systems which might be feasible for the Region include:

- Dial-A-Bus systems activated on demand of the potential passenger by telephone from his home;
- Personal Rapid Transit systems traveling over exclusive rights-of-way, automatically routed from origin to destination;

- Dual Mode Bus systems combining the high speed of a rail system on its private right-of-way with flexibility of a city bus;
- Exclusive rights-of-way lanes or streets during peak hours;
- Electronic guidance systems controlling buses suspended on a cushion of air instead of wheels;
- Modular buses with interchangeable passenger and cargo units to make more economic use of off peak traffic periods.

Further study of the various systems will be conducted by the Tampa Bay Regional Planning Council. These studies will indicate which of these or additional proposals would best serve the needs and desires of existing, as well as, potential transit users in an overall balanced mass transit system for the Tampa Bay Region.



The motor truck is the most adaptable vehicle for transporting freight over land. Traveling wherever roads exist, trucks have great variations in size, speed, power, carrying capacity and body styles. Trucks not only carry great amounts of intercity freight between the major population centers of the country, but they also transport virtually all of the intracity and intraregional freight from place to place within a city or region.

Motor freight transportation serves all aspects of the economy. The dependence placed upon motor freight transportation by business enterprise is rapidly growing. Consequently, particular thought and care must be given to the operational characteristics of motor freight activity occurring in the Tampa Bay Region.

In the four counties of the region, motor freight service is offered by 21 interstate common carriers and 19 intrastate lines. A common carrier is one which serves the public as a whole. Rates and schedules are published and service is rendered on established routes between fixed terminals. A number of these interstate carriers are special commodity haulers which specialize in transporting perishable commodities, building materials, and bulk

liquids. Very few of the motor freight carriers share terminal facilities, but most of the terminals serving the Bay Area are concentrated in the eastern part of the City of Tampa. (See Map 5.1).

MOTOR FREIGHT ACTIVITY IN THE REGION TODAY

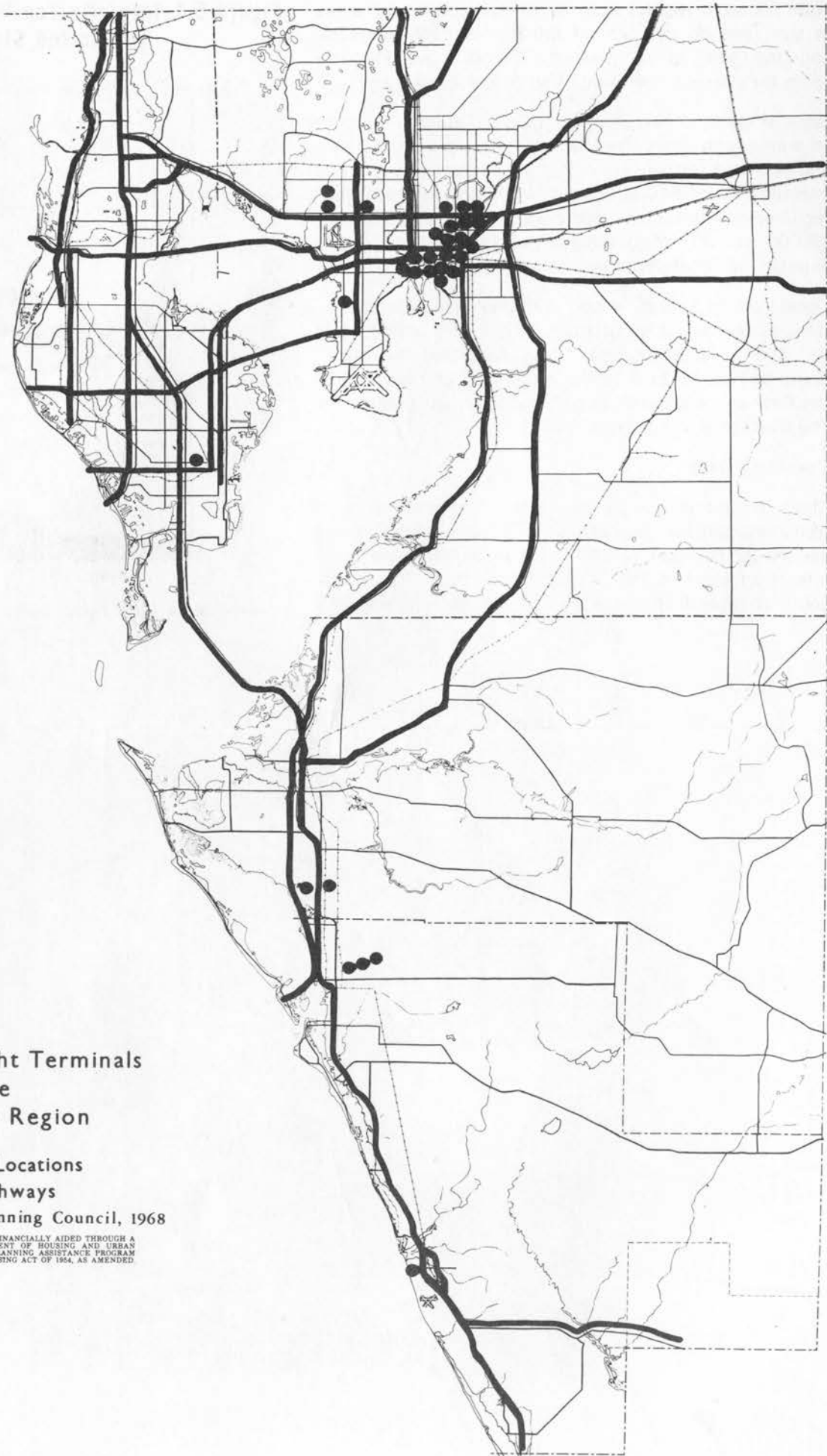
Because complete data concerning motor freight activities in the region was not readily available, a telephone survey was conducted as a means of gathering information. (See Appendix, Figure 7.1). Terminal managers were contacted and asked questions pertaining to operational characteristics of their facilities. The survey included a 40 per cent sampling of all motor freight carriers operating in the Bay Area. Table 5.1 presents a description of the average motor freight terminal in the region, as expressed by the terminal managers.

Terminal Facilities

The results of the telephone survey revealed that nearly all of the terminals in the region are less than 10 years old, and approximately 40 per cent are less than 5 years old or have had additions within the past 5 years. Almost all of the terminals operate a "cross dock" cargo breakdown for transfer of general commodities between local city vans or trailers, and over-the-road semi-trailers.

**Table 5.1 Characteristics of
Average Motor Freight Terminal
in the Tampa Bay Region**

Age of terminal	8 years
Total lot size	4.7 acres
Covered dock floor space	12,060 sq. ft.
Dimensions of dock floor space	175 x 69 ft.
Number of docking spaces	29
Number of tractors, trailers, & vans stationed at terminal	41
Number of employees	59
Annual traffic volume	70,200 tons
Number of daily over-the-road (OTR) vehicle arrivals and departures	14



Motor Freight Terminals
in the
Tampa Bay Region

- Terminal Locations
- Major Highways

Tampa Bay Regional Planning Council, 1968

THE PREPARATION OF THIS MAP WAS FINANCIALLY AIDED THROUGH A
FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN
DEVELOPMENT, UNDER THE URBAN PLANNING ASSISTANCE PROGRAM
AUTHORIZED BY SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED

Total lot sizes ranged from $\frac{3}{4}$ of one acre to 12 acres in size, and 85 per cent of the terminal managers responded "yes" to the question, "Do you have adequate room for present operations and future expansion?"

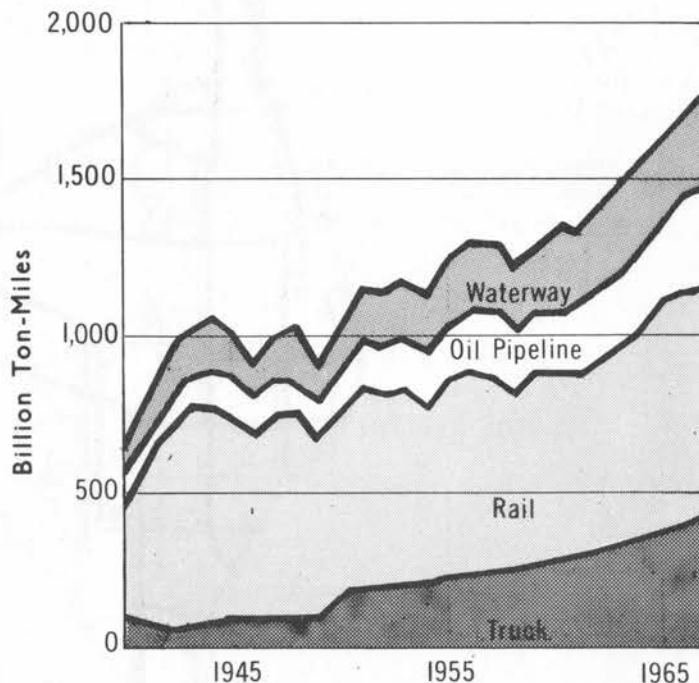
None of the terminals sampled operated storage facilities on a long-term basis. Freight is brought in, broken down, and reloaded for delivery within a 13 hour period, at the average rate of 540,000 pounds per day in cross dock facilities. While the average dock storage space is over 12,000 sq. ft., cargo remains on the dock only long enough for breakdown and reloading.

Dock loading spaces varied with the size of terminal, from as few as 12, to as many as 53. The average was 29. The usual arrangement was an equal number of doors or bays on both of the terminal's long sides, with the floor space between being used for cargo breakdown. The average terminal dock facility measured 175' x 69'.

Operating Data

Motor freight is one of the fastest growing modes of transportation for the carriage of freight. Motor trucks carried 22 per cent or 380,917 million ton miles of all intercity freight in 1966. (See Figure 5.1). This represents an overall increase of 514 per cent in the total

Figure 5.1 Intercity Ton-Miles by Type of Carrier for United States 1940-1967



Source: Motortruck Facts, 1968

yearly ton-miles hauled by the trucking industry from 1940 to 1966.

In the state of Florida, approximately 1,500 local and long distance trucking firms specialized in hauling for hire. There are many more industrial firms in the State that maintain their own fleet of trucks for hauling and distributing their products.

Motor freight operations are an important link in the transportation system of the Region and the State. Trucks haul 75 per cent of the produce products in the State of Florida and nearly 30 per cent of the total of all freight.

Actual tonnage figures showing the total amount of freight handled by motor freight in the Tampa Bay Region were not available. However, it was found that approximately 70,200 tons of freight was handled by the average motor freight terminal in the Region during the past year. This figure represents an average volume presented by the terminal managers responding to the telephone survey.

The Region's tourist-oriented economy is evidenced by the trucking industry's seasonal variations in freight tonnage handled. Seventy-three per cent of the terminal

managers surveyed, confirmed a decline in tonnage for the summer months.

Motor freight may be classified into three categories, general, bulk, and perishable. General freight includes all types of goods processed, semi-processed and manufactured. This type of freight makes up nearly 85 per cent of the total motor freight traffic in the Region. Food stuffs, the biggest single commodity hauled by the trucking industry, is in this category. Bulk freight applies principally to raw materials being moved in great quantities and requiring special facilities for handling, transfer and storage. While several major carriers in the Region handle only bulk cargo, they make up a relatively small percentage of the total freight handled by all motor trucks. Perishable freight applies principally to fresh fruit and vegetables requiring rapid movement to markets. Usually perishables must be refrigerated. Again, several major carriers in the Region handle perishable freight exclusively, but most of the carriers offer some service for perishables. Of these, perishable freight amounts to approximately 13 per cent of the tonnage hauled.

Origin—Destination of Motor Freight Traffic. A motor freight terminal can serve as an origination, termination,

or interchange point for the movement of freight. Originated freight is made up of those goods which are supplied from the point of shipment. An example of this is citrus products originated in the Region which are shipped to northern markets for sale. Terminated freight is made up of goods which have reached the point of destination. An example of this is canned food products which have been shipped from northern processing plants and terminated for local sale in the Region. Interchanged freight is made up of goods reaching a motor freight terminal that are destined for other points and require transfer to a similar or different mode of carriage. An example of this is petroleum products reaching Tampa Bay ports by ship and barge to be interchanged with motor freight carriage for transportation to market areas of the Region.

Except for the special commodity bulk carriers, very little motor freight is interchanged in the Region. The average percentage breakdown expressed by the terminal managers surveyed showed approximately 35 per cent of all freight tonnage to be originated and 65 per cent to be terminated in the Region. This fact tends to emphasize the Tampa Bay Region's role as a market center. However, terminal managers indicated a trend toward increased amounts of originated freight. It appears un-

likely that the Region's role would shift from a market center to a manufacturing-transportation center as originated freight tonnage rises, but this trend does indicate a growing role for the Region.

Fleet size and Employment. Motor freight fleet vehicles can be divided into two main classes, over-the-road, and local. Over-the-road (OTR) equipment includes semi-trailers and tractors used for long distance hauling between the major urban areas of the country. The average number of vehicles in the OTR class maintained at the terminals surveyed is 23. Fifteen of these are semi-trailers and 8 are tractors. Local vehicle equipment includes van-type trucks and tractors used for short distance hauling between terminals and pick-up stations in the Region. Nineteen is the average number of vehicles in this class maintained by the terminals. Additional vehicles, when needed, are obtained by hiring of independent drivers with their own trucks.

Freight volume handled is directly related to the number of employees working for a motor freight terminal. The survey indicated that the average terminal employs 59 people as managers, clerks, drivers, and dock workers and handles an annual volume of freight in excess of 70,000 tons, resulting in a ratio of 1400:1 of freight

tonnage per employee. This ratio is relatively constant for all the terminals in the Region regardless of size.

TRENDS AND FUTURE DEVELOPMENT

Motor freight terminals should be located reasonably near to both the sources of freight traffic and the customers for whom freight is carried. As stated at the beginning of this chapter, most of the Tampa Bay Region's motor freight terminals are located in the eastern part of the City of Tampa. Minor terminal service areas are along Dale Mabry Highway, North (U.S. Rt. 92) in Tampa, and along U.S. Routes 41 and 301 near the Manatee-Sarasota county line. Only one terminal facility exists in Pinellas County. Many terminals previously located in Pinellas County have relocated in Tampa. This trend toward centralizing facilities in Tampa is spreading to terminals now located in Manatee and Sarasota Counties. While present economics may justify relocation, consideration should be given to the need for increased motor freight facilities in the lower two counties when Port Manatee begins operations.

The terminals locating in the eastern part of Tampa are taking advantage of this location as a transportation hub for the Region. Major highway arterials radiate from here to provide direct access to the entire Region. (See Map

5.1) Interstate Highways 4 and 75 enable trucks to move efficiently through Tampa to serve the other major urban centers in the Region, State, and Nation. Wholesale and industrial activities, as well as rail facilities located in this same area, add to the desirability of this location as a center for freight interchange. The overall result is an efficient and compatible land use arrangement made possible by locating industrial and transportation facilities in close proximity.

Expansion Plans

It is estimated that motor freight terminals encompass approximately 140 acres of land in the Region. To determine future growth of motor freight terminal facilities in the Region, terminal managers were asked questions pertaining to the adequacy of their present site and the plans, if any, they might have for expansion or relocation. A summary of the questions and answers received are as follows:

1. Are you completely satisfied with your present location?

Yes

No

93%

7%

2. Do you have adequate room for present operations and future expansion?

Yes

No

85%

15%

3. Do you have plans for expansion of present facilities?

Yes

No

34%

66%

4. Do you have plans to relocate your terminal facilities?

Yes

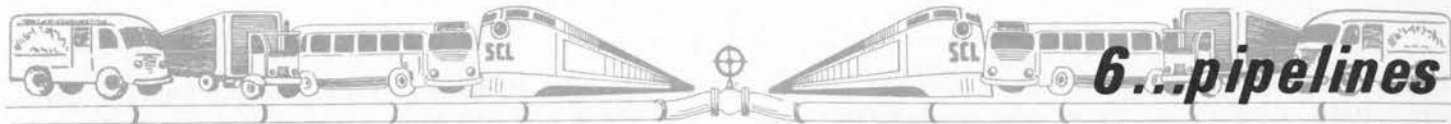
No

15%

85%

Overall, 49 per cent of the Region's motor freight terminals surveyed have plans for expansion or relocation of their facilities. This growth and expansion emphasizes the need to consider trucking as an integral part of the Region's future transportation system.

Those respondents who indicated a dissatisfaction with their terminal's location complained about congested highways and city traffic. There were no complaints about accessibility to the surrounding service areas of the Region.



Pipeline as a method of transportation is unlike any other carrier. It is also one of the newest modes of transportation. While other modes require the movement of materials in unit loads under the direct control of an operator, pipelines transport bulk commodities in continuous flow from origin to destination without direct control. Because a pipeline can operate underground, its flow is undisrupted by the usual inter-modal conflicts experienced by other transportation forms.

The simplicity, clean operation, small size, and low labor requirements of pipelines are gaining in popularity with industries dependent upon a constant flow of materials to their production lines. Already pipelines have seen extensive use by the ore mining and dredging industries.

The use of pipelines by industry is primarily limited to the transporting of materials over short distances; usually less than several miles. However, pipelines over long distance have proven their value for the transporting of liquids and gasses. In the United States today, there are well over 550,000 miles of pipelines carrying oil and natural gas to the nation's population and industrial centers.

The State of Florida as a whole has had natural gas only since 1959. Prior to this date, only the Pensacola and Tallahassee areas of the state were served with natural gas. But by the end of 1959, 47 Florida cities were receiving natural gas from the well fields of Texas and Louisiana by pipelines.

The growth of the natural gas pipeline industry has been rapid. In 1967, the Florida Gas Transmission Company's pipeline system delivered a total of 161 billion cubic feet of natural gas to the Florida market, an average of 441 million cubic feet per day. Compared to the original capacity of the pipeline system of 280 million cubic feet per day, this represents nearly a 100 per cent increase in the amount of gas being transported by the pipeline to Florida.

PIPELINES IN THE REGION TODAY

The Tampa Bay Region is supplied with natural gas transported by Florida Gas Transmission Company's pipeline system. The pipelines serving the Bay Area are branches of the main Florida System which runs down the East Coast to Miami. The route of the pipeline to the Tampa Bay Region travels west from the Orlando compressor station. Branching near Lakeland, the northern most pipeline serves industrial and distribution company

customers in Hillsborough and Pinellas Counties, while the southern most branch serves customers in Manatee and Sarasota Counties. (See Map 6.1)

Gas Pipeline Customers in the Region

A total of 164 miles of main and lateral pipelines supply gas directly to 10 distribution and industrial company customers in the Region. They are as follows:

Hillsborough County

- *Peoples Gas System
- *Plant City Natural Gas Company
- The Borden Company
- Central Phosphate, Inc.
- National Gypsum Company
- Tennessee Corporation

Manatee County

- *Southern Gas and Electric

Pinellas County

- Florida Power Corporation
- *Florida Gas Company, Distribution
(formerly United Gas Company
of St. Petersburg)
- *City of Clearwater

Sarasota County

*Southern Gas and Electric

*Distribution Companies

The above gas distribution companies supply gas for resale to residential and industrial customers. They are Florida Gas Transmission's largest group of gas users in the Region. The second largest group of gas users are the electric generating company customers. As part of this group, Florida Power Corporation also represents one of the two largest individual customers of the pipeline in the state.

Gas Distribution System Customers in the Region

In addition to the private industries buying gas directly from the pipeline system, there are a number of other industrial consumers in the Region who rank among Florida's largest users of gas. These consumers are not, however, customers of the pipeline, but buy their gas from one of the five gas distribution system operating in the region.

Included among these customers are: American Can Company, Anheuser-Busch, Inc., Continental Can Company, Florida Phosphate Terminal Corp., Industrial Glass

Company, Joseph Schlitz Brewing Company, Thatcher Glass Manufacturing Company, and the University of South Florida. (See Map 6.1)

Oil Pipelines in the Region

Oil pipelines over long distances play a major role in the transporting of oil products from oil fields in the Gulf States to refining centers and major urban areas in the North. In the State of Florida, oil pipelines are limited primarily to the northern panhandle area. There is only one long distance oil pipeline in the Tampa Bay Region today. This line, owned by Redwing Corporation, runs from Hooker's Point at the Port of Tampa to Orlando and serves fuel needs in East Central Florida. Plans are currently underway by another firm to construct a parallel line to Orlando with a continuation to Cape Kennedy.

Pipelines play a significant role in the port's petroleum operations. Nearly all of the petroleum tank facilities are fed by pipelines running from waterfront wharves.

A proposal by the Tampa Pipeline Corporation for the construction of a pipeline from Port Tampa to Tampa International Airport was recently filed with the Tampa Port Authority. At this time the proposal has been

dropped, but further consideration will probably be given the proposal because of its value as a more efficient mode of transport than is presently being employed. Fuel for jetliners is presently taken to the airport by tank trucks from Port Tampa along Dale Mabry Highway. Tank trucks will probably be capable of meeting future demands over the next few years; however, they are less efficient and subject to urban traffic congestion not experienced by pipeline operations. A pipeline would assure an adequate supply of fuel to meet the demands of the larger jetliners scheduled to start operations at the airport in the early 70's, and at the same time, relieve some of the truck traffic congestion on Dale Mabry Highway.

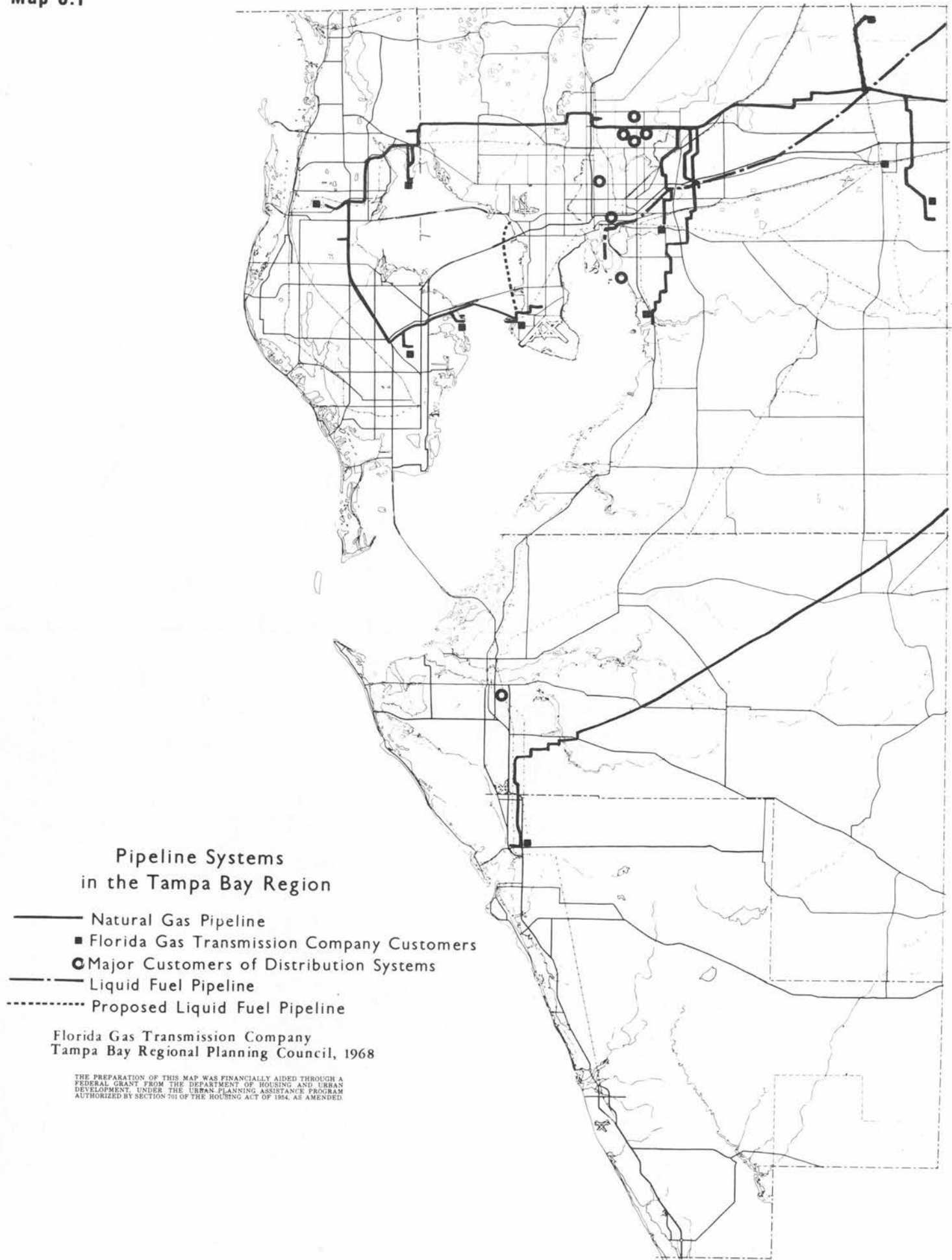
Another important benefit to be gained by an airport pipeline would be the elimination of the intermodal conflicts of fuel trucks moving among jetliners during refueling operations. A hydrant system would carry fuel underground by pipeline to the plane docking spaces. There the fuel would be pumped into the planes by special pumps located in pits.

FUTURE POSSIBILITIES

Presently pipelines are limited to the transporting of fuel oil and natural gas in the Region. For the future, however,

technological studies have indicated the possible development of pipelines capable of transporting solid materials as well. Proposals have even included the use of giant pneumatic tubes or pipelines as high-speed mass transit systems. Torpedo shaped "trains" could be propelled by air along pipelines between major urban areas of the county. For the time being, pipelines will continue to be considered as an efficient and low cost transportation form for the carriage of bulk materials in the Tampa Bay Region.

Map 6.1



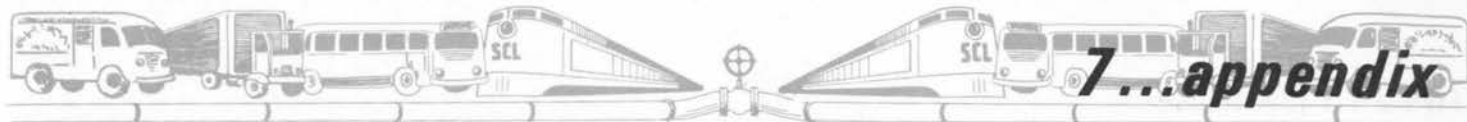


Figure 7.1

Survey of Motor Freight Activity in the Tampa Bay Region

Terminal Manager

Name of Facility

1. Terminal Facilities

Age of Buildings

Total Acreage

Storage Space (sq. ft.)

Covered

Open

Trailer Loading & Unloading

Spaces

2. Operating Data

Size of Fleet

Personnel Employed

Turnaround Time

Volume of Freight Annually

Seasonal variations

% of Freight which is:

General Cargo

%

Bulk Cargo

%

Perishable

%

Figure 7.1 (Continued)

% of Freight which is:

Originated %

Terminated %

Interchanged %

% of Freight which is:

Intrastate %

Interstate %

Average Daily Arrivals & Departures

Do you operate "piggyback"
service?

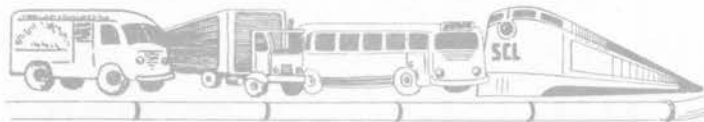
3. Expansion Plans

Do you have adequate room for present
operations and future expansion?

Do you have plans for expansion of your
present facilities?

Are you completely satisfied with your
present location?

Do you have plans to relocate your
terminal facilities?



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